

# ANALYTICAL REPORT

## PREPARED FOR

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PEER

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Generated 1/16/2023 6:08:22 AM

## JOB DESCRIPTION

PFAS in Biosolids

## JOB NUMBER

410-103813-1

# Eurofins Lancaster Laboratories Environment Testing, LLC

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



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Authorized for release by  
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# Eurofins Lancaster Laboratories Environment Testing, LLC

## Compliance Statement

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

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# Definitions/Glossary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Qualifiers

### LCMS

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
cn	Refer to Case Narrative for further detail
H	Sample was prepped or analyzed beyond the specified holding time
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

## Case Narrative

Client: PEER  
Project/Site: PFAS in Biosolids

Job ID: 410-103813-1

### Job ID: 410-103813-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

#### Narrative

Job Narrative  
410-103813-1

#### Receipt

The sample was received on 10/31/2022 8:40 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 8.7°C

#### Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Bloom Fertilizer #1/#2 (410-103813-1). This does not meet regulatory requirements. The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

Temp is within required range for PFAS, under 10C.

The Field Sampler was not listed on the Chain of Custody.

#### PFAS

Method PFC\_IDA: The recovery for the labeled isotope: M2-4:2 FTS in the following sample: Bloom Fertilizer #1/#2 (410-103813-1) is outside the QC acceptance limits. Since the recovery is high and the native analyte is not detected in the sample, the data is reported. Due to a laboratory error the hold time was not met for the following sample: Bloom Fertilizer #1/#2 (410-103813-1).

Method PFC\_IDA: The recovery for the target analytes: PEPA, PS Acid, Hydro-EVE Acid, 7:3 FTCA and MTP in the laboratory control spike sample associated with the following sample: Bloom Fertilizer #1/#2 (410-103813-1) is outside the QC acceptance limits. The window should be considered advisory therefore the data is reported.

Method PFC\_IDA: The recovery for the labeled isotope(s) 13C2-2-Perfluoroctylethanoic acid in the method blank for the following sample: Bloom Fertilizer #1/#2 (410-103813-1) is outside the QC acceptance limits. Since the recovery is high and the native analyte is not detected in the method blank, the data is reported.

Method PFC\_IDA: The LCS labeled isotope(s) 13C2-2-Perfluorodecylethanoic acid recovery associated with sample: Bloom Fertilizer #1/#2 (410-103813-1) is outside the QC acceptance limits. Since the recovery for target analytes is within the limits, the data is reported.

Method PFC\_IDA: The recovery for target analyte 10:2 FTS is outside the QC acceptance limits in the closing continuing calibration verification standard. Sufficient sample was not available to re-vial and re-inject this sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

# Detection Summary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

**Client Sample ID: Bloom Fertilizer #1/#2**

**Lab Sample ID: 410-103813-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
10:2 FTS	1.1	J H cn	1.4	0.42	ng/g	1	⊗	537 IDA	Total/NA
HFPEDA	1.6	H	1.4	1.4	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroctadecanoic acid	0.32	J H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
NEtFOSE	3.5	H	1.4	0.35	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroctanesulfonic acid	26	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroundecanoic acid	4.0	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
NMeFOSAA	8.5	H	1.4	0.14	ng/g	1	⊗	537 IDA	Total/NA
R-EVE	0.19	J H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
PEPA	0.28	J H *- cn	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluoropentanoic acid	8.3	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluoropentanesulfonic acid	0.16	J H I	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
6:2 Fluorotelomer sulfonic acid	4.2	H	1.4	0.42	ng/g	1	⊗	537 IDA	Total/NA
8:2 FTCA	0.18	J H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
NEtFOSAA	2.8	H	1.4	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorohexanoic acid	65	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorododecanoic acid	3.7	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroctanoic acid	21	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorodecanoic acid	11	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorodecanesulfonic acid	1.7	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorohexanesulfonic acid	1.2	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorobutanoic acid	10	H	1.4	0.56	ng/g	1	⊗	537 IDA	Total/NA
Perfluorobutanesulfonic acid	30	H	1.4	0.28	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroheptanoic acid	4.1	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroheptanesulfonic acid	0.28	J H I	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorononanoic acid	6.4	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorotetradecanoic acid	1.3	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
8:2 Fluorotelomer sulfonic acid	2.7	H	2.1	0.42	ng/g	1	⊗	537 IDA	Total/NA
PPF Acid	8.2	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorohexadecanoic acid	0.42	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
8:2 FTUCA	0.56	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
6:2 FTUCA	0.33	J H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
10:2 FTUCA	0.80	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorotridecanoic acid	1.0	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluoroctanesulfonamide	0.78	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
Perfluorododecanesulfonic acid	0.17	J H	1.4	0.14	ng/g	1	⊗	537 IDA	Total/NA
7:3 FTCA	2.7	H *- cn	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA
5:3 FTCA	23	H	0.42	0.14	ng/g	1	⊗	537 IDA	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Environment Testing, LLC

# Client Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

**Client Sample ID: Bloom Fertilizer #1/#2****Lab Sample ID: 410-103813-1**

Date Collected: 10/29/22 09:30

Matrix: Solid

Date Received: 10/31/22 08:40

Percent Solids: 70.8

**Method: EPA 537 IDA - EPA 537 Isotope Dilution**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>10:2 FTS</b>	<b>1.1</b>	J H cn	1.4	0.42	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PMPA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>HFPODA</b>	<b>1.6</b>	H	1.4	1.4	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFECA B	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorooctadecanoic acid</b>	<b>0.32</b>	J H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>NEtFOSE</b>	<b>3.5</b>	H	1.4	0.35	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorooctanesulfonic acid</b>	<b>26</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluoroundecanoic acid</b>	<b>4.0</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>NMeFOSAA</b>	<b>8.5</b>	H	1.4	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
R-PSDA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Hydrolyzed PSDA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
R-PSDCA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>R-EVE</b>	<b>0.19</b>	J H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
NMeFOSE	<0.35	H	1.4	0.35	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>PEPA</b>	<b>0.28</b>	J H *- cn	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluoropentanoic acid</b>	<b>8.3</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluoropentanesulfonic acid</b>	<b>0.16</b>	J H I	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>6:2 Fluorotelomer sulfonic acid</b>	<b>4.2</b>	H	1.4	0.42	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>8:2 FTCA</b>	<b>0.18</b>	J H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PS Acid	<0.14	H *- cn	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>NEtFOSAA</b>	<b>2.8</b>	H	1.4	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorohexanoic acid</b>	<b>65</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorododecanoic acid</b>	<b>3.7</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
NMeFOSA	<0.35	H	1.4	0.35	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorooctanoic acid</b>	<b>21</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorodecanoic acid</b>	<b>11</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorodecanesulfonic acid</b>	<b>1.7</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorohexanesulfonic acid</b>	<b>1.2</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
3:3 FTCA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorobutanoic acid</b>	<b>10</b>	H	1.4	0.56	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorobutanesulfonic acid</b>	<b>30</b>	H	1.4	0.28	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluoroheptanoic acid</b>	<b>4.1</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluoroheptanesulfonic acid</b>	<b>0.28</b>	J H I	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorononanoic acid</b>	<b>6.4</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorotetradecanoic acid</b>	<b>1.3</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFECA F	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>8:2 Fluorotelomer sulfonic acid</b>	<b>2.7</b>	H	2.1	0.42	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFO2HxA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFO3OA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFO4DA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
TAF	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
NEtFOSA	<0.35	H	1.4	0.35	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>PPF Acid</b>	<b>8.2</b>	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Perfluoropropanesulfonic acid	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
6:2 FTCA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1

Eurofins Lancaster Laboratories Environment Testing, LLC

# Client Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

**Client Sample ID: Bloom Fertilizer #1/#2****Lab Sample ID: 410-103813-1**

Date Collected: 10/29/22 09:30

Matrix: Solid

Date Received: 10/31/22 08:40

Percent Solids: 70.8

**Method: EPA 537 IDA - EPA 537 Isotope Dilution (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
10:2 FTCA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFMOAA	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorohexadecanoic acid</b>	<b>0.42</b>	<b>H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Perfluorononanesulfonic acid	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
EVE Acid	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>8:2 FTUCA</b>	<b>0.56</b>	<b>H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>6:2 FTUCA</b>	<b>0.33</b>	<b>J H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>10:2 FTUCA</b>	<b>0.80</b>	<b>H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorotridecanoic acid</b>	<b>1.0</b>	<b>H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Hydro-PS Acid	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorooctanesulfonamide</b>	<b>0.78</b>	<b>H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
9Cl-PF3ONS	<0.14	H	1.4	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
4:2 Fluorotelomer sulfonic acid	<0.42	H	1.4	0.42	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
11Cl-PF3OUDS	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
Hydro-EVE Acid	<0.14	H *- cn	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Perfluorododecanesulfonic acid</b>	<b>0.17</b>	<b>J H</b>	1.4	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFECA G	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>7:3 FTCA</b>	<b>2.7</b>	<b>H *- cn</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
PFECA A	<0.14	H	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>5:3 FTCA</b>	<b>23</b>	<b>H</b>	0.42	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.14	H	2.1	0.14	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
MTP	<0.21	*+ H cn	0.42	0.21	ng/g	⊗	11/23/22 19:49	12/23/22 10:36	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
d5-NEtFOSAA	115		10 - 193				11/23/22 19:49	12/23/22 10:36	1
d3-NMeFOSAA	85		10 - 178				11/23/22 19:49	12/23/22 10:36	1
13C3 HFPO-DA	68		10 - 169				11/23/22 19:49	12/23/22 10:36	1
d7-N-MeFOSE-M	74		10 - 179				11/23/22 19:49	12/23/22 10:36	1
d9-N-EtFOSE-M	56		10 - 185				11/23/22 19:49	12/23/22 10:36	1
M2-6:2 FTS	193		10 - 200				11/23/22 19:49	12/23/22 10:36	1
M2-8:2 FTS	193		15 - 200				11/23/22 19:49	12/23/22 10:36	1
13C3 PFBS	104		27 - 179				11/23/22 19:49	12/23/22 10:36	1
M2-4:2 FTS	258	*5+ cn	10 - 200				11/23/22 19:49	12/23/22 10:36	1
13C5 PFHxA	75		10 - 174				11/23/22 19:49	12/23/22 10:36	1
13C9 PFNA	131		26 - 165				11/23/22 19:49	12/23/22 10:36	1
13C6 PFDA	97		26 - 161				11/23/22 19:49	12/23/22 10:36	1
13C7 PFUnA	96		12 - 173				11/23/22 19:49	12/23/22 10:36	1
13C3 PFHxS	83		24 - 171				11/23/22 19:49	12/23/22 10:36	1
13C2-PFDODA	62		11 - 166				11/23/22 19:49	12/23/22 10:36	1
d5-NEtPFOSA	29		10 - 180				11/23/22 19:49	12/23/22 10:36	1
d3-NMePFOSA	57		10 - 175				11/23/22 19:49	12/23/22 10:36	1
13C2-2-Perfluorohexylethanoic acid	133		10 - 200				11/23/22 19:49	12/23/22 10:36	1
13C2-2-Perfluoroctylethanoic acid	199	cn	10 - 200				11/23/22 19:49	12/23/22 10:36	1
13C2-2-Perfluorodecylethanoic acid	153	cn	10 - 200				11/23/22 19:49	12/23/22 10:36	1
13C2-2H-Perfluoro-2-octenoic acid	63		10 - 164				11/23/22 19:49	12/23/22 10:36	1
13C2-2H-Perfluoro-2-decenoic acid	75		10 - 162				11/23/22 19:49	12/23/22 10:36	1
13C2-2H-Perfluoro-2-dodecanoic acid	63		10 - 161				11/23/22 19:49	12/23/22 10:36	1
13C4 PFBA	101		28 - 153				11/23/22 19:49	12/23/22 10:36	1
13C5 PFPeA	100		24 - 161				11/23/22 19:49	12/23/22 10:36	1

Eurofins Lancaster Laboratories Environment Testing, LLC

# Client Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

**Client Sample ID: Bloom Fertilizer #1/#2**

**Lab Sample ID: 410-103813-1**

Date Collected: 10/29/22 09:30

Matrix: Solid

Date Received: 10/31/22 08:40

Percent Solids: 70.8

**Method: EPA 537 IDA - EPA 537 Isotope Dilution (Continued)**

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFHpA	85		10 - 178	11/23/22 19:49	12/23/22 10:36	1
13C8 PFOA	81		26 - 159	11/23/22 19:49	12/23/22 10:36	1
13C8 PFOS	105		41 - 154	11/23/22 19:49	12/23/22 10:36	1
13C8 FOSA	72		14 - 163	11/23/22 19:49	12/23/22 10:36	1
13C2 PFTeDA	59		10 - 169	11/23/22 19:49	12/23/22 10:36	1

**General Chemistry**

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture (EPA Moisture)	29.2		1.0	1.0	%	D		11/02/22 12:40	1

# Isotope Dilution Summary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	d5NEFOS (10-193)	d3NMFOS (10-178)	HFPEDA (10-169)	NMFM (10-179)	NEFM (10-185)	M262FTS (10-200)	M282FTS (15-200)	C3PFBS (27-179)
410-103813-1	Bloom Fertilizer #1/#2	115	85	68	74	56	193	193	104
LCS 410-320797/2-B	Lab Control Sample	105	98	84	55	52	82	87	76
LCSD 410-320797/3-B	Lab Control Sample Dup	106	100	85	56	53	79	76	77
MB 410-320797/1-B	Method Blank	114	99	88	55	56	96	95	78
Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	M242FTS (10-200)	13C5PHA (10-174)	C9PFNA (26-165)	C6PFDA (26-161)	13C7PUA (12-173)	C3PFHS (24-171)	PFDoDA (11-166)	d5NPFA (10-180)
410-103813-1	Bloom Fertilizer #1/#2	258 *5+ cn	75	131	97	96	83	62	29
LCS 410-320797/2-B	Lab Control Sample	74	83	107	87	86	74	85	33
LCSD 410-320797/3-B	Lab Control Sample Dup	77	83	106	84	91	78	93	35
MB 410-320797/1-B	Method Blank	84	101	112	93	94	89	90	39
Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	d3NMFSA (10-175)	MFHEA (10-200)	MFOEA (10-200)	MFDEA (10-200)	MFHUEA (10-164)	MFOUEA (10-162)	MFDUEA (10-161)	PFBA (28-153)
410-103813-1	Bloom Fertilizer #1/#2	57	133	199 cn	153 cn	63	75	63	101
LCS 410-320797/2-B	Lab Control Sample	42	171	170	201 *5+	67	69	71	91
LCSD 410-320797/3-B	Lab Control Sample Dup	45	169	177	180	69	69	73	91
MB 410-320797/1-B	Method Blank	42	200	218 *5+	198	77	83	76	94
Percent Isotope Dilution Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	PPPeA (24-161)	C4PFHA (10-178)	C8PFOA (26-159)	C8PFOS (41-154)	PFOSA (14-163)	PFTDA (10-169)		
410-103813-1	Bloom Fertilizer #1/#2	100	85	81	105	72	59		
LCS 410-320797/2-B	Lab Control Sample	93	81	85	95	94	83		
LCSD 410-320797/3-B	Lab Control Sample Dup	94	81	83	93	96	84		
MB 410-320797/1-B	Method Blank	94	97	98	101	99	84		

### Surrogate Legend

d5NEFOS = d5-NEtFOSAA

d3NMFOS = d3-NMeFOSAA

HFPEDA = 13C3 HFPO-DA

NMFM = d7-N-MeFOSE-M

NEFM = d9-N-EtFOSE-M

M262FTS = M2-6:2 FTS

M282FTS = M2-8:2 FTS

C3PFBS = 13C3 PFBS

M242FTS = M2-4:2 FTS

13C5PHA = 13C5 PFHxA

C9PFNA = 13C9 PFNA

C6PFDA = 13C6 PFDA

13C7PUA = 13C7 PFUnA

C3PFHS = 13C3 PFHxS

PFDoDA = 13C2-PFDoDA

d5NPFA = d5-NEtPFOSA

d3NMFSA = d3-NMePFOSA

MFHEA = 13C2-2-Perfluorohexylethanoic acid

MFOEA = 13C2-2-Perfluorooctylethanoic acid

MFDEA = 13C2-2-Perfluorodecylethanoic acid

MFHUEA = 13C2-2H-Perfluoro-2-octenoic acid

## Isotope Dilution Summary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

MFOUEA = 13C2-2H-Perfluoro-2-decanoic acid

MFDUEA = 13C2-2H-Perfluoro-2-dodecanoic acid

PFBA = 13C4 PFBA

PPPeA = 13C5 PPPeA

C4PFHA = 13C4 PFHpA

C8PFOA = 13C8 PFOA

C8PFOS = 13C8 PFOS

PFOSA = 13C8 FOSA

PFTDA = 13C2 PFTeDA

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-320797/1-B

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 329876

Prep Batch: 320797

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NVHOS	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoro (2-ethoxyethane) sulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
10:2 FTS	<0.30		1.0	0.30	ng/g		11/23/22 19:49	12/23/22 10:02	1
PMPPA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
HFPODA	<1.0		1.0	1.0	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoro-4-ethylcyclohexanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFECA B	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorooctadecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
NEtFOSE	<0.25		1.0	0.25	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoroctanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoroundecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
NMeFOSAA	<0.10		1.0	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
R-PSDA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Hydrolyzed PSDA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
R-PSDCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
R-EVE	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
NMeFOSE	<0.25		1.0	0.25	ng/g		11/23/22 19:49	12/23/22 10:02	1
PEPA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoropentanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoropentanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
6:2 Fluorotelomer sulfonic acid	<0.30		1.0	0.30	ng/g		11/23/22 19:49	12/23/22 10:02	1
8:2 FTCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PS Acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
NEtFOSAA	<0.10		1.0	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorohexanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorododecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
NMeFOSA	<0.25		1.0	0.25	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoroctanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorodecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorodecanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorohexanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
3:3 FTCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorobutanoic acid	<0.40		1.0	0.40	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorobutanesulfonic acid	<0.20		1.0	0.20	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoroheptanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoroheptanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorononanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorotetradecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFECA F	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
8:2 Fluorotelomer sulfonic acid	<0.30		1.5	0.30	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFO2HxA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFO3OA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFO4DA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
TAF	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
NEtFOSA	<0.25		1.0	0.25	ng/g		11/23/22 19:49	12/23/22 10:02	1
PPF Acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoropropanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: MB 410-320797/1-B

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 329876

Prep Batch: 320797

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
6:2 FTCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
10:2 FTCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFMOAA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorohexadecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorononanesulfonic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
EVE Acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
8:2 FTUCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
6:2 FTUCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
10:2 FTUCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorotridecanoic acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Hydro-PS Acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluoroctanesulfonamide	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
9Cl-PF3ONS	<0.10		1.0	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
4:2 Fluorotelomer sulfonic acid	<0.30		1.0	0.30	ng/g		11/23/22 19:49	12/23/22 10:02	1
11Cl-PF3OUDS	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Hydro-EVE Acid	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
Perfluorododecanesulfonic acid	<0.10		1.0	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFECA G	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
7:3 FTCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
PFECA A	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
5:3 FTCA	<0.10		0.30	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.10		1.5	0.10	ng/g		11/23/22 19:49	12/23/22 10:02	1
MTP	<0.15		0.30	0.15	ng/g		11/23/22 19:49	12/23/22 10:02	1

Isotope Dilution	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
d5-NEtFOSAA	114		10 - 193	11/23/22 19:49	12/23/22 10:02	1
d3-NMeFOSAA	99		10 - 178	11/23/22 19:49	12/23/22 10:02	1
13C3 HFPO-DA	88		10 - 169	11/23/22 19:49	12/23/22 10:02	1
d7-N-MeFOSE-M	55		10 - 179	11/23/22 19:49	12/23/22 10:02	1
d9-N-EtFOSE-M	56		10 - 185	11/23/22 19:49	12/23/22 10:02	1
M2-6:2 FTS	96		10 - 200	11/23/22 19:49	12/23/22 10:02	1
M2-8:2 FTS	95		15 - 200	11/23/22 19:49	12/23/22 10:02	1
13C3 PFBS	78		27 - 179	11/23/22 19:49	12/23/22 10:02	1
M2-4:2 FTS	84		10 - 200	11/23/22 19:49	12/23/22 10:02	1
13C5 PFHxA	101		10 - 174	11/23/22 19:49	12/23/22 10:02	1
13C9 PFNA	112		26 - 165	11/23/22 19:49	12/23/22 10:02	1
13C6 PFDA	93		26 - 161	11/23/22 19:49	12/23/22 10:02	1
13C7 PFUnA	94		12 - 173	11/23/22 19:49	12/23/22 10:02	1
13C3 PFHxS	89		24 - 171	11/23/22 19:49	12/23/22 10:02	1
13C2-PFDODA	90		11 - 166	11/23/22 19:49	12/23/22 10:02	1
d5-NEtPFOSA	39		10 - 180	11/23/22 19:49	12/23/22 10:02	1
d3-NMePFOSA	42		10 - 175	11/23/22 19:49	12/23/22 10:02	1
13C2-2-Perfluorohexylethanoic acid	200		10 - 200	11/23/22 19:49	12/23/22 10:02	1
13C2-2-Perfluorooctylethanoic acid	218	*5+	10 - 200	11/23/22 19:49	12/23/22 10:02	1
13C2-2-Perfluorodecylethanoic acid	198		10 - 200	11/23/22 19:49	12/23/22 10:02	1
13C2-2H-Perfluoro-2-octenoic acid	77		10 - 164	11/23/22 19:49	12/23/22 10:02	1
13C2-2H-Perfluoro-2-decenoic acid	83		10 - 162	11/23/22 19:49	12/23/22 10:02	1

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: MB 410-320797/1-B

Matrix: Solid

Analysis Batch: 329876

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 320797

Isotope Dilution	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2-2H-Perfluoro-2-dodecanoic acid		76			10 - 161	11/23/22 19:49	12/23/22 10:02	1
13C4 PFBA	94				28 - 153	11/23/22 19:49	12/23/22 10:02	1
13C5 PFPeA	94				24 - 161	11/23/22 19:49	12/23/22 10:02	1
13C4 PFHpA	97				10 - 178	11/23/22 19:49	12/23/22 10:02	1
13C8 PFOA	98				26 - 159	11/23/22 19:49	12/23/22 10:02	1
13C8 PFOS	101				41 - 154	11/23/22 19:49	12/23/22 10:02	1
13C8 FOSA	99				14 - 163	11/23/22 19:49	12/23/22 10:02	1
13C2 PFTeDA	84				10 - 169	11/23/22 19:49	12/23/22 10:02	1

Lab Sample ID: LCS 410-320797/2-B

Matrix: Solid

Analysis Batch: 329876

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 320797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
NVHOS	25.0	22.2		ng/g		89	70 - 130
Perfluoro (2-ethoxyethane) sulfonic acid	22.3	22.2		ng/g		100	70 - 130
10:2 FTS	24.1	22.4		ng/g		93	46 - 143
PMPA	25.0	20.1		ng/g		80	70 - 130
HFPODA	25.0	23.9		ng/g		96	49 - 135
Perfluoro-4-ethylcyclohexanesulfonic acid	23.1	20.5		ng/g		89	70 - 130
PFECA B	25.0	26.9		ng/g		108	70 - 130
Perfluorooctadecanoic acid	25.0	16.6		ng/g		66	16 - 160
NEtFOSE	25.0	22.2		ng/g		89	60 - 126
Perfluoroctanesulfonic acid	23.1	21.0		ng/g		91	61 - 126
Perfluoroundecanoic acid	25.0	23.1		ng/g		92	60 - 134
NMeFOSAA	25.0	23.6		ng/g		94	60 - 134
R-PSDA	25.0	28.4		ng/g		114	70 - 130
Hydrolyzed PSDA	25.0	28.8		ng/g		115	70 - 130
R-PSDCA	25.0	26.0		ng/g		104	70 - 130
R-EVE	25.0	20.5		ng/g		82	70 - 130
NMeFOSE	25.0	22.1		ng/g		88	60 - 130
PEPA	25.0	16.3 *-		ng/g		65	70 - 130
Perfluoropentanoic acid	25.0	21.7		ng/g		87	58 - 134
Perfluoropentanesulfonic acid	23.5	24.1		ng/g		103	57 - 133
6:2 Fluorotelomer sulfonic acid	23.7	21.4		ng/g		90	59 - 135
8:2 FTCA	25.0	21.8		ng/g		87	70 - 130
PS Acid	25.0	19.0		ng/g		76	70 - 130
NEtFOSAA	25.0	22.9		ng/g		92	57 - 127
Perfluorohexanoic acid	25.0	24.7		ng/g		99	59 - 132
Perfluorododecanoic acid	25.0	23.3		ng/g		93	60 - 135
NMeFOSA	25.0	23.2		ng/g		93	60 - 129
Perfluoroctanoic acid	25.0	23.4		ng/g		93	59 - 131
Perfluorodecanoic acid	25.0	23.6		ng/g		94	56 - 133
Perfluorodecanesulfonic acid	24.1	21.4		ng/g		89	57 - 132
Perfluorohexanesulfonic acid	22.8	21.1		ng/g		93	59 - 129
3:3 FTCA	25.0	22.4		ng/g		90	70 - 130
Perfluorobutanoic acid	25.0	19.9		ng/g		79	60 - 128

Eurofins Lancaster Laboratories Environment Testing, LLC

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-320797/2-B

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 329876

Prep Batch: 320797

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanesulfonic acid	22.1	21.4		ng/g	97	54 - 130	
Perfluoroheptanoic acid	25.0	23.3		ng/g	93	59 - 137	
Perfluoroheptanesulfonic acid	23.8	21.7		ng/g	91	59 - 132	
Perfluorononanoic acid	25.0	22.8		ng/g	91	61 - 134	
Perfluorotetradecanoic acid	25.0	23.6		ng/g	94	62 - 134	
PFECA F	25.0	22.2		ng/g	89	70 - 130	
8:2 Fluorotelomer sulfonic acid	24.0	22.9		ng/g	96	55 - 133	
PFO2HxA	25.0	23.8		ng/g	95	70 - 130	
PFO3OA	25.0	22.5		ng/g	90	70 - 130	
PFO4DA	25.0	22.0		ng/g	88	70 - 130	
TAF	25.0	25.3		ng/g	101	70 - 130	
NEtFOSA	25.0	22.7		ng/g	91	60 - 123	
PPF Acid	25.0	19.7		ng/g	79	70 - 130	
Perfluoropropanesulfonic acid	22.9	18.7		ng/g	82	70 - 130	
6:2 FTCA	25.0	21.2		ng/g	85	70 - 130	
10:2 FTCA	25.0	17.8		ng/g	71	70 - 130	
PFMOAA	25.0	24.1		ng/g	96	70 - 130	
Perfluorohexadecanoic acid	25.0	18.0		ng/g	72	38 - 147	
Perfluorononanesulfonic acid	24.0	21.0		ng/g	87	60 - 132	
EVE Acid	25.0	23.9		ng/g	96	70 - 130	
8:2 FTUCA	25.0	22.4		ng/g	90	70 - 130	
6:2 FTUCA	25.0	23.4		ng/g	93	70 - 130	
10:2 FTUCA	25.0	23.2		ng/g	93	70 - 130	
Perfluorotridecanoic acid	25.0	23.4		ng/g	94	53 - 143	
Hydro-PS Acid	25.0	20.0		ng/g	80	70 - 130	
Perfluoroctanesulfonamide	25.0	22.4		ng/g	90	47 - 149	
9Cl-PF3ONS	23.3	22.2		ng/g	95	62 - 130	
4:2 Fluorotelomer sulfonic acid	23.4	22.6		ng/g	97	58 - 131	
11Cl-PF3OUdS	23.3	22.8		ng/g	98	55 - 135	
Hydro-EVE Acid	25.0	17.1 *-		ng/g	68	70 - 130	
Perfluorododecanesulfonic acid	24.2	21.3		ng/g	88	38 - 145	
PFECA G	25.0	26.4		ng/g	106	70 - 130	
7:3 FTCA	25.0	11.8 *-		ng/g	47	70 - 130	
PFECA A	25.0	29.4		ng/g	118	70 - 130	
5:3 FTCA	25.0	23.4		ng/g	94	70 - 130	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.6	22.2		ng/g	94	57 - 137	
MTP	25.0	32.4		ng/g	130	70 - 130	

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d5-NEtFOSAA	105		10 - 193
d3-NMeFOSAA	98		10 - 178
13C3 HFPO-DA	84		10 - 169
d7-N-MeFOSE-M	55		10 - 179
d9-N-EtFOSE-M	52		10 - 185
M2-6:2 FTS	82		10 - 200
M2-8:2 FTS	87		15 - 200
13C3 PFBS	76		27 - 179
M2-4:2 FTS	74		10 - 200

Eurofins Lancaster Laboratories Environment Testing, LLC

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-320797/2-B

Matrix: Solid

Analysis Batch: 329876

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 320797

Isotope Dilution	LCS	LCS	
	%Recovery	Qualifier	Limits
13C5 PFHxA	83		10 - 174
13C9 PFNA	107		26 - 165
13C6 PFDA	87		26 - 161
13C7 PFUnA	86		12 - 173
13C3 PFHxS	74		24 - 171
13C2-PFDoDA	85		11 - 166
d5-NEtPFOSA	33		10 - 180
d3-NMePFOSA	42		10 - 175
13C2-2-Perfluorohexylethanoic acid	171		10 - 200
13C2-2-Perfluoroctylethanoic acid	170		10 - 200
13C2-2-Perfluorodecylethanoic acid	201	*5+	10 - 200
13C2-2H-Perfluoro-2-octenoic acid	67		10 - 164
13C2-2H-Perfluoro-2-decanoic acid	69		10 - 162
13C2-2H-Perfluoro-2-dodecanoic acid	71		10 - 161
13C4 PFBA	91		28 - 153
13C5 PFPeA	93		24 - 161
13C4 PFHpA	81		10 - 178
13C8 PFOA	85		26 - 159
13C8 PFOS	95		41 - 154
13C8 FOSA	94		14 - 163
13C2 PFTeDA	83		10 - 169

Lab Sample ID: LCSD 410-320797/3-B

Matrix: Solid

Analysis Batch: 329876

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 320797

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	
		Result	Qualifier				Limits	RPD	Limit	
NVHOS	25.0	23.5		ng/g		94	70 - 130	6	30	
Perfluoro (2-ethoxyethane) sulfonic acid	22.3	22.6		ng/g		102	70 - 130	2	30	
10:2 FTS	24.1	27.8		ng/g		115	46 - 143	21	30	
PMPA	25.0	20.9		ng/g		84	70 - 130	4	30	
HFPODA	25.0	22.7		ng/g		91	49 - 135	5	30	
Perfluoro-4-ethylcyclohexanesulfonic acid	23.1	20.5		ng/g		89	70 - 130	0	30	
PFECA B	25.0	26.6		ng/g		106	70 - 130	1	30	
Perfluoroctadecanoic acid	25.0	18.9		ng/g		75	16 - 160	13	30	
NEtFOSE	25.0	22.4		ng/g		90	60 - 126	1	30	
Perfluoroctanesulfonic acid	23.1	22.2		ng/g		96	61 - 126	6	30	
Perfluoroundecanoic acid	25.0	22.9		ng/g		92	60 - 134	1	30	
NMeFOSAA	25.0	23.5		ng/g		94	60 - 134	0	30	
R-PSDA	25.0	29.4		ng/g		117	70 - 130	3	30	
Hydrolyzed PSDA	25.0	29.6		ng/g		118	70 - 130	3	30	
R-PSDCA	25.0	26.2		ng/g		105	70 - 130	1	30	
R-EVE	25.0	21.1		ng/g		85	70 - 130	3	30	

Eurofins Lancaster Laboratories Environment Testing, LLC

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCSD 410-320797/3-B

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 329876

Prep Batch: 320797

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec		RPD	RPD
	Added	Result	Qualifier				Limits	RPD	Limit	RPD
NMeFOSE	25.0	22.4		ng/g	90	60 - 130		1	30	
PEPA	25.0	17.2	* -	ng/g	69	70 - 130		5	30	
Perfluoropentanoic acid	25.0	22.3		ng/g	89	58 - 134		3	30	
Perfluoropentanesulfonic acid	23.5	24.5		ng/g	105	57 - 133		2	30	
6:2 Fluorotelomer sulfonic acid	23.7	23.3		ng/g	98	59 - 135		8	30	
8:2 FTCA	25.0	22.3		ng/g	89	70 - 130		2	30	
PS Acid	25.0	15.1	* -	ng/g	60	70 - 130		23	30	
NEtFOSAA	25.0	23.0		ng/g	92	57 - 127		0	30	
Perfluorohexanoic acid	25.0	25.1		ng/g	101	59 - 132		2	30	
Perfluorododecanoic acid	25.0	22.5		ng/g	90	60 - 135		4	30	
NMeFOSA	25.0	24.2		ng/g	97	60 - 129		4	30	
Perfluoroctanoic acid	25.0	25.5		ng/g	102	59 - 131		9	30	
Perfluorodecanoic acid	25.0	26.7		ng/g	107	56 - 133		12	30	
Perfluorodecanesulfonic acid	24.1	23.8		ng/g	99	57 - 132		10	30	
Perfluorohexanesulfonic acid	22.8	21.0		ng/g	92	59 - 129		1	30	
3:3 FTCA	25.0	23.4		ng/g	94	70 - 130		4	30	
Perfluorobutanoic acid	25.0	20.7		ng/g	83	60 - 128		4	30	
Perfluorobutanesulfonic acid	22.1	21.8		ng/g	98	54 - 130		2	30	
Perfluoroheptanoic acid	25.0	24.6		ng/g	98	59 - 137		5	30	
Perfluoroheptanesulfonic acid	23.8	21.5		ng/g	91	59 - 132		1	30	
Perfluorononanoic acid	25.0	23.7		ng/g	95	61 - 134		4	30	
Perfluorotetradecanoic acid	25.0	24.0		ng/g	96	62 - 134		2	30	
PFECA F	25.0	22.7		ng/g	91	70 - 130		2	30	
8:2 Fluorotelomer sulfonic acid	24.0	26.7		ng/g	111	55 - 133		15	30	
PFO2HxA	25.0	24.9		ng/g	100	70 - 130		5	30	
PFO3OA	25.0	23.3		ng/g	93	70 - 130		3	30	
PFO4DA	25.0	22.8		ng/g	91	70 - 130		4	30	
TAF	25.0	25.6		ng/g	102	70 - 130		1	30	
NEtFOSA	25.0	24.2		ng/g	97	60 - 123		6	30	
PPF Acid	25.0	20.5		ng/g	82	70 - 130		4	30	
Perfluoropropanesulfonic acid	22.9	20.0		ng/g	87	70 - 130		7	30	
6:2 FTCA	25.0	22.2		ng/g	89	70 - 130		5	30	
10:2 FTCA	25.0	20.5		ng/g	82	70 - 130		14	30	
PFMOAA	25.0	25.2		ng/g	101	70 - 130		4	30	
Perfluorohexadecanoic acid	25.0	19.4		ng/g	77	38 - 147		7	30	
Perfluorononanesulfonic acid	24.0	23.1		ng/g	96	60 - 132		10	30	
EVE Acid	25.0	20.7		ng/g	83	70 - 130		14	30	
8:2 FTUCA	25.0	23.8		ng/g	95	70 - 130		6	30	
6:2 FTUCA	25.0	24.4		ng/g	98	70 - 130		4	30	
10:2 FTUCA	25.0	23.8		ng/g	95	70 - 130		3	30	
Perfluorotridecanoic acid	25.0	22.7		ng/g	91	53 - 143		3	30	
Hydro-PS Acid	25.0	20.7		ng/g	83	70 - 130		3	30	
Perfluoroctanesulfonamide	25.0	22.9		ng/g	92	47 - 149		2	30	
9Cl-PF3ONS	23.3	22.9		ng/g	98	62 - 130		3	30	
4:2 Fluorotelomer sulfonic acid	23.4	22.2		ng/g	95	58 - 131		2	30	
11Cl-PF3OUDs	23.3	24.2		ng/g	104	55 - 135		6	30	
Hydro-EVE Acid	25.0	17.9		ng/g	72	70 - 130		5	30	
Perfluorododecanesulfonic acid	24.2	22.7		ng/g	94	38 - 145		6	30	
PFECA G	25.0	28.1		ng/g	112	70 - 130		6	30	

Eurofins Lancaster Laboratories Environment Testing, LLC

# QC Sample Results

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCSD 410-320797/3-B

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 329876

Prep Batch: 320797

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD	Limit
		Result	Qualifier				Limits			
7:3 FTCA	25.0	12.4	*-	ng/g	49	70 - 130	5	30		
PFCEAA	25.0	28.9		ng/g	116	70 - 130	2	30		
5:3 FTCA	25.0	25.2		ng/g	101	70 - 130	7	30		
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	23.6	23.4		ng/g	99	57 - 137	5	30		
MTP	25.0	34.2	*+	ng/g	137	70 - 130	6	30		
Isotope Dilution	LCSD	LCSD								
	%Recovery	Qualifier		Limits						
d5-NEtFOSAA	106			10 - 193						
d3-NMeFOSAA	100			10 - 178						
13C3 HFPO-DA	85			10 - 169						
d7-N-MeFOSE-M	56			10 - 179						
d9-N-EtFOSE-M	53			10 - 185						
M2-6:2 FTS	79			10 - 200						
M2-8:2 FTS	76			15 - 200						
13C3 PFBS	77			27 - 179						
M2-4:2 FTS	77			10 - 200						
13C5 PFHxA	83			10 - 174						
13C9 PFNA	106			26 - 165						
13C6 PFDA	84			26 - 161						
13C7 PFUnA	91			12 - 173						
13C3 PFHxS	78			24 - 171						
13C2-PFDoDA	93			11 - 166						
d5-NEtPFOSA	35			10 - 180						
d3-NMePFOSA	45			10 - 175						
13C2-2-Perfluorohexylethanoic acid	169			10 - 200						
13C2-2-Perfluoroctylethanoic acid	177			10 - 200						
13C2-2-Perfluorodecylethanoic acid	180			10 - 200						
13C2-2H-Perfluoro-2-octenoic acid	69			10 - 164						
13C2-2H-Perfluoro-2-decanoic acid	69			10 - 162						
13C2-2H-Perfluoro-2-dodecanoic acid	73			10 - 161						
13C4 PFBA	91			28 - 153						
13C5 PFPeA	94			24 - 161						
13C4 PFHpA	81			10 - 178						
13C8 PFOA	83			26 - 159						
13C8 PFOS	93			41 - 154						
13C8 FOSA	96			14 - 163						
13C2 PFTeDA	84			10 - 169						

# QC Association Summary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## LCMS

### Prep Batch: 320797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-103813-1	Bloom Fertilizer #1/#2	Total/NA	Solid	T-WI-12031r10	
MB 410-320797/1-B	Method Blank	Total/NA	Solid	T-WI-12031r10	
LCS 410-320797/2-B	Lab Control Sample	Total/NA	Solid	T-WI-12031r10	
LCSD 410-320797/3-B	Lab Control Sample Dup	Total/NA	Solid	T-WI-12031r10	

### Cleanup Batch: 320862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-103813-1	Bloom Fertilizer #1/#2	Total/NA	Solid	Extract Aliquot	320797
MB 410-320797/1-B	Method Blank	Total/NA	Solid	Extract Aliquot	320797
LCS 410-320797/2-B	Lab Control Sample	Total/NA	Solid	Extract Aliquot	320797
LCSD 410-320797/3-B	Lab Control Sample Dup	Total/NA	Solid	Extract Aliquot	320797

### Analysis Batch: 329876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-103813-1	Bloom Fertilizer #1/#2	Total/NA	Solid	537 IDA	320862
MB 410-320797/1-B	Method Blank	Total/NA	Solid	537 IDA	320862
LCS 410-320797/2-B	Lab Control Sample	Total/NA	Solid	537 IDA	320862
LCSD 410-320797/3-B	Lab Control Sample Dup	Total/NA	Solid	537 IDA	320862

## General Chemistry

### Analysis Batch: 313176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-103813-1	Bloom Fertilizer #1/#2	Total/NA	Solid	Moisture	

# Lab Chronicle

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

**Client Sample ID: Bloom Fertilizer #1/#2**

**Lab Sample ID: 410-103813-1**

Matrix: Solid

Date Collected: 10/29/22 09:30

Date Received: 10/31/22 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	Moisture		1	313176	UVJN	ELLE	11/02/22 12:40

**Client Sample ID: Bloom Fertilizer #1/#2**

**Lab Sample ID: 410-103813-1**

Matrix: Solid

Date Collected: 10/29/22 09:30

Date Received: 10/31/22 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	T-WI-12031r10			320797	QLP7	ELLE	11/23/22 19:49
Total/NA	Cleanup	Extract Aliquot			320862	QLP7	ELLE	11/25/22 13:36
Total/NA	Analysis	537 IDA		1	329876	PY4D	ELLE	12/23/22 10:36

## Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

# Accreditation/Certification Summary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

## Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Maryland	State	100	06-30-23
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
537 IDA	T-WI-12031r10	Solid	10:2 FTCA
537 IDA	T-WI-12031r10	Solid	10:2 FTS
537 IDA	T-WI-12031r10	Solid	10:2 FTUCA
537 IDA	T-WI-12031r10	Solid	11Cl-PF3OUDs
537 IDA	T-WI-12031r10	Solid	3:3 FTCA
537 IDA	T-WI-12031r10	Solid	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)
537 IDA	T-WI-12031r10	Solid	4:2 Fluorotelomer sulfonic acid
537 IDA	T-WI-12031r10	Solid	5:3 FTCA
537 IDA	T-WI-12031r10	Solid	6:2 Fluorotelomer sulfonic acid
537 IDA	T-WI-12031r10	Solid	6:2 FTCA
537 IDA	T-WI-12031r10	Solid	6:2 FTUCA
537 IDA	T-WI-12031r10	Solid	7:3 FTCA
537 IDA	T-WI-12031r10	Solid	8:2 Fluorotelomer sulfonic acid
537 IDA	T-WI-12031r10	Solid	8:2 FTCA
537 IDA	T-WI-12031r10	Solid	8:2 FTUCA
537 IDA	T-WI-12031r10	Solid	9Cl-PF3ONS
537 IDA	T-WI-12031r10	Solid	EVE Acid
537 IDA	T-WI-12031r10	Solid	HFPODA
537 IDA	T-WI-12031r10	Solid	Hydro-EVE Acid
537 IDA	T-WI-12031r10	Solid	Hydrolyzed PSDA
537 IDA	T-WI-12031r10	Solid	Hydro-PS Acid
537 IDA	T-WI-12031r10	Solid	MTP
537 IDA	T-WI-12031r10	Solid	NEtFOSA
537 IDA	T-WI-12031r10	Solid	NEtFOSAA
537 IDA	T-WI-12031r10	Solid	NetFOSE
537 IDA	T-WI-12031r10	Solid	NMeFOSA
537 IDA	T-WI-12031r10	Solid	NMeFOSAA
537 IDA	T-WI-12031r10	Solid	NMeFOSE
537 IDA	T-WI-12031r10	Solid	NVHOS
537 IDA	T-WI-12031r10	Solid	PEPA
537 IDA	T-WI-12031r10	Solid	Perfluoro (2-ethoxyethane) sulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluoro-4-ethylcyclohexanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorobutanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorobutanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluorodecanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorodecanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluorododecanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorododecanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluoroheptanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluoroheptanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluorohexadecanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluorohexanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorohexanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluorononanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorononanoic acid

## Accreditation/Certification Summary

Client: PEER

Job ID: 410-103813-1

Project/Site: PFAS in Biosolids

### Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
537 IDA	T-WI-12031r10	Solid	Perfluoroctadecanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluoroctanesulfonamide
537 IDA	T-WI-12031r10	Solid	Perfluoroctanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluoroctanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluoropentanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluoropentanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluoropropanesulfonic acid
537 IDA	T-WI-12031r10	Solid	Perfluorotetradecanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluorotridecanoic acid
537 IDA	T-WI-12031r10	Solid	Perfluoroundecanoic acid
537 IDA	T-WI-12031r10	Solid	PFECA A
537 IDA	T-WI-12031r10	Solid	PFECA B
537 IDA	T-WI-12031r10	Solid	PFECA F
537 IDA	T-WI-12031r10	Solid	PFECA G
537 IDA	T-WI-12031r10	Solid	PFMOAA
537 IDA	T-WI-12031r10	Solid	PFO <sub>2</sub> HxA
537 IDA	T-WI-12031r10	Solid	PFO <sub>3</sub> OA
537 IDA	T-WI-12031r10	Solid	PFO <sub>4</sub> DA
537 IDA	T-WI-12031r10	Solid	PMPA
537 IDA	T-WI-12031r10	Solid	PPF Acid
537 IDA	T-WI-12031r10	Solid	PS Acid
537 IDA	T-WI-12031r10	Solid	R-EVE
537 IDA	T-WI-12031r10	Solid	R-PSDA
537 IDA	T-WI-12031r10	Solid	R-PSDCA
537 IDA	T-WI-12031r10	Solid	TAF
Moisture			Percent Moisture

## Method Summary

Client: PEER

Project/Site: PFAS in Biosolids

Job ID: 410-103813-1

Method	Method Description	Protocol	Laboratory
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
Extract Aliquot	Preparation, Extract Aliquot	None	ELLE
T-WI-12031r10	SOP(00037) T-PFAS-WI12031 Rev. 10	ELLE - Lancaster	ELLE

### Protocol References:

ELLE - Lancaster = Eurofins Lancaster, Facility Standard Operating Procedure.

EPA = US Environmental Protection Agency

None = None

### Laboratory References:

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

## Sample Summary

Client: PEER

Project/Site: PFAS in Biosolids

Job ID: 410-103813-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
410-103813-1	Bloom Fertilizer #1/#2	Solid	10/29/22 09:30	10/31/22 08:40

1

2

3

4

5

6

7

8

9

10

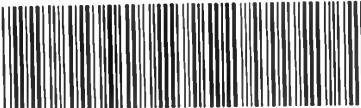
11

12

13

14

15



ronme

## Chain of Custody Record

eurofins

Environment Testing  
America

410-103813 Chain of Custody

Sampler:	Lab PM:	Camer Tracking No(s):	COC No:					
Tim Whitehouse	Kauffman, Dana		410-68294-19864.1					
Phone:	E-Mail:	State of Origin:	Page:					
	Dana.Kauffman@et.eurofinsus.com		Page 1 of 1					
Company: PEER	PWSID:	Analysis Requested						
Address: 962 Wayne Avenue Suite 610	Due Date Requested:							
City: Silver Spring	TAT Requested (days):							
State, Zip: MD, 20910	Compliance Project: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Phone: 202-265-7337(Tel)	PO #:							
Email: twhitehouse@peer.org	Purchase Order not required							
Project Name: PFAS in Biosolids	WO #:							
Site: Poolesville MD	Project #: 41012791							
SSOW#:								
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp., G=grab) BT=Tissue, A=Air	Matrix (W=water, S=solid, O=waste/oil)	Moisture - Percent Moisture	PFCs/IDA - PFAS, 70 compounds	Special Instructions/Note:	
Bloom Fertilizer #1	10/29/22	9:30 am	G	Solid	X			
Bloom fertilizer #2 clear jar	10/29/22	9:30 am	G	Solid	X			
Possible Hazard Identification								
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Radiological	Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)		
Deliverable Requested: I, II, III, IV, Other (specify)					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For Months			
Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:				
Relinquished by:	<i>Laura D. Davis</i>	Date/Time: 10-24-22 14:29	Company: ELLE	Received by: Timoey White	Date/Time: 10/25/22 7:30	Company: PEER		
Relinquished by:		Date/Time:	Company:	Received by:	Date/Time:	Company:		
Relinquished by:		Date/Time:	Company:	Received by: <i>J</i>	Date/Time: 10/31/22 0840	Company: RUST		
Custody Seals Intact:		Custody Seal No.:			Cooler Temperature(s) °C and Other Remarks:			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					8.7			

Ver: 06/08/2021

## Login Sample Receipt Checklist

Client: PEER

Job Number: 410-103813-1

**Login Number:** 103813

**List Source:** Eurofins Lancaster Laboratories Environment Testing, LLC

**List Number:** 1

**Creator:** Foreman, Leah M

Question	Answer	Comment
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice
Cooler Temperature is acceptable (</=6C, not frozen).	False	Refer to Job Narrative for details.
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	