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ANALYTICAL REPORT

Eurofins Lancaster Laboratories Env, LLC
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Tel: (717)656-2300

Laboratory Job ID: 410-9990-1
Client Project/Site: CWM

For:
CWM Environmental, Inc
101 Parkview Ext. Dr
Kittanning, Pennsylvania 16201

Attn: Ryan Shafer

Authorized for release by:
9/4/2020 9:30:43 AM

Stephen Gordon, Senior Project Manager
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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 recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* 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 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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Stephen Gordon
Senior Project Manager
9/4/2020 9:30:43 AM

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Definitions/Glossary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5L	Isotope dilution analyte recovery is below contorl limits.
B	Compound was found in the blank and sample.
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

Job ID: 410-9990-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-9990-1

Receipt
The samples were received on 8/7/2020 8:13 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C

LCMS
Method PFC_IDA: The recovery for the labeled isotope(s) is outside the QC acceptance limits as noted on the QC Summary for the following sample: Raw Water 300 (173) (410-9990-1). The following action was taken: The sample was re-extracted outside the required holding time. The data reported is from the initial trial of the sample and bothsets of data are included in the data package.

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

Detection Summary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Client Sample ID: Raw Water 300 (173) — Lab Sample ID: 410-9990-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.7	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid	0.81	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid	1.8		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid	0.47	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid	1.3	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid	0.58	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid	1.6	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid	2.5	J	4.4	1.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid	2.1		1.8	0.44	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EP-101 (173) — Lab Sample ID: 410-9990-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	2.0		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid	0.84	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid	1.9		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid	0.54	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid	1.2	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid	0.59	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid	2.0		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid	2.3	J	4.3	1.7	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid	1.8		1.7	0.43	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Field Blank - Raw 300 (173) — Lab Sample ID: 410-9990-3

No Detections.

Client Sample ID: Field Blank - EP 101 (173) — Lab Sample ID: 410-9990-4

No Detections.

Client Sample ID: Raw 300 (178) — Lab Sample ID: 410-9990-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	0.33	J	1.0	0.20	ug/L	1		SW846 6850	Total/NA

Client Sample ID: EP 101 (178) — Lab Sample ID: 410-9990-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	0.37	J	1.0	0.20	ug/L	1		SW846 6850	Total/NA

Client Sample ID: Raw 300 (201) — Lab Sample ID: 410-9990-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.5	J	1.8	0.46	ng/L	1		537.1 DW	Total/NA
Perfluoroheptanoic acid	0.99	J	1.8	0.46	ng/L	1		537.1 DW	Total/NA
Perfluorooctanoic acid	1.6	J	1.8	0.46	ng/L	1		537.1 DW	Total/NA
Perfluorononanoic acid	0.47	J	1.8	0.46	ng/L	1		537.1 DW	Total/NA
Perfluorobutanesulfonic acid	1.3	J	1.8	0.46	ng/L	1		537.1 DW	Total/NA
Perfluorooctanesulfonic acid	1.5	J	1.8	0.46	ng/L	1		537.1 DW	Total/NA

Client Sample ID: EP 101 (201) — Lab Sample ID: 410-9990-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	1.6	J	1.8	0.44	ng/L	1		537.1 DW	Total/NA

This Detection Summary does not include radiochemical test results.

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Client Sample ID: EP 101 (201) (Continued)

Lab Sample ID: 410-9990-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid	0.72	J	1.8	0.44	ng/L	1		537.1 DW	Total/NA
Perfluorooctanoic acid	1.8		1.8	0.44	ng/L	1		537.1 DW	Total/NA
Perfluorononanoic acid	0.45	J	1.8	0.44	ng/L	1		537.1 DW	Total/NA
Perfluorobutanesulfonic acid	1.5	J	1.8	0.44	ng/L	1		537.1 DW	Total/NA
Perfluorohexanesulfonic acid	0.51	J	1.8	0.44	ng/L	1		537.1 DW	Total/NA
Perfluorooctanesulfonic acid	1.7	J	1.8	0.44	ng/L	1		537.1 DW	Total/NA

This Detection Summary does not include radiochemical test results.

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Client Sample ID: Raw Water 300 (173)

Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.7**	**J**	1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluoroheptanoic acid	**0.81**	**J**	1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorooctanoic acid	**1.8**		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorononanoic acid	**0.47**	**J**	1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorobutanesulfonic acid	**1.3**	**J**	1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorohexanesulfonic acid	**0.58**	**J**	1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorooctanesulfonic acid	**1.6**	**J**	1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
NEtFOSAA	ND		2.6	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
NMeFOSAA	ND		1.8	0.53	ng/L		08/11/20 10:15	08/15/20 01:40	1
10:2 FTS	ND		4.4	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluoropentanesulfonic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluoroheptanesulfonic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorononanesulfonic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorodecanesulfonic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorooctanesulfonamide	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorohexadecanoic acid	ND		2.6	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorooctadecanoic acid	ND		2.6	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorobutanoic acid	**2.5**	**J**	4.4	1.8	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluoropentanoic acid	**2.1**		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
NMeFOSE	ND	*5L	2.6	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
NMeFOSA	ND	*5L	2.6	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
NEtFOSE	ND	*5L	2.6	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
NEtFOSA	ND	*5L	4.4	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		08/11/20 10:15	08/15/20 01:40	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		08/11/20 10:15	08/15/20 01:40	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.88	ng/L		08/11/20 10:15	08/15/20 01:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*138*		*20 - 187*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
M2-8:2 FTS	*96*		*34 - 182*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
M2-6:2 FTS	*115*		*29 - 189*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C5 PFHxA	*79*		*31 - 142*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C4 PFHpA	*88*		*30 - 144*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C8 PFOA	*83*		*49 - 127*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C9 PFNA	*90*		*47 - 136*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C6 PFDA	*80*		*47 - 128*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C7 PFUnA	*77*		*40 - 135*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C2-PFDoDA	*64*		*28 - 136*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C2 PFTeDA	*42*		*10 - 144*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C3 PFBS	*109*		*19 - 178*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C3 PFHxS	*84*		*32 - 145*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
13C8 PFOS	*85*		*49 - 126*	*08/11/20 10:15*	*08/15/20 01:40*	*1*
d3-NMeFOSAA	*92*		*32 - 151*	*08/11/20 10:15*	*08/15/20 01:40*	*1*

Client Sample ID: Raw Water 300 (173)

Lab Sample ID: 410-9990-1

Date Collected: 08/05/20 11:55

Matrix: Water

Date Received: 08/07/20 08:13

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	98		37 - 164	08/11/20 10:15	08/15/20 01:40	1
13C8 FOSA	26		10 - 143	08/11/20 10:15	08/15/20 01:40	1
13C4 PFBA	85		41 - 132	08/11/20 10:15	08/15/20 01:40	1
13C5 PFPeA	108		33 - 155	08/11/20 10:15	08/15/20 01:40	1
d7-N-MeFOSE-M	6	*5L	10 - 143	08/11/20 10:15	08/15/20 01:40	1
d3-NMePFOSA	0.7	*5L	10 - 107	08/11/20 10:15	08/15/20 01:40	1
d9-N-EtFOSE-M	7	*5L	10 - 142	08/11/20 10:15	08/15/20 01:40	1
d5-NEtPFOSA	0.8	*5L	10 - 108	08/11/20 10:15	08/15/20 01:40	1

Client Sample ID: EP-101 (173)

Lab Sample ID: 410-9990-2

Date Collected: 08/05/20 12:18

Matrix: Water

Date Received: 08/07/20 08:13

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**2.0**		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluoroheptanoic acid	**0.84**	**J**	1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorooctanoic acid	**1.9**		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorononanoic acid	**0.54**	**J**	1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorodecanoic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorotridecanoic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorotetradecanoic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorobutanesulfonic acid	**1.2**	**J**	1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorohexanesulfonic acid	**0.59**	**J**	1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorooctanesulfonic acid	**2.0**		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
NEtFOSAA	ND		2.6	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
NMeFOSAA	ND		1.7	0.51	ng/L		08/11/20 10:15	08/15/20 01:50	1
10:2 FTS	ND		4.3	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluoropentanesulfonic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluoroheptanesulfonic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorononanesulfonic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorodecanesulfonic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorooctanesulfonamide	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorohexadecanoic acid	ND		2.6	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorooctadecanoic acid	ND		2.6	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorobutanoic acid	**2.3**	**J**	4.3	1.7	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluoropentanoic acid	**1.8**		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
NMeFOSE	ND		2.6	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
NMeFOSA	ND		2.6	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
NEtFOSE	ND		2.6	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
NEtFOSA	ND		4.3	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluorododecanoic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
Perfluoroundecanoic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		08/11/20 10:15	08/15/20 01:50	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		08/11/20 10:15	08/15/20 01:50	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.86	ng/L		08/11/20 10:15	08/15/20 01:50	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	143		20 - 187	08/11/20 10:15	08/15/20 01:50	1

Client Sample ID: EP-101 (173)

Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	108		34 - 182	08/11/20 10:15	08/15/20 01:50	1
M2-6:2 FTS	127		29 - 189	08/11/20 10:15	08/15/20 01:50	1
13C5 PFHxA	87		31 - 142	08/11/20 10:15	08/15/20 01:50	1
13C4 PFHpA	97		30 - 144	08/11/20 10:15	08/15/20 01:50	1
13C8 PFOA	90		49 - 127	08/11/20 10:15	08/15/20 01:50	1
13C9 PFNA	97		47 - 136	08/11/20 10:15	08/15/20 01:50	1
13C6 PFDA	91		47 - 128	08/11/20 10:15	08/15/20 01:50	1
13C7 PFUnA	93		40 - 135	08/11/20 10:15	08/15/20 01:50	1
13C2-PFDoDA	90		28 - 136	08/11/20 10:15	08/15/20 01:50	1
13C2 PFTeDA	84		10 - 144	08/11/20 10:15	08/15/20 01:50	1
13C3 PFBS	119		19 - 178	08/11/20 10:15	08/15/20 01:50	1
13C3 PFHxS	93		32 - 145	08/11/20 10:15	08/15/20 01:50	1
13C8 PFOS	93		49 - 126	08/11/20 10:15	08/15/20 01:50	1
d3-NMeFOSAA	102		32 - 151	08/11/20 10:15	08/15/20 01:50	1
d5-NEtFOSAA	112		37 - 164	08/11/20 10:15	08/15/20 01:50	1
13C8 FOSA	79		10 - 143	08/11/20 10:15	08/15/20 01:50	1
13C4 PFBA	90		41 - 132	08/11/20 10:15	08/15/20 01:50	1
13C5 PFPeA	113		33 - 155	08/11/20 10:15	08/15/20 01:50	1
d7-N-MeFOSE-M	79		10 - 143	08/11/20 10:15	08/15/20 01:50	1
d3-NMePFOSA	26		10 - 107	08/11/20 10:15	08/15/20 01:50	1
d9-N-EtFOSE-M	83		10 - 142	08/11/20 10:15	08/15/20 01:50	1
d5-NEtPFOSA	22		10 - 108	08/11/20 10:15	08/15/20 01:50	1

Client Sample ID: Field Blank - Raw 300 (173)

Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-3
Matrix: Drinking Water

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluoroheptanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorooctanoic acid	ND	B	1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorononanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorodecanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorotridecanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorotetradecanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorobutanesulfonic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorohexanesulfonic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorooctanesulfonic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
NEtFOSAA	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
NMeFOSAA	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluoroundecanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1
Perfluorododecanoic acid	ND		1.9	0.47	ng/L		08/10/20 10:31	08/14/20 01:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	100		70 - 130	08/10/20 10:31	08/14/20 01:11	1
13C2 PFDA	105		70 - 130	08/10/20 10:31	08/14/20 01:11	1
13C2 PFHxA	107		70 - 130	08/10/20 10:31	08/14/20 01:11	1
13C3 HFPO-DA	102		70 - 130	08/10/20 10:31	08/14/20 01:11	1

Client Sample ID: Field Blank - EP 101 (173)

Lab Sample ID: 410-9990-4
Matrix: Drinking Water
Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluoroheptanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorooctanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorononanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorobutanesulfonic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorohexanesulfonic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorooctanesulfonic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
NEtFOSAA	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
NMeFOSAA	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		08/13/20 08:04	08/15/20 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*92*		*70 - 130*	*08/13/20 08:04*	*08/15/20 15:56*	*1*
13C2 PFDA	*100*		*70 - 130*	*08/13/20 08:04*	*08/15/20 15:56*	*1*
13C2 PFHxA	*94*		*70 - 130*	*08/13/20 08:04*	*08/15/20 15:56*	*1*
13C3 HFPO-DA	*93*		*70 - 130*	*08/13/20 08:04*	*08/15/20 15:56*	*1*

Client Sample ID: Raw 300 (178)

Lab Sample ID: 410-9990-5
Matrix: Water
Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Method: SW846 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**0.33**	**J**	1.0	0.20	ug/L			08/19/20 19:27	1

Client Sample ID: EP 101 (178)

Lab Sample ID: 410-9990-6
Matrix: Water
Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Method: SW846 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	**0.37**	**J**	1.0	0.20	ug/L			08/19/20 19:36	1

Client Sample ID: Raw 300 (201)

Lab Sample ID: 410-9990-7
Matrix: Drinking Water
Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.5**	**J**	1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluoroheptanoic acid	**0.99**	**J**	1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorooctanoic acid	**1.6**	**J**	1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorononanoic acid	**0.47**	**J**	1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorodecanoic acid	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorotridecanoic acid	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorotetradecanoic acid	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorobutanesulfonic acid	**1.3**	**J**	1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1

Client Sample ID: Raw 300 (201)

Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-7
Matrix: Drinking Water

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorooctanesulfonic acid	**1.5**	**J**	1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
NEtFOSAA	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
NMeFOSAA	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluoroundecanoic acid	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1
Perfluorododecanoic acid	ND		1.8	0.46	ng/L		08/13/20 08:04	08/15/20 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*89*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:05*	*1*
13C2 PFDA	*95*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:05*	*1*
13C2 PFHxA	*93*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:05*	*1*
13C3 HFPO-DA	*90*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:05*	*1*

Client Sample ID: EP 101 (201)

Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-8
Matrix: Drinking Water

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**1.6**	**J**	1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluoroheptanoic acid	**0.72**	**J**	1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorooctanoic acid	**1.8**		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorononanoic acid	**0.45**	**J**	1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorobutanesulfonic acid	**1.5**	**J**	1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorohexanesulfonic acid	**0.51**	**J**	1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorooctanesulfonic acid	**1.7**	**J**	1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
NEtFOSAA	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
NMeFOSAA	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		08/13/20 08:04	08/15/20 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*97*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:14*	*1*
13C2 PFDA	*103*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:14*	*1*
13C2 PFHxA	*92*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:14*	*1*
13C3 HFPO-DA	*91*		*70 - 130*	*08/13/20 08:04*	*08/15/20 16:14*	*1*

Surrogate Summary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Drinking Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		d5NEFOS	PFDA	PFHxA	HFPODA
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
410-9990-3	Field Blank - Raw 300 (173)	100	105	107	102
410-9990-4	Field Blank - EP 101 (173)	92	100	94	93
410-9990-7	Raw 300 (201)	89	95	93	90
410-9990-8	EP 101 (201)	97	103	92	91
LCS 410-31335/2-A	Lab Control Sample	94	97	91	90
LCS 410-32732/2-A LLCS	Lab Control Sample	97	107	101	98
LCSD 410-31335/3-A	Lab Control Sample Dup	92	96	92	91
LCSD 410-32732/3-A LLCSD	Lab Control Sample Dup	96	106	100	95
MB 410-31335/1-A	Method Blank	88	95	95	86
MB 410-32732/1-A	Method Blank	86	93	88	87

Surrogate Legend

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

Isotope Dilution Summary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		M242FTS	M282FTS	M262FTS	13C5PHA	C4PFHA	C8PFOA	C9PFNA	C6PFDA
Lab Sample ID	Client Sample ID	(20-187)	(34-182)	(29-189)	(31-142)	(30-144)	(49-127)	(47-136)	(47-128)
410-9990-1	Raw Water 300 (173)	138	96	115	79	88	83	90	80
410-9990-2	EP-101 (173)	143	108	127	87	97	90	97	91
LCS 410-31817/2-A	Lab Control Sample	118	111	114	91	91	90	102	88
LCSD 410-31817/3-A	Lab Control Sample Dup	104	102	109	90	90	88	96	84
MB 410-31817/1-A	Method Blank	87	93	91	73	73	74	78	73

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		13C7PUA	PFDoDA	PFTDA	C3PFBS	C3PFHS	C8PFOS	d3NMFOS	d5NEFOS
Lab Sample ID	Client Sample ID	(40-135)	(28-136)	(10-144)	(19-178)	(32-145)	(49-126)	(32-151)	(37-164)
410-9990-1	Raw Water 300 (173)	77	64	42	109	84	85	92	98
410-9990-2	EP-101 (173)	93	90	84	119	93	93	102	112
LCS 410-31817/2-A	Lab Control Sample	91	94	87	99	91	93	111	113
LCSD 410-31817/3-A	Lab Control Sample Dup	91	84	85	94	88	90	106	111
MB 410-31817/1-A	Method Blank	74	75	72	80	73	74	89	93

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFOSA	PFBA	PFPeA	NMFM	d3NMFSA	NEFM	d5NPFSA	
Lab Sample ID	Client Sample ID	(10-143)	(41-132)	(33-155)	(10-143)	(10-107)	(10-142)	(10-108)	
410-9990-1	Raw Water 300 (173)	26	85	108	6 *5L	0.7 *5L	7 *5L	0.8 *5L	
410-9990-2	EP-101 (173)	79	90	113	79	26	83	22	
LCS 410-31817/2-A	Lab Control Sample	87	96	102	87	57	87	55	
LCSD 410-31817/3-A	Lab Control Sample Dup	85	90	101	85	42	88	43	
MB 410-31817/1-A	Method Blank	73	74	81	65	42	67	41	

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
NMFM = d7-N-MeFOSE-M
d3NMFSA = d3-NMePFOSA
NEFM = d9-N-EtFOSE-M
d5NPFSA = d5-NEtPFOSA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 410-31817/1-A
Matrix: Water
Analysis Batch: 33326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
NEtFOSAA	ND		3.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
NMeFOSAA	ND		2.0	0.60	ng/L		08/11/20 10:15	08/15/20 00:51	1
10:2 FTS	ND		5.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluoroheptanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorononanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorooctanesulfonamide	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorohexadecanoic acid	ND		3.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorooctadecanoic acid	ND		3.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorobutanoic acid	ND		5.0	2.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluoropentanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
NMeFOSE	ND		3.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
NMeFOSA	ND		3.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
NEtFOSE	ND		3.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
NEtFOSA	ND		5.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		08/11/20 10:15	08/15/20 00:51	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		08/11/20 10:15	08/15/20 00:51	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		08/11/20 10:15	08/15/20 00:51	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*87*		*20 - 187*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
M2-8:2 FTS	*93*		*34 - 182*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
M2-6:2 FTS	*91*		*29 - 189*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C5 PFHxA	*73*		*31 - 142*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C4 PFHpA	*73*		*30 - 144*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C8 PFOA	*74*		*49 - 127*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C9 PFNA	*78*		*47 - 136*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C6 PFDA	*73*		*47 - 128*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C7 PFUnA	*74*		*40 - 135*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C2-PFDoDA	*75*		*28 - 136*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C2 PFTeDA	*72*		*10 - 144*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C3 PFBS	*80*		*19 - 178*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C3 PFHxS	*73*		*32 - 145*	*08/11/20 10:15*	*08/15/20 00:51*	*1*
13C8 PFOS	*74*		*49 - 126*	*08/11/20 10:15*	*08/15/20 00:51*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 410-31817/1-A
Matrix: Water
Analysis Batch: 33326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31817

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	89		32 - 151	08/11/20 10:15	08/15/20 00:51	1
d5-NEtFOSAA	93		37 - 164	08/11/20 10:15	08/15/20 00:51	1
13C8 FOSA	73		10 - 143	08/11/20 10:15	08/15/20 00:51	1
13C4 PFBA	74		41 - 132	08/11/20 10:15	08/15/20 00:51	1
13C5 PFPeA	81		33 - 155	08/11/20 10:15	08/15/20 00:51	1
d7-N-MeFOSE-M	65		10 - 143	08/11/20 10:15	08/15/20 00:51	1
d3-NMePFOSA	42		10 - 107	08/11/20 10:15	08/15/20 00:51	1
d9-N-EtFOSE-M	67		10 - 142	08/11/20 10:15	08/15/20 00:51	1
d5-NEtPFOSA	41		10 - 108	08/11/20 10:15	08/15/20 00:51	1

Lab Sample ID: LCS 410-31817/2-A
Matrix: Water
Analysis Batch: 33326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid	25.6	27.1		ng/L		106	69 - 139
Perfluoroheptanoic acid	25.6	27.3		ng/L		107	69 - 144
Perfluorooctanoic acid	25.6	27.9		ng/L		109	67 - 139
Perfluorononanoic acid	25.6	26.2		ng/L		102	66 - 144
Perfluorodecanoic acid	25.6	28.4		ng/L		111	66 - 141
Perfluorotridecanoic acid	25.6	28.4		ng/L		111	66 - 146
Perfluorotetradecanoic acid	25.6	28.2		ng/L		110	69 - 141
Perfluorobutanesulfonic acid	22.6	23.2		ng/L		102	67 - 135
Perfluorohexanesulfonic acid	24.2	23.7		ng/L		98	63 - 132
Perfluorooctanesulfonic acid	24.5	22.2		ng/L		91	53 - 129
NEtFOSAA	25.6	27.8		ng/L		109	53 - 140
NMeFOSAA	25.6	28.4		ng/L		111	59 - 141
10:2 FTS	24.7	28.5		ng/L		116	45 - 143
Perfluoropentanesulfonic acid	24.0	28.3		ng/L		118	73 - 134
Perfluoroheptanesulfonic acid	24.4	27.1		ng/L		111	67 - 138
Perfluorononanesulfonic acid	24.6	27.4		ng/L		111	70 - 137
Perfluorodecanesulfonic acid	24.7	27.0		ng/L		109	62 - 135
Perfluorododecanesulfonic acid (PFDoS)	24.8	25.4		ng/L		102	57 - 134
Perfluorooctanesulfonamide	25.6	26.7		ng/L		104	67 - 126
Perfluorohexadecanoic acid	25.6	28.0		ng/L		109	60 - 148
Perfluorooctadecanoic acid	25.6	27.9		ng/L		109	47 - 159
Perfluorobutanoic acid	25.6	27.6		ng/L		108	63 - 160
Perfluoropentanoic acid	25.6	28.0		ng/L		109	73 - 135
NMeFOSE	25.6	25.1		ng/L		98	61 - 133
NMeFOSA	25.6	28.3		ng/L		111	49 - 134
NEtFOSE	25.6	26.3		ng/L		103	56 - 130
NEtFOSA	25.6	26.5		ng/L		103	56 - 136
Perfluorododecanoic acid	25.6	29.2		ng/L		114	65 - 143
Perfluoroundecanoic acid	25.6	29.2		ng/L		114	66 - 140
4:2 Fluorotelomer sulfonic acid	23.9	24.0		ng/L		100	61 - 131
6:2 Fluorotelomer sulfonic acid	24.3	25.9		ng/L		107	56 - 140
8:2 Fluorotelomer sulfonic acid	24.5	24.5		ng/L		100	58 - 143

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-4:2 FTS	118		20 - 187
M2-8:2 FTS	111		34 - 182
M2-6:2 FTS	114		29 - 189
13C5 PFHxA	91		31 - 142
13C4 PFHpA	91		30 - 144
13C8 PFOA	90		49 - 127
13C9 PFNA	102		47 - 136
13C6 PFDA	88		47 - 128
13C7 PFUnA	91		40 - 135
13C2-PFDoDA	94		28 - 136
13C2 PFTeDA	87		10 - 144
13C3 PFBS	99		19 - 178
13C3 PFHxS	91		32 - 145
13C8 PFOS	93		49 - 126
d3-NMeFOSAA	111		32 - 151
d5-NEtFOSAA	113		37 - 164
13C8 FOSA	87		10 - 143
13C4 PFBA	96		41 - 132
13C5 PFPeA	102		33 - 155
d7-N-MeFOSE-M	87		10 - 143
d3-NMePFOSA	57		10 - 107
d9-N-EtFOSE-M	87		10 - 142
d5-NEtPFOSA	55		10 - 108

Lab Sample ID: LCSD 410-31817/3-A
Matrix: Water
Analysis Batch: 33326

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31817

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid			25.6	27.5		ng/L		107	69 - 139	1	30
Perfluoroheptanoic acid			25.6	27.6		ng/L		108	69 - 144	1	30
Perfluorooctanoic acid			25.6	27.8		ng/L		108	67 - 139	0	30
Perfluorononanoic acid			25.6	28.3		ng/L		110	66 - 144	8	30
Perfluorodecanoic acid			25.6	28.7		ng/L		112	66 - 141	1	30
Perfluorotridecanoic acid			25.6	30.6		ng/L		120	66 - 146	7	30
Perfluorotetradecanoic acid			25.6	27.3		ng/L		107	69 - 141	3	30
Perfluorobutanesulfonic acid			22.6	24.1		ng/L		106	67 - 135	4	30
Perfluorohexanesulfonic acid			24.2	23.7		ng/L		98	63 - 132	0	30
Perfluorooctanesulfonic acid			24.5	22.0		ng/L		90	53 - 129	1	30
NEtFOSAA			25.6	27.8		ng/L		109	53 - 140	0	30
NMeFOSAA			25.6	28.7		ng/L		112	59 - 141	1	30
10:2 FTS			24.7	27.7		ng/L		112	45 - 143	3	30
Perfluoropentanesulfonic acid			24.0	28.7		ng/L		119	73 - 134	1	30
Perfluoroheptanesulfonic acid			24.4	27.5		ng/L		113	67 - 138	1	30
Perfluorononanesulfonic acid			24.6	27.1		ng/L		110	70 - 137	1	30
Perfluorodecanesulfonic acid			24.7	26.4		ng/L		107	62 - 135	2	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	25.2		ng/L		102	57 - 134	0	30
Perfluorooctanesulfonamide			25.6	26.5		ng/L		104	67 - 126	1	30
Perfluorohexadecanoic acid			25.6	27.5		ng/L		107	60 - 148	2	30
Perfluorooctadecanoic acid			25.6	27.6		ng/L		108	47 - 159	1	30
Perfluorobutanoic acid			25.6	28.8		ng/L		113	63 - 160	5	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 410-31817/3-A
Matrix: Water
Analysis Batch: 33326

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31817

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoropentanoic acid			25.6	27.6		ng/L		108	73 - 135	1	30
NMeFOSE			25.6	26.5		ng/L		103	61 - 133	5	30
NMeFOSA			25.6	28.4		ng/L		111	49 - 134	0	30
NEtFOSE			25.6	26.7		ng/L		104	56 - 130	1	30
NEtFOSA			25.6	25.0		ng/L		98	56 - 136	5	30
Perfluorododecanoic acid			25.6	30.5		ng/L		119	65 - 143	4	30
Perfluoroundecanoic acid			25.6	28.0		ng/L		109	66 - 140	4	30
4:2 Fluorotelomer sulfonic acid			23.9	25.3		ng/L		106	61 - 131	5	30
6:2 Fluorotelomer sulfonic acid			24.3	24.5		ng/L		101	56 - 140	6	30
8:2 Fluorotelomer sulfonic acid			24.5	26.2		ng/L		107	58 - 143	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*104*		*20 - 187*
M2-8:2 FTS	*102*		*34 - 182*
M2-6:2 FTS	*109*		*29 - 189*
13C5 PFHxA	*90*		*31 - 142*
13C4 PFHpA	*90*		*30 - 144*
13C8 PFOA	*88*		*49 - 127*
13C9 PFNA	*96*		*47 - 136*
13C6 PFDA	*84*		*47 - 128*
13C7 PFUnA	*91*		*40 - 135*
13C2-PFDoDA	*84*		*28 - 136*
13C2 PFTeDA	*85*		*10 - 144*
13C3 PFBS	*94*		*19 - 178*
13C3 PFHxS	*88*		*32 - 145*
13C8 PFOS	*90*		*49 - 126*
d3-NMeFOSAA	*106*		*32 - 151*
d5-NEtFOSAA	*111*		*37 - 164*
13C8 FOSA	*85*		*10 - 143*
13C4 PFBA	*90*		*41 - 132*
13C5 PFPeA	*101*		*33 - 155*
d7-N-MeFOSE-M	*85*		*10 - 143*
d3-NMePFOSA	*42*		*10 - 107*
d9-N-EtFOSE-M	*88*		*10 - 142*
d5-NEtPFOSA	*43*		*10 - 108*

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MB 410-31335/1-A
Matrix: Drinking Water
Analysis Batch: 32153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorooctanoic acid	1.60	J B	2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MB 410-31335/1-A
Matrix: Drinking Water
Analysis Batch: 32153

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
NEtFOSAA	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
NMeFOSAA	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		08/10/20 10:31	08/12/20 06:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*88*		*70 - 130*	*08/10/20 10:31*	*08/12/20 06:33*	*1*
13C2 PFDA	*95*		*70 - 130*	*08/10/20 10:31*	*08/12/20 06:33*	*1*
13C2 PFHxA	*95*		*70 - 130*	*08/10/20 10:31*	*08/12/20 06:33*	*1*
13C3 HFPO-DA	*86*		*70 - 130*	*08/10/20 10:31*	*08/12/20 06:33*	*1*

Lab Sample ID: LCS 410-31335/2-A
Matrix: Drinking Water
Analysis Batch: 32153

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid	20.5	18.3		ng/L		89	70 - 130
Perfluoroheptanoic acid	20.5	19.5		ng/L		95	70 - 130
Perfluorooctanoic acid	20.5	19.4		ng/L		95	70 - 130
Perfluorononanoic acid	20.5	19.7		ng/L		96	70 - 130
Perfluorodecanoic acid	20.5	19.4		ng/L		95	70 - 130
Perfluorotridecanoic acid	20.5	18.5		ng/L		90	70 - 130
Perfluorotetradecanoic acid	20.5	18.7		ng/L		91	70 - 130
Perfluorobutanesulfonic acid	18.1	16.3		ng/L		90	70 - 130
Perfluorohexanesulfonic acid	18.7	17.5		ng/L		93	70 - 130
Perfluorooctanesulfonic acid	19.0	17.3		ng/L		91	70 - 130
NEtFOSAA	20.5	18.5		ng/L		90	70 - 130
NMeFOSAA	20.5	18.5		ng/L		90	70 - 130
Perfluoroundecanoic acid	20.5	18.5		ng/L		91	70 - 130
Perfluorododecanoic acid	20.5	17.9		ng/L		87	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d5-NEtFOSAA	*94*		*70 - 130*
13C2 PFDA	*97*		*70 - 130*
13C2 PFHxA	*91*		*70 - 130*
13C3 HFPO-DA	*90*		*70 - 130*

Lab Sample ID: LCSD 410-31335/3-A
Matrix: Drinking Water
Analysis Batch: 32153

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid	20.5	18.0		ng/L		88	70 - 130	1	30
Perfluoroheptanoic acid	20.5	19.3		ng/L		94	70 - 130	1	30

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LCSD 410-31335/3-A
Matrix: Drinking Water
Analysis Batch: 32153

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanoic acid			20.5	20.1		ng/L		98	70 - 130	4	30
Perfluorononanoic acid			20.5	18.9		ng/L		92	70 - 130	4	30
Perfluorodecanoic acid			20.5	18.5		ng/L		90	70 - 130	5	30
Perfluorotridecanoic acid			20.5	17.6		ng/L		86	70 - 130	5	30
Perfluorotetradecanoic acid			20.5	18.4		ng/L		90	70 - 130	2	30
Perfluorobutanesulfonic acid			18.1	16.1		ng/L		89	70 - 130	1	30
Perfluorohexanesulfonic acid			18.7	17.3		ng/L		93	70 - 130	1	30
Perfluorooctanesulfonic acid			19.0	16.8		ng/L		89	70 - 130	3	30
NEtFOSAA			20.5	18.2		ng/L		89	70 - 130	2	30
NMeFOSAA			20.5	18.2		ng/L		89	70 - 130	1	30
Perfluoroundecanoic acid			20.5	17.9		ng/L		87	70 - 130	4	30
Perfluorododecanoic acid			20.5	17.1		ng/L		83	70 - 130	4	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
d5-NEtFOSAA	*92*		*70 - 130*
13C2 PFDA	*96*		*70 - 130*
13C2 PFHxA	*92*		*70 - 130*
13C3 HFPO-DA	*91*		*70 - 130*

Lab Sample ID: MB 410-32732/1-A
Matrix: Drinking Water
Analysis Batch: 33465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 32732

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
NEtFOSAA	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
NMeFOSAA	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		08/13/20 08:04	08/15/20 12:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
d5-NEtFOSAA	*86*		*70 - 130*	*08/13/20 08:04*	*08/15/20 12:50*	*1*
13C2 PFDA	*93*		*70 - 130*	*08/13/20 08:04*	*08/15/20 12:50*	*1*
13C2 PFHxA	*88*		*70 - 130*	*08/13/20 08:04*	*08/15/20 12:50*	*1*
13C3 HFPO-DA	*87*		*70 - 130*	*08/13/20 08:04*	*08/15/20 12:50*	*1*

Method: 537.1 DW - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LCS 410-32732/2-A LLCS
Matrix: Drinking Water
Analysis Batch: 33465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 32732

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorohexanoic acid			3.84	3.44		ng/L		90	50 - 150		
Perfluoroheptanoic acid			3.84	3.51		ng/L		91	50 - 150		
Perfluorooctanoic acid			3.84	3.84		ng/L		100	50 - 150		
Perfluorononanoic acid			3.84	3.63		ng/L		95	50 - 150		
Perfluorodecanoic acid			3.84	3.69		ng/L		96	50 - 150		
Perfluorotridecanoic acid			3.84	3.46		ng/L		90	50 - 150		
Perfluorotetradecanoic acid			3.84	3.35		ng/L		87	50 - 150		
Perfluorobutanesulfonic acid			3.40	3.06		ng/L		90	50 - 150		
Perfluorohexanesulfonic acid			3.50	3.21		ng/L		92	50 - 150		
Perfluorooctanesulfonic acid			3.55	3.34		ng/L		94	50 - 150		
NEtFOSAA			3.84	3.39		ng/L		88	50 - 150		
NMeFOSAA			3.84	3.39		ng/L		88	50 - 150		
Perfluoroundecanoic acid			3.84	3.67		ng/L		95	50 - 150		
Perfluorododecanoic acid			3.84	3.52		ng/L		92	50 - 150		

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
d5-NEtFOSAA	*97*		*70 - 130*
13C2 PFDA	*107*		*70 - 130*
13C2 PFHxA	*101*		*70 - 130*
13C3 HFPO-DA	*98*		*70 - 130*

Lab Sample ID: LCSD 410-32732/3-A LLCSD
Matrix: Drinking Water
Analysis Batch: 33465

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 32732

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid			3.84	3.41		ng/L		89	50 - 150	0.8	30
Perfluoroheptanoic acid			3.84	3.48		ng/L		91	50 - 150	0.7	30
Perfluorooctanoic acid			3.84	3.72		ng/L		97	50 - 150	3	30
Perfluorononanoic acid			3.84	3.74		ng/L		97	50 - 150	3	30
Perfluorodecanoic acid			3.84	3.70		ng/L		96	50 - 150	0.2	30
Perfluorotridecanoic acid			3.84	3.65		ng/L		95	50 - 150	5	30
Perfluorotetradecanoic acid			3.84	3.52		ng/L		92	50 - 150	5	30
Perfluorobutanesulfonic acid			3.40	3.11		ng/L		91	50 - 150	2	30
Perfluorohexanesulfonic acid			3.50	3.20		ng/L		91	50 - 150	0.2	30
Perfluorooctanesulfonic acid			3.55	3.43		ng/L		97	50 - 150	3	30
NEtFOSAA			3.84	3.42		ng/L		89	50 - 150	1	30
NMeFOSAA			3.84	3.45		ng/L		90	50 - 150	2	30
Perfluoroundecanoic acid			3.84	3.81		ng/L		99	50 - 150	4	30
Perfluorododecanoic acid			3.84	3.61		ng/L		94	50 - 150	3	30

Surrogate	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
d5-NEtFOSAA	*96*		*70 - 130*
13C2 PFDA	*106*		*70 - 130*
13C2 PFHxA	*100*		*70 - 130*
13C3 HFPO-DA	*95*		*70 - 130*

Method: SW846 6850 - Perchlorate by LC/MS or LC/MS/MS

Lab Sample ID: MB 410-34953/49
Matrix: Water
Analysis Batch: 34953

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		1.0	0.20	ug/L			08/19/20 18:18	1

Lab Sample ID: LCS 410-34953/50
Matrix: Water
Analysis Batch: 34953

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	1.12		ug/L		112	80 - 120		

Lab Sample ID: LCSD 410-34953/51
Matrix: Water
Analysis Batch: 34953

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate			1.00	1.05		ug/L		105	80 - 120	6	15

LCMS

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-3	Field Blank - Raw 300 (173)	Total/NA	Drinking Water	537.1 DW	
MB 410-31335/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 410-31335/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LCSD 410-31335/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW	

Prep Batch: 31817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-1	Raw Water 300 (173)	Total/NA	Water	3535	
410-9990-2	EP-101 (173)	Total/NA	Water	3535	
MB 410-31817/1-A	Method Blank	Total/NA	Water	3535	
LCS 410-31817/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 410-31817/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 32153

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-31335/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	31335
LCS 410-31335/2-A	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	31335
LCSD 410-31335/3-A	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW	31335

Prep Batch: 32732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-4	Field Blank - EP 101 (173)	Total/NA	Drinking Water	537.1 DW	
410-9990-7	Raw 300 (201)	Total/NA	Drinking Water	537.1 DW	
410-9990-8	EP 101 (201)	Total/NA	Drinking Water	537.1 DW	
MB 410-32732/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	
LCS 410-32732/2-A LLCS	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	
LCSD 410-32732/3-A LLCSD	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW	

Analysis Batch: 32878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-3	Field Blank - Raw 300 (173)	Total/NA	Drinking Water	537.1 DW	31335

Analysis Batch: 33326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-1	Raw Water 300 (173)	Total/NA	Water	537 (modified)	31817
410-9990-2	EP-101 (173)	Total/NA	Water	537 (modified)	31817
MB 410-31817/1-A	Method Blank	Total/NA	Water	537 (modified)	31817
LCS 410-31817/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	31817
LCSD 410-31817/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	31817

Analysis Batch: 33465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-4	Field Blank - EP 101 (173)	Total/NA	Drinking Water	537.1 DW	32732
410-9990-7	Raw 300 (201)	Total/NA	Drinking Water	537.1 DW	32732
410-9990-8	EP 101 (201)	Total/NA	Drinking Water	537.1 DW	32732
MB 410-32732/1-A	Method Blank	Total/NA	Drinking Water	537.1 DW	32732
LCS 410-32732/2-A LLCS	Lab Control Sample	Total/NA	Drinking Water	537.1 DW	32732
LCSD 410-32732/3-A LLCSD	Lab Control Sample Dup	Total/NA	Drinking Water	537.1 DW	32732

LCMS

Analysis Batch: 34953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-5	Raw 300 (178)	Total/NA	Water	SW846 6850	
410-9990-6	EP 101 (178)	Total/NA	Water	SW846 6850	
MB 410-34953/49	Method Blank	Total/NA	Water	SW846 6850	
LCS 410-34953/50	Lab Control Sample	Total/NA	Water	SW846 6850	
LCSD 410-34953/51	Lab Control Sample Dup	Total/NA	Water	SW846 6850	

Prep Batch: 35529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-1 - RE	Raw Water 300 (173)	Total/NA	Water	3535	

Analysis Batch: 36406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-9990-1 - RE	Raw Water 300 (173)	Total/NA	Water	537 (modified)	35529

Lab Chronicle

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Client Sample ID: Raw Water 300 (173)

Lab Sample ID: 410-9990-1
Matrix: Water
Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	RE		35529	08/20/20 16:47	NP8L	ELLE
Total/NA	Analysis	537 (modified)	RE	1	36406	08/24/20 10:06	MT26	ELLE
Total/NA	Prep	3535			31817	08/11/20 10:15	Q5YX	ELLE
Total/NA	Analysis	537 (modified)		1	33326	08/15/20 01:40	QD9Y	ELLE

Client Sample ID: EP-101 (173)

Lab Sample ID: 410-9990-2
Matrix: Water
Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			31817	08/11/20 10:15	Q5YX	ELLE
Total/NA	Analysis	537 (modified)		1	33326	08/15/20 01:50	QD9Y	ELLE

Client Sample ID: Field Blank - Raw 300 (173)

Lab Sample ID: 410-9990-3
Matrix: Drinking Water
Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			31335	08/10/20 10:31	Q5YX	ELLE
Total/NA	Analysis	537.1 DW		1	32878	08/14/20 01:11	AC	ELLE

Client Sample ID: Field Blank - EP 101 (173)

Lab Sample ID: 410-9990-4
Matrix: Drinking Water
Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			32732	08/13/20 08:04	Q5YX	ELLE
Total/NA	Analysis	537.1 DW		1	33465	08/15/20 15:56	Y6ZN	ELLE

Client Sample ID: Raw 300 (178)

Lab Sample ID: 410-9990-5
Matrix: Water
Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SW846 6850		1	34953	08/19/20 19:27	URS0	ELLE

Client Sample ID: EP 101 (178)

Lab Sample ID: 410-9990-6
Matrix: Water
Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SW846 6850		1	34953	08/19/20 19:36	URS0	ELLE

Lab Chronicle

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Client Sample ID: Raw 300 (201)

Date Collected: 08/05/20 11:55
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-7

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			32732	08/13/20 08:04	Q5YX	ELLE
Total/NA	Analysis	537.1 DW		1	33465	08/15/20 16:05	Y6ZN	ELLE

Client Sample ID: EP 101 (201)

Date Collected: 08/05/20 12:18
Date Received: 08/07/20 08:13

Lab Sample ID: 410-9990-8

Matrix: Drinking Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW			32732	08/13/20 08:04	Q5YX	ELLE
Total/NA	Analysis	537.1 DW		1	33465	08/15/20 16:14	Y6ZN	ELLE

Laboratory References:

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

Accreditation/Certification Summary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

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
Pennsylvania	NELAP	36-00037	01-31-21

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

Method Summary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	ELLE
537.1 DW	Perfluorinated Alkyl Acids (LC/MS)	EPA	ELLE
SW846 6850	Perchlorate by LC/MS or LC/MS/MS	SW846	ELLE
3535	Solid-Phase Extraction (SPE)	SW846	ELLE
537.1 DW	Extraction of Perfluorinated Alkyl Acids	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: CWM Environmental, Inc
Project/Site: CWM

Job ID: 410-9990-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-9990-1	Raw Water 300 (173)	Water	08/05/20 11:55	08/07/20 08:13	
410-9990-2	EP-101 (173)	Water	08/05/20 12:18	08/07/20 08:13	
410-9990-3	Field Blank - Raw 300 (173)	Drinking Water	08/05/20 11:55	08/07/20 08:13	
410-9990-4	Field Blank - EP 101 (173)	Drinking Water	08/05/20 12:18	08/07/20 08:13	
410-9990-5	Raw 300 (178)	Water	08/05/20 11:55	08/07/20 08:13	
410-9990-6	EP 101 (178)	Water	08/05/20 12:18	08/07/20 08:13	
410-9990-7	Raw 300 (201)	Drinking Water	08/05/20 11:55	08/07/20 08:13	
410-9990-8	EP 101 (201)	Drinking Water	08/05/20 12:18	08/07/20 08:13	

Environmental Analysis R[illegible] ustody

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410-9990-01 Chain of Custody

Acct. # _____ Group # _____ tal use only

COC #610672

Client Information		Matrix	Analysis Requested	For Lab Use Only
Client:	Acct. #:	☐ Soil ☐ Sediment ☐ Tissue ☐ Water ☐ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other:	Preservation and Filtration Codes	FSC:
Project Name/#:	PWSID #:			SCR#: 261923
Project Manager:	P.O. #:			
Sampler: Robert Gomez	Quote #:			
State where samples were collected: PA	For Compliance: Yes ☐ No ☐			

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 P=H_3PO_4
F=Field Filtered O=Other

Remarks

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	EPA 537 – 32 compounds	14 Compounds in DW	Perchlorate in Water
Raw water 300 (173)	8/5/20	1155	✓		2	✓		
EP-101 (173)	8/5/20	1218	✓		2	✓		
Field Blank – Raw 300 (173)	8/5/20	1155	✓		2		✓	
Field Blank – EP101 (173)	8/5/20	1218	✓		2		✓	
Raw 300 (178)	8/5/20	1155	✓		1			✓
EP101 (178)	8/5/20	1218	✓		1			✓
Raw 300 (201)	8/5/20	1155	✓		2		✓	NG 8/7/20
EP 101 (201)	8/5/20	1218	✓		2		✓	

Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Requested TAT in business days: _____

E-mail address: _____

Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/non-CLP)
Type VI (Raw Data Only)
Type III (Reduced non-CLP)
NJ DKQP
TX TRRP-13
NYSDEC Category A or B
MA MCP
CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	7-28-20	1000			
Robert Gomez					
			Julissa R.	8/7/20	08:13

EDD Required? Yes No
If yes, format: _____
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS X FedEx _____ Other _____
Temperature upon receipt 1.3 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • FOR HELP COMPLETING FORM CHECK OUT https://www.eurofinsus.com/coc
The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. 7044 0919

JR JA

eurofins

Lancaster Laboratories Environmental

Sample Container Record

261973
Order Number: 261973
Order Date: 07/27/2020

Standard Frm#: 308329

Client: 20413
CWM Environmental
PER COC

Ship To:
CWM Environmental
101 Parkview Extension Drive
Kittanning, PA 16201
724-543-3011
Attn: Ryan Schafer

410-9990-02 Chain of Custody

PFAS & Perchlorate
The PFAS by EPA 537 V1.1 in potable water method requires a field reagent blank.

Group: 1

Number of Sample Locations: 2
One complete set of bottles listed below must be filled for each of the 2 sample location(s).

Sample Description	QC Type
Potable Water	

Count	Code	Description	Preservative	Analysis Name	Hold Time
1	178	40 ml glass vial	None	Perchlorate in Water LC/MS/MS	28 days
2	201	250 ml wide mouth plastic	Trizma	14 compounds in drinking water	14 days

Group: 2

Number of Sample Locations: 2 4
One complete set of bottles listed below must be filled for each of the 2 sample location(s).

Sample Description	QC Type
Water	

Count	Code	Description	Preservative	Analysis Name	Hold Time
2	173	250 ml oblong plastic	None	32 compounds by EPA 537 mod	14 days

Group: 3

Number of Sample Locations: 2 4
One complete set of bottles listed below must be filled for each of the 2 sample location(s).

Sample Description	QC Type
Potable Water	Field Blank

Count	Code	Description	Preservative	Analysis Name	Hold Time
2	173	250 ml oblong plastic	None	14 compounds in drinking water	14 days

If you have any questions, please contact your Client Service Representative, Stephen Gordon, at (717)656-2300 x1009

Date Needed:	Pack By:	Shipping Method:	This order is:
07/29/2020	07/28/2020	FEDEX 1 Day Ground	Per your Request

Version 2.2.6

eurofins | Lancaster Laboratories Environmental

Sample Container Record

261973
Order Number: 261973
Order Date: 07/27/2020

Standard Frm#: 308329

Client: 20413
CWM Environmental
PER COC

Ship To:
CWM Environmental
101 Parkview Extension Drive
Kittanning, PA 16201
724-543-3011
Attn: Ryan Schafer

PFAS & Perchlorate
The PFAS by EPA 537 V1.1 in potable water method requires a field reagent blank.

Sample Acceptance Policy

Samples must be submitted in a manner that meets the criteria listed below. Clients will be contacted for direction on how to proceed for any non-regulatory samples that do not meet the criteria specified below. **Regulatory samples that were not processed properly in the field regarding any required preservation, filtration, and/or packaging on ice in accordance with the EPA methodology must be rejected by the laboratory**.

- Regulatory samples (SDWA, NPDES, etc.) must be identified on the sample submission paperwork to ensure proper sample handling and reporting.
- Documentation must be complete and include: sample identification, the location, date and time of collection, collector's name or initials, preservation type, sample type, and any special remarks concerning the sample.
- Proper sample labeling must include unique identification on a durable (water resistant) label using indelible ink.
- Sufficient sample volume (including required Matrix QC) must be collected in appropriate containers with proper field preservation processes (i.e. chemical, filtration) completed as dictated in the methods or regulations at the time of collection. The laboratory will provide appropriate bottleware and preservative.
- Samples must be shipped promptly to meet specified holding times with adequate packing materials to prevent damage during shipment and sufficient wet ice to meet method temperature requirements (0-6C, not frozen).
- Trip blank vials are provided when sample vials for volatile analyses are requested. The trip blank vials must be kept with your sample bottles at all times and returned to the laboratory with your shipment in order to ensure the integrity of your volatile samples.
- Safe Drinking Water Act (SDWA) compliance samples from PENNSYLVANIA will be rejected upon sample receipt if the method required trip /field blanks are not submitted with the samples per PADEP.

If you have any questions, please contact your Client Service Representative, Stephen Gordon, at (717)656-2300 x1009

Date Needed:	Pack By:	Shipping Method:	This order is:
07/29/2020	07/28/2020	FEDEX 1 Day Ground	Per your Request

Version 2.2.6

Login Sample Receipt Checklist

Client: CWM Environmental, Inc

Job Number: 410-9990-1

Login Number: 9990
List Number: 1
Creator: Rivera-Santa, Julissa

List Source: Eurofins Lancaster Laboratories Env

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.	N/A	
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.	N/A	