

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau E
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P: (518) 402-9813 | F: (518) 402-9819
www.dec.ny.gov

December 11, 2019

Mr. George Green, Supervisor
Town of New Windsor
555 Union Avenue
New Windsor, New York 12553

Re: New Windsor Public Water Supply Well Sample Results
Kroll Well, New Windsor (T), Orange County

Dear Supervisor Green,

The New York State Department of Environmental Conservation (DEC) is providing you with a copy of the analytical results derived from the November 15, 2019 sampling of the granular activated carbon (GAC) water treatment system installed at the Town of New Windsor (Town) Kroll Well field at 354 Mount Airy Road (Tax Map ID #: 54-1-22.2) by DEC representatives.

No PFOS or PFOA was detected in Kroll Well GAC-treated water. The U.S. Environmental Protection Agency (EPA) lifetime health advisory level (HAL) is 70 parts per trillion (ppt) for PFOA, PFOS, or the combination of PFOA and PFOS. The proposed NYS maximum contaminant levels (MCLs) are 10 ppt for PFOS and 10 ppt for PFOA.

Specifically, the samples are analyzed for a total of twenty-one per- and polyfluoroalkyl substances (PFAS), including Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS). During this event, sampling was conducted at nine locations:

- pre-treatment (raw untreated water), which has a “RAW WATER” identifier in the Client Sample ID;
- 25 % treatment – lead tank (A-25 identifier);
- 50 % treatment – lead tank (A-50 identifier);
- 75 % treatment – lead tank (A-75 identifier);
- mid-treatment (after the first GAC canister and prior to the second GAC canister), which has a “MID POINT” identifier in the Client Sample ID;
- 25 % treatment – lag tank (B-25 identifier);
- 50 % treatment – lag tank (B-50 identifier);
- 75 % treatment – lag tank (B-75 identifier); and
- post-treatment (after the entire treatment system), which has a “EFFLUENT” identifier in the Client Sample ID.

The nine locations sampled (and their associated identifiers) are depicted in Figure 1.

If you have any technical questions regarding the analytical results or on the operation and performance of the GAC treatment system, please feel free to contact me or Jim Hayward, EA Science and Technology (DEC's Project Engineer) at (315) 431-4610 (ext.1857) or jhayward@eaest.com . For weekday or off hour / weekend emergency repair issues, please call DEC's contractor, Steven Phelps of Precision Environmental Services at (518) 528-1427. For questions regarding site-related health concerns, please contact Steve Gagnon of the Orange County DOH at (845) 291-2331 or Dr. Min-Sook Kim of the NYSDOH Bureau of Water Supply Protection at (518) 402-7650; email: min-sook.kim@health.ny.gov .

Sincerely,



David J. Chiusano
Environmental Engineer/Project Manager
Remedial Section A, Remedial Bureau E
Division of Environmental Remediation

Enclosures

ec: w/enclosures
D. Zagon, Town of New Windsor
J. Egitto, Town of New Windsor
D. McGoey/M. Weeks, MHE
W. Gilday, NYSDOH
Dr. Kim, NYSDOH
S. Gagnon, OCDOH
M. Andersen, OCDOH
J. Hayward, EA Engineering
S. Phelps, PES
M. Cruden, NYSDEC
D. Bendell, Region 3 RHWRE
D. Harrington, NYSDEC

Town of New Windsor
Kroll Well GAC Operation and Maintenance Sampling Results (Parts Per Trillion (PPT))

Date	Analyte	Result ¹ Raw Water	Result A25	Result ² A50	Result A75	Result Mid-Point	Result B25	Result B50	Result B75	Treated Effluent	USEPA Drinking Water Health Advisory Guidance Value	Proposed NYS MCLs
September 2019	PFOA	7.5	5.9	ND	ND	ND	ND	ND	ND	ND	70 ⁴	10 ⁵
	PFOS	9.2	6.4	ND	ND	ND	ND	ND	ND	ND	70 ⁴	10 ⁵
October 2019	PFOA	7.9	6.5	ND	ND	ND	ND	ND	ND	ND	70 ⁴	10 ⁵
	PFOS	13	8.7	ND	ND	ND	ND	ND	ND	ND	70 ⁴	10 ⁵
November 2019	PFOA	12	10	ND	ND	ND	ND	ND	ND	ND	70 ⁴	10 ⁵
	PFOS	10	8.4	ND	ND	ND	ND	ND	ND	ND	70 ⁴	10 ⁵

Notes:

1. PFOS and PFOA results and comparison values are reported in parts per trillion (ppt, nanograms per liter, ng/l).
2. "ND" means non-detect. The analyte was not detected in the sample.
3. MCL (Maximum Contaminant Level, mg/l) is the maximum permissible level of a contaminant in water delivered by a public water system.
4. Guidance: USEPA Drinking Water Health Advisory guidance value is currently 70 ppt.
5. The proposed NYS maximum contaminant levels (MCLs) are 10 ppt for PFOS and 10 ppt for PFOA.

How to Read Your Laboratory Reports

PFOA and PFOS Results:

- Analyte is the term used to describe what the laboratory was testing for, in this case PFOS and PFOA.
- Conc. (ng/l) is your result for PFOS and PFOA. In your case, no PFOS and PFOA were detected, thus ND or “non-detect” or <2.0 ng/l was reported. (ng/l = ppt)
- RL = reporting limit or RDL = reportable detection limit is the lowest level at which this specific testing protocol and laboratory has confidence in measuring the given analyte.
- Qualifiers are added information to help understand the quality of the data. Often, if something about the results or the calibration of the testing equipment was irregular, it would be reported here.

All other columns represent laboratory quality control information. The laboratory calibrates its equipment against a precise quantity of the chemical in order to ensure that the equipment is functioning properly. Some laboratory reports may not have all this information.

- Labeled Standard or Surrogate is the lab’s specific name for an individual control sample.
- %R is the percent of the control sample that was detected by the equipment. A 100% reading represents perfect equipment alignment.
- LCL-UCL is the lower concentration limit (LCL) and upper concentration limit (UCL). The LCL represents the lowest acceptable %R value and the UCL represent the highest acceptable %R value required to ensure your result is accurate.
- Qualifiers: If a result quality control variance is noted or if the %R value of any of the control samples were outside the allowable range that would have been noted in this last column. This gives the analyst less confidence in the measured value.

The analysis for PFOS and PFOA is performed using modified EPA Method 537. The laboratory may report a detection of PFOS and PFOA down to approximately 2.0 nanograms per liter (ng/l) or parts per trillion (ppt).

Inorganic Results:

- Parameter is the same as “analyte” above – it is the chemical being tested.
- Result is the concentration of that chemical detected.
- RL/PQL is the lowest level at which the specific laboratory test can reliably quantify the concentration. Below that number, the result is considered unreliable.
- DIL is the number of times the sample was diluted (necessary because the test has a certain range that it is accurate for).
- Units: mg/l is milligrams per liter or parts per million; ug/l is micrograms per liter or parts per billion.
- DW MCL stands for drinking water (DW) and “maximum contaminant level” (MCL). All chemicals that have a “maximum contaminant level” (MCL) established for drinking water (DW) have a level reported in this column.

- Sec Goal is the EPA nomenclature for all contaminants that have regulatory levels set based on aesthetics (for example, taste or color). DOH recognizes these EPA secondary goals as primary standards and enforces its drinking water quality program accordingly.
- Date/Time represents the date and time of the analysis at the lab.
- By refers to the technician who ran the test.
- Reference indicates the EPA method used in the test.

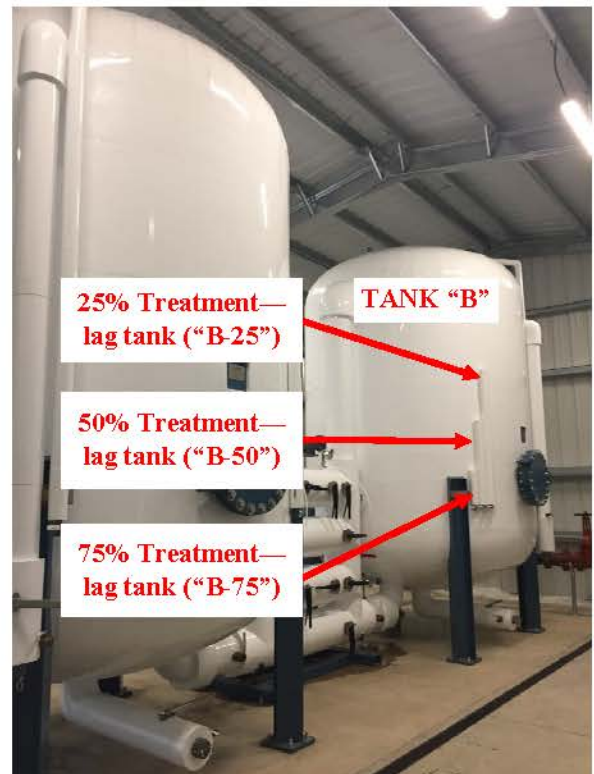
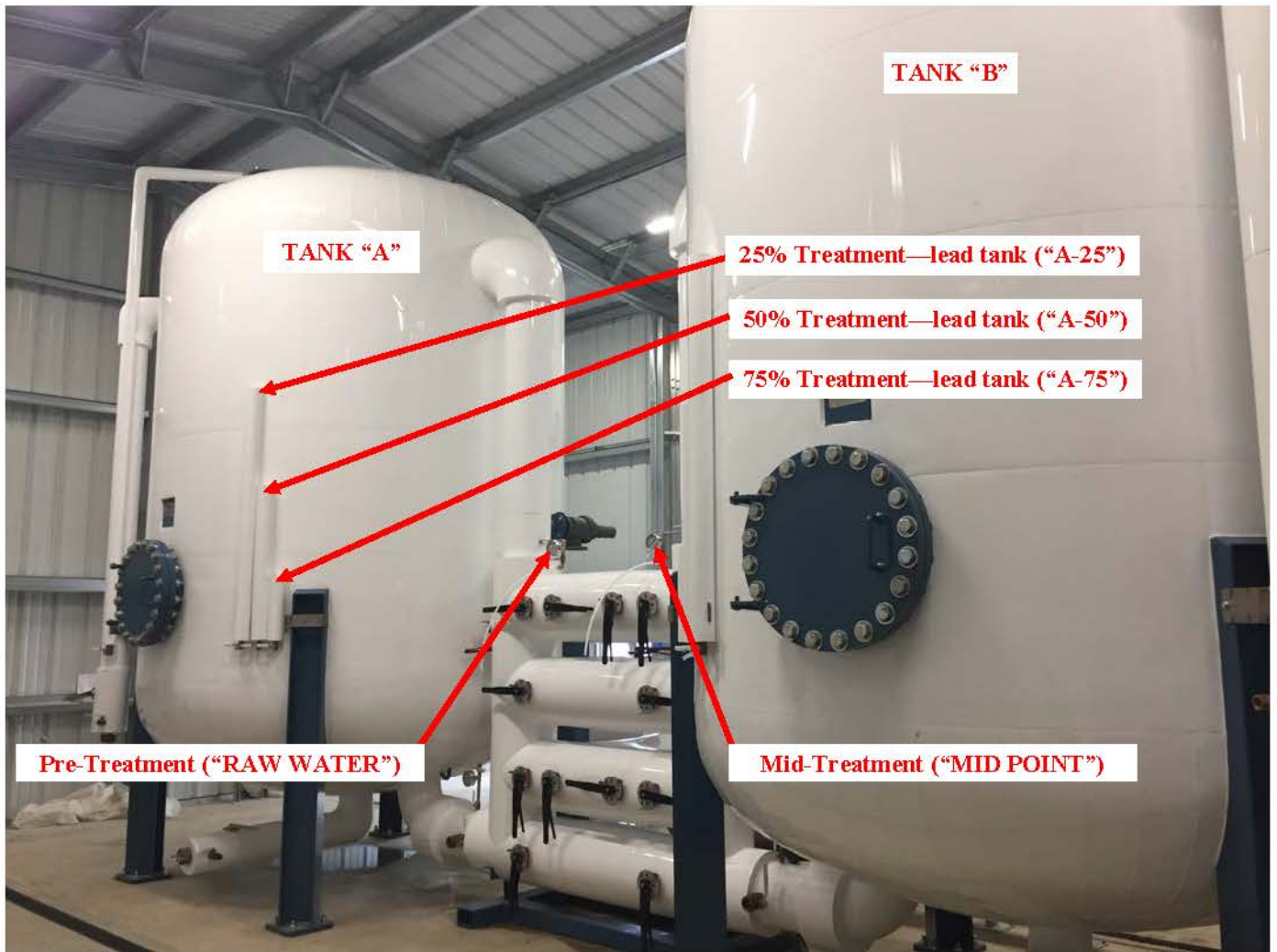


Figure 1—Kroll Well GAC Treatment System
Sampling Locations

ANALYTICAL REPORT

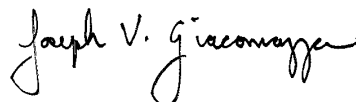
Eurofins TestAmerica, Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

Laboratory Job ID: 200-51580-1

Client Project/Site: Stewart ANG Base #336089 Kroll Well

For:
New York State D.E.C.
625 Broadway
12th Floor
Albany, New York 12233-7017

Attn: Mr. Dave Chiusano



Authorized for release by:
12/10/2019 10:15:27 PM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
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LINKS

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TotalAccess

Have a Question?



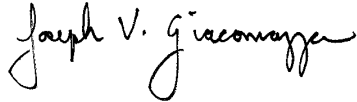
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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions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

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

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Management Assistant II
12/10/2019 10:15:27 PM

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Definitions/Glossary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
*	LCS or LCSD is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
I	Value is EMPC (estimated maximum possible concentration).

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Job ID: 200-51580-1

Laboratory: Eurofins TestAmerica, Burlington

Narrative

Job Narrative 200-51580-1

Comments

No additional comments.

Receipt

The samples were received on 11/20/2019 10:38 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

LCMS

Method 537 (modified): M2-6:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: EFFLUENT (200-51580-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): M2-8:2 FTS Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: EFFLUENT (200-51580-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): ¹³C₄ PFHpA, ¹³C₄ PFOS and ¹³C₄ PFBA Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following sample: EFFLUENT (200-51580-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 200-150201 and analytical batch 200-150237 was outside control limits for 8:2 FTS, 6:2 FTS, Perfluorobutanesulfonic acid (PFBS), Perfluoroheptanoic acid (PFHpA), Perfluorohexanesulfonic acid (PFHxS), Perfluorohexanoic acid (PFHxA) and Perfluorooctanesulfonamide (FOSA). Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method 537 (modified): The laboratory control sample (LCS) and for preparation batch 200-150201 and analytical batch 200-150237 recovered outside control limits for the following analytes: Perfluorotetradecanoic acid (PFTeA). These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 537 (modified): The Ion Ratio associated with PFOS in sample RAW WATER (200-51580-3) and A-25 (200-51580-5) fails our in-house defined limits, however the result is being reported because the peaks observed for both mass transitions are within the expected retention time windows for the branched chain isomers in our calibration mix. Since many of these isomers are at very low levels in our mixed calibration source (many are less than 5% of the solution), it's difficult to project how the different isomer's responses differ at higher levels, so we don't feel comfortable rejecting the detect based solely upon the ratio failure.
RAW WATER (200-51580-3) and A-25 (200-51580-5)

Method 537 (modified): The low-level continuing calibration verification (CCVL) associated with batch 200-150237 recovered above the upper control limit for Perfluorotetradecanoic acid (PFTeA). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVL 200-150237/45).

Method 537 (modified): A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: Initial analysis of the CCVL was a mis-inject. The Low-Level check standard was analyzed later in the analysis, which is a deviation from the SOP.

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

Detection Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: EFFLUENT

Lab Sample ID: 200-51580-1

No Detections.

Client Sample ID: MID POINT

Lab Sample ID: 200-51580-2

No Detections.

Client Sample ID: RAW WATER

Lab Sample ID: 200-51580-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.4		1.9		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.7		1.9		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	4.2		1.9		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.5		1.9		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	12		1.9		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.3		1.9		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid	2.4		1.9		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	10	I	1.9		ng/L	1		537 (modified)	Total/NA

Client Sample ID: DUPLICATE

Lab Sample ID: 200-51580-4

No Detections.

Client Sample ID: A-25

Lab Sample ID: 200-51580-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.8		1.8		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.7		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	3.9		1.8		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	10		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	5.6		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid	2.4		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.4	I	1.8		ng/L	1		537 (modified)	Total/NA

Client Sample ID: A-50

Lab Sample ID: 200-51580-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.2		2.0		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.3		2.0		ng/L	1		537 (modified)	Total/NA

Client Sample ID: A-75

Lab Sample ID: 200-51580-7

No Detections.

Client Sample ID: B-25

Lab Sample ID: 200-51580-8

No Detections.

Client Sample ID: B-50

Lab Sample ID: 200-51580-9

No Detections.

Client Sample ID: B-75

Lab Sample ID: 200-51580-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: EFFLUENT

Lab Sample ID: 200-51580-1

Date Collected: 11/15/19 14:00

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluoropentanoic acid (PFPeA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorohexanoic acid (PFHxA)	ND	F2	1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluoroheptanoic acid (PFHpA)	ND	F2	1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorooctanoic acid (PFOA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorononanoic acid (PFNA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorodecanoic acid (PFDA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorododecanoic acid (PFDoA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorotetradecanoic acid (PFTeA)	ND	*	1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorobutanesulfonic acid (PFBS)	ND	F2	1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorohexanesulfonic acid	ND	F2	1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 16:39	1
Perfluorooctanesulfonamide (FOSA)	ND	F2	8.9		ng/L		11/26/19 14:42	11/27/19 16:39	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 16:39	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 16:39	1
6:2 FTS	ND	F2	18		ng/L		11/26/19 14:42	11/27/19 16:39	1
8:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 16:39	1

Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C8 FOSA	102		25 - 150			11/26/19 14:42	11/27/19 16:39	1
13C4 PFBA	165	*	25 - 150			11/26/19 14:42	11/27/19 16:39	1
13C5-PFPeA DNU	148		25 - 150			11/26/19 14:42	11/27/19 16:39	1
13C2 PFHxA	149		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C4 PFHpA	142		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C4 PFOA	139		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C5 PFNA	141		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C2 PFDA	128		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C2 PFUnA	120		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C2 PFDoA	116		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C2 PFTeDA	115		50 - 150			11/26/19 14:42	11/27/19 16:39	1
18O2 PFHxS	147		50 - 150			11/26/19 14:42	11/27/19 16:39	1
13C4 PFOS	160	*	50 - 150			11/26/19 14:42	11/27/19 16:39	1
d3-NMeFOSAA	93		50 - 150			11/26/19 14:42	11/27/19 16:39	1
d5-NEtFOSAA	96		50 - 150			11/26/19 14:42	11/27/19 16:39	1
M2-6:2 FTS	181	*	25 - 150			11/26/19 14:42	11/27/19 16:39	1
M2-8:2 FTS	171	*	25 - 150			11/26/19 14:42	11/27/19 16:39	1

Client Sample ID: MID POINT

Lab Sample ID: 200-51580-2

Date Collected: 11/15/19 15:00

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: MID POINT

Lab Sample ID: 200-51580-2

Date Collected: 11/15/19 15:00

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorohexanoic acid (PFHxA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorooctanoic acid (PFOA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorononanoic acid (PFNA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorodecanoic acid (PFDA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorotetradecanoic acid (PFTeA)	ND *		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorohexanesulfonic acid	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:04	1
Perfluorooctanesulfonamide (FOSA)	ND		9.1		ng/L		11/26/19 14:42	11/27/19 17:04	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 17:04	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 17:04	1
6:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 17:04	1
8:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 17:04	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	75		25 - 150				11/26/19 14:42	11/27/19 17:04	1
13C4 PFBA	101		25 - 150				11/26/19 14:42	11/27/19 17:04	1
13C5-PFPeA DNU	99		25 - 150				11/26/19 14:42	11/27/19 17:04	1
13C2 PFHxA	93		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C4 PFHpA	91		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C4 PFOA	89		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C5 PFNA	83		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C2 PFDA	84		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C2 PFUnA	76		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C2 PFDoA	80		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C2 PFTeDA	73		50 - 150				11/26/19 14:42	11/27/19 17:04	1
18O2 PFHxS	86		50 - 150				11/26/19 14:42	11/27/19 17:04	1
13C4 PFOS	89		50 - 150				11/26/19 14:42	11/27/19 17:04	1
d3-NMeFOSAA	60		50 - 150				11/26/19 14:42	11/27/19 17:04	1
d5-NEtFOSAA	65		50 - 150				11/26/19 14:42	11/27/19 17:04	1
M2-6:2 FTS	107		25 - 150				11/26/19 14:42	11/27/19 17:04	1
M2-8:2 FTS	102		25 - 150				11/26/19 14:42	11/27/19 17:04	1

Client Sample ID: RAW WATER

Lab Sample ID: 200-51580-3

Date Collected: 11/15/19 15:15

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.4		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluoropentanoic acid (PFPeA)	4.7		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: RAW WATER

Lab Sample ID: 200-51580-3

Date Collected: 11/15/19 15:15

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	4.2		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluoroheptanoic acid (PFHpA)	3.5		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorooctanoic acid (PFOA)	12		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorononanoic acid (PFNA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorodecanoic acid (PFDA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorotetradecanoic acid (PFTeA)	ND *		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorobutanesulfonic acid (PFBS)	5.3		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorohexanesulfonic acid	2.4		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorooctanesulfonic acid (PFOS)	10	I	1.9		ng/L		11/26/19 14:42	11/27/19 17:12	1
Perfluorooctanesulfonamide (FOSA)	ND		9.4		ng/L		11/26/19 14:42	11/27/19 17:12	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		19		ng/L		11/26/19 14:42	11/27/19 17:12	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		19		ng/L		11/26/19 14:42	11/27/19 17:12	1
6:2 FTS	ND		19		ng/L		11/26/19 14:42	11/27/19 17:12	1
8:2 FTS	ND		19		ng/L		11/26/19 14:42	11/27/19 17:12	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	82		25 - 150	11/26/19 14:42	11/27/19 17:12	1
13C4 PFBA	94		25 - 150	11/26/19 14:42	11/27/19 17:12	1
13C5-PFPeA DNU	91		25 - 150	11/26/19 14:42	11/27/19 17:12	1
13C2 PFHxA	87		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C4 PFHpA	89		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C4 PFOA	86		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C5 PFNA	93		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C2 PFDA	88		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C2 PFUnA	87		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C2 PFDoA	75		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C2 PFTeDA	76		50 - 150	11/26/19 14:42	11/27/19 17:12	1
18O2 PFHxS	90		50 - 150	11/26/19 14:42	11/27/19 17:12	1
13C4 PFOS	96		50 - 150	11/26/19 14:42	11/27/19 17:12	1
d3-NMeFOSAA	52		50 - 150	11/26/19 14:42	11/27/19 17:12	1
d5-NEtFOSAA	56		50 - 150	11/26/19 14:42	11/27/19 17:12	1
M2-6:2 FTS	111		25 - 150	11/26/19 14:42	11/27/19 17:12	1
M2-8:2 FTS	119		25 - 150	11/26/19 14:42	11/27/19 17:12	1

Client Sample ID: DUPLICATE

Lab Sample ID: 200-51580-4

Date Collected: 11/15/19 00:00

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluoropentanoic acid (PFPeA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: DUPLICATE

Lab Sample ID: 200-51580-4

Date Collected: 11/15/19 00:00

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanoic acid (PFHxA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorooctanoic acid (PFOA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorononanoic acid (PFNA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorodecanoic acid (PFDA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorododecanoic acid (PFDoA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorotetradecanoic acid (PFTeA)	ND *		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorohexanesulfonic acid	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:20	1
Perfluorooctanesulfonamide (FOSA)	ND		9.1		ng/L		11/26/19 14:42	11/27/19 17:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 17:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 17:20	1
6:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 17:20	1
8:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 17:20	1

Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C8 FOSA	85		25 - 150			11/26/19 14:42	11/27/19 17:20	1
13C4 PFBA	103		25 - 150			11/26/19 14:42	11/27/19 17:20	1
13C5-PFPeA DNU	99		25 - 150			11/26/19 14:42	11/27/19 17:20	1
13C2 PFHxA	99		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C4 PFHpA	92		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C4 PFOA	84		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C5 PFNA	88		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C2 PFDA	86		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C2 PFUnA	86		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C2 PFDoA	85		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C2 PFTeDA	81		50 - 150			11/26/19 14:42	11/27/19 17:20	1
18O2 PFHxS	94		50 - 150			11/26/19 14:42	11/27/19 17:20	1
13C4 PFOS	96		50 - 150			11/26/19 14:42	11/27/19 17:20	1
d3-NMeFOSAA	64		50 - 150			11/26/19 14:42	11/27/19 17:20	1
d5-NEtFOSAA	73		50 - 150			11/26/19 14:42	11/27/19 17:20	1
M2-6:2 FTS	112		25 - 150			11/26/19 14:42	11/27/19 17:20	1
M2-8:2 FTS	113		25 - 150			11/26/19 14:42	11/27/19 17:20	1

Client Sample ID: A-25

Lab Sample ID: 200-51580-5

Date Collected: 11/15/19 14:45

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.8		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluoropentanoic acid (PFPeA)	4.7		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorohexanoic acid (PFHxA)	3.9		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: A-25

Lab Sample ID: 200-51580-5

Date Collected: 11/15/19 14:45

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	3.4		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorooctanoic acid (PFOA)	10		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorononanoic acid (PFNA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorodecanoic acid (PFDA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluoroundecanoic acid (PFUnA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorododecanoic acid (PFDoA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorotetradecanoic acid (PFTeA)	ND *		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorobutanesulfonic acid (PFBS)	5.6		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorohexanesulfonic acid	2.4		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorooctanesulfonic acid (PFOS)	8.4 I		1.8		ng/L		11/26/19 14:42	11/27/19 17:28	1
Perfluorooctanesulfonamide (FOSA)	ND		8.9		ng/L		11/26/19 14:42	11/27/19 17:28	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 17:28	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 17:28	1
6:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 17:28	1
8:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 17:28	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	80		25 - 150				11/26/19 14:42	11/27/19 17:28	1
13C4 PFBA	88		25 - 150				11/26/19 14:42	11/27/19 17:28	1
13C5-PFPeA DNU	84		25 - 150				11/26/19 14:42	11/27/19 17:28	1
13C2 PFHxA	85		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C4 PFHpA	81		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C4 PFOA	82		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C5 PFNA	87		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C2 PFDA	82		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C2 PFUnA	79		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C2 PFDoA	74		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C2 PFTeDA	69		50 - 150				11/26/19 14:42	11/27/19 17:28	1
18O2 PFHxS	80		50 - 150				11/26/19 14:42	11/27/19 17:28	1
13C4 PFOS	95		50 - 150				11/26/19 14:42	11/27/19 17:28	1
d3-NMeFOSAA	55		50 - 150				11/26/19 14:42	11/27/19 17:28	1
d5-NEtFOSAA	60		50 - 150				11/26/19 14:42	11/27/19 17:28	1
M2-6:2 FTS	98		25 - 150				11/26/19 14:42	11/27/19 17:28	1
M2-8:2 FTS	100		25 - 150				11/26/19 14:42	11/27/19 17:28	1

Client Sample ID: A-50

Lab Sample ID: 200-51580-6

Date Collected: 11/15/19 14:35

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.2		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluoropentanoic acid (PFPeA)	2.3		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: A-50

Lab Sample ID: 200-51580-6

Date Collected: 11/15/19 14:35

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorotetradecanoic acid (PFTeA)	ND *		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorohexanesulfonic acid	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:36	1
Perfluorooctanesulfonamide (FOSA)	ND		9.8		ng/L		11/26/19 14:42	11/27/19 17:36	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 17:36	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 17:36	1
6:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 17:36	1
8:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 17:36	1

Isotope Dilution	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
13C8 FOSA	79		25 - 150			11/26/19 14:42	11/27/19 17:36	1
13C4 PFBA	102		25 - 150			11/26/19 14:42	11/27/19 17:36	1
13C5-PFPeA DNU	95		25 - 150			11/26/19 14:42	11/27/19 17:36	1
13C2 PFHxA	97		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C4 PFHpA	85		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C4 PFOA	83		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C5 PFNA	91		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C2 PFDA	83		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C2 PFUnA	77		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C2 PFDoA	78		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C2 PFTeDA	72		50 - 150			11/26/19 14:42	11/27/19 17:36	1
18O2 PFHxS	86		50 - 150			11/26/19 14:42	11/27/19 17:36	1
13C4 PFOS	87		50 - 150			11/26/19 14:42	11/27/19 17:36	1
d3-NMeFOSAA	58		50 - 150			11/26/19 14:42	11/27/19 17:36	1
d5-NEtFOSAA	59		50 - 150			11/26/19 14:42	11/27/19 17:36	1
M2-6:2 FTS	100		25 - 150			11/26/19 14:42	11/27/19 17:36	1
M2-8:2 FTS	98		25 - 150			11/26/19 14:42	11/27/19 17:36	1

Client Sample ID: A-75

Lab Sample ID: 200-51580-7

Date Collected: 11/15/19 14:30

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluoropentanoic acid (PFPeA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorohexanoic acid (PFHxA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: A-75
Date Collected: 11/15/19 14:30
Date Received: 11/20/19 10:38

Lab Sample ID: 200-51580-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorononanoic acid (PFNA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorodecanoic acid (PFDA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorododecanoic acid (PFDoA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorotridecanoic acid (PFTriA)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorotetradecanoic acid (PFTeA)	ND *		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorohexanesulfonic acid	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9		ng/L		11/26/19 14:42	11/27/19 17:45	1
Perfluorooctanesulfonamide (FOSA)	ND		9.5		ng/L		11/26/19 14:42	11/27/19 17:45	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		19		ng/L		11/26/19 14:42	11/27/19 17:45	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		19		ng/L		11/26/19 14:42	11/27/19 17:45	1
6:2 FTS	ND		19		ng/L		11/26/19 14:42	11/27/19 17:45	1
8:2 FTS	ND		19		ng/L		11/26/19 14:42	11/27/19 17:45	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	82		25 - 150				11/26/19 14:42	11/27/19 17:45	1
13C4 PFBA	102		25 - 150				11/26/19 14:42	11/27/19 17:45	1
13C5-PFPeA DNU	91		25 - 150				11/26/19 14:42	11/27/19 17:45	1
13C2 PFHxA	98		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C4 PFHpA	86		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C4 PFOA	90		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C5 PFNA	86		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C2 PFDA	88		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C2 PFUnA	84		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C2 PFDoA	78		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C2 PFTeDA	78		50 - 150				11/26/19 14:42	11/27/19 17:45	1
18O2 PFHxS	86		50 - 150				11/26/19 14:42	11/27/19 17:45	1
13C4 PFOS	98		50 - 150				11/26/19 14:42	11/27/19 17:45	1
d3-NMeFOSAA	64		50 - 150				11/26/19 14:42	11/27/19 17:45	1
d5-NEtFOSAA	60		50 - 150				11/26/19 14:42	11/27/19 17:45	1
M2-6:2 FTS	108		25 - 150				11/26/19 14:42	11/27/19 17:45	1
M2-8:2 FTS	108		25 - 150				11/26/19 14:42	11/27/19 17:45	1

Client Sample ID: B-25
Date Collected: 11/15/19 14:20
Date Received: 11/20/19 10:38

Lab Sample ID: 200-51580-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: B-25

Lab Sample ID: 200-51580-8

Date Collected: 11/15/19 14:20

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorotetradecanoic acid (PFTeA)	ND *		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorohexanesulfonic acid	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 17:53	1
Perfluorooctanesulfonamide (FOSA)	ND		9.8		ng/L		11/26/19 14:42	11/27/19 17:53	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 17:53	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 17:53	1
6:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 17:53	1
8:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 17:53	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	79		25 - 150				11/26/19 14:42	11/27/19 17:53	1
13C4 PFBA	103		25 - 150				11/26/19 14:42	11/27/19 17:53	1
13C5-PFPeA DNU	95		25 - 150				11/26/19 14:42	11/27/19 17:53	1
13C2 PFHxA	95		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C4 PFHpA	86		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C4 PFOA	88		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C5 PFNA	90		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C2 PFDA	83		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C2 PFUnA	92		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C2 PFDoA	81		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C2 PFTeDA	78		50 - 150				11/26/19 14:42	11/27/19 17:53	1
18O2 PFHxS	87		50 - 150				11/26/19 14:42	11/27/19 17:53	1
13C4 PFOS	89		50 - 150				11/26/19 14:42	11/27/19 17:53	1
d3-NMeFOSAA	60		50 - 150				11/26/19 14:42	11/27/19 17:53	1
d5-NEtFOSAA	59		50 - 150				11/26/19 14:42	11/27/19 17:53	1
M2-6:2 FTS	102		25 - 150				11/26/19 14:42	11/27/19 17:53	1
M2-8:2 FTS	100		25 - 150				11/26/19 14:42	11/27/19 17:53	1

Client Sample ID: B-50

Lab Sample ID: 200-51580-9

Date Collected: 11/15/19 14:15

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: B-50

Lab Sample ID: 200-51580-9

Date Collected: 11/15/19 14:15

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorotetradecanoic acid (PFTeA)	ND *		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorohexanesulfonic acid	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 18:01	1
Perfluorooctanesulfonamide (FOSA)	ND		10		ng/L		11/26/19 14:42	11/27/19 18:01	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 18:01	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 18:01	1
6:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 18:01	1
8:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 18:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	73		25 - 150	11/26/19 14:42	11/27/19 18:01	1
13C4 PFBA	98		25 - 150	11/26/19 14:42	11/27/19 18:01	1
13C5-PFPeA DNU	93		25 - 150	11/26/19 14:42	11/27/19 18:01	1
13C2 PFHxA	92		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C4 PFHpA	82		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C4 PFOA	84		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C5 PFNA	85		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C2 PFDA	75		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C2 PFUnA	74		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C2 PFDoA	74		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C2 PFTeDA	72		50 - 150	11/26/19 14:42	11/27/19 18:01	1
18O2 PFHxS	87		50 - 150	11/26/19 14:42	11/27/19 18:01	1
13C4 PFOS	89		50 - 150	11/26/19 14:42	11/27/19 18:01	1
d3-NMeFOSAA	58		50 - 150	11/26/19 14:42	11/27/19 18:01	1
d5-NEtFOSAA	56		50 - 150	11/26/19 14:42	11/27/19 18:01	1
M2-6:2 FTS	98		25 - 150	11/26/19 14:42	11/27/19 18:01	1
M2-8:2 FTS	103		25 - 150	11/26/19 14:42	11/27/19 18:01	1

Client Sample ID: B-75

Lab Sample ID: 200-51580-10

Date Collected: 11/15/19 14:10

Matrix: Water

Date Received: 11/20/19 10:38

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluoropentanoic acid (PFPeA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorohexanoic acid (PFHxA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluoroheptanoic acid (PFHpA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorooctanoic acid (PFOA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorononanoic acid (PFNA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorodecanoic acid (PFDA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: B-75

Lab Sample ID: 200-51580-10

Date Collected: 11/15/19 14:10

Matrix: Water

Date Received: 11/20/19 10:38

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroundecanoic acid (PFUnA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorotridecanoic acid (PFTriA)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorotetradecanoic acid (PFTeA)	ND *		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorohexanesulfonic acid	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.8		ng/L		11/26/19 14:42	11/27/19 18:17	1
Perfluorooctanesulfonamide (FOSA)	ND		9.0		ng/L		11/26/19 14:42	11/27/19 18:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 18:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		18		ng/L		11/26/19 14:42	11/27/19 18:17	1
6:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 18:17	1
8:2 FTS	ND		18		ng/L		11/26/19 14:42	11/27/19 18:17	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 FOSA	82		25 - 150				11/26/19 14:42	11/27/19 18:17	1
13C4 PFBA	105		25 - 150				11/26/19 14:42	11/27/19 18:17	1
13C5-PFPeA DNU	102		25 - 150				11/26/19 14:42	11/27/19 18:17	1
13C2 PFHxA	96		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C4 PFHpA	94		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C4 PFOA	88		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C5 PFNA	94		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C2 PFDA	83		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C2 PFUnA	81		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C2 PFDoA	79		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C2 PFTeDA	75		50 - 150				11/26/19 14:42	11/27/19 18:17	1
18O2 PFHxS	96		50 - 150				11/26/19 14:42	11/27/19 18:17	1
13C4 PFOS	99		50 - 150				11/26/19 14:42	11/27/19 18:17	1
d3-NMeFOSAA	60		50 - 150				11/26/19 14:42	11/27/19 18:17	1
d5-NEtFOSAA	60		50 - 150				11/26/19 14:42	11/27/19 18:17	1
M2-6:2 FTS	104		25 - 150				11/26/19 14:42	11/27/19 18:17	1
M2-8:2 FTS	112		25 - 150				11/26/19 14:42	11/27/19 18:17	1

Isotope Dilution Summary

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFOSA (25-150)	PFBA (25-150)	PFPeA (25-150)	PFHxA (50-150)	PFHpA (50-150)	PFOA (50-150)	PFNA (50-150)	PFDA (50-150)
200-51580-1	EFFLUENT	102	165 *	148	149	142	139	141	128
200-51580-1 MS	EFFLUENT	70	115	110	103	96	97	98	90
200-51580-1 MSD	EFFLUENT	75	103	95	98	96	88	88	83
200-51580-2	MID POINT	75	101	99	93	91	89	83	84
200-51580-3	RAW WATER	82	94	91	87	89	86	93	88
200-51580-4	DUPLICATE	85	103	99	99	92	84	88	86
200-51580-5	A-25	80	88	84	85	81	82	87	82
200-51580-6	A-50	79	102	95	97	85	83	91	83
200-51580-7	A-75	82	102	91	98	86	90	86	88
200-51580-8	B-25	79	103	95	95	86	88	90	83
200-51580-9	B-50	73	98	93	92	82	84	85	75
200-51580-10	B-75	82	105	102	96	94	88	94	83
LCS 200-150201/2-A	Lab Control Sample	78	104	95	93	91	88	89	91
MB 200-150201/1-A	Method Blank	55	94	89	85	84	85	89	85

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFUnA (50-150)	PFDoA (50-150)	PFTDA (50-150)	PFHxS (50-150)	PFOS (50-150)	-NMeFOS/ (50-150)	-NEtFOS/ (50-150)	M262FTS (25-150)
200-51580-1	EFFLUENT	120	116	115	147	160 *	93	96	181 *
200-51580-1 MS	EFFLUENT	84	80	78	99	106	63	76	110
200-51580-1 MSD	EFFLUENT	84	80	79	95	98	57	65	109
200-51580-2	MID POINT	76	80	73	86	89	60	65	107
200-51580-3	RAW WATER	87	75	76	90	96	52	56	111
200-51580-4	DUPLICATE	86	85	81	94	96	64	73	112
200-51580-5	A-25	79	74	69	80	95	55	60	98
200-51580-6	A-50	77	78	72	86	87	58	59	100
200-51580-7	A-75	84	78	78	86	98	64	60	108
200-51580-8	B-25	92	81	78	87	89	60	59	102
200-51580-9	B-50	74	74	72	87	89	58	56	98
200-51580-10	B-75	81	79	75	96	99	60	60	104
LCS 200-150201/2-A	Lab Control Sample	87	86	79	93	105	66	68	114
MB 200-150201/1-A	Method Blank	91	74	73	83	98	58	62	109

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M282FTS (25-150)
200-51580-1	EFFLUENT	171 *
200-51580-1 MS	EFFLUENT	114
200-51580-1 MSD	EFFLUENT	116
200-51580-2	MID POINT	102
200-51580-3	RAW WATER	119
200-51580-4	DUPLICATE	113
200-51580-5	A-25	100
200-51580-6	A-50	98
200-51580-7	A-75	108
200-51580-8	B-25	100
200-51580-9	B-50	103
200-51580-10	B-75	112
LCS 200-150201/2-A	Lab Control Sample	116
MB 200-150201/1-A	Method Blank	122

Isotope Dilution Summary

Client: New York State D.E.C.

Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Surrogate Legend

PFOSA = 13C8 FOSA
PFBA = 13C4 PFBA
PFPeA = 13C5-PFPeA DNU
PFHxA = 13C2 PFHxA
PFHpA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS

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QC Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-150201/1-A
Matrix: Water
Analysis Batch: 150237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 150201

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluoropentanoic acid (PFPeA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorohexanoic acid (PFHxA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorodecanoic acid (PFDA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorododecanoic acid (PFDoA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorotridecanoic acid (PFTriA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorohexanesulfonic acid	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/26/19 14:42	11/27/19 14:44	1
Perfluorooctanesulfonamide (FOSA)	ND		10		ng/L		11/26/19 14:42	11/27/19 14:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 14:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		20		ng/L		11/26/19 14:42	11/27/19 14:44	1
6:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 14:44	1
8:2 FTS	ND		20		ng/L		11/26/19 14:42	11/27/19 14:44	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	55		25 - 150	11/26/19 14:42	11/27/19 14:44	1
13C4 PFBA	94		25 - 150	11/26/19 14:42	11/27/19 14:44	1
13C5-PFPeA DNU	89		25 - 150	11/26/19 14:42	11/27/19 14:44	1
13C2 PFHxA	85		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C4 PFHpA	84		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C4 PFOA	85		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C5 PFNA	89		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C2 PFDA	85		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C2 PFUnA	91		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C2 PFDoA	74		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C2 PFTeDA	73		50 - 150	11/26/19 14:42	11/27/19 14:44	1
18O2 PFHxS	83		50 - 150	11/26/19 14:42	11/27/19 14:44	1
13C4 PFOS	98		50 - 150	11/26/19 14:42	11/27/19 14:44	1
d3-NMeFOSAA	58		50 - 150	11/26/19 14:42	11/27/19 14:44	1
d5-NEtFOSAA	62		50 - 150	11/26/19 14:42	11/27/19 14:44	1
M2-6:2 FTS	109		25 - 150	11/26/19 14:42	11/27/19 14:44	1
M2-8:2 FTS	122		25 - 150	11/26/19 14:42	11/27/19 14:44	1

Eurofins TestAmerica, Burlington

QC Sample Results

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

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

Lab Sample ID: LCS 200-150201/2-A
Matrix: Water
Analysis Batch: 150237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 150201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluorobutanoic acid (PFBA)	40.0	41.1		ng/L		103	50 - 150
Perfluoropentanoic acid (PFPeA)	40.0	40.3		ng/L		101	50 - 150
Perfluorohexanoic acid (PFHxA)	40.0	39.2		ng/L		98	70 - 130
Perfluoroheptanoic acid (PFHpA)	40.0	42.8		ng/L		107	70 - 130
Perfluorooctanoic acid (PFOA)	40.0	39.9		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.3		ng/L		101	70 - 130
Perfluorodecanoic acid (PFDA)	40.0	40.1		ng/L		100	70 - 130
Perfluoroundecanoic acid (PFUnA)	40.0	39.9		ng/L		100	70 - 130
Perfluorododecanoic acid (PFDoA)	40.0	36.3		ng/L		91	70 - 130
Perfluorotridecanoic acid (PFTriA)	40.0	36.1		ng/L		90	70 - 130
Perfluorotetradecanoic acid (PFTeA)	40.0	52.7	*	ng/L		132	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	32.7		ng/L		93	70 - 130
Perfluorohexanesulfonic acid	36.4	38.4		ng/L		106	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	35.8		ng/L		94	50 - 150
Perfluorodecanesulfonic acid (PFDS)	38.6	40.3		ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	38.8		ng/L		105	70 - 130
Perfluorooctanesulfonamide (FOSA)	40.0	37.0		ng/L		93	50 - 150
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	43.6		ng/L		109	70 - 130
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.7		ng/L		102	70 - 130
6:2 FTS	37.9	29.0		ng/L		76	50 - 150
8:2 FTS	38.3	26.1		ng/L		68	50 - 150

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C8 FOSA	78		25 - 150
13C4 PFBA	104		25 - 150
13C5-PFPeA DNU	95		25 - 150
13C2 PFHxA	93		50 - 150
13C4 PFHpA	91		50 - 150
13C4 PFOA	88		50 - 150
13C5 PFNA	89		50 - 150
13C2 PFDA	91		50 - 150
13C2 PFUnA	87		50 - 150
13C2 PFDoA	86		50 - 150
13C2 PFTeDA	79		50 - 150
18O2 PFHxS	93		50 - 150
13C4 PFOS	105		50 - 150
d3-NMeFOSAA	66		50 - 150
d5-NEtFOSAA	68		50 - 150
M2-6:2 FTS	114		25 - 150
M2-8:2 FTS	116		25 - 150

Eurofins TestAmerica, Burlington

QC Sample Results

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

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

Lab Sample ID: 200-51580-1 MS
Matrix: Water
Analysis Batch: 150237

Client Sample ID: EFFLUENT
Prep Type: Total/NA
Prep Batch: 150201

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Perfluorobutanoic acid (PFBA)	ND		35.5	36.8		ng/L		104	40 - 160
Perfluoropentanoic acid (PFPeA)	ND		35.5	33.8		ng/L		95	40 - 160
Perfluorohexanoic acid (PFHxA)	ND	F2	35.5	35.8		ng/L		101	40 - 160
Perfluoroheptanoic acid (PFHpA)	ND	F2	35.5	37.2		ng/L		105	40 - 160
Perfluorooctanoic acid (PFOA)	ND		35.5	34.8		ng/L		98	40 - 160
Perfluorononanoic acid (PFNA)	ND		35.5	35.1		ng/L		99	40 - 160
Perfluorodecanoic acid (PFDA)	ND		35.5	33.9		ng/L		95	40 - 160
Perfluoroundecanoic acid (PFUnA)	ND		35.5	34.0		ng/L		96	40 - 160
Perfluorododecanoic acid (PFDoA)	ND		35.5	34.8		ng/L		98	40 - 160
Perfluorotridecanoic acid (PFTriA)	ND		35.5	34.7		ng/L		98	40 - 160
Perfluorotetradecanoic acid (PFTeA)	ND	*	35.5	49.3		ng/L		139	40 - 160
Perfluorobutanesulfonic acid (PFBS)	ND	F2	31.4	31.8		ng/L		102	40 - 160
Perfluorohexanesulfonic acid	ND	F2	32.3	32.7		ng/L		101	40 - 160
Perfluoroheptanesulfonic Acid (PFHpS)	ND		33.8	34.7		ng/L		103	40 - 160
Perfluorodecanesulfonic acid (PFDS)	ND		34.2	33.4		ng/L		98	40 - 160
Perfluorooctanesulfonic acid (PFOS)	ND		32.9	33.0		ng/L		100	40 - 160
Perfluorooctanesulfonamide (FOSA)	ND	F2	35.5	36.2		ng/L		102	40 - 160
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		35.5	32.4		ng/L		91	40 - 160
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		35.5	28.8		ng/L		81	40 - 160
6:2 FTS	ND	F2	33.6	28.2		ng/L		84	40 - 160
8:2 FTS	ND		34.0	21.1		ng/L		62	40 - 160
		MS MS							
Isotope Dilution		%Recovery	Qualifier	Limits					
13C8 FOSA		70		25 - 150					
13C4 PFBA		115		25 - 150					
13C5-PFPeA DNU		110		25 - 150					
13C2 PFHxA		103		50 - 150					
13C4 PFHpA		96		50 - 150					
13C4 PFOA		97		50 - 150					
13C5 PFNA		98		50 - 150					
13C2 PFDA		90		50 - 150					
13C2 PFUnA		84		50 - 150					
13C2 PFDoA		80		50 - 150					
13C2 PFTeDA		78		50 - 150					
18O2 PFHxS		99		50 - 150					
13C4 PFOS		106		50 - 150					
d3-NMeFOSAA		63		50 - 150					
d5-NEtFOSAA		76		50 - 150					
M2-6:2 FTS		110		25 - 150					
M2-8:2 FTS		114		25 - 150					

QC Sample Results

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

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

Lab Sample ID: 200-51580-1 MSD
Matrix: Water
Analysis Batch: 150237

Client Sample ID: EFFLUENT
Prep Type: Total/NA
Prep Batch: 150201

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Perfluorobutanoic acid (PFBA)	ND		34.8	29.5		ng/L		85	40 - 160	22	30
Perfluoropentanoic acid (PFPeA)	ND		34.8	30.3		ng/L		87	40 - 160	11	30
Perfluorohexanoic acid (PFHxA)	ND	F2	34.8	26.8	F2	ng/L		77	40 - 160	29	20
Perfluoroheptanoic acid (PFHpA)	ND	F2	34.8	28.3	F2	ng/L		81	40 - 160	27	20
Perfluorooctanoic acid (PFOA)	ND		34.8	29.3		ng/L		84	40 - 160	17	20
Perfluorononanoic acid (PFNA)	ND		34.8	29.4		ng/L		84	40 - 160	18	20
Perfluorodecanoic acid (PFDA)	ND		34.8	32.6		ng/L		94	40 - 160	4	20
Perfluoroundecanoic acid (PFUnA)	ND		34.8	28.3		ng/L		81	40 - 160	18	20
Perfluorododecanoic acid (PFDoA)	ND		34.8	30.2		ng/L		87	40 - 160	14	20
Perfluorotridecanoic acid (PFTriA)	ND		34.8	29.4		ng/L		84	40 - 160	17	20
Perfluorotetradecanoic acid (PFTeA)	ND	*	34.8	41.2		ng/L		118	40 - 160	18	20
Perfluorobutanesulfonic acid (PFBS)	ND	F2	30.8	24.5	F2	ng/L		80	40 - 160	26	20
Perfluorohexanesulfonic acid	ND	F2	31.7	25.8	F2	ng/L		81	40 - 160	24	20
Perfluoroheptanesulfonic Acid (PFHpS)	ND		33.2	28.2		ng/L		85	40 - 160	20	30
Perfluorodecanesulfonic acid (PFDS)	ND		33.6	31.5		ng/L		94	40 - 160	6	30
Perfluorooctanesulfonic acid (PFOS)	ND		32.3	29.6		ng/L		92	40 - 160	11	20
Perfluorooctanesulfonamide (FOSA)	ND	F2	34.8	24.0	F2	ng/L		69	40 - 160	40	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		34.8	30.2		ng/L		87	40 - 160	7	20
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		34.8	26.4		ng/L		76	40 - 160	8	20
6:2 FTS	ND	F2	33.0	20.3	F2	ng/L		61	40 - 160	33	30
8:2 FTS	ND		33.4	ND		ng/L		50	40 - 160	22	30

Isotope Dilution	MSD	MSD	Limits
	%Recovery	Qualifier	
13C8 FOSA	75		25 - 150
13C4 PFBA	103		25 - 150
13C5-PFPeA DNU	95		25 - 150
13C2 PFHxA	98		50 - 150
13C4 PFHpA	96		50 - 150
13C4 PFOA	88		50 - 150
13C5 PFNA	88		50 - 150
13C2 PFDA	83		50 - 150
13C2 PFUnA	84		50 - 150
13C2 PFDoA	80		50 - 150
13C2 PFTeDA	79		50 - 150
18O2 PFHxS	95		50 - 150
13C4 PFOS	98		50 - 150
d3-NMeFOSAA	57		50 - 150
d5-NEtFOSAA	65		50 - 150
M2-6:2 FTS	109		25 - 150
M2-8:2 FTS	116		25 - 150

Eurofins TestAmerica, Burlington

QC Association Summary

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

LCMS

Prep Batch: 150201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-51580-1	EFFLUENT	Total/NA	Water	3535	
200-51580-2	MID POINT	Total/NA	Water	3535	
200-51580-3	RAW WATER	Total/NA	Water	3535	
200-51580-4	DUPLICATE	Total/NA	Water	3535	
200-51580-5	A-25	Total/NA	Water	3535	
200-51580-6	A-50	Total/NA	Water	3535	
200-51580-7	A-75	Total/NA	Water	3535	
200-51580-8	B-25	Total/NA	Water	3535	
200-51580-9	B-50	Total/NA	Water	3535	
200-51580-10	B-75	Total/NA	Water	3535	
MB 200-150201/1-A	Method Blank	Total/NA	Water	3535	
LCS 200-150201/2-A	Lab Control Sample	Total/NA	Water	3535	
200-51580-1 MS	EFFLUENT	Total/NA	Water	3535	
200-51580-1 MSD	EFFLUENT	Total/NA	Water	3535	

Analysis Batch: 150237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-51580-1	EFFLUENT	Total/NA	Water	537 (modified)	150201
200-51580-2	MID POINT	Total/NA	Water	537 (modified)	150201
200-51580-3	RAW WATER	Total/NA	Water	537 (modified)	150201
200-51580-4	DUPLICATE	Total/NA	Water	537 (modified)	150201
200-51580-5	A-25	Total/NA	Water	537 (modified)	150201
200-51580-6	A-50	Total/NA	Water	537 (modified)	150201
200-51580-7	A-75	Total/NA	Water	537 (modified)	150201
200-51580-8	B-25	Total/NA	Water	537 (modified)	150201
200-51580-9	B-50	Total/NA	Water	537 (modified)	150201
200-51580-10	B-75	Total/NA	Water	537 (modified)	150201
MB 200-150201/1-A	Method Blank	Total/NA	Water	537 (modified)	150201
LCS 200-150201/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	150201
200-51580-1 MS	EFFLUENT	Total/NA	Water	537 (modified)	150201
200-51580-1 MSD	EFFLUENT	Total/NA	Water	537 (modified)	150201

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: EFFLUENT

Lab Sample ID: 200-51580-1

Date Collected: 11/15/19 14:00

Matrix: Water

Date Received: 11/20/19 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 16:39	BWC	TAL BUR

Client Sample ID: MID POINT

Lab Sample ID: 200-51580-2

Date Collected: 11/15/19 15:00

Matrix: Water

Date Received: 11/20/19 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:04	BWC	TAL BUR

Client Sample ID: RAW WATER

Lab Sample ID: 200-51580-3

Date Collected: 11/15/19 15:15

Matrix: Water

Date Received: 11/20/19 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:12	BWC	TAL BUR

Client Sample ID: DUPLICATE

Lab Sample ID: 200-51580-4

Date Collected: 11/15/19 00:00

Matrix: Water

Date Received: 11/20/19 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:20	BWC	TAL BUR

Client Sample ID: A-25

Lab Sample ID: 200-51580-5

Date Collected: 11/15/19 14:45

Matrix: Water

Date Received: 11/20/19 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:28	BWC	TAL BUR

Client Sample ID: A-50

Lab Sample ID: 200-51580-6

Date Collected: 11/15/19 14:35

Matrix: Water

Date Received: 11/20/19 10:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:36	BWC	TAL BUR

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Client Sample ID: A-75

Date Collected: 11/15/19 14:30

Date Received: 11/20/19 10:38

Lab Sample ID: 200-51580-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:45	BWC	TAL BUR

Client Sample ID: B-25

Date Collected: 11/15/19 14:20

Date Received: 11/20/19 10:38

Lab Sample ID: 200-51580-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 17:53	BWC	TAL BUR

Client Sample ID: B-50

Date Collected: 11/15/19 14:15

Date Received: 11/20/19 10:38

Lab Sample ID: 200-51580-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 18:01	BWC	TAL BUR

Client Sample ID: B-75

Date Collected: 11/15/19 14:10

Date Received: 11/20/19 10:38

Lab Sample ID: 200-51580-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			150201	11/26/19 14:42	MBM	TAL BUR
Total/NA	Analysis	537 (modified)		1	150237	11/27/19 18:17	BWC	TAL BUR

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Laboratory: Eurofins TestAmerica, Burlington

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10391	04-01-20

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)	3535	Water	6:2 FTS
537 (modified)	3535	Water	8:2 FTS
537 (modified)	3535	Water	N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)
537 (modified)	3535	Water	N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)
537 (modified)	3535	Water	Perfluorobutanesulfonic acid (PFBS)
537 (modified)	3535	Water	Perfluorobutanoic acid (PFBA)
537 (modified)	3535	Water	Perfluorodecanesulfonic acid (PFDS)
537 (modified)	3535	Water	Perfluorodecanoic acid (PFDA)
537 (modified)	3535	Water	Perfluorododecanoic acid (PFDoA)
537 (modified)	3535	Water	Perfluoroheptanesulfonic Acid (PFHpS)
537 (modified)	3535	Water	Perfluoroheptanoic acid (PFHpA)
537 (modified)	3535	Water	Perfluorohexanesulfonic acid
537 (modified)	3535	Water	Perfluorohexanoic acid (PFHxA)
537 (modified)	3535	Water	Perfluorononanoic acid (PFNA)
537 (modified)	3535	Water	Perfluorooctanesulfonamide (FOSA)
537 (modified)	3535	Water	Perfluorooctanesulfonic acid (PFOS)
537 (modified)	3535	Water	Perfluorooctanoic acid (PFOA)
537 (modified)	3535	Water	Perfluoropentanoic acid (PFPeA)
537 (modified)	3535	Water	Perfluorotetradecanoic acid (PFTeA)
537 (modified)	3535	Water	Perfluorotridecanoic acid (PFTriA)
537 (modified)	3535	Water	Perfluoroundecanoic acid (PFUnA)

Laboratory: Eurofins TestAmerica, Buffalo

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

Method Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL BUR
3535	Solid-Phase Extraction (SPE)	SW846	TAL BUR

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:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990



Sample Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 200-51580-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
200-51580-1	EFFLUENT	Water	11/15/19 14:00	11/20/19 10:38	
200-51580-2	MID POINT	Water	11/15/19 15:00	11/20/19 10:38	
200-51580-3	RAW WATER	Water	11/15/19 15:15	11/20/19 10:38	
200-51580-4	DUPLICATE	Water	11/15/19 00:00	11/20/19 10:38	
200-51580-5	A-25	Water	11/15/19 14:45	11/20/19 10:38	
200-51580-6	A-50	Water	11/15/19 14:35	11/20/19 10:38	
200-51580-7	A-75	Water	11/15/19 14:30	11/20/19 10:38	
200-51580-8	B-25	Water	11/15/19 14:20	11/20/19 10:38	
200-51580-9	B-50	Water	11/15/19 14:15	11/20/19 10:38	
200-51580-10	B-75	Water	11/15/19 14:10	11/20/19 10:38	

Chain of Custody Record



Client Information
 Client Contact: Stephan Phelps
 Company: Precision Environmental Services Inc.
 Address: 831 State Route 67 Ste 38
 City: Ballston Spa
 State/Zip: NY, 12020
 Phone: 518-402-9813(Tel)
 Email: sphelps@pesnyinc.com
 Project Name: Stewart ANG Base #336089 Kroll Well
 Site:

Sampler: Macehawk Quality
 Lab PM: Stone, Judy L
 Phone: 885-4399
 E-Mail: Judy.stone@testame

Due Date Requested:
TAT Requested (days): 3 Days PFAS / 10 Day TAT
TAT UCMR / PFAS 21 List
 PO #:
 Callout ID: 137132
 WC #:
 Project #: 48020467
 SSO#:

OC No: 80-138068-31042.1
age: 1 of 2
3b #:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=soil, O=waste/oli, BT=Tissue, AS=Air)	Field Filtered Sample (Yes or No)	PFAS, DL, DW - PFAS, UCMR List - Sacramento	Preservation Code	Special Instructions/Note
Effluent	11-15-19	2:00	G	Water	X	X		
Mid Point		3:00		Water				
Raw Water		3:15		Water				
Duplicate				Water				
A-25		2:45		Water				
A-50		2:35		Water				
A-75		2:30		Water				
B-25		2:20		Water				
B-50		2:15		Water				
B-75		2:10		Water				
MS		2:00		Water				

Special Instructions/Note:
 Total Number of containers: 12
 Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2SO3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 X - EDTA
 Z - other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements:
 Method of Shipment:
 Received by: Tina Krollinger Date/Time: 11-18-19 10:56 Company: Eurofins TA
 Received by: [Signature] Date/Time: 11/20/19 10:38 Company: [Signature]
 Received by: [Signature] Date/Time: Company:
 Cooler Temperature (°C and Other Remarks): 3.6 3.9 19.1 11.20
 Custody Seal No.: 1042321
 Closes Δ No

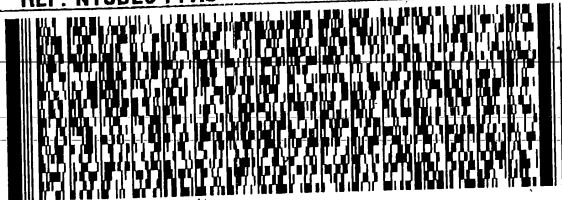
FROM: (518) 438-8140
TIM KNOLLMEYER
TESTAMERICA LAB INC
25 KRAFT AVE
ALBANY NY 12205
US

SHIP DATE: 18NOV19
ACTWT: 56.05 LB
CAD: 0439821/CAFE3211
BILL 3rd PARTY

551C1/F330/104C

TO **SAMPLE RECEIVING**
TESTAMERICA - BURLINGTON
30 COMMUNITY DRIVE, SUITE 11

BURLINGTON VT 05403 (US)
(802) 660-1990
REF: NYSDEC PFAS



FedEx
Ground



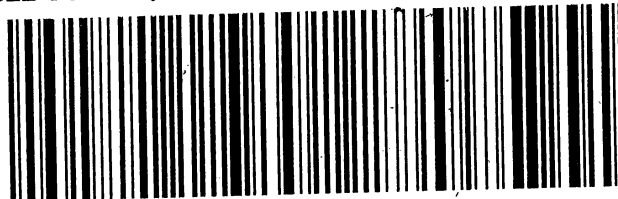
J161118060501uv

1 of 2
TRK# **1034 8839 9391**
MASTER

05403

Part # 166148-434 RIT EXP 09/19

9622 0417 3 (000 000 0000) 0 00 1034 8839 9391



Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 200-51580-1

Login Number: 51580

List Source: Eurofins TestAmerica, Burlington

List Number: 1

Creator: Mohn, Taylor J

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	NA: Lab does not accept radioactive samples
The cooler's custody seal, if present, is intact.	True	1042321
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.	True	
Cooler Temperature is recorded.	True	3.9°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers 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.	N/A	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-56368-1

Client Project/Site: Stewart ANG Base #336089 Kroll Well

For:

New York State D.E.C.
625 Broadway
12th Floor
Albany, New York 12233-7017

Attn: Mr. Dave Chiusano



Authorized for release by:
11/22/2019 3:27:03 PM

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

LINKS

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

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

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

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Judy Stone
Senior Project Manager
11/22/2019 3:27:03 PM

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Definitions/Glossary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Qualifiers

LCMS

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

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
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Job ID: 320-56368-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative 320-56368-1

Receipt

The samples were received on 11/19/2019 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

LCMS

Method WS-LC-0025 Att1: A deviation from the Standard Operating Procedure (SOP) occurred. Due to a shortage in the marketplace for 13C3-PFBS, the target analyte PFBS could not be quantitated against 13C3-PFBS (its labeled variant) as listed in the SOP. PFBS was quantitated versus 18O2-PFHxS instead. (ICV 320-337364/11)

Method WS-LC-0025 Att1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Perfluorononanoic acid (PFNA) for preparation batch 320-340493 and analytical batch 320-340441 were outside control limits. Sample matrix interferences are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Organic Prep

Method PFAS Prep: The following sample had particulates floating around in the water: Effluent (320-56368-1).

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

Detection Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: Effluent

Lab Sample ID: 320-56368-1

No Detections.

Client Sample ID: Mid Point

Lab Sample ID: 320-56368-2

No Detections.

Client Sample ID: Raw Water

Lab Sample ID: 320-56368-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	5.1		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.1		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.5		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanoic acid (PFOA)	8.6		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.6		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA

Client Sample ID: Duplicate

Lab Sample ID: 320-56368-4

No Detections.

Client Sample ID: A-25

Lab Sample ID: 320-56368-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	4.5		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.1		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanoic acid (PFOA)	7.5		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	7.2		2.0		ng/L	1		WS-LC-0025 Att1	Total/NA

Client Sample ID: A-50

Lab Sample ID: 320-56368-6

No Detections.

Client Sample ID: A-75

Lab Sample ID: 320-56368-7

No Detections.

Client Sample ID: B-25

Lab Sample ID: 320-56368-8

No Detections.

Client Sample ID: B-50

Lab Sample ID: 320-56368-9

No Detections.

Client Sample ID: B-75

Lab Sample ID: 320-56368-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: Effluent

Lab Sample ID: 320-56368-1

Date Collected: 11/15/19 14:00

Matrix: Water

Date Received: 11/19/19 08:55

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 15:06	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 15:06	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 15:06	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 15:06	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 15:06	1
Perfluorononanoic acid (PFNA)	ND	F1	2.0		ng/L		11/21/19 13:10	11/21/19 15:06	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	112		25 - 150	11/21/19 13:10	11/21/19 15:06	1
13C4 PFHpA	100		25 - 150	11/21/19 13:10	11/21/19 15:06	1
13C4 PFOA	92		70 - 130	11/21/19 13:10	11/21/19 15:06	1
13C4 PFOS	108		70 - 130	11/21/19 13:10	11/21/19 15:06	1
13C5 PFNA	89		25 - 150	11/21/19 13:10	11/21/19 15:06	1

Client Sample ID: Mid Point

Lab Sample ID: 320-56368-2

Date Collected: 11/15/19 15:00

Matrix: Water

Date Received: 11/19/19 08:55

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:01	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:01	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:01	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:01	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:01	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	110		25 - 150	11/21/19 13:10	11/21/19 16:01	1
13C4 PFHpA	103		25 - 150	11/21/19 13:10	11/21/19 16:01	1
13C4 PFOA	88		70 - 130	11/21/19 13:10	11/21/19 16:01	1
13C4 PFOS	104		70 - 130	11/21/19 13:10	11/21/19 16:01	1
13C5 PFNA	89		25 - 150	11/21/19 13:10	11/21/19 16:01	1

Client Sample ID: Raw Water

Lab Sample ID: 320-56368-3

Date Collected: 11/15/19 15:15

Matrix: Water

Date Received: 11/19/19 08:55

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	5.1		2.0		ng/L		11/21/19 13:10	11/21/19 16:20	1
Perfluorohexanesulfonic acid (PFHxS)	2.1		2.0		ng/L		11/21/19 13:10	11/21/19 16:20	1
Perfluoroheptanoic acid (PFHpA)	3.5		2.0		ng/L		11/21/19 13:10	11/21/19 16:20	1
Perfluorooctanoic acid (PFOA)	8.6		2.0		ng/L		11/21/19 13:10	11/21/19 16:20	1
Perfluorooctanesulfonic acid (PFOS)	8.6		2.0		ng/L		11/21/19 13:10	11/21/19 16:20	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	112		25 - 150	11/21/19 13:10	11/21/19 16:20	1
13C4 PFHpA	94		25 - 150	11/21/19 13:10	11/21/19 16:20	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: Raw Water

Date Collected: 11/15/19 15:15

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-3

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	87		70 - 130	11/21/19 13:10	11/21/19 16:20	1
13C4 PFOS	107		70 - 130	11/21/19 13:10	11/21/19 16:20	1
13C5 PFNA	87		25 - 150	11/21/19 13:10	11/21/19 16:20	1

Client Sample ID: Duplicate

Date Collected: 11/15/19 00:00

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-4

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:38	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:38	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:38	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:38	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	112		25 - 150	11/21/19 13:10	11/21/19 16:38	1
13C4 PFHpA	99		25 - 150	11/21/19 13:10	11/21/19 16:38	1
13C4 PFOA	93		70 - 130	11/21/19 13:10	11/21/19 16:38	1
13C4 PFOS	112		70 - 130	11/21/19 13:10	11/21/19 16:38	1
13C5 PFNA	87		25 - 150	11/21/19 13:10	11/21/19 16:38	1

Client Sample ID: A-25

Date Collected: 11/15/19 14:45

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-5

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	4.5		2.0		ng/L		11/21/19 13:10	11/21/19 16:57	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:57	1
Perfluoroheptanoic acid (PFHpA)	3.1		2.0		ng/L		11/21/19 13:10	11/21/19 16:57	1
Perfluorooctanoic acid (PFOA)	7.5		2.0		ng/L		11/21/19 13:10	11/21/19 16:57	1
Perfluorooctanesulfonic acid (PFOS)	7.2		2.0		ng/L		11/21/19 13:10	11/21/19 16:57	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 16:57	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	110		25 - 150	11/21/19 13:10	11/21/19 16:57	1
13C4 PFHpA	94		25 - 150	11/21/19 13:10	11/21/19 16:57	1
13C4 PFOA	86		70 - 130	11/21/19 13:10	11/21/19 16:57	1
13C4 PFOS	106		70 - 130	11/21/19 13:10	11/21/19 16:57	1
13C5 PFNA	85		25 - 150	11/21/19 13:10	11/21/19 16:57	1

Client Sample ID: A-50

Date Collected: 11/15/19 14:35

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-6

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:15	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: A-50

Date Collected: 11/15/19 14:35

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-6

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:15	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:15	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:15	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:15	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	108		25 - 150				11/21/19 13:10	11/21/19 17:15	1
13C4 PFHpA	96		25 - 150				11/21/19 13:10	11/21/19 17:15	1
13C4 PFOA	88		70 - 130				11/21/19 13:10	11/21/19 17:15	1
13C4 PFOS	103		70 - 130				11/21/19 13:10	11/21/19 17:15	1
13C5 PFNA	86		25 - 150				11/21/19 13:10	11/21/19 17:15	1

Client Sample ID: A-75

Date Collected: 11/15/19 14:30

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-7

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:52	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:52	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:52	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:52	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:52	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 17:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	109		25 - 150				11/21/19 13:10	11/21/19 17:52	1
13C4 PFHpA	97		25 - 150				11/21/19 13:10	11/21/19 17:52	1
13C4 PFOA	90		70 - 130				11/21/19 13:10	11/21/19 17:52	1
13C4 PFOS	103		70 - 130				11/21/19 13:10	11/21/19 17:52	1
13C5 PFNA	87		25 - 150				11/21/19 13:10	11/21/19 17:52	1

Client Sample ID: B-25

Date Collected: 11/15/19 14:20

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-8

Matrix: Water

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:11	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:11	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:11	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:11	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:11	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:11	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	113		25 - 150				11/21/19 13:10	11/21/19 18:11	1
13C4 PFHpA	102		25 - 150				11/21/19 13:10	11/21/19 18:11	1
13C4 PFOA	95		70 - 130				11/21/19 13:10	11/21/19 18:11	1
13C4 PFOS	107		70 - 130				11/21/19 13:10	11/21/19 18:11	1
13C5 PFNA	90		25 - 150				11/21/19 13:10	11/21/19 18:11	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: B-50

Lab Sample ID: 320-56368-9

Date Collected: 11/15/19 14:15

Matrix: Water

Date Received: 11/19/19 08:55

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:29	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:29	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:29	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	109		25 - 150	11/21/19 13:10	11/21/19 18:29	1
13C4 PFHpA	93		25 - 150	11/21/19 13:10	11/21/19 18:29	1
13C4 PFOA	88		70 - 130	11/21/19 13:10	11/21/19 18:29	1
13C4 PFOS	104		70 - 130	11/21/19 13:10	11/21/19 18:29	1
13C5 PFNA	83		25 - 150	11/21/19 13:10	11/21/19 18:29	1

Client Sample ID: B-75

Lab Sample ID: 320-56368-10

Date Collected: 11/15/19 14:10

Matrix: Water

Date Received: 11/19/19 08:55

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:48	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:48	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:48	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:48	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:48	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 18:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	106		25 - 150	11/21/19 13:10	11/21/19 18:48	1
13C4 PFHpA	95		25 - 150	11/21/19 13:10	11/21/19 18:48	1
13C4 PFOA	90		70 - 130	11/21/19 13:10	11/21/19 18:48	1
13C4 PFOS	107		70 - 130	11/21/19 13:10	11/21/19 18:48	1
13C5 PFNA	89		25 - 150	11/21/19 13:10	11/21/19 18:48	1

Isotope Dilution Summary

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)				
		PFHxS (25-150)	PFHpA (25-150)	PFOA (70-130)	PFOS (70-130)	PFNA (25-150)
320-56368-1	Effluent	112	100	92	108	89
320-56368-1 MS	Effluent	113	99	90	106	88
320-56368-1 MSD	Effluent	111	96	88	106	89
320-56368-2	Mid Point	110	103	88	104	89
320-56368-3	Raw Water	112	94	87	107	87
320-56368-4	Duplicate	112	99	93	112	87
320-56368-5	A-25	110	94	86	106	85
320-56368-6	A-50	108	96	88	103	86
320-56368-7	A-75	109	97	90	103	87
320-56368-8	B-25	113	102	95	107	90
320-56368-9	B-50	109	93	88	104	83
320-56368-10	B-75	106	95	90	107	89
LCS 320-340493/2-A	Lab Control Sample	114	97	96	109	91
MB 320-340493/1-A	Method Blank	108	101	90	109	87

Surrogate Legend

PFHxS = 18O2 PFHxS
 PFHpA = 13C4 PFHpA
 PFOA = 13C4 PFOA
 PFOS = 13C4 PFOS
 PFNA = 13C5 PFNA

QC Sample Results

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-340493/1-A
Matrix: Water
Analysis Batch: 340441

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 340493

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanesulfonic acid (PFBS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 14:29	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 14:29	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 14:29	1
Perfluorooctanoic acid (PFOA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 14:29	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 14:29	1
Perfluorononanoic acid (PFNA)	ND		2.0		ng/L		11/21/19 13:10	11/21/19 14:29	1

Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
18O2 PFHxS	108		25 - 150	11/21/19 13:10	11/21/19 14:29	1
13C4 PFHpA	101		25 - 150	11/21/19 13:10	11/21/19 14:29	1
13C4 PFOA	90		70 - 130	11/21/19 13:10	11/21/19 14:29	1
13C4 PFOS	109		70 - 130	11/21/19 13:10	11/21/19 14:29	1
13C5 PFNA	87		25 - 150	11/21/19 13:10	11/21/19 14:29	1

Lab Sample ID: LCS 320-340493/2-A
Matrix: Water
Analysis Batch: 340441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 340493

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorohexanesulfonic acid (PFHxS)	18.2	14.1		ng/L		77	73 - 157
Perfluoroheptanoic acid (PFHpA)	20.0	16.9		ng/L		85	71 - 138
Perfluorooctanoic acid (PFOA)	20.0	17.5		ng/L		88	70 - 130
Perfluorooctanesulfonic acid (PFOS)	18.6	15.0		ng/L		81	70 - 130
Perfluorononanoic acid (PFNA)	20.0	17.6		ng/L		88	73 - 147

Isotope Dilution	LCS	LCS	Limits
	%Recovery	Qualifier	
18O2 PFHxS	114		25 - 150
13C4 PFHpA	97		25 - 150
13C4 PFOA	96		70 - 130
13C4 PFOS	109		70 - 130
13C5 PFNA	91		25 - 150

Lab Sample ID: 320-56368-1 MS
Matrix: Water
Analysis Batch: 340441

Client Sample ID: Effluent
Prep Type: Total/NA
Prep Batch: 340493

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
Perfluorobutanesulfonic acid (PFBS)	ND		16.1	13.1		ng/L		81	72 - 151
Perfluorohexanesulfonic acid (PFHxS)	ND		16.5	14.0		ng/L		84	73 - 157
Perfluoroheptanoic acid (PFHpA)	ND		18.2	15.2		ng/L		84	71 - 138
Perfluorooctanoic acid (PFOA)	ND		18.2	14.2		ng/L		78	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		16.9	12.0		ng/L		71	70 - 130
Perfluorononanoic acid (PFNA)	ND	F1	18.2	11.7	F1	ng/L		65	73 - 147

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

<i>Isotope Dilution</i>	<i>MS MS</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
18O2 PFHxS	113		25 - 150
13C4 PFHpA	99		25 - 150
13C4 PFOA	90		70 - 130
13C4 PFOS	106		70 - 130
13C5 PFNA	88		25 - 150

Lab Sample ID: 320-56368-1 MSD
Matrix: Water
Analysis Batch: 340441

Client Sample ID: Effluent
Prep Type: Total/NA
Prep Batch: 340493

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i>	<i>RPD</i>	<i>RPD Limit</i>
									<i>Limits</i>	<i>RPD</i>	<i>Limit</i>
Perfluorobutanesulfonic acid (PFBS)	ND		16.0	13.9		ng/L		87	72 - 151	6	30
Perfluorohexanesulfonic acid (PFHxS)	ND		16.5	14.9		ng/L		90	73 - 157	7	30
Perfluoroheptanoic acid (PFHpA)	ND		18.1	16.3		ng/L		90	71 - 138	6	30
Perfluorooctanoic acid (PFOA)	ND		18.1	14.5		ng/L		80	70 - 130	3	20
Perfluorooctanesulfonic acid (PFOS)	ND		16.8	14.4		ng/L		86	70 - 130	18	20
Perfluorononanoic acid (PFNA)	ND	F1	18.1	11.8	F1	ng/L		65	73 - 147	1	30

<i>Isotope Dilution</i>	<i>MSD MSD</i>		<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
18O2 PFHxS	111		25 - 150
13C4 PFHpA	96		25 - 150
13C4 PFOA	88		70 - 130
13C4 PFOS	106		70 - 130
13C5 PFNA	89		25 - 150

QC Association Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

LCMS

Analysis Batch: 340441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56368-1	Effluent	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-2	Mid Point	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-3	Raw Water	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-4	Duplicate	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-5	A-25	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-6	A-50	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-7	A-75	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-8	B-25	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-9	B-50	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-10	B-75	Total/NA	Water	WS-LC-0025 Att1	340493
MB 320-340493/1-A	Method Blank	Total/NA	Water	WS-LC-0025 Att1	340493
LCS 320-340493/2-A	Lab Control Sample	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-1 MS	Effluent	Total/NA	Water	WS-LC-0025 Att1	340493
320-56368-1 MSD	Effluent	Total/NA	Water	WS-LC-0025 Att1	340493

Prep Batch: 340493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-56368-1	Effluent	Total/NA	Water	PFAS Prep	
320-56368-2	Mid Point	Total/NA	Water	PFAS Prep	
320-56368-3	Raw Water	Total/NA	Water	PFAS Prep	
320-56368-4	Duplicate	Total/NA	Water	PFAS Prep	
320-56368-5	A-25	Total/NA	Water	PFAS Prep	
320-56368-6	A-50	Total/NA	Water	PFAS Prep	
320-56368-7	A-75	Total/NA	Water	PFAS Prep	
320-56368-8	B-25	Total/NA	Water	PFAS Prep	
320-56368-9	B-50	Total/NA	Water	PFAS Prep	
320-56368-10	B-75	Total/NA	Water	PFAS Prep	
MB 320-340493/1-A	Method Blank	Total/NA	Water	PFAS Prep	
LCS 320-340493/2-A	Lab Control Sample	Total/NA	Water	PFAS Prep	
320-56368-1 MS	Effluent	Total/NA	Water	PFAS Prep	
320-56368-1 MSD	Effluent	Total/NA	Water	PFAS Prep	

Lab Chronicle

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: Effluent

Date Collected: 11/15/19 14:00

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 15:06	D1R	TAL SAC

Client Sample ID: Mid Point

Date Collected: 11/15/19 15:00

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 16:01	D1R	TAL SAC

Client Sample ID: Raw Water

Date Collected: 11/15/19 15:15

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 16:20	D1R	TAL SAC

Client Sample ID: Duplicate

Date Collected: 11/15/19 00:00

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 16:38	D1R	TAL SAC

Client Sample ID: A-25

Date Collected: 11/15/19 14:45

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 16:57	D1R	TAL SAC

Client Sample ID: A-50

Date Collected: 11/15/19 14:35

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 17:15	D1R	TAL SAC

Lab Chronicle

Client: New York State D.E.C.
 Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Client Sample ID: A-75

Date Collected: 11/15/19 14:30

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 17:52	D1R	TAL SAC

Client Sample ID: B-25

Date Collected: 11/15/19 14:20

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 18:11	D1R	TAL SAC

Client Sample ID: B-50

Date Collected: 11/15/19 14:15

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 18:29	D1R	TAL SAC

Client Sample ID: B-75

Date Collected: 11/15/19 14:10

Date Received: 11/19/19 08:55

Lab Sample ID: 320-56368-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1.00 mL	1.66 mL	340493	11/21/19 13:10	MTN	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1			340441	11/21/19 18:48	D1R	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	11666	04-01-20

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
WS-LC-0025 Att1	PFAS Prep	Water	Perfluorobutanesulfonic acid (PFBS)
WS-LC-0025 Att1	PFAS Prep	Water	Perfluoroheptanoic acid (PFHpA)
WS-LC-0025 Att1	PFAS Prep	Water	Perfluorohexanesulfonic acid (PFHxS)
WS-LC-0025 Att1	PFAS Prep	Water	Perfluorononanoic acid (PFNA)

Laboratory: Eurofins TestAmerica, Buffalo

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

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

Method Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Method	Method Description	Protocol	Laboratory
WS-LC-0025 Att1	Fluorinated Alkyl Substances	TAL-SAC	TAL SAC
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	TAL SAC

Protocol References:

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: New York State D.E.C.
Project/Site: Stewart ANG Base #336089 Kroll Well

Job ID: 320-56368-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-56368-1	Effluent	Water	11/15/19 14:00	11/19/19 08:55	
320-56368-2	Mid Point	Water	11/15/19 15:00	11/19/19 08:55	
320-56368-3	Raw Water	Water	11/15/19 15:15	11/19/19 08:55	
320-56368-4	Duplicate	Water	11/15/19 00:00	11/19/19 08:55	
320-56368-5	A-25	Water	11/15/19 14:45	11/19/19 08:55	
320-56368-6	A-50	Water	11/15/19 14:35	11/19/19 08:55	
320-56368-7	A-75	Water	11/15/19 14:30	11/19/19 08:55	
320-56368-8	B-25	Water	11/15/19 14:20	11/19/19 08:55	
320-56368-9	B-50	Water	11/15/19 14:15	11/19/19 08:55	
320-56368-10	B-75	Water	11/15/19 14:10	11/19/19 08:55	

Chain of Custody Record

#224



EUROFINS TESTAMERICA, SACRAMENTO
 880 Riverside Parkway
 West Sacramento, CA 95605
 Phone: 916-373-5600 Fax: 916-372-1059

Client Information
 Client Contact: Stephen Phelps
 Company: Precision Environmental Services Inc.
 Address: 831 State Route 67 Ste 38
 City: Ballston Spa
 State, Zip: NY, 12020
 Phone: 518-402-9813(Tel)
 Email: splphelps@pesnyinc.com
 Project Name: Stewart ANG Base #336089 Kroll Well
 Site:

Sampler: Steve Hawk Dudley
Lab PM: Stone, Judy L
Phone: 855-4399
E-Mail: judy.stone@testamericainc.com

Carrier Tracking No(s): 480-138068-31042.1
Page: Page 1 of 2
Job #: 1

Analysis Requested
 Due Date Requested:
 TAT Requested (days): 30 days FFAS / 10 Day TAT
 TAT UCMR / FFAS 21 List
 PO #: 518-402-9813(Tel)
 Callout ID: 137132
 WO #:
 Project #: 48020467
 S5OW#:

Preservation Codes:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2SO4
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 L - EDTA
 Z - other (specify)
 Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastefoil, BT=TISSUE ANALY)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFAS, DL, DW - PFAS, UCMR List - Sacramento	Special Instructions/Note:
Effluent	11-15-19	2:00	G	Water	X	X	X	
Mid Point		3:00		Water				
Raw Water		3:15		Water				
Duplicate				Water				
A-25		2:45		Water				
A-50		3:35		Water				
A-75		2:30		Water				
B-25		2:20		Water				
B-50		2:15		Water				
B-75		2:10		Water				
MS		2:00		Water				

Possible Hazard Identification
 Non-Hazard
 Flammable
 Skin Irritant
 Poison B
 Unknown
 Radiological
 Deliverable Requested: I, II, III, IV Other (specify):
 CAT 6 Delivered by:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client
 Disposal By Lab
 Special Instructions/QC Requirements:
 Empty Kit Relinquished by:
 Relinquished by: *Jim Krollmeyer*
 Date: 11-18-19
 Company: Eurofins

Relinquished by: *Jim Krollmeyer*
 Date: 11-18-19
 Company: Eurofins
Received by: *Tim Krollmeyer*
 Date: 11-18-19
 Company: Eurofins
Received by: *[Signature]*
 Date: 11/19/19
 Company: eta sac

Cooler Temperature(s) °C and Other Remarks:
 Cooler Temperature(s): 1.4
 Custody Seal No.:
 Δ Yes Δ No



Client Information Client Contact: Stephen Phelps Company: Precision Environmental Services Inc. Address: 831 State Route 67 Site 38 City: Balliston Spa State, Zip: NY, 12020 Phone: 518-402-9813(Tel) Email: sphelps@pesnyinc.com Project Name: Stewart ANG Base #336089 Kroll Well Site:		Lab PM: Stone, Judy L E-Mail: judy.stone@testamericainc.com Carrier Tracking No(s): COC No: 480-138068-31042.2 Page: Page 2 of 2 Job #: 1	
Due Date Requested: TAT Requested (days): 30 Day TAT / 10 Day TAT PFA's w/MSR / PFA's 21 Day TAT		Analysis Requested PFAS, DL, DW, PFA's, UCMR List - Sacramento Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Total Number of Containers: 4	
Sample Identification MSD		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 Z - other (Specify)	
Sample Date: 11-15-19 Sample Time: 2:00 Sample Type (C=Comp, G=grab): G Matrix (w=water, s=solid, o=organic, a=air): Water		Special Instructions/Note: 11-18-19 PFA's, 21 Day TAT	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify) CAT B Delivery: bla			
Empty Kit Relinquished by: [Signature] Relinquished by: [Signature] Date: 11-15-19 18:00 Date/Time: 11-18-19 17:00 Company: Eurofins TA Company: Eurofins TA			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks: 1.4			



Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 320-56368-1

Login Number: 56368

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Thompson, Sarah W

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	1126913
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.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers 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	
Sample Preservation Verified	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

