

ANALYTICAL KEY

PFOA =Perfluorooctanoic acid PFHxS =Perfluorohexanesulphonic acid
 PFOS =Perfluorooctane sulfonic aci FOSA =Perfluorooctanesulfonamide

All concentrations reported in nonagrams per liter (parts per trillion, or ppt)
 "J" = Analyte detected between Limit of Detection and Limit of Quantitation.

BOLD = Concentration exceeds recommended DHS ES
ITALICS = Concentration exceeds recommended DHS PAL

SMW-104R				
Date	1/10/20	4/14/20	5/27/20	1/12/24
PFOA	85	98	73	4.6
PFHxS	2600 B	3600 B	2500 B	150
PFOS	650	1100	790	79
FOSA	6.2	<i>11 B</i>	<i>6.9B</i>	1.5 J

SMW-3				
Date	1/9/20	4/14/20	5/26/20	1/11/24
PFOA	0.81 J	26	28	32
PFHxS	13 B	26 B	23 B	24
PFOS	<0.48	8.8	4.9	9.6
FOSA	6.2	<i>11 B</i>	<i>6.9B</i>	1.5 J

SMW-4				
Date	1/9/20	4/13/20	5/26/20	1/11/24
PFOA	<0.77	1.5 J	5.9	5.4
PFHxS	0.37 JB	1.3 JB	3.1 B	3.1
PFOS	<0.49	<0.48	1.8	<0.47
FOSA	<0.32	<0.31	0.46 JB	<0.86

SMW-5				
Date	1/9/20	4/13/20	5/26/20	1/11/24
PFOA	1.0 J	1.8	1.1 J	2.4
PFHxS	5.7 B	4.5 B	4.7 B	7.8
PFOS	3.5 I	3.8	3.2	10
FOSA	<0.32	0.65 JB	<0.31	<0.85

SMW-6				
Date	1/9/20	4/14/20	5/26/20	1/11/24
PFOA	7.6	5.2	4.3	5.9
PFHxS	2.1 B	2.1 B	2.0B	4.5
PFOS	0.96 J	1.6 J	0.70J	1.2 J
FOSA	<0.31	0.40 JB	<0.31	<0.85

SMW-8	
Date	1/12/24
PFOA	2.2
PFHxS	1.4 J
PFOS	<0.46
FOSA	<0.84

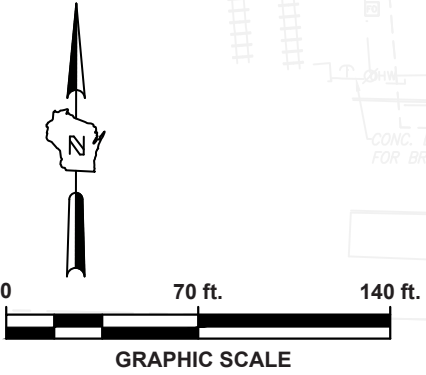
SMW-9	
Date	1/12/24
PFOA	2.1
PFHxS	1.4 J
PFOS	<0.47
FOSA	<0.84

MW-14					
Date	3/29/19	1/10/20	4/14/20	5/27/20	1/12/24
PFOA	6.4	44	29	23	28
PFHxS	3.0 B	15 B	11 B	9.8B	11
PFOS	3.7	5.1	7.2	6.2	5.1
FOSA	<0.34	<0.32	0.40 JB	<0.31	<0.86

SMW-2					
Date	3/29/19	1/9/20	4/13/20	5/27/20	1/11/24
PFOA	0.88 J	0.84 J	0.81 J	<0.76	<0.74
PFHxS	0.67 JB	0.60 JB	0.50 JB	0.28JB	0.57 J
PFOS	0.73 J	0.82 J	<0.49	<0.48	<0.47
FOSA	<0.35	<0.31	0.43 JB	0.78 JB	<0.85

LEGEND

- Monitoring Well
- Piezometer
- Approximate extent of groundwater impacts > WDHS recommended ES
- Approximate extent of groundwater impacts > WDHS recommended PAL



GROUNDWATER QUALITY MAP - PFAS

610 W. RAWSON AVE.
OAK CREEK, WI

FIGURE

3D

Project: 16386 Directory: CAD Filename: Fig11_Conceptual_LRAP.pdf Created By: JJK Date: 11/23/2020

Table 3
Soil Analytical Results Table(s)
610 W. Rawson Avenue & 7045 N. 6th Street, Oak Creek, Wisconsin
Sigma Project No. 16366

Soil Sample Location:	TS-1	TS-2	TS-3	TS-4	TS-5	TS-6	TS-7	TS-8	TS-9	TS-10	TS-11	TS-12	Groundwater Pathway RCL ⁴	Non-Industrial Direct Contact RCL ⁵	Industrial Direct Contact RCL ⁶	Background Threshold Value ⁷	
Sample Depth (feet bgs):	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA					
Sample Collection Date:	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19	10/18/19					
PAHs																	
Acenaphthene	mg/kg	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	<0.0163	NS	3,590	45,200	NS	
Acenaphthylene	mg/kg	<0.0086	<0.0086	0.0159 J	0.0086 J	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	NS	NS	NS	NS	
Anthracene	mg/kg	0.0177	0.0241	0.046	0.069	0.0158	0.0055 J	<0.0043	<0.0043	<0.0043	<0.0043	0.0064 J	<0.0043	196.9492	17,900	100,000	NS
Benzo(a)anthracene	mg/kg	0.065	0.079	0.138	0.253	0.055	0.0232 J	<0.016	<0.016	0.0184 J	<0.016	0.0278 J	<0.016	NS	1.14	20.8	NS
Benzo(a)pyrene	mg/kg	0.072	0.094	[0.157]	[0.247]	0.057	0.0212 J	<0.0124	<0.0124	0.0127 J	<0.0124	0.0227 J	<0.0124	0.47	0.115	2.11	NS
Benzo(b)fluoranthene	mg/kg	0.123	0.171	0.248	0.37	0.111	0.051	0.0175 J	0.0243 J	0.037	0.0228 J	0.057	0.0173 J	0.4793	1.15	21.1	NS
Benzo(ghi)perylene	mg/kg	0.057	0.095	0.15	0.158	0.055	0.0224 J	<0.0084	0.0125 J	0.0176 J	0.0101 J	0.0262 J	<0.0084	NS	NS	NS	NS
Benzo(k)fluoranthene	mg/kg	0.036	0.063	0.088	0.13	0.051	0.0225 J	0.0103 J	0.0112 J	0.0164 J	0.0093 J	0.0263 J	<0.0091	NS	11.5	211	NS
Chrysene	mg/kg	0.075	0.108	0.158	0.277	0.079	0.037	0.0132 J	0.0189 J	0.025	0.016 J	0.045	0.0139 J	0.1446	115	2,110	NS
Dibenzo(a,h)anthracene	mg/kg	0.0112 J	0.0152 J	0.0249 J	0.0309 J	0.0105 J	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	<0.0101	NS	0.115	2.11	NS
Fluoranthene	mg/kg	0.161	0.196	0.3	0.61	0.149	0.062	0.0226	0.033	0.044	0.0272	0.069	0.0214	88.8778	2,390	30,100	NS
Fluorene	mg/kg	<0.0086	<0.0086	<0.0086	0.0148 J	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	14.8299	2,390	30,100	NS
Indeno(1,2,3-cd)pyrene	mg/kg	0.044	0.061	0.097	0.119	0.038	0.0173 J	<0.0082	<0.0082	0.0116 J	<0.0082	0.0186 J	<0.0082	NS	1.15	21.1	NS
1-Methylnaphthalene	mg/kg	<0.0086	0.0099 J	0.07	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	NS	17.6	72.7	NS
2-Methylnaphthalene	mg/kg	<0.0147	<0.0147	0.051	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	<0.0147	NS	239	3,010	NS
Naphthalene	mg/kg	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	<0.0153	0.6582	5.52	24.1	NS
Phenanthrene	mg/kg	0.043	0.063	0.129	0.229	0.077	0.0232 J	0.0092 J	0.0139 J	0.0239 J	0.0134 J	0.0264	0.0101 J	NS	NS	NS	NS
Pyrene	mg/kg	0.132	0.169	0.281	0.53	0.14	0.052	0.0182 J	0.0267	0.041	0.0237	0.059	0.0172 J	54.5455	1,790	22,600	NS
PAH RCL Exceedes (Y/N)?		N	N	N	N	N	N	N	N	N	N	N	N				

Notes:

1. Unsaturated/smear zone versus saturated soil conditions based on: (1) measured water levels in adjacent/nearby monitoring wells, or (2) soil moisture conditions recorded on soil boring logs during drilling.
2. Analytical units: mg/kg = milligrams per kilogram (equivalent to parts per million, ppm)
3. NA = not analyzed
4. Groundwater Pathway RCL = Residual Contaminant Level for protection of groundwater (dilution factor of 2) as presented on the WDNR's RCL Spreadsheet (dated June 2018) referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014.
5. Non-Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at a non-industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2018) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014.
6. Industrial Direct Contact RCL = Residual Contaminant Level for protection of direct contact at an industrial property as presented on the WDNR's RCL Spreadsheet (dated June 2018) with default input parameters as referenced in WDNR guidance document PUB-RR-890 "Soil Residual Contaminant Level Determinations Using the US EPA Regional Screening Level Web Calculator", dated June 2014.
7. Background Threshold Value = Non-outlier trace element maximum levels in Wisconsin surface soils from USGS report "Distribution and Variation of Arsenic in Wisconsin Surface Soils, With Data on Other Trace Elements" (revised February 2013).
8. NS = no standard established
9. Laboratory flags: "J" = Analyte detected between Limit of Detection and Limit of Quantitation
10. Exceedances:
 - BOLD** = Concentration exceeds Groundwater Pathway RCL
 - [] = Concentration exceeds Non-Industrial Direct Contact RCL (any depth)
 - { } = Concentration exceeds Industrial Direct Contact RCL (any depth)
 - * = Concentration exceeds RCL but is below Background Threshold Value or is Laboratory Artifact

Data entered / updated by: RJA Date: 6/11/2024
Data Checked by: SRM Date: 6/11/2024