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Date: February 3, 2021
BRRTS #: 02-38-580694
Subject: Sample Results Notification, Tyco Fire Technology Center PFAS
2700 Industrial Parkway South, Marinette, Wisconsin

Dear Ms. Sellwood,

On behalf of Tyco Fire Products LP (Tyco), Arcadis is providing this Sample Results Notification for investigation activities related to the Tyco Fire Technology Center (FTC) per- or polyfluoroalkyl substances (PFAS) site located at 2700 Industrial Parkway South in Marinette, Wisconsin (Site).

This Sample Results Notification is being provided to satisfy NR716.14(2) for groundwater and surface water samples that were collected along Ditch B in the City of Marinette on December 14, 2020, December 16, 2020, and December 28, 2020. We recorded the locations, dates, and other information and had the samples tested at an accredited, independent laboratory. That testing is now complete, and the PFAS results are summarized in the attached tables with sample locations depicted in the attached figure.

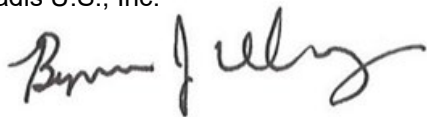
Samples collected provide data that will be used in the design of the planned groundwater extraction and treatment system (GETS). The additional PFAS results are consistent with the recently submitted groundwater model and previous results.

These results will be combined with other previously collected and future planned sampling results and evaluated comprehensively in a future submittal.

Ms. Alyssa Sellwood, P.E.
Wisconsin Department of Natural Resources
February 3, 2021

Please do not hesitate to call us if you have any questions.

Sincerely,
Arcadis U.S., Inc.



Benjamin J. Verburg, P.E.
Principal Engineer

Copies:

Bridget Kelly
Jeff Danko
Scott Wahl

Enclosures:

Table 1	Groundwater Sample Results
Table 2	Surface Water Sample Results
Figure 1	Groundwater Sampling Locations
Figure 2	Surface Water Sampling Locations
Attachment 1	Laboratory Reports

Table 1 - Groundwater Sample Results

Chemical Name	Location			GW-M01	GW-M02	GW-M02	GW-M03	GW-M04	GW-M05	GW-M06	GW-M07	GW-M08	GW-M09	GW-M10
	ES	PAL	Units	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/16/2020
Sample Date	Sample Type			N	N	FD	N	N	N	N	N	N	N	N
PFOA	20 (1)	2 (1)	ng/l	4800 D	170	210	11000 D	2000 D	220	220	24000 D	110	85	91
PFOS	20 (1)	2 (1)	ng/l	400 D	8.8	5.0	970	230	74	11	2500	11	14	24
PFBS	450000	90000	ng/l	15	1.7 J	2.1	42	7.1	1.5 J	1.6 J	78	1.2 J	1.6 J	1.5 J
PFHpA	--	--	ng/l	330	17	21	430	85	18	17	1900	23	59	20
PFHxS	40	4	ng/l	78	8.7	12	300	66	14	16	1300	8.6	5.0	27
PFNA	30	3	ng/l	310	3.7	2.8	310	36	16	15	1400	6.0	9.1	2.6
PFDA	300	60	ng/l	16	0.80 J	< 2.0 U	9.4 J	4.4	5.6	< 2.0 U	110	0.89 J	6.6	0.68 J
PFDoA	500	100	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	0.68 J	< 1.9 U	< 1.8 U
PFHxA	150000	30000	ng/l	650 D	38	46	980	210	35	37	3600	48	110	31
PFTeA	10000	2000	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
PFTriA	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
PFUnA	3000	600	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	7.1	< 2.0 U	74	< 2.1 U	< 1.9 U	< 1.8 U
NEtFOSAA	20 (1)	2 (1)	ng/l	6.6	< 5.6 U	< 5.1 U	22 J	13	7.8	< 5.1 U	100	< 5.3 U	< 4.7 U	< 4.5 U
NMeFOSAA	--	--	ng/l	< 5.5 U	< 5.6 U	< 5.1 U	< 51 U	< 5.4 U	< 5.5 U	< 5.1 U	< 48 U	< 5.3 U	< 4.7 U	< 4.5 U
PFBA	10000	2000	ng/l	100	13	16	220	49	15	14	870	26	57	21
PFPeA	--	--	ng/l	290	27	34	580	130	26	28	2600	63	150	38
PFHxDA	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
PFODA	400000	80000	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
PFPeS	--	--	ng/l	19	1.7 J	2.1	43	8.5	1.2 J	1.4 J	65	0.41 J	0.45 J	0.64 J
PFHpS	--	--	ng/l	7.1	0.35 J	< 2.0 U	40	5.8	0.94 J	0.87 J	46	< 2.1 U	0.20 J	2.9
PFNS	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
PFDS	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
PFDoS	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
FOSA	20 (1)	2 (1)	ng/l	< 2.2 U	1.3 J	NA R	92	28	43	< 2.0 U	1600	2.1	13	< 1.8 U
NEtFOSA	20 (1)	2 (1)	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
NMeFOSA	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
NMeFOSE	--	--	ng/l	< 4.4 U	< 4.5 U	< 4.1 U	< 41 U	< 4.4 U	< 4.4 U	< 4.1 U	< 39 U	< 4.2 U	< 3.8 U	< 3.6 U
NEtFOSE	20 (1)	2 (1)	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
4:2 FTS	--	--	ng/l	81	6.3 J-	8.0 DJ	200	41	4.3 DJ	5.2 DJ	500	2.7 DJ	< 19 UD	0.47 J
6:2 FTS	--	--	ng/l	910 D	72 J-	94 D	4800 D	1200 D	280 D	300 D	11000 DJ-	190 D	250 D	55
8:2 FTS	--	--	ng/l	400 D	9.3 J-	< 20 U	150 D	160 D	360 DJ-	< 20 UD	2600 J-	14 DJ	140 D	19 D
10:2 FTS	--	--	ng/l	< 2.2 U	< 2.2 U	< 20 UD	< 20 U	< 22 UD	< 22 U	< 20 UD	18 J	< 21 UD	< 19 UD	< 18 UD
DONA	3000	600	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
GenX	300	30	ng/l	< 4.4 U	< 4.5 U	< 4.1 U	< 41 U	< 4.4 U	< 4.4 U	< 4.1 U	< 39 U	< 4.2 U	< 3.8 U	< 3.6 U
F-53B Major	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
F-53B Minor	--	--	ng/l	< 2.2 U	< 2.2 U	< 2.0 U	< 20 U	< 2.2 U	< 2.2 U	< 2.0 U	< 19 U	< 2.1 U	< 1.9 U	< 1.8 U
TSS	--	--	mg/l	160	21	18	18	160	52	41	46	570	120	30

Notes:

Concentrations above Recommended Enforcement Standard (ES) are boldfaced

Concentrations above Recommended Preventive Action Limit (PAL) are italicized

< RL

⁽¹⁾ = Combined criteria for FOSA, NEtFOSE, NEtFOSA, NetFOSAA, PFOS, and PFOA

ng/l = nanograms per liter

mg/l = milligrams per liter

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample

D = Dilution required for sample analysis

J- = The result is an estimated quantity. The associated numerical value is expected to have a negative or low bias.

R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria

PFOA = Perfluorooctanoic acid (C8)

PFOS = Perfluorooctanesulfonic acid (C8)

PFBS = Perfluorobutanesulfonic acid (C4)

PFHpA = Perfluoroheptanoic acid (C7)

PFHxS = Perfluorohexanesulfonic acid (C6)

PFNA = Perfluorononanoic acid (C9)

PFDA = Perfluorodecanoic acid (C10)

PFDoA = Perfluorododecanoic acid (C12)

PFHxA = Perfluorohexanoic acid (C6)

PFTeA = Perfluorotetradecanoic acid (C14)

PFTriA = Perfluorotridecanoic acid (C13)

PFUnA = Perfluoroundecanoic acid (C11)

NEtFOSAA = N-ethylperfluorooctanesulfonamidoacetic acid (C12)

NMeFOSAA = N-methylperfluorooctanesulfonamidoacetic acid (C11)

PFBA = Perfluorobutanoic acid (C4)

PFPeA = Perfluoropentanoic acid (C5)

PFHxDA = Perfluoro-n-hexadecanoic acid (C16)

PFODA = Perfluoro-n-octadecanoic acid (C18)

PFPeS = Perfluoropentanesulfonic acid (C5)

PFHpS = Perfluoroheptanesulfonic acid (C7)

PFNS = Perfluorononanesulfonic acid (C9)

PFDS = Perfluorodecanesulfonic acid (C10)

PFDoS = Perfluorododecanesulfonic acid (C12)

FOSA = Perfluorooctanesulfonamide (C8)

NEtFOSA = N-ethylperfluorooctanesulfonamide (C10)

NMeFOSA = N-methylperfluorooctanesulfonamide (C9)

NMeFOSE = N-methylperfluorooctanesulfonamidoethanol (C11)

NEtFOSE = N-ethylperfluorooctanesulfonamidoethanol (C12)

4:2 FTS = 4:2 fluorotelomer sulfonate (C6)

6:2 FTS = 6:2 fluorotelomer sulfonate (C8)

8:2 FTS = 8:2 fluorotelomer sulfonate (C10)

10:2 FTS = 10:2 fluorotelomer sulfonate (C12)

DONA = 4,8-Dioxa-3H-perfluorononanoic acid (C7)

GenX = Hexafluoropropylene oxide dimer acid (C6)

F-53B Major = 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (C8)

F-53B Minor = 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (C10)

TSS = Total Suspended Solids

Table 2 - Surface Water Sample Results

Chemical Name	Units	Location	SW-39	SW-39	SW-39	SW-L06	SW-L06	SW-M01	SW-M01	SW-M02	SW-M03	SW-M04	SW-M05	SW-M06	SW-M07	SW-M08	SW-M09	SW-M10
		Sample Date	12/14/2020	12/28/2020	12/28/2020	12/14/2020	12/28/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020
Sample Type		N	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
PFOA	ng/l	710 D	670 D	710 D	2600 D	2400	2400 D	2600 D	1800 D	1300 D	880 D	2600 D	2600 D	2800 D	600 D	590 D	360 D	
PFOS	ng/l	41	33	42	160	170	150	160	140	150	170	210	240	270	120	120	140	
PFBS	ng/l	1.5 J	1.5 J	1.6 J	5.8	6.1 J	6.2	6.2	4.6	4.2	3.8	7.3	6.8	6.1	3.2	3.3	2.8	
PFHpA	ng/l	37	40	43	140	130	140	150	120	100	85	170	180	200	81	81	70	
PFHxS	ng/l	17	13	14	67	69	71	78	60	52	40	120	120	120	29	30	30	
PFNA	ng/l	20	17	20	78	79	69	86	67	64	57	150	160	200	34	37	20	
PFDA	ng/l	1.1 J	0.83 J	1.2 J-	3.8	4.7 J	4.0	4.2	3.6	3.8	4.6	6.8	8.5	9.2	2.5	2.6	1.9	
PFDoA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	
PFHxA	ng/l	100	130	120	340	360	330	400 D	290	240	200	390 D	400 D	470 D	200	190	150	
PFTeA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
PFTriA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
PFUnA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	4.7	5.5	< 1.8 U	< 1.9 U	< 1.9 U	
NEtFOSAA	ng/l	< 4.6 U	< 4.6 U	1.2 J	4.2 J	< 46 U	3.9 J	4.7	3.7 J	2.6 J	1.5 J	7.8	6.9	8.4	< 4.4 U	< 4.7 U	< 4.8 U	
NMeFOSAA	ng/l	< 4.6 U	< 4.6 U	< 4.6 U	< 4.6 U	< 46 U	< 4.5 U	< 4.5 U	< 4.5 U	< 4.6 U	< 4.5 U	< 4.5 U	< 4.6 U	< 4.5 U	< 4.4 U	< 4.7 U	< 4.8 U	
PFBA	ng/l	37	54	51	82	83	86	94	76	70	64	100	100	120	63	64	56	
PFPeA	ng/l	80	140	150	240	280	260	280	230	210	200	290	310	390 D	200	200	170	
PFHxDA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	
PFODA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U	
PFPeS	ng/l	1.3 J	1.5 J	1.4 J	6.1	6.3 J	6.5	7.6	5.0	4.5	3.2	8.3	7.9	6.9	2.8	2.7	2.7	
PFHpS	ng/l	1.1 J	0.67 J	0.82 J	3.8	4.7 J	4.2	4.4	4.0	3.5	3.1	5.5	5.3	5.1	2.8	2.9	3.3	
PFNS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
PFDS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
PFDoS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
FOSA	ng/l	6.0	3.2	4.0	23	22	26	27	23	17	11	55	70	120	1.4 J	1.3 J	1.1 J	
NEtFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
NMeFOSA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
NMeFOSE	ng/l	< 3.7 U	< 3.7 U	< 3.7 U	< 3.7 U	< 37 U	< 3.6 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.6 U	< 3.6 U	< 3.8 U	< 3.8 U
NEtFOSE	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
4:2 FTS	ng/l	8.0	8.2	6.8 J-	28	33 J-	29	34	26	24	18	53	51	64 J-	14	16	12	
6:2 FTS	ng/l	450 D	310 D	350 D	1600 D	1700	1900 D	1800 D	1800 D	1500 D	1500 D	2500 D	2500 D	2800 D	1400 D	1300 D	1200 D	
8:2 FTS	ng/l	50	25	31	190	170	180	200	170	180	240	320	350	400 D	120	120	110	
10:2 FTS	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
DONA	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
GenX	ng/l	< 3.7 U	< 3.7 U	< 3.7 U	< 3.7 U	< 37 U	< 3.6 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.6 U	< 3.7 U	< 3.6 U	< 3.6 U	< 3.6 U	< 3.8 U	< 3.8 U
F-53B Major	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
F-53B Minor	ng/l	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 18 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.9 U	< 1.9 U
TSS	mg/l	22	4.0 J	4.5 J	51	24	34	34	53	42	22	530	55	25	9.0	11	7.0	

Notes:

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit

< = Compound not detected at method detection limit

mg/l = milligrams per liter

ng/l = nanograms per liter

D = Dilution required for sample analysis

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only

J- = The result is an estimated quantity. The associated numerical value is expected to have a negative or low bias.

PFOA = Perfluorooctanoic acid (C8)

PFOS = Perfluorooctanesulfonic acid (C8)

PFBS = Perfluorobutanesulfonic acid (C4)

PFHpA = Perfluoroheptanoic acid (C7)

PFHxS = Perfluorohexanesulfonic acid (C6)

PFNA = Perfluorononanoic acid (C9)

PFDA = Perfluorodecanoic acid (C10)

PFDoA = Perfluorododecanoic acid (C12)

PFHxA = Perfluorohexanoic acid (C6)

PFTeA = Perfluorotetradecanoic acid (C14)

PFTriA = Perfluorotridecanoic acid (C13)

PFUnA = Perfluoroundecanoic acid (C11)

NEtFOSAA = N-ethylperfluorooctanesulfonamidoacetic acid (C12)

NMeFOSAA = N-methylperfluorooctanesulfonamidoacetic acid (C11)

PFBA = Perfluorobutanoic acid (C4)

PFPeA = Perfluoropentanoic acid (C5)

PFHxDA = Perfluoro-n-hexadecanoic acid (C16)

PFODA = Perfluoro-n-octadecanoic acid (C18)

PFPeS = Perfluoropentanesulfonic acid (C5)

PFHpS = Perfluoroheptanesulfonic acid (C7)

PFNS = Perfluorononanesulfonic acid (C9)

PFDS = Perfluorodecanesulfonic acid (C10)

PFDoS = Perfluorododecanesulfonic acid (C12)

FOSA = Perfluorooctanesulfonamide (C8)

NEtFOSA = N-ethylperfluorooctanesulfonamide (C10)

NMeFOSA = N-methylperfluorooctanesulfonamide (C9)

NMeFOSE = N-methylperfluorooctanesulfonamidoethanol (C11)

NEtFOSE = N-ethylperfluorooctanesulfonamidoethanol (C12)

4:2 FTS = 4:2 fluorotelomer sulfonate (C6)

6:2 FTS = 6:2 fluorotelomer sulfonate (C8)

8:2 FTS = 8:2 fluorotelomer sulfonate (C10)

10:2 FTS = 10:2 fluorotelomer sulfonate (C12)

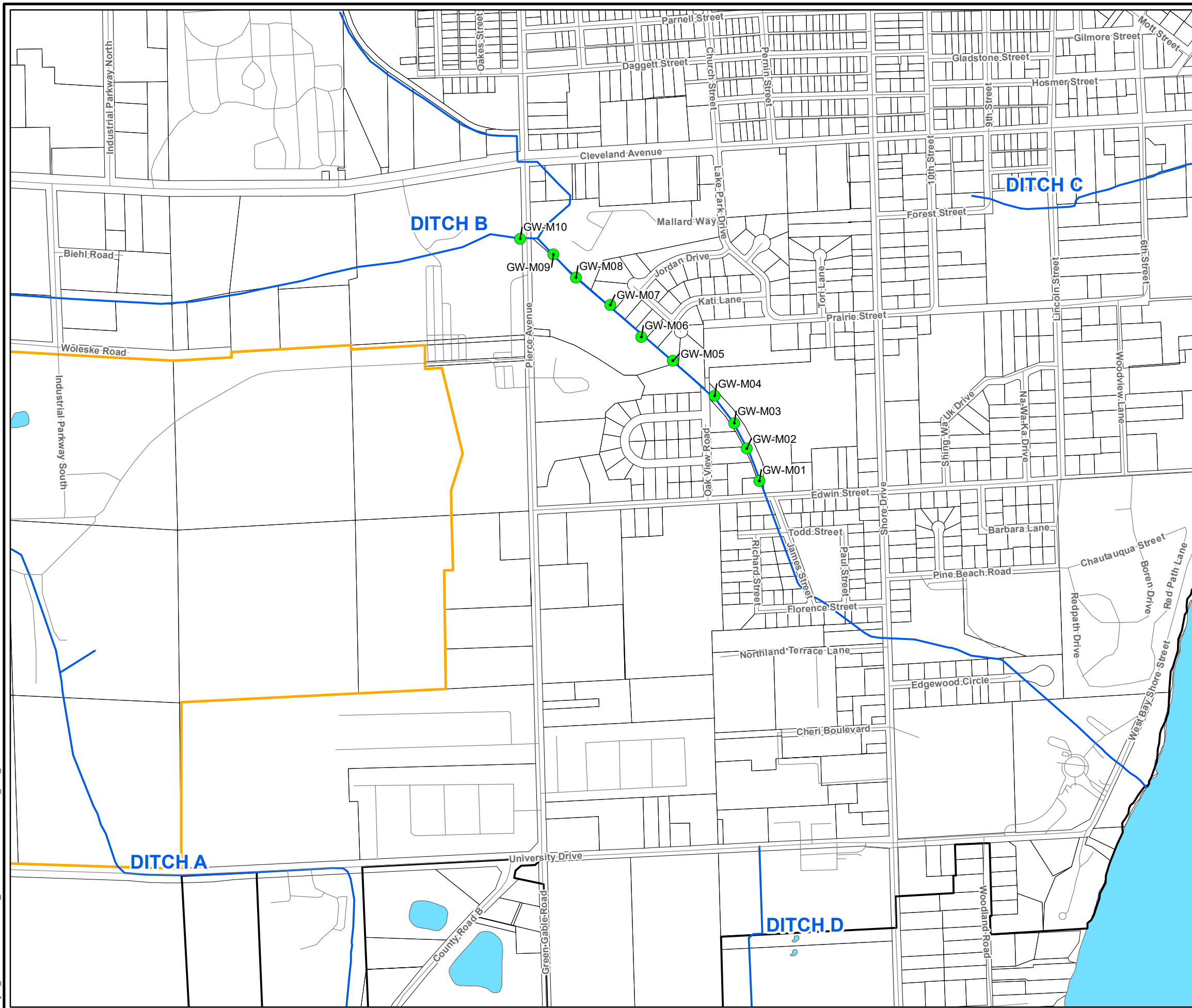
DONA = 4,8 Dioxo 3H perfluorononanoic acid (C7)

GenX = Hexafluoropropylene oxide dimer acid (C6)

F-53B Major = 9 chlorohexadecafluoro 3 oxanonane 1 sulfonic acid (C8)

F-53B Minor = 11 chloroeicosafuoro 3 oxaundecane 1 sulfonic acid (C10)

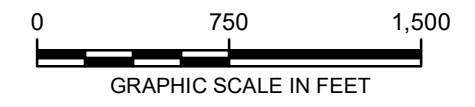
TSS = Total Suspended Solids



LEGEND:

- TEMPORARY PIEZOMETER LOCATION
- APPROXIMATE SITE PROPERTY BOUNDARY
- APPROXIMATE MARINETTE CITY BOUNDARY
- PARCEL BOUNDARY
- ROAD
- DITCH/STREAM
- WATERBODY

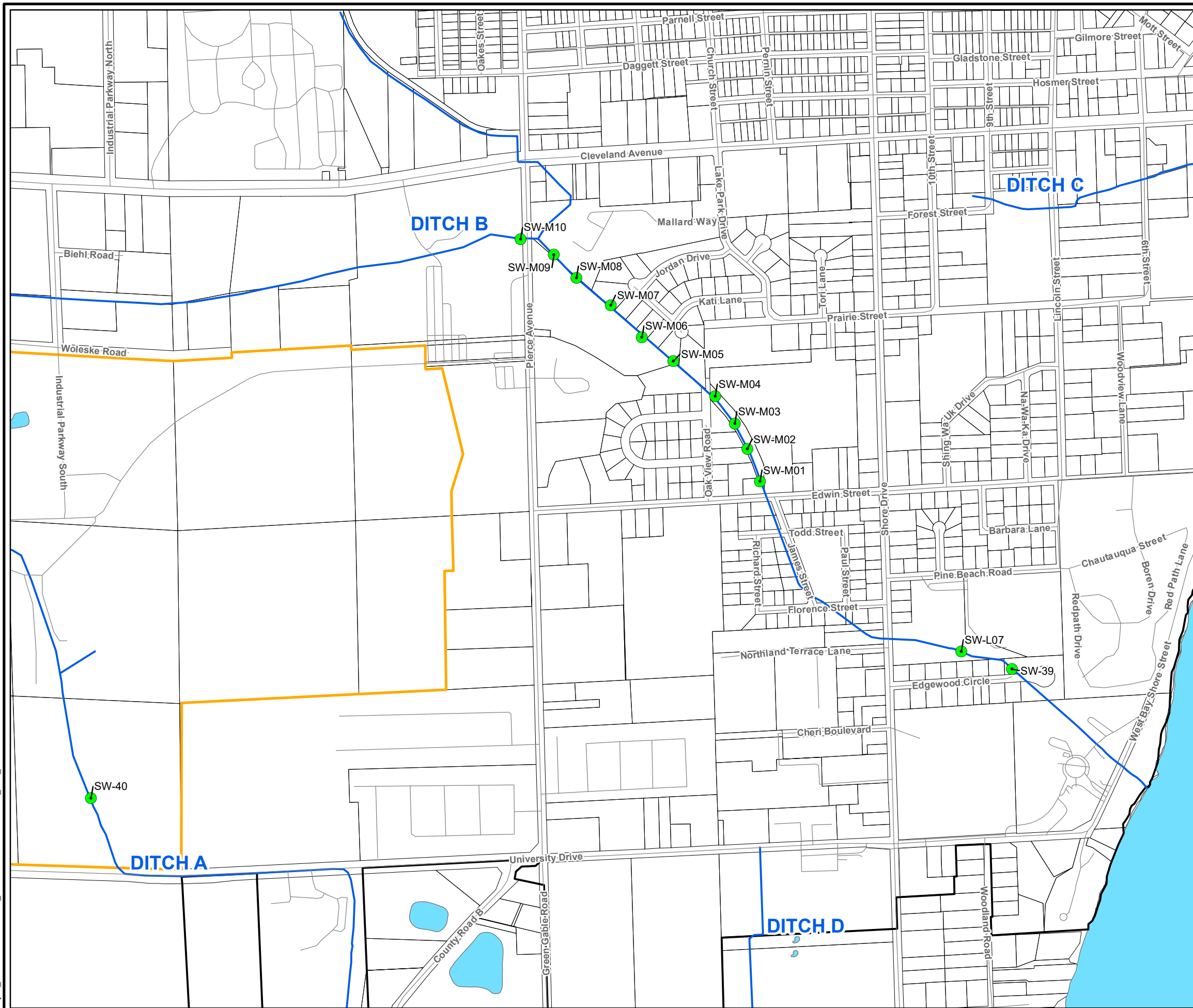
- NOTES:**
1. CITY BOUNDARY DATA SOURCE: WISCONSIN LEGISLATIVE TECHNOLOGY SERVICES BUREAU, WISCONSIN COUNTY CLERKS AND LAND INFORMATION OFFICES, ACCESSED FALL 2017.
 2. DITCH/STREAM AND WATERBODY DATA SOURCE: U.S. GEOLOGICAL SURVEY NATIONAL HYDROGRAPHY DATASET, ACCESSED FALL 2017.
 3. ROAD DATA SOURCE: OPEN STREET MAP, ACCESSED FALL 2017.



TYCO FIRE TECHNOLOGY CENTER
 MARINETTE, WISCONSIN
 MONITORING WORK PLAN

GROUNDWATER SAMPLING LOCATIONS

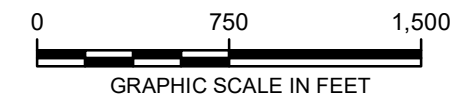
ARCADIS | **FIGURE 1**



LEGEND:

- TEMPORARY PIEZOMETER LOCATION
- APPROXIMATE SITE PROPERTY BOUNDARY
- APPROXIMATE MARINETTE CITY BOUNDARY
- PARCEL BOUNDARY
- ROAD
- DITCH/STREAM
- WATERBODY

- NOTES:**
1. CITY BOUNDARY DATA SOURCE: WISCONSIN LEGISLATIVE TECHNOLOGY SERVICES BUREAU, WISCONSIN COUNTY CLERKS AND LAND INFORMATION OFFICES, ACCESSED FALL 2017.
 2. DITCH/STREAM AND WATERBODY DATA SOURCE: U.S. GEOLOGICAL SURVEY NATIONAL HYDROGRAPHY DATASET, ACCESSED FALL 2017.
 3. ROAD DATA SOURCE: OPEN STREET MAP, ACCESSED FALL 2017.



TYCO FIRE TECHNOLOGY CENTER
 MARINETTE, WISCONSIN
 MONITORING WORK PLAN

SURFACE WATER SAMPLING LOCATIONS

ARCADIS | **FIGURE 2**

ANALYTICAL REPORT

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

Laboratory Job ID: 500-192823-1
Client Project/Site: Marinette, WI Groundwater
30062361.00001
Revision: 1

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Lisa Rutkowski



Authorized for release by:
1/25/2021 4:29:18 PM

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

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	7
Sample Summary	8
Client Sample Results	9
Definitions	60
QC Sample Results	61
Chronicle	81
Certification Summary	85
Chain of Custody	86
Receipt Checklists	92
Field Data Sheets	94
Isotope Dilution Summary	97

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Job ID: 500-192823-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative 500-192823-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 1/6/2021. The report (revision 1) is being revised due to: Client requested all analytical runs reported for PFAS.

Receipt

The samples were received on 12/19/2020 11:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were -0.4° C, 1.1° C and 1.3° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. COC is checked off for TSS analysis for Sample #12 "FIELD BLANK-12-16-2020" however no container for TSS was received. Did not log analysis.

LCMS

Method 537 (modified): Results for samples 500-192823-3, 500-192823-4, 500-192823-5, 500-192823-6, 500-192823-7, 500-192823-8, 500-192823-9, 500-192823-10 and 500-192823-11 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS in the following samples: 500-192823-5, 500-192823-6 and 500-192823-11. The samples were run at two different dilutions with confirming results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS, M2-6:2 FTS and M2-8:2 FTS in the following sample: 500-192823-2. The sample was re-analyzed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Results for samples 500-192823-3 and 500-192823-7 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2 FTS the following sample: 500-192823-7. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Results for sample 500-192823-1, 500-192823-1[MS], 500-192823-1[MSD], 500-192823-3 and 500-192823-7 was reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537 (modified): Due to the high concentration of several analytes, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-445508 and analytical batch 320-447405 could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537 (modified): Results for sample 500-192823-7 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery for M2-6:2 FTS is above the method recommended limit for the following sample: 500-192823-7. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Job ID: 500-192823-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

Method 537 (modified): The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: 500-192823-1, 500-192823-1[MS], 500-192823-1[MSD], 500-192823-2, 500-192823-3 and 500-192823-7. These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range. Per client request, all sets of data are reported.

Method 537 (modified): Internal standard (ISTD) response for ¹³C₂-PFOA for the following samples was outside acceptance criteria: 500-192823-3 and 500-192823-7. This is due to matrix interferences. Data is being reported due to client request.

Method 537 (modified): Several Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following samples: 500-192823-3 and 500-192823-7. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The data is being reported per client request and should be evaluated for impact.

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 320-445508 and analytical batch 320-446043 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method 537 (modified): M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: 500-192823-4 and 500-192823-10. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The samples were diluted in an attempt to improve IDA recoveries, and are in control in the dilution. Per client request, both sets of data are reported.

Method 537 (modified): M2-4:2 FTS, M2-6:2 FTS and M2-8:2 FTS Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following samples: 500-192823-5, 500-192823-6, 500-192823-8, 500-192823-9 and 500-192823-11. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The samples were diluted in an attempt to improve IDA recoveries, and are in control in the dilution. Per client request, both sets of data are reported.

Method 537 (modified): M2-4:2 FTS, M2-6:2 FTS and M2-8:2 FTS Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following sample: 500-192823-2. This injection confirms the original analysis, per client request, both sets of data are reported.

Method 537 (modified): Results for samples 500-192823-1, 500-192823-1[MS] and 500-192823-1[MSD] were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537 (modified): The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: 500-192823-1, 500-192823-1[MS] and 500-192823-1[MSD]. These analytes have been qualified; however, the peaks did not saturate the instrument detector. The results that were over calibration in the 1X dilution are still out in the 10X dilution. Per client request, the data is reported..

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 320-445508 and analytical batch 320-446380 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected..

Method 537 (modified): M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: 500-192823-3 and 500-192823-7. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The samples were diluted in an attempt to mitigate matrix affecting the IDA recoveries. All data is reported.

Method 537 (modified): The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: 500-192823-7. These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has/ some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. 500-192823-7

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Job ID: 500-192823-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

Method 537 (modified): M2-4:2 FTS, M2-6:2 FTS and M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 500-192823-11. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The client requested all data be reported.

Method 537 (modified): The ¹³C8 FOSA Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 500-192823-11. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method 537 (modified): The continuing calibration verification (CCV) associated with batch 320-447563 recovered above the upper control limit for Perfluorononanoic acid (PFNA). The sample associated with this CCV would normally not be reported for the affected analyte; the data have been reported per client request. The associated sample is impacted: 500-192823-11.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. 500-192823-11

Method 537 (modified): Results for sample 500-192823-11 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537 (modified): M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: 500-192823-11. Per client request, all runs are reported.

Method 537 (modified): The ¹³C8 FOSA Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: 500-192823-11. The sample was analyzed at a dilution with no improvement in recovery. All runs are reported.

Method 537 (modified): The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: 500-192823-7. These analytes have been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte. 500-192823-7

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

General Chemistry

No analytical or quality issues were noted, other than those described 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: 500-192823-1, 500-192823-1[MS], 500-192823-1[MSD], 500-192823-2, 500-192823-3, 500-192823-4, 500-192823-5, 500-192823-6, 500-192823-7, 500-192823-8, 500-192823-9, 500-192823-10 and 500-192823-11. Method: 3535_PFC Matrix: Water preparation batch 320-445508

Method 3535: During the solid phase extraction process, the following samples contained non-settable particulates which clogged the solid phase extraction column: 500-192823-1, 500-192823-1[MS], 500-192823-1[MSD], 500-192823-3, 500-192823-4, 500-192823-8, 500-192823-9 and 500-192823-10. Method: 3535_PFC Matrix: Water preparation batch 320-445508

Method 3535: The following samples were observed to be yellow at final volume: 500-192823-3 and 500-192823-7. Method: 3535_PFC Matrix: Water preparation batch 320-445508

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Job ID: 500-192823-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

preparation batch 320-447007. 3535_PFC Aqueous

Method 3535: The following sample was light yellow prior to extraction: 500-192823-11. preparation batch 320-447007 Method: 3535 PFC
Matrix: Water

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

- 1
- 2
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- 4
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- 8
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- 10
- 11
- 12
- 13
- 14

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-192823-1	GW-M01 (12162020)	Water	12/16/20 09:40	12/19/20 11:40	
500-192823-2	GW-M02 (12162020)	Water	12/16/20 10:05	12/19/20 11:40	
500-192823-3	GW-M03 (12162020)	Water	12/16/20 10:30	12/19/20 11:40	
500-192823-4	GW-M04 (12162020)	Water	12/16/20 11:00	12/19/20 11:40	
500-192823-5	GW-M05 (12162020)	Water	12/16/20 11:30	12/19/20 11:40	
500-192823-6	GW-M06 (12162020)	Water	12/16/20 11:45	12/19/20 11:40	
500-192823-7	GW-M07 (12162020)	Water	12/16/20 12:10	12/19/20 11:40	
500-192823-8	GW-M08 (12162020)	Water	12/16/20 13:00	12/19/20 11:40	
500-192823-9	GW-M09 (12162020)	Water	12/16/20 13:15	12/19/20 11:40	
500-192823-10	GW-M10 (12162020)	Water	12/16/20 13:30	12/19/20 11:40	
500-192823-11	Dup-01 (12162020)	Water	12/16/20 00:00	12/19/20 11:40	
500-192823-12	FIELD BLANK-12-16-2020	Water	12/16/20 16:50	12/19/20 11:40	

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M01 (12162020)

Lab Sample ID: 500-192823-1

Date Collected: 12/16/20 09:40

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	100		5.5	2.6	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoropentanoic acid (PFPeA)	290		2.2	0.54	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorohexanoic acid (PFHxA)	590	E	2.2	0.64	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoroheptanoic acid (PFHpA)	330		2.2	0.28	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorooctanoic acid (PFOA)	3000	E	2.2	0.94	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorononanoic acid (PFNA)	310		2.2	0.30	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorodecanoic acid (PFDA)	16		2.2	0.34	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoroundecanoic acid (PFUnA)	<2.2		2.2	1.2	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorododecanoic acid (PFDoA)	<2.2		2.2	0.61	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorotridecanoic acid (PFTriA)	<2.2		2.2	1.4	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorotetradecanoic acid (PFTeA)	<2.2		2.2	0.80	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		2.2	0.98	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		2.2	1.0	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorobutanesulfonic acid (PFBS)	15		2.2	0.22	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoropentanesulfonic acid (PFPeS)	19		2.2	0.33	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorohexanesulfonic acid (PFHxS)	78		2.2	0.63	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	7.1		2.2	0.21	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorooctanesulfonic acid (PFOS)	430	E	2.2	0.60	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorononanesulfonic acid (PFNS)	<2.2		2.2	0.41	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorodecanesulfonic acid (PFDS)	<2.2		2.2	0.35	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 04:58	1
Perfluorooctanesulfonamide (FOSA)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 04:58	1
NEtFOSA	<2.2		2.2	0.96	ng/L		12/23/20 19:00	12/28/20 04:58	1
NMeFOSA	<2.2		2.2	0.47	ng/L		12/23/20 19:00	12/28/20 04:58	1
NMeFOSAA	<5.5		5.5	1.3	ng/L		12/23/20 19:00	12/28/20 04:58	1
NEtFOSAA	6.6		5.5	1.4	ng/L		12/23/20 19:00	12/28/20 04:58	1
NMeFOSE	<4.4		4.4	1.5	ng/L		12/23/20 19:00	12/28/20 04:58	1
NEtFOSE	<2.2		2.2	0.94	ng/L		12/23/20 19:00	12/28/20 04:58	1
4:2 FTS	81		2.2	0.26	ng/L		12/23/20 19:00	12/28/20 04:58	1
6:2 FTS	860	E	5.5	2.8	ng/L		12/23/20 19:00	12/28/20 04:58	1
8:2 FTS	400		2.2	0.51	ng/L		12/23/20 19:00	12/28/20 04:58	1
10:2 FTS	<2.2		2.2	0.74	ng/L		12/23/20 19:00	12/28/20 04:58	1
DONA	<2.2		2.2	0.44	ng/L		12/23/20 19:00	12/28/20 04:58	1
HFPO-DA (GenX)	<4.4		4.4	1.7	ng/L		12/23/20 19:00	12/28/20 04:58	1
F-53B Major	<2.2		2.2	0.26	ng/L		12/23/20 19:00	12/28/20 04:58	1
F-53B Minor	<2.2		2.2	0.35	ng/L		12/23/20 19:00	12/28/20 04:58	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150				12/23/20 19:00	12/28/20 04:58	1
13C5 PFPeA	80		25 - 150				12/23/20 19:00	12/28/20 04:58	1
13C2 PFHxA	82		25 - 150				12/23/20 19:00	12/28/20 04:58	1
13C4 PFHpA	91		25 - 150				12/23/20 19:00	12/28/20 04:58	1
13C4 PFOA	73		25 - 150				12/23/20 19:00	12/28/20 04:58	1
13C5 PFNA	95		25 - 150				12/23/20 19:00	12/28/20 04:58	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M01 (12162020)

Lab Sample ID: 500-192823-1

Date Collected: 12/16/20 09:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	90		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C2 PFUnA	88		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C2 PFDoA	76		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C2 PFTeDA	79		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C2 PFHxDA	83		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C3 PFBS	83		25 - 150	12/23/20 19:00	12/28/20 04:58	1
18O2 PFHxS	84		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C4 PFOS	81		25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C8 FOSA	73		10 - 150	12/23/20 19:00	12/28/20 04:58	1
d3-NMeFOSAA	89		25 - 150	12/23/20 19:00	12/28/20 04:58	1
d5-NEtFOSAA	102		25 - 150	12/23/20 19:00	12/28/20 04:58	1
d-N-MeFOSA-M	69		10 - 150	12/23/20 19:00	12/28/20 04:58	1
d-N-EtFOSA-M	58		10 - 150	12/23/20 19:00	12/28/20 04:58	1
d7-N-MeFOSE-M	51		10 - 150	12/23/20 19:00	12/28/20 04:58	1
d9-N-EtFOSE-M	43		10 - 150	12/23/20 19:00	12/28/20 04:58	1
M2-4:2 FTS	109		25 - 150	12/23/20 19:00	12/28/20 04:58	1
M2-6:2 FTS	66		25 - 150	12/23/20 19:00	12/28/20 04:58	1
M2-8:2 FTS	182	*5+	25 - 150	12/23/20 19:00	12/28/20 04:58	1
13C3 HFPO-DA	84		25 - 150	12/23/20 19:00	12/28/20 04:58	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	120		55	26	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoropentanoic acid (PFPeA)	290		22	5.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorohexanoic acid (PFHxA)	700		22	6.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoroheptanoic acid (PFHpA)	350		22	2.8	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorooctanoic acid (PFOA)	4600	E	22	9.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorononanoic acid (PFNA)	360		22	3.0	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorodecanoic acid (PFDA)	14	J	22	3.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoroundecanoic acid (PFUnA)	<22		22	12	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorododecanoic acid (PFDoA)	<22		22	6.1	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorotridecanoic acid (PFTriA)	<22		22	14	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorotetradecanoic acid (PFTeA)	<22		22	8.0	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<22		22	9.8	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoro-n-octadecanoic acid (PFODA)	<22		22	10	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorobutanesulfonic acid (PFBS)	18	J	22	2.2	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoropentanesulfonic acid (PFPeS)	17	J	22	3.3	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorohexanesulfonic acid (PFHxS)	85		22	6.3	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluoroheptanesulfonic Acid (PFHpS)	8.7	J	22	2.1	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorooctanesulfonic acid (PFOS)	420		22	6.0	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorononanesulfonic acid (PFNS)	<22		22	4.1	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorodecanesulfonic acid (PFDS)	<22		22	3.5	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorododecanesulfonic acid (PFDoS)	<22		22	11	ng/L		12/23/20 19:00	12/29/20 04:40	10
Perfluorooctanesulfonamide (FOSA)	<22	F1	22	11	ng/L		12/23/20 19:00	12/29/20 04:40	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M01 (12162020)

Lab Sample ID: 500-192823-1

Date Collected: 12/16/20 09:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	<22		22	9.6	ng/L		12/23/20 19:00	12/29/20 04:40	10
NMeFOSA	<22		22	4.7	ng/L		12/23/20 19:00	12/29/20 04:40	10
NMeFOSAA	<55		55	13	ng/L		12/23/20 19:00	12/29/20 04:40	10
NEtFOSAA	<55		55	14	ng/L		12/23/20 19:00	12/29/20 04:40	10
NMeFOSE	<44		44	15	ng/L		12/23/20 19:00	12/29/20 04:40	10
NEtFOSE	<22		22	9.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
4:2 FTS	86	F1	22	2.6	ng/L		12/23/20 19:00	12/29/20 04:40	10
6:2 FTS	870		55	28	ng/L		12/23/20 19:00	12/29/20 04:40	10
8:2 FTS	450		22	5.1	ng/L		12/23/20 19:00	12/29/20 04:40	10
10:2 FTS	<22		22	7.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
DONA	<22		22	4.4	ng/L		12/23/20 19:00	12/29/20 04:40	10
HFPO-DA (GenX)	<44		44	17	ng/L		12/23/20 19:00	12/29/20 04:40	10
F-53B Major	<22		22	2.6	ng/L		12/23/20 19:00	12/29/20 04:40	10
F-53B Minor	<22		22	3.5	ng/L		12/23/20 19:00	12/29/20 04:40	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	65		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C5 PFPeA	67		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C2 PFHxA	65		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C4 PFHpA	75		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C4 PFOA	75		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C5 PFNA	74		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C2 PFDA	74		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C2 PFUnA	70		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C2 PFDoA	61		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C2 PFTeDA	70		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C2 PFHxDA	72		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C3 PFBS	68		25 - 150				12/23/20 19:00	12/29/20 04:40	10
18O2 PFHxS	66		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C4 PFOS	67		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C8 FOSA	63		10 - 150				12/23/20 19:00	12/29/20 04:40	10
d3-NMeFOSAA	65		25 - 150				12/23/20 19:00	12/29/20 04:40	10
d5-NEtFOSAA	66		25 - 150				12/23/20 19:00	12/29/20 04:40	10
d-N-MeFOSA-M	48		10 - 150				12/23/20 19:00	12/29/20 04:40	10
d-N-EtFOSA-M	46		10 - 150				12/23/20 19:00	12/29/20 04:40	10
d7-N-MeFOSE-M	35		10 - 150				12/23/20 19:00	12/29/20 04:40	10
d9-N-EtFOSE-M	34		10 - 150				12/23/20 19:00	12/29/20 04:40	10
M2-4:2 FTS	67		25 - 150				12/23/20 19:00	12/29/20 04:40	10
M2-6:2 FTS	76		25 - 150				12/23/20 19:00	12/29/20 04:40	10
M2-8:2 FTS	75		25 - 150				12/23/20 19:00	12/29/20 04:40	10
13C3 HFPO-DA	64		25 - 150				12/23/20 19:00	12/29/20 04:40	10

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	100	J	110	53	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoropentanoic acid (PFPeA)	300		44	11	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorohexanoic acid (PFHxA)	650		44	13	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoroheptanoic acid (PFHpA)	350		44	5.5	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorooctanoic acid (PFOA)	4800		44	19	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorononanoic acid (PFNA)	370		44	6.0	ng/L		12/23/20 19:00	12/31/20 00:18	20

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M01 (12162020)

Lab Sample ID: 500-192823-1

Date Collected: 12/16/20 09:40

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	<44	F1	44	6.8	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoroundecanoic acid (PFUnA)	<44		44	24	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorododecanoic acid (PFDoA)	<44		44	12	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorotridecanoic acid (PFTriA)	<44		44	29	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorotetradecanoic acid (PFTeA)	<44		44	16	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoro-n-hexadecanoic acid (PFHxDA)	<44	F1	44	20	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoro-n-octadecanoic acid (PFODA)	<44	F1	44	21	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorobutanesulfonic acid (PFBS)	15	J	44	4.4	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoropentanesulfonic acid (PFPeS)	18	J	44	6.6	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorohexanesulfonic acid (PFHxS)	83	F1	44	13	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluoroheptanesulfonic Acid (PFHpS)	9.2	J I	44	4.2	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorooctanesulfonic acid (PFOS)	400		44	12	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorononanesulfonic acid (PFNS)	<44		44	8.2	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorodecanesulfonic acid (PFDS)	<44		44	7.1	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorododecanesulfonic acid (PFDoS)	<44		44	21	ng/L		12/23/20 19:00	12/31/20 00:18	20
Perfluorooctanesulfonamide (FOSA)	<44	F1	44	22	ng/L		12/23/20 19:00	12/31/20 00:18	20
NEtFOSA	<44		44	19	ng/L		12/23/20 19:00	12/31/20 00:18	20
NMeFOSA	<44		44	9.5	ng/L		12/23/20 19:00	12/31/20 00:18	20
NMeFOSAA	<110		110	26	ng/L		12/23/20 19:00	12/31/20 00:18	20
NEtFOSAA	<110		110	29	ng/L		12/23/20 19:00	12/31/20 00:18	20
NMeFOSE	<88	F2	88	31	ng/L		12/23/20 19:00	12/31/20 00:18	20
NEtFOSE	<44	F2	44	19	ng/L		12/23/20 19:00	12/31/20 00:18	20
4:2 FTS	80	F1	44	5.3	ng/L		12/23/20 19:00	12/31/20 00:18	20
6:2 FTS	910		110	55	ng/L		12/23/20 19:00	12/31/20 00:18	20
8:2 FTS	400		44	10	ng/L		12/23/20 19:00	12/31/20 00:18	20
10:2 FTS	<44	F2 F1	44	15	ng/L		12/23/20 19:00	12/31/20 00:18	20
DONA	<44		44	8.8	ng/L		12/23/20 19:00	12/31/20 00:18	20
HFPO-DA (GenX)	<88		88	33	ng/L		12/23/20 19:00	12/31/20 00:18	20
F-53B Major	<44		44	5.3	ng/L		12/23/20 19:00	12/31/20 00:18	20
F-53B Minor	<44		44	7.1	ng/L		12/23/20 19:00	12/31/20 00:18	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	72		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C5 PFPeA	72		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C2 PFHxA	74		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C4 PFHpA	77		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C4 PFOA	78		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C5 PFNA	72		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C2 PFDA	75		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C2 PFUnA	66		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C2 PFDoA	58		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C2 PFTeDA	53		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C2 PFHxDA	52		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C3 PFBS	72		25 - 150	12/23/20 19:00	12/31/20 00:18	20

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M01 (12162020)

Lab Sample ID: 500-192823-1

Date Collected: 12/16/20 09:40

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
18O2 PFHxS	67		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C4 PFOS	69		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C8 FOSA	67		10 - 150	12/23/20 19:00	12/31/20 00:18	20
d3-NMeFOSAA	60		25 - 150	12/23/20 19:00	12/31/20 00:18	20
d5-NEtFOSAA	62		25 - 150	12/23/20 19:00	12/31/20 00:18	20
d-N-MeFOSA-M	55		10 - 150	12/23/20 19:00	12/31/20 00:18	20
d-N-EtFOSA-M	44		10 - 150	12/23/20 19:00	12/31/20 00:18	20
d7-N-MeFOSE-M	37		10 - 150	12/23/20 19:00	12/31/20 00:18	20
d9-N-EtFOSE-M	34		10 - 150	12/23/20 19:00	12/31/20 00:18	20
M2-4:2 FTS	50		25 - 150	12/23/20 19:00	12/31/20 00:18	20
M2-6:2 FTS	55		25 - 150	12/23/20 19:00	12/31/20 00:18	20
M2-8:2 FTS	61		25 - 150	12/23/20 19:00	12/31/20 00:18	20
13C3 HFPO-DA	75		25 - 150	12/23/20 19:00	12/31/20 00:18	20

General Chemistry

<i>Analyte</i>	<i>Result</i>	<i>Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Total Suspended Solids	160		20	7.7	mg/L			12/22/20 16:58	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M02 (12162020)

Lab Sample ID: 500-192823-2

Date Collected: 12/16/20 10:05

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	13		5.6	2.7	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoropentanoic acid (PFPeA)	27		2.2	0.55	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorohexanoic acid (PFHxA)	38		2.2	0.65	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoroheptanoic acid (PFHpA)	17		2.2	0.28	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorooctanoic acid (PFOA)	170		2.2	0.95	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorononanoic acid (PFNA)	3.7		2.2	0.30	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorodecanoic acid (PFDA)	0.80	J	2.2	0.35	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoroundecanoic acid (PFUnA)	<2.2		2.2	1.2	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorododecanoic acid (PFDoA)	<2.2		2.2	0.62	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorotridecanoic acid (PFTriA)	<2.2		2.2	1.5	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorotetradecanoic acid (PFTeA)	<2.2		2.2	0.82	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		2.2	1.0	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.2	0.22	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoropentanesulfonic acid (PFPeS)	1.7	J	2.2	0.34	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorohexanesulfonic acid (PFHxS)	8.7		2.2	0.64	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.35	J	2.2	0.21	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorooctanesulfonic acid (PFOS)	8.8		2.2	0.60	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorononanesulfonic acid (PFNS)	<2.2		2.2	0.41	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorodecanesulfonic acid (PFDS)	<2.2		2.2	0.36	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:26	1
Perfluorooctanesulfonamide (FOSA)	1.3	J	2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:26	1
NEtFOSA	<2.2		2.2	0.97	ng/L		12/23/20 19:00	12/28/20 05:26	1
NMeFOSA	<2.2		2.2	0.48	ng/L		12/23/20 19:00	12/28/20 05:26	1
NMeFOSAA	<5.6		5.6	1.3	ng/L		12/23/20 19:00	12/28/20 05:26	1
NEtFOSAA	<5.6		5.6	1.5	ng/L		12/23/20 19:00	12/28/20 05:26	1
NMeFOSE	<4.5		4.5	1.6	ng/L		12/23/20 19:00	12/28/20 05:26	1
NEtFOSE	<2.2		2.2	0.95	ng/L		12/23/20 19:00	12/28/20 05:26	1
4:2 FTS	6.3		2.2	0.27	ng/L		12/23/20 19:00	12/28/20 05:26	1
6:2 FTS	72		5.6	2.8	ng/L		12/23/20 19:00	12/28/20 05:26	1
8:2 FTS	9.3		2.2	0.52	ng/L		12/23/20 19:00	12/28/20 05:26	1
10:2 FTS	<2.2		2.2	0.75	ng/L		12/23/20 19:00	12/28/20 05:26	1
DONA	<2.2		2.2	0.45	ng/L		12/23/20 19:00	12/28/20 05:26	1
HFPO-DA (GenX)	<4.5		4.5	1.7	ng/L		12/23/20 19:00	12/28/20 05:26	1
F-53B Major	<2.2		2.2	0.27	ng/L		12/23/20 19:00	12/28/20 05:26	1
F-53B Minor	<2.2		2.2	0.36	ng/L		12/23/20 19:00	12/28/20 05:26	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	79		25 - 150				12/23/20 19:00	12/28/20 05:26	1
13C5 PFPeA	79		25 - 150				12/23/20 19:00	12/28/20 05:26	1
13C2 PFHxA	91		25 - 150				12/23/20 19:00	12/28/20 05:26	1
13C4 PFHpA	94		25 - 150				12/23/20 19:00	12/28/20 05:26	1
13C4 PFOA	102		25 - 150				12/23/20 19:00	12/28/20 05:26	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M02 (12162020)

Lab Sample ID: 500-192823-2

Date Collected: 12/16/20 10:05

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	111		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C2 PFDA	94		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C2 PFUnA	110		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C2 PFDoA	92		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C2 PFTeDA	99		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C2 PFHxDA	101		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C3 PFBS	80		25 - 150	12/23/20 19:00	12/28/20 05:26	1
18O2 PFHxS	92		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C4 PFOS	94		25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C8 FOSA	74		10 - 150	12/23/20 19:00	12/28/20 05:26	1
d3-NMeFOSAA	70		25 - 150	12/23/20 19:00	12/28/20 05:26	1
d5-NEtFOSAA	139		25 - 150	12/23/20 19:00	12/28/20 05:26	1
d-N-MeFOSA-M	106		10 - 150	12/23/20 19:00	12/28/20 05:26	1
d-N-EtFOSA-M	93		10 - 150	12/23/20 19:00	12/28/20 05:26	1
d7-N-MeFOSE-M	75		10 - 150	12/23/20 19:00	12/28/20 05:26	1
d9-N-EtFOSE-M	64		10 - 150	12/23/20 19:00	12/28/20 05:26	1
M2-4:2 FTS	207	*5+	25 - 150	12/23/20 19:00	12/28/20 05:26	1
M2-6:2 FTS	211	*5+	25 - 150	12/23/20 19:00	12/28/20 05:26	1
M2-8:2 FTS	308	*5+	25 - 150	12/23/20 19:00	12/28/20 05:26	1
13C3 HFPO-DA	84		25 - 150	12/23/20 19:00	12/28/20 05:26	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	13		5.6	2.7	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoropentanoic acid (PFPeA)	27		2.2	0.55	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorohexanoic acid (PFHxA)	37		2.2	0.65	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoroheptanoic acid (PFHpA)	18		2.2	0.28	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorooctanoic acid (PFOA)	160		2.2	0.95	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorononanoic acid (PFNA)	4.1		2.2	0.30	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorodecanoic acid (PFDA)	0.75	J	2.2	0.35	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoroundecanoic acid (PFUnA)	<2.2		2.2	1.2	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorododecanoic acid (PFDoA)	<2.2		2.2	0.62	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorotridecanoic acid (PFTriA)	<2.2		2.2	1.5	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorotetradecanoic acid (PFTeA)	<2.2		2.2	0.82	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		2.2	1.0	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorobutanesulfonic acid (PFBS)	1.7	J	2.2	0.22	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoropentanesulfonic acid (PFPeS)	1.7	J	2.2	0.34	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorohexanesulfonic acid (PFHxS)	8.5		2.2	0.64	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.32	J	2.2	0.21	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorooctanesulfonic acid (PFOS)	8.6		2.2	0.60	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorononanesulfonic acid (PFNS)	<2.2		2.2	0.41	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorodecanesulfonic acid (PFDS)	<2.2		2.2	0.36	ng/L		12/23/20 19:00	12/29/20 04:31	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/29/20 04:31	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M02 (12162020)

Lab Sample ID: 500-192823-2

Date Collected: 12/16/20 10:05

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	1.3	J	2.2	1.1	ng/L		12/23/20 19:00	12/29/20 04:31	1
NEtFOSA	<2.2		2.2	0.97	ng/L		12/23/20 19:00	12/29/20 04:31	1
NMeFOSA	<2.2		2.2	0.48	ng/L		12/23/20 19:00	12/29/20 04:31	1
NMeFOSAA	<5.6		5.6	1.3	ng/L		12/23/20 19:00	12/29/20 04:31	1
NEtFOSAA	<5.6		5.6	1.5	ng/L		12/23/20 19:00	12/29/20 04:31	1
NMeFOSE	<4.5		4.5	1.6	ng/L		12/23/20 19:00	12/29/20 04:31	1
NEtFOSE	<2.2		2.2	0.95	ng/L		12/23/20 19:00	12/29/20 04:31	1
4:2 FTS	5.5		2.2	0.27	ng/L		12/23/20 19:00	12/29/20 04:31	1
6:2 FTS	71		5.6	2.8	ng/L		12/23/20 19:00	12/29/20 04:31	1
8:2 FTS	9.7		2.2	0.52	ng/L		12/23/20 19:00	12/29/20 04:31	1
10:2 FTS	<2.2		2.2	0.75	ng/L		12/23/20 19:00	12/29/20 04:31	1
DONA	<2.2		2.2	0.45	ng/L		12/23/20 19:00	12/29/20 04:31	1
HFPO-DA (GenX)	<4.5		4.5	1.7	ng/L		12/23/20 19:00	12/29/20 04:31	1
F-53B Major	<2.2		2.2	0.27	ng/L		12/23/20 19:00	12/29/20 04:31	1
F-53B Minor	<2.2		2.2	0.36	ng/L		12/23/20 19:00	12/29/20 04:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	77		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C5 PFPeA	81		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C2 PFHxA	86		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C4 PFHpA	93		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C4 PFOA	106		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C5 PFNA	114		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C2 PFDA	107		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C2 PFUnA	111		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C2 PFDoA	89		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C2 PFTeDA	109		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C2 PFHxDA	116		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C3 PFBS	83		25 - 150	12/23/20 19:00	12/29/20 04:31	1
18O2 PFHxS	92		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C4 PFOS	100		25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C8 FOSA	77		10 - 150	12/23/20 19:00	12/29/20 04:31	1
d3-NMeFOSAA	68		25 - 150	12/23/20 19:00	12/29/20 04:31	1
d5-NEtFOSAA	145		25 - 150	12/23/20 19:00	12/29/20 04:31	1
d-N-MeFOSA-M	112		10 - 150	12/23/20 19:00	12/29/20 04:31	1
d-N-EtFOSA-M	93		10 - 150	12/23/20 19:00	12/29/20 04:31	1
d7-N-MeFOSE-M	68		10 - 150	12/23/20 19:00	12/29/20 04:31	1
d9-N-EtFOSE-M	63		10 - 150	12/23/20 19:00	12/29/20 04:31	1
M2-4:2 FTS	212	*5+	25 - 150	12/23/20 19:00	12/29/20 04:31	1
M2-6:2 FTS	215	*5+	25 - 150	12/23/20 19:00	12/29/20 04:31	1
M2-8:2 FTS	312	*5+	25 - 150	12/23/20 19:00	12/29/20 04:31	1
13C3 HFPO-DA	81		25 - 150	12/23/20 19:00	12/29/20 04:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	21		5.0	1.9	mg/L			12/22/20 17:01	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	210		5.1	2.5	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoropentanoic acid (PFPeA)	520	E	2.0	0.50	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorohexanoic acid (PFHxA)	840	E	2.0	0.59	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoroheptanoic acid (PFHpA)	380		2.0	0.26	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorooctanoic acid (PFOA)	4900	E	2.0	0.87	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorononanoic acid (PFNA)	300		2.0	0.28	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorodecanoic acid (PFDA)	10		2.0	0.32	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.56	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.75	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.91	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.96	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorobutanesulfonic acid (PFBS)	34		2.0	0.20	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoropentanesulfonic acid (PFPeS)	50		2.0	0.31	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorohexanesulfonic acid (PFHxS)	300		2.0	0.58	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	28		2.0	0.19	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorooctanesulfonic acid (PFOS)	850	E	2.0	0.55	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.38	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.99	ng/L		12/23/20 19:00	12/28/20 05:36	1
Perfluorooctanesulfonamide (FOSA)	98		2.0	1.0	ng/L		12/23/20 19:00	12/28/20 05:36	1
NEtFOSA	<2.0		2.0	0.89	ng/L		12/23/20 19:00	12/28/20 05:36	1
NMeFOSA	<2.0		2.0	0.44	ng/L		12/23/20 19:00	12/28/20 05:36	1
NMeFOSAA	<5.1		5.1	1.2	ng/L		12/23/20 19:00	12/28/20 05:36	1
NEtFOSAA	21		5.1	1.3	ng/L		12/23/20 19:00	12/28/20 05:36	1
NMeFOSE	<4.1		4.1	1.4	ng/L		12/23/20 19:00	12/28/20 05:36	1
NEtFOSE	<2.0		2.0	0.87	ng/L		12/23/20 19:00	12/28/20 05:36	1
4:2 FTS	190		2.0	0.25	ng/L		12/23/20 19:00	12/28/20 05:36	1
6:2 FTS	3100	E	5.1	2.6	ng/L		12/23/20 19:00	12/28/20 05:36	1
8:2 FTS	150		2.0	0.47	ng/L		12/23/20 19:00	12/28/20 05:36	1
10:2 FTS	<2.0		2.0	0.69	ng/L		12/23/20 19:00	12/28/20 05:36	1
DONA	<2.0		2.0	0.41	ng/L		12/23/20 19:00	12/28/20 05:36	1
HFPO-DA (GenX)	<4.1		4.1	1.5	ng/L		12/23/20 19:00	12/28/20 05:36	1
F-53B Major	<2.0		2.0	0.25	ng/L		12/23/20 19:00	12/28/20 05:36	1
F-53B Minor	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/28/20 05:36	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	147		25 - 150				12/23/20 19:00	12/28/20 05:36	1
13C5 PFPeA	136		25 - 150				12/23/20 19:00	12/28/20 05:36	1
13C2 PFHxA	169	*5+	25 - 150				12/23/20 19:00	12/28/20 05:36	1
13C4 PFHpA	180	*5+	25 - 150				12/23/20 19:00	12/28/20 05:36	1
13C4 PFOA	108		25 - 150				12/23/20 19:00	12/28/20 05:36	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	206	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C2 PFDA	196	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C2 PFUnA	221	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C2 PFDoA	206	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C2 PFTeDA	223	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C2 PFHxDA	212	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C3 PFBS	159	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
18O2 PFHxS	176	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C4 PFOS	180	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C8 FOSA	165	*5+	10 - 150	12/23/20 19:00	12/28/20 05:36	1
d3-NMeFOSAA	263	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
d5-NEtFOSAA	300	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
d-N-MeFOSA-M	187	*5+	10 - 150	12/23/20 19:00	12/28/20 05:36	1
d-N-EtFOSA-M	158	*5+	10 - 150	12/23/20 19:00	12/28/20 05:36	1
d7-N-MeFOSE-M	153	*5+	10 - 150	12/23/20 19:00	12/28/20 05:36	1
d9-N-EtFOSE-M	135		10 - 150	12/23/20 19:00	12/28/20 05:36	1
M2-4:2 FTS	380	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
M2-6:2 FTS	130		25 - 150	12/23/20 19:00	12/28/20 05:36	1
M2-8:2 FTS	547	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1
13C3 HFPO-DA	167	*5+	25 - 150	12/23/20 19:00	12/28/20 05:36	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	220		51	25	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoropentanoic acid (PFPeA)	580		20	5.0	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorohexanoic acid (PFHxA)	980		20	5.9	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoroheptanoic acid (PFHpA)	430		20	2.6	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorooctanoic acid (PFOA)	9300	E	20	8.7	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorononanoic acid (PFNA)	310		20	2.8	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorodecanoic acid (PFDA)	9.4	J	20	3.2	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoroundecanoic acid (PFUnA)	<20		20	11	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorododecanoic acid (PFDoA)	<20		20	5.6	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorotridecanoic acid (PFTriA)	<20		20	13	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorotetradecanoic acid (PFTeA)	<20		20	7.5	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<20		20	9.1	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoro-n-octadecanoic acid (PFODA)	<20		20	9.6	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorobutanesulfonic acid (PFBS)	42		20	2.0	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoropentanesulfonic acid (PFPeS)	43		20	3.1	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorohexanesulfonic acid (PFHxS)	300		20	5.8	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluoroheptanesulfonic Acid (PFHpS)	40		20	1.9	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorooctanesulfonic acid (PFOS)	970		20	5.5	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorononanesulfonic acid (PFNS)	<20		20	3.8	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorodecanesulfonic acid (PFDS)	<20		20	3.3	ng/L		12/23/20 19:00	12/29/20 06:32	10
Perfluorododecanesulfonic acid (PFDoS)	<20		20	9.9	ng/L		12/23/20 19:00	12/29/20 06:32	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	92		20	10	ng/L		12/23/20 19:00	12/29/20 06:32	10
NEtFOSA	<20		20	8.9	ng/L		12/23/20 19:00	12/29/20 06:32	10
NMeFOSA	<20		20	4.4	ng/L		12/23/20 19:00	12/29/20 06:32	10
NMeFOSAA	<51		51	12	ng/L		12/23/20 19:00	12/29/20 06:32	10
NEtFOSAA	22 J		51	13	ng/L		12/23/20 19:00	12/29/20 06:32	10
NMeFOSE	<41		41	14	ng/L		12/23/20 19:00	12/29/20 06:32	10
NEtFOSE	<20		20	8.7	ng/L		12/23/20 19:00	12/29/20 06:32	10
4:2 FTS	200		20	2.5	ng/L		12/23/20 19:00	12/29/20 06:32	10
6:2 FTS	4100 E		51	26	ng/L		12/23/20 19:00	12/29/20 06:32	10
8:2 FTS	150		20	4.7	ng/L		12/23/20 19:00	12/29/20 06:32	10
10:2 FTS	<20		20	6.9	ng/L		12/23/20 19:00	12/29/20 06:32	10
DONA	<20		20	4.1	ng/L		12/23/20 19:00	12/29/20 06:32	10
HFPO-DA (GenX)	<41		41	15	ng/L		12/23/20 19:00	12/29/20 06:32	10
F-53B Major	<20		20	2.5	ng/L		12/23/20 19:00	12/29/20 06:32	10
F-53B Minor	<20		20	3.3	ng/L		12/23/20 19:00	12/29/20 06:32	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	98		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C5 PFPeA	101		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C2 PFHxA	107		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C4 PFHpA	109		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C4 PFOA	98		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C5 PFNA	121		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C2 PFDA	111		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C2 PFUnA	104		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C2 PFDoA	101		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C2 PFTeDA	113		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C2 PFHxDA	112		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C3 PFBS	102		25 - 150	12/23/20 19:00	12/29/20 06:32	10
18O2 PFHxS	105		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C4 PFOS	100		25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C8 FOSA	103		10 - 150	12/23/20 19:00	12/29/20 06:32	10
d3-NMeFOSAA	108		25 - 150	12/23/20 19:00	12/29/20 06:32	10
d5-NEtFOSAA	127		25 - 150	12/23/20 19:00	12/29/20 06:32	10
d-N-MeFOSA-M	102		10 - 150	12/23/20 19:00	12/29/20 06:32	10
d-N-EtFOSA-M	87		10 - 150	12/23/20 19:00	12/29/20 06:32	10
d7-N-MeFOSE-M	67		10 - 150	12/23/20 19:00	12/29/20 06:32	10
d9-N-EtFOSE-M	62		10 - 150	12/23/20 19:00	12/29/20 06:32	10
M2-4:2 FTS	136		25 - 150	12/23/20 19:00	12/29/20 06:32	10
M2-6:2 FTS	109		25 - 150	12/23/20 19:00	12/29/20 06:32	10
M2-8:2 FTS	164	*5+	25 - 150	12/23/20 19:00	12/29/20 06:32	10
13C3 HFPO-DA	97		25 - 150	12/23/20 19:00	12/29/20 06:32	10

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	220 J		260	120	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoropentanoic acid (PFPeA)	580		100	25	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorohexanoic acid (PFHxA)	1100		100	30	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoroheptanoic acid (PFHpA)	430		100	13	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorooctanoic acid (PFOA)	11000		100	43	ng/L		12/23/20 19:00	12/30/20 00:56	50

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	330		100	14	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorodecanoic acid (PFDA)	<100		100	16	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoroundecanoic acid (PFUnA)	<100		100	56	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorododecanoic acid (PFDoA)	<100		100	28	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorotridecanoic acid (PFTriA)	<100		100	67	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorotetradecanoic acid (PFTeA)	<100		100	37	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoro-n-hexadecanoic acid (PFHxDA)	<100		100	46	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoro-n-octadecanoic acid (PFODA)	<100		100	48	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorobutanesulfonic acid (PFBS)	33 J		100	10	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoropentanesulfonic acid (PFPeS)	44 J		100	15	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorohexanesulfonic acid (PFHxS)	320		100	29	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluoroheptanesulfonic Acid (PFHpS)	41 J		100	9.7	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorooctanesulfonic acid (PFOS)	950		100	28	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorononanesulfonic acid (PFNS)	<100		100	19	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorodecanesulfonic acid (PFDS)	<100		100	16	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorododecanesulfonic acid (PFDoS)	<100		100	50	ng/L		12/23/20 19:00	12/30/20 00:56	50
Perfluorooctanesulfonamide (FOSA)	100		100	50	ng/L		12/23/20 19:00	12/30/20 00:56	50
NEtFOSA	<100		100	45	ng/L		12/23/20 19:00	12/30/20 00:56	50
NMeFOSA	<100		100	22	ng/L		12/23/20 19:00	12/30/20 00:56	50
NMeFOSAA	<260		260	61	ng/L		12/23/20 19:00	12/30/20 00:56	50
NEtFOSAA	<260		260	67	ng/L		12/23/20 19:00	12/30/20 00:56	50
NMeFOSE	<200		200	72	ng/L		12/23/20 19:00	12/30/20 00:56	50
NEtFOSE	<100		100	43	ng/L		12/23/20 19:00	12/30/20 00:56	50
4:2 FTS	170		100	12	ng/L		12/23/20 19:00	12/30/20 00:56	50
6:2 FTS	4800		260	130	ng/L		12/23/20 19:00	12/30/20 00:56	50
8:2 FTS	150		100	24	ng/L		12/23/20 19:00	12/30/20 00:56	50
10:2 FTS	<100		100	34	ng/L		12/23/20 19:00	12/30/20 00:56	50
DONA	<100		100	20	ng/L		12/23/20 19:00	12/30/20 00:56	50
HFPO-DA (GenX)	<200		200	77	ng/L		12/23/20 19:00	12/30/20 00:56	50
F-53B Major	<100		100	12	ng/L		12/23/20 19:00	12/30/20 00:56	50
F-53B Minor	<100		100	16	ng/L		12/23/20 19:00	12/30/20 00:56	50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	94		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C5 PFPeA	99		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C2 PFHxA	95		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C4 PFHpA	97		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C4 PFOA	108		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C5 PFNA	103		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C2 PFDA	105		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C2 PFUnA	88		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C2 PFDoA	89		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C2 PFTeDA	101		25 - 150	12/23/20 19:00	12/30/20 00:56	50

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxDA	110		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C3 PFBS	97		25 - 150	12/23/20 19:00	12/30/20 00:56	50
18O2 PFHxS	90		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C4 PFOS	93		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C8 FOSA	85		10 - 150	12/23/20 19:00	12/30/20 00:56	50
d3-NMeFOSAA	87		25 - 150	12/23/20 19:00	12/30/20 00:56	50
d5-NEtFOSAA	106		25 - 150	12/23/20 19:00	12/30/20 00:56	50
d-N-MeFOSA-M	86		10 - 150	12/23/20 19:00	12/30/20 00:56	50
d-N-EtFOSA-M	79		10 - 150	12/23/20 19:00	12/30/20 00:56	50
d7-N-MeFOSE-M	61		10 - 150	12/23/20 19:00	12/30/20 00:56	50
d9-N-EtFOSE-M	58		10 - 150	12/23/20 19:00	12/30/20 00:56	50
M2-4:2 FTS	91		25 - 150	12/23/20 19:00	12/30/20 00:56	50
M2-6:2 FTS	89		25 - 150	12/23/20 19:00	12/30/20 00:56	50
M2-8:2 FTS	92		25 - 150	12/23/20 19:00	12/30/20 00:56	50
13C3 HFPO-DA	97		25 - 150	12/23/20 19:00	12/30/20 00:56	50

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	210		5.1	2.5	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoropentanoic acid (PFPeA)	530	E	2.0	0.50	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorohexanoic acid (PFHxA)	820	E	2.0	0.59	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoroheptanoic acid (PFHpA)	420	E	2.0	0.26	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorooctanoic acid (PFOA)	5000	E	2.0	0.87	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorononanoic acid (PFNA)	320		2.0	0.28	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorodecanoic acid (PFDA)	9.4		2.0	0.32	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.56	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.75	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.91	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.96	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorobutanesulfonic acid (PFBS)	42		2.0	0.20	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoropentanesulfonic acid (PFPeS)	47		2.0	0.31	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorohexanesulfonic acid (PFHxS)	300		2.0	0.58	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	29		2.0	0.19	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorooctanesulfonic acid (PFOS)	860	E	2.0	0.55	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.38	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.99	ng/L		12/23/20 19:00	12/29/20 06:51	1
Perfluorooctanesulfonamide (FOSA)	100		2.0	1.0	ng/L		12/23/20 19:00	12/29/20 06:51	1
NEtFOSA	<2.0		2.0	0.89	ng/L		12/23/20 19:00	12/29/20 06:51	1
NMeFOSA	<2.0		2.0	0.44	ng/L		12/23/20 19:00	12/29/20 06:51	1
NMeFOSAA	<5.1		5.1	1.2	ng/L		12/23/20 19:00	12/29/20 06:51	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	19		5.1	1.3	ng/L		12/23/20 19:00	12/29/20 06:51	1
NMeFOSE	<4.1		4.1	1.4	ng/L		12/23/20 19:00	12/29/20 06:51	1
NEtFOSE	<2.0		2.0	0.87	ng/L		12/23/20 19:00	12/29/20 06:51	1
4:2 FTS	190		2.0	0.25	ng/L		12/23/20 19:00	12/29/20 06:51	1
6:2 FTS	3500	E	5.1	2.6	ng/L		12/23/20 19:00	12/29/20 06:51	1
8:2 FTS	150		2.0	0.47	ng/L		12/23/20 19:00	12/29/20 06:51	1
10:2 FTS	<2.0		2.0	0.69	ng/L		12/23/20 19:00	12/29/20 06:51	1
DONA	<2.0		2.0	0.41	ng/L		12/23/20 19:00	12/29/20 06:51	1
HFPO-DA (GenX)	<4.1		4.1	1.5	ng/L		12/23/20 19:00	12/29/20 06:51	1
F-53B Major	<2.0		2.0	0.25	ng/L		12/23/20 19:00	12/29/20 06:51	1
F-53B Minor	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/29/20 06:51	1

Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	138		25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C5 PFPeA	126		25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C2 PFHxA	161	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C4 PFHpA	160	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C4 PFOA	100		25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C5 PFNA	179	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C2 PFDA	184	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C2 PFUnA	191	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C2 PFDoA	179	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C2 PFTeDA	194	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C2 PFHxDA	220	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C3 PFBS	153	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
18O2 PFHxS	163	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C4 PFOS	168	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C8 FOSA	146		10 - 150				12/23/20 19:00	12/29/20 06:51	1
d3-NMeFOSAA	237	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
d5-NEtFOSAA	293	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
d-N-MeFOSA-M	175	*5+	10 - 150				12/23/20 19:00	12/29/20 06:51	1
d-N-EtFOSA-M	144		10 - 150				12/23/20 19:00	12/29/20 06:51	1
d7-N-MeFOSE-M	133		10 - 150				12/23/20 19:00	12/29/20 06:51	1
d9-N-EtFOSE-M	113		10 - 150				12/23/20 19:00	12/29/20 06:51	1
M2-4:2 FTS	357	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
M2-6:2 FTS	115		25 - 150				12/23/20 19:00	12/29/20 06:51	1
M2-8:2 FTS	533	*5+	25 - 150				12/23/20 19:00	12/29/20 06:51	1
13C3 HFPO-DA	149		25 - 150				12/23/20 19:00	12/29/20 06:51	1

Method: 537 (modified) - Fluorinated Alkyl Substances - RADL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	210	J	260	120	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoropentanoic acid (PFPeA)	560		100	25	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorohexanoic acid (PFHxA)	950		100	30	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoroheptanoic acid (PFHpA)	400		100	13	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorooctanoic acid (PFOA)	11000		100	43	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorononanoic acid (PFNA)	320		100	14	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorodecanoic acid (PFDA)	<100		100	16	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoroundecanoic acid (PFUnA)	<100		100	56	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorododecanoic acid (PFDoA)	<100		100	28	ng/L		12/23/20 19:00	12/31/20 00:46	50

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - RADL2 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic acid (PFTriA)	<100		100	67	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorotetradecanoic acid (PFTeA)	<100		100	37	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoro-n-hexadecanoic acid (PFHxDA)	<100		100	46	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoro-n-octadecanoic acid (PFODA)	<100		100	48	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorobutanesulfonic acid (PFBS)	35	J	100	10	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoropentanesulfonic acid (PFPeS)	46	J	100	15	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorohexanesulfonic acid (PFHxS)	320		100	29	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluoroheptanesulfonic Acid (PFHpS)	44	J	100	9.7	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorooctanesulfonic acid (PFOS)	910		100	28	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorononanesulfonic acid (PFNS)	<100		100	19	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorodecanesulfonic acid (PFDS)	<100		100	16	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorododecanesulfonic acid (PFDoS)	<100		100	50	ng/L		12/23/20 19:00	12/31/20 00:46	50
Perfluorooctanesulfonamide (FOSA)	110		100	50	ng/L		12/23/20 19:00	12/31/20 00:46	50
NEtFOSA	<100		100	45	ng/L		12/23/20 19:00	12/31/20 00:46	50
NMeFOSA	<100		100	22	ng/L		12/23/20 19:00	12/31/20 00:46	50
NMeFOSAA	<260		260	61	ng/L		12/23/20 19:00	12/31/20 00:46	50
NEtFOSAA	<260		260	67	ng/L		12/23/20 19:00	12/31/20 00:46	50
NMeFOSE	<200		200	72	ng/L		12/23/20 19:00	12/31/20 00:46	50
NEtFOSE	<100		100	43	ng/L		12/23/20 19:00	12/31/20 00:46	50
4:2 FTS	220		100	12	ng/L		12/23/20 19:00	12/31/20 00:46	50
6:2 FTS	3600		260	130	ng/L		12/23/20 19:00	12/31/20 00:46	50
8:2 FTS	130		100	24	ng/L		12/23/20 19:00	12/31/20 00:46	50
10:2 FTS	<100		100	34	ng/L		12/23/20 19:00	12/31/20 00:46	50
DONA	<100		100	20	ng/L		12/23/20 19:00	12/31/20 00:46	50
HFPO-DA (GenX)	<200		200	77	ng/L		12/23/20 19:00	12/31/20 00:46	50
F-53B Major	<100		100	12	ng/L		12/23/20 19:00	12/31/20 00:46	50
F-53B Minor	<100		100	16	ng/L		12/23/20 19:00	12/31/20 00:46	50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	97		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C5 PFPeA	99		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C2 PFHxA	106		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C4 PFHpA	108		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C4 PFOA	108		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C5 PFNA	97		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C2 PFDA	93		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C2 PFUnA	90		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C2 PFDoA	80		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C2 PFTeDA	98		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C2 PFHxDA	90		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C3 PFBS	98		25 - 150	12/23/20 19:00	12/31/20 00:46	50
18O2 PFHxS	90		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C4 PFOS	91		25 - 150	12/23/20 19:00	12/31/20 00:46	50

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - RADL2 (Continued)

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 FOSA	77		10 - 150	12/23/20 19:00	12/31/20 00:46	50
d3-NMeFOSAA	79		25 - 150	12/23/20 19:00	12/31/20 00:46	50
d5-NEtFOSAA	90		25 - 150	12/23/20 19:00	12/31/20 00:46	50
d-N-MeFOSA-M	84		10 - 150	12/23/20 19:00	12/31/20 00:46	50
d-N-EtFOSA-M	80		10 - 150	12/23/20 19:00	12/31/20 00:46	50
d7-N-MeFOSE-M	58		10 - 150	12/23/20 19:00	12/31/20 00:46	50
d9-N-EtFOSE-M	58		10 - 150	12/23/20 19:00	12/31/20 00:46	50
M2-4:2 FTS	65		25 - 150	12/23/20 19:00	12/31/20 00:46	50
M2-6:2 FTS	113		25 - 150	12/23/20 19:00	12/31/20 00:46	50
M2-8:2 FTS	84		25 - 150	12/23/20 19:00	12/31/20 00:46	50
13C3 HFPO-DA	109		25 - 150	12/23/20 19:00	12/31/20 00:46	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	18		5.0	1.9	mg/L			12/22/20 17:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M04 (12162020)

Lab Sample ID: 500-192823-4

Date Collected: 12/16/20 11:00

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	49		5.4	2.6	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoropentanoic acid (PFPeA)	130		2.2	0.53	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorohexanoic acid (PFHxA)	210		2.2	0.63	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoroheptanoic acid (PFHpA)	85		2.2	0.27	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorooctanoic acid (PFOA)	1600	E	2.2	0.93	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorononanoic acid (PFNA)	36		2.2	0.29	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorodecanoic acid (PFDA)	4.4		2.2	0.34	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoroundecanoic acid (PFUnA)	<2.2		2.2	1.2	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorododecanoic acid (PFDoA)	<2.2		2.2	0.60	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorotridecanoic acid (PFTriA)	<2.2		2.2	1.4	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorotetradecanoic acid (PFTeA)	<2.2		2.2	0.80	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		2.2	0.97	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		2.2	1.0	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorobutanesulfonic acid (PFBS)	7.1		2.2	0.22	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoropentanesulfonic acid (PFPeS)	8.5		2.2	0.33	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorohexanesulfonic acid (PFHxS)	66		2.2	0.62	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	5.8		2.2	0.21	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorooctanesulfonic acid (PFOS)	230		2.2	0.59	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorononanesulfonic acid (PFNS)	<2.2		2.2	0.40	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorodecanesulfonic acid (PFDS)	<2.2		2.2	0.35	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:45	1
Perfluorooctanesulfonamide (FOSA)	28		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:45	1
NEtFOSA	<2.2		2.2	0.95	ng/L		12/23/20 19:00	12/28/20 05:45	1
NMeFOSA	<2.2		2.2	0.47	ng/L		12/23/20 19:00	12/28/20 05:45	1
NMeFOSAA	<5.4		5.4	1.3	ng/L		12/23/20 19:00	12/28/20 05:45	1
NEtFOSAA	13		5.4	1.4	ng/L		12/23/20 19:00	12/28/20 05:45	1
NMeFOSE	<4.4		4.4	1.5	ng/L		12/23/20 19:00	12/28/20 05:45	1
NEtFOSE	<2.2		2.2	0.93	ng/L		12/23/20 19:00	12/28/20 05:45	1
4:2 FTS	41		2.2	0.26	ng/L		12/23/20 19:00	12/28/20 05:45	1
6:2 FTS	1100	E	5.4	2.7	ng/L		12/23/20 19:00	12/28/20 05:45	1
8:2 FTS	140		2.2	0.50	ng/L		12/23/20 19:00	12/28/20 05:45	1
10:2 FTS	<2.2		2.2	0.73	ng/L		12/23/20 19:00	12/28/20 05:45	1
DONA	<2.2		2.2	0.44	ng/L		12/23/20 19:00	12/28/20 05:45	1
HFPO-DA (GenX)	<4.4		4.4	1.6	ng/L		12/23/20 19:00	12/28/20 05:45	1
F-53B Major	<2.2		2.2	0.26	ng/L		12/23/20 19:00	12/28/20 05:45	1
F-53B Minor	<2.2		2.2	0.35	ng/L		12/23/20 19:00	12/28/20 05:45	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	87		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C5 PFPeA	81		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C2 PFHxA	92		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C4 PFHpA	99		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C4 PFOA	86		25 - 150	12/23/20 19:00	12/28/20 05:45	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M04 (12162020)

Lab Sample ID: 500-192823-4

Date Collected: 12/16/20 11:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	97		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C2 PFDA	97		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C2 PFUnA	95		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C2 PFDoA	86		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C2 PFTeDA	99		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C2 PFHxDA	98		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C3 PFBS	86		25 - 150	12/23/20 19:00	12/28/20 05:45	1
18O2 PFHxS	89		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C4 PFOS	89		25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C8 FOSA	27		10 - 150	12/23/20 19:00	12/28/20 05:45	1
d3-NMeFOSAA	92		25 - 150	12/23/20 19:00	12/28/20 05:45	1
d5-NEtFOSAA	100		25 - 150	12/23/20 19:00	12/28/20 05:45	1
d-N-MeFOSA-M	84		10 - 150	12/23/20 19:00	12/28/20 05:45	1
d-N-EtFOSA-M	84		10 - 150	12/23/20 19:00	12/28/20 05:45	1
d7-N-MeFOSE-M	63		10 - 150	12/23/20 19:00	12/28/20 05:45	1
d9-N-EtFOSE-M	58		10 - 150	12/23/20 19:00	12/28/20 05:45	1
M2-4:2 FTS	144		25 - 150	12/23/20 19:00	12/28/20 05:45	1
M2-6:2 FTS	81		25 - 150	12/23/20 19:00	12/28/20 05:45	1
M2-8:2 FTS	218	*5+	25 - 150	12/23/20 19:00	12/28/20 05:45	1
13C3 HFPO-DA	88		25 - 150	12/23/20 19:00	12/28/20 05:45	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	51	J	54	26	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoropentanoic acid (PFPeA)	130		22	5.3	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorohexanoic acid (PFHxA)	240		22	6.3	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoroheptanoic acid (PFHpA)	90		22	2.7	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorooctanoic acid (PFOA)	2000		22	9.3	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorononanoic acid (PFNA)	37		22	2.9	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorodecanoic acid (PFDA)	<22		22	3.4	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoroundecanoic acid (PFUnA)	<22		22	12	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorododecanoic acid (PFDoA)	<22		22	6.0	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorotridecanoic acid (PFTriA)	<22		22	14	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorotetradecanoic acid (PFTeA)	<22		22	8.0	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<22		22	9.7	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoro-n-octadecanoic acid (PFODA)	<22		22	10	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorobutanesulfonic acid (PFBS)	6.6	J	22	2.2	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoropentanesulfonic acid (PFPeS)	6.9	J	22	3.3	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorohexanesulfonic acid (PFHxS)	65		22	6.2	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluoroheptanesulfonic Acid (PFHpS)	6.9	J	22	2.1	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorooctanesulfonic acid (PFOS)	230		22	5.9	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorononanesulfonic acid (PFNS)	<22		22	4.0	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorodecanesulfonic acid (PFDS)	<22		22	3.5	ng/L		12/23/20 19:00	12/29/20 05:08	10
Perfluorododecanesulfonic acid (PFDoS)	<22		22	11	ng/L		12/23/20 19:00	12/29/20 05:08	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M04 (12162020)

Lab Sample ID: 500-192823-4

Date Collected: 12/16/20 11:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	29		22	11	ng/L		12/23/20 19:00	12/29/20 05:08	10
NEtFOSA	<22		22	9.5	ng/L		12/23/20 19:00	12/29/20 05:08	10
NMeFOSA	<22		22	4.7	ng/L		12/23/20 19:00	12/29/20 05:08	10
NMeFOSAA	<54		54	13	ng/L		12/23/20 19:00	12/29/20 05:08	10
NEtFOSAA	<54		54	14	ng/L		12/23/20 19:00	12/29/20 05:08	10
NMeFOSE	<44		44	15	ng/L		12/23/20 19:00	12/29/20 05:08	10
NEtFOSE	<22		22	9.3	ng/L		12/23/20 19:00	12/29/20 05:08	10
4:2 FTS	45		22	2.6	ng/L		12/23/20 19:00	12/29/20 05:08	10
6:2 FTS	1200		54	27	ng/L		12/23/20 19:00	12/29/20 05:08	10
8:2 FTS	160		22	5.0	ng/L		12/23/20 19:00	12/29/20 05:08	10
10:2 FTS	<22		22	7.3	ng/L		12/23/20 19:00	12/29/20 05:08	10
DONA	<22		22	4.4	ng/L		12/23/20 19:00	12/29/20 05:08	10
HFPO-DA (GenX)	<44		44	16	ng/L		12/23/20 19:00	12/29/20 05:08	10
F-53B Major	<22		22	2.6	ng/L		12/23/20 19:00	12/29/20 05:08	10
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	77		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C5 PFPeA	77		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C2 PFHxA	74		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C4 PFHpA	80		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C4 PFOA	91		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C5 PFNA	86		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C2 PFDA	77		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C2 PFUnA	77		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C2 PFDoA	69		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C2 PFTeDA	80		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C2 PFHxDA	74		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C3 PFBS	77		25 - 150				12/23/20 19:00	12/29/20 05:08	10
18O2 PFHxS	74		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C4 PFOS	76		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C8 FOSA	21		10 - 150				12/23/20 19:00	12/29/20 05:08	10
d3-NMeFOSAA	69		25 - 150				12/23/20 19:00	12/29/20 05:08	10
d5-NEtFOSAA	78		25 - 150				12/23/20 19:00	12/29/20 05:08	10
d-N-MeFOSA-M	72		10 - 150				12/23/20 19:00	12/29/20 05:08	10
d-N-EtFOSA-M	71		10 - 150				12/23/20 19:00	12/29/20 05:08	10
d7-N-MeFOSE-M	47		10 - 150				12/23/20 19:00	12/29/20 05:08	10
d9-N-EtFOSE-M	48		10 - 150				12/23/20 19:00	12/29/20 05:08	10
M2-4:2 FTS	76		25 - 150				12/23/20 19:00	12/29/20 05:08	10
M2-6:2 FTS	84		25 - 150				12/23/20 19:00	12/29/20 05:08	10
M2-8:2 FTS	81		25 - 150				12/23/20 19:00	12/29/20 05:08	10
13C3 HFPO-DA	73		25 - 150				12/23/20 19:00	12/29/20 05:08	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	160		11	4.3	mg/L			12/22/20 17:03	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M05 (12162020)

Lab Sample ID: 500-192823-5

Date Collected: 12/16/20 11:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	15		5.5	2.6	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoropentanoic acid (PFPeA)	26		2.2	0.54	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorohexanoic acid (PFHxA)	35		2.2	0.64	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoroheptanoic acid (PFHpA)	18		2.2	0.27	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorooctanoic acid (PFOA)	220		2.2	0.93	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorononanoic acid (PFNA)	16		2.2	0.30	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorodecanoic acid (PFDA)	5.6		2.2	0.34	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoroundecanoic acid (PFUnA)	7.1		2.2	1.2	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorododecanoic acid (PFDoA)	<2.2		2.2	0.60	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorotridecanoic acid (PFTriA)	<2.2		2.2	1.4	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorotetradecanoic acid (PFTeA)	<2.2		2.2	0.80	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		2.2	0.98	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		2.2	1.0	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorobutanesulfonic acid (PFBS)	1.5	J	2.2	0.22	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoropentanesulfonic acid (PFPeS)	1.2	J	2.2	0.33	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorohexanesulfonic acid (PFHxS)	14		2.2	0.62	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.94	J	2.2	0.21	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorooctanesulfonic acid (PFOS)	74		2.2	0.59	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorononanesulfonic acid (PFNS)	<2.2		2.2	0.41	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorodecanesulfonic acid (PFDS)	<2.2		2.2	0.35	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:54	1
Perfluorooctanesulfonamide (FOSA)	43		2.2	1.1	ng/L		12/23/20 19:00	12/28/20 05:54	1
NEtFOSA	<2.2		2.2	0.95	ng/L		12/23/20 19:00	12/28/20 05:54	1
NMeFOSA	<2.2		2.2	0.47	ng/L		12/23/20 19:00	12/28/20 05:54	1
NMeFOSAA	<5.5		5.5	1.3	ng/L		12/23/20 19:00	12/28/20 05:54	1
NEtFOSAA	7.8		5.5	1.4	ng/L		12/23/20 19:00	12/28/20 05:54	1
NMeFOSE	<4.4		4.4	1.5	ng/L		12/23/20 19:00	12/28/20 05:54	1
NEtFOSE	<2.2		2.2	0.93	ng/L		12/23/20 19:00	12/28/20 05:54	1
4:2 FTS	4.5		2.2	0.26	ng/L		12/23/20 19:00	12/28/20 05:54	1
6:2 FTS	260		5.5	2.7	ng/L		12/23/20 19:00	12/28/20 05:54	1
8:2 FTS	300		2.2	0.50	ng/L		12/23/20 19:00	12/28/20 05:54	1
10:2 FTS	<2.2		2.2	0.73	ng/L		12/23/20 19:00	12/28/20 05:54	1
DONA	<2.2		2.2	0.44	ng/L		12/23/20 19:00	12/28/20 05:54	1
HFPO-DA (GenX)	<4.4		4.4	1.6	ng/L		12/23/20 19:00	12/28/20 05:54	1
F-53B Major	<2.2		2.2	0.26	ng/L		12/23/20 19:00	12/28/20 05:54	1
F-53B Minor	<2.2		2.2	0.35	ng/L		12/23/20 19:00	12/28/20 05:54	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150				12/23/20 19:00	12/28/20 05:54	1
13C5 PFPeA	82		25 - 150				12/23/20 19:00	12/28/20 05:54	1
13C2 PFHxA	97		25 - 150				12/23/20 19:00	12/28/20 05:54	1
13C4 PFHpA	105		25 - 150				12/23/20 19:00	12/28/20 05:54	1
13C4 PFOA	109		25 - 150				12/23/20 19:00	12/28/20 05:54	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M05 (12162020)

Lab Sample ID: 500-192823-5

Date Collected: 12/16/20 11:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	118		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C2 PFDA	104		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C2 PFUnA	119		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C2 PFDoA	91		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C2 PFTeDA	103		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C2 PFHxDA	109		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C3 PFBS	84		25 - 150	12/23/20 19:00	12/28/20 05:54	1
18O2 PFHxS	97		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C4 PFOS	101		25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C8 FOSA	80		10 - 150	12/23/20 19:00	12/28/20 05:54	1
d3-NMeFOSAA	130		25 - 150	12/23/20 19:00	12/28/20 05:54	1
d5-NEtFOSAA	145		25 - 150	12/23/20 19:00	12/28/20 05:54	1
d-N-MeFOSA-M	112		10 - 150	12/23/20 19:00	12/28/20 05:54	1
d-N-EtFOSA-M	97		10 - 150	12/23/20 19:00	12/28/20 05:54	1
d7-N-MeFOSE-M	84		10 - 150	12/23/20 19:00	12/28/20 05:54	1
d9-N-EtFOSE-M	75		10 - 150	12/23/20 19:00	12/28/20 05:54	1
M2-4:2 FTS	265	*5+	25 - 150	12/23/20 19:00	12/28/20 05:54	1
M2-6:2 FTS	224	*5+	25 - 150	12/23/20 19:00	12/28/20 05:54	1
M2-8:2 FTS	318	*5+	25 - 150	12/23/20 19:00	12/28/20 05:54	1
13C3 HFPO-DA	91		25 - 150	12/23/20 19:00	12/28/20 05:54	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<55		55	26	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoropentanoic acid (PFPeA)	28		22	5.4	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorohexanoic acid (PFHxA)	36		22	6.4	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoroheptanoic acid (PFHpA)	19	J	22	2.7	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorooctanoic acid (PFOA)	230		22	9.3	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorononanoic acid (PFNA)	17	J	22	3.0	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorodecanoic acid (PFDA)	5.8	J	22	3.4	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoroundecanoic acid (PFUnA)	<22		22	12	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorododecanoic acid (PFDoA)	<22		22	6.0	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorotridecanoic acid (PFTriA)	<22		22	14	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorotetradecanoic acid (PFTeA)	<22		22	8.0	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<22		22	9.8	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoro-n-octadecanoic acid (PFODA)	<22		22	10	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorobutanesulfonic acid (PFBS)	<22		22	2.2	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoropentanesulfonic acid (PFPeS)	<22		22	3.3	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorohexanesulfonic acid (PFHxS)	14	J	22	6.2	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluoroheptanesulfonic Acid (PFHpS)	<22		22	2.1	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorooctanesulfonic acid (PFOS)	76		22	5.9	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorononanesulfonic acid (PFNS)	<22		22	4.1	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorodecanesulfonic acid (PFDS)	<22		22	3.5	ng/L		12/23/20 19:00	12/29/20 05:17	10
Perfluorododecanesulfonic acid (PFDoS)	<22		22	11	ng/L		12/23/20 19:00	12/29/20 05:17	10

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M05 (12162020)

Lab Sample ID: 500-192823-5

Date Collected: 12/16/20 11:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	42		22	11	ng/L		12/23/20 19:00	12/29/20 05:17	10
NEtFOSA	<22		22	9.5	ng/L		12/23/20 19:00	12/29/20 05:17	10
NMeFOSA	<22		22	4.7	ng/L		12/23/20 19:00	12/29/20 05:17	10
NMeFOSAA	<55		55	13	ng/L		12/23/20 19:00	12/29/20 05:17	10
NEtFOSAA	<55		55	14	ng/L		12/23/20 19:00	12/29/20 05:17	10
NMeFOSE	<44		44	15	ng/L		12/23/20 19:00	12/29/20 05:17	10
NEtFOSE	<22		22	9.3	ng/L		12/23/20 19:00	12/29/20 05:17	10
4:2 FTS	4.3 J		22	2.6	ng/L		12/23/20 19:00	12/29/20 05:17	10
6:2 FTS	280		55	27	ng/L		12/23/20 19:00	12/29/20 05:17	10
8:2 FTS	360		22	5.0	ng/L		12/23/20 19:00	12/29/20 05:17	10
10:2 FTS	<22		22	7.3	ng/L		12/23/20 19:00	12/29/20 05:17	10
DONA	<22		22	4.4	ng/L		12/23/20 19:00	12/29/20 05:17	10
HFPO-DA (GenX)	<44		44	16	ng/L		12/23/20 19:00	12/29/20 05:17	10
F-53B Major	<22		22	2.6	ng/L		12/23/20 19:00	12/29/20 05:17	10
F-53B Minor	<22		22	3.5	ng/L		12/23/20 19:00	12/29/20 05:17	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C5 PFPeA	92		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C2 PFHxA	99		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C4 PFHpA	98		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C4 PFOA	112		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C5 PFNA	116		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C2 PFDA	109		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C2 PFUnA	107		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C2 PFDoA	102		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C2 PFTeDA	104		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C2 PFHxDA	115		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C3 PFBS	92		25 - 150	12/23/20 19:00	12/29/20 05:17	10
18O2 PFHxS	93		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C4 PFOS	101		25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C8 FOSA	94		10 - 150	12/23/20 19:00	12/29/20 05:17	10
d3-NMeFOSAA	110		25 - 150	12/23/20 19:00	12/29/20 05:17	10
d5-NEtFOSAA	143		25 - 150	12/23/20 19:00	12/29/20 05:17	10
d-N-MeFOSA-M	112		10 - 150	12/23/20 19:00	12/29/20 05:17	10
d-N-EtFOSA-M	106		10 - 150	12/23/20 19:00	12/29/20 05:17	10
d7-N-MeFOSE-M	71		10 - 150	12/23/20 19:00	12/29/20 05:17	10
d9-N-EtFOSE-M	62		10 - 150	12/23/20 19:00	12/29/20 05:17	10
M2-4:2 FTS	140		25 - 150	12/23/20 19:00	12/29/20 05:17	10
M2-6:2 FTS	124		25 - 150	12/23/20 19:00	12/29/20 05:17	10
M2-8:2 FTS	197	*5+	25 - 150	12/23/20 19:00	12/29/20 05:17	10
13C3 HFPO-DA	97		25 - 150	12/23/20 19:00	12/29/20 05:17	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	52		6.7	2.6	mg/L			12/22/20 17:04	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M06 (12162020)

Lab Sample ID: 500-192823-6

Date Collected: 12/16/20 11:45

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	14		5.1	2.4	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoropentanoic acid (PFPeA)	28		2.0	0.50	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorohexanoic acid (PFHxA)	37		2.0	0.59	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoroheptanoic acid (PFHpA)	17		2.0	0.25	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorooctanoic acid (PFOA)	220		2.0	0.87	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorononanoic acid (PFNA)	15		2.0	0.28	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.32	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.56	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.74	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.91	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.96	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorobutanesulfonic acid (PFBS)	1.6	J	2.0	0.20	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoropentanesulfonic acid (PFPeS)	1.4	J	2.0	0.31	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorohexanesulfonic acid (PFHxS)	16		2.0	0.58	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.87	J	2.0	0.19	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorooctanesulfonic acid (PFOS)	11		2.0	0.55	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.38	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.99	ng/L		12/23/20 19:00	12/28/20 06:04	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	1.0	ng/L		12/23/20 19:00	12/28/20 06:04	1
NEtFOSA	<2.0		2.0	0.89	ng/L		12/23/20 19:00	12/28/20 06:04	1
NMeFOSA	<2.0		2.0	0.44	ng/L		12/23/20 19:00	12/28/20 06:04	1
NMeFOSAA	<5.1		5.1	1.2	ng/L		12/23/20 19:00	12/28/20 06:04	1
NEtFOSAA	<5.1		5.1	1.3	ng/L		12/23/20 19:00	12/28/20 06:04	1
NMeFOSE	<4.1		4.1	1.4	ng/L		12/23/20 19:00	12/28/20 06:04	1
NEtFOSE	<2.0		2.0	0.87	ng/L		12/23/20 19:00	12/28/20 06:04	1
4:2 FTS	5.4		2.0	0.24	ng/L		12/23/20 19:00	12/28/20 06:04	1
6:2 FTS	280		5.1	2.5	ng/L		12/23/20 19:00	12/28/20 06:04	1
8:2 FTS	2.2		2.0	0.47	ng/L		12/23/20 19:00	12/28/20 06:04	1
10:2 FTS	<2.0		2.0	0.68	ng/L		12/23/20 19:00	12/28/20 06:04	1
DONA	<2.0		2.0	0.41	ng/L		12/23/20 19:00	12/28/20 06:04	1
HFPO-DA (GenX)	<4.1		4.1	1.5	ng/L		12/23/20 19:00	12/28/20 06:04	1
F-53B Major	<2.0		2.0	0.24	ng/L		12/23/20 19:00	12/28/20 06:04	1
F-53B Minor	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/28/20 06:04	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150				12/23/20 19:00	12/28/20 06:04	1
13C5 PFPeA	81		25 - 150				12/23/20 19:00	12/28/20 06:04	1
13C2 PFHxA	95		25 - 150				12/23/20 19:00	12/28/20 06:04	1
13C4 PFHpA	101		25 - 150				12/23/20 19:00	12/28/20 06:04	1
13C4 PFOA	109		25 - 150				12/23/20 19:00	12/28/20 06:04	1
13C5 PFNA	115		25 - 150				12/23/20 19:00	12/28/20 06:04	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M06 (12162020)

Lab Sample ID: 500-192823-6

Date Collected: 12/16/20 11:45

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	102		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C2 PFUnA	109		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C2 PFDoA	89		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C2 PFTeDA	109		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C2 PFHxDA	105		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C3 PFBS	84		25 - 150	12/23/20 19:00	12/28/20 06:04	1
18O2 PFHxS	99		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C4 PFOS	101		25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C8 FOSA	70		10 - 150	12/23/20 19:00	12/28/20 06:04	1
d3-NMeFOSAA	139		25 - 150	12/23/20 19:00	12/28/20 06:04	1
d5-NEtFOSAA	127		25 - 150	12/23/20 19:00	12/28/20 06:04	1
d-N-MeFOSA-M	110		10 - 150	12/23/20 19:00	12/28/20 06:04	1
d-N-EtFOSA-M	87		10 - 150	12/23/20 19:00	12/28/20 06:04	1
d7-N-MeFOSE-M	98		10 - 150	12/23/20 19:00	12/28/20 06:04	1
d9-N-EtFOSE-M	70		10 - 150	12/23/20 19:00	12/28/20 06:04	1
M2-4:2 FTS	258	*5+	25 - 150	12/23/20 19:00	12/28/20 06:04	1
M2-6:2 FTS	241	*5+	25 - 150	12/23/20 19:00	12/28/20 06:04	1
M2-8:2 FTS	357	*5+	25 - 150	12/23/20 19:00	12/28/20 06:04	1
13C3 HFPO-DA	90		25 - 150	12/23/20 19:00	12/28/20 06:04	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<51		51	24	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoropentanoic acid (PFPeA)	28		20	5.0	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorohexanoic acid (PFHxA)	39		20	5.9	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoroheptanoic acid (PFHpA)	17	J	20	2.5	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorooctanoic acid (PFOA)	220		20	8.7	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorononanoic acid (PFNA)	13	J	20	2.8	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorodecanoic acid (PFDA)	<20		20	3.2	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoroundecanoic acid (PFUnA)	<20		20	11	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorododecanoic acid (PFDoA)	<20		20	5.6	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorotridecanoic acid (PFTriA)	<20		20	13	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorotetradecanoic acid (PFTeA)	<20		20	7.4	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<20		20	9.1	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoro-n-octadecanoic acid (PFODA)	<20		20	9.6	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorobutanesulfonic acid (PFBS)	<20		20	2.0	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoropentanesulfonic acid (PFPeS)	<20		20	3.1	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorohexanesulfonic acid (PFHxS)	17	J	20	5.8	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluoroheptanesulfonic Acid (PFHpS)	<20		20	1.9	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorooctanesulfonic acid (PFOS)	12	J	20	5.5	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorononanesulfonic acid (PFNS)	<20		20	3.8	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorodecanesulfonic acid (PFDS)	<20		20	3.3	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorododecanesulfonic acid (PFDoS)	<20		20	9.9	ng/L		12/23/20 19:00	12/29/20 05:27	10
Perfluorooctanesulfonamide (FOSA)	<20		20	10	ng/L		12/23/20 19:00	12/29/20 05:27	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M06 (12162020)

Lab Sample ID: 500-192823-6

Date Collected: 12/16/20 11:45

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	<20		20	8.9	ng/L		12/23/20 19:00	12/29/20 05:27	10
NMeFOSA	<20		20	4.4	ng/L		12/23/20 19:00	12/29/20 05:27	10
NMeFOSAA	<51		51	12	ng/L		12/23/20 19:00	12/29/20 05:27	10
NEtFOSAA	<51		51	13	ng/L		12/23/20 19:00	12/29/20 05:27	10
NMeFOSE	<41		41	14	ng/L		12/23/20 19:00	12/29/20 05:27	10
NEtFOSE	<20		20	8.7	ng/L		12/23/20 19:00	12/29/20 05:27	10
4:2 FTS	5.2	J	20	2.4	ng/L		12/23/20 19:00	12/29/20 05:27	10
6:2 FTS	300		51	25	ng/L		12/23/20 19:00	12/29/20 05:27	10
8:2 FTS	<20		20	4.7	ng/L		12/23/20 19:00	12/29/20 05:27	10
10:2 FTS	<20		20	6.8	ng/L		12/23/20 19:00	12/29/20 05:27	10
DONA	<20		20	4.1	ng/L		12/23/20 19:00	12/29/20 05:27	10
HFPO-DA (GenX)	<41		41	15	ng/L		12/23/20 19:00	12/29/20 05:27	10
F-53B Major	<20		20	2.4	ng/L		12/23/20 19:00	12/29/20 05:27	10
F-53B Minor	<20		20	3.3	ng/L		12/23/20 19:00	12/29/20 05:27	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	94		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C5 PFPeA	96		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C2 PFHxA	97		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C4 PFHpA	100		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C4 PFOA	113		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C5 PFNA	112		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C2 PFDA	109		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C2 PFUnA	113		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C2 PFDoA	97		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C2 PFTeDA	118		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C2 PFHxDA	101		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C3 PFBS	92		25 - 150				12/23/20 19:00	12/29/20 05:27	10
18O2 PFHxS	93		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C4 PFOS	96		25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C8 FOSA	89		10 - 150				12/23/20 19:00	12/29/20 05:27	10
d3-NMeFOSAA	116		25 - 150				12/23/20 19:00	12/29/20 05:27	10
d5-NEtFOSAA	143		25 - 150				12/23/20 19:00	12/29/20 05:27	10
d-N-MeFOSA-M	108		10 - 150				12/23/20 19:00	12/29/20 05:27	10
d-N-EtFOSA-M	95		10 - 150				12/23/20 19:00	12/29/20 05:27	10
d7-N-MeFOSE-M	72		10 - 150				12/23/20 19:00	12/29/20 05:27	10
d9-N-EtFOSE-M	63		10 - 150				12/23/20 19:00	12/29/20 05:27	10
M2-4:2 FTS	146		25 - 150				12/23/20 19:00	12/29/20 05:27	10
M2-6:2 FTS	132		25 - 150				12/23/20 19:00	12/29/20 05:27	10
M2-8:2 FTS	239	*5+	25 - 150				12/23/20 19:00	12/29/20 05:27	10
13C3 HFPO-DA	95		25 - 150				12/23/20 19:00	12/29/20 05:27	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	41		5.0	1.9	mg/L			12/22/20 17:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	870		48	23	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoropentanoic acid (PFPeA)	2600		19	4.7	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorohexanoic acid (PFHxA)	3600		19	5.6	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoroheptanoic acid (PFHpA)	1900		19	2.4	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorooctanoic acid (PFOA)	19000	E	19	8.2	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorononanoic acid (PFNA)	1400		19	2.6	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorodecanoic acid (PFDA)	110		19	3.0	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoroundecanoic acid (PFUnA)	74		19	11	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorododecanoic acid (PFDoA)	<19		19	5.3	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorotridecanoic acid (PFTriA)	<19		19	13	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorotetradecanoic acid (PFTeA)	<19		19	7.0	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<19		19	8.6	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoro-n-octadecanoic acid (PFODA)	<19		19	9.0	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorobutanesulfonic acid (PFBS)	78		19	1.9	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoropentanesulfonic acid (PFPeS)	65		19	2.9	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorohexanesulfonic acid (PFHxS)	1300		19	5.5	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluoroheptanesulfonic Acid (PFHpS)	46		19	1.8	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorooctanesulfonic acid (PFOS)	2500		19	5.2	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorononanesulfonic acid (PFNS)	<19		19	3.6	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorodecanesulfonic acid (PFDS)	<19		19	3.1	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorododecanesulfonic acid (PFDoS)	<19		19	9.3	ng/L		12/23/20 19:00	12/29/20 06:42	10
Perfluorooctanesulfonamide (FOSA)	1600		19	9.4	ng/L		12/23/20 19:00	12/29/20 06:42	10
NEtFOSA	<19		19	8.4	ng/L		12/23/20 19:00	12/29/20 06:42	10
NMeFOSA	<19		19	4.1	ng/L		12/23/20 19:00	12/29/20 06:42	10
NMeFOSAA	<48		48	12	ng/L		12/23/20 19:00	12/29/20 06:42	10
NEtFOSAA	100		48	13	ng/L		12/23/20 19:00	12/29/20 06:42	10
NMeFOSE	<39		39	13	ng/L		12/23/20 19:00	12/29/20 06:42	10
NEtFOSE	<19		19	8.2	ng/L		12/23/20 19:00	12/29/20 06:42	10
4:2 FTS	500		19	2.3	ng/L		12/23/20 19:00	12/29/20 06:42	10
6:2 FTS	8900	E	48	24	ng/L		12/23/20 19:00	12/29/20 06:42	10
8:2 FTS	2600		19	4.4	ng/L		12/23/20 19:00	12/29/20 06:42	10
10:2 FTS	18	J	19	6.4	ng/L		12/23/20 19:00	12/29/20 06:42	10
DONA	<19		19	3.9	ng/L		12/23/20 19:00	12/29/20 06:42	10
HFPO-DA (GenX)	<39		39	14	ng/L		12/23/20 19:00	12/29/20 06:42	10
F-53B Major	<19		19	2.3	ng/L		12/23/20 19:00	12/29/20 06:42	10
F-53B Minor	<19		19	3.1	ng/L		12/23/20 19:00	12/29/20 06:42	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	94		25 - 150				12/23/20 19:00	12/29/20 06:42	10
13C5 PFPeA	94		25 - 150				12/23/20 19:00	12/29/20 06:42	10
13C2 PFHxA	104		25 - 150				12/23/20 19:00	12/29/20 06:42	10
13C4 PFHpA	106		25 - 150				12/23/20 19:00	12/29/20 06:42	10
13C4 PFOA	80		25 - 150				12/23/20 19:00	12/29/20 06:42	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	118		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C2 PFDA	104		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C2 PFUnA	111		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C2 PFDoA	95		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C2 PFTeDA	83		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C2 PFHxDA	50		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C3 PFBS	99		25 - 150	12/23/20 19:00	12/29/20 06:42	10
18O2 PFHxS	99		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C4 PFOS	99		25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C8 FOSA	85		10 - 150	12/23/20 19:00	12/29/20 06:42	10
d3-NMeFOSAA	110		25 - 150	12/23/20 19:00	12/29/20 06:42	10
d5-NEtFOSAA	120		25 - 150	12/23/20 19:00	12/29/20 06:42	10
d-N-MeFOSA-M	82		10 - 150	12/23/20 19:00	12/29/20 06:42	10
d-N-EtFOSA-M	73		10 - 150	12/23/20 19:00	12/29/20 06:42	10
d7-N-MeFOSE-M	53		10 - 150	12/23/20 19:00	12/29/20 06:42	10
d9-N-EtFOSE-M	57		10 - 150	12/23/20 19:00	12/29/20 06:42	10
M2-4:2 FTS	134		25 - 150	12/23/20 19:00	12/29/20 06:42	10
M2-6:2 FTS	134		25 - 150	12/23/20 19:00	12/29/20 06:42	10
M2-8:2 FTS	172	*5+	25 - 150	12/23/20 19:00	12/29/20 06:42	10
13C3 HFPO-DA	100		25 - 150	12/23/20 19:00	12/29/20 06:42	10

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	880		240	120	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoropentanoic acid (PFPeA)	2900		96	24	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorohexanoic acid (PFHxA)	3800		96	28	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoroheptanoic acid (PFHpA)	2000		96	12	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorooctanoic acid (PFOA)	30000	E	96	41	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorononanoic acid (PFNA)	1300		96	13	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorodecanoic acid (PFDA)	90	J	96	15	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoroundecanoic acid (PFUnA)	<96		96	53	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorododecanoic acid (PFDoA)	<96		96	26	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorotridecanoic acid (PFTriA)	<96		96	63	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorotetradecanoic acid (PFTeA)	<96		96	35	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoro-n-hexadecanoic acid (PFHxDA)	<96		96	43	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoro-n-octadecanoic acid (PFODA)	<96		96	45	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorobutanesulfonic acid (PFBS)	<96		96	9.6	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoropentanesulfonic acid (PFPeS)	60	J	96	14	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorohexanesulfonic acid (PFHxS)	1300		96	27	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluoroheptanesulfonic acid (PFHpS)	59	J	96	9.1	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorooctanesulfonic acid (PFOS)	2600		96	26	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorononanesulfonic acid (PFNS)	<96		96	18	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorodecanesulfonic acid (PFDS)	<96		96	15	ng/L		12/23/20 19:00	12/31/20 00:56	50
Perfluorododecanesulfonic acid (PFDoS)	<96		96	47	ng/L		12/23/20 19:00	12/31/20 00:56	50

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	1500		96	47	ng/L		12/23/20 19:00	12/31/20 00:56	50
NEtFOSA	<96		96	42	ng/L		12/23/20 19:00	12/31/20 00:56	50
NMeFOSA	<96		96	21	ng/L		12/23/20 19:00	12/31/20 00:56	50
NMeFOSAA	<240		240	58	ng/L		12/23/20 19:00	12/31/20 00:56	50
NEtFOSAA	87	J	240	63	ng/L		12/23/20 19:00	12/31/20 00:56	50
NMeFOSE	<190		190	67	ng/L		12/23/20 19:00	12/31/20 00:56	50
NEtFOSE	<96		96	41	ng/L		12/23/20 19:00	12/31/20 00:56	50
4:2 FTS	550		96	12	ng/L		12/23/20 19:00	12/31/20 00:56	50
6:2 FTS	9900		240	120	ng/L		12/23/20 19:00	12/31/20 00:56	50
8:2 FTS	2000		96	22	ng/L		12/23/20 19:00	12/31/20 00:56	50
10:2 FTS	<96		96	32	ng/L		12/23/20 19:00	12/31/20 00:56	50
DONA	<96		96	19	ng/L		12/23/20 19:00	12/31/20 00:56	50
HFPO-DA (GenX)	<190		190	72	ng/L		12/23/20 19:00	12/31/20 00:56	50
F-53B Major	<96		96	12	ng/L		12/23/20 19:00	12/31/20 00:56	50
F-53B Minor	<96		96	15	ng/L		12/23/20 19:00	12/31/20 00:56	50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	78		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C5 PFPeA	79		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C2 PFHxA	83		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C4 PFHpA	84		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C4 PFOA	80		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C5 PFNA	89		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C2 PFDA	82		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C2 PFUnA	74		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C2 PFDoA	57		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C2 PFTeDA	60		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C2 PFHxDA	37		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C3 PFBS	84		25 - 150	12/23/20 19:00	12/31/20 00:56	50
18O2 PFHxS	77		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C4 PFOS	67		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C8 FOSA	64		10 - 150	12/23/20 19:00	12/31/20 00:56	50
d3-NMeFOSAA	62		25 - 150	12/23/20 19:00	12/31/20 00:56	50
d5-NEtFOSAA	72		25 - 150	12/23/20 19:00	12/31/20 00:56	50
d-N-MeFOSA-M	55		10 - 150	12/23/20 19:00	12/31/20 00:56	50
d-N-EtFOSA-M	53		10 - 150	12/23/20 19:00	12/31/20 00:56	50
d7-N-MeFOSE-M	44		10 - 150	12/23/20 19:00	12/31/20 00:56	50
d9-N-EtFOSE-M	49		10 - 150	12/23/20 19:00	12/31/20 00:56	50
M2-4:2 FTS	51		25 - 150	12/23/20 19:00	12/31/20 00:56	50
M2-6:2 FTS	140		25 - 150	12/23/20 19:00	12/31/20 00:56	50
M2-8:2 FTS	96		25 - 150	12/23/20 19:00	12/31/20 00:56	50
13C3 HFPO-DA	83		25 - 150	12/23/20 19:00	12/31/20 00:56	50

Method: 537 (modified) - Fluorinated Alkyl Substances - DL3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	840		480	230	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoropentanoic acid (PFPeA)	2800		190	47	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorohexanoic acid (PFHxA)	3600		190	56	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoroheptanoic acid (PFHpA)	2100		190	24	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorooctanoic acid (PFOA)	24000		190	82	ng/L		12/23/20 19:00	01/04/21 12:28	100

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL3 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	1500		190	26	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorodecanoic acid (PFDA)	110	J	190	30	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoroundecanoic acid (PFUnA)	<190		190	110	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorododecanoic acid (PFDoA)	<190		190	53	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorotridecanoic acid (PFTriA)	<190		190	130	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorotetradecanoic acid (PFTeA)	<190		190	70	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoro-n-hexadecanoic acid (PFHxDA)	<190		190	86	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoro-n-octadecanoic acid (PFODA)	<190		190	90	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorobutanesulfonic acid (PFBS)	69	J I	190	19	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoropentanesulfonic acid (PFPeS)	62	J	190	29	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorohexanesulfonic acid (PFHxS)	1300		190	55	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluoroheptanesulfonic Acid (PFHpS)	51	J	190	18	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorooctanesulfonic acid (PFOS)	2500		190	52	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorononanesulfonic acid (PFNS)	<190		190	36	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorodecanesulfonic acid (PFDS)	<190		190	31	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorododecanesulfonic acid (PFDoS)	<190		190	93	ng/L		12/23/20 19:00	01/04/21 12:28	100
Perfluorooctanesulfonamide (FOSA)	1400		190	94	ng/L		12/23/20 19:00	01/04/21 12:28	100
NEtFOSA	<190		190	84	ng/L		12/23/20 19:00	01/04/21 12:28	100
NMeFOSA	<190		190	41	ng/L		12/23/20 19:00	01/04/21 12:28	100
NMeFOSAA	<480		480	120	ng/L		12/23/20 19:00	01/04/21 12:28	100
NEtFOSAA	<480		480	130	ng/L		12/23/20 19:00	01/04/21 12:28	100
NMeFOSE	<390		390	130	ng/L		12/23/20 19:00	01/04/21 12:28	100
NEtFOSE	<190		190	82	ng/L		12/23/20 19:00	01/04/21 12:28	100
4:2 FTS	400		190	23	ng/L		12/23/20 19:00	01/04/21 12:28	100
6:2 FTS	11000		480	240	ng/L		12/23/20 19:00	01/04/21 12:28	100
8:2 FTS	2100		190	44	ng/L		12/23/20 19:00	01/04/21 12:28	100
10:2 FTS	<190		190	64	ng/L		12/23/20 19:00	01/04/21 12:28	100
DONA	<190		190	39	ng/L		12/23/20 19:00	01/04/21 12:28	100
HFPO-DA (GenX)	<390		390	140	ng/L		12/23/20 19:00	01/04/21 12:28	100
F-53B Major	<190		190	23	ng/L		12/23/20 19:00	01/04/21 12:28	100
F-53B Minor	<190		190	31	ng/L		12/23/20 19:00	01/04/21 12:28	100

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	80		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C5 PFPeA	81		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C2 PFHxA	91		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C4 PFHpA	77		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C4 PFOA	99		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C5 PFNA	77		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C2 PFDA	77		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C2 PFUnA	74		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C2 PFDoA	71		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C2 PFTeDA	55		25 - 150	12/23/20 19:00	01/04/21 12:28	100

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - DL3 (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxDA	40		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C3 PFBS	78		25 - 150	12/23/20 19:00	01/04/21 12:28	100
18O2 PFHxS	73		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C4 PFOS	70		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C8 FOSA	72		10 - 150	12/23/20 19:00	01/04/21 12:28	100
d3-NMeFOSAA	73		25 - 150	12/23/20 19:00	01/04/21 12:28	100
d5-NEtFOSAA	72		25 - 150	12/23/20 19:00	01/04/21 12:28	100
d-N-MeFOSA-M	57		10 - 150	12/23/20 19:00	01/04/21 12:28	100
d-N-EtFOSA-M	51		10 - 150	12/23/20 19:00	01/04/21 12:28	100
d7-N-MeFOSE-M	44		10 - 150	12/23/20 19:00	01/04/21 12:28	100
d9-N-EtFOSE-M	44		10 - 150	12/23/20 19:00	01/04/21 12:28	100
M2-4:2 FTS	71		25 - 150	12/23/20 19:00	01/04/21 12:28	100
M2-6:2 FTS	155	*5+	25 - 150	12/23/20 19:00	01/04/21 12:28	100
M2-8:2 FTS	95		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C3 HFPO-DA	79		25 - 150	12/23/20 19:00	01/04/21 12:28	100
13C2 10:2 FTS				12/23/20 19:00	01/04/21 12:28	100

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	710	E	4.8	2.3	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorobutanoic acid (PFBA)	720	E	4.8	2.3	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoropentanoic acid (PFPeA)	2000	E	1.9	0.47	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoropentanoic acid (PFPeA)	2100	E	1.9	0.47	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorohexanoic acid (PFHxA)	2400	E	1.9	0.56	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorohexanoic acid (PFHxA)	2500	E	1.9	0.56	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoroheptanoic acid (PFHpA)	1300	E	1.9	0.24	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoroheptanoic acid (PFHpA)	1400	E	1.9	0.24	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorooctanoic acid (PFOA)	11000	E I	1.9	0.82	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorooctanoic acid (PFOA)	10000	E I	1.9	0.82	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorononanoic acid (PFNA)	1000	E	1.9	0.26	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorononanoic acid (PFNA)	1100	E	1.9	0.26	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorodecanoic acid (PFDA)	110		1.9	0.30	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorodecanoic acid (PFDA)	100		1.9	0.30	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoroundecanoic acid (PFUnA)	66		1.9	1.1	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoroundecanoic acid (PFUnA)	78		1.9	1.1	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.53	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.53	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.3	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.3	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.70	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.70	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.86	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.86	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.90	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.90	ng/L		12/23/20 19:00	12/29/20 07:00	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	47		1.9	0.19	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorobutanesulfonic acid (PFBS)	75		1.9	0.19	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoropentanesulfonic acid (PFPeS)	67		1.9	0.29	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoropentanesulfonic acid (PFPeS)	70		1.9	0.29	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorohexanesulfonic acid (PFHxS)	1100	E	1.9	0.55	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorohexanesulfonic acid (PFHxS)	1100	E	1.9	0.55	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	28		1.9	0.18	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	29		1.9	0.18	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorooctanesulfonic acid (PFOS)	1900	E	1.9	0.52	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorooctanesulfonic acid (PFOS)	2100	E	1.9	0.52	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorononanesulfonic acid (PFNS)	0.89	J I	1.9	0.36	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.36	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.31	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.31	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.93	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.93	ng/L		12/23/20 19:00	12/29/20 07:00	1
Perfluorooctanesulfonamide (FOSA)	1300	E	1.9	0.94	ng/L		12/23/20 19:00	12/28/20 06:41	1
Perfluorooctanesulfonamide (FOSA)	1300	E	1.9	0.94	ng/L		12/23/20 19:00	12/29/20 07:00	1
NEtFOSA	<1.9		1.9	0.84	ng/L		12/23/20 19:00	12/28/20 06:41	1
NEtFOSA	<1.9		1.9	0.84	ng/L		12/23/20 19:00	12/29/20 07:00	1
NMeFOSA	<1.9		1.9	0.41	ng/L		12/23/20 19:00	12/28/20 06:41	1
NMeFOSA	<1.9		1.9	0.41	ng/L		12/23/20 19:00	12/29/20 07:00	1
NMeFOSAA	<4.8		4.8	1.2	ng/L		12/23/20 19:00	12/28/20 06:41	1
NMeFOSAA	<4.8		4.8	1.2	ng/L		12/23/20 19:00	12/29/20 07:00	1
NEtFOSAA	99		4.8	1.3	ng/L		12/23/20 19:00	12/28/20 06:41	1
NEtFOSAA	100		4.8	1.3	ng/L		12/23/20 19:00	12/29/20 07:00	1
NMeFOSE	<3.9		3.9	1.3	ng/L		12/23/20 19:00	12/28/20 06:41	1
NMeFOSE	<3.9		3.9	1.3	ng/L		12/23/20 19:00	12/29/20 07:00	1
NEtFOSE	<1.9		1.9	0.82	ng/L		12/23/20 19:00	12/28/20 06:41	1
NEtFOSE	<1.9		1.9	0.82	ng/L		12/23/20 19:00	12/29/20 07:00	1
4:2 FTS	410	E	1.9	0.23	ng/L		12/23/20 19:00	12/28/20 06:41	1
4:2 FTS	400	E	1.9	0.23	ng/L		12/23/20 19:00	12/29/20 07:00	1
6:2 FTS	5500	E	4.8	2.4	ng/L		12/23/20 19:00	12/28/20 06:41	1
6:2 FTS	5900	E	4.8	2.4	ng/L		12/23/20 19:00	12/29/20 07:00	1
8:2 FTS	1900	E	1.9	0.44	ng/L		12/23/20 19:00	12/28/20 06:41	1
8:2 FTS	1800	E	1.9	0.44	ng/L		12/23/20 19:00	12/29/20 07:00	1
10:2 FTS	25		1.9	0.64	ng/L		12/23/20 19:00	12/28/20 06:41	1
10:2 FTS	24		1.9	0.64	ng/L		12/23/20 19:00	12/29/20 07:00	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DONA	<1.9		1.9	0.39	ng/L		12/23/20 19:00	12/28/20 06:41	1
DONA	<1.9		1.9	0.39	ng/L		12/23/20 19:00	12/29/20 07:00	1
HFPO-DA (GenX)	<3.9		3.9	1.4	ng/L		12/23/20 19:00	12/28/20 06:41	1
HFPO-DA (GenX)	<3.9		3.9	1.4	ng/L		12/23/20 19:00	12/29/20 07:00	1
F-53B Major	<1.9		1.9	0.23	ng/L		12/23/20 19:00	12/28/20 06:41	1
F-53B Major	<1.9		1.9	0.23	ng/L		12/23/20 19:00	12/29/20 07:00	1
F-53B Minor	<1.9		1.9	0.31	ng/L		12/23/20 19:00	12/28/20 06:41	1
F-53B Minor	<1.9		1.9	0.31	ng/L		12/23/20 19:00	12/29/20 07:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	165	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C4 PFBA	164	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C5 PFPeA	122		25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C5 PFPeA	121		25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C2 PFHxA	165	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C2 PFHxA	169	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C4 PFHpA	178	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C4 PFHpA	182	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C4 PFOA	79		25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C4 PFOA	86		25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C5 PFNA	208	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C5 PFNA	223	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C2 PFDA	182	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C2 PFDA	204	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C2 PFUnA	259	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C2 PFUnA	284	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C2 PFDoA	212	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C2 PFDoA	233	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C2 PFTeDA	193	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C2 PFTeDA	196	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C2 PFHxDA	135		25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C2 PFHxDA	160	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C3 PFBS	210	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C3 PFBS	206	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
18O2 PFHxS	195	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
18O2 PFHxS	205	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C4 PFOS	205	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
13C4 PFOS	211	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
13C8 FOSA	143		10 - 150				12/23/20 19:00	12/28/20 06:41	1
13C8 FOSA	151	*5+	10 - 150				12/23/20 19:00	12/29/20 07:00	1
d3-NMeFOSAA	230	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
d3-NMeFOSAA	249	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
d5-NEtFOSAA	291	*5+	25 - 150				12/23/20 19:00	12/28/20 06:41	1
d5-NEtFOSAA	311	*5+	25 - 150				12/23/20 19:00	12/29/20 07:00	1
d-N-MeFOSA-M	79		10 - 150				12/23/20 19:00	12/28/20 06:41	1
d-N-MeFOSA-M	202	*5+	10 - 150				12/23/20 19:00	12/29/20 07:00	1
d-N-EtFOSA-M	154	*5+	10 - 150				12/23/20 19:00	12/28/20 06:41	1
d-N-EtFOSA-M	168	*5+	10 - 150				12/23/20 19:00	12/29/20 07:00	1
d7-N-MeFOSE-M	152	*5+	10 - 150				12/23/20 19:00	12/28/20 06:41	1
d7-N-MeFOSE-M	148		10 - 150				12/23/20 19:00	12/29/20 07:00	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d9-N-EtFOSE-M	137		10 - 150	12/23/20 19:00	12/28/20 06:41	1
d9-N-EtFOSE-M	149		10 - 150	12/23/20 19:00	12/29/20 07:00	1
M2-4:2 FTS	409	*5+	25 - 150	12/23/20 19:00	12/28/20 06:41	1
M2-4:2 FTS	419	*5+	25 - 150	12/23/20 19:00	12/29/20 07:00	1
M2-6:2 FTS	197	*5+	25 - 150	12/23/20 19:00	12/28/20 06:41	1
M2-6:2 FTS	199	*5+	25 - 150	12/23/20 19:00	12/29/20 07:00	1
M2-8:2 FTS	425	*5+	25 - 150	12/23/20 19:00	12/28/20 06:41	1
M2-8:2 FTS	480	*5+	25 - 150	12/23/20 19:00	12/29/20 07:00	1
13C3 HFPO-DA	199	*5+	25 - 150	12/23/20 19:00	12/28/20 06:41	1
13C3 HFPO-DA	205	*5+	25 - 150	12/23/20 19:00	12/29/20 07:00	1
13C2 10:2 FTS				12/23/20 19:00	12/28/20 06:41	1

Method: 537 (modified) - Fluorinated Alkyl Substances - RADL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	860		240	120	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoropentanoic acid (PFPeA)	2900		96	24	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorohexanoic acid (PFHxA)	3700		96	28	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoroheptanoic acid (PFHpA)	2000		96	12	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorooctanoic acid (PFOA)	27000	E	96	41	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorononanoic acid (PFNA)	1400		96	13	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorodecanoic acid (PFDA)	97		96	15	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoroundecanoic acid (PFUnA)	79	J I	96	53	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorododecanoic acid (PFDoA)	<96		96	26	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorotridecanoic acid (PFTriA)	<96		96	63	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorotetradecanoic acid (PFTeA)	<96		96	35	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoro-n-hexadecanoic acid (PFHxDA)	<96		96	43	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoro-n-octadecanoic acid (PFODA)	<96		96	45	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorobutanesulfonic acid (PFBS)	71	J	96	9.6	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoropentanesulfonic acid (PFPeS)	64	J	96	14	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorohexanesulfonic acid (PFHxS)	1200		96	27	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluoroheptanesulfonic Acid (PFHpS)	53	J	96	9.1	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorooctanesulfonic acid (PFOS)	2500		96	26	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorononanesulfonic acid (PFNS)	<96		96	18	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorodecanesulfonic acid (PFDS)	<96		96	15	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorododecanesulfonic acid (PFDoS)	<96		96	47	ng/L		12/23/20 19:00	12/30/20 01:05	50
Perfluorooctanesulfonamide (FOSA)	1700		96	47	ng/L		12/23/20 19:00	12/30/20 01:05	50
NEtFOSA	<96		96	42	ng/L		12/23/20 19:00	12/30/20 01:05	50
NMeFOSA	<96		96	21	ng/L		12/23/20 19:00	12/30/20 01:05	50
NMeFOSAA	<240		240	58	ng/L		12/23/20 19:00	12/30/20 01:05	50
NEtFOSAA	92	J	240	63	ng/L		12/23/20 19:00	12/30/20 01:05	50
NMeFOSE	<190		190	67	ng/L		12/23/20 19:00	12/30/20 01:05	50
NEtFOSE	<96		96	41	ng/L		12/23/20 19:00	12/30/20 01:05	50

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances - RADL2 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	420		96	12	ng/L		12/23/20 19:00	12/30/20 01:05	50
6:2 FTS	9200		240	120	ng/L		12/23/20 19:00	12/30/20 01:05	50
8:2 FTS	2800		96	22	ng/L		12/23/20 19:00	12/30/20 01:05	50
10:2 FTS	<96		96	32	ng/L		12/23/20 19:00	12/30/20 01:05	50
DONA	<96		96	19	ng/L		12/23/20 19:00	12/30/20 01:05	50
HFPO-DA (GenX)	<190		190	72	ng/L		12/23/20 19:00	12/30/20 01:05	50
F-53B Major	<96		96	12	ng/L		12/23/20 19:00	12/30/20 01:05	50
F-53B Minor	<96		96	15	ng/L		12/23/20 19:00	12/30/20 01:05	50
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	79		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C5 PFPeA	82		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 PFHxA	88		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C4 PFHpA	86		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C4 PFOA	83		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C5 PFNA	89		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 PFDA	90		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 PFUnA	77		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 PFDoA	75		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 PFTeDA	57		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 PFHxDA	39		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C3 PFBS	78		25 - 150				12/23/20 19:00	12/30/20 01:05	50
18O2 PFHxS	85		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C4 PFOS	82		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C8 FOSA	65		10 - 150				12/23/20 19:00	12/30/20 01:05	50
d3-NMeFOSAA	76		25 - 150				12/23/20 19:00	12/30/20 01:05	50
d5-NEtFOSAA	78		25 - 150				12/23/20 19:00	12/30/20 01:05	50
d-N-MeFOSA-M	69		10 - 150				12/23/20 19:00	12/30/20 01:05	50
d-N-EtFOSA-M	49		10 - 150				12/23/20 19:00	12/30/20 01:05	50
d7-N-MeFOSE-M	42		10 - 150				12/23/20 19:00	12/30/20 01:05	50
d9-N-EtFOSE-M	45		10 - 150				12/23/20 19:00	12/30/20 01:05	50
M2-4:2 FTS	75		25 - 150				12/23/20 19:00	12/30/20 01:05	50
M2-6:2 FTS	155	*5+	25 - 150				12/23/20 19:00	12/30/20 01:05	50
M2-8:2 FTS	80		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C3 HFPO-DA	81		25 - 150				12/23/20 19:00	12/30/20 01:05	50
13C2 10:2 FTS							12/23/20 19:00	12/30/20 01:05	50

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	46		6.7	2.6	mg/L			12/22/20 17:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M08 (12162020)

Lab Sample ID: 500-192823-8

Date Collected: 12/16/20 13:00

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	26		5.3	2.5	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoropentanoic acid (PFPeA)	63		2.1	0.51	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorohexanoic acid (PFHxA)	48		2.1	0.61	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoroheptanoic acid (PFHpA)	23		2.1	0.26	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorooctanoic acid (PFOA)	110		2.1	0.89	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorononanoic acid (PFNA)	6.0		2.1	0.28	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorodecanoic acid (PFDA)	0.89	J	2.1	0.33	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoroundecanoic acid (PFUnA)	<2.1		2.1	1.2	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorododecanoic acid (PFDoA)	0.68	J	2.1	0.58	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorotridecanoic acid (PFTriA)	<2.1		2.1	1.4	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorotetradecanoic acid (PFTeA)	<2.1		2.1	0.77	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.1		2.1	0.93	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.1		2.1	0.99	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.1	0.21	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoropentanesulfonic acid (PFPeS)	0.41	J	2.1	0.32	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorohexanesulfonic acid (PFHxS)	8.6		2.1	0.60	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.1		2.1	0.20	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorooctanesulfonic acid (PFOS)	11		2.1	0.57	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorononanesulfonic acid (PFNS)	<2.1		2.1	0.39	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorodecanesulfonic acid (PFDS)	<2.1		2.1	0.34	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorododecanesulfonic acid (PFDoS)	<2.1		2.1	1.0	ng/L		12/23/20 19:00	12/28/20 06:50	1
Perfluorooctanesulfonamide (FOSA)	2.1		2.1	1.0	ng/L		12/23/20 19:00	12/28/20 06:50	1
NEtFOSA	<2.1		2.1	0.91	ng/L		12/23/20 19:00	12/28/20 06:50	1
NMeFOSA	<2.1		2.1	0.45	ng/L		12/23/20 19:00	12/28/20 06:50	1
NMeFOSAA	<5.3		5.3	1.3	ng/L		12/23/20 19:00	12/28/20 06:50	1
NEtFOSAA	<5.3		5.3	1.4	ng/L		12/23/20 19:00	12/28/20 06:50	1
NMeFOSE	<4.2		4.2	1.5	ng/L		12/23/20 19:00	12/28/20 06:50	1
NEtFOSE	<2.1		2.1	0.89	ng/L		12/23/20 19:00	12/28/20 06:50	1
4:2 FTS	2.0	J	2.1	0.25	ng/L		12/23/20 19:00	12/28/20 06:50	1
6:2 FTS	190		5.3	2.6	ng/L		12/23/20 19:00	12/28/20 06:50	1
8:2 FTS	13		2.1	0.48	ng/L		12/23/20 19:00	12/28/20 06:50	1
10:2 FTS	<2.1		2.1	0.70	ng/L		12/23/20 19:00	12/28/20 06:50	1
DONA	<2.1		2.1	0.42	ng/L		12/23/20 19:00	12/28/20 06:50	1
HFPO-DA (GenX)	<4.2		4.2	1.6	ng/L		12/23/20 19:00	12/28/20 06:50	1
F-53B Major	<2.1		2.1	0.25	ng/L		12/23/20 19:00	12/28/20 06:50	1
F-53B Minor	<2.1		2.1	0.34	ng/L		12/23/20 19:00	12/28/20 06:50	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	65		25 - 150				12/23/20 19:00	12/28/20 06:50	1
13C5 PFPeA	67		25 - 150				12/23/20 19:00	12/28/20 06:50	1
13C2 PFHxA	80		25 - 150				12/23/20 19:00	12/28/20 06:50	1
13C4 PFHpA	81		25 - 150				12/23/20 19:00	12/28/20 06:50	1
13C4 PFOA	83		25 - 150				12/23/20 19:00	12/28/20 06:50	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M08 (12162020)

Lab Sample ID: 500-192823-8

Date Collected: 12/16/20 13:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	89		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C2 PFDA	85		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C2 PFUnA	93		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C2 PFDoA	79		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C2 PFTeDA	89		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C2 PFHxDA	86		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C3 PFBS	70		25 - 150	12/23/20 19:00	12/28/20 06:50	1
18O2 PFHxS	76		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C4 PFOS	85		25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C8 FOSA	36		10 - 150	12/23/20 19:00	12/28/20 06:50	1
d3-NMeFOSAA	101		25 - 150	12/23/20 19:00	12/28/20 06:50	1
d5-NEtFOSAA	119		25 - 150	12/23/20 19:00	12/28/20 06:50	1
d-N-MeFOSA-M	92		10 - 150	12/23/20 19:00	12/28/20 06:50	1
d-N-EtFOSA-M	82		10 - 150	12/23/20 19:00	12/28/20 06:50	1
d7-N-MeFOSE-M	58		10 - 150	12/23/20 19:00	12/28/20 06:50	1
d9-N-EtFOSE-M	53		10 - 150	12/23/20 19:00	12/28/20 06:50	1
M2-4:2 FTS	204	*5+	25 - 150	12/23/20 19:00	12/28/20 06:50	1
M2-6:2 FTS	188	*5+	25 - 150	12/23/20 19:00	12/28/20 06:50	1
M2-8:2 FTS	292	*5+	25 - 150	12/23/20 19:00	12/28/20 06:50	1
13C3 HFPO-DA	71		25 - 150	12/23/20 19:00	12/28/20 06:50	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	25	J	53	25	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoropentanoic acid (PFPeA)	66		21	5.1	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorohexanoic acid (PFHxA)	48		21	6.1	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoroheptanoic acid (PFHpA)	26		21	2.6	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorooctanoic acid (PFOA)	98		21	8.9	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorononanoic acid (PFNA)	5.5	J	21	2.8	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorodecanoic acid (PFDA)	<21		21	3.3	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoroundecanoic acid (PFUnA)	<21		21	12	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorododecanoic acid (PFDoA)	<21		21	5.8	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorotridecanoic acid (PFTriA)	<21		21	14	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorotetradecanoic acid (PFTeA)	<21		21	7.7	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<21		21	9.3	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoro-n-octadecanoic acid (PFODA)	<21		21	9.9	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorobutanesulfonic acid (PFBS)	<21		21	2.1	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoropentanesulfonic acid (PFPeS)	<21		21	3.2	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorohexanesulfonic acid (PFHxS)	8.8	J	21	6.0	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluoroheptanesulfonic Acid (PFHpS)	<21		21	2.0	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorooctanesulfonic acid (PFOS)	9.8	J	21	5.7	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorononanesulfonic acid (PFNS)	<21		21	3.9	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorodecanesulfonic acid (PFDS)	<21		21	3.4	ng/L		12/23/20 19:00	12/29/20 05:36	10
Perfluorododecanesulfonic acid (PFDoS)	<21		21	10	ng/L		12/23/20 19:00	12/29/20 05:36	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M08 (12162020)

Lab Sample ID: 500-192823-8

Date Collected: 12/16/20 13:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<21		21	10	ng/L		12/23/20 19:00	12/29/20 05:36	10
NEtFOSA	<21		21	9.1	ng/L		12/23/20 19:00	12/29/20 05:36	10
NMeFOSA	<21		21	4.5	ng/L		12/23/20 19:00	12/29/20 05:36	10
NMeFOSAA	<53		53	13	ng/L		12/23/20 19:00	12/29/20 05:36	10
NEtFOSAA	<53		53	14	ng/L		12/23/20 19:00	12/29/20 05:36	10
NMeFOSE	<42		42	15	ng/L		12/23/20 19:00	12/29/20 05:36	10
NEtFOSE	<21		21	8.9	ng/L		12/23/20 19:00	12/29/20 05:36	10
4:2 FTS	2.7	J	21	2.5	ng/L		12/23/20 19:00	12/29/20 05:36	10
6:2 FTS	190		53	26	ng/L		12/23/20 19:00	12/29/20 05:36	10
8:2 FTS	14	J	21	4.8	ng/L		12/23/20 19:00	12/29/20 05:36	10
10:2 FTS	<21		21	7.0	ng/L		12/23/20 19:00	12/29/20 05:36	10
DONA	<21		21	4.2	ng/L		12/23/20 19:00	12/29/20 05:36	10
HFPO-DA (GenX)	<42		42	16	ng/L		12/23/20 19:00	12/29/20 05:36	10
F-53B Major	<21		21	2.5	ng/L		12/23/20 19:00	12/29/20 05:36	10
F-53B Minor	<21		21	3.4	ng/L		12/23/20 19:00	12/29/20 05:36	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	73		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C5 PFPeA	74		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C2 PFHxA	76		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C4 PFHpA	81		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C4 PFOA	86		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C5 PFNA	90		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C2 PFDA	83		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C2 PFUnA	88		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C2 PFDoA	80		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C2 PFTeDA	81		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C2 PFHxDA	81		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C3 PFBS	75		25 - 150				12/23/20 19:00	12/29/20 05:36	10
18O2 PFHxS	76		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C4 PFOS	79		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C8 FOSA	42		10 - 150				12/23/20 19:00	12/29/20 05:36	10
d3-NMeFOSAA	104		25 - 150				12/23/20 19:00	12/29/20 05:36	10
d5-NEtFOSAA	99		25 - 150				12/23/20 19:00	12/29/20 05:36	10
d-N-MeFOSA-M	83		10 - 150				12/23/20 19:00	12/29/20 05:36	10
d-N-EtFOSA-M	80		10 - 150				12/23/20 19:00	12/29/20 05:36	10
d7-N-MeFOSE-M	49		10 - 150				12/23/20 19:00	12/29/20 05:36	10
d9-N-EtFOSE-M	49		10 - 150				12/23/20 19:00	12/29/20 05:36	10
M2-4:2 FTS	94		25 - 150				12/23/20 19:00	12/29/20 05:36	10
M2-6:2 FTS	100		25 - 150				12/23/20 19:00	12/29/20 05:36	10
M2-8:2 FTS	139		25 - 150				12/23/20 19:00	12/29/20 05:36	10
13C3 HFPO-DA	71		25 - 150				12/23/20 19:00	12/29/20 05:36	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	570		100	39	mg/L			12/22/20 17:07	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M09 (12162020)

Lab Sample ID: 500-192823-9

Date Collected: 12/16/20 13:15

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	57		4.7	2.3	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoropentanoic acid (PFPeA)	150		1.9	0.46	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorohexanoic acid (PFHxA)	110		1.9	0.55	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoroheptanoic acid (PFHpA)	59		1.9	0.24	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorooctanoic acid (PFOA)	85		1.9	0.80	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorononanoic acid (PFNA)	9.1		1.9	0.26	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorodecanoic acid (PFDA)	6.6		1.9	0.29	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.52	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.69	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.84	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.89	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoropentanesulfonic acid (PFPeS)	0.45	J	1.9	0.28	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorohexanesulfonic acid (PFHxS)	5.0		1.9	0.54	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.20	J	1.9	0.18	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorooctanesulfonic acid (PFOS)	14		1.9	0.51	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.35	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.92	ng/L		12/23/20 19:00	12/28/20 07:00	1
Perfluorooctanesulfonamide (FOSA)	13		1.9	0.93	ng/L		12/23/20 19:00	12/28/20 07:00	1
NEtFOSA	<1.9		1.9	0.82	ng/L		12/23/20 19:00	12/28/20 07:00	1
NMeFOSA	<1.9		1.9	0.41	ng/L		12/23/20 19:00	12/28/20 07:00	1
NMeFOSAA	<4.7		4.7	1.1	ng/L		12/23/20 19:00	12/28/20 07:00	1
NEtFOSAA	<4.7		4.7	1.2	ng/L		12/23/20 19:00	12/28/20 07:00	1
NMeFOSE	<3.8		3.8	1.3	ng/L		12/23/20 19:00	12/28/20 07:00	1
NEtFOSE	<1.9		1.9	0.80	ng/L		12/23/20 19:00	12/28/20 07:00	1
4:2 FTS	1.3	J	1.9	0.23	ng/L		12/23/20 19:00	12/28/20 07:00	1
6:2 FTS	230		4.7	2.4	ng/L		12/23/20 19:00	12/28/20 07:00	1
8:2 FTS	120		1.9	0.43	ng/L		12/23/20 19:00	12/28/20 07:00	1
10:2 FTS	<1.9		1.9	0.63	ng/L		12/23/20 19:00	12/28/20 07:00	1
DONA	<1.9		1.9	0.38	ng/L		12/23/20 19:00	12/28/20 07:00	1
HFPO-DA (GenX)	<3.8		3.8	1.4	ng/L		12/23/20 19:00	12/28/20 07:00	1
F-53B Major	<1.9		1.9	0.23	ng/L		12/23/20 19:00	12/28/20 07:00	1
F-53B Minor	<1.9		1.9	0.30	ng/L		12/23/20 19:00	12/28/20 07:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150				12/23/20 19:00	12/28/20 07:00	1
13C5 PFPeA	79		25 - 150				12/23/20 19:00	12/28/20 07:00	1
13C2 PFHxA	89		25 - 150				12/23/20 19:00	12/28/20 07:00	1
13C4 PFHpA	92		25 - 150				12/23/20 19:00	12/28/20 07:00	1
13C4 PFOA	94		25 - 150				12/23/20 19:00	12/28/20 07:00	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M09 (12162020)

Lab Sample ID: 500-192823-9

Date Collected: 12/16/20 13:15

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	103		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C2 PFDA	98		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C2 PFUnA	96		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C2 PFDoA	82		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C2 PFTeDA	101		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C2 PFHxDA	96		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C3 PFBS	84		25 - 150	12/23/20 19:00	12/28/20 07:00	1
18O2 PFHxS	89		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C4 PFOS	91		25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C8 FOSA	55		10 - 150	12/23/20 19:00	12/28/20 07:00	1
d3-NMeFOSAA	113		25 - 150	12/23/20 19:00	12/28/20 07:00	1
d5-NEtFOSAA	125		25 - 150	12/23/20 19:00	12/28/20 07:00	1
d-N-MeFOSA-M	99		10 - 150	12/23/20 19:00	12/28/20 07:00	1
d-N-EtFOSA-M	92		10 - 150	12/23/20 19:00	12/28/20 07:00	1
d7-N-MeFOSE-M	58		10 - 150	12/23/20 19:00	12/28/20 07:00	1
d9-N-EtFOSE-M	51		10 - 150	12/23/20 19:00	12/28/20 07:00	1
M2-4:2 FTS	165	*5+	25 - 150	12/23/20 19:00	12/28/20 07:00	1
M2-6:2 FTS	154	*5+	25 - 150	12/23/20 19:00	12/28/20 07:00	1
M2-8:2 FTS	251	*5+	25 - 150	12/23/20 19:00	12/28/20 07:00	1
13C3 HFPO-DA	85		25 - 150	12/23/20 19:00	12/28/20 07:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	58		47	23	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoropentanoic acid (PFPeA)	150		19	4.6	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorohexanoic acid (PFHxA)	110		19	5.5	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoroheptanoic acid (PFHpA)	59		19	2.4	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorooctanoic acid (PFOA)	79		19	8.0	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorononanoic acid (PFNA)	8.5	J	19	2.6	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorodecanoic acid (PFDA)	6.7	J	19	2.9	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoroundecanoic acid (PFUnA)	<19		19	10	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorododecanoic acid (PFDoA)	<19		19	5.2	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorotridecanoic acid (PFTriA)	<19		19	12	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorotetradecanoic acid (PFTeA)	<19		19	6.9	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<19		19	8.4	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoro-n-octadecanoic acid (PFODA)	<19		19	8.9	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorobutanesulfonic acid (PFBS)	<19		19	1.9	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoropentanesulfonic acid (PFPeS)	<19		19	2.8	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorohexanesulfonic acid (PFHxS)	<19		19	5.4	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluoroheptanesulfonic Acid (PFHpS)	<19		19	1.8	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorooctanesulfonic acid (PFOS)	15	J	19	5.1	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorononanesulfonic acid (PFNS)	<19		19	3.5	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorodecanesulfonic acid (PFDS)	<19		19	3.0	ng/L		12/23/20 19:00	12/29/20 05:45	10
Perfluorododecanesulfonic acid (PFDoS)	<19		19	9.2	ng/L		12/23/20 19:00	12/29/20 05:45	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M09 (12162020)

Lab Sample ID: 500-192823-9

Date Collected: 12/16/20 13:15

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	13	J	19	9.3	ng/L		12/23/20 19:00	12/29/20 05:45	10
NEtFOSA	<19		19	8.2	ng/L		12/23/20 19:00	12/29/20 05:45	10
NMeFOSA	<19		19	4.1	ng/L		12/23/20 19:00	12/29/20 05:45	10
NMeFOSAA	<47		47	11	ng/L		12/23/20 19:00	12/29/20 05:45	10
NEtFOSAA	<47		47	12	ng/L		12/23/20 19:00	12/29/20 05:45	10
NMeFOSE	<38		38	13	ng/L		12/23/20 19:00	12/29/20 05:45	10
NEtFOSE	<19		19	8.0	ng/L		12/23/20 19:00	12/29/20 05:45	10
4:2 FTS	<19		19	2.3	ng/L		12/23/20 19:00	12/29/20 05:45	10
6:2 FTS	250		47	24	ng/L		12/23/20 19:00	12/29/20 05:45	10
8:2 FTS	140		19	4.3	ng/L		12/23/20 19:00	12/29/20 05:45	10
10:2 FTS	<19		19	6.3	ng/L		12/23/20 19:00	12/29/20 05:45	10
DONA	<19		19	3.8	ng/L		12/23/20 19:00	12/29/20 05:45	10
HFPO-DA (GenX)	<38		38	14	ng/L		12/23/20 19:00	12/29/20 05:45	10
F-53B Major	<19		19	2.3	ng/L		12/23/20 19:00	12/29/20 05:45	10
F-53B Minor	<19		19	3.0	ng/L		12/23/20 19:00	12/29/20 05:45	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	91		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C5 PFPeA	92		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C2 PFHxA	96		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C4 PFHpA	98		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C4 PFOA	103		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C5 PFNA	109		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C2 PFDA	100		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C2 PFUnA	98		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C2 PFDoA	85		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C2 PFTeDA	95		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C2 PFHxDA	88		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C3 PFBS	91		25 - 150	12/23/20 19:00	12/29/20 05:45	10
18O2 PFHxS	91		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C4 PFOS	91		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C8 FOSA	60		10 - 150	12/23/20 19:00	12/29/20 05:45	10
d3-NMeFOSAA	89		25 - 150	12/23/20 19:00	12/29/20 05:45	10
d5-NEtFOSAA	96		25 - 150	12/23/20 19:00	12/29/20 05:45	10
d-N-MeFOSA-M	99		10 - 150	12/23/20 19:00	12/29/20 05:45	10
d-N-EtFOSA-M	92		10 - 150	12/23/20 19:00	12/29/20 05:45	10
d7-N-MeFOSE-M	57		10 - 150	12/23/20 19:00	12/29/20 05:45	10
d9-N-EtFOSE-M	51		10 - 150	12/23/20 19:00	12/29/20 05:45	10
M2-4:2 FTS	97		25 - 150	12/23/20 19:00	12/29/20 05:45	10
M2-6:2 FTS	107		25 - 150	12/23/20 19:00	12/29/20 05:45	10
M2-8:2 FTS	106		25 - 150	12/23/20 19:00	12/29/20 05:45	10
13C3 HFPO-DA	89		25 - 150	12/23/20 19:00	12/29/20 05:45	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	120		9.1	3.5	mg/L			12/22/20 17:08	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M10 (12162020)

Lab Sample ID: 500-192823-10

Date Collected: 12/16/20 13:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	21		4.5	2.1	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoropentanoic acid (PFPeA)	38		1.8	0.44	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorohexanoic acid (PFHxA)	31		1.8	0.52	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoroheptanoic acid (PFHpA)	20		1.8	0.22	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorooctanoic acid (PFOA)	91		1.8	0.76	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorononanoic acid (PFNA)	2.6		1.8	0.24	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorodecanoic acid (PFDA)	0.68	J	1.8	0.28	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.98	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.79	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.8	0.18	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoropentanesulfonic acid (PFPeS)	0.64	J	1.8	0.27	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorohexanesulfonic acid (PFHxS)	27		1.8	0.51	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.9		1.8	0.17	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorooctanesulfonic acid (PFOS)	24		1.8	0.48	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		12/23/20 19:00	12/28/20 07:09	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.87	ng/L		12/23/20 19:00	12/28/20 07:09	1
NEtFOSA	<1.8		1.8	0.78	ng/L		12/23/20 19:00	12/28/20 07:09	1
NMeFOSA	<1.8		1.8	0.38	ng/L		12/23/20 19:00	12/28/20 07:09	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/23/20 19:00	12/28/20 07:09	1
NEtFOSAA	<4.5		4.5	1.2	ng/L		12/23/20 19:00	12/28/20 07:09	1
NMeFOSE	<3.6		3.6	1.2	ng/L		12/23/20 19:00	12/28/20 07:09	1
NEtFOSE	<1.8		1.8	0.76	ng/L		12/23/20 19:00	12/28/20 07:09	1
4:2 FTS	0.47	J	1.8	0.21	ng/L		12/23/20 19:00	12/28/20 07:09	1
6:2 FTS	55		4.5	2.2	ng/L		12/23/20 19:00	12/28/20 07:09	1
8:2 FTS	18		1.8	0.41	ng/L		12/23/20 19:00	12/28/20 07:09	1
10:2 FTS	<1.8		1.8	0.60	ng/L		12/23/20 19:00	12/28/20 07:09	1
DONA	<1.8		1.8	0.36	ng/L		12/23/20 19:00	12/28/20 07:09	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		12/23/20 19:00	12/28/20 07:09	1
F-53B Major	<1.8		1.8	0.21	ng/L		12/23/20 19:00	12/28/20 07:09	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/23/20 19:00	12/28/20 07:09	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150				12/23/20 19:00	12/28/20 07:09	1
13C5 PFPeA	67		25 - 150				12/23/20 19:00	12/28/20 07:09	1
13C2 PFHxA	74		25 - 150				12/23/20 19:00	12/28/20 07:09	1
13C4 PFHpA	75		25 - 150				12/23/20 19:00	12/28/20 07:09	1
13C4 PFOA	82		25 - 150				12/23/20 19:00	12/28/20 07:09	1
13C5 PFNA	83		25 - 150				12/23/20 19:00	12/28/20 07:09	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M10 (12162020)

Lab Sample ID: 500-192823-10

Date Collected: 12/16/20 13:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	86		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C2 PFUnA	83		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C2 PFDoA	73		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C2 PFTeDA	84		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C2 PFHxDA	80		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C3 PFBS	70		25 - 150	12/23/20 19:00	12/28/20 07:09	1
18O2 PFHxS	72		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C4 PFOS	81		25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C8 FOSA	68		10 - 150	12/23/20 19:00	12/28/20 07:09	1
d3-NMeFOSAA	106		25 - 150	12/23/20 19:00	12/28/20 07:09	1
d5-NEtFOSAA	111		25 - 150	12/23/20 19:00	12/28/20 07:09	1
d-N-MeFOSA-M	84		10 - 150	12/23/20 19:00	12/28/20 07:09	1
d-N-EtFOSA-M	75		10 - 150	12/23/20 19:00	12/28/20 07:09	1
d7-N-MeFOSE-M	47		10 - 150	12/23/20 19:00	12/28/20 07:09	1
d9-N-EtFOSE-M	46		10 - 150	12/23/20 19:00	12/28/20 07:09	1
M2-4:2 FTS	125		25 - 150	12/23/20 19:00	12/28/20 07:09	1
M2-6:2 FTS	118		25 - 150	12/23/20 19:00	12/28/20 07:09	1
M2-8:2 FTS	235	*5+	25 - 150	12/23/20 19:00	12/28/20 07:09	1
13C3 HFPO-DA	66		25 - 150	12/23/20 19:00	12/28/20 07:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	21	J	45	21	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoropentanoic acid (PFPeA)	38		18	4.4	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorohexanoic acid (PFHxA)	33		18	5.2	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoroheptanoic acid (PFHpA)	20		18	2.2	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorooctanoic acid (PFOA)	85		18	7.6	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorononanoic acid (PFNA)	<18		18	2.4	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorodecanoic acid (PFDA)	<18		18	2.8	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.8	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorododecanoic acid (PFDoA)	<18		18	4.9	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.5	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	7.9	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.4	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorobutanesulfonic acid (PFBS)	<18		18	1.8	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoropentanesulfonic acid (PFPeS)	<18		18	2.7	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorohexanesulfonic acid (PFHxS)	29		18	5.1	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluoroheptanesulfonic Acid (PFHpS)	3.1	J	18	1.7	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorooctanesulfonic acid (PFOS)	26		18	4.8	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.7	ng/L		12/23/20 19:00	12/29/20 05:55	10
Perfluorooctanesulfonamide (FOSA)	<18		18	8.7	ng/L		12/23/20 19:00	12/29/20 05:55	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M10 (12162020)

Lab Sample ID: 500-192823-10

Date Collected: 12/16/20 13:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	<18		18	7.8	ng/L		12/23/20 19:00	12/29/20 05:55	10
NMeFOSA	<18		18	3.8	ng/L		12/23/20 19:00	12/29/20 05:55	10
NMeFOSAA	<45		45	11	ng/L		12/23/20 19:00	12/29/20 05:55	10
NEtFOSAA	<45		45	12	ng/L		12/23/20 19:00	12/29/20 05:55	10
NMeFOSE	<36		36	12	ng/L		12/23/20 19:00	12/29/20 05:55	10
NEtFOSE	<18		18	7.6	ng/L		12/23/20 19:00	12/29/20 05:55	10
4:2 FTS	<18		18	2.1	ng/L		12/23/20 19:00	12/29/20 05:55	10
6:2 FTS	58		45	22	ng/L		12/23/20 19:00	12/29/20 05:55	10
8:2 FTS	19		18	4.1	ng/L		12/23/20 19:00	12/29/20 05:55	10
10:2 FTS	<18		18	6.0	ng/L		12/23/20 19:00	12/29/20 05:55	10
DONA	<18		18	3.6	ng/L		12/23/20 19:00	12/29/20 05:55	10
HFPO-DA (GenX)	<36		36	13	ng/L		12/23/20 19:00	12/29/20 05:55	10
F-53B Major	<18		18	2.1	ng/L		12/23/20 19:00	12/29/20 05:55	10
F-53B Minor	<18		18	2.9	ng/L		12/23/20 19:00	12/29/20 05:55	10

Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	72		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C5 PFPeA	71		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C2 PFHxA	73		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C4 PFHpA	78		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C4 PFOA	84		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C5 PFNA	82		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C2 PFDA	83		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C2 PFUnA	84		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C2 PFDoA	63		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C2 PFTeDA	75		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C2 PFHxDA	78		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C3 PFBS	75		25 - 150				12/23/20 19:00	12/29/20 05:55	10
18O2 PFHxS	72		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C4 PFOS	77		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C8 FOSA	74		10 - 150				12/23/20 19:00	12/29/20 05:55	10
d3-NMeFOSAA	86		25 - 150				12/23/20 19:00	12/29/20 05:55	10
d5-NEtFOSAA	88		25 - 150				12/23/20 19:00	12/29/20 05:55	10
d-N-MeFOSA-M	85		10 - 150				12/23/20 19:00	12/29/20 05:55	10
d-N-EtFOSA-M	75		10 - 150				12/23/20 19:00	12/29/20 05:55	10
d7-N-MeFOSE-M	46		10 - 150				12/23/20 19:00	12/29/20 05:55	10
d9-N-EtFOSE-M	40		10 - 150				12/23/20 19:00	12/29/20 05:55	10
M2-4:2 FTS	75		25 - 150				12/23/20 19:00	12/29/20 05:55	10
M2-6:2 FTS	79		25 - 150				12/23/20 19:00	12/29/20 05:55	10
M2-8:2 FTS	99		25 - 150				12/23/20 19:00	12/29/20 05:55	10
13C3 HFPO-DA	76		25 - 150				12/23/20 19:00	12/29/20 05:55	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	30		5.0	1.9	mg/L			12/22/20 17:09	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	16		5.1	2.4	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoropentanoic acid (PFPeA)	34		2.0	0.50	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorohexanoic acid (PFHxA)	46		2.0	0.59	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoroheptanoic acid (PFHpA)	21		2.0	0.26	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorooctanoic acid (PFOA)	210		2.0	0.87	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorononanoic acid (PFNA)	2.8		2.0	0.28	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.32	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.56	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.74	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.91	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.96	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorobutanesulfonic acid (PFBS)	2.1		2.0	0.20	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoropentanesulfonic acid (PFPeS)	2.1		2.0	0.31	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorohexanesulfonic acid (PFHxS)	12		2.0	0.58	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorooctanesulfonic acid (PFOS)	5.0		2.0	0.55	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.38	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.99	ng/L		12/23/20 19:00	12/28/20 07:18	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	1.0	ng/L		12/23/20 19:00	12/28/20 07:18	1
NEtFOSA	<2.0		2.0	0.89	ng/L		12/23/20 19:00	12/28/20 07:18	1
NMeFOSA	<2.0		2.0	0.44	ng/L		12/23/20 19:00	12/28/20 07:18	1
NMeFOSAA	<5.1		5.1	1.2	ng/L		12/23/20 19:00	12/28/20 07:18	1
NEtFOSAA	<5.1		5.1	1.3	ng/L		12/23/20 19:00	12/28/20 07:18	1
NMeFOSE	<4.1		4.1	1.4	ng/L		12/23/20 19:00	12/28/20 07:18	1
NEtFOSE	<2.0		2.0	0.87	ng/L		12/23/20 19:00	12/28/20 07:18	1
4:2 FTS	7.6		2.0	0.24	ng/L		12/23/20 19:00	12/28/20 07:18	1
6:2 FTS	87		5.1	2.6	ng/L		12/23/20 19:00	12/28/20 07:18	1
8:2 FTS	4.0		2.0	0.47	ng/L		12/23/20 19:00	12/28/20 07:18	1
10:2 FTS	<2.0		2.0	0.68	ng/L		12/23/20 19:00	12/28/20 07:18	1
DONA	<2.0		2.0	0.41	ng/L		12/23/20 19:00	12/28/20 07:18	1
HFPO-DA (GenX)	<4.1		4.1	1.5	ng/L		12/23/20 19:00	12/28/20 07:18	1
F-53B Major	<2.0		2.0	0.24	ng/L		12/23/20 19:00	12/28/20 07:18	1
F-53B Minor	<2.0		2.0	0.33	ng/L		12/23/20 19:00	12/28/20 07:18	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	87		25 - 150				12/23/20 19:00	12/28/20 07:18	1
13C5 PFPeA	84		25 - 150				12/23/20 19:00	12/28/20 07:18	1
13C2 PFHxA	96		25 - 150				12/23/20 19:00	12/28/20 07:18	1
13C4 PFHpA	102		25 - 150				12/23/20 19:00	12/28/20 07:18	1
13C4 PFOA	107		25 - 150				12/23/20 19:00	12/28/20 07:18	1
13C5 PFNA	110		25 - 150				12/23/20 19:00	12/28/20 07:18	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	109		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C2 PFUnA	107		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C2 PFDoA	88		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C2 PFTeDA	105		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C2 PFHxDA	122		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C3 PFBS	83		25 - 150	12/23/20 19:00	12/28/20 07:18	1
18O2 PFHxS	94		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C4 PFOS	96		25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C8 FOSA	4	*5-	10 - 150	12/23/20 19:00	12/28/20 07:18	1
d3-NMeFOSAA	139		25 - 150	12/23/20 19:00	12/28/20 07:18	1
d5-NEtFOSAA	147		25 - 150	12/23/20 19:00	12/28/20 07:18	1
d-N-MeFOSA-M	82		10 - 150	12/23/20 19:00	12/28/20 07:18	1
d-N-EtFOSA-M	92		10 - 150	12/23/20 19:00	12/28/20 07:18	1
d7-N-MeFOSE-M	82		10 - 150	12/23/20 19:00	12/28/20 07:18	1
d9-N-EtFOSE-M	68		10 - 150	12/23/20 19:00	12/28/20 07:18	1
M2-4:2 FTS	227	*5+	25 - 150	12/23/20 19:00	12/28/20 07:18	1
M2-6:2 FTS	212	*5+	25 - 150	12/23/20 19:00	12/28/20 07:18	1
M2-8:2 FTS	354	*5+	25 - 150	12/23/20 19:00	12/28/20 07:18	1
13C3 HFPO-DA	90		25 - 150	12/23/20 19:00	12/28/20 07:18	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<51		51	24	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoropentanoic acid (PFPeA)	36		20	5.0	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorohexanoic acid (PFHxA)	46		20	5.9	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoroheptanoic acid (PFHpA)	21		20	2.6	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorooctanoic acid (PFOA)	210		20	8.7	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorononanoic acid (PFNA)	<20		20	2.8	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorodecanoic acid (PFDA)	<20		20	3.2	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoroundecanoic acid (PFUnA)	<20		20	11	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorododecanoic acid (PFDoA)	<20		20	5.6	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorotridecanoic acid (PFTriA)	<20		20	13	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorotetradecanoic acid (PFTeA)	<20		20	7.4	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<20		20	9.1	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoro-n-octadecanoic acid (PFODA)	<20		20	9.6	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorobutanesulfonic acid (PFBS)	<20		20	2.0	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoropentanesulfonic acid (PFPeS)	<20		20	3.1	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorohexanesulfonic acid (PFHxS)	12 J		20	5.8	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluoroheptanesulfonic Acid (PFHpS)	<20		20	1.9	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorooctanesulfonic acid (PFOS)	6.2 J		20	5.5	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorononanesulfonic acid (PFNS)	<20		20	3.8	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorodecanesulfonic acid (PFDS)	<20		20	3.3	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorododecanesulfonic acid (PFDoS)	<20		20	9.9	ng/L		12/23/20 19:00	12/29/20 06:23	10
Perfluorooctanesulfonamide (FOSA)	<20		20	10	ng/L		12/23/20 19:00	12/29/20 06:23	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	<20		20	8.9	ng/L		12/23/20 19:00	12/29/20 06:23	10
NMeFOSA	<20		20	4.4	ng/L		12/23/20 19:00	12/29/20 06:23	10
NMeFOSAA	<51		51	12	ng/L		12/23/20 19:00	12/29/20 06:23	10
NEtFOSAA	<51		51	13	ng/L		12/23/20 19:00	12/29/20 06:23	10
NMeFOSE	<41		41	14	ng/L		12/23/20 19:00	12/29/20 06:23	10
NEtFOSE	<20		20	8.7	ng/L		12/23/20 19:00	12/29/20 06:23	10
4:2 FTS	8.0	J	20	2.4	ng/L		12/23/20 19:00	12/29/20 06:23	10
6:2 FTS	94		51	26	ng/L		12/23/20 19:00	12/29/20 06:23	10
8:2 FTS	<20		20	4.7	ng/L		12/23/20 19:00	12/29/20 06:23	10
10:2 FTS	<20		20	6.8	ng/L		12/23/20 19:00	12/29/20 06:23	10
DONA	<20		20	4.1	ng/L		12/23/20 19:00	12/29/20 06:23	10
HFPO-DA (GenX)	<41		41	15	ng/L		12/23/20 19:00	12/29/20 06:23	10
F-53B Major	<20		20	2.4	ng/L		12/23/20 19:00	12/29/20 06:23	10
F-53B Minor	<20		20	3.3	ng/L		12/23/20 19:00	12/29/20 06:23	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	89		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C5 PFPeA	91		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C2 PFHxA	92		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C4 PFHpA	100		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C4 PFOA	102		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C5 PFNA	98		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C2 PFDA	103		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C2 PFUnA	98		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C2 PFDoA	98		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C2 PFTeDA	106		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C2 PFHxDA	89		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C3 PFBS	87		25 - 150				12/23/20 19:00	12/29/20 06:23	10
18O2 PFHxS	89		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C4 PFOS	88		25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C8 FOSA	4	*5-	10 - 150				12/23/20 19:00	12/29/20 06:23	10
d3-NMeFOSAA	102		25 - 150				12/23/20 19:00	12/29/20 06:23	10
d5-NEtFOSAA	121		25 - 150				12/23/20 19:00	12/29/20 06:23	10
d-N-MeFOSA-M	72		10 - 150				12/23/20 19:00	12/29/20 06:23	10
d-N-EtFOSA-M	88		10 - 150				12/23/20 19:00	12/29/20 06:23	10
d7-N-MeFOSE-M	59		10 - 150				12/23/20 19:00	12/29/20 06:23	10
d9-N-EtFOSE-M	55		10 - 150				12/23/20 19:00	12/29/20 06:23	10
M2-4:2 FTS	117		25 - 150				12/23/20 19:00	12/29/20 06:23	10
M2-6:2 FTS	108		25 - 150				12/23/20 19:00	12/29/20 06:23	10
M2-8:2 FTS	180	*5+	25 - 150				12/23/20 19:00	12/29/20 06:23	10
13C3 HFPO-DA	84		25 - 150				12/23/20 19:00	12/29/20 06:23	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<55	H	55	26	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoropentanoic acid (PFPeA)	35	H	22	5.4	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorohexanoic acid (PFHxA)	41	H	22	6.4	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoroheptanoic acid (PFHpA)	20	J H	22	2.7	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorooctanoic acid (PFOA)	220	H	22	9.3	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorononanoic acid (PFNA)	3.5	J H I	22	3.0	ng/L		12/30/20 04:22	12/31/20 14:04	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	<22	H	22	3.4	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoroundecanoic acid (PFUnA)	<22	H	22	12	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorododecanoic acid (PFDoA)	<22	H	22	6.0	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorotridecanoic acid (PFTriA)	<22	H	22	14	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorotetradecanoic acid (PFTeA)	<22	H	22	8.0	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<22	H	22	9.8	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoro-n-octadecanoic acid (PFODA)	<22	H	22	10	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorobutanesulfonic acid (PFBS)	<22	H	22	2.2	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoropentanesulfonic acid (PFPeS)	<22	H	22	3.3	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorohexanesulfonic acid (PFHxS)	11	J H	22	6.2	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluoroheptanesulfonic Acid (PFHpS)	<22	H	22	2.1	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorooctanesulfonic acid (PFOS)	<22	H	22	5.9	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorononanesulfonic acid (PFNS)	<22	H	22	4.1	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorodecanesulfonic acid (PFDS)	<22	H	22	3.5	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorododecanesulfonic acid (PFDoS)	<22	H	22	11	ng/L		12/30/20 04:22	12/31/20 14:04	10
Perfluorooctanesulfonamide (FOSA)	<22	H	22	11	ng/L		12/30/20 04:22	12/31/20 14:04	10
NEtFOSA	<22	H	22	9.5	ng/L		12/30/20 04:22	12/31/20 14:04	10
NMeFOSA	<22	H	22	4.7	ng/L		12/30/20 04:22	12/31/20 14:04	10
NMeFOSAA	<55	H	55	13	ng/L		12/30/20 04:22	12/31/20 14:04	10
NEtFOSAA	<55	H	55	14	ng/L		12/30/20 04:22	12/31/20 14:04	10
NMeFOSE	<44	H	44	15	ng/L		12/30/20 04:22	12/31/20 14:04	10
NEtFOSE	<22	H	22	9.3	ng/L		12/30/20 04:22	12/31/20 14:04	10
4:2 FTS	6.7	J H	22	2.6	ng/L		12/30/20 04:22	12/31/20 14:04	10
6:2 FTS	86	H	55	27	ng/L		12/30/20 04:22	12/31/20 14:04	10
8:2 FTS	<22	H	22	5.0	ng/L		12/30/20 04:22	12/31/20 14:04	10
10:2 FTS	<22	H	22	7.3	ng/L		12/30/20 04:22	12/31/20 14:04	10
DONA	<22	H	22	4.4	ng/L		12/30/20 04:22	12/31/20 14:04	10
HFPO-DA (GenX)	<44	H	44	16	ng/L		12/30/20 04:22	12/31/20 14:04	10
F-53B Major	<22	H	22	2.6	ng/L		12/30/20 04:22	12/31/20 14:04	10
F-53B Minor	<22	H	22	3.5	ng/L		12/30/20 04:22	12/31/20 14:04	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C5 PFPeA	90		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C2 PFHxA	94		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C4 PFHpA	90		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C4 PFOA	102		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C5 PFNA	101		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C2 PFDA	89		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C2 PFUnA	90		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C2 PFDoA	75		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C2 PFTeDA	84		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C2 PFHxDA	75		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C3 PFBS	92		25 - 150	12/30/20 04:22	12/31/20 14:04	10
18O2 PFHxS	91		25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C4 PFOS	85		25 - 150	12/30/20 04:22	12/31/20 14:04	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	6	*5-	10 - 150	12/30/20 04:22	12/31/20 14:04	10
d3-NMeFOSAA	103		25 - 150	12/30/20 04:22	12/31/20 14:04	10
d5-NEtFOSAA	96		25 - 150	12/30/20 04:22	12/31/20 14:04	10
d-N-MeFOSA-M	70		10 - 150	12/30/20 04:22	12/31/20 14:04	10
d-N-EtFOSA-M	78		10 - 150	12/30/20 04:22	12/31/20 14:04	10
d7-N-MeFOSE-M	66		10 - 150	12/30/20 04:22	12/31/20 14:04	10
d9-N-EtFOSE-M	76		10 - 150	12/30/20 04:22	12/31/20 14:04	10
M2-4:2 FTS	116		25 - 150	12/30/20 04:22	12/31/20 14:04	10
M2-6:2 FTS	130		25 - 150	12/30/20 04:22	12/31/20 14:04	10
M2-8:2 FTS	188	*5+	25 - 150	12/30/20 04:22	12/31/20 14:04	10
13C3 HFPO-DA	83		25 - 150	12/30/20 04:22	12/31/20 14:04	10

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	17	H	5.5	2.6	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoropentanoic acid (PFPeA)	34	H	2.2	0.54	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorohexanoic acid (PFHxA)	46	H	2.2	0.64	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoroheptanoic acid (PFHpA)	21	H	2.2	0.27	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorooctanoic acid (PFOA)	200	H	2.2	0.93	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorononanoic acid (PFNA)	3.3	H	2.2	0.30	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorodecanoic acid (PFDA)	<2.2	H	2.2	0.34	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoroundecanoic acid (PFUnA)	<2.2	H	2.2	1.2	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorododecanoic acid (PFDoA)	<2.2	H	2.2	0.60	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorotridecanoic acid (PFTriA)	<2.2	H	2.2	1.4	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorotetradecanoic acid (PFTeA)	<2.2	H	2.2	0.80	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2	H	2.2	0.98	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2	H	2.2	1.0	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorobutanesulfonic acid (PFBS)	1.9	J H	2.2	0.22	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoropentanesulfonic acid (PFPeS)	1.6	J H	2.2	0.33	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorohexanesulfonic acid (PFHxS)	11	H	2.2	0.62	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.36	J H	2.2	0.21	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorooctanesulfonic acid (PFOS)	5.3	H	2.2	0.59	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluoronanesulfonic acid (PFNS)	<2.2	H	2.2	0.41	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorodecanesulfonic acid (PFDS)	<2.2	H	2.2	0.35	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2	H	2.2	1.1	ng/L		12/30/20 04:22	12/31/20 11:07	1
Perfluorooctanesulfonamide (FOSA)	<2.2	H	2.2	1.1	ng/L		12/30/20 04:22	12/31/20 11:07	1
NEtFOSA	<2.2	H	2.2	0.95	ng/L		12/30/20 04:22	12/31/20 11:07	1
NMeFOSA	<2.2	H	2.2	0.47	ng/L		12/30/20 04:22	12/31/20 11:07	1
NMeFOSAA	<5.5	H	5.5	1.3	ng/L		12/30/20 04:22	12/31/20 11:07	1
NEtFOSAA	<5.5	H	5.5	1.4	ng/L		12/30/20 04:22	12/31/20 11:07	1
NMeFOSE	<4.4	H	4.4	1.5	ng/L		12/30/20 04:22	12/31/20 11:07	1
NEtFOSE	<2.2	H	2.2	0.93	ng/L		12/30/20 04:22	12/31/20 11:07	1
4:2 FTS	6.9	H	2.2	0.26	ng/L		12/30/20 04:22	12/31/20 11:07	1
6:2 FTS	88	H	5.5	2.7	ng/L		12/30/20 04:22	12/31/20 11:07	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	3.4	H	2.2	0.50	ng/L		12/30/20 04:22	12/31/20 11:07	1
10:2 FTS	<2.2	H	2.2	0.73	ng/L		12/30/20 04:22	12/31/20 11:07	1
DONA	<2.2	H	2.2	0.44	ng/L		12/30/20 04:22	12/31/20 11:07	1
HFPO-DA (GenX)	<4.4	H	4.4	1.6	ng/L		12/30/20 04:22	12/31/20 11:07	1
F-53B Major	<2.2	H	2.2	0.26	ng/L		12/30/20 04:22	12/31/20 11:07	1
F-53B Minor	<2.2	H	2.2	0.35	ng/L		12/30/20 04:22	12/31/20 11:07	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	96		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C5 PFPeA	110		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C2 PFHxA	102		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C4 PFHpA	102		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C4 PFOA	110		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C5 PFNA	112		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C2 PFDA	112		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C2 PFUnA	91		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C2 PFDoA	81		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C2 PFTeDA	96		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C2 PFHxDA	89		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C3 PFBS	108		25 - 150				12/30/20 04:22	12/31/20 11:07	1
18O2 PFHxS	104		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C4 PFOS	97		25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C8 FOSA	7	*5-	10 - 150				12/30/20 04:22	12/31/20 11:07	1
d3-NMeFOSAA	132		25 - 150				12/30/20 04:22	12/31/20 11:07	1
d5-NEtFOSAA	89		25 - 150				12/30/20 04:22	12/31/20 11:07	1
d-N-MeFOSA-M	77		10 - 150				12/30/20 04:22	12/31/20 11:07	1
d-N-EtFOSA-M	98		10 - 150				12/30/20 04:22	12/31/20 11:07	1
d7-N-MeFOSE-M	102		10 - 150				12/30/20 04:22	12/31/20 11:07	1
d9-N-EtFOSE-M	93		10 - 150				12/30/20 04:22	12/31/20 11:07	1
M2-4:2 FTS	172	*5+	25 - 150				12/30/20 04:22	12/31/20 11:07	1
M2-6:2 FTS	159	*5+	25 - 150				12/30/20 04:22	12/31/20 11:07	1
M2-8:2 FTS	257	*5+	25 - 150				12/30/20 04:22	12/31/20 11:07	1
13C3 HFPO-DA	103		25 - 150				12/30/20 04:22	12/31/20 11:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	18		5.0	1.9	mg/L			12/23/20 13:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: FIELD BLANK-12-16-2020

Lab Sample ID: 500-192823-12

Date Collected: 12/16/20 16:50

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.7		4.7	2.3	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoropentanoic acid (PFPeA)	<1.9		1.9	0.46	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorohexanoic acid (PFHxA)	<1.9		1.9	0.55	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoroheptanoic acid (PFHpA)	<1.9		1.9	0.24	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	0.81	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	0.26	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	0.29	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.52	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.69	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.84	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.89	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	0.19	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9	0.28	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	0.54	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9	0.18	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorooctanesulfonic acid (PFOS)	<1.9		1.9	0.51	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.35	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.92	ng/L		12/23/20 19:00	12/28/20 07:28	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	0.93	ng/L		12/23/20 19:00	12/28/20 07:28	1
NEtFOSA	<1.9		1.9	0.83	ng/L		12/23/20 19:00	12/28/20 07:28	1
NMeFOSA	<1.9		1.9	0.41	ng/L		12/23/20 19:00	12/28/20 07:28	1
NMeFOSAA	<4.7		4.7	1.1	ng/L		12/23/20 19:00	12/28/20 07:28	1
NEtFOSAA	<4.7		4.7	1.2	ng/L		12/23/20 19:00	12/28/20 07:28	1
NMeFOSE	<3.8		3.8	1.3	ng/L		12/23/20 19:00	12/28/20 07:28	1
NEtFOSE	<1.9		1.9	0.81	ng/L		12/23/20 19:00	12/28/20 07:28	1
4:2 FTS	<1.9		1.9	0.23	ng/L		12/23/20 19:00	12/28/20 07:28	1
6:2 FTS	<4.7		4.7	2.4	ng/L		12/23/20 19:00	12/28/20 07:28	1
8:2 FTS	<1.9		1.9	0.44	ng/L		12/23/20 19:00	12/28/20 07:28	1
10:2 FTS	<1.9		1.9	0.64	ng/L		12/23/20 19:00	12/28/20 07:28	1
DONA	<1.9		1.9	0.38	ng/L		12/23/20 19:00	12/28/20 07:28	1
HFPO-DA (GenX)	<3.8		3.8	1.4	ng/L		12/23/20 19:00	12/28/20 07:28	1
F-53B Major	<1.9		1.9	0.23	ng/L		12/23/20 19:00	12/28/20 07:28	1
F-53B Minor	<1.9		1.9	0.30	ng/L		12/23/20 19:00	12/28/20 07:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	96		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C5 PFPeA	101		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C2 PFHxA	98		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C4 PFHpA	103		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C4 PFOA	108		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C5 PFNA	109		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C2 PFDA	108		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C2 PFUnA	106		25 - 150	12/23/20 19:00	12/28/20 07:28	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: FIELD BLANK-12-16-2020

Lab Sample ID: 500-192823-12

Date Collected: 12/16/20 16:50

Matrix: Water

Date Received: 12/19/20 11:40

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

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDoA	90		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C2 PFTeDA	99		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C2 PFHxDA	103		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C3 PFBS	99		25 - 150	12/23/20 19:00	12/28/20 07:28	1
18O2 PFHxS	101		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C4 PFOS	105		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C8 FOSA	90		10 - 150	12/23/20 19:00	12/28/20 07:28	1
d3-NMeFOSAA	88		25 - 150	12/23/20 19:00	12/28/20 07:28	1
d5-NEtFOSAA	92		25 - 150	12/23/20 19:00	12/28/20 07:28	1
d-N-MeFOSA-M	93		10 - 150	12/23/20 19:00	12/28/20 07:28	1
d-N-EtFOSA-M	91		10 - 150	12/23/20 19:00	12/28/20 07:28	1
d7-N-MeFOSE-M	59		10 - 150	12/23/20 19:00	12/28/20 07:28	1
d9-N-EtFOSE-M	45		10 - 150	12/23/20 19:00	12/28/20 07:28	1
M2-4:2 FTS	91		25 - 150	12/23/20 19:00	12/28/20 07:28	1
M2-6:2 FTS	102		25 - 150	12/23/20 19:00	12/28/20 07:28	1
M2-8:2 FTS	90		25 - 150	12/23/20 19:00	12/28/20 07:28	1
13C3 HFPO-DA	101		25 - 150	12/23/20 19:00	12/28/20 07:28	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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 Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-445508/1-A
Matrix: Water
Analysis Batch: 446043

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 445508

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		12/23/20 19:00	12/28/20 04:40	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		12/23/20 19:00	12/28/20 04:40	1
NEtFOSA	<2.0		2.0	0.87	ng/L		12/23/20 19:00	12/28/20 04:40	1
NMeFOSA	<2.0		2.0	0.43	ng/L		12/23/20 19:00	12/28/20 04:40	1
NMeFOSAA	<5.0		5.0	1.2	ng/L		12/23/20 19:00	12/28/20 04:40	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		12/23/20 19:00	12/28/20 04:40	1
NMeFOSE	<4.0		4.0	1.4	ng/L		12/23/20 19:00	12/28/20 04:40	1
NEtFOSE	<2.0		2.0	0.85	ng/L		12/23/20 19:00	12/28/20 04:40	1
4:2 FTS	<2.0		2.0	0.24	ng/L		12/23/20 19:00	12/28/20 04:40	1
6:2 FTS	<5.0		5.0	2.5	ng/L		12/23/20 19:00	12/28/20 04:40	1
8:2 FTS	<2.0		2.0	0.46	ng/L		12/23/20 19:00	12/28/20 04:40	1
10:2 FTS	<2.0		2.0	0.67	ng/L		12/23/20 19:00	12/28/20 04:40	1
DONA	<2.0		2.0	0.40	ng/L		12/23/20 19:00	12/28/20 04:40	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		12/23/20 19:00	12/28/20 04:40	1
F-53B Major	<2.0		2.0	0.24	ng/L		12/23/20 19:00	12/28/20 04:40	1
F-53B Minor	<2.0		2.0	0.32	ng/L		12/23/20 19:00	12/28/20 04:40	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	84		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C5 PFPeA	88		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C2 PFHxA	84		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C4 PFHpA	90		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C4 PFOA	95		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C5 PFNA	93		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C2 PFDA	93		25 - 150	12/23/20 19:00	12/28/20 04:40	1

Eurofins TestAmerica, Chicago

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: MB 320-445508/1-A
Matrix: Water
Analysis Batch: 446043

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 445508

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFUnA	87		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C2 PFDoA	86		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C2 PFTeDA	84		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C2 PFHxDA	89		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C3 PFBS	88		25 - 150	12/23/20 19:00	12/28/20 04:40	1
18O2 PFHxS	86		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C4 PFOS	89		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C8 FOSA	82		10 - 150	12/23/20 19:00	12/28/20 04:40	1
d3-NMeFOSAA	78		25 - 150	12/23/20 19:00	12/28/20 04:40	1
d5-NEtFOSAA	82		25 - 150	12/23/20 19:00	12/28/20 04:40	1
d-N-MeFOSA-M	90		10 - 150	12/23/20 19:00	12/28/20 04:40	1
d-N-EtFOSA-M	88		10 - 150	12/23/20 19:00	12/28/20 04:40	1
d7-N-MeFOSE-M	59		10 - 150	12/23/20 19:00	12/28/20 04:40	1
d9-N-EtFOSE-M	54		10 - 150	12/23/20 19:00	12/28/20 04:40	1
M2-4:2 FTS	75		25 - 150	12/23/20 19:00	12/28/20 04:40	1
M2-6:2 FTS	84		25 - 150	12/23/20 19:00	12/28/20 04:40	1
M2-8:2 FTS	98		25 - 150	12/23/20 19:00	12/28/20 04:40	1
13C3 HFPO-DA	90		25 - 150	12/23/20 19:00	12/28/20 04:40	1

Lab Sample ID: LCS 320-445508/2-A
Matrix: Water
Analysis Batch: 446043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 445508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	40.2		ng/L		100	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	35.5		ng/L		89	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.9		ng/L		100	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	39.8		ng/L		100	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	37.4		ng/L		94	60 - 135
Perfluorononanoic acid (PFNA)	40.0	37.2		ng/L		93	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	42.7		ng/L		107	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	40.0		ng/L		100	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	43.3		ng/L		108	60 - 135
Perfluorotridecanoic acid (PFTriA)	40.0	44.5		ng/L		111	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	35.2		ng/L		88	60 - 135
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	42.8		ng/L		107	60 - 135
Perfluoro-n-octadecanoic acid (PFODA)	40.0	41.2		ng/L		103	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.4	38.1		ng/L		108	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.5	39.7		ng/L		106	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.7		ng/L		93	60 - 135
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	40.8		ng/L		107	60 - 135

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: LCS 320-445508/2-A
Matrix: Water
Analysis Batch: 446043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 445508

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	37.1	37.1		ng/L		100	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	39.8		ng/L		104	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	38.7		ng/L		100	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	37.2		ng/L		96	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	45.0		ng/L		113	60 - 135
NEtFOSA	40.0	36.9		ng/L		92	60 - 135
NMeFOSA	40.0	38.8		ng/L		97	60 - 135
NMeFOSAA	40.0	39.8		ng/L		100	60 - 135
NEtFOSAA	40.0	38.9		ng/L		97	60 - 135
NMeFOSE	40.0	36.0		ng/L		90	60 - 135
NEtFOSE	40.0	38.8		ng/L		97	60 - 135
4:2 FTS	37.4	36.4		ng/L		97	60 - 135
6:2 FTS	37.9	36.7		ng/L		97	60 - 135
8:2 FTS	38.3	43.9		ng/L		115	60 - 135
10:2 FTS	38.6	39.8		ng/L		103	60 - 135
DONA	37.7	39.0		ng/L		104	60 - 135
HFPO-DA (GenX)	40.0	40.5		ng/L		101	60 - 135
F-53B Major	37.3	41.4		ng/L		111	60 - 135
F-53B Minor	37.7	41.6		ng/L		110	60 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	80		25 - 150
13C5 PFPeA	84		25 - 150
13C2 PFHxA	84		25 - 150
13C4 PFHpA	88		25 - 150
13C4 PFOA	91		25 - 150
13C5 PFNA	89		25 - 150
13C2 PFDA	82		25 - 150
13C2 PFUnA	88		25 - 150
13C2 PFDoA	79		25 - 150
13C2 PFTeDA	96		25 - 150
13C2 PFHxDA	85		25 - 150
13C3 PFBS	81		25 - 150
18O2 PFHxS	84		25 - 150
13C4 PFOS	81		25 - 150
13C8 FOSA	74		10 - 150
d3-NMeFOSAA	81		25 - 150
d5-NEtFOSAA	82		25 - 150
d-N-MeFOSA-M	79		10 - 150
d-N-EtFOSA-M	81		10 - 150
d7-N-MeFOSE-M	62		10 - 150
d9-N-EtFOSE-M	50		10 - 150
M2-4:2 FTS	73		25 - 150
M2-6:2 FTS	76		25 - 150
M2-8:2 FTS	74		25 - 150

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: LCS 320-445508/2-A
Matrix: Water
Analysis Batch: 446043

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 445508

<i>Isotope Dilution</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
13C3 HFPO-DA	85		25 - 150

Lab Sample ID: 500-192823-1 MS
Matrix: Water
Analysis Batch: 446043

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA
Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA)	100		41.1	145		ng/L		98	70 - 130
Perfluoropentanoic acid (PFPeA)	290		41.1	315	4	ng/L		67	70 - 130
Perfluorohexanoic acid (PFHxA)	590	E	41.1	605	E 4	ng/L		34	70 - 130
Perfluoroheptanoic acid (PFHpA)	330		41.1	358	4	ng/L		62	70 - 130
Perfluorooctanoic acid (PFOA)	3000	E	41.1	3000	E 4	ng/L		35	70 - 130
Perfluorononanoic acid (PFNA)	310		41.1	346	4	ng/L		81	70 - 130
Perfluorodecanoic acid (PFDA)	16		41.1	55.3		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	<2.2		41.1	42.0		ng/L		102	70 - 130
Perfluorododecanoic acid (PFDoA)	<2.2		41.1	43.4		ng/L		106	70 - 130
Perfluorotridecanoic acid (PFTriA)	<2.2		41.1	41.5		ng/L		101	70 - 130
Perfluorotetradecanoic acid (PFTeA)	<2.2		41.1	40.7		ng/L		99	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		41.1	40.3		ng/L		98	70 - 130
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		41.1	46.8		ng/L		114	70 - 130
Perfluorobutanesulfonic acid (PFBS)	15		36.3	53.0		ng/L		105	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	19		38.5	63.5		ng/L		116	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	78		37.4	119		ng/L		111	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	7.1		39.1	41.7		ng/L		89	70 - 130
Perfluorooctanesulfonic acid (PFOS)	430	E	38.1	451	E 4	ng/L		56	70 - 130
Perfluorononanesulfonic acid (PFNS)	<2.2		39.4	33.5		ng/L		85	70 - 130
Perfluorodecanesulfonic acid (PFDS)	<2.2		39.6	35.5		ng/L		90	70 - 130
Perfluorododecanesulfonic acid (PFDoS)	<2.2		39.8	32.7		ng/L		82	70 - 130
Perfluorooctanesulfonamide (FOSA)	<2.2		41.1	51.5		ng/L		125	70 - 130
NEtFOSA	<2.2		41.1	38.2		ng/L		93	70 - 130
NMeFOSA	<2.2		41.1	38.1		ng/L		93	70 - 130
NMeFOSAA	<5.5		41.1	39.0		ng/L		95	70 - 130
NEtFOSAA	6.6		41.1	47.3		ng/L		99	70 - 130
NMeFOSE	<4.4		41.1	37.3		ng/L		91	70 - 130
NEtFOSE	<2.2		41.1	41.7		ng/L		101	70 - 130
4:2 FTS	81		38.4	124		ng/L		113	70 - 130
6:2 FTS	860	E	38.9	895	E 4	ng/L		86	70 - 130
8:2 FTS	400		39.4	451	E 4	ng/L		135	70 - 130

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: 500-192823-1 MS

Matrix: Water

Analysis Batch: 446043

Client Sample ID: GW-M01 (12162020)

Prep Type: Total/NA

Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
10:2 FTS	<2.2		39.6	36.2		ng/L		91	70 - 130
DONA	<2.2		38.7	40.6		ng/L		105	70 - 130
HFPO-DA (GenX)	<4.4		41.1	41.4		ng/L		101	70 - 130
F-53B Major	<2.2		38.3	41.9		ng/L		109	70 - 130
F-53B Minor	<2.2		38.7	37.1		ng/L		96	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFBA	104		25 - 150
13C5 PFPeA	101		25 - 150
13C2 PFHxA	113		25 - 150
13C4 PFHpA	120		25 - 150
13C4 PFOA	91		25 - 150
13C5 PFNA	124		25 - 150
13C2 PFDA	124		25 - 150
13C2 PFUnA	122		25 - 150
13C2 PFDoA	103		25 - 150
13C2 PFTeDA	102		25 - 150
13C2 PFHxDA	103		25 - 150
13C3 PFBS	113		25 - 150
18O2 PFHxS	111		25 - 150
13C4 PFOS	112		25 - 150
13C8 FOSA	103		10 - 150
d3-NMeFOSAA	122		25 - 150
d5-NEtFOSAA	141		25 - 150
d-N-MeFOSA-M	97		10 - 150
d-N-EtFOSA-M	79		10 - 150
d7-N-MeFOSE-M	69		10 - 150
d9-N-EtFOSE-M	62		10 - 150
M2-4:2 FTS	151	*5+	25 - 150
M2-6:2 FTS	87		25 - 150
M2-8:2 FTS	214	*5+	25 - 150
13C3 HFPO-DA	111		25 - 150

Lab Sample ID: 500-192823-1 MSD

Matrix: Water

Analysis Batch: 446043

Client Sample ID: GW-M01 (12162020)

Prep Type: Total/NA

Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	100		39.8	137		ng/L		82	70 - 130	6	30
Perfluoropentanoic acid (PFPeA)	290		39.8	313	4	ng/L		62	70 - 130	1	30
Perfluorohexanoic acid (PFHxA)	590	E	39.8	619	E 4	ng/L		70	70 - 130	2	30
Perfluoroheptanoic acid (PFHpA)	330		39.8	362	4	ng/L		74	70 - 130	1	30
Perfluorooctanoic acid (PFOA)	3000	E	39.8	2970	E 4	ng/L		-39	70 - 130	1	30
Perfluorononanoic acid (PFNA)	310		39.8	351	4	ng/L		96	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	16		39.8	55.0		ng/L		99	70 - 130	1	30
Perfluoroundecanoic acid (PFUnA)	<2.2		39.8	44.9		ng/L		113	70 - 130	7	30
Perfluorododecanoic acid (PFDoA)	<2.2		39.8	44.4		ng/L		112	70 - 130	2	30

Eurofins TestAmerica, Chicago

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: 500-192823-1 MSD

Matrix: Water

Analysis Batch: 446043

Client Sample ID: GW-M01 (12162020)

Prep Type: Total/NA

Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTriA)	<2.2		39.8	45.1		ng/L		113	70 - 130	8	30
Perfluorotetradecanoic acid (PFTeA)	<2.2		39.8	41.6		ng/L		105	70 - 130	2	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		39.8	39.0		ng/L		98	70 - 130	3	30
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		39.8	44.3		ng/L		111	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	15		35.2	51.0		ng/L		102	70 - 130	4	30
Perfluoropentanesulfonic acid (PFPeS)	19		37.3	58.3		ng/L		106	70 - 130	8	30
Perfluorohexanesulfonic acid (PFHxS)	78		36.2	111		ng/L		90	70 - 130	7	30
Perfluoroheptanesulfonic Acid (PFHpS)	7.1		37.9	45.0		ng/L		100	70 - 130	7	30
Perfluorooctanesulfonic acid (PFOS)	430	E	36.9	450	E 4	ng/L		53	70 - 130	0	30
Perfluorononanesulfonic acid (PFNS)	<2.2		38.2	35.1		ng/L		92	70 - 130	5	30
Perfluorodecanesulfonic acid (PFDS)	<2.2		38.3	36.7		ng/L		96	70 - 130	3	30
Perfluorododecanesulfonic acid (PFDoS)	<2.2		38.5	31.4		ng/L		82	70 - 130	4	30
Perfluorooctanesulfonamide (FOSA)	<2.2		39.8	48.1		ng/L		121	70 - 130	7	30
NEtFOSA	<2.2		39.8	40.2		ng/L		101	70 - 130	5	30
NMeFOSA	<2.2		39.8	38.5		ng/L		97	70 - 130	1	30
NMeFOSAA	<5.5		39.8	42.3		ng/L		106	70 - 130	8	30
NEtFOSAA	6.6		39.8	47.2		ng/L		102	70 - 130	0	30
NMeFOSE	<4.4		39.8	37.8		ng/L		95	70 - 130	1	30
NEtFOSE	<2.2		39.8	42.7		ng/L		107	70 - 130	2	30
4:2 FTS	81		37.2	109		ng/L		74	70 - 130	14	30
6:2 FTS	860	E	37.7	881	E 4	ng/L		53	70 - 130	2	30
8:2 FTS	400		38.1	457	E 4	ng/L		154	70 - 130	1	30
10:2 FTS	<2.2		38.3	35.0		ng/L		91	70 - 130	4	30
DONA	<2.2		37.5	42.2		ng/L		113	70 - 130	4	30
HFPO-DA (GenX)	<4.4		39.8	40.7		ng/L		102	70 - 130	2	30
F-53B Major	<2.2		37.1	40.9		ng/L		110	70 - 130	2	30
F-53B Minor	<2.2		37.5	39.9		ng/L		106	70 - 130	7	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	78		25 - 150
13C5 PFPeA	74		25 - 150
13C2 PFHxA	80		25 - 150
13C4 PFHpA	85		25 - 150
13C4 PFOA	70		25 - 150
13C5 PFNA	91		25 - 150
13C2 PFDA	87		25 - 150
13C2 PFUnA	83		25 - 150
13C2 PFDoA	74		25 - 150
13C2 PFTeDA	78		25 - 150

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: 500-192823-1 MSD
Matrix: Water
Analysis Batch: 446043

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA
Prep Batch: 445508

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C2 PFHxDA	76		25 - 150
13C3 PFBS	81		25 - 150
18O2 PFHxS	80		25 - 150
13C4 PFOS	75		25 - 150
13C8 FOSA	74		10 - 150
d3-NMeFOSAA	77		25 - 150
d5-NEtFOSAA	90		25 - 150
d-N-MeFOSA-M	67		10 - 150
d-N-EtFOSA-M	58		10 - 150
d7-N-MeFOSE-M	44		10 - 150
d9-N-EtFOSE-M	39		10 - 150
M2-4:2 FTS	113		25 - 150
M2-6:2 FTS	61		25 - 150
M2-8:2 FTS	151	*5+	25 - 150
13C3 HFPO-DA	78		25 - 150

Lab Sample ID: MB 320-447007/1-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447007

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		12/30/20 04:22	12/31/20 10:39	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		12/30/20 04:22	12/31/20 10:39	1
NEtFOSA	<2.0		2.0	0.87	ng/L		12/30/20 04:22	12/31/20 10:39	1
NMeFOSA	<2.0		2.0	0.43	ng/L		12/30/20 04:22	12/31/20 10:39	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: MB 320-447007/1-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447007

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSAA	<5.0		5.0	1.2	ng/L		12/30/20 04:22	12/31/20 10:39	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		12/30/20 04:22	12/31/20 10:39	1
NMeFOSE	<4.0		4.0	1.4	ng/L		12/30/20 04:22	12/31/20 10:39	1
NEtFOSE	<2.0		2.0	0.85	ng/L		12/30/20 04:22	12/31/20 10:39	1
4:2 FTS	<2.0		2.0	0.24	ng/L		12/30/20 04:22	12/31/20 10:39	1
6:2 FTS	<5.0		5.0	2.5	ng/L		12/30/20 04:22	12/31/20 10:39	1
8:2 FTS	<2.0		2.0	0.46	ng/L		12/30/20 04:22	12/31/20 10:39	1
10:2 FTS	<2.0		2.0	0.67	ng/L		12/30/20 04:22	12/31/20 10:39	1
DONA	<2.0		2.0	0.40	ng/L		12/30/20 04:22	12/31/20 10:39	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		12/30/20 04:22	12/31/20 10:39	1
F-53B Major	<2.0		2.0	0.24	ng/L		12/30/20 04:22	12/31/20 10:39	1
F-53B Minor	<2.0		2.0	0.32	ng/L		12/30/20 04:22	12/31/20 10:39	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	108		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C5 PFPeA	111		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C2 PFHxA	110		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C4 PFHpA	103		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C4 PFOA	119		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C5 PFNA	104		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C2 PFDA	101		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C2 PFUnA	111		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C2 PFDoA	129		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C2 PFTeDA	112		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C2 PFHxDA	87		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C3 PFBS	118		25 - 150	12/30/20 04:22	12/31/20 10:39	1
18O2 PFHxS	115		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C4 PFOS	108		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C8 FOSA	112		10 - 150	12/30/20 04:22	12/31/20 10:39	1
d3-NMeFOSAA	89		25 - 150	12/30/20 04:22	12/31/20 10:39	1
d5-NEtFOSAA	85		25 - 150	12/30/20 04:22	12/31/20 10:39	1
d-N-MeFOSA-M	98		10 - 150	12/30/20 04:22	12/31/20 10:39	1
d-N-EtFOSA-M	101		10 - 150	12/30/20 04:22	12/31/20 10:39	1
d7-N-MeFOSE-M	78		10 - 150	12/30/20 04:22	12/31/20 10:39	1
d9-N-EtFOSE-M	56		10 - 150	12/30/20 04:22	12/31/20 10:39	1
M2-4:2 FTS	84		25 - 150	12/30/20 04:22	12/31/20 10:39	1
M2-6:2 FTS	97		25 - 150	12/30/20 04:22	12/31/20 10:39	1
M2-8:2 FTS	92		25 - 150	12/30/20 04:22	12/31/20 10:39	1
13C3 HFPO-DA	100		25 - 150	12/30/20 04:22	12/31/20 10:39	1

Lab Sample ID: LCS 320-447007/2-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	42.0		ng/L		105	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	37.0		ng/L		92	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	39.3		ng/L		98	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	39.9		ng/L		100	60 - 135

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: LCS 320-447007/2-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447007

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid (PFOA)	40.0	40.1		ng/L		100	60 - 135
Perfluorononanoic acid (PFNA)	40.0	43.7		ng/L		109	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	43.6		ng/L		109	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	49.5		ng/L		124	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	33.2		ng/L		83	60 - 135
Perfluorotridecanoic acid (PFTriA)	40.0	40.5		ng/L		101	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	40.6		ng/L		102	60 - 135
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	38.5		ng/L		96	60 - 135
Perfluoro-n-octadecanoic acid (PFODA)	40.0	38.9		ng/L		97	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.4	35.3		ng/L		100	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.5	34.3		ng/L		91	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.7		ng/L		95	60 - 135
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.5		ng/L		109	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	35.9		ng/L		97	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	37.5		ng/L		98	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	37.5		ng/L		97	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	35.7		ng/L		92	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	41.2		ng/L		103	60 - 135
NEtFOSA	40.0	40.6		ng/L		101	60 - 135
NMeFOSA	40.0	36.5		ng/L		91	60 - 135
NMeFOSAA	40.0	39.6		ng/L		99	60 - 135
NEtFOSAA	40.0	43.9		ng/L		110	60 - 135
NMeFOSE	40.0	38.2		ng/L		96	60 - 135
NEtFOSE	40.0	35.4		ng/L		89	60 - 135
4:2 FTS	37.4	39.2		ng/L		105	60 - 135
6:2 FTS	37.9	37.6		ng/L		99	60 - 135
8:2 FTS	38.3	40.3		ng/L		105	60 - 135
10:2 FTS	38.6	47.1		ng/L		122	60 - 135
DONA	37.7	40.7		ng/L		108	60 - 135
HFPO-DA (GenX)	40.0	41.7		ng/L		104	60 - 135
F-53B Major	37.3	38.2		ng/L		102	60 - 135
F-53B Minor	37.7	36.0		ng/L		96	60 - 135

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	99		25 - 150
13C5 PFPeA	101		25 - 150
13C2 PFHxA	103		25 - 150

Eurofins TestAmerica, Chicago

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: LCS 320-447007/2-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447007

<i>Isotope Dilution</i>	<i>LCS LCS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
13C4 PFHpA	99		25 - 150
13C4 PFOA	108		25 - 150
13C5 PFNA	101		25 - 150
13C2 PFDA	92		25 - 150
13C2 PFUnA	93		25 - 150
13C2 PFDoA	90		25 - 150
13C2 PFTeDA	85		25 - 150
13C2 PFHxDA	93		25 - 150
13C3 PFBS	108		25 - 150
18O2 PFHxS	101		25 - 150
13C4 PFOS	101		25 - 150
13C8 FOSA	99		10 - 150
d3-NMeFOSAA	83		25 - 150
d5-NEtFOSAA	76		25 - 150
d-N-MeFOSA-M	90		10 - 150
d-N-EtFOSA-M	90		10 - 150
d7-N-MeFOSE-M	70		10 - 150
d9-N-EtFOSE-M	74		10 - 150
M2-4:2 FTS	76		25 - 150
M2-6:2 FTS	84		25 - 150
M2-8:2 FTS	77		25 - 150
13C3 HFPO-DA	97		25 - 150

Lab Sample ID: LCSD 320-447007/3-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447007

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	
								<i>RPD</i>	<i>Limit</i>
Perfluorobutanoic acid (PFBA)	40.0	40.2		ng/L		101	60 - 135	4	30
Perfluoropentanoic acid (PFPeA)	40.0	37.4		ng/L		94	60 - 135	1	30
Perfluorohexanoic acid (PFHxA)	40.0	37.1		ng/L		93	60 - 135	6	30
Perfluoroheptanoic acid (PFHpA)	40.0	43.8		ng/L		109	60 - 135	9	30
Perfluorooctanoic acid (PFOA)	40.0	36.5		ng/L		91	60 - 135	9	30
Perfluorononanoic acid (PFNA)	40.0	43.6		ng/L		109	60 - 135	0	30
Perfluorodecanoic acid (PFDA)	40.0	40.7		ng/L		102	60 - 135	7	30
Perfluoroundecanoic acid (PFUnA)	40.0	40.4		ng/L		101	60 - 135	20	30
Perfluorododecanoic acid (PFDoA)	40.0	40.7		ng/L		102	60 - 135	20	30
Perfluorotridecanoic acid (PFTriA)	40.0	38.0		ng/L		95	60 - 135	6	30
Perfluorotetradecanoic acid (PFTeA)	40.0	45.3		ng/L		113	60 - 135	11	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	46.6		ng/L		116	60 - 135	19	30
Perfluoro-n-octadecanoic acid (PFODA)	40.0	46.1		ng/L		115	60 - 135	17	30
Perfluorobutanesulfonic acid (PFBS)	35.4	34.7		ng/L		98	60 - 135	2	30
Perfluoropentanesulfonic acid (PFPeS)	37.5	33.6		ng/L		90	60 - 135	2	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: LCSD 320-447007/3-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447007

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.3		ng/L		91	60 - 135	4	30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	42.5		ng/L		112	60 - 135	2	30
Perfluorooctanesulfonic acid (PFOS)	37.1	37.3		ng/L		100	60 - 135	4	30
Perfluorononanesulfonic acid (PFNS)	38.4	38.2		ng/L		100	60 - 135	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	39.2		ng/L		102	60 - 135	4	30
Perfluorododecanesulfonic acid (PFDoS)	38.7	38.4		ng/L		99	60 - 135	7	30
Perfluorooctanesulfonamide (FOSA)	40.0	43.1		ng/L		108	60 - 135	5	30
NEtFOSA	40.0	40.8		ng/L		102	60 - 135	1	30
NMeFOSA	40.0	37.9		ng/L		95	60 - 135	4	30
NMeFOSAA	40.0	40.5		ng/L		101	60 - 135	2	30
NEtFOSAA	40.0	41.9		ng/L		105	60 - 135	5	30
NMeFOSE	40.0	41.4		ng/L		104	60 - 135	8	30
NEtFOSE	40.0	37.8		ng/L		94	60 - 135	6	30
4:2 FTS	37.4	39.9		ng/L		107	60 - 135	2	30
6:2 FTS	37.9	38.9		ng/L		103	60 - 135	3	30
8:2 FTS	38.3	36.7		ng/L		96	60 - 135	9	30
10:2 FTS	38.6	41.1		ng/L		107	60 - 135	14	30
DONA	37.7	42.0		ng/L		111	60 - 135	3	30
HFPO-DA (GenX)	40.0	39.5		ng/L		99	60 - 135	6	30
F-53B Major	37.3	38.4		ng/L		103	60 - 135	0	30
F-53B Minor	37.7	39.5		ng/L		105	60 - 135	9	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	108		25 - 150
13C5 PFPeA	108		25 - 150
13C2 PFHxA	108		25 - 150
13C4 PFHpA	97		25 - 150
13C4 PFOA	114		25 - 150
13C5 PFNA	103		25 - 150
13C2 PFDA	103		25 - 150
13C2 PFUnA	117		25 - 150
13C2 PFDoA	102		25 - 150
13C2 PFTeDA	92		25 - 150
13C2 PFHxDA	85		25 - 150
13C3 PFBS	113		25 - 150
18O2 PFHxS	108		25 - 150
13C4 PFOS	101		25 - 150
13C8 FOSA	106		10 - 150
d3-NMeFOSAA	87		25 - 150
d5-NEtFOSAA	77		25 - 150
d-N-MeFOSA-M	96		10 - 150
d-N-EtFOSA-M	92		10 - 150
d7-N-MeFOSE-M	77		10 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: LCSD 320-447007/3-A
Matrix: Water
Analysis Batch: 447563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447007

Isotope Dilution	LCSD LCSD		Limits
	%Recovery	Qualifier	
d9-N-EtFOSE-M	75		10 - 150
M2-4:2 FTS	77		25 - 150
M2-6:2 FTS	82		25 - 150
M2-8:2 FTS	80		25 - 150
13C3 HFPO-DA	107		25 - 150

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

Lab Sample ID: 500-192823-1 MS
Matrix: Water
Analysis Batch: 446380

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA
Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA) - DL	120		41.1	156		ng/L		95	70 - 130
Perfluoropentanoic acid (PFPeA) - DL	290		41.1	311	4	ng/L		49	70 - 130
Perfluorohexanoic acid (PFHxA) - DL	700		41.1	654	4	ng/L		-119	70 - 130
Perfluoroheptanoic acid (PFHpA) - DL	350		41.1	397	4	ng/L		120	70 - 130
Perfluorooctanoic acid (PFOA) - DL	4600	E	41.1	4690	E 4	ng/L		121	70 - 130
Perfluorononanoic acid (PFNA) - DL	360		41.1	398	4	ng/L		96	70 - 130
Perfluorodecanoic acid (PFDA) - DL	14	J	41.1	51.4		ng/L		91	70 - 130
Perfluoroundecanoic acid (PFUnA) - DL	<22		41.1	40.5		ng/L		99	70 - 130
Perfluorododecanoic acid (PFDoA) - DL	<22		41.1	41.9		ng/L		102	70 - 130
Perfluorotridecanoic acid (PFTriA) - DL	<22		41.1	38.9		ng/L		95	70 - 130
Perfluorotetradecanoic acid (PFTeA) - DL	<22		41.1	46.3		ng/L		113	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA) - DL	<22		41.1	28.8		ng/L		70	70 - 130
Perfluoro-n-octadecanoic acid (PFODA) - DL	<22		41.1	43.7		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS) - DL	18	J	36.3	53.2		ng/L		98	70 - 130
Perfluoropentanesulfonic acid (PFPeS) - DL	17	J	38.5	57.1		ng/L		103	70 - 130
Perfluorohexanesulfonic acid (PFHxS) - DL	85		37.4	120		ng/L		94	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS) - DL	8.7	J	39.1	52.8		ng/L		113	70 - 130
Perfluorooctanesulfonic acid (PFOS) - DL	420		38.1	453	4	ng/L		79	70 - 130
Perfluorononanesulfonic acid (PFNS) - DL	<22		39.4	35.9		ng/L		91	70 - 130
Perfluorodecanesulfonic acid (PFDS) - DL	<22		39.6	30.5		ng/L		77	70 - 130

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: 500-192823-1 MS

Matrix: Water

Analysis Batch: 446380

Client Sample ID: GW-M01 (12162020)

Prep Type: Total/NA

Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorododecanesulfonic acid (PFDoS) - DL	<22		39.8	31.5		ng/L		79	70 - 130
Perfluorooctanesulfonamide (FOSA) - DL	<22	F1	41.1	52.9		ng/L		129	70 - 130
NEtFOSA - DL	<22		41.1	38.8		ng/L		94	70 - 130
NMeFOSA - DL	<22		41.1	38.2		ng/L		93	70 - 130
NMeFOSAA - DL	<55		41.1	45.3	J	ng/L		110	70 - 130
NEtFOSAA - DL	<55		41.1	45.5	J	ng/L		111	70 - 130
NMeFOSE - DL	<44		41.1	44.8		ng/L		109	70 - 130
NEtFOSE - DL	<22		41.1	40.1		ng/L		98	70 - 130
4:2 FTS - DL	86	F1	38.4	128		ng/L		109	70 - 130
6:2 FTS - DL	870		38.9	988	4	ng/L		313	70 - 130
8:2 FTS - DL	450		39.4	470	4	ng/L		51	70 - 130
10:2 FTS - DL	<22		39.6	33.3		ng/L		84	70 - 130
DONA - DL	<22		38.7	42.2		ng/L		109	70 - 130
HFPO-DA (GenX) - DL	<44		41.1	41.4		ng/L		101	70 - 130
F-53B Major - DL	<22		38.3	39.1		ng/L		102	70 - 130
F-53B Minor - DL	<22		38.7	34.7		ng/L		90	70 - 130

MS MS			
Isotope Dilution	%Recovery	Qualifier	Limits
13C4 PFBA - DL	86		25 - 150
13C5 PFPeA - DL	92		25 - 150
13C2 PFHxA - DL	94		25 - 150
13C4 PFHpA - DL	95		25 - 150
13C4 PFOA - DL	95		25 - 150
13C5 PFNA - DL	97		25 - 150
13C2 PFDA - DL	103		25 - 150
13C2 PFUnA - DL	86		25 - 150
13C2 PFDoA - DL	74		25 - 150
13C2 PFTeDA - DL	82		25 - 150
13C2 PFHxDA - DL	77		25 - 150
13C3 PFBS - DL	90		25 - 150
18O2 PFHxS - DL	86		25 - 150
13C4 PFOS - DL	86		25 - 150
13C8 FOSA - DL	80		10 - 150
d3-NMeFOSAA - DL	78		25 - 150
d5-NEtFOSAA - DL	88		25 - 150
d-N-MeFOSA-M - DL	65		10 - 150
d-N-EtFOSA-M - DL	59		10 - 150
d7-N-MeFOSE-M - DL	49		10 - 150
d9-N-EtFOSE-M - DL	45		10 - 150
M2-4:2 FTS - DL	89		25 - 150
M2-6:2 FTS - DL	90		25 - 150
M2-8:2 FTS - DL	94		25 - 150
13C3 HFPO-DA - DL	87		25 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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

Lab Sample ID: 500-192823-1 MSD

Matrix: Water

Analysis Batch: 446380

Client Sample ID: GW-M01 (12162020)

Prep Type: Total/NA

Prep Batch: 445508

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
	Result			Result					Limits		
Perfluorobutanoic acid (PFBA) - DL	120		39.8	149		ng/L		81	70 - 130	4	30
Perfluoropentanoic acid (PFPeA) - DL	290		39.8	323	4	ng/L		79	70 - 130	4	30
Perfluorohexanoic acid (PFHxA) - DL	700		39.8	686	4	ng/L		-42	70 - 130	5	30
Perfluoroheptanoic acid (PFHpA) - DL	350		39.8	381	4	ng/L		83	70 - 130	4	30
Perfluorooctanoic acid (PFOA) - DL	4600	E	39.8	4520	E 4	ng/L		-299	70 - 130	4	30
Perfluorononanoic acid (PFNA) - DL	360		39.8	358	4	ng/L		-0.8	70 - 130	11	30
Perfluorodecanoic acid (PFDA) - DL	14	J	39.8	53.2		ng/L		98	70 - 130	3	30
Perfluoroundecanoic acid (PFUnA) - DL	<22		39.8	39.6		ng/L		99	70 - 130	2	30
Perfluorododecanoic acid (PFDoA) - DL	<22		39.8	40.2		ng/L		101	70 - 130	4	30
Perfluorotridecanoic acid (PFTriA) - DL	<22		39.8	42.8		ng/L		108	70 - 130	9	30
Perfluorotetradecanoic acid (PFTeA) - DL	<22		39.8	47.2		ng/L		119	70 - 130	2	30
Perfluoro-n-hexadecanoic acid (PFHxDA) - DL	<22		39.8	35.2		ng/L		89	70 - 130	20	30
Perfluoro-n-octadecanoic acid (PFODA) - DL	<22		39.8	45.5		ng/L		114	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS) - DL	18	J	35.2	54.7		ng/L		105	70 - 130	3	30
Perfluoropentanesulfonic acid (PFPeS) - DL	17	J	37.3	55.8		ng/L		103	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS) - DL	85		36.2	113		ng/L		75	70 - 130	7	30
Perfluoroheptanesulfonic Acid (PFHpS) - DL	8.7	J	37.9	55.5		ng/L		124	70 - 130	5	30
Perfluorooctanesulfonic acid (PFOS) - DL	420		36.9	443	4	ng/L		54	70 - 130	2	30
Perfluorononanesulfonic acid (PFNS) - DL	<22		38.2	32.6		ng/L		85	70 - 130	10	30
Perfluorodecanesulfonic acid (PFDS) - DL	<22		38.3	30.9		ng/L		81	70 - 130	1	30
Perfluorododecanesulfonic acid (PFDoS) - DL	<22		38.5	35.4		ng/L		92	70 - 130	12	30
Perfluorooctanesulfonamide (FOSA) - DL	<22	F1	39.8	53.4	F1	ng/L		134	70 - 130	1	30
NEtFOSA - DL	<22		39.8	37.2		ng/L		94	70 - 130	4	30
NMeFOSA - DL	<22		39.8	37.9		ng/L		95	70 - 130	1	30
NMeFOSAA - DL	<55		39.8	45.0	J	ng/L		113	70 - 130	1	30
NEtFOSAA - DL	<55		39.8	46.2	J	ng/L		116	70 - 130	2	30
NMeFOSE - DL	<44		39.8	38.5	J	ng/L		97	70 - 130	15	30
NEtFOSE - DL	<22		39.8	46.3		ng/L		116	70 - 130	14	30
4:2 FTS - DL	86	F1	37.2	111	F1	ng/L		68	70 - 130	14	30
6:2 FTS - DL	870		37.7	921	4	ng/L		145	70 - 130	7	30
8:2 FTS - DL	450		38.1	488	4	ng/L		99	70 - 130	4	30
10:2 FTS - DL	<22		38.3	33.7		ng/L		88	70 - 130	1	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Lab Sample ID: 500-192823-1 MS

Matrix: Water

Analysis Batch: 447405

Client Sample ID: GW-M01 (12162020)

Prep Type: Total/NA

Prep Batch: 445508

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorodecanoic acid (PFDA) - DL2	<44	F1	41.1	55.9	F1	ng/L		136	70 - 130
Perfluoroundecanoic acid (PFUnA) - DL2	<44		41.1	42.3		ng/L		103	70 - 130
Perfluorododecanoic acid (PFDoA) - DL2	<44		41.1	46.8		ng/L		114	70 - 130
Perfluorotridecanoic acid (PFTriA) - DL2	<44		41.1	47.4		ng/L		115	70 - 130
Perfluorotetradecanoic acid (PFTeA) - DL2	<44		41.1	37.9	J	ng/L		92	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA) - DL2	<44	F1	41.1	23.5	J F1	ng/L		57	70 - 130
Perfluoro-n-octadecanoic acid (PFODA) - DL2	<44	F1	41.1	52.7		ng/L		128	70 - 130
Perfluorobutanesulfonic acid (PFBS) - DL2	15	J	36.3	54.4		ng/L		108	70 - 130
Perfluoropentanesulfonic acid (PFPeS) - DL2	18	J	38.5	58.7		ng/L		106	70 - 130
Perfluorohexanesulfonic acid (PFHxS) - DL2	83	F1	37.4	119		ng/L		96	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS) - DL2	9.2	J I	39.1	49.5		ng/L		103	70 - 130
Perfluorooctanesulfonic acid (PFOS) - DL2	400		38.1	447	4	ng/L		130	70 - 130
Perfluorononanesulfonic acid (PFNS) - DL2	<44		39.4	38.1	J	ng/L		97	70 - 130
Perfluorodecanesulfonic acid (PFDS) - DL2	<44		39.6	35.5	J	ng/L		90	70 - 130
Perfluorododecanesulfonic acid (PFDoS) - DL2	<44		39.8	28.5	J	ng/L		72	70 - 130
Perfluorooctanesulfonamide (FOSA) - DL2	<44	F1	41.1	51.5		ng/L		125	70 - 130
NEtFOSA - DL2	<44		41.1	35.5	J	ng/L		86	70 - 130
NMeFOSA - DL2	<44		41.1	38.4	J	ng/L		94	70 - 130
NMeFOSAA - DL2	<110		41.1	39.9	J	ng/L		97	70 - 130
NEtFOSAA - DL2	<110		41.1	47.4	J	ng/L		115	70 - 130
NMeFOSE - DL2	<88	F2	41.1	47.8	J	ng/L		116	70 - 130
NEtFOSE - DL2	<44	F2	41.1	33.3	J	ng/L		81	70 - 130
4:2 FTS - DL2	80	F1	38.4	112		ng/L		84	70 - 130
6:2 FTS - DL2	910		38.9	1040	4	ng/L		341	70 - 130
8:2 FTS - DL2	400		39.4	502	4	ng/L		263	70 - 130
10:2 FTS - DL2	<44	F2 F1	39.6	34.4	J	ng/L		87	70 - 130
DONA - DL2	<44		38.7	44.4		ng/L		115	70 - 130
HFPO-DA (GenX) - DL2	<88		41.1	39.4	J	ng/L		96	70 - 130
F-53B Major - DL2	<44		38.3	36.9	J	ng/L		96	70 - 130
F-53B Minor - DL2	<44		38.7	36.1	J	ng/L		93	70 - 130
MS MS									
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA - DL2	86		25 - 150						
13C5 PFPeA - DL2	85		25 - 150						
13C2 PFHxA - DL2	88		25 - 150						
13C4 PFHpA - DL2	95		25 - 150						
13C4 PFOA - DL2	96		25 - 150						

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Lab Sample ID: 500-192823-1 MS
Matrix: Water
Analysis Batch: 447405

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA
Prep Batch: 445508

<i>Isotope Dilution</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
13C5 PFNA - DL2	89		25 - 150
13C2 PFDA - DL2	89		25 - 150
13C2 PFUnA - DL2	80		25 - 150
13C2 PFDoA - DL2	64		25 - 150
13C2 PFTeDA - DL2	74		25 - 150
13C2 PFHxDA - DL2	61		25 - 150
13C3 PFBS - DL2	89		25 - 150
18O2 PFHxS - DL2	80		25 - 150
13C4 PFOS - DL2	82		25 - 150
13C8 FOSA - DL2	75		10 - 150
d3-NMeFOSAA - DL2	70		25 - 150
d5-NEtFOSAA - DL2	77		25 - 150
d-N-MeFOSA-M - DL2	69		10 - 150
d-N-EtFOSA-M - DL2	57		10 - 150
d7-N-MeFOSE-M - DL2	50		10 - 150
d9-N-EtFOSE-M - DL2	47		10 - 150
M2-4:2 FTS - DL2	73		25 - 150
M2-6:2 FTS - DL2	61		25 - 150
M2-8:2 FTS - DL2	65		25 - 150
13C3 HFPO-DA - DL2	84		25 - 150

Lab Sample ID: 500-192823-1 MSD
Matrix: Water
Analysis Batch: 447405

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA
Prep Batch: 445508

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD</i>		<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
				<i>Result</i>	<i>Qualifier</i>						
Perfluorobutanoic acid (PFBA) - DL2	100	J	39.8	137		ng/L		82	70 - 130	8	30
Perfluoropentanoic acid (PFPeA) - DL2	300		39.8	318	4	ng/L		47	70 - 130	5	30
Perfluorohexanoic acid (PFHxA) - DL2	650		39.8	673	4	ng/L		46	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA) - DL2	350		39.8	372	4	ng/L		53	70 - 130	4	30
Perfluorooctanoic acid (PFOA) - DL2	4800		39.8	4920	4	ng/L		403	70 - 130	2	30
Perfluorononanoic acid (PFNA) - DL2	370		39.8	364	4	ng/L		-19	70 - 130	3	30
Perfluorodecanoic acid (PFDA) - DL2	<44	F1	39.8	55.8	F1	ng/L		140	70 - 130	0	30
Perfluoroundecanoic acid (PFUnA) - DL2	<44		39.8	39.4	J I	ng/L		99	70 - 130	7	30
Perfluorododecanoic acid (PFDoA) - DL2	<44		39.8	39.4	J	ng/L		99	70 - 130	17	30
Perfluorotridecanoic acid (PFTriA) - DL2	<44		39.8	36.1	J	ng/L		91	70 - 130	27	30
Perfluorotetradecanoic acid (PFTeA) - DL2	<44		39.8	46.8		ng/L		118	70 - 130	21	30
Perfluoro-n-hexadecanoic acid (PFHxDA) - DL2	<44	F1	39.8	29.9	J	ng/L		75	70 - 130	24	30
Perfluoro-n-octadecanoic acid (PFODA) - DL2	<44	F1	39.8	53.3	F1	ng/L		134	70 - 130	1	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Lab Sample ID: 500-192823-1 MSD

Client Sample ID: GW-M01 (12162020)

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 447405

Prep Batch: 445508

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		
Perfluorobutanesulfonic acid (PFBS) - DL2	15	J	35.2	49.8		ng/L		98	70 - 130	9	30
Perfluoropentanesulfonic acid (PFPeS) - DL2	18	J	37.3	57.6		ng/L		106	70 - 130	2	30
Perfluorohexanesulfonic acid (PFHxS) - DL2	83	F1	36.2	106	F1	ng/L		63	70 - 130	12	30
Perfluoroheptanesulfonic Acid (PFHpS) - DL2	9.2	J I	37.9	53.8		ng/L		118	70 - 130	8	30
Perfluorooctanesulfonic acid (PFOS) - DL2	400		36.9	459	4	ng/L		166	70 - 130	3	30
Perfluorononanesulfonic acid (PFNS) - DL2	<44		38.2	36.4	J	ng/L		95	70 - 130	5	30
Perfluorodecanesulfonic acid (PFDS) - DL2	<44		38.3	41.4		ng/L		108	70 - 130	15	30
Perfluorododecanesulfonic acid (PFDoS) - DL2	<44		38.5	38.0	J	ng/L		99	70 - 130	29	30
Perfluorooctanesulfonamide (FOSA) - DL2	<44	F1	39.8	52.8	F1	ng/L		133	70 - 130	3	30
NEtFOSA - DL2	<44		39.8	38.5	J	ng/L		97	70 - 130	8	30
NMeFOSA - DL2	<44		39.8	40.6		ng/L		102	70 - 130	6	30
NMeFOSAA - DL2	<110		39.8	38.2	J	ng/L		96	70 - 130	4	30
NEtFOSAA - DL2	<110		39.8	42.4	J	ng/L		107	70 - 130	11	30
NMeFOSE - DL2	<88	F2	39.8	34.6	J F2	ng/L		87	70 - 130	32	30
NEtFOSE - DL2	<44	F2	39.8	46.6	F2	ng/L		117	70 - 130	33	30
4:2 FTS - DL2	80	F1	37.2	129	F1	ng/L		133	70 - 130	14	30
6:2 FTS - DL2	910		37.7	874	4	ng/L		-94	70 - 130	18	30
8:2 FTS - DL2	400		38.1	409	4	ng/L		28	70 - 130	20	30
10:2 FTS - DL2	<44	F2 F1	38.3	25.3	J F1 F2	ng/L		66	70 - 130	31	30
DONA - DL2	<44		37.5	47.5		ng/L		127	70 - 130	7	30
HFPO-DA (GenX) - DL2	<88		39.8	38.5	J	ng/L		97	70 - 130	2	30
F-53B Major - DL2	<44		37.1	37.7	J	ng/L		102	70 - 130	2	30
F-53B Minor - DL2	<44		37.5	40.0		ng/L		107	70 - 130	10	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C4 PFBA - DL2	70		25 - 150
13C5 PFPeA - DL2	69		25 - 150
13C2 PFHxA - DL2	74		25 - 150
13C4 PFHpA - DL2	76		25 - 150
13C4 PFOA - DL2	71		25 - 150
13C5 PFNA - DL2	71		25 - 150
13C2 PFDA - DL2	68		25 - 150
13C2 PFUnA - DL2	66		25 - 150
13C2 PFDoA - DL2	62		25 - 150
13C2 PFTeDA - DL2	60		25 - 150
13C2 PFHxDA - DL2	49		25 - 150
13C3 PFBS - DL2	68		25 - 150
18O2 PFHxS - DL2	68		25 - 150
13C4 PFOS - DL2	60		25 - 150
13C8 FOSA - DL2	58		10 - 150
d3-NMeFOSAA - DL2	54		25 - 150
d5-NEtFOSAA - DL2	58		25 - 150

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL2 (Continued)

Lab Sample ID: 500-192823-1 MSD
Matrix: Water
Analysis Batch: 447405

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA
Prep Batch: 445508

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
d-N-MeFOSA-M - DL2	56		10 - 150
d-N-EtFOSA-M - DL2	51		10 - 150
d7-N-MeFOSE-M - DL2	36		10 - 150
d9-N-EtFOSE-M - DL2	32		10 - 150
M2-4:2 FTS - DL2	47		25 - 150
M2-6:2 FTS - DL2	53		25 - 150
M2-8:2 FTS - DL2	57		25 - 150
13C3 HFPO-DA - DL2	74		25 - 150

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-578104/1
Matrix: Water
Analysis Batch: 578104

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			12/22/20 16:45	1

Lab Sample ID: LCS 500-578104/2
Matrix: Water
Analysis Batch: 578104

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	177		mg/L		88	80 - 120

Lab Sample ID: 500-192823-1 MS
Matrix: Water
Analysis Batch: 578104

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	160		200	342		mg/L		92	75 - 125

Lab Sample ID: 500-192823-1 MSD
Matrix: Water
Analysis Batch: 578104

Client Sample ID: GW-M01 (12162020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	160		200	334		mg/L		88	75 - 125	2	20

Lab Sample ID: MB 500-578333/1
Matrix: Water
Analysis Batch: 578333

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			12/23/20 12:45	1

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 500-578333/2
Matrix: Water
Analysis Batch: 578333

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	189		mg/L		95	80 - 120

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Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M01 (12162020)

Lab Sample ID: 500-192823-1

Date Collected: 12/16/20 09:40

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 04:58	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 04:40	JRB	TAL SAC
Total/NA	Prep	3535	DL2		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL2	20	447405	12/31/20 00:18	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI
					(Start)	12/22/20 16:58		
					(End)	12/22/20 16:59		

Client Sample ID: GW-M02 (12162020)

Lab Sample ID: 500-192823-2

Date Collected: 12/16/20 10:05

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 05:26	D1R	TAL SAC
Total/NA	Prep	3535	RA		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	RA	1	446380	12/29/20 04:31	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI
					(Start)	12/22/20 17:01		
					(End)	12/22/20 17:02		

Client Sample ID: GW-M03 (12162020)

Lab Sample ID: 500-192823-3

Date Collected: 12/16/20 10:30

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 05:36	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 06:32	JRB	TAL SAC
Total/NA	Prep	3535	RA		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	RA	1	446380	12/29/20 06:51	JRB	TAL SAC
Total/NA	Prep	3535	DL2		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL2	50	446830	12/30/20 00:56	S1M	TAL SAC
Total/NA	Prep	3535	RADL2		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	RADL2	50	447405	12/31/20 00:46	JY1	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI
					(Start)	12/22/20 17:02		
					(End)	12/22/20 17:03		

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M04 (12162020)

Lab Sample ID: 500-192823-4

Date Collected: 12/16/20 11:00

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 05:45	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 05:08	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104	(Start) 12/22/20 17:03 (End) 12/22/20 17:04	SMO	TAL CHI

Client Sample ID: GW-M05 (12162020)

Lab Sample ID: 500-192823-5

Date Collected: 12/16/20 11:30

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 05:54	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 05:17	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104	(Start) 12/22/20 17:04 (End) 12/22/20 17:05	SMO	TAL CHI

Client Sample ID: GW-M06 (12162020)

Lab Sample ID: 500-192823-6

Date Collected: 12/16/20 11:45

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 06:04	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 05:27	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104	(Start) 12/22/20 17:05 (End) 12/22/20 17:06	SMO	TAL CHI

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RA		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	RA	1	446043	12/28/20 06:41	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 06:42	JRB	TAL SAC
Total/NA	Prep	3535	RA		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	RA	1	446380	12/29/20 07:00	JRB	TAL SAC

Eurofins TestAmerica, Chicago

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M07 (12162020)

Lab Sample ID: 500-192823-7

Date Collected: 12/16/20 12:10

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RADL2		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	RADL2	50	446830	12/30/20 01:05	S1M	TAL SAC
Total/NA	Prep	3535	DL2		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL2	50	447405	12/31/20 00:56	JY1	TAL SAC
Total/NA	Prep	3535	DL3		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL3	100	448136	01/04/21 12:28	S1M	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI
						(Start) 12/22/20 17:06		
						(End) 12/22/20 17:07		

Client Sample ID: GW-M08 (12162020)

Lab Sample ID: 500-192823-8

Date Collected: 12/16/20 13:00

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 06:50	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 05:36	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI
						(Start) 12/22/20 17:07		
						(End) 12/22/20 17:08		

Client Sample ID: GW-M09 (12162020)

Lab Sample ID: 500-192823-9

Date Collected: 12/16/20 13:15

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 07:00	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 05:45	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI
						(Start) 12/22/20 17:08		
						(End) 12/22/20 17:09		

Client Sample ID: GW-M10 (12162020)

Lab Sample ID: 500-192823-10

Date Collected: 12/16/20 13:30

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 07:09	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 05:55	JRB	TAL SAC

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Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Client Sample ID: GW-M10 (12162020)

Lab Sample ID: 500-192823-10

Date Collected: 12/16/20 13:30

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	578104		SMO	TAL CHI

Client Sample ID: Dup-01 (12162020)

Lab Sample ID: 500-192823-11

Date Collected: 12/16/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	REDL		447007	12/30/20 04:22	HJA	TAL SAC
Total/NA	Analysis	537 (modified)	REDL	1	447563	12/31/20 11:07	S1M	TAL SAC
Total/NA	Prep	3535	RE		447007	12/30/20 04:22	HJA	TAL SAC
Total/NA	Analysis	537 (modified)	RE	10	447669	12/31/20 14:04	S1M	TAL SAC
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 07:18	D1R	TAL SAC
Total/NA	Prep	3535	DL		445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	446380	12/29/20 06:23	JRB	TAL SAC
Total/NA	Analysis	SM 2540D		1	578333		SMO	TAL CHI
					(Start)	12/23/20 13:06		
					(End)	12/23/20 13:07		

Client Sample ID: FIELD BLANK-12-16-2020

Lab Sample ID: 500-192823-12

Date Collected: 12/16/20 16:50

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445508	12/23/20 19:00	AP	TAL SAC
Total/NA	Analysis	537 (modified)		1	446043	12/28/20 07:28	D1R	TAL SAC

Laboratory References:

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

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-21

Laboratory: Eurofins TestAmerica, Sacramento

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

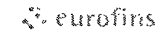
Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

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Eurofins TestAmerica, Chicago

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

Chain of Custody Record



Client Information		Sampler: <i>Kaelyn Blotz</i>	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	CCC No: 500-88043-39503.4					
Client Contact: Elizabeth Hover		Phone:	E-Mail: sandra.fredrick@eurofinset.com	State of Origin:	Page 1 of 6 1 of F2					
Company: ARCADIS U.S., Inc.		FWSID:		Analysis Requested						
Address: 126 North Jefferson Street Suite 400 City: Milwaukee State, Zip: WI, 53202 Phone: 500-192823 C0C		Due Date Requested: AT Requested (days): Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No PC #: 30062361.00001 WG #:		Job #: 500.192823						
Email: Elizabeth.Hover@arcadis.com		Project #: 50017363		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 - Ammonia S - H2SO4 H - Ascorbic Acid T - TSP Codecetyltriurea I - Ice U - Acetone J - DI Water V - MCA1 K - EDTA W - pH 4-6 L - EDA Z - other (specify)						
Project Name: Mannette 30062361.00001 Site: <i>gw</i>		SSGW#:		Other:						
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, G=water/soil)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D - TSS	PFC_IDA - PFAS - Extended List (36 Analytes)	Total Number of Containers	Special Instructions/Note:
Preservation Code:					X	N	N			
1	GW-M01 (12162020)	12/16/20	0940	G	Water	N	Y	X	X	MS/MSD
2	GW-M02 (12162020)	12/16/20	1005	G	Water	N	N	X	X	
3	GW-M03 (12162020)	12/16/20	1030	G	Water	N	N	X	X	
4	GW-M04 (12162020)	12/16/20	1100	G	Water	N	N	X	X	
5	GW-M05 (12162020)	12/16/20	1130	G	Water	N	N	X	X	
6	GW-M06 (12162020)	12/16/20	1145	G	Water	N	N	X	X	
7	GW-M07 (12162020)	12/16/20	1210	G	Water	N	N	X	X	
8	GW-M08 (12162020)	12/16/20	1300	G	Water	N	N	X	X	Limited Volume
9	GW-M09 (12162020)	12/16/20	1315	G	Water	N	N	X	X	
10	GW-M10 (12162020)	12/16/20	1330	G	Water	N	N	X	X	
11	DUP-01 (12162020)	12/16/20	—	G	Water	N	N	X	X	duplicate
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <i>Kaelyn Blotz</i>		Date/Time: 12/18/20 1200	Company:	Received by: <i>Stephanie Hernandez</i>		Date/Time: 12/19/20 1140	Company: <i>ETA-ETH</i>			
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:			
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. para. (ret(s) °C and Other Remarks: 1.8 → 1.3, 1.6 → 1.1, 0.1 → -0.4						

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

SHIP DATE: 27JUL20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

MARINETTE, WI 54143
UNITED STATES US

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101

(708) 634-6200

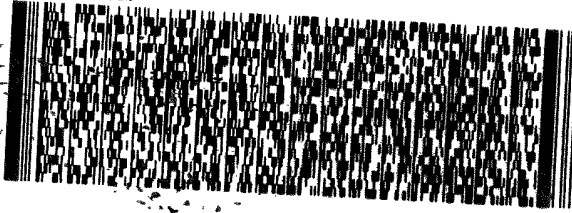
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RMA: ||| ||| |||



FedEx
Express



55133/030402/1004



500-192823 Wayb

FedEx

TRK#

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RETURNS MON - SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 JOTA

60484
IL-US
ORD



FTD 832374 18DEC20 GRBA 56DC2/9196/05A2

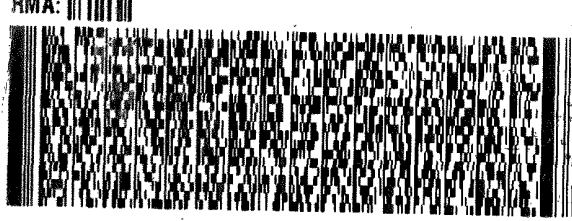
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ID:RRLA (262) 202-5955
JEREMY HAMLIN
INN & SUITES
D PESHTIGO CT.
MARINETTE, WI 54143
UNITED STATES US

SHIP DATE: 27JUL20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

TO
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-3101
(708) 534-5200 REF: DEPT:
RMA: ||| ||| |||



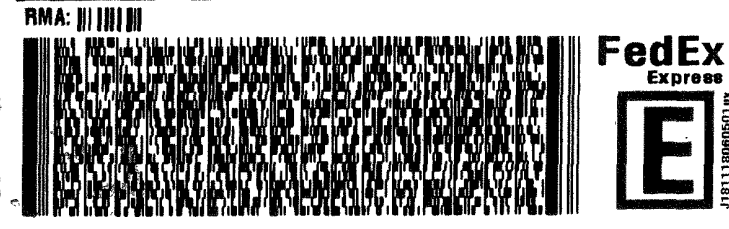
FedEx
TRK# 0221 7125 4942 9854
SATURDAY 12:00P
PRIORITY OVERNIGHT
60484
IL-US
ORD
X0 JOTA

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN & SUITES
2020 OLD PESHTIGO CT.

SHIP DATE: 27JUL20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

MARINETTE, WI 54143
UNITED STATES US

TO
TESTAMERICA CHICAGO
2417 BOND STREET
UNIVERSITY PARK IL 60484-3101
(708) 534-5200 REF: DEPT:
RMA: ||| ||| |||



FedEx
TRK# 0221 7125 4942 9898
SATURDAY 12:00P
PRIORITY OVERNIGHT
60484
IL-US
ORD
X0 JOTA

FID 832374 18DEC20 GRBA 56DC2/9196/05A2



Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Shipping/Receiving		Phone:	Fredrick, Sandie	Wisconsin	500-143568.1
Company:		E-Mail:	sandra.fredrick@eurofinset.com	State of Origin:	Page: 1 of 2
TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #:	500-192823-1
Address:		State - Wisconsin; State Program - Wisconsin		Preservation Codes:	
880 Riverside Parkway,		Due Date Requested:		A - HCL	
City:		1/5/2021		M - Hexane	
West Sacramento		TAT Requested (days):		N - None	
State, Zip:		PO #:		O - AsNaO2	
CA, 95605		WO #:		P - Na2O4S	
Phone:		Project #:		Q - Na2SO3	
916-373-5600(Tel) 916-372-1059(Fax)		50017363		R - Na2SO3	
Email:		SSOW#:		S - H2SO4	
Project Name:		Sample Date		G - Amchlor	
Marinette 30062361.00001		Sample Time		H - Ascorbic Acid	
Site:		Sample Type (C=comp, G=grab)		I - Ice	
		Matrix (W=water, S=solid, O=oil, BT=Tissue, A=Air)		J - DI Water	
		Preservation Code:		K - EDTA	
		Field Filtered Sample (Yes or No)		L - EDA	
		Perform MS/MSD (Yes or No)		Other:	
		PFC IDA W/3535 PFC PFAS, Extended List (36 Analytes)		Total Number of Containers	
		Analysis Requested		Special Instructions/Note:	
		Sample Identification - Client ID (Lab ID)			
GW-M01 (12162020) (500-192823-1)		12/16/20		2	
GW-M01 (12162020) (500-192823-1MS)		12/16/20		2	
GW-M01 (12162020) (500-192823-1MSD)		12/16/20		2	
GW-M02 (12162020) (500-192823-2)		12/16/20		2	
GW-M03 (12162020) (500-192823-3)		12/16/20		2	
GW-M04 (12162020) (500-192823-4)		12/16/20		2	
GW-M05 (12162020) (500-192823-5)		12/16/20		2	
GW-M06 (12162020) (500-192823-6)		12/16/20		2	
GW-M07 (12162020) (500-192823-7)		12/16/20		2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *[Signature]* Date: 12/21/20 1500 Company: *[Signature]*
 Relinquished by: _____ Date/Time: _____ Company: _____
 Relinquished by: _____ Date/Time: _____ Company: _____
 Custody Seal No. 1364310/1364311/1209253
 Custody Seals Intact: *Yes Δ No
 Cooler Temperature(s) °C and Other Remarks: *DB: 0.0/0.8/0.4*
corr: 0.1/0.9/0.5

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:



Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:			
Client Contact: Shipping/Receiving		Phone:	Fredrick, Sandie	500-143568.2	500-143568.2			
Company: TestAmerica Laboratories, Inc.		E-Mail:	sandra.fredrick@eurofinset.com	State of Origin: Wisconsin	Page: 2 of 2			
Address: 880 Riverside Parkway, West Sacramento State, Zip: CA, 95605		Due Date Requested: 1/5/2021	Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin					
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		TAT Requested (days):	Analysis Requested					
Email:		PO #:	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)					
Project Name: Marinette 30062361.00001		WO #:	Other:					
Site:		Project #: 50017363	Special Instructions/Note:					
SSOW#:		SSOW#:	Total Number of containers					
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=BIAS, A=Ab)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC (DA W/3535 PFC PFAS, Extended List)36	Analytes
GW-M08 (12162020) (500-192823-8)	12/16/20	13:00 Central		Water	X	X		
GW-M09 (12162020) (500-192823-9)	12/16/20	13:15 Central		Water	X	X		
GW-M10 (12162020) (500-192823-10)	12/16/20	13:30 Central		Water	X	X		
Dup-01 (12162020) (500-192823-11)	12/16/20	Central		Water	X	X		
FIELD BLANK-12-16-2020 (500-192823-12)	12/16/20	16:50 Central		Water	X	X		

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon our 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *[Signature]* Date: 12/21/20
 Relinquished by: _____ Date: 12/21/20
 Relinquished by: _____ Date: _____

Custody Seal No.: 1364310/1364311/1209253
 Custody Seals Intact: Yes Δ No
 Cooler Temperature (°C) and Other Remarks: *DB: 0.0/0.8/0.4* *TEMP: 0.1/0.9/0.5*

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

Special Instructions/QC Requirements:

Method of Shipment: _____
 Date/Time: 12/22/20 11:15
 Date/Time: _____
 Date/Time: _____
 Company: *ETA*
 Company: *ETA-SAC*
 Company: _____
 Company: _____



Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-192823-1

Login Number: 192823

List Source: Eurofins TestAmerica, Chicago

List Number: 1

Creator: Hernandez, Stephanie

Question	Answer	Comment
Radioactivity wasn't checked or is \leq 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	1.3,1.1,-0.4 Samples not frozen
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.	False	Refer to Job Narrative for details.
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.	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 <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-192823-1

Login Number: 192823

List Number: 2

Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento

List Creation: 12/22/20 02:07 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	1364310/1364311/1209253
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	ob: 0.0/0.8/0.4c corr: 0.1/0.9/0.5c
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	



Environment Testing
TestAmerica

Sacramento
Sample Receiving Notes



500-192823 Field Sheet

Tracking #: 189344504850

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other _____

Job: _____

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: AK-13 Corr. Factor: (+/-) 0.1 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: 1364310

Cooler ID: 1 OF 3

Temp Observed: 0.0 °C Corrected: 0.1 °C

From: Temp Blank Sample

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cooler Temperature is acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frozen samples show signs of thaw?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: [Signature] Date: 12/22/20

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

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

Initials: [Signature] Date: 12/22/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NCM Filed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Log Release checked in TALS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: [Signature] Date: 12/22/20

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-192823-1	GW-M01 (12162020)	81	80	82	91	73	95	90	88
500-192823-1 - DL	GW-M01 (12162020)	65	67	65	75	75	74	74	70
500-192823-1 - DL2	GW-M01 (12162020)	72	72	74	77	78	72	75	66
500-192823-1 MS	GW-M01 (12162020)	104	101	113	120	91	124	124	122
500-192823-1 MS - DL	GW-M01 (12162020)	86	92	94	95	95	97	103	86
500-192823-1 MS - DL2	GW-M01 (12162020)	86	85	88	95	96	89	89	80
500-192823-1 MSD	GW-M01 (12162020)	78	74	80	85	70	91	87	83
500-192823-1 MSD - DL	GW-M01 (12162020)	63	63	63	67	69	71	68	62
500-192823-1 MSD - DL2	GW-M01 (12162020)	70	69	74	76	71	71	68	66
500-192823-2	GW-M02 (12162020)	79	79	91	94	102	111	94	110
500-192823-2 - RA	GW-M02 (12162020)	77	81	86	93	106	114	107	111
500-192823-3	GW-M03 (12162020)	147	136	169 *5+	180 *5+	108	206 *5+	196 *5+	221 *5+
500-192823-3 - DL	GW-M03 (12162020)	98	101	107	109	98	121	111	104
500-192823-3 - RA	GW-M03 (12162020)	138	126	161 *5+	160 *5+	100	179 *5+	184 *5+	191 *5+
500-192823-3 - DL2	GW-M03 (12162020)	94	99	95	97	108	103	105	88
500-192823-3 - RADL2	GW-M03 (12162020)	97	99	106	108	108	97	93	90
500-192823-4	GW-M04 (12162020)	87	81	92	99	86	97	97	95
500-192823-4 - DL	GW-M04 (12162020)	77	77	74	80	91	86	77	77
500-192823-5	GW-M05 (12162020)	81	82	97	105	109	118	104	119
500-192823-5 - DL	GW-M05 (12162020)	93	92	99	98	112	116	109	107
500-192823-6	GW-M06 (12162020)	74	81	95	101	109	115	102	109
500-192823-6 - DL	GW-M06 (12162020)	94	96	97	100	113	112	109	113
500-192823-7 - RA	GW-M07 (12162020)	165 *5+	122	165 *5+	178 *5+	79	208 *5+	182 *5+	259 *5+
500-192823-7 - DL	GW-M07 (12162020)	94	94	104	106	80	118	104	111
500-192823-7 - RA	GW-M07 (12162020)	164 *5+	121	169 *5+	182 *5+	86	223 *5+	204 *5+	284 *5+
500-192823-7 - RADL2	GW-M07 (12162020)	79	82	88	86	83	89	90	77
500-192823-7 - DL2	GW-M07 (12162020)	78	79	83	84	80	89	82	74
500-192823-7 - DL3	GW-M07 (12162020)	80	81	91	77	99	77	77	74
500-192823-8	GW-M08 (12162020)	65	67	80	81	83	89	85	93
500-192823-8 - DL	GW-M08 (12162020)	73	74	76	81	86	90	83	88
500-192823-9	GW-M09 (12162020)	81	79	89	92	94	103	98	96
500-192823-9 - DL	GW-M09 (12162020)	91	92	96	98	103	109	100	98
500-192823-10	GW-M10 (12162020)	68	67	74	75	82	83	86	83
500-192823-10 - DL	GW-M10 (12162020)	72	71	73	78	84	82	83	84
500-192823-11	Dup-01 (12162020)	87	84	96	102	107	110	109	107
500-192823-11 - DL	Dup-01 (12162020)	89	91	92	100	102	98	103	98
500-192823-11 - REDL	Dup-01 (12162020)	96	110	102	102	110	112	112	91
500-192823-11 - RE	Dup-01 (12162020)	90	90	94	90	102	101	89	90
500-192823-12	FIELD BLANK-12-16-2020	96	101	98	103	108	109	108	106
LCS 320-445508/2-A	Lab Control Sample	80	84	84	88	91	89	82	88
LCS 320-447007/2-A	Lab Control Sample	99	101	103	99	108	101	92	93
LCSD 320-447007/3-A	Lab Control Sample Dup	108	108	108	97	114	103	103	117
MB 320-445508/1-A	Method Blank	84	88	84	90	95	93	93	87
MB 320-447007/1-A	Method Blank	108	111	110	103	119	104	101	111

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDaA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
500-192823-1	GW-M01 (12162020)	76	79	83	83	84	81	73	89
500-192823-1 - DL	GW-M01 (12162020)	61	70	72	68	66	67	63	65

Eurofins TestAmerica, Chicago

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.

Job ID: 500-192823-1

Project/Site: Marinette, WI Groundwater 30062361.00001

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFD _o A (25-150)	PFTDA (25-150)	PFH _x DA (25-150)	C3PFBS (25-150)	PFH _x S (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
500-192823-1 - DL2	GW-M01 (12162020)	58	53	52	72	67	69	67	60
500-192823-1 MS	GW-M01 (12162020)	103	102	103	113	111	112	103	122
500-192823-1 MS - DL	GW-M01 (12162020)	74	82	77	90	86	86	80	78
500-192823-1 MS - DL2	GW-M01 (12162020)	64	74	61	89	80	82	75	70
500-192823-1 MSD	GW-M01 (12162020)	74	78	76	81	80	75	74	77
500-192823-1 MSD - DL	GW-M01 (12162020)	55	57	51	63	61	59	58	54
500-192823-1 MSD - DL2	GW-M01 (12162020)	62	60	49	68	68	60	58	54
500-192823-2	GW-M02 (12162020)	92	99	101	80	92	94	74	70
500-192823-2 - RA	GW-M02 (12162020)	89	109	116	83	92	100	77	68
500-192823-3	GW-M03 (12162020)	206 *5+	223 *5+	212 *5+	159 *5+	176 *5+	180 *5+	165 *5+	263 *5+
500-192823-3 - DL	GW-M03 (12162020)	101	113	112	102	105	100	103	108
500-192823-3 - RA	GW-M03 (12162020)	179 *5+	194 *5+	220 *5+	153 *5+	163 *5+	168 *5+	146	237 *5+
500-192823-3 - DL2	GW-M03 (12162020)	89	101	110	97	90	93	85	87
500-192823-3 - RADL2	GW-M03 (12162020)	80	98	90	98	90	91	77	79
500-192823-4	GW-M04 (12162020)	86	99	98	86	89	89	27	92
500-192823-4 - DL	GW-M04 (12162020)	69	80	74	77	74	76	21	69
500-192823-5	GW-M05 (12162020)	91	103	109	84	97	101	80	130
500-192823-5 - DL	GW-M05 (12162020)	102	104	115	92	93	101	94	110
500-192823-6	GW-M06 (12162020)	89	109	105	84	99	101	70	139
500-192823-6 - DL	GW-M06 (12162020)	97	118	101	92	93	96	89	116
500-192823-7 - RA	GW-M07 (12162020)	212 *5+	193 *5+	135	210 *5+	195 *5+	205 *5+	143	230 *5+
500-192823-7 - DL	GW-M07 (12162020)	95	83	50	99	99	99	85	110
500-192823-7 - RA	GW-M07 (12162020)	233 *5+	196 *5+	160 *5+	206 *5+	205 *5+	211 *5+	151 *5+	249 *5+
500-192823-7 - RADL2	GW-M07 (12162020)	75	57	39	78	85	82	65	76
500-192823-7 - DL2	GW-M07 (12162020)	57	60	37	84	77	67	64	62
500-192823-7 - DL3	GW-M07 (12162020)	71	55	40	78	73	70	72	73
500-192823-8	GW-M08 (12162020)	79	89	86	70	76	85	36	101
500-192823-8 - DL	GW-M08 (12162020)	80	81	81	75	76	79	42	104
500-192823-9	GW-M09 (12162020)	82	101	96	84	89	91	55	113
500-192823-9 - DL	GW-M09 (12162020)	85	95	88	91	91	91	60	89
500-192823-10	GW-M10 (12162020)	73	84	80	70	72	81	68	106
500-192823-10 - DL	GW-M10 (12162020)	63	75	78	75	72	77	74	86
500-192823-11	Dup-01 (12162020)	88	105	122	83	94	96	4 *5-	139
500-192823-11 - DL	Dup-01 (12162020)	98	106	89	87	89	88	4 *5-	102
500-192823-11 - REDL	Dup-01 (12162020)	81	96	89	108	104	97	7 *5-	132
500-192823-11 - RE	Dup-01 (12162020)	75	84	75	92	91	85	6 *5-	103
500-192823-12	FIELD BLANK-12-16-2020	90	99	103	99	101	105	90	88
LCS 320-445508/2-A	Lab Control Sample	79	96	85	81	84	81	74	81
LCS 320-447007/2-A	Lab Control Sample	90	85	93	108	101	101	99	83
LCSD 320-447007/3-A	Lab Control Sample Dup	102	92	85	113	108	101	106	87
MB 320-445508/1-A	Method Blank	86	84	89	88	86	89	82	78
MB 320-447007/1-A	Method Blank	129	112	87	118	115	108	112	89

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-192823-1	GW-M01 (12162020)	102	69	58	51	43	109	66	182 *5+
500-192823-1 - DL	GW-M01 (12162020)	66	48	46	35	34	67	76	75
500-192823-1 - DL2	GW-M01 (12162020)	62	55	44	37	34	50	55	61
500-192823-1 MS	GW-M01 (12162020)	141	97	79	69	62	151 *5+	87	214 *5+
500-192823-1 MS - DL	GW-M01 (12162020)	88	65	59	49	45	89	90	94

Eurofins TestAmerica, Chicago

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.

Job ID: 500-192823-1

Project/Site: Marinette, WI Groundwater 30062361.00001

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)								
		d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	
500-192823-1 MS - DL2	GW-M01 (12162020)	77	69	57	50	47	73	61	65	
500-192823-1 MSD	GW-M01 (12162020)	90	67	58	44	39	113	61	151 *5+	
500-192823-1 MSD - DL	GW-M01 (12162020)	64	54	41	31	28	69	62	64	
500-192823-1 MSD - DL2	GW-M01 (12162020)	58	56	51	36	32	47	53	57	
500-192823-2	GW-M02 (12162020)	139	106	93	75	64	207 *5+	211 *5+	308 *5+	
500-192823-2 - RA	GW-M02 (12162020)	145	112	93	68	63	212 *5+	215 *5+	312 *5+	
500-192823-3	GW-M03 (12162020)	300 *5+	187 *5+	158 *5+	153 *5+	135	380 *5+	130	547 *5+	
500-192823-3 - DL	GW-M03 (12162020)	127	102	87	67	62	136	109	164 *5+	
500-192823-3 - RA	GW-M03 (12162020)	293 *5+	175 *5+	144	133	113	357 *5+	115	533 *5+	
500-192823-3 - DL2	GW-M03 (12162020)	106	86	79	61	58	91	89	92	
500-192823-3 - RADL2	GW-M03 (12162020)	90	84	80	58	58	65	113	84	
500-192823-4	GW-M04 (12162020)	100	84	84	63	58	144	81	218 *5+	
500-192823-4 - DL	GW-M04 (12162020)	78	72	71	47	48	76	84	81	
500-192823-5	GW-M05 (12162020)	145	112	97	84	75	265 *5+	224 *5+	318 *5+	
500-192823-5 - DL	GW-M05 (12162020)	143	112	106	71	62	140	124	197 *5+	
500-192823-6	GW-M06 (12162020)	127	110	87	98	70	258 *5+	241 *5+	357 *5+	
500-192823-6 - DL	GW-M06 (12162020)	143	108	95	72	63	146	132	239 *5+	
500-192823-7 - RA	GW-M07 (12162020)	291 *5+	79	154 *5+	152 *5+	137	409 *5+	197 *5+	425 *5+	
500-192823-7 - DL	GW-M07 (12162020)	120	82	73	53	57	134	134	172 *5+	
500-192823-7 - RA	GW-M07 (12162020)	311 *5+	202 *5+	168 *5+	148	149	419 *5+	199 *5+	480 *5+	
500-192823-7 - RADL2	GW-M07 (12162020)	78	69	49	42	45	75	155 *5+	80	
500-192823-7 - DL2	GW-M07 (12162020)	72	55	53	44	49	51	140	96	
500-192823-7 - DL3	GW-M07 (12162020)	72	57	51	44	44	71	155 *5+	95	
500-192823-8	GW-M08 (12162020)	119	92	82	58	53	204 *5+	188 *5+	292 *5+	
500-192823-8 - DL	GW-M08 (12162020)	99	83	80	49	49	94	100	139	
500-192823-9	GW-M09 (12162020)	125	99	92	58	51	165 *5+	154 *5+	251 *5+	
500-192823-9 - DL	GW-M09 (12162020)	96	99	92	57	51	97	107	106	
500-192823-10	GW-M10 (12162020)	111	84	75	47	46	125	118	235 *5+	
500-192823-10 - DL	GW-M10 (12162020)	88	85	75	46	40	75	79	99	
500-192823-11	Dup-01 (12162020)	147	82	92	82	68	227 *5+	212 *5+	354 *5+	
500-192823-11 - DL	Dup-01 (12162020)	121	72	88	59	55	117	108	180 *5+	
500-192823-11 - REDL	Dup-01 (12162020)	89	77	98	102	93	172 *5+	159 *5+	257 *5+	
500-192823-11 - RE	Dup-01 (12162020)	96	70	78	66	76	116	130	188 *5+	
500-192823-12	FIELD BLANK-12-16-2020	92	93	91	59	45	91	102	90	
LCS 320-445508/2-A	Lab Control Sample	82	79	81	62	50	73	76	74	
LCS 320-447007/2-A	Lab Control Sample	76	90	90	70	74	76	84	77	
LCSD 320-447007/3-A	Lab Control Sample Dup	77	96	92	77	75	77	82	80	
MB 320-445508/1-A	Method Blank	82	90	88	59	54	75	84	98	
MB 320-447007/1-A	Method Blank	85	98	101	78	56	84	97	92	

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)	
		HFPODA (25-150)	M102FTS
500-192823-1	GW-M01 (12162020)	84	
500-192823-1 - DL	GW-M01 (12162020)	64	
500-192823-1 - DL2	GW-M01 (12162020)	75	
500-192823-1 MS	GW-M01 (12162020)	111	
500-192823-1 MS - DL	GW-M01 (12162020)	87	
500-192823-1 MS - DL2	GW-M01 (12162020)	84	
500-192823-1 MSD	GW-M01 (12162020)	78	
500-192823-1 MSD - DL	GW-M01 (12162020)	64	

Eurofins TestAmerica, Chicago

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI Groundwater 30062361.00001

Job ID: 500-192823-1

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	HFPODA (25-150)	M102FTS
500-192823-1 MSD - DL2	GW-M01 (12162020)	74	
500-192823-2	GW-M02 (12162020)	84	
500-192823-2 - RA	GW-M02 (12162020)	81	
500-192823-3	GW-M03 (12162020)	167 *5+	
500-192823-3 - DL	GW-M03 (12162020)	97	
500-192823-3 - RA	GW-M03 (12162020)	149	
500-192823-3 - DL2	GW-M03 (12162020)	97	
500-192823-3 - RADL2	GW-M03 (12162020)	109	
500-192823-4	GW-M04 (12162020)	88	
500-192823-4 - DL	GW-M04 (12162020)	73	
500-192823-5	GW-M05 (12162020)	91	
500-192823-5 - DL	GW-M05 (12162020)	97	
500-192823-6	GW-M06 (12162020)	90	
500-192823-6 - DL	GW-M06 (12162020)	95	
500-192823-7 - RA	GW-M07 (12162020)	199 *5+	
500-192823-7 - DL	GW-M07 (12162020)	100	
500-192823-7 - RA	GW-M07 (12162020)	205 *5+	
500-192823-7 - RADL2	GW-M07 (12162020)	81	
500-192823-7 - DL2	GW-M07 (12162020)	83	
500-192823-7 - DL3	GW-M07 (12162020)	79	
500-192823-8	GW-M08 (12162020)	71	
500-192823-8 - DL	GW-M08 (12162020)	71	
500-192823-9	GW-M09 (12162020)	85	
500-192823-9 - DL	GW-M09 (12162020)	89	
500-192823-10	GW-M10 (12162020)	66	
500-192823-10 - DL	GW-M10 (12162020)	76	
500-192823-11	Dup-01 (12162020)	90	
500-192823-11 - DL	Dup-01 (12162020)	84	
500-192823-11 - REDL	Dup-01 (12162020)	103	
500-192823-11 - RE	Dup-01 (12162020)	83	
500-192823-12	FIELD BLANK-12-16-2020	101	
LCS 320-445508/2-A	Lab Control Sample	85	
LCS 320-447007/2-A	Lab Control Sample	97	
LCSD 320-447007/3-A	Lab Control Sample Dup	107	
MB 320-445508/1-A	Method Blank	90	
MB 320-447007/1-A	Method Blank	100	

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
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- PFHxDA = 13C2 PFHxDA
- C3PFBS = 13C3 PFBS

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.

Job ID: 500-192823-1

Project/Site: Marinette, WI Groundwater 30062361.00001

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

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ANALYTICAL REPORT

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

Laboratory Job ID: 500-192821-1
Client Project/Site: Marinette 30062361.00001
Revision: 2

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Lisa Rutkowski



Authorized for release by:
1/20/2021 1:21:15 PM

Sandie Fredrick, Project Manager II
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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Method Summary	5
Sample Summary	6
Client Sample Results	7
Definitions	48
QC Sample Results	49
Chronicle	60
Certification Summary	64
Chain of Custody	65
Receipt Checklists	72
Field Data Sheets	74
Isotope Dilution Summary	78

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Job ID: 500-192821-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative 500-192821-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 1/6/2021. The report (revision 2) is being revised due to: Client requested all analytical runs be reported for PFAS.

Report revision history

Revision 1 - 1/7/2021 - Reason - Removal of erroneous Intercompany Chain of custody..

Receipt

The samples were received on 12/19/2020 11:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were -0.4° C, 0.2° C, 0.4° C and 1.3° C.

Receipt Exceptions

The Chain-of-Custody (COC) was incomplete as received and/or improperly completed. Sample #14 "FIELD BLANK-12-14-2020" is checked off for TSS however no container for TSS was received. Did not log.

LCMS

Method 537 (modified): Results for samples 500-192821-1, 500-192821-2, 500-192821-3, 500-192821-4, 500-192821-5, 500-192821-6, 500-192821-7, 500-192821-8, 500-192821-9, 500-192821-10, 500-192821-11, 500-192821-12, 500-192821-12[MS], 500-192821-12[MSD] and 500-192821-13 were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS in the following sample: 500-192821-9. Re-analysis confirms the elevated IDA recovery. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Due to the high concentration of 6:2 FTS and Perfluorooctanoic acid (PFOA), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 320-445146 and analytical batch 320-445962 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 537 (modified): The concentration of Perfluorodecanoic acid (PFDA) and 6:2 FTS associated with the following samples exceeded the instrument calibration range: 500-192821-1, 500-192821-2, 500-192821-3, 500-192821-4, 500-192821-5, 500-192821-6, 500-192821-10, 500-192821-11 and 500-192821-12. These analytes have been qualified; however, the peaks did not saturate the instrument detector. The samples were analyzed at a dilution to bring the results within the calibration range. Both sets of data are reported. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 537 (modified): The concentration of several analytes associated with the following samples exceeded the instrument calibration range: 500-192821-7, 500-192821-8, 500-192821-9 and 500-192821-13. These analytes have been qualified; however, the peaks did not saturate the instrument detector. The samples were analyzed at a dilution to bring the results within the calibration range. Both sets of data are reported. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 6:2 FTS in preparation batch 320-445146 and analytical batch 320-445459 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 537 (modified): The matrix spike duplicate (MSD) recovery for 8:2 FTS in preparation batch 320-445146 and analytical batch 320-445962 was outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Job ID: 500-192821-1 (Continued)

Laboratory: Eurofins TestAmerica, Chicago (Continued)

was within acceptance limits.

Method 537 (modified): The concentration of 6:2 FTS associated with the following samples exceeded the instrument calibration range: 500-192821-12. These analytes have been qualified; however, the peaks did not saturate the instrument detector. The samples were analyzed at a dilution to bring the results within the calibration range. Both sets of data are reported. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 537 (modified): The concentration of Perfluorooctanoic acid (PFOA) associated with the following samples exceeded the instrument calibration range: 500-192821-12[MS] and 500-192821-12[MSD]. This is due to the addition of the matrix spike solution. Since the samples were diluted for 6:2 FTS both sets of data are reported. These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

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

General Chemistry

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

Organic Prep

Method 3535: The following samples are yellow and contain floating particulates at the bottom of the bottle prior to extraction: 500-192821-1, 500-192821-2, 500-192821-3, 500-192821-4, 500-192821-5, 500-192821-6, 500-192821-7, 500-192821-8, 500-192821-9, 500-192821-10, 500-192821-11, 500-192821-12, 500-192821-12[MS], 500-192821-12[MSD] and 500-192821-13. preparation batch 320-445146 Method: 3535 PFC Matrix: Water

Method 3535: The following samples are yellow after final volume: 500-192821-1, 500-192821-2, 500-192821-3, 500-192821-4, 500-192821-5, 500-192821-6, 500-192821-7, 500-192821-8, 500-192821-9, 500-192821-10, 500-192821-11, 500-192821-12, 500-192821-12[MS], 500-192821-12[MSD] and 500-192821-13. preparation batch 320-445146 Method: 3535 PFC Matrix: Water

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-192821-1	SW-39 (12142020)	Water	12/14/20 12:25	12/19/20 11:40	
500-192821-2	SW-L06 (12142020)	Water	12/14/20 12:30	12/19/20 11:40	
500-192821-3	SW-M01 (12142020)	Water	12/14/20 13:40	12/19/20 11:40	
500-192821-4	SW-M02 (12142020)	Water	12/14/20 13:45	12/19/20 11:40	
500-192821-5	SW-M03 (12142020)	Water	12/14/20 13:50	12/19/20 11:40	
500-192821-6	SW-M04 (12142020)	Water	12/14/20 13:55	12/19/20 11:40	
500-192821-7	SW-M05 (12142020)	Water	12/14/20 14:30	12/19/20 11:40	
500-192821-8	SW-M06 (12142020)	Water	12/14/20 14:40	12/19/20 11:40	
500-192821-9	SW-M07 (12142020)	Water	12/14/20 14:45	12/19/20 11:40	
500-192821-10	SW-M08 (12142020)	Water	12/14/20 15:15	12/19/20 11:40	
500-192821-11	SW-M09 (12142020)	Water	12/14/20 15:20	12/19/20 11:40	
500-192821-12	SW-M10 (12142020)	Water	12/14/20 15:40	12/19/20 11:40	
500-192821-13	Dup-01 (12142020)	Water	12/14/20 00:00	12/19/20 11:40	
500-192821-14	FIELD BLANK-12-14-220	Water	12/14/20 14:00	12/19/20 11:40	

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-39 (12142020)

Lab Sample ID: 500-192821-1

Date Collected: 12/14/20 12:25

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	37		4.6	2.2	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoropentanoic acid (PFPeA)	80		1.8	0.45	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorohexanoic acid (PFHxA)	100		1.8	0.54	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoroheptanoic acid (PFHpA)	37		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorooctanoic acid (PFOA)	610	E	1.8	0.79	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorononanoic acid (PFNA)	20		1.8	0.25	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorodecanoic acid (PFDA)	1.1	J	1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.87	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.8	0.18	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoropentanesulfonic acid (PFPeS)	1.3	J	1.8	0.28	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorohexanesulfonic acid (PFHxS)	17		1.8	0.53	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.1	J	1.8	0.18	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorooctanesulfonic acid (PFOS)	41		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.30	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.90	ng/L		12/22/20 18:37	12/24/20 08:10	1
Perfluorooctanesulfonamide (FOSA)	6.0		1.8	0.91	ng/L		12/22/20 18:37	12/24/20 08:10	1
NEtFOSA	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 08:10	1
NMeFOSA	<1.8		1.8	0.40	ng/L		12/22/20 18:37	12/24/20 08:10	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/22/20 18:37	12/24/20 08:10	1
NEtFOSAA	<4.6		4.6	1.2	ng/L		12/22/20 18:37	12/24/20 08:10	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/22/20 18:37	12/24/20 08:10	1
NEtFOSE	<1.8		1.8	0.79	ng/L		12/22/20 18:37	12/24/20 08:10	1
4:2 FTS	8.0		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:10	1
6:2 FTS	430	E	4.6	2.3	ng/L		12/22/20 18:37	12/24/20 08:10	1
8:2 FTS	50		1.8	0.43	ng/L		12/22/20 18:37	12/24/20 08:10	1
10:2 FTS	<1.8		1.8	0.62	ng/L		12/22/20 18:37	12/24/20 08:10	1
DONA	<1.8		1.8	0.37	ng/L		12/22/20 18:37	12/24/20 08:10	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/22/20 18:37	12/24/20 08:10	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:10	1
F-53B Minor	<1.8		1.8	0.30	ng/L		12/22/20 18:37	12/24/20 08:10	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	75		25 - 150				12/22/20 18:37	12/24/20 08:10	1
13C5 PFPeA	86		25 - 150				12/22/20 18:37	12/24/20 08:10	1
13C2 PFHxA	98		25 - 150				12/22/20 18:37	12/24/20 08:10	1
13C4 PFHpA	98		25 - 150				12/22/20 18:37	12/24/20 08:10	1
13C4 PFOA	94		25 - 150				12/22/20 18:37	12/24/20 08:10	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-39 (12142020)

Lab Sample ID: 500-192821-1

Date Collected: 12/14/20 12:25

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	99		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C2 PFDA	92		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C2 PFUnA	89		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C2 PFDoA	90		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C2 PFTeDA	88		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C2 PFHxDA	100		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C3 PFBS	93		25 - 150	12/22/20 18:37	12/24/20 08:10	1
18O2 PFHxS	94		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C4 PFOS	91		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C8 FOSA	90		10 - 150	12/22/20 18:37	12/24/20 08:10	1
d3-NMeFOSAA	72		25 - 150	12/22/20 18:37	12/24/20 08:10	1
d5-NEtFOSAA	80		25 - 150	12/22/20 18:37	12/24/20 08:10	1
d-N-MeFOSA-M	75		10 - 150	12/22/20 18:37	12/24/20 08:10	1
d-N-EtFOSA-M	62		10 - 150	12/22/20 18:37	12/24/20 08:10	1
d7-N-MeFOSE-M	48		10 - 150	12/22/20 18:37	12/24/20 08:10	1
d9-N-EtFOSE-M	40		10 - 150	12/22/20 18:37	12/24/20 08:10	1
M2-4:2 FTS	87		25 - 150	12/22/20 18:37	12/24/20 08:10	1
M2-6:2 FTS	72		25 - 150	12/22/20 18:37	12/24/20 08:10	1
M2-8:2 FTS	63		25 - 150	12/22/20 18:37	12/24/20 08:10	1
13C3 HFPO-DA	93		25 - 150	12/22/20 18:37	12/24/20 08:10	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	39	J	46	22	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoropentanoic acid (PFPeA)	84		18	4.5	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorohexanoic acid (PFHxA)	100		18	5.4	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoroheptanoic acid (PFHpA)	37		18	2.3	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorooctanoic acid (PFOA)	710		18	7.9	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorononanoic acid (PFNA)	19		18	2.5	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorodecanoic acid (PFDA)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoroundecanoic acid (PFUnA)	<18		18	10	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.1	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.7	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.2	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.7	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorobutanesulfonic acid (PFBS)	<18		18	1.8	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoropentanesulfonic acid (PFPeS)	<18		18	2.8	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorohexanesulfonic acid (PFHxS)	17	J	18	5.3	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluoroheptanesulfonic Acid (PFHpS)	<18		18	1.8	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorooctanesulfonic acid (PFOS)	38		18	5.0	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.4	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	3.0	ng/L		12/22/20 18:37	12/25/20 18:37	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	9.0	ng/L		12/22/20 18:37	12/25/20 18:37	10

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-39 (12142020)

Lab Sample ID: 500-192821-1

Date Collected: 12/14/20 12:25

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<18		18	9.1	ng/L		12/22/20 18:37	12/25/20 18:37	10
NEtFOSA	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 18:37	10
NMeFOSA	<18		18	4.0	ng/L		12/22/20 18:37	12/25/20 18:37	10
NMeFOSAA	<46		46	11	ng/L		12/22/20 18:37	12/25/20 18:37	10
NEtFOSAA	<46		46	12	ng/L		12/22/20 18:37	12/25/20 18:37	10
NMeFOSE	<37		37	13	ng/L		12/22/20 18:37	12/25/20 18:37	10
NEtFOSE	<18		18	7.9	ng/L		12/22/20 18:37	12/25/20 18:37	10
4:2 FTS	7.6	J	18	2.2	ng/L		12/22/20 18:37	12/25/20 18:37	10
6:2 FTS	450		46	23	ng/L		12/22/20 18:37	12/25/20 18:37	10
8:2 FTS	53		18	4.3	ng/L		12/22/20 18:37	12/25/20 18:37	10
10:2 FTS	<18		18	6.2	ng/L		12/22/20 18:37	12/25/20 18:37	10
DONA	<18		18	3.7	ng/L		12/22/20 18:37	12/25/20 18:37	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/22/20 18:37	12/25/20 18:37	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 18:37	10
F-53B Minor	<18		18	3.0	ng/L		12/22/20 18:37	12/25/20 18:37	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	87		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C5 PFPeA	90		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C2 PFHxA	90		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C4 PFHpA	92		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C4 PFOA	93		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C5 PFNA	94		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C2 PFDA	84		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C2 PFUnA	81		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C2 PFDoA	70		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C2 PFTeDA	77		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C2 PFHxDA	82		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C3 PFBS	85		25 - 150				12/22/20 18:37	12/25/20 18:37	10
18O2 PFHxS	83		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C4 PFOS	89		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C8 FOSA	82		10 - 150				12/22/20 18:37	12/25/20 18:37	10
d3-NMeFOSAA	69		25 - 150				12/22/20 18:37	12/25/20 18:37	10
d5-NEtFOSAA	74		25 - 150				12/22/20 18:37	12/25/20 18:37	10
d-N-MeFOSA-M	69		10 - 150				12/22/20 18:37	12/25/20 18:37	10
d-N-EtFOSA-M	54		10 - 150				12/22/20 18:37	12/25/20 18:37	10
d7-N-MeFOSE-M	46		10 - 150				12/22/20 18:37	12/25/20 18:37	10
d9-N-EtFOSE-M	35		10 - 150				12/22/20 18:37	12/25/20 18:37	10
M2-4:2 FTS	63		25 - 150				12/22/20 18:37	12/25/20 18:37	10
M2-6:2 FTS	70		25 - 150				12/22/20 18:37	12/25/20 18:37	10
M2-8:2 FTS	52		25 - 150				12/22/20 18:37	12/25/20 18:37	10
13C3 HFPO-DA	93		25 - 150				12/22/20 18:37	12/25/20 18:37	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	22		5.0	1.9	mg/L			12/20/20 15:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-L06 (12142020)

Lab Sample ID: 500-192821-2

Date Collected: 12/14/20 12:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	82		4.6	2.2	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoropentanoic acid (PFPeA)	240		1.8	0.45	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorohexanoic acid (PFHxA)	340		1.8	0.53	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoroheptanoic acid (PFHpA)	140		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorooctanoic acid (PFOA)	1700	E	1.8	0.78	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorononanoic acid (PFNA)	78		1.8	0.25	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorodecanoic acid (PFDA)	3.8		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorobutanesulfonic acid (PFBS)	5.8		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoropentanesulfonic acid (PFPeS)	6.1		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorohexanesulfonic acid (PFHxS)	67		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.8		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorooctanesulfonic acid (PFOS)	160		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		12/22/20 18:37	12/24/20 08:19	1
Perfluorooctanesulfonamide (FOSA)	23		1.8	0.90	ng/L		12/22/20 18:37	12/24/20 08:19	1
NEtFOSA	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 08:19	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 08:19	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/22/20 18:37	12/24/20 08:19	1
NEtFOSAA	4.2	J	4.6	1.2	ng/L		12/22/20 18:37	12/24/20 08:19	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/22/20 18:37	12/24/20 08:19	1
NEtFOSE	<1.8		1.8	0.78	ng/L		12/22/20 18:37	12/24/20 08:19	1
4:2 FTS	28		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:19	1
6:2 FTS	1500	E	4.6	2.3	ng/L		12/22/20 18:37	12/24/20 08:19	1
8:2 FTS	190		1.8	0.42	ng/L		12/22/20 18:37	12/24/20 08:19	1
10:2 FTS	<1.8		1.8	0.61	ng/L		12/22/20 18:37	12/24/20 08:19	1
DONA	<1.8		1.8	0.37	ng/L		12/22/20 18:37	12/24/20 08:19	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/22/20 18:37	12/24/20 08:19	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:19	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:19	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	61		25 - 150				12/22/20 18:37	12/24/20 08:19	1
13C5 PFPeA	75		25 - 150				12/22/20 18:37	12/24/20 08:19	1
13C2 PFHxA	97		25 - 150				12/22/20 18:37	12/24/20 08:19	1
13C4 PFHpA	105		25 - 150				12/22/20 18:37	12/24/20 08:19	1
13C4 PFOA	90		25 - 150				12/22/20 18:37	12/24/20 08:19	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-L06 (12142020)

Lab Sample ID: 500-192821-2

Date Collected: 12/14/20 12:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	115		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C2 PFDA	110		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C2 PFUnA	107		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C2 PFDoA	98		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C2 PFTeDA	111		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C2 PFHxDA	114		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C3 PFBS	91		25 - 150	12/22/20 18:37	12/24/20 08:19	1
18O2 PFHxS	104		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C4 PFOS	105		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C8 FOSA	95		10 - 150	12/22/20 18:37	12/24/20 08:19	1
d3-NMeFOSAA	84		25 - 150	12/22/20 18:37	12/24/20 08:19	1
d5-NEtFOSAA	92		25 - 150	12/22/20 18:37	12/24/20 08:19	1
d-N-MeFOSA-M	62		10 - 150	12/22/20 18:37	12/24/20 08:19	1
d-N-EtFOSA-M	51		10 - 150	12/22/20 18:37	12/24/20 08:19	1
d7-N-MeFOSE-M	55		10 - 150	12/22/20 18:37	12/24/20 08:19	1
d9-N-EtFOSE-M	44		10 - 150	12/22/20 18:37	12/24/20 08:19	1
M2-4:2 FTS	142		25 - 150	12/22/20 18:37	12/24/20 08:19	1
M2-6:2 FTS	74		25 - 150	12/22/20 18:37	12/24/20 08:19	1
M2-8:2 FTS	83		25 - 150	12/22/20 18:37	12/24/20 08:19	1
13C3 HFPO-DA	90		25 - 150	12/22/20 18:37	12/24/20 08:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	85		46	22	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoropentanoic acid (PFPeA)	250		18	4.5	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorohexanoic acid (PFHxA)	350		18	5.3	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoroheptanoic acid (PFHpA)	130		18	2.3	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorooctanoic acid (PFOA)	2600		18	7.8	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorononanoic acid (PFNA)	74		18	2.5	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorodecanoic acid (PFDA)	4.9	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoroundecanoic acid (PFUnA)	<18		18	10	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.7	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.2	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.6	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorobutanesulfonic acid (PFBS)	6.8	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoropentanesulfonic acid (PFPeS)	5.2	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorohexanesulfonic acid (PFHxS)	70		18	5.2	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluoroheptanesulfonic Acid (PFHpS)	4.8	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorooctanesulfonic acid (PFOS)	150		18	5.0	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.4	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 18:47	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.9	ng/L		12/22/20 18:37	12/25/20 18:47	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-L06 (12142020)

Lab Sample ID: 500-192821-2

Date Collected: 12/14/20 12:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	22		18	9.0	ng/L		12/22/20 18:37	12/25/20 18:47	10
NEtFOSA	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 18:47	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 18:47	10
NMeFOSAA	<46		46	11	ng/L		12/22/20 18:37	12/25/20 18:47	10
NEtFOSAA	<46		46	12	ng/L		12/22/20 18:37	12/25/20 18:47	10
NMeFOSE	<37		37	13	ng/L		12/22/20 18:37	12/25/20 18:47	10
NEtFOSE	<18		18	7.8	ng/L		12/22/20 18:37	12/25/20 18:47	10
4:2 FTS	31		18	2.2	ng/L		12/22/20 18:37	12/25/20 18:47	10
6:2 FTS	1600		46	23	ng/L		12/22/20 18:37	12/25/20 18:47	10
8:2 FTS	180		18	4.2	ng/L		12/22/20 18:37	12/25/20 18:47	10
10:2 FTS	<18		18	6.1	ng/L		12/22/20 18:37	12/25/20 18:47	10
DONA	<18		18	3.7	ng/L		12/22/20 18:37	12/25/20 18:47	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/22/20 18:37	12/25/20 18:47	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 18:47	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 18:47	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	56		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C5 PFPeA	60		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C2 PFHxA	61		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C4 PFHpA	63		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C4 PFOA	63		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C5 PFNA	64		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C2 PFDA	62		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C2 PFUnA	52		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C2 PFDoA	51		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C2 PFTeDA	55		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C2 PFHxDA	60		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C3 PFBS	61		25 - 150	12/22/20 18:37	12/25/20 18:47	10
18O2 PFHxS	57		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C4 PFOS	58		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C8 FOSA	55		10 - 150	12/22/20 18:37	12/25/20 18:47	10
d3-NMeFOSAA	50		25 - 150	12/22/20 18:37	12/25/20 18:47	10
d5-NEtFOSAA	47		25 - 150	12/22/20 18:37	12/25/20 18:47	10
d-N-MeFOSA-M	38		10 - 150	12/22/20 18:37	12/25/20 18:47	10
d-N-EtFOSA-M	29		10 - 150	12/22/20 18:37	12/25/20 18:47	10
d7-N-MeFOSE-M	32		10 - 150	12/22/20 18:37	12/25/20 18:47	10
d9-N-EtFOSE-M	26		10 - 150	12/22/20 18:37	12/25/20 18:47	10
M2-4:2 FTS	46		25 - 150	12/22/20 18:37	12/25/20 18:47	10
M2-6:2 FTS	54		25 - 150	12/22/20 18:37	12/25/20 18:47	10
M2-8:2 FTS	42		25 - 150	12/22/20 18:37	12/25/20 18:47	10
13C3 HFPO-DA	64		25 - 150	12/22/20 18:37	12/25/20 18:47	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	51		5.9	2.3	mg/L			12/20/20 15:35	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M01 (12142020)

Lab Sample ID: 500-192821-3

Date Collected: 12/14/20 13:40

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	86		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoropentanoic acid (PFPeA)	260		1.8	0.44	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorohexanoic acid (PFHxA)	330		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoroheptanoic acid (PFHpA)	140		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorooctanoic acid (PFOA)	1700	E	1.8	0.77	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorononanoic acid (PFNA)	69		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorodecanoic acid (PFDA)	4.0		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorobutanesulfonic acid (PFBS)	6.2		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoropentanesulfonic acid (PFPeS)	6.5		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorohexanesulfonic acid (PFHxS)	71		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	4.2		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorooctanesulfonic acid (PFOS)	150		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 08:29	1
Perfluorooctanesulfonamide (FOSA)	26		1.8	0.89	ng/L		12/22/20 18:37	12/24/20 08:29	1
NEtFOSA	<1.8		1.8	0.79	ng/L		12/22/20 18:37	12/24/20 08:29	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 08:29	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 08:29	1
NEtFOSAA	3.9	J	4.5	1.2	ng/L		12/22/20 18:37	12/24/20 08:29	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 08:29	1
NEtFOSE	<1.8		1.8	0.77	ng/L		12/22/20 18:37	12/24/20 08:29	1
4:2 FTS	29		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:29	1
6:2 FTS	1700	E	4.5	2.3	ng/L		12/22/20 18:37	12/24/20 08:29	1
8:2 FTS	180		1.8	0.42	ng/L		12/22/20 18:37	12/24/20 08:29	1
10:2 FTS	<1.8		1.8	0.61	ng/L		12/22/20 18:37	12/24/20 08:29	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 08:29	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		12/22/20 18:37	12/24/20 08:29	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:29	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:29	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	57		25 - 150				12/22/20 18:37	12/24/20 08:29	1
13C5 PFPeA	70		25 - 150				12/22/20 18:37	12/24/20 08:29	1
13C2 PFHxA	95		25 - 150				12/22/20 18:37	12/24/20 08:29	1
13C4 PFHpA	103		25 - 150				12/22/20 18:37	12/24/20 08:29	1
13C4 PFOA	90		25 - 150				12/22/20 18:37	12/24/20 08:29	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M01 (12142020)

Lab Sample ID: 500-192821-3

Date Collected: 12/14/20 13:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	120		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C2 PFDA	115		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C2 PFUnA	117		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C2 PFDoA	106		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C2 PFTeDA	110		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C2 PFHxDA	121		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C3 PFBS	88		25 - 150	12/22/20 18:37	12/24/20 08:29	1
18O2 PFHxS	102		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C4 PFOS	111		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C8 FOSA	98		10 - 150	12/22/20 18:37	12/24/20 08:29	1
d3-NMeFOSAA	91		25 - 150	12/22/20 18:37	12/24/20 08:29	1
d5-NEtFOSAA	103		25 - 150	12/22/20 18:37	12/24/20 08:29	1
d-N-MeFOSA-M	77		10 - 150	12/22/20 18:37	12/24/20 08:29	1
d-N-EtFOSA-M	54		10 - 150	12/22/20 18:37	12/24/20 08:29	1
d7-N-MeFOSE-M	53		10 - 150	12/22/20 18:37	12/24/20 08:29	1
d9-N-EtFOSE-M	43		10 - 150	12/22/20 18:37	12/24/20 08:29	1
M2-4:2 FTS	137		25 - 150	12/22/20 18:37	12/24/20 08:29	1
M2-6:2 FTS	77		25 - 150	12/22/20 18:37	12/24/20 08:29	1
M2-8:2 FTS	82		25 - 150	12/22/20 18:37	12/24/20 08:29	1
13C3 HFPO-DA	91		25 - 150	12/22/20 18:37	12/24/20 08:29	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	92		45	22	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoropentanoic acid (PFPeA)	260		18	4.4	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorohexanoic acid (PFHxA)	330		18	5.2	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoroheptanoic acid (PFHpA)	140		18	2.3	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorooctanoic acid (PFOA)	2400		18	7.7	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorononanoic acid (PFNA)	74		18	2.4	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorodecanoic acid (PFDA)	4.4	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.9	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.6	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.5	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorobutanesulfonic acid (PFBS)	9.6	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoropentanesulfonic acid (PFPeS)	5.8	J	18	2.7	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorohexanesulfonic acid (PFHxS)	73		18	5.2	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluoroheptanesulfonic Acid (PFHpS)	4.8	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorooctanesulfonic acid (PFOS)	150		18	4.9	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 18:56	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.8	ng/L		12/22/20 18:37	12/25/20 18:56	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M01 (12142020)

Lab Sample ID: 500-192821-3

Date Collected: 12/14/20 13:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	24		18	8.9	ng/L		12/22/20 18:37	12/25/20 18:56	10
NEtFOSA	<18		18	7.9	ng/L		12/22/20 18:37	12/25/20 18:56	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 18:56	10
NMeFOSAA	<45		45	11	ng/L		12/22/20 18:37	12/25/20 18:56	10
NEtFOSAA	<45		45	12	ng/L		12/22/20 18:37	12/25/20 18:56	10
NMeFOSE	<36		36	13	ng/L		12/22/20 18:37	12/25/20 18:56	10
NEtFOSE	<18		18	7.7	ng/L		12/22/20 18:37	12/25/20 18:56	10
4:2 FTS	27		18	2.2	ng/L		12/22/20 18:37	12/25/20 18:56	10
6:2 FTS	1900		45	23	ng/L		12/22/20 18:37	12/25/20 18:56	10
8:2 FTS	190		18	4.2	ng/L		12/22/20 18:37	12/25/20 18:56	10
10:2 FTS	<18		18	6.1	ng/L		12/22/20 18:37	12/25/20 18:56	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 18:56	10
HFPO-DA (GenX)	<36		36	14	ng/L		12/22/20 18:37	12/25/20 18:56	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 18:56	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 18:56	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	55		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C5 PFPeA	61		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C2 PFHxA	65		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C4 PFHpA	67		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C4 PFOA	65		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C5 PFNA	66		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C2 PFDA	64		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C2 PFUnA	64		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C2 PFDoA	61		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C2 PFTeDA	59		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C2 PFHxDA	62		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C3 PFBS	60		25 - 150	12/22/20 18:37	12/25/20 18:56	10
18O2 PFHxS	61		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C4 PFOS	60		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C8 FOSA	59		10 - 150	12/22/20 18:37	12/25/20 18:56	10
d3-NMeFOSAA	49		25 - 150	12/22/20 18:37	12/25/20 18:56	10
d5-NEtFOSAA	55		25 - 150	12/22/20 18:37	12/25/20 18:56	10
d-N-MeFOSA-M	46		10 - 150	12/22/20 18:37	12/25/20 18:56	10
d-N-EtFOSA-M	30		10 - 150	12/22/20 18:37	12/25/20 18:56	10
d7-N-MeFOSE-M	35		10 - 150	12/22/20 18:37	12/25/20 18:56	10
d9-N-EtFOSE-M	26		10 - 150	12/22/20 18:37	12/25/20 18:56	10
M2-4:2 FTS	52		25 - 150	12/22/20 18:37	12/25/20 18:56	10
M2-6:2 FTS	50		25 - 150	12/22/20 18:37	12/25/20 18:56	10
M2-8:2 FTS	38		25 - 150	12/22/20 18:37	12/25/20 18:56	10
13C3 HFPO-DA	62		25 - 150	12/22/20 18:37	12/25/20 18:56	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	34		5.7	2.2	mg/L			12/20/20 15:36	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M02 (12142020)

Lab Sample ID: 500-192821-4

Date Collected: 12/14/20 13:45

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	76		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoropentanoic acid (PFPeA)	230		1.8	0.44	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorohexanoic acid (PFHxA)	290		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoroheptanoic acid (PFHpA)	120		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorooctanoic acid (PFOA)	1400	E	1.8	0.77	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorononanoic acid (PFNA)	67		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorodecanoic acid (PFDA)	3.6		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorobutanesulfonic acid (PFBS)	4.6		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoropentanesulfonic acid (PFPeS)	5.0		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorohexanesulfonic acid (PFHxS)	60		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	4.0		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorooctanesulfonic acid (PFOS)	140		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		12/22/20 18:37	12/24/20 08:38	1
Perfluorooctanesulfonamide (FOSA)	23		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 08:38	1
NEtFOSA	<1.8		1.8	0.78	ng/L		12/22/20 18:37	12/24/20 08:38	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 08:38	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 08:38	1
NEtFOSAA	3.7	J	4.5	1.2	ng/L		12/22/20 18:37	12/24/20 08:38	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 08:38	1
NEtFOSE	<1.8		1.8	0.77	ng/L		12/22/20 18:37	12/24/20 08:38	1
4:2 FTS	26		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:38	1
6:2 FTS	1500	E	4.5	2.3	ng/L		12/22/20 18:37	12/24/20 08:38	1
8:2 FTS	170		1.8	0.41	ng/L		12/22/20 18:37	12/24/20 08:38	1
10:2 FTS	<1.8		1.8	0.60	ng/L		12/22/20 18:37	12/24/20 08:38	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 08:38	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		12/22/20 18:37	12/24/20 08:38	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:38	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	54		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C5 PFPeA	69		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C2 PFHxA	88		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C4 PFHpA	98		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C4 PFOA	87		25 - 150	12/22/20 18:37	12/24/20 08:38	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M02 (12142020)

Lab Sample ID: 500-192821-4

Date Collected: 12/14/20 13:45

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	109		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C2 PFDA	105		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C2 PFUnA	108		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C2 PFDoA	104		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C2 PFTeDA	109		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C2 PFHxDA	107		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C3 PFBS	84		25 - 150	12/22/20 18:37	12/24/20 08:38	1
18O2 PFHxS	98		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C4 PFOS	103		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C8 FOSA	96		10 - 150	12/22/20 18:37	12/24/20 08:38	1
d3-NMeFOSAA	82		25 - 150	12/22/20 18:37	12/24/20 08:38	1
d5-NEtFOSAA	89		25 - 150	12/22/20 18:37	12/24/20 08:38	1
d-N-MeFOSA-M	64		10 - 150	12/22/20 18:37	12/24/20 08:38	1
d-N-EtFOSA-M	49		10 - 150	12/22/20 18:37	12/24/20 08:38	1
d7-N-MeFOSE-M	53		10 - 150	12/22/20 18:37	12/24/20 08:38	1
d9-N-EtFOSE-M	39		10 - 150	12/22/20 18:37	12/24/20 08:38	1
M2-4:2 FTS	131		25 - 150	12/22/20 18:37	12/24/20 08:38	1
M2-6:2 FTS	81		25 - 150	12/22/20 18:37	12/24/20 08:38	1
M2-8:2 FTS	81		25 - 150	12/22/20 18:37	12/24/20 08:38	1
13C3 HFPO-DA	88		25 - 150	12/22/20 18:37	12/24/20 08:38	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	79		45	22	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoropentanoic acid (PFPeA)	240		18	4.4	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorohexanoic acid (PFHxA)	290		18	5.2	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoroheptanoic acid (PFHpA)	120		18	2.3	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorooctanoic acid (PFOA)	1800		18	7.7	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorononanoic acid (PFNA)	67		18	2.4	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorodecanoic acid (PFDA)	<18		18	2.8	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.9	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.6	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.5	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorobutanesulfonic acid (PFBS)	5.7 J		18	1.8	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoropentanesulfonic acid (PFPeS)	4.4 J		18	2.7	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorohexanesulfonic acid (PFHxS)	64		18	5.1	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluoroheptanesulfonic Acid (PFHpS)	3.9 J		18	1.7	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorooctanesulfonic acid (PFOS)	150		18	4.9	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:05	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.7	ng/L		12/22/20 18:37	12/25/20 19:05	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M02 (12142020)

Lab Sample ID: 500-192821-4

Date Collected: 12/14/20 13:45

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	22		18	8.8	ng/L		12/22/20 18:37	12/25/20 19:05	10
NEtFOSA	<18		18	7.8	ng/L		12/22/20 18:37	12/25/20 19:05	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 19:05	10
NMeFOSAA	<45		45	11	ng/L		12/22/20 18:37	12/25/20 19:05	10
NEtFOSAA	<45		45	12	ng/L		12/22/20 18:37	12/25/20 19:05	10
NMeFOSE	<36		36	13	ng/L		12/22/20 18:37	12/25/20 19:05	10
NEtFOSE	<18		18	7.7	ng/L		12/22/20 18:37	12/25/20 19:05	10
4:2 FTS	27		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:05	10
6:2 FTS	1800		45	23	ng/L		12/22/20 18:37	12/25/20 19:05	10
8:2 FTS	170		18	4.1	ng/L		12/22/20 18:37	12/25/20 19:05	10
10:2 FTS	<18		18	6.0	ng/L		12/22/20 18:37	12/25/20 19:05	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 19:05	10
HFPO-DA (GenX)	<36		36	14	ng/L		12/22/20 18:37	12/25/20 19:05	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:05	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:05	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C5 PFPeA	81		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C2 PFHxA	82		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C4 PFHpA	86		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C4 PFOA	87		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C5 PFNA	84		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C2 PFDA	82		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C2 PFUnA	83		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C2 PFDoA	76		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C2 PFTeDA	82		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C2 PFHxDA	75		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C3 PFBS	80		25 - 150	12/22/20 18:37	12/25/20 19:05	10
18O2 PFHxS	78		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C4 PFOS	76		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C8 FOSA	82		10 - 150	12/22/20 18:37	12/25/20 19:05	10
d3-NMeFOSAA	68		25 - 150	12/22/20 18:37	12/25/20 19:05	10
d5-NEtFOSAA	72		25 - 150	12/22/20 18:37	12/25/20 19:05	10
d-N-MeFOSA-M	51		10 - 150	12/22/20 18:37	12/25/20 19:05	10
d-N-EtFOSA-M	43		10 - 150	12/22/20 18:37	12/25/20 19:05	10
d7-N-MeFOSE-M	41		10 - 150	12/22/20 18:37	12/25/20 19:05	10
d9-N-EtFOSE-M	35		10 - 150	12/22/20 18:37	12/25/20 19:05	10
M2-4:2 FTS	68		25 - 150	12/22/20 18:37	12/25/20 19:05	10
M2-6:2 FTS	65		25 - 150	12/22/20 18:37	12/25/20 19:05	10
M2-8:2 FTS	55		25 - 150	12/22/20 18:37	12/25/20 19:05	10
13C3 HFPO-DA	83		25 - 150	12/22/20 18:37	12/25/20 19:05	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	53		7.1	2.8	mg/L			12/20/20 15:37	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M03 (12142020)

Lab Sample ID: 500-192821-5

Date Collected: 12/14/20 13:50

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	70		4.6	2.2	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoropentanoic acid (PFPeA)	210		1.9	0.46	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorohexanoic acid (PFHxA)	240		1.9	0.54	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoroheptanoic acid (PFHpA)	100		1.9	0.23	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorooctanoic acid (PFOA)	1100	E	1.9	0.79	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorononanoic acid (PFNA)	64		1.9	0.25	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorodecanoic acid (PFDA)	3.8		1.9	0.29	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.51	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.68	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.83	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.87	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorobutanesulfonic acid (PFBS)	4.2		1.9	0.19	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoropentanesulfonic acid (PFPeS)	4.5		1.9	0.28	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorohexanesulfonic acid (PFHxS)	52		1.9	0.53	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.5		1.9	0.18	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorooctanesulfonic acid (PFOS)	150		1.9	0.50	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.34	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.90	ng/L		12/22/20 18:37	12/24/20 08:47	1
Perfluorooctanesulfonamide (FOSA)	17		1.9	0.91	ng/L		12/22/20 18:37	12/24/20 08:47	1
NEtFOSA	<1.9		1.9	0.81	ng/L		12/22/20 18:37	12/24/20 08:47	1
NMeFOSA	<1.9		1.9	0.40	ng/L		12/22/20 18:37	12/24/20 08:47	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/22/20 18:37	12/24/20 08:47	1
NEtFOSAA	2.6	J	4.6	1.2	ng/L		12/22/20 18:37	12/24/20 08:47	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/22/20 18:37	12/24/20 08:47	1
NEtFOSE	<1.9		1.9	0.79	ng/L		12/22/20 18:37	12/24/20 08:47	1
4:2 FTS	24		1.9	0.22	ng/L		12/22/20 18:37	12/24/20 08:47	1
6:2 FTS	1500	E	4.6	2.3	ng/L		12/22/20 18:37	12/24/20 08:47	1
8:2 FTS	180		1.9	0.43	ng/L		12/22/20 18:37	12/24/20 08:47	1
10:2 FTS	<1.9		1.9	0.62	ng/L		12/22/20 18:37	12/24/20 08:47	1
DONA	<1.9		1.9	0.37	ng/L		12/22/20 18:37	12/24/20 08:47	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/22/20 18:37	12/24/20 08:47	1
F-53B Major	<1.9		1.9	0.22	ng/L		12/22/20 18:37	12/24/20 08:47	1
F-53B Minor	<1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 08:47	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	52		25 - 150				12/22/20 18:37	12/24/20 08:47	1
13C5 PFPeA	64		25 - 150				12/22/20 18:37	12/24/20 08:47	1
13C2 PFHxA	90		25 - 150				12/22/20 18:37	12/24/20 08:47	1
13C4 PFHpA	99		25 - 150				12/22/20 18:37	12/24/20 08:47	1
13C4 PFOA	92		25 - 150				12/22/20 18:37	12/24/20 08:47	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M03 (12142020)

Lab Sample ID: 500-192821-5

Date Collected: 12/14/20 13:50

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	108		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C2 PFDA	107		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C2 PFUnA	109		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C2 PFDoA	108		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C2 PFTeDA	113		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C2 PFHxDA	115		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C3 PFBS	83		25 - 150	12/22/20 18:37	12/24/20 08:47	1
18O2 PFHxS	96		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C4 PFOS	103		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C8 FOSA	94		10 - 150	12/22/20 18:37	12/24/20 08:47	1
d3-NMeFOSAA	87		25 - 150	12/22/20 18:37	12/24/20 08:47	1
d5-NEtFOSAA	92		25 - 150	12/22/20 18:37	12/24/20 08:47	1
d-N-MeFOSA-M	60		10 - 150	12/22/20 18:37	12/24/20 08:47	1
d-N-EtFOSA-M	47		10 - 150	12/22/20 18:37	12/24/20 08:47	1
d7-N-MeFOSE-M	48		10 - 150	12/22/20 18:37	12/24/20 08:47	1
d9-N-EtFOSE-M	38		10 - 150	12/22/20 18:37	12/24/20 08:47	1
M2-4:2 FTS	124		25 - 150	12/22/20 18:37	12/24/20 08:47	1
M2-6:2 FTS	79		25 - 150	12/22/20 18:37	12/24/20 08:47	1
M2-8:2 FTS	83		25 - 150	12/22/20 18:37	12/24/20 08:47	1
13C3 HFPO-DA	82		25 - 150	12/22/20 18:37	12/24/20 08:47	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	75		46	22	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoropentanoic acid (PFPeA)	210		19	4.6	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorohexanoic acid (PFHxA)	260		19	5.4	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoroheptanoic acid (PFHpA)	110		19	2.3	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorooctanoic acid (PFOA)	1300		19	7.9	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorononanoic acid (PFNA)	64		19	2.5	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorodecanoic acid (PFDA)	<19		19	2.9	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoroundecanoic acid (PFUnA)	<19		19	10	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorododecanoic acid (PFDoA)	<19		19	5.1	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorotridecanoic acid (PFTriA)	<19		19	12	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorotetradecanoic acid (PFTeA)	<19		19	6.8	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<19		19	8.3	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoro-n-octadecanoic acid (PFODA)	<19		19	8.7	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorobutanesulfonic acid (PFBS)	7.5 J		19	1.9	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoropentanesulfonic acid (PFPeS)	4.3 J		19	2.8	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorohexanesulfonic acid (PFHxS)	52		19	5.3	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluoroheptanesulfonic Acid (PFHpS)	3.8 J		19	1.8	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorooctanesulfonic acid (PFOS)	140		19	5.0	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorononanesulfonic acid (PFNS)	<19		19	3.4	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorodecanesulfonic acid (PFDS)	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 19:15	10
Perfluorododecanesulfonic acid (PFDoS)	<19		19	9.0	ng/L		12/22/20 18:37	12/25/20 19:15	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M03 (12142020)

Lab Sample ID: 500-192821-5

Date Collected: 12/14/20 13:50

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	17	J	19	9.1	ng/L		12/22/20 18:37	12/25/20 19:15	10
NEtFOSA	<19		19	8.1	ng/L		12/22/20 18:37	12/25/20 19:15	10
NMeFOSA	<19		19	4.0	ng/L		12/22/20 18:37	12/25/20 19:15	10
NMeFOSAA	<46		46	11	ng/L		12/22/20 18:37	12/25/20 19:15	10
NEtFOSAA	<46		46	12	ng/L		12/22/20 18:37	12/25/20 19:15	10
NMeFOSE	<37		37	13	ng/L		12/22/20 18:37	12/25/20 19:15	10
NEtFOSE	<19		19	7.9	ng/L		12/22/20 18:37	12/25/20 19:15	10
4:2 FTS	23		19	2.2	ng/L		12/22/20 18:37	12/25/20 19:15	10
6:2 FTS	1500		46	23	ng/L		12/22/20 18:37	12/25/20 19:15	10
8:2 FTS	170		19	4.3	ng/L		12/22/20 18:37	12/25/20 19:15	10
10:2 FTS	<19		19	6.2	ng/L		12/22/20 18:37	12/25/20 19:15	10
DONA	<19		19	3.7	ng/L		12/22/20 18:37	12/25/20 19:15	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/22/20 18:37	12/25/20 19:15	10
F-53B Major	<19		19	2.2	ng/L		12/22/20 18:37	12/25/20 19:15	10
F-53B Minor	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 19:15	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	59		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C5 PFPeA	65		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C2 PFHxA	63		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C4 PFHpA	70		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C4 PFOA	74		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C5 PFNA	69		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C2 PFDA	67		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C2 PFUnA	67		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C2 PFDoA	62		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C2 PFTeDA	63		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C2 PFHxDA	66		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C3 PFBS	64		25 - 150	12/22/20 18:37	12/25/20 19:15	10
18O2 PFHxS	64		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C4 PFOS	67		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C8 FOSA	61		10 - 150	12/22/20 18:37	12/25/20 19:15	10
d3-NMeFOSAA	56		25 - 150	12/22/20 18:37	12/25/20 19:15	10
d5-NEtFOSAA	57		25 - 150	12/22/20 18:37	12/25/20 19:15	10
d-N-MeFOSA-M	44		10 - 150	12/22/20 18:37	12/25/20 19:15	10
d-N-EtFOSA-M	30		10 - 150	12/22/20 18:37	12/25/20 19:15	10
d7-N-MeFOSE-M	26		10 - 150	12/22/20 18:37	12/25/20 19:15	10
d9-N-EtFOSE-M	27		10 - 150	12/22/20 18:37	12/25/20 19:15	10
M2-4:2 FTS	49		25 - 150	12/22/20 18:37	12/25/20 19:15	10
M2-6:2 FTS	60		25 - 150	12/22/20 18:37	12/25/20 19:15	10
M2-8:2 FTS	49		25 - 150	12/22/20 18:37	12/25/20 19:15	10
13C3 HFPO-DA	68		25 - 150	12/22/20 18:37	12/25/20 19:15	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	42		6.7	2.6	mg/L			12/20/20 15:38	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M04 (12142020)

Lab Sample ID: 500-192821-6

Date Collected: 12/14/20 13:55

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	64		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoropentanoic acid (PFPeA)	200		1.8	0.44	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorohexanoic acid (PFHxA)	200		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoroheptanoic acid (PFHpA)	85		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorooctanoic acid (PFOA)	670	E	1.8	0.77	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorononanoic acid (PFNA)	57		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorodecanoic acid (PFDA)	4.6		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorobutanesulfonic acid (PFBS)	3.8		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoropentanesulfonic acid (PFPeS)	3.2		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorohexanesulfonic acid (PFHxS)	40		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.1		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorooctanesulfonic acid (PFOS)	170		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 08:57	1
Perfluorooctanesulfonamide (FOSA)	11		1.8	0.89	ng/L		12/22/20 18:37	12/24/20 08:57	1
NEtFOSA	<1.8		1.8	0.79	ng/L		12/22/20 18:37	12/24/20 08:57	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 08:57	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 08:57	1
NEtFOSAA	1.5	J	4.5	1.2	ng/L		12/22/20 18:37	12/24/20 08:57	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 08:57	1
NEtFOSE	<1.8		1.8	0.77	ng/L		12/22/20 18:37	12/24/20 08:57	1
4:2 FTS	18		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:57	1
6:2 FTS	1300	E	4.5	2.3	ng/L		12/22/20 18:37	12/24/20 08:57	1
8:2 FTS	240		1.8	0.42	ng/L		12/22/20 18:37	12/24/20 08:57	1
10:2 FTS	<1.8		1.8	0.61	ng/L		12/22/20 18:37	12/24/20 08:57	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 08:57	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		12/22/20 18:37	12/24/20 08:57	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 08:57	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 08:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	50		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C5 PFPeA	61		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C2 PFHxA	86		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C4 PFHpA	95		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C4 PFOA	94		25 - 150	12/22/20 18:37	12/24/20 08:57	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M04 (12142020)

Lab Sample ID: 500-192821-6

Date Collected: 12/14/20 13:55

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	103		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C2 PFDA	102		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C2 PFUnA	103		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C2 PFDoA	100		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C2 PFTeDA	99		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C2 PFHxDA	103		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C3 PFBS	79		25 - 150	12/22/20 18:37	12/24/20 08:57	1
18O2 PFHxS	92		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C4 PFOS	98		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C8 FOSA	90		10 - 150	12/22/20 18:37	12/24/20 08:57	1
d3-NMeFOSAA	78		25 - 150	12/22/20 18:37	12/24/20 08:57	1
d5-NEtFOSAA	87		25 - 150	12/22/20 18:37	12/24/20 08:57	1
d-N-MeFOSA-M	61		10 - 150	12/22/20 18:37	12/24/20 08:57	1
d-N-EtFOSA-M	47		10 - 150	12/22/20 18:37	12/24/20 08:57	1
d7-N-MeFOSE-M	49		10 - 150	12/22/20 18:37	12/24/20 08:57	1
d9-N-EtFOSE-M	43		10 - 150	12/22/20 18:37	12/24/20 08:57	1
M2-4:2 FTS	122		25 - 150	12/22/20 18:37	12/24/20 08:57	1
M2-6:2 FTS	81		25 - 150	12/22/20 18:37	12/24/20 08:57	1
M2-8:2 FTS	74		25 - 150	12/22/20 18:37	12/24/20 08:57	1
13C3 HFPO-DA	81		25 - 150	12/22/20 18:37	12/24/20 08:57	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	66		45	22	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoropentanoic acid (PFPeA)	200		18	4.4	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorohexanoic acid (PFHxA)	210		18	5.2	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoroheptanoic acid (PFHpA)	85		18	2.3	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorooctanoic acid (PFOA)	880		18	7.7	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorononanoic acid (PFNA)	57		18	2.4	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorodecanoic acid (PFDA)	3.9	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.9	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.6	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.5	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorobutanesulfonic acid (PFBS)	4.2	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoropentanesulfonic acid (PFPeS)	2.9	J	18	2.7	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorohexanesulfonic acid (PFHxS)	40		18	5.1	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluoroheptanesulfonic Acid (PFHpS)	3.0	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorooctanesulfonic acid (PFOS)	170		18	4.9	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:24	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.8	ng/L		12/22/20 18:37	12/25/20 19:24	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M04 (12142020)

Lab Sample ID: 500-192821-6

Date Collected: 12/14/20 13:55

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	11	J	18	8.9	ng/L		12/22/20 18:37	12/25/20 19:24	10
NEtFOSA	<18		18	7.9	ng/L		12/22/20 18:37	12/25/20 19:24	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 19:24	10
NMeFOSAA	<45		45	11	ng/L		12/22/20 18:37	12/25/20 19:24	10
NEtFOSAA	<45		45	12	ng/L		12/22/20 18:37	12/25/20 19:24	10
NMeFOSE	<36		36	13	ng/L		12/22/20 18:37	12/25/20 19:24	10
NEtFOSE	<18		18	7.7	ng/L		12/22/20 18:37	12/25/20 19:24	10
4:2 FTS	18		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:24	10
6:2 FTS	1500		45	23	ng/L		12/22/20 18:37	12/25/20 19:24	10
8:2 FTS	220		18	4.2	ng/L		12/22/20 18:37	12/25/20 19:24	10
10:2 FTS	<18		18	6.1	ng/L		12/22/20 18:37	12/25/20 19:24	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 19:24	10
HFPO-DA (GenX)	<36		36	14	ng/L		12/22/20 18:37	12/25/20 19:24	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:24	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:24	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	74		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C5 PFPeA	77		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C2 PFHxA	82		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C4 PFHpA	85		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C4 PFOA	87		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C5 PFNA	90		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C2 PFDA	90		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C2 PFUnA	82		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C2 PFDoA	72		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C2 PFTeDA	76		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C2 PFHxDA	79		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C3 PFBS	81		25 - 150	12/22/20 18:37	12/25/20 19:24	10
18O2 PFHxS	76		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C4 PFOS	81		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C8 FOSA	83		10 - 150	12/22/20 18:37	12/25/20 19:24	10
d3-NMeFOSAA	67		25 - 150	12/22/20 18:37	12/25/20 19:24	10
d5-NEtFOSAA	74		25 - 150	12/22/20 18:37	12/25/20 19:24	10
d-N-MeFOSA-M	56		10 - 150	12/22/20 18:37	12/25/20 19:24	10
d-N-EtFOSA-M	41		10 - 150	12/22/20 18:37	12/25/20 19:24	10
d7-N-MeFOSE-M	44		10 - 150	12/22/20 18:37	12/25/20 19:24	10
d9-N-EtFOSE-M	34		10 - 150	12/22/20 18:37	12/25/20 19:24	10
M2-4:2 FTS	65		25 - 150	12/22/20 18:37	12/25/20 19:24	10
M2-6:2 FTS	70		25 - 150	12/22/20 18:37	12/25/20 19:24	10
M2-8:2 FTS	61		25 - 150	12/22/20 18:37	12/25/20 19:24	10
13C3 HFPO-DA	83		25 - 150	12/22/20 18:37	12/25/20 19:24	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	22		5.0	1.9	mg/L			12/20/20 15:39	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M05 (12142020)

Lab Sample ID: 500-192821-7

Date Collected: 12/14/20 14:30

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	100		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoropentanoic acid (PFPeA)	290		1.8	0.44	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorohexanoic acid (PFHxA)	390	E	1.8	0.52	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoroheptanoic acid (PFHpA)	170		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorooctanoic acid (PFOA)	1900	E	1.8	0.77	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorononanoic acid (PFNA)	150		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorodecanoic acid (PFDA)	6.8		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.99	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorobutanesulfonic acid (PFBS)	7.3		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoropentanesulfonic acid (PFPeS)	8.3		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorohexanesulfonic acid (PFHxS)	120		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	5.5		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorooctanesulfonic acid (PFOS)	210		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		12/22/20 18:37	12/24/20 09:06	1
Perfluorooctanesulfonamide (FOSA)	55		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 09:06	1
NEtFOSA	<1.8		1.8	0.78	ng/L		12/22/20 18:37	12/24/20 09:06	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 09:06	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 09:06	1
NEtFOSAA	7.8		4.5	1.2	ng/L		12/22/20 18:37	12/24/20 09:06	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 09:06	1
NEtFOSE	<1.8		1.8	0.77	ng/L		12/22/20 18:37	12/24/20 09:06	1
4:2 FTS	53		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:06	1
6:2 FTS	2200	E	4.5	2.3	ng/L		12/22/20 18:37	12/24/20 09:06	1
8:2 FTS	320		1.8	0.41	ng/L		12/22/20 18:37	12/24/20 09:06	1
10:2 FTS	<1.8		1.8	0.60	ng/L		12/22/20 18:37	12/24/20 09:06	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 09:06	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		12/22/20 18:37	12/24/20 09:06	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:06	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 09:06	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	61		25 - 150				12/22/20 18:37	12/24/20 09:06	1
13C5 PFPeA	72		25 - 150				12/22/20 18:37	12/24/20 09:06	1
13C2 PFHxA	95		25 - 150				12/22/20 18:37	12/24/20 09:06	1
13C4 PFHpA	112		25 - 150				12/22/20 18:37	12/24/20 09:06	1
13C4 PFOA	91		25 - 150				12/22/20 18:37	12/24/20 09:06	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M05 (12142020)

Lab Sample ID: 500-192821-7

Date Collected: 12/14/20 14:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	125		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C2 PFDA	120		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C2 PFUnA	123		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C2 PFDoA	108		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C2 PFTeDA	116		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C2 PFHxDA	124		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C3 PFBS	91		25 - 150	12/22/20 18:37	12/24/20 09:06	1
18O2 PFHxS	108		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C4 PFOS	115		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C8 FOSA	109		10 - 150	12/22/20 18:37	12/24/20 09:06	1
d3-NMeFOSAA	93		25 - 150	12/22/20 18:37	12/24/20 09:06	1
d5-NEtFOSAA	105		25 - 150	12/22/20 18:37	12/24/20 09:06	1
d-N-MeFOSA-M	72		10 - 150	12/22/20 18:37	12/24/20 09:06	1
d-N-EtFOSA-M	57		10 - 150	12/22/20 18:37	12/24/20 09:06	1
d7-N-MeFOSE-M	56		10 - 150	12/22/20 18:37	12/24/20 09:06	1
d9-N-EtFOSE-M	45		10 - 150	12/22/20 18:37	12/24/20 09:06	1
M2-4:2 FTS	136		25 - 150	12/22/20 18:37	12/24/20 09:06	1
M2-6:2 FTS	84		25 - 150	12/22/20 18:37	12/24/20 09:06	1
M2-8:2 FTS	86		25 - 150	12/22/20 18:37	12/24/20 09:06	1
13C3 HFPO-DA	94		25 - 150	12/22/20 18:37	12/24/20 09:06	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	100		45	22	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoropentanoic acid (PFPeA)	290		18	4.4	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorohexanoic acid (PFHxA)	390		18	5.2	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoroheptanoic acid (PFHpA)	170		18	2.3	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorooctanoic acid (PFOA)	2600		18	7.7	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorononanoic acid (PFNA)	140		18	2.4	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorodecanoic acid (PFDA)	8.0	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.9	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.6	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.5	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorobutanesulfonic acid (PFBS)	8.8	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoropentanesulfonic acid (PFPeS)	6.4	J	18	2.7	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorohexanesulfonic acid (PFHxS)	120		18	5.1	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluoroheptanesulfonic Acid (PFHpS)	6.4	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorooctanesulfonic acid (PFOS)	200		18	4.9	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:33	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.7	ng/L		12/22/20 18:37	12/25/20 19:33	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M05 (12142020)

Lab Sample ID: 500-192821-7

Date Collected: 12/14/20 14:30

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	54		18	8.8	ng/L		12/22/20 18:37	12/25/20 19:33	10
NEtFOSA	<18		18	7.8	ng/L		12/22/20 18:37	12/25/20 19:33	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 19:33	10
NMeFOSAA	<45		45	11	ng/L		12/22/20 18:37	12/25/20 19:33	10
NEtFOSAA	<45		45	12	ng/L		12/22/20 18:37	12/25/20 19:33	10
NMeFOSE	<36		36	13	ng/L		12/22/20 18:37	12/25/20 19:33	10
NEtFOSE	<18		18	7.7	ng/L		12/22/20 18:37	12/25/20 19:33	10
4:2 FTS	53		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:33	10
6:2 FTS	2500		45	23	ng/L		12/22/20 18:37	12/25/20 19:33	10
8:2 FTS	300		18	4.1	ng/L		12/22/20 18:37	12/25/20 19:33	10
10:2 FTS	<18		18	6.0	ng/L		12/22/20 18:37	12/25/20 19:33	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 19:33	10
HFPO-DA (GenX)	<36		36	14	ng/L		12/22/20 18:37	12/25/20 19:33	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:33	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:33	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	76		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C5 PFPeA	83		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 PFHxA	84		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C4 PFHpA	89		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C4 PFOA	92		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C5 PFNA	93		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 PFDA	84		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 PFUnA	91		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 PFDoA	83		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 PFTeDA	80		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 PFHxDA	71		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C3 PFBS	82		25 - 150	12/22/20 18:37	12/25/20 19:33	10
18O2 PFHxS	77		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C4 PFOS	85		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C8 FOSA	82		10 - 150	12/22/20 18:37	12/25/20 19:33	10
d3-NMeFOSAA	71		25 - 150	12/22/20 18:37	12/25/20 19:33	10
d5-NEtFOSAA	72		25 - 150	12/22/20 18:37	12/25/20 19:33	10
d-N-MeFOSA-M	53		10 - 150	12/22/20 18:37	12/25/20 19:33	10
d-N-EtFOSA-M	40		10 - 150	12/22/20 18:37	12/25/20 19:33	10
d7-N-MeFOSE-M	38		10 - 150	12/22/20 18:37	12/25/20 19:33	10
d9-N-EtFOSE-M	36		10 - 150	12/22/20 18:37	12/25/20 19:33	10
M2-4:2 FTS	69		25 - 150	12/22/20 18:37	12/25/20 19:33	10
M2-6:2 FTS	76		25 - 150	12/22/20 18:37	12/25/20 19:33	10
M2-8:2 FTS	59		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C3 HFPO-DA	84		25 - 150	12/22/20 18:37	12/25/20 19:33	10
13C2 10:2 FTS				12/22/20 18:37	12/25/20 19:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	530		100	39	mg/L			12/20/20 15:40	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M06 (12142020)

Lab Sample ID: 500-192821-8

Date Collected: 12/14/20 14:40

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	100		4.6	2.2	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoropentanoic acid (PFPeA)	310		1.8	0.45	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorohexanoic acid (PFHxA)	400	E	1.8	0.53	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoroheptanoic acid (PFHpA)	180		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorooctanoic acid (PFOA)	1900	E	1.8	0.78	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorononanoic acid (PFNA)	160		1.8	0.25	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorodecanoic acid (PFDA)	8.5		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoroundecanoic acid (PFUnA)	4.7		1.8	1.0	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorobutanesulfonic acid (PFBS)	6.8		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoropentanesulfonic acid (PFPeS)	7.9		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorohexanesulfonic acid (PFHxS)	120		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluoroheptanesulfonic Acid (PFHpS)	5.3		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorooctanesulfonic acid (PFOS)	240		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		12/22/20 18:37	12/24/20 09:16	1
Perfluorooctanesulfonamide (FOSA)	70		1.8	0.90	ng/L		12/22/20 18:37	12/24/20 09:16	1
NEtFOSA	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 09:16	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 09:16	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/22/20 18:37	12/24/20 09:16	1
NEtFOSAA	6.9		4.6	1.2	ng/L		12/22/20 18:37	12/24/20 09:16	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/22/20 18:37	12/24/20 09:16	1
NEtFOSE	<1.8		1.8	0.78	ng/L		12/22/20 18:37	12/24/20 09:16	1
4:2 FTS	51		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:16	1
6:2 FTS	2200	E	4.6	2.3	ng/L		12/22/20 18:37	12/24/20 09:16	1
8:2 FTS	350		1.8	0.42	ng/L		12/22/20 18:37	12/24/20 09:16	1
10:2 FTS	<1.8		1.8	0.61	ng/L		12/22/20 18:37	12/24/20 09:16	1
DONA	<1.8		1.8	0.37	ng/L		12/22/20 18:37	12/24/20 09:16	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/22/20 18:37	12/24/20 09:16	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:16	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 09:16	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	59		25 - 150				12/22/20 18:37	12/24/20 09:16	1
13C5 PFPeA	71		25 - 150				12/22/20 18:37	12/24/20 09:16	1
13C2 PFHxA	99		25 - 150				12/22/20 18:37	12/24/20 09:16	1
13C4 PFHpA	107		25 - 150				12/22/20 18:37	12/24/20 09:16	1
13C4 PFOA	90		25 - 150				12/22/20 18:37	12/24/20 09:16	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M06 (12142020)

Lab Sample ID: 500-192821-8

Date Collected: 12/14/20 14:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	123		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C2 PFDA	112		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C2 PFUnA	122		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C2 PFDoA	115		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C2 PFTeDA	124		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C2 PFHxDA	126		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C3 PFBS	95		25 - 150	12/22/20 18:37	12/24/20 09:16	1
18O2 PFHxS	107		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C4 PFOS	120		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C8 FOSA	106		10 - 150	12/22/20 18:37	12/24/20 09:16	1
d3-NMeFOSAA	92		25 - 150	12/22/20 18:37	12/24/20 09:16	1
d5-NEtFOSAA	101		25 - 150	12/22/20 18:37	12/24/20 09:16	1
d-N-MeFOSA-M	61		10 - 150	12/22/20 18:37	12/24/20 09:16	1
d-N-EtFOSA-M	47		10 - 150	12/22/20 18:37	12/24/20 09:16	1
d7-N-MeFOSE-M	53		10 - 150	12/22/20 18:37	12/24/20 09:16	1
d9-N-EtFOSE-M	45		10 - 150	12/22/20 18:37	12/24/20 09:16	1
M2-4:2 FTS	141		25 - 150	12/22/20 18:37	12/24/20 09:16	1
M2-6:2 FTS	83		25 - 150	12/22/20 18:37	12/24/20 09:16	1
M2-8:2 FTS	95		25 - 150	12/22/20 18:37	12/24/20 09:16	1
13C3 HFPO-DA	94		25 - 150	12/22/20 18:37	12/24/20 09:16	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	110		46	22	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoropentanoic acid (PFPeA)	320		18	4.5	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorohexanoic acid (PFHxA)	400		18	5.3	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoroheptanoic acid (PFHpA)	180		18	2.3	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorooctanoic acid (PFOA)	2600		18	7.8	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorononanoic acid (PFNA)	170		18	2.5	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorodecanoic acid (PFDA)	8.3	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoroundecanoic acid (PFUnA)	<18		18	10	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.7	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.2	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.6	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorobutanesulfonic acid (PFBS)	6.8	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoropentanesulfonic acid (PFPeS)	7.2	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorohexanesulfonic acid (PFHxS)	120		18	5.2	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluoroheptanesulfonic Acid (PFHpS)	6.6	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorooctanesulfonic acid (PFOS)	240		18	5.0	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.4	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:43	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.9	ng/L		12/22/20 18:37	12/25/20 19:43	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M06 (12142020)

Lab Sample ID: 500-192821-8

Date Collected: 12/14/20 14:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	63		18	9.0	ng/L		12/22/20 18:37	12/25/20 19:43	10
NEtFOSA	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 19:43	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 19:43	10
NMeFOSAA	<46		46	11	ng/L		12/22/20 18:37	12/25/20 19:43	10
NEtFOSAA	<46		46	12	ng/L		12/22/20 18:37	12/25/20 19:43	10
NMeFOSE	<37		37	13	ng/L		12/22/20 18:37	12/25/20 19:43	10
NEtFOSE	<18		18	7.8	ng/L		12/22/20 18:37	12/25/20 19:43	10
4:2 FTS	54		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:43	10
6:2 FTS	2500		46	23	ng/L		12/22/20 18:37	12/25/20 19:43	10
8:2 FTS	350		18	4.2	ng/L		12/22/20 18:37	12/25/20 19:43	10
10:2 FTS	<18		18	6.1	ng/L		12/22/20 18:37	12/25/20 19:43	10
DONA	<18		18	3.7	ng/L		12/22/20 18:37	12/25/20 19:43	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/22/20 18:37	12/25/20 19:43	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:43	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:43	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	75		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C5 PFPeA	83		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C2 PFHxA	90		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C4 PFHpA	91		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C4 PFOA	90		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C5 PFNA	91		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C2 PFDA	95		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C2 PFUnA	80		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C2 PFDoA	76		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C2 PFTeDA	75		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C2 PFHxDA	75		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C3 PFBS	86		25 - 150	12/22/20 18:37	12/25/20 19:43	10
18O2 PFHxS	83		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C4 PFOS	85		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C8 FOSA	85		10 - 150	12/22/20 18:37	12/25/20 19:43	10
d3-NMeFOSAA	70		25 - 150	12/22/20 18:37	12/25/20 19:43	10
d5-NEtFOSAA	74		25 - 150	12/22/20 18:37	12/25/20 19:43	10
d-N-MeFOSA-M	42		10 - 150	12/22/20 18:37	12/25/20 19:43	10
d-N-EtFOSA-M	36		10 - 150	12/22/20 18:37	12/25/20 19:43	10
d7-N-MeFOSE-M	40		10 - 150	12/22/20 18:37	12/25/20 19:43	10
d9-N-EtFOSE-M	34		10 - 150	12/22/20 18:37	12/25/20 19:43	10
M2-4:2 FTS	69		25 - 150	12/22/20 18:37	12/25/20 19:43	10
M2-6:2 FTS	78		25 - 150	12/22/20 18:37	12/25/20 19:43	10
M2-8:2 FTS	59		25 - 150	12/22/20 18:37	12/25/20 19:43	10
13C3 HFPO-DA	88		25 - 150	12/22/20 18:37	12/25/20 19:43	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	55		8.3	3.2	mg/L			12/20/20 15:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M07 (12142020)

Lab Sample ID: 500-192821-9

Date Collected: 12/14/20 14:45

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	120		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoropentanoic acid (PFPeA)	370	E	1.8	0.44	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorohexanoic acid (PFHxA)	440	E	1.8	0.52	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoroheptanoic acid (PFHpA)	200		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorooctanoic acid (PFOA)	2000	E	1.8	0.76	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorononanoic acid (PFNA)	200		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorodecanoic acid (PFDA)	9.2		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoroundecanoic acid (PFUnA)	5.5		1.8	0.99	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorobutanesulfonic acid (PFBS)	6.1		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoropentanesulfonic acid (PFPeS)	6.9		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorohexanesulfonic acid (PFHxS)	120		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	5.1		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorooctanesulfonic acid (PFOS)	270		1.8	0.48	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		12/22/20 18:37	12/24/20 09:53	1
Perfluorooctanesulfonamide (FOSA)	120		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 09:53	1
NEtFOSA	<1.8		1.8	0.78	ng/L		12/22/20 18:37	12/24/20 09:53	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 09:53	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 09:53	1
NEtFOSAA	8.4		4.5	1.2	ng/L		12/22/20 18:37	12/24/20 09:53	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 09:53	1
NEtFOSE	<1.8		1.8	0.76	ng/L		12/22/20 18:37	12/24/20 09:53	1
4:2 FTS	64		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:53	1
6:2 FTS	2300	E	4.5	2.2	ng/L		12/22/20 18:37	12/24/20 09:53	1
8:2 FTS	400	E	1.8	0.41	ng/L		12/22/20 18:37	12/24/20 09:53	1
10:2 FTS	<1.8		1.8	0.60	ng/L		12/22/20 18:37	12/24/20 09:53	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 09:53	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 09:53	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 09:53	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 09:53	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	64		25 - 150				12/22/20 18:37	12/24/20 09:53	1
13C5 PFPeA	78		25 - 150				12/22/20 18:37	12/24/20 09:53	1
13C2 PFHxA	102		25 - 150				12/22/20 18:37	12/24/20 09:53	1
13C4 PFHpA	116		25 - 150				12/22/20 18:37	12/24/20 09:53	1
13C4 PFOA	93		25 - 150				12/22/20 18:37	12/24/20 09:53	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M07 (12142020)

Lab Sample ID: 500-192821-9

Date Collected: 12/14/20 14:45

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	125		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C2 PFDA	124		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C2 PFUnA	114		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C2 PFDoA	104		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C2 PFTeDA	110		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C2 PFHxDA	116		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C3 PFBS	95		25 - 150	12/22/20 18:37	12/24/20 09:53	1
18O2 PFHxS	110		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C4 PFOS	118		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C8 FOSA	110		10 - 150	12/22/20 18:37	12/24/20 09:53	1
d3-NMeFOSAA	91		25 - 150	12/22/20 18:37	12/24/20 09:53	1
d5-NEtFOSAA	102		25 - 150	12/22/20 18:37	12/24/20 09:53	1
d-N-MeFOSA-M	63		10 - 150	12/22/20 18:37	12/24/20 09:53	1
d-N-EtFOSA-M	52		10 - 150	12/22/20 18:37	12/24/20 09:53	1
d7-N-MeFOSE-M	54		10 - 150	12/22/20 18:37	12/24/20 09:53	1
d9-N-EtFOSE-M	45		10 - 150	12/22/20 18:37	12/24/20 09:53	1
M2-4:2 FTS	153	*5+	25 - 150	12/22/20 18:37	12/24/20 09:53	1
M2-6:2 FTS	90		25 - 150	12/22/20 18:37	12/24/20 09:53	1
M2-8:2 FTS	96		25 - 150	12/22/20 18:37	12/24/20 09:53	1
13C3 HFPO-DA	99		25 - 150	12/22/20 18:37	12/24/20 09:53	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	120		45	22	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoropentanoic acid (PFPeA)	390		18	4.4	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorohexanoic acid (PFHxA)	470		18	5.2	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoroheptanoic acid (PFHpA)	200		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorooctanoic acid (PFOA)	2800		18	7.6	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorononanoic acid (PFNA)	190		18	2.4	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorodecanoic acid (PFDA)	10	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.9	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorododecanoic acid (PFDoA)	<18		18	4.9	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.5	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.0	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.4	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorobutanesulfonic acid (PFBS)	7.2	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoropentanesulfonic acid (PFPeS)	6.6	J	18	2.7	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorohexanesulfonic acid (PFHxS)	120		18	5.1	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluoroheptanesulfonic Acid (PFHpS)	6.2	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorooctanesulfonic acid (PFOS)	280		18	4.8	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:52	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.7	ng/L		12/22/20 18:37	12/25/20 19:52	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M07 (12142020)

Lab Sample ID: 500-192821-9

Date Collected: 12/14/20 14:45

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	120		18	8.8	ng/L		12/22/20 18:37	12/25/20 19:52	10
NEtFOSA	<18		18	7.8	ng/L		12/22/20 18:37	12/25/20 19:52	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 19:52	10
NMeFOSAA	<45		45	11	ng/L		12/22/20 18:37	12/25/20 19:52	10
NEtFOSAA	<45		45	12	ng/L		12/22/20 18:37	12/25/20 19:52	10
NMeFOSE	<36		36	13	ng/L		12/22/20 18:37	12/25/20 19:52	10
NEtFOSE	<18		18	7.6	ng/L		12/22/20 18:37	12/25/20 19:52	10
4:2 FTS	70		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:52	10
6:2 FTS	2800		45	22	ng/L		12/22/20 18:37	12/25/20 19:52	10
8:2 FTS	400		18	4.1	ng/L		12/22/20 18:37	12/25/20 19:52	10
10:2 FTS	<18		18	6.0	ng/L		12/22/20 18:37	12/25/20 19:52	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 19:52	10
HFPO-DA (GenX)	<36		36	13	ng/L		12/22/20 18:37	12/25/20 19:52	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 19:52	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 19:52	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	62		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C5 PFPeA	69		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C2 PFHxA	68		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C4 PFHpA	76		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C4 PFOA	71		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C5 PFNA	73		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C2 PFDA	69		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C2 PFUnA	69		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C2 PFDoA	62		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C2 PFTeDA	65		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C2 PFHxDA	66		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C3 PFBS	69		25 - 150	12/22/20 18:37	12/25/20 19:52	10
18O2 PFHxS	65		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C4 PFOS	66		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C8 FOSA	64		10 - 150	12/22/20 18:37	12/25/20 19:52	10
d3-NMeFOSAA	54		25 - 150	12/22/20 18:37	12/25/20 19:52	10
d5-NEtFOSAA	61		25 - 150	12/22/20 18:37	12/25/20 19:52	10
d-N-MeFOSA-M	37		10 - 150	12/22/20 18:37	12/25/20 19:52	10
d-N-EtFOSA-M	30		10 - 150	12/22/20 18:37	12/25/20 19:52	10
d7-N-MeFOSE-M	32		10 - 150	12/22/20 18:37	12/25/20 19:52	10
d9-N-EtFOSE-M	28		10 - 150	12/22/20 18:37	12/25/20 19:52	10
M2-4:2 FTS	54		25 - 150	12/22/20 18:37	12/25/20 19:52	10
M2-6:2 FTS	63		25 - 150	12/22/20 18:37	12/25/20 19:52	10
M2-8:2 FTS	50		25 - 150	12/22/20 18:37	12/25/20 19:52	10
13C3 HFPO-DA	66		25 - 150	12/22/20 18:37	12/25/20 19:52	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	25		5.0	1.9	mg/L			12/20/20 15:42	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M08 (12142020)

Lab Sample ID: 500-192821-10

Date Collected: 12/14/20 15:15

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	63		4.4	2.1	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoropentanoic acid (PFPeA)	200		1.8	0.44	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorohexanoic acid (PFHxA)	200		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoroheptanoic acid (PFHpA)	81		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorooctanoic acid (PFOA)	520	E	1.8	0.76	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorononanoic acid (PFNA)	34		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorodecanoic acid (PFDA)	2.5		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.98	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.79	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorobutanesulfonic acid (PFBS)	3.2		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoropentanesulfonic acid (PFPeS)	2.8		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorohexanesulfonic acid (PFHxS)	29		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.8		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorooctanesulfonic acid (PFOS)	120		1.8	0.48	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.86	ng/L		12/22/20 18:37	12/24/20 10:02	1
Perfluorooctanesulfonamide (FOSA)	1.4	J	1.8	0.87	ng/L		12/22/20 18:37	12/24/20 10:02	1
NEtFOSA	<1.8		1.8	0.77	ng/L		12/22/20 18:37	12/24/20 10:02	1
NMeFOSA	<1.8		1.8	0.38	ng/L		12/22/20 18:37	12/24/20 10:02	1
NMeFOSAA	<4.4		4.4	1.1	ng/L		12/22/20 18:37	12/24/20 10:02	1
NEtFOSAA	<4.4		4.4	1.2	ng/L		12/22/20 18:37	12/24/20 10:02	1
NMeFOSE	<3.6		3.6	1.2	ng/L		12/22/20 18:37	12/24/20 10:02	1
NEtFOSE	<1.8		1.8	0.76	ng/L		12/22/20 18:37	12/24/20 10:02	1
4:2 FTS	14		1.8	0.21	ng/L		12/22/20 18:37	12/24/20 10:02	1
6:2 FTS	1200	E	4.4	2.2	ng/L		12/22/20 18:37	12/24/20 10:02	1
8:2 FTS	120		1.8	0.41	ng/L		12/22/20 18:37	12/24/20 10:02	1
10:2 FTS	<1.8		1.8	0.60	ng/L		12/22/20 18:37	12/24/20 10:02	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 10:02	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 10:02	1
F-53B Major	<1.8		1.8	0.21	ng/L		12/22/20 18:37	12/24/20 10:02	1
F-53B Minor	<1.8		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 10:02	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	52		25 - 150				12/22/20 18:37	12/24/20 10:02	1
13C5 PFPeA	66		25 - 150				12/22/20 18:37	12/24/20 10:02	1
13C2 PFHxA	91		25 - 150				12/22/20 18:37	12/24/20 10:02	1
13C4 PFHpA	98		25 - 150				12/22/20 18:37	12/24/20 10:02	1
13C4 PFOA	96		25 - 150				12/22/20 18:37	12/24/20 10:02	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M08 (12142020)

Lab Sample ID: 500-192821-10

Date Collected: 12/14/20 15:15

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	118		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C2 PFDA	111		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C2 PFUnA	110		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C2 PFDoA	112		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C2 PFTeDA	104		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C2 PFHxDA	105		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C3 PFBS	84		25 - 150	12/22/20 18:37	12/24/20 10:02	1
18O2 PFHxS	98		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C4 PFOS	104		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C8 FOSA	94		10 - 150	12/22/20 18:37	12/24/20 10:02	1
d3-NMeFOSAA	86		25 - 150	12/22/20 18:37	12/24/20 10:02	1
d5-NEtFOSAA	94		25 - 150	12/22/20 18:37	12/24/20 10:02	1
d-N-MeFOSA-M	73		10 - 150	12/22/20 18:37	12/24/20 10:02	1
d-N-EtFOSA-M	56		10 - 150	12/22/20 18:37	12/24/20 10:02	1
d7-N-MeFOSE-M	56		10 - 150	12/22/20 18:37	12/24/20 10:02	1
d9-N-EtFOSE-M	42		10 - 150	12/22/20 18:37	12/24/20 10:02	1
M2-4:2 FTS	130		25 - 150	12/22/20 18:37	12/24/20 10:02	1
M2-6:2 FTS	96		25 - 150	12/22/20 18:37	12/24/20 10:02	1
M2-8:2 FTS	90		25 - 150	12/22/20 18:37	12/24/20 10:02	1
13C3 HFPO-DA	85		25 - 150	12/22/20 18:37	12/24/20 10:02	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	65		44	21	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoropentanoic acid (PFPeA)	200		18	4.4	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorohexanoic acid (PFHxA)	200		18	5.2	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoroheptanoic acid (PFHpA)	84		18	2.2	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorooctanoic acid (PFOA)	600		18	7.6	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorononanoic acid (PFNA)	39		18	2.4	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorodecanoic acid (PFDA)	<18		18	2.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoroundecanoic acid (PFUnA)	<18		18	9.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorododecanoic acid (PFDoA)	<18		18	4.9	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.5	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	7.9	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.4	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorobutanesulfonic acid (PFBS)	3.9 J		18	1.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoropentanesulfonic acid (PFPeS)	2.7 J		18	2.7	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorohexanesulfonic acid (PFHxS)	33		18	5.1	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluoroheptanesulfonic Acid (PFHpS)	2.7 J		18	1.7	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorooctanesulfonic acid (PFOS)	120		18	4.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.3	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.6	ng/L		12/22/20 18:37	12/25/20 20:01	10

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M08 (12142020)

Lab Sample ID: 500-192821-10

Date Collected: 12/14/20 15:15

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<18		18	8.7	ng/L		12/22/20 18:37	12/25/20 20:01	10
NEtFOSA	<18		18	7.7	ng/L		12/22/20 18:37	12/25/20 20:01	10
NMeFOSA	<18		18	3.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
NMeFOSAA	<44		44	11	ng/L		12/22/20 18:37	12/25/20 20:01	10
NEtFOSAA	<44		44	12	ng/L		12/22/20 18:37	12/25/20 20:01	10
NMeFOSE	<36		36	12	ng/L		12/22/20 18:37	12/25/20 20:01	10
NEtFOSE	<18		18	7.6	ng/L		12/22/20 18:37	12/25/20 20:01	10
4:2 FTS	15	J	18	2.1	ng/L		12/22/20 18:37	12/25/20 20:01	10
6:2 FTS	1400		44	22	ng/L		12/22/20 18:37	12/25/20 20:01	10
8:2 FTS	120		18	4.1	ng/L		12/22/20 18:37	12/25/20 20:01	10
10:2 FTS	<18		18	6.0	ng/L		12/22/20 18:37	12/25/20 20:01	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 20:01	10
HFPO-DA (GenX)	<36		36	13	ng/L		12/22/20 18:37	12/25/20 20:01	10
F-53B Major	<18		18	2.1	ng/L		12/22/20 18:37	12/25/20 20:01	10
F-53B Minor	<18		18	2.8	ng/L		12/22/20 18:37	12/25/20 20:01	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	79		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C5 PFPeA	84		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C2 PFHxA	87		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C4 PFHpA	91		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C4 PFOA	94		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C5 PFNA	90		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C2 PFDA	100		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C2 PFUnA	94		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C2 PFDoA	90		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C2 PFTeDA	77		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C2 PFHxDA	83		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C3 PFBS	88		25 - 150				12/22/20 18:37	12/25/20 20:01	10
18O2 PFHxS	83		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C4 PFOS	85		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C8 FOSA	88		10 - 150				12/22/20 18:37	12/25/20 20:01	10
d3-NMeFOSAA	77		25 - 150				12/22/20 18:37	12/25/20 20:01	10
d5-NEtFOSAA	80		25 - 150				12/22/20 18:37	12/25/20 20:01	10
d-N-MeFOSA-M	65		10 - 150				12/22/20 18:37	12/25/20 20:01	10
d-N-EtFOSA-M	47		10 - 150				12/22/20 18:37	12/25/20 20:01	10
d7-N-MeFOSE-M	51		10 - 150				12/22/20 18:37	12/25/20 20:01	10
d9-N-EtFOSE-M	39		10 - 150				12/22/20 18:37	12/25/20 20:01	10
M2-4:2 FTS	73		25 - 150				12/22/20 18:37	12/25/20 20:01	10
M2-6:2 FTS	83		25 - 150				12/22/20 18:37	12/25/20 20:01	10
M2-8:2 FTS	64		25 - 150				12/22/20 18:37	12/25/20 20:01	10
13C3 HFPO-DA	86		25 - 150				12/22/20 18:37	12/25/20 20:01	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	9.0		5.0	1.9	mg/L			12/20/20 15:43	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M09 (12142020)

Lab Sample ID: 500-192821-11

Date Collected: 12/14/20 15:20

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	64		4.7	2.3	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoropentanoic acid (PFPeA)	200		1.9	0.46	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorohexanoic acid (PFHxA)	190		1.9	0.55	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoroheptanoic acid (PFHpA)	81		1.9	0.24	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorooctanoic acid (PFOA)	530	E	1.9	0.80	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorononanoic acid (PFNA)	37		1.9	0.25	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorodecanoic acid (PFDA)	2.6		1.9	0.29	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.52	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.69	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.84	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.88	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorobutanesulfonic acid (PFBS)	3.3		1.9	0.19	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoropentanesulfonic acid (PFPeS)	2.7		1.9	0.28	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorohexanesulfonic acid (PFHxS)	30		1.9	0.54	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.9		1.9	0.18	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorooctanesulfonic acid (PFOS)	120		1.9	0.51	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.35	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.91	ng/L		12/22/20 18:37	12/24/20 10:12	1
Perfluorooctanesulfonamide (FOSA)	1.3	J	1.9	0.92	ng/L		12/22/20 18:37	12/24/20 10:12	1
NEtFOSA	<1.9		1.9	0.82	ng/L		12/22/20 18:37	12/24/20 10:12	1
NMeFOSA	<1.9		1.9	0.40	ng/L		12/22/20 18:37	12/24/20 10:12	1
NMeFOSAA	<4.7		4.7	1.1	ng/L		12/22/20 18:37	12/24/20 10:12	1
NEtFOSAA	<4.7		4.7	1.2	ng/L		12/22/20 18:37	12/24/20 10:12	1
NMeFOSE	<3.8		3.8	1.3	ng/L		12/22/20 18:37	12/24/20 10:12	1
NEtFOSE	<1.9		1.9	0.80	ng/L		12/22/20 18:37	12/24/20 10:12	1
4:2 FTS	16		1.9	0.23	ng/L		12/22/20 18:37	12/24/20 10:12	1
6:2 FTS	1300	E	4.7	2.4	ng/L		12/22/20 18:37	12/24/20 10:12	1
8:2 FTS	120		1.9	0.43	ng/L		12/22/20 18:37	12/24/20 10:12	1
10:2 FTS	<1.9		1.9	0.63	ng/L		12/22/20 18:37	12/24/20 10:12	1
DONA	<1.9		1.9	0.38	ng/L		12/22/20 18:37	12/24/20 10:12	1
HFPO-DA (GenX)	<3.8		3.8	1.4	ng/L		12/22/20 18:37	12/24/20 10:12	1
F-53B Major	<1.9		1.9	0.23	ng/L		12/22/20 18:37	12/24/20 10:12	1
F-53B Minor	<1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 10:12	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	52		25 - 150				12/22/20 18:37	12/24/20 10:12	1
13C5 PFPeA	66		25 - 150				12/22/20 18:37	12/24/20 10:12	1
13C2 PFHxA	90		25 - 150				12/22/20 18:37	12/24/20 10:12	1
13C4 PFHpA	96		25 - 150				12/22/20 18:37	12/24/20 10:12	1
13C4 PFOA	97		25 - 150				12/22/20 18:37	12/24/20 10:12	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M09 (12142020)

Lab Sample ID: 500-192821-11

Date Collected: 12/14/20 15:20

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	106		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C2 PFDA	98		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C2 PFUnA	105		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C2 PFDoA	97		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C2 PFTeDA	102		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C2 PFHxDA	105		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C3 PFBS	81		25 - 150	12/22/20 18:37	12/24/20 10:12	1
18O2 PFHxS	93		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C4 PFOS	99		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C8 FOSA	91		10 - 150	12/22/20 18:37	12/24/20 10:12	1
d3-NMeFOSAA	81		25 - 150	12/22/20 18:37	12/24/20 10:12	1
d5-NEtFOSAA	86		25 - 150	12/22/20 18:37	12/24/20 10:12	1
d-N-MeFOSA-M	68		10 - 150	12/22/20 18:37	12/24/20 10:12	1
d-N-EtFOSA-M	50		10 - 150	12/22/20 18:37	12/24/20 10:12	1
d7-N-MeFOSE-M	47		10 - 150	12/22/20 18:37	12/24/20 10:12	1
d9-N-EtFOSE-M	37		10 - 150	12/22/20 18:37	12/24/20 10:12	1
M2-4:2 FTS	123		25 - 150	12/22/20 18:37	12/24/20 10:12	1
M2-6:2 FTS	88		25 - 150	12/22/20 18:37	12/24/20 10:12	1
M2-8:2 FTS	73		25 - 150	12/22/20 18:37	12/24/20 10:12	1
13C3 HFPO-DA	83		25 - 150	12/22/20 18:37	12/24/20 10:12	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	66		47	23	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoropentanoic acid (PFPeA)	200		19	4.6	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorohexanoic acid (PFHxA)	210		19	5.5	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoroheptanoic acid (PFHpA)	78		19	2.4	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorooctanoic acid (PFOA)	590		19	8.0	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorononanoic acid (PFNA)	36		19	2.5	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorodecanoic acid (PFDA)	<19		19	2.9	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoroundecanoic acid (PFUnA)	<19		19	10	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorododecanoic acid (PFDoA)	<19		19	5.2	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorotridecanoic acid (PFTriA)	<19		19	12	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorotetradecanoic acid (PFTeA)	<19		19	6.9	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<19		19	8.4	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoro-n-octadecanoic acid (PFODA)	<19		19	8.8	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorobutanesulfonic acid (PFBS)	<19		19	1.9	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoropentanesulfonic acid (PFPeS)	<19		19	2.8	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorohexanesulfonic acid (PFHxS)	34		19	5.4	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluoroheptanesulfonic acid (PFHpS)	3.3 J		19	1.8	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorooctanesulfonic acid (PFOS)	120		19	5.1	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorononanesulfonic acid (PFNS)	<19		19	3.5	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorodecanesulfonic acid (PFDS)	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 20:29	10
Perfluorododecanesulfonic acid (PFDoS)	<19		19	9.1	ng/L		12/22/20 18:37	12/25/20 20:29	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M09 (12142020)

Lab Sample ID: 500-192821-11

Date Collected: 12/14/20 15:20

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<19		19	9.2	ng/L		12/22/20 18:37	12/25/20 20:29	10
NEtFOSA	<19		19	8.2	ng/L		12/22/20 18:37	12/25/20 20:29	10
NMeFOSA	<19		19	4.0	ng/L		12/22/20 18:37	12/25/20 20:29	10
NMeFOSAA	<47		47	11	ng/L		12/22/20 18:37	12/25/20 20:29	10
NEtFOSAA	<47		47	12	ng/L		12/22/20 18:37	12/25/20 20:29	10
NMeFOSE	<38		38	13	ng/L		12/22/20 18:37	12/25/20 20:29	10
NEtFOSE	<19		19	8.0	ng/L		12/22/20 18:37	12/25/20 20:29	10
4:2 FTS	16	J	19	2.3	ng/L		12/22/20 18:37	12/25/20 20:29	10
6:2 FTS	1300		47	24	ng/L		12/22/20 18:37	12/25/20 20:29	10
8:2 FTS	110		19	4.3	ng/L		12/22/20 18:37	12/25/20 20:29	10
10:2 FTS	<19		19	6.3	ng/L		12/22/20 18:37	12/25/20 20:29	10
DONA	<19		19	3.8	ng/L		12/22/20 18:37	12/25/20 20:29	10
HFPO-DA (GenX)	<38		38	14	ng/L		12/22/20 18:37	12/25/20 20:29	10
F-53B Major	<19		19	2.3	ng/L		12/22/20 18:37	12/25/20 20:29	10
F-53B Minor	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 20:29	10
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	77		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C5 PFPeA	81		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C2 PFHxA	83		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C4 PFHpA	90		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C4 PFOA	90		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C5 PFNA	89		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C2 PFDA	92		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C2 PFUnA	82		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C2 PFDoA	78		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C2 PFTeDA	77		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C2 PFHxDA	76		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C3 PFBS	82		25 - 150				12/22/20 18:37	12/25/20 20:29	10
18O2 PFHxS	77		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C4 PFOS	80		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C8 FOSA	84		10 - 150				12/22/20 18:37	12/25/20 20:29	10
d3-NMeFOSAA	72		25 - 150				12/22/20 18:37	12/25/20 20:29	10
d5-NEtFOSAA	86		25 - 150				12/22/20 18:37	12/25/20 20:29	10
d-N-MeFOSA-M	53		10 - 150				12/22/20 18:37	12/25/20 20:29	10
d-N-EtFOSA-M	42		10 - 150				12/22/20 18:37	12/25/20 20:29	10
d7-N-MeFOSE-M	45		10 - 150				12/22/20 18:37	12/25/20 20:29	10
d9-N-EtFOSE-M	32		10 - 150				12/22/20 18:37	12/25/20 20:29	10
M2-4:2 FTS	74		25 - 150				12/22/20 18:37	12/25/20 20:29	10
M2-6:2 FTS	80		25 - 150				12/22/20 18:37	12/25/20 20:29	10
M2-8:2 FTS	63		25 - 150				12/22/20 18:37	12/25/20 20:29	10
13C3 HFPO-DA	86		25 - 150				12/22/20 18:37	12/25/20 20:29	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	11		5.0	1.9	mg/L			12/20/20 15:44	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M10 (12142020)

Lab Sample ID: 500-192821-12

Date Collected: 12/14/20 15:40

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	56		4.8	2.3	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoropentanoic acid (PFPeA)	170		1.9	0.47	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorohexanoic acid (PFHxA)	150		1.9	0.55	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoroheptanoic acid (PFHpA)	70		1.9	0.24	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorooctanoic acid (PFOA)	340		1.9	0.81	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorononanoic acid (PFNA)	20		1.9	0.26	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorodecanoic acid (PFDA)	1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.52	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.69	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.85	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.89	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorobutanesulfonic acid (PFBS)	2.8		1.9	0.19	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoropentanesulfonic acid (PFPeS)	2.7		1.9	0.29	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorohexanesulfonic acid (PFHxS)	30		1.9	0.54	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.3		1.9	0.18	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorooctanesulfonic acid (PFOS)	140		1.9	0.51	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.35	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.92	ng/L		12/22/20 18:37	12/24/20 10:21	1
Perfluorooctanesulfonamide (FOSA)	1.1 J		1.9	0.93	ng/L		12/22/20 18:37	12/24/20 10:21	1
NEtFOSA	<1.9		1.9	0.83	ng/L		12/22/20 18:37	12/24/20 10:21	1
NMeFOSA	<1.9		1.9	0.41	ng/L		12/22/20 18:37	12/24/20 10:21	1
NMeFOSAA	<4.8		4.8	1.1	ng/L		12/22/20 18:37	12/24/20 10:21	1
NEtFOSAA	<4.8		4.8	1.2	ng/L		12/22/20 18:37	12/24/20 10:21	1
NMeFOSE	<3.8		3.8	1.3	ng/L		12/22/20 18:37	12/24/20 10:21	1
NEtFOSE	<1.9		1.9	0.81	ng/L		12/22/20 18:37	12/24/20 10:21	1
4:2 FTS	12		1.9	0.23	ng/L		12/22/20 18:37	12/24/20 10:21	1
6:2 FTS	1000 E		4.8	2.4	ng/L		12/22/20 18:37	12/24/20 10:21	1
8:2 FTS	110		1.9	0.44	ng/L		12/22/20 18:37	12/24/20 10:21	1
10:2 FTS	<1.9		1.9	0.64	ng/L		12/22/20 18:37	12/24/20 10:21	1
DONA	<1.9		1.9	0.38	ng/L		12/22/20 18:37	12/24/20 10:21	1
HFPO-DA (GenX)	<3.8		3.8	1.4	ng/L		12/22/20 18:37	12/24/20 10:21	1
F-53B Major	<1.9		1.9	0.23	ng/L		12/22/20 18:37	12/24/20 10:21	1
F-53B Minor	<1.9		1.9	0.30	ng/L		12/22/20 18:37	12/24/20 10:21	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	52		25 - 150				12/22/20 18:37	12/24/20 10:21	1
13C5 PFPeA	65		25 - 150				12/22/20 18:37	12/24/20 10:21	1
13C2 PFHxA	88		25 - 150				12/22/20 18:37	12/24/20 10:21	1
13C4 PFHpA	98		25 - 150				12/22/20 18:37	12/24/20 10:21	1
13C4 PFOA	102		25 - 150				12/22/20 18:37	12/24/20 10:21	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M10 (12142020)

Lab Sample ID: 500-192821-12

Date Collected: 12/14/20 15:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	104		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C2 PFDA	105		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C2 PFUnA	104		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C2 PFDoA	98		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C2 PFTeDA	101		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C2 PFHxDA	107		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C3 PFBS	83		25 - 150	12/22/20 18:37	12/24/20 10:21	1
18O2 PFHxS	97		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C4 PFOS	101		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C8 FOSA	94		10 - 150	12/22/20 18:37	12/24/20 10:21	1
d3-NMeFOSAA	81		25 - 150	12/22/20 18:37	12/24/20 10:21	1
d5-NEtFOSAA	83		25 - 150	12/22/20 18:37	12/24/20 10:21	1
d-N-MeFOSA-M	66		10 - 150	12/22/20 18:37	12/24/20 10:21	1
d-N-EtFOSA-M	48		10 - 150	12/22/20 18:37	12/24/20 10:21	1
d7-N-MeFOSE-M	43		10 - 150	12/22/20 18:37	12/24/20 10:21	1
d9-N-EtFOSE-M	36		10 - 150	12/22/20 18:37	12/24/20 10:21	1
M2-4:2 FTS	129		25 - 150	12/22/20 18:37	12/24/20 10:21	1
M2-6:2 FTS	94		25 - 150	12/22/20 18:37	12/24/20 10:21	1
M2-8:2 FTS	74		25 - 150	12/22/20 18:37	12/24/20 10:21	1
13C3 HFPO-DA	84		25 - 150	12/22/20 18:37	12/24/20 10:21	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	58		48	23	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoropentanoic acid (PFPeA)	170		19	4.7	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorohexanoic acid (PFHxA)	150		19	5.5	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoroheptanoic acid (PFHpA)	70		19	2.4	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorooctanoic acid (PFOA)	360		19	8.1	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorononanoic acid (PFNA)	20		19	2.6	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorodecanoic acid (PFDA)	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoroundecanoic acid (PFUnA)	<19		19	10	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorododecanoic acid (PFDoA)	<19		19	5.2	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorotridecanoic acid (PFTriA)	<19		19	12	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorotetradecanoic acid (PFTeA)	<19		19	6.9	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<19		19	8.5	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoro-n-octadecanoic acid (PFODA)	<19		19	8.9	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorobutanesulfonic acid (PFBS)	3.7 J		19	1.9	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoropentanesulfonic acid (PFPeS)	<19		19	2.9	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorohexanesulfonic acid (PFHxS)	32		19	5.4	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluoroheptanesulfonic Acid (PFHpS)	3.7 J		19	1.8	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorooctanesulfonic acid (PFOS)	130		19	5.1	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorononanesulfonic acid (PFNS)	<19		19	3.5	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorodecanesulfonic acid (PFDS)	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 20:39	10
Perfluorododecanesulfonic acid (PFDoS)	<19		19	9.2	ng/L		12/22/20 18:37	12/25/20 20:39	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M10 (12142020)

Lab Sample ID: 500-192821-12

Date Collected: 12/14/20 15:40

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<19		19	9.3	ng/L		12/22/20 18:37	12/25/20 20:39	10
NEtFOSA	<19		19	8.3	ng/L		12/22/20 18:37	12/25/20 20:39	10
NMeFOSA	<19		19	4.1	ng/L		12/22/20 18:37	12/25/20 20:39	10
NMeFOSAA	<48		48	11	ng/L		12/22/20 18:37	12/25/20 20:39	10
NEtFOSAA	<48		48	12	ng/L		12/22/20 18:37	12/25/20 20:39	10
NMeFOSE	<38		38	13	ng/L		12/22/20 18:37	12/25/20 20:39	10
NEtFOSE	<19		19	8.1	ng/L		12/22/20 18:37	12/25/20 20:39	10
4:2 FTS	12	J	19	2.3	ng/L		12/22/20 18:37	12/25/20 20:39	10
6:2 FTS	1200		48	24	ng/L		12/22/20 18:37	12/25/20 20:39	10
8:2 FTS	100	F1	19	4.4	ng/L		12/22/20 18:37	12/25/20 20:39	10
10:2 FTS	<19		19	6.4	ng/L		12/22/20 18:37	12/25/20 20:39	10
DONA	<19		19	3.8	ng/L		12/22/20 18:37	12/25/20 20:39	10
HFPO-DA (GenX)	<38		38	14	ng/L		12/22/20 18:37	12/25/20 20:39	10
F-53B Major	<19		19	2.3	ng/L		12/22/20 18:37	12/25/20 20:39	10
F-53B Minor	<19		19	3.0	ng/L		12/22/20 18:37	12/25/20 20:39	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	86		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C5 PFPeA	91		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C2 PFHxA	98		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C4 PFHpA	97		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C4 PFOA	103		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C5 PFNA	96		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C2 PFDA	99		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C2 PFUnA	95		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C2 PFDoA	91		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C2 PFTeDA	80		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C2 PFHxDA	84		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C3 PFBS	92		25 - 150				12/22/20 18:37	12/25/20 20:39	10
18O2 PFHxS	89		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C4 PFOS	91		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C8 FOSA	92		10 - 150				12/22/20 18:37	12/25/20 20:39	10
d3-NMeFOSAA	82		25 - 150				12/22/20 18:37	12/25/20 20:39	10
d5-NEtFOSAA	84		25 - 150				12/22/20 18:37	12/25/20 20:39	10
d-N-MeFOSA-M	59		10 - 150				12/22/20 18:37	12/25/20 20:39	10
d-N-EtFOSA-M	45		10 - 150				12/22/20 18:37	12/25/20 20:39	10
d7-N-MeFOSE-M	45		10 - 150				12/22/20 18:37	12/25/20 20:39	10
d9-N-EtFOSE-M	38		10 - 150				12/22/20 18:37	12/25/20 20:39	10
M2-4:2 FTS	84		25 - 150				12/22/20 18:37	12/25/20 20:39	10
M2-6:2 FTS	84		25 - 150				12/22/20 18:37	12/25/20 20:39	10
M2-8:2 FTS	66		25 - 150				12/22/20 18:37	12/25/20 20:39	10
13C3 HFPO-DA	93		25 - 150				12/22/20 18:37	12/25/20 20:39	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.0		5.0	1.9	mg/L			12/20/20 15:45	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: Dup-01 (12142020)

Lab Sample ID: 500-192821-13

Date Collected: 12/14/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	94		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoropentanoic acid (PFPeA)	280		1.8	0.45	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorohexanoic acid (PFHxA)	380	E	1.8	0.53	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoroheptanoic acid (PFHpA)	150		1.8	0.23	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorooctanoic acid (PFOA)	1800	E	1.8	0.77	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorononanoic acid (PFNA)	86		1.8	0.25	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorodecanoic acid (PFDA)	4.2		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.66	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.81	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.85	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorobutanesulfonic acid (PFBS)	6.2		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoropentanesulfonic acid (PFPeS)	7.6		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorohexanesulfonic acid (PFHxS)	78		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	4.4		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorooctanesulfonic acid (PFOS)	160		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 10:49	1
Perfluorooctanesulfonamide (FOSA)	27		1.8	0.89	ng/L		12/22/20 18:37	12/24/20 10:49	1
NEtFOSA	<1.8		1.8	0.79	ng/L		12/22/20 18:37	12/24/20 10:49	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 10:49	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 10:49	1
NEtFOSAA	4.7		4.5	1.2	ng/L		12/22/20 18:37	12/24/20 10:49	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 10:49	1
NEtFOSE	<1.8		1.8	0.77	ng/L		12/22/20 18:37	12/24/20 10:49	1
4:2 FTS	34		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 10:49	1
6:2 FTS	1600	E	4.5	2.3	ng/L		12/22/20 18:37	12/24/20 10:49	1
8:2 FTS	200		1.8	0.42	ng/L		12/22/20 18:37	12/24/20 10:49	1
10:2 FTS	<1.8		1.8	0.61	ng/L		12/22/20 18:37	12/24/20 10:49	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 10:49	1
HFPO-DA (GenX)	<3.6		3.6	1.4	ng/L		12/22/20 18:37	12/24/20 10:49	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 10:49	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 10:49	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	60		25 - 150				12/22/20 18:37	12/24/20 10:49	1
13C5 PFPeA	73		25 - 150				12/22/20 18:37	12/24/20 10:49	1
13C2 PFHxA	104		25 - 150				12/22/20 18:37	12/24/20 10:49	1
13C4 PFHpA	116		25 - 150				12/22/20 18:37	12/24/20 10:49	1
13C4 PFOA	95		25 - 150				12/22/20 18:37	12/24/20 10:49	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: Dup-01 (12142020)

Lab Sample ID: 500-192821-13

Date Collected: 12/14/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	125		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C2 PFDA	124		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C2 PFUnA	126		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C2 PFDoA	114		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C2 PFTeDA	125		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C2 PFHxDA	121		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C3 PFBS	96		25 - 150	12/22/20 18:37	12/24/20 10:49	1
18O2 PFHxS	113		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C4 PFOS	117		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C8 FOSA	109		10 - 150	12/22/20 18:37	12/24/20 10:49	1
d3-NMeFOSAA	96		25 - 150	12/22/20 18:37	12/24/20 10:49	1
d5-NEtFOSAA	104		25 - 150	12/22/20 18:37	12/24/20 10:49	1
d-N-MeFOSA-M	64		10 - 150	12/22/20 18:37	12/24/20 10:49	1
d-N-EtFOSA-M	53		10 - 150	12/22/20 18:37	12/24/20 10:49	1
d7-N-MeFOSE-M	55		10 - 150	12/22/20 18:37	12/24/20 10:49	1
d9-N-EtFOSE-M	47		10 - 150	12/22/20 18:37	12/24/20 10:49	1
M2-4:2 FTS	146		25 - 150	12/22/20 18:37	12/24/20 10:49	1
M2-6:2 FTS	85		25 - 150	12/22/20 18:37	12/24/20 10:49	1
M2-8:2 FTS	84		25 - 150	12/22/20 18:37	12/24/20 10:49	1
13C3 HFPO-DA	102		25 - 150	12/22/20 18:37	12/24/20 10:49	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	97		45	22	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoropentanoic acid (PFPeA)	290		18	4.5	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorohexanoic acid (PFHxA)	400		18	5.3	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoroheptanoic acid (PFHpA)	150		18	2.3	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorooctanoic acid (PFOA)	2600		18	7.7	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorononanoic acid (PFNA)	83		18	2.5	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorodecanoic acid (PFDA)	4.0	J	18	2.8	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoroundecanoic acid (PFUnA)	<18		18	10	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.6	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.1	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.5	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorobutanesulfonic acid (PFBS)	7.0	J	18	1.8	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoropentanesulfonic acid (PFPeS)	7.7	J	18	2.7	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorohexanesulfonic acid (PFHxS)	80		18	5.2	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluoroheptanesulfonic Acid (PFHpS)	4.8	J	18	1.7	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorooctanesulfonic acid (PFOS)	160		18	4.9	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.4	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 21:07	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.8	ng/L		12/22/20 18:37	12/25/20 21:07	10

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: Dup-01 (12142020)

Lab Sample ID: 500-192821-13

Date Collected: 12/14/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	26		18	8.9	ng/L		12/22/20 18:37	12/25/20 21:07	10
NEtFOSA	<18		18	7.9	ng/L		12/22/20 18:37	12/25/20 21:07	10
NMeFOSA	<18		18	3.9	ng/L		12/22/20 18:37	12/25/20 21:07	10
NMeFOSAA	<45		45	11	ng/L		12/22/20 18:37	12/25/20 21:07	10
NEtFOSAA	<45		45	12	ng/L		12/22/20 18:37	12/25/20 21:07	10
NMeFOSE	<36		36	13	ng/L		12/22/20 18:37	12/25/20 21:07	10
NEtFOSE	<18		18	7.7	ng/L		12/22/20 18:37	12/25/20 21:07	10
4:2 FTS	30		18	2.2	ng/L		12/22/20 18:37	12/25/20 21:07	10
6:2 FTS	1800		45	23	ng/L		12/22/20 18:37	12/25/20 21:07	10
8:2 FTS	190		18	4.2	ng/L		12/22/20 18:37	12/25/20 21:07	10
10:2 FTS	<18		18	6.1	ng/L		12/22/20 18:37	12/25/20 21:07	10
DONA	<18		18	3.6	ng/L		12/22/20 18:37	12/25/20 21:07	10
HFPO-DA (GenX)	<36		36	14	ng/L		12/22/20 18:37	12/25/20 21:07	10
F-53B Major	<18		18	2.2	ng/L		12/22/20 18:37	12/25/20 21:07	10
F-53B Minor	<18		18	2.9	ng/L		12/22/20 18:37	12/25/20 21:07	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C5 PFPeA	94		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C2 PFHxA	100		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C4 PFHpA	102		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C4 PFOA	101		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C5 PFNA	108		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C2 PFDA	102		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C2 PFUnA	101		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C2 PFDoA	92		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C2 PFTeDA	89		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C2 PFHxDA	87		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C3 PFBS	96		25 - 150	12/22/20 18:37	12/25/20 21:07	10
18O2 PFHxS	93		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C4 PFOS	97		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C8 FOSA	91		10 - 150	12/22/20 18:37	12/25/20 21:07	10
d3-NMeFOSAA	79		25 - 150	12/22/20 18:37	12/25/20 21:07	10
d5-NEtFOSAA	91		25 - 150	12/22/20 18:37	12/25/20 21:07	10
d-N-MeFOSA-M	54		10 - 150	12/22/20 18:37	12/25/20 21:07	10
d-N-EtFOSA-M	44		10 - 150	12/22/20 18:37	12/25/20 21:07	10
d7-N-MeFOSE-M	44		10 - 150	12/22/20 18:37	12/25/20 21:07	10
d9-N-EtFOSE-M	42		10 - 150	12/22/20 18:37	12/25/20 21:07	10
M2-4:2 FTS	91		25 - 150	12/22/20 18:37	12/25/20 21:07	10
M2-6:2 FTS	85		25 - 150	12/22/20 18:37	12/25/20 21:07	10
M2-8:2 FTS	70		25 - 150	12/22/20 18:37	12/25/20 21:07	10
13C3 HFPO-DA	97		25 - 150	12/22/20 18:37	12/25/20 21:07	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	34		5.6	2.1	mg/L			12/20/20 15:48	1

Euofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: FIELD BLANK-12-14-220

Lab Sample ID: 500-192821-14

Date Collected: 12/14/20 14:00

Matrix: Water

Date Received: 12/19/20 11:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.5		4.5	2.1	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoropentanoic acid (PFPeA)	<1.8		1.8	0.44	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorohexanoic acid (PFHxA)	<1.8		1.8	0.52	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoroheptanoic acid (PFHpA)	<1.8		1.8	0.22	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorooctanoic acid (PFOA)	<1.8		1.8	0.76	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorononanoic acid (PFNA)	<1.8		1.8	0.24	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorodecanoic acid (PFDA)	<1.8		1.8	0.28	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	0.98	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.49	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.65	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.80	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.84	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorobutanesulfonic acid (PFBS)	<1.8		1.8	0.18	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoropentanesulfonic acid (PFPeS)	<1.8		1.8	0.27	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorohexanesulfonic acid (PFHxS)	<1.8		1.8	0.51	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.8		1.8	0.17	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorooctanesulfonic acid (PFOS)	<1.8		1.8	0.48	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.33	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.87	ng/L		12/22/20 18:37	12/24/20 10:58	1
Perfluorooctanesulfonamide (FOSA)	<1.8		1.8	0.88	ng/L		12/22/20 18:37	12/24/20 10:58	1
NEtFOSA	<1.8		1.8	0.78	ng/L		12/22/20 18:37	12/24/20 10:58	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/22/20 18:37	12/24/20 10:58	1
NMeFOSAA	<4.5		4.5	1.1	ng/L		12/22/20 18:37	12/24/20 10:58	1
NEtFOSAA	<4.5		4.5	1.2	ng/L		12/22/20 18:37	12/24/20 10:58	1
NMeFOSE	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 10:58	1
NEtFOSE	<1.8		1.8	0.76	ng/L		12/22/20 18:37	12/24/20 10:58	1
4:2 FTS	<1.8		1.8	0.21	ng/L		12/22/20 18:37	12/24/20 10:58	1
6:2 FTS	<4.5		4.5	2.2	ng/L		12/22/20 18:37	12/24/20 10:58	1
8:2 FTS	<1.8		1.8	0.41	ng/L		12/22/20 18:37	12/24/20 10:58	1
10:2 FTS	<1.8		1.8	0.60	ng/L		12/22/20 18:37	12/24/20 10:58	1
DONA	<1.8		1.8	0.36	ng/L		12/22/20 18:37	12/24/20 10:58	1
HFPO-DA (GenX)	<3.6		3.6	1.3	ng/L		12/22/20 18:37	12/24/20 10:58	1
F-53B Major	<1.8		1.8	0.21	ng/L		12/22/20 18:37	12/24/20 10:58	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/22/20 18:37	12/24/20 10:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C5 PFPeA	93		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C2 PFHxA	101		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C4 PFHpA	101		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C4 PFOA	103		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C5 PFNA	101		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C2 PFDA	101		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C2 PFUnA	106		25 - 150	12/22/20 18:37	12/24/20 10:58	1

Eurofins TestAmerica, Chicago

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: FIELD BLANK-12-14-220

Lab Sample ID: 500-192821-14

Date Collected: 12/14/20 14:00

Matrix: Water

Date Received: 12/19/20 11:40

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

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDoA	89		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C2 PFTeDA	95		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C2 PFHxDA	91		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C3 PFBS	95		25 - 150	12/22/20 18:37	12/24/20 10:58	1
18O2 PFHxS	94		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C4 PFOS	95		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C8 FOSA	86		10 - 150	12/22/20 18:37	12/24/20 10:58	1
d3-NMeFOSAA	79		25 - 150	12/22/20 18:37	12/24/20 10:58	1
d5-NEtFOSAA	85		25 - 150	12/22/20 18:37	12/24/20 10:58	1
d-N-MeFOSA-M	95		10 - 150	12/22/20 18:37	12/24/20 10:58	1
d-N-EtFOSA-M	91		10 - 150	12/22/20 18:37	12/24/20 10:58	1
d7-N-MeFOSE-M	71		10 - 150	12/22/20 18:37	12/24/20 10:58	1
d9-N-EtFOSE-M	63		10 - 150	12/22/20 18:37	12/24/20 10:58	1
M2-4:2 FTS	70		25 - 150	12/22/20 18:37	12/24/20 10:58	1
M2-6:2 FTS	76		25 - 150	12/22/20 18:37	12/24/20 10:58	1
M2-8:2 FTS	64		25 - 150	12/22/20 18:37	12/24/20 10:58	1
13C3 HFPO-DA	101		25 - 150	12/22/20 18:37	12/24/20 10:58	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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 Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-445146/1-A
Matrix: Water
Analysis Batch: 445459

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 445146

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		12/22/20 18:37	12/24/20 07:51	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		12/22/20 18:37	12/24/20 07:51	1
NEtFOSA	<2.0		2.0	0.87	ng/L		12/22/20 18:37	12/24/20 07:51	1
NMeFOSA	<2.0		2.0	0.43	ng/L		12/22/20 18:37	12/24/20 07:51	1
NMeFOSAA	<5.0		5.0	1.2	ng/L		12/22/20 18:37	12/24/20 07:51	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		12/22/20 18:37	12/24/20 07:51	1
NMeFOSE	<4.0		4.0	1.4	ng/L		12/22/20 18:37	12/24/20 07:51	1
NEtFOSE	<2.0		2.0	0.85	ng/L		12/22/20 18:37	12/24/20 07:51	1
4:2 FTS	<2.0		2.0	0.24	ng/L		12/22/20 18:37	12/24/20 07:51	1
6:2 FTS	<5.0		5.0	2.5	ng/L		12/22/20 18:37	12/24/20 07:51	1
8:2 FTS	<2.0		2.0	0.46	ng/L		12/22/20 18:37	12/24/20 07:51	1
10:2 FTS	<2.0		2.0	0.67	ng/L		12/22/20 18:37	12/24/20 07:51	1
DONA	<2.0		2.0	0.40	ng/L		12/22/20 18:37	12/24/20 07:51	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		12/22/20 18:37	12/24/20 07:51	1
F-53B Major	<2.0		2.0	0.24	ng/L		12/22/20 18:37	12/24/20 07:51	1
F-53B Minor	<2.0		2.0	0.32	ng/L		12/22/20 18:37	12/24/20 07:51	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	93		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C5 PFPeA	96		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C2 PFHxA	100		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C4 PFHpA	103		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C4 PFOA	108		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C5 PFNA	98		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C2 PFDA	96		25 - 150	12/22/20 18:37	12/24/20 07:51	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: MB 320-445146/1-A
Matrix: Water
Analysis Batch: 445459

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 445146

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFUnA	102		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C2 PFDoA	98		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C2 PFTeDA	97		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C2 PFHxDA	95		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C3 PFBS	96		25 - 150	12/22/20 18:37	12/24/20 07:51	1
18O2 PFHxS	93		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C4 PFOS	95		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C8 FOSA	87		10 - 150	12/22/20 18:37	12/24/20 07:51	1
d3-NMeFOSAA	77		25 - 150	12/22/20 18:37	12/24/20 07:51	1
d5-NEtFOSAA	84		25 - 150	12/22/20 18:37	12/24/20 07:51	1
d-N-MeFOSA-M	95		10 - 150	12/22/20 18:37	12/24/20 07:51	1
d-N-EtFOSA-M	90		10 - 150	12/22/20 18:37	12/24/20 07:51	1
d7-N-MeFOSE-M	65		10 - 150	12/22/20 18:37	12/24/20 07:51	1
d9-N-EtFOSE-M	54		10 - 150	12/22/20 18:37	12/24/20 07:51	1
M2-4:2 FTS	69		25 - 150	12/22/20 18:37	12/24/20 07:51	1
M2-6:2 FTS	75		25 - 150	12/22/20 18:37	12/24/20 07:51	1
M2-8:2 FTS	69		25 - 150	12/22/20 18:37	12/24/20 07:51	1
13C3 HFPO-DA	102		25 - 150	12/22/20 18:37	12/24/20 07:51	1

Lab Sample ID: LCS 320-445146/2-A
Matrix: Water
Analysis Batch: 445962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 445146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Perfluoropentanoic acid (PFPeA)	40.0	36.8		ng/L		92	60 - 135	
Perfluorohexanoic acid (PFHxA)	40.0	37.9		ng/L		95	60 - 135	
Perfluoroheptanoic acid (PFHpA)	40.0	40.5		ng/L		101	60 - 135	
Perfluorooctanoic acid (PFOA)	40.0	38.1		ng/L		95	60 - 135	
Perfluorononanoic acid (PFNA)	40.0	39.9		ng/L		100	60 - 135	
Perfluorodecanoic acid (PFDA)	40.0	38.0		ng/L		95	60 - 135	
Perfluoroundecanoic acid (PFUnA)	40.0	40.1		ng/L		100	60 - 135	
Perfluorododecanoic acid (PFDoA)	40.0	40.6		ng/L		101	60 - 135	
Perfluorotridecanoic acid (PFTriA)	40.0	40.0		ng/L		100	60 - 135	
Perfluorotetradecanoic acid (PFTeA)	40.0	39.7		ng/L		99	60 - 135	
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	38.9		ng/L		97	60 - 135	
Perfluoro-n-octadecanoic acid (PFODA)	40.0	39.4		ng/L		98	60 - 135	
Perfluorobutanesulfonic acid (PFBS)	35.4	35.3		ng/L		100	60 - 135	
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.7		ng/L		101	60 - 135	
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.8		ng/L		93	60 - 135	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.0		ng/L		100	60 - 135	

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: LCS 320-445146/2-A
Matrix: Water
Analysis Batch: 445962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 445146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	37.1	36.1		ng/L		97	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	36.7		ng/L		96	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	36.9		ng/L		96	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	33.4		ng/L		86	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	42.8		ng/L		107	60 - 135
NEtFOSA	40.0	38.8		ng/L		97	60 - 135
NMeFOSA	40.0	39.0		ng/L		98	60 - 135
NMeFOSAA	40.0	38.0		ng/L		95	60 - 135
NEtFOSAA	40.0	39.8		ng/L		99	60 - 135
NMeFOSE	40.0	35.5		ng/L		89	60 - 135
NEtFOSE	40.0	36.0		ng/L		90	60 - 135
4:2 FTS	37.4	35.5		ng/L		95	60 - 135
6:2 FTS	37.9	34.6		ng/L		91	60 - 135
8:2 FTS	38.3	43.7		ng/L		114	60 - 135
10:2 FTS	38.6	47.2		ng/L		122	60 - 135
DONA	37.7	38.6		ng/L		102	60 - 135
HFPO-DA (GenX)	40.0	37.8		ng/L		95	60 - 135
F-53B Major	37.3	37.2		ng/L		100	60 - 135
F-53B Minor	37.7	41.7		ng/L		111	60 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	94		25 - 150
13C5 PFPeA	97		25 - 150
13C2 PFHxA	101		25 - 150
13C4 PFHpA	100		25 - 150
13C4 PFOA	105		25 - 150
13C5 PFNA	101		25 - 150
13C2 PFDA	106		25 - 150
13C2 PFUnA	98		25 - 150
13C2 PFDoA	94		25 - 150
13C2 PFTeDA	102		25 - 150
13C2 PFHxDA	99		25 - 150
13C3 PFBS	97		25 - 150
18O2 PFHxS	93		25 - 150
13C4 PFOS	99		25 - 150
13C8 FOSA	91		10 - 150
d3-NMeFOSAA	80		25 - 150
d5-NEtFOSAA	84		25 - 150
d-N-MeFOSA-M	91		10 - 150
d-N-EtFOSA-M	91		10 - 150
d7-N-MeFOSE-M	47		10 - 150
d9-N-EtFOSE-M	38		10 - 150
M2-4:2 FTS	68		25 - 150
M2-6:2 FTS	75		25 - 150
M2-8:2 FTS	75		25 - 150

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: LCS 320-445146/2-A
Matrix: Water
Analysis Batch: 445962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 445146

<i>Isotope Dilution</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
13C3 HFPO-DA	103		25 - 150

Lab Sample ID: 500-192821-12 MS
Matrix: Water
Analysis Batch: 445459

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA
Prep Batch: 445146

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>Spike</i>	<i>MS</i>	<i>MS</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>			<i>%Rec.</i>	<i>Limits</i>
Perfluorobutanoic acid (PFBA)	56		35.1	88.6		ng/L		92	70 - 130
Perfluoropentanoic acid (PFPeA)	170		35.1	205	4	ng/L		100	70 - 130
Perfluorohexanoic acid (PFHxA)	150		35.1	181	4	ng/L		76	70 - 130
Perfluoroheptanoic acid (PFHpA)	70		35.1	101		ng/L		89	70 - 130
Perfluorooctanoic acid (PFOA)	340		35.1	368	E 4	ng/L		92	70 - 130
Perfluorononanoic acid (PFNA)	20		35.1	52.4		ng/L		93	70 - 130
Perfluorodecanoic acid (PFDA)	1.9		35.1	35.7		ng/L		96	70 - 130
Perfluoroundecanoic acid (PFUnA)	<1.9		35.1	34.5		ng/L		98	70 - 130
Perfluorododecanoic acid (PFDoA)	<1.9		35.1	33.1		ng/L		94	70 - 130
Perfluorotridecanoic acid (PFTriA)	<1.9		35.1	36.0		ng/L		103	70 - 130
Perfluorotetradecanoic acid (PFTeA)	<1.9		35.1	32.6		ng/L		93	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		35.1	37.1		ng/L		106	70 - 130
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		35.1	34.4		ng/L		98	70 - 130
Perfluorobutanesulfonic acid (PFBS)	2.8		31.0	33.7		ng/L		100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	2.7		32.9	41.9		ng/L		119	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	30		31.9	61.7		ng/L		98	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	3.3		33.4	37.1		ng/L		101	70 - 130
Perfluorooctanesulfonic acid (PFOS)	140		32.6	163	4	ng/L		83	70 - 130
Perfluorononanesulfonic acid (PFNS)	<1.9		33.7	31.4		ng/L		93	70 - 130
Perfluorodecanesulfonic acid (PFDS)	<1.9		33.8	32.1		ng/L		95	70 - 130
Perfluorododecanesulfonic acid (PFDoS)	<1.9		34.0	30.7		ng/L		90	70 - 130
Perfluorooctanesulfonamide (FOSA)	1.1	J	35.1	38.4		ng/L		106	70 - 130
NEtFOSA	<1.9		35.1	33.0		ng/L		94	70 - 130
NMeFOSA	<1.9		35.1	32.6		ng/L		93	70 - 130
NMeFOSAA	<4.8		35.1	32.8		ng/L		93	70 - 130
NEtFOSAA	<4.8		35.1	33.6		ng/L		96	70 - 130
NMeFOSE	<3.8		35.1	32.5		ng/L		93	70 - 130
NEtFOSE	<1.9		35.1	33.8		ng/L		96	70 - 130
4:2 FTS	12		32.8	40.6		ng/L		87	70 - 130
6:2 FTS	1000	E	33.3	1040	E 4	ng/L		4	70 - 130
8:2 FTS	110		33.6	138		ng/L		94	70 - 130

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: 500-192821-12 MS

Client Sample ID: SW-M10 (12142020)

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 445459

Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
10:2 FTS	<1.9		33.8	40.3		ng/L		119	70 - 130
DONA	<1.9		33.1	29.9		ng/L		91	70 - 130
HFPO-DA (GenX)	<3.8		35.1	35.4		ng/L		101	70 - 130
F-53B Major	<1.9		32.7	32.5		ng/L		99	70 - 130
F-53B Minor	<1.9		33.1	36.1		ng/L		109	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFBA	51		25 - 150
13C5 PFPeA	65		25 - 150
13C2 PFHxA	94		25 - 150
13C4 PFHpA	101		25 - 150
13C4 PFOA	104		25 - 150
13C5 PFNA	119		25 - 150
13C2 PFDA	106		25 - 150
13C2 PFUnA	110		25 - 150
13C2 PFDoA	103		25 - 150
13C2 PFTeDA	114		25 - 150
13C2 PFHxDA	115		25 - 150
13C3 PFBS	85		25 - 150
18O2 PFHxS	100		25 - 150
13C4 PFOS	109		25 - 150
13C8 FOSA	99		10 - 150
d3-NMeFOSAA	88		25 - 150
d5-NEtFOSAA	93		25 - 150
d-N-MeFOSA-M	59		10 - 150
d-N-EtFOSA-M	49		10 - 150
d7-N-MeFOSE-M	50		10 - 150
d9-N-EtFOSE-M	44		10 - 150
M2-4:2 FTS	140		25 - 150
M2-6:2 FTS	100		25 - 150
M2-8:2 FTS	79		25 - 150
13C3 HFPO-DA	84		25 - 150

Lab Sample ID: 500-192821-12 MSD

Client Sample ID: SW-M10 (12142020)

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 445459

Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	56		34.7	88.8		ng/L		93	70 - 130	0	30
Perfluoropentanoic acid (PFPeA)	170		34.7	198	4	ng/L		80	70 - 130	4	30
Perfluorohexanoic acid (PFHxA)	150		34.7	178	4	ng/L		70	70 - 130	1	30
Perfluoroheptanoic acid (PFHpA)	70		34.7	105		ng/L		99	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	340		34.7	364	E 4	ng/L		81	70 - 130	1	30
Perfluorononanoic acid (PFNA)	20		34.7	54.8		ng/L		101	70 - 130	4	30
Perfluorodecanoic acid (PFDA)	1.9		34.7	37.6		ng/L		103	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA)	<1.9		34.7	35.8		ng/L		103	70 - 130	4	30
Perfluorododecanoic acid (PFDoA)	<1.9		34.7	36.0		ng/L		104	70 - 130	8	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: 500-192821-12 MSD
Matrix: Water
Analysis Batch: 445459

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA
Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTriA)	<1.9		34.7	33.9		ng/L		98	70 - 130	6	30
Perfluorotetradecanoic acid (PFTeA)	<1.9		34.7	33.7		ng/L		97	70 - 130	3	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		34.7	36.7		ng/L		106	70 - 130	1	30
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		34.7	38.1		ng/L		110	70 - 130	10	30
Perfluorobutanesulfonic acid (PFBS)	2.8		30.7	33.1		ng/L		99	70 - 130	2	30
Perfluoropentanesulfonic acid (PFPeS)	2.7		32.5	43.9		ng/L		126	70 - 130	4	30
Perfluorohexanesulfonic acid (PFHxS)	30		31.6	58.9		ng/L		91	70 - 130	5	30
Perfluoroheptanesulfonic Acid (PFHpS)	3.3		33.0	37.0		ng/L		102	70 - 130	0	30
Perfluorooctanesulfonic acid (PFOS)	140		32.2	159	4	ng/L		73	70 - 130	2	30
Perfluorononanesulfonic acid (PFNS)	<1.9		33.3	29.7		ng/L		89	70 - 130	6	30
Perfluorodecanesulfonic acid (PFDS)	<1.9		33.4	31.0		ng/L		93	70 - 130	3	30
Perfluorododecanesulfonic acid (PFDoS)	<1.9		33.6	27.7		ng/L		83	70 - 130	10	30
Perfluorooctanesulfonamide (FOSA)	1.1	J	34.7	39.2		ng/L		110	70 - 130	2	30
NEtFOSA	<1.9		34.7	31.9		ng/L		92	70 - 130	4	30
NMeFOSA	<1.9		34.7	32.1		ng/L		93	70 - 130	2	30
NMeFOSAA	<4.8		34.7	33.6		ng/L		97	70 - 130	2	30
NEtFOSAA	<4.8		34.7	33.1		ng/L		95	70 - 130	1	30
NMeFOSE	<3.8		34.7	31.4		ng/L		91	70 - 130	3	30
NEtFOSE	<1.9		34.7	35.4		ng/L		102	70 - 130	5	30
4:2 FTS	12		32.4	41.8		ng/L		91	70 - 130	3	30
6:2 FTS	1000	E	32.9	1090	E 4	ng/L		170	70 - 130	5	30
8:2 FTS	110		33.2	131		ng/L		72	70 - 130	6	30
10:2 FTS	<1.9		33.4	34.7		ng/L		104	70 - 130	15	30
DONA	<1.9		32.7	28.8		ng/L		88	70 - 130	4	30
HFPO-DA (GenX)	<3.8		34.7	32.5		ng/L		94	70 - 130	9	30
F-53B Major	<1.9		32.3	32.4		ng/L		100	70 - 130	0	30
F-53B Minor	<1.9		32.7	35.6		ng/L		109	70 - 130	1	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	48		25 - 150
13C5 PFPeA	62		25 - 150
13C2 PFHxA	90		25 - 150
13C4 PFHpA	93		25 - 150
13C4 PFOA	100		25 - 150
13C5 PFNA	109		25 - 150
13C2 PFDA	99		25 - 150
13C2 PFUnA	100		25 - 150
13C2 PFDoA	97		25 - 150
13C2 PFTeDA	101		25 - 150

Eurofins TestAmerica, Chicago

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: 500-192821-12 MSD
Matrix: Water
Analysis Batch: 445459

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA
Prep Batch: 445146

Isotope Dilution	MSD		Limits
	%Recovery	Qualifier	
13C2 PFHxDA	96		25 - 150
13C3 PFBS	80		25 - 150
18O2 PFHxS	98		25 - 150
13C4 PFOS	106		25 - 150
13C8 FOSA	95		10 - 150
d3-NMeFOSAA	82		25 - 150
d5-NEtFOSAA	86		25 - 150
d-N-MeFOSA-M	66		10 - 150
d-N-EtFOSA-M	51		10 - 150
d7-N-MeFOSE-M	49		10 - 150
d9-N-EtFOSE-M	41		10 - 150
M2-4:2 FTS	133		25 - 150
M2-6:2 FTS	94		25 - 150
M2-8:2 FTS	77		25 - 150
13C3 HFPO-DA	85		25 - 150

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

Lab Sample ID: 500-192821-12 MS
Matrix: Water
Analysis Batch: 445962

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA
Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	Limits
				Result	Qualifier				
Perfluorobutanoic acid (PFBA) - DL	58		35.1	91.8		ng/L		96	70 - 130
Perfluoropentanoic acid (PFPeA) - DL	170		35.1	208	4	ng/L		97	70 - 130
Perfluorohexanoic acid (PFHxA) - DL	150		35.1	184	4	ng/L		88	70 - 130
Perfluoroheptanoic acid (PFHpA) - DL	70		35.1	103		ng/L		94	70 - 130
Perfluorooctanoic acid (PFOA) - DL	360		35.1	400	4	ng/L		124	70 - 130
Perfluorononanoic acid (PFNA) - DL	20		35.1	58.2		ng/L		109	70 - 130
Perfluorodecanoic acid (PFDA) - DL	<19		35.1	34.8		ng/L		99	70 - 130
Perfluoroundecanoic acid (PFUnA) - DL	<19		35.1	34.9		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA) - DL	<19		35.1	36.4		ng/L		104	70 - 130
Perfluorotridecanoic acid (PFTriA) - DL	<19		35.1	34.5		ng/L		98	70 - 130
Perfluorotetradecanoic acid (PFTeA) - DL	<19		35.1	42.6		ng/L		122	70 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA) - DL	<19		35.1	29.1		ng/L		83	70 - 130
Perfluoro-n-octadecanoic acid (PFODA) - DL	<19		35.1	35.5		ng/L		101	70 - 130
Perfluorobutanesulfonic acid (PFBS) - DL	3.7	J	31.0	35.9		ng/L		104	70 - 130
Perfluoropentanesulfonic acid (PFPeS) - DL	<19		32.9	37.3		ng/L		113	70 - 130

Eurofins TestAmerica, Chicago

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: 500-192821-12 MS

Client Sample ID: SW-M10 (12142020)

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 445962

Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanesulfonic acid (PFHxS) - DL	32		31.9	59.8		ng/L		86	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS) - DL	3.7	J	33.4	36.4		ng/L		98	70 - 130
Perfluorooctanesulfonic acid (PFOS) - DL	130		32.6	154	4	ng/L		60	70 - 130
Perfluorononanesulfonic acid (PFNS) - DL	<19		33.7	30.9		ng/L		92	70 - 130
Perfluorodecanesulfonic acid (PFDS) - DL	<19		33.8	32.8		ng/L		97	70 - 130
Perfluorododecanesulfonic acid (PFDoS) - DL	<19		34.0	31.5		ng/L		93	70 - 130
Perfluorooctanesulfonamide (FOSA) - DL	<19		35.1	40.2		ng/L		115	70 - 130
NEtFOSA - DL	<19		35.1	38.9		ng/L		111	70 - 130
NMeFOSA - DL	<19		35.1	30.6		ng/L		87	70 - 130
NMeFOSAA - DL	<48		35.1	37.1	J	ng/L		106	70 - 130
NEtFOSAA - DL	<48		35.1	35.4	J	ng/L		101	70 - 130
NMeFOSE - DL	<38		35.1	34.0	J	ng/L		97	70 - 130
NEtFOSE - DL	<19		35.1	31.6		ng/L		90	70 - 130
4:2 FTS - DL	12	J	32.8	39.7		ng/L		83	70 - 130
6:2 FTS - DL	1200		33.3	1200	4	ng/L		-3	70 - 130
8:2 FTS - DL	100	F1	33.6	137		ng/L		97	70 - 130
10:2 FTS - DL	<19		33.8	36.5		ng/L		108	70 - 130
DONA - DL	<19		33.1	33.2		ng/L		100	70 - 130
HFPO-DA (GenX) - DL	<38		35.1	35.2		ng/L		100	70 - 130
F-53B Major - DL	<19		32.7	32.7		ng/L		100	70 - 130
F-53B Minor - DL	<19		33.1	35.1		ng/L		106	70 - 130

Isotope Dilution	MS %Recovery	MS Qualifier	MS Limits
13C4 PFBA - DL	86		25 - 150
13C5 PFPeA - DL	88		25 - 150
13C2 PFHxA - DL	96		25 - 150
13C4 PFHpA - DL	99		25 - 150
13C4 PFOA - DL	103		25 - 150
13C5 PFNA - DL	96		25 - 150
13C2 PFDA - DL	101		25 - 150
13C2 PFUnA - DL	95		25 - 150
13C2 PFDoA - DL	90		25 - 150
13C2 PFTeDA - DL	88		25 - 150
13C2 PFHxDA - DL	90		25 - 150
13C3 PFBS - DL	94		25 - 150
18O2 PFHxS - DL	93		25 - 150
13C4 PFOS - DL	95		25 - 150
13C8 FOSA - DL	87		10 - 150
d3-NMeFOSAA - DL	83		25 - 150
d5-NEtFOSAA - DL	82		25 - 150
d-N-MeFOSA-M - DL	53		10 - 150
d-N-EtFOSA-M - DL	39		10 - 150
d7-N-MeFOSE-M - DL	44		10 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: 500-192821-12 MS
Matrix: Water
Analysis Batch: 445962

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA
Prep Batch: 445146

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
d9-N-EtFOSE-M - DL	40		10 - 150
M2-4:2 FTS - DL	89		25 - 150
M2-6:2 FTS - DL	84		25 - 150
M2-8:2 FTS - DL	69		25 - 150
13C3 HFPO-DA - DL	93		25 - 150

Lab Sample ID: 500-192821-12 MSD
Matrix: Water
Analysis Batch: 445962

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA
Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA) - DL	58		34.7	93.0		ng/L		100	70 - 130	1	30
Perfluoropentanoic acid (PFPeA) - DL	170		34.7	206	4	ng/L		93	70 - 130	1	30
Perfluorohexanoic acid (PFHxA) - DL	150		34.7	196	4	ng/L		122	70 - 130	6	30
Perfluoroheptanoic acid (PFHpA) - DL	70		34.7	103		ng/L		93	70 - 130	1	30
Perfluorooctanoic acid (PFOA) - DL	360		34.7	413	4	ng/L		162	70 - 130	3	30
Perfluorononanoic acid (PFNA) - DL	20		34.7	54.3		ng/L		99	70 - 130	7	30
Perfluorodecanoic acid (PFDA) - DL	<19		34.7	36.6		ng/L		105	70 - 130	5	30
Perfluoroundecanoic acid (PFUnA) - DL	<19		34.7	33.9		ng/L		98	70 - 130	3	30
Perfluorododecanoic acid (PFDoA) - DL	<19		34.7	34.8		ng/L		100	70 - 130	4	30
Perfluorotridecanoic acid (PFTriA) - DL	<19		34.7	33.2		ng/L		96	70 - 130	4	30
Perfluorotetradecanoic acid (PFTeA) - DL	<19		34.7	37.8		ng/L		109	70 - 130	12	30
Perfluoro-n-hexadecanoic acid (PFHxDA) - DL	<19		34.7	29.5		ng/L		85	70 - 130	1	30
Perfluoro-n-octadecanoic acid (PFODA) - DL	<19		34.7	34.3		ng/L		99	70 - 130	3	30
Perfluorobutanesulfonic acid (PFBS) - DL	3.7	J	30.7	33.4		ng/L		97	70 - 130	7	30
Perfluoropentanesulfonic acid (PFPeS) - DL	<19		32.5	34.1		ng/L		105	70 - 130	9	30
Perfluorohexanesulfonic acid (PFHxS) - DL	32		31.6	61.5		ng/L		92	70 - 130	3	30
Perfluoroheptanesulfonic Acid (PFHpS) - DL	3.7	J	33.0	35.8		ng/L		97	70 - 130	2	30
Perfluorooctanesulfonic acid (PFOS) - DL	130		32.2	156	4	ng/L		67	70 - 130	1	30
Perfluorononanesulfonic acid (PFNS) - DL	<19		33.3	31.9		ng/L		96	70 - 130	3	30
Perfluorodecanesulfonic acid (PFDS) - DL	<19		33.4	32.6		ng/L		97	70 - 130	1	30
Perfluorododecanesulfonic acid (PFDoS) - DL	<19		33.6	26.4		ng/L		79	70 - 130	18	30

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Lab Sample ID: 500-192821-12 MSD

Client Sample ID: SW-M10 (12142020)

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 445962

Prep Batch: 445146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonamide (FOSA) - DL	<19		34.7	40.7		ng/L		117	70 - 130	1	30
NEtFOSA - DL	<19		34.7	33.5		ng/L		97	70 - 130	15	30
NMeFOSA - DL	<19		34.7	29.7		ng/L		86	70 - 130	3	30
NMeFOSAA - DL	<48		34.7	34.2	J	ng/L		99	70 - 130	8	30
NEtFOSAA - DL	<48		34.7	34.9	J	ng/L		101	70 - 130	1	30
NMeFOSE - DL	<38		34.7	31.9	J	ng/L		92	70 - 130	6	30
NEtFOSE - DL	<19		34.7	39.4		ng/L		114	70 - 130	22	30
4:2 FTS - DL	12	J	32.4	42.3		ng/L		92	70 - 130	6	30
6:2 FTS - DL	1200		32.9	1170	4	ng/L		-65	70 - 130	2	30
8:2 FTS - DL	100	F1	33.2	126	F1	ng/L		64	70 - 130	8	30
10:2 FTS - DL	<19		33.4	30.4		ng/L		91	70 - 130	18	30
DONA - DL	<19		32.7	32.7		ng/L		100	70 - 130	1	30
HFPO-DA (GenX) - DL	<38		34.7	31.7	J	ng/L		91	70 - 130	11	30
F-53B Major - DL	<19		32.3	31.3		ng/L		97	70 - 130	4	30
F-53B Minor - DL	<19		32.7	32.4		ng/L		99	70 - 130	8	30

Isotope Dilution	MSD %Recovery	MSD Qualifier	MSD Limits
13C4 PFBA - DL	85		25 - 150
13C5 PFPeA - DL	90		25 - 150
13C2 PFHxA - DL	94		25 - 150
13C4 PFHpA - DL	99		25 - 150
13C4 PFOA - DL	100		25 - 150
13C5 PFNA - DL	98		25 - 150
13C2 PFDA - DL	97		25 - 150
13C2 PFUnA - DL	101		25 - 150
13C2 PFDoA - DL	88		25 - 150
13C2 PFTeDA - DL	79		25 - 150
13C2 PFHxDA - DL	91		25 - 150
13C3 PFBS - DL	93		25 - 150
18O2 PFHxS - DL	89		25 - 150
13C4 PFOS - DL	94		25 - 150
13C8 FOSA - DL	88		10 - 150
d3-NMeFOSAA - DL	82		25 - 150
d5-NEtFOSAA - DL	84		25 - 150
d-N-MeFOSA-M - DL	65		10 - 150
d-N-EtFOSA-M - DL	50		10 - 150
d7-N-MeFOSE-M - DL	50		10 - 150
d9-N-EtFOSE-M - DL	40		10 - 150
M2-4:2 FTS - DL	82		25 - 150
M2-6:2 FTS - DL	80		25 - 150
M2-8:2 FTS - DL	68		25 - 150
13C3 HFPO-DA - DL	94		25 - 150

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-577669/1
Matrix: Water
Analysis Batch: 577669

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			12/20/20 15:25	1

Lab Sample ID: LCS 500-577669/2
Matrix: Water
Analysis Batch: 577669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	182		mg/L		91	80 - 120

Lab Sample ID: 500-192821-12 MS
Matrix: Water
Analysis Batch: 577669

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	7.0		100	105		mg/L		98	75 - 125

Lab Sample ID: 500-192821-12 MSD
Matrix: Water
Analysis Batch: 577669

Client Sample ID: SW-M10 (12142020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	7.0		100	98.0		mg/L		91	75 - 125	7	20

Lab Sample ID: 500-192821-1 DU
Matrix: Water
Analysis Batch: 577669

Client Sample ID: SW-39 (12142020)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	22		23.5	F5	mg/L		7	5

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-39 (12142020)

Lab Sample ID: 500-192821-1

Date Collected: 12/14/20 12:25

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 08:10	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 18:37	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:33		
					(End)	12/20/20 15:34		

Client Sample ID: SW-L06 (12142020)

Lab Sample ID: 500-192821-2

Date Collected: 12/14/20 12:30

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 08:19	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 18:47	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:35		
					(End)	12/20/20 15:36		

Client Sample ID: SW-M01 (12142020)

Lab Sample ID: 500-192821-3

Date Collected: 12/14/20 13:40

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 08:29	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 18:56	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:36		
					(End)	12/20/20 15:37		

Client Sample ID: SW-M02 (12142020)

Lab Sample ID: 500-192821-4

Date Collected: 12/14/20 13:45

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 08:38	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 19:05	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:37		
					(End)	12/20/20 15:38		

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Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M03 (12142020)

Lab Sample ID: 500-192821-5

Date Collected: 12/14/20 13:50

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 08:47	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 19:15	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:38		
					(End)	12/20/20 15:39		

Client Sample ID: SW-M04 (12142020)

Lab Sample ID: 500-192821-6

Date Collected: 12/14/20 13:55

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 08:57	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 19:24	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:39		
					(End)	12/20/20 15:40		

Client Sample ID: SW-M05 (12142020)

Lab Sample ID: 500-192821-7

Date Collected: 12/14/20 14:30

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 09:06	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 19:33	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:40		
					(End)	12/20/20 15:41		

Client Sample ID: SW-M06 (12142020)

Lab Sample ID: 500-192821-8

Date Collected: 12/14/20 14:40

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 09:16	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 19:43	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:41		
					(End)	12/20/20 15:42		

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Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: SW-M07 (12142020)

Lab Sample ID: 500-192821-9

Date Collected: 12/14/20 14:45

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 09:53	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 19:52	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:42		
					(End)	12/20/20 15:43		

Client Sample ID: SW-M08 (12142020)

Lab Sample ID: 500-192821-10

Date Collected: 12/14/20 15:15

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 10:02	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 20:01	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:43		
					(End)	12/20/20 15:44		

Client Sample ID: SW-M09 (12142020)

Lab Sample ID: 500-192821-11

Date Collected: 12/14/20 15:20

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 10:12	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 20:29	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:44		
					(End)	12/20/20 15:45		

Client Sample ID: SW-M10 (12142020)

Lab Sample ID: 500-192821-12

Date Collected: 12/14/20 15:40

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 10:21	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 20:39	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:45		
					(End)	12/20/20 15:46		

Eurofins TestAmerica, Chicago

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

Client Sample ID: Dup-01 (12142020)

Lab Sample ID: 500-192821-13

Date Collected: 12/14/20 00:00

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 10:49	JY1	TAL SAC
Total/NA	Prep	3535	DL		445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	445962	12/25/20 21:07	RS1	TAL SAC
Total/NA	Analysis	SM 2540D		1	577669		SMO	TAL CHI
					(Start)	12/20/20 15:48		
					(End)	12/20/20 15:49		

Client Sample ID: FIELD BLANK-12-14-220

Lab Sample ID: 500-192821-14

Date Collected: 12/14/20 14:00

Matrix: Water

Date Received: 12/19/20 11:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			445146	12/22/20 18:37	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1	445459	12/24/20 10:58	JY1	TAL SAC

Laboratory References:

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

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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- 13
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Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-21

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

Eurofins TestAmerica, Chicago

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

Chain of Custody Record

eurofins

Client Information		Sampler <i>Kaelyn Biotz</i>	Lab PM Fredrick, Sandie	Carrier Tracking No(s)	COC No 506-88043-39503.2																														
Client Contact Elizabeth Hover		Phone	E-Mail sandra.fredrick@eurofinset.com	State of Origin	Page Page 2 of 3																														
Company ARCADIS U.S., Inc.		PWSID	Analysis Requested																																
Address 126 North Jefferson Street Suite 400		Due Date Requested:	<table border="1"> <tr> <td colspan="2">Job # <i>500-192821</i></td> </tr> <tr> <td colspan="2">Preservation Codes:</td> </tr> <tr> <td>A - HCL</td> <td>M - Hexane</td> </tr> <tr> <td>B - NaOH</td> <td>N - None</td> </tr> <tr> <td>C - Zn Acetate</td> <td>O - AsNaO2</td> </tr> <tr> <td>D - Nitric Acid</td> <td>F - Na2O4S</td> </tr> <tr> <td>E - NaHSO4</td> <td>Q - Na2SO3</td> </tr> <tr> <td>F - MeOH</td> <td>R - Na2S2O5</td> </tr> <tr> <td>G - Amchlor</td> <td>S - H2SO4</td> </tr> <tr> <td>H - Asorbic Acid</td> <td>T - TSP Dodecahydrate</td> </tr> <tr> <td>I - Ice</td> <td>U - Acetone</td> </tr> <tr> <td>J - DI Water</td> <td>V - MCAA</td> </tr> <tr> <td>K - EDTA</td> <td>W - pH 4-5</td> </tr> <tr> <td>L - EDA</td> <td>Z - other (specify)</td> </tr> <tr> <td colspan="2">Other:</td> </tr> </table>			Job # <i>500-192821</i>		Preservation Codes:		A - HCL	M - Hexane	B - NaOH	N - None	C - Zn Acetate	O - AsNaO2	D - Nitric Acid	F - Na2O4S	E - NaHSO4	Q - Na2SO3	F - MeOH	R - Na2S2O5	G - Amchlor	S - H2SO4	H - Asorbic Acid	T - TSP Dodecahydrate	I - Ice	U - Acetone	J - DI Water	V - MCAA	K - EDTA	W - pH 4-5	L - EDA	Z - other (specify)	Other:	
Job # <i>500-192821</i>																																			
Preservation Codes:																																			
A - HCL	M - Hexane																																		
B - NaOH	N - None																																		
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F - MeOH	R - Na2S2O5																																		
G - Amchlor	S - H2SO4																																		
H - Asorbic Acid	T - TSP Dodecahydrate																																		
I - Ice	U - Acetone																																		
J - DI Water	V - MCAA																																		
K - EDTA	W - pH 4-5																																		
L - EDA	Z - other (specify)																																		
Other:																																			
City Milwaukee		TAT Requested (days):																																	
State, Zip WI, 53202		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No																																	
Phone		PC # 30062361.00001																																	
E-mail Elizabeth.Hover@arcadis.com		WFO #																																	
Project Name Marinette 30062361.00001 <i>Surface water</i>		Project # 50017363																																	
Site		SSOW#																																	
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, G=waste/oil, BT=Tr-SUB, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2540D - TSS	PFC_IDA - PFAS: Extended List (as Analytes)	Total Number of Containers	Special Instructions/Note:																								
				Preservation Code:		X	N	N		X																									
12	SW-M10 (12142020)	12/14/20	1540	G	Water	N	Y	X	X		MS/MSD																								
13	DUP-01 (12142020)	12/14/20	-	G	Water	N	N	X	X		Duplicate																								
14	FIELD BLANK-12-14-2020	12/14/20	1400	G	Water	N	N	X	X		field blank																								
					Water																														
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					Water																														
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																													
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> 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: <i>Kaelyn Biotz</i>		Date/Time: 12/18/20 1200	Company: Arcadis	Received by: <i>Stephanie Hernandez</i>		Date/Time: 12/19/20 1140	Company: ETA-CH1																												
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:																												
Relinquished by:		Date/Time:	Company:	Received by:		Date/Time:	Company:																												
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks																															

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

SHIP DATE: 27JUL20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

MARINETTE, WI 54143
UNITED STATES US

TO

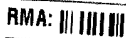
TESTAMERICA CHICAGO
2417 BOND STREET

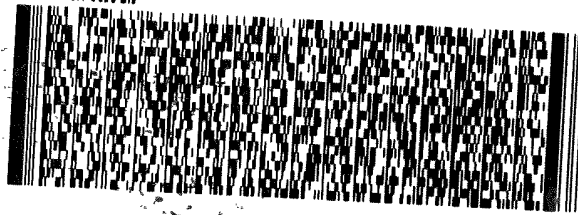
UNIVERSITY PARK IL 60484-3101

(708) 534-5200

REF:

DEPT:

RMA: 



FedEx
Express



FedEx
TRK#
0221 7125 4942 9865

DELIVERY MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 JOTA

60484
IL-US
ORD



FTD 832374 18DEC20 GRBA 56DC2/9196/05A2

36at.



500-192821 Wayb

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

SHIP DATE: 27JUL20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

MARINETTE, WI 54143
UNITED STATES US

TO

TESTAMERICA CHICAGO
2417 BOND STREET

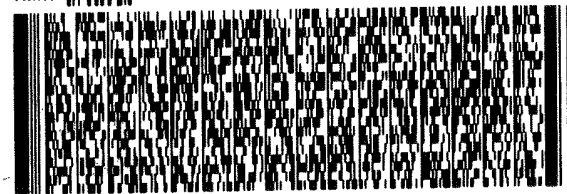
UNIVERSITY PARK IL 60484-3101

(708) 534-5200

REF:

DEPT:

RMA: 



FedEx
Express

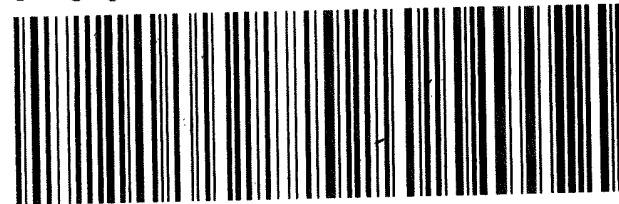


FedEx
TRK#
0221 7125 4942 9898

DELIVERY MON-SAT
SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 JOTA

60484
IL-US
ORD



FTD 832374 18DEC20 GRBA 56DC2/9196/05A2

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ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

SHIP DATE:
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

MARINETTE, WI 54143
UNITED STATES-US

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101

(708) 534-6200

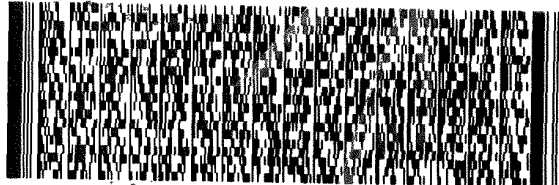
REF:

INVOICE NO:

PO:

DEPT:

RMA: 11 111111



FedEx Express



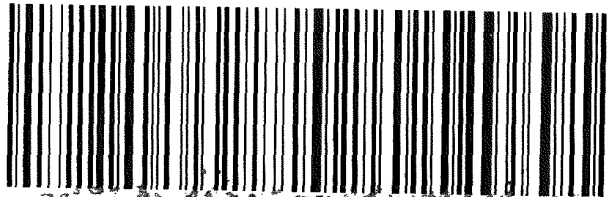
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FedEx
TRK#
0221 7125 4942 9876

RETURN TO MAIL CENTER
SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 JOTA

60484
IL-US
ORD



FID 832374 18DEC20 GRBA 56DC2/9196/05A2

36qt.

ORIGIN ID:RRLA (262) 202-5955
GUEST: JEREMY HAMLIN
COUNTRY INN& SUITES
2020 OLD PESHTIGO CT.

SHIP DATE: 27JUL20
ACTWGT: 25.00 LB MAN
CAD: 525155/CAFE3211

MARINETTE, WI 54143
UNITED STATES US

TO

TESTAMERICA CHICAGO
2417 BOND STREET

UNIVERSITY PARK IL 60484-3101

(708) 534-6200

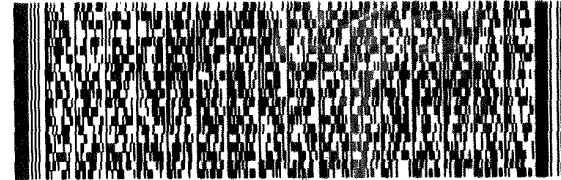
REF:

INVOICE NO:

PO:

DEPT:

RMA: 11 111111



FedEx Express



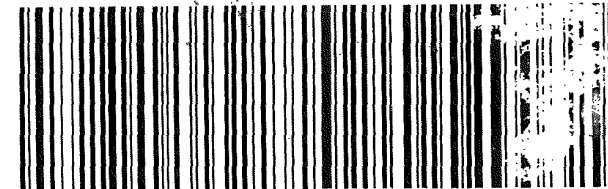
55113/1046/1046

FedEx
TRK#
0221 7125 4942 9887

RETURN TO MAIL CENTER
SATURDAY 12:00P
PRIORITY OVERNIGHT

X0 JOTA

60484
IL-US
ORD



FID 832374 18DEC20 GRBA 56DC2/9196/05A2

28qt.

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:	
Client Contact: Shipping/Receiving		Phone:	Frederick, Sandie	State of Origin: Wisconsin	500-143566.1	
Company: TestAmerica Laboratories, Inc.		E-Mail: sandra.fredrick@eurofinset.com		Page: Page 1 of 3	Job #: 500-192821-1	
Address: 880 Riverside Parkway,		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin		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 Other:		
City: West Sacramento		Due Date Requested: 1/5/2021		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)		
State, Zip: CA, 95605		TAT Requested (days):		Total Number of containers		
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		PO #:		Perform MS/MSD (Yes or No)		
Email:		WO #:		Field Filtered Sample (Yes or No)		
Project #: Marinette 30062361.00001		SSOW #:		Analytes		
Site:				PFC IDA W/535 PFC PFAS, Extended List (36)		
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)	Preservation Code:	Special Instructions/Note:
SW-39 (12142020) (500-192821-1)	12/14/20	12:25 Central		Water		X
SW-L06 (12142020) (500-192821-2)	12/14/20	12:30 Central		Water		X
SW-M01 (12142020) (500-192821-3)	12/14/20	13:40 Central		Water		X
SW-M02 (12142020) (500-192821-4)	12/14/20	13:45 Central		Water		X
SW-M03 (12142020) (500-192821-5)	12/14/20	13:50 Central		Water		X
SW-M04 (12142020) (500-192821-6)	12/14/20	13:55 Central		Water		X
SW-M05 (12142020) (500-192821-7)	12/14/20	14:30 Central		Water		X
SW-M06 (12142020) (500-192821-8)	12/14/20	14:40 Central		Water		X
SW-M07 (12142020) (500-192821-9)	12/14/20	14:45 Central		Water		X

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *[Signature]* Date: 12/24/20
 Relinquished by: _____ Date: 1/5/21
 Relinquished by: _____ Date: _____

Company: *ETA* Company: *ETA*
 Date/Time: 12/24/20 15:00 Date/Time: 12/22/20 11:15
 Company: *ETA* Company: *ETA*

Custody Seal No.: 1364310/1364311/1209253
 Cooler Temperature(s) °C and Other Remarks: *CB: 0.0/0.8/0.4*
copy: 0.1/0.9/0.5

Ver: 11/01/2020



Chain of Custody Record

Client Information (Sub Contract Lab)		Lab PM: Fredrick, Sandie	Carrier Tracking No(s): 500-143566.2
Client Contact: Shipping/Receiving		E-Mail: sandra.fredrick@eurofinset.com	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Wisconsin; State Program - Wisconsin	
Address: 880 Riverside Parkway.		Due Date Requested: 1/5/2021	
City: West Sacramento		TAT Requested (days):	
State, Zip: CA, 95605		PO #:	
Phone: 916-373-5600(Tel) 916-372-1059(Fax)		WO #:	
Email:		Project #: 50017363	
Site: Marinette 30062361.00001		SSOW#:	

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil, BT=BIOSUB, A=Ab)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Analytes (PFC IDA W/3535 PFC PFAS, Extended List (36))	Analysis Requested		Total Number of containers	Special Instructions/Note:
								Preservation Code:	Preservation Codes:		
SW-M08 (12142020) (500-192821-10)	12/14/20	15:15 Central		Water	X	X				2	
SW-M09 (12142020) (500-192821-11)	12/14/20	15:20 Central		Water	X	X				2	
SW-M10 (12142020) (500-192821-12)	12/14/20	15:40 Central		Water	X	X				2	
SW-M10 (12142020) (500-192821-12MS)	12/14/20	15:40 Central	MS	Water	X	X				2	
SW-M10 (12142020) (500-192821-12MSD)	12/14/20	15:40 Central	MSD	Water	X	X				2	
Dup-01 (12142020) (500-192821-13)	12/14/20	Central		Water	X	X				2	
FIELD BLANK-12-14-220 (500-192821-14)	12/14/20	14:00 Central		Water	X	X				2	
SW-14 (12162020) (500-192821-15)	12/16/20	15:45 Central		Water	X	X				2	
SW-37 (12162020) (500-192821-16)	12/16/20	16:00 Central		Water	X	X				2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica 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/test/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____
 Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: *[Signature]* Date: 12/21/20 15:00 Company: ETA Company
 Relinquished by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____

Custody Seal No.: 1364310/1364311/1209253
 Custody Seals Intact: * Yes Δ No
 Cooler Temperature(s) °C and Other Remarks: *corr: 0.1/0.9/0.5*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements: _____



Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-192821-1

Login Number: 192821

List Source: Eurofins TestAmerica, Chicago

List Number: 1

Creator: Hernandez, Stephanie

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	0.2,0.4,1.3,-0.4 Samples not frozen
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.	False	Refer to Job Narrative for details.
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.	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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-192821-1

Login Number: 192821

List Number: 2

Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento

List Creation: 12/22/20 02:07 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1364310/1364311/1209253
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	ob: 0.0/0.8/0.4c corr: 0.1/0.9/0.5c
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing
TestAmerica

Sacramento
Sample Receiving Notes

Place Field Sheet Label Here

Tracking #: 189344504872

Job: _____

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: AK-13 Corr. Factor: (+1) 0.1 °C

Ice Wet Gel _____ Other _____

Cooler Custody Seal: 1209253

Cooler ID: 3 OF 3

Temp Observed: 0.4 °C Corrected: 0.5 °C
From: Temp Blank Sample

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cooler Temperature is acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frozen samples show signs of thaw?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: [Signature] Date: 12/22/20

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

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")
Initials: [Signature] Date: 12/22/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NCM Filed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Log Release checked in TALS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Initials: [Signature] Date: 12/22/20

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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)
500-192821-1	SW-39 (12142020)	75	86	98	98	94	99	92	89
500-192821-1 - DL	SW-39 (12142020)	87	90	90	92	93	94	84	81
500-192821-2	SW-L06 (12142020)	61	75	97	105	90	115	110	107
500-192821-2 - DL	SW-L06 (12142020)	56	60	61	63	63	64	62	52
500-192821-3	SW-M01 (12142020)	57	70	95	103	90	120	115	117
500-192821-3 - DL	SW-M01 (12142020)	55	61	65	67	65	66	64	64
500-192821-4	SW-M02 (12142020)	54	69	88	98	87	109	105	108
500-192821-4 - DL	SW-M02 (12142020)	74	81	82	86	87	84	82	83
500-192821-5	SW-M03 (12142020)	52	64	90	99	92	108	107	109
500-192821-5 - DL	SW-M03 (12142020)	59	65	63	70	74	69	67	67
500-192821-6	SW-M04 (12142020)	50	61	86	95	94	103	102	103
500-192821-6 - DL	SW-M04 (12142020)	74	77	82	85	87	90	90	82
500-192821-7	SW-M05 (12142020)	61	72	95	112	91	125	120	123
500-192821-7 - DL	SW-M05 (12142020)	76	83	84	89	92	93	84	91
500-192821-8	SW-M06 (12142020)	59	71	99	107	90	123	112	122
500-192821-8 - DL	SW-M06 (12142020)	75	83	90	91	90	91	95	80
500-192821-9	SW-M07 (12142020)	64	78	102	116	93	125	124	114
500-192821-9 - DL	SW-M07 (12142020)	62	69	68	76	71	73	69	69
500-192821-10	SW-M08 (12142020)	52	66	91	98	96	118	111	110
500-192821-10 - DL	SW-M08 (12142020)	79	84	87	91	94	90	100	94
500-192821-11	SW-M09 (12142020)	52	66	90	96	97	106	98	105
500-192821-11 - DL	SW-M09 (12142020)	77	81	83	90	90	89	92	82
500-192821-12	SW-M10 (12142020)	52	65	88	98	102	104	105	104
500-192821-12 - DL	SW-M10 (12142020)	86	91	98	97	103	96	99	95
500-192821-12 MS	SW-M10 (12142020)	51	65	94	101	104	119	106	110
500-192821-12 MS - DL	SW-M10 (12142020)	86	88	96	99	103	96	101	95
500-192821-12 MSD	SW-M10 (12142020)	48	62	90	93	100	109	99	100
500-192821-12 MSD - DL	SW-M10 (12142020)	85	90	94	99	100	98	97	101
500-192821-13	Dup-01 (12142020)	60	73	104	116	95	125	124	126
500-192821-13 - DL	Dup-01 (12142020)	88	94	100	102	101	108	102	101
500-192821-14	FIELD BLANK-12-14-220	88	93	101	101	103	101	101	106
LCS 320-445146/2-A	Lab Control Sample	94	97	101	100	105	101	106	98
MB 320-445146/1-A	Method Blank	93	96	100	103	108	98	96	102

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
500-192821-1	SW-39 (12142020)	90	88	100	93	94	91	90	72
500-192821-1 - DL	SW-39 (12142020)	70	77	82	85	83	89	82	69
500-192821-2	SW-L06 (12142020)	98	111	114	91	104	105	95	84
500-192821-2 - DL	SW-L06 (12142020)	51	55	60	61	57	58	55	50
500-192821-3	SW-M01 (12142020)	106	110	121	88	102	111	98	91
500-192821-3 - DL	SW-M01 (12142020)	61	59	62	60	61	60	59	49
500-192821-4	SW-M02 (12142020)	104	109	107	84	98	103	96	82
500-192821-4 - DL	SW-M02 (12142020)	76	82	75	80	78	76	82	68
500-192821-5	SW-M03 (12142020)	108	113	115	83	96	103	94	87
500-192821-5 - DL	SW-M03 (12142020)	62	63	66	64	64	67	61	56
500-192821-6	SW-M04 (12142020)	100	99	103	79	92	98	90	78
500-192821-6 - DL	SW-M04 (12142020)	72	76	79	81	76	81	83	67
500-192821-7	SW-M05 (12142020)	108	116	124	91	108	115	109	93

Eurofins TestAmerica, Chicago

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFD _o A (25-150)	PFTDA (25-150)	PFH _x DA (25-150)	C3PFBS (25-150)	PFH _x S (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
500-192821-7 - DL	SW-M05 (12142020)	83	80	71	82	77	85	82	71
500-192821-8	SW-M06 (12142020)	115	124	126	95	107	120	106	92
500-192821-8 - DL	SW-M06 (12142020)	76	75	75	86	83	85	85	70
500-192821-9	SW-M07 (12142020)	104	110	116	95	110	118	110	91
500-192821-9 - DL	SW-M07 (12142020)	62	65	66	69	65	66	64	54
500-192821-10	SW-M08 (12142020)	112	104	105	84	98	104	94	86
500-192821-10 - DL	SW-M08 (12142020)	90	77	83	88	83	85	88	77
500-192821-11	SW-M09 (12142020)	97	102	105	81	93	99	91	81
500-192821-11 - DL	SW-M09 (12142020)	78	77	76	82	77	80	84	72
500-192821-12	SW-M10 (12142020)	98	101	107	83	97	101	94	81
500-192821-12 - DL	SW-M10 (12142020)	91	80	84	92	89	91	92	82
500-192821-12 MS	SW-M10 (12142020)	103	114	115	85	100	109	99	88
500-192821-12 MS - DL	SW-M10 (12142020)	90	88	90	94	93	95	87	83
500-192821-12 MSD	SW-M10 (12142020)	97	101	96	80	98	106	95	82
500-192821-12 MSD - DL	SW-M10 (12142020)	88	79	91	93	89	94	88	82
500-192821-13	Dup-01 (12142020)	114	125	121	96	113	117	109	96
500-192821-13 - DL	Dup-01 (12142020)	92	89	87	96	93	97	91	79
500-192821-14	FIELD BLANK-12-14-220	89	95	91	95	94	95	86	79
LCS 320-445146/2-A	Lab Control Sample	94	102	99	97	93	99	91	80
MB 320-445146/1-A	Method Blank	98	97	95	96	93	95	87	77

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)							
		d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-192821-1	SW-39 (12142020)	80	75	62	48	40	87	72	63
500-192821-1 - DL	SW-39 (12142020)	74	69	54	46	35	63	70	52
500-192821-2	SW-L06 (12142020)	92	62	51	55	44	142	74	83
500-192821-2 - DL	SW-L06 (12142020)	47	38	29	32	26	46	54	42
500-192821-3	SW-M01 (12142020)	103	77	54	53	43	137	77	82
500-192821-3 - DL	SW-M01 (12142020)	55	46	30	35	26	52	50	38
500-192821-4	SW-M02 (12142020)	89	64	49	53	39	131	81	81
500-192821-4 - DL	SW-M02 (12142020)	72	51	43	41	35	68	65	55
500-192821-5	SW-M03 (12142020)	92	60	47	48	38	124	79	83
500-192821-5 - DL	SW-M03 (12142020)	57	44	30	26	27	49	60	49
500-192821-6	SW-M04 (12142020)	87	61	47	49	43	122	81	74
500-192821-6 - DL	SW-M04 (12142020)	74	56	41	44	34	65	70	61
500-192821-7	SW-M05 (12142020)	105	72	57	56	45	136	84	86
500-192821-7 - DL	SW-M05 (12142020)	72	53	40	38	36	69	76	59
500-192821-8	SW-M06 (12142020)	101	61	47	53	45	141	83	95
500-192821-8 - DL	SW-M06 (12142020)	74	42	36	40	34	69	78	59
500-192821-9	SW-M07 (12142020)	102	63	52	54	45	153 *5+	90	96
500-192821-9 - DL	SW-M07 (12142020)	61	37	30	32	28	54	63	50
500-192821-10	SW-M08 (12142020)	94	73	56	56	42	130	96	90
500-192821-10 - DL	SW-M08 (12142020)	80	65	47	51	39	73	83	64
500-192821-11	SW-M09 (12142020)	86	68	50	47	37	123	88	73
500-192821-11 - DL	SW-M09 (12142020)	86	53	42	45	32	74	80	63
500-192821-12	SW-M10 (12142020)	83	66	48	43	36	129	94	74
500-192821-12 - DL	SW-M10 (12142020)	84	59	45	45	38	84	84	66
500-192821-12 MS	SW-M10 (12142020)	93	59	49	50	44	140	100	79
500-192821-12 MS - DL	SW-M10 (12142020)	82	53	39	44	40	89	84	69
500-192821-12 MSD	SW-M10 (12142020)	86	66	51	49	41	133	94	77

Eurofins TestAmerica, Chicago

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

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	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
500-192821-12 MSD - DL	SW-M10 (12142020)	84	65	50	50	40	82	80	68
500-192821-13	Dup-01 (12142020)	104	64	53	55	47	146	85	84
500-192821-13 - DL	Dup-01 (12142020)	91	54	44	44	42	91	85	70
500-192821-14	FIELD BLANK-12-14-220	85	95	91	71	63	70	76	64
LCS 320-445146/2-A	Lab Control Sample	84	91	91	47	38	68	75	75
MB 320-445146/1-A	Method Blank	84	95	90	65	54	69	75	69

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS
500-192821-1	SW-39 (12142020)	93	
500-192821-1 - DL	SW-39 (12142020)	93	
500-192821-2	SW-L06 (12142020)	90	
500-192821-2 - DL	SW-L06 (12142020)	64	
500-192821-3	SW-M01 (12142020)	91	
500-192821-3 - DL	SW-M01 (12142020)	62	
500-192821-4	SW-M02 (12142020)	88	
500-192821-4 - DL	SW-M02 (12142020)	83	
500-192821-5	SW-M03 (12142020)	82	
500-192821-5 - DL	SW-M03 (12142020)	68	
500-192821-6	SW-M04 (12142020)	81	
500-192821-6 - DL	SW-M04 (12142020)	83	
500-192821-7	SW-M05 (12142020)	94	
500-192821-7 - DL	SW-M05 (12142020)	84	
500-192821-8	SW-M06 (12142020)	94	
500-192821-8 - DL	SW-M06 (12142020)	88	
500-192821-9	SW-M07 (12142020)	99	
500-192821-9 - DL	SW-M07 (12142020)	66	
500-192821-10	SW-M08 (12142020)	85	
500-192821-10 - DL	SW-M08 (12142020)	86	
500-192821-11	SW-M09 (12142020)	83	
500-192821-11 - DL	SW-M09 (12142020)	86	
500-192821-12	SW-M10 (12142020)	84	
500-192821-12 - DL	SW-M10 (12142020)	93	
500-192821-12 MS	SW-M10 (12142020)	84	
500-192821-12 MS - DL	SW-M10 (12142020)	93	
500-192821-12 MSD	SW-M10 (12142020)	85	
500-192821-12 MSD - DL	SW-M10 (12142020)	94	
500-192821-13	Dup-01 (12142020)	102	
500-192821-13 - DL	Dup-01 (12142020)	97	
500-192821-14	FIELD BLANK-12-14-220	101	
LCS 320-445146/2-A	Lab Control Sample	103	
MB 320-445146/1-A	Method Blank	102	

Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.

Project/Site: Marinette 30062361.00001

Job ID: 500-192821-1

PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxDA = 13C2 PFHxDA
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

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ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-68355-1
Client Project/Site: Marinette, WI 30062361.00001
Revision: 1

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Lisa Rutkowski



Authorized for release by:
1/20/2021 1:02:45 PM

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

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	6
Isotope Dilution Summary	17
QC Sample Results	19
QC Association Summary	24
Lab Chronicle	25
Certification Summary	26
Method Summary	27
Sample Summary	28
Chain of Custody	29
Receipt Checklists	31

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
E	Result exceeded calibration range.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Job ID: 320-68355-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative 320-68355-1

Comments

No additional comments.

Revision

The report being provided is a revision of the original report sent on 1/6/2021. The report (revision 1) is being revised due to: All runs reported for PFAS per client.

Receipt

The samples were received on 12/29/2020 9:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.5° C.

Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): SW-39 (320-68355-1) and SW-L06-12282020 (320-68355-2).

Sample 1, plastic 500 mL container has time as 940 but COC has time listed as 935.

Sample 2, plastic 500 mL container has time as 950 but COC has time listed as 945.

Samples were logged in and labeled according to COC.

Sample 2 has discoloration. SW-L06-12282020 (320-68355-2)

LCMS

Method 537 (modified): Results for samples SW-L06-12282020 (320-68355-2) were reported from the analysis of a diluted extract due to high concentration of target analyte and sample matrix affecting the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Results for samples SW-39 (320-68355-1) and DUP-01-12-28-2020 (320-68355-3) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS the following samples: DUP-01-12-28-2020 (320-68355-3) and (MB 320-447213/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS the following sample: SW-L06-12282020 (320-68355-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Several Isotope Dilution Analyte (IDA) recoveries are above the method recommended limit for the following sample: DUP-01-12-28-2020 (320-68355-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The concentration of Perfluorooctanoic acid (PFOA) associated with the following sample exceeded the instrument calibration range: SW-39 (320-68355-1). This analyte has been qualified; however, the peak did not saturate the instrument detector. The sample was analyzed at dilution to bring the results within the calibration range. Both sets of data are reported. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Method 537 (modified): The concentration of Perfluorooctanoic acid (PFOA) and 6:2 FTS associated with the following sample exceeded the instrument calibration range: SW-L06-12282020 (320-68355-2) and DUP-01-12-28-2020 (320-68355-3). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The sample was analyzed at dilution to bring the results within the calibration range. Both sets of data are reported. Historical data indicate that for the isotope dilution method, dilution and re-analysis will

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Job ID: 320-68355-1 (Continued)

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

not produce significantly different results from those reported above the calibration range.

Method 537 (modified): Several Isotope Dilution Analytes (IDAs) recoveries are above the method recommended limit for the following sample: SW-L06-12282020 (320-68355-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Internal standard (ISTD) response for the following sample was outside control limits: SW-L06-12282020 (320-68355-2). The sample was re-analyzed at a dilution and the ISTD response was within control limits. The ISTD is not used to quantitate the target analytes. Both sets of data are reported.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analytes were outside of the established ratio limits. The qualitative identification of the analytes have some degree of uncertainty. However, analyst judgment was used to positively identify the analytes: SW-L06-12282020 (320-68355-2).

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery for M2-4:2 FTS is above the method recommended limit for the following sample: SW-L06-12282020 (320-68355-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery M2-8:2 FTS is above the method recommended limit for the following sample: DUP-01-12-28-2020 (320-68355-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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

General Chemistry

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

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-447213. Method Code:3535 PFC Matrix: Water

Method 3535: During the solid phase extraction process, the following sample contains non-settable particulates which clogged the solid phase extraction column: SW-L06-12282020 (320-68355-2). Method Code:3535 PFC Matrix: Water preparation batch 320-447213

Method 3535: The following samples contain a thin layer of sediments at the bottom of the bottles prior to extraction: SW-39 (320-68355-1), SW-L06-12282020 (320-68355-2) and DUP-01-12-28-2020 (320-68355-3). Method Code:3535 PFC Matrix: Water preparation batch 320-447213

Method 3535: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: Field Blank-12-28-2020 (320-68355-4). 320-447213 Method: 3535 PFC Matrix: Water

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

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-39

Lab Sample ID: 320-68355-1

Date Collected: 12/28/20 09:35

Matrix: Water

Date Received: 12/29/20 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	54		4.6	2.2	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoropentanoic acid (PFPeA)	140		1.8	0.45	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorohexanoic acid (PFHxA)	130		1.8	0.53	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoroheptanoic acid (PFHpA)	40		1.8	0.23	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorooctanoic acid (PFOA)	640	E	1.8	0.78	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorononanoic acid (PFNA)	17		1.8	0.25	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorodecanoic acid (PFDA)	0.83	J	1.8	0.28	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8	1.0	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.50	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.86	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.8	0.18	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoropentanesulfonic acid (PFPeS)	1.5	J	1.8	0.27	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorohexanesulfonic acid (PFHxS)	13		1.8	0.52	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.67	J	1.8	0.17	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorooctanesulfonic acid (PFOS)	33		1.8	0.49	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.29	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		12/30/20 12:18	12/31/20 07:51	1
Perfluorooctanesulfonamide (FOSA)	3.2		1.8	0.90	ng/L		12/30/20 12:18	12/31/20 07:51	1
NEtFOSA	<1.8		1.8	0.80	ng/L		12/30/20 12:18	12/31/20 07:51	1
NMeFOSA	<1.8		1.8	0.39	ng/L		12/30/20 12:18	12/31/20 07:51	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/30/20 12:18	12/31/20 07:51	1
NEtFOSAA	<4.6		4.6	1.2	ng/L		12/30/20 12:18	12/31/20 07:51	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/30/20 12:18	12/31/20 07:51	1
NEtFOSE	<1.8		1.8	0.78	ng/L		12/30/20 12:18	12/31/20 07:51	1
4:2 FTS	8.2		1.8	0.22	ng/L		12/30/20 12:18	12/31/20 07:51	1
6:2 FTS	330		4.6	2.3	ng/L		12/30/20 12:18	12/31/20 07:51	1
8:2 FTS	25		1.8	0.42	ng/L		12/30/20 12:18	12/31/20 07:51	1
10:2 FTS	<1.8		1.8	0.61	ng/L		12/30/20 12:18	12/31/20 07:51	1
DONA	<1.8		1.8	0.37	ng/L		12/30/20 12:18	12/31/20 07:51	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/30/20 12:18	12/31/20 07:51	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/30/20 12:18	12/31/20 07:51	1
F-53B Minor	<1.8		1.8	0.29	ng/L		12/30/20 12:18	12/31/20 07:51	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	79		25 - 150				12/30/20 12:18	12/31/20 07:51	1
13C5 PFPeA	68		25 - 150				12/30/20 12:18	12/31/20 07:51	1
13C2 PFHxA	111		25 - 150				12/30/20 12:18	12/31/20 07:51	1
13C4 PFHpA	117		25 - 150				12/30/20 12:18	12/31/20 07:51	1
13C4 PFOA	112		25 - 150				12/30/20 12:18	12/31/20 07:51	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-39

Lab Sample ID: 320-68355-1

Date Collected: 12/28/20 09:35

Matrix: Water

Date Received: 12/29/20 09:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	131		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C2 PFDA	136		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C2 PFUnA	132		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C2 PFDoA	130		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C2 PFTeDA	133		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C2 PFHxDA	135		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C3 PFBS	89		25 - 150	12/30/20 12:18	12/31/20 07:51	1
18O2 PFHxS	110		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C4 PFOS	114		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C8 FOSA	119		10 - 150	12/30/20 12:18	12/31/20 07:51	1
d3-NMeFOSAA	103		25 - 150	12/30/20 12:18	12/31/20 07:51	1
d5-NEtFOSAA	106		25 - 150	12/30/20 12:18	12/31/20 07:51	1
d-N-MeFOSA-M	90		10 - 150	12/30/20 12:18	12/31/20 07:51	1
d-N-EtFOSA-M	76		10 - 150	12/30/20 12:18	12/31/20 07:51	1
d7-N-MeFOSE-M	72		10 - 150	12/30/20 12:18	12/31/20 07:51	1
d9-N-EtFOSE-M	60		10 - 150	12/30/20 12:18	12/31/20 07:51	1
M2-4:2 FTS	127		25 - 150	12/30/20 12:18	12/31/20 07:51	1
M2-6:2 FTS	92		25 - 150	12/30/20 12:18	12/31/20 07:51	1
M2-8:2 FTS	105		25 - 150	12/30/20 12:18	12/31/20 07:51	1
13C3 HFPO-DA	103		25 - 150	12/30/20 12:18	12/31/20 07:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	59		46	22	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoropentanoic acid (PFPeA)	140		18	4.5	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorohexanoic acid (PFHxA)	120		18	5.3	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoroheptanoic acid (PFHpA)	40		18	2.3	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorooctanoic acid (PFOA)	670		18	7.8	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorononanoic acid (PFNA)	17	J	18	2.5	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorodecanoic acid (PFDA)	<18		18	2.8	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoroundecanoic acid (PFUnA)	<18		18	10	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.0	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.7	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.2	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.6	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorobutanesulfonic acid (PFBS)	<18		18	1.8	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoropentanesulfonic acid (PFPeS)	<18		18	2.7	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorohexanesulfonic acid (PFHxS)	12	J	18	5.2	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluoroheptanesulfonic Acid (PFHpS)	<18		18	1.7	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorooctanesulfonic acid (PFOS)	32		18	4.9	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.4	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	2.9	ng/L		12/30/20 12:18	12/31/20 17:46	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.9	ng/L		12/30/20 12:18	12/31/20 17:46	10

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-39

Lab Sample ID: 320-68355-1

Date Collected: 12/28/20 09:35

Matrix: Water

Date Received: 12/29/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<18		18	9.0	ng/L		12/30/20 12:18	12/31/20 17:46	10
NEtFOSA	<18		18	8.0	ng/L		12/30/20 12:18	12/31/20 17:46	10
NMeFOSA	<18		18	3.9	ng/L		12/30/20 12:18	12/31/20 17:46	10
NMeFOSAA	<46		46	11	ng/L		12/30/20 12:18	12/31/20 17:46	10
NEtFOSAA	<46		46	12	ng/L		12/30/20 12:18	12/31/20 17:46	10
NMeFOSE	<37		37	13	ng/L		12/30/20 12:18	12/31/20 17:46	10
NEtFOSE	<18		18	7.8	ng/L		12/30/20 12:18	12/31/20 17:46	10
4:2 FTS	6.9	J	18	2.2	ng/L		12/30/20 12:18	12/31/20 17:46	10
6:2 FTS	310		46	23	ng/L		12/30/20 12:18	12/31/20 17:46	10
8:2 FTS	26		18	4.2	ng/L		12/30/20 12:18	12/31/20 17:46	10
10:2 FTS	<18		18	6.1	ng/L		12/30/20 12:18	12/31/20 17:46	10
DONA	<18		18	3.7	ng/L		12/30/20 12:18	12/31/20 17:46	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/30/20 12:18	12/31/20 17:46	10
F-53B Major	<18		18	2.2	ng/L		12/30/20 12:18	12/31/20 17:46	10
F-53B Minor	<18		18	2.9	ng/L		12/30/20 12:18	12/31/20 17:46	10
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	93		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C5 PFPeA	83		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C2 PFHxA	109		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C4 PFHpA	108		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C4 PFOA	113		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C5 PFNA	114		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C2 PFDA	115		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C2 PFUnA	110		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C2 PFDoA	103		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C2 PFTeDA	104		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C2 PFHxDA	106		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C3 PFBS	92		25 - 150				12/30/20 12:18	12/31/20 17:46	10
18O2 PFHxS	100		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C4 PFOS	103		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C8 FOSA	108		10 - 150				12/30/20 12:18	12/31/20 17:46	10
d3-NMeFOSAA	118		25 - 150				12/30/20 12:18	12/31/20 17:46	10
d5-NEtFOSAA	125		25 - 150				12/30/20 12:18	12/31/20 17:46	10
d-N-MeFOSA-M	80		10 - 150				12/30/20 12:18	12/31/20 17:46	10
d-N-EtFOSA-M	63		10 - 150				12/30/20 12:18	12/31/20 17:46	10
d7-N-MeFOSE-M	65		10 - 150				12/30/20 12:18	12/31/20 17:46	10
d9-N-EtFOSE-M	52		10 - 150				12/30/20 12:18	12/31/20 17:46	10
M2-4:2 FTS	118		25 - 150				12/30/20 12:18	12/31/20 17:46	10
M2-6:2 FTS	121		25 - 150				12/30/20 12:18	12/31/20 17:46	10
M2-8:2 FTS	120		25 - 150				12/30/20 12:18	12/31/20 17:46	10
13C3 HFPO-DA	97		25 - 150				12/30/20 12:18	12/31/20 17:46	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	J	5.0	1.9	mg/L			12/31/20 12:39	1

Euofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-L06-12282020

Lab Sample ID: 320-68355-2

Date Collected: 12/28/20 09:45

Matrix: Water

Date Received: 12/29/20 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	69		4.6	2.2	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoropentanoic acid (PFPeA)	290		1.8	0.45	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorohexanoic acid (PFHxA)	330		1.8	0.54	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoroheptanoic acid (PFHpA)	150		1.8	0.23	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorooctanoic acid (PFOA)	1700	E	1.8	0.78	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorononanoic acid (PFNA)	77		1.8	0.25	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorodecanoic acid (PFDA)	4.4		1.8	0.29	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoroundecanoic acid (PFUnA)	1.2	J I	1.8	1.0	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8	0.51	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8	1.2	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8	0.67	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.8		1.8	0.82	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.8		1.8	0.87	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorobutanesulfonic acid (PFBS)	5.9		1.8	0.18	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoropentanesulfonic acid (PFPeS)	8.4		1.8	0.28	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorohexanesulfonic acid (PFHxS)	68		1.8	0.53	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.4		1.8	0.18	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorooctanesulfonic acid (PFOS)	170		1.8	0.50	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8	0.34	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8	0.30	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorododecanesulfonic acid (PFDoS)	<1.8		1.8	0.89	ng/L		12/30/20 12:18	12/31/20 08:00	1
Perfluorooctanesulfonamide (FOSA)	24		1.8	0.90	ng/L		12/30/20 12:18	12/31/20 08:00	1
NEtFOSA	<1.8		1.8	0.80	ng/L		12/30/20 12:18	12/31/20 08:00	1
NMeFOSA	<1.8		1.8	0.40	ng/L		12/30/20 12:18	12/31/20 08:00	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/30/20 12:18	12/31/20 08:00	1
NEtFOSAA	4.3	J	4.6	1.2	ng/L		12/30/20 12:18	12/31/20 08:00	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/30/20 12:18	12/31/20 08:00	1
NEtFOSE	<1.8		1.8	0.78	ng/L		12/30/20 12:18	12/31/20 08:00	1
4:2 FTS	31		1.8	0.22	ng/L		12/30/20 12:18	12/31/20 08:00	1
6:2 FTS	1700	E	4.6	2.3	ng/L		12/30/20 12:18	12/31/20 08:00	1
8:2 FTS	170		1.8	0.42	ng/L		12/30/20 12:18	12/31/20 08:00	1
10:2 FTS	<1.8		1.8	0.62	ng/L		12/30/20 12:18	12/31/20 08:00	1
DONA	<1.8		1.8	0.37	ng/L		12/30/20 12:18	12/31/20 08:00	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/30/20 12:18	12/31/20 08:00	1
F-53B Major	<1.8		1.8	0.22	ng/L		12/30/20 12:18	12/31/20 08:00	1
F-53B Minor	<1.8		1.8	0.30	ng/L		12/30/20 12:18	12/31/20 08:00	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C5 PFPeA	67		25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C2 PFHxA	154	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C4 PFHpA	152	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C4 PFOA	134		25 - 150	12/30/20 12:18	12/31/20 08:00	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-L06-12282020

Lab Sample ID: 320-68355-2

Date Collected: 12/28/20 09:45

Matrix: Water

Date Received: 12/29/20 09:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	181	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C2 PFDA	201	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C2 PFUnA	204	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C2 PFDoA	165	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C2 PFTeDA	169	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C2 PFHxDA	215	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C3 PFBS	101		25 - 150	12/30/20 12:18	12/31/20 08:00	1
18O2 PFHxS	152	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C4 PFOS	179	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C8 FOSA	176	*5+	10 - 150	12/30/20 12:18	12/31/20 08:00	1
d3-NMeFOSAA	138		25 - 150	12/30/20 12:18	12/31/20 08:00	1
d5-NEtFOSAA	142		25 - 150	12/30/20 12:18	12/31/20 08:00	1
d-N-MeFOSA-M	112		10 - 150	12/30/20 12:18	12/31/20 08:00	1
d-N-EtFOSA-M	87		10 - 150	12/30/20 12:18	12/31/20 08:00	1
d7-N-MeFOSE-M	77		10 - 150	12/30/20 12:18	12/31/20 08:00	1
d9-N-EtFOSE-M	58		10 - 150	12/30/20 12:18	12/31/20 08:00	1
M2-4:2 FTS	243	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
M2-6:2 FTS	121		25 - 150	12/30/20 12:18	12/31/20 08:00	1
M2-8:2 FTS	188	*5+	25 - 150	12/30/20 12:18	12/31/20 08:00	1
13C3 HFPO-DA	130		25 - 150	12/30/20 12:18	12/31/20 08:00	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	83		46	22	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoropentanoic acid (PFPeA)	280		18	4.5	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorohexanoic acid (PFHxA)	360		18	5.4	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoroheptanoic acid (PFHpA)	130		18	2.3	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorooctanoic acid (PFOA)	2400		18	7.8	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorononanoic acid (PFNA)	79		18	2.5	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorodecanoic acid (PFDA)	4.7	J	18	2.9	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoroundecanoic acid (PFUnA)	<18		18	10	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorododecanoic acid (PFDoA)	<18		18	5.1	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorotridecanoic acid (PFTriA)	<18		18	12	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorotetradecanoic acid (PFTeA)	<18		18	6.7	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<18		18	8.2	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoro-n-octadecanoic acid (PFODA)	<18		18	8.7	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorobutanesulfonic acid (PFBS)	6.1	J	18	1.8	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoropentanesulfonic acid (PFPeS)	6.3	J	18	2.8	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorohexanesulfonic acid (PFHxS)	69		18	5.3	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluoroheptanesulfonic Acid (PFHpS)	4.7	J	18	1.8	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorooctanesulfonic acid (PFOS)	170		18	5.0	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorononanesulfonic acid (PFNS)	<18		18	3.4	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorodecanesulfonic acid (PFDS)	<18		18	3.0	ng/L		12/30/20 12:18	12/31/20 17:56	10
Perfluorododecanesulfonic acid (PFDoS)	<18		18	8.9	ng/L		12/30/20 12:18	12/31/20 17:56	10

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-L06-12282020

Lab Sample ID: 320-68355-2

Date Collected: 12/28/20 09:45

Matrix: Water

Date Received: 12/29/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	22		18	9.0	ng/L		12/30/20 12:18	12/31/20 17:56	10
NEtFOSA	<18		18	8.0	ng/L		12/30/20 12:18	12/31/20 17:56	10
NMeFOSA	<18		18	4.0	ng/L		12/30/20 12:18	12/31/20 17:56	10
NMeFOSAA	<46		46	11	ng/L		12/30/20 12:18	12/31/20 17:56	10
NEtFOSAA	<46		46	12	ng/L		12/30/20 12:18	12/31/20 17:56	10
NMeFOSE	<37		37	13	ng/L		12/30/20 12:18	12/31/20 17:56	10
NEtFOSE	<18		18	7.8	ng/L		12/30/20 12:18	12/31/20 17:56	10
4:2 FTS	33		18	2.2	ng/L		12/30/20 12:18	12/31/20 17:56	10
6:2 FTS	1700		46	23	ng/L		12/30/20 12:18	12/31/20 17:56	10
8:2 FTS	170		18	4.2	ng/L		12/30/20 12:18	12/31/20 17:56	10
10:2 FTS	<18		18	6.2	ng/L		12/30/20 12:18	12/31/20 17:56	10
DONA	<18		18	3.7	ng/L		12/30/20 12:18	12/31/20 17:56	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/30/20 12:18	12/31/20 17:56	10
F-53B Major	<18		18	2.2	ng/L		12/30/20 12:18	12/31/20 17:56	10
F-53B Minor	<18		18	3.0	ng/L		12/30/20 12:18	12/31/20 17:56	10
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	111		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C5 PFPeA	100		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C2 PFHxA	130		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C4 PFHpA	135		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C4 PFOA	136		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C5 PFNA	136		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C2 PFDA	139		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C2 PFUnA	130		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C2 PFDoA	112		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C2 PFTeDA	112		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C2 PFHxDA	126		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C3 PFBS	109		25 - 150				12/30/20 12:18	12/31/20 17:56	10
18O2 PFHxS	122		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C4 PFOS	128		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C8 FOSA	131		10 - 150				12/30/20 12:18	12/31/20 17:56	10
d3-NMeFOSAA	134		25 - 150				12/30/20 12:18	12/31/20 17:56	10
d5-NEtFOSAA	131		25 - 150				12/30/20 12:18	12/31/20 17:56	10
d-N-MeFOSA-M	81		10 - 150				12/30/20 12:18	12/31/20 17:56	10
d-N-EtFOSA-M	58		10 - 150				12/30/20 12:18	12/31/20 17:56	10
d7-N-MeFOSE-M	56		10 - 150				12/30/20 12:18	12/31/20 17:56	10
d9-N-EtFOSE-M	47		10 - 150				12/30/20 12:18	12/31/20 17:56	10
M2-4:2 FTS	154	*5+	25 - 150				12/30/20 12:18	12/31/20 17:56	10
M2-6:2 FTS	143		25 - 150				12/30/20 12:18	12/31/20 17:56	10
M2-8:2 FTS	141		25 - 150				12/30/20 12:18	12/31/20 17:56	10
13C3 HFPO-DA	118		25 - 150				12/30/20 12:18	12/31/20 17:56	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	24		5.0	1.9	mg/L			12/31/20 12:40	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: DUP-01-12-28-2020

Lab Sample ID: 320-68355-3

Date Collected: 12/28/20 00:00

Matrix: Water

Date Received: 12/29/20 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	51		4.6	2.2	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoropentanoic acid (PFPeA)	150		1.9	0.45	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorohexanoic acid (PFHxA)	120		1.9	0.54	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoroheptanoic acid (PFHpA)	43		1.9	0.23	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorooctanoic acid (PFOA)	600	E	1.9	0.79	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorononanoic acid (PFNA)	20		1.9	0.25	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorodecanoic acid (PFDA)	1.2	J	1.9	0.29	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	1.0	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	0.51	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorotridecanoic acid (PFTriA)	<1.9		1.9	1.2	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	0.68	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<1.9		1.9	0.82	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoro-n-octadecanoic acid (PFODA)	<1.9		1.9	0.87	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoropentanesulfonic acid (PFPeS)	1.4	J	1.9	0.28	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorohexanesulfonic acid (PFHxS)	14		1.9	0.53	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.82	J	1.9	0.18	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorooctanesulfonic acid (PFOS)	42		1.9	0.50	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	0.34	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	0.30	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorododecanesulfonic acid (PFDoS)	<1.9		1.9	0.90	ng/L		12/30/20 12:18	12/31/20 08:09	1
Perfluorooctanesulfonamide (FOSA)	4.0		1.9	0.91	ng/L		12/30/20 12:18	12/31/20 08:09	1
NEtFOSA	<1.9		1.9	0.81	ng/L		12/30/20 12:18	12/31/20 08:09	1
NMeFOSA	<1.9		1.9	0.40	ng/L		12/30/20 12:18	12/31/20 08:09	1
NMeFOSAA	<4.6		4.6	1.1	ng/L		12/30/20 12:18	12/31/20 08:09	1
NEtFOSAA	1.2	J	4.6	1.2	ng/L		12/30/20 12:18	12/31/20 08:09	1
NMeFOSE	<3.7		3.7	1.3	ng/L		12/30/20 12:18	12/31/20 08:09	1
NEtFOSE	<1.9		1.9	0.79	ng/L		12/30/20 12:18	12/31/20 08:09	1
4:2 FTS	6.8		1.9	0.22	ng/L		12/30/20 12:18	12/31/20 08:09	1
6:2 FTS	380	E	4.6	2.3	ng/L		12/30/20 12:18	12/31/20 08:09	1
8:2 FTS	31		1.9	0.43	ng/L		12/30/20 12:18	12/31/20 08:09	1
10:2 FTS	<1.9		1.9	0.62	ng/L		12/30/20 12:18	12/31/20 08:09	1
DONA	<1.9		1.9	0.37	ng/L		12/30/20 12:18	12/31/20 08:09	1
HFPO-DA (GenX)	<3.7		3.7	1.4	ng/L		12/30/20 12:18	12/31/20 08:09	1
F-53B Major	<1.9		1.9	0.22	ng/L		12/30/20 12:18	12/31/20 08:09	1
F-53B Minor	<1.9		1.9	0.30	ng/L		12/30/20 12:18	12/31/20 08:09	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150				12/30/20 12:18	12/31/20 08:09	1
13C5 PFPeA	67		25 - 150				12/30/20 12:18	12/31/20 08:09	1
13C2 PFHxA	143		25 - 150				12/30/20 12:18	12/31/20 08:09	1
13C4 PFHpA	132		25 - 150				12/30/20 12:18	12/31/20 08:09	1
13C4 PFOA	139		25 - 150				12/30/20 12:18	12/31/20 08:09	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: DUP-01-12-28-2020

Lab Sample ID: 320-68355-3

Date Collected: 12/28/20 00:00

Matrix: Water

Date Received: 12/29/20 09:40

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	147		25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C2 PFDA	160	*5+	25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C2 PFUnA	145		25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C2 PFDoA	136		25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C2 PFTeDA	159	*5+	25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C2 PFHxDA	157	*5+	25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C3 PFBS	96		25 - 150	12/30/20 12:18	12/31/20 08:09	1
18O2 PFHxS	128		25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C4 PFOS	132		25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C8 FOSA	141		10 - 150	12/30/20 12:18	12/31/20 08:09	1
d3-NMeFOSAA	117		25 - 150	12/30/20 12:18	12/31/20 08:09	1
d5-NEtFOSAA	121		25 - 150	12/30/20 12:18	12/31/20 08:09	1
d-N-MeFOSA-M	109		10 - 150	12/30/20 12:18	12/31/20 08:09	1
d-N-EtFOSA-M	93		10 - 150	12/30/20 12:18	12/31/20 08:09	1
d7-N-MeFOSE-M	78		10 - 150	12/30/20 12:18	12/31/20 08:09	1
d9-N-EtFOSE-M	64		10 - 150	12/30/20 12:18	12/31/20 08:09	1
M2-4:2 FTS	166	*5+	25 - 150	12/30/20 12:18	12/31/20 08:09	1
M2-6:2 FTS	104		25 - 150	12/30/20 12:18	12/31/20 08:09	1
M2-8:2 FTS	135		25 - 150	12/30/20 12:18	12/31/20 08:09	1
13C3 HFPO-DA	120		25 - 150	12/30/20 12:18	12/31/20 08:09	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	60		46	22	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoropentanoic acid (PFPeA)	140		19	4.5	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorohexanoic acid (PFHxA)	130		19	5.4	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoroheptanoic acid (PFHpA)	42		19	2.3	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorooctanoic acid (PFOA)	710		19	7.9	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorononanoic acid (PFNA)	20		19	2.5	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorodecanoic acid (PFDA)	<19		19	2.9	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoroundecanoic acid (PFUnA)	<19		19	10	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorododecanoic acid (PFDoA)	<19		19	5.1	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorotridecanoic acid (PFTriA)	<19		19	12	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorotetradecanoic acid (PFTeA)	<19		19	6.8	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<19		19	8.2	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoro-n-octadecanoic acid (PFODA)	<19		19	8.7	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorobutanesulfonic acid (PFBS)	2.0	J	19	1.9	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoropentanesulfonic acid (PFPeS)	<19		19	2.8	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorohexanesulfonic acid (PFHxS)	13	J	19	5.3	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoroheptanesulfonic Acid (PFHpS)	<19		19	1.8	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorooctanesulfonic acid (PFOS)	39		19	5.0	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluoronanesulfonic acid (PFNS)	<19		19	3.4	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorodecanesulfonic acid (PFDS)	<19		19	3.0	ng/L		12/30/20 12:18	12/31/20 18:05	10
Perfluorododecanesulfonic acid (PFDoS)	<19		19	9.0	ng/L		12/30/20 12:18	12/31/20 18:05	10

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: DUP-01-12-28-2020

Lab Sample ID: 320-68355-3

Date Collected: 12/28/20 00:00

Matrix: Water

Date Received: 12/29/20 09:40

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonamide (FOSA)	<19		19	9.1	ng/L		12/30/20 12:18	12/31/20 18:05	10
NEtFOSA	<19		19	8.1	ng/L		12/30/20 12:18	12/31/20 18:05	10
NMeFOSA	<19		19	4.0	ng/L		12/30/20 12:18	12/31/20 18:05	10
NMeFOSAA	<46		46	11	ng/L		12/30/20 12:18	12/31/20 18:05	10
NEtFOSAA	<46		46	12	ng/L		12/30/20 12:18	12/31/20 18:05	10
NMeFOSE	<37		37	13	ng/L		12/30/20 12:18	12/31/20 18:05	10
NEtFOSE	<19		19	7.9	ng/L		12/30/20 12:18	12/31/20 18:05	10
4:2 FTS	7.4	J	19	2.2	ng/L		12/30/20 12:18	12/31/20 18:05	10
6:2 FTS	350		46	23	ng/L		12/30/20 12:18	12/31/20 18:05	10
8:2 FTS	29		19	4.3	ng/L		12/30/20 12:18	12/31/20 18:05	10
10:2 FTS	<19		19	6.2	ng/L		12/30/20 12:18	12/31/20 18:05	10
DONA	<19		19	3.7	ng/L		12/30/20 12:18	12/31/20 18:05	10
HFPO-DA (GenX)	<37		37	14	ng/L		12/30/20 12:18	12/31/20 18:05	10
F-53B Major	<19		19	2.2	ng/L		12/30/20 12:18	12/31/20 18:05	10
F-53B Minor	<19		19	3.0	ng/L		12/30/20 12:18	12/31/20 18:05	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	122		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C5 PFPeA	104		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C2 PFHxA	136		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C4 PFHpA	140		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C4 PFOA	139		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C5 PFNA	144		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C2 PFDA	142		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C2 PFUnA	139		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C2 PFDoA	129		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C2 PFTeDA	123		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C2 PFHxDA	123		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C3 PFBS	108		25 - 150				12/30/20 12:18	12/31/20 18:05	10
18O2 PFHxS	122		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C4 PFOS	127		25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C8 FOSA	132		10 - 150				12/30/20 12:18	12/31/20 18:05	10
d3-NMeFOSAA	132		25 - 150				12/30/20 12:18	12/31/20 18:05	10
d5-NEtFOSAA	147		25 - 150				12/30/20 12:18	12/31/20 18:05	10
d-N-MeFOSA-M	102		10 - 150				12/30/20 12:18	12/31/20 18:05	10
d-N-EtFOSA-M	83		10 - 150				12/30/20 12:18	12/31/20 18:05	10
d7-N-MeFOSE-M	80		10 - 150				12/30/20 12:18	12/31/20 18:05	10
d9-N-EtFOSE-M	60		10 - 150				12/30/20 12:18	12/31/20 18:05	10
M2-4:2 FTS	139		25 - 150				12/30/20 12:18	12/31/20 18:05	10
M2-6:2 FTS	142		25 - 150				12/30/20 12:18	12/31/20 18:05	10
M2-8:2 FTS	152	*5+	25 - 150				12/30/20 12:18	12/31/20 18:05	10
13C3 HFPO-DA	123		25 - 150				12/30/20 12:18	12/31/20 18:05	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.5	J	5.0	1.9	mg/L			12/31/20 12:41	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: Field Blank-12-28-2020

Lab Sample ID: 320-68355-4

Date Collected: 12/28/20 09:30

Matrix: Water

Date Received: 12/29/20 09:40

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.5		5.5	2.6	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoropentanoic acid (PFPeA)	<2.2		2.2	0.54	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorohexanoic acid (PFHxA)	<2.2		2.2	0.64	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoroheptanoic acid (PFHpA)	<2.2		2.2	0.27	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorooctanoic acid (PFOA)	<2.2		2.2	0.93	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorononanoic acid (PFNA)	<2.2		2.2	0.30	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorodecanoic acid (PFDA)	<2.2		2.2	0.34	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoroundecanoic acid (PFUnA)	<2.2		2.2	1.2	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorododecanoic acid (PFDoA)	<2.2		2.2	0.60	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorotridecanoic acid (PFTriA)	<2.2		2.2	1.4	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorotetradecanoic acid (PFTeA)	<2.2		2.2	0.80	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.2		2.2	0.98	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.2		2.2	1.0	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorobutanesulfonic acid (PFBS)	<2.2		2.2	0.22	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoropentanesulfonic acid (PFPeS)	<2.2		2.2	0.33	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorohexanesulfonic acid (PFHxS)	<2.2		2.2	0.63	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.2		2.2	0.21	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorooctanesulfonic acid (PFOS)	<2.2		2.2	0.59	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorononanesulfonic acid (PFNS)	<2.2		2.2	0.41	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorodecanesulfonic acid (PFDS)	<2.2		2.2	0.35	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorododecanesulfonic acid (PFDoS)	<2.2		2.2	1.1	ng/L		12/30/20 12:18	12/31/20 08:19	1
Perfluorooctanesulfonamide (FOSA)	<2.2		2.2	1.1	ng/L		12/30/20 12:18	12/31/20 08:19	1
NEtFOSA	<2.2		2.2	0.96	ng/L		12/30/20 12:18	12/31/20 08:19	1
NMeFOSA	<2.2		2.2	0.47	ng/L		12/30/20 12:18	12/31/20 08:19	1
NMeFOSAA	<5.5		5.5	1.3	ng/L		12/30/20 12:18	12/31/20 08:19	1
NEtFOSAA	<5.5		5.5	1.4	ng/L		12/30/20 12:18	12/31/20 08:19	1
NMeFOSE	<4.4		4.4	1.5	ng/L		12/30/20 12:18	12/31/20 08:19	1
NEtFOSE	<2.2		2.2	0.93	ng/L		12/30/20 12:18	12/31/20 08:19	1
4:2 FTS	<2.2		2.2	0.26	ng/L		12/30/20 12:18	12/31/20 08:19	1
6:2 FTS	<5.5		5.5	2.7	ng/L		12/30/20 12:18	12/31/20 08:19	1
8:2 FTS	<2.2		2.2	0.51	ng/L		12/30/20 12:18	12/31/20 08:19	1
10:2 FTS	<2.2		2.2	0.74	ng/L		12/30/20 12:18	12/31/20 08:19	1
DONA	<2.2		2.2	0.44	ng/L		12/30/20 12:18	12/31/20 08:19	1
HFPO-DA (GenX)	<4.4		4.4	1.6	ng/L		12/30/20 12:18	12/31/20 08:19	1
F-53B Major	<2.2		2.2	0.26	ng/L		12/30/20 12:18	12/31/20 08:19	1
F-53B Minor	<2.2		2.2	0.35	ng/L		12/30/20 12:18	12/31/20 08:19	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	79		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C5 PFPeA	69		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C2 PFHxA	95		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C4 PFHpA	90		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C4 PFOA	94		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C5 PFNA	91		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C2 PFDA	102		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C2 PFUnA	104		25 - 150	12/30/20 12:18	12/31/20 08:19	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: Field Blank-12-28-2020

Lab Sample ID: 320-68355-4

Date Collected: 12/28/20 09:30

Matrix: Water

Date Received: 12/29/20 09:40

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

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDoA	98		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C2 PFTeDA	108		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C2 PFHxDA	116		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C3 PFBS	78		25 - 150	12/30/20 12:18	12/31/20 08:19	1
18O2 PFHxS	88		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C4 PFOS	89		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C8 FOSA	85		10 - 150	12/30/20 12:18	12/31/20 08:19	1
d3-NMeFOSAA	79		25 - 150	12/30/20 12:18	12/31/20 08:19	1
d5-NEtFOSAA	80		25 - 150	12/30/20 12:18	12/31/20 08:19	1
d-N-MeFOSA-M	91		10 - 150	12/30/20 12:18	12/31/20 08:19	1
d-N-EtFOSA-M	96		10 - 150	12/30/20 12:18	12/31/20 08:19	1
d7-N-MeFOSE-M	74		10 - 150	12/30/20 12:18	12/31/20 08:19	1
d9-N-EtFOSE-M	59		10 - 150	12/30/20 12:18	12/31/20 08:19	1
M2-4:2 FTS	77		25 - 150	12/30/20 12:18	12/31/20 08:19	1
M2-6:2 FTS	74		25 - 150	12/30/20 12:18	12/31/20 08:19	1
M2-8:2 FTS	90		25 - 150	12/30/20 12:18	12/31/20 08:19	1
13C3 HFPO-DA	88		25 - 150	12/30/20 12:18	12/31/20 08:19	1

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

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)
320-68355-1	SW-39	79	68	111	117	112	131	136	132
320-68355-1 - DL	SW-39	93	83	109	108	113	114	115	110
320-68355-2	SW-L06-12282020	81	67	154 *5+	152 *5+	134	181 *5+	201 *5+	204 *5+
320-68355-2 - DL	SW-L06-12282020	111	100	130	135	136	136	139	130
320-68355-3	DUP-01-12-28-2020	88	67	143	132	139	147	160 *5+	145
320-68355-3 - DL	DUP-01-12-28-2020	122	104	136	140	139	144	142	139
320-68355-4	Field Blank-12-28-2020	79	69	95	90	94	91	102	104
LCS 320-447213/2-A	Lab Control Sample	101	92	106	114	116	116	119	115
LCSD 320-447213/3-A	Lab Control Sample Dup	101	99	108	111	117	115	120	129
MB 320-447213/1-A	Method Blank	111	104	121	125	130	126	131	143

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
320-68355-1	SW-39	130	133	135	89	110	114	119	103
320-68355-1 - DL	SW-39	103	104	106	92	100	103	108	118
320-68355-2	SW-L06-12282020	165 *5+	169 *5+	215 *5+	101	152 *5+	179 *5+	176 *5+	138
320-68355-2 - DL	SW-L06-12282020	112	112	126	109	122	128	131	134
320-68355-3	DUP-01-12-28-2020	136	159 *5+	157 *5+	96	128	132	141	117
320-68355-3 - DL	DUP-01-12-28-2020	129	123	123	108	122	127	132	132
320-68355-4	Field Blank-12-28-2020	98	108	116	78	88	89	85	79
LCS 320-447213/2-A	Lab Control Sample	112	120	110	101	104	109	101	110
LCSD 320-447213/3-A	Lab Control Sample Dup	120	131	129	99	109	115	110	100
MB 320-447213/1-A	Method Blank	138	132	135	110	116	126	117	110

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
320-68355-1	SW-39	106	90	76	72	60	127	92	105
320-68355-1 - DL	SW-39	125	80	63	65	52	118	121	120
320-68355-2	SW-L06-12282020	142	112	87	77	58	243 *5+	121	188 *5+
320-68355-2 - DL	SW-L06-12282020	131	81	58	56	47	154 *5+	143	141
320-68355-3	DUP-01-12-28-2020	121	109	93	78	64	166 *5+	104	135
320-68355-3 - DL	DUP-01-12-28-2020	147	102	83	80	60	139	142	152 *5+
320-68355-4	Field Blank-12-28-2020	80	91	96	74	59	77	74	90
LCS 320-447213/2-A	Lab Control Sample	118	98	99	67	58	104	105	117
LCSD 320-447213/3-A	Lab Control Sample Dup	106	98	101	71	60	85	90	97
MB 320-447213/1-A	Method Blank	111	107	112	76	66	95	108	156 *5+

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)
320-68355-1	SW-39	103
320-68355-1 - DL	SW-39	97
320-68355-2	SW-L06-12282020	130
320-68355-2 - DL	SW-L06-12282020	118
320-68355-3	DUP-01-12-28-2020	120
320-68355-3 - DL	DUP-01-12-28-2020	123
320-68355-4	Field Blank-12-28-2020	88
LCS 320-447213/2-A	Lab Control Sample	105
LCSD 320-447213/3-A	Lab Control Sample Dup	109
MB 320-447213/1-A	Method Blank	121

Eurofins TestAmerica, Sacramento

Isotope Dilution Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

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
PFHxDA = 13C2 PFHxDA
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

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-447213/1-A
Matrix: Water
Analysis Batch: 447483

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447213

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<5.0		5.0	2.4	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	0.49	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	0.58	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	0.25	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	0.85	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	0.27	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	0.31	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	1.1	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	0.55	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	1.3	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	0.73	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<2.0		2.0	0.89	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoro-n-octadecanoic acid (PFODA)	<2.0		2.0	0.94	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	0.20	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	0.30	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	0.57	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	0.19	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	0.54	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	0.37	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	0.32	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorododecanesulfonic acid (PFDoS)	<2.0		2.0	0.97	ng/L		12/30/20 12:18	12/31/20 07:13	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	0.98	ng/L		12/30/20 12:18	12/31/20 07:13	1
NEtFOSA	<2.0		2.0	0.87	ng/L		12/30/20 12:18	12/31/20 07:13	1
NMeFOSA	<2.0		2.0	0.43	ng/L		12/30/20 12:18	12/31/20 07:13	1
NMeFOSAA	<5.0		5.0	1.2	ng/L		12/30/20 12:18	12/31/20 07:13	1
NEtFOSAA	<5.0		5.0	1.3	ng/L		12/30/20 12:18	12/31/20 07:13	1
NMeFOSE	<4.0		4.0	1.4	ng/L		12/30/20 12:18	12/31/20 07:13	1
NEtFOSE	<2.0		2.0	0.85	ng/L		12/30/20 12:18	12/31/20 07:13	1
4:2 FTS	<2.0		2.0	0.24	ng/L		12/30/20 12:18	12/31/20 07:13	1
6:2 FTS	<5.0		5.0	2.5	ng/L		12/30/20 12:18	12/31/20 07:13	1
8:2 FTS	<2.0		2.0	0.46	ng/L		12/30/20 12:18	12/31/20 07:13	1
10:2 FTS	<2.0		2.0	0.67	ng/L		12/30/20 12:18	12/31/20 07:13	1
DONA	<2.0		2.0	0.40	ng/L		12/30/20 12:18	12/31/20 07:13	1
HFPO-DA (GenX)	<4.0		4.0	1.5	ng/L		12/30/20 12:18	12/31/20 07:13	1
F-53B Major	<2.0		2.0	0.24	ng/L		12/30/20 12:18	12/31/20 07:13	1
F-53B Minor	<2.0		2.0	0.32	ng/L		12/30/20 12:18	12/31/20 07:13	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C4 PFBA	111		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C5 PFPeA	104		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C2 PFHxA	121		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C4 PFHpA	125		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C4 PFOA	130		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C5 PFNA	126		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C2 PFDA	131		25 - 150	12/30/20 12:18	12/31/20 07:13	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

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

Lab Sample ID: MB 320-447213/1-A
Matrix: Water
Analysis Batch: 447483

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447213

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFUnA	143		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C2 PFDoA	138		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C2 PFTeDA	132		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C2 PFHxDA	135		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C3 PFBS	110		25 - 150	12/30/20 12:18	12/31/20 07:13	1
18O2 PFHxS	116		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C4 PFOS	126		25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C8 FOSA	117		10 - 150	12/30/20 12:18	12/31/20 07:13	1
d3-NMeFOSAA	110		25 - 150	12/30/20 12:18	12/31/20 07:13	1
d5-NEtFOSAA	111		25 - 150	12/30/20 12:18	12/31/20 07:13	1
d-N-MeFOSA-M	107		10 - 150	12/30/20 12:18	12/31/20 07:13	1
d-N-EtFOSA-M	112		10 - 150	12/30/20 12:18	12/31/20 07:13	1
d7-N-MeFOSE-M	76		10 - 150	12/30/20 12:18	12/31/20 07:13	1
d9-N-EtFOSE-M	66		10 - 150	12/30/20 12:18	12/31/20 07:13	1
M2-4:2 FTS	95		25 - 150	12/30/20 12:18	12/31/20 07:13	1
M2-6:2 FTS	108		25 - 150	12/30/20 12:18	12/31/20 07:13	1
M2-8:2 FTS	156	*5+	25 - 150	12/30/20 12:18	12/31/20 07:13	1
13C3 HFPO-DA	121		25 - 150	12/30/20 12:18	12/31/20 07:13	1

Lab Sample ID: LCS 320-447213/2-A
Matrix: Water
Analysis Batch: 447591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	40.2		ng/L		101	60 - 135
Perfluoropentanoic acid (PFPeA)	40.0	39.8		ng/L		99	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.4		ng/L		101	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	39.0		ng/L		98	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	38.0		ng/L		95	60 - 135
Perfluorononanoic acid (PFNA)	40.0	38.8		ng/L		97	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	37.7		ng/L		94	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	37.3		ng/L		93	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	38.5		ng/L		96	60 - 135
Perfluorotridecanoic acid (PFTriA)	40.0	39.2		ng/L		98	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	39.3		ng/L		98	60 - 135
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	38.4		ng/L		96	60 - 135
Perfluoro-n-octadecanoic acid (PFODA)	40.0	45.8		ng/L		115	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.4	35.4		ng/L		100	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.5	41.8		ng/L		111	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.2		ng/L		94	60 - 135
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.0		ng/L		97	60 - 135

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

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

Lab Sample ID: LCS 320-447213/2-A
Matrix: Water
Analysis Batch: 447591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447213

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	37.1	36.6		ng/L		99	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	37.8		ng/L		98	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	38.1		ng/L		99	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	38.0		ng/L		98	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	42.1		ng/L		105	60 - 135
NEtFOSA	40.0	36.0		ng/L		90	60 - 135
NMeFOSA	40.0	37.4		ng/L		93	60 - 135
NMeFOSAA	40.0	40.7		ng/L		102	60 - 135
NEtFOSAA	40.0	39.1		ng/L		98	60 - 135
NMeFOSE	40.0	38.4		ng/L		96	60 - 135
NEtFOSE	40.0	40.2		ng/L		100	60 - 135
4:2 FTS	37.4	40.9		ng/L		110	60 - 135
6:2 FTS	37.9	38.2		ng/L		101	60 - 135
8:2 FTS	38.3	41.1		ng/L		107	60 - 135
10:2 FTS	38.6	46.1		ng/L		120	60 - 135
DONA	37.7	41.8		ng/L		111	60 - 135
HFPO-DA (GenX)	40.0	40.6		ng/L		102	60 - 135
F-53B Major	37.3	42.4		ng/L		114	60 - 135
F-53B Minor	37.7	38.6		ng/L		102	60 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	101		25 - 150
13C5 PFPeA	92		25 - 150
13C2 PFHxA	106		25 - 150
13C4 PFHpA	114		25 - 150
13C4 PFOA	116		25 - 150
13C5 PFNA	116		25 - 150
13C2 PFDA	119		25 - 150
13C2 PFUnA	115		25 - 150
13C2 PFDoA	112		25 - 150
13C2 PFTeDA	120		25 - 150
13C2 PFHxDA	110		25 - 150
13C3 PFBS	101		25 - 150
18O2 PFHxS	104		25 - 150
13C4 PFOS	109		25 - 150
13C8 FOSA	101		10 - 150
d3-NMeFOSAA	110		25 - 150
d5-NEtFOSAA	118		25 - 150
d-N-MeFOSA-M	98		10 - 150
d-N-EtFOSA-M	99		10 - 150
d7-N-MeFOSE-M	67		10 - 150
d9-N-EtFOSE-M	58		10 - 150
M2-4:2 FTS	104		25 - 150
M2-6:2 FTS	105		25 - 150
M2-8:2 FTS	117		25 - 150

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

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

Lab Sample ID: LCS 320-447213/2-A
Matrix: Water
Analysis Batch: 447591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447213

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C3 HFPO-DA	105		25 - 150

Lab Sample ID: LCSD 320-447213/3-A
Matrix: Water
Analysis Batch: 447483

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 447213

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Perfluorobutanoic acid (PFBA)	40.0	42.1		ng/L		105	60 - 135	5	30	
Perfluoropentanoic acid (PFPeA)	40.0	39.3		ng/L		98	60 - 135	1	30	
Perfluorohexanoic acid (PFHxA)	40.0	42.3		ng/L		106	60 - 135	5	30	
Perfluoroheptanoic acid (PFHpA)	40.0	42.1		ng/L		105	60 - 135	7	30	
Perfluorooctanoic acid (PFOA)	40.0	39.0		ng/L		98	60 - 135	3	30	
Perfluorononanoic acid (PFNA)	40.0	43.3		ng/L		108	60 - 135	11	30	
Perfluorodecanoic acid (PFDA)	40.0	40.6		ng/L		102	60 - 135	7	30	
Perfluoroundecanoic acid (PFUnA)	40.0	39.9		ng/L		100	60 - 135	7	30	
Perfluorododecanoic acid (PFDoA)	40.0	44.5		ng/L		111	60 - 135	15	30	
Perfluorotridecanoic acid (PFTriA)	40.0	46.4		ng/L		116	60 - 135	17	30	
Perfluorotetradecanoic acid (PFTeA)	40.0	43.3		ng/L		108	60 - 135	10	30	
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	38.8		ng/L		97	60 - 135	1	30	
Perfluoro-n-octadecanoic acid (PFODA)	40.0	45.3		ng/L		113	60 - 135	1	30	
Perfluorobutanesulfonic acid (PFBS)	35.4	38.8		ng/L		110	60 - 135	9	30	
Perfluoropentanesulfonic acid (PFPeS)	37.5	46.0		ng/L		123	60 - 135	10	30	
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.7		ng/L		95	60 - 135	1	30	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	36.5		ng/L		96	60 - 135	1	30	
Perfluorooctanesulfonic acid (PFOS)	37.1	37.1		ng/L		100	60 - 135	1	30	
Perfluorononanesulfonic acid (PFNS)	38.4	39.9		ng/L		104	60 - 135	5	30	
Perfluorodecanesulfonic acid (PFDS)	38.6	40.7		ng/L		106	60 - 135	7	30	
Perfluorododecanesulfonic acid (PFDoS)	38.7	43.3		ng/L		112	60 - 135	13	30	
Perfluorooctanesulfonamide (FOSA)	40.0	46.8		ng/L		117	60 - 135	11	30	
NEtFOSA	40.0	38.6		ng/L		97	60 - 135	7	30	
NMeFOSA	40.0	38.4		ng/L		96	60 - 135	3	30	
NMeFOSAA	40.0	43.2		ng/L		108	60 - 135	6	30	
NEtFOSAA	40.0	41.3		ng/L		103	60 - 135	6	30	
NMeFOSE	40.0	40.5		ng/L		101	60 - 135	5	30	
NEtFOSE	40.0	40.6		ng/L		101	60 - 135	1	30	
4:2 FTS	37.4	42.5		ng/L		114	60 - 135	4	30	
6:2 FTS	37.9	36.7		ng/L		97	60 - 135	4	30	
8:2 FTS	38.3	42.6		ng/L		111	60 - 135	4	30	

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

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

Lab Sample ID: LCSD 320-447213/3-A
 Matrix: Water
 Analysis Batch: 447483

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 447213

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
10:2 FTS	38.6	48.0		ng/L		125	60 - 135	4	30
DONA	37.7	43.2		ng/L		115	60 - 135	3	30
HFPO-DA (GenX)	40.0	41.9		ng/L		105	60 - 135	3	30
F-53B Major	37.3	41.2		ng/L		111	60 - 135	3	30
F-53B Minor	37.7	41.4		ng/L		110	60 - 135	7	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	101		25 - 150
13C5 PFPeA	99		25 - 150
13C2 PFHxA	108		25 - 150
13C4 PFHpA	111		25 - 150
13C4 PFOA	117		25 - 150
13C5 PFNA	115		25 - 150
13C2 PFDA	120		25 - 150
13C2 PFUnA	129		25 - 150
13C2 PFDoA	120		25 - 150
13C2 PFTeDA	131		25 - 150
13C2 PFHxDA	129		25 - 150
13C3 PFBS	99		25 - 150
18O2 PFHxS	109		25 - 150
13C4 PFOS	115		25 - 150
13C8 FOSA	110		10 - 150
d3-NMeFOSAA	100		25 - 150
d5-NEtFOSAA	106		25 - 150
d-N-MeFOSA-M	98		10 - 150
d-N-EtFOSA-M	101		10 - 150
d7-N-MeFOSE-M	71		10 - 150
d9-N-EtFOSE-M	60		10 - 150
M2-4:2 FTS	85		25 - 150
M2-6:2 FTS	90		25 - 150
M2-8:2 FTS	97		25 - 150
13C3 HFPO-DA	109		25 - 150

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 500-579319/1
 Matrix: Water
 Analysis Batch: 579319

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<5.0		5.0	1.9	mg/L			12/31/20 12:35	1

Lab Sample ID: LCS 500-579319/2
 Matrix: Water
 Analysis Batch: 579319

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	200	191		mg/L		96	80 - 120

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

LCMS

Prep Batch: 447213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-68355-1 - DL	SW-39	Total/NA	Water	3535	
320-68355-1	SW-39	Total/NA	Water	3535	
320-68355-2 - DL	SW-L06-12282020	Total/NA	Water	3535	
320-68355-2	SW-L06-12282020	Total/NA	Water	3535	
320-68355-3	DUP-01-12-28-2020	Total/NA	Water	3535	
320-68355-3 - DL	DUP-01-12-28-2020	Total/NA	Water	3535	
320-68355-4	Field Blank-12-28-2020	Total/NA	Water	3535	
MB 320-447213/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-447213/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-447213/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 447483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-68355-1	SW-39	Total/NA	Water	537 (modified)	447213
320-68355-2	SW-L06-12282020	Total/NA	Water	537 (modified)	447213
320-68355-3	DUP-01-12-28-2020	Total/NA	Water	537 (modified)	447213
320-68355-4	Field Blank-12-28-2020	Total/NA	Water	537 (modified)	447213
MB 320-447213/1-A	Method Blank	Total/NA	Water	537 (modified)	447213
LCSD 320-447213/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	447213

Analysis Batch: 447591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-68355-1 - DL	SW-39	Total/NA	Water	537 (modified)	447213
320-68355-2 - DL	SW-L06-12282020	Total/NA	Water	537 (modified)	447213
320-68355-3 - DL	DUP-01-12-28-2020	Total/NA	Water	537 (modified)	447213
LCS 320-447213/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	447213

General Chemistry

Analysis Batch: 579319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-68355-1	SW-39	Total/NA	Water	SM 2540D	
320-68355-2	SW-L06-12282020	Total/NA	Water	SM 2540D	
320-68355-3	DUP-01-12-28-2020	Total/NA	Water	SM 2540D	
MB 500-579319/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 500-579319/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Client Sample ID: SW-39

Date Collected: 12/28/20 09:35

Date Received: 12/29/20 09:40

Lab Sample ID: 320-68355-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			272.8 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			447483	12/31/20 07:51	K1S	TAL SAC
Total/NA	Prep	3535	DL		272.8 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10			447591	12/31/20 17:46	S1M	TAL SAC
Total/NA	Analysis	SM 2540D		1	200 mL	200 mL	579319		SMO	TAL CHI
								(Start)	12/31/20 12:39	
								(End)	12/31/20 12:40	

Client Sample ID: SW-L06-12282020

Date Collected: 12/28/20 09:45

Date Received: 12/29/20 09:40

Lab Sample ID: 320-68355-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			271 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			447483	12/31/20 08:00	K1S	TAL SAC
Total/NA	Prep	3535	DL		271 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10			447591	12/31/20 17:56	S1M	TAL SAC
Total/NA	Analysis	SM 2540D		1	200 mL	200 mL	579319		SMO	TAL CHI
								(Start)	12/31/20 12:40	
								(End)	12/31/20 12:41	

Client Sample ID: DUP-01-12-28-2020

Date Collected: 12/28/20 00:00

Date Received: 12/29/20 09:40

Lab Sample ID: 320-68355-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			270 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			447483	12/31/20 08:09	K1S	TAL SAC
Total/NA	Prep	3535	DL		270 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10			447591	12/31/20 18:05	S1M	TAL SAC
Total/NA	Analysis	SM 2540D		1	200 mL	200 mL	579319		SMO	TAL CHI
								(Start)	12/31/20 12:41	
								(End)	12/31/20 12:42	

Client Sample ID: Field Blank-12-28-2020

Date Collected: 12/28/20 09:30

Date Received: 12/29/20 09:40

Lab Sample ID: 320-68355-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			227.6 mL	10.00 mL	447213	12/30/20 12:18	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			447483	12/31/20 08:19	K1S	TAL SAC

Laboratory References:

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

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

Eurofins TestAmerica, Sacramento

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-21

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CHI
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

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



Sample Summary


Client: ARCADIS U.S., Inc.
Project/Site: Marinette, WI 30062361.00001

Job ID: 320-68355-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-68355-1	SW-39	Water	12/28/20 09:35	12/29/20 09:40	
320-68355-2	SW-L06-12282020	Water	12/28/20 09:45	12/29/20 09:40	
320-68355-3	DUP-01-12-28-2020	Water	12/28/20 00:00	12/29/20 09:40	
320-68355-4	Field Blank-12-28-2020	Water	12/28/20 09:30	12/29/20 09:40	

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- 12
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- 14

Address: 880 Riverside Parkway
West Sacramento, CA 95605
Project Manager: Lisa Rattowski
Tel/Email: N/A
Regulatory Program: DW NPDES RCRA Other:
Client Contact
Company Name: Arcadis US, INC
Address: 126 North Jefferson Street Suite 400
City/State/Zip: Milwaukee WI, 53202
Phone:
Fax:
Project Name: Marquette, WI 30015296.00009
Site: Marquette, WI
P O #

Date: 12-27-20		COC No: 1 of 1	
Carrier: FedEx		SAMPLER: Jacob Reminger	
Lab Contact: Sandie Fredrick		For Lab Use Only:	
Walk-in Client:		Lab Sampling:	
Job / SDG No.:		Job / SDG No.:	
Sample Specific Notes:			
 320-68355 Chain of Custody			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)			
<input type="checkbox"/> Return to Client		<input checked="" type="checkbox"/> Disposal by Lab	
<input type="checkbox"/> Archive for		Months	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)
SW-39	12-28-20	9:35	G	W	3	X	X
SW-106-12282020	↓	9:45	G	W	3	X	X
OUP-01-12-28-2020	↓	—	G	W	3	X	X
Field Blank -12-28-2020	↓	9:30	G	W	2	X	X

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Custody Seal No.: 969823
Custody Company: Feed EX
Date/Time: 12-28-201

Relinquished by: Jacob Reminger
Date/Time: 29 Dec 20 0940

Relinquished by: [Signature]
Date/Time: [Signature]

Relinquished by: [Signature]
Date/Time: [Signature]

*Plastic Seals have 5 min after re time on COC. FedEx, EA. Sample 1 contain same time 9:40 12/29/20



Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 320-68355-1

Login Number: 68355

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Oropeza, Salvador

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	969823
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	
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.	False	Refer to Job Narrative for details.
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 <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 320-68355-1

Login Number: 68355
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago
List Creation: 12/31/20 11:38 AM

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	0.8
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.	True	
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

