

Beggs, Tauren R - DNR

From: Matt Dahlem <mdahlem@fehr-graham.com>
Sent: Wednesday, August 19, 2015 3:34 PM
To: DuFresne, Kristin I - DNR
Cc: Tim Maertz
Subject: FW: Remedial Excavation - Former One Hour Martinizing (OHM) Main Street Property, 1923 Main Street, Green Bay, WI - WDNR BRRTS # 02-05-217276
Attachments: Dft Fig 1 - OEX Chem.pdf; Dft Fig B.2.b - Rem Soil.pdf; Dft Tbl A.3 - Rem Soil Chem.pdf
Importance: High

Hey Kristin! We completed remedial excavation activities on Aug. 5-6, 2015 at the above referenced site following the scope in Fehr Graham's Revised Remedial Action Plan dated February 11, 2015. Approximately 30.65 tons of concrete/asphalt and 570.86 tons of contaminated soil was removed from the property and properly disposed of by Foust Excavating. Based on the completed borings and more recent groundwater chemistry information, the soil excavation was from four areas to a depth of six feet.

The excavation included an area of soil surrounding monitoring well MW-3, which was the most contaminated groundwater location on the property. Well MW-3 was entirely removed in the excavation, and a sump was installed as a replacement monitoring point in the backfill near MW-3 to a depth of approximately 15 feet below grade (10-foot screen) for groundwater monitoring purposes.

15 soil samples were retained during the remedial excavation to document the final soil chemistry results from the excavation walls. A field PID was used to help screen soils during the excavation. PID readings ranged from 0.0-0.8 ppm. Floor samples were not retained, as the floor was at or slightly below the water table surface, and the samples would not be representative of soil chemistry results. Fehr Graham staff sampled the sidewalls for VOCs. The only VOC that was detected was PCE (Figure 1). The remaining soil chemistry across the site is shown on Figure B.2.b. and Table A.3. As you can see, PCE is the only contaminant of concern and there are no direct contact issues.

The excavation was intended to remove the most contaminated soil from the site, with an overall objective to demonstrate stable or improving groundwater chemistry results over time following the excavation. An approximate soil RCL goal for the site was 200 ug/kg PCE, but it was understood going into this remedial excavation that this standard may not be met at all locations.

After soil sampling was complete, the remedial excavations were backfilled. In order to confirm the adequacy of compaction of the backfill materials, a Proctor test was performed on the fill materials prior to backfilling. The established Proctor density of the fill was then be used in conjunction with field densities established via density testing to determine compaction levels being achieved. Backfill consisted of 59.59 tons of 2-inch clear stone in the excavation base, 386.76 tons of sand and gravel for granular backfill, and 156.52 tons of traffic bond at the surface to provide a hard, drivable traffic surface .

Upon completion of the first post-excavation groundwater sampling event, in approximately 6-months (February 2016 unless you would like a quarterly sample earlier in November 2015), a brief summary report will be sent to the WDNR that documents the completed actions. The report will include details regarding the excavation, backfill, well abandonment, sump installation, backfilling activities, soil disposal activities and will summarize soil/gw laboratory analytical results. Discussions will be held with the WDNR regarding the results and whether case closure can be pursued at that time. It is anticipated the report will conclude that the next sample event be completed in six months, and if those results appear favorable, closure could be considered.

Based on this information Kristin, please let me know if you would like any additional information submitted to you at this time or obtained through fieldwork, such as delineation borings/wells to the east.




Thanks so much.

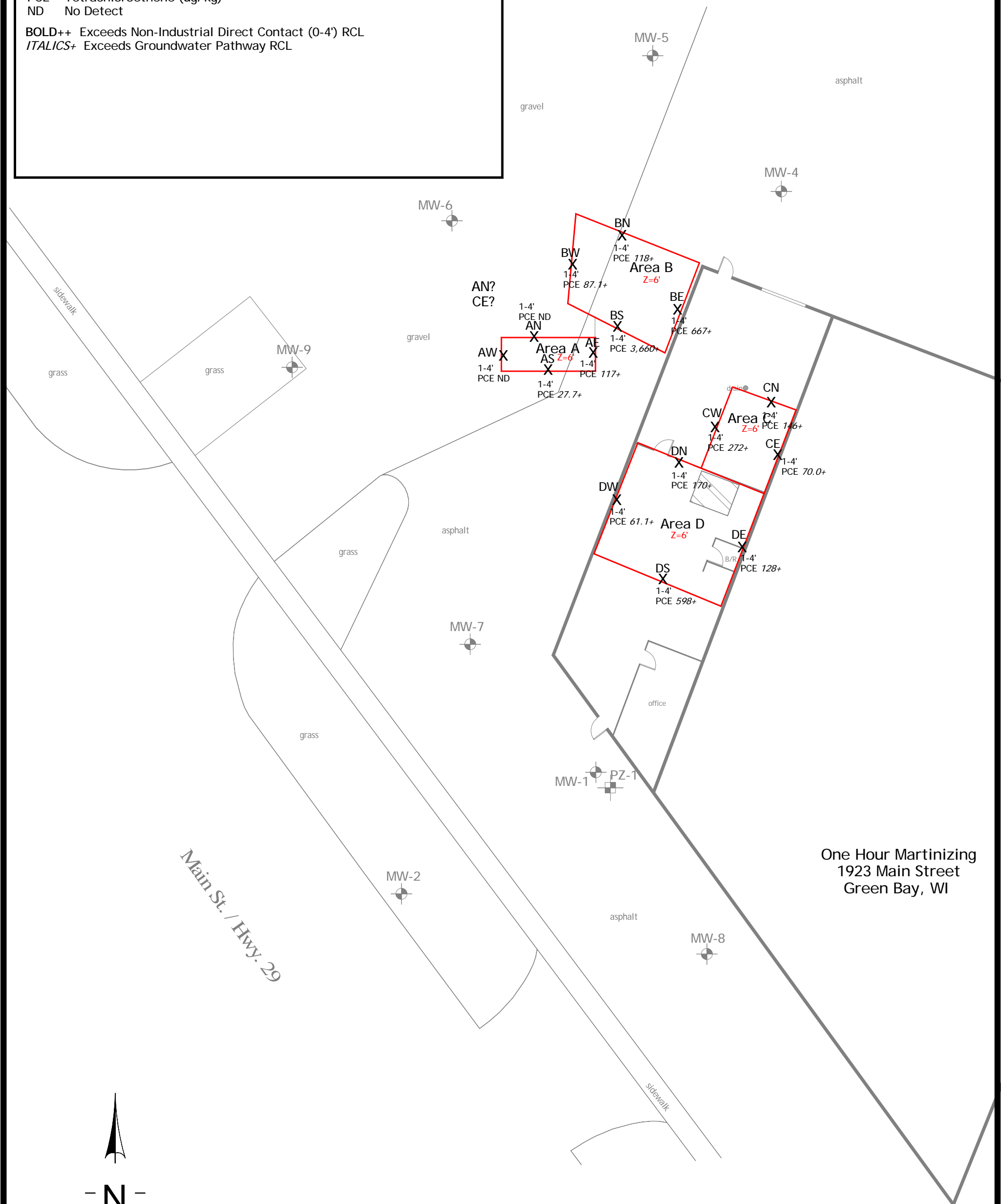
Matt

MATT DAHLEM, P.G. | Senior Project Hydrogeologist
Fehr Graham - Engineering & Environmental

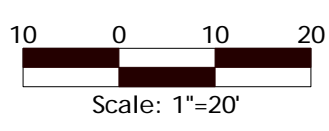
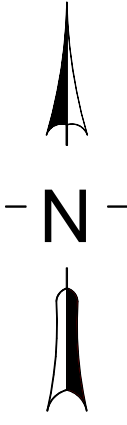
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Plymouth, Wisconsin 53073
P: 920.892.2444
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LEGEND

-  Dry Cleaning Machine Location
-  MW-5 Monitoring Well
-  Excavation Limits
- Z=6'** Excavation Depth
- BN Excavation Sample
- X Excavation Sample
- 1-4' Sample Depth
- PCE Tetrachloroethene (ug/kg)
- ND No Detect
- BOLD++** Exceeds Non-Industrial Direct Contact (0-4') RCL
- ITALICS+* Exceeds Groundwater Pathway RCL



One Hour Martinizing
1923 Main Street
Green Bay, WI












TITLE:
Remedial Action Soil Chemistry
August 5-6, 2015



SITE: One Hour Martinizing 1923 Main St. Green Bay, WI 54302	
SCALE: 1"=20'	ATS/FG PROJECT NUMBER: RIC-2012-01 14-1138 BRRTS# 02-05-217276
REV: DATE:	DESCRIPTION:

Date: 8/15/14	DWG #: F:/BaseMap - Rice OHM - 14-1138.skf
APPVD.:	DRAWN BY: MKH
FIGURE 1	

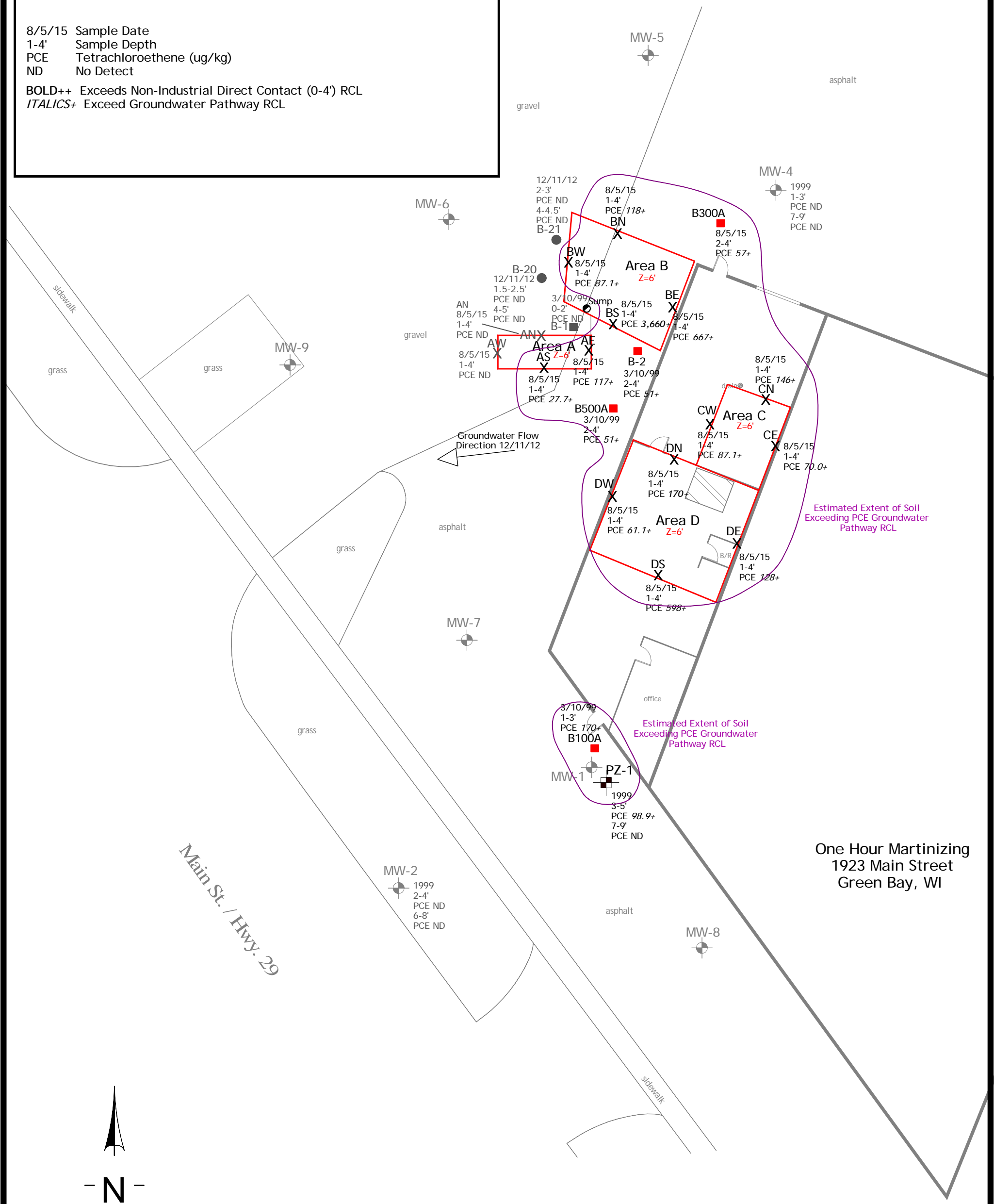
LEGEND

-  Dry Cleaning Machine Location
-  MW-5
-  Monitoring Well
-  B-21
-  Soil Borings 12/11/12
-  B-5
-  Historic Soil Borings
-  Excavation Limits
-  Z=6' Excavation Depth

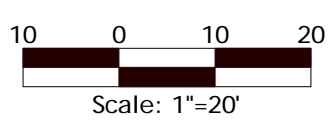
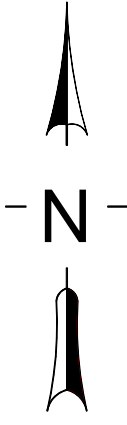
BN
X August 5, 2015 Excavation Samples

8/5/15 Sample Date
1-4' Sample Depth
PCE Tetrachloroethene (ug/kg)
ND No Detect

BOLD++ Exceeds Non-Industrial Direct Contact (0-4') RCL
ITALICS+ Exceed Groundwater Pathway RCL



One Hour Martinizing
1923 Main Street
Green Bay, WI



TITLE: Residual Soil Contamination		FEHR GRAHAM ENGINEERING & ENVIRONMENTAL	
SITE: One Hour Martinizing 1923 Main St. Green Bay, WI 54302		Date: 8/15/14	DWG #: F:/BaseMap - Rice OHM - 14-1138.skf
SCALE: 1"=20'	ATS/FG PROJECT NUMBER: RIC-2012-01 14-1138 BRRTS# 02-05-217276	APPVD.:	FIGURE: B.2.b
REV: DATE:	DESCRIPTION:	DRAWN BY: MKH	

TABLE A.3
 Residual Soil Contamination - VOCs
 One Hour Martinizing
 1923 Main St., Green Bay, WI 54302
 BRRTS #02-05-217276

Sample ID	Date	Depth	Description	DEPTH to Seasonal Low Water Table (ft BGS)	Saturated (S) or Unsaturated (U)	PID Reading	Notes	Site Investigation - Northern Environmental			Site Investigation - STS Consultants																								
								B100A	B300A	B500A	PZ-1		MW-2		MW-4		MW-6	MW-7	B-1	B-2	B-5	B-6	B-20			B-21									
								3/10/99	3/10/99	3/10/99	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	12/11/12	12/11/12	12/11/12	12/11/12	12/11/12						
		1-3'	2-4'	2-4'	3-5'	7-9'	2-4'	6-8'	1-3'	7-9'	0-2'	0-2'	0-2'	2-4'	0-2'	0-2'	1.5-2.5'	4-5'	4-4.5'	2-3'	4-4.5'														
Benzene	(ug/kg)	5.1	1,490	<25	<25	<25	<12.8	<13.1	<11.5	<13.8	<11.8	<12.0	NA	NA	<11	<11	<12	<10	<25.0	<25.0	NA	<25.0	<25.0												
Ethylbenzene	(ug/kg)	1570	7,470	<25	<25	<25	<13.2	<13.6	<11.9	<14.2	<12.2	<12.3	NA	NA	<11	<12	<12	<11	<25.0	<25.0	NA	<25.0	<25.0												
Toluene	(ug/kg)	1107.2	818,000	<25	<25	<25	<7.5	<7.69	<6.74	<8.07	<6.93	<7.0	NA	NA	<6.5	<6.7	<7.0	<6.1	<25.0	<25.0	NA	<25.0	<25.0												
Xylenes (TOTAL)	(ug/kg)	3940	258,000	<75	<75	<25	<38.8	<39.8	<34.9	<41.9	<35.9	<36.2	NA	NA	<23	<24	<25	<22	<75.0	<75.0	NA	<75.0	<75.0												
m&p-Xylene	(ug/kg)	NS	778,000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NR	NR	NR	NR	<50.0	<50.0	NA	<50.0	<50.0												
o-Xylene	(ug/kg)	NS	434,000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NR	NR	NR	NR	<25.0	<25.0	NA	<25.0	<25.0												
Naphthalene	(ug/kg)	658.2	5,150	<25	<25	<25	<5.59	<5.73	<5.03	<6.02	<5.17	<5.22	NA	NA	<32	<33	<34	<30	<25.0	<25.0	NA	<25.0	<25.0												
MTBE	(ug/kg)	27	59,400	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NR	NR	NR	NR	<25.0	<25.0	NA	<25.0	<25.0												
1,2,4-Trimethylbenzene	(ug/kg)	408	89,800	<25	<25	<25	<31.6	<32.4	<28.4	<34	<29.2	<22	NA	NA	<27	<28	<29	<26	<25.0	<25.0	NA	<25.0	<25.0												
1,3,5-Trimethylbenzene	(ug/kg)	NS	182,000	<25	<25	<25	<23.6	<24.2	<21.2	<25.4	<21.2	<5.22	NA	NA	<20	<21	<22	<19	<25.0	<25.0	NA	<25.0	<25.0												
Trimethylbenzene Total (1,2,4- & 1,3,5-)	(ug/kg)	1382.1	NS	<50	<50	<50	<55.2	<56.6	<49.6	<59.4	<50.4	<27.22	NA	NA	<47	<49	<51	<45	<50.0	<50.0	NA	<50.0	<50.0												
Tetrachloroethene (PCE)	(ug/kg)	4.5	30,700	170	57	51	98.9	<23.5	<20.6	<24.7	<21.2	<21.4	NA	NA	<20	46J	<21	<19	<25.0	<25.0	NA	<25.0	<25.0												
Trichloroethene (TCE)	(ug/kg)	3.6	1,260	NR	NR	NR	<14.5	<14.8	<13.0	<15.6	<13.4	<13.5	NA	NA	<13	<13	<13	<12	<25.0	<25.0	NA	<25.0	<25.0												
cis-1,2-Dichloroethene	(ug/kg)	41.2	156,000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NR	NR	NR	NR	<25.0	<25.0	NA	<25.0	<25.0												
trans-1,2-Dichloroethene	(ug/kg)	58.8	1,560,000	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NR	NR	NR	NR	<25.0	<25.0	NA	<25.0	<25.0												
Vinyl Chloride	(ug/kg)	0.1	67	NR	NR	NR	NR	NR	NR	NR	NR	NR	NA	NA	NR	NR	NR	NR	<25.0	<25.0	NA	<25.0	<25.0												
Methylene Chloride	(ug/kg)	2.6	60,700	NR	NR	NR	<17.3	<17.8	<15.6	<18.6	<16.0	<16.2	NA	NA	<47	<48	<50	<44	<25.0	<25.0	NA	<25.0	<25.0												
Total Organic Carbon	(mg/kg)			NA	NA	NA	NA	NA	NA	NA	NA	NA	36400	24700	NA	NA	NA	NA	NA	NA	1,785	NA	NA												
No. of Individual Exceedances (DC)				0	0	0	0	--	--	--	--	--	--	--	--	0	--	--	--	--	--	--	--												
Cumulative Hazard Index (DC)				0.0015	0.0005	0.0004	0.0009	--	--	--	--	--	--	--	--	0.0004	--	--	--	--	--	--	--												
Cumulative Cancer Risk (DC)				5.5E-09	1.9E-09	1.7E-09	3.2E-09	--	--	--	--	--	--	--	--	1.5E-09	--	--	--	--	--	--	--												

Exceedance Highlights:

Red font indicates DC RCL exceedance, and BTV exceedance for metals. **B1**: Cumulative exceedance (HI > 1), even though no individual DC RCL was exceeded.

Italic font indicates GW RCL Exceedance. Groundwater quality (> NR 140 ES) may be affected when GW RCLs are exceeded.

Notes:
 Xylenes reported as total of m-, o-, p-xylenes
 NS = No standard established
 NA = Not analyzed for parameter
 NR = Not Reported
ITALICS indicates exceedance of Groundwater Pathway RCL; WDNR RCL calculator 7/14/14

BOLD indicates exceedance of Non-industrial Direct Contact Residual Contaminant Level; WDNR RCL calculator 7/14/14

TABLE A.3
Residual Soil Contamination - VOCs
One Hour Martinizing
1923 Main St., Green Bay, WI 54302
BRRS #02-05-217276

Sample ID		August 5-6, 2015 Remedial Action Excavation																	
		AN	AS	AE	AW	BN	BS	BE	BW	CN	CE	CW	DN	DS	DE	DW			
Date	Depth	Groundwater Pathway RCL		Non-Industrial Direct-Contact RCL		8/5/15	8/5/15	8/5/15	8/5/15	8/5/15	8/5/15	8/5/15	8/5/15	8/6/15	8/6/15	8/6/15	8/6/15	8/6/15	8/6/15
Description	DEPTH to Seasonal Low Water Table (ft BGS)					1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'	1-4'
Saturated (S) or Unsaturated (U)	PID Reading					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Notes						6'	6'	6'	6'	6'	6'	6'	6'	6'	6'	6'	6'	6'	6'
						U	U	U	U	U	U	U	U	U	U	U	U	U	U
						0.2	0.7	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Benzene	(ug/kg)	5.1	1,490	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Ethylbenzene	(ug/kg)	1570	7,470	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Toluene	(ug/kg)	1107.2	818,000	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Xylenes (TOTAL)	(ug/kg)	3940	258,000	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0
m&p-Xylene	(ug/kg)	NS	778,000	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
o-Xylene	(ug/kg)	NS	434,000	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Naphthalene	(ug/kg)	658.2	5,150	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0	<40.0
MTBE	(ug/kg)	27	59,400	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
1,2,4-Trimethylbenzene	(ug/kg)	408	89,800	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
1,3,5-Trimethylbenzene	(ug/kg)	NS	182,000	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Trimethylbenzene Total (1,2,4- & 1,3,5-)	(ug/kg)	1382.1	NS	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Tetrachloroethene (PCE)	(ug/kg)	4.5	30,700	<25.0	27.7 J	117	<25.0	118	3,660	667	87.1	146	70.0 J	87.1	170	598	128	61.1 J	
Trichloroethene (TCE)	(ug/kg)	3.6	1,260	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
cis-1,2-Dichloroethene	(ug/kg)	41.2	156,000	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
trans-1,2-Dichloroethene	(ug/kg)	58.8	1,560,000	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Vinyl Chloride	(ug/kg)	0.1	67	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Methylene Chloride	(ug/kg)	2.6	60,700	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Total Organic Carbon	(mg/kg)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
No. of Individual Exceedances (DC)		--	0	0	--	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Hazard Index (DC)		--	0.0002	0.001	--	0.001	0.0318	0.0058	0.0008	0.0013	0.0006	0.0008	0.0015	0.0052	0.0011	0.0005			
Cumulative Cancer Risk (DC)		--	9.0E-10	3.8E-09	--	3.8E-09	1.2E-07	2.2E-08	2.8E-09	4.8E-09	2.3E-09	2.8E-09	5.5E-09	1.9E-08	4.2E-09	2.0E-09			

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