

From: Lynn Bradley <lbradley@generalengineering.net>
Sent: Monday, November 16, 2020 11:56 AM
To: Schultz, Josie M - DNR
Cc: vandeurent@gmail.com
Subject: RE: Van Deurzen Cleaners Update BRRTS # 02-05-561974
Attachments: Analytical Table 08.20.2014.xls; Vapor Testing.xls; FIG 7 Estimated Extent of Soil Contamination.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Josie,

Per my message, can you please call me on my cell phone to discuss the next steps. The Sub-Slab basement sample collected at Rockstroh did not report concentrations above the Standards, however did have low levels of trichloroethylene and tetrachloroethylene detected. The Vapor samples collected within the storm and sanitary utilities reported low petroleum compounds and also tetrachloroethylene, but again below the standards.

Please review this information and contact me at 608-617-7729. Thank you!

Lynn M. Bradley
Environmental Project Manager | General Engineering Company
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From: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Sent: Wednesday, September 2, 2020 1:25 PM
To: Lynn Bradley <lbradley@generalengineering.net>
Cc: vandeurent@gmail.com
Subject: RE: Van Deurzen Cleaners Update BRRTS # 02-05-561974

Hi Lynn,

Thank you for this update, and good news that he will allow for a sub-slab port to be installed. Please let me know if you have any additional issues moving forward.

Thank you,
Josie

We are committed to service excellence.

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Josie M. Schultz

Hydrogeologist – Northeast Region Remediation and Redevelopment Team

Wisconsin Department of Natural Resources

2984 Shawano Avenue, Green Bay, WI 54313-6727

Phone: 920-662-5424 Office phone line will be disconnected in October

Cell: 920-366-5685

Josie.Schultz@Wisconsin.gov



From: Lynn Bradley <lbradley@generalengineering.net>
Sent: Wednesday, September 2, 2020 9:29 AM
To: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Cc: vandeurent@gmail.com
Subject: RE: Van Deurzen Cleaners Update BRRTS # 02-05-561974

Josie,

I am sending this e-mail to update you on the progress of Van Deurzen Cleaners. We performed the groundwater sampling of the "affected wells", vapor tested in the basement of Van Deurzen Cleaners, and vapor testing within the utilities. Steve, the neighboring property owner met with me when we were in the field, and is going to allow me to put a sub-slab vapor port in his basement. I will be doing that tomorrow. I just wanted to provide you an update and let you know this is moving forward. Hopefully all results are favorable and we can entertain closure.

Please let me know if you have any questions or need any further information. Thank you!

Lynn M. Bradley
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From: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Sent: Tuesday, April 28, 2020 8:19 AM
To: Lynn Bradley <lbradley@generalengineering.net>
Subject: Van Deurzen Cleaners Update BRRTS # 02-05-561974

Good Morning Lynn,

I hope you're staying safe and healthy. I am touching base to see if there is any update for Van Deurzen Cleaners in De Pere. I received the NR 700 semi-annual report in the beginning of January that GEC was coordinating the installation of sampling points in the utilities corridor and additional groundwater monitoring.

Please let me know if this work has already been performed, or when it is planned for. Feel free to give me a call on my cellphone, 920-366-5685, if you would like to discuss.

Thank you,
Josie

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Josie M. Schultz

Hydrogeologist – Northeast Region Remediation and Redevelopment Team

Wisconsin Department of Natural Resources

2984 Shawano Avenue, Green Bay, WI 54313-6727

Phone: 920-662-5424

Cell: 920-366-5685

Josie.Schultz@Wisconsin.gov



dnr.wi.gov



**TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS-SOIL BORINGS
VAN DEURZEN CLEANERS
02-0614-154**

Sample No.	NC RCL (ug/kg)	C RCL (ug/kg)	Direct Contact RCL (ug/kg)	Soil to Groundwater RCL	B-1/MW-1	B-2/MW-2	B-3/MW-3	B-4/MW-4	B-4/MW-4	B-5/MW-5
Sampling Date					07/10/14	07/10/14	07/10/14	07/10/14	07/10/14	07/10/14
Sample Depth (feet)					4-6'	4-6'	4-6'	2-4'	6-7'	4-6'
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) (µg/kg)										
Benzene	106,000	1,600	1,600	5.1	<9.2	<9.2	<9.2	<9.2	<9.2	<9.2
Ethylbenzene	4,080,000	8,020	8,020	1,570	<10	<10	<10	<10	<10	<10
Methyl tert-butyl ether	22,100,000	63,800	63,800	27	<30	<30	<30	<30	<30	<30
Naphthalene	178,000	5,520	5,520	658	<114	<114	<114	<114	<114	<114
Tetrachloroethene	109,000	33,000	33,000	4.5	<49	<49	<49	<49	<49	66J
Toluene	5,240,000	NE	818,000	1,107	<20	<20	<20	<20	<20	<20
1,2,4-Trimethylbenzene	373,000	NE	219,000	1,382	<26	<26	<26	<26	<26	<26
1,3,5-Trimethylbenzene	339,000	NE	182,000	1,382	<26	<26	<26	<26	<26	<26
Xylenes, -m, -p	818,000	NE	260,000	3,940	<68	<68	<68	<68	<68	<68
Xylenes, -o					<31	<31	<31	<31	<31	<31

µg/kg = micrograms per kilogram

RCL = Residual Contaminant Level

C = Cancer

NC = Non Cancer

NE = NR 720 RCL not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results exceed NR 720 RCL

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS-SOIL PROBES
VAN DEURZEN CLEANERS
02-0614-154

Sample No.	NC RCL (ug/kg)	C RCL (ug/kg)	Direct Contact RCL (ug/kg)	Soil to Groundwater RCL	GP-6	GP-6	GP-7	GP-7	GP-8	GP-9	GP-11		GP-12		VP-5
					07/30/15	07/30/15	07/30/15	07/30/15	07/30/15	07/30/15	05/19/16		05/19/16		05/19/16
Sample Depth (feet)					3-4	7-8	2-3	7-8	6-7'	4-5	0-2	4-6	2-4	4-6	0.5
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) (µg/kg)															
Benzene	106,000	1,600	1,600	5.1	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16	<16
Ethylbenzene	4,080,000	8,020	8,020	1,570	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27
Methyl tert-butyl ether	22,100,000	63,800	63,800	27	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
Naphthalene	178,000	5,520	5,520	658	<87	<87	<87	<87	<87	<87	<87	<87	<87	<87	<87
Tetrachloroethene	109,000	33,000	33,000	4.5	860	6,100	360	247	<54	930	<54	<54	<54	<54	<54
Toluene	5,240,000	NE	818,000	1,107	<31	<31	<31	<31	<31	<31	<31	<31	<31	<31	<31
1,2,4-Trimethylbenzene	373,000	NE	219,000	1,382	<78	<78	<78	<78	<78	<78	<78	<78	<78	<78	<78
1,3,5-Trimethylbenzene	339,000	NE	182,000	1,382	<89	<89	<89	<89	<89	<89	<89	<89	<89	<89	<89
Xylenes, -m, -p	818,000	NE	260,000	3,940	<70	<70	<70	<70	<70	<70	<70	<70	<70	<70	<70
Xylenes, -o					<29	<29	<29	<29	<29	<29	<29	<29	<29	<29	<29

µg/kg = micrograms per kilogram

RCL = Residual Contaminant Level

C = Cancer

NC = Non Cancer

NE = NR 720 RCL not established

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results exceed NR 720 RCL

**TABLE 4
SUMMARY OF SOIL ANALYTICAL RESULTS-REMEDIAL EXCAVATION
VAN DEURZEN CLEANERS
02-0614-154**

Sample No.	NC RCL (ug/kg)	C RCL (ug/kg)	Direct Contact RCL (ug/kg)	Soil to Groundwater RCL	North Wall		South Wall	East Wall		West Wall		SE Bottom	NW Bottom
					06/20/17		06/20/17	06/20/17		06/20/17		06/20/17	06/20/17
					3	7	3	3	6	3	7	8	10
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) and DETECTED VOCs (ug/kg)													
Benzene	106,000	1,600	1,600	5.1	<30	<30	<30	<30	<30	<30	<30	<30	<30
Ethylbenzene	4,080,000	8,020	8,020	1,570	<35	<35	<35	<35	<35	<35	<35	<35	<35
Methyl tert-butyl ether	22,100,000	63,800	63,800	27	<50	<50	<50	<50	<50	<50	<50	<50	<50
Naphthalene	178,000	5,520	5,520	658	<94	<94	<94	<94	<94	<94	<94	<94	<94
Tetrachloroethene	109,000	33,000	33,000	4.5	<32	350	2,780	660	720	2,360	1,060	320	1,160
Toluene	5,240,000	NE	818,000	1,107	<32	<32	<32	<32	<32	<32	<32	<32	<32
1,2,4-Trimethylbenzene	373,000	NE	219,000	1,382	<25	<25	<25	<25	<25	<25	<25	<25	<25
1,3,5-Trimethylbenzene	339,000	NE	182,000	1,382	<32	<32	<32	<32	<32	<32	<32	<32	<32
Xylenes, -m, -p	818,000	NE	260,000	3,940	<72	<72	<72	<72	<72	<72	<72	<72	<72
Xylenes, -o					<44	<44	<44	<44	<44	<44	<44	<44	<44

µg/kg = micrograms per kilogram

RCL = Residual Contaminant Level

C = Cancer

NC = Non Cancer

NE = NR 720 RCL not established

Bold indicates analytical results exceed NR 720 RCL

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
02-0614-154

Monitoring Well	NR 140		MW-1				MW-2				MW-3			
	ES	PAL	7/21/2014	8/6/2015	5/19/2016	12/14/2017	7/21/2014	8/6/2015	5/19/2016	12/14/2017	7/21/2014	8/6/2015	5/19/2016	12/14/2017
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) (µg/L)														
Benzene	5	0.5	<0.24	<0.44	<0.44	<0.17	<0.24	<0.44	<0.44	<0.17	<0.24	<0.44	<0.44	<0.17
Ethylbenzene	700	140	<0.55	<0.71	<0.71	<0.2	<0.55	<0.71	<0.71	<0.2	<0.55	<0.71	<0.71	<0.2
Methyl tert-butyl ether	60	12	<0.23	<1.1	<1.1	<0.82	<0.23	<1.1	<1.1	<0.82	<0.23	<0.44	<1.1	<0.82
Toluene	800	160	<0.69	<0.44	<0.44	<0.67	<0.69	<0.44	<0.44	<0.67	<0.69	<0.44	<0.44	<0.67
1,2,4 -Trimethylbenzene	480	96	<2.2	<1.6	<1.6	<1.14	<2.2	<1.6	<1.6	<1.14	<2.2	<1.6	<1.6	<1.14
1,3,5 -Trimethylbenzene			<1.4	<1.5	<1.5	<0.91	<1.4	<1.5	<1.5	<0.91	<1.4	<1.5	<1.5	<0.91
Xylenes, -m, -p	2,000	400	<0.69	<2.2	<2.2	<1.56	<0.69	<2.2	<2.2	<1.56	<0.69	<2.2	<2.2	<1.56
Xylenes, -o			<0.63	<0.9	<0.9	<0.39	<0.63	<0.9	<0.9	<0.9	<0.39	<0.63	<0.9	<0.9
OTHER DETECTED VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)														
Cis 1,2 Dichloroethene	70	7	<0.38	<0.45	<0.45	<0.41	<0.38	<0.45	<0.45	<0.41	<0.38	<0.45	<0.45	<0.41
Tetrachloroethene	5	0.5	<0.33	<0.49	<0.49	<0.48	<0.33	<0.49	<0.49	<0.48	<0.33	<0.49	<0.49	<0.48
Trichloroethene (TCE)	5	0.5	<0.33	<0.47	<0.47	<0.45	<0.33	<0.47	<0.47	<0.45	<0.33	<0.47	<0.47	<0.45

ES = Enforcement Standard

PAL = Preventive Action Limit

µg/L = micrograms per liter

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
02-0614-154

Monitoring Well	NR 140		MW-4				MW-5					TW-1		
	ES	PAL	7/21/2014	8/6/2015	5/19/2016	12/14/2017	7/21/2014	8/6/2015	5/19/2016	12/14/2017	8/20/2020	7/21/2014	8/6/2015	5/19/2016
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) (µg/L)														
Benzene	5	0.5	<0.24	<0.44	<0.44	<0.17	<0.24	<0.44	<0.44	<0.17	<0.33	<0.24	<4.4	<2.2
Ethylbenzene	700	140	<0.55	<0.71	<0.71	<0.2	<0.55	<0.71	<0.71	<0.2	<0.32	<0.55	<7.1	<3.55
Methyl tert-butyl ether	60	12	<0.23	<1.1	<1.1	<0.82	<0.23	<1.1	<1.1	<0.82	<0.47	<0.23	<11	<5.5
Toluene	800	160	<0.69	<0.44	<0.44	<0.67	<0.69	<0.44	<0.44	<0.67	<0.26	<0.69	<4.4	<2.2
1,2,4 -Trimethylbenzene	480	96	<2.2	<1.6	<1.6	<1.14	<2.2	<1.6	<1.6	<1.14	<0.3	<2.2	<16	<8
1,3,5 -Trimethylbenzene			<1.4	<1.5	<1.5	<0.91	<1.4	<1.5	<1.5	<0.91	<0.32	<1.4	<15	<7.5
Xylenes, -m, -p	2,000	400	<0.69	<2.2	<2.2	<1.56	<0.69	<2.2	<2.2	<1.56	<1.1	<0.69	<22	<11
Xylenes, -o			<0.63	<0.9	<0.9	<0.39	<0.63	<0.9	<0.9	<0.39	<0.38	<0.63	<9	<4.5
OTHER DETECTED VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)														
Cis 1,2 Dichloroethene	70	7	<0.38	<0.45	<0.45	<0.41	<0.38	<0.45	<0.45	<0.41	<0.39	<0.38	32	34
Tetrachloroethene	5	0.5	<0.33	<0.49	<0.49	<0.48	12.9	8.3	11.4	6.2	4.7	320	218	196
Trichloroethene (TCE)	5	0.5	<0.33	<0.47	<0.47	<0.45	<0.33	<0.47	<0.47	<0.45	<0.47	11.3	23.1	26.6

ES = Enforcement Standard

PAL = Preventive Action Limit

µg/L = micrograms per liter

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
02-0614-154

Monitoring Well	NR 140		TW-6				TW-7				TW-8			
	ES	PAL	8/6/2015	5/19/2016	12/14/2017	8/20/2020	8/6/2015	5/19/2016	12/14/2017	8/20/2020	8/6/2015	5/19/2016	12/14/2017	8/20/2020
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) (µg/L)														
Benzene	5	0.5	<4.4	<4.4	<1.7	<0.33	<0.44	<0.44	<0.17	<0.33	<0.44	<0.44	<0.17	<0.33
Ethylbenzene	700	140	<7.1	<7.1	<2	<0.32	<0.71	<0.71	<0.2	<0.32	<0.71	<0.71	<0.2	<0.32
Methyl tert-butyl ether	60	12	<11	<11	<8.2	<0.47	<1.1	<1.1	<0.82	<0.47	<1.1	<1.1	<0.82	<0.47
Toluene	800	160	<4.4	<4.4	<6.7	<0.26	<0.44	<0.44	<0.67	<0.26	<0.44	<0.44	<0.67	<0.26
1,2,4 -Trimethylbenzene	480	96	<16	<16	<11.4	<0.3	<1.6	<1.6	<1.14	<0.3	<1.6	<1.6	<1.14	<0.3
1,3,5 -Trimethylbenzene			<15	<15	<9.1	<0.32	<1.5	<1.5	<0.91	<0.32	<1.5	<1.5	<0.91	<0.32
Xylenes, -m, -p	2,000	400	<22	<22	<15.6	<1.1	<2.2	<2.2	<1.56	<1.1	<2.2	<2.2	<1.56	<1.1
Xylenes, -o			<9	<9	<3.9	<0.38	<0.9	<0.9	<0.39	<0.38	<0.9	<0.9	<0.39	<0.38
OTHER DETECTED VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)														
Cis 1,2 Dichloroethene	70	7	<4.5	8.5J	17.2	0.89J	2.2	0.76J	0.61J	<0.39	<0.45	<0.45	<0.41	<0.39
Tetrachloroethene	5	0.5	620	1,230	1,260	1,030	23.5	44	19.6	26.1	2.46	2.94	1.97	1.94
Trichloroethene (TCE)	5	0.5	<4.7	12.4J	9.7J	3.07	1.37J	1.51	2.59	1.38J	<0.47	<0.47	<0.45	<0.47

ES = Enforcement Standard
PAL = Preventive Action Limit
µg/L = micrograms per liter
J = Analyte detected above laboratory limit of detection but below limit of quantitation.
Bold indicates analytical results above NR 140 ES

**TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
02-0614-154**

Monitoring Well	NR 140		TW-9				TW-10		TW-11		TW-12	
	ES	PAL	8/6/2015	5/19/2016	12/14/2017	8/20/2020	5/24/2016	12/14/2017	5/24/2016	12/24/2017	5/24/2016	12/24/2017
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) (µg/L)												
Benzene	5	0.5	<2.2	<0.44	<0.17	<0.33	<0.44	<0.17	<0.44	NA	<0.44	<0.17
Ethylbenzene	700	140	<3.55	<0.71	<0.2	<0.32	<0.71	<0.2	<0.71	NA	<0.71	<0.2
Methyl tert-butyl ether	60	12	<5.5	<1.1	<0.82	<0.47	<1.1	<0.82	<1.1	NA	<1.1	<0.82
Toluene	800	160	<2.2	<0.44	<0.67	<0.26	<0.44	<0.67	<0.44	NA	<0.44	<0.67
1,2,4 -Trimethylbenzene	480	96	<8	<1.6	<1.14	<0.3	<1.6	<1.14	<1.6	NA	<1.6	<1.14
1,3,5 -Trimethylbenzene			<7.5	<1.5	<0.91	<0.32	<1.5	<0.91	<1.5	NA	<1.5	<0.91
Xylenes, -m, -p	2,000	400	<11	<2.2	<1.56	<1.1	<2.2	<1.56	<2.2	NA	<2.2	<1.56
Xylenes, -o			<4.5	<0.9	<0.39	<0.38	<0.9	<0.39	<0.9	NA	<0.9	<0.39
OTHER DETECTED VOLATILE ORGANIC COMPOUNDS (VOC) (µg/L)												
Cis 1,2 Dichloroethene	70	7	<2.25	<0.45	<0.41	<0.39	<0.45	<0.41	<0.45	NA	<0.45	<0.41
Tetrachloroethene	5	0.5	144	162	116	96	<0.49	<0.48	<0.49	NA	<0.49	<0.48
Trichloroethene (TCE)	5	0.5	<2.35	<0.47	<0.45	<0.47	<0.47	<0.45	<0.47	NA	<0.47	<0.45

ES = Enforcement Standard

PAL = Preventive Action Limit

µg/L = micrograms per liter

J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
02-0614-154

Monitoring Well	NR 140		RW-1		Sump	Sump 2		Rockstroh Sump
	ES	PAL	12/14/2017	8/20/2020	10/6/2014	12/14/2017	8/20/2020	12/14/2017
PETROLEUM VOLATILE ORGANIC COMPOUNDS (PVOC) ($\mu\text{g/L}$)								
Benzene	5	0.5	0.36J	<0.33	<0.24	<0.17	<0.33	<0.17
Ethylbenzene	700	140	<0.2	<0.32	<0.55	<0.2	<0.32	<0.2
Methyl tert-butyl ether	60	12	<0.82	<0.47	<0.23	<0.82	<0.47	<0.82
Toluene	800	160	<0.67	<0.26	<0.69	<0.67	<0.26	<0.67
1,2,4 -Trimethylbenzene	480	96	<1.14	<0.3	<2.2	<1.14	<0.3	<1.14
1,3,5 -Trimethylbenzene			<0.91	<0.32	<1.4	<0.91	<0.32	<0.91
Xylenes, -m, -p	2,000	400	<1.56	<1.1	<0.69	<1.56	<1.1	<1.56
Xylenes, -o			<0.39	<0.38	<0.63	<0.39	<0.38	<0.39
OTHER DETECTED VOLATILE ORGANIC COMPOUNDS (VOC) ($\mu\text{g/L}$)								
Cis 1,2 Dichloroethene	70	7	<0.41	<0.39	5.9	<0.41	<0.39	<0.41
Tetrachloroethene	5	0.5	13.9	7.7	41	1.9	1.26	<0.48
Trichloroethene (TCE)	5	0.5	<0.45	<0.47	17.4	0.53J	<0.47	<0.45

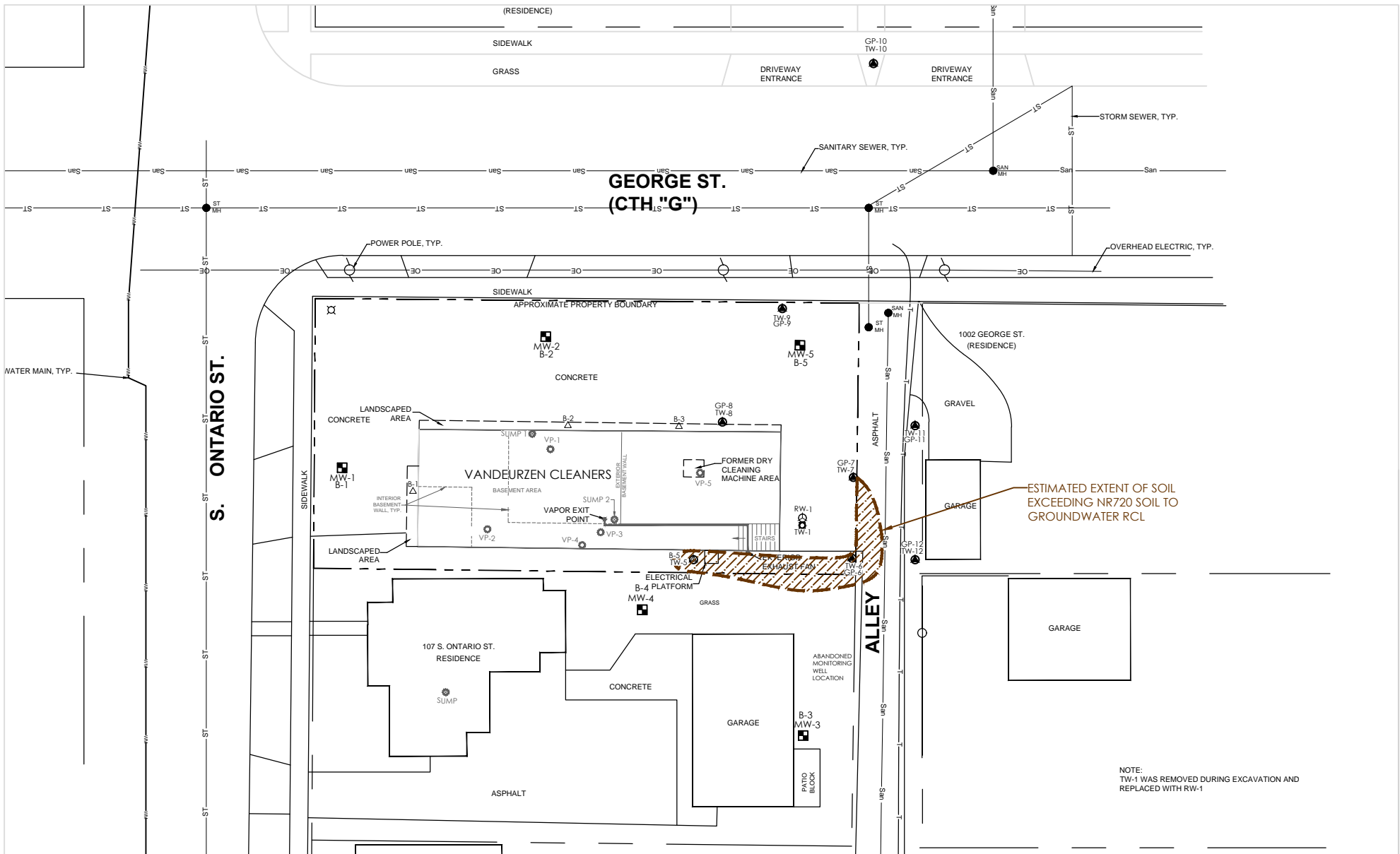
ES = Enforcement Standard

PAL = Preventive Action Limit

$\mu\text{g/L}$ = micrograms per liter

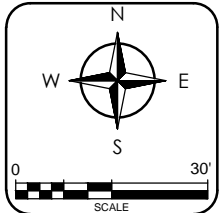
J = Analyte detected above laboratory limit of detection but below limit of quantitation.

Bold indicates analytical results above NR 140 ES



ESTIMATED EXTENT OF SOIL EXCEEDING NR720 SOIL TO GROUNDWATER RCL

NOTE: TW-1 WAS REMOVED DURING EXCAVATION AND REPLACED WITH RW-1



LEGEND	
B-1 MW-1	MONITORING WELL & SOIL BORING LOCATION
GP-1 TW-1	TEMPORARY MONITORING WELL & SOIL PROBE LOCATION
⊙	RECOVERY WELL LOCATION
⊙	VAPOR TESTING LOCATIONS
⊙	SUMP LOCATIONS
TW-1	TEMPORARY MONITORING WELL LOCATION (BY OTHERS)
B-1	GEOPROBE BORING LOCATION (BY OTHERS)
⊙	ABANDONED TEMPORARY MONITORING WELL LOCATION (Removed during excavation)

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ESTIMATED EXTENT OF SOIL CONTAMINATION EXCEEDING THE NR 720 SOIL TO GROUNDWATER RCL

SITE INVESTIGATION REPORT

FORMER VAN DEURZEN DRY CLEANERS

CITY OF DE PERE
 BROWN COUNTY, WI

DRAWN BY	KP
REVIEWED BY	LMB
ISSUE DATE	JAN 2018
GEC FILE NO.	2-0614-154
SHEET NO.	FIGURE 7

**TABLE 5
SUMMARY OF SUB-SLAB/AMBIENT VAPOR ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
2-0614-154**

TABLE 1 REGIONAL SCREENING LEVEL SUMMARY														
Sample No.	Residential Indoor Air VAL	Residential Sub-Slab Vapor VAL	Small Commercial Indoor Air VAL	Small Commercial Sub-Slab Vapor VRSL	VP-1 - VAN DEURZEN SUB-SLAB BASEMENT - 0.5 HOUR					VP-2 VAN DEURZEN SUB SLAB BASEMENT - 0.5 HOUR				
					10/06/14	03/09/15	05/19/16	12/14/17	08/20/20	10/06/14	03/09/15	05/19/16	12/14/17	08/20/20
Sampling Date	ug/m3	ug/m3	ug/m3	ug/m3										
VOLATILE ORGANIC COMPOUNDS (VOC) (ug/m3)														
Benzene	3.6	120	16	530	<5.1	<1.3	0.661	0.507	0.42J	3.2	0.67	Suma Canister Failure	<0.489	0.192J
Carbon Tetrachloride	4.7	160	20	670	<10	<2.5	<1.23	<1.23	0.57J	<1.3	<1.3		<1.23	0.57J
Chloroform	1.2	40	5.3	180	54	45	<0.930	1.21	1.7	2.0	1.2		<0.930	1.17
Chloromethane	94	3,100	390	13000	<3.3	<0.83	<0.930	<0.374	<0.831	<0.41	<0.41		<0.374	<0.831
Dichlorodifluoromethane	100	3300	440	15000	<7.9	2.5	1.73	2.16	3.4	1.3	2.4		2.64	2.87
1,1 Dichloroethane	18	600	77	2600	<6.4	<1.6	<0.685	<0.685	<0.187	1.1	<0.80		<0.685	0.28J
1,2 Dichloroethane	1.1	37	4.7	160	<6.5	<1.6	<0.83	<0.830	<0.24	<0.81	<0.81		<0.830	<0.24
1,1-Dichloroethene	210	7000	880	29000	270	190	<0.646	<0.646	<0.21	7.5	9.5		<0.646	<0.21
cis-1,2-Dichloroethene	NE	NE	NE	NE	440	230	6.99	3.32	4.4	38	27		0.539	1.39
trans-1,2-Dichloroethene	NE	NE	NE	NE	33	22	0.883	<0.614	0.55J	19	9.1		<0.614	0.99
Ethylbenzene	11	370	49	1600	<6.9	<1.7	1.33	2	0.35J	4.0	<0.87		1.08	0.217J
Methylene Chloride	630	21000	2600	87000	<5.6	<1.4	14.8	2.69	<15	1.8	<0.69		1.26	22.5
Methyl Tert Butyl Ether (MTBE)	110	3700	470	16000	<5.8	<1.4	<0.605	<0.605	<0.16	<0.72	<0.72		<0.605	<0.16
Naphthalene	0.83	28	3.6	120	52	<6.6	<2.69	3.27	<0.675	<3.3	<3.3		<2.69	<0.675
Tetrachloroethylene	42	1400	180	6000	8800	8100	35.4	82.8	46	3100	1100		9.70	46
Toluene	5200	170000	22000	730000	11	6.0	4.07	1.53	8.7	14	4.9		<0.625	1.28
1,1,1-Trichloroethane	5200	170000	22000	730000	<8.7	<2.2	<1.21	<1.21	<0.249	1.6	<1.1	<1.21	0.33J	
Trichloroethylene	2.1	70	8.8	290	1800	2000	13.1	13.1	4	530	320	3.96	7.6	
Trichlorofluoromethane	NE	NE	NE	NE	<9.0	<2.2	2.44	1.51	4.3	2.6	1.3	1.56	0.77J	
1,2,4-Trimethylbenzene	7.3	240	31	1000	<7.9	<2.0	7.65	5.24	1.13	3.8	1.4	3.94	0.78J	
1,3,5-Trimethylbenzene	NE	NE	NE	NE	<7.9	<2.0	1.43	<1.03	0.39J	1.1	<0.98	<1.03	<0.232	
Vinyl chloride	1.7	57	28	930	<4.1	1.2	<1.06	<0.389	<0.148	<0.51	<0.51	<0.389	<0.148	
m&p-Xylene	100	3300	440	15000	<14	<3.5	11.1	6.57	3.4	9.1	2.3	3.69	0.87J	
o-Xylene	100	3300	440	15000	<6.9	<1.7	2.54	2.08	0.65J	4.0	<0.87	1.16	0.35J	

UG/M³ - Micrograms per Cubic Meter of Air
 Bold indicates analytical results exceed sub-slab screening level
 NE= Not Established

**TABLE 5
SUMMARY OF SUB-SLAB/AMBIENT VAPOR ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
2-0614-154**

TABLE 1 REGIONAL SCREENING LEVEL SUMMARY

Sample No.	Residential Indoor Air VAL	Residential Sub-Slab Vapor VAL	Small Commercial Indoor Air VAL	Small Commercial Sub-Slab Vapor VRSL	VP-4 VAN DEURZEN SUB SLAB BASEMENT - 0.5 HOUR					VP-5 VAN DEURZEN SUB SLAB BASEMENT - 0.5 HOUR			AMBIENT 1-VAN DEURZEN 1ST FLOOR (0.5 HOUR)		AMBIENT 2-ROCHSTROH BASEMENT (0.5 HOUR)		ROCKSTROH SUB SLAB (0.5 HOUR)	
					10/06/14	03/09/15	05/19/16	12/14/17	08/20/20	05/19/16	12/14/17	08/20/20	05/19/16	12/14/17	12/14/17	01/27/18	09/03/20	
Sampling Date	ug/m3	ug/m3	ug/m3	ug/m3														
VOLATILE ORGANIC COMPOUNDS (VOC) (ug/m3)																		
Benzene	3.6	120	16	530	2.7	<1.3	0.986	<0.489	<0.136	27	3.13	16.1	Suma Canister Failure	1.10	Suma Canister Failure	1.03	NA	
Carbon Tetrachloride	4.7	160	20	670	<1.3	<2.5	<1.23	<1.23	0.57J	<1.23	<1.23	0.63J		<1.23		<1.23	<1.23	NA
Chloroform	1.2	40	5.3	180	4.5	5.4	<0.930	1.33	14.6	1.22	<0.930	36		<0.930		<0.930	<0.930	NA
Chloromethane	94	3,100	390	13000	<0.41	<0.83	0.566	0.436	<0.831	1.16	0.405	<0.831		0.862		0.862	0.871	NA
Dichlorodifluoromethane	100	3300	440	15000	1.3	2.6	1.55	1.71	2.87	1.64	3.04	2.72		1.91		1.91	1.48	NA
1,1-Dichloroethane	18	600	77	2600	<0.80	<1.6	<0.685	<0.685	<0.187	<0.685	<0.685	<0.187		<0.685		<0.685	<0.685	<0.187
1,2-Dichloroethane	1.1	37	4.7	160	<0.81	<1.6	<0.830	<0.830	<0.24	<0.830	<0.830	<0.24		<0.830		<0.830	<0.830	NA
1,1-Dichloroethene	210	7000	880	29000	230	230	41.9	5.64	0.71	<0.646	<0.646	<0.21		<0.646		<0.646	<0.646	NA
cis-1,2-Dichloroethene	NE	NE	NE	NE	240	180	207	8.29	6.5	<0.515	<0.515	0.277J		<0.515		<0.515	<0.515	<0.197
trans-1,2-Dichloroethene	NE	NE	NE	NE	48	26	5.24	1.08	1.03	<0.614	<0.614	<0.231		<0.614		<0.614	<0.614	<0.231
Ethylbenzene	11	370	49	1600	4.8	<1.7	3.11	1.61	<0.203	12.5	2.35	2.17		<0.733		<0.733	2.10	NA
Methylene Chloride	630	21000	2600	87000	1.5	<1.4	79.5	1.48	<15	36	4.67	<15		1.43		1.43	6.46	NA
Methyl Tert Butyl Ether (MTBE)	110	3700	470	16000	<0.72	<1.4	<0.605	<0.605	<0.16	<0.605	<0.605	<0.16		<0.605		<0.605	<0.605	NA
Naphthalene	0.83	28	3.6	120	<3.3	<6.6	<2.69	3.34	<0.675	<2.69	<2.69	<0.675		<2.69		<2.69	4.93B	NA
Tetrachloroethylene	42	1400	180	6000	6000	8800	1500	311	350	410	189	1740		7		7	<1.32	126
Toluene	5200	170000	22000	730000	15	11	10.4	1.66	0.87	50.6	5.52	26.8		2.72		2.72	9.44	NA
1,1,1-Trichloroethane	5200	170000	22000	730000	4.9	7.6	<1.21	<1.21	0.272J	<1.21	<1.21	<0.249		<1.21		<1.21	<1.21	1.52
Trichloroethylene	2.1	70	8.8	290	1400	2200	355	52.1	43	22.9	8.26	56		<0.975		<0.975	<0.975	2.62
Trichlorofluoromethane	NE	NE	NE	NE	2.6	<2.2	1.51	<1.26	6.2	1.95	1.36	4.5		1.75		1.75	<1.26	NA
1,2,4-Trimethylbenzene	7.3	240	31	1000	6.4	2.5	8.67	5.25	0.98	21.5	6.48	2.16	<0.790	<0.790	2.53	NA		
1,3,5-Trimethylbenzene	NE	NE	NE	NE	2.3	<2.0	1.52	<1.03	0.245J	4.46	<1.03	0.83	<1.03	<1.03	<1.03	NA		
Vinyl chloride	1.7	57	28	930	3.1	9.2	79.7	<0.389	<0.148	<0.389	<0.389	<0.148	<0.389	<0.389	<0.389	<0.148		
m&p-Xylene	100	3300	440	15000	10	4.8	11.3	4.69	0.91J	399	122	720	25.2	25.2	8.66	NA		
o-Xylene	100	3300	440	15000	4.8	1.7	4.24	1.57	0.35J	12.3	2.14	1.69	<0.915	<0.915	2.64	NA		

UG/M³ Micrograms per Cubic Meter of Air
 Bold indicates analytical results exceed vapor risk screening level or vapor action level
 B=Analyte detected within the laboratory blank
 NE=Not Established
 NA=Parameter Not Analyzed

TABLE 5
SUMMARY OF UTILITY VAPOR ANALYTICAL RESULTS
VAN DEURZEN CLEANERS
2-0614-154

TABLE 1 REGIONAL SCREENING LEVEL SUMMARY						
Sample No.	Residential Indoor Air VAL	Residential Sub-Slab Vapor VAL	Small Commercial Indoor Air VAL	Small Commercial Sub-Slab Vapor VRSL	STORM SEWER (0.5 HOUR)	SANITARY SEWER (0.5 HOUR)
Sampling Date					08/20/20	08/20/20
	ug/m3	ug/m3	ug/m3	ug/m3		
VOLATILE ORGANIC COMPOUNDS (VOC) (ug/m3)						
Benzene	3.6	120	16	530	3.7	3.9
Carbon Tetrachloride	4.7	160	20	670	0.69J	0.69J
Chloroform	1.2	40	5.3	180	0.73J	1.22
Chloromethane	94	3,100	390	13000	1.34J	1.42J
Dichlorodifluoromethane	100	3300	440	15000	2.62	2.72
1,1 Dichloroethane	18	600	77	2600	<0.187	<0.187
1,2 Dichloroethane	1.1	37	4.7	160	2.75	2.55
1,1-Dichloroethene	210	7000	880	29000	<0.21	<0.21
cis-1,2-Dichloroethene	NE	NE	NE	NE	<0.197	<0.197
trans-1,2-Dichloroethene	NE	NE	NE	NE	<0.231	<0.231
Ethylbenzene	11	370	49	1600	14.1	12.8
Methylene Chloride	630	21000	2600	87000	26.4	<15
Methyl Tert Butyl Ether (MTBE)	110	3700	470	16000	<0.16	<0.16
Naphthalene	0.83	28	3.6	120	1.41J	1.47J
Tetrachloroethylene	42	1400	180	6000	14.7	18.9
Toluene	5200	170000	22000	730000	39	34
1,1,1-Trichloroethane	5200	170000	22000	730000	<0.249	<0.249
Trichloroethylene	2.1	70	8.8	290	0.86	1.5
Trichlorofluoromethane	NE	NE	NE	NE	2.98	1.85
1,2,4-Trimethylbenzene	7.3	240	31	1000	6.2	6.8
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.77	1.72
Vinyl chloride	1.7	57	28	930	<0.148	<0.148
m&p-Xylene	100	3300	440	15000	25.8	23.8
o-Xylene	100	3300	440	15000	8.1	7.5

UG/M³ - Micrograms per Cubic Meter of Air

Bold indicates analytical results exceed vapor risk screening level or vapor action level

B=Analyte detected within the laboratory blank

NE=Not Established