

ANALYTICAL REPORT

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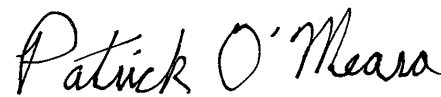
Laboratory Job ID: 190-26925-1

Client Project/Site: City of Dexter/PFAS water & biosolids

For:

City of Dexter, MI
8140 Main Street
Dexter, Michigan 48130

Attn: Andrea Dorney



Authorized for release by:

10/12/2021 2:19:52 PM

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



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Sample Summary

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-26925-1	RAW INFLUENT	Water	09/21/21 12:32	09/22/21 08:00
190-26925-2	RAW EFFLUENT	Water	09/21/21 12:45	09/22/21 08:00
190-26925-3	DIGESTOR	Solid	09/21/21 13:00	09/22/21 08:00

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Case Narrative

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Job ID: 190-26925-1

Laboratory: Eurofins TestAmerica, Michigan

Narrative

Job Narrative 190-26925-1

Comments

No additional comments.

Receipt

The samples were received on 9/22/2021 @ 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

LCMS

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for Perfluorononanoic acid (PFNA) and 8:2 FTS preparation batch 320-529446 and analytical batch 320-530519 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits.

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, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. RAW EFFLUENT (190-26925-2)

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: RAW INFLUENT (190-26925-1). 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): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: RAW INFLUENT (190-26925-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

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, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. DIGESTOR (190-26925-3)

Method 537 (modified): The following sample exhibited matrix interferences for Perfluoroheptanesulfonic Acid (PFHpS) and Perfluoroheptanoic acid (PFHpA) causing elevation of the reporting limit (RL): RAW INFLUENT (190-26925-1). The RL for the affected analytes have been raised to be equal to the matrix interferences, and a "G" qualifier applied.

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 light brown with particulates in the sample bottle prior to extraction: RAW INFLUENT (190-26925-1).

preparation batch 320-529446

Method code: PFC_IDA

Matrix: Aqueous

Method 3535: The following sample was light yellow prior to extraction: RAW EFFLUENT (190-26925-2).

preparation batch 320-529446

Method code: PFC_IDA

Matrix: Aqueous

Method 3535: The following sample is yellow after extraction and final voluming: RAW INFLUENT (190-26925-1).

preparation batch 320-529446

Method code: PFC_IDA

Case Narrative

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Job ID: 190-26925-1 (Continued)

Laboratory: Eurofins TestAmerica, Michigan (Continued)

Matrix: Aqueous

Method SHAKE: The following sample was yellow after extraction/final volume: DIGESTOR (190-26925-3)

PFC_IDA

Solid

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

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Client Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: RAW INFLUENT

Lab Sample ID: 190-26925-1

Date Collected: 09/21/21 12:32

Matrix: Water

Date Received: 09/22/21 08:00

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9CI-PF3ONS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
11CI-PF3OUdS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
4:2 FTS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
6:2 FTS	6.6		4.7	ng/L		09/29/21 05:00	10/02/21 06:29	1
8:2 FTS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
HFPO-DA (GenX)	<3.7		3.7	ng/L		09/29/21 05:00	10/02/21 06:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorobutanoic acid (PFBA)	<4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	<3.0	G	3.0	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluoroheptanoic acid (PFHpA)	<3.7	G	3.7	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorohexanoic acid (PFHxA)	4.2		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorooctanesulfonic acid (PFOS)	4.1		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorooctanoic acid (PFOA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluoropentanoic acid (PFPeA)	2.3		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluorotridecanoic acid (PFTrIA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	42		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C3 HFPO-DA	94		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C4 PFBA	65		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C3 PFBS	99		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C2 PFDA	57		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C2 PFDoA	21	*5-	25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C4 PFHpA	93		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C2 PFHxA	88		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C5 PFNA	84		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C4 PFOA	98		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C4 PFOS	81		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C5 PFPeA	83		25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C2 PFTeA	24	*5-	25 - 150	09/29/21 05:00	10/02/21 06:29	1
13C2 PFUnA	41		25 - 150	09/29/21 05:00	10/02/21 06:29	1
d5-NEtFOSAA	20	*5-	25 - 150	09/29/21 05:00	10/02/21 06:29	1
d3-NMeFOSAA	30		25 - 150	09/29/21 05:00	10/02/21 06:29	1

Eurofins TestAmerica, Michigan

Client Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: RAW INFLUENT

Lab Sample ID: 190-26925-1

Date Collected: 09/21/21 12:32

Matrix: Water

Date Received: 09/22/21 08:00

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>
M2-4:2 FTS	123		25 - 150	09/29/21 05:00	10/02/21 06:29	1
M2-6:2 FTS	162	*5+	25 - 150	09/29/21 05:00	10/02/21 06:29	1
M2-8:2 FTS	81		25 - 150	09/29/21 05:00	10/02/21 06:29	1
18O2 PFHxS	98		25 - 150	09/29/21 05:00	10/02/21 06:29	1

Client Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: RAW EFFLUENT

Lab Sample ID: 190-26925-2

Date Collected: 09/21/21 12:45

Matrix: Water

Date Received: 09/22/21 08:00

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
9CI-PF3ONS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
11CI-PF3OUdS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
4:2 FTS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
6:2 FTS	<4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:38	1
8:2 FTS	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
HFPO-DA (GenX)	<3.7		3.7	ng/L		09/29/21 05:00	10/02/21 06:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorobutanesulfonic acid (PFBS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorobutanoic acid (PFBA)	4.7		4.7	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorodecanesulfonic acid (PFDS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorodecanoic acid (PFDA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorododecanoic acid (PFDoA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluoroheptanoic acid (PFHpA)	2.8		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorohexanesulfonic acid (PFHxS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorohexanoic acid (PFHxA)	32		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorononanesulfonic acid (PFNS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorononanoic acid (PFNA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorooctanesulfonamide (FOSA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorooctanesulfonic acid (PFOS)	1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorooctanoic acid (PFOA)	5.3		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluoropentanesulfonic acid (PFPeS)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluoropentanoic acid (PFPeA)	25		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorotetradecanoic acid (PFTeA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluorotridecanoic acid (PFTrIA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1
Perfluoroundecanoic acid (PFUnA)	<1.9		1.9	ng/L		09/29/21 05:00	10/02/21 06:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	79		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C3 HFPO-DA	90		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C4 PFBA	76		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C3 PFBS	91		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C2 PFDA	90		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C2 PFDoA	82		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C4 PFHpA	96		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C2 PFHxA	98		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C5 PFNA	92		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C4 PFOA	95		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C4 PFOS	86		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C5 PFPeA	89		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C2 PFTeDA	52		25 - 150	09/29/21 05:00	10/02/21 06:38	1
13C2 PFUnA	88		25 - 150	09/29/21 05:00	10/02/21 06:38	1
d5-NEtFOSAA	87		25 - 150	09/29/21 05:00	10/02/21 06:38	1
d3-NMeFOSAA	78		25 - 150	09/29/21 05:00	10/02/21 06:38	1

Eurofins TestAmerica, Michigan

Client Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: RAW EFFLUENT

Lab Sample ID: 190-26925-2

Date Collected: 09/21/21 12:45

Matrix: Water

Date Received: 09/22/21 08:00

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>
M2-4:2 FTS	108		25 - 150	09/29/21 05:00	10/02/21 06:38	1
M2-6:2 FTS	107		25 - 150	09/29/21 05:00	10/02/21 06:38	1
M2-8:2 FTS	88		25 - 150	09/29/21 05:00	10/02/21 06:38	1
18O2 PFHxS	93		25 - 150	09/29/21 05:00	10/02/21 06:38	1

Client Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: DIGESTOR

Lab Sample ID: 190-26925-3

Date Collected: 09/21/21 13:00

Matrix: Solid

Date Received: 09/22/21 08:00

Percent Solids: 4.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
F-53B Major	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
F-53B Minor	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
4:2 FTS	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
6:2 FTS	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
8:2 FTS	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
HFPO-DA (GenX)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	13		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorobutanesulfonic acid (PFBS)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorobutanoic acid (PFBA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorodecanesulfonic acid (PFDS)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorodecanoic acid (PFDA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorododecanoic acid (PFDoA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluoroheptanoic acid (PFHpA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorohexanesulfonic acid (PFHxS)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorohexanoic acid (PFHxA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorononanesulfonic acid (PFNS)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorononanoic acid (PFNA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorooctanesulfonamide (FOSA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorooctanesulfonic acid (PFOS)	5.6		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorooctanoic acid (PFOA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluoropentanesulfonic acid (PFPeS)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluoropentanoic acid (PFPeA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorotetradecanoic acid (PFTeA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluorotridecanoic acid (PFTriA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1
Perfluoroundecanoic acid (PFUnA)	<4.9		4.9	ug/Kg	☼	09/26/21 18:33	10/02/21 04:44	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	70		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C3 HFPO-DA	73		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C4 PFBA	26		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C3 PFBS	83		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C2 PFDA	75		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C2 PFDoA	31		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C4 PFHpA	79		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C2 PFHxA	77		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C5 PFNA	48		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C4 PFOA	77		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C4 PFOS	38		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C5 PFPeA	74		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C2 PFTeDA	37		25 - 150	09/26/21 18:33	10/02/21 04:44	1
13C2 PFUnA	61		25 - 150	09/26/21 18:33	10/02/21 04:44	1
d5-NEtFOSAA	33		25 - 150	09/26/21 18:33	10/02/21 04:44	1
d3-NMeFOSAA	60		25 - 150	09/26/21 18:33	10/02/21 04:44	1

Eurofins TestAmerica, Michigan

Client Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: DIGESTOR

Lab Sample ID: 190-26925-3

Date Collected: 09/21/21 13:00

Matrix: Solid

Date Received: 09/22/21 08:00

Percent Solids: 4.0

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>
M2-4:2 FTS	118		25 - 150	09/26/21 18:33	10/02/21 04:44	1
M2-6:2 FTS	113		25 - 150	09/26/21 18:33	10/02/21 04:44	1
M2-8:2 FTS	68		25 - 150	09/26/21 18:33	10/02/21 04:44	1
18O2 PFHxS	82		25 - 150	09/26/21 18:33	10/02/21 04:44	1

General Chemistry

<i>Analyte</i>	<i>Result</i>	<i>Qualifier</i>	<i>RL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Percent Moisture	96.0		0.1	%			09/27/21 13:46	1
Percent Solids	4.0		0.1	%			09/27/21 13:46	1

QC Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-528789/1-A

Matrix: Solid

Analysis Batch: 529032

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 528789

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		09/26/21 18:33	09/27/21 19:01	1
F-53B Major	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
F-53B Minor	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
4:2 FTS	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
6:2 FTS	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
8:2 FTS	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
HFPO-DA (GenX)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorobutanoic acid (PFBA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorodecanesulfonic acid (PFDS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorodecanoic acid (PFDA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorododecanoic acid (PFDoA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluoroheptanoic acid (PFHpA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorohexanesulfonic acid (PFHxS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorohexanoic acid (PFHxA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorononanesulfonic acid (PFNS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorononanoic acid (PFNA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorooctanesulfonamide (FOSA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorooctanesulfonic acid (PFOS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorooctanoic acid (PFOA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluoropentanesulfonic acid (PFPeS)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluoropentanoic acid (PFPeA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorotetradecanoic acid (PFTeA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluorotridecanoic acid (PFTriA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1
Perfluoroundecanoic acid (PFUnA)	<0.20		0.20	ug/Kg		09/26/21 18:33	09/27/21 19:01	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	73		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C3 HFPO-DA	71		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C4 PFBA	77		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C3 PFBS	63		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C2 PFDA	71		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C2 PFDoA	73		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C4 PFHpA	77		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C2 PFHxA	74		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C5 PFNA	77		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C4 PFOA	72		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C4 PFOS	66		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C5 PFPeA	76		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C2 PFTeA	76		25 - 150	09/26/21 18:33	09/27/21 19:01	1
13C2 PFUnA	72		25 - 150	09/26/21 18:33	09/27/21 19:01	1
d5-NEtFOSAA	72		25 - 150	09/26/21 18:33	09/27/21 19:01	1

Eurofins TestAmerica, Michigan

QC Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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

Lab Sample ID: MB 320-528789/1-A

Matrix: Solid

Analysis Batch: 529032

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 528789

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	67		25 - 150	09/26/21 18:33	09/27/21 19:01	1
M2-4:2 FTS	88		25 - 150	09/26/21 18:33	09/27/21 19:01	1
M2-6:2 FTS	97		25 - 150	09/26/21 18:33	09/27/21 19:01	1
M2-8:2 FTS	99		25 - 150	09/26/21 18:33	09/27/21 19:01	1
18O2 PFHxS	75		25 - 150	09/26/21 18:33	09/27/21 19:01	1

Lab Sample ID: LCS 320-528789/2-A

Matrix: Solid

Analysis Batch: 529032

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 528789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.88	2.25		ug/Kg		119	79 - 139
F-53B Major	1.86	2.07		ug/Kg		111	74 - 134
F-53B Minor	1.88	2.13		ug/Kg		113	66 - 136
4:2 FTS	1.87	1.80		ug/Kg		96	68 - 143
6:2 FTS	1.90	1.98		ug/Kg		104	73 - 139
8:2 FTS	1.92	1.88		ug/Kg		98	75 - 135
HFPO-DA (GenX)	2.00	2.09		ug/Kg		104	53 - 158
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.00	2.00		ug/Kg		100	72 - 132
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	2.00	2.01		ug/Kg		100	72 - 132
Perfluorobutanesulfonic acid (PFBS)	1.77	1.97		ug/Kg		111	69 - 129
Perfluorobutanoic acid (PFBA)	2.00	2.03		ug/Kg		101	76 - 136
Perfluorodecanesulfonic acid (PFDS)	1.93	2.25		ug/Kg		117	71 - 131
Perfluorodecanoic acid (PFDA)	2.00	1.89		ug/Kg		94	72 - 132
Perfluorododecanoic acid (PFDoA)	2.00	2.09		ug/Kg		105	71 - 131
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	2.34		ug/Kg		123	76 - 136
Perfluoroheptanoic acid (PFHpA)	2.00	2.00		ug/Kg		100	71 - 131
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.89		ug/Kg		104	62 - 122
Perfluorohexanoic acid (PFHxA)	2.00	1.77		ug/Kg		89	71 - 131
Perfluorononanesulfonic acid (PFNS)	1.92	2.29		ug/Kg		119	72 - 132
Perfluorononanoic acid (PFNA)	2.00	2.07		ug/Kg		104	73 - 133
Perfluorooctanesulfonamide (FOSA)	2.00	2.02		ug/Kg		101	77 - 137
Perfluorooctanesulfonic acid (PFOS)	1.86	2.38		ug/Kg		128	68 - 141
Perfluorooctanoic acid (PFOA)	2.00	2.19		ug/Kg		110	72 - 132
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.14		ug/Kg		114	66 - 126
Perfluoropentanoic acid (PFPeA)	2.00	1.96		ug/Kg		98	69 - 129
Perfluorotetradecanoic acid (PFTeA)	2.00	2.21		ug/Kg		111	67 - 127
Perfluorotridecanoic acid (PFTriA)	2.00	2.11		ug/Kg		106	71 - 131

Eurofins TestAmerica, Michigan

QC Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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

Lab Sample ID: LCS 320-528789/2-A

Matrix: Solid

Analysis Batch: 529032

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 528789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroundecanoic acid (PFUnA)	2.00	2.15		ug/Kg		108	66 - 126
LCS LCS							
Isotope Dilution	%Recovery	Qualifier	Limits				
13C8 FOSA	73		25 - 150				
13C3 HFPO-DA	71		25 - 150				
13C4 PFBA	75		25 - 150				
13C3 PFBS	63		25 - 150				
13C2 PFDA	71		25 - 150				
13C2 PFDoA	73		25 - 150				
13C4 PFHpA	79		25 - 150				
13C2 PFHxA	72		25 - 150				
13C5 PFNA	75		25 - 150				
13C4 PFOA	74		25 - 150				
13C4 PFOS	62		25 - 150				
13C5 PFPeA	74		25 - 150				
13C2 PFTeDA	76		25 - 150				
13C2 PFUnA	75		25 - 150				
d5-NEtFOSAA	72		25 - 150				
d3-NMeFOSAA	69		25 - 150				
M2-4:2 FTS	89		25 - 150				
M2-6:2 FTS	89		25 - 150				
M2-8:2 FTS	101		25 - 150				
18O2 PFHxS	72		25 - 150				

Lab Sample ID: MB 320-529446/1-A

Matrix: Water

Analysis Batch: 530519

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 529446

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
9Cl-PF3ONS	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
11Cl-PF3OUdS	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
4:2 FTS	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
6:2 FTS	<5.0		5.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
8:2 FTS	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
HFPO-DA (GenX)	<4.0		4.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<5.0		5.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<5.0		5.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorobutanoic acid (PFBA)	<5.0		5.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1

Eurofins TestAmerica, Michigan

QC Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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

Lab Sample ID: MB 320-529446/1-A

Matrix: Water

Analysis Batch: 530519

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 529446

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorononanoic acid (PFNA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0	ng/L		09/29/21 05:00	10/02/21 05:43	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	91		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C3 HFPO-DA	95		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C4 PFBA	97		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C3 PFBS	90		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C2 PFDA	97		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C2 PFDoA	92		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C4 PFHpA	99		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C2 PFHxA	97		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C5 PFNA	97		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C4 PFOA	96		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C4 PFOS	85		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C5 PFPeA	98		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C2 PFTeDA	82		25 - 150	09/29/21 05:00	10/02/21 05:43	1
13C2 PFUnA	96		25 - 150	09/29/21 05:00	10/02/21 05:43	1
d5-NEtFOSAA	102		25 - 150	09/29/21 05:00	10/02/21 05:43	1
d3-NMeFOSAA	101		25 - 150	09/29/21 05:00	10/02/21 05:43	1
M2-4:2 FTS	95		25 - 150	09/29/21 05:00	10/02/21 05:43	1
M2-6:2 FTS	96		25 - 150	09/29/21 05:00	10/02/21 05:43	1
M2-8:2 FTS	95		25 - 150	09/29/21 05:00	10/02/21 05:43	1
18O2 PFHxS	92		25 - 150	09/29/21 05:00	10/02/21 05:43	1

Lab Sample ID: LCS 320-529446/2-A

Matrix: Water

Analysis Batch: 530519

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 529446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	43.0		ng/L		114	79 - 139
9CI-PF3ONS	37.3	41.1		ng/L		110	75 - 135
11CI-PF3OUdS	37.7	37.7		ng/L		100	54 - 114
4:2 FTS	37.4	41.7		ng/L		112	79 - 139
6:2 FTS	37.9	37.6		ng/L		99	59 - 175
8:2 FTS	38.3	38.6		ng/L		101	75 - 135
HFPO-DA (GenX)	40.0	37.8		ng/L		95	51 - 173

Eurofins TestAmerica, Michigan

QC Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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

Lab Sample ID: LCS 320-529446/2-A

Matrix: Water

Analysis Batch: 530519

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 529446

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	34.7		ng/L		87	76 - 136
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	38.7		ng/L		97	76 - 136
Perfluorobutanesulfonic acid (PFBS)	35.4	35.8		ng/L		101	67 - 127
Perfluorobutanoic acid (PFBA)	40.0	39.2		ng/L		98	76 - 136
Perfluorodecanesulfonic acid (PFDS)	38.6	38.4		ng/L		100	71 - 131
Perfluorodecanoic acid (PFDA)	40.0	37.2		ng/L		93	76 - 136
Perfluorododecanoic acid (PFDoA)	40.0	40.6		ng/L		101	71 - 131
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.1		ng/L		108	76 - 136
Perfluoroheptanoic acid (PFHpA)	40.0	40.6		ng/L		101	72 - 132
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.2		ng/L		89	59 - 119
Perfluorohexanoic acid (PFHxA)	40.0	36.4		ng/L		91	73 - 133
Perfluorononanesulfonic acid (PFNS)	38.4	41.4		ng/L		108	75 - 135
Perfluorononanoic acid (PFNA)	40.0	41.6		ng/L		104	75 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	39.5		ng/L		99	73 - 133
Perfluorooctanesulfonic acid (PFOS)	37.1	41.9		ng/L		113	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	41.0		ng/L		102	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.1		ng/L		99	66 - 126
Perfluoropentanoic acid (PFPeA)	40.0	39.8		ng/L		99	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	40.5		ng/L		101	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	37.9		ng/L		95	71 - 131
Perfluoroundecanoic acid (PFUnA)	40.0	37.2		ng/L		93	68 - 128

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C8 FOSA	91		25 - 150
13C3 HFPO-DA	96		25 - 150
13C4 PFBA	101		25 - 150
13C3 PFBS	93		25 - 150
13C2 PFDA	100		25 - 150
13C2 PFDoA	93		25 - 150
13C4 PFHpA	95		25 - 150
13C2 PFHxA	101		25 - 150
13C5 PFNA	96		25 - 150
13C4 PFOA	100		25 - 150
13C4 PFOS	89		25 - 150
13C5 PFPeA	100		25 - 150
13C2 PFTeDA	81		25 - 150
13C2 PFUnA	95		25 - 150
d5-NEtFOSAA	100		25 - 150

Eurofins TestAmerica, Michigan

QC Sample Results

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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

Lab Sample ID: LCS 320-529446/2-A

Matrix: Water

Analysis Batch: 530519

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 529446

Isotope Dilution	LCS	LCS	Limits
	%Recovery	Qualifier	
d3-NMeFOSAA	103		25 - 150
M2-4:2 FTS	90		25 - 150
M2-6:2 FTS	94		25 - 150
M2-8:2 FTS	96		25 - 150
18O2 PFHxS	98		25 - 150

Definitions/Glossary

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
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

Isotope Dilution Summary

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFOSA (25-150)	HFPODA (25-150)	PFBA (25-150)	C3PFBS (25-150)	PFDA (25-150)	PFDoA (25-150)	C4PFHA (25-150)	PFHxA (25-150)
190-26925-3	DIGESTOR	70	73	26	83	75	31	79	77
LCS 320-528789/2-A	Lab Control Sample	73	71	75	63	71	73	79	72
MB 320-528789/1-A	Method Blank	73	71	77	63	71	73	77	74

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFNA (25-150)	PFOA (25-150)	PFOS (25-150)	PFPeA (25-150)	PFTDA (25-150)	PFUnA (25-150)	d5NEFOS (25-150)	d3NMFOS (25-150)
190-26925-3	DIGESTOR	48	77	38	74	37	61	33	60
LCS 320-528789/2-A	Lab Control Sample	75	74	62	74	76	75	72	69
MB 320-528789/1-A	Method Blank	77	72	66	76	76	72	72	67

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	PFHxS (25-150)
190-26925-3	DIGESTOR	118	113	68	82
LCS 320-528789/2-A	Lab Control Sample	89	89	101	72
MB 320-528789/1-A	Method Blank	88	97	99	75

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

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFOSA (25-150)	HFPODA (25-150)	PFBA (25-150)	C3PFBS (25-150)	PFDA (25-150)	PFDoA (25-150)	C4PFHA (25-150)	PFHxA (25-150)
190-26925-1	RAW INFLUENT	42	94	65	99	57	21 *5-	93	88
190-26925-2	RAW EFFLUENT	79	90	76	91	90	82	96	98
LCS 320-529446/2-A	Lab Control Sample	91	96	101	93	100	93	95	101
MB 320-529446/1-A	Method Blank	91	95	97	90	97	92	99	97

Eurofins TestAmerica, Michigan

Isotope Dilution Summary

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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	PFNA (25-150)	PFOA (25-150)	PFOS (25-150)	PFPeA (25-150)	PFTDA (25-150)	PFUnA (25-150)	d5NEFOS (25-150)	d3NMFOS (25-150)
190-26925-1	RAW INFLUENT	84	98	81	83	24 *5-	41	20 *5-	30
190-26925-2	RAW EFFLUENT	92	95	86	89	52	88	87	78
LCS 320-529446/2-A	Lab Control Sample	96	100	89	100	81	95	100	103
MB 320-529446/1-A	Method Blank	97	96	85	98	82	96	102	101

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	PFHxS (25-150)
190-26925-1	RAW INFLUENT	123	162 *5+	81	98
190-26925-2	RAW EFFLUENT	108	107	88	93
LCS 320-529446/2-A	Lab Control Sample	90	94	96	98
MB 320-529446/1-A	Method Blank	95	96	95	92

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

QC Association Summary

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

LCMS

Prep Batch: 528789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26925-3	DIGESTOR	Total/NA	Solid	SHAKE	
MB 320-528789/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-528789/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

Analysis Batch: 529032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-528789/1-A	Method Blank	Total/NA	Solid	537 (modified)	528789
LCS 320-528789/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	528789

Prep Batch: 529446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26925-1	RAW INFLUENT	Total/NA	Water	3535	
190-26925-2	RAW EFFLUENT	Total/NA	Water	3535	
MB 320-529446/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-529446/2-A	Lab Control Sample	Total/NA	Water	3535	

Analysis Batch: 530505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26925-3	DIGESTOR	Total/NA	Solid	537 (modified)	528789

Analysis Batch: 530519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26925-1	RAW INFLUENT	Total/NA	Water	537 (modified)	529446
190-26925-2	RAW EFFLUENT	Total/NA	Water	537 (modified)	529446
MB 320-529446/1-A	Method Blank	Total/NA	Water	537 (modified)	529446
LCS 320-529446/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	529446

General Chemistry

Analysis Batch: 528977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-26925-3	DIGESTOR	Total/NA	Solid	D 2216	

Lab Chronicle

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

Client Sample ID: RAW INFLUENT

Date Collected: 09/21/21 12:32

Date Received: 09/22/21 08:00

Lab Sample ID: 190-26925-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			529446	09/29/21 05:00	NSS	TAL SAC
Total/NA	Analysis	537 (modified)		1	530519	10/02/21 06:29	MNV	TAL SAC

Client Sample ID: RAW EFFLUENT

Date Collected: 09/21/21 12:45

Date Received: 09/22/21 08:00

Lab Sample ID: 190-26925-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			529446	09/29/21 05:00	NSS	TAL SAC
Total/NA	Analysis	537 (modified)		1	530519	10/02/21 06:38	MNV	TAL SAC

Client Sample ID: DIGESTOR

Date Collected: 09/21/21 13:00

Date Received: 09/22/21 08:00

Lab Sample ID: 190-26925-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	528977	09/27/21 13:46	KDB	TAL SAC

Client Sample ID: DIGESTOR

Date Collected: 09/21/21 13:00

Date Received: 09/22/21 08:00

Lab Sample ID: 190-26925-3

Matrix: Solid

Percent Solids: 4.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			528789	09/26/21 18:33	AM	TAL SAC
Total/NA	Analysis	537 (modified)		1	530505	10/02/21 04:44	S1M	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

NSS = Nikita Singh

Batch Type: Analysis

KDB = Kristen Burrick

MNV = Mai Neng Vang

S1M = Sudarat Mongkol

Accreditation/Certification Summary

Client: City of Dexter, MI
Project/Site: City of Dexter/PFAS water & biosolids

Job ID: 190-26925-1

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.

Eurofins TestAmerica, Michigan

[illegible]

26925

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 156599

Canton Facility

Client CITY OF Dexter, MI Site Name _____ Cooler unpacked by: Brandon

Cooler Received on 9-22-21 Opened on 9-22-21

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

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

TestAmerica Cooler # TA 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. 1.6 °C Corrected Cooler Temp. 1.7 °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)? Yes No

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

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

Concerning _____

Tests that are not checked for pH by Receiving:

VOAs

Oil and Grease

TOC

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: _____

[illegible]