



MEMORANDUM

TO: Kristin DuFresne

FROM: Mark McColloch

DATE: January 5, 2015

RE: Status Report
WDNR BRRTS No. 02-36-544383
United Laundries and Dry Cleaners, Inc. 623 Reed Avenue, Manitowoc, Wisconsin

Kristin,

Shannon & Wilson prepared this status reports to present results for recently collected groundwater and soil vapor extraction (SVE) effluent samples. Groundwater samples were collected on November 24th. A SVE effluent sample was also collected at that time, but the laboratory reported an insufficient volume of air for analysis most likely due to a malfunctioning summa can valve. Consequently, the SVE effluent was resampled on December 7th. These samples were collected in accordance with recommendation made in the *Annual report for the First Year of Soil and Groundwater Remediation* dated October 20, 2014. Historic groundwater samples are summarized in Table 1, and wells are shown on the attached figure. SVE effluent sample results are summarized in Table 2.

Groundwater monitoring results indicate that soil excavation and operation of the SVE system has resulted in an improvement in groundwater quality at wells MW-1, MW-2, MW-3, MW-4 MW-5, and MW-8. Additional samples are needed to determine if PCE concentrations at down gradient wells MW-6 and MW-7 will decline in response to remediation completed at the former dry cleaner. Additional samples are recommended for February, May, and August 2015. Although VOCs were detected in December SVE effluent samples, concentrations have declined significantly since the SVE system began operating in December 2013.

To further evaluate the vapor intrusion pathway, Shannon & Wilson intends to collected additional soil gas samples from all sub-floor vapor probes (VP-1 through VP-7) and both exterior soil gas probes (SGP-1 and SGP-2) in February 2015 concurrent with quarterly groundwater monitoring. In accordance with recommendations presented in the October 2014 report Shannon & Wilson will collect these samples after the SVE system has been off for a minimum of 30 days. Consequently, the SVE system will be shut off in early January. Sub-floor soil gas results for VP-5, VP-6, and

January 5, 2015

Status Report

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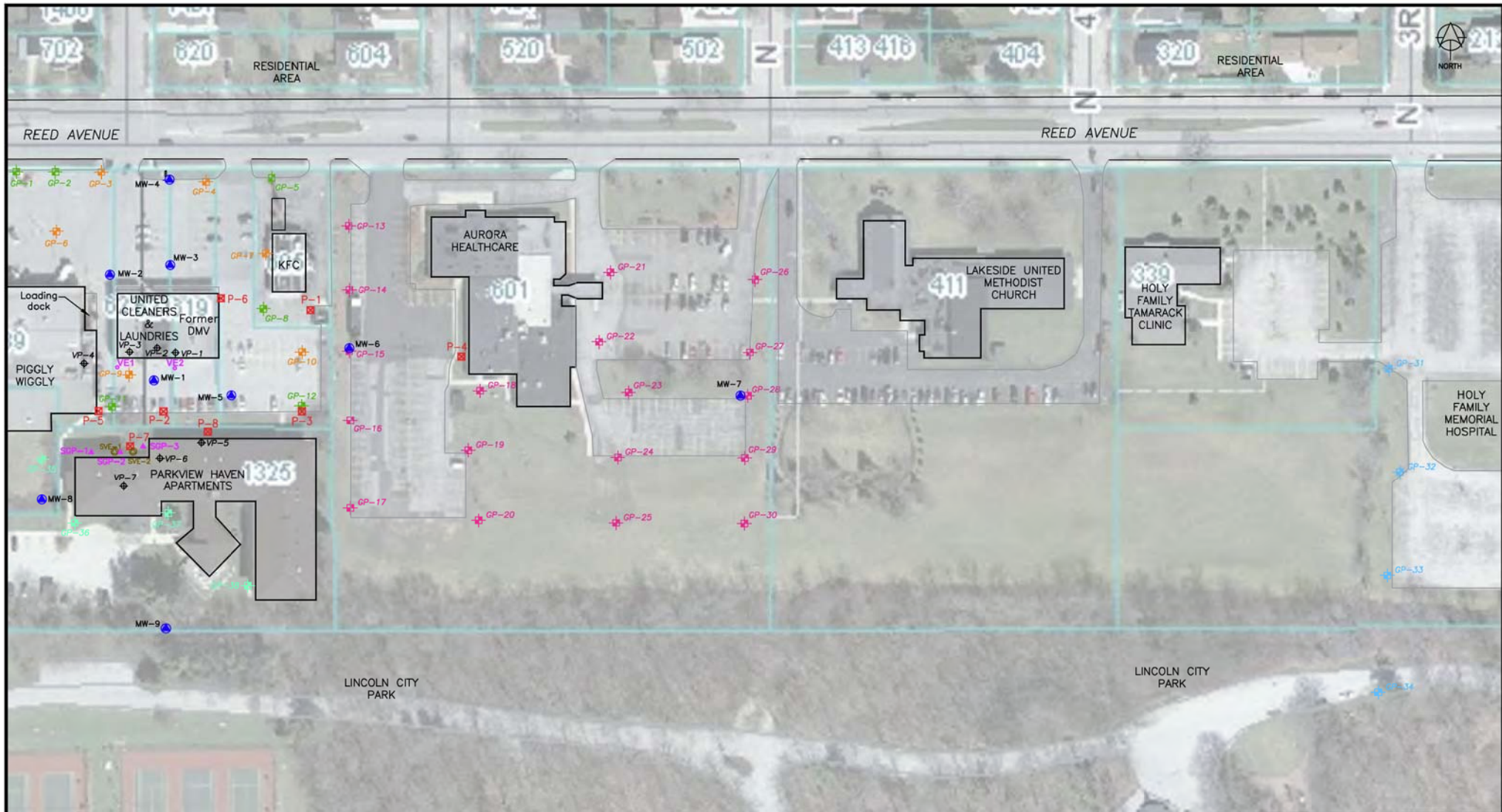
United Laundries and Dry Cleaners, Inc. 623 Reed Avenue, Manitowoc, Wisconsin

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VP-7 are summarized in Table 3. Historic soil gas sample results are summarized in Table 4. Sample locations are shown on the attached figure.

Following collection of February soil gas samples, results will be summarized and submitted to WDNR in a March 2015 status report. If February 2015 soil gas remains below Vapor Risk Screening Levels (VRSL) at site buildings and groundwater samples continue to decline, there is minimal benefit for continued operation of the SVE system beyond one year. However, if VOCs in soil gas and groundwater rebound after the SVE system is shut down, the SVE system may need to be restarted and operated for several more months. Based on soil gas results, the status report may include a recommendation to re-start the SVE system and collect quarterly effluent air samples. Confirmation samples may also be recommended for one of more sub-floor vapor probes if a vapor action level is exceeded.

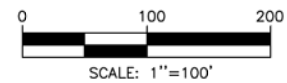
Following collection of August groundwater samples, all results will also be presented in the next annual report will include recommendations for either continued operation of the SVE system and monitoring, or case closure. If vapor action levels are exceeded at sub-floor vapor probes, case closure with likely included continued operation of one or more of the sub-floor depressurization systems as a continuing obligation. If no vapor action levels are exceeded, the blowers for the sub-floor depressurization systems will be removed and all probes will be abandoned concurrent with the abandonment of all monitoring wells.



- LEGEND**
- VP-1 VAPOR PROBE LOCATION (VP-1 to VP-4 APRIL 2011) (VP-5 to VP-7 OCT 2012)
 - P-1 SOIL GAS SAMPLE POINT (DEC 2011, MARCH 2012)
 - SGP-1 SOIL GAS PROBE (AUG 2012)
 - SVE-1 SOIL VENT WELL (NOV 2012)
 - VE-1 SVE EXTRACTION POINT (2013)

- GP-1 SHALLOW GROUNDWATER BORING (APRIL 2011)
- GP-3 SHALLOW/DEEP GROUNDWATER NESTED BORING (APRIL 2011)
- GP-13 SHALLOW GROUNDWATER BORING (JULY 2011)
- GP-31 SHALLOW/DEEP GROUNDWATER BORING (MARCH 2012)
- GP-35 SHALLOW GROUNDWATER/SOIL GAS BORING (AUGUST 2012)

MW-1 MONITORING WELL



SOURCES:
 TERRACON, SITE DIAGRAM FOR PARKVIEW HAVEN APARTMENTS, DATED JANUARY 9, 2006.
 MANITOWOC COUNTY/CITY GIS, 2010 AERIAL PHOTOGRAPH.

UNITED DRY CLEANERS MANITOWOC, WISCONSIN	
FIGURE 2 HISTORICAL SAMPLE LOCATIONS (GROUNDWATER & SOIL GAS/VAPOR)	
<small>C:\PROJECTS\UNITED DRY CLEANERS\CAD\UDC-Site-2014.dwg [Figure 2 - Sample Lock]</small>	
DRAWN BY: DDZ,DAN	DATE 10/3/2014
APPROVED BY: MSM	SHANNON & WILSON, INC.

Table 1
Historic Groundwater Sample Results
United Laundries and Dry Cleaners, Inc., 623 Reed Avenue, Manitowoc, Wisconsin

Sample Date / Analyte	Units	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	PAL	ES
January 25, 2006												
Tetrachloroethene (PCE)	µg/l	180	--	--	--	--	--	--	--	--	0.5	5
March 19, 2010												
Tetrachloroethene (PCE)	µg/l	120	41	17	--	--	--	--	--	--	0.5	5
1,1,1 Trichloroethane	µg/l	<1.8	<0.50>	<0.37>	--	--	--	--	--	--	40	200
October 5, 2010												
Tetrachloroethene (PCE)	µg/l	58.4	62.1	11.8(12.0)	5.2	41.1	--	--	--	--	0.5	5
Trichloroethene (TCE)	µg/l	0.67 J	<0.48	<0.48	<0.48	<0.48	--	--	--	--	0.5	5
1,1,1 Trichloroethane	µg/l	<0.90	1.7	<0.90	<0.90	<0.90	--	--	--	--	40	200
April 27, 2011												
Tetrachloroethene (PCE)	µg/l	87.4(83.1)	71.0	9.9	3.1	40.5	--	--	--	--	0.5	5
Trichloroethene (TCE)	µg/l	0.93 J	<0.48	<0.48	<0.48	<0.48	--	--	--	--	0.5	5
1,1,1 Trichloroethane	µg/l	<0.90	1.3	<0.90	<0.90	<0.90	--	--	--	--	40	200
December 21, 2011												
Tetrachloroethene (PCE)	µg/l	--	--	--	--	--	32.1(30.6)	23.9	--	--	0.5	5
Methylene Chloride	µg/l	--	--	--	--	--	0.46	<0.43	--	--	0.5	5
November 14, 2012												
Tetrachloroethene (PCE)	µg/l	--	--	--	--	--	--	--	13.6(14.2)	<0.45	0.5	5
November 19, 2013												
Tetrachloroethene (PCE)	µg/l	72.7	35.2	8.4	1.1	35.1(31.5)	28.9	15.5	9.6	<0.45	0.5	5
Trichloroethene (TCE)	µg/l	0.97 J	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	0.5	5
1,1,1 Trichloroethane	µg/l	0.59 J	0.59 J	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	40	200
February 11, 2014												
Tetrachloroethene (PCE)	µg/l	30.7(31.5)	36.7	--	<0.47	--	34.6	26.0	8.2	--	0.5	5
Trichloroethene (TCE)	µg/l	<0.36	<0.36	--	<0.36	--	<0.36	<0.36	<0.36	--	0.5	5
1,1,1 Trichloroethane	µg/l	<0.44	0.55 J	--	<0.44	--	<0.44	<0.44	<0.44	--	40	200
May 14, 2014												
Tetrachloroethene (PCE)	µg/l	27.0(27.3)	15.9	5.7	0.96	27.4	24.7	10.3	3.7	<0.45	0.5	5
August 19, 2014												
Tetrachloroethene (PCE)	µg/l	25.5	10.8	4.8	0.69 J	18.7(17.9)	22.7	21.4	2.1	<0.45	0.5	5
1,2-Dichlorobenzene	µg/l	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	60	600
November 25, 2014												
Tetrachloroethene (PCE)	µg/l	19.5	9.2	6.8	<0.50	10.3	36.3	21.4(20.8)	3.5	<0.50	0.5	5

PAL - Preventive Action Limit per Wisconsin Admin. Code sec. NR 141.10.

Concentrations exceeding the PAL are in italics.

ES - Enforcement Standard per Wisconsin Admin. Code sec. NR 141.10.

Concentrations exceeding the ES have been shaded.

< - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Duplicate sample results are shown in parenthesis.

Table 2
United Dry Cleaners
SVE Effluent Sample Results

VE-1

	Date	7-Dec-13	15-Feb-14	14-May-14	19-Aug-14	7-Dec-14
ppbv						
cis-1,2-Dichloroethene		196	3.9	0.819	12.3	0.37
trans-1,2-Dichloroethene		14.1	<0.62	<0.27	<2.8	<0.055
Tetrachloroethene (PCE)		62,800	518	115	255	38.1
Trichloroethene (TCE)		310	2.76	0.696	3.53	0.35
Vinyl Chloride		<13.4	<0.62	<0.13	<1.4	<0.046
Total VOCs (ppbv)		63,320.1	524.66	116.515	270.830	38.820

VE-2

	Date	7-Dec-13	15-Feb-14	14-May-14
ppbv				
cis-1,2-Dichloroethene				<0.27
trans-1,2-Dichloroethene				<0.27
Tetrachloroethene (PCE)				46
Trichloroethene (TCE)				0.137
Vinyl Chloride				<0.13
Total VOCs (ppbv)		0	0	46.137

Table 3
Results for Subfloor Probes – Parkview Haven Apartment Building
United Laundries and Dry Cleaners, Inc., 623 Reed Avenue, Manitowoc, Wisconsin

Sample Location				VP-5	VP-5	VP-5	
Sample Date				Oct-12	Nov-13	Feb-14	
Sample Depth (ft.)				< 1.0	< 1.0	< 1.0	
Constituents	Vapor Risk Screening Level ⁽¹⁾	Vapor Action Level ⁽²⁾	Attenuation Factor ⁽³⁾	sub-slab basement	sub-slab basement	sub-slab basement	
cis-1,2-Dichloroethene	--	NA	0.1	<7	<0.67	<0.67	
trans-1,2-Dichloroethene	160	16	0.1	<7	<0.67	<0.67	
Tetrachloroethene (PCE)	62	6.2	0.1	1,310	689	1.61	
Trichloroethene (TCE)	4	0.39	0.1	<7	<0.67	11.6	
Vinyl Chloride	16	1.6	0.1	<7	<0.67	<0.65	
Sample Location				VP-6	VP-6	VP-6	
Sample Date				Oct-12	Nov-13	Feb-14	
Sample Depth (ft.)				< 1.0	< 1.0	< 1.0	
Constituents	Vapor Risk Screening Level ⁽¹⁾	Vapor Action Level ⁽²⁾	Attenuation Factor ⁽³⁾	sub-slab hallway	sub-slab hallway	sub-slab hallway	
cis-1,2-Dichloroethene	--	NA	0.1	<0.90	<0.63	<0.67	
trans-1,2-Dichloroethene	160	16	0.1	<0.90	<0.63	<0.67	
Tetrachloroethene (PCE)	62	6.2	0.1	31	6.2	<0.67	
Trichloroethene (TCE)	4	0.39	0.1	<0.90	<0.63	<0.68	
Vinyl Chloride	16	1.6	0.1	<0.90	<0.63	<0.65	
Sample Location				VP-7	Dup-1/ VP-7	VP-7	VP-7
Sample Date				Oct-12	Nov-13	Feb-14	
Sample Depth (ft.)				< 1.0	< 1.0	< 1.0	
Constituents	Vapor Risk Screening Level ⁽¹⁾	Vapor Action Level ⁽²⁾	Attenuation Factor ⁽³⁾	sub-slab hallway	sub-slab hallway	sub-slab hallway	
cis-1,2-Dichloroethene	--	NA	0.1	<7	<7	<0.67	<0.67
trans-1,2-	160	16	0.1	<7	<7	<0.67	<0.67
Tetrachloroethene	62	6.2	0.1	327	319	619	<0.67
Trichloroethene (TCE)	4	0.39	0.1	<7	<7	<0.67	<0.68
Vinyl Chloride	16	1.6	0.1	<7	<7	<0.67	<0.65

Notes:

- Vapor Risk Screening Level (VRSL)** = Vapor Action Level (VAL) ÷ Attenuation Factor (AF) per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- Vapor Action Level (VAL)** for Residential Land Use per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- Attenuation Factor (AF)** = 0.1 for sub-floor vapor for Residential/Small Commercial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012

Concentrations exceeding the VRSL are shaded.

< Below reporting limit

All units are reported in parts per billion by volume (ppbv)

VP -Vapor Probe

DUP-1 -Field duplicate

Table 4 (Page 1 of 2)
Historic Vapor Intrusion Investigation Results for Soil Gas Survey and Subfloor Probes
United Laundries and Dry Cleaners, Inc., 623 Reed Avenue, Manitowoc, Wisconsin

6A - Non-Residential, Large Commercial / Industrial Building, Deep Soil Gas				
Sample Date	Dec-11	Dec-11	Dec-11	Dec-11
Sample Location	P-4	P-5	P-6	
Sample Depth (ft.)	20.5-21	22.5-23	21.5-22	
Constituents	Vapor Risk Screening Level ⁽¹⁾	deep soil gas	deep soil gas	deep soil gas
cis-1,2-Dichloroethene		<0.63	10.8	<0.67
trans-1,2-Dichloroethene	65,000	<0.63	2.7	<0.67
Tetrachloroethene (PCE)	27,000	37	5,760	53.5
Trichloroethene (TCE)	1,600	<0.63	56.7	<0.67
Vinyl Chloride	11,000	<0.63	<0.63	<0.67

6B- Non-Residential, Residential/Small Commercial Building, Deep Soil Gas					
Sample Date	Dec-11	Dec-11	Dec-11	Dec-11	Dec-11
Sample Location	P-1	P-2	P-3	P-3/DUP-1	
Sample Depth (ft.)	21.5-22	22.5-23	20.5-21	20.5-21	
Constituents	Vapor Risk Screening Level ⁽¹⁾	deep soil gas	deep soil gas	deep soil gas	deep soil gas
cis-1,2-Dichloroethene		<0.67	<0.63	<0.63	<0.67
trans-1,2-Dichloroethene	6,500	<0.67	<0.63	<0.63	<0.67
Tetrachloroethene (PCE)	2,700	89.9	9,550	267	238
Trichloroethene (TCE)	160	<0.67	39.5	<0.63	<0.67
Vinyl Chloride	1,100	<0.67	<0.63	<0.63	<0.67

6C - Residential, Residential/Small Commercial Building, Deep Soil Gas											
Sample Date	Dec-11	Dec-11	Dec-11	Dec-11	Dec-11	Dec-11	Dec-11	Aug-12	Aug-12	Aug-12	Aug-12
Sample Location	P-2	P-3	P-3/DUP-1	P-5	P-7	P-8	GP-35	GP-36	GP-37	GP-38	
Sample Depth (ft.)	22.5-23	20.5-21	20.5-21	22.5-23	39.5-40	39.5-40	38.5-39	36.5-37	37.5-38	36.5-37	
Constituents	Vapor Risk Screening Level ⁽¹⁾	deep soil gas	deep soil gas	deep soil gas	deep soil gas	deep soil gas	deep soil gas	deep soil gas	deep soil gas	deep soil gas	deep soil gas
cis-1,2-Dichloroethene		<0.63	<0.63	<0.67	10.8	<0.67	<0.63	<0.72	<0.74	<0.72	<0.72
trans-1,2-Dichloroethene	1,600	<0.63	<0.63	<0.67	2.7	<0.67	<0.63	<0.72	<0.74	<0.72	<0.72
Tetrachloroethene (PCE)	620	9,550	267	238	5,760	7,190	6,370	218	1.6	36.4	5.6
Trichloroethene (TCE)	39	39.5	<0.63	<0.67	56.7	7	4.1	2.2	<0.74	<0.72	<0.72
Vinyl Chloride	160	<0.63	<0.63	<0.67	<0.63	<0.67	<0.63	<0.72	<0.74	<0.72	<0.72

Non-residential Large Commercial / Industrial Building Deep Soil

Vapor Action Level ⁽²⁾	Attenuation Factor ⁽⁴⁾
NA	0.001
65	0.001
27	0.001
1.6	0.001
11	0.001

Non-residential Residential/Small Commercial Building Deep Soil

Vapor Action Level ⁽²⁾	Attenuation Factor ⁽⁵⁾
NA	0.01
65	0.01
27	0.01
1.6	0.01
11	0.01

Residential Residential/Small Commercial Building Deep Soil

Vapor Action Level ⁽³⁾	Attenuation Factor ⁽⁶⁾
NA	0.01
16	0.01
6.2	0.01
0.39	0.01
1.6	0.01

Notes:

- VP Vapor Probe
- P Soil Gas Survey boring
- FD-1 Field duplicate
- DUP-1 Field dupli-
- All units are reported in parts per billion by volume (ppbv)
- < below reporting limit

- 1 Vapor Risk Screening Level (VRSL) = Vapor Action Level (VAL) ÷ Attenuation Factor (AF) per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 2 Vapor Action Level (VAL) for Non-Residential Land Use per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 3 Vapor Action Level (VAL) for Residential Land Use per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 4 Attenuation Factor (AF) = 0.001 for sub-floor vapor for Large Commercial / Industrial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 5 Attenuation Factor (AF) = 0.01 for deep soil gas for Residential/Small Commercial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 6 Attenuation Factor (AF) = 0.1 for sub-floor vapor for Residential/Small Commercial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.

Table 4 (Page 2 of 2)
Historic Vapor Intrusion Investigation Results for Soil Gas Survey and Subfloor Probes
United Laundries and Dry Cleaners, Inc., 623 Reed Avenue, Manitowoc, Wisconsin

6D- Non-Residential, Residential/Small Commercial Building, Sub-slab Soil Gas												
Sample Date	Apr-11	Apr-11	Apr-11	Apr-11	Apr-11	Mar-12	Mar-12	Mar-12	Mar-12	Mar-12	Mar-12	Aug-12
Sample Location	VP-1	VP-2	VP-2/FD-1	VP-3	VP-4	VP-1	VP-2	VP-2/Dup1	VP-3	VP-4	VP-1	VP-1
Sample Depth	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Constituents	Vapor Risk Screening Level	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab
cis-1,2-Dichloroethene		<6.7	<214	<172	<13,700	<686	<13.4	<3.4	<13.4	<3.4	<0.67	<3.5
trans-1,2-Dichloroethene	650	<6.7	<214	<172	<13,700	<686	<13.4	<13.4	<13.4	<3.4	<0.67	<3.5
Tetrachloroethene (PCE)	270	87.7	1,710	1,270	763,000	2,700	184	318	268	70.5	63.8	140
Trichloroethene (TCE)	16	<6.7	<214	<172	<13,700	<686	<13.4	<13.4	<13.4	<3.4	<0.67	<3.5
Vinyl Chloride	110	<6.7	<214	<172	<13,700	<686	<13.4	<13.4	<13.4	<3.4	<0.67	<3.5

Non-residential		Residential/Small Commercial Building	
Sub-floor vapor		Sub-floor vapor	
Vapor Action Level ⁽²⁾	Attenuation Factor ⁽⁶⁾	Vapor Action Level ⁽²⁾	Attenuation Factor ⁽⁶⁾
NA	0.1	NA	0.1
65	0.1	65	0.1
27	0.1	27	0.1
1.6	0.1	1.6	0.1
11	0.1	11	0.1

6E- Residential, Residential/Small Commercial Building, Shallow Soil Gas											
Sample Date	Dec-11	Dec-11	Aug-12	Aug-12	Aug-12	Aug-12	Aug-12	Aug-12	Aug-12	Aug-12	Aug-12
Sample Location	P-7	P-8	SGP-1	SGP-2	SGP-2/Dup1	SGP-3	GP-35	GP-36	GP-37	GP-38	GP-38
Sample Depth	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5	4.5-5
Constituents	Vapor Risk Screening Level	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas	shallow soil gas
cis-1,2-Dichloroethene		<0.63	<0.67	<13.9	<13.9	<13.9	<13.9	<0.78	<0.78	<0.72	<0.72
trans-1,2-Dichloroethene	160	<0.63	<0.67	<13.9	<13.9	<13.9	<13.9	<0.78	<0.78	<0.72	<0.72
Tetrachloroethene (PCE)	62	238	2.0	531	3,290	2,610	568	<0.78	2.0	<0.72	<0.72
Trichloroethene (TCE)	4	<0.63	<0.67	<13.9	<13.9	<13.9	<13.9	<0.78	<0.78	<0.72	<0.72
Vinyl Chloride	16	<0.63	<0.67	<13.9	<13.9	<13.9	<13.9	<0.78	<0.78	<0.72	<0.72

Residential		Residential/Small Commercial Building	
Sub-floor vapor		Sub-floor vapor	
Vapor Action Level ⁽³⁾	Attenuation Factor ⁽⁶⁾	Vapor Action Level ⁽³⁾	Attenuation Factor ⁽⁶⁾
NA	0.1	NA	0.1
16	0.1	16	0.1
6.2	0.1	6.2	0.1
0.39	0.1	0.39	0.1
1.6	0.1	1.6	0.1

6F- Residential, Residential/Small Commercial Building, Sub-floor Soil Gas					
Sample Date	Oct-12	Oct-12	Oct-12	Oct-12	Oct-12
Sample Location	VP-5	VP-6	VP-7	Dup-1/VP-7	Dup-1/VP-7
Sample Depth	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Constituents	Vapor Risk Screening Level	sub-slab	sub-slab	sub-slab	sub-slab
cis-1,2-Dichloroethene		<7	<0.90	<7	<7
trans-1,2-Dichloroethene	160	<7	<0.90	<7	<7
Tetrachloroethene (PCE)	62	1,310	31	327	319
Trichloroethene (TCE)	4	<7	<0.90	<7	<7
Vinyl Chloride	16	<7	<0.90	<7	<7

Residential		Residential/Small Commercial Building	
Sub-floor vapor		Sub-floor vapor	
Vapor Action Level ⁽³⁾	Attenuation Factor ⁽⁶⁾	Vapor Action Level ⁽³⁾	Attenuation Factor ⁽⁶⁾
NA	0.1	NA	0.1
16	0.1	16	0.1
6.2	0.1	6.2	0.1
0.39	0.1	0.39	0.1
1.6	0.1	1.6	0.1

Notes:

- VP Vapor Probe
- P Soil Gas Survey boring
- FD-1 Field duplicate
- DUP-1 Field duplicate
- All units are reported in parts per billion by volume (ppbv)
- < below reporting limit

- 1 Vapor Risk Screening Level (VRSL) = Vapor Action Level (VAL) ÷ Attenuation Factor (AF) per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 2 Vapor Action Level (VAL) for Non-Residential Land Use per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 3 Vapor Action Level (VAL) for Residential Land Use per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 4 Attenuation Factor (AF) = 0.001 for sub-floor vapor for Large Commercial / Industrial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 5 Attenuation Factor (AF) = 0.01 for deep soil gas for Residential/Small Commercial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.
- 6 Attenuation Factor (AF) = 0.1 for sub-floor vapor for Residential/Small Commercial Buildings per Wisconsin Department of Natural Resources Quick Look-Up Table, dated May 16, 2012.