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ANALYTICAL REPORT

Eurofins Michigan
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Laboratory Job ID: 190-28581-1
Client Project/Site: IAI- MENOMINEE (Thorsen)

For:
Infrastructure Alternatives, Inc
7888 Childsale Ave
Rockford, Michigan 49341

Attn: Mike Thorsen

Sue Schafer

Authorized for release by:
5/16/2022 12:04:55 PM

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Table of Contents

Sample Summary

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-28581-1	Biosolids 2 bottles	Solid	04/27/22 13:15	04/29/22 15:09

Job ID: 190-28581-1

Laboratory: Eurofins Michigan

Narrative

Job Narrative
190-28581-1

Comments
No additional comments.

Receipt
The sample was received on 4/29/2022 3:09 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.0º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was below 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.

Biosolids 2 bottles (190-28581-1)

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 SHAKE: The following samples are yellow after adjusting to the final volume: Biosolids 2 bottles (190-28581-1), (190-28581-A-1 MS) and (190-28581-A-1 MSD).

preparation batch 320-584449
Method: Shake_Bath_14D/PFC_IDA_DOD5.3
Matrix: Solid

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

Client Sample Results

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Client Sample ID: Biosolids 2 bottles

Date Collected: 04/27/22 13:15
Date Received: 04/29/22 15:09

Lab Sample ID: 190-28581-1

Matrix: Solid
Percent Solids: 5.1

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.1**	**J**	3.9	0.89	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluoropentanoic acid (PFPeA)	**4.4**		3.9	0.80	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorohexanoic acid (PFHxA)	**7.1**		3.9	0.60	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluoroheptanoic acid (PFHpA)	**0.95**	**J**	3.9	0.74	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorooctanoic acid (PFOA)	**2.5**	**J**	3.9	1.0	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorononanoic acid (PFNA)	**0.70**	**J**	3.9	0.43	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	3.9	0.93	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluoroundecanoic acid (PFUnA)	<0.82		3.9	0.82	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorododecanoic acid (PFDoA)	**1.3**	**J**	3.9	0.58	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorotridecanoic acid (PFTrDA)	<0.41		3.9	0.41	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorotetradecanoic acid (PFTeA)	**0.82**	**J**	3.9	0.72	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorobutanesulfonic acid (PFBS)	<0.74		3.9	0.74	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluoropentanesulfonic acid (PFPeS)	<0.72		3.9	0.72	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorohexanesulfonic acid (PFHxS)	**1.2**	**J**	3.9	0.56	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.95		3.9	0.95	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorooctanesulfonic acid (PFOS)	**11**	**I**	3.9	0.84	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorononanesulfonic acid (PFNS)	<0.56		3.9	0.56	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorodecanesulfonic acid (PFDS)	**1.8**	**J**	3.9	1.0	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
Perfluorooctanesulfonamide (FOSA)	**1.2**	**J**	3.9	0.64	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
NMeFOSAA	**20**		3.9	0.45	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
NEtFOSAA	**8.0**		3.9	0.93	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
4:2 FTS	<0.99		3.9	0.99	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
6:2 FTS	**2.0**	**J**	3.9	0.53	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
8:2 FTS	**1.1**	**J**	3.9	0.68	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.76		3.9	0.76	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
HFPO-DA (GenX)	<0.80		3.9	0.80	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
9Cl-PF3ONS	<0.68		3.9	0.68	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1
11Cl-PF3OUdS	<0.60		3.9	0.60	ug/Kg	☼	05/02/22 05:33	05/07/22 20:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*43*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C5 PFPeA	*91*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C2 PFHxA	*100*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C4 PFHpA	*99*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C4 PFOA	*96*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C5 PFNA	*87*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C2 PFDA	*95*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C2 PFUnA	*102*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C2 PFDoA	*65*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C2 PFTeDA	*41*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C3 PFBS	*94*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
18O2 PFHxS	*96*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C4 PFOS	*84*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Client Sample ID: Biosolids 2 bottles

Date Collected: 04/27/22 13:15
Date Received: 04/29/22 15:09

Lab Sample ID: 190-28581-1

Matrix: Solid
Percent Solids: 5.1

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*87*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
d3-NMeFOSAA	*93*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
d5-NEtFOSAA	*95*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
M2-6:2 FTS	*130*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
M2-8:2 FTS	*137*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
M2-4:2 FTS	*112*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*
13C3 HFPO-DA	*95*		*25 - 150*	*05/02/22 05:33*	*05/07/22 20:12*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**94.9**		0.1		%			05/02/22 11:42	1
Percent Solids	**5.1**		0.1		%			05/02/22 11:42	1

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-584449/1-A
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 584449

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<0.046		0.20	0.046	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluoropentanoic acid (PFPeA)	<0.041		0.20	0.041	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorohexanoic acid (PFHxA)	<0.031		0.20	0.031	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluoroheptanoic acid (PFHpA)	<0.038		0.20	0.038	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorooctanoic acid (PFOA)	<0.053		0.20	0.053	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorononanoic acid (PFNA)	<0.022		0.20	0.022	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorodecanoic acid (PFDA)	<0.048		0.20	0.048	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluoroundecanoic acid (PFUnA)	<0.042		0.20	0.042	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorododecanoic acid (PFDoA)	<0.030		0.20	0.030	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorotridecanoic acid (PFTrDA)	<0.021		0.20	0.021	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorotetradecanoic acid (PFTeA)	<0.037		0.20	0.037	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorobutanesulfonic acid (PFBS)	<0.038		0.20	0.038	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluoropentanesulfonic acid (PFPeS)	<0.037		0.20	0.037	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorohexanesulfonic acid (PFHxS)	<0.029		0.20	0.029	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.049		0.20	0.049	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorooctanesulfonic acid (PFOS)	<0.043		0.20	0.043	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorononanesulfonic acid (PFNS)	<0.029		0.20	0.029	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorodecanesulfonic acid (PFDS)	<0.052		0.20	0.052	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
Perfluorooctanesulfonamide (FOSA)	<0.033		0.20	0.033	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
NMeFOSAA	<0.023		0.20	0.023	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
NEtFOSAA	<0.048		0.20	0.048	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
4:2 FTS	<0.051		0.20	0.051	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
6:2 FTS	<0.027		0.20	0.027	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
8:2 FTS	<0.035		0.20	0.035	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.039		0.20	0.039	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
HFPO-DA (GenX)	<0.041		0.20	0.041	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
9Cl-PF3ONS	<0.035		0.20	0.035	ug/Kg		05/02/22 05:33	05/07/22 19:21	1
11Cl-PF3OUdS	<0.031		0.20	0.031	ug/Kg		05/02/22 05:33	05/07/22 19:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*38*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C5 PFPeA	*103*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C2 PFHxA	*96*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C4 PFHpA	*102*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C4 PFOA	*96*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C5 PFNA	*89*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C2 PFDA	*101*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C2 PFUnA	*101*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C2 PFDoA	*97*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C2 PFTeDA	*93*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C3 PFBS	*96*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
18O2 PFHxS	*102*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C4 PFOS	*89*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
13C8 FOSA	*93*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
d3-NMeFOSAA	*101*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*
d5-NEtFOSAA	*116*		*25 - 150*	*05/02/22 05:33*	*05/07/22 19:21*	*1*

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

Lab Sample ID: MB 320-584449/1-A
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 584449

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	100		25 - 150	05/02/22 05:33	05/07/22 19:21	1
M2-8:2 FTS	103		25 - 150	05/02/22 05:33	05/07/22 19:21	1
M2-4:2 FTS	112		25 - 150	05/02/22 05:33	05/07/22 19:21	1
13C3 HFPO-DA	88		25 - 150	05/02/22 05:33	05/07/22 19:21	1

Lab Sample ID: LCS 320-584449/2-A
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 584449

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	2.00	2.14		ug/Kg		107	76 - 136
Perfluoropentanoic acid (PFPeA)	2.00	2.10		ug/Kg		105	69 - 129
Perfluorohexanoic acid (PFHxA)	2.00	2.07		ug/Kg		103	71 - 131
Perfluoroheptanoic acid (PFHpA)	2.00	2.15		ug/Kg		108	71 - 131
Perfluorooctanoic acid (PFOA)	2.00	1.98		ug/Kg		99	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.11		ug/Kg		105	73 - 133
Perfluorodecanoic acid (PFDA)	2.00	2.18		ug/Kg		109	72 - 132
Perfluoroundecanoic acid (PFUnA)	2.00	2.04		ug/Kg		102	66 - 126
Perfluorododecanoic acid (PFDoA)	2.00	2.21		ug/Kg		110	71 - 131
Perfluorotridecanoic acid (PFTrDA)	2.00	1.99		ug/Kg		99	71 - 131
Perfluorotetradecanoic acid (PFTeA)	2.00	2.15		ug/Kg		108	67 - 127
Perfluorobutanesulfonic acid (PFBS)	1.77	1.68		ug/Kg		95	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.77		ug/Kg		94	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.78		ug/Kg		98	62 - 122
Perfluoroheptanesulfonic acid (PFHpS)	1.90	2.33		ug/Kg		122	76 - 136
Perfluorooctanesulfonic acid (PFOS)	1.86	1.93		ug/Kg		104	68 - 141
Perfluorononanesulfonic acid (PFNS)	1.92	1.99		ug/Kg		103	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.93	2.09		ug/Kg		108	71 - 131
Perfluorooctanesulfonamide (FOSA)	2.00	2.22		ug/Kg		111	77 - 137
NMeFOSAA	2.00	2.04		ug/Kg		102	72 - 132
NEtFOSAA	2.00	2.01		ug/Kg		101	72 - 132
4:2 FTS	1.87	2.06		ug/Kg		110	68 - 143
6:2 FTS	1.90	1.77		ug/Kg		93	73 - 139
8:2 FTS	1.92	1.90		ug/Kg		99	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.88	2.22		ug/Kg		118	79 - 139
HFPO-DA (GenX)	2.00	2.21		ug/Kg		110	53 - 158
9Cl-PF3ONS	1.86	2.03		ug/Kg		109	74 - 134
11Cl-PF3OUdS	1.88	1.92		ug/Kg		102	66 - 136

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

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	41		25 - 150
13C5 PFPeA	101		25 - 150
13C2 PFHxA	98		25 - 150
13C4 PFHpA	97		25 - 150
13C4 PFOA	102		25 - 150
13C5 PFNA	97		25 - 150
13C2 PFDA	90		25 - 150
13C2 PFUnA	100		25 - 150
13C2 PFDoA	97		25 - 150
13C2 PFTeDA	94		25 - 150
13C3 PFBS	105		25 - 150
18O2 PFHxS	98		25 - 150
13C4 PFOS	89		25 - 150
13C8 FOSA	95		25 - 150
d3-NMeFOSAA	94		25 - 150
d5-NEtFOSAA	99		25 - 150
M2-6:2 FTS	113		25 - 150
M2-8:2 FTS	104		25 - 150
M2-4:2 FTS	116		25 - 150
13C3 HFPO-DA	91		25 - 150

Lab Sample ID: 190-28581-1 MS
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Biosolids 2 bottles
Prep Type: Total/NA
Prep Batch: 584449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	1.1	J	39.4	43.1		ug/Kg	☼	106	76 - 136
Perfluoropentanoic acid (PFPeA)	4.4		39.4	45.6		ug/Kg	☼	104	69 - 129
Perfluorohexanoic acid (PFHxA)	7.1		39.4	41.5		ug/Kg	☼	87	71 - 131
Perfluoroheptanoic acid (PFHpA)	0.95	J	39.4	40.2		ug/Kg	☼	100	71 - 131
Perfluorooctanoic acid (PFOA)	2.5	J	39.4	42.9		ug/Kg	☼	103	72 - 132
Perfluorononanoic acid (PFNA)	0.70	J	39.4	38.8		ug/Kg	☼	97	73 - 133
Perfluorodecanoic acid (PFDA)	1.0	J	39.4	51.6		ug/Kg	☼	128	72 - 132
Perfluoroundecanoic acid (PFUnA)	<0.82		39.4	44.2		ug/Kg	☼	112	66 - 126
Perfluorododecanoic acid (PFDoA)	1.3	J	39.4	43.2		ug/Kg	☼	106	71 - 131
Perfluorotridecanoic acid (PFTrDA)	<0.41		39.4	31.4		ug/Kg	☼	80	71 - 131
Perfluorotetradecanoic acid (PFTeA)	0.82	J	39.4	43.1		ug/Kg	☼	107	67 - 127
Perfluorobutanesulfonic acid (PFBS)	<0.74		34.9	37.7		ug/Kg	☼	108	69 - 129
Perfluoropentanesulfonic acid (PFPeS)	<0.72		37.0	38.0		ug/Kg	☼	103	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	1.2	J	35.9	38.4		ug/Kg	☼	104	62 - 122
Perfluoroheptanesulfonic acid (PFHpS)	<0.95		37.6	43.0		ug/Kg	☼	114	76 - 136
Perfluorooctanesulfonic acid (PFOS)	11	I	36.6	53.1		ug/Kg	☼	115	68 - 141
Perfluorononanesulfonic acid (PFNS)	<0.56		37.9	41.3		ug/Kg	☼	109	72 - 132
Perfluorodecanesulfonic acid (PFDS)	1.8	J	38.0	45.0		ug/Kg	☼	113	71 - 131

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

Lab Sample ID: 190-28581-1 MS
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Biosolids 2 bottles
Prep Type: Total/NA
Prep Batch: 584449

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	1.2	J	39.4	44.8		ug/Kg	☼	110	77 - 137
NMeFOSAA	20		39.4	66.3		ug/Kg	☼	117	72 - 132
NEtFOSAA	8.0		39.4	45.9		ug/Kg	☼	96	72 - 132
4:2 FTS	<0.99		36.8	37.3		ug/Kg	☼	101	68 - 143
6:2 FTS	2.0	J	37.4	41.9		ug/Kg	☼	107	73 - 139
8:2 FTS	1.1	J	37.8	41.2		ug/Kg	☼	106	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.76		37.2	46.1		ug/Kg	☼	124	79 - 139
HFPO-DA (GenX)	<0.80		39.4	42.0		ug/Kg	☼	107	53 - 158
9Cl-PF3ONS	<0.68		36.8	41.3		ug/Kg	☼	112	74 - 134
11Cl-PF3OUdS	<0.60		37.2	41.5		ug/Kg	☼	112	66 - 136

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*48*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*112*		*25 - 150*
13C4 PFHpA	*108*		*25 - 150*
13C4 PFOA	*107*		*25 - 150*
13C5 PFNA	*103*		*25 - 150*
13C2 PFDA	*101*		*25 - 150*
13C2 PFUnA	*103*		*25 - 150*
13C2 PFDoA	*72*		*25 - 150*
13C2 PFTeDA	*44*		*25 - 150*
13C3 PFBS	*107*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*92*		*25 - 150*
d3-NMeFOSAA	*95*		*25 - 150*
d5-NEtFOSAA	*99*		*25 - 150*
M2-6:2 FTS	*135*		*25 - 150*
M2-8:2 FTS	*132*		*25 - 150*
M2-4:2 FTS	*140*		*25 - 150*
13C3 HFPO-DA	*91*		*25 - 150*

Lab Sample ID: 190-28581-1 MSD
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Biosolids 2 bottles
Prep Type: Total/NA
Prep Batch: 584449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	1.1	J	38.5	41.0		ug/Kg	☼	103	76 - 136	5	30
Perfluoropentanoic acid (PFPeA)	4.4		38.5	43.8		ug/Kg	☼	102	69 - 129	4	30
Perfluorohexanoic acid (PFHxA)	7.1		38.5	44.2		ug/Kg	☼	96	71 - 131	6	30
Perfluoroheptanoic acid (PFHpA)	0.95	J	38.5	38.0		ug/Kg	☼	96	71 - 131	6	30
Perfluorooctanoic acid (PFOA)	2.5	J	38.5	43.8		ug/Kg	☼	107	72 - 132	2	30
Perfluorononanoic acid (PFNA)	0.70	J	38.5	43.1		ug/Kg	☼	110	73 - 133	10	30
Perfluorodecanoic acid (PFDA)	1.0	J	38.5	47.5		ug/Kg	☼	121	72 - 132	8	30
Perfluoroundecanoic acid (PFUnA)	<0.82		38.5	41.0		ug/Kg	☼	106	66 - 126	8	30

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

Lab Sample ID: 190-28581-1 MSD
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Biosolids 2 bottles
Prep Type: Total/NA
Prep Batch: 584449

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorododecanoic acid (PFDoA)	1.3	J	38.5	41.0		ug/Kg	☼	103	71 - 131	5	30
Perfluorotridecanoic acid (PFTrDA)	<0.41		38.5	30.8		ug/Kg	☼	80	71 - 131	2	30
Perfluorotetradecanoic acid (PFTeA)	0.82	J	38.5	39.2		ug/Kg	☼	100	67 - 127	9	30
Perfluorobutanesulfonic acid (PFBS)	<0.74		34.1	37.1		ug/Kg	☼	109	69 - 129	2	30
Perfluoropentanesulfonic acid (PFPeS)	<0.72		36.1	40.7		ug/Kg	☼	113	66 - 126	7	30
Perfluorohexanesulfonic acid (PFHxS)	1.2	J	35.1	38.4		ug/Kg	☼	106	62 - 122	0	30
Perfluoroheptanesulfonic acid (PFHpS)	<0.95		36.7	44.7		ug/Kg	☼	122	76 - 136	4	30
Perfluorooctanesulfonic acid (PFOS)	11	I	35.8	45.5		ug/Kg	☼	96	68 - 141	15	30
Perfluorononanesulfonic acid (PFNS)	<0.56		37.0	39.0		ug/Kg	☼	105	72 - 132	6	30
Perfluorodecanesulfonic acid (PFDS)	1.8	J	37.1	42.6		ug/Kg	☼	110	71 - 131	5	30
Perfluorooctanesulfonamide (FOSA)	1.2	J	38.5	43.3		ug/Kg	☼	109	77 - 137	3	30
NMeFOSAA	20		38.5	63.3		ug/Kg	☼	112	72 - 132	5	30
NEtFOSAA	8.0		38.5	42.4		ug/Kg	☼	89	72 - 132	8	30
4:2 FTS	<0.99		36.0	39.8		ug/Kg	☼	111	68 - 143	6	30
6:2 FTS	2.0	J	36.5	41.6		ug/Kg	☼	108	73 - 139	1	30
8:2 FTS	1.1	J	36.9	42.0		ug/Kg	☼	111	75 - 135	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.76		36.3	39.8		ug/Kg	☼	110	79 - 139	15	30
HFPO-DA (GenX)	<0.80		38.5	38.2		ug/Kg	☼	99	53 - 158	10	30
9Cl-PF3ONS	<0.68		35.9	38.9		ug/Kg	☼	108	74 - 134	6	30
11Cl-PF3OUdS	<0.60		36.3	35.8		ug/Kg	☼	99	66 - 136	15	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*48*		*25 - 150*
13C5 PFPeA	*88*		*25 - 150*
13C2 PFHxA	*108*		*25 - 150*
13C4 PFHpA	*101*		*25 - 150*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*87*		*25 - 150*
13C2 PFDA	*96*		*25 - 150*
13C2 PFUnA	*97*		*25 - 150*
13C2 PFDoA	*63*		*25 - 150*
13C2 PFTeDA	*38*		*25 - 150*
13C3 PFBS	*88*		*25 - 150*
18O2 PFHxS	*89*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C8 FOSA	*84*		*25 - 150*
d3-NMeFOSAA	*93*		*25 - 150*
d5-NEtFOSAA	*95*		*25 - 150*
M2-6:2 FTS	*124*		*25 - 150*
M2-8:2 FTS	*125*		*25 - 150*

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

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

Lab Sample ID: 190-28581-1 MSD
Matrix: Solid
Analysis Batch: 586091

Client Sample ID: Biosolids 2 bottles
Prep Type: Total/NA
Prep Batch: 584449

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
M2-4:2 FTS	124		25 - 150
13C3 HFPO-DA	88		25 - 150

Isotope Dilution Summary

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid **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)
190-28581-1	Biosolids 2 bottles	43	91	100	99	96	87	95	102
190-28581-1 MS	Biosolids 2 bottles	48	102	112	108	107	103	101	103
190-28581-1 MSD	Biosolids 2 bottles	48	88	108	101	97	87	96	97
LCS 320-584449/2-A	Lab Control Sample	41	101	98	97	102	97	90	100
MB 320-584449/1-A	Method Blank	38	103	96	102	96	89	101	101

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
190-28581-1	Biosolids 2 bottles	65	41	94	96	84	87	93	95
190-28581-1 MS	Biosolids 2 bottles	72	44	107	106	88	92	95	99
190-28581-1 MSD	Biosolids 2 bottles	63	38	88	89	87	84	93	95
LCS 320-584449/2-A	Lab Control Sample	97	94	105	98	89	95	94	99
MB 320-584449/1-A	Method Blank	97	93	96	102	89	93	101	116

		Percent Isotope Dilution Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)
190-28581-1	Biosolids 2 bottles	130	137	112	95
190-28581-1 MS	Biosolids 2 bottles	135	132	140	91
190-28581-1 MSD	Biosolids 2 bottles	124	125	124	88
LCS 320-584449/2-A	Lab Control Sample	113	104	116	91
MB 320-584449/1-A	Method Blank	100	103	112	88

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
M242FTS = M2-4:2 FTS
HFPODA = 13C3 HFPO-DA

Definitions/Glossary

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Qualifiers

LCMS

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

QC Association Summary

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

LCMS

Prep Batch: 584449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-28581-1	Biosolids 2 bottles	Total/NA	Solid	SHAKE	
MB 320-584449/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-584449/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
190-28581-1 MS	Biosolids 2 bottles	Total/NA	Solid	SHAKE	
190-28581-1 MSD	Biosolids 2 bottles	Total/NA	Solid	SHAKE	

Analysis Batch: 586091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-28581-1	Biosolids 2 bottles	Total/NA	Solid	537 (modified)	584449
MB 320-584449/1-A	Method Blank	Total/NA	Solid	537 (modified)	584449
LCS 320-584449/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	584449
190-28581-1 MS	Biosolids 2 bottles	Total/NA	Solid	537 (modified)	584449
190-28581-1 MSD	Biosolids 2 bottles	Total/NA	Solid	537 (modified)	584449

General Chemistry

Analysis Batch: 584517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-28581-1	Biosolids 2 bottles	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Client Sample ID: Biosolids 2 bottles
Date Collected: 04/27/22 13:15
Date Received: 04/29/22 15:09

Lab Sample ID: 190-28581-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	584517	05/02/22 11:42	KMW	TAL SAC

Client Sample ID: Biosolids 2 bottles
Date Collected: 04/27/22 13:15
Date Received: 04/29/22 15:09

Lab Sample ID: 190-28581-1
Matrix: Solid
Percent Solids: 5.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			584449	05/02/22 05:33	NSS	TAL SAC
Total/NA	Analysis	537 (modified)		1	586091	05/07/22 20:12	D1R	TAL SAC

Laboratory References:

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

Analyst References:

Lab: TAL SAC

Batch Type: Prep

NSS = Nikita Singh

Batch Type: Analysis

D1R = Dhatpakorn Ruangyotsakul

KMW = Kelly White

Accreditation/Certification Summary

Client: Infrastructure Alternatives, Inc
Job ID: 190-28581-1
Project/Site: IAI- MENOMINEE (Thorsen)

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-17-23
Kansas	NELAP	E-10375	10-31-22
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-24
Michigan	State	9947	01-31-23
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-23
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-02-23
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	03-01-22 *
Virginia	NELAP	460278	03-14-23
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Infrastructure Alternatives, Inc
Project/Site: IAI- MENOMINEE (Thorsen)

Job ID: 190-28581-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Login Sample Receipt Checklist

Client: Infrastructure Alternatives, Inc

Job Number: 190-28581-1

Login Number: 28581
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 04/30/22 02:20 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	1855972
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Michigan
10448 Citation Drive Suite 200
Brighton, MI 48116
Phone: 810-229-2763 Fax: 810-229-0000

Chain of Custody Record

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Client Information	Sampler: Tyler Svik	Lab PM: Schafer, Sue	Carrier Tracking No(s):	COC No: 190-33296-2287.1
Client Contact: Mike Thorsen	Phone: 906-863-3050	E-Mail: Sue.Schafer@Eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: Infrastructure Alternatives, Inc	PWSID:			Job #:

Address: 7888 Childsale Ave	Due Date Requested:
City: Rockford	TAT Requested (days):
State, Zip: MI, 49341	Compliance Project: Δ Yes Δ No
Phone: 906-630-1016	PO #: MEN 301
Email: mthorsen@infralt.com	WO #:
Project Name: Infrastructure Alt - PFAS Q1 2022	Project #: 19001705
Site: Menominee WWTP	SSOW#:

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	X	
Biosolids 2 bottles	4-27-22	1:15pm	G	Water			X		report in ug/kg dry weight
				Water					
				Water					

190-28581 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Tyler Svik	4-27-22 1:30pm	IAI	[signature]	4-29-22 1509	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1794147	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

5/16/2022

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☐ SDS or Known Hazard Information Supplied by Client
☐ Discrepancies
☐ Short Hold
☐ Rush ☐ 24 Hr ☐ 2-Day ☐ 3-Day ☐ 5-Day ☐ Other: _____

Client ID: IAL - PFAS Biosolids
Work Oder #: 190-28501

Cooler / Sample Receipt

After hours receipt: complete gray areas. Place cooler in walk-in, place form in Receiving box. Date: _____ Time: _____

Receipt Evaluation Performed by: Initials: TRH Date: 4-29-22 Time: 1509

Method of Shipment:
Walk-In Client Eurofins TA Field/Courier
Other Client / 3rd Party Courier: _____
Fed Ex Tracking #: _____
UPS Tracking #: Ground
Other: _____

Shipping Container Type:
☑ Cooler ☐ Box
☐ None ☐ Other: _____

Packing Materials:
☑ Plastic Bags ☐ Foam
☐ Bubble Wrap ☐ Paper
☐ Packing Peanuts ☐ None
☐ Other: _____

Custody Seals Intact:
☑ Yes ☐ No
☐ NA (not used or required)

Cooling Materials:
☐ Ice (Solid) ☑ Ice (Melted)
☐ Blue Ice ☐ None
☐ Other: _____

Bacteriological Samples	Temp Corrected (°C)	Frozen? Yes	Frozen? No	Rec'd Within 2 Hrs? Yes	Rec'd Within 2 Hrs? No	Sample Flagged? Yes	Sample Flagged? No

Received on same day sampled? Yes (No) Additional Sheets Required? Yes (No)

Receipt Temperatures

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Acceptable	Cooler ID	Affected Samples
CP313207	5.0	5.0		X	X Y __ N		
					__ Y __ N		
					__ Y __ N		

Receipt Questions**	Y	N	NA	"No" answers require additional comment
CoC present and ETA receipt signature, date, and time properly documented?	X			
Containers and Labels in good condition? *(unbroken, not leaking, appropriately filled, labels legible & attached)*	X			
Appropriate containers used and adequate volume provided?	X			Preserved bottles checked for pH?* Yes No
Number of sample containers match CoC?	X			pH strip lot # _____
Samples received within hold?	X			
Samples submitted for GRO and Volatiles analysis (8260, 624, 524) received without headspace?			X	
Was a Trip Blank received with VOA samples?			X	
Were the samples free of any questionable physical conformities? (i.e.; field duplicates or multiple bottles of the same sample do not significantly vary in appearance – color, solid proportions, etc.)	X			
Were the CoC bottle labels and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	X			
**May not be applicable if samples are not for compliance testing				*Excludes FOG, VOAs, TOC Vials, HEM

Client Contact Record

Contact Via: ☐ Phone ☐ Email ☐ Other: _____ Person Contacted: _____ Date/Time: _____
☐ Discrepancy allowance agreement is on record in the client project file

Discussion / Resolution

Any additional documentation and clarification from the client must be noted in the narrative and/or scanned into the CoC directory.
Reviewed by Jen Hall Date: 4-29-22

WI-MI-010_020720

Eurofins Michigan
10448 Citation Drive Suite 200
Brighton, MI 48116
Phone: 810-229-2763 Fax: 810-229-0000

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schafer, Sue	Carrier Tracking No(s):	COC No: 190-32422.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sue.Schafer@et.eurofinsus.com	State of Origin: Michigan	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note):		Job #: 190-28581-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 5/19/2022			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: IAI- MENOMINEE (Thorsen)	Project #: 19001705			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Moisture	PFC_IDA/Shake_Bath_14D PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
Biosolids 2 bottles (190-28581-1)	4/27/22	13:15 Eastern		Solid			X	X	2	

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

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

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Jen Hall	4-29-22 1700		[illegible]	4-30-22/09:45	EETSAC
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1, 2

Ver: 06/08/2021