

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



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

February 02, 2022

Jaime Flemming  
Wyoming, City of  
16700 New Holland St.  
Holland, MI 49424

RE: Trace Project 22A0431  
Client Project Biosolids for PFAS- 1/10/22

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

The results were obtained from Fibertec Environmental Services.

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at [tbrewer@trace-labs.com](mailto:tbrewer@trace-labs.com).

Sincerely,

A handwritten signature in black ink that reads "Timothy W. Brewer". The signature is fluid and cursive, with the first name being the most prominent.

Tim Brewer  
Project Manager

Enclosures

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NJDEP Accreditation No. MI008

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#### SAMPLE SUMMARY

Trace Project ID: 22A0431  
Client Project ID: Biosolids for PFAS- 1/10/22

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
22A0431-01	Biosolids	Sludge	Client	01/10/22 08:40	01/14/22 11:05

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## AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

### DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.



Tuesday, February 01, 2022

Fibertec Project Number: A06465  
Project Identification: 22A0431 /22A0431  
Submittal Date: 01/17/2022

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.

Percent Solids for sample -001 were reported at 7.28%.

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 "Sue Ricketts". The signature is fluid and cursive.

*By Sue Ricketts at 4:33 PM, Feb 01, 2022*

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: A06465**  
**Laboratory Sample Number: A06465-001**

Order: A06465  
Page: 2 of 3  
Date: 02/01/22

Client Identification:	<b>Trace Analytical Laboratories, Inc.</b>	Sample Description:	<b>22A0431-01</b>	Chain of Custody:	<b>N/A</b>
Client Project Name:	<b>22A0431</b>	Sample No:		Collect Date:	<b>01/10/22</b>
Client Project No:	<b>22A0431</b>	Sample Matrix:	<b>Biosolids</b>	Collect Time:	<b>08:40</b>

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: A06465-001		Matrix: Biosolids				
Method: ASTM D7968-17a				Description: 22A0431-01						
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	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 2. 9CI-PF3ONS	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 3. 11CI-PF3OUdS	U	EIS-	µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 4. N-EtFOSAA	4.2		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 5. FtS 4:2	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 6. FtS 6:2	5.5	EIS+	µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 7. FtS 8:2	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 8. HFPO-DA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 9. N-MeFOSAA	11		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 10. PFBA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 11. PFBS	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 12. PFDA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 13. PFDoA	U	EIS-	µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 14. PFDS	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 15. PFHpA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 16. PFHpS	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 17. PFHxA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 18. PFHxS-Total	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 19. PFNA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 20. PFNS	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 21. PFOA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 22. PFOSA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 23. PFOS-Total	22		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 24. PFPeA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 25. PFPeS	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 26. PFTeA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 27. PFTrIA	U	EIS-	µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK
‡ 28. PFUnA	U		µg/kg	2.0	1.0	01/25/22	PS22A25E	01/25/22	SM22A25A	GDK

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Cadillac, MI 49601

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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

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**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.

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**Analysis Locations:**

All analyses performed in Holt.

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Accreditation Number(s):

**T104704518-19-8 (TX)**

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**Fibertec**  
Environmental  
Services

Analytical Laboratory

1914 Holloway Drive  
Holt, MI 48842  
Phone: 517 699 0345  
Fax: 517 699 0388  
email: lab@fibertec.us

Industrial Hygiene Services, Inc.

1914 Holloway Drive  
Holt, MI 48842  
Phone: 517 699 0345  
Fax: 517 699 0382  
email: asbesto@fibertec.us

Geoprobe

11766 E. Grand River Rd.  
Brighton, MI 48116  
Phone: 810 220 3300  
Fax: 810 220 3311

Chain of Custody #

PAGE 1 of 1

00100131

Client Name: **City of Wyoming**  
Contact Person: **Jaime Fleming**

Project Name/ Number: **Biosolids for PFAS**

Email distribution list:  
**flemingj@wyomingmi.gov,**  
**bartum@wyomingmi.gov**

Quote#

Purchase Order#

Date Time Sample # Client Sample Descriptor

1/10/21 8:40 Biosolids

MATRIX (SEE RIGHT CORNER FOR CODE)

# OF CONTAINERS

PFAS

PARAMETERS

Matrix Code

Deliverables

HOLD SAMPLE

S Soil  
A Air  
O Oil  
P Wipe  
GW Ground Water  
SW Surface Water  
WW Waste Water  
X Other: Specify

Level 2  
Level 3  
Level 4  
EDD

Remarks:

Comments:

Sampled/Relinquished By:

Relinquished By:

Relinquished By:

Date/Time

Date/Time

Date/Time

Received By:

Received By:

Received By:

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

1 bus. day

2 bus. days

3 bus. days

4 bus. days

X \$7 bus. days (standard)

Other (specify time/date requirement):

Fibertec project number:

Temperature upon receipt at Lab:

LAB USE ONLY

Please see back for terms and conditions



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**22A0431**

Wyoming, City of  
Project Manager: Tim Brewer

**Sample Log In Checklist**

Date: 1/14/22	Original Observation	Corrected Temperature	IR-9 (CF: +0.4°C)	IR-10 (CF: +0.4°C)	20812743 (CF: -0.2°C)	Temp Blank	Client Sample
Time: 12:36							
Logged by: KB							
Package Description: cooler							
Package Temp °C	-2.0	-1.8					
Representative Sample Temp °C	-1.6	-1.4					

**Sample Receipt**

Yes No

☒ ☐ Received on ice or other coolant

☒ ☐ Ice still present upon receipt

☐ ☒ Custody seals present

☐ Yes ☐ No Custody seals intact (if applicable)

☐ Trace Courier ☐ Client Drop-off ☐ 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: HC046681) ☐ 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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## SUBCONTRACT ORDER

22A0431

### SENDING LABORATORY:

Trace Analytical Laboratories, Inc.  
2241 Black Creek Road  
Muskegon, MI 49444  
Phone: 231.773.5998

### RECEIVING LABORATORY:

Fibertec Environmental Services  
1914 Holloway Drive  
Holt, MI 48842  
Phone : (517) 699-0345

Project Manager: Tim Brewer

Note Our New Email address: [TraceSubOut@trace-labs.com](mailto:TraceSubOut@trace-labs.com)

**PO # 22A0431**

**Sample ID: Biosolids 22A0431-01**


Matrix: Sludge

Sampled: 01/10/22 08:40

TAT: Standard

### Analysis Needed:

PFAS- Biosolids- EGLE List

	1/14/22		
Released By	Date	Received By	Date
Released By	Date	Received By	Date

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