

Detection Summary

Client: Charles Town Utility Board
 Project/Site: 1633 PFAS in Biosolids

Job ID: 410-210654-1

Client Sample ID: Centrifuge

Lab Sample ID: 410-210654-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.9		1.9	0.48	ng/g	1	*		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.4		1.9	0.58	ng/g	1	*		1633	Total/NA
Perfluorooctanoic acid (PFOA)	4.7		1.9	0.58	ng/g	1	*		1633	Total/NA
Perfluorononanoic acid (PFNA)	2.8	I cn	1.9	0.58	ng/g	1	*		1633	Total/NA
Perfluorodecanoic acid (PFDA)	6.2	I cn	1.9	0.48	ng/g	1	*		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.69	J	1.9	0.48	ng/g	1	*		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	1.8	J	1.9	0.48	ng/g	1	*		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	12		1.9	0.48	ng/g	1	*		1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	7.8		1.9	0.77	ng/g	1	*		1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	3.7		1.9	1.1	ng/g	1	*		1633	Total/NA
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	5.8	J	9.6	2.9	ng/g	1	*		1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	130		9.6	4.8	ng/g	1	*		1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	25		9.6	3.9	ng/g	1	*		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Charles Town Utility Board
 Project/Site: 1633 PFAS in Biosolids

Job ID: 410-211844-1

Client Sample ID: Centrifuge

Lab Sample ID: 410-211844-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.4		1.1	0.26	ng/g	1	*		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		1.1	0.32	ng/g	1	*		1633	Total/NA
Perfluorooctanoic acid (PFOA)	6.4		1.1	0.32	ng/g	1	*		1633	Total/NA
Perfluorononanoic acid (PFNA)	2.3	I cn	1.1	0.32	ng/g	1	*		1633	Total/NA
Perfluorodecanoic acid (PFDA)	5.4		1.1	0.26	ng/g	1	*		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.1		1.1	0.26	ng/g	1	*		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	2.0	I cn	1.1	0.26	ng/g	1	*		1633	Total/NA
Perfluorotetradecanoic acid (PFTeDA)	0.41	J	1.1	0.37	ng/g	1	*		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.5		1.1	0.26	ng/g	1	*		1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	7.9		1.1	0.42	ng/g	1	*		1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.3		1.1	0.58	ng/g	1	*		1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	70		5.3	2.6	ng/g	1	*		1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	16		5.3	2.1	ng/g	1	*		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Charles Town Utility Board
 Project/Site: 1633 PFAS in Biosolids

Job ID: 410-213208-1

Client Sample ID: Centrifuge

Lab Sample ID: 410-213208-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.3	J	2.1	0.52	ng/g	1	✳		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.1	J	2.1	0.63	ng/g	1	✳		1633	Total/NA
Perfluorooctanoic acid (PFOA)	4.8		2.1	0.63	ng/g	1	✳		1633	Total/NA
Perfluorononanoic acid (PFNA)	1.7	J	2.1	0.63	ng/g	1	✳		1633	Total/NA
Perfluorodecanoic acid (PFDA)	3.7		2.1	0.52	ng/g	1	✳		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	1.3	J	2.1	0.52	ng/g	1	✳		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	11		2.1	0.52	ng/g	1	✳		1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	5.2		2.1	0.84	ng/g	1	✳		1633	Total/NA
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	2.1		2.1	1.1	ng/g	1	✳		1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	60		10	5.2	ng/g	1	✳		1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	12		10	4.2	ng/g	1	✳		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins Lancaster Laboratories Environment Testing, LLC

Detection Summary

Client: Charles Town Utility Board
 Project/Site: 1633 PFAS in Biosolids

Job ID: 410-214059-1

Client Sample ID: Centrifuge

Lab Sample ID: 410-214059-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	1.4	J	1.9	0.47	ng/g	1	✳		1633	Total/NA
Perfluorohexanoic acid (PFHxA)	1.4	J	1.9	0.56	ng/g	1	✳		1633	Total/NA
Perfluorooctanoic acid (PFOA)	4.7		1.9	0.56	ng/g	1	✳		1633	Total/NA
Perfluorononanoic acid (PFNA)	1.9	I cn	1.9	0.56	ng/g	1	✳		1633	Total/NA
Perfluorodecanoic acid (PFDA)	4.4		1.9	0.47	ng/g	1	✳		1633	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.64	J	1.9	0.47	ng/g	1	✳		1633	Total/NA
Perfluorododecanoic acid (PFDoA)	1.3	J	1.9	0.47	ng/g	1	✳		1633	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10		1.9	0.47	ng/g	1	✳		1633	Total/NA
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	6.6		1.9	0.75	ng/g	1	✳		1633	Total/NA
N-methylperfluorooctane sulfonamidoethanol (NMeFOSE)	3.3	J	9.3	2.8	ng/g	1	✳		1633	Total/NA
3-Perfluoropentylpropanoic acid (5:3 FTCA)	86		9.3	4.7	ng/g	1	✳		1633	Total/NA
3-Perfluoroheptylpropanoic acid (7:3 FTCA)	14		9.3	3.7	ng/g	1	✳		1633	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

State	Water Regulation Subcategory	Regulation
Colorado	Biosolids/Sludge	CDPHE has implemented the Biosolids-PFAS interim strategy, which establishes monitoring requirements for biosolids preparers. An interim threshold level of 50 micrograms per kilogram ($\mu\text{g}/\text{kg}$) for PFOS in biosolids has been established.
Maryland	Biosolids/Sludge	<p>If the level of PFOS or PFOA is $100 \mu\text{g}/\text{kg}$ or above, land application of the biosolids is recommended to be stopped. If</p> <p>PFOS or PFOA is at or above $50 \mu\text{g}/\text{kg}$, but less than $100 \mu\text{g}/\text{kg}$, the recommended application rate for land application of biosolids must be lowered to 1.5 dry tons per acre or less. If</p> <p>PFOS or PFOA is at or above $20 \mu\text{g}/\text{kg}$, but less than $50 \mu\text{g}/\text{kg}$, the recommended application rate for land application of biosolids must be lowered to 3 dry tons per acre or less.</p> <p>Biosolids with a PFOS concentration below $20 \mu\text{g}/\text{kg}$ and a PFOA concentration below $20 \mu\text{g}/\text{kg}$ may be land applied with no additional requirements after submission of results.</p>
Michigan	Biosolids/Sludge	<p>Michigan Department of Environment, Great Lakes, and Energy (EGLE) has implemented an interim biosolids PFAS interim strategy for wastewater treatment plants and landowners/farmers regarding the land application of biosolids. Guidance is based on the following interim thresholds for biosolids:</p> <ul style="list-style-type: none"> -PFOA/PFOS concentration $>100 \mu\text{g}/\text{kg}$ (industrially impacted/cannot be land applied) - PFOA/PFOS concentration $> 20 \mu\text{g}/\text{kg}$ but $< 100 \mu\text{g}/\text{kg}$ (elevated/trigger requirements) - PFOA/PFOS concentration of $< 20 \mu\text{g}/\text{kg}$ (no additional requirements)
New York	Biosolids/Sludge	<p>NYDEC has implemented the Interim Strategy for the Control of PFAS Compounds, which establishes interim PFOS and PFOA criteria for biosolids that are recycled in the state. Guidance is based on the following interim thresholds for biosolids: If PFOA/PFOS concentration is:</p> <ul style="list-style-type: none"> - Greater than $50 \mu\text{g}/\text{kg}$: DEC will take action and recycling is prohibited. - Between $20 \mu\text{g}/\text{kg}$ and $50 \mu\text{g}/\text{kg}$: Additional sampling is required. - Less than $20 \mu\text{g}/\text{kg}$: No action is required.