

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: 21I0422

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,

A handwritten signature in black ink that reads "Timothy W. Brewer".

Tim Brewer
Project Manager

Enclosures



NJDEP Accreditation No. MI008

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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,

A handwritten signature in black ink, appearing to read "Jacob Sutherland".

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

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

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T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

Client Identification:	Trace Analytical Laboratories, Inc.	Sample Description:	Sludge Tank 2110422-01	Chain of Custody:	N/A
Client Project Name:	2110422	Sample No:		Collect Date:	09/10/21
Client Project No:	2110422	Sample Matrix:	Biosolids	Collect Time:	11:10

Sample Comments:

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

PFAS						Aliquot ID: A04043-001	Matrix: Biosolids			
Method: ASTM D7968-17a						Description: Sludge Tank 2110422-01				
Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						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

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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)

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[illegible]

CERTIFICATE OF ANALYSIS

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2110422

Otsego, City of

Project Manager: Tim Brewer

Sample Log In Checklist

Date: 9/10/21	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20B12743 (CF: -0.3°C)	Temp Blank	Client Sample
Time: 1545							
Logged by: MR							
Package Description: Cook							
Package Temp °C	-0.8	-0.7					
Representative Sample Temp °C	0.6	0.3					

Sample Receipt

Yes ☒ No ☐ Received on ice or other coolant
 Yes ☒ No ☐ Ice still present upon receipt
 Yes ☐ No ☒ Custody seals present
☒ Trace Courier ☐ Client Drop-off
☐ Yes ☐ No Custody seals intact (if applicable)
☐ UPS ☐ Fed Ex ☐ US Mail ☐ Other

Sample Condition

Yes ☒ No ☐ N/A ☐ All sample containers arrived unbroken and labeled
 Yes ☒ No ☐ N/A ☐ Sufficient sample to run requested analyses
 Yes ☐ No ☐ N/A ☒ Correct chemical preservative added to samples
 Yes ☐ No ☐ N/A ☒ Samples preserved at Trace
 Yes ☐ No ☐ N/A ☒ Chemical preservation verified, check EMD pH test strip used (if applicable)
☐ pH 0-2.5 (Lot: HC029115) ☐ pH 11.0-13.0 (Lot: HC022540) ☐ Other
☐ Air bubbles absent from VOAs

Chain of Custody (COC)

Yes ☒ No ☐ All bottle labels agree with COC
☒ COC filled out properly
☒ COC signed by client

Notes:

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