

# **Environment Testing America**

# **ANALYTICAL REPORT**

**Eurofins Michigan** 10448 Citation Drive Suite 200 Brighton, MI 48116 Tel: (810)229-2763

Laboratory Job ID: 190-28201-1

Client Project/Site: City of Dexter PFAS Biosolids

For:

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

Attn: Andrea Dorney

Sue Schafer

Authorized for release by: 3/23/2022 10:54:07 AM

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

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

Client: City of Dexter, MI Project/Site: City of Dexter PFAS Biosolids Laboratory Job ID: 190-28201-1

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# **Sample Summary**

Client: City of Dexter, MI Project/Site: City of Dexter PFAS Biosolids Job ID: 190-28201-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
190-28201-1	PFAS, % Moisture	Solid	03/08/22 13:25	03/09/22 12:56

### **Case Narrative**

Client: City of Dexter, MI

Project/Site: City of Dexter PFAS Biosolids

Job ID: 190-28201-1

**Laboratory: Eurofins Michigan** 

**Narrative** 

Job Narrative 190-28201-1

### Comments

No additional comments.

### Receipt

The sample was received on 3/9/2022 12:56 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 4.0° C.

### LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery are above the method recommended limit for the following samples: PFAS, % Moisture (190-28201-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following samples are below the method recommended limit: PFAS, % Moisture (190-28201-1). 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 samples.

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 were yellow after adjusting to the final volume: PFAS, % Moisture (190-28201-1)

PFC\_IDA Solid preparation batch 320-572499

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

Job ID: 190-28201-1

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### Client Sample Results

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

d3-NMeFOSAA

Client Sample ID: PFAS, % Moisture

Lab Sample ID: 190-28201-1 Date Collected: 03/08/22 13:25 Matrix: Solid Date Received: 03/09/22 12:56 **Percent Solids: 1.8** 

Method: 537 (modified) - Fluorinated Alkyl Substances Result Qualifier Analyte RL Unit D Prepared Analyzed Dil Fac 4,8-Dioxa-3H-perfluorononanoic acid <9.9 9.9 ug/Kg 77 03/13/22 20:49 03/15/22 00:18 (ADONA) F-53B Major <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 F-53B Minor <99 03/13/22 20:49 03/15/22 00:18 99 ug/Kg 4:2 FTS <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 6:2 FTS 03/15/22 00:18 <99 99 ug/Kg 03/13/22 20:49 8:2 FTS <9.9 9.9 ug/Kg ġ 03/13/22 20:49 03/15/22 00:18 HFPO-DA (GenX) <9.9 9.9 ug/Kg ġ 03/13/22 20:49 03/15/22 00:18 03/13/22 20:49 N-ethylperfluorooctanesulfonamidoac < 99 9.9 ug/Kg 03/15/22 00:18 etic acid (NEtFOSAA) N-methylperfluorooctanesulfonamidoa < 9.9 3/13/22 20:49 03/15/22 00:18 9.9 ug/Kg cetic acid (NMeFOSAA) Perfluorobutanesulfonic acid (PFBS) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorobutanoic acid (PFBA) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorodecanesulfonic acid (PFDS) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorodecanoic acid (PFDA) < 9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorododecanoic acid (PFDoA) < 9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 <9.9 Perfluoroheptanesulfonic Acid 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 (PFHpS) Perfluoroheptanoic acid (PFHpA) <99 03/13/22 20:49 03/15/22 00:18 99 ug/Kg Perfluorohexanesulfonic acid (PFHxS) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorohexanoic acid (PFHxA) <9.9 99 ug/Kg 03/13/22 20:49 03/15/22 00:18 ₹ Perfluorononanesulfonic acid (PFNS) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorononanoic acid (PFNA) <9.9 9.9 03/13/22 20:49 03/15/22 00:18 ug/Kg Perfluorooctanesulfonamide (FOSA) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorooctanesulfonic acid (PFOS) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorooctanoic acid (PFOA) < 9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluoropentanesulfonic acid <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 (PFPeS) Perfluoropentanoic acid (PFPeA) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorotetradecanoic acid (PFTeA) < 9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluorotridecanoic acid (PFTriA) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 Perfluoroundecanoic acid (PFUnA) <9.9 9.9 ug/Kg 03/13/22 20:49 03/15/22 00:18 1 Isotope Dilution %Recovery Qualifier Limits Prepared Analyzed Dil Fac 13C8 FOSA 03/13/22 20:49 03/15/22 00:18 115 25 - 15013C3 HFPO-DA 94 25 - 150 03/13/22 20:49 03/15/22 00:18 13C4 PFBA 16 \*5-25 - 150 03/13/22 20:49 03/15/22 00:18 13C3 PFBS 108 25 - 150 03/13/22 20:49 03/15/22 00:18 13C2 PFDA 115 25 - 150 03/13/22 20:49 03/15/22 00:18 13C2 PFDoA 25 - 150 03/13/22 20:49 03/15/22 00:18 83 13C4 PFHpA 107 25 - 150 03/13/22 20:49 03/15/22 00:18 13C2 PFHxA 98 25 - 150 03/13/22 20:49 03/15/22 00:18 13C5 PFNA 105 25 - 150 03/13/22 20:49 03/15/22 00:18 13C4 PFOA 25 - 150 03/13/22 20:49 03/15/22 00:18 112 13C4 PFOS 25 - 150 03/13/22 20:49 03/15/22 00:18 112 13C5 PFPeA 03/13/22 20:49 03/15/22 00:18 77 25 - 150 13C2 PFTeDA 40 25 - 150 03/13/22 20:49 03/15/22 00:18 13C2 PFUnA 115 25 - 150 03/13/22 20:49 03/15/22 00:18 d5-NEtFOSAA 25 - 150 03/13/22 20:49 03/15/22 00:18 125

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03/13/22 20:49 03/15/22 00:18

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# **Client Sample Results**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

Client Sample ID: PFAS, % Moisture Lab Sample ID: 190-28201-1

Date Collected: 03/08/22 13:25

Date Received: 03/09/22 12:56

Matrix: Solid
Percent Solids: 1.8

Isotope Dilution	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	138	25 - 150	03/13/22 20:49	03/15/22 00:18	1
M2-6:2 FTS	143	25 - 150	03/13/22 20:49	03/15/22 00:18	1
M2-8:2 FTS	175 *5+	25 - 150	03/13/22 20:49	03/15/22 00:18	1
18O2 PFHxS	100	25 - 150	03/13/22 20:49	03/15/22 00:18	1

General Chemistry Analyte	Result Q	ualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	98.2		0.1	%			03/16/22 15:22	1
Percent Solids	1.8		0.1	%			03/16/22 15:22	1

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# **QC Sample Results**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

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

Lab Sample ID: MB 320-572499/1-A

**Matrix: Solid** 

13C5 PFNA

13C4 PFOA

13C4 PFOS

13C5 PFPeA

13C2 PFTeDA

13C2 PFUnA

d5-NEtFOSAA

**Analysis Batch: 572885** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

**Prep Batch: 572499** 

Analysis Batch. 572005	MD	МВ					Prep Batch.	312499
Analyte		Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
F-53B Major	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
F-53B Minor	<0.20		0.20	ug/Kg			03/14/22 23:48	1
4:2 FTS	<0.20		0.20	ug/Kg			03/14/22 23:48	· · · · · · · · · · · · · · · · · · ·
6:2 FTS	<0.20		0.20	ug/Kg			03/14/22 23:48	1
8:2 FTS	<0.20		0.20	ug/Kg			03/14/22 23:48	1
HFPO-DA (GenX)	<0.20		0.20	ug/Kg			03/14/22 23:48	' 1
,	<0.20		0.20	0 0			03/14/22 23:48	1
N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA)				ug/Kg				
N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorobutanoic acid (PFBA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorodecanesulfonic acid (PFDS)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorodecanoic acid (PFDA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorododecanoic acid (PFDoA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluoroheptanoic acid (PFHpA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorohexanesulfonic acid (PFHxS)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorohexanoic acid (PFHxA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorononanesulfonic acid (PFNS)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorononanoic acid (PFNA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorooctanesulfonamide (FOSA)	<0.20		0.20	ug/Kg			03/14/22 23:48	1
Perfluorooctanesulfonic acid (PFOS)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorooctanoic acid (PFOA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluoropentanesulfonic acid (PFPeS)	<0.20		0.20	ug/Kg			03/14/22 23:48	1
Perfluoropentanoic acid (PFPeA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorotetradecanoic acid (PFTeA)	<0.20		0.20	ug/Kg		03/13/22 20:49	03/14/22 23:48	1
Perfluorotridecanoic acid (PFTriA)	<0.20		0.20	ug/Kg			03/14/22 23:48	1
Perfluoroundecanoic acid (PFUnA)	<0.20		0.20	ug/Kg			03/14/22 23:48	
		МВ	0.20	g/. \g		00/10/22 20110	00/11/22 20110	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C8 FOSA	116		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C3 HFPO-DA	96		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C4 PFBA	67		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C3 PFBS	108		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C2 PFDA	112		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C2 PFDoA	113		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C4 PFHpA	104		25 - 150			03/13/22 20:49	03/14/22 23:48	1
13C2 PFHxA	99		25 - 150			03/13/22 20:49	03/14/22 23:48	1

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03/13/22 20:49 03/14/22 23:48

03/13/22 20:49 03/14/22 23:48

03/13/22 20:49 03/14/22 23:48 03/13/22 20:49 03/14/22 23:48

03/13/22 20:49 03/14/22 23:48

03/13/22 20:49 03/14/22 23:48

03/13/22 20:49 03/14/22 23:48

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25 - 150

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25 - 150

25 - 150

25 - 150

106

112

112

98

115

117

# **QC Sample Results**

Client: City of Dexter, MI

Project/Site: City of Dexter PFAS Biosolids

Job ID: 190-28201-1

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

Lab Sample ID: MB 320-572499/1-A

Matrix: Solid

**Analysis Batch: 572885** 

**Client Sample ID: Method Blank** 

**Prep Type: Total/NA** 

**Prep Batch: 572499** 

	IVIB	IVIB				
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	120		25 - 150	03/13/22 20:49 03/	14/22 23:48	1
M2-4:2 FTS	111		25 - 150	03/13/22 20:49 03/	14/22 23:48	1
M2-6:2 FTS	105		25 - 150	03/13/22 20:49 03/	14/22 23:48	1
M2-8:2 FTS	128		25 - 150	03/13/22 20:49 03/	14/22 23:48	1
1802 PFHxS	103		25 - 150	03/13/22 20:49 03/	14/22 23:48	1

Lab Sample ID: LCS 320-572499/2-A

**Matrix: Solid** 

**Analysis Batch: 572885** 

**Client Sample ID: Lab Control Sample** 

**Prep Type: Total/NA** 

**Prep Batch: 572499** 

Analysis Batch: 5/2885	Spike	LCS	LCS				%Rec.
Analyte	Added		Qualifier	Unit	D	%Rec	Limits
4,8-Dioxa-3H-perfluorononanoic	1.88	1.64		ug/Kg		87	79 - 139
acid (ADONA)							
F-53B Major	1.86	1.66		ug/Kg		89	74 - 134
F-53B Minor	1.88	1.75		ug/Kg		93	66 - 136
4:2 FTS	1.87	1.87		ug/Kg		100	68 - 143
6:2 FTS	1.90	2.00		ug/Kg		106	73 - 139
8:2 FTS	1.92	1.82		ug/Kg		95	75 - 135
HFPO-DA (GenX)	2.00	2.02		ug/Kg		101	53 - 158
N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA)	2.00	1.87		ug/Kg		93	72 - 132
N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA)	2.00	2.02		ug/Kg		101	72 - 132
Perfluorobutanesulfonic acid (PFBS)	1.77	1.78		ug/Kg		100	69 - 129
Perfluorobutanoic acid (PFBA)	2.00	1.94		ug/Kg		97	76 - 136
Perfluorodecanesulfonic acid (PFDS)	1.93	1.99		ug/Kg		103	71 - 131
Perfluorodecanoic acid (PFDA)	2.00	1.90		ug/Kg		95	72 - 132
Perfluorododecanoic acid (PFDoA)	2.00	1.98		ug/Kg		99	71 - 131
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	1.77		ug/Kg		93	76 - 136
Perfluoroheptanoic acid (PFHpA)	2.00	2.01		ug/Kg		100	71 - 131
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.69		ug/Kg		93	62 - 122
Perfluorohexanoic acid (PFHxA)	2.00	1.90		ug/Kg		95	71 - 131
Perfluorononanesulfonic acid (PFNS)	1.92	1.89		ug/Kg		98	72 - 132
Perfluorononanoic acid (PFNA)	2.00	1.77		ug/Kg		89	73 - 133
Perfluorooctanesulfonamide (FOSA)	2.00	1.99		ug/Kg		99	77 - 137
Perfluorooctanesulfonic acid (PFOS)	1.86	1.84		ug/Kg		99	68 - 141
Perfluorooctanoic acid (PFOA)	2.00	1.87		ug/Kg		94	72 - 132
Perfluoropentanesulfonic acid (PFPeS)	1.88	1.76		ug/Kg		94	66 - 126
Perfluoropentanoic acid (PFPeA)	2.00	1.84		ug/Kg		92	69 - 129
Perfluorotetradecanoic acid (PFTeA)	2.00	1.86		ug/Kg		93	67 - 127
Perfluorotridecanoic acid (PFTriA)	2.00	2.02		ug/Kg		101	71 - 131

# **QC Sample Results**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

13C4 PFOS

13C5 PFPeA

13C2 PFTeDA

13C2 PFUnA

d5-NEtFOSAA

d3-NMeFOSAA

M2-4:2 FTS

M2-6:2 FTS

M2-8:2 FTS

1802 PFHxS

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

109

98

106

117

128

112

108

110

127

104

Matrix: Solid						Clie	nt Sai	mple IC	D: Lab Control Sample Prep Type: Total/NA
Analysis Batch: 572885			Spike	LCS	LCS				Prep Batch: 572499
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits
Perfluoroundecanoic acid (PFUnA)	-		2.00	1.92		ug/Kg		96	66 - 126
	LCS	LCS							
Isotope Dilution	%Recovery	Qualifier	Limits						
13C8 FOSA	109		25 - 150						
13C3 HFPO-DA	92		25 - 150						
13C4 PFBA	60		25 - 150						
13C3 PFBS	100		25 - 150						
13C2 PFDA	114		25 - 150						
13C2 PFDoA	113		25 - 150						
13C4 PFHpA	100		25 - 150						
13C2 PFHxA	94		25 - 150						
13C5 PFNA	108		25 - 150						
13C4 PFOA	104		25 - 150						

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# **Definitions/Glossary**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

### **Qualifiers**

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Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.

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"

Minimum Detectable Activity (Radiochemistry) MDA MDC Minimum Detectable Concentration (Radiochemistry) MDL Method Detection Limit

Minimum Level (Dioxin) ML 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

**Practical Quantitation Limit** PQL

Presumptive **PRES Quality Control** QC

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) Toxicity Equivalent Quotient (Dioxin) **TEQ** 

TNTC Too Numerous To Count

# **Isotope Dilution Summary**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

# Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid Prep Type: Total/NA

			Perce	ent Isotope	<b>Dilution Re</b>	covery (Ac	ceptance L	.imits)	
		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)
190-28201-1	PFAS, % Moisture	115	94	16 *5-	108	115	83	107	98
LCS 320-572499/2-A	Lab Control Sample	109	92	60	100	114	113	100	94
MB 320-572499/1-A	Method Blank	116	96	67	108	112	113	104	99
			Perce	ent Isotope	Dilution Re	covery (Ac	ceptance L	.imits)	
		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)
190-28201-1	PFAS, % Moisture	105	112	112	77	40	115	125	119
LCS 320-572499/2-A	Lab Control Sample	108	104	109	98	106	117	128	112
MB 320-572499/1-A	Method Blank	106	112	112	98	115	117	129	120
			Perce	ent Isotope	Dilution Re	covery (Ac	ceptance L	.imits)	
		M242FTS	M262FTS	M282FTS	PFHxS				
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)				
190-28201-1	PFAS, % Moisture	138	143	175 *5+	100				
LCS 320-572499/2-A	Lab Control Sample	108	110	127	104				
MB 320-572499/1-A	Method Blank	111	105	128	103				

### 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 Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

LCMS

**Prep Batch: 572499** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-28201-1	PFAS, % Moisture	Total/NA	Solid	SHAKE	
MB 320-572499/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-572499/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	

**Analysis Batch: 572885** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-28201-1	PFAS, % Moisture	Total/NA	Solid	537 (modified)	572499
MB 320-572499/1-A	Method Blank	Total/NA	Solid	537 (modified)	572499
LCS 320-572499/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	572499

**General Chemistry** 

**Analysis Batch: 573462** 

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
190-28201-1	PFAS, % Moisture	Total/NA	Solid	D 2216	

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### **Lab Chronicle**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

Client Sample ID: PFAS, % Moisture Lab Sample ID: 190-28201-1

Date Collected: 03/08/22 13:25 **Matrix: Solid** 

Date Received: 03/09/22 12:56

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	573462	03/16/22 15:22	KMW	TAL SAC

Client Sample ID: PFAS, % Moisture Lab Sample ID: 190-28201-1

Date Collected: 03/08/22 13:25 **Matrix: Solid** Date Received: 03/09/22 12:56 **Percent Solids: 1.8** 

Batch Batch Dilution Batch Prepared **Prep Type** Type Method Run Factor Number or Analyzed Analyst Lab Total/NA Prep SHAKE 572499 03/13/22 20:49 AM TAL SAC Total/NA Analysis 537 (modified) 1 572885 03/15/22 00:18 VPM 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

AM = Andrew Martin

Batch Type: Analysis

KMW = Kelly White

VPM = Veronika Melnik

# **Accreditation/Certification Summary**

Client: City of Dexter, MI Job ID: 190-28201-1

Project/Site: City of Dexter PFAS Biosolids

### **Laboratory: Eurofins Sacramento**

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

Authority	Program	<b>Identification Number</b>	<b>Expiration Date</b>
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.=""></cert>	01-29-23
Illinois	NELAP	200060	03-18-22
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	01-29-23
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
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

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 $<sup>^{\</sup>star} \ \text{Accreditation/Certification renewal pending - accreditation/certification considered valid}.$ 

**Eurofins Michigan** 

seurofins Environment Testing

# Chain of Custody Record

N. None
O. Ashado
O. Ashado
O. Ashado
O. Ashado
O. Na2SO3
R. Na2SQ3
R. Na2SQ3
R. Na2SQ4
T. TSP Dodecahydrate
U. Acetone
W. PH 4-5
Z. other (specify) Special Instructions/Note: Ver: 06/08/2021 6874 Months Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mont Special Instructions/QC Requirements: reservation Codes COC No: 190-33901-2339.1 D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid 1418 1430 Page: Page 1 of 1 Job #: i - ice j - Di Water K - EDTA L - EDA 1256 190-28201 Chain of Custody Total Number of containers 39/22 Method of Shipment: Carrier Tracking No(s): State of Origin: **Analysis Requested** Cooler Temperature(s) °C and Other Remarks: Received by: E-Mail: Sue.Schafer@Eurofinset.com Received by X Lab PM: Schafer, Sue Time: (ON TO SOY) CISMISM BRIOD Field Filtered Sample (Yes or No) 000 Preservation Code: Matrix
(w-water,
S-solid,
O-wastelof, Company Solid Radiological 2.18gm Type (C=comp, G=grab) Harfman Sample 14 2.0 WSID: 9 Compliance Project: A Yes A No Date/Time: 7 - 8 - 2022 1355 Purchase Order not required WO#: Sample Date: Unknown TAT Requested (days): Due Date Requested: Date Time: Date/Time: 3-9-22 Eric 7-8-2027 Sample Date Project #: 19001704 SSOW#: Poison B Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No.: Moisture Non-Hazard Flammable Possible Hazard Identification City of Dexter PFAS Biosolids Empty Kit Relinquished by Custody Séals Intact: Sample Identification Client Information adorney@dextermi.gov A Yes A No 734-426-4572(Tel) City of Dexter, MI 8140 Main Street Client Contact: Andrea Dorney Relinquished by: dinquished by: inquished by: PFAS State, Zip: MI, 48130 Dexter

	IV	N	INA	"No" answers require additional comment
Receipt Questions**	-	-	-	
CoC present and ETA receipt signature, date, and time property	太			
Containers and Labels in good condition? (Unbrokeri, Not Normal)	×			Preserved bottles checked for pH?* Yes No
Appropriately filled, leavest registered and adequate volume provided?	×			pH strip lot #
Number of sample containers match CoC?	x			ph sup lot w
Vumber of sample contained	×			
Samples received within hold? Samples submitted for GRO and Volatiles analysis (8260, 624,			4	
Samples submitted for GRO and voluntes constitution (524) received without headspace?			_	
Vas a Trip Blank received with VOA samples?			K	
Was a 11th District of any questionable physical Were the samples free of any questionable physical conformities? (i.e.; field duplicates or multiple bottles of the same conformities? (i.e.; field duplicates or multiple bottles of the same conformities? (i.e.; field duplicates or multiple bottles of the same conformities of the same free of all other	X			
discrepancies of Issues that would record	X			*Excludes FOG, VOAs, TOC Vials, HEM
May not be applicable if samples are not for compliance testing				EXCHORN LOCATION TO THE

**May not be applicable if samples are not for compliance	(Eam &	
-toot Pecord	Person Contacted:	Date/Time:
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

WI-MI-010\_020720

Brighton, MI 48116 Phone: 810-229-2763 Fax: 810-229-0000

10448್Citation Drive Suite 200 **Eurofins Michigan** 

Sample   Date of the Presence of Section   Sample   Sample   Sample   Sample   Sample   Sample   Sample   Sample   Sample   Cheer of the Sample   Sample   Sample   Cheer of the Sample   Sample   Cheer of the Sample   Sample   Cheer of the S	Client Information (Sub Contract Lab)	Sampler.	<u>8</u> 8	Lab PM: Schafer, Sue		Camer Tracking No(s):	190-31840	840.1
Constitution   Parkway	Client Contact: Shipping/Receiving	Phone:	i o	Mail:		State of Origin:	Page	
Committee   Comm	Company:		0	Je scharer@eurorins		Michigan	Page 1 of	of 1
The Research Control of Parkey,   Don't Date   Don't Da	Eurofins Environment Testing Northern Ca			Accreditations Require	ed (See note):		Job #: 190-28201-1	201-1
Value   Sacramento   Value	Address: 880 Riverside Parkway,	Due Date Requested: 3/29/2022			Analysis Red	uested	Preserv	
Sample   General Carlot   Single   Sample   Sa	City: West Sacramento	TAT Requested (days):					A - HCL	
Figure	State, Zip: CA, 95605			67 S			D - Nitrio	
Final Protections and the Control of Control	373-5600(Tel)	PO#:					G - Amd	H R - Na2S203
Star Obevier PES Blocolds 19000764 Star Sample Cocony Star Sample Identification Client ID Lab ID Sample Date Time Gargab) Innexes and Cocony Cocony Star Star Sample Identification Client ID Lab ID Sample Date Time Gargab) Innexes and Cocony Cocon	Email:	WO #:		(0)				
Sample Identification Client ID (Lab ID) Sample Date Time Grague) Sample (C-comp. Comp. Co	Project Name: City of Dexter PFS Biosolids	Project #: 19001704		l no se sture				
Sample Identification - Client ID (Lab ID)  Sample Date  Time  Graph   Matrix  Time  Graph   Preservation Code  X X X   X X   Preservation Code  X X X X X   Preservation Code  X X X X X X X X X X X X X X X X X X X	Site:	SSOW#:		SD (Y			oo to	
PFAS. % Moisture (190-28201-1)  PFAS. % Moisture (190-28201-1)	Sample Identification - Client ID (Lab ID)	Sample		Filtered: M/SM myone Molsture/ Perce				Special Institute Mater
PPAS, % Moisture (190-28201-1)  PPAS, % Moisture (190-28201-1)		X	- 0	X				pecial metidotions/note.
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equested: I, II, III, IV, Other (specify)  Inquished by:    Date:   Date:   Company	Possible Hazard Identification			Sample Dispo	sal ( A fee may be as	sessed if samples a	ire retained long	er than 1 month)
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Inquished by:    Company   Peceived by:   Method of Signature   Date/Inne;   Date/Inne;   Date/Inne;   Date/Inne;   Company   Received by:   Company   Received by:   Company   Received by:   Company   Received by:   Company   Cooler Temperature(s) % and Other Remarks:   Cooler Temperature(s	Deliverable Requested: I, II, III, IV, Other (specify)	e Rank:		Special Instruc	tions/QC Requiremen	ts:		
Date/Time: Company Received by:    29/92a   700   Company Received by:   Date/Time: Company Received by:   Date/Time: Company Received by:   Date/Time: Company Received by: Comp	Empty Kit Relinquished by:			Time:	1	Method of Shipment:		
Date/Time: Company Received by:  Date/Time: Company Received by:  Coulty Seal No.: Conditions Cand Other Remarks:	Relinquished by: for ffee	1 76	Company	Received by:		Date/Tim	mps G	Company
Pate/Time: Company Received by:   Company Received by:   Constant Received by:   Constant Remarks:   Const	Relinquished by:	Daté/Tirhe:	Company	Received by:		Date/Time	ini	Company
Custody Seal No.	Relinquished by:	Date/Time:	Company	Received by:		Date/Time	.6	Company
	Custody Seals Intact: Custody Seal No.:	746		Cooler Tempe	erature(s) °C and Other Re	marks:		
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								ver: 00/08/2021