

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



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

September 27, 2021

Matt Bedner
Fleis and Vandenbrink Engineers
2960 Lucerne Drive, SE
Grand Rapids, MI 49546

Phone: (616) 977-1000
Fax: (616) 977-1005

RE: Trace ID: 2110577

Enclosed are your analytical results associated with your project for Leslie WWTP- Biosolids PFAS. 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



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Monday, October 04, 2021

Fibertec Project Number: A04301
Project Identification: 21I0577 /21I0577
Submittal Date: 09/29/2021

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 "Sharon L. Rakow".

By Sharon Rakow at 9:10 AM, Oct 04, 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

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

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

Analytical Laboratory Report
Laboratory Project Number: A04301
Laboratory Sample Number: A04301-001

Order: A04301
Page: 2 of 3
Date: 10/04/21

Client Identification:	Trace Analytical Laboratories, Inc.	Sample Description:	Biosolids/Sludge Grab 2110577-01	Chain of Custody:	n/a
Client Project Name:	2110577	Sample No:		Collect Date:	09/29/21
Client Project No:	2110577	Sample Matrix:	Biosolids	Collect Time:	10:45

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: A04301-001		Matrix: Biosolids			
Method: ASTM D7968-17a						Description: Biosolids/Sludge Grab 2110577-01					
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	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 2. 9CI-PF3ONS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 3. 11CI-PF3OUdS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 4. N-EtFOSAA	6.4		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 5. FtS 4:2	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 6. FtS 6:2	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 7. FtS 8:2	3.9		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 8. HFPO-DA	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 9. N-MeFOSAA	15		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 10. PFBA	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 11. PFBS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 12. PFDA	8.7		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 13. PFDoA	3.4		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 14. PFDS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 15. PFHpA	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 16. PFHpS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 17. PFHxA	7.5		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 18. PFHxS-Total	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 19. PFNA	5.2		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 20. PFNS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 21. PFOA	2.3		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 22. PFOSA	3.5		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 23. PFOS-Total	12		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 24. PFPeA	4.3		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 25. PFPeS	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 26. PFTeA	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 27. PFTriA	U		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	SKG	
‡ 28. PFUnA	3.3		µg/kg	2.0	1.0	09/30/21	PS21I30J	09/30/21	SM21I30B	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:

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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CHAIN-OF-CUSTODY RECORD

TRIED
ANALYTICAL LABORATORIES, INC.

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

Phone 231.773.5998
Fax 888.979.4469
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Page ____ of ____

Trace ID No.

211 0577

Report Results To:

Bill To:

Company Name: Fleis and Vandenbrink	PO #:
Report To: Elaine Venema/ Matt Bedner	Contact Name:
Mailing Address: 2960 Lucerne Dr. SE, Ste 100	Billing Address (if different):
City, State, Zip Code: Grand Rapids, MI, 49456	City, State, Zip Code:
Office Phone: 616-977-1000	Cell Phone:
Phone Number:	Phone Number:
Email Address: evenema@veng.com/ mbedner@veng.com	Billing Email Address:

Trace Use:

Logged By:	[Signature]	
Checked By:	[Signature]	
Soil Volatiles Preserved (circle if applicable):		
MeOH	Low Level	Lab
Sampling Time:		

Turnaround Requirements:

☐ Standard, 5-10 Days
☐ 3 Day*
☐ 1 Day*

Matrix Key:

S = Soil / Solid
W = Water
SL = Sludge
OI = Oil
WL = Wipes
LW = Liquid Waste
A = Air
D = Drinking Water

***Results provided end of business day, requires prior approval.**

9/2/25

Project Name:	Leslie IPP MAHL Study- Biosolids/Sludge- Bay 2
Sampled By:	Trace

Trace

DD

Am

ide

Sol

s P

Health Hazards?

Trace No.	Date Collected	Time Collected	Client Sample
1	9-15-21	11:15	Biosolids/Sludge Grab

	Metals Filtered (Y/N)	
W	Matrix	
2	Number of Containers	
X	Cool	
	HCl	
	HNO ₃	
	H ₂ SO ₄	
	NaOH	
	Other	

	TSS, BOD
	Metals, Ammonia
	T- Cyanide
	Percent Solids
✗	Biosolids PFAS

Neill/Kas

Possible Health Hazards?	
--------------------------	--

Please Sign

Released By _____

1) [Signature]

3)

Received By
Myra A. Schmitt

Date	Time
9/15/21	16:00
	4

Released By _____

Received By _____

mont

Date	Time

In executing this Chain of Custody the client acknowledges the terms as set forth at www.trace-labs.com/terms-of-agreement

Check this box if you would not like your samples analyzed if received outside of the conditions outlined in the Trace Sample Acceptance Policy at www.trace-labs.com/downloads

Form 70-Z.1

CERTIFICATE OF ANALYSIS

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2110577

Fleis and Vandenbrink Engir

Project Manager: Tim Brewer

Sample Log In Checklist

Date: 9/15/21	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: 16:00							
Logged by: JKL							
Package Description: Cooler							
Package Temp °C	2.4	2.5					
Representative Sample Temp °C	4.5	4.6					

Sample Receipt

Yes No

☒ ☐ Received on ice or other coolant

☒ ☐ Ice still present upon receipt

☐ ☒ 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

☒ ☐ ☐ Sufficient sample to run requested analyses

☐ ☐ ☒ Correct chemical preservative added to samples

☐ ☐ ☒ Samples preserved at Trace

☐ ☐ ☒ 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:

Form 70-A.39
Effective 7/2/21

TRACE Analytical Laboratories, Inc.

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Report ID: 2110577 TRACE_Farmed_Out FINAL 09 27 21 1531