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: 410-19056-1
Client Project/Site: PFC Investigation GSES

For:
Merrimack Village District
2 Greens Pond Road
Merrimack, New Hampshire 03054

Attn: Jill Lavoie

Authorized for release by:
11/19/2020 1:48:07 PM

Mary Kate Izzo, Project Manager
(717)556-4656
MaryKate.Izzo@eurofinset.com

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. 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. 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.

Mary Kate Izzo
Project Manager
11/19/2020 1:48:07 PM

Table of Contents

Definitions/Glossary

Client: Merrimack Village District
Job ID: 410-19056-1
Project/Site: PFC Investigation GSES

Qualifiers

LCMS

Qualifier	Qualifier Description
*5	Isotope dilution analyte is outside acceptance limits.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Job ID: 410-19056-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-19056-1

Receipt
The samples were received on 10/30/2020 10:32 AM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.9°C

LCMS
Method PFC_IDA: The recovery for the labeled isotope(s) in the laboratory control spike sample duplicate (LCSD) associated with samples: MVD-2(T)/1531010_008 (410-19056-1) and MVD-3(R)/1531010_003 (410-19056-2) is outside the QC acceptance limits. Since the recovery for the target analytes is within the QC acceptance limits, the data is reported.

Method PFC_IDA: The recovery for the labeled isotope(s) in the following sample:MVD-7(R)/1531010_007 (410-19056-3) and MVD-8(R)/1531010_009 (410-19056-4) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted within/outside the required holding time and the recovery for the labeled isotope(s) is again outside the QC acceptance limits.

Method PFC_IDA: The recovery for the labeled isotope(s) in the following samples: MVD-7(R)/1531010_007 (410-19056-3) and MVD-8(R)/1531010_009 (410-19056-4) is outside the QC acceptance limits as noted on the QC Summary. The following action was taken: This sample was re-extracted within the required holding time and the recovery for labeled isotope(s) was still outside QC acceptance limits.

Method PFC_IDA: The recovery for the labeled isotope(s) in the method blank associated with samples: MVD-7(R)/1531010_007 (410-19056-3) and MVD-8(R)/1531010_009 (410-19056-4) is outside the QC acceptance limits. Since the recovery is high and the native analyte is not detected in the sample, the data is reported.

Method PFC_IDA: The recovery for the labeled isotope(s) in the following sample: Hutchinson Road (410-19056-9), Parker Drive (410-19056-11) and Continental Blvd (410-19056-12) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside the required holding time and the recovery for the labeled isotope(s) is again outside the QC acceptance limits.

Method PFC_IDA: The recovery for the labeled isotope(s) in the following sample: MVD-TP/1531010_508 (410-19056-5), MVD-4R(R) (410-19056-6) and Society Hill (410-19056-10) is outside the QC acceptance limits. The following action was taken: This sample was re-extracted outside of the required holding time and the recovery for labeled isotope(s) was within QC acceptance limits.

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

Detection Summary

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: MVD-2(T)/1531010_008 — Lab Sample ID: 410-19056-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.8		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.6		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.4		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.77	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	1.4	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-3(R)/1531010_003 — Lab Sample ID: 410-19056-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	8.5		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	5.5		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	19		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.80	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.3		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.68	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	5.6		4.4	1.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	7.4		1.8	0.44	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-7(R)/1531010_007 — Lab Sample ID: 410-19056-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.9		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	24		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.72	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.2		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.7	J	4.3	1.7	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	2.6		1.7	0.43	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-8(R)/1531010_009 — Lab Sample ID: 410-19056-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	2.8		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.6		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	19		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.9		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.8		1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.2	J	4.3	1.7	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	2.4		1.7	0.43	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-TP/1531010_508 — Lab Sample ID: 410-19056-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.5		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.2		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	25		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.55	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Lancaster Laboratories Env, LLC

Client Sample ID: MVD-TP/1531010_508 (Continued) — Lab Sample ID: 410-19056-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	2.0		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.3	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.3	J	4.5	1.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	2.5		1.8	0.45	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-4R(R) — Lab Sample ID: 410-19056-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	19		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	14		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	90		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.82	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	6.2		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.0		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.0		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.1	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	5.8		4.4	1.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	11		1.8	0.44	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-5(R)/1531010_505 — Lab Sample ID: 410-19056-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	14		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	10		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	45		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.2		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.8		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.93	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	5.1		4.4	1.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	8.9		1.8	0.44	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MVD-TP Wells 4+5 filtered — Lab Sample ID: 410-19056-8

No Detections.

Client Sample ID: Hutchinson Road — Lab Sample ID: 410-19056-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.1		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.0		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	16		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.7		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.9		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.2	J	4.6	1.9	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	2.2		1.9	0.46	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Society Hill — Lab Sample ID: 410-19056-10

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: Parker Drive — Lab Sample ID: 410-19056-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.2		1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.3		1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.9		1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.0	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.8		1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.3	J	4.4	1.7	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	2.3		1.7	0.44	ng/L	1		537 (modified)	Total/NA

Client Sample ID: Continental Blvd — Lab Sample ID: 410-19056-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	3.4		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	23		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.56	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.1		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanoic acid (PFBA)	2.2	J	4.4	1.8	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPA)	2.3		1.8	0.44	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: MVD-2(T)/1531010_008
Date Collected: 10/29/20 11:25
Date Received: 10/30/20 10:32

Lab Sample ID: 410-19056-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**1.8**		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorooctanoic acid (PFOA)	**9.6**		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorobutanesulfonic acid (PFBS)	**2.4**		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorohexanesulfonic acid (PFHxS)	**0.77**	**J**	1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**	**J**	1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
NEtFOSAA	ND		2.7	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
NMeFOSAA	ND		1.8	0.54	ng/L		11/03/20 17:51	11/04/20 21:42	1
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorobutanoic acid (PFBA)	ND		4.5	1.8	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoropentanoic acid (PFPA)	**1.4**	**J**	1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
NMeFOSE	ND		2.7	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
NMeFOSA	ND		2.7	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
NEtFOSE	ND		2.7	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
NEtFOSA	ND		4.5	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		11/03/20 17:51	11/04/20 21:42	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		11/03/20 17:51	11/04/20 21:42	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		11/03/20 17:51	11/04/20 21:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*119*		*20 - 187*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
M2-8:2 FTS	*105*		*34 - 182*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
M2-6:2 FTS	*115*		*29 - 189*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C5 PFHxA	*108*		*31 - 142*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C4 PFHpA	*106*		*30 - 144*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C8 PFOA	*106*		*49 - 127*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C9 PFNA	*103*		*47 - 136*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C6 PFDA	*103*		*47 - 128*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C7 PFUnA	*106*		*40 - 135*	*11/03/20 17:51*	*11/04/20 21:42*	*1*
13C2-PFDoDA	*102*		*28 - 136*	*11/03/20 17:51*	*11/04/20 21:42*	*1*

Client Sample ID: MVD-2(T)/1531010_008

Lab Sample ID: 410-19056-1

Date Collected: 10/29/20 11:25

Matrix: Water

Date Received: 10/30/20 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	105		10 - 144	11/03/20 17:51	11/04/20 21:42	1
13C3 PFBS	116		19 - 178	11/03/20 17:51	11/04/20 21:42	1
13C3 PFHxS	110		32 - 145	11/03/20 17:51	11/04/20 21:42	1
13C8 PFOS	105		49 - 126	11/03/20 17:51	11/04/20 21:42	1
d3-NMeFOSAA	104		32 - 151	11/03/20 17:51	11/04/20 21:42	1
d5-NEtFOSAA	112		37 - 164	11/03/20 17:51	11/04/20 21:42	1
13C8 FOSA	95		10 - 143	11/03/20 17:51	11/04/20 21:42	1
13C4 PFBA	104		41 - 132	11/03/20 17:51	11/04/20 21:42	1
13C5 PFPeA	116		33 - 155	11/03/20 17:51	11/04/20 21:42	1
d7-N-MeFOSE-M	85		10 - 143	11/03/20 17:51	11/04/20 21:42	1
d3-NMePFOSA	35		10 - 107	11/03/20 17:51	11/04/20 21:42	1
d9-N-EtFOSE-M	84		10 - 142	11/03/20 17:51	11/04/20 21:42	1
d5-NEtPFOSA	34		10 - 108	11/03/20 17:51	11/04/20 21:42	1

Client Sample ID: MVD-3(R)/1531010_003

Lab Sample ID: 410-19056-2

Date Collected: 10/29/20 11:15

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**8.5**		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoroheptanoic acid (PFHpA)	**5.5**		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorooctanoic acid (PFOA)	**19**		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorononanoic acid (PFNA)	**0.80**	**J**	1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorobutanesulfonic acid (PFBS)	**5.3**		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.68**	**J**	1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorooctanesulfonic acid (PFOS)	**2.0**		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
NEtFOSAA	ND		2.6	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
NMeFOSAA	ND		1.8	0.53	ng/L		11/03/20 17:51	11/04/20 21:52	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorobutanoic acid (PFBA)	**5.6**		4.4	1.8	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoropentanoic acid (PFPA)	**7.4**		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
NMeFOSE	ND		2.6	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1

Client Sample ID: MVD-3(R)/1531010_003

Lab Sample ID: 410-19056-2

Date Collected: 10/29/20 11:15

Matrix: Water

Date Received: 10/30/20 10:32

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		2.6	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1
NEtFOSE	ND		2.6	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1
NEtFOSA	ND		4.4	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		11/03/20 17:51	11/04/20 21:52	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		11/03/20 17:51	11/04/20 21:52	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.88	ng/L		11/03/20 17:51	11/04/20 21:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*114*		*20 - 187*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
M2-8:2 FTS	*98*		*34 - 182*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
M2-6:2 FTS	*104*		*29 - 189*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C5 PFHxA	*94*		*31 - 142*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C4 PFHpA	*90*		*30 - 144*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C8 PFOA	*94*		*49 - 127*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C9 PFNA	*95*		*47 - 136*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C6 PFDA	*96*		*47 - 128*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C7 PFUnA	*95*		*40 - 135*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C2-PFDoDA	*94*		*28 - 136*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C2 PFTeDA	*96*		*10 - 144*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C3 PFBS	*115*		*19 - 178*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C3 PFHxS	*93*		*32 - 145*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C8 PFOS	*94*		*49 - 126*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
d3-NMeFOSAA	*97*		*32 - 151*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
d5-NEtFOSAA	*101*		*37 - 164*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C8 FOSA	*81*		*10 - 143*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C4 PFBA	*94*		*41 - 132*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
13C5 PFPeA	*110*		*33 - 155*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
d7-N-MeFOSE-M	*61*		*10 - 143*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
d3-NMePFOSA	*14*		*10 - 107*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
d9-N-EtFOSE-M	*62*		*10 - 142*	*11/03/20 17:51*	*11/04/20 21:52*	*1*
d5-NEtPFOSA	*13*		*10 - 108*	*11/03/20 17:51*	*11/04/20 21:52*	*1*

Client Sample ID: MVD-7(R)/1531010_007

Lab Sample ID: 410-19056-3

Date Collected: 10/29/20 13:17

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**3.9**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorooctanoic acid (PFOA)	**24**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorononanoic acid (PFNA)	**0.72**	**J**	1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**J**	1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1

Client Sample ID: MVD-7(R)/1531010_007
Date Collected: 10/29/20 13:17
Date Received: 10/30/20 10:32

Lab Sample ID: 410-19056-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**3.2**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
NEtFOSAA	ND		2.6	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
NMeFOSAA	ND		1.7	0.52	ng/L		11/06/20 11:38	11/07/20 22:26	1
10:2 Fluorotelomer sulfonic acid	ND		4.3	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorobutanoic acid (PFBA)	**2.7**	**J**	4.3	1.7	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoropentanoic acid (PFPA)	**2.6**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
NMeFOSE	ND		2.6	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
NMeFOSA	ND		2.6	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
NEtFOSE	ND		2.6	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
NEtFOSA	ND		4.3	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:26	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		11/06/20 11:38	11/07/20 22:26	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		11/06/20 11:38	11/07/20 22:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*127*		*20 - 187*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
M2-8:2 FTS	*121*		*34 - 182*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
M2-6:2 FTS	*115*		*29 - 189*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C5 PFHxA	*99*		*31 - 142*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C4 PFHpA	*106*		*30 - 144*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C8 PFOA	*106*		*49 - 127*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C9 PFNA	*94*		*47 - 136*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C6 PFDA	*101*		*47 - 128*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C7 PFUnA	*100*		*40 - 135*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C2-PFDoDA	*84*		*28 - 136*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C2 PFTeDA	*57*		*10 - 144*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C3 PFBS	*110*		*19 - 178*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C3 PFHxS	*116*		*32 - 145*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C8 PFOS	*97*		*49 - 126*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
d3-NMeFOSAA	*92*		*32 - 151*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
d5-NEtFOSAA	*104*		*37 - 164*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C8 FOSA	*82*		*10 - 143*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C4 PFBA	*103*		*41 - 132*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
13C5 PFPeA	*112*		*33 - 155*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
d7-N-MeFOSE-M	*41*		*10 - 143*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
d3-NMePFOSA	*6*	**5*	*10 - 107*	*11/06/20 11:38*	*11/07/20 22:26*	*1*

Client Sample ID: MVD-7(R)/1531010_007

Lab Sample ID: 410-19056-3

Date Collected: 10/29/20 13:17

Matrix: Water

Date Received: 10/30/20 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d9-N-EtFOSE-M	*37*		*10 - 142*	*11/06/20 11:38*	*11/07/20 22:26*	*1*
d5-NEtPFOSA	*5*	*5*	*10 - 108*	*11/06/20 11:38*	*11/07/20 22:26*	*1*

Client Sample ID: MVD-8(R)/1531010_009

Lab Sample ID: 410-19056-4

Date Collected: 10/29/20 13:23

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**2.8**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoroheptanoic acid (PFHpA)	**2.6**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorooctanoic acid (PFOA)	**19**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorobutanesulfonic acid (PFBS)	**1.9**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J**	1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorooctanesulfonic acid (PFOS)	**1.8**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
NEtFOSAA	ND		2.6	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
NMeFOSAA	ND		1.7	0.52	ng/L		11/06/20 11:38	11/07/20 22:36	1
10:2 Fluorotelomer sulfonic acid	ND		4.3	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.3	1.7	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoropentanoic acid (PFPA)	**2.4**		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
NMeFOSE	ND		2.6	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
NMeFOSA	ND		2.6	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
NEtFOSE	ND		2.6	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
NEtFOSA	ND		4.3	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		11/06/20 11:38	11/07/20 22:36	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		11/06/20 11:38	11/07/20 22:36	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.86	ng/L		11/06/20 11:38	11/07/20 22:36	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	*124*		*20 - 187*	*11/06/20 11:38*	*11/07/20 22:36*	*1*
M2-8:2 FTS	*130*		*34 - 182*	*11/06/20 11:38*	*11/07/20 22:36*	*1*

Client Sample ID: MVD-8(R)/1531010_009

Lab Sample ID: 410-19056-4

Date Collected: 10/29/20 13:23

Matrix: Water

Date Received: 10/30/20 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	109		29 - 189	11/06/20 11:38	11/07/20 22:36	1
13C5 PFHxA	107		31 - 142	11/06/20 11:38	11/07/20 22:36	1
13C4 PFHpA	112		30 - 144	11/06/20 11:38	11/07/20 22:36	1
13C8 PFOA	107		49 - 127	11/06/20 11:38	11/07/20 22:36	1
13C9 PFNA	99		47 - 136	11/06/20 11:38	11/07/20 22:36	1
13C6 PFDA	102		47 - 128	11/06/20 11:38	11/07/20 22:36	1
13C7 PFUnA	93		40 - 135	11/06/20 11:38	11/07/20 22:36	1
13C2-PFDoDA	85		28 - 136	11/06/20 11:38	11/07/20 22:36	1
13C2 PFTeDA	60		10 - 144	11/06/20 11:38	11/07/20 22:36	1
13C3 PFBS	115		19 - 178	11/06/20 11:38	11/07/20 22:36	1
13C3 PFHxS	123		32 - 145	11/06/20 11:38	11/07/20 22:36	1
13C8 PFOS	99		49 - 126	11/06/20 11:38	11/07/20 22:36	1
d3-NMeFOSAA	104		32 - 151	11/06/20 11:38	11/07/20 22:36	1
d5-NEtFOSAA	108		37 - 164	11/06/20 11:38	11/07/20 22:36	1
13C8 FOSA	77		10 - 143	11/06/20 11:38	11/07/20 22:36	1
13C4 PFBA	104		41 - 132	11/06/20 11:38	11/07/20 22:36	1
13C5 PFPeA	107		33 - 155	11/06/20 11:38	11/07/20 22:36	1
d7-N-MeFOSE-M	47		10 - 143	11/06/20 11:38	11/07/20 22:36	1
d3-NMePFOSA	10		10 - 107	11/06/20 11:38	11/07/20 22:36	1
d9-N-EtFOSE-M	43		10 - 142	11/06/20 11:38	11/07/20 22:36	1
d5-NEtPFOSA	9	*5	10 - 108	11/06/20 11:38	11/07/20 22:36	1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-19056-5

Date Collected: 10/29/20 13:29

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**3.5**		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoroheptanoic acid (PFHpA)	**3.2**		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorooctanoic acid (PFOA)	**25**		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorononanoic acid (PFNA)	**0.55**	**J**	1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorobutanesulfonic acid (PFBS)	**2.0**		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorohexanesulfonic acid (PFHxS)	**1.3**	**J**	1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorooctanesulfonic acid (PFOS)	**2.3**		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
NEtFOSAA	ND		2.7	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
NMeFOSAA	ND		1.8	0.54	ng/L		11/11/20 09:52	11/12/20 16:29	1
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1

Client Sample ID: MVD-TP/1531010_508

Lab Sample ID: 410-19056-5

Date Collected: 10/29/20 13:29

Matrix: Water

Date Received: 10/30/20 10:32

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorobutanoic acid (PFBA)	**2.3**	**J**	4.5	1.8	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoropentanoic acid (PFPA)	**2.5**		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
NMeFOSE	ND		2.7	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
NMeFOSA	ND		2.7	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
NEtFOSE	ND		2.7	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
NEtFOSA	ND		4.5	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 16:29	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		11/11/20 09:52	11/12/20 16:29	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.90	ng/L		11/11/20 09:52	11/12/20 16:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*154*		*20 - 187*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
M2-8:2 FTS	*127*		*34 - 182*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
M2-6:2 FTS	*126*		*29 - 189*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C5 PFHxA	*88*		*31 - 142*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C4 PFHpA	*100*		*30 - 144*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C8 PFOA	*94*		*49 - 127*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C9 PFNA	*107*		*47 - 136*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C6 PFDA	*94*		*47 - 128*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C7 PFUnA	*102*		*40 - 135*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C2-PFDoDA	*84*		*28 - 136*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C2 PFTeDA	*79*		*10 - 144*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C3 PFBS	*135*		*19 - 178*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C3 PFHxS	*94*		*32 - 145*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C8 PFOS	*95*		*49 - 126*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
d3-NMeFOSAA	*88*		*32 - 151*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
d5-NEtFOSAA	*100*		*37 - 164*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C8 FOSA	*54*		*10 - 143*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C4 PFBA	*95*		*41 - 132*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
13C5 PFPeA	*129*		*33 - 155*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
d7-N-MeFOSE-M	*30*		*10 - 143*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
d3-NMePFOSA	*0.4*	**5*	*10 - 107*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
d9-N-EtFOSE-M	*24*		*10 - 142*	*11/11/20 09:52*	*11/12/20 16:29*	*1*
d5-NEtPFOSA	*0.4*	**5*	*10 - 108*	*11/11/20 09:52*	*11/12/20 16:29*	*1*

Client Sample ID: MVD-4R(R)

Lab Sample ID: 410-19056-6

Date Collected: 10/29/20 11:45

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**19**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: MVD-4R(R)
Date Collected: 10/29/20 11:45
Date Received: 10/30/20 10:32

Lab Sample ID: 410-19056-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	**14**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorooctanoic acid (PFOA)	**90**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorononanoic acid (PFNA)	**0.82**	**J**	1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorobutanesulfonic acid (PFBS)	**6.2**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorohexanesulfonic acid (PFHxS)	**3.0**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorooctanesulfonic acid (PFOS)	**5.0**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
NEtFOSAA	ND		2.7	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
NMeFOSAA	ND		1.8	0.53	ng/L		11/11/20 09:52	11/12/20 16:49	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluoropentanesulfonic acid (PFPeS)	**1.1**	**J**	1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorobutanoic acid (PFBA)	**5.8**		4.4	1.8	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluoropentanoic acid (PFPA)	**11**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
NMeFOSE	ND		2.7	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
NMeFOSA	ND		2.7	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
NEtFOSE	ND		2.7	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
NEtFOSA	ND		4.4	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 16:49	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		11/11/20 09:52	11/12/20 16:49	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.89	ng/L		11/11/20 09:52	11/12/20 16:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*116*		*20 - 187*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
M2-8:2 FTS	*134*		*34 - 182*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
M2-6:2 FTS	*102*		*29 - 189*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C5 PFHxA	*90*		*31 - 142*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C4 PFHpA	*101*		*30 - 144*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C8 PFOA	*92*		*49 - 127*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C9 PFNA	*103*		*47 - 136*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C6 PFDA	*97*		*47 - 128*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C7 PFUnA	*114*		*40 - 135*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C2-PFDoDA	*92*		*28 - 136*	*11/11/20 09:52*	*11/12/20 16:49*	*1*
13C2 PFTeDA	*86*		*10 - 144*	*11/11/20 09:52*	*11/12/20 16:49*	*1*

Client Sample ID: MVD-4R(R)

Lab Sample ID: 410-19056-6

Date Collected: 10/29/20 11:45

Matrix: Water

Date Received: 10/30/20 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	111		19 - 178	11/11/20 09:52	11/12/20 16:49	1
13C3 PFHxS	97		32 - 145	11/11/20 09:52	11/12/20 16:49	1
13C8 PFOS	90		49 - 126	11/11/20 09:52	11/12/20 16:49	1
d3-NMeFOSAA	110		32 - 151	11/11/20 09:52	11/12/20 16:49	1
d5-NEtFOSAA	119		37 - 164	11/11/20 09:52	11/12/20 16:49	1
13C8 FOSA	55		10 - 143	11/11/20 09:52	11/12/20 16:49	1
13C4 PFBA	95		41 - 132	11/11/20 09:52	11/12/20 16:49	1
13C5 PFPeA	119		33 - 155	11/11/20 09:52	11/12/20 16:49	1
d7-N-MeFOSE-M	22		10 - 143	11/11/20 09:52	11/12/20 16:49	1
d3-NMePFOSA	0.6	*5	10 - 107	11/11/20 09:52	11/12/20 16:49	1
d9-N-EtFOSE-M	18		10 - 142	11/11/20 09:52	11/12/20 16:49	1
d5-NEtPFOSA	0.3	*5	10 - 108	11/11/20 09:52	11/12/20 16:49	1

Client Sample ID: MVD-5(R)/1531010_505

Lab Sample ID: 410-19056-7

Date Collected: 10/29/20 11:49

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**14**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoroheptanoic acid (PFHpA)	**10**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorooctanoic acid (PFOA)	**45**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorobutanesulfonic acid (PFBS)	**5.2**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorohexanesulfonic acid (PFHxS)	**2.3**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorooctanesulfonic acid (PFOS)	**1.8**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
NEtFOSAA	ND		2.6	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
NMeFOSAA	ND		1.8	0.53	ng/L		11/11/20 09:52	11/12/20 17:09	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoropentanesulfonic acid (PFPeS)	**0.93**	**J**	1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorobutanoic acid (PFBA)	**5.1**		4.4	1.8	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoropentanoic acid (PFPA)	**8.9**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
NMeFOSE	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1
NMeFOSA	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1

Client Sample ID: MVD-5(R)/1531010_505

Lab Sample ID: 410-19056-7

Date Collected: 10/29/20 11:49

Matrix: Water

Date Received: 10/30/20 10:32

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSE	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1
NEtFOSA	ND		4.4	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:09	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		11/11/20 09:52	11/12/20 17:09	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*114*		*20 - 187*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
M2-8:2 FTS	*114*		*34 - 182*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
M2-6:2 FTS	*108*		*29 - 189*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C5 PFHxA	*92*		*31 - 142*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C4 PFHpA	*100*		*30 - 144*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C8 PFOA	*99*		*49 - 127*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C9 PFNA	*100*		*47 - 136*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C6 PFDA	*102*		*47 - 128*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C7 PFUnA	*113*		*40 - 135*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C2-PFDoDA	*97*		*28 - 136*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C2 PFTeDA	*98*		*10 - 144*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C3 PFBS	*112*		*19 - 178*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C3 PFHxS	*99*		*32 - 145*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C8 PFOS	*93*		*49 - 126*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
d3-NMeFOSAA	*110*		*32 - 151*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
d5-NEtFOSAA	*123*		*37 - 164*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C8 FOSA	*86*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C4 PFBA	*97*		*41 - 132*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
13C5 PFPeA	*116*		*33 - 155*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
d7-N-MeFOSE-M	*84*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
d3-NMePFOSA	*49*		*10 - 107*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
d9-N-EtFOSE-M	*84*		*10 - 142*	*11/11/20 09:52*	*11/12/20 17:09*	*1*
d5-NEtPFOSA	*49*		*10 - 108*	*11/11/20 09:52*	*11/12/20 17:09*	*1*

Client Sample ID: MVD-TP Wells 4+5 filtered

Lab Sample ID: 410-19056-8

Date Collected: 10/29/20 11:52

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorooctanoic acid (PFOA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorononanoic acid (PFNA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
NEtFOSAA	ND		2.7	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
NMeFOSAA	ND		1.8	0.55	ng/L		11/11/20 09:52	11/12/20 17:18	1

Client: Merrimack Village District
Job ID: 410-19056-1
Project/Site: PFC Investigation GSES

Client Sample ID: MVD-TP Wells 4+5 filtered
Lab Sample ID: 410-19056-8
Date Collected: 10/29/20 11:52
Matrix: Water
Date Received: 10/30/20 10:32

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
10:2 Fluorotelomer sulfonic acid	ND		4.5	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.7	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.7	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.7	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorobutanoic acid (PFBA)	ND		4.5	1.8	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoropentanoic acid (PFPA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
NMeFOSE	ND		2.7	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
NMeFOSA	ND		2.7	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
NEtFOSE	ND		2.7	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
NEtFOSA	ND		4.5	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.45	ng/L		11/11/20 09:52	11/12/20 17:18	1
6:2 Fluorotelomer sulfonic acid	ND		4.5	1.8	ng/L		11/11/20 09:52	11/12/20 17:18	1
8:2 Fluorotelomer sulfonic acid	ND		2.7	0.91	ng/L		11/11/20 09:52	11/12/20 17:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*96*		*20 - 187*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
M2-8:2 FTS	*107*		*34 - 182*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
M2-6:2 FTS	*129*		*29 - 189*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C5 PFHxA	*79*		*31 - 142*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C4 PFHpA	*62*		*30 - 144*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C8 PFOA	*87*		*49 - 127*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C9 PFNA	*105*		*47 - 136*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C6 PFDA	*96*		*47 - 128*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C7 PFUnA	*97*		*40 - 135*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C2-PFDoDA	*83*		*28 - 136*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C2 PFTeDA	*83*		*10 - 144*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C3 PFBS	*89*		*19 - 178*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C3 PFHxS	*66*		*32 - 145*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C8 PFOS	*89*		*49 - 126*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
d3-NMeFOSAA	*96*		*32 - 151*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
d5-NEtFOSAA	*100*		*37 - 164*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C8 FOSA	*79*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C4 PFBA	*96*		*41 - 132*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
13C5 PFPeA	*97*		*33 - 155*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
d7-N-MeFOSE-M	*75*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
d3-NMePFOSA	*44*		*10 - 107*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
d9-N-EtFOSE-M	*78*		*10 - 142*	*11/11/20 09:52*	*11/12/20 17:18*	*1*
d5-NEtPFOSA	*40*		*10 - 108*	*11/11/20 09:52*	*11/12/20 17:18*	*1*

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: Hutchinson Road
Date Collected: 10/29/20 12:59
Date Received: 10/30/20 10:32

Lab Sample ID: 410-19056-9
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**3.1**		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoroheptanoic acid (PFHpA)	**2.0**		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorooctanoic acid (PFOA)	**16**		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorobutanesulfonic acid (PFBS)	**2.7**		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J**	1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorooctanesulfonic acid (PFOS)	**1.9**		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
NEtFOSAA	ND		2.8	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
NMeFOSAA	ND		1.9	0.56	ng/L		11/11/20 09:52	11/12/20 17:28	1
10:2 Fluorotelomer sulfonic acid	ND		4.6	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorononanesulfonic acid (PFNS)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.8	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.8	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.8	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.6	1.9	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoropentanoic acid (PFPA)	**2.2**		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
NMeFOSE	ND		2.8	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
NMeFOSA	ND		2.8	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
NEtFOSE	ND		2.8	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
NEtFOSA	ND		4.6	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
4:2 Fluorotelomer sulfonic acid	ND		1.9	0.46	ng/L		11/11/20 09:52	11/12/20 17:28	1
6:2 Fluorotelomer sulfonic acid	ND		4.6	1.9	ng/L		11/11/20 09:52	11/12/20 17:28	1
8:2 Fluorotelomer sulfonic acid	ND		2.8	0.93	ng/L		11/11/20 09:52	11/12/20 17:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*111*		*20 - 187*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
M2-8:2 FTS	*100*		*34 - 182*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
M2-6:2 FTS	*119*		*29 - 189*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C5 PFHxA	*71*		*31 - 142*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C4 PFHpA	*52*		*30 - 144*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C8 PFOA	*84*		*49 - 127*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C9 PFNA	*103*		*47 - 136*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C6 PFDA	*86*		*47 - 128*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C7 PFUnA	*90*		*40 - 135*	*11/11/20 09:52*	*11/12/20 17:28*	*1*
13C2-PFDoDA	*80*		*28 - 136*	*11/11/20 09:52*	*11/12/20 17:28*	*1*

Client Sample ID: Hutchinson Road

Lab Sample ID: 410-19056-9

Date Collected: 10/29/20 12:59

Matrix: Water

Date Received: 10/30/20 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFTeDA	74		10 - 144	11/11/20 09:52	11/12/20 17:28	1
13C3 PFBS	111		19 - 178	11/11/20 09:52	11/12/20 17:28	1
13C3 PFHxS	59		32 - 145	11/11/20 09:52	11/12/20 17:28	1
13C8 PFOS	89		49 - 126	11/11/20 09:52	11/12/20 17:28	1
d3-NMeFOSAA	85		32 - 151	11/11/20 09:52	11/12/20 17:28	1
d5-NEtFOSAA	92		37 - 164	11/11/20 09:52	11/12/20 17:28	1
13C8 FOSA	46		10 - 143	11/11/20 09:52	11/12/20 17:28	1
13C4 PFBA	90		41 - 132	11/11/20 09:52	11/12/20 17:28	1
13C5 PFPeA	106		33 - 155	11/11/20 09:52	11/12/20 17:28	1
d7-N-MeFOSE-M	24		10 - 143	11/11/20 09:52	11/12/20 17:28	1
d3-NMePFOSA	0.9	*5	10 - 107	11/11/20 09:52	11/12/20 17:28	1
d9-N-EtFOSE-M	24		10 - 142	11/11/20 09:52	11/12/20 17:28	1
d5-NEtPFOSA	1	*5	10 - 108	11/11/20 09:52	11/12/20 17:28	1

Client Sample ID: Society Hill

Lab Sample ID: 410-19056-10

Date Collected: 10/29/20 12:05

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoroheptanoic acid (PFHpA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorooctanoic acid (PFOA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
NEtFOSAA	ND		2.6	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
NMeFOSAA	ND		1.7	0.52	ng/L		11/11/20 09:52	11/12/20 17:38	1
10:2 Fluorotelomer sulfonic acid	ND		4.3	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorobutanoic acid (PFBA)	ND		4.3	1.7	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoropentanoic acid (PFPA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
NMeFOSE	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1
NMeFOSA	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1
NEtFOSE	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1

Client Sample ID: Society Hill

Lab Sample ID: 410-19056-10

Date Collected: 10/29/20 12:05

Matrix: Water

Date Received: 10/30/20 10:32

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSA	ND		4.3	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		11/11/20 09:52	11/12/20 17:38	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		11/11/20 09:52	11/12/20 17:38	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*104*		*20 - 187*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
M2-8:2 FTS	*107*		*34 - 182*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
M2-6:2 FTS	*102*		*29 - 189*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C5 PFHxA	*99*		*31 - 142*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C4 PFHpA	*101*		*30 - 144*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C8 PFOA	*101*		*49 - 127*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C9 PFNA	*103*		*47 - 136*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C6 PFDA	*97*		*47 - 128*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C7 PFUnA	*108*		*40 - 135*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C2-PFDoDA	*95*		*28 - 136*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C2 PFTeDA	*91*		*10 - 144*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C3 PFBS	*92*		*19 - 178*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C3 PFHxS	*99*		*32 - 145*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C8 PFOS	*96*		*49 - 126*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
d3-NMeFOSAA	*92*		*32 - 151*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
d5-NEtFOSAA	*105*		*37 - 164*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C8 FOSA	*50*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C4 PFBA	*96*		*41 - 132*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
13C5 PFPeA	*104*		*33 - 155*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
d7-N-MeFOSE-M	*24*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
d3-NMePFOSA	*0.6*	**5*	*10 - 107*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
d9-N-EtFOSE-M	*22*		*10 - 142*	*11/11/20 09:52*	*11/12/20 17:38*	*1*
d5-NEtPFOSA	*0.5*	**5*	*10 - 108*	*11/11/20 09:52*	*11/12/20 17:38*	*1*

Client Sample ID: Parker Drive

Lab Sample ID: 410-19056-11

Date Collected: 10/29/20 12:34

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**3.2**		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoroheptanoic acid (PFHpA)	**2.3**		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorooctanoic acid (PFOA)	**14**		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorodecanoic acid (PFDA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorohexanesulfonic acid (PFHxS)	**1.0**	**J**	1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorooctanesulfonic acid (PFOS)	**1.8**		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: Parker Drive
Date Collected: 10/29/20 12:34
Date Received: 10/30/20 10:32

Lab Sample ID: 410-19056-11
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		2.6	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
NMeFOSAA	ND		1.7	0.52	ng/L		11/11/20 09:52	11/12/20 17:48	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorononanesulfonic acid (PFNS)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorobutanoic acid (PFBA)	**2.3**	**J**	4.4	1.7	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoropentanoic acid (PFPA)	**2.3**		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
NMeFOSE	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
NMeFOSA	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
NEtFOSE	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
NEtFOSA	ND		4.4	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluorododecanoic acid (PFDoA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
Perfluoroundecanoic acid (PFUnA)	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.44	ng/L		11/11/20 09:52	11/12/20 17:48	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.7	ng/L		11/11/20 09:52	11/12/20 17:48	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		11/11/20 09:52	11/12/20 17:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*133*		*20 - 187*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
M2-8:2 FTS	*122*		*34 - 182*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
M2-6:2 FTS	*119*		*29 - 189*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C5 PFHxA	*97*		*31 - 142*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C4 PFHpA	*108*		*30 - 144*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C8 PFOA	*104*		*49 - 127*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C9 PFNA	*113*		*47 - 136*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C6 PFDA	*102*		*47 - 128*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C7 PFUnA	*107*		*40 - 135*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C2-PFDoDA	*92*		*28 - 136*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C2 PFTeDA	*88*		*10 - 144*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C3 PFBS	*129*		*19 - 178*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C3 PFHxS	*106*		*32 - 145*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C8 PFOS	*101*		*49 - 126*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
d3-NMeFOSAA	*98*		*32 - 151*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
d5-NEtFOSAA	*105*		*37 - 164*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C8 FOSA	*67*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C4 PFBA	*103*		*41 - 132*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
13C5 PFPeA	*128*		*33 - 155*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
d7-N-MeFOSE-M	*41*		*10 - 143*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
d3-NMePFOSA	*2*	**5*	*10 - 107*	*11/11/20 09:52*	*11/12/20 17:48*	*1*
d9-N-EtFOSE-M	*35*		*10 - 142*	*11/11/20 09:52*	*11/12/20 17:48*	*1*

Client Sample ID: Parker Drive

Lab Sample ID: 410-19056-11

Date Collected: 10/29/20 12:34

Matrix: Water

Date Received: 10/30/20 10:32

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtPFOSA	2	*5	10 - 108	11/11/20 09:52	11/12/20 17:48	1

Client Sample ID: Continental Blvd

Lab Sample ID: 410-19056-12

Date Collected: 10/29/20 13:08

Matrix: Water

Date Received: 10/30/20 10:32

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	**3.4**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorooctanoic acid (PFOA)	**23**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorononanoic acid (PFNA)	**0.56**	**J**	1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorodecanoic acid (PFDA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorotridecanoic acid (PFTrDA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorobutanesulfonic acid (PFBS)	**2.1**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorohexanesulfonic acid (PFHxS)	**1.4**	**J**	1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
NEtFOSAA	ND		2.6	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
NMeFOSAA	ND		1.8	0.53	ng/L		11/11/20 09:52	11/12/20 17:58	1
10:2 Fluorotelomer sulfonic acid	ND		4.4	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoropentanesulfonic acid (PFPeS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorononanesulfonic acid (PFNS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorooctanesulfonamide (PFOSA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorobutanoic acid (PFBA)	**2.2**	**J**	4.4	1.8	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoropentanoic acid (PFPA)	**2.3**		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
NMeFOSE	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
NMeFOSA	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
NEtFOSE	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
NEtFOSA	ND		4.4	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluorododecanoic acid (PFDoA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
4:2 Fluorotelomer sulfonic acid	ND		1.8	0.44	ng/L		11/11/20 09:52	11/12/20 17:58	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.8	ng/L		11/11/20 09:52	11/12/20 17:58	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.88	ng/L		11/11/20 09:52	11/12/20 17:58	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	151		20 - 187	11/11/20 09:52	11/12/20 17:58	1
M2-8:2 FTS	119		34 - 182	11/11/20 09:52	11/12/20 17:58	1
M2-6:2 FTS	127		29 - 189	11/11/20 09:52	11/12/20 17:58	1

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: Continental Blvd
Date Collected: 10/29/20 13:08
Date Received: 10/30/20 10:32

Lab Sample ID: 410-19056-12
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFHxA	89		31 - 142	11/11/20 09:52	11/12/20 17:58	1
13C4 PFHpA	99		30 - 144	11/11/20 09:52	11/12/20 17:58	1
13C8 PFOA	97		49 - 127	11/11/20 09:52	11/12/20 17:58	1
13C9 PFNA	117		47 - 136	11/11/20 09:52	11/12/20 17:58	1
13C6 PFDA	99		47 - 128	11/11/20 09:52	11/12/20 17:58	1
13C7 PFUnA	103		40 - 135	11/11/20 09:52	11/12/20 17:58	1
13C2-PFDoDA	87		28 - 136	11/11/20 09:52	11/12/20 17:58	1
13C2 PFTeDA	87		10 - 144	11/11/20 09:52	11/12/20 17:58	1
13C3 PFBS	149		19 - 178	11/11/20 09:52	11/12/20 17:58	1
13C3 PFHxS	93		32 - 145	11/11/20 09:52	11/12/20 17:58	1
13C8 PFOS	98		49 - 126	11/11/20 09:52	11/12/20 17:58	1
d3-NMeFOSAA	93		32 - 151	11/11/20 09:52	11/12/20 17:58	1
d5-NEtFOSAA	107		37 - 164	11/11/20 09:52	11/12/20 17:58	1
13C8 FOSA	44		10 - 143	11/11/20 09:52	11/12/20 17:58	1
13C4 PFBA	104		41 - 132	11/11/20 09:52	11/12/20 17:58	1
13C5 PFPeA	142		33 - 155	11/11/20 09:52	11/12/20 17:58	1
d7-N-MeFOSE-M	11		10 - 143	11/11/20 09:52	11/12/20 17:58	1
d3-NMePFOSA	24		10 - 107	11/11/20 09:52	11/12/20 17:58	1
d9-N-EtFOSE-M	10		10 - 142	11/11/20 09:52	11/12/20 17:58	1
d5-NEtPFOSA	0.5	*5	10 - 108	11/11/20 09:52	11/12/20 17:58	1

Isotope Dilution Summary

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

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)
410-19056-1	MVD-2(T)/1531010_008	119	105	115	108	106	106	103	103
410-19056-2	MVD-3(R)/1531010_003	114	98	104	94	90	94	95	96
410-19056-3	MVD-7(R)/1531010_007	127	121	115	99	106	106	94	101
410-19056-4	MVD-8(R)/1531010_009	124	130	109	107	112	107	99	102
410-19056-5	MVD-TP/1531010_508	154	127	126	88	100	94	107	94
410-19056-6	MVD-4R(R)	116	134	102	90	101	92	103	97
410-19056-7	MVD-5(R)/1531010_505	114	114	108	92	100	99	100	102
410-19056-8	MVD-TP Wells 4+5 filtered	96	107	129	79	62	87	105	96
410-19056-9	Hutchinson Road	111	100	119	71	52	84	103	86
410-19056-10	Society Hill	104	107	102	99	101	101	103	97
410-19056-11	Parker Drive	133	122	119	97	108	104	113	102
410-19056-12	Continental Blvd	151	119	127	89	99	97	117	99
LCS 410-61748/2-A	Lab Control Sample	98	94	98	98	92	98	96	96
LCS 410-63052/2-A	Lab Control Sample	106	101	110	113	89	109	101	100
LCS 410-64690/2-A	Lab Control Sample	108	109	112	109	105	109	104	104
LCSD 410-61748/3-A	Lab Control Sample Dup	115	111	115	117	111	116	109	112
LCSD 410-63052/3-A	Lab Control Sample Dup	99	101	100	109	86	107	94	99
LCSD 410-64690/3-A	Lab Control Sample Dup	102	111	105	104	100	102	100	102
MB 410-61748/1-A	Method Blank	105	106	107	106	101	105	102	99
MB 410-63052/1-A	Method Blank	124	123	140	151 *5	114	139 *5	129	119
MB 410-64690/1-A	Method Blank	102	109	115	119	88	116	101	102

		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)
410-19056-1	MVD-2(T)/1531010_008	106	102	105	116	110	105	104	112
410-19056-2	MVD-3(R)/1531010_003	95	94	96	115	93	94	97	101
410-19056-3	MVD-7(R)/1531010_007	100	84	57	110	116	97	92	104
410-19056-4	MVD-8(R)/1531010_009	93	85	60	115	123	99	104	108
410-19056-5	MVD-TP/1531010_508	102	84	79	135	94	95	88	100
410-19056-6	MVD-4R(R)	114	92	86	111	97	90	110	119
410-19056-7	MVD-5(R)/1531010_505	113	97	98	112	99	93	110	123
410-19056-8	MVD-TP Wells 4+5 filtered	97	83	83	89	66	89	96	100
410-19056-9	Hutchinson Road	90	80	74	111	59	89	85	92
410-19056-10	Society Hill	108	95	91	92	99	96	92	105
410-19056-11	Parker Drive	107	92	88	129	106	101	98	105
410-19056-12	Continental Blvd	103	87	87	149	93	98	93	107
LCS 410-61748/2-A	Lab Control Sample	100	99	100	96	96	96	105	107
LCS 410-63052/2-A	Lab Control Sample	112	89	77	79	95	91	94	113
LCS 410-64690/2-A	Lab Control Sample	111	87	99	112	107	99	99	109
LCSD 410-61748/3-A	Lab Control Sample Dup	112	112	115	113	118	111	169 *5	119
LCSD 410-63052/3-A	Lab Control Sample Dup	106	94	78	77	92	89	99	106
LCSD 410-64690/3-A	Lab Control Sample Dup	112	88	93	97	107	94	106	105
MB 410-61748/1-A	Method Blank	100	104	101	105	103	101	106	113
MB 410-63052/1-A	Method Blank	139 *5	110	101	100	117	117	117	140
MB 410-64690/1-A	Method Blank	117	101	82	82	101	92	112	117

		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)	
410-19056-1	MVD-2(T)/1531010_008	95	104	116	85	35	84	34	

Isotope Dilution Summary

Client: Merrimack Village District
Job ID: 410-19056-1
Project/Site: PFC Investigation GSES

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

Matrix: Water
Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	PFOSA (10-143)	PFBA (41-132)	PFPeA (33-155)	NMFM (10-143)	d3NMFSA (10-107)	NEFM (10-142)	d5NPFSA (10-108)
410-19056-2	MVD-3(R)/1531010_003	81	94	110	61	14	62	13
410-19056-3	MVD-7(R)/1531010_007	82	103	112	41	6 *5	37	5 *5
410-19056-4	MVD-8(R)/1531010_009	77	104	107	47	10	43	9 *5
410-19056-5	MVD-TP/1531010_508	54	95	129	30	0.4 *5	24	0.4 *5
410-19056-6	MVD-4R(R)	55	95	119	22	0.6 *5	18	0.3 *5
410-19056-7	MVD-5(R)/1531010_505	86	97	116	84	49	84	49
410-19056-8	MVD-TP Wells 4+5 filtered	79	96	97	75	44	78	40
410-19056-9	Hutchinson Road	46	90	106	24	0.9 *5	24	1 *5
410-19056-10	Society Hill	50	96	104	24	0.6 *5	22	0.5 *5
410-19056-11	Parker Drive	67	103	128	41	2 *5	35	2 *5
410-19056-12	Continental Blvd	44	104	142	11	24	10	0.5 *5
LCS 410-61748/2-A	Lab Control Sample	96	97	97	90	67	95	68
LCS 410-63052/2-A	Lab Control Sample	78	97	100	71	45	75	41
LCS 410-64690/2-A	Lab Control Sample	84	103	123	76	49	78	46
LCSD 410-61748/3-A	Lab Control Sample Dup	101	112	115	111	82	115	82
LCSD 410-63052/3-A	Lab Control Sample Dup	76	94	98	80	48	81	47
LCSD 410-64690/3-A	Lab Control Sample Dup	86	100	106	80	57	85	53
MB 410-61748/1-A	Method Blank	96	105	108	86	68	93	70
MB 410-63052/1-A	Method Blank	103	121	124	99	73	104	67
MB 410-64690/1-A	Method Blank	91	106	107	86	52	90	47

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 410-61748/1-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61748

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
NEtFOSAA	ND		3.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
NMeFOSAA	ND		2.0	0.60	ng/L		11/03/20 17:51	11/04/20 19:45	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
NMeFOSE	ND		3.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
NMeFOSA	ND		3.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
NEtFOSE	ND		3.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
NEtFOSA	ND		5.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		11/03/20 17:51	11/04/20 19:45	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		11/03/20 17:51	11/04/20 19:45	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		11/03/20 17:51	11/04/20 19:45	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*105*		*20 - 187*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
M2-8:2 FTS	*106*		*34 - 182*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
M2-6:2 FTS	*107*		*29 - 189*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C5 PFHxA	*106*		*31 - 142*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C4 PFHpA	*101*		*30 - 144*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C8 PFOA	*105*		*49 - 127*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C9 PFNA	*102*		*47 - 136*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C6 PFDA	*99*		*47 - 128*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C7 PFUnA	*100*		*40 - 135*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C2-PFDoDA	*104*		*28 - 136*	*11/03/20 17:51*	*11/04/20 19:45*	*1*
13C2 PFTeDA	*101*		*10 - 144*	*11/03/20 17:51*	*11/04/20 19:45*	*1*

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

Lab Sample ID: MB 410-61748/1-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 61748

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	105		19 - 178	11/03/20 17:51	11/04/20 19:45	1
13C3 PFHxS	103		32 - 145	11/03/20 17:51	11/04/20 19:45	1
13C8 PFOS	101		49 - 126	11/03/20 17:51	11/04/20 19:45	1
d3-NMeFOSAA	106		32 - 151	11/03/20 17:51	11/04/20 19:45	1
d5-NEtFOSAA	113		37 - 164	11/03/20 17:51	11/04/20 19:45	1
13C8 FOSA	96		10 - 143	11/03/20 17:51	11/04/20 19:45	1
13C4 PFBA	105		41 - 132	11/03/20 17:51	11/04/20 19:45	1
13C5 PFPeA	108		33 - 155	11/03/20 17:51	11/04/20 19:45	1
d7-N-MeFOSE-M	86		10 - 143	11/03/20 17:51	11/04/20 19:45	1
d3-NMePFOSA	68		10 - 107	11/03/20 17:51	11/04/20 19:45	1
d9-N-EtFOSE-M	93		10 - 142	11/03/20 17:51	11/04/20 19:45	1
d5-NEtPFOSA	70		10 - 108	11/03/20 17:51	11/04/20 19:45	1

Lab Sample ID: LCS 410-61748/2-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	25.6	22.6		ng/L		88	66 - 137
Perfluoroheptanoic acid (PFHpA)	25.6	26.2		ng/L		102	66 - 141
Perfluorooctanoic acid (PFOA)	25.6	23.7		ng/L		93	65 - 136
Perfluorononanoic acid (PFNA)	25.6	24.5		ng/L		96	65 - 140
Perfluorodecanoic acid (PFDA)	25.6	24.1		ng/L		94	63 - 137
Perfluorotridecanoic acid (PFTrDA)	25.6	27.2		ng/L		106	58 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	25.7		ng/L		100	64 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	20.5		ng/L		91	65 - 132
Perfluorohexanesulfonic acid (PFHxS)	24.2	21.7		ng/L		90	60 - 128
Perfluorooctanesulfonic acid (PFOS)	24.5	20.4		ng/L		83	51 - 126
NEtFOSAA	25.6	26.1		ng/L		102	54 - 134
NMeFOSAA	25.6	26.8		ng/L		105	58 - 143
10:2 Fluorotelomer sulfonic acid	24.7	25.8		ng/L		104	44 - 141
Perfluoropentanesulfonic acid (PFPeS)	24.0	24.1		ng/L		100	71 - 136
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	24.3		ng/L		100	67 - 135
Perfluorononanesulfonic acid (PFNS)	24.6	24.2		ng/L		99	67 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	23.4		ng/L		95	61 - 134
Perfluorododecanesulfonic acid (PFDoS)	24.8	23.1		ng/L		93	54 - 136
Perfluorooctanesulfonamide (PFOSA)	25.6	22.9		ng/L		90	55 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	25.9		ng/L		101	52 - 149
Perfluoro-n-octadecanoic acid (PFODA)	25.6	27.3		ng/L		106	32 - 167

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

Lab Sample ID: LCS 410-61748/2-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 61748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	25.6	24.2		ng/L		94	62 - 156
Perfluoropentanoic acid (PFPA)	25.6	23.3		ng/L		91	72 - 139
NMeFOSE	25.6	23.6		ng/L		92	52 - 131
NMeFOSA	25.6	25.7		ng/L		100	49 - 141
NEtFOSE	25.6	22.8		ng/L		89	49 - 128
NEtFOSA	25.6	23.5		ng/L		92	50 - 136
Perfluorododecanoic acid (PFDoA)	25.6	24.6		ng/L		96	63 - 140
Perfluoroundecanoic acid (PFUnA)	25.6	25.4		ng/L		99	62 - 138
4:2 Fluorotelomer sulfonic acid	23.9	22.4		ng/L		94	59 - 130
6:2 Fluorotelomer sulfonic acid	24.3	21.6		ng/L		89	57 - 137
8:2 Fluorotelomer sulfonic acid	24.5	25.1		ng/L		102	56 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*98*		*20 - 187*
M2-8:2 FTS	*94*		*34 - 182*
M2-6:2 FTS	*98*		*29 - 189*
13C5 PFHxA	*98*		*31 - 142*
13C4 PFHpA	*92*		*30 - 144*
13C8 PFOA	*98*		*49 - 127*
13C9 PFNA	*96*		*47 - 136*
13C6 PFDA	*96*		*47 - 128*
13C7 PFUnA	*100*		*40 - 135*
13C2-PFDoDA	*99*		*28 - 136*
13C2 PFTeDA	*100*		*10 - 144*
13C3 PFBS	*96*		*19 - 178*
13C3 PFHxS	*96*		*32 - 145*
13C8 PFOS	*96*		*49 - 126*
d3-NMeFOSAA	*105*		*32 - 151*
d5-NEtFOSAA	*107*		*37 - 164*
13C8 FOSA	*96*		*10 - 143*
13C4 PFBA	*97*		*41 - 132*
13C5 PFPeA	*97*		*33 - 155*
d7-N-MeFOSE-M	*90*		*10 - 143*
d3-NMePFOSA	*67*		*10 - 107*
d9-N-EtFOSE-M	*95*		*10 - 142*
d5-NEtPFOSA	*68*		*10 - 108*

Lab Sample ID: LCSD 410-61748/3-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61748

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	25.6	22.0		ng/L		86	66 - 137	3	30
Perfluoroheptanoic acid (PFHpA)	25.6	24.9		ng/L		97	66 - 141	5	30
Perfluorooctanoic acid (PFOA)	25.6	22.4		ng/L		87	65 - 136	6	30
Perfluorononanoic acid (PFNA)	25.6	23.1		ng/L		90	65 - 140	6	30
Perfluorodecanoic acid (PFDA)	25.6	22.8		ng/L		89	63 - 137	6	30

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

Lab Sample ID: LCSD 410-61748/3-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61748

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorotridecanoic acid (PFTrDA)			25.6	27.3		ng/L		107	58 - 146	0	30
Perfluorotetradecanoic acid (PFTeA)			25.6	23.6		ng/L		92	64 - 141	8	30
Perfluorobutanesulfonic acid (PFBS)			22.6	20.5		ng/L		90	65 - 132	0	30
Perfluorohexanesulfonic acid (PFHxS)			24.2	20.1		ng/L		83	60 - 128	8	30
Perfluorooctanesulfonic acid (PFOS)			24.5	19.0		ng/L		78	51 - 126	7	30
NEtFOSAA			25.6	24.8		ng/L		97	54 - 134	5	30
NMeFOSAA			25.6	26.2		ng/L		102	58 - 143	2	30
10:2 Fluorotelomer sulfonic acid			24.7	23.7		ng/L		96	44 - 141	8	30
Perfluoropentanesulfonic acid (PFPeS)			24.0	22.8		ng/L		95	71 - 136	5	30
Perfluoroheptanesulfonic Acid (PFHpS)			24.4	22.7		ng/L		93	67 - 135	7	30
Perfluorononanesulfonic acid (PFNS)			24.6	21.4		ng/L		87	67 - 137	12	30
Perfluorodecanesulfonic acid (PFDS)			24.7	21.9		ng/L		89	61 - 134	7	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	21.7		ng/L		87	54 - 136	6	30
Perfluorooctanesulfonamide (PFOSA)			25.6	23.3		ng/L		91	55 - 130	1	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			25.6	24.8		ng/L		97	52 - 149	4	30
Perfluoro-n-octadecanoic acid (PFODA)			25.6	24.5		ng/L		96	32 - 167	11	30
Perfluorobutanoic acid (PFBA)			25.6	23.5		ng/L		92	62 - 156	3	30
Perfluoropentanoic acid (PFPA)			25.6	22.6		ng/L		88	72 - 139	3	30
NMeFOSE			25.6	22.3		ng/L		87	52 - 131	6	30
NMeFOSA			25.6	24.6		ng/L		96	49 - 141	4	30
NEtFOSE			25.6	21.8		ng/L		85	49 - 128	4	30
NEtFOSA			25.6	22.8		ng/L		89	50 - 136	3	30
Perfluorododecanoic acid (PFDoA)			25.6	24.1		ng/L		94	63 - 140	2	30
Perfluoroundecanoic acid (PFUnA)			25.6	24.4		ng/L		95	62 - 138	4	30
4:2 Fluorotelomer sulfonic acid			23.9	22.3		ng/L		93	59 - 130	0	30
6:2 Fluorotelomer sulfonic acid			24.3	21.3		ng/L		88	57 - 137	2	30
8:2 Fluorotelomer sulfonic acid			24.5	23.0		ng/L		94	56 - 140	9	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*115*		*20 - 187*
M2-8:2 FTS	*111*		*34 - 182*
M2-6:2 FTS	*115*		*29 - 189*
13C5 PFHxA	*117*		*31 - 142*
13C4 PFHpA	*111*		*30 - 144*
13C8 PFOA	*116*		*49 - 127*
13C9 PFNA	*109*		*47 - 136*
13C6 PFDA	*112*		*47 - 128*

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

Lab Sample ID: LCSD 410-61748/3-A
Matrix: Water
Analysis Batch: 61881

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 61748

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C7 PFUnA	*112*		*40 - 135*
13C2-PFDoDA	*112*		*28 - 136*
13C2 PFTeDA	*115*		*10 - 144*
13C3 PFBS	*113*		*19 - 178*
13C3 PFHxS	*118*		*32 - 145*
13C8 PFOS	*111*		*49 - 126*
d3-NMeFOSAA	*169*	**5*	*32 - 151*
d5-NEtFOSAA	*119*		*37 - 164*
13C8 FOSA	*101*		*10 - 143*
13C4 PFBA	*112*		*41 - 132*
13C5 PFPeA	*115*		*33 - 155*
d7-N-MeFOSE-M	*111*		*10 - 143*
d3-NMePFOSA	*82*		*10 - 107*
d9-N-EtFOSE-M	*115*		*10 - 142*
d5-NEtPFOSA	*82*		*10 - 108*

Lab Sample ID: MB 410-63052/1-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
NEtFOSAA	ND		3.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
NMeFOSAA	ND		2.0	0.60	ng/L		11/06/20 11:38	11/12/20 13:23	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
NMeFOSE	ND		3.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1

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

Lab Sample ID: MB 410-63052/1-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NMeFOSA	ND		3.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
NEtFOSE	ND		3.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
NEtFOSA	ND		5.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		11/06/20 11:38	11/12/20 13:23	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		11/06/20 11:38	11/12/20 13:23	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		11/06/20 11:38	11/12/20 13:23	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*124*		*20 - 187*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
M2-8:2 FTS	*123*		*34 - 182*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
M2-6:2 FTS	*140*		*29 - 189*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C5 PFHxA	*151*	**5*	*31 - 142*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C4 PFHpA	*114*		*30 - 144*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C8 PFOA	*139*	**5*	*49 - 127*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C9 PFNA	*129*		*47 - 136*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C6 PFDA	*119*		*47 - 128*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C7 PFUnA	*139*	**5*	*40 - 135*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C2-PFDoDA	*110*		*28 - 136*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C2 PFTeDA	*101*		*10 - 144*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C3 PFBS	*100*		*19 - 178*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C3 PFHxS	*117*		*32 - 145*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C8 PFOS	*117*		*49 - 126*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
d3-NMeFOSAA	*117*		*32 - 151*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
d5-NEtFOSAA	*140*		*37 - 164*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C8 FOSA	*103*		*10 - 143*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C4 PFBA	*121*		*41 - 132*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
13C5 PFPeA	*124*		*33 - 155*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
d7-N-MeFOSE-M	*99*		*10 - 143*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
d3-NMePFOSA	*73*		*10 - 107*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
d9-N-EtFOSE-M	*104*		*10 - 142*	*11/06/20 11:38*	*11/12/20 13:23*	*1*
d5-NEtPFOSA	*67*		*10 - 108*	*11/06/20 11:38*	*11/12/20 13:23*	*1*

Lab Sample ID: LCS 410-63052/2-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	25.6	30.2		ng/L		118	66 - 137
Perfluoroheptanoic acid (PFHpA)	25.6	29.3		ng/L		114	66 - 141
Perfluorooctanoic acid (PFOA)	25.6	24.4		ng/L		95	65 - 136
Perfluorononanoic acid (PFNA)	25.6	24.7		ng/L		97	65 - 140
Perfluorodecanoic acid (PFDA)	25.6	24.5		ng/L		96	63 - 137
Perfluorotridecanoic acid (PFTrDA)	25.6	25.7		ng/L		101	58 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	25.9		ng/L		101	64 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	24.1		ng/L		106	65 - 132

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

Lab Sample ID: LCS 410-63052/2-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanesulfonic acid (PFHxS)	24.2	23.7		ng/L		98	60 - 128
Perfluorooctanesulfonic acid (PFOS)	24.5	22.2		ng/L		91	51 - 126
NEtFOSAA	25.6	27.2		ng/L		106	54 - 134
NMeFOSAA	25.6	30.2		ng/L		118	58 - 143
10:2 Fluorotelomer sulfonic acid	24.7	29.7		ng/L		120	44 - 141
Perfluoropentanesulfonic acid (PFPeS)	24.0	22.4		ng/L		93	71 - 136
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	31.1		ng/L		128	67 - 135
Perfluorononanesulfonic acid (PFNS)	24.6	26.2		ng/L		107	67 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	28.7		ng/L		116	61 - 134
Perfluorododecanesulfonic acid (PFDoS)	24.8	21.9		ng/L		88	54 - 136
Perfluorooctanesulfonamide (PFOSA)	25.6	27.6		ng/L		108	55 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	25.1		ng/L		98	52 - 149
Perfluoro-n-octadecanoic acid (PFODA)	25.6	28.1		ng/L		110	32 - 167
Perfluorobutanoic acid (PFBA)	25.6	29.1		ng/L		114	62 - 156
Perfluoropentanoic acid (PFPA)	25.6	25.5		ng/L		100	72 - 139
NMeFOSE	25.6	27.4		ng/L		107	52 - 131
NMeFOSA	25.6	26.9		ng/L		105	49 - 141
NEtFOSE	25.6	25.7		ng/L		100	49 - 128
NEtFOSA	25.6	28.0		ng/L		109	50 - 136
Perfluorododecanoic acid (PFDoA)	25.6	29.6		ng/L		115	63 - 140
Perfluoroundecanoic acid (PFUnA)	25.6	26.9		ng/L		105	62 - 138
4:2 Fluorotelomer sulfonic acid	23.9	26.4		ng/L		110	59 - 130
6:2 Fluorotelomer sulfonic acid	24.3	26.4		ng/L		109	57 - 137
8:2 Fluorotelomer sulfonic acid	24.5	24.6		ng/L		100	56 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*106*		*20 - 187*
M2-8:2 FTS	*101*		*34 - 182*
M2-6:2 FTS	*110*		*29 - 189*
13C5 PFHxA	*113*		*31 - 142*
13C4 PFHpA	*89*		*30 - 144*
13C8 PFOA	*109*		*49 - 127*
13C9 PFNA	*101*		*47 - 136*
13C6 PFDA	*100*		*47 - 128*
13C7 PFUnA	*112*		*40 - 135*
13C2-PFDoDA	*89*		*28 - 136*
13C2 PFTeDA	*77*		*10 - 144*
13C3 PFBS	*79*		*19 - 178*
13C3 PFHxS	*95*		*32 - 145*
13C8 PFOS	*91*		*49 - 126*

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

Lab Sample ID: LCS 410-63052/2-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63052

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
d3-NMeFOSAA	*94*		*32 - 151*
d5-NEtFOSAA	*113*		*37 - 164*
13C8 FOSA	*78*		*10 - 143*
13C4 PFBA	*97*		*41 - 132*
13C5 PFPeA	*100*		*33 - 155*
d7-N-MeFOSE-M	*71*		*10 - 143*
d3-NMePFOSA	*45*		*10 - 107*
d9-N-EtFOSE-M	*75*		*10 - 142*
d5-NEtPFOSA	*41*		*10 - 108*

Lab Sample ID: LCSD 410-63052/3-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63052

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)			25.6	29.6		ng/L		116	66 - 137	2	30
Perfluoroheptanoic acid (PFHpA)			25.6	28.8		ng/L		113	66 - 141	2	30
Perfluorooctanoic acid (PFOA)			25.6	25.0		ng/L		98	65 - 136	2	30
Perfluorononanoic acid (PFNA)			25.6	28.3		ng/L		110	65 - 140	13	30
Perfluorodecanoic acid (PFDA)			25.6	25.6		ng/L		100	63 - 137	5	30
Perfluorotridecanoic acid (PFTrDA)			25.6	25.3		ng/L		99	58 - 146	2	30
Perfluorotetradecanoic acid (PFTeA)			25.6	27.7		ng/L		108	64 - 141	7	30
Perfluorobutanesulfonic acid (PFBS)			22.6	25.1		ng/L		111	65 - 132	4	30
Perfluorohexanesulfonic acid (PFHxS)			24.2	24.2		ng/L		100	60 - 128	2	30
Perfluorooctanesulfonic acid (PFOS)			24.5	23.1		ng/L		94	51 - 126	4	30
NEtFOSAA			25.6	30.4		ng/L		119	54 - 134	11	30
NMeFOSAA			25.6	30.3		ng/L		118	58 - 143	0	30
10:2 Fluorotelomer sulfonic acid			24.7	30.7		ng/L		124	44 - 141	3	30
Perfluoropentanesulfonic acid (PFPeS)			24.0	22.6		ng/L		94	71 - 136	1	30
Perfluoroheptanesulfonic Acid (PFHpS)			24.4	31.9		ng/L		131	67 - 135	2	30
Perfluorononanesulfonic acid (PFNS)			24.6	27.8		ng/L		113	67 - 137	6	30
Perfluorodecanesulfonic acid (PFDS)			24.7	28.1		ng/L		114	61 - 134	2	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	22.6		ng/L		91	54 - 136	3	30
Perfluorooctanesulfonamide (PFOSA)			25.6	28.7		ng/L		112	55 - 130	4	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			25.6	25.4		ng/L		99	52 - 149	1	30
Perfluoro-n-octadecanoic acid (PFODA)			25.6	27.5		ng/L		107	32 - 167	2	30
Perfluorobutanoic acid (PFBA)			25.6	30.2		ng/L		118	62 - 156	4	30
Perfluoropentanoic acid (PFPA)			25.6	26.4		ng/L		103	72 - 139	4	30
NMeFOSE			25.6	25.5		ng/L		100	52 - 131	7	30

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

Lab Sample ID: LCSD 410-63052/3-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63052

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
NMeFOSA			25.6	27.9		ng/L		109	49 - 141	4	30
NEtFOSE			25.6	25.4		ng/L		99	49 - 128	1	30
NEtFOSA			25.6	26.8		ng/L		105	50 - 136	4	30
Perfluorododecanoic acid (PFDoA)			25.6	30.2		ng/L		118	63 - 140	2	30
Perfluoroundecanoic acid (PFUnA)			25.6	27.0		ng/L		106	62 - 138	1	30
4:2 Fluorotelomer sulfonic acid			23.9	28.9		ng/L		121	59 - 130	9	30
6:2 Fluorotelomer sulfonic acid			24.3	30.7		ng/L		126	57 - 137	15	30
8:2 Fluorotelomer sulfonic acid			24.5	27.0		ng/L		110	56 - 140	9	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*99*		*20 - 187*
M2-8:2 FTS	*101*		*34 - 182*
M2-6:2 FTS	*100*		*29 - 189*
13C5 PFHxA	*109*		*31 - 142*
13C4 PFHpA	*86*		*30 - 144*
13C8 PFOA	*107*		*49 - 127*
13C9 PFNA	*94*		*47 - 136*
13C6 PFDA	*99*		*47 - 128*
13C7 PFUnA	*106*		*40 - 135*
13C2-PFDoDA	*94*		*28 - 136*
13C2 PFTeDA	*78*		*10 - 144*
13C3 PFBS	*77*		*19 - 178*
13C3 PFHxS	*92*		*32 - 145*
13C8 PFOS	*89*		*49 - 126*
d3-NMeFOSAA	*99*		*32 - 151*
d5-NEtFOSAA	*106*		*37 - 164*
13C8 FOSA	*76*		*10 - 143*
13C4 PFBA	*94*		*41 - 132*
13C5 PFPeA	*98*		*33 - 155*
d7-N-MeFOSE-M	*80*		*10 - 143*
d3-NMePFOSA	*48*		*10 - 107*
d9-N-EtFOSE-M	*81*		*10 - 142*
d5-NEtPFOSA	*47*		*10 - 108*

Lab Sample ID: MB 410-64690/1-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorotridecanoic acid (PFTrDA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1

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

Lab Sample ID: MB 410-64690/1-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64690

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
NEtFOSAA	ND		3.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
NMeFOSAA	ND		2.0	0.60	ng/L		11/11/20 09:52	11/12/20 14:51	1
10:2 Fluorotelomer sulfonic acid	ND		5.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoropentanesulfonic acid (PFPeS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorononanesulfonic acid (PFNS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorooctanesulfonamide (PFOSA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	ND		3.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoro-n-octadecanoic acid (PFODA)	ND		3.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorobutanoic acid (PFBA)	ND		5.0	2.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoropentanoic acid (PFPA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
NMeFOSE	ND		3.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
NMeFOSA	ND		3.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
NEtFOSE	ND		3.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
NEtFOSA	ND		5.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		11/11/20 09:52	11/12/20 14:51	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		11/11/20 09:52	11/12/20 14:51	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		11/11/20 09:52	11/12/20 14:51	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*102*		*20 - 187*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
M2-8:2 FTS	*109*		*34 - 182*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
M2-6:2 FTS	*115*		*29 - 189*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C5 PFHxA	*119*		*31 - 142*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C4 PFHpA	*88*		*30 - 144*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C8 PFOA	*116*		*49 - 127*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C9 PFNA	*101*		*47 - 136*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C6 PFDA	*102*		*47 - 128*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C7 PFUnA	*117*		*40 - 135*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C2-PFDoDA	*101*		*28 - 136*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C2 PFTeDA	*82*		*10 - 144*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C3 PFBS	*82*		*19 - 178*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C3 PFHxS	*101*		*32 - 145*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C8 PFOS	*92*		*49 - 126*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
d3-NMeFOSAA	*112*		*32 - 151*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
d5-NEtFOSAA	*117*		*37 - 164*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C8 FOSA	*91*		*10 - 143*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C4 PFBA	*106*		*41 - 132*	*11/11/20 09:52*	*11/12/20 14:51*	*1*
13C5 PFPeA	*107*		*33 - 155*	*11/11/20 09:52*	*11/12/20 14:51*	*1*

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

Lab Sample ID: MB 410-64690/1-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64690

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d7-N-MeFOSE-M	86		10 - 143	11/11/20 09:52	11/12/20 14:51	1
d3-NMePFOSA	52		10 - 107	11/11/20 09:52	11/12/20 14:51	1
d9-N-EtFOSE-M	90		10 - 142	11/11/20 09:52	11/12/20 14:51	1
d5-NEtPFOSA	47		10 - 108	11/11/20 09:52	11/12/20 14:51	1

Lab Sample ID: LCS 410-64690/2-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid (PFHxA)	25.6	27.8		ng/L		109	66 - 137
Perfluoroheptanoic acid (PFHpA)	25.6	28.8		ng/L		113	66 - 141
Perfluorooctanoic acid (PFOA)	25.6	26.4		ng/L		103	65 - 136
Perfluorononanoic acid (PFNA)	25.6	26.2		ng/L		102	65 - 140
Perfluorodecanoic acid (PFDA)	25.6	22.1		ng/L		87	63 - 137
Perfluorotridecanoic acid (PFTrDA)	25.6	26.1		ng/L		102	58 - 146
Perfluorotetradecanoic acid (PFTeA)	25.6	25.5		ng/L		99	64 - 141
Perfluorobutanesulfonic acid (PFBS)	22.6	22.5		ng/L		100	65 - 132
Perfluorohexanesulfonic acid (PFHxS)	24.2	23.9		ng/L		99	60 - 128
Perfluorooctanesulfonic acid (PFOS)	24.5	21.7		ng/L		89	51 - 126
NEtFOSAA	25.6	29.4		ng/L		115	54 - 134
NMeFOSAA	25.6	31.6		ng/L		124	58 - 143
10:2 Fluorotelomer sulfonic acid	24.7	26.6		ng/L		108	44 - 141
Perfluoropentanesulfonic acid (PFPeS)	24.0	28.8		ng/L		120	71 - 136
Perfluoroheptanesulfonic Acid (PFHpS)	24.4	24.5		ng/L		101	67 - 135
Perfluorononanesulfonic acid (PFNS)	24.6	25.5		ng/L		104	67 - 137
Perfluorodecanesulfonic acid (PFDS)	24.7	25.3		ng/L		103	61 - 134
Perfluorododecanesulfonic acid (PFDoS)	24.8	22.1		ng/L		89	54 - 136
Perfluorooctanesulfonamide (PFOSA)	25.6	27.0		ng/L		106	55 - 130
Perfluoro-n-hexadecanoic acid (PFHxDA)	25.6	28.1		ng/L		110	52 - 149
Perfluoro-n-octadecanoic acid (PFODA)	25.6	26.8		ng/L		105	32 - 167
Perfluorobutanoic acid (PFBA)	25.6	28.3		ng/L		111	62 - 156
Perfluoropentanoic acid (PFPA)	25.6	25.3		ng/L		99	72 - 139
NMeFOSE	25.6	25.9		ng/L		101	52 - 131
NMeFOSA	25.6	26.9		ng/L		105	49 - 141
NEtFOSE	25.6	23.8		ng/L		93	49 - 128
NEtFOSA	25.6	26.4		ng/L		103	50 - 136
Perfluorododecanoic acid (PFDoA)	25.6	29.6		ng/L		116	63 - 140

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

Lab Sample ID: LCS 410-64690/2-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64690

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroundecanoic acid (PFUnA)	25.6	24.4		ng/L		95	62 - 138
4:2 Fluorotelomer sulfonic acid	23.9	26.9		ng/L		112	59 - 130
6:2 Fluorotelomer sulfonic acid	24.3	25.9		ng/L		107	57 - 137
8:2 Fluorotelomer sulfonic acid	24.5	24.1		ng/L		98	56 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
M2-4:2 FTS	*108*		*20 - 187*
M2-8:2 FTS	*109*		*34 - 182*
M2-6:2 FTS	*112*		*29 - 189*
13C5 PFHxA	*109*		*31 - 142*
13C4 PFHpA	*105*		*30 - 144*
13C8 PFOA	*109*		*49 - 127*
13C9 PFNA	*104*		*47 - 136*
13C6 PFDA	*104*		*47 - 128*
13C7 PFUnA	*111*		*40 - 135*
13C2-PFDoDA	*87*		*28 - 136*
13C2 PFTeDA	*99*		*10 - 144*
13C3 PFBS	*112*		*19 - 178*
13C3 PFHxS	*107*		*32 - 145*
13C8 PFOS	*99*		*49 - 126*
d3-NMeFOSAA	*99*		*32 - 151*
d5-NEtFOSAA	*109*		*37 - 164*
13C8 FOSA	*84*		*10 - 143*
13C4 PFBA	*103*		*41 - 132*
13C5 PFPeA	*123*		*33 - 155*
d7-N-MeFOSE-M	*76*		*10 - 143*
d3-NMePFOSA	*49*		*10 - 107*
d9-N-EtFOSE-M	*78*		*10 - 142*
d5-NEtPFOSA	*46*		*10 - 108*

Lab Sample ID: LCSD 410-64690/3-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64690

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid (PFHxA)	25.6	27.5		ng/L		108	66 - 137	1	30
Perfluoroheptanoic acid (PFHpA)	25.6	29.5		ng/L		115	66 - 141	2	30
Perfluorooctanoic acid (PFOA)	25.6	26.7		ng/L		104	65 - 136	1	30
Perfluorononanoic acid (PFNA)	25.6	26.9		ng/L		105	65 - 140	3	30
Perfluorodecanoic acid (PFDA)	25.6	23.8		ng/L		93	63 - 137	7	30
Perfluorotridecanoic acid (PFTrDA)	25.6	26.3		ng/L		103	58 - 146	1	30
Perfluorotetradecanoic acid (PFTeA)	25.6	26.0		ng/L		102	64 - 141	2	30
Perfluorobutanesulfonic acid (PFBS)	22.6	23.2		ng/L		103	65 - 132	3	30
Perfluorohexanesulfonic acid (PFHxS)	24.2	23.7		ng/L		98	60 - 128	1	30

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

Lab Sample ID: LCSD 410-64690/3-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64690

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)			24.5	21.5		ng/L		88	51 - 126	1	30
NEtFOSAA			25.6	28.9		ng/L		113	54 - 134	2	30
NMeFOSAA			25.6	27.9		ng/L		109	58 - 143	13	30
10:2 Fluorotelomer sulfonic acid			24.7	25.8		ng/L		104	44 - 141	3	30
Perfluoropentanesulfonic acid (PFPeS)			24.0	28.7		ng/L		120	71 - 136	0	30
Perfluoroheptanesulfonic Acid (PFHpS)			24.4	24.8		ng/L		102	67 - 135	1	30
Perfluorononanesulfonic acid (PFNS)			24.6	25.2		ng/L		103	67 - 137	1	30
Perfluorodecanesulfonic acid (PFDS)			24.7	25.8		ng/L		105	61 - 134	2	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	23.0		ng/L		93	54 - 136	4	30
Perfluorooctanesulfonamide (PFOSA)			25.6	26.2		ng/L		102	55 - 130	3	30
Perfluoro-n-hexadecanoic acid (PFHxDA)			25.6	28.5		ng/L		111	52 - 149	1	30
Perfluoro-n-octadecanoic acid (PFODA)			25.6	24.0		ng/L		94	32 - 167	11	30
Perfluorobutanoic acid (PFBA)			25.6	28.8		ng/L		113	62 - 156	2	30
Perfluoropentanoic acid (PFPA)			25.6	24.9		ng/L		97	72 - 139	2	30
NMeFOSE			25.6	26.0		ng/L		102	52 - 131	0	30
NMeFOSA			25.6	26.9		ng/L		105	49 - 141	0	30
NEtFOSE			25.6	23.3		ng/L		91	49 - 128	2	30
NEtFOSA			25.6	26.5		ng/L		104	50 - 136	1	30
Perfluorododecanoic acid (PFDoA)			25.6	30.0		ng/L		117	63 - 140	1	30
Perfluoroundecanoic acid (PFUnA)			25.6	26.0	I	ng/L		102	62 - 138	6	30
4:2 Fluorotelomer sulfonic acid			23.9	26.2		ng/L		110	59 - 130	2	30
6:2 Fluorotelomer sulfonic acid			24.3	27.1		ng/L		112	57 - 137	4	30
8:2 Fluorotelomer sulfonic acid			24.5	23.6		ng/L		96	56 - 140	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*102*		*20 - 187*
M2-8:2 FTS	*111*		*34 - 182*
M2-6:2 FTS	*105*		*29 - 189*
13C5 PFHxA	*104*		*31 - 142*
13C4 PFHpA	*100*		*30 - 144*
13C8 PFOA	*102*		*49 - 127*
13C9 PFNA	*100*		*47 - 136*
13C6 PFDA	*102*		*47 - 128*
13C7 PFUnA	*112*		*40 - 135*
13C2-PFDoDA	*88*		*28 - 136*
13C2 PFTeDA	*93*		*10 - 144*
13C3 PFBS	*97*		*19 - 178*
13C3 PFHxS	*107*		*32 - 145*
13C8 PFOS	*94*		*49 - 126*
d3-NMeFOSAA	*106*		*32 - 151*

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

Lab Sample ID: LCSD 410-64690/3-A
Matrix: Water
Analysis Batch: 65272

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64690

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
d5-NEtFOSAA	105		37 - 164
13C8 FOSA	86		10 - 143
13C4 PFBA	100		41 - 132
13C5 PFPeA	106		33 - 155
d7-N-MeFOSE-M	80		10 - 143
d3-NMePFOSA	57		10 - 107
d9-N-EtFOSE-M	85		10 - 142
d5-NEtPFOSA	53		10 - 108

LCMS

Prep Batch: 61748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-1	MVD-2(T)/1531010_008	Total/NA	Water	T-WI14355 r12	
410-19056-2	MVD-3(R)/1531010_003	Total/NA	Water	T-WI14355 r12	
410-19056-3 - RE	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-19056-4 - RE	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
MB 410-61748/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-61748/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-61748/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 61881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-1	MVD-2(T)/1531010_008	Total/NA	Water	537 (modified)	61748
410-19056-2	MVD-3(R)/1531010_003	Total/NA	Water	537 (modified)	61748
410-19056-3 - RE	MVD-7(R)/1531010_007	Total/NA	Water	537 (modified)	61748
410-19056-4 - RE	MVD-8(R)/1531010_009	Total/NA	Water	537 (modified)	61748
MB 410-61748/1-A	Method Blank	Total/NA	Water	537 (modified)	61748
LCS 410-61748/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	61748
LCSD 410-61748/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	61748

Prep Batch: 63052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-3	MVD-7(R)/1531010_007	Total/NA	Water	T-WI14355 r12	
410-19056-4	MVD-8(R)/1531010_009	Total/NA	Water	T-WI14355 r12	
MB 410-63052/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-63052/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-63052/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 63291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-3	MVD-7(R)/1531010_007	Total/NA	Water	537 (modified)	63052
410-19056-4	MVD-8(R)/1531010_009	Total/NA	Water	537 (modified)	63052

Prep Batch: 64690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-5	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	
410-19056-6	MVD-4R(R)	Total/NA	Water	T-WI14355 r12	
410-19056-7	MVD-5(R)/1531010_505	Total/NA	Water	T-WI14355 r12	
410-19056-8	MVD-TP Wells 4+5 filtered	Total/NA	Water	T-WI14355 r12	
410-19056-9	Hutchinson Road	Total/NA	Water	T-WI14355 r12	
410-19056-10	Society Hill	Total/NA	Water	T-WI14355 r12	
410-19056-11	Parker Drive	Total/NA	Water	T-WI14355 r12	
410-19056-12	Continental Blvd	Total/NA	Water	T-WI14355 r12	
MB 410-64690/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-64690/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-64690/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 65272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-5	MVD-TP/1531010_508	Total/NA	Water	537 (modified)	64690
410-19056-6	MVD-4R(R)	Total/NA	Water	537 (modified)	64690
410-19056-7	MVD-5(R)/1531010_505	Total/NA	Water	537 (modified)	64690
410-19056-8	MVD-TP Wells 4+5 filtered	Total/NA	Water	537 (modified)	64690

LCMS (Continued)

Analysis Batch: 65272 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-9	Hutchinson Road	Total/NA	Water	537 (modified)	64690
410-19056-10	Society Hill	Total/NA	Water	537 (modified)	64690
410-19056-11	Parker Drive	Total/NA	Water	537 (modified)	64690
410-19056-12	Continental Blvd	Total/NA	Water	537 (modified)	64690
MB 410-63052/1-A	Method Blank	Total/NA	Water	537 (modified)	63052
MB 410-64690/1-A	Method Blank	Total/NA	Water	537 (modified)	64690
LCS 410-63052/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	63052
LCS 410-64690/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	64690
LCSD 410-63052/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	63052
LCSD 410-64690/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	64690

Prep Batch: 66678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-5 - RE	MVD-TP/1531010_508	Total/NA	Water	T-WI14355 r12	
410-19056-6 - RE	MVD-4R(R)	Total/NA	Water	T-WI14355 r12	
410-19056-9 - RE	Hutchinson Road	Total/NA	Water	T-WI14355 r12	
410-19056-10 - RE	Society Hill	Total/NA	Water	T-WI14355 r12	
410-19056-11 - RE	Parker Drive	Total/NA	Water	T-WI14355 r12	
410-19056-12 - RE	Continental Blvd	Total/NA	Water	T-WI14355 r12	
MB 410-66678/1-A	Method Blank	Total/NA	Water	T-WI14355 r12	
LCS 410-66678/2-A	Lab Control Sample	Total/NA	Water	T-WI14355 r12	
LCSD 410-66678/3-A	Lab Control Sample Dup	Total/NA	Water	T-WI14355 r12	

Analysis Batch: 66839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-19056-5 - RE	MVD-TP/1531010_508	Total/NA	Water	537 (modified)	66678
410-19056-6 - RE	MVD-4R(R)	Total/NA	Water	537 (modified)	66678
410-19056-9 - RE	Hutchinson Road	Total/NA	Water	537 (modified)	66678
410-19056-10 - RE	Society Hill	Total/NA	Water	537 (modified)	66678
410-19056-11 - RE	Parker Drive	Total/NA	Water	537 (modified)	66678
410-19056-12 - RE	Continental Blvd	Total/NA	Water	537 (modified)	66678
MB 410-66678/1-A	Method Blank	Total/NA	Water	537 (modified)	66678
LCS 410-66678/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	66678
LCSD 410-66678/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	66678

Client Sample ID: MVD-2(T)/1531010_008
Lab Sample ID: 410-19056-1

Date Collected: 10/29/20 11:25
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			61748	11/03/20 17:51	QD9Y	ELLE
Total/NA	Analysis	537 (modified)		1	61881	11/04/20 21:42	OLN7	ELLE

Client Sample ID: MVD-3(R)/1531010_003
Lab Sample ID: 410-19056-2

Date Collected: 10/29/20 11:15
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			61748	11/03/20 17:51	QD9Y	ELLE
Total/NA	Analysis	537 (modified)		1	61881	11/04/20 21:52	OLN7	ELLE

Client Sample ID: MVD-7(R)/1531010_007
Lab Sample ID: 410-19056-3

Date Collected: 10/29/20 13:17
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12	RE		61748	11/03/20 17:51	QD9Y	ELLE
Total/NA	Analysis	537 (modified)	RE	1	61881	11/04/20 22:02	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12			63052	11/06/20 11:38	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	63291	11/07/20 22:26	QD9Y	ELLE

Client Sample ID: MVD-8(R)/1531010_009
Lab Sample ID: 410-19056-4

Date Collected: 10/29/20 13:23
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12	RE		61748	11/03/20 17:51	QD9Y	ELLE
Total/NA	Analysis	537 (modified)	RE	1	61881	11/04/20 22:12	OLN7	ELLE
Total/NA	Prep	T-WI14355 r12			63052	11/06/20 11:38	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	63291	11/07/20 22:36	QD9Y	ELLE

Client Sample ID: MVD-TP/1531010_508
Lab Sample ID: 410-19056-5

Date Collected: 10/29/20 13:29
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 16:29	UUV6	ELLE
Total/NA	Prep	T-WI14355 r12	RE		66678	11/16/20 20:22	W5MU	ELLE
Total/NA	Analysis	537 (modified)	RE	1	66839	11/17/20 20:38	UCD3	ELLE

Lab Chronicle

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Client Sample ID: MVD-4R(R)

Lab Sample ID: 410-19056-6

Date Collected: 10/29/20 11:45

Matrix: Water

Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 16:49	UUV6	ELLE
Total/NA	Prep	T-WI14355 r12	RE		66678	11/16/20 20:22	W5MU	ELLE
Total/NA	Analysis	537 (modified)	RE	1	66839	11/17/20 20:49	UCD3	ELLE

Client Sample ID: MVD-5(R)/1531010_505

Lab Sample ID: 410-19056-7

Date Collected: 10/29/20 11:49

Matrix: Water

Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 17:09	UUV6	ELLE

Client Sample ID: MVD-TP Wells 4+5 filtered

Lab Sample ID: 410-19056-8

Date Collected: 10/29/20 11:52

Matrix: Water

Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 17:18	UUV6	ELLE

Client Sample ID: Hutchinson Road

Lab Sample ID: 410-19056-9

Date Collected: 10/29/20 12:59

Matrix: Water

Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 17:28	UUV6	ELLE
Total/NA	Prep	T-WI14355 r12	RE		66678	11/16/20 20:22	W5MU	ELLE
Total/NA	Analysis	537 (modified)	RE	1	66839	11/17/20 21:10	UCD3	ELLE

Client Sample ID: Society Hill

Lab Sample ID: 410-19056-10

Date Collected: 10/29/20 12:05

Matrix: Water

Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 17:38	UUV6	ELLE
Total/NA	Prep	T-WI14355 r12	RE		66678	11/16/20 20:22	W5MU	ELLE
Total/NA	Analysis	537 (modified)	RE	1	66839	11/17/20 21:20	UCD3	ELLE

Lab Chronicle

Client: Merrimack Village District
Job ID: 410-19056-1
Project/Site: PFC Investigation GSES

Client Sample ID: Parker Drive
Lab Sample ID: 410-19056-11

Date Collected: 10/29/20 12:34
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 17:48	UUV6	ELLE
Total/NA	Prep	T-WI14355 r12	RE		66678	11/16/20 20:22	W5MU	ELLE
Total/NA	Analysis	537 (modified)	RE	1	66839	11/17/20 21:31	UCD3	ELLE

Client Sample ID: Continental Blvd
Lab Sample ID: 410-19056-12

Date Collected: 10/29/20 13:08
Matrix: Water
Date Received: 10/30/20 10:32

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	T-WI14355 r12			64690	11/11/20 09:52	S7AC	ELLE
Total/NA	Analysis	537 (modified)		1	65272	11/12/20 17:58	UUV6	ELLE
Total/NA	Prep	T-WI14355 r12	RE		66678	11/16/20 20:22	W5MU	ELLE
Total/NA	Analysis	537 (modified)	RE	1	66839	11/17/20 21:42	UCD3	ELLE

Laboratory References:

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

Accreditation/Certification Summary

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

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
New Hampshire	NELAP	273019	01-10-21

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
537 (modified)	T-WI14355 r12	Water	10:2 Fluorotelomer sulfonic acid
537 (modified)	T-WI14355 r12	Water	4:2 Fluorotelomer sulfonic acid
537 (modified)	T-WI14355 r12	Water	6:2 Fluorotelomer sulfonic acid
537 (modified)	T-WI14355 r12	Water	8:2 Fluorotelomer sulfonic acid
537 (modified)	T-WI14355 r12	Water	NEtFOSA
537 (modified)	T-WI14355 r12	Water	NEtFOSAA
537 (modified)	T-WI14355 r12	Water	NEtFOSE
537 (modified)	T-WI14355 r12	Water	NMeFOSA
537 (modified)	T-WI14355 r12	Water	NMeFOSAA
537 (modified)	T-WI14355 r12	Water	NMeFOSE
537 (modified)	T-WI14355 r12	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	T-WI14355 r12	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	T-WI14355 r12	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	T-WI14355 r12	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	T-WI14355 r12	Water	Perfluorododecanesulfonic acid (PFDoS)
537 (modified)	T-WI14355 r12	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	T-WI14355 r12	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	T-WI14355 r12	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	T-WI14355 r12	Water	Perfluorohexanesulfonic acid (PFHxS)
537 (modified)	T-WI14355 r12	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	T-WI14355 r12	Water	Perfluoro-n-hexadecanoic acid (PFHxDA)
537 (modified)	T-WI14355 r12	Water	Perfluoro-n-octadecanoic acid (PFODA)
537 (modified)	T-WI14355 r12	Water	Perfluorononanesulfonic acid (PFNS)
537 (modified)	T-WI14355 r12	Water	Perfluorononanoic acid (PFNA)
537 (modified)	T-WI14355 r12	Water	Perfluorooctanesulfonamide (PFOSA)
537 (modified)	T-WI14355 r12	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	T-WI14355 r12	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	T-WI14355 r12	Water	Perfluoropentanesulfonic acid (PFPeS)
537 (modified)	T-WI14355 r12	Water	Perfluoropentanoic acid (PFPA)
537 (modified)	T-WI14355 r12	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	T-WI14355 r12	Water	Perfluorotridecanoic acid (PFTrDA)
537 (modified)	T-WI14355 r12	Water	Perfluoroundecanoic acid (PFUnA)

Method Summary

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Method	Method Description	Protocol	Laboratory
T-WI14355 r12	SOP T-PFAS-WI14355 Rev.12	ELLE - Lancaster	ELLE
T-WI14355 r12	T-PFAS-WI14355 Revision 12	ELLE - Lancaster	ELLE

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: Merrimack Village District
Project/Site: PFC Investigation GSES

Job ID: 410-19056-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-19056-1	MVD-2(T)/1531010_008	Water	10/29/20 11:25	10/30/20 10:32	
410-19056-2	MVD-3(R)/1531010_003	Water	10/29/20 11:15	10/30/20 10:32	
410-19056-3	MVD-7(R)/1531010_007	Water	10/29/20 13:17	10/30/20 10:32	
410-19056-4	MVD-8(R)/1531010_009	Water	10/29/20 13:23	10/30/20 10:32	
410-19056-5	MVD-TP/1531010_508	Water	10/29/20 13:29	10/30/20 10:32	
410-19056-6	MVD-4R(R)	Water	10/29/20 11:45	10/30/20 10:32	
410-19056-7	MVD-5(R)/1531010_505	Water	10/29/20 11:49	10/30/20 10:32	
410-19056-8	MVD-TP Wells 4+5 filtered	Water	10/29/20 11:52	10/30/20 10:32	
410-19056-9	Hutchinson Road	Water	10/29/20 12:59	10/30/20 10:32	
410-19056-10	Society Hill	Water	10/29/20 12:05	10/30/20 10:32	
410-19056-11	Parker Drive	Water	10/29/20 12:34	10/30/20 10:32	
410-19056-12	Continental Blvd	Water	10/29/20 13:08	10/30/20 10:32	

Environ... equest/Chain of Custody

eurofins | Lancaster Laboratories Environmental

410-19056 Chain of Custody

Sample # _____

Client: Merrimack Village District			
Project Name/#: PFC Investigation	Site ID #:		
Project Manager: Jill Lavoie	P.O. #:		
Sampler: Ronald Miner	PWSID #: 1531010		
Phone #: (603) 424-9241 x103	Quote #:		
State where samples were collected: NH	For Compliance: Yes ☐ No ☒		

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Sediment	Tissue	Water: Potable	Ground	Surface	NPDES	Other:	Total # of Containers	PFAS by isotope dilution (32 compounds)
MVD-2 (T) / 1531010_008	10/29/20	11:25	✓					✓					2	✓
MVD-3 (R) / 1531010_003	10/29/20	1115	✓					✓					2	✓
MVD-7 (R) / 1531010_007	10/29/20	1317	✓					✓					2	✓
MVD-8 (R) / 1531010_009	10/29/20	13:23	✓					✓					2	✓
MVD-TP / 1531010_508	10/29/20	13:29	✓					✓					2	✓
MVD-4R (R)	10/29/20	1145	✓					✓					2	✓
MVD-5 (R) / 1531010_505	10/29/20	1149	✓					✓					2	✓
MVD-TP Wells 4+5 filtered	10/29/20	1152	✓					✓					2	✓

Analyses Requested — Preservation and Filtration Codes

For Lab Use Only
SF #: _____
SCR #: _____

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

Turnaround Time Requested (TAT) (please check): Standard ☒ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address:

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP)	☐	MA MCP	☐
Type III (Reduced non-CLP)	☐	CT RCP	☐
Type VI (Raw Data Only)	☐	TX TRRP-13	☐
NJ DKQP	☐	NYSDEC Category	☐ A or ☐ B

EDD Required? Yes ☐ No ☐ If yes, format: _____

	Date	Time
Relinquished by:	10/29/20	1340
Relinquished by:		
Relinquished by:		
Relinquished by:		
Relinquished by:		
Relinquished by Commercial Carrier: UPS _____ FedEx X Other _____		

	Date	Time
Received by:		
Received by:		
Received by:		
Received by:		
Received by:	10/30/20	1032

Temperature upon receipt 5.90 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

7045 0717

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # _____ Group # _____ Sample # _____

COC # 562643

Client Information

Client: Merrimack Village District	Acct. #: 38083
Project Name/#: PFC Investigation	PWSID #: 1531010
Project Manager: Jill Lavoie	P.O. #:
Sampler: Ronald Miner	Quote #:

State where samples were collected: NH

For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water: Potable ☒ Ground ☐ NPDES ☐ Surface ☐ | Other: _____

Analysis Requested

Preservation and Filtration Codes

PFAS by 1633 Modified — 32 Compounds

For Lab Use Only

FSC: _____

SCR#: _____

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
Hutchinson Road	10/29/20	12:59	✓		2
Society Hill	10/29/20	12:05	✓		2
Parker Drive	10/29/20	12:34	✓		2
Continental Blvd	10/29/20	13:08	✓		2

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

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
Ronald Miner	10/29/20	1340			
				10/30/20	1032

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 _____ FedEx ✓ Other _____

Temperature upon receipt 5.90 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0717

Login Sample Receipt Checklist

Client: Merrimack Village District

Job Number: 410-19056-1

Login Number: 19056

List Source: Eurofins Lancaster Laboratories Env

List Number: 1

Creator: Knoedler, Christine M

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.	N/A	