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ANALYTICAL REPORT

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Laboratory Job ID: 410-29415-1
Client Project/Site: PFAS & Perchlorate

For:
Pittsburgh Water and Sewer Authority
900 Freeport Road
Pittsburgh, Pennsylvania 15238

Attn: Aimee Butch

Authorized for release by:
3/5/2021 3:18:39 PM

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

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

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.
· QC results that exceed the upper limits and are associated with non-detect samples are qualified but further narration is not required since the bias is high and does not change a non-detect result. Further narration is also not required with QC blank detection when the associated sample concentration is non-detect or more than ten times the level in the blank.
· Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.
· Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

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

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

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Stephen Gordon
Senior Project Manager
3/5/2021 3:18:39 PM

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Definitions/Glossary

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
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: 410-29415-1

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Narrative

Job Narrative
410-29415-1

Receipt
The samples were received on 2/15/2021 8:52 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.5°C

LCMS

Method 6850: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) and also the interference check for analytical batch 410-98172 recovered outside control limits high for the following analytes: Perchlorate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method PFC_IDA: The recovery for the labeled isotope(s) in the following sample: Raw Water is outside the QC acceptance limits. The following action was taken: This sample was re-extracted within the required holding time and the recovery for the labeled isotope(s) is again outside the 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: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

Client Sample ID: Raw Water — Lab Sample ID: 410-29415-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	0.77	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid	0.94	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid	0.60	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid	0.80	J I	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid	0.79	J	1.7	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid	0.53	J	1.7	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanoic acid	0.73	J	1.7	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	0.74	J	1.7	0.42	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanoic acid	0.66	J	1.7	0.42	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: Raw Water - FB — Lab Sample ID: 410-29415-2

No Detections.

Client Sample ID: EP 101 — Lab Sample ID: 410-29415-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid	0.95	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid	1.1	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid	0.66	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid	1.0	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide	1.3	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid	0.74	J	1.7	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid	0.54	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorohexanoic acid	0.77	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanesulfonic acid	0.77	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA
Perfluorooctanoic acid	0.67	J	1.8	0.44	ng/L	1		EPA 537.1	Total/NA

Client Sample ID: EP 101 - FB — Lab Sample ID: 410-29415-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

Client Sample ID: Raw Water

Date Collected: 02/10/21 10:00
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**0.77**	**J**	1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluoroheptanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorooctanoic acid	**0.94**	**J**	1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorononanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorodecanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorotridecanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorotetradecanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorobutanesulfonic acid	**0.60**	**J**	1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorohexanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorooctanesulfonic acid	**0.80**	**J I**	1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
NEtFOSAA	ND		2.6	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
NMeFOSAA	ND		1.7	0.52	ng/L		02/16/21 08:24	02/17/21 21:59	1
10:2 FTS	ND		4.3	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluoropentanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluoroheptanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorononanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorodecanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorooctanesulfonamide	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorohexadecanoic acid	ND		2.6	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorooctadecanoic acid	ND		2.6	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorobutanoic acid	ND		4.3	1.7	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluoropentanoic acid	**0.79**	**J**	1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
NMeFOSE	ND		2.6	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
NMeFOSA	ND	*5-	2.6	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
NEtFOSE	ND		2.6	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
NEtFOSA	ND	*5-	4.3	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluorododecanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
Perfluoroundecanoic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.43	ng/L		02/16/21 08:24	02/17/21 21:59	1
6:2 Fluorotelomer sulfonic acid	ND		4.3	1.7	ng/L		02/16/21 08:24	02/17/21 21:59	1
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.86	ng/L		02/16/21 08:24	02/17/21 21:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*151*		*20 - 187*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
M2-8:2 FTS	*111*		*34 - 182*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
M2-6:2 FTS	*124*		*29 - 189*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C5 PFHxA	*108*		*31 - 142*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C4 PFHpA	*115*		*30 - 144*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C8 PFOA	*104*		*49 - 127*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C9 PFNA	*123*		*47 - 136*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C6 PFDA	*97*		*47 - 128*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C7 PFUnA	*89*		*40 - 135*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C2-PFDoDA	*80*		*28 - 136*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C2 PFTeDA	*61*		*10 - 144*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C3 PFBS	*129*		*19 - 178*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C3 PFHxS	*112*		*32 - 145*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
13C8 PFOS	*112*		*49 - 126*	*02/16/21 08:24*	*02/17/21 21:59*	*1*
d3-NMeFOSAA	*90*		*32 - 151*	*02/16/21 08:24*	*02/17/21 21:59*	*1*

Client Sample ID: Raw Water

Date Collected: 02/10/21 10:00
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-1
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	85		37 - 164	02/16/21 08:24	02/17/21 21:59	1
13C8 FOSA	44		10 - 143	02/16/21 08:24	02/17/21 21:59	1
13C4 PFBA	109		41 - 132	02/16/21 08:24	02/17/21 21:59	1
13C5 PFPeA	118		33 - 155	02/16/21 08:24	02/17/21 21:59	1
d7-N-MeFOSE-M	17		10 - 143	02/16/21 08:24	02/17/21 21:59	1
d3-NMePFOSA	2	*5-	10 - 107	02/16/21 08:24	02/17/21 21:59	1
d9-N-EtFOSE-M	17		10 - 142	02/16/21 08:24	02/17/21 21:59	1
d5-NEtPFOSA	2	*5-	10 - 108	02/16/21 08:24	02/17/21 21:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
NMeFOSAA	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorobutanesulfonic acid	**0.53**	**J**	1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorodecanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorododecanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluoroheptanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorohexanesulfonic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorohexanoic acid	**0.73**	**J**	1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorononanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorooctanesulfonic acid	**0.74**	**J**	1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorooctanoic acid	**0.66**	**J**	1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorotetradecanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluorotridecanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1
Perfluoroundecanoic acid	ND		1.7	0.42	ng/L		02/16/21 06:58	02/18/21 02:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDA	95		70 - 130	02/16/21 06:58	02/18/21 02:34	1
13C2 PFHxA	101		70 - 130	02/16/21 06:58	02/18/21 02:34	1
13C3 HFPO-DA	75		70 - 130	02/16/21 06:58	02/18/21 02:34	1
d5-NEtFOSAA	83		70 - 130	02/16/21 06:58	02/18/21 02:34	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND	*+	1.0	1.0	ug/L			03/02/21 10:30	1

Client Sample ID: Raw Water - FB

Date Collected: 02/10/21 10:00
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-2
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
NMeFOSAA	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorobutanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorodecanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorododecanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluoroheptanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorohexanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorohexanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorononanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1

Client Sample ID: Raw Water - FB

Date Collected: 02/10/21 10:00
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-2

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorooctanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorotetradecanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluorotridecanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1
Perfluoroundecanoic acid	ND		1.7	0.43	ng/L		02/16/21 06:58	02/18/21 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*90*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:46*	*1*
13C2 PFHxA	*102*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:46*	*1*
13C3 HFPO-DA	*83*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:46*	*1*
d5-NEtFOSAA	*89*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:46*	*1*

Client Sample ID: EP 101

Date Collected: 02/10/21 10:25
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	**0.95**	**J**	1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluoroheptanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorooctanoic acid	**1.1**	**J**	1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorononanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorodecanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorotridecanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorotetradecanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorobutanesulfonic acid	**0.66**	**J**	1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorohexanesulfonic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorooctanesulfonic acid	**1.0**	**J**	1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
NEtFOSAA	ND		2.6	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
NMeFOSAA	ND		1.7	0.52	ng/L		02/16/21 08:24	02/17/21 22:09	1
10:2 FTS	ND		4.4	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluoropentanesulfonic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluoroheptanesulfonic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorononanesulfonic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorodecanesulfonic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorododecanesulfonic acid (PFDoS)	ND		2.6	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorooctanesulfonamide	**1.3**	**J**	1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorohexadecanoic acid	ND		2.6	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorooctadecanoic acid	ND		2.6	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorobutanoic acid	ND		4.4	1.7	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluoropentanoic acid	**0.74**	**J**	1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
NMeFOSE	ND		2.6	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
NMeFOSA	ND		2.6	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
NEtFOSE	ND		2.6	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
NEtFOSA	ND		4.4	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluorododecanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
Perfluoroundecanoic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
4:2 Fluorotelomer sulfonic acid	ND		1.7	0.44	ng/L		02/16/21 08:24	02/17/21 22:09	1
6:2 Fluorotelomer sulfonic acid	ND		4.4	1.7	ng/L		02/16/21 08:24	02/17/21 22:09	1

Client Sample ID: EP 101
Date Collected: 02/10/21 10:25
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 Fluorotelomer sulfonic acid	ND		2.6	0.87	ng/L		02/16/21 08:24	02/17/21 22:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*136*		*20 - 187*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
M2-8:2 FTS	*100*		*34 - 182*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
M2-6:2 FTS	*111*		*29 - 189*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C5 PFHxA	*97*		*31 - 142*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C4 PFHpA	*111*		*30 - 144*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C8 PFOA	*97*		*49 - 127*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C9 PFNA	*104*		*47 - 136*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C6 PFDA	*89*		*47 - 128*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C7 PFUnA	*90*		*40 - 135*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C2-PFDoDA	*79*		*28 - 136*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C2 PFTeDA	*80*		*10 - 144*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C3 PFBS	*118*		*19 - 178*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C3 PFHxS	*108*		*32 - 145*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C8 PFOS	*97*		*49 - 126*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
d3-NMeFOSAA	*79*		*32 - 151*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
d5-NEtFOSAA	*75*		*37 - 164*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C8 FOSA	*69*		*10 - 143*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C4 PFBA	*102*		*41 - 132*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
13C5 PFPeA	*109*		*33 - 155*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
d7-N-MeFOSE-M	*64*		*10 - 143*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
d3-NMePFOSA	*29*		*10 - 107*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
d9-N-EtFOSE-M	*77*		*10 - 142*	*02/16/21 08:24*	*02/17/21 22:09*	*1*
d5-NEtPFOSA	*27*		*10 - 108*	*02/16/21 08:24*	*02/17/21 22:09*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
NMeFOSAA	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorobutanesulfonic acid	**0.54**	**J**	1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorodecanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorododecanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluoroheptanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorohexanesulfonic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorohexanoic acid	**0.77**	**J**	1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorononanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorooctanesulfonic acid	**0.77**	**J**	1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorooctanoic acid	**0.67**	**J**	1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorotetradecanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluorotridecanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1
Perfluoroundecanoic acid	ND		1.8	0.44	ng/L		02/16/21 06:58	02/18/21 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*93*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:57*	*1*
13C2 PFHxA	*99*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:57*	*1*
13C3 HFPO-DA	*79*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:57*	*1*
d5-NEtFOSAA	*94*		*70 - 130*	*02/16/21 06:58*	*02/18/21 02:57*	*1*

Client Sample ID: EP 101

Date Collected: 02/10/21 10:25
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND	*+	1.0	1.0	ug/L			03/02/21 10:39	1

Client Sample ID: EP 101 - FB

Date Collected: 02/10/21 10:25
Date Received: 02/15/21 08:52

Lab Sample ID: 410-29415-4
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
NMeFOSAA	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorobutanesulfonic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorodecanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorododecanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluoroheptanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorohexanesulfonic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorohexanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorononanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorooctanesulfonic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorooctanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorotetradecanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluorotridecanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1
Perfluoroundecanoic acid	ND		1.8	0.45	ng/L		02/16/21 06:58	02/18/21 03:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*94*		*70 - 130*	*02/16/21 06:58*	*02/18/21 03:20*	*1*
13C2 PFHxA	*106*		*70 - 130*	*02/16/21 06:58*	*02/18/21 03:20*	*1*
13C3 HFPO-DA	*84*		*70 - 130*	*02/16/21 06:58*	*02/18/21 03:20*	*1*
d5-NEtFOSAA	*96*		*70 - 130*	*02/16/21 06:58*	*02/18/21 03:20*	*1*

Surrogate Summary

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		PFDA	PFHxA	HFPODA	d5NEFOS
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
410-29415-1	Raw Water	95	101	75	83
410-29415-2	Raw Water - FB	90	102	83	89
410-29415-3	EP 101	93	99	79	94
410-29415-4	EP 101 - FB	94	106	84	96
LCS 410-94452/2-A	Lab Control Sample	95	109	90	98
MB 410-94452/1-A	Method Blank	94	101	85	90

Surrogate Legend

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

Isotope Dilution Summary

Client: Pittsburgh Water and Sewer Authority
Job ID: 410-29415-1
Project/Site: PFAS & Perchlorate

Method: 537 (modified) - Fluorinated Alkyl Substances

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

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M242FTS (20-187)	M282FTS (34-182)	M262FTS (29-189)	13C5PHA (31-142)	C4PFHA (30-144)	C8PFOA (49-127)	C9PFNA (47-136)	C6PFDA (47-128)
410-29415-1	Raw Water	151	111	124	108	115	104	123	97
410-29415-3	EP 101	136	100	111	97	111	97	104	89
LCS 410-94513/2-A	Lab Control Sample	91	100	99	100	103	98	95	91
LCSD 410-94513/3-A	Lab Control Sample Dup	89	85	91	97	95	91	96	81
MB 410-94513/1-A	Method Blank	107	105	120	113	113	112	111	106

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	13C7PUA (40-135)	PFDoDA (28-136)	PFTDA (10-144)	C3PFBS (19-178)	C3PFHS (32-145)	C8PFOS (49-126)	d3NMFOS (32-151)	d5NEFOS (37-164)
410-29415-1	Raw Water	89	80	61	129	112	112	90	85
410-29415-3	EP 101	90	79	80	118	108	97	79	75
LCS 410-94513/2-A	Lab Control Sample	85	73	76	88	107	97	83	77
LCSD 410-94513/3-A	Lab Control Sample Dup	84	66	72	82	100	95	75	75
MB 410-94513/1-A	Method Blank	104	92	101	104	119	109	92	99

		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)	
410-29415-1	Raw Water	44	109	118	17	2 *5-	17	2 *5-	
410-29415-3	EP 101	69	102	109	64	29	77	27	
LCS 410-94513/2-A	Lab Control Sample	72	95	87	65	61	79	68	
LCSD 410-94513/3-A	Lab Control Sample Dup	68	91	79	67	61	76	64	
MB 410-94513/1-A	Method Blank	71	110	100	75	61	96	66	

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 410-94513/1-A
Matrix: Water
Analysis Batch: 95061

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 94513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
NEtFOSAA	ND		3.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
NMeFOSAA	ND		2.0	0.60	ng/L		02/16/21 08:24	02/17/21 21:27	1
10:2 FTS	ND		5.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluoropentanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluoroheptanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorononanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorodecanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorododecanesulfonic acid (PFDoS)	ND		3.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorooctanesulfonamide	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorohexadecanoic acid	ND		3.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorooctadecanoic acid	ND		3.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorobutanoic acid	ND		5.0	2.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluoropentanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
NMeFOSE	ND		3.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
NMeFOSA	ND		3.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
NEtFOSE	ND		3.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
NEtFOSA	ND		5.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
4:2 Fluorotelomer sulfonic acid	ND		2.0	0.50	ng/L		02/16/21 08:24	02/17/21 21:27	1
6:2 Fluorotelomer sulfonic acid	ND		5.0	2.0	ng/L		02/16/21 08:24	02/17/21 21:27	1
8:2 Fluorotelomer sulfonic acid	ND		3.0	1.0	ng/L		02/16/21 08:24	02/17/21 21:27	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
M2-4:2 FTS	*107*		*20 - 187*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
M2-8:2 FTS	*105*		*34 - 182*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
M2-6:2 FTS	*120*		*29 - 189*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C5 PFHxA	*113*		*31 - 142*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C4 PFHpA	*113*		*30 - 144*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C8 PFOA	*112*		*49 - 127*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C9 PFNA	*111*		*47 - 136*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C6 PFDA	*106*		*47 - 128*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C7 PFUnA	*104*		*40 - 135*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C2-PFDoDA	*92*		*28 - 136*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C2 PFTeDA	*101*		*10 - 144*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C3 PFBS	*104*		*19 - 178*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C3 PFHxS	*119*		*32 - 145*	*02/16/21 08:24*	*02/17/21 21:27*	*1*
13C8 PFOS	*109*		*49 - 126*	*02/16/21 08:24*	*02/17/21 21:27*	*1*

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

Lab Sample ID: MB 410-94513/1-A
Matrix: Water
Analysis Batch: 95061

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 94513

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	92		32 - 151	02/16/21 08:24	02/17/21 21:27	1
d5-NEtFOSAA	99		37 - 164	02/16/21 08:24	02/17/21 21:27	1
13C8 FOSA	71		10 - 143	02/16/21 08:24	02/17/21 21:27	1
13C4 PFBA	110		41 - 132	02/16/21 08:24	02/17/21 21:27	1
13C5 PFPeA	100		33 - 155	02/16/21 08:24	02/17/21 21:27	1
d7-N-MeFOSE-M	75		10 - 143	02/16/21 08:24	02/17/21 21:27	1
d3-NMePFOSA	61		10 - 107	02/16/21 08:24	02/17/21 21:27	1
d9-N-EtFOSE-M	96		10 - 142	02/16/21 08:24	02/17/21 21:27	1
d5-NEtPFOSA	66		10 - 108	02/16/21 08:24	02/17/21 21:27	1

Lab Sample ID: LCS 410-94513/2-A
Matrix: Water
Analysis Batch: 95061

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 94513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanoic acid	25.6	27.4		ng/L		107	66 - 137
Perfluoroheptanoic acid	25.6	27.8		ng/L		109	66 - 141
Perfluorooctanoic acid	25.6	24.7		ng/L		96	65 - 136
Perfluorononanoic acid	25.6	24.1		ng/L		94	65 - 140
Perfluorodecanoic acid	25.6	26.2		ng/L		102	63 - 137
Perfluorotridecanoic acid	25.6	26.3		ng/L		103	58 - 146
Perfluorotetradecanoic acid	25.6	24.4		ng/L		95	64 - 141
Perfluorobutanesulfonic acid	22.6	22.7		ng/L		100	65 - 132
Perfluorohexanesulfonic acid	24.2	23.3		ng/L		96	60 - 128
Perfluorooctanesulfonic acid	24.5	22.2		ng/L		91	51 - 126
NEtFOSAA	25.6	31.6		ng/L		123	54 - 134
NMeFOSAA	25.6	28.7		ng/L		112	58 - 143
10:2 FTS	24.7	22.6		ng/L		92	44 - 141
Perfluoropentanesulfonic acid	24.0	26.3		ng/L		110	71 - 136
Perfluoroheptanesulfonic acid	24.4	25.0		ng/L		102	67 - 135
Perfluorononanesulfonic acid	24.6	26.1		ng/L		106	67 - 137
Perfluorodecanesulfonic acid	24.7	23.9		ng/L		97	61 - 134
Perfluorododecanesulfonic acid (PFDoS)	24.8	25.0		ng/L		101	54 - 136
Perfluorooctanesulfonamide	25.6	28.2		ng/L		110	55 - 130
Perfluorohexadecanoic acid	25.6	36.5		ng/L		143	52 - 149
Perfluorooctadecanoic acid	25.6	34.3		ng/L		134	32 - 167
Perfluorobutanoic acid	25.6	28.4		ng/L		111	62 - 156
Perfluoropentanoic acid	25.6	29.2		ng/L		114	72 - 139
NMeFOSE	25.6	33.1		ng/L		129	52 - 131
NMeFOSA	25.6	29.6		ng/L		116	49 - 141
NEtFOSE	25.6	24.0		ng/L		94	49 - 128
NEtFOSA	25.6	22.3		ng/L		87	50 - 136
Perfluorododecanoic acid	25.6	29.9		ng/L		117	63 - 140
Perfluoroundecanoic acid	25.6	29.6		ng/L		116	62 - 138
4:2 Fluorotelomer sulfonic acid	23.9	29.2		ng/L		122	59 - 130
6:2 Fluorotelomer sulfonic acid	24.3	23.6		ng/L		97	57 - 137
8:2 Fluorotelomer sulfonic acid	24.5	23.5		ng/L		96	56 - 140

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

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
M2-4:2 FTS	91		20 - 187
M2-8:2 FTS	100		34 - 182
M2-6:2 FTS	99		29 - 189
13C5 PFHxA	100		31 - 142
13C4 PFHpA	103		30 - 144
13C8 PFOA	98		49 - 127
13C9 PFNA	95		47 - 136
13C6 PFDA	91		47 - 128
13C7 PFUnA	85		40 - 135
13C2-PFDoDA	73		28 - 136
13C2 PFTeDA	76		10 - 144
13C3 PFBS	88		19 - 178
13C3 PFHxS	107		32 - 145
13C8 PFOS	97		49 - 126
d3-NMeFOSAA	83		32 - 151
d5-NEtFOSAA	77		37 - 164
13C8 FOSA	72		10 - 143
13C4 PFBA	95		41 - 132
13C5 PFPeA	87		33 - 155
d7-N-MeFOSE-M	65		10 - 143
d3-NMePFOSA	61		10 - 107
d9-N-EtFOSE-M	79		10 - 142
d5-NEtPFOSA	68		10 - 108

Lab Sample ID: LCSD 410-94513/3-A
Matrix: Water
Analysis Batch: 95061

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 94513

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorohexanoic acid			25.6	27.3		ng/L		107	66 - 137	0	30
Perfluoroheptanoic acid			25.6	28.6		ng/L		112	66 - 141	3	30
Perfluorooctanoic acid			25.6	23.5		ng/L		92	65 - 136	5	30
Perfluorononanoic acid			25.6	23.4		ng/L		91	65 - 140	3	30
Perfluorodecanoic acid			25.6	27.2		ng/L		106	63 - 137	4	30
Perfluorotridecanoic acid			25.6	29.2		ng/L		114	58 - 146	10	30
Perfluorotetradecanoic acid			25.6	25.0		ng/L		98	64 - 141	3	30
Perfluorobutanesulfonic acid			22.6	23.2		ng/L		102	65 - 132	2	30
Perfluorohexanesulfonic acid			24.2	23.1		ng/L		95	60 - 128	1	30
Perfluorooctanesulfonic acid			24.5	22.4		ng/L		91	51 - 126	1	30
NEtFOSAA			25.6	29.0		ng/L		113	54 - 134	9	30
NMeFOSAA			25.6	31.4		ng/L		122	58 - 143	9	30
10:2 FTS			24.7	25.1		ng/L		102	44 - 141	10	30
Perfluoropentanesulfonic acid			24.0	27.3		ng/L		114	71 - 136	4	30
Perfluoroheptanesulfonic acid			24.4	25.9		ng/L		106	67 - 135	4	30
Perfluorononanesulfonic acid			24.6	27.9		ng/L		113	67 - 137	7	30
Perfluorodecanesulfonic acid			24.7	24.0		ng/L		97	61 - 134	0	30
Perfluorododecanesulfonic acid (PFDoS)			24.8	26.2		ng/L		106	54 - 136	5	30
Perfluorooctanesulfonamide			25.6	29.3		ng/L		114	55 - 130	4	30
Perfluorohexadecanoic acid			25.6	37.3		ng/L		146	52 - 149	2	30
Perfluorooctadecanoic acid			25.6	37.7		ng/L		147	32 - 167	9	30
Perfluorobutanoic acid			25.6	29.2		ng/L		114	62 - 156	3	30

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

Lab Sample ID: LCSD 410-94513/3-A
Matrix: Water
Analysis Batch: 95061

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 94513

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoropentanoic acid			25.6	30.4		ng/L		119	72 - 139	4	30
NMeFOSE			25.6	30.0		ng/L		117	52 - 131	10	30
NMeFOSA			25.6	30.5		ng/L		119	49 - 141	3	30
NEtFOSE			25.6	25.5		ng/L		100	49 - 128	6	30
NEtFOSA			25.6	24.1		ng/L		94	50 - 136	8	30
Perfluorododecanoic acid			25.6	33.0		ng/L		129	63 - 140	10	30
Perfluoroundecanoic acid			25.6	29.3		ng/L		115	62 - 138	1	30
4:2 Fluorotelomer sulfonic acid			23.9	27.1		ng/L		113	59 - 130	7	30
6:2 Fluorotelomer sulfonic acid			24.3	24.0		ng/L		99	57 - 137	2	30
8:2 Fluorotelomer sulfonic acid			24.5	24.0		ng/L		98	56 - 140	2	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
M2-4:2 FTS	*89*		*20 - 187*
M2-8:2 FTS	*85*		*34 - 182*
M2-6:2 FTS	*91*		*29 - 189*
13C5 PFHxA	*97*		*31 - 142*
13C4 PFHpA	*95*		*30 - 144*
13C8 PFOA	*91*		*49 - 127*
13C9 PFNA	*96*		*47 - 136*
13C6 PFDA	*81*		*47 - 128*
13C7 PFUnA	*84*		*40 - 135*
13C2-PFDoDA	*66*		*28 - 136*
13C2 PFTeDA	*72*		*10 - 144*
13C3 PFBS	*82*		*19 - 178*
13C3 PFHxS	*100*		*32 - 145*
13C8 PFOS	*95*		*49 - 126*
d3-NMeFOSAA	*75*		*32 - 151*
d5-NEtFOSAA	*75*		*37 - 164*
13C8 FOSA	*68*		*10 - 143*
13C4 PFBA	*91*		*41 - 132*
13C5 PFPeA	*79*		*33 - 155*
d7-N-MeFOSE-M	*67*		*10 - 143*
d3-NMePFOSA	*61*		*10 - 107*
d9-N-EtFOSE-M	*76*		*10 - 142*
d5-NEtPFOSA	*64*		*10 - 108*

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

Lab Sample ID: MB 410-94452/1-A
Matrix: Water
Analysis Batch: 95252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 94452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
NEtFOSAA	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
NMeFOSAA	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorobutanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorodecanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorododecanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluoroheptanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1

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

Lab Sample ID: MB 410-94452/1-A
Matrix: Water
Analysis Batch: 95252

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 94452

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorohexanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorononanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorooctanesulfonic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorooctanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorotetradecanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluorotridecanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1
Perfluoroundecanoic acid	ND		2.0	0.50	ng/L		02/16/21 06:58	02/17/21 22:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFDA	*94*		*70 - 130*	*02/16/21 06:58*	*02/17/21 22:33*	*1*
13C2 PFHxA	*101*		*70 - 130*	*02/16/21 06:58*	*02/17/21 22:33*	*1*
13C3 HFPO-DA	*85*		*70 - 130*	*02/16/21 06:58*	*02/17/21 22:33*	*1*
d5-NEtFOSAA	*90*		*70 - 130*	*02/16/21 06:58*	*02/17/21 22:33*	*1*

Lab Sample ID: LCS 410-94452/2-A
Matrix: Water
Analysis Batch: 95252

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 94452

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
NEtFOSAA	20.5	21.3		ng/L		104	70 - 130
NMeFOSAA	20.5	22.6		ng/L		111	70 - 130
Perfluorobutanesulfonic acid	18.1	20.9		ng/L		116	70 - 130
Perfluorodecanoic acid	20.5	21.3		ng/L		104	70 - 130
Perfluorododecanoic acid	20.5	19.1		ng/L		93	70 - 130
Perfluoroheptanoic acid	20.5	23.3		ng/L		114	70 - 130
Perfluorohexanesulfonic acid	18.7	20.7		ng/L		111	70 - 130
Perfluorohexanoic acid	20.5	24.4		ng/L		119	70 - 130
Perfluorononanoic acid	20.5	24.1		ng/L		118	70 - 130
Perfluorooctanesulfonic acid	19.0	21.2		ng/L		112	70 - 130
Perfluorooctanoic acid	20.5	23.3		ng/L		114	70 - 130
Perfluorotetradecanoic acid	20.5	19.7		ng/L		96	70 - 130
Perfluorotridecanoic acid	20.5	19.3		ng/L		94	70 - 130
Perfluoroundecanoic acid	20.5	20.7		ng/L		101	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFDA	*95*		*70 - 130*
13C2 PFHxA	*109*		*70 - 130*
13C3 HFPO-DA	*90*		*70 - 130*
d5-NEtFOSAA	*98*		*70 - 130*

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

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

Lab Sample ID: MB 410-98172/12
Matrix: Water
Analysis Batch: 98172

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		1.0	0.20	ug/L			03/02/21 09:53	1

Lab Sample ID: LCS 410-98172/13
Matrix: Water
Analysis Batch: 98172

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			1.00	1.38	*+	ug/L		138	80 - 120		

Lab Sample ID: LCSD 410-98172/14
Matrix: Water
Analysis Batch: 98172

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate			1.00	1.39	*+	ug/L		139	80 - 120	1	15

LCMS

Prep Batch: 94452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1	Raw Water	Total/NA	Water	537.1 DW Prep	
410-29415-2	Raw Water - FB	Total/NA	Water	537.1 DW Prep	
410-29415-3	EP 101	Total/NA	Water	537.1 DW Prep	
410-29415-4	EP 101 - FB	Total/NA	Water	537.1 DW Prep	
MB 410-94452/1-A	Method Blank	Total/NA	Water	537.1 DW Prep	
LCS 410-94452/2-A	Lab Control Sample	Total/NA	Water	537.1 DW Prep	

Prep Batch: 94513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1	Raw Water	Total/NA	Water	3535	
410-29415-3	EP 101	Total/NA	Water	3535	
MB 410-94513/1-A	Method Blank	Total/NA	Water	3535	
LCS 410-94513/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 410-94513/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 95061

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1	Raw Water	Total/NA	Water	537 (modified)	94513
410-29415-3	EP 101	Total/NA	Water	537 (modified)	94513
MB 410-94513/1-A	Method Blank	Total/NA	Water	537 (modified)	94513
LCS 410-94513/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	94513
LCSD 410-94513/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	94513

Analysis Batch: 95252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1	Raw Water	Total/NA	Water	EPA 537.1	94452
410-29415-2	Raw Water - FB	Total/NA	Water	EPA 537.1	94452
410-29415-3	EP 101	Total/NA	Water	EPA 537.1	94452
410-29415-4	EP 101 - FB	Total/NA	Water	EPA 537.1	94452
MB 410-94452/1-A	Method Blank	Total/NA	Water	EPA 537.1	94452
LCS 410-94452/2-A	Lab Control Sample	Total/NA	Water	EPA 537.1	94452

Prep Batch: 95545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1 - RE	Raw Water	Total/NA	Water	3535	
MB 410-95545/1-A	Method Blank	Total/NA	Water	3535	
LCS 410-95545/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 410-95545/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 95591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1 - RE	Raw Water	Total/NA	Water	537 (modified)	95545
MB 410-95545/1-A	Method Blank	Total/NA	Water	537 (modified)	95545
LCS 410-95545/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	95545
LCSD 410-95545/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	95545

Analysis Batch: 98172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-29415-1	Raw Water	Total/NA	Water	SW846 6850	
410-29415-3	EP 101	Total/NA	Water	SW846 6850	
MB 410-98172/12	Method Blank	Total/NA	Water	SW846 6850	

LCMS (Continued)

Analysis Batch: 98172 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-98172/13	Lab Control Sample	Total/NA	Water	SW846 6850	
LCSD 410-98172/14	Lab Control Sample Dup	Total/NA	Water	SW846 6850	

Lab Chronicle

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

Client Sample ID: Raw Water
Lab Sample ID: 410-29415-1
Date Collected: 02/10/21 10:00
Matrix: Water
Date Received: 02/15/21 08:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			94513	02/16/21 08:24	D5VP	ELLE
Total/NA	Analysis	537 (modified)		1	95061	02/17/21 21:59	OLN7	ELLE
Total/NA	Prep	3535	RE		95545	02/19/21 07:56	K9VR	ELLE
Total/NA	Analysis	537 (modified)	RE	1	95591	02/20/21 00:16	OLN7	ELLE
Total/NA	Prep	537.1 DW Prep			94452	02/16/21 06:58	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	95252	02/18/21 02:34	PY4D	ELLE
Total/NA	Analysis	SW846 6850		1	98172	03/02/21 10:30	URS0	ELLE

Client Sample ID: Raw Water - FB
Lab Sample ID: 410-29415-2
Date Collected: 02/10/21 10:00
Matrix: Water
Date Received: 02/15/21 08:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW Prep			94452	02/16/21 06:58	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	95252	02/18/21 02:46	PY4D	ELLE

Client Sample ID: EP 101
Lab Sample ID: 410-29415-3
Date Collected: 02/10/21 10:25
Matrix: Water
Date Received: 02/15/21 08:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			94513	02/16/21 08:24	D5VP	ELLE
Total/NA	Analysis	537 (modified)		1	95061	02/17/21 22:09	OLN7	ELLE
Total/NA	Prep	537.1 DW Prep			94452	02/16/21 06:58	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	95252	02/18/21 02:57	PY4D	ELLE
Total/NA	Analysis	SW846 6850		1	98172	03/02/21 10:39	URS0	ELLE

Client Sample ID: EP 101 - FB
Lab Sample ID: 410-29415-4
Date Collected: 02/10/21 10:25
Matrix: Water
Date Received: 02/15/21 08:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537.1 DW Prep			94452	02/16/21 06:58	RDL8	ELLE
Total/NA	Analysis	EPA 537.1		1	95252	02/18/21 03:20	PY4D	ELLE

Laboratory References:

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

Accreditation/Certification Summary

Client: Pittsburgh Water and Sewer Authority
Job ID: 410-29415-1
Project/Site: PFAS & Perchlorate

Laboratory: Eurofins Lancaster Laboratories Env, LLC

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Pennsylvania	NELAP	36-00037	01-31-22

Method Summary

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	ELLE
EPA 537.1	EPA 537.1, Ver 1.0 Nov 2018	EPA	ELLE
SW846 6850	Perchlorate by LC/MS or LC/MS/MS	SW846	ELLE
3535	Solid-Phase Extraction (SPE)	SW846	ELLE
537.1 DW Prep	Extraction of Perfluorinated Alkyl Acids	EPA	ELLE

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

Client: Pittsburgh Water and Sewer Authority
Project/Site: PFAS & Perchlorate

Job ID: 410-29415-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-29415-1	Raw Water	Water	02/10/21 10:00	02/15/21 08:52	
410-29415-2	Raw Water - FB	Water	02/10/21 10:00	02/15/21 08:52	
410-29415-3	EP 101	Water	02/10/21 10:25	02/15/21 08:52	
410-29415-4	EP 101 - FB	Water	02/10/21 10:25	02/15/21 08:52	

Environmental Chain of Custody

eurofins | Lancaster Laboratories Environmental

410-29415 Chain of Custody

Lancaster Laboratories Environmental use only

Sample # _____

COC # 615568

Client Information

Client:	Acct. #:
Project Name/#:	PWSID #:
Project Manager:	P.O. #:
Sampler: Robert Gomez	Quote #:
State where samples were collected: PA	For Compliance: Yes ☐ No ☐

For Lab Use Only
FSC: _____
SCR#: 245660

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	Matrix: Soil ☐ Sediment ☐ Tissue ☐	Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐	Other:	Total # of Containers	Analysis Requested: Preservation and Filtration Codes: Perchlorate in water	14 compounds in DW	32 compounds by EPA 537
Raw Water -201	2/10/21	1000	✓					2		✓	
EP 101 -201	2/10/21	1025	✓					2		✓	
Raw Water -178	2/10/21	1000	✓					1	✓		
EP 101 -178	2/10/21	1025	✓					1	✓		
Raw Water -173	2/10/21	1000						2			✓
EP 101 -173	2/10/21	1025						2			✓
Raw Water - Field Blank -173	2/10/21	1000						2		✓	
EP 101 - Field Blank -173	2/10/21	1025						2		✓	

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

Requested TAT in business days: _____

E-mail address: _____

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

Relinquished by	Date	Time	Received by	Date	Time
Karl Hart	2-3-21	0910			
Robert Gomez	2/10/21	1300			
			(3)	(3) 2/15/21	0852

EDD Required? Yes No
If yes, format: _____

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

Relinquished by Commercial Carrier:
UPS X FedEx _____ Other _____

Temperature upon receipt 0.5 °C

Login Sample Receipt Checklist

Client: Pittsburgh Water and Sewer Authority

Job Number: 410-29415-1

Login Number: 29415
List Number: 1
Creator: Foreman, Leah M

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	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	