eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike
Lancaster, PA 17601
Tel: (717)656-2300

Laboratory Job ID: 410-43806-1
Client Project/Site: KI Sawyer WWTP

For:
White Water Associates
429 River Lane
PO BOX 27
Amasa, Michigan 49903

Attn: Bette J Premo

Elizabeth M. Zanar

Authorized for release by:
7/5/2021 6:07:49 AM

Elizabeth Zanar, Project Manager
(717)556-7290
Elizabeth.Zanar@eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied, except as otherwise agreed. We disclaim any other warranties, expressed or implied, including a warranty of fitness for particular purpose and warranty of merchantability. In no event shall Eurofins Lancaster Laboratories Environmental, LLC be liable for indirect, special, consequential, or incidental damages including, but not limited to, damages for loss of profit or goodwill regardless of (A) the negligence (either sole or concurrent) of Eurofins Lancaster Laboratories Environmental and (B) whether Eurofins Lancaster Laboratories Environmental has been informed of the possibility of such damages. We accept no legal responsibility for the purposes for which the client uses the test results. Except as otherwise agreed, no purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Elizabeth M. Zanar

Elizabeth Zanar
Project Manager
7/5/2021 6:07:49 AM

Table of Contents

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
E	Result exceeded calibration range.
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.
S1-	Surrogate recovery exceeds control limits, low biased.

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: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Job ID: 410-43806-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-43806-1

Receipt
The samples were received on 6/16/2021 11:43 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C

LCMS
Method 537.1_DW: The recovery for the surrogate(s) in the following samples: Field Blank (410-43806-3) and Trip Blank (410-43806-4) is outside QC acceptance limits. The following action was taken: The sample(s) was re-extracted within the method required holding time and the recovery for the surrogate(s) is again outside QC acceptance limits.

Method PFC_IDA: The recovery for target analyte perfluorooctanesulfonamide (PFOSA) is outside of QC acceptance limits in the laboratory control spike(s) associated with sample: Biosolids West (410-43806-5). Since the recovery for PFOSA is high and the result detected in the sample(s) is a “J” level detection, the data is reported. The result reported for PFOSA in this sample(s) should be considered estimated.

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: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Client Sample ID: Well 5 — Lab Sample ID: 410-43806-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.5	J	1.8	0.46	ng/L	1		EPA 537.1	Total/NA
Perfluoroheptanoic acid	0.67	J	1.8	0.46	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanoic acid	1.1	J	1.8	0.46	ng/L	1		EPA 537.1	Total/NA
Perfluorobutanesulfonic acid	9.9		1.8	0.46	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanesulfonic acid	8.6		1.8	0.46	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	1.7	J	1.8	0.46	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: TP 001 — Lab Sample ID: 410-43806-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.5	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluoroheptanoic acid	0.65	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanoic acid	1.1	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorobutanesulfonic acid	9.4		1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanesulfonic acid	8.2		1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	1.6	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: Field Blank — Lab Sample ID: 410-43806-3

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: 410-43806-4

No Detections.

Client Sample ID: Biosolids West — Lab Sample ID: 410-43806-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	10	J	13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanoic acid	9.4	J	13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
Perfluorodecanoic acid	5.1	J	13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
Perfluorohexanesulfonic acid	7.1	J I	13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonic acid	74		13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
NEtFOSAA	6.4	J	42	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
NMeFOSAA	14	J	42	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
Perfluorooctanesulfonamide	6.4	J *+	13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
Perfluoroundecanoic acid	5.5	J	13	4.2	ng/g	1	☼	EPA 537 (Mod)	Total/NA
8:2 Fluorotelomer sulfonic acid	18	J	63	13	ng/g	1	☼	EPA 537 (Mod)	Total/NA
6:2 Fluorotelomer sulfonic acid	13	J	42	13	ng/g	1	☼	EPA 537 (Mod)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Client Sample ID: Well 5

Date Collected: 06/15/21 09:15
Date Received: 06/16/21 11:43

Lab Sample ID: 410-43806-1
Matrix: Drinking Water

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.5**	**J**	1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluoroheptanoic acid	**0.67**	**J**	1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorooctanoic acid	**1.1**	**J**	1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorononanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorodecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorotridecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorotetradecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorobutanesulfonic acid	**9.9**		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorohexanesulfonic acid	**8.6**		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorooctanesulfonic acid	**1.7**	**J**	1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
NEtFOSAA	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
NMeFOSAA	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluoroundecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
Perfluorododecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
HFPODA	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
9Cl-PF3ONS	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
11Cl-PF3OUdS	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1
DONA	ND		1.8	0.46	ng/L		06/17/21 08:07	06/22/21 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*90*		*70 - 130*	*06/17/21 08:07*	*06/22/21 19:59*	*1*
13C2 PFHxA	*93*		*70 - 130*	*06/17/21 08:07*	*06/22/21 19:59*	*1*
13C3 HFPO-DA	*88*		*70 - 130*	*06/17/21 08:07*	*06/22/21 19:59*	*1*
d5-NEtFOSAA	*85*		*70 - 130*	*06/17/21 08:07*	*06/22/21 19:59*	*1*

Client Sample ID: TP 001

Date Collected: 06/15/21 09:20
Date Received: 06/16/21 11:43

Lab Sample ID: 410-43806-2
Matrix: Drinking Water

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.5**	**J**	1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluoroheptanoic acid	**0.65**	**J**	1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorooctanoic acid	**1.1**	**J**	1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorononanoic acid	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorobutanesulfonic acid	**9.4**		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorohexanesulfonic acid	**8.2**		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorooctanesulfonic acid	**1.6**	**J**	1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
NEtFOSAA	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
NMeFOSAA	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
HFPODA	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
9Cl-PF3ONS	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
11Cl-PF3OUdS	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1
DONA	ND		1.8	0.44	ng/L		06/17/21 08:07	06/22/21 20:11	1

Client Sample ID: TP 001

Lab Sample ID: 410-43806-2

Date Collected: 06/15/21 09:20

Matrix: Drinking Water

Date Received: 06/16/21 11:43

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*84*		*70 - 130*	*06/17/21 08:07*	*06/22/21 20:11*	*1*
13C2 PFHxA	*89*		*70 - 130*	*06/17/21 08:07*	*06/22/21 20:11*	*1*
13C3 HFPO-DA	*84*		*70 - 130*	*06/17/21 08:07*	*06/22/21 20:11*	*1*
d5-NEtFOSAA	*80*		*70 - 130*	*06/17/21 08:07*	*06/22/21 20:11*	*1*

Client Sample ID: Field Blank

Lab Sample ID: 410-43806-3

Date Collected: 06/15/21 09:10

Matrix: Drinking Water

Date Received: 06/16/21 11:43

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluoroheptanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorooctanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorononanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorodecanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorotridecanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorotetradecanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorobutanesulfonic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorohexanesulfonic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorooctanesulfonic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
NEtFOSAA	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
NMeFOSAA	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluoroundecanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
Perfluorododecanoic acid	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
HFPODA	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
9Cl-PF3ONS	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
11Cl-PF3OUdS	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1
DONA	ND		1.9	0.48	ng/L		06/17/21 08:07	06/22/21 20:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*26*	*S1-*	*70 - 130*	*06/17/21 08:07*	*06/22/21 20:23*	*1*
13C2 PFHxA	*7*	*S1-*	*70 - 130*	*06/17/21 08:07*	*06/22/21 20:23*	*1*
13C3 HFPO-DA	*7*	*S1-*	*70 - 130*	*06/17/21 08:07*	*06/22/21 20:23*	*1*
d5-NEtFOSAA	*36*	*S1-*	*70 - 130*	*06/17/21 08:07*	*06/22/21 20:23*	*1*

Client Sample ID: Trip Blank

Lab Sample ID: 410-43806-4

Date Collected: 06/15/21 09:45

Matrix: Drinking Water

Date Received: 06/16/21 11:43

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluoroheptanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorooctanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorononanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorodecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorotridecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorotetradecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorobutanesulfonic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorohexanesulfonic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1

Client Sample ID: Trip Blank

Date Collected: 06/15/21 09:45
Date Received: 06/16/21 11:43

Lab Sample ID: 410-43806-4
Matrix: Drinking Water

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
NEtFOSAA	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
NMeFOSAA	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluoroundecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
Perfluorododecanoic acid	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
HFPODA	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
9Cl-PF3ONS	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
11Cl-PF3OUdS	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1
DONA	ND		1.8	0.46	ng/L		06/17/21 08:04	06/22/21 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*74*		*70 - 130*	*06/17/21 08:04*	*06/22/21 17:40*	*1*
13C2 PFHxA	*19*	*S1-*	*70 - 130*	*06/17/21 08:04*	*06/22/21 17:40*	*1*
13C3 HFPO-DA	*22*	*S1-*	*70 - 130*	*06/17/21 08:04*	*06/22/21 17:40*	*1*
d5-NEtFOSAA	*74*		*70 - 130*	*06/17/21 08:04*	*06/22/21 17:40*	*1*

Client Sample ID: Biosolids West

Date Collected: 06/15/21 09:40
Date Received: 06/16/21 11:43

Lab Sample ID: 410-43806-5
Matrix: Solid
Percent Solids: 2.4

Method: EPA 537 (Mod) - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**10**	**J**	13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluoroheptanoic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorooctanoic acid	**9.4**	**J**	13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorononanoic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorodecanoic acid	**5.1**	**J**	13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorotridecanoic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorotetradecanoic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorobutanesulfonic acid	ND		42	8.4	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorohexanesulfonic acid	**7.1**	**J I**	13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorooctanesulfonic acid	**74**		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
NEtFOSAA	**6.4**	**J**	42	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
NMeFOSAA	**14**	**J**	42	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluoropentanesulfonic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluoroheptanesulfonic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorononanesulfonic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorodecanesulfonic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorooctanesulfonamide	**6.4**	**J *+**	13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorobutanoic acid	ND		42	17	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluoropentanoic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
HFPODA	ND		42	8.4	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
DONA	ND		63	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
9Cl-PF3ONS	ND		42	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
11Cl-PF3OUdS	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluoroundecanoic acid	**5.5**	**J**	13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
Perfluorododecanoic acid	ND		13	4.2	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
8:2 Fluorotelomer sulfonic acid	**18**	**J**	63	13	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
4:2 Fluorotelomer sulfonic acid	ND		42	13	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1
6:2 Fluorotelomer sulfonic acid	**13**	**J**	42	13	ng/g	☼	06/17/21 10:34	06/24/21 17:34	1

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Client Sample ID: Biosolids West
Date Collected: 06/15/21 09:40
Date Received: 06/16/21 11:43

Lab Sample ID: 410-43806-5
Matrix: Solid
Percent Solids: 2.4

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	125		10 - 169	06/17/21 10:34	06/24/21 17:34	1
M2-8:2 FTS	158		10 - 178	06/17/21 10:34	06/24/21 17:34	1
M2-6:2 FTS	135		10 - 182	06/17/21 10:34	06/24/21 17:34	1
13C5 PFHxA	100		11 - 138	06/17/21 10:34	06/24/21 17:34	1
13C4 PFHpA	108		15 - 139	06/17/21 10:34	06/24/21 17:34	1
13C8 PFOA	114		21 - 133	06/17/21 10:34	06/24/21 17:34	1
13C9 PFNA	106		15 - 145	06/17/21 10:34	06/24/21 17:34	1
13C6 PFDA	111		21 - 134	06/17/21 10:34	06/24/21 17:34	1
13C7 PFUnA	114		15 - 138	06/17/21 10:34	06/24/21 17:34	1
13C2-PFDoDA	100		28 - 126	06/17/21 10:34	06/24/21 17:34	1
13C2 PFTeDA	101		10 - 138	06/17/21 10:34	06/24/21 17:34	1
13C3 PFBS	126		23 - 130	06/17/21 10:34	06/24/21 17:34	1
13C3 PFHxS	113		24 - 136	06/17/21 10:34	06/24/21 17:34	1
13C8 PFOS	106		31 - 130	06/17/21 10:34	06/24/21 17:34	1
d3-NMeFOSAA	103		10 - 172	06/17/21 10:34	06/24/21 17:34	1
d5-NEtFOSAA	121		10 - 176	06/17/21 10:34	06/24/21 17:34	1
13C8 FOSA	90		25 - 135	06/17/21 10:34	06/24/21 17:34	1
13C4 PFBA	108		12 - 137	06/17/21 10:34	06/24/21 17:34	1
13C5 PFPeA	117		12 - 135	06/17/21 10:34	06/24/21 17:34	1
13C3 HFPO-DA	98		10 - 152	06/17/21 10:34	06/24/21 17:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	97.6		1.0	1.0	%			06/17/21 07:57	1

Surrogate Summary

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		PFDA	PFHxA	HFPODA	d5NEFOS
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
410-43806-1	Well 5	90	93	88	85
410-43806-2	TP 001	84	89	84	80
410-43806-3	Field Blank	26 S1-	7 S1-	7 S1-	36 S1-
410-43806-4	Trip Blank	74	19 S1-	22 S1-	74
LCS 410-138899/2-A	Lab Control Sample	85	89	90	72
LCS 410-138903/2-A	Lab Control Sample	86	86	83	74
LCSD 410-138899/3-A	Lab Control Sample Dup	86	93	97	70
LCSD 410-138903/3-A	Lab Control Sample Dup	89	94	91	78
MB 410-138899/1-A	Method Blank	80	85	86	75
MB 410-138903/1-A	Method Blank	85	90	84	78

Surrogate Legend

PFDA = 13C2 PFDA
PFHxA = 13C2 PFHxA
HFPODA = 13C3 HFPO-DA
d5NEFOS = d5-NEtFOSAA

Isotope Dilution Summary

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Method: EPA 537 (Mod) - EPA 537 Isotope Dilution

Matrix: Solid

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M282FTS	M262FTS	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA
Lab Sample ID	Client Sample ID	(10-169)	(10-178)	(10-182)	(11-138)	(15-139)	(21-133)	(15-145)	(21-134)
410-43806-5	Biosolids West	125	158	135	100	108	114	106	111
LCS 410-139001/2-B	Lab Control Sample	117	92	109	104	106	115	115	114
LCSD 410-139001/3-B	Lab Control Sample Dup	113	91	109	102	107	107	100	104
MB 410-139001/1-B	Method Blank	120	104	123	101	105	114	114	109

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		13C7PUA	PFDoDA	PFTDA	C3PFBS	C3PFHS	C8PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(15-138)	(28-126)	(10-138)	(23-130)	(24-136)	(31-130)	(10-172)	(10-176)
410-43806-5	Biosolids West	114	100	101	126	113	106	103	121
LCS 410-139001/2-B	Lab Control Sample	115	108	100	126	108	113	107	117
LCSD 410-139001/3-B	Lab Control Sample Dup	102	98	85	116	104	102	98	109
MB 410-139001/1-B	Method Blank	109	95	89	127	107	111	98	115

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	HFPODA				
Lab Sample ID	Client Sample ID	(25-135)	(12-137)	(12-135)	(10-152)				
410-43806-5	Biosolids West	90	108	117	98				
LCS 410-139001/2-B	Lab Control Sample	100	113	119	103				
LCSD 410-139001/3-B	Lab Control Sample Dup	91	103	105	101				
MB 410-139001/1-B	Method Blank	94	109	109	97				

Surrogate Legend

M242FTS = M2-4:2 FTS
M282FTS = M2-8:2 FTS
M262FTS = M2-6:2 FTS
13C5PHA = 13C5 PFHxA
C4PFHA = 13C4 PFHpA
C8PFOA = 13C8 PFOA
C9PFNA = 13C9 PFNA
C6PFDA = 13C6 PFDA
13C7PUA = 13C7 PFUnA
PFDoDA = 13C2-PFDoDA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
C3PFHS = 13C3 PFHxS
C8PFOS = 13C8 PFOS
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
HFPODA = 13C3 HFPO-DA

Method: EPA 537 (Mod) - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-139001/1-B
Matrix: Solid
Analysis Batch: 141402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139001

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluoroheptanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorooctanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorononanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorodecanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorotridecanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorotetradecanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorobutanesulfonic acid	ND		1.0	0.20	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorohexanesulfonic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorooctanesulfonic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
NEtFOSAA	ND		1.0	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
NMeFOSAA	ND		1.0	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluoropentanesulfonic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluoroheptanesulfonic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorononanesulfonic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorodecanesulfonic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorooctanesulfonamide	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorobutanoic acid	ND		1.0	0.40	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluoropentanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
HFPODA	ND		1.0	0.20	ng/g		06/17/21 10:34	06/24/21 17:00	1
DONA	ND		1.5	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
9Cl-PF3ONS	ND		1.0	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
11Cl-PF3OUdS	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluoroundecanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
Perfluorododecanoic acid	ND		0.30	0.10	ng/g		06/17/21 10:34	06/24/21 17:00	1
8:2 Fluorotelomer sulfonic acid	ND		1.5	0.30	ng/g		06/17/21 10:34	06/24/21 17:00	1
4:2 Fluorotelomer sulfonic acid	ND		1.0	0.30	ng/g		06/17/21 10:34	06/24/21 17:00	1
6:2 Fluorotelomer sulfonic acid	ND		1.0	0.30	ng/g		06/17/21 10:34	06/24/21 17:00	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*120*		*10 - 169*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
M2-8:2 FTS	*104*		*10 - 178*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
M2-6:2 FTS	*123*		*10 - 182*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C5 PFHxA	*101*		*11 - 138*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C4 PFHpA	*105*		*15 - 139*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C8 PFOA	*114*		*21 - 133*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C9 PFNA	*114*		*15 - 145*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C6 PFDA	*109*		*21 - 134*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C7 PFUnA	*109*		*15 - 138*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C2-PFDoDA	*95*		*28 - 126*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C2 PFTeDA	*89*		*10 - 138*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C3 PFBS	*127*		*23 - 130*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C3 PFHxS	*107*		*24 - 136*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C8 PFOS	*111*		*31 - 130*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
d3-NMeFOSAA	*98*		*10 - 172*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
d5-NEtFOSAA	*115*		*10 - 176*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C8 FOSA	*94*		*25 - 135*	*06/17/21 10:34*	*06/24/21 17:00*	*1*
13C4 PFBA	*109*		*12 - 137*	*06/17/21 10:34*	*06/24/21 17:00*	*1*

Method: EPA 537 (Mod) - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: MB 410-139001/1-B
Matrix: Solid
Analysis Batch: 141402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 139001

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFPeA	109		12 - 135	06/17/21 10:34	06/24/21 17:00	1
13C3 HFPO-DA	97		10 - 152	06/17/21 10:34	06/24/21 17:00	1

Lab Sample ID: LCS 410-139001/2-B
Matrix: Solid
Analysis Batch: 141402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139001

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid	25.0	21.9		ng/g		88	61 - 147
Perfluoroheptanoic acid	25.0	23.0		ng/g		92	61 - 151
Perfluorooctanoic acid	25.0	21.1		ng/g		84	62 - 144
Perfluorononanoic acid	25.0	24.5		ng/g		98	62 - 148
Perfluorodecanoic acid	25.0	22.1		ng/g		88	62 - 142
Perfluorotridecanoic acid	25.0	24.1		ng/g		96	57 - 152
Perfluorotetradecanoic acid	25.0	23.2		ng/g		93	60 - 147
Perfluorobutanesulfonic acid	22.1	18.3		ng/g		83	62 - 137
Perfluorohexanesulfonic acid	22.8	19.8		ng/g		87	57 - 135
Perfluorooctanesulfonic acid	23.1	21.9		ng/g		94	48 - 134
NEtFOSAA	25.0	23.4		ng/g		94	50 - 140
NMeFOSAA	25.0	24.7		ng/g		99	53 - 149
Perfluoropentanesulfonic acid	23.5	19.1		ng/g		82	65 - 145
Perfluoroheptanesulfonic acid	23.8	20.9		ng/g		88	67 - 138
Perfluorononanesulfonic acid	24.0	22.9		ng/g		96	63 - 143
Perfluorodecanesulfonic acid	24.1	22.6		ng/g		94	60 - 142
Perfluorooctanesulfonamide	25.0	40.7	*+	ng/g		163	52 - 132
Perfluorobutanoic acid	25.0	22.5		ng/g		90	50 - 185
Perfluoropentanoic acid	25.0	21.0		ng/g		84	69 - 144
HFPODA	25.0	23.1		ng/g		92	29 - 162
DONA	23.6	21.3		ng/g		90	48 - 155
9Cl-PF3ONS	23.3	22.5		ng/g		97	48 - 146
11Cl-PF3OUdS	23.3	22.0		ng/g		95	45 - 145
Perfluoroundecanoic acid	25.0	22.5		ng/g		90	62 - 144
Perfluorododecanoic acid	25.0	23.7		ng/g		95	60 - 147
8:2 Fluorotelomer sulfonic acid	24.0	26.0		ng/g		109	50 - 147
4:2 Fluorotelomer sulfonic acid	23.4	22.9		ng/g		98	55 - 132
6:2 Fluorotelomer sulfonic acid	23.7	24.5		ng/g		104	53 - 137

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-4:2 FTS	117		10 - 169
M2-8:2 FTS	92		10 - 178
M2-6:2 FTS	109		10 - 182
13C5 PFHxA	104		11 - 138
13C4 PFHpA	106		15 - 139
13C8 PFOA	115		21 - 133
13C9 PFNA	115		15 - 145
13C6 PFDA	114		21 - 134
13C7 PFUnA	115		15 - 138
13C2-PFDoDA	108		28 - 126
13C2 PFTeDA	100		10 - 138

Method: EPA 537 (Mod) - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCS 410-139001/2-B
Matrix: Solid
Analysis Batch: 141402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 139001

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C3 PFBS	126		23 - 130
13C3 PFHxS	108		24 - 136
13C8 PFOS	113		31 - 130
d3-NMeFOSAA	107		10 - 172
d5-NEtFOSAA	117		10 - 176
13C8 FOSA	100		25 - 135
13C4 PFBA	113		12 - 137
13C5 PFPeA	119		12 - 135
13C3 HFPO-DA	103		10 - 152

Lab Sample ID: LCSD 410-139001/3-B
Matrix: Solid
Analysis Batch: 141402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 139001

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid			25.0	22.1		ng/g		88	61 - 147	1	30
Perfluoroheptanoic acid			25.0	22.6		ng/g		90	61 - 151	2	30
Perfluorooctanoic acid			25.0	22.2		ng/g		89	62 - 144	5	30
Perfluorononanoic acid			25.0	22.9		ng/g		92	62 - 148	7	30
Perfluorodecanoic acid			25.0	21.8		ng/g		87	62 - 142	1	30
Perfluorotridecanoic acid			25.0	23.5		ng/g		94	57 - 152	3	30
Perfluorotetradecanoic acid			25.0	23.1		ng/g		93	60 - 147	0	30
Perfluorobutanesulfonic acid			22.1	18.3		ng/g		83	62 - 137	0	30
Perfluorohexanesulfonic acid			22.8	20.3		ng/g		89	57 - 135	2	30
Perfluorooctanesulfonic acid			23.1	21.1		ng/g		91	48 - 134	4	30
NEtFOSAA			25.0	23.0		ng/g		92	50 - 140	2	30
NMeFOSAA			25.0	24.9		ng/g		100	53 - 149	1	30
Perfluoropentanesulfonic acid			23.5	19.2		ng/g		82	65 - 145	0	30
Perfluoroheptanesulfonic acid			23.8	21.0		ng/g		88	67 - 138	0	30
Perfluorononanesulfonic acid			24.0	22.3		ng/g		93	63 - 143	3	30
Perfluorodecanesulfonic acid			24.1	21.7		ng/g		90	60 - 142	4	30
Perfluorooctanesulfonamide			25.0	40.4	*+	ng/g		162	52 - 132	1	30
Perfluorobutanoic acid			25.0	22.2		ng/g		89	50 - 185	2	30
Perfluoropentanoic acid			25.0	21.4		ng/g		86	69 - 144	2	30
HFPODA			25.0	22.2		ng/g		89	29 - 162	4	30
DONA			23.6	21.1		ng/g		89	48 - 155	1	30
9Cl-PF3ONS			23.3	21.7		ng/g		93	48 - 146	4	30
11Cl-PF3OUdS			23.3	20.7		ng/g		89	45 - 145	6	30
Perfluoroundecanoic acid			25.0	23.0		ng/g		92	62 - 144	2	30
Perfluorododecanoic acid			25.0	22.7		ng/g		91	60 - 147	4	30
8:2 Fluorotelomer sulfonic acid			24.0	24.6		ng/g		103	50 - 147	6	30
4:2 Fluorotelomer sulfonic acid			23.4	22.8		ng/g		98	55 - 132	0	30
6:2 Fluorotelomer sulfonic acid			23.7	23.4		ng/g		99	53 - 137	5	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
M2-4:2 FTS	113		10 - 169
M2-8:2 FTS	91		10 - 178
M2-6:2 FTS	109		10 - 182
13C5 PFHxA	102		11 - 138

Method: EPA 537 (Mod) - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCSD 410-139001/3-B
Matrix: Solid
Analysis Batch: 141402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 139001

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFHpA	107		15 - 139
13C8 PFOA	107		21 - 133
13C9 PFNA	100		15 - 145
13C6 PFDA	104		21 - 134
13C7 PFUnA	102		15 - 138
13C2-PFDoDA	98		28 - 126
13C2 PFTeDA	85		10 - 138
13C3 PFBS	116		23 - 130
13C3 PFHxS	104		24 - 136
13C8 PFOS	102		31 - 130
d3-NMeFOSAA	98		10 - 172
d5-NEtFOSAA	109		10 - 176
13C8 FOSA	91		25 - 135
13C4 PFBA	103		12 - 137
13C5 PFPeA	105		12 - 135
13C3 HFPO-DA	101		10 - 152

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018

Lab Sample ID: MB 410-138899/1-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138899

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
NEtFOSAA	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
NMeFOSAA	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
HFPODA	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
9Cl-PF3ONS	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
11Cl-PF3OUdS	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1
DONA	ND		2.0	0.50	ng/L		06/17/21 08:04	06/22/21 13:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	80		70 - 130	06/17/21 08:04	06/22/21 13:24	1
13C2 PFHxA	85		70 - 130	06/17/21 08:04	06/22/21 13:24	1
13C3 HFPO-DA	86		70 - 130	06/17/21 08:04	06/22/21 13:24	1
d5-NEtFOSAA	75		70 - 130	06/17/21 08:04	06/22/21 13:24	1

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: LCS 410-138899/2-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138899

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorohexanoic acid			100	95.1	E	ng/L		95	70 - 130		
Perfluoroheptanoic acid			100	94.3	E	ng/L		94	70 - 130		
Perfluorooctanoic acid			100	95.6	E	ng/L		96	70 - 130		
Perfluorononanoic acid			100	93.9	E	ng/L		94	70 - 130		
Perfluorodecanoic acid			100	94.0	E	ng/L		94	70 - 130		
Perfluorotridecanoic acid			100	89.4	E	ng/L		89	70 - 130		
Perfluorotetradecanoic acid			100	89.3	E	ng/L		89	70 - 130		
Perfluorobutanesulfonic acid			88.5	77.1	E	ng/L		87	70 - 130		
Perfluorohexanesulfonic acid			91.2	89.0	E	ng/L		98	70 - 130		
Perfluorooctanesulfonic acid			92.6	88.3	E	ng/L		95	70 - 130		
NEtFOSAA			100	84.6	E	ng/L		85	70 - 130		
NMeFOSAA			100	85.8	E	ng/L		86	70 - 130		
Perfluoroundecanoic acid			100	90.8	E	ng/L		91	70 - 130		
Perfluorododecanoic acid			100	90.9	E	ng/L		91	70 - 130		
HFPODA			100	97.0	E	ng/L		97	70 - 130		
9Cl-PF3ONS			93.0	87.2	E	ng/L		94	70 - 130		
11Cl-PF3OUdS			93.0	86.9	E	ng/L		93	70 - 130		
DONA			94.5	91.4	E	ng/L		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*85*		*70 - 130*
13C2 PFHxA	*89*		*70 - 130*
13C3 HFPO-DA	*90*		*70 - 130*
d5-NEtFOSAA	*72*		*70 - 130*

Lab Sample ID: LCSD 410-138899/3-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138899

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid			100	101	E	ng/L		101	70 - 130	6	30
Perfluoroheptanoic acid			100	95.4	E	ng/L		95	70 - 130	1	30
Perfluorooctanoic acid			100	96.9	E	ng/L		97	70 - 130	1	30
Perfluorononanoic acid			100	96.7	E	ng/L		97	70 - 130	3	30
Perfluorodecanoic acid			100	96.0	E	ng/L		96	70 - 130	2	30
Perfluorotridecanoic acid			100	88.6	E	ng/L		89	70 - 130	1	30
Perfluorotetradecanoic acid			100	89.1	E	ng/L		89	70 - 130	0	30
Perfluorobutanesulfonic acid			88.5	84.3	E	ng/L		95	70 - 130	9	30
Perfluorohexanesulfonic acid			91.2	88.5	E	ng/L		97	70 - 130	1	30
Perfluorooctanesulfonic acid			92.6	88.5	E	ng/L		96	70 - 130	0	30
NEtFOSAA			100	82.3	E	ng/L		82	70 - 130	3	30
NMeFOSAA			100	84.4	E	ng/L		84	70 - 130	2	30
Perfluoroundecanoic acid			100	90.6	E	ng/L		91	70 - 130	0	30
Perfluorododecanoic acid			100	91.3	E	ng/L		91	70 - 130	0	30
HFPODA			100	102	E	ng/L		102	70 - 130	5	30
9Cl-PF3ONS			93.0	89.4	E	ng/L		96	70 - 130	3	30
11Cl-PF3OUdS			93.0	85.2	E	ng/L		92	70 - 130	2	30
DONA			94.5	93.4	E	ng/L		99	70 - 130	2	30

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: LCSD 410-138899/3-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138899

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFDA	86		70 - 130
13C2 PFHxA	93		70 - 130
13C3 HFPO-DA	97		70 - 130
d5-NEtFOSAA	70		70 - 130

Lab Sample ID: MB 410-138903/1-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 138903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
NEtFOSAA	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
NMeFOSAA	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
HFPODA	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
9Cl-PF3ONS	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
11Cl-PF3OUdS	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1
DONA	ND		2.0	0.50	ng/L		06/17/21 08:07	06/22/21 18:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	85		70 - 130	06/17/21 08:07	06/22/21 18:03	1
13C2 PFHxA	90		70 - 130	06/17/21 08:07	06/22/21 18:03	1
13C3 HFPO-DA	84		70 - 130	06/17/21 08:07	06/22/21 18:03	1
d5-NEtFOSAA	78		70 - 130	06/17/21 08:07	06/22/21 18:03	1

Lab Sample ID: LCS 410-138903/2-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid	25.6	22.8		ng/L		89	70 - 130
Perfluoroheptanoic acid	25.6	23.7		ng/L		93	70 - 130
Perfluorooctanoic acid	25.6	23.5		ng/L		92	70 - 130
Perfluorononanoic acid	25.6	23.9		ng/L		93	70 - 130
Perfluorodecanoic acid	25.6	23.7		ng/L		93	70 - 130
Perfluorotridecanoic acid	25.6	22.1		ng/L		86	70 - 130
Perfluorotetradecanoic acid	25.6	22.6		ng/L		88	70 - 130
Perfluorobutanesulfonic acid	22.7	19.5		ng/L		86	70 - 130

Method: EPA 537.1 - EPA 537.1, Ver 1.0 Nov 2018 (Continued)

Lab Sample ID: LCS 410-138903/2-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 138903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanesulfonic acid	23.3	21.8		ng/L		93	70 - 130
Perfluorooctanesulfonic acid	23.7	21.1		ng/L		89	70 - 130
NEtFOSAA	25.6	20.6		ng/L		80	70 - 130
NMeFOSAA	25.6	20.9		ng/L		82	70 - 130
Perfluoroundecanoic acid	25.6	23.0		ng/L		90	70 - 130
Perfluorododecanoic acid	25.6	22.6		ng/L		88	70 - 130
HFPODA	25.6	22.1		ng/L		86	70 - 130
9Cl-PF3ONS	23.8	20.6		ng/L		86	70 - 130
11Cl-PF3OUdS	23.8	20.7		ng/L		87	70 - 130
DONA	24.2	21.7		ng/L		90	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*86*		*70 - 130*
13C2 PFHxA	*86*		*70 - 130*
13C3 HFPO-DA	*83*		*70 - 130*
d5-NEtFOSAA	*74*		*70 - 130*

Lab Sample ID: LCSD 410-138903/3-A
Matrix: Drinking Water
Analysis Batch: 140602

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 138903

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid	25.6	23.7		ng/L		93	70 - 130	4	30
Perfluoroheptanoic acid	25.6	23.9		ng/L		93	70 - 130	0	30
Perfluorooctanoic acid	25.6	23.3		ng/L		91	70 - 130	1	30
Perfluorononanoic acid	25.6	23.4		ng/L		91	70 - 130	2	30
Perfluorodecanoic acid	25.6	22.9		ng/L		90	70 - 130	4	30
Perfluorotridecanoic acid	25.6	21.7		ng/L		85	70 - 130	2	30
Perfluorotetradecanoic acid	25.6	22.2		ng/L		87	70 - 130	2	30
Perfluorobutanesulfonic acid	22.7	20.9		ng/L		92	70 - 130	7	30
Perfluorohexanesulfonic acid	23.3	21.8		ng/L		93	70 - 130	0	30
Perfluorooctanesulfonic acid	23.7	20.9		ng/L		88	70 - 130	1	30
NEtFOSAA	25.6	20.8		ng/L		81	70 - 130	1	30
NMeFOSAA	25.6	20.2		ng/L		79	70 - 130	3	30
Perfluoroundecanoic acid	25.6	22.8		ng/L		89	70 - 130	1	30
Perfluorododecanoic acid	25.6	22.3		ng/L		87	70 - 130	1	30
HFPODA	25.6	22.4		ng/L		88	70 - 130	1	30
9Cl-PF3ONS	23.8	20.5		ng/L		86	70 - 130	1	30
11Cl-PF3OUdS	23.8	20.4		ng/L		86	70 - 130	2	30
DONA	24.2	21.4		ng/L		89	70 - 130	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C2 PFDA	*89*		*70 - 130*
13C2 PFHxA	*94*		*70 - 130*
13C3 HFPO-DA	*91*		*70 - 130*
d5-NEtFOSAA	*78*		*70 - 130*

LCMS

Prep Batch: 138899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-4	Trip Blank	Total/NA	Drinking Water	537.1 DW Prep	
MB 410-138899/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW Prep	
LCS 410-138899/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW Prep	
LCSD 410-138899/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW Prep	

Prep Batch: 138903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-1	Well 5	Total/NA	Drinking Water	537.1 DW Prep	
410-43806-2	TP 001	Total/NA	Drinking Water	537.1 DW Prep	
410-43806-3	Field Blank	Total/NA	Drinking Water	537.1 DW Prep	
MB 410-138903/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW Prep	
LCS 410-138903/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW Prep	
LCSD 410-138903/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW Prep	

Prep Batch: 139001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-5	Biosolids West	Total/NA	Solid	EPA 537 (Mod)	
MB 410-139001/1-B	Method Blank	Total/NA	Solid	EPA 537 (Mod)	
LCS 410-139001/2-B	Lab Control Sample	Total/NA	Solid	EPA 537 (Mod)	
LCSD 410-139001/3-B	Lab Control Sample Dup	Total/NA	Solid	EPA 537 (Mod)	

Cleanup Batch: 139041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-5	Biosolids West	Total/NA	Solid	Extract Aliquot	139001
MB 410-139001/1-B	Method Blank	Total/NA	Solid	Extract Aliquot	139001
LCS 410-139001/2-B	Lab Control Sample	Total/NA	Solid	Extract Aliquot	139001
LCSD 410-139001/3-B	Lab Control Sample Dup	Total/NA	Solid	Extract Aliquot	139001

Analysis Batch: 140602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-1	Well 5	Total/NA	Drinking Water	EPA 537.1	138903
410-43806-2	TP 001	Total/NA	Drinking Water	EPA 537.1	138903
410-43806-3	Field Blank	Total/NA	Drinking Water	EPA 537.1	138903
410-43806-4	Trip Blank	Total/NA	Drinking Water	EPA 537.1	138899
MB 410-138899/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	138899
MB 410-138903/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	138903
LCS 410-138899/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	138899
LCS 410-138903/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	138903
LCSD 410-138899/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	138899
LCSD 410-138903/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	138903

Analysis Batch: 141402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-5	Biosolids West	Total/NA	Solid	EPA 537 (Mod)	139041
MB 410-139001/1-B	Method Blank	Total/NA	Solid	EPA 537 (Mod)	139041
LCS 410-139001/2-B	Lab Control Sample	Total/NA	Solid	EPA 537 (Mod)	139041
LCSD 410-139001/3-B	Lab Control Sample Dup	Total/NA	Solid	EPA 537 (Mod)	139041

Prep Batch: 141840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-4 - RE	Trip Blank	Total/NA	Drinking Water	537.1 DW Prep	

LCMS (Continued)

Prep Batch: 141840 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-141840/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW Prep	
LCS 410-141840/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW Prep	
LCSD 410-141840/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW Prep	

Analysis Batch: 142375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-4 - RE	Trip Blank	Total/NA	Drinking Water	EPA 537.1	141840
MB 410-141840/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	141840
LCS 410-141840/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	141840
LCSD 410-141840/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	141840

Prep Batch: 143098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-3 - RE	Field Blank	Total/NA	Drinking Water	537.1 DW Prep	
MB 410-143098/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW Prep	
LCS 410-143098/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW Prep	
LCSD 410-143098/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW Prep	

Analysis Batch: 143366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-3 - RE	Field Blank	Total/NA	Drinking Water	EPA 537.1	143098
MB 410-143098/1-A	Method Blank	Total/NA	Drinking Water	EPA 537.1	143098
LCS 410-143098/2-A	Lab Control Sample	Total/NA	Drinking Water	EPA 537.1	143098
LCSD 410-143098/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	EPA 537.1	143098

General Chemistry

Analysis Batch: 138892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-43806-5	Biosolids West	Total/NA	Solid	Moisture	

Lab Chronicle

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Client Sample ID: Well 5

Lab Sample ID: 410-43806-1
Matrix: Drinking Water
Date Collected: 06/15/21 09:15
Date Received: 06/16/21 11:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW Prep			138903	06/17/21 08:07	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	140602	06/22/21 19:59	Y6ZN	ELLE

Client Sample ID: TP 001

Lab Sample ID: 410-43806-2
Matrix: Drinking Water
Date Collected: 06/15/21 09:20
Date Received: 06/16/21 11:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW Prep			138903	06/17/21 08:07	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	140602	06/22/21 20:11	Y6ZN	ELLE

Client Sample ID: Field Blank

Lab Sample ID: 410-43806-3
Matrix: Drinking Water
Date Collected: 06/15/21 09:10
Date Received: 06/16/21 11:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW Prep			138903	06/17/21 08:07	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	140602	06/22/21 20:23	Y6ZN	ELLE
Total/NA	Prep	537.1 DW Prep	RE		143098	06/29/21 04:01	GK2L	ELLE
Total/NA	Analysis	EPA 537.1	RE	1	143366	06/29/21 20:09	Y6ZN	ELLE

Client Sample ID: Trip Blank

Lab Sample ID: 410-43806-4
Matrix: Drinking Water
Date Collected: 06/15/21 09:45
Date Received: 06/16/21 11:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW Prep			138899	06/17/21 08:04	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	140602	06/22/21 17:40	Y6ZN	ELLE
Total/NA	Prep	537.1 DW Prep	RE		141840	06/24/21 17:11	GU2F	ELLE
Total/NA	Analysis	EPA 537.1	RE	1	142375	06/26/21 04:05	DCS9	ELLE

Client Sample ID: Biosolids West

Lab Sample ID: 410-43806-5
Matrix: Solid
Date Collected: 06/15/21 09:40
Date Received: 06/16/21 11:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	138892	06/17/21 07:57	UVJN	ELLE

Client Sample ID: Biosolids West

Lab Sample ID: 410-43806-5
Matrix: Solid
Date Collected: 06/15/21 09:40
Date Received: 06/16/21 11:43
Percent Solids: 2.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	EPA 537 (Mod)			139001	06/17/21 10:34	PR5J	ELLE
Total/NA	Cleanup	Extract Aliquot			139041	06/17/21 11:55	PR5J	ELLE
Total/NA	Analysis	EPA 537 (Mod)		1	141402	06/24/21 17:34	JVK6	ELLE

Lab Chronicle

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Laboratory References:

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

Accreditation/Certification Summary

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

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

Authority	Program	Identification Number	Expiration Date
Michigan	State	9930	01-31-22

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
EPA 537 (Mod)	EPA 537 (Mod)	Solid	11Cl-PF3OUdS
EPA 537 (Mod)	EPA 537 (Mod)	Solid	4:2 Fluorotelomer sulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	6:2 Fluorotelomer sulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	8:2 Fluorotelomer sulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	9Cl-PF3ONS
EPA 537 (Mod)	EPA 537 (Mod)	Solid	DONA
EPA 537 (Mod)	EPA 537 (Mod)	Solid	HFPODA
EPA 537 (Mod)	EPA 537 (Mod)	Solid	NEtFOSAA
EPA 537 (Mod)	EPA 537 (Mod)	Solid	NMeFOSAA
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorobutanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorobutanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorodecanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorodecanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorododecanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluoroheptanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluoroheptanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorohexanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorohexanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorononanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorononanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorooctanesulfonamide
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorooctanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorooctanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluoropentanesulfonic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluoropentanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorotetradecanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluorotridecanoic acid
EPA 537 (Mod)	EPA 537 (Mod)	Solid	Perfluoroundecanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	11Cl-PF3OUdS
EPA 537.1	537.1 DW Prep	Drinking Water	9Cl-PF3ONS
EPA 537.1	537.1 DW Prep	Drinking Water	DONA
EPA 537.1	537.1 DW Prep	Drinking Water	HFPODA
EPA 537.1	537.1 DW Prep	Drinking Water	NEtFOSAA
EPA 537.1	537.1 DW Prep	Drinking Water	NMeFOSAA
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorobutanesulfonic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorodecanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorododecanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluoroheptanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorohexanesulfonic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorohexanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorononanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorooctanesulfonic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorooctanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorotetradecanoic acid
EPA 537.1	537.1 DW Prep	Drinking Water	Perfluorotridecanoic acid

Accreditation/Certification Summary

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC (Continued)

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

Authority	Program	Identification Number	Expiration Date
Michigan	State	9930	01-31-22

EPA 537.1	537.1 DW Prep	Drinking Water	Perfluoroundecanoic acid
Moisture		Solid	Percent Moisture

Method Summary

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Method	Method Description	Protocol	Laboratory
EPA 537 (Mod)	EPA 537 Isotope Dilution	EPA	ELLE
EPA 537.1	EPA 537.1, Ver 1.0 Nov 2018	EPA	ELLE
Moisture	Percent Moisture	EPA	ELLE
537.1 DW Prep	Extraction of Perfluorinated Alkyl Acids	EPA	ELLE
EPA 537 (Mod)	EPA 537 Isotope Dilution	EPA	ELLE
Extract Aliquot	Preparation, Extract Aliquot	None	ELLE

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

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

Sample Summary

Client: White Water Associates
Project/Site: KI Sawyer WWTP

Job ID: 410-43806-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-43806-1	Well 5	Drinking Water	06/15/21 09:15	06/16/21 11:43	
410-43806-2	TP 001	Drinking Water	06/15/21 09:20	06/16/21 11:43	
410-43806-3	Field Blank	Drinking Water	06/15/21 09:10	06/16/21 11:43	
410-43806-4	Trip Blank	Drinking Water	06/15/21 09:45	06/16/21 11:43	
410-43806-5	Biosolids West	Solid	06/15/21 09:40	06/16/21 11:43	

410-43806 Chain of Custody

Chain of Custody Record

eurofins Environment Testing America

Client Contact: Bette Premo	Sampler: Nicholas Hautamaki	Lab PM: Zanar, Elizabeth M	Carrier Tracking No(s):	COC No: 410-26355-3761.1
Company: White Water Associates	Phone: 906-346-9403	E-Mail: Elizabeth.Zanar@eurofinset.com	State of Origin:	Page: Page 1 of 1
Address: 429 River Lane PO BOX 27	PWSID:	Due Date Requested:		Job #:
City: Amasa		TAT Requested (days):		
State, Zip: MI, 49903		Compliance Project: Δ Yes Δ No		
Phone: 906-822-7889(Tel) 906-822-7977(Fax)		PO #: Purchase Order not required		
Email: bette.premo@white-water-associates.com		WO #:		
Project Name: KI Sawyer WWTP		Project #: 41002275		
Site:		SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - MI List 28 PFAS 537.1	MI List 28 PFAs 537.1 Modified	Special Instructions/Note:
			Preservation Code:		N		N		
Well 5	6/15/21	9:15Am	G	Water	N		X		Drinking Water Samples
PFAS Batch QC Wells	6/15/21	9:15Am	G	Water	N		X		
TP 001	6/15/21	9:20Am	G	Water	N		X		
PFAS Batch QC TP001	6/15/21	9:20Am	G	Water	N		X		
Field Blank	6/15/21	9:10Am	G	Water	N		X		
Trip Blank	6/15/21	9:45Am	G	Water	N		X		
Biosolids West	6/15/21	9:40Am	G	Soil	N			X	Results in ng/g dry

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: Edwin Hernandez	Date/Time: 6/7/21 1450	Company	Received by:		Date/Time:		Company
Relinquished by:	Date/Time: 6/15/21 10100Am	Company	Received by:		Date/Time:		Company
Relinquished by:	Date/Time:	Company	Received by:		Date/Time: 6/16/21 1143		Company ENG

Custody Seals Intact: Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.4

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: White Water Associates

Job Number: 410-43806-1

Login Number: 43806

List Source: Eurofins Lancaster Laboratories Env, LLC

List Number: 1

Creator: Lugardo, Tamara

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
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.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
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	
Samples are received within Holding Time (excluding tests with immediate HTs)	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	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	True	