Trace Analytical Laboratories, Inc. 2241 Black Creek Road Muskegon, MI 49444-2673



231-773-5998 Phone 888-979-4469 Fax www.trace-labs.com

October 11, 2021

Luke Keyzer Otsego, City of 117 E. Orleans Otsego, MI 49078

Fax:

RE: Trace ID: 2110422

Enclosed are your analytical results associated with your project for Biosolids PFAS - 9/10/21. The results of this report relate only to the samples listed in the body of this report.

The results were obtained from Fibertec Environmental Services

Thank you for working with Trace. If you have questions concerning this report, please contact me at 231.773.5998 or by email at tbrewer@trace-labs.com.

Sincerely,

Tim Brewer Project Manager

Enclosures





Friday, October 08, 2021

Fibertec Project Number: A04043

Project Identification: 21I0422 /21I0422

Submittal Date: 09/15/2021

Mr. Tim Brewer
Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444

Dear Mr. Brewer,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

By Jacob Sutherlund at 12:43 PM, Oct 08, 2021

Spel Athaland

For Daryl P. Strandbergh Laboratory Director

Enclosures



Analytical Laboratory Report Laboratory Project Number: A04043 Laboratory Sample Number: A04043-001

Order: A04043 Page: 2 of 3 Date: 10/08/21

Client Identification: Trace Analytical Laboratories,

2110422

Inc

tories, Sample Description: Sludge Tank 2110422-01

Chain of Custody:

N/A

Client Project Name: 211

2110422

Sample No:
Sample Matrix:

Collect Date:
Collect Time:

09/10/21 11:10

Client Project No:

Sample Comments:

PFAS

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

Aliquot ID: A04043-001 Matrix: Biosolids

Biosolids

Method: ASTM D7968-17a Description: Sludge Tank 2110422-01

						Prepa	ration	Analysis				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	P. Date	P. Batch	A. Date	A. Batch	Init.		
‡ 1.ADONA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 2.9CI-PF3ONS	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 3.11CI-PF3OUdS	U	EIS-	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 4. N-EtFOSAA	2.9	EIS-	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 5. FtS 4:2	U	EIS+	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 6. FtS 6:2	U	EIS+	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 7. FtS 8:2	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 8. HFPO-DA	U	L+	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 9. N-MeFOSAA	6.7		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 10.PFBA	4.2		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 11.PFBS	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 12.PFDA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 13.PFDoA	U	EIS-	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 14.PFDS	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 15.PFHpA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 16.PFHpS	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 17.PFHxA	2.8		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 18.PFHxS-Total	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 19.PFNA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 20.PFNS	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 21.PFOA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 22.PFOSA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 23.PFOS-Total	3.2		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 24.PFPeA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 25.PFPeS	U	F+	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 26.PFTeA	U	F- EIS-	μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 27.PFTriA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		
‡ 28.PFUnA	U		μg/kg	2.0	1.0	09/28/21	PS21I28J	09/29/21	SM21I29B	SKG		



Analytical Laboratory Report Laboratory Project Number: A04043

Order: A04043 Page: 3 of 3 Date: 10/08/21

Definitions/ Qualifiers:

- A: Spike recovery or precision unusable due to dilution.
- **B:** The analyte was detected in the associated method blank.
- E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J: The concentration is an estimated value.
- M: Modified Method
- **U:** The analyte was not detected at or above the reporting limit.
- X: Matrix Interference has resulted in a raised reporting limit or distorted result.
- W: Results reported on a wet-weight basis.
- *: Value reported is outside QC limits

Exception Summary:

EIS- : The Isotope Dilution/Extracted Internal Standard area exceeds the lower control limit.
 EIS+ : The Isotope Dilution/Extracted Internal Standard area exceeds the upper control limit.

F- : Recovery from the spiked aliquot exceeds the lower control limit (matrix spike or matrix spike duplicate).
F+ : Recovery from the spiked aliquot exceeds the upper control limit (matrix spike or matrix spike duplicate).

L+ : Recovery in the associated laboratory sample (LCS) exceeds the upper control limit. Results may be biased high.

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

RSN: A04043-211008124307

Trace Analytical Laboratories, Inc.

2241 Black Creek Road

Muskegon, MI 49444-2673



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	7	10 C	Released					9/10/2/11:10	Date Time Collected Collected		☐ 3 Day* ☐ 1 Day* ☐ 1 Pay* "Results provided end of business day, requires prior approval."	Turnaround Requirements: X Standard 5-10 Days	SS:	Office Phone: 269-694-9194	City, State, Zip Code: Otsego, Mi. 49078	Mailing Address: 117 E Orleans St.	Report To: Luke Keyzer	Company Name: City of Otsego	Report Results To:	ANALYTICAL	J	
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CERTIFICATE OF ANALYSIS

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673



231-773-5998 Phone 888-979-4469 Fax www.trace-labs.com

2110422 Otsego, City of Project Manager: Tim Brewer	Date: 9 10 21 1 1 1 1 1 1 1 1
Sample Receipt	Package Temp °C -0.8 -0.7 Representative Sample Temp °C 0.4 0.3
Received on ice or other coolant Received on ice or other coolant Custody seals present Custody seals present Client Drop-off Sample Condition	☐ Yes ☐ No Custody seals intact (if applicable) ☐ UPS ☐ Fed Ex ☐ US Mail ☐ Other
Yes No N/A	•
All sample containers arrived Sufficient sample to run reque Correct chemical preservative Samples preserved at Trace Chemical preservation verified pH 0-2.5 (Lot: HC0 Air bubbles absent from VOAs	added to samples , check EMD pH test strip used (if applicable)
Sufficient sample to run reque Correct chemical preservative Samples preserved at Trace Chemical preservation verified pH 0-2.5 (Lot: HC0 Air bubbles absent from VOAs Chain of Custody (COC)	added to samples , check EMD pH test strip used (if applicable)
Sufficient sample to run reque Correct chemical preservative Samples preserved at Trace Chemical preservation verified	added to samples , check EMD pH test strip used (if applicable)
Sufficient sample to run requestive Correct chemical preservative Samples preserved at Trace Chemical preservation verified pH 0-2.5 (Lot: HCO Air bubbles absent from VOAs Chain of Custody (COC) All bottle labels agree with COC COC filled out properly	added to samples , check EMD pH test strip used (if applicable)
Sufficient sample to run reque Correct chemical preservative Samples preserved at Trace Chemical preservation verified pH 0-2.5 (Lot: HC0 Air bubbles absent from VOAs Chain of Custody (COC) Solution All bottle labels agree with COC COC filled out properly COC signed by client	added to samples , check EMD pH test strip used (if applicable)
Sufficient sample to run requestive Correct chemical preservative Samples preserved at Trace Chemical preservation verified pH 0-2.5 (Lot: HC0 Air bubbles absent from VOAs Chain of Custody (COC) Solution of Custody (COC) All bottle labels agree with COC COC filled out properly COC signed by client	added to samples , check EMD pH test strip used (if applicable)
Sufficient sample to run requestive Correct chemical preservative Samples preserved at Trace Chemical preservation verified pH 0-2.5 (Lot: HC0 Air bubbles absent from VOAs Chain of Custody (COC) All bottle labels agree with COC COC filled out properly COC signed by client	added to samples , check EMD pH test strip used (if applicable)

CERTIFICATE OF ANALYSIS