March 24, 2022
File No. 25221094.00

Mr. Matt Vitale
Wisconsin Department of Natural Resources
1300 W Clairemont Ave.
Eau Claire, WI 54701-6127

Subject: Site Investigation Status Update
Blackhawk Drycleaners, 700 East Blackhawk Ave., Prairie du Chien, WI
BRRTS #02-12-552357

Dear Mr. Vitale:

SCS Engineers (SCS) has prepared this Site Investigation Status Update for the Blackhawk Drycleaners site (**Figures 1** and **2**). Based on site investigation findings to date it appears that the degree and extent of groundwater contaminants have been adequately defined and that additional sampling is not warranted.

We request your concurrence that no further groundwater sampling is necessary to delineate or asses the source of contaminants. We also request confirmation that the "No Further Action" status determined for Lots 1 and 3 as summarized in your December 9, 2021 Liability Clarification letters still apply such that no further testing of soil, groundwater, or vapor is necessary for these lots.

BACKGROUND

Sampling of NR 141 monitoring wells has documented the presence of volatile organic compounds (VOCs) and per- and polyfluoroalkyl substances (PFAS) in groundwater at the site.

The VOC tetrachloroethene (PCE) is the only VOC which has been detected in excess of an NR 140 enforcement standard (ES). PCE has exceeded the ES for samples from source property monitoring wells MW-2, MW-3, and MW-4, but has not been detected in excess of the ES in samples from remaining source property wells MW-1, MW-6P, or off-site wells MW-5, MW-7, MW-8, or MW-8P.

PFAS sampling was performed in December 2021 for monitoring wells with PCE exceedances, including MW-2, MW-3, and MW-4. PFAS, including perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), were detected in excess of U.S. Environmental Protection Agency (U.S. EPA) health advisory (HA) levels in samples from source property monitoring well MW-3, but were not detected in excess HA levels in samples from source property wells MW-2 or MW-4.

Based on the December 2021 PFAS sampling results, the Wisconsin Department of Natural Resources (WDNR) required PFAS sampling for the remaining monitoring wells in the network to define the extent and to assess the possibility of an off-site source of PFAS. SCS performed the additional sampling in February 2022 as summarized below.

FEBRUARY 2022 GROUNDWATER MONITORING

In February 2022, SCS collected groundwater samples from site monitoring wells MW-1, MW-5, MW-6P, MW-7, MW-8, and MW-8P for analysis of PFAS. Samples were also collected from monitoring wells MW-1 and MW-3 for analysis of VOCs.

VOC samples were collected from monitoring well MW-1 because this well wasn't sampled for VOCs during the prior December 2021 sampling event due to a damaged casing. A groundwater sample for VOCs was collected from monitoring well MW-3 because the prior sampling result appeared anomalously high.

A February 2022 water table map was constructed using depth to water measurements from each well (Figure 3). A water level measurement was taken for well MW-1, but was not used to develop the water table map because the surveyed top of well casing (datum) had shifted when the well was damaged. The February 2022 water table map appears consistent with prior water table maps, and shows groundwater flow to the west at a relatively flat gradient of approximately 0.001 feet per foot.

The laboratory report for the February 2022 sampling event is provided in Attachment A and analytical results are summarized in Tables 1 and 2. Additional details are provided below.

- VOC sample results for monitoring well MW-1 are consistent with prior sampling results. PCE was detected in excess of the NR 140 preventive action limit (PAL) at an estimated quantity of 0.83 micrograms per liter (µg/L). No other VOCs were detected in the MW-1 sample.

- The February 2022 MW-3 PCE concentration (19 µg/L) was significantly lower than observed for prior sampling in December 2021 (107 µg/L) but is consistent with previous sampling results which range from approximately 5 to 43 µg/L. The elevated December 2021 PCE concentration appears anomalously high, but similar fluctuations have been observed for monitoring well MW-4 and could be attributed to a slight variation in groundwater flow direction between sampling events.

- PFAS were not detected in samples from monitoring well MW-8P, or field and equipment blanks.

- PFAS were detected in samples from monitoring wells MW-1, MW-5, MW-6P, MW-7, and MW-8, however, the PFOA and PFOS concentrations do not exceed U.S. EPA HA levels.

MONITORING WELL REPLACEMENT

Monitoring well MW-1 was apparently hit by construction equipment or a vehicle in late 2021. The PVC well casing was initially thought to be pinched, but was subsequently determined to be cracked at a depth of approximately 3 feet below ground surface. The dedicated bailer used for purging and sampling the well could not be lowered beyond the break. Small-diameter tubing and low-flow sampling equipment were used to sample the well in February 2022. However, due to the breakage, the well was permanently abandoned in March 2022 by removal of the well casing and sealing of the borehole consistent with NR 141.

A replacement well (MW-1R) was constructed to the same specifications as the original well and installed approximately 10 feet to the northeast. Well replacement documentation and an abandonment form for MW-1 are provided in Attachment B.

CONCLUSIONS AND RECOMMENDATIONS

- The extent of VOCs and PFAS in groundwater appears to be adequately defined. VOCs and PFAS are not present at concentrations exceeding ESs or HA levels in samples from off-site monitoring wells.

- The distribution of PFAS in groundwater appears consistent with a potential release from the former dry cleaner. Similar to VOCs, PFAS concentrations are generally higher at the source property and decrease off-site to the west in the direction of groundwater flow. The contaminant concentrations also appear to decrease vertically as documented by samples from deeper wells (piezometers) MW-6P and MW-8P.

- While PFAS were detected in the sample from upgradient monitoring well MW-1, the concentrations are lower than those observed immediately downgradient of the dry cleaner. This pattern is similar to the pattern of PCE in groundwater, where PCE has been detected in samples from MW-1 at concentrations slightly above the PAL.

- The relatively low upgradient concentrations of VOCs and PFAS do not appear related to an upgradient source. There are no known or suspected upgradient sources. The upgradient detections can be attributed to diffusion of the contaminants over a relatively flat groundwater gradient.

- Further sampling of VOCs and PFAS in groundwater does not appear warranted for the following reasons:
  - The degree and extent of groundwater contamination appears to be adequately defined by sampling of numerous borings and groundwater monitoring wells.

  - VOC concentrations appear relatively stable over time, and will likely continue to decrease naturally, primarily by diffusion and mechanical dispersion as opposed to biological degradation. PFAS will likely decrease over time by the same means.

  - The PFAS and VOCs do not appear to represent a significant threat to drinking water receptors. Drinking water in the vicinity of the site is supplied by municipal wells, which are located approximately 700 feet to the east, in the assumed upgradient direction.

- Further testing of soil, vapor, or groundwater is not warranted for Lots 1 and 3. This is consistent with the WDNR's prior "no further action" determinations for these lots.

Please contact Robert Langdon at (608) 212-3995 or rlangdon@SCSengineers.com if you have any questions concerning this letter.

Sincerely,

Robert Langdon
Senior Project Manager
SCS Engineers

Mark R. Huber, PE
Project Director
SCS Engineers

REL/REO_jsn/MRH

cc: Garth Frable, City of Prairie du Chien

Attachments: Table 1 – Groundwater Analytical Results Summary – VOCs
Table 2 – Groundwater Analytical Results Summary – PFAS
Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Water Table Map – February 16, 2022
Attachment A – Laboratory Analytical Report
Attachment B – Monitoring Well MW-1 Replacement Documentation

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Tables

Table 1. Groundwater Analytical Results Summary - VOCs
Blackhawk Junction - Prairie du Chien, WI / SCS Engineers Project #25221094.00
(Results are in µg/L)

Sample	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs	
GP-1	4/16/2009	--	*1.2*	<0.15	<0.4	ND	ND	2-Butanone	12
								Ethylbenzene	0.58
GP-2	4/16/2009	--	**16**	0.45	<0.4	ND	ND	Chloromethane	0.32
GP-3	4/16/2009	--	**37**	0.41	<0.4	ND	ND	Chloromethane	1.1
GP-4	7/24/2009	--	**64**	*0.81*	0.92	ND	ND	Chloromethane	0.61
GP-5	7/24/2009	--	<0.4	<0.15	<0.4	ND	ND	Chloromethane	2.1
								Naphthalene	0.7
GP-6	2/17/2010	--	2.6	<0.15	<0.4	ND	ND	Chloromethane	0.3
								Ethylbenzene	0.29
								Toluene	0.78
								m&p-Xylene	1.3
								o-Xylene	0.82
								1,2,4-Trimethylbenzene	1.1
								1,3,5-Trimethylbenzene	0.25
GP-7	2/17/2010	--	**13**	<0.15	<0.4	ND	ND	Chloromethane	0.32
								Toluene	0.45
								m&p-Xylene	0.71
								1,2,4-Trimethylbenzene	0.84
								1,3,5-Trimethylbenzene	0.2
SB-01-GW (18.7-30)	3/10/2020	--	2.8	<0.15	<0.20	<0.19	<0.099	ND	
SB-02-GW (17.8-30)	3/10/2020	--	2.6	<0.15	<0.20	<0.19	<0.099	ND	
SB-03-GW (18.8-30)	3/10/2020	--	**27.2**	<0.15	<0.20	<0.19	<0.099	ND	

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Blackhawk Junction - Prairie du Chien, WI / SCS Engineers Project #25221094.00
(Results are in µg/L)

Sample	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs
SB-04-GW (18.5-30)	3/10/2020	--	**5.1**	<0.15	<0.20	<0.19	<0.099	ND
	3/10/2020 (Dup)	--	*4.7*	<0.15	<0.20	<0.19	<0.099	ND
MW-01	2/1/2021	(1)	*0.92*	<0.15	<0.20	<0.19 v2	<0.099	ND
	4/7/2021	--	<1.0	<1.0	<1.0	<1.0	<1.0	ND
	6/23/2021	--	*0.66* J	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021	(4)	*0.61* J	<0.32	<0.47	<0.53	<0.17	ND
	2/17/2022	--	*0.69* J	<0.16	<0.41	<0.35	<0.20	ND
	2/17/2022 (DUP)	--	*0.83* J	<0.16	<0.41	<0.35	<0.20	ND
MW-02	2/1/2021	(2)	**11.9**	<0.15	<0.20	<0.19 v2	<0.099	ND
	4/8/2021	--	**8.7**	<1.0	<1.0	<1.0	<1.0	ND
	6/23/2021	(3)	**9.0**	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021	(6)	**12.6**	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	**10.3**	<0.32	<0.47	<0.53	<0.17	ND
MW-03	2/2/2021	(2)	**25.2**	<0.15	<0.20	<0.19 v2	<0.099	ND
	4/8/2021	--	**5.2**	<1.0	<1.0	<1.0	<1.0	ND
	6/23/2021	(3)	**42.6**	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021	(6)	**13.1**	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	**107**	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021 (Dup)	--	**108**	<0.32	<0.47	<0.53	<0.17	ND
	2/17/2022	--	**19**	<0.16	<0.41	<0.35	<0.20	Chloroform 0.45 J

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(Results are in µg/L)

Sample	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs
MW-04	2/2/2021	(2)	**228**	*0.64*	<0.20	<0.19 v2	<0.099	ND
	2/2/2021 (Dup)	(1)	**222**	*0.57*	<0.20	<0.19 v2	<0.099	ND
	4/8/2021	--	**8.3**	<1.0	<1.0	<1.0	<1.0	ND
	4/8/2021 (Dup)	--	**8.3**	<1.0	<1.0	<1.0	<1.0	ND
	6/23/2021	(3)	**196**	0.34 J	<0.47	<0.53	<0.17	ND
	6/23/2021 (Dup)	(3)	**202**	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021	(6)	**52.6**	<0.32	<0.47	<0.53	<0.17	Methylene Chloride 0.48 J
	12/13/2021	--	**87.3**	<0.32	<0.47	<0.53	<0.17	ND
MW-05	2/2/2021	(2)	*2.0*	<0.15	<0.20	<0.19 v2	<0.099	ND
	4/8/2021	--	*0.96* J	<1.0	<1.0	<1.0	<1.0	Methylene Chloride 0.34 J
	6/23/2021	(3)	*2.5*	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021	(4)	*2.1*	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	*1.7*	<0.32	<0.47	<0.53	<0.17	Methylene Chloride *0.67* J
MW-6P	8/23/2021	(6)	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021 (Dup)	(6)	0.49 J	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND
MW-7	8/23/2021	(5)	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND

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(Results are in µg/L)

Sample	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs
MW-8	8/23/2021	(4)	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	(7)	<0.41	<0.32	<0.47	<0.53	<0.17	ND
MW-8P	8/23/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND
Trip Blank	3/11/2020	--	<0.17	<0.15	<0.20	<0.19	<0.099	Methylene Chloride 1.4 J, C0
	2/1/2021	(2)	<0.17	<0.15	<0.20	<0.19 v2	<0.099	ND
	4/5/2021	--	<1.0	<1.0	<1.0	<1.0	<1.0	ND
	6/23/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	8/23/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	12/13/2021	--	<0.41	<0.32	<0.47	<0.53	<0.17	ND
	2/17/2022	--	<0.37	<0.16	<0.41	<0.35	<0.20	ND
Field Blank	2/2/2021	--	<0.17	<0.15	<0.20	<0.19	<0.099	Acetone 14.3 2-Butanone (MEK) 1.1 J Diethyl ether (Ethyl Ether) 0.52 J Ethylbenzene 0.12 J 4-Methyl-2-pentanone (MIBK) 0.77 J Toluene 0.33 J Xylenes (Total) 0.45 J m&p-Xylene 0.29 J o-Xylene 0.16 J

Table 1. Groundwater Analytical Results Summary - VOCs
Blackhawk Junction - Prairie du Chien, WI / SCS Engineers Project #25221094.00
(Results are in µg/L)

Sample	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	Other VOCs	
NR 140 Enforcement Standards (ESs)			5	5	70	100	0.2	Acetone	9,000
								2-Butanone (MEK)	4,000
								Chloroform	6
								Chloromethane	30
								Diethyl ether (Ethyl ether)	1,000
								Ethylbenzene	700
								4-Methyl-2-pentanone (MIBK)	500
								Methylene Chloride	5
								Naphthalene	100
								Toluene	800
								1,2,4- and 1,3,5-Trimethylbenzene	480
								Xylenes (Total)	2,000
								m&p-Xylene	NE
								o-Xylene	NE
NR 140 Preventive Action Limits (PALs)			0.5	0.5	7	20	0.02	Acetone	1,800
								2-Butanone (MEK)	800
								Chloroform	0.6
								Chloromethane	3
								Diethyl ether (Ethyl ether)	100
								Ethylbenzene	140
								4-Methyl-2-pentanone (MIBK)	50
								Methylene Chloride	0.5
								Naphthalene	10
								Toluene	160
								1,2,4- and 1,3,5-Trimethylbenzene	96
								Xylenes (Total)	400
								m&p-Xylene	NE
								o-Xylene	NE

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb)
PCE = Tetrachloroethene
(Dup) = Duplicate Sample
-- = Not Applicable
cis-1,2-DCE = cis-1,2-Dichloroethene
TCE = Trichloroethene
NA = Not Analyzed
NE = No Standard Established
trans-1,2-DCE = trans-1,2-Dichloroethene
VOCs = Volatile Organic Compounds
ND = Not Detected

Table 2. Groundwater Analytical Results Summary - PFAS
Blackhawk Junction - Prairie du Chien, WI / SCS Engineers Project #25221094.00
(Results are in ng/L)

Free Acid Name			Perfluorobutanoic acid	Perfluoropentanoic acid	Perfluorohexanoic acid	Perfluoroheptanoic acid	Perfluorooctanoic acid	Perfluorononanoic acid	Perfluorodecanoic acid	Perfluoroundecanoic acid	Perfluorododecanoic acid	Perfluorotridecanoic acid	Perfluorotetradecanoic acid	Perfluorobutanesulfonic acid	Perfluoropentanesulfonic acid	Perfluorohexanesulfonic acid	Perfluoroheptanesulfonic acid	Perfluorooctanesulfonic acid	Perfluorononanesulfonic acid	Perfluorodecanesulfonic acid	Perfluorooctanesulfonamide
		Acronym:	PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA	PFDoA	PFTriA	PFTeA	PFBS	PFPeS	PFHxS	PFHpS	PFOS	PFNS	PFDS	FOSA
Sample	**Date**	**CAS #**	375-22-4	2706-90-3	307-24-4	375-85-9	335-67-1	375-95-1	335-76-2	2058-94-8	307-55-1	72629-94-8	376-06-7	375-73-5	2706-91-4	355-46-4	375-92-8	1763-23-1	68259-12-1	335-77-3	754-91-6
MW-1	2/17/2022		5.9	6.6	4.0	3.0	6.5	<0.24	<0.28	<0.99	<0.49	<1.2	<0.65	3.5	<0.27	6.2	0.37 J	15	<0.33	<0.29	<0.88
	2/17/2022 (Dup)		5.4	6.7	3.8	2.8	6.7	<0.24	<0.28	<0.99	<0.50	<1.2	<0.66	3.2	<0.27	5.9	0.51 J	16	<0.33	<0.29	1.5 J
MW-2	2/13/2021		3.7	1.6 J	2.9	2.8	11	<0.70	<0.53	<0.51	<0.46	<0.59	<0.45	2.1	<0.45	3.6	1.5 J	3.0 I	<0.42	<0.43	<0.78
MW-3	12/13/2021		6.4	10	7.9	5.4	19	0.86 J	<0.56	<0.54	<0.48	<0.62	<0.47	4.2	<0.47	4.1	2.6	58	<0.44	<0.45	<0.81
	12/13/2021 (Dup)		6.4	9.9	7.0	5.7	22	1.0 J	<0.54	<0.51	<0.46	<0.59	<0.45	3.7	<0.45	4.1	2.3	55	<0.43	<0.43	<0.78
MW-4	12/13/2021		9.0	12	16	14	30	7.4	<0.55	<0.52	<0.47	<0.60	<0.46	39	1.1 J	46	0.67 J	6.8	<0.43	<0.44	<0.79
MW-5	2/17/2022		3.5 J	1.8	12	3.2	14	<0.24	<0.27	<0.97	<0.48	<1.1	<0.64	5.6	2.5	140	0.28 J	17 C	<0.33	<0.28	<0.86
MW-6P	2/16/2022		<2.2	<0.44	0.63 J	<0.23	0.92 J	<0.24	<0.28	<0.99	<0.50	<1.2	<0.66	0.47 J	<0.27	4.7	<0.17	3.4 C	<0.33	<0.29	<0.88
MW-7	2/17/2022		2.6 J	<0.44	1.3 J	0.24 J	1.5 J	<0.25	<0.28	<1.0	<0.50	<1.2	<0.66	2.9	0.72 J	21	<0.17	<0.49	<0.34	<0.29	<0.89
MW-8	2/17/2022		2.6 J	0.7 J	0.89 J	0.35 J	0.86 J	<0.24	<0.27	<0.97	<0.49	<1.1	<0.64	1.6 J	<0.26	4.9	<0.17	2.5 C	<0.33	<0.28	<0.87
MW-8P	2/17/2022		<2.2	<0.44	<0.52	<0.22	<0.76	<0.24	<0.28	<0.99	<0.49	<1.2	<0.66	<0.18	<0.27	<0.51	<0.17	<0.49	<0.33	<0.29	<0.88
Equipment Blank	12/13/2021		<0.43	<0.42	<0.42	<0.53	<0.57	<0.72	<0.55	<0.52	<0.47	<0.60	<0.46	<0.46	<0.46	<0.49	<0.40	<0.53	<0.43	<0.44	<0.79
Equipment Blank - Tube	2/16/2022		<2.2	<0.45	<0.54	<0.23	<0.79	<0.25	<0.29	<1.0	<0.51	<1.2	<0.68	<0.19	<0.28	<0.53	<0.18	<0.50	<0.34	<0.30	<0.91
Equipment Blank - Pipe	2/17/2022		<2.5	<0.50	<0.60	<0.26	<0.87	<0.28	<0.32	<1.1	<0.57	<1.3	<0.75	<0.21	<0.31	<0.59	<0.20	<0.56	<0.38	<0.33	<1.0
Field Blank	12/13/2021		<0.48	<0.47	<0.47	<0.60	<0.63	<0.80	<0.61	<0.59	<0.52	<0.67	<0.52	<0.51	<0.51	<0.55	<0.45	<0.59	<0.48	<0.49	<0.89
	2/16/2022		<2.2	<0.44	<0.52	<0.22	<0.76	<0.24	<0.28	<0.99	<0.49	<1.2	<0.65	<0.18	<0.27	<0.51	<0.17	<0.48	<0.33	<0.29	<0.88
U.S. EPA Health Advisory			NE	NE	NE	NE	70	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	70	NE	NE	NE

Abbreviations:
ng/L = nanogram per liter
CAS No. = Chemical Abstracts Service Number
PFAS = Per- and Polyfluoroalkyl Substances
-- = Not Applicable
Dup = Duplicate Sample
NE = Not Established
ND = Not Detected at the reporting limit

Notes:
Bold+Underlined results exceed U.S. EPA Drinking Water Lifetime Health Advisory

Laboratory Notes/Qualifiers:
C = Method 537 (modified): The "C" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. MW-5 (500-212613-7), MW-6P (500-212613-8) and MW-8 (500-212613-10).

I = Interference present

J = Estimated value

Table 2. Groundwater Analytical Results Summary - PFAS
Blackhawk Junction - Prairie du Chien, WI / SCS Engineers Project #25221094.00
(Results are in ng/L)

Free Acid Name			2-(N-Methylperfluorooctanesulfonamido) acetic acid	2-(N-Ethylperfluorooctanesulfonamido) acetic acid	4:2 Fluorotelomer sulfonic acid	6:2 Fluorotelomer sulfonic acid	8:2 Fluorotelomer sulfonic acid	N-Ethylperfluorooctanesulfonamide	N-Methylperfluorooctanesulfonamide	Perfluorododecanesulfonic acid	N-Methyl perfluorooctanesulfonamidoethanol	N-Ethyl perfluorooctanesulfonamidoethanol	Perfluoro(2-((6-chlorohexyl)oxy)ethanesulfonic acid)	Perfluoro-2-methyl-3-oxahexanoic acid (HFPO-DA)	2-[(8-Chloro-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-hexadecafluorooctyl)oxy]-1,1,2,2-tetrafluoroethanesulfonic acid	DONA [a.k.a. 4,8-Dioxa-3H-perfluorononanoic acid (ADONA)]	PFOA + PFOS Combined
		Acronym:	N-MeFOSAA	N-EtFOSAA	4:2 FTS	6:2 FTS	8:2 FTS	N-EtFOSA	N-MeFOSA	PFDoS	N-MeFOSE	N-EtFOSE	F-53B Major/ 9Cl-PF3ONS	GenX	F-53B Minor/ 11Cl-PF3OUdS	DONA/ ADONA	--
Sample	**Date**	**CAS #**	2355-31-9	2991-50-6	757124-72-4	27619-97-2	39108-34-4	4151-50-2	31506-32-8	79780-39-5	24448-09-7	1691-99-2	756426-58-1	13252-13-6	763051-92-9	919005-14-4	--
MW-1	2/17/2022		<1.1	<1.2	<0.21	<2.2	<0.41	<0.78	<0.39	<0.87	<1.3	<0.76	<0.21	<1.3	<0.29	<0.36	21.5
	2/17/2022 (Dup)		<1.1	<1.2	<0.22	<2.3	<0.41	<0.78	<0.39	<0.87	<1.3	<0.77	<0.22	<1.4	<0.29	<0.36	22.7
MW-2	2/13/2021		<0.41	<0.53	<0.53	<0.61	<0.62	<0.58	<0.48	<0.44	<0.31	<0.47	<0.29	<0.50	<0.41	<0.49	14
MW-3	12/13/2021		<0.43	<0.55	<0.55	2.6	<0.65	<0.60	<0.51	<0.46	<0.33	<0.49	<0.30	<0.52	<0.43	<0.51	**77**
	12/13/2021 (Dup)		<0.41	<0.53	<0.53	4.2	0.72 J	<0.58	<0.49	<0.44	<0.31	<0.47	<0.29	<0.50	<0.42	<0.49	**77**
MW-4	12/13/2021		<0.42	<0.54	<0.54	1.2 J	<0.63	<0.59	<0.50	<0.45	<0.32	<0.48	<0.30	<0.51	<0.42	<0.50	36.8
MW-5	2/17/2022		<1.1	<1.1	<0.21	<2.2	<0.40	<0.77	<0.38	<0.85	<1.2	<0.75	<0.21	<1.3	<0.28	<0.35	31
MW-6P	2/16/2022		<1.1	<1.2	<0.22	<2.3	<0.42	<0.79	<0.39	<0.88	<1.3	<0.77	<0.22	<1.4	<0.29	<0.36	4.32
MW-7	2/17/2022		<1.1	<1.2	<0.22	<2.3	<0.42	<0.79	<0.39	<0.88	<1.3	<0.77	<0.22	<1.4	<0.29	<0.36	1.5
MW-8	2/17/2022		<1.1	<1.1	<0.21	<2.2	<0.41	<0.77	<0.38	<0.86	<1.2	<0.75	<0.21	<1.3	<0.28	<0.35	3.36
MW-8P	2/17/2022		<1.1	<1.2	<0.22	<2.2	<0.41	<0.78	<0.39	<0.87	<1.3	<0.76	<0.22	<1.3	<0.29	<0.36	ND
Equipment Blank	12/13/2021		<0.42	<0.54	<0.54	0.90 J	<0.63	<0.59	<0.49	<0.45	<0.32	<0.48	<0.30	<0.51	<0.42	<0.50	ND
Equipment Blank - Tube	2/16/2022		<1.1	<1.2	<0.22	<2.3	<0.43	<0.81	<0.40	<0.90	<1.3	<0.79	<0.22	<1.4	<0.30	<0.37	ND
Equipment Blank - Pipe	2/17/2022		<1.2	<1.3	<0.25	<2.6	<0.47	<0.89	<0.44	<1.0	<1.4	<0.87	<0.25	<1.5	<0.33	<0.41	ND
Field Blank	12/13/2021		<0.47	<0.60	<0.60	<0.70	<0.71	<0.66	<0.55	<0.50	<0.36	<0.54	<0.33	<0.57	<0.47	<0.56	ND
	2/16/2022		<1.1	<1.2	<0.22	<2.2	<0.41	<0.78	<0.39	<0.87	<1.3	<0.76	<0.22	<1.3	<0.29	<0.36	ND
U.S. EPA Health Advisory			NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	70

Abbreviations:
ng/L = nanogram per liter
CAS No. = Chemical Abstracts Service Number
PFAS = Per- and Polyfluoroalkyl Substances
-- = Not Applicable
Dup = Duplicate Sample
NE = Not Established
ND = Not Detected at the reporting limit

Notes:
Bold+Underlined results exceed U.S. EPA Drinking Water Lifetime Health Advisory

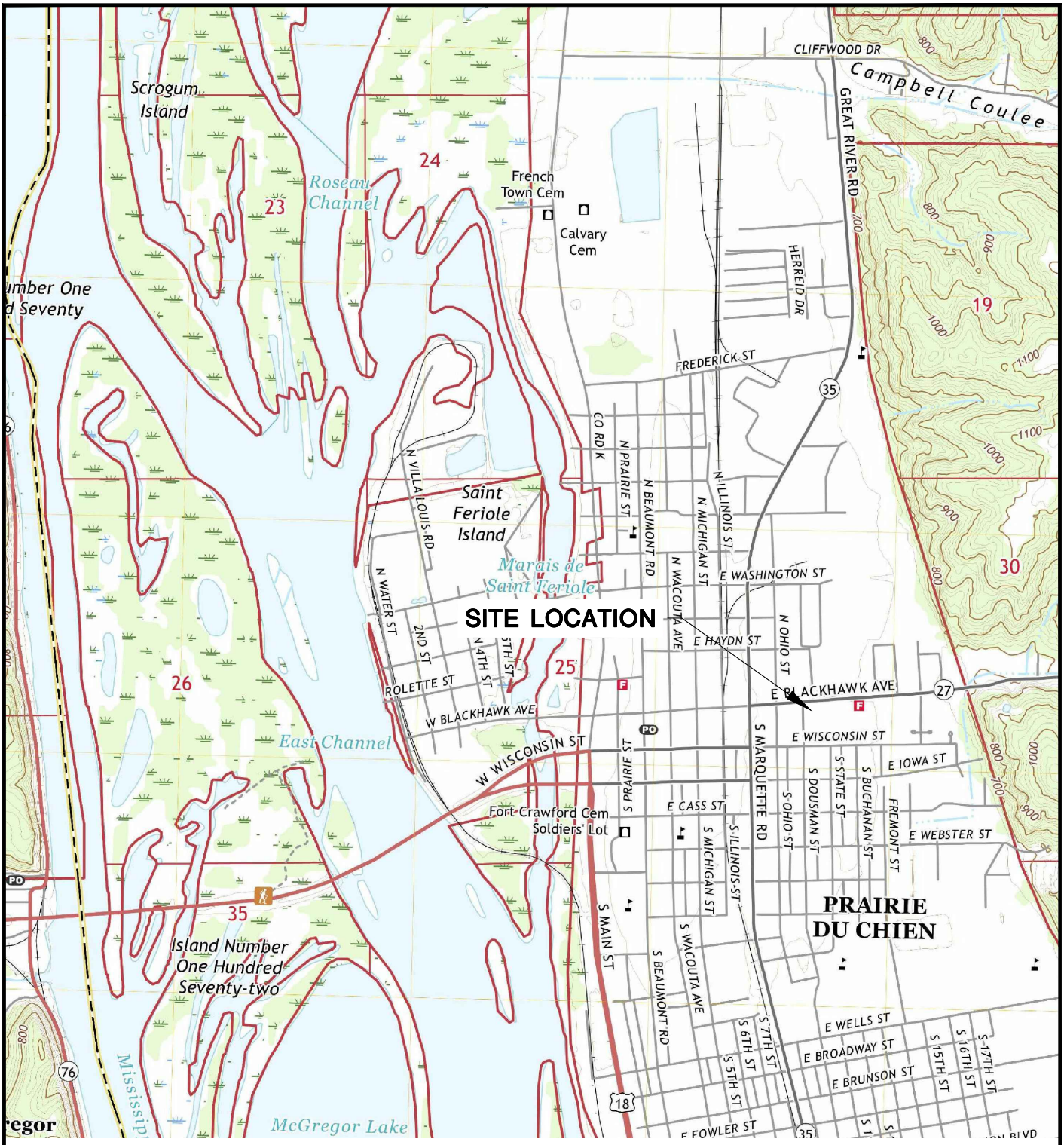
Laboratory Notes/Qualifiers:
C = Method 537 (modified): The "C" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. MW-5 (500-212613-7), MW-6P (500-212613-8) and MW-8 (500-212613-10).

I = Interference present

J = Estimated value

Created by:	LMH	Date:	1/20/2022
Last revision by:	REL	Date:	3/7/2022
Checked by:	LMH	Date:	3/7/2022
Proj Mgr QA/QC:	REL	Date:	3/22/2023

Figures



N

PRAIRIE DU CHIEN QUADRANGLE
WISCONSIN–IOWA
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'

CLIENT	PRAIRIE DU CHIEN REDEVELOPMENT AUTHORITY	SITE	BLACKHAWK JUNCTION REDEVELOPMENT 700 EAST BLACKHAWK AVENUE PRAIRIE DU CHIEN, WISCONSIN

SITE LOCATION MAP

PROJECT NO.	25221094.00	DRAWN BY:	KP
DRAWN:	04/05/2021	CHECKED BY:	MRH
REVISED:	04/05/2021	APPROVED BY:	REL 04/20/2021

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

FIGURE 1

I:\25221094.00\Drawings\Site Location.dwg, 4/20/2021 2:48:03 PM

LEGEND

- SITE BOUNDARY
- FORMER DRY CLEANERS BUILDING (APPROXIMATE)
- CTV — CABLE TELEVISION (BURIED)
- UE — ELECTRIC (BURIED)
- FO — FIBER OPTIC (BURIED)
- G — GAS MAIN (BURIED)
- OH — OVERHEAD UTILITY
- SA — SANITARY SEWER (BURIED)
- ST — STORM SEWER (BURIED)
- T — TELEPHONE (BURIED)
- W — WATER MAIN (BURIED)
- MANHOLE
- STORM INLET
- UTILITY POLE
- TELEPHONE PEDESTAL
- TRANSFORMER
- FIRE HYDRANT
- SOIL BORING (BAY WEST, 2020)
- SOIL BORING (AYRES, 2009/2010)
- SOIL BORING (SCS, 2021)
- MONITORING WELL (BAY WEST, 2020)
- ABANDONED MONITORING WELL (ADVENT, 1991)
- MONITORING WELL (SCS, 2021)
- PIEZOMETER (SCS, 2021)

NOTES:

1. SEPTEMBER 2018 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY.
2. BAY WEST MONITORING WELLS AND AYRES AND BAY WEST SOIL BORINGS BASED ON BAY WEST FIGURE 1, SITE MAP WITH MONITORING WELL LOCATIONS DATED JANUARY 27, 2021.
3. ABANDONED MONITORING WELLS (ADVENT) FROM ADVENT ENVIRONMENTAL SERVICES OVERLAY OF WELL LOCATION MAP DATED SEPTEMBER 13, 1991.
4. UTILITY LOCATIONS FROM VIERBICHER EXISTING CONDITIONS DRAWING DATED MARCH 7, 2021, STORM SEWER SYSTEM DRAWING DATED MARCH 19, 2019, AND SANITARY LATERAL SYSTEM DRAWING DATED MARCH 2, 2020.
5. BORING AND WELL LOCATIONS ARE APPROXIMATE.

PROJECT NO.	25221094.00	DRAWN BY:	KP
DRAWN:	04/05/2021	CHECKED BY:	MRH
REVISED:	03/23/2022	APPROVED BY:	

CLIENT

PRAIRIE DU CHIEN REDEVELOPMENT AUTHORITY

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE

BLACKHAWK JUNCTION REDEVELOPMENT
700-757 E. BLACKHAWK AVENUE
PRAIRIE DU CHIEN, WISCONSIN

FIGURE

2

SITE PLAN

LEGEND

- SITE BOUNDARY
- FORMER DRY CLEANERS BUILDING (APPROXIMATE)
- MONITORING WELL (BAY WEST, 2020)
- ABANDONED MONITORING WELL (ADVENT, 1991)
- MONITORING WELL (SCS, 2021)
- PIEZOMETER (SCS, 2021)
- **615.09** WATER TABLE ELEVATION MEASURED ON FEBRUARY 16, 2022
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

NOTES:

1. SEE FIGURE 2 FOR BASE MAP NOTES AND LEGEND ITEMS.
2. MW-1 GROUNDWATER ELEVATION NOT USED FOR CONTOURING DUE TO CHANGE IN TOP OF CASING ELEVATION.

120 0 120

SCALE: 1" = 120'

N

WATER TABLE MAP – FEBRUARY 16, 2022

FIGURE 3

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

SITE
BLACKHAWK JUNCTION REDEVELOPMENT
700 EAST BLACKHAWK AVENUE
PRAIRIE DU CHIEN, WISCONSIN

CLIENT
PRAIRIE DU CHIEN
REDEVELOPMENT AUTHORITY

ENGINEER

PROJECT NO.	25221094.00
DRAWN:	03/08/2022
REVISED:	03/23/2022
DRAWN BY:	KP
CHECKED BY:	REL
APPROVED BY:	

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Attachment A

Laboratory Analytical Report

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-212613-1
Client Project/Site: Black Hawk Junction - 25221094.00

For:
SCS Engineers
2830 Dairy Dr
Madison, Wisconsin 53718

Attn: Mr. Robert Langdon

Authorized for release by:
3/2/2022 1:29:57 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandra.fredrick@eurofinset.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Job ID: 500-212613-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative
500-212613-1

Comments
No additional comments.

Receipt
The samples were received on 2/19/2022 11:45 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was -0.3º C.

Receipt Exceptions
One or more containers for the following samples were received broken or leaking: MW-1 (500-212613-4), MW-1 DUP (500-212613-5) and MW-3 (500-212613-6). Two vials from each sample remain for analysis.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS
Method 537 (modified): The "C" qualifier means the transition mass ratio for the indicated analyte was above the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. MW-5 (500-212613-7), MW-6P (500-212613-8) and MW-8 (500-212613-10)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 3535: The following samples were yellow and contained a thin layer of sediment at the bottom of the bottle prior to extraction: MW-5 (500-212613-7), MW-7 (500-212613-9) and MW-8 (500-212613-10). preparation batch 320-568131 Method: 3535 PFC-W Matrix: Aqueous

Method 3535: During the solid phase extraction process, the following samples contain non-settable particulates which clogged the solid phase extraction column: MW-5 (500-212613-7), MW-7 (500-212613-9) and MW-8 (500-212613-10). preparation batch 320-568131 Method: 3535 PFC-W Matrix: Aqueous

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-568131. Method: 3535 PFC-W Matrix: Aqueous

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: Field Blank — Lab Sample ID: 500-212613-1

No Detections.

Client Sample ID: Equipment Blank - Tube — Lab Sample ID: 500-212613-2

No Detections.

Client Sample ID: Equipment Blank - Pipe — Lab Sample ID: 500-212613-3

No Detections.

Client Sample ID: MW-1 — Lab Sample ID: 500-212613-4

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.69	J	1.0	0.37	ug/L	1		8260B	Total/NA
Perfluorobutanoic acid (PFBA)	5.9		4.5	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.6		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.0		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.0		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.5		1.8	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.5		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.2		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.37	J	1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	15		1.8	0.48	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-1 DUP — Lab Sample ID: 500-212613-5

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.83	J	1.0	0.37	ug/L	1		8260B	Total/NA
Perfluorobutanoic acid (PFBA)	5.4		4.5	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.7		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.8		1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.8		1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.7		1.8	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.2		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.9		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.51	J	1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	16		1.8	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	1.5	J	1.8	0.88	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 500-212613-6

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.45	J	2.0	0.37	ug/L	1		8260B	Total/NA
Tetrachloroethene	19		1.0	0.37	ug/L	1		8260B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 500-212613-7

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.5	J	4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.8		1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	12		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.2		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.6		1.8	0.18	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: MW-5 (Continued) — Lab Sample ID: 500-212613-7

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanesulfonic acid (PFPeS)	2.5		1.8	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	140		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.28	J	1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	17	C	1.8	0.48	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-6P — Lab Sample ID: 500-212613-8

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.63	J	1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.92	J	1.8	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.47	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.7		1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.4	C	1.8	0.49	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 500-212613-9

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.6	J	4.5	2.2	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.3	J	1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.24	J	1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.5	J	1.8	0.77	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.9		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.72	J	1.8	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	21		1.8	0.52	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-8 — Lab Sample ID: 500-212613-10

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.6	J	4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.70	J	1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.89	J	1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.35	J	1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.86	J	1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	4.9		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5	C	1.8	0.48	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-8P — Lab Sample ID: 500-212613-11

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 500-212613-12

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-212613-1	Field Blank	Water	02/16/22 15:25	02/19/22 11:45
500-212613-2	Equipment Blank - Tube	Water	02/16/22 15:30	02/19/22 11:45
500-212613-3	Equipment Blank - Pipe	Water	02/17/22 14:20	02/19/22 11:45
500-212613-4	MW-1	Water	02/17/22 15:40	02/19/22 11:45
500-212613-5	MW-1 DUP	Water	02/17/22 15:40	02/19/22 11:45
500-212613-6	MW-3	Water	02/17/22 07:20	02/19/22 11:45
500-212613-7	MW-5	Water	02/17/22 10:10	02/19/22 11:45
500-212613-8	MW-6P	Water	02/16/22 15:00	02/19/22 11:45
500-212613-9	MW-7	Water	02/17/22 11:50	02/19/22 11:45
500-212613-10	MW-8	Water	02/17/22 13:00	02/19/22 11:45
500-212613-11	MW-8P	Water	02/17/22 14:00	02/19/22 11:45
500-212613-12	Trip Blank	Water	02/17/22 00:00	02/19/22 11:45

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: Field Blank

Date Collected: 02/16/22 15:25
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.5	2.2	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluoropentanoic acid (PFPeA)	<0.44		1.8	0.44	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorohexanoic acid (PFHxA)	<0.52		1.8	0.52	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluoroheptanoic acid (PFHpA)	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorooctanoic acid (PFOA)	<0.76		1.8	0.76	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluoroundecanoic acid (PFUnA)	<0.99		1.8	0.99	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorododecanoic acid (PFDoA)	<0.49		1.8	0.49	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorotetradecanoic acid (PFTeA)	<0.65		1.8	0.65	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorobutanesulfonic acid (PFBS)	<0.18		1.8	0.18	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorohexanesulfonic acid (PFHxS)	<0.51		1.8	0.51	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.8	0.17	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorooctanesulfonic acid (PFOS)	<0.48		1.8	0.48	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorododecanesulfonic acid (PFDoS)	<0.87		1.8	0.87	ng/L		02/24/22 12:14	02/25/22 22:34	1
Perfluorooctanesulfonamide (FOSA)	<0.88		1.8	0.88	ng/L		02/24/22 12:14	02/25/22 22:34	1
NEtFOSA	<0.78		1.8	0.78	ng/L		02/24/22 12:14	02/25/22 22:34	1
NMeFOSA	<0.39		1.8	0.39	ng/L		02/24/22 12:14	02/25/22 22:34	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		02/24/22 12:14	02/25/22 22:34	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		02/24/22 12:14	02/25/22 22:34	1
NMeFOSE	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/25/22 22:34	1
NEtFOSE	<0.76		1.8	0.76	ng/L		02/24/22 12:14	02/25/22 22:34	1
4:2 FTS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 22:34	1
6:2 FTS	<2.2		4.5	2.2	ng/L		02/24/22 12:14	02/25/22 22:34	1
8:2 FTS	<0.41		1.8	0.41	ng/L		02/24/22 12:14	02/25/22 22:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		02/24/22 12:14	02/25/22 22:34	1
HFPO-DA (GenX)	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/25/22 22:34	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 22:34	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/25/22 22:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*104*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C5 PFPeA	*106*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C2 PFHxA	*115*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C4 PFHpA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C4 PFOA	*110*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C5 PFNA	*112*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C2 PFDA	*114*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C2 PFUnA	*113*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C2 PFDoA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C2 PFTeDA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
13C3 PFBS	*118*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*
18O2 PFHxS	*112*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:34*	*1*

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: Field Blank
Lab Sample ID: 500-212613-1
Date Collected: 02/16/22 15:25
Matrix: Water
Date Received: 02/19/22 11:45

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	121		25 - 150	02/24/22 12:14	02/25/22 22:34	1
13C8 FOSA	108		10 - 150	02/24/22 12:14	02/25/22 22:34	1
d3-NMeFOSAA	112		25 - 150	02/24/22 12:14	02/25/22 22:34	1
d5-NEtFOSAA	117		25 - 150	02/24/22 12:14	02/25/22 22:34	1
d-N-MeFOSA-M	87		10 - 150	02/24/22 12:14	02/25/22 22:34	1
d-N-EtFOSA-M	90		10 - 150	02/24/22 12:14	02/25/22 22:34	1
d7-N-MeFOSE-M	96		10 - 150	02/24/22 12:14	02/25/22 22:34	1
d9-N-EtFOSE-M	94		10 - 150	02/24/22 12:14	02/25/22 22:34	1
M2-4:2 FTS	115		25 - 150	02/24/22 12:14	02/25/22 22:34	1
M2-6:2 FTS	115		25 - 150	02/24/22 12:14	02/25/22 22:34	1
M2-8:2 FTS	112		25 - 150	02/24/22 12:14	02/25/22 22:34	1
13C3 HFPO-DA	101		25 - 150	02/24/22 12:14	02/25/22 22:34	1
13C2 10:2 FTS	102		25 - 150	02/24/22 12:14	02/25/22 22:34	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: Equipment Blank - Tube

Date Collected: 02/16/22 15:30
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.6	2.2	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluoropentanoic acid (PFPeA)	<0.45		1.9	0.45	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorohexanoic acid (PFHxA)	<0.54		1.9	0.54	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluoroheptanoic acid (PFHpA)	<0.23		1.9	0.23	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorooctanoic acid (PFOA)	<0.79		1.9	0.79	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorononanoic acid (PFNA)	<0.25		1.9	0.25	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorodecanoic acid (PFDA)	<0.29		1.9	0.29	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.9	1.0	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorododecanoic acid (PFDoA)	<0.51		1.9	0.51	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.9	1.2	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorotetradecanoic acid (PFTeA)	<0.68		1.9	0.68	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorobutanesulfonic acid (PFBS)	<0.19		1.9	0.19	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluoropentanesulfonic acid (PFPeS)	<0.28		1.9	0.28	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorohexanesulfonic acid (PFHxS)	<0.53		1.9	0.53	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.18		1.9	0.18	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorooctanesulfonic acid (PFOS)	<0.50		1.9	0.50	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorononanesulfonic acid (PFNS)	<0.34		1.9	0.34	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorodecanesulfonic acid (PFDS)	<0.30		1.9	0.30	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorododecanesulfonic acid (PFDoS)	<0.90		1.9	0.90	ng/L		02/24/22 12:14	02/25/22 22:44	1
Perfluorooctanesulfonamide (FOSA)	<0.91		1.9	0.91	ng/L		02/24/22 12:14	02/25/22 22:44	1
NEtFOSA	<0.81		1.9	0.81	ng/L		02/24/22 12:14	02/25/22 22:44	1
NMeFOSA	<0.40		1.9	0.40	ng/L		02/24/22 12:14	02/25/22 22:44	1
NMeFOSAA	<1.1		4.6	1.1	ng/L		02/24/22 12:14	02/25/22 22:44	1
NEtFOSAA	<1.2		4.6	1.2	ng/L		02/24/22 12:14	02/25/22 22:44	1
NMeFOSE	<1.3		3.7	1.3	ng/L		02/24/22 12:14	02/25/22 22:44	1
NEtFOSE	<0.79		1.9	0.79	ng/L		02/24/22 12:14	02/25/22 22:44	1
4:2 FTS	<0.22		1.9	0.22	ng/L		02/24/22 12:14	02/25/22 22:44	1
6:2 FTS	<2.3		4.6	2.3	ng/L		02/24/22 12:14	02/25/22 22:44	1
8:2 FTS	<0.43		1.9	0.43	ng/L		02/24/22 12:14	02/25/22 22:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		1.9	0.37	ng/L		02/24/22 12:14	02/25/22 22:44	1
HFPO-DA (GenX)	<1.4		3.7	1.4	ng/L		02/24/22 12:14	02/25/22 22:44	1
9Cl-PF3ONS	<0.22		1.9	0.22	ng/L		02/24/22 12:14	02/25/22 22:44	1
11Cl-PF3OUdS	<0.30		1.9	0.30	ng/L		02/24/22 12:14	02/25/22 22:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C5 PFPeA	*103*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C2 PFHxA	*110*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C4 PFHpA	*109*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C4 PFOA	*112*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C5 PFNA	*114*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C2 PFDA	*115*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C2 PFUnA	*114*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C2 PFDoA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C2 PFTeDA	*109*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
13C3 PFBS	*119*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*
18O2 PFHxS	*116*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:44*	*1*

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: Equipment Blank - Tube
Lab Sample ID: 500-212613-2
Date Collected: 02/16/22 15:30
Matrix: Water
Date Received: 02/19/22 11:45

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	127		25 - 150	02/24/22 12:14	02/25/22 22:44	1
13C8 FOSA	111		10 - 150	02/24/22 12:14	02/25/22 22:44	1
d3-NMeFOSAA	112		25 - 150	02/24/22 12:14	02/25/22 22:44	1
d5-NEtFOSAA	117		25 - 150	02/24/22 12:14	02/25/22 22:44	1
d-N-MeFOSA-M	86		10 - 150	02/24/22 12:14	02/25/22 22:44	1
d-N-EtFOSA-M	90		10 - 150	02/24/22 12:14	02/25/22 22:44	1
d7-N-MeFOSE-M	97		10 - 150	02/24/22 12:14	02/25/22 22:44	1
d9-N-EtFOSE-M	99		10 - 150	02/24/22 12:14	02/25/22 22:44	1
M2-4:2 FTS	118		25 - 150	02/24/22 12:14	02/25/22 22:44	1
M2-6:2 FTS	122		25 - 150	02/24/22 12:14	02/25/22 22:44	1
M2-8:2 FTS	101		25 - 150	02/24/22 12:14	02/25/22 22:44	1
13C3 HFPO-DA	101		25 - 150	02/24/22 12:14	02/25/22 22:44	1
13C2 10:2 FTS	99		25 - 150	02/24/22 12:14	02/25/22 22:44	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: Equipment Blank - Pipe

Date Collected: 02/17/22 14:20
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.5		5.1	2.5	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluoropentanoic acid (PFPeA)	<0.50		2.1	0.50	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorohexanoic acid (PFHxA)	<0.60		2.1	0.60	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluoroheptanoic acid (PFHpA)	<0.26		2.1	0.26	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorooctanoic acid (PFOA)	<0.87		2.1	0.87	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorononanoic acid (PFNA)	<0.28		2.1	0.28	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorodecanoic acid (PFDA)	<0.32		2.1	0.32	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.1	1.1	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorododecanoic acid (PFDoA)	<0.57		2.1	0.57	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorotridecanoic acid (PFTrDA)	<1.3		2.1	1.3	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorotetradecanoic acid (PFTeA)	<0.75		2.1	0.75	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorobutanesulfonic acid (PFBS)	<0.21		2.1	0.21	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluoropentanesulfonic acid (PFPeS)	<0.31		2.1	0.31	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorohexanesulfonic acid (PFHxS)	<0.59		2.1	0.59	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.20		2.1	0.20	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorooctanesulfonic acid (PFOS)	<0.56		2.1	0.56	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorononanesulfonic acid (PFNS)	<0.38		2.1	0.38	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorodecanesulfonic acid (PFDS)	<0.33		2.1	0.33	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorododecanesulfonic acid (PFDoS)	<1.0		2.1	1.0	ng/L		02/24/22 12:14	02/25/22 22:54	1
Perfluorooctanesulfonamide (FOSA)	<1.0		2.1	1.0	ng/L		02/24/22 12:14	02/25/22 22:54	1
NEtFOSA	<0.89		2.1	0.89	ng/L		02/24/22 12:14	02/25/22 22:54	1
NMeFOSA	<0.44		2.1	0.44	ng/L		02/24/22 12:14	02/25/22 22:54	1
NMeFOSAA	<1.2		5.1	1.2	ng/L		02/24/22 12:14	02/25/22 22:54	1
NEtFOSAA	<1.3		5.1	1.3	ng/L		02/24/22 12:14	02/25/22 22:54	1
NMeFOSE	<1.4		4.1	1.4	ng/L		02/24/22 12:14	02/25/22 22:54	1
NEtFOSE	<0.87		2.1	0.87	ng/L		02/24/22 12:14	02/25/22 22:54	1
4:2 FTS	<0.25		2.1	0.25	ng/L		02/24/22 12:14	02/25/22 22:54	1
6:2 FTS	<2.6		5.1	2.6	ng/L		02/24/22 12:14	02/25/22 22:54	1
8:2 FTS	<0.47		2.1	0.47	ng/L		02/24/22 12:14	02/25/22 22:54	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.41		2.1	0.41	ng/L		02/24/22 12:14	02/25/22 22:54	1
HFPO-DA (GenX)	<1.5		4.1	1.5	ng/L		02/24/22 12:14	02/25/22 22:54	1
9Cl-PF3ONS	<0.25		2.1	0.25	ng/L		02/24/22 12:14	02/25/22 22:54	1
11Cl-PF3OUdS	<0.33		2.1	0.33	ng/L		02/24/22 12:14	02/25/22 22:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C5 PFPeA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C2 PFHxA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C4 PFHpA	*106*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C5 PFNA	*110*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C2 PFDA	*115*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C2 PFUnA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C2 PFTeDA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
13C3 PFBS	*119*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*
18O2 PFHxS	*115*		*25 - 150*	*02/24/22 12:14*	*02/25/22 22:54*	*1*

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: Equipment Blank - Pipe
Lab Sample ID: 500-212613-3
Date Collected: 02/17/22 14:20
Matrix: Water
Date Received: 02/19/22 11:45

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	124		25 - 150	02/24/22 12:14	02/25/22 22:54	1
13C8 FOSA	109		10 - 150	02/24/22 12:14	02/25/22 22:54	1
d3-NMeFOSAA	106		25 - 150	02/24/22 12:14	02/25/22 22:54	1
d5-NEtFOSAA	117		25 - 150	02/24/22 12:14	02/25/22 22:54	1
d-N-MeFOSA-M	81		10 - 150	02/24/22 12:14	02/25/22 22:54	1
d-N-EtFOSA-M	83		10 - 150	02/24/22 12:14	02/25/22 22:54	1
d7-N-MeFOSE-M	89		10 - 150	02/24/22 12:14	02/25/22 22:54	1
d9-N-EtFOSE-M	89		10 - 150	02/24/22 12:14	02/25/22 22:54	1
M2-4:2 FTS	122		25 - 150	02/24/22 12:14	02/25/22 22:54	1
M2-6:2 FTS	113		25 - 150	02/24/22 12:14	02/25/22 22:54	1
M2-8:2 FTS	104		25 - 150	02/24/22 12:14	02/25/22 22:54	1
13C3 HFPO-DA	99		25 - 150	02/24/22 12:14	02/25/22 22:54	1
13C2 10:2 FTS	96		25 - 150	02/24/22 12:14	02/25/22 22:54	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-1

Date Collected: 02/17/22 15:40
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			02/23/22 12:22	1
Bromobenzene	<0.36		1.0	0.36	ug/L			02/23/22 12:22	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			02/23/22 12:22	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			02/23/22 12:22	1
Bromoform	<0.48		1.0	0.48	ug/L			02/23/22 12:22	1
Bromomethane	<0.80		3.0	0.80	ug/L			02/23/22 12:22	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			02/23/22 12:22	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
Chloroethane	<0.51		1.0	0.51	ug/L			02/23/22 12:22	1
Chloroform	<0.37		2.0	0.37	ug/L			02/23/22 12:22	1
Chloromethane	<0.32		1.0	0.32	ug/L			02/23/22 12:22	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			02/23/22 12:22	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			02/23/22 12:22	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/23/22 12:22	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			02/23/22 12:22	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			02/23/22 12:22	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			02/23/22 12:22	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
Dibromomethane	<0.27		1.0	0.27	ug/L			02/23/22 12:22	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			02/23/22 12:22	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			02/23/22 12:22	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			02/23/22 12:22	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			02/23/22 12:22	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			02/23/22 12:22	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			02/23/22 12:22	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			02/23/22 12:22	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			02/23/22 12:22	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			02/23/22 12:22	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			02/23/22 12:22	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			02/23/22 12:22	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			02/23/22 12:22	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			02/23/22 12:22	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
Naphthalene	<0.34		1.0	0.34	ug/L			02/23/22 12:22	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			02/23/22 12:22	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			02/23/22 12:22	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 12:22	1
Styrene	<0.39		1.0	0.39	ug/L			02/23/22 12:22	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 12:22	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			02/23/22 12:22	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			02/23/22 12:22	1
Tetrachloroethene	**0.69**	**J**	1.0	0.37	ug/L			02/23/22 12:22	1
Toluene	<0.15		0.50	0.15	ug/L			02/23/22 12:22	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/23/22 12:22	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			02/23/22 12:22	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-1
Date Collected: 02/17/22 15:40
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			02/23/22 12:22	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			02/23/22 12:22	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/23/22 12:22	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/23/22 12:22	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/23/22 12:22	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			02/23/22 12:22	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			02/23/22 12:22	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			02/23/22 12:22	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			02/23/22 12:22	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/23/22 12:22	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			02/23/22 12:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*		*02/23/22 12:22*	*1*
Dibromofluoromethane (Surr)	*114*		*75 - 120*		*02/23/22 12:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*75 - 126*		*02/23/22 12:22*	*1*
Toluene-d8 (Surr)	*80*		*75 - 120*		*02/23/22 12:22*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.9**		4.5	2.1	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluoropentanoic acid (PFPeA)	**6.6**		1.8	0.44	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorohexanoic acid (PFHxA)	**4.0**		1.8	0.52	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluoroheptanoic acid (PFHpA)	**3.0**		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.8	0.76	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluoroundecanoic acid (PFUnA)	<0.99		1.8	0.99	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorododecanoic acid (PFDoA)	<0.49		1.8	0.49	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorotetradecanoic acid (PFTeA)	<0.65		1.8	0.65	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorobutanesulfonic acid (PFBS)	**3.5**		1.8	0.18	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorohexanesulfonic acid (PFHxS)	**6.2**		1.8	0.51	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.37**	**J**	1.8	0.17	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorooctanesulfonic acid (PFOS)	**15**		1.8	0.48	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorododecanesulfonic acid (PFDoS)	<0.87		1.8	0.87	ng/L		02/24/22 12:14	02/25/22 23:04	1
Perfluorooctanesulfonamide (FOSA)	<0.88		1.8	0.88	ng/L		02/24/22 12:14	02/25/22 23:04	1
NEtFOSA	<0.78		1.8	0.78	ng/L		02/24/22 12:14	02/25/22 23:04	1
NMeFOSA	<0.39		1.8	0.39	ng/L		02/24/22 12:14	02/25/22 23:04	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		02/24/22 12:14	02/25/22 23:04	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		02/24/22 12:14	02/25/22 23:04	1
NMeFOSE	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/25/22 23:04	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-1
Date Collected: 02/17/22 15:40
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	<0.76		1.8	0.76	ng/L		02/24/22 12:14	02/25/22 23:04	1
4:2 FTS	<0.21		1.8	0.21	ng/L		02/24/22 12:14	02/25/22 23:04	1
6:2 FTS	<2.2		4.5	2.2	ng/L		02/24/22 12:14	02/25/22 23:04	1
8:2 FTS	<0.41		1.8	0.41	ng/L		02/24/22 12:14	02/25/22 23:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		02/24/22 12:14	02/25/22 23:04	1
HFPO-DA (GenX)	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/25/22 23:04	1
9Cl-PF3ONS	<0.21		1.8	0.21	ng/L		02/24/22 12:14	02/25/22 23:04	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/25/22 23:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*99*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C5 PFPeA	*106*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C2 PFHxA	*110*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C4 PFHpA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C4 PFOA	*116*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C5 PFNA	*110*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C2 PFDA	*113*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C2 PFUnA	*111*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C2 PFDoA	*103*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C2 PFTeDA	*107*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C3 PFBS	*119*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
18O2 PFHxS	*116*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C4 PFOS	*123*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C8 FOSA	*115*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
d3-NMeFOSAA	*111*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
d5-NEtFOSAA	*116*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
d-N-MeFOSA-M	*93*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
d-N-EtFOSA-M	*92*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
d7-N-MeFOSE-M	*96*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
d9-N-EtFOSE-M	*96*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
M2-4:2 FTS	*115*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
M2-6:2 FTS	*112*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
M2-8:2 FTS	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C3 HFPO-DA	*102*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*
13C2 10:2 FTS	*94*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:04*	*1*

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-1 DUP
Date Collected: 02/17/22 15:40
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			02/23/22 15:55	1
Bromobenzene	<0.36		1.0	0.36	ug/L			02/23/22 15:55	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			02/23/22 15:55	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			02/23/22 15:55	1
Bromoform	<0.48		1.0	0.48	ug/L			02/23/22 15:55	1
Bromomethane	<0.80		3.0	0.80	ug/L			02/23/22 15:55	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			02/23/22 15:55	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
Chloroethane	<0.51		1.0	0.51	ug/L			02/23/22 15:55	1
Chloroform	<0.37		2.0	0.37	ug/L			02/23/22 15:55	1
Chloromethane	<0.32		1.0	0.32	ug/L			02/23/22 15:55	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			02/23/22 15:55	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			02/23/22 15:55	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/23/22 15:55	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			02/23/22 15:55	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			02/23/22 15:55	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			02/23/22 15:55	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
Dibromomethane	<0.27		1.0	0.27	ug/L			02/23/22 15:55	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			02/23/22 15:55	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			02/23/22 15:55	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			02/23/22 15:55	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			02/23/22 15:55	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			02/23/22 15:55	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			02/23/22 15:55	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			02/23/22 15:55	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			02/23/22 15:55	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			02/23/22 15:55	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			02/23/22 15:55	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			02/23/22 15:55	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			02/23/22 15:55	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			02/23/22 15:55	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
Naphthalene	<0.34		1.0	0.34	ug/L			02/23/22 15:55	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			02/23/22 15:55	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			02/23/22 15:55	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 15:55	1
Styrene	<0.39		1.0	0.39	ug/L			02/23/22 15:55	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 15:55	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			02/23/22 15:55	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			02/23/22 15:55	1
Tetrachloroethene	**0.83**	**J**	1.0	0.37	ug/L			02/23/22 15:55	1
Toluene	<0.15		0.50	0.15	ug/L			02/23/22 15:55	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/23/22 15:55	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			02/23/22 15:55	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-1 DUP

Date Collected: 02/17/22 15:40
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			02/23/22 15:55	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			02/23/22 15:55	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/23/22 15:55	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/23/22 15:55	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/23/22 15:55	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			02/23/22 15:55	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			02/23/22 15:55	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			02/23/22 15:55	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			02/23/22 15:55	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/23/22 15:55	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			02/23/22 15:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*72 - 124*		*02/23/22 15:55*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 120*		*02/23/22 15:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 126*		*02/23/22 15:55*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*02/23/22 15:55*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.4**		4.5	2.2	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluoropentanoic acid (PFPeA)	**6.7**		1.8	0.44	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorohexanoic acid (PFHxA)	**3.8**		1.8	0.52	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluoroheptanoic acid (PFHpA)	**2.8**		1.8	0.23	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorooctanoic acid (PFOA)	**6.7**		1.8	0.77	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluoroundecanoic acid (PFUnA)	<0.99		1.8	0.99	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorododecanoic acid (PFDoA)	<0.50		1.8	0.50	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorotetradecanoic acid (PFTeA)	<0.66		1.8	0.66	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorobutanesulfonic acid (PFBS)	**3.2**		1.8	0.18	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorohexanesulfonic acid (PFHxS)	**5.9**		1.8	0.51	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.51**	**J**	1.8	0.17	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorooctanesulfonic acid (PFOS)	**16**		1.8	0.49	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorododecanesulfonic acid (PFDoS)	<0.87		1.8	0.87	ng/L		02/24/22 12:14	02/25/22 23:14	1
Perfluorooctanesulfonamide (FOSA)	**1.5**	**J**	1.8	0.88	ng/L		02/24/22 12:14	02/25/22 23:14	1
NEtFOSA	<0.78		1.8	0.78	ng/L		02/24/22 12:14	02/25/22 23:14	1
NMeFOSA	<0.39		1.8	0.39	ng/L		02/24/22 12:14	02/25/22 23:14	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		02/24/22 12:14	02/25/22 23:14	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		02/24/22 12:14	02/25/22 23:14	1
NMeFOSE	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/25/22 23:14	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-1 DUP
Date Collected: 02/17/22 15:40
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-5
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	<0.77		1.8	0.77	ng/L		02/24/22 12:14	02/25/22 23:14	1
4:2 FTS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 23:14	1
6:2 FTS	<2.3		4.5	2.3	ng/L		02/24/22 12:14	02/25/22 23:14	1
8:2 FTS	<0.41		1.8	0.41	ng/L		02/24/22 12:14	02/25/22 23:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		02/24/22 12:14	02/25/22 23:14	1
HFPO-DA (GenX)	<1.4		3.6	1.4	ng/L		02/24/22 12:14	02/25/22 23:14	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 23:14	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/25/22 23:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C5 PFPeA	*100*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C2 PFHxA	*103*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C4 PFHpA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C5 PFNA	*103*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C2 PFDA	*106*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C2 PFUnA	*102*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C2 PFDoA	*96*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C2 PFTeDA	*99*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C3 PFBS	*118*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
18O2 PFHxS	*112*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C4 PFOS	*116*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C8 FOSA	*107*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
d5-NEtFOSAA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
d-N-MeFOSA-M	*81*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
d-N-EtFOSA-M	*81*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
d7-N-MeFOSE-M	*88*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
d9-N-EtFOSE-M	*88*		*10 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
M2-4:2 FTS	*109*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
M2-6:2 FTS	*109*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
M2-8:2 FTS	*98*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C3 HFPO-DA	*100*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*
13C2 10:2 FTS	*88*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:14*	*1*

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-3
Date Collected: 02/17/22 07:20
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			02/23/22 13:15	1
Bromobenzene	<0.36		1.0	0.36	ug/L			02/23/22 13:15	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			02/23/22 13:15	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			02/23/22 13:15	1
Bromoform	<0.48		1.0	0.48	ug/L			02/23/22 13:15	1
Bromomethane	<0.80		3.0	0.80	ug/L			02/23/22 13:15	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			02/23/22 13:15	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
Chloroethane	<0.51		1.0	0.51	ug/L			02/23/22 13:15	1
Chloroform	**0.45**	**J**	2.0	0.37	ug/L			02/23/22 13:15	1
Chloromethane	<0.32		1.0	0.32	ug/L			02/23/22 13:15	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			02/23/22 13:15	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			02/23/22 13:15	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/23/22 13:15	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			02/23/22 13:15	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			02/23/22 13:15	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			02/23/22 13:15	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
Dibromomethane	<0.27		1.0	0.27	ug/L			02/23/22 13:15	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			02/23/22 13:15	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			02/23/22 13:15	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			02/23/22 13:15	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			02/23/22 13:15	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			02/23/22 13:15	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			02/23/22 13:15	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			02/23/22 13:15	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			02/23/22 13:15	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			02/23/22 13:15	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			02/23/22 13:15	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			02/23/22 13:15	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			02/23/22 13:15	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			02/23/22 13:15	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
Naphthalene	<0.34		1.0	0.34	ug/L			02/23/22 13:15	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			02/23/22 13:15	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			02/23/22 13:15	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 13:15	1
Styrene	<0.39		1.0	0.39	ug/L			02/23/22 13:15	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 13:15	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			02/23/22 13:15	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			02/23/22 13:15	1
Tetrachloroethene	**19**		1.0	0.37	ug/L			02/23/22 13:15	1
Toluene	<0.15		0.50	0.15	ug/L			02/23/22 13:15	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/23/22 13:15	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			02/23/22 13:15	1

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: MW-3
Lab Sample ID: 500-212613-6
Date Collected: 02/17/22 07:20
Matrix: Water
Date Received: 02/19/22 11:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			02/23/22 13:15	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			02/23/22 13:15	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/23/22 13:15	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/23/22 13:15	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/23/22 13:15	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			02/23/22 13:15	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			02/23/22 13:15	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			02/23/22 13:15	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			02/23/22 13:15	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/23/22 13:15	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			02/23/22 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*72 - 124*		*02/23/22 13:15*	*1*
Dibromofluoromethane (Surr)	*113*		*75 - 120*		*02/23/22 13:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*121*		*75 - 126*		*02/23/22 13:15*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*02/23/22 13:15*	*1*

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-5

Date Collected: 02/17/22 10:10
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.5**	**J**	4.4	2.1	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluoropentanoic acid (PFPeA)	**1.8**		1.8	0.43	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorohexanoic acid (PFHxA)	**12**		1.8	0.51	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluoroheptanoic acid (PFHpA)	**3.2**		1.8	0.22	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorooctanoic acid (PFOA)	**14**		1.8	0.75	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorodecanoic acid (PFDA)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluoroundecanoic acid (PFUnA)	<0.97		1.8	0.97	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorododecanoic acid (PFDoA)	<0.48		1.8	0.48	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorotridecanoic acid (PFTrDA)	<1.1		1.8	1.1	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorotetradecanoic acid (PFTeA)	<0.64		1.8	0.64	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorobutanesulfonic acid (PFBS)	**5.6**		1.8	0.18	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluoropentanesulfonic acid (PFPeS)	**2.5**		1.8	0.26	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorohexanesulfonic acid (PFHxS)	**140**		1.8	0.50	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.28**	**J**	1.8	0.17	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorooctanesulfonic acid (PFOS)	**17**	**C**	1.8	0.48	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorododecanesulfonic acid (PFDoS)	<0.85		1.8	0.85	ng/L		02/24/22 12:14	02/25/22 23:25	1
Perfluorooctanesulfonamide (FOSA)	<0.86		1.8	0.86	ng/L		02/24/22 12:14	02/25/22 23:25	1
NEtFOSA	<0.77		1.8	0.77	ng/L		02/24/22 12:14	02/25/22 23:25	1
NMeFOSA	<0.38		1.8	0.38	ng/L		02/24/22 12:14	02/25/22 23:25	1
NMeFOSAA	<1.1		4.4	1.1	ng/L		02/24/22 12:14	02/25/22 23:25	1
NEtFOSAA	<1.1		4.4	1.1	ng/L		02/24/22 12:14	02/25/22 23:25	1
NMeFOSE	<1.2		3.5	1.2	ng/L		02/24/22 12:14	02/25/22 23:25	1
NEtFOSE	<0.75		1.8	0.75	ng/L		02/24/22 12:14	02/25/22 23:25	1
4:2 FTS	<0.21		1.8	0.21	ng/L		02/24/22 12:14	02/25/22 23:25	1
6:2 FTS	<2.2		4.4	2.2	ng/L		02/24/22 12:14	02/25/22 23:25	1
8:2 FTS	<0.40		1.8	0.40	ng/L		02/24/22 12:14	02/25/22 23:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.35		1.8	0.35	ng/L		02/24/22 12:14	02/25/22 23:25	1
HFPO-DA (GenX)	<1.3		3.5	1.3	ng/L		02/24/22 12:14	02/25/22 23:25	1
9Cl-PF3ONS	<0.21		1.8	0.21	ng/L		02/24/22 12:14	02/25/22 23:25	1
11Cl-PF3OUdS	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/25/22 23:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C5 PFPeA	*88*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C2 PFHxA	*89*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C4 PFHpA	*93*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C4 PFOA	*92*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C5 PFNA	*88*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C2 PFDA	*87*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C2 PFUnA	*72*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C2 PFDoA	*65*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*
13C2 PFTeDA	*70*		*25 - 150*	*02/24/22 12:14*	*02/25/22 23:25*	*1*

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: MW-5
Lab Sample ID: 500-212613-7
Date Collected: 02/17/22 10:10
Matrix: Water
Date Received: 02/19/22 11:45

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	102		25 - 150	02/24/22 12:14	02/25/22 23:25	1
18O2 PFHxS	93		25 - 150	02/24/22 12:14	02/25/22 23:25	1
13C4 PFOS	99		25 - 150	02/24/22 12:14	02/25/22 23:25	1
13C8 FOSA	92		10 - 150	02/24/22 12:14	02/25/22 23:25	1
d3-NMeFOSAA	71		25 - 150	02/24/22 12:14	02/25/22 23:25	1
d5-NEtFOSAA	73		25 - 150	02/24/22 12:14	02/25/22 23:25	1
d-N-MeFOSA-M	63		10 - 150	02/24/22 12:14	02/25/22 23:25	1
d-N-EtFOSA-M	63		10 - 150	02/24/22 12:14	02/25/22 23:25	1
d7-N-MeFOSE-M	60		10 - 150	02/24/22 12:14	02/25/22 23:25	1
d9-N-EtFOSE-M	66		10 - 150	02/24/22 12:14	02/25/22 23:25	1
M2-4:2 FTS	91		25 - 150	02/24/22 12:14	02/25/22 23:25	1
M2-6:2 FTS	85		25 - 150	02/24/22 12:14	02/25/22 23:25	1
M2-8:2 FTS	74		25 - 150	02/24/22 12:14	02/25/22 23:25	1
13C3 HFPO-DA	83		25 - 150	02/24/22 12:14	02/25/22 23:25	1
13C2 10:2 FTS	55		25 - 150	02/24/22 12:14	02/25/22 23:25	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-6P
Date Collected: 02/16/22 15:00
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.5	2.2	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluoropentanoic acid (PFPeA)	<0.44		1.8	0.44	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorohexanoic acid (PFHxA)	**0.63**	**J**	1.8	0.52	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluoroheptanoic acid (PFHpA)	<0.23		1.8	0.23	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorooctanoic acid (PFOA)	**0.92**	**J**	1.8	0.77	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluoroundecanoic acid (PFUnA)	<0.99		1.8	0.99	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorododecanoic acid (PFDoA)	<0.50		1.8	0.50	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorotetradecanoic acid (PFTeA)	<0.66		1.8	0.66	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorobutanesulfonic acid (PFBS)	**0.47**	**J**	1.8	0.18	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorohexanesulfonic acid (PFHxS)	**4.7**		1.8	0.51	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.8	0.17	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorooctanesulfonic acid (PFOS)	**3.4**	**C**	1.8	0.49	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorododecanesulfonic acid (PFDoS)	<0.88		1.8	0.88	ng/L		02/24/22 12:14	02/26/22 00:05	1
Perfluorooctanesulfonamide (FOSA)	<0.88		1.8	0.88	ng/L		02/24/22 12:14	02/26/22 00:05	1
NEtFOSA	<0.79		1.8	0.79	ng/L		02/24/22 12:14	02/26/22 00:05	1
NMeFOSA	<0.39		1.8	0.39	ng/L		02/24/22 12:14	02/26/22 00:05	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		02/24/22 12:14	02/26/22 00:05	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		02/24/22 12:14	02/26/22 00:05	1
NMeFOSE	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/26/22 00:05	1
NEtFOSE	<0.77		1.8	0.77	ng/L		02/24/22 12:14	02/26/22 00:05	1
4:2 FTS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:05	1
6:2 FTS	<2.3		4.5	2.3	ng/L		02/24/22 12:14	02/26/22 00:05	1
8:2 FTS	<0.42		1.8	0.42	ng/L		02/24/22 12:14	02/26/22 00:05	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		02/24/22 12:14	02/26/22 00:05	1
HFPO-DA (GenX)	<1.4		3.6	1.4	ng/L		02/24/22 12:14	02/26/22 00:05	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:05	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/26/22 00:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C5 PFPeA	*104*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C2 PFHxA	*112*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C4 PFHpA	*112*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C4 PFOA	*109*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C5 PFNA	*103*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C2 PFDA	*110*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C2 PFUnA	*106*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C2 PFDoA	*100*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*
13C2 PFTeDA	*100*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:05*	*1*

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: MW-6P
Lab Sample ID: 500-212613-8
Date Collected: 02/16/22 15:00
Matrix: Water
Date Received: 02/19/22 11:45

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	118		25 - 150	02/24/22 12:14	02/26/22 00:05	1
18O2 PFHxS	111		25 - 150	02/24/22 12:14	02/26/22 00:05	1
13C4 PFOS	118		25 - 150	02/24/22 12:14	02/26/22 00:05	1
13C8 FOSA	111		10 - 150	02/24/22 12:14	02/26/22 00:05	1
d3-NMeFOSAA	101		25 - 150	02/24/22 12:14	02/26/22 00:05	1
d5-NEtFOSAA	109		25 - 150	02/24/22 12:14	02/26/22 00:05	1
d-N-MeFOSA-M	90		10 - 150	02/24/22 12:14	02/26/22 00:05	1
d-N-EtFOSA-M	88		10 - 150	02/24/22 12:14	02/26/22 00:05	1
d7-N-MeFOSE-M	91		10 - 150	02/24/22 12:14	02/26/22 00:05	1
d9-N-EtFOSE-M	92		10 - 150	02/24/22 12:14	02/26/22 00:05	1
M2-4:2 FTS	109		25 - 150	02/24/22 12:14	02/26/22 00:05	1
M2-6:2 FTS	105		25 - 150	02/24/22 12:14	02/26/22 00:05	1
M2-8:2 FTS	98		25 - 150	02/24/22 12:14	02/26/22 00:05	1
13C3 HFPO-DA	99		25 - 150	02/24/22 12:14	02/26/22 00:05	1
13C2 10:2 FTS	90		25 - 150	02/24/22 12:14	02/26/22 00:05	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-7

Date Collected: 02/17/22 11:50
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.6**	**J**	4.5	2.2	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluoropentanoic acid (PFPeA)	<0.44		1.8	0.44	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorohexanoic acid (PFHxA)	**1.3**	**J**	1.8	0.53	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluoroheptanoic acid (PFHpA)	**0.24**	**J**	1.8	0.23	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorooctanoic acid (PFOA)	**1.5**	**J**	1.8	0.77	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorononanoic acid (PFNA)	<0.25		1.8	0.25	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.8	1.0	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorododecanoic acid (PFDoA)	<0.50		1.8	0.50	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorotetradecanoic acid (PFTeA)	<0.66		1.8	0.66	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.8	0.18	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluoropentanesulfonic acid (PFPeS)	**0.72**	**J**	1.8	0.27	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorohexanesulfonic acid (PFHxS)	**21**		1.8	0.52	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.8	0.17	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorooctanesulfonic acid (PFOS)	<0.49		1.8	0.49	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorononanesulfonic acid (PFNS)	<0.34		1.8	0.34	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorododecanesulfonic acid (PFDoS)	<0.88		1.8	0.88	ng/L		02/24/22 12:14	02/26/22 00:15	1
Perfluorooctanesulfonamide (FOSA)	<0.89		1.8	0.89	ng/L		02/24/22 12:14	02/26/22 00:15	1
NEtFOSA	<0.79		1.8	0.79	ng/L		02/24/22 12:14	02/26/22 00:15	1
NMeFOSA	<0.39		1.8	0.39	ng/L		02/24/22 12:14	02/26/22 00:15	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		02/24/22 12:14	02/26/22 00:15	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		02/24/22 12:14	02/26/22 00:15	1
NMeFOSE	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/26/22 00:15	1
NEtFOSE	<0.77		1.8	0.77	ng/L		02/24/22 12:14	02/26/22 00:15	1
4:2 FTS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:15	1
6:2 FTS	<2.3		4.5	2.3	ng/L		02/24/22 12:14	02/26/22 00:15	1
8:2 FTS	<0.42		1.8	0.42	ng/L		02/24/22 12:14	02/26/22 00:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		02/24/22 12:14	02/26/22 00:15	1
HFPO-DA (GenX)	<1.4		3.6	1.4	ng/L		02/24/22 12:14	02/26/22 00:15	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:15	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/26/22 00:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*84*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C5 PFPeA	*87*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C2 PFHxA	*84*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C4 PFHpA	*89*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C4 PFOA	*89*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C5 PFNA	*87*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C2 PFDA	*83*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C2 PFUnA	*67*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C2 PFDoA	*58*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C2 PFTeDA	*62*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*
13C3 PFBS	*99*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:15*	*1*

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: MW-7
Lab Sample ID: 500-212613-9
Date Collected: 02/17/22 11:50
Matrix: Water
Date Received: 02/19/22 11:45

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	87		25 - 150	02/24/22 12:14	02/26/22 00:15	1
13C4 PFOS	91		25 - 150	02/24/22 12:14	02/26/22 00:15	1
13C8 FOSA	83		10 - 150	02/24/22 12:14	02/26/22 00:15	1
d3-NMeFOSAA	63		25 - 150	02/24/22 12:14	02/26/22 00:15	1
d5-NEtFOSAA	66		25 - 150	02/24/22 12:14	02/26/22 00:15	1
d-N-MeFOSA-M	56		10 - 150	02/24/22 12:14	02/26/22 00:15	1
d-N-EtFOSA-M	56		10 - 150	02/24/22 12:14	02/26/22 00:15	1
d7-N-MeFOSE-M	57		10 - 150	02/24/22 12:14	02/26/22 00:15	1
d9-N-EtFOSE-M	56		10 - 150	02/24/22 12:14	02/26/22 00:15	1
M2-4:2 FTS	86		25 - 150	02/24/22 12:14	02/26/22 00:15	1
M2-6:2 FTS	81		25 - 150	02/24/22 12:14	02/26/22 00:15	1
M2-8:2 FTS	68		25 - 150	02/24/22 12:14	02/26/22 00:15	1
13C3 HFPO-DA	81		25 - 150	02/24/22 12:14	02/26/22 00:15	1
13C2 10:2 FTS	49		25 - 150	02/24/22 12:14	02/26/22 00:15	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-8

Date Collected: 02/17/22 13:00
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.6**	**J**	4.4	2.1	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluoropentanoic acid (PFPeA)	**0.70**	**J**	1.8	0.43	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorohexanoic acid (PFHxA)	**0.89**	**J**	1.8	0.51	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluoroheptanoic acid (PFHpA)	**0.35**	**J**	1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorooctanoic acid (PFOA)	**0.86**	**J**	1.8	0.75	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorodecanoic acid (PFDA)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluoroundecanoic acid (PFUnA)	<0.97		1.8	0.97	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorododecanoic acid (PFDoA)	<0.49		1.8	0.49	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorotridecanoic acid (PFTrDA)	<1.1		1.8	1.1	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorotetradecanoic acid (PFTeA)	<0.64		1.8	0.64	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.8	0.18	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluoropentanesulfonic acid (PFPeS)	<0.26		1.8	0.26	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorohexanesulfonic acid (PFHxS)	**4.9**		1.8	0.50	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.8	0.17	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**	**C**	1.8	0.48	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorododecanesulfonic acid (PFDoS)	<0.86		1.8	0.86	ng/L		02/24/22 12:14	02/26/22 00:25	1
Perfluorooctanesulfonamide (FOSA)	<0.87		1.8	0.87	ng/L		02/24/22 12:14	02/26/22 00:25	1
NEtFOSA	<0.77		1.8	0.77	ng/L		02/24/22 12:14	02/26/22 00:25	1
NMeFOSA	<0.38		1.8	0.38	ng/L		02/24/22 12:14	02/26/22 00:25	1
NMeFOSAA	<1.1		4.4	1.1	ng/L		02/24/22 12:14	02/26/22 00:25	1
NEtFOSAA	<1.1		4.4	1.1	ng/L		02/24/22 12:14	02/26/22 00:25	1
NMeFOSE	<1.2		3.5	1.2	ng/L		02/24/22 12:14	02/26/22 00:25	1
NEtFOSE	<0.75		1.8	0.75	ng/L		02/24/22 12:14	02/26/22 00:25	1
4:2 FTS	<0.21		1.8	0.21	ng/L		02/24/22 12:14	02/26/22 00:25	1
6:2 FTS	<2.2		4.4	2.2	ng/L		02/24/22 12:14	02/26/22 00:25	1
8:2 FTS	<0.41		1.8	0.41	ng/L		02/24/22 12:14	02/26/22 00:25	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.35		1.8	0.35	ng/L		02/24/22 12:14	02/26/22 00:25	1
HFPO-DA (GenX)	<1.3		3.5	1.3	ng/L		02/24/22 12:14	02/26/22 00:25	1
9Cl-PF3ONS	<0.21		1.8	0.21	ng/L		02/24/22 12:14	02/26/22 00:25	1
11Cl-PF3OUdS	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/26/22 00:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*86*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C5 PFPeA	*93*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C2 PFHxA	*92*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C4 PFHpA	*88*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C4 PFOA	*90*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C5 PFNA	*89*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C2 PFDA	*86*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C2 PFUnA	*72*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C2 PFDoA	*62*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*
13C2 PFTeDA	*68*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:25*	*1*

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-8
Date Collected: 02/17/22 13:00
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-10
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	97		25 - 150	02/24/22 12:14	02/26/22 00:25	1
18O2 PFHxS	91		25 - 150	02/24/22 12:14	02/26/22 00:25	1
13C4 PFOS	96		25 - 150	02/24/22 12:14	02/26/22 00:25	1
13C8 FOSA	87		10 - 150	02/24/22 12:14	02/26/22 00:25	1
d3-NMeFOSAA	71		25 - 150	02/24/22 12:14	02/26/22 00:25	1
d5-NEtFOSAA	74		25 - 150	02/24/22 12:14	02/26/22 00:25	1
d-N-MeFOSA-M	65		10 - 150	02/24/22 12:14	02/26/22 00:25	1
d-N-EtFOSA-M	62		10 - 150	02/24/22 12:14	02/26/22 00:25	1
d7-N-MeFOSE-M	61		10 - 150	02/24/22 12:14	02/26/22 00:25	1
d9-N-EtFOSE-M	64		10 - 150	02/24/22 12:14	02/26/22 00:25	1
M2-4:2 FTS	92		25 - 150	02/24/22 12:14	02/26/22 00:25	1
M2-6:2 FTS	87		25 - 150	02/24/22 12:14	02/26/22 00:25	1
M2-8:2 FTS	73		25 - 150	02/24/22 12:14	02/26/22 00:25	1
13C3 HFPO-DA	88		25 - 150	02/24/22 12:14	02/26/22 00:25	1
13C2 10:2 FTS	56		25 - 150	02/24/22 12:14	02/26/22 00:25	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-8P
Date Collected: 02/17/22 14:00
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-11
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.5	2.2	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluoropentanoic acid (PFPeA)	<0.44		1.8	0.44	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorohexanoic acid (PFHxA)	<0.52		1.8	0.52	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluoroheptanoic acid (PFHpA)	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorooctanoic acid (PFOA)	<0.76		1.8	0.76	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluoroundecanoic acid (PFUnA)	<0.99		1.8	0.99	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorododecanoic acid (PFDoA)	<0.49		1.8	0.49	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorotetradecanoic acid (PFTeA)	<0.66		1.8	0.66	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorobutanesulfonic acid (PFBS)	<0.18		1.8	0.18	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorohexanesulfonic acid (PFHxS)	<0.51		1.8	0.51	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.8	0.17	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorooctanesulfonic acid (PFOS)	<0.49		1.8	0.49	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorododecanesulfonic acid (PFDoS)	<0.87		1.8	0.87	ng/L		02/24/22 12:14	02/26/22 00:35	1
Perfluorooctanesulfonamide (FOSA)	<0.88		1.8	0.88	ng/L		02/24/22 12:14	02/26/22 00:35	1
NEtFOSA	<0.78		1.8	0.78	ng/L		02/24/22 12:14	02/26/22 00:35	1
NMeFOSA	<0.39		1.8	0.39	ng/L		02/24/22 12:14	02/26/22 00:35	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		02/24/22 12:14	02/26/22 00:35	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		02/24/22 12:14	02/26/22 00:35	1
NMeFOSE	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/26/22 00:35	1
NEtFOSE	<0.76		1.8	0.76	ng/L		02/24/22 12:14	02/26/22 00:35	1
4:2 FTS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:35	1
6:2 FTS	<2.2		4.5	2.2	ng/L		02/24/22 12:14	02/26/22 00:35	1
8:2 FTS	<0.41		1.8	0.41	ng/L		02/24/22 12:14	02/26/22 00:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		02/24/22 12:14	02/26/22 00:35	1
HFPO-DA (GenX)	<1.3		3.6	1.3	ng/L		02/24/22 12:14	02/26/22 00:35	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		02/24/22 12:14	02/26/22 00:35	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		02/24/22 12:14	02/26/22 00:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*108*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C5 PFPeA	*110*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C2 PFHxA	*110*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C4 PFHpA	*114*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C4 PFOA	*115*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C5 PFNA	*112*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C2 PFDA	*118*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C2 PFUnA	*115*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C2 PFDoA	*106*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C2 PFTeDA	*105*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
13C3 PFBS	*130*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*
18O2 PFHxS	*119*		*25 - 150*	*02/24/22 12:14*	*02/26/22 00:35*	*1*

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: MW-8P
Date Collected: 02/17/22 14:00
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-11
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	127		25 - 150	02/24/22 12:14	02/26/22 00:35	1
13C8 FOSA	119		10 - 150	02/24/22 12:14	02/26/22 00:35	1
d3-NMeFOSAA	109		25 - 150	02/24/22 12:14	02/26/22 00:35	1
d5-NEtFOSAA	121		25 - 150	02/24/22 12:14	02/26/22 00:35	1
d-N-MeFOSA-M	91		10 - 150	02/24/22 12:14	02/26/22 00:35	1
d-N-EtFOSA-M	89		10 - 150	02/24/22 12:14	02/26/22 00:35	1
d7-N-MeFOSE-M	99		10 - 150	02/24/22 12:14	02/26/22 00:35	1
d9-N-EtFOSE-M	98		10 - 150	02/24/22 12:14	02/26/22 00:35	1
M2-4:2 FTS	118		25 - 150	02/24/22 12:14	02/26/22 00:35	1
M2-6:2 FTS	114		25 - 150	02/24/22 12:14	02/26/22 00:35	1
M2-8:2 FTS	105		25 - 150	02/24/22 12:14	02/26/22 00:35	1
13C3 HFPO-DA	105		25 - 150	02/24/22 12:14	02/26/22 00:35	1
13C2 10:2 FTS	94		25 - 150	02/24/22 12:14	02/26/22 00:35	1

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Client Sample ID: Trip Blank

Date Collected: 02/17/22 00:00
Date Received: 02/19/22 11:45

Lab Sample ID: 500-212613-12

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			02/23/22 13:42	1
Bromobenzene	<0.36		1.0	0.36	ug/L			02/23/22 13:42	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			02/23/22 13:42	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			02/23/22 13:42	1
Bromoform	<0.48		1.0	0.48	ug/L			02/23/22 13:42	1
Bromomethane	<0.80		3.0	0.80	ug/L			02/23/22 13:42	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			02/23/22 13:42	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
Chloroethane	<0.51		1.0	0.51	ug/L			02/23/22 13:42	1
Chloroform	<0.37		2.0	0.37	ug/L			02/23/22 13:42	1
Chloromethane	<0.32		1.0	0.32	ug/L			02/23/22 13:42	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			02/23/22 13:42	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			02/23/22 13:42	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/23/22 13:42	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			02/23/22 13:42	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			02/23/22 13:42	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			02/23/22 13:42	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
Dibromomethane	<0.27		1.0	0.27	ug/L			02/23/22 13:42	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			02/23/22 13:42	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			02/23/22 13:42	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			02/23/22 13:42	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			02/23/22 13:42	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			02/23/22 13:42	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			02/23/22 13:42	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			02/23/22 13:42	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			02/23/22 13:42	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			02/23/22 13:42	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			02/23/22 13:42	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			02/23/22 13:42	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			02/23/22 13:42	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			02/23/22 13:42	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
Naphthalene	<0.34		1.0	0.34	ug/L			02/23/22 13:42	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			02/23/22 13:42	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			02/23/22 13:42	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 13:42	1
Styrene	<0.39		1.0	0.39	ug/L			02/23/22 13:42	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 13:42	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			02/23/22 13:42	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			02/23/22 13:42	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			02/23/22 13:42	1
Toluene	<0.15		0.50	0.15	ug/L			02/23/22 13:42	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/23/22 13:42	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			02/23/22 13:42	1

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: Trip Blank
Lab Sample ID: 500-212613-12
Date Collected: 02/17/22 00:00
Matrix: Water
Date Received: 02/19/22 11:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			02/23/22 13:42	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			02/23/22 13:42	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/23/22 13:42	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/23/22 13:42	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/23/22 13:42	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			02/23/22 13:42	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			02/23/22 13:42	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			02/23/22 13:42	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			02/23/22 13:42	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/23/22 13:42	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			02/23/22 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*72 - 124*		*02/23/22 13:42*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 120*		*02/23/22 13:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*75 - 126*		*02/23/22 13:42*	*1*
Toluene-d8 (Surr)	*85*		*75 - 120*		*02/23/22 13:42*	*1*

Definitions/Glossary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Reported value was between the limit of detection and the limit of quantitation.

LCMS

Qualifier	Qualifier Description
C	See Case Narrative
J	Reported value was between the limit of detection and the limit of quantitation.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

QC Association Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

GC/MS VOA

Analysis Batch: 643984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-212613-4	MW-1	Total/NA	Water	8260B	
500-212613-5	MW-1 DUP	Total/NA	Water	8260B	
500-212613-6	MW-3	Total/NA	Water	8260B	
500-212613-12	Trip Blank	Total/NA	Water	8260B	
MB 500-643984/6	Method Blank	Total/NA	Water	8260B	
LCS 500-643984/4	Lab Control Sample	Total/NA	Water	8260B	

LCMS

Prep Batch: 568131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-212613-1	Field Blank	Total/NA	Water	3535	
500-212613-2	Equipment Blank - Tube	Total/NA	Water	3535	
500-212613-3	Equipment Blank - Pipe	Total/NA	Water	3535	
500-212613-4	MW-1	Total/NA	Water	3535	
500-212613-5	MW-1 DUP	Total/NA	Water	3535	
500-212613-7	MW-5	Total/NA	Water	3535	
500-212613-8	MW-6P	Total/NA	Water	3535	
500-212613-9	MW-7	Total/NA	Water	3535	
500-212613-10	MW-8	Total/NA	Water	3535	
500-212613-11	MW-8P	Total/NA	Water	3535	
MB 320-568131/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-568131/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-568131/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 568573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-212613-1	Field Blank	Total/NA	Water	537 (modified)	568131
500-212613-2	Equipment Blank - Tube	Total/NA	Water	537 (modified)	568131
500-212613-3	Equipment Blank - Pipe	Total/NA	Water	537 (modified)	568131
500-212613-4	MW-1	Total/NA	Water	537 (modified)	568131
500-212613-5	MW-1 DUP	Total/NA	Water	537 (modified)	568131
500-212613-7	MW-5	Total/NA	Water	537 (modified)	568131
500-212613-8	MW-6P	Total/NA	Water	537 (modified)	568131
500-212613-9	MW-7	Total/NA	Water	537 (modified)	568131
500-212613-10	MW-8	Total/NA	Water	537 (modified)	568131
500-212613-11	MW-8P	Total/NA	Water	537 (modified)	568131
MB 320-568131/1-A	Method Blank	Total/NA	Water	537 (modified)	568131
LCS 320-568131/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	568131
LCSD 320-568131/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	568131

Surrogate Summary

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-212613-4	MW-1	100	114	117	80
500-212613-5	MW-1 DUP	96	101	109	98
500-212613-6	MW-3	97	113	121	91
500-212613-12	Trip Blank	108	105	115	85
LCS 500-643984/4	Lab Control Sample	105	104	111	96
MB 500-643984/6	Method Blank	104	107	115	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-643984/6
Matrix: Water
Analysis Batch: 643984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			02/23/22 11:01	1
Bromobenzene	<0.36		1.0	0.36	ug/L			02/23/22 11:01	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			02/23/22 11:01	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			02/23/22 11:01	1
Bromoform	<0.48		1.0	0.48	ug/L			02/23/22 11:01	1
Bromomethane	<0.80		3.0	0.80	ug/L			02/23/22 11:01	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			02/23/22 11:01	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
Chloroethane	<0.51		1.0	0.51	ug/L			02/23/22 11:01	1
Chloroform	<0.37		2.0	0.37	ug/L			02/23/22 11:01	1
Chloromethane	<0.32		1.0	0.32	ug/L			02/23/22 11:01	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			02/23/22 11:01	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			02/23/22 11:01	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/23/22 11:01	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			02/23/22 11:01	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			02/23/22 11:01	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			02/23/22 11:01	1
1,2-Dibromoethane (EDB)	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
Dibromomethane	<0.27		1.0	0.27	ug/L			02/23/22 11:01	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			02/23/22 11:01	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			02/23/22 11:01	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			02/23/22 11:01	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			02/23/22 11:01	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			02/23/22 11:01	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			02/23/22 11:01	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			02/23/22 11:01	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			02/23/22 11:01	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			02/23/22 11:01	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			02/23/22 11:01	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			02/23/22 11:01	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			02/23/22 11:01	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			02/23/22 11:01	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
Naphthalene	<0.34		1.0	0.34	ug/L			02/23/22 11:01	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			02/23/22 11:01	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			02/23/22 11:01	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 11:01	1
Styrene	<0.39		1.0	0.39	ug/L			02/23/22 11:01	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			02/23/22 11:01	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			02/23/22 11:01	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			02/23/22 11:01	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			02/23/22 11:01	1
Toluene	<0.15		0.50	0.15	ug/L			02/23/22 11:01	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/23/22 11:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-643984/6
Matrix: Water
Analysis Batch: 643984

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			02/23/22 11:01	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			02/23/22 11:01	1
1,2,4-Trichlorobenzene	0.374	J	1.0	0.34	ug/L			02/23/22 11:01	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			02/23/22 11:01	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			02/23/22 11:01	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/23/22 11:01	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			02/23/22 11:01	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			02/23/22 11:01	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			02/23/22 11:01	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			02/23/22 11:01	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/23/22 11:01	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			02/23/22 11:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*		*02/23/22 11:01*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 120*		*02/23/22 11:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*75 - 126*		*02/23/22 11:01*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*02/23/22 11:01*	*1*

Lab Sample ID: LCS 500-643984/4
Matrix: Water
Analysis Batch: 643984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	45.7		ug/L		91	70 - 120
Bromobenzene	50.0	52.4		ug/L		105	70 - 122
Bromochloromethane	50.0	58.5		ug/L		117	65 - 122
Bromodichloromethane	50.0	48.4		ug/L		97	69 - 120
Bromoform	50.0	47.7		ug/L		95	56 - 132
Bromomethane	50.0	39.5		ug/L		79	40 - 152
Carbon tetrachloride	50.0	52.3		ug/L		105	59 - 133
Chlorobenzene	50.0	48.9		ug/L		98	70 - 120
Chloroethane	50.0	46.8		ug/L		94	48 - 136
Chloroform	50.0	48.7		ug/L		97	70 - 120
Chloromethane	50.0	52.2		ug/L		104	56 - 152
2-Chlorotoluene	50.0	47.5		ug/L		95	70 - 125
4-Chlorotoluene	50.0	46.6		ug/L		93	68 - 124
cis-1,2-Dichloroethene	50.0	49.9		ug/L		100	70 - 125
cis-1,3-Dichloropropene	50.0	41.4		ug/L		83	64 - 127
Dibromochloromethane	50.0	52.6		ug/L		105	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	46.8		ug/L		94	56 - 123
1,2-Dibromoethane (EDB)	50.0	48.6		ug/L		97	70 - 125
Dibromomethane	50.0	48.6		ug/L		97	70 - 120
1,2-Dichlorobenzene	50.0	50.5		ug/L		101	70 - 125
1,3-Dichlorobenzene	50.0	51.1		ug/L		102	70 - 125
1,4-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 120
Dichlorodifluoromethane	50.0	47.8		ug/L		96	40 - 159
1,1-Dichloroethane	50.0	53.8		ug/L		108	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-643984/4
Matrix: Water
Analysis Batch: 643984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	58.7		ug/L		117	68 - 127
1,1-Dichloroethene	50.0	48.7		ug/L		97	67 - 122
1,2-Dichloropropane	50.0	54.5		ug/L		109	67 - 130
1,3-Dichloropropane	50.0	46.1		ug/L		92	62 - 136
2,2-Dichloropropane	50.0	42.9		ug/L		86	58 - 139
1,1-Dichloropropene	50.0	48.9		ug/L		98	70 - 121
Ethylbenzene	50.0	46.1		ug/L		92	70 - 123
Hexachlorobutadiene	50.0	51.6		ug/L		103	51 - 150
Isopropylbenzene	50.0	49.9		ug/L		100	70 - 126
Methylene Chloride	50.0	50.2		ug/L		100	69 - 125
Methyl tert-butyl ether	50.0	44.5		ug/L		89	55 - 123
Naphthalene	50.0	56.0		ug/L		112	53 - 144
n-Butylbenzene	50.0	51.8		ug/L		104	68 - 125
N-Propylbenzene	50.0	45.4		ug/L		91	69 - 127
p-Isopropyltoluene	50.0	50.7		ug/L		101	70 - 125
sec-Butylbenzene	50.0	49.0		ug/L		98	70 - 123
Styrene	50.0	49.1		ug/L		98	70 - 120
tert-Butylbenzene	50.0	50.4		ug/L		101	70 - 121
1,1,1,2-Tetrachloroethane	50.0	52.3		ug/L		105	70 - 125
1,1,2,2-Tetrachloroethane	50.0	53.6		ug/L		107	62 - 140
Tetrachloroethene	50.0	53.7		ug/L		107	70 - 128
Toluene	50.0	46.5		ug/L		93	70 - 125
trans-1,2-Dichloroethene	50.0	49.1		ug/L		98	70 - 125
trans-1,3-Dichloropropene	50.0	41.1		ug/L		82	62 - 128
1,2,3-Trichlorobenzene	50.0	51.0		ug/L		102	51 - 145
1,2,4-Trichlorobenzene	50.0	51.4		ug/L		103	57 - 137
1,1,1-Trichloroethane	50.0	49.9		ug/L		100	70 - 125
1,1,2-Trichloroethane	50.0	46.3		ug/L		93	71 - 130
Trichloroethene	50.0	56.7		ug/L		113	70 - 125
Trichlorofluoromethane	50.0	45.2		ug/L		90	55 - 128
1,2,3-Trichloropropane	50.0	55.6		ug/L		111	50 - 133
1,2,4-Trimethylbenzene	50.0	49.4		ug/L		99	70 - 123
1,3,5-Trimethylbenzene	50.0	50.1		ug/L		100	70 - 123
Vinyl chloride	50.0	45.3		ug/L		91	64 - 126
Xylenes, Total	100	87.7		ug/L		88	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*72 - 124*
Dibromofluoromethane (Surr)	*104*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-568131/1-A
Matrix: Water
Analysis Batch: 568573

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 568131

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.4		5.0	2.4	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluoropentanoic acid (PFPeA)	<0.49		2.0	0.49	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorohexanoic acid (PFHxA)	<0.58		2.0	0.58	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluoroheptanoic acid (PFHpA)	<0.25		2.0	0.25	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorooctanoic acid (PFOA)	<0.85		2.0	0.85	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorononanoic acid (PFNA)	<0.27		2.0	0.27	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	0.31	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.0	1.1	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorododecanoic acid (PFDoA)	<0.55		2.0	0.55	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorotridecanoic acid (PFTrDA)	<1.3		2.0	1.3	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorotetradecanoic acid (PFTeA)	<0.73		2.0	0.73	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		2.0	0.20	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluoropentanesulfonic acid (PFPeS)	<0.30		2.0	0.30	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorohexanesulfonic acid (PFHxS)	<0.57		2.0	0.57	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.19		2.0	0.19	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorooctanesulfonic acid (PFOS)	<0.54		2.0	0.54	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorononanesulfonic acid (PFNS)	<0.37		2.0	0.37	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorodecanesulfonic acid (PFDS)	<0.32		2.0	0.32	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorododecanesulfonic acid (PFDoS)	<0.97		2.0	0.97	ng/L		02/24/22 12:14	02/25/22 21:53	1
Perfluorooctanesulfonamide (FOSA)	<0.98		2.0	0.98	ng/L		02/24/22 12:14	02/25/22 21:53	1
NEtFOSA	<0.87		2.0	0.87	ng/L		02/24/22 12:14	02/25/22 21:53	1
NMeFOSA	<0.43		2.0	0.43	ng/L		02/24/22 12:14	02/25/22 21:53	1
NMeFOSAA	<1.2		5.0	1.2	ng/L		02/24/22 12:14	02/25/22 21:53	1
NEtFOSAA	<1.3		5.0	1.3	ng/L		02/24/22 12:14	02/25/22 21:53	1
NMeFOSE	<1.4		4.0	1.4	ng/L		02/24/22 12:14	02/25/22 21:53	1
NEtFOSE	<0.85		2.0	0.85	ng/L		02/24/22 12:14	02/25/22 21:53	1
4:2 FTS	<0.24		2.0	0.24	ng/L		02/24/22 12:14	02/25/22 21:53	1
6:2 FTS	<2.5		5.0	2.5	ng/L		02/24/22 12:14	02/25/22 21:53	1
8:2 FTS	<0.46		2.0	0.46	ng/L		02/24/22 12:14	02/25/22 21:53	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0	0.40	ng/L		02/24/22 12:14	02/25/22 21:53	1
HFPO-DA (GenX)	<1.5		4.0	1.5	ng/L		02/24/22 12:14	02/25/22 21:53	1
9Cl-PF3ONS	<0.24		2.0	0.24	ng/L		02/24/22 12:14	02/25/22 21:53	1
11Cl-PF3OUdS	<0.32		2.0	0.32	ng/L		02/24/22 12:14	02/25/22 21:53	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*102*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C5 PFPeA	*99*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C2 PFHxA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C4 PFHpA	*104*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C5 PFNA	*105*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C2 PFDA	*108*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C2 PFUnA	*109*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C2 PFDoA	*102*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*
13C2 PFTeDA	*101*		*25 - 150*	*02/24/22 12:14*	*02/25/22 21:53*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-568131/1-A
Matrix: Water
Analysis Batch: 568573

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 568131

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	118		25 - 150	02/24/22 12:14	02/25/22 21:53	1
18O2 PFHxS	107		25 - 150	02/24/22 12:14	02/25/22 21:53	1
13C4 PFOS	122		25 - 150	02/24/22 12:14	02/25/22 21:53	1
13C8 FOSA	102		10 - 150	02/24/22 12:14	02/25/22 21:53	1
d3-NMeFOSAA	107		25 - 150	02/24/22 12:14	02/25/22 21:53	1
d5-NEtFOSAA	110		25 - 150	02/24/22 12:14	02/25/22 21:53	1
d-N-MeFOSA-M	82		10 - 150	02/24/22 12:14	02/25/22 21:53	1
d-N-EtFOSA-M	84		10 - 150	02/24/22 12:14	02/25/22 21:53	1
d7-N-MeFOSE-M	93		10 - 150	02/24/22 12:14	02/25/22 21:53	1
d9-N-EtFOSE-M	92		10 - 150	02/24/22 12:14	02/25/22 21:53	1
M2-4:2 FTS	106		25 - 150	02/24/22 12:14	02/25/22 21:53	1
M2-6:2 FTS	112		25 - 150	02/24/22 12:14	02/25/22 21:53	1
M2-8:2 FTS	107		25 - 150	02/24/22 12:14	02/25/22 21:53	1
13C3 HFPO-DA	96		25 - 150	02/24/22 12:14	02/25/22 21:53	1
13C2 10:2 FTS	93		25 - 150	02/24/22 12:14	02/25/22 21:53	1

Lab Sample ID: LCS 320-568131/2-A
Matrix: Water
Analysis Batch: 568573

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 568131

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	36.5		ng/L		91	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	38.1		ng/L		95	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	38.8		ng/L		97	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	36.8		ng/L		92	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	35.8		ng/L		90	60 - 135
Perfluorononanoic acid (PFNA)	40.0	38.1		ng/L		95	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	34.2		ng/L		85	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	38.6		ng/L		96	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	37.5		ng/L		94	60 - 135
Perfluorotridecanoic acid (PFTrDA)	40.0	38.7		ng/L		97	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	36.6		ng/L		92	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.4	29.8		ng/L		84	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.5	32.2		ng/L		86	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.1		ng/L		94	60 - 135
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	34.3		ng/L		90	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	33.8		ng/L		91	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	34.6		ng/L		90	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	35.3		ng/L		91	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	34.8		ng/L		90	60 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-568131/2-A
Matrix: Water
Analysis Batch: 568573

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 568131

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonamide (FOSA)	40.0	39.1		ng/L		98	60 - 135
NEtFOSA	40.0	37.2		ng/L		93	60 - 135
NMeFOSA	40.0	38.3		ng/L		96	60 - 135
NMeFOSAA	40.0	39.7		ng/L		99	60 - 135
NEtFOSAA	40.0	35.9		ng/L		90	60 - 135
NMeFOSE	40.0	38.7		ng/L		97	60 - 135
NEtFOSE	40.0	35.9		ng/L		90	60 - 135
4:2 FTS	37.4	36.9		ng/L		99	60 - 135
6:2 FTS	37.9	34.1		ng/L		90	60 - 135
8:2 FTS	38.3	35.8		ng/L		93	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	32.8		ng/L		87	60 - 135
HFPO-DA (GenX)	40.0	39.4		ng/L		98	60 - 135
9Cl-PF3ONS	37.3	32.5		ng/L		87	60 - 135
11Cl-PF3OUdS	37.7	35.1		ng/L		93	60 - 135

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*107*		*25 - 150*
13C5 PFPeA	*106*		*25 - 150*
13C2 PFHxA	*108*		*25 - 150*
13C4 PFHpA	*109*		*25 - 150*
13C4 PFOA	*114*		*25 - 150*
13C5 PFNA	*111*		*25 - 150*
13C2 PFDA	*116*		*25 - 150*
13C2 PFUnA	*114*		*25 - 150*
13C2 PFDoA	*109*		*25 - 150*
13C2 PFTeDA	*107*		*25 - 150*
13C3 PFBS	*124*		*25 - 150*
18O2 PFHxS	*111*		*25 - 150*
13C4 PFOS	*122*		*25 - 150*
13C8 FOSA	*109*		*10 - 150*
d3-NMeFOSAA	*109*		*25 - 150*
d5-NEtFOSAA	*117*		*25 - 150*
d-N-MeFOSA-M	*94*		*10 - 150*
d-N-EtFOSA-M	*97*		*10 - 150*
d7-N-MeFOSE-M	*96*		*10 - 150*
d9-N-EtFOSE-M	*98*		*10 - 150*
M2-4:2 FTS	*114*		*25 - 150*
M2-6:2 FTS	*114*		*25 - 150*
M2-8:2 FTS	*118*		*25 - 150*
13C3 HFPO-DA	*106*		*25 - 150*
13C2 10:2 FTS	*98*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-568131/3-A
Matrix: Water
Analysis Batch: 568573

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 568131

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	38.1		ng/L		95	60 - 135	4	30
Perfluoropentanoic acid (PFPeA)			40.0	37.3		ng/L		93	60 - 135	2	30
Perfluorohexanoic acid (PFHxA)			40.0	37.7		ng/L		94	60 - 135	3	30
Perfluoroheptanoic acid (PFHpA)			40.0	37.4		ng/L		93	60 - 135	2	30
Perfluorooctanoic acid (PFOA)			40.0	36.7		ng/L		92	60 - 135	2	30
Perfluorononanoic acid (PFNA)			40.0	39.4		ng/L		98	60 - 135	3	30
Perfluorodecanoic acid (PFDA)			40.0	35.6		ng/L		89	60 - 135	4	30
Perfluoroundecanoic acid (PFUnA)			40.0	37.6		ng/L		94	60 - 135	2	30
Perfluorododecanoic acid (PFDoA)			40.0	38.6		ng/L		96	60 - 135	3	30
Perfluorotridecanoic acid (PFTrDA)			40.0	38.3		ng/L		96	60 - 135	1	30
Perfluorotetradecanoic acid (PFTeA)			40.0	34.8		ng/L		87	60 - 135	5	30
Perfluorobutanesulfonic acid (PFBS)			35.4	30.2		ng/L		85	60 - 135	1	30
Perfluoropentanesulfonic acid (PFPeS)			37.5	31.4		ng/L		84	60 - 135	2	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	33.2		ng/L		91	60 - 135	3	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	35.0		ng/L		92	60 - 135	2	30
Perfluorooctanesulfonic acid (PFOS)			37.1	34.3		ng/L		92	60 - 135	2	30
Perfluorononanesulfonic acid (PFNS)			38.4	35.4		ng/L		92	60 - 135	2	30
Perfluorodecanesulfonic acid (PFDS)			38.6	35.0		ng/L		91	60 - 135	1	30
Perfluorododecanesulfonic acid (PFDoS)			38.7	36.8		ng/L		95	60 - 135	5	30
Perfluorooctanesulfonamide (FOSA)			40.0	37.0		ng/L		93	60 - 135	5	30
NEtFOSA			40.0	37.2		ng/L		93	60 - 135	0	30
NMeFOSA			40.0	37.2		ng/L		93	60 - 135	3	30
NMeFOSAA			40.0	36.1		ng/L		90	60 - 135	9	30
NEtFOSAA			40.0	37.4		ng/L		93	60 - 135	4	30
NMeFOSE			40.0	38.6		ng/L		96	60 - 135	0	30
NEtFOSE			40.0	35.1		ng/L		88	60 - 135	2	30
4:2 FTS			37.4	38.0		ng/L		102	60 - 135	3	30
6:2 FTS			37.9	36.7		ng/L		97	60 - 135	7	30
8:2 FTS			38.3	38.3		ng/L		100	60 - 135	7	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.7	33.9		ng/L		90	60 - 135	3	30
HFPO-DA (GenX)			40.0	38.3		ng/L		96	60 - 135	3	30
9Cl-PF3ONS			37.3	32.8		ng/L		88	60 - 135	1	30
11Cl-PF3OUdS			37.7	35.3		ng/L		94	60 - 135	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*101*		*25 - 150*
13C5 PFPeA	*105*		*25 - 150*
13C2 PFHxA	*106*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-568131/3-A
Matrix: Water
Analysis Batch: 568573

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 568131

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFHpA	108		25 - 150
13C4 PFOA	113		25 - 150
13C5 PFNA	106		25 - 150
13C2 PFDA	108		25 - 150
13C2 PFUnA	114		25 - 150
13C2 PFDoA	106		25 - 150
13C2 PFTeDA	107		25 - 150
13C3 PFBS	123		25 - 150
18O2 PFHxS	115		25 - 150
13C4 PFOS	119		25 - 150
13C8 FOSA	112		10 - 150
d3-NMeFOSAA	117		25 - 150
d5-NEtFOSAA	115		25 - 150
d-N-MeFOSA-M	89		10 - 150
d-N-EtFOSA-M	88		10 - 150
d7-N-MeFOSE-M	97		10 - 150
d9-N-EtFOSE-M	98		10 - 150
M2-4:2 FTS	108		25 - 150
M2-6:2 FTS	111		25 - 150
M2-8:2 FTS	113		25 - 150
13C3 HFPO-DA	100		25 - 150
13C2 10:2 FTS	99		25 - 150

Lab Chronicle

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: Field Blank
Lab Sample ID: 500-212613-1
Date Collected: 02/16/22 15:25
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/25/22 22:34	K1S	TAL SAC

Client Sample ID: Equipment Blank - Tube
Lab Sample ID: 500-212613-2
Date Collected: 02/16/22 15:30
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/25/22 22:44	K1S	TAL SAC

Client Sample ID: Equipment Blank - Pipe
Lab Sample ID: 500-212613-3
Date Collected: 02/17/22 14:20
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/25/22 22:54	K1S	TAL SAC

Client Sample ID: MW-1
Lab Sample ID: 500-212613-4
Date Collected: 02/17/22 15:40
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	643984	02/23/22 12:22	PSP	TAL CHI
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/25/22 23:04	K1S	TAL SAC

Client Sample ID: MW-1 DUP
Lab Sample ID: 500-212613-5
Date Collected: 02/17/22 15:40
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	643984	02/23/22 15:55	PSP	TAL CHI
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/25/22 23:14	K1S	TAL SAC

Client Sample ID: MW-3
Lab Sample ID: 500-212613-6
Date Collected: 02/17/22 07:20
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	643984	02/23/22 13:15	PSP	TAL CHI

Lab Chronicle

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Client Sample ID: MW-5
Lab Sample ID: 500-212613-7
Date Collected: 02/17/22 10:10
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/25/22 23:25	K1S	TAL SAC

Client Sample ID: MW-6P
Lab Sample ID: 500-212613-8
Date Collected: 02/16/22 15:00
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/26/22 00:05	K1S	TAL SAC

Client Sample ID: MW-7
Lab Sample ID: 500-212613-9
Date Collected: 02/17/22 11:50
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/26/22 00:15	K1S	TAL SAC

Client Sample ID: MW-8
Lab Sample ID: 500-212613-10
Date Collected: 02/17/22 13:00
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/26/22 00:25	K1S	TAL SAC

Client Sample ID: MW-8P
Lab Sample ID: 500-212613-11
Date Collected: 02/17/22 14:00
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			568131	02/24/22 12:14	DVC	TAL SAC
Total/NA	Analysis	537 (modified)		1	568573	02/26/22 00:35	K1S	TAL SAC

Client Sample ID: Trip Blank
Lab Sample ID: 500-212613-12
Date Collected: 02/17/22 00:00
Matrix: Water
Date Received: 02/19/22 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	643984	02/23/22 13:42	PSP	TAL CHI

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-22

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-22

Eurofins Chicago
2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record

eurofins Environment Testing Amer ica

Client Information	Sampler: Ryan Matzuk	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-98846-43337 1
Client Contact: Mr Robert Langdon	Phone: 608 400 9597	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page: Page 1 of 3
Company: SCS Engineers	PWSID:	Analysis Requested		Job #: 500-212613
Address: 2830 Dairy Dr	Due Date Requested			Preservation Codes
City: Madison	TAT Requested (days)			A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Z other (specify)
State, Zip: WI 53718	Compliance Project: Δ Yes Δ No			
Phone: 608-212-3995	PO #: 25221094 00			Other:
Email: rlangdon@scsengineers.com	WO #:			
Project Name: Black Hawk Junction 25221094 00	Project #: 50006561			
Site:	SSOW#:			

500-212613 COC

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOC	PFC_IDA_WI - PFAS, Standard List (33 analytes)	Total Number of containers	Special Instructions/Note
				Preservation Code:				A	N		
1	Field Blank	2/16	1525	G	Water				X		
2	Equipment Blank - Tube	2/16	1530		Water				X		
3	Equipment Blank - Pipe	2/17	1420		Water				X		
4	MW-1	2/17	1540		Water			X	X		
5	MW-1 DUP	2/17	1540		Water			X	X		
6	MW-3	2/17	720		Water			X			
7	MW-5	2/17	1010		Water				X		
8	MW-6P	2/16	1500		Water				X		
9	MW-7	2/17	1150		Water				X		
10	MW-8	2/17	1300		Water				X		
11	MW-8P	2/17	1400		Water				X		
12	Trip Blank sent by TA										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I II III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Ryan Matzuk	1130/2/18		Paula Buckley	2/19/22 1145	EA
2						
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		0.2 -0.3

Ref:
Dep:

Date. 10Feb22
Wgt: 25 00 LBS

DV 0 00

SHIPPING: 0 00
SPECIAL: 0 00
HANDLING. 0.00
TOTAL 0 00

FedEx Express

SDR

FedEx Saturday Delivery

151967 REV 3/21

ORIGIN ID:RRLA (262) 202 5955
RYAN MATZUK
SCS ENGINEERS
2830 DAIRY DR

MADISON, WI 53718
UNITED STATES US

SHIP DATE: 10FEB22
ACTWGT. 25 00 LB MAN
CAD: 0269688/CAFE3509

TO **SAMPLE RECEIPT**
EUROFINS
2417 BOND ST

UNIVERSITY PARK IL 60484
(262) 202-5955 REF
INV
PO: DEPT

RMA.

FedEx Express

FedEx
TRK# 0221 **5632 2368 7974**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO JOTA

60484
IL-US **ORD**

*Part # 156297-435 RADB2 EXP 11/22

#72245 02/18 56DJ2/027C/FE4A

500-212613 Wayb

Eurofins Chicago

2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-157389.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 1 of 2
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - Wisconsin		Job #: 500-212613-1
Address: 880 Riverside Parkway,	Due Date Requested: 3/6/2022	Analysis Requested		Preservation Codes:
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: SCS: General Analyses	Project #: 50006561			
Site:	SSOW#:			Other:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA_WI/3535_PFC_28D PFAS, Standard List (33 analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Field Blank (500-212613-1)	2/16/22	15:25 Central		Water			X	2	Screen please
Equipment Blank - Tube (500-212613-2)	2/16/22	15:30 Central		Water			X	2	Screen please
Equipment Blank - Pipe (500-212613-3)	2/17/22	14:20 Central		Water			X	2	Screen please
MW-1 (500-212613-4)	2/17/22	15:40 Central		Water			X	2	Screen please
MW-1 DUP (500-212613-5)	2/17/22	15:40 Central		Water			X	2	Screen please
NM-5 (500-212613-7)	2/17/22	10:10 Central		Water			X	2	Screen please
MW-6P (500-212613-8)	2/16/22	15:00 Central		Water			X	2	Screen please
MW-7 (500-212613-9)	2/17/22	11:50 Central		Water			X	2	Screen please
MW-8 (500-212613-10)	2/17/22	13:00 Central		Water			X	2	Screen please

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: Shu Scott	Date/Time: 2/21/22 0830	Company: RETA	Received by: [signature]	Date/Time: 2/23/22 9:00	Company: [illegible]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
(Δ Yes) Δ No	1697885	1.2c

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3/2/2022

Eurofins Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-157389.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: Page 2 of 2
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State Program - Wisconsin		Job #: 500-212613-1
Address: 880 Riverside Parkway,	Due Date Requested: 3/6/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: SCS: General Analyses	Project #: 50006561			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA_WI/3535_PFC_28D PFAS, Standard List (33 analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-8P (500-212613-11)	2/17/22	14:00 Central		Water			X	2	Screen please

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: Ellen Scott	2/21/22 0830	EETNC		2/22/22 9:00	EETSAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1697885	Cooler Temperature(s) °C and Other Remarks: 1.2c

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-212613-1

Login Number: 212613
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-0.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Containers recd broken. Sufficient sample in remaining containers for analysis.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-212613-1

Login Number: 212613
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 02/23/22 12:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1697885
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

Sacramento
Sample Receiving Notes

Job: 500-212613 Field Sheet

Tracking # : 1893 4455 4947

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: L-02 Corr. Factor: (+ / -) — °C

Ice 1 Wet 1 Gel _____ Other _____

Cooler Custody Seal: 1697885

Cooler ID: —

Temp Observed: 1.2 °C Corrected: 1.2 °C

From: Temp Blank ☐ Sample ☒

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: LS Date: 2/23/22

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☐	☒
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: LS Date: 2/23/22

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
NCM Filed?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials: SO Date: 2-23-22

Isotope Dilution Summary

Client: SCS Engineers
Project/Site: Black Hawk Junction - 25221094.00

Job ID: 500-212613-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-212613-1	Field Blank	104	106	115	108	110	112	114	113
500-212613-2	Equipment Blank - Tube	99	103	110	109	112	114	115	114
500-212613-3	Equipment Blank - Pipe	98	105	108	106	108	110	115	108
500-212613-4	MW-1	99	106	110	108	116	110	113	111
500-212613-5	MW-1 DUP	100	100	103	108	108	103	106	102
500-212613-7	MW-5	85	88	89	93	92	88	87	72
500-212613-8	MW-6P	101	104	112	112	109	103	110	106
500-212613-9	MW-7	84	87	84	89	89	87	83	67
500-212613-10	MW-8	86	93	92	88	90	89	86	72
500-212613-11	MW-8P	108	110	110	114	115	112	118	115
LCS 320-568131/2-A	Lab Control Sample	107	106	108	109	114	111	116	114
LCSD 320-568131/3-A	Lab Control Sample Dup	101	105	106	108	113	106	108	114
MB 320-568131/1-A	Method Blank	102	99	105	104	105	105	108	109

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
500-212613-1	Field Blank	105	108	118	112	121	108	112	117
500-212613-2	Equipment Blank - Tube	105	109	119	116	127	111	112	117
500-212613-3	Equipment Blank - Pipe	101	105	119	115	124	109	106	117
500-212613-4	MW-1	103	107	119	116	123	115	111	116
500-212613-5	MW-1 DUP	96	99	118	112	116	107	98	105
500-212613-7	MW-5	65	70	102	93	99	92	71	73
500-212613-8	MW-6P	100	100	118	111	118	111	101	109
500-212613-9	MW-7	58	62	99	87	91	83	63	66
500-212613-10	MW-8	62	68	97	91	96	87	71	74
500-212613-11	MW-8P	106	105	130	119	127	119	109	121
LCS 320-568131/2-A	Lab Control Sample	109	107	124	111	122	109	109	117
LCSD 320-568131/3-A	Lab Control Sample Dup	106	107	123	115	119	112	117	115
MB 320-568131/1-A	Method Blank	102	101	118	107	122	102	107	110

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
500-212613-1	Field Blank	87	90	96	94	115	115	112	101
500-212613-2	Equipment Blank - Tube	86	90	97	99	118	122	101	101
500-212613-3	Equipment Blank - Pipe	81	83	89	89	122	113	104	99
500-212613-4	MW-1	93	92	96	96	115	112	105	102
500-212613-5	MW-1 DUP	81	81	88	88	109	109	98	100
500-212613-7	MW-5	63	63	60	66	91	85	74	83
500-212613-8	MW-6P	90	88	91	92	109	105	98	99
500-212613-9	MW-7	56	56	57	56	86	81	68	81
500-212613-10	MW-8	65	62	61	64	92	87	73	88
500-212613-11	MW-8P	91	89	99	98	118	114	105	105
LCS 320-568131/2-A	Lab Control Sample	94	97	96	98	114	114	118	106
LCSD 320-568131/3-A	Lab Control Sample Dup	89	88	97	98	108	111	113	100
MB 320-568131/1-A	Method Blank	82	84	93	92	106	112	107	96

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M102FTS (25-150)							
500-212613-1	Field Blank	102							

Isotope Dilution Summary

Client: SCS Engineers
Job ID: 500-212613-1
Project/Site: Black Hawk Junction - 25221094.00

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	M102FTS (25-150)						
500-212613-2	Equipment Blank - Tube	99						
500-212613-3	Equipment Blank - Pipe	96						
500-212613-4	MW-1	94						
500-212613-5	MW-1 DUP	88						
500-212613-7	MW-5	55						
500-212613-8	MW-6P	90						
500-212613-9	MW-7	49						
500-212613-10	MW-8	56						
500-212613-11	MW-8P	94						
LCS 320-568131/2-A	Lab Control Sample	98						
LCSD 320-568131/3-A	Lab Control Sample Dup	99						
MB 320-568131/1-A	Method Blank	93						

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
M102FTS = 13C2 10:2 FTS

Attachment B

MW-1 Replacement Documentation

State of Wis., Dept. of Natural Resources
dnr.wi.gov

SCS No. 25221094.00

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between $10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

MW-1

☐ **Verification Only of Fill and Seal**

Route to DNR Bureau:
☐ Drinking Water ☐ Watershed/Wastewater ☒ Remediation/Redevelopment
☐ Waste Management ☐ Other:

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Crawford		

Latitude / Longitude (see instructions): ____ N ____ W

Format Code: ☐ DD ☐ DDM

Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001

¼ / ¼ NW	¼ SW	Section	Township	Range
or Gov't Lot #		30	7 N	6 ☐ E ☒ W

Well Street Address: 700 East Blackhawk Avenue

Well City, Village or Town	Well ZIP Code
Prairie du Chien	53821

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well
Broken riser - replaced	W C 2 1 0

3. Filled & Sealed Well / Drillhole / Borehole Information

☒ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 01/13/2021

If a Well Construction Report is available, please attach. (See attached.)

Construction Type:
☒ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify):

Formation Type:
☒ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
30'	2"

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
8.25"	15'

Was well annular space grouted? ☐ Yes ☒ No ☐ Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
--	approx. 23.4' bgs

2. Facility / Owner Information

Facility Name: Blackhawk Junction

Facility ID (FID or PWS): 612034170

License/Permit/Monitoring #:

Original Well Owner: Prairie du Chien Redevelopment Authority

Present Well Owner: Prairie du Chien Redevelopment Authority

Mailing Address of Present Owner: P.O. Box 324

City of Present Owner	State	ZIP Code
Prairie du Chien	WI	53821

4. Pump, Liner, Screen, Casing & Sealing Material

	Yes	No	N/A
Pump and piping removed?	☐	☐	☒
Liner(s) removed?	☐	☐	☒
Liner(s) perforated?	☐	☐	☒
Screen removed?	☒	☐	☐
Casing left in place?	☐	☒	☐
Was casing cut off below surface?	☐	☐	☒
Did sealing material rise to surface?	☒	☐	☐
Did material settle after 24 hours?	☐	☒	☐
If yes, was hole retopped?	☐	☐	☐
If bentonite chips were used, were they hydrated with water from a known safe source?	☒	☐	☐

Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☒ Screened & Poured (Bentonite Chips) ☐ Other (Explain):

Sealing Materials
☐ Neat Cement Grout ☐ Concrete
☐ Sand-Cement (Concrete) Grout ☒ Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:
☒ Bentonite Chips ☐ Bentonite - Cement Grout
☐ Granular Bentonite ☐ Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8" Bentonite Chips	Surface	30	13 sacks	

6. Comments

PVC casing was broken at ~2' bgs. Remaining casing filled with bentonite chips then overdrilled to remove screen + casing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
SCS Engineers - Jacob Krause		03/04/2022

Street or Route	Telephone Number
2830 Dairy Drive	(608)224-2830

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Madison	WI	53718		03/04/2022

DNR Use Only

Date Received	Noted By

Comments:

Bay West
5 Empire Drive
St. Paul, MN 55103
Telephone: 800-279-0456
Fax: 651-291-0099
Customer-Focused Environmental & Industrial Solutions

BOREHOLE LOCATION SKETCH MAP

N

See Figure

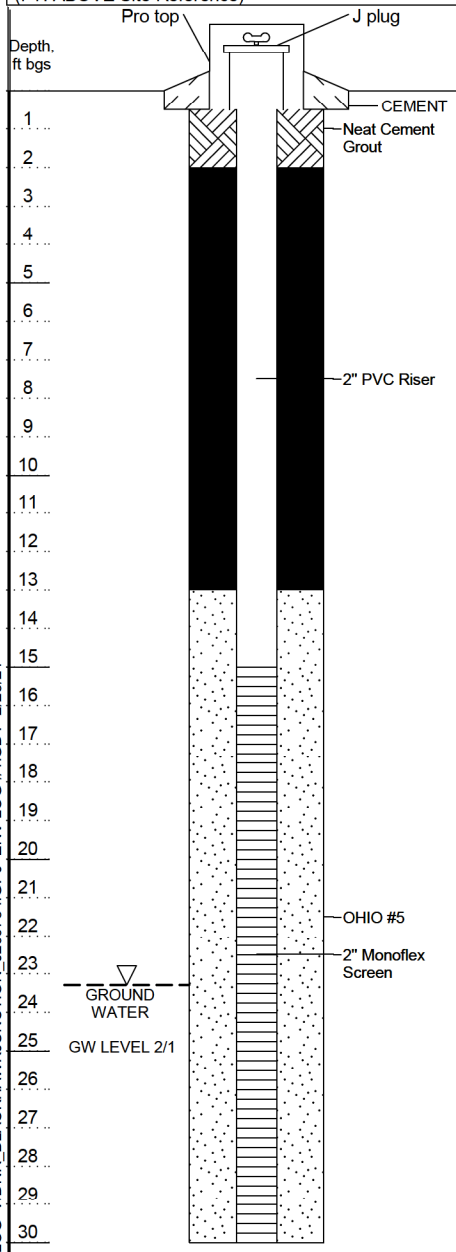
WELL CONSTRUCTION LOG

BOREHOLE NO. **MW-01**	
PROJECT NO. / NAME **J200827 / Blackhawk Junction**	LOCATION **Prairie du Chein, WI**
APPROVED BY **Rick van Allen**	
DRILLING CONTRACTOR / DRILLER **Badger State Drilling / Kevin Duerst**	LOGGED BY **Zach Mason**

DRILLING EQUIPMENT / METHOD	SIZE / TYPE OF BIT	SAMPLING METHOD	START-FINISH DATE
DT 50 / Hollow Stem Auger	**4.25**	**Split Spoon**	**1/13/21-1/13/21**

CASING MAT. / DIA.	SCREEN: TYPE	MAT.	TOTAL LENGTH	DIA.	SLOT SIZE
PVC / 2in	**Monoflex**	**PVC**	**15**	**2in**	**10-slot**

ELEVATION OF: (FT. ABOVE Site Reference)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	GW DATE
		103.87	**88.87/73.87**	**80.58**	**2/1**



Depth, ft bgs	Graphic Log	Visual Description	Analytical Sample Number	Interval	OVA Headspace Values (ppm)
1–4		Silty sand, fine grained, OM, brown, poorly graded, dry, no odor			
3–4		Silty sand, fine grained, poorly graded, trace gravel, SR dark brown			
4–5		Lean clay, trace silt, low plasticity, dark brown, firm, dry, moderate cementation			
5	5	Sandy clay with trace gravel, SR, low plasticity, dark brown, weak cementation, dry	5		
5–10		Sand, coarse grained with trace gravel, SR well graded, moist			
10	10	Sand, coarse grained with trace gravel, SR, Well graded, moist, no odor	10		
10–15		Sand, coarse grained with trace gravel, SR, Well graded, moist, no odor			
15	15	Sand, coarse grained with trace gravel, SR, well graded, moist	15		
15–20		Sand, coarse grained with trace gravel, SR, well graded, moist			
20	20	Sand, coarse grained with trace gravel, SR, well graded, wet. Water at 19.5ft	20		
20–25		Sand, coarse grained with trace gravel, SR, well graded, wet. Water at 19.5ft			
25	25	No recovery, sand slough in boring	25		
25–30		No recovery, sand slough in boring			
30	30		30		

WELL CONSTRUCTION LOG WDNR_BLACKHAWKJUNCTION_J200784.GPJ ENV LOG #1.3DT 2/28/21

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Blackhawk Junction SCS#: 25221094.00		MW-1R

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Gage Kapugi On-site Environmental Services, Inc.	3/4/2022	3/4/2022	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
WC210		MW-1R	25.3 Feet	--	8.25 in.

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane N, E S / C / N
NW 1/4 of SW 1/4 of Section 30, T 7 N, R 6 W
Lat ° ' "
Long ° ' "
Local Grid Location Feet ☐ N ☐ S Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
612034170	Crawford	12	Prairie du Chien

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			3	BLIND DRILLED AS REPLACEMENT FOR MW-1. SEE MW-1 LOG FOR GEOLOGIC INFORMATION.										
			6											
			9											
			12											
			15											
			18											
			21											
			24											
			27											
			30	EOB @ 30' bgs. Monitoring well installed with 15' screen to 30' bgs.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	SCS Engineers	Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

SCS # 25221094.00

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: Blackhawk Junction	Local Grid Location of Well: ☐N. ☐S. ft. ☐E. ☐W. ft.	Well Name: MW-1R
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: WC210 / DNR Well ID No.
Facility ID: 612034170	St. Plane ft. N, ft. E. S/C/N	Date Well Installed: 3/4/2022 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: NW 1/4 of SW 1/4 of Sec. 30, T. 7 N, R. 6 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Gage Kapugi / On-site Environmental Services Inc.
Distance from Waste/Source ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☒ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or 12 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☒
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required):

E. Bentonite seal, top _____ ft. MSL or 0.5 ft.

F. Fine sand, top _____ ft. MSL or 12 ft.

G. Filter pack, top _____ ft. MSL or 13 ft.

H. Screen joint, top _____ ft. MSL or 15 ft.

I. Well bottom _____ ft. MSL or 30 ft.

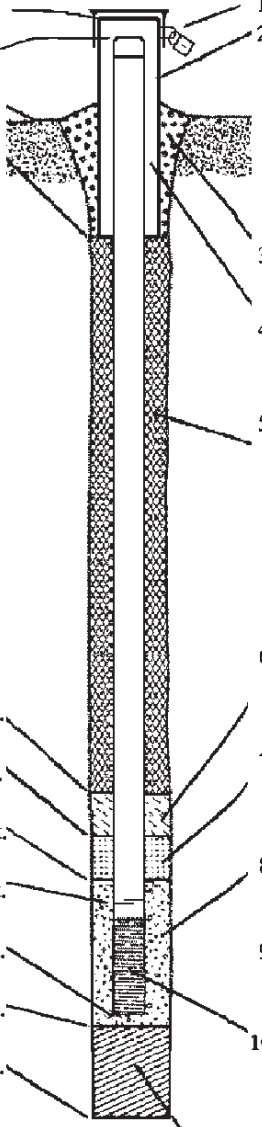
J. Filter pack, bottom _____ ft. MSL or 30 ft.

K. Borehole, bottom _____ ft. MSL or 30 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.38 in.

N. I.D. well casing 2.0 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 6 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐

4. Material between well casing and protective pipe: Bentonite ☒ 30 / Sand / Other ☒

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 4.0 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #15 ☒
b. Volume added 0.5 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint Industrial Sand ☒
b. Volume added 4.5 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐

10. Screen material: Sch. 40 PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Johnson
c. Slot size: 0.01 in.
d. Slotted length: 15 ft.

11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature _____ Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292 , 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

SCS # 25221094.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
Blackhawk Junction	Crawford	MW-1R

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
FID: 612034170	12	WC210	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 70 min.

4. Depth of well (from top of well casisng) 32.7 ft.

5. Inside diameter of well 2.0 in.

6. Volume of water in filter pack and well casing 70.0 gal.

7. Volume of water removed from well 75.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added NA

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 25.30 ft.	25.34 ft.
Date	b. 3/4/2022	3/4/2022
Time	c. 13:45 ☐ a.m. ☒ p.m.	16:00 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) light brown	Clear ☒ 20 Turbid ☐ 25 (Describe) improved quickly, still gets slightly turbid when surged with pump
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Jacob Last Name: Krause
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:
Surged with bailer then pumped and surged regularly with Monsoon pump. Well did not go dry.

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Chad Last Name: Abram
Facility/Firm: Prairie du Chien RDA
Street: P.O. Box 34
City/State/Zip: Prairie du Chien, WI 53821

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Jacob Krause
Print Name: Jacob Krause
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.