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ANALYTICAL REPORT

Eurofins TestAmerica, Michigan
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Laboratory Job ID: 190-26785-1
Client Project/Site: City of Port Huron/Biosolids 55-21/PFAS

For:
City of Port Huron
100 Merchant Street
Port Huron, Michigan 48060

Attn: Doug Westbrook

Sue Schafer

Authorized for release by:
9/16/2021 5:56:38 PM

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Sample Summary

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-26785-1	POTW BIOSOLIDS 55-21	Solid	09/01/21 08:04	09/03/21 08:00

Case Narrative

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Job ID: 190-26785-1

Laboratory: Eurofins TestAmerica, Michigan

Narrative

Job Narrative
190-26785-1

Comments
No additional comments.

Receipt
The sample was received on 9/3/2021 8:00 AM. 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 3.2º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limit. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte.

POTW BIOSOLIDS 55-21 (190-26785-1), (190-26785-A-1-E MS) and (190-26785-A-1-F MSD)

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 320-524479 and analytical batch 320-525000 was outside control limits. Sample matrix interference is suspected.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: POTW BIOSOLIDS 55-21 (190-26785-1), (190-26785-A-1-E MS) and (190-26785-A-1-F MSD). 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(s).

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

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Client Sample ID: POTW BIOSOLIDS 55-21
Lab Sample ID: 190-26785-1
Date Collected: 09/01/21 08:04
Matrix: Solid
Date Received: 09/03/21 08:00
Percent Solids: 8.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<10	F1	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
F-53B Major	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
F-53B Minor	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
4:2 FTS	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
6:2 FTS	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
8:2 FTS	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
HFPO-DA (GenX)	<10	F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	**11**		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorobutanesulfonic acid (PFBS)	<10	F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorobutanoic acid (PFBA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorodecanesulfonic acid (PFDS)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorodecanoic acid (PFDA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorododecanoic acid (PFDoA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluoroheptanesulfonic Acid (PFHpS)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluoroheptanoic acid (PFHpA)	<10	F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorohexanesulfonic acid (PFHxS)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorohexanoic acid (PFHxA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorononanesulfonic acid (PFNS)	<10	F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorononanoic acid (PFNA)	<10	F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorooctanesulfonamide (FOSA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorooctanesulfonic acid (PFOS)	**36**	**I F2**	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorooctanoic acid (PFOA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluoropentanesulfonic acid (PFPeS)	<10	F1 F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluoropentanoic acid (PFPeA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorotetradecanoic acid (PFTeA)	<10		10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluorotridecanoic acid (PFTriA)	<10	F2	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1
Perfluoroundecanoic acid (PFUnA)	<10	F1	10		ug/Kg	☼	09/12/21 18:55	09/14/21 20:32	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*69*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C3 HFPO-DA	*69*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C4 PFBA	*20*	**5-*	*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C3 PFBS	*51*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C2 PFDA	*69*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C2 PFDoA	*39*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C4 PFHpA	*72*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C2 PFHxA	*63*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C5 PFNA	*68*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C4 PFOA	*67*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C4 PFOS	*54*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C5 PFPeA	*53*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C2 PFTeDA	*37*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
13C2 PFUnA	*65*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
d5-NEtFOSAA	*59*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
d3-NMeFOSAA	*59*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Client Sample ID: POTW BIOSOLIDS 55-21
Lab Sample ID: 190-26785-1
Date Collected: 09/01/21 08:04
Matrix: Solid
Date Received: 09/03/21 08:00
Percent Solids: 8.4

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

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*81*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
M2-6:2 FTS	*96*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
M2-8:2 FTS	*101*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*
18O2 PFHxS	*63*		*25 - 150*	*09/12/21 18:55*	*09/14/21 20:32*	*1*

General Chemistry

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**91.6**		0.1		%			09/07/21 12:04	1
Percent Solids	**8.4**		0.1		%			09/07/21 12:04	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-524479/1-A
Matrix: Solid
Analysis Batch: 525000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524479

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
F-53B Major	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
F-53B Minor	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
4:2 FTS	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
6:2 FTS	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
8:2 FTS	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
HFPO-DA (GenX)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorobutanoic acid (PFBA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorodecanesulfonic acid (PFDS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorodecanoic acid (PFDA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorododecanoic acid (PFDoA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluoroheptanoic acid (PFHpA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorohexanesulfonic acid (PFHxS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorohexanoic acid (PFHxA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorononanesulfonic acid (PFNS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorononanoic acid (PFNA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorooctanesulfonamide (FOSA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorooctanesulfonic acid (PFOS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorooctanoic acid (PFOA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluoropentanesulfonic acid (PFPeS)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluoropentanoic acid (PFPeA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorotetradecanoic acid (PFTeA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluorotridecanoic acid (PFTriA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1
Perfluoroundecanoic acid (PFUnA)	<0.20		0.20		ug/Kg		09/12/21 18:55	09/14/21 19:47	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C8 FOSA	*65*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C3 HFPO-DA	*66*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C4 PFBA	*60*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C3 PFBS	*50*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C2 PFDA	*64*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C2 PFDoA	*56*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C4 PFHpA	*68*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C2 PFHxA	*64*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C5 PFNA	*65*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C4 PFOA	*63*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C4 PFOS	*59*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C5 PFPeA	*61*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
13C2 PFUnA	*57*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*
d5-NEtFOSAA	*61*		*25 - 150*	*09/12/21 18:55*	*09/14/21 19:47*	*1*

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

Lab Sample ID: MB 320-524479/1-A
Matrix: Solid
Analysis Batch: 525000

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524479

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	61		25 - 150	09/12/21 18:55	09/14/21 19:47	1
M2-4:2 FTS	72		25 - 150	09/12/21 18:55	09/14/21 19:47	1
M2-6:2 FTS	75		25 - 150	09/12/21 18:55	09/14/21 19:47	1
M2-8:2 FTS	78		25 - 150	09/12/21 18:55	09/14/21 19:47	1
18O2 PFHxS	61		25 - 150	09/12/21 18:55	09/14/21 19:47	1

Lab Sample ID: LCS 320-524479/2-A
Matrix: Solid
Analysis Batch: 525000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524479

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.88	2.19		ug/Kg		116	79 - 139
F-53B Major	1.86	1.96		ug/Kg		105	74 - 134
F-53B Minor	1.88	1.92		ug/Kg		102	66 - 136
4:2 FTS	1.87	1.81		ug/Kg		97	68 - 143
6:2 FTS	1.90	1.84		ug/Kg		97	73 - 139
8:2 FTS	1.92	1.79		ug/Kg		94	75 - 135
HFPO-DA (GenX)	2.00	2.05		ug/Kg		103	53 - 158
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	1.96		ug/Kg		98	72 - 132
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	1.95		ug/Kg		98	72 - 132
Perfluorobutanesulfonic acid (PFBS)	1.77	2.02		ug/Kg		114	69 - 129
Perfluorobutanoic acid (PFBA)	2.00	2.13		ug/Kg		107	76 - 136
Perfluorodecanesulfonic acid (PFDS)	1.93	1.90		ug/Kg		98	71 - 131
Perfluorodecanoic acid (PFDA)	2.00	1.88		ug/Kg		94	72 - 132
Perfluorododecanoic acid (PFDoA)	2.00	1.94		ug/Kg		97	71 - 131
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	1.99		ug/Kg		105	76 - 136
Perfluoroheptanoic acid (PFHpA)	2.00	1.89		ug/Kg		94	71 - 131
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.73		ug/Kg		95	62 - 122
Perfluorohexanoic acid (PFHxA)	2.00	1.96		ug/Kg		98	71 - 131
Perfluorononanesulfonic acid (PFNS)	1.92	1.97		ug/Kg		103	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.04		ug/Kg		102	73 - 133
Perfluorooctanesulfonamide (FOSA)	2.00	1.92		ug/Kg		96	77 - 137
Perfluorooctanesulfonic acid (PFOS)	1.86	2.02		ug/Kg		109	68 - 141
Perfluorooctanoic acid (PFOA)	2.00	2.19		ug/Kg		110	72 - 132
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.28		ug/Kg		122	66 - 126
Perfluoropentanoic acid (PFPeA)	2.00	1.82		ug/Kg		91	69 - 129
Perfluorotetradecanoic acid (PFTeA)	2.00	2.28		ug/Kg		114	67 - 127
Perfluorotridecanoic acid (PFTriA)	2.00	2.03		ug/Kg		101	71 - 131

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

Lab Sample ID: LCS 320-524479/2-A
Matrix: Solid
Analysis Batch: 525000

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524479

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluoroundecanoic acid (PFUnA)			2.00	1.95		ug/Kg		97	66 - 126		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C8 FOSA	*69*		*25 - 150*
13C3 HFPO-DA	*68*		*25 - 150*
13C4 PFBA	*59*		*25 - 150*
13C3 PFBS	*55*		*25 - 150*
13C2 PFDA	*64*		*25 - 150*
13C2 PFDoA	*62*		*25 - 150*
13C4 PFHpA	*70*		*25 - 150*
13C2 PFHxA	*62*		*25 - 150*
13C5 PFNA	*69*		*25 - 150*
13C4 PFOA	*65*		*25 - 150*
13C4 PFOS	*59*		*25 - 150*
13C5 PFPeA	*65*		*25 - 150*
13C2 PFTeDA	*59*		*25 - 150*
13C2 PFUnA	*62*		*25 - 150*
d5-NEtFOSAA	*62*		*25 - 150*
d3-NMeFOSAA	*63*		*25 - 150*
M2-4:2 FTS	*72*		*25 - 150*
M2-6:2 FTS	*78*		*25 - 150*
M2-8:2 FTS	*78*		*25 - 150*
18O2 PFHxS	*65*		*25 - 150*

Lab Sample ID: 190-26785-1 MS
Matrix: Solid
Analysis Batch: 525000

Client Sample ID: POTW BIOSOLIDS 55-21
Prep Type: Total/NA
Prep Batch: 524479

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<10	F1	81.7	107		ug/Kg	☼	131	79 - 139		
F-53B Major	<10		80.8	89.6		ug/Kg	☼	111	74 - 134		
F-53B Minor	<10		81.7	89.5		ug/Kg	☼	110	66 - 136		
4:2 FTS	<10		81.0	83.1		ug/Kg	☼	103	68 - 143		
6:2 FTS	<10		82.2	91.4		ug/Kg	☼	111	73 - 139		
8:2 FTS	<10		83.1	79.1		ug/Kg	☼	95	75 - 135		
HFPO-DA (GenX)	<10	F2	86.7	84.3		ug/Kg	☼	97	53 - 158		
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<10		86.7	100		ug/Kg	☼	105	72 - 132		
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	11		86.7	108		ug/Kg	☼	112	72 - 132		
Perfluorobutanesulfonic acid (PFBS)	<10	F2	76.7	88.0		ug/Kg	☼	115	69 - 129		
Perfluorobutanoic acid (PFBA)	<10		86.7	91.0		ug/Kg	☼	105	76 - 136		
Perfluorodecanesulfonic acid (PFDS)	<10		83.6	92.3		ug/Kg	☼	110	71 - 131		
Perfluorodecanoic acid (PFDA)	<10		86.7	83.8		ug/Kg	☼	92	72 - 132		
Perfluorododecanoic acid (PFDoA)	<10		86.7	88.7		ug/Kg	☼	102	71 - 131		

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

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

Lab Sample ID: 190-26785-1 MS
Client Sample ID: POTW BIOSOLIDS 55-21
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 525000
Prep Batch: 524479

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	<10		82.6	91.7		ug/Kg	☼	111	76 - 136
Perfluoroheptanoic acid (PFHpA)	<10	F2	86.7	81.7		ug/Kg	☼	94	71 - 131
Perfluorohexanesulfonic acid (PFHxS)	<10		78.9	81.0	I	ug/Kg	☼	100	62 - 122
Perfluorohexanoic acid (PFHxA)	<10		86.7	85.3		ug/Kg	☼	95	71 - 131
Perfluorononanesulfonic acid (PFNS)	<10	F2	83.3	94.8		ug/Kg	☼	114	72 - 132
Perfluorononanoic acid (PFNA)	<10	F2	86.7	89.6		ug/Kg	☼	103	73 - 133
Perfluorooctanesulfonamide (FOSA)	<10		86.7	85.0		ug/Kg	☼	98	77 - 137
Perfluorooctanesulfonic acid (PFOS)	36	I F2	80.5	119	I	ug/Kg	☼	102	68 - 141
Perfluorooctanoic acid (PFOA)	<10		86.7	96.4		ug/Kg	☼	108	72 - 132
Perfluoropentanesulfonic acid (PFPeS)	<10	F1 F2	81.3	99.0		ug/Kg	☼	122	66 - 126
Perfluoropentanoic acid (PFPeA)	<10		86.7	86.5		ug/Kg	☼	100	69 - 129
Perfluorotetradecanoic acid (PFTeA)	<10		86.7	100		ug/Kg	☼	116	67 - 127
Perfluorotridecanoic acid (PFTriA)	<10	F2	86.7	78.4		ug/Kg	☼	90	71 - 131
Perfluoroundecanoic acid (PFUnA)	<10	F1	86.7	92.6		ug/Kg	☼	107	66 - 126

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C8 FOSA	*79*		*25 - 150*
13C3 HFPO-DA	*79*		*25 - 150*
13C4 PFBA	*15*	*5-	*25 - 150*
13C3 PFBS	*61*		*25 - 150*
13C2 PFDA	*76*		*25 - 150*
13C2 PFDoA	*45*		*25 - 150*
13C4 PFHpA	*83*		*25 - 150*
13C2 PFHxA	*71*		*25 - 150*
13C5 PFNA	*77*		*25 - 150*
13C4 PFOA	*77*		*25 - 150*
13C4 PFOS	*63*		*25 - 150*
13C5 PFPeA	*61*		*25 - 150*
13C2 PFTeDA	*40*		*25 - 150*
13C2 PFUnA	*70*		*25 - 150*
d5-NEtFOSAA	*63*		*25 - 150*
d3-NMeFOSAA	*66*		*25 - 150*
M2-4:2 FTS	*88*		*25 - 150*
M2-6:2 FTS	*103*		*25 - 150*
M2-8:2 FTS	*116*		*25 - 150*
18O2 PFHxS	*70*		*25 - 150*

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

Lab Sample ID: 190-26785-1 MSD
Client Sample ID: POTW BIOSOLIDS 55-21
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 525000
Prep Batch: 524479

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<10	F1	108	138		ug/Kg	☼	128	79 - 139	26	30
F-53B Major	<10		107	121		ug/Kg	☼	113	74 - 134	30	30
F-53B Minor	<10		108	115		ug/Kg	☼	106	66 - 136	25	30
4:2 FTS	<10		107	108		ug/Kg	☼	100	68 - 143	26	30
6:2 FTS	<10		109	117		ug/Kg	☼	108	73 - 139	25	30
8:2 FTS	<10		110	107		ug/Kg	☼	97	75 - 135	30	30
HFPO-DA (GenX)	<10	F2	115	120	F2	ug/Kg	☼	104	53 - 158	35	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<10		115	132		ug/Kg	☼	106	72 - 132	27	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	11		115	138		ug/Kg	☼	110	72 - 132	24	30
Perfluorobutanesulfonic acid (PFBS)	<10	F2	102	120	F2	ug/Kg	☼	118	69 - 129	31	30
Perfluorobutanoic acid (PFBA)	<10		115	123		ug/Kg	☼	107	76 - 136	30	30
Perfluorodecanesulfonic acid (PFDS)	<10		111	121		ug/Kg	☼	109	71 - 131	27	30
Perfluorodecanoic acid (PFDA)	<10		115	112		ug/Kg	☼	94	72 - 132	29	30
Perfluorododecanoic acid (PFDoA)	<10		115	118		ug/Kg	☼	103	71 - 131	29	30
Perfluoroheptanesulfonic Acid (PFHpS)	<10		110	121		ug/Kg	☼	110	76 - 136	27	30
Perfluoroheptanoic acid (PFHpA)	<10	F2	115	112	F2	ug/Kg	☼	97	71 - 131	31	30
Perfluorohexanesulfonic acid (PFHxS)	<10		105	108	I	ug/Kg	☼	101	62 - 122	28	30
Perfluorohexanoic acid (PFHxA)	<10		115	105		ug/Kg	☼	89	71 - 131	21	30
Perfluorononanesulfonic acid (PFNS)	<10	F2	110	131	F2	ug/Kg	☼	119	72 - 132	32	30
Perfluorononanoic acid (PFNA)	<10	F2	115	123	F2	ug/Kg	☼	107	73 - 133	31	30
Perfluorooctanesulfonamide (FOSA)	<10		115	114		ug/Kg	☼	99	77 - 137	29	30
Perfluorooctanesulfonic acid (PFOS)	36	I F2	107	163	F2	ug/Kg	☼	119	68 - 141	32	30
Perfluorooctanoic acid (PFOA)	<10		115	129		ug/Kg	☼	109	72 - 132	29	30
Perfluoropentanesulfonic acid (PFPeS)	<10	F1 F2	108	136	F2	ug/Kg	☼	126	66 - 126	31	30
Perfluoropentanoic acid (PFPeA)	<10		115	110		ug/Kg	☼	95	69 - 129	24	30
Perfluorotetradecanoic acid (PFTeA)	<10		115	112		ug/Kg	☼	98	67 - 127	11	30
Perfluorotridecanoic acid (PFTriA)	<10	F2	115	115	F2	ug/Kg	☼	100	71 - 131	38	30
Perfluoroundecanoic acid (PFUnA)	<10	F1	115	124		ug/Kg	☼	108	66 - 126	29	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C8 FOSA	*76*		*25 - 150*
13C3 HFPO-DA	*72*		*25 - 150*
13C4 PFBA	*19*	*5-	*25 - 150*
13C3 PFBS	*57*		*25 - 150*
13C2 PFDA	*72*		*25 - 150*
13C2 PFDoA	*45*		*25 - 150*
13C4 PFHpA	*76*		*25 - 150*

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

Lab Sample ID: 190-26785-1 MSD
Client Sample ID: POTW BIOSOLIDS 55-21
Matrix: Solid
Prep Type: Total/NA
Analysis Batch: 525000
Prep Batch: 524479

Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits
13C2 PFHxA	71		25 - 150
13C5 PFNA	73		25 - 150
13C4 PFOA	71		25 - 150
13C4 PFOS	61		25 - 150
13C5 PFPeA	57		25 - 150
13C2 PFTeDA	42		25 - 150
13C2 PFUnA	64		25 - 150
d5-NEtFOSAA	63		25 - 150
d3-NMeFOSAA	67		25 - 150
M2-4:2 FTS	96		25 - 150
M2-6:2 FTS	101		25 - 150
M2-8:2 FTS	112		25 - 150
18O2 PFHxS	68		25 - 150

Isotope Dilution Summary

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	HFPODA	PFBA	C3PFBS	PFDA	PFDoA	C4PFHA	PFHxA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
190-26785-1	POTW BIOSOLIDS 55-21	69	69	20 *5-	51	69	39	72	63
190-26785-1 MS	POTW BIOSOLIDS 55-21	79	79	15 *5-	61	76	45	83	71
190-26785-1 MSD	POTW BIOSOLIDS 55-21	76	72	19 *5-	57	72	45	76	71
LCS 320-524479/2-A	Lab Control Sample	69	68	59	55	64	62	70	62
MB 320-524479/1-A	Method Blank	65	66	60	50	64	56	68	64

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFNA	PFOA	PFOS	PFPeA	PFTDA	PFUnA	d5NEFOS	d3NMFOS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
190-26785-1	POTW BIOSOLIDS 55-21	68	67	54	53	37	65	59	59
190-26785-1 MS	POTW BIOSOLIDS 55-21	77	77	63	61	40	70	63	66
190-26785-1 MSD	POTW BIOSOLIDS 55-21	73	71	61	57	42	64	63	67
LCS 320-524479/2-A	Lab Control Sample	69	65	59	65	59	62	62	63
MB 320-524479/1-A	Method Blank	65	63	59	61	58	57	61	61

		Percent Isotope Dilution Recovery (Acceptance Limits)			
		M242FTS	M262FTS	M282FTS	PFHxS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)
190-26785-1	POTW BIOSOLIDS 55-21	81	96	101	63
190-26785-1 MS	POTW BIOSOLIDS 55-21	88	103	116	70
190-26785-1 MSD	POTW BIOSOLIDS 55-21	96	101	112	68
LCS 320-524479/2-A	Lab Control Sample	72	78	78	65
MB 320-524479/1-A	Method Blank	72	75	78	61

Surrogate Legend

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

Definitions/Glossary

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
I	Value is EMPC (estimated maximum possible concentration).

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: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

LCMS

Prep Batch: 524479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26785-1	POTW BIOSOLIDS 55-21	Total/NA	Solid	SHAKE	
MB 320-524479/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-524479/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
190-26785-1 MS	POTW BIOSOLIDS 55-21	Total/NA	Solid	SHAKE	
190-26785-1 MSD	POTW BIOSOLIDS 55-21	Total/NA	Solid	SHAKE	

Analysis Batch: 525000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26785-1	POTW BIOSOLIDS 55-21	Total/NA	Solid	537 (modified)	524479
MB 320-524479/1-A	Method Blank	Total/NA	Solid	537 (modified)	524479
LCS 320-524479/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	524479
190-26785-1 MS	POTW BIOSOLIDS 55-21	Total/NA	Solid	537 (modified)	524479
190-26785-1 MSD	POTW BIOSOLIDS 55-21	Total/NA	Solid	537 (modified)	524479

General Chemistry

Analysis Batch: 522942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26785-1	POTW BIOSOLIDS 55-21	Total/NA	Solid	D 2216	

Lab Chronicle

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Client Sample ID: POTW BIOSOLIDS 55-21
Lab Sample ID: 190-26785-1

Date Collected: 09/01/21 08:04
Matrix: Solid
Date Received: 09/03/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	522942	09/07/21 12:04	KDB	TAL SAC

Client Sample ID: POTW BIOSOLIDS 55-21
Lab Sample ID: 190-26785-1

Date Collected: 09/01/21 08:04
Matrix: Solid
Date Received: 09/03/21 08:00
Percent Solids: 8.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			524479	09/12/21 18:55	AM	TAL SAC
Total/NA	Analysis	537 (modified)		1	525000	09/14/21 20:32	RS1	TAL SAC

Laboratory References:

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

Analyst References:

Lab: TAL SAC

Batch Type: Prep

AM = Andrew Martin

Batch Type: Analysis

KDB = Kristen Burrick

RS1 = Rungtip Sanjumnai

Accreditation/Certification Summary

Client: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

Laboratory: Eurofins TestAmerica, 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	06-17-21 *
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21 *
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-18-22
Kansas	NELAP	E-10375	10-31-21
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-30-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
Utah	NELAP	CA000442021-12	03-01-22
Virginia	NELAP	460278	03-14-22
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-21
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: City of Port Huron
Job ID: 190-26785-1
Project/Site: City of Port Huron/Biosolids 55-21/PFAS

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

Login Sample Receipt Checklist

Client: City of Port Huron

Job Number: 190-26785-1

Login Number: 26785
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 09/04/21 12:32 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.	N/A	
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	1.1c
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 TestAmerica, Michigan Service Center
10448 Citation Drive
Suite 200
Brighton, MI 48116-6561
phone 810.229.2763 fax

Chain of Custody Record

MICHIGAN 190

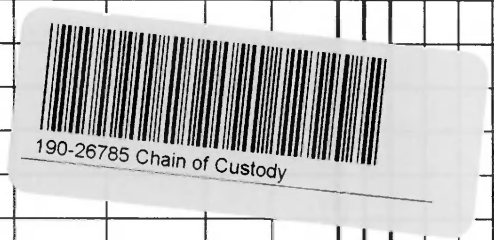
eurofins | Environment Testing TestAmerica

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other:

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Doug Westbrook	**Project Manager:**		COC No:
City of Port Huron	Email:	**Site Contact:**	___1___ of ___1___ COCs
100 Merchant Street	**Tel/Fax:**	**Lab Contact:**	TALS Project #:
Port Huron, MI 48060	**Analysis Turnaround Time**	**Date: 9-1-2021**	Sampler: DHarshman/DSeifert
810-984-9775	☐ CALENDAR DAYS ☑ WORKING DAYS	**Carrier:**	**For Lab Use Only:**
(xxx) xxx-xxxx FAX	TAT if different from Below ____		Walk-in Client:
Project Name:	☑ 2 weeks		Lab Sampling:
Site:	☐ 1 week		Job / SDG No.:
P O # 4344	☐ 2 days ☐ 1 day		

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PFC_IDA - (MOD) PFAS Standard List (28 Analytes)	Sample Specific Notes:
POTW Biosolids 55-21	9/1/2021	08:04am	G	Sludge	2			x	POTW Biosolids



Project- 19000845
AG- Solid -PFAS 28
(WSAC)

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 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

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 & Comments:
Sample(s) shipped in a cooler with ice.

For Biosolids: Please run as a solid, with dry weight correcting.

Custody Seals Intact: ☑ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:_____ Corr'd:_____		Therm ID No.:_____
Relinquished by:	Company: City of Port Huron	Date/Time: 9-1-2021 1730	Received by:	Company: ETA	Date/Time: 9-2-21 1030
Relinquished by:	Company: ETA	Date/Time: 9-2-21 1212	Received by:	Company: ETA	Date/Time: 9-3-21 0856
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.31, dated 3/5/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 190-26785

Client City of Port Huron Site Name _____

Cooler Received on 9-3-21 Opened on 9-3-21

Cooler unpacked by: Brandon

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 3.1 °C Corrected Cooler Temp. 3.2 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC157842
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Schafer, Sue	Carrier Tracking No(s):	COC No: 240-142132.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Sue.Schafer@Eurofinset.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 190-26785-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/19/2021			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: City of Port Huron	Project #: 19000895			
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 28	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
POTW BIOSOLIDS 55-21 (190-26785-1)	9/1/21	08:04 Eastern		Solid			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/tests/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 complicance to Eurofins TestAmerica.

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
[signature]	9-5-21 1547	ETA	[signature]	9/6/21 9:10	ETASMC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.1C

Ver: 06/08/2021