



January 30, 2020

Mr. Michael Schmoller  
Wisconsin Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg, WI 53711-5397

**Re: Disposal actions regarding the 9,000 gallons of treated pfas waters from the ATC transformer fire.**

Dear Mr. Schmoller:

North Shore Environmental Construction, Inc. (NSEC) is submitting this response to the departments email dated January 17, 2020 regarding the disposal of the final 9,000 gallons of water from the ATC transformer fire.

Water from the initial incident was stored in FRAC tanks and staged on site. AECOM was the oversight consultant on the project and was responsible for securing the discharge permit with the WDNR. AECOM and NSEC worked with Evoqua to develop a treatment system for the water based on the analytical collected from the stored water in the FRAC tanks.

The system design and information was furnished to AECOM who included it in the discharge permit issued by the department. The system involved 1 Zeolite unit and three separate activated carbon units as well as a four baghouse filter and an oil water separator with coalescing packs. A fourth carbon unit was added when the DRO results were indicating an increase. The water that went to Port Washington WWTP was additionally processed through this carbon unit. AECOM was responsible for all sampling events per the project. NSEC was responsible for operating the system.

10/8/2019

The system is installed on site and a test run of 7,000 gallons is put through the system for operating observation, permit compliance and general operating worthiness. The water was stored in a FRAC tank and AECOM performed analysis on the water for pfas to ensure the system was working. That analytical was supplied as part of the permit application by AECOM and is attached to this summary.

10/22/2019 through 10/29/2019

The system began operation under the observation of the WDNR, ATC, AECOM and MG&E. AECOM performed daily DRO sampling from the different outlets of the system as well as final discharge ports. On 10/25/2019 a sample for pfas was taken from the system per the permit application. The analytical results are attached to this letter.

An email from AECOM is attached showing the DRO results and explaining that on 10/25/2019 the Zeolite is starting to show signs of decreasing efficiency. However, the discharge levels at GAC 2 and GAC 3 showed some elevated levels but appeared to be within tolerance. On 10/26/2019 an additional carbon unit was placed in-line to hedge against a potential breakthrough.

Results from 10/26/2019 indicated that the additional GAC unit was effective in lowering the DRO concentrations. However, by 10/29/2019 the DRO was starting to elevate. This was caused by the fact that the waters being treated were from the bottom of the FRAC tanks where there was a collection of emulsified oils and sediment from the settling actions in the FRAC tank.

10/29/2019

Discharging to Lake Monona ceased, this was a conservative decision as to allow hydrocarbon discharge. At this point there was discussion on changing the carbon and treating the remaining 9,000 gallons. However, though the levels were elevating there was a comfort level that the system contained enough capacity to treat the remaining 9,000 gallons but as mentioned above a precautionary decision was made to not discharge on site. Also, OSI who had previously excepted the oil from this incident did not want this material as it was water with no visible oil.

10/30/2019

The treating of the last 9,000 of water was performed and stored in a frac tank. The solids, sludge and sediment remaining in the FRAC tanks were solidified and disposed at US Ecology.

The WDNR permit required testing for the following pfas compounds on a weekly basis as a grab sample. The sample results for the initial test from the water in the frac tanks and submitted with the permit application are summarized below.

Parameter	Limit	Units	Inlet	Bag 2	Zeolite	GAC 1	GAC 2	Discharge
PFOA	-	ng/l	37.8	36.2	9.16	-	-	-
PFOS	-	ng/l	6.15	4.94	8.34	.429	.52	.553
PFHxA	-	ng/l	91.9	95.1	29.7	-	-	-
PFPeA	-	ng/l	37.2	32.3	15.3	-	-	-
6:2 FTS	-	ng/l	1050	750	86.3	2.62	-	-
10:2 FTS	-	ng/l	-	-	-	-	-	-

Below is a summary of the discharge grab sample obtained during the weekly sampling events.

Parameter	Limit	Units	Inlet	Bag 2	Zeolite	GAC 1	GAC 2	Discharge
PFOA	-	ng/l	18.4	16.9	9.89	-	.543	1.02
PFOS	-	ng/l	11.8	12.4	5.64	.817	1.03	2.38
PFHxA	-	ng/l	183	173	114	-	-	-
PFPeA	-	ng/l	158	155	164	-	-	-
6:2 FTS	-	ng/l	-	3800	1320	-	1.66	1.95
10:2 FTS	-	ng/l	-	-	-	-	-	-

The fourth carbon as mentioned above was added after this sampling event without having the results in hand. This was done as a precaution due to the increased DRO indications.

The confidence was high that the treated waters after the fourth carbon unit was added would keep pfas levels to a minimal impact.

The DRO and pfas results were submitted to Port Washington WWTP for approval and the correspondence emails are also attached.

If you have any questions or need additional information, please contact me at (262) 255-4468.

Sincerely,  
North Shore Environmental Construction, Inc.



David Johnson  
Vice President of Operations

Initial  
Treatment  
for permit



October 17, 2019

**Vista Work Order No. 1903574**

Mr. Dave Henderson  
AECOM  
1555 N. River Center Drive  
Milwaukee, WI 53212

Dear Mr. Henderson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 10, 2019 under your Project Name 'ATC - Madison'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [mmaier@vista-analytical.com](mailto:mmaier@vista-analytical.com).

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Maier".

Martha Maier  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.*

## Vista Work Order No. 1903574

### Case Narrative

#### Sample Condition on Receipt:

Seven aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. Sample "Field Blank" was not listed on the CoC. The sample collection date and time were not recorded on the sample labels.

#### Analytical Notes:

##### PFAS Isotope Dilution Method

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA, and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

##### Holding Times

The samples were extracted and analyzed within the method hold times.

##### Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The internal standard recoveries outside the acceptance criteria are listed in the table below.

#### QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1903574-01	Inlet	PFAS Isotope Dilution Method	13C3-PFBA	H	56.8
1903574-01	Inlet	PFAS Isotope Dilution Method	13C3-PFBS	H	188
1903574-01	Inlet	PFAS Isotope Dilution Method	13C2-4:2 FTS	H	195
1903574-01	Inlet	PFAS Isotope Dilution Method	13C3-PFHxS	H	133
1903574-02	Bag 2	PFAS Isotope Dilution Method	13C2-8:2 FTS	H	33.5
1903574-02	Bag 2	PFAS Isotope Dilution Method	13C2-PFDoA	H	150
1903574-05	GAC 2	PFAS Isotope Dilution Method	d5-EtFOSA	H	9.50
1903574-06	Discharge	PFAS Isotope Dilution Method	d3-MeFOSA	H	9.90
1903574-06	Discharge	PFAS Isotope Dilution Method	d5-EtFOSA	H	9.90
1903574-07	Field Blank	PFAS Isotope Dilution Method	d3-MeFOSA	H	9.50
1903574-07	Field Blank	PFAS Isotope Dilution Method	d5-EtFOSA	H	9.30

H = Recovery was outside laboratory acceptance criteria.

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# Sample Inventory Report

<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
1903574-01	Inlet	08-Oct-19 13:49	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903574-02	Bag 2	08-Oct-19 13:51	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903574-03	ZEO	08-Oct-19 13:53	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903574-04	GAC 1	08-Oct-19 13:55	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903574-05	GAC 2	08-Oct-19 13:58	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903574-06	Discharge	08-Oct-19 14:00	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903574-07	Field Blank	08-Oct-19 00:00	10-Oct-19 10:00	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

## **ANALYTICAL RESULTS**



Sample ID: Method Blank				PFAS Isotope Dilution Method						
Client Data				Laboratory Data						
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	B9J0058-BLK1	Column:	BEH C18			
Project:	ATC - Madison									
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.365	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFPeA	2706-90-3	ND	0.640	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFBS	375-73-5	ND	0.895	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
4:2 FTS	757124-72-4	ND	0.695	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFHxA	307-24-4	ND	1.09	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFPeS	2706-91-4	ND	1.21	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
HFPO-DA	13252-13-6	ND	2.41	2.50		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFHpA	375-85-9	ND	0.296	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
ADONA	919005-14-4	ND	0.361	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFHxS	355-46-4	ND	0.474	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
6:2 FTS	27619-97-2	ND	1.00	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFOA	335-67-1	ND	0.326	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFHpS	375-92-8	ND	0.469	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFNA	375-95-1	ND	0.405	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFOSA	754-91-6	ND	0.885	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFOS	1763-23-1	0.644	0.404	2.00	J, Q	B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
9Cl-PF3ONS	756426-58-1	ND	0.725	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFDA	335-76-2	ND	0.745	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
8:2 FTS	39108-34-4	ND	1.03	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFNS	68259-12-1	ND	1.94	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
MeFOSAA	2355-31-9	ND	0.825	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
EtFOSAA	2991-50-6	ND	0.685	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFUnA	2058-94-8	ND	0.525	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFDS	335-77-3	ND	0.615	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
11Cl-PF3OUdS	763051-92-9	ND	1.21	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
10:2 FTS	120226-60-0	ND	1.57	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFDoA	307-55-1	ND	0.396	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
MeFOSA	31506-32-8	ND	1.92	10.0		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFTeDA	72629-94-8	ND	0.247	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFDoS	79780-39-5	ND	2.09	2.50		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFTeDA	376-06-7	ND	0.378	2.00		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
EtFOSA	4151-50-2	ND	2.56	10.0		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFHxDA	67905-19-5	0.197	0.147	2.00	J	B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
PFODA	16517-11-6	ND	3.07	3.50		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
MeFOSE	24448-09-7	ND	3.04	10.0		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
EtFOSE	1691-99-2	ND	4.72	10.0		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	94.6	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1	

**Sample ID: Method Blank**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	B9J0058-BLK1	Column:	BEH C18
Project:	ATC - Madison						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.6	60 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C3-PFBS	IS	87.2	60 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C3-HFPO-DA	IS	98.1	60 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-4:2 FTS	IS	92.7	20 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFHxA	IS	91.4	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C4-PFHpA	IS	101	60 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C3-PFHxS	IS	86.2	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-6:2 FTS	IS	97.7	40 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C5-PFNA	IS	89.0	50 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C8-PFOA	IS	44.6	20 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFOA	IS	92.2	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C8-PFOS	IS	90.4	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFDA	IS	94.0	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-8:2 FTS	IS	93.4	40 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
d3-MeFOSAA	IS	79.0	50 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFUnA	IS	92.2	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
d5-EtFOSAA	IS	80.6	50 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFDoA	IS	91.8	30 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
d3-MeFOA	IS	13.2	10 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFTeDA	IS	75.6	20 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
d5-EtFOA	IS	10.5	10 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
13C2-PFHxDA	IS	71.2	20 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
d7-MeFOSE	IS	32.0	10 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1
d9-EtFOSE	IS	28.4	10 - 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:25	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

**Sample ID: OPR**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	B9J0058-BS1	Column:	BEH C18
Project:	ATC - Madison						

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	42.7	40.0	107	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFPeA	2706-90-3	42.4	40.0	106	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFBS	375-73-5	40.8	40.0	102	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
4:2 FTS	757124-72-4	43.3	40.0	108	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFHxA	307-24-4	43.8	40.0	109	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFPeS	2706-91-4	49.2	40.0	123	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
HFPO-DA	13252-13-6	36.6	40.0	91.4	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFHpA	375-85-9	43.7	40.0	109	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
ADONA	919005-14-4	39.4	40.0	98.6	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFHxS	355-46-4	41.9	40.0	105	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
6:2 FTS	27619-97-2	47.2	40.0	118	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFOA	335-67-1	45.0	40.0	113	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFHpS	375-92-8	44.8	40.0	112	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFNA	375-95-1	46.0	40.0	115	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFOSA	754-91-6	44.8	40.0	112	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFOS	1763-23-1	41.5	40.0	104	70 - 130	B	B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
9Cl-PF3ONS	756426-58-1	40.9	40.0	102	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFDA	335-76-2	42.1	40.0	105	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
8:2 FTS	39108-34-4	46.2	40.0	116	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFNS	68259-12-1	45.1	40.0	113	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
MeFOSAA	2355-31-9	47.1	40.0	118	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
EtFOSAA	2991-50-6	46.2	40.0	116	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFUnA	2058-94-8	47.7	40.0	119	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFDS	335-77-3	39.4	40.0	98.4	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
11Cl-PF3OUdS	763051-92-9	40.9	40.0	102	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
10:2 FTS	120226-60-0	45.3	40.0	113	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFDoA	307-55-1	41.6	40.0	104	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
MeFOSA	31506-32-8	153	200	76.3	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFTtDA	72629-94-8	38.7	40.0	96.7	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFDoS	79780-39-5	46.3	40.0	116	60 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFTeDA	376-06-7	48.3	40.0	121	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
EtFOSA	4151-50-2	216	200	108	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFHxDA	67905-19-5	46.3	40.0	116	70 - 130	B	B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
PFODA	16517-11-6	22.3	40.0	55.8	40 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1

**Sample ID: OPR**
**PFAS Isotope Dilution Method**

Client Data					Laboratory Data						
Name:	AECOM	Matrix:	Aqueous		Lab Sample:	B9J0058-BS1	Column:	BEH C18			
Project:	ATC - Madison										
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	193	200	96.4	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
EtFOSE	1691-99-2	235	200	117	70 - 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
Labeled Standards		Type	% Rec		Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS	101		60- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C3-PFPeA		IS	96.4		60- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C3-PFBS		IS	101		60- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C3-HFPO-DA		IS	82.6		60- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-4:2 FTS		IS	98.5		20- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFHxA		IS	94.7		70- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C4-PFHpA		IS	105		60- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C3-PFHxS		IS	88.8		60- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-6:2 FTS		IS	77.0		40- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C5-PFNA		IS	95.4		50- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C8-PFOA		IS	52.6		20- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFOA		IS	94.4		60- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C8-PFOS		IS	92.4		60- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFDA		IS	96.1		60- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-8:2 FTS		IS	93.2		40- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
d3-MeFOSAA		IS	84.1		50- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFUnA		IS	91.1		60- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
d5-EtFOSAA		IS	82.3		50- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFDoA		IS	88.8		30- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
d3-MeFOSA		IS	13.4		10- 130		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFTeDA		IS	76.5		20- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
d5-EtFOSA		IS	11.0		10- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
13C2-PFHxDA		IS	79.1		20- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
d7-MeFOSE		IS	38.3		10- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1
d9-EtFOSE		IS	33.9		10- 150		B9J0058	11-Oct-19	0.250 L	16-Oct-19 16:35	1

Sample ID: Inlet				PFAS Isotope Dilution Method						
Client Data				Laboratory Data						
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-01	Column:	BEH C18			
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:49	Date Received:	10-Oct-19 10:00					
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	52.1	0.377	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFPeA	2706-90-3	37.2	0.662	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFBS	375-73-5	1.88	0.926	2.07	J	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
4:2 FTS	757124-72-4	ND	0.719	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFHxA	307-24-4	91.9	1.13	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFPeS	2706-91-4	ND	1.25	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
HFPO-DA	13252-13-6	ND	2.49	2.59		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFHpA	375-85-9	9.48	0.306	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
ADONA	919005-14-4	ND	0.374	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFHxS	355-46-4	2.93	0.490	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
6:2 FTS	27619-97-2	1050	5.17	10.3	D	B9J0058	11-Oct-19	0.242 L	17-Oct-19 13:48	5
PFOA	335-67-1	37.8	0.337	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFHpS	375-92-8	ND	0.485	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFNA	375-95-1	1.67	0.419	2.07	J	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFOSA	754-91-6	9.22	0.916	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFOS	1763-23-1	6.15	0.418	2.07	B, Q	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
9Cl-PF3ONS	756426-58-1	ND	0.750	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFDA	335-76-2	0.909	0.771	2.07	J, Q	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
8:2 FTS	39108-34-4	17.2	1.07	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFNS	68259-12-1	ND	2.00	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
MeFOSAA	2355-31-9	ND	0.854	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
EtFOSAA	2991-50-6	ND	0.709	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFUnA	2058-94-8	ND	0.543	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFDS	335-77-3	ND	0.636	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
11Cl-PF3OUdS	763051-92-9	ND	1.25	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
10:2 FTS	120226-60-0	ND	1.62	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFDoA	307-55-1	ND	0.410	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
MeFOSA	31506-32-8	ND	1.98	10.3		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFTtDA	72629-94-8	ND	0.256	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFDoS	79780-39-5	ND	2.16	2.59		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFTeDA	376-06-7	ND	0.391	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
EtFOSA	4151-50-2	ND	2.64	10.3		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFHxDA	67905-19-5	ND	0.152	2.07		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
PFODA	16517-11-6	ND	3.18	3.62		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
MeFOSE	24448-09-7	ND	3.14	10.3		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
EtFOSE	1691-99-2	ND	4.88	10.3		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	56.8	60 - 130	H	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1	

Sample ID: Inlet

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-01	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:49	Date Received:	10-Oct-19 10:00		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.4	60 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C3-PFBS	IS	188	60 - 150	H	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C3-HFPO-DA	IS	92.4	60 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-4:2 FTS	IS	195	20 - 150	H	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFHxA	IS	95.3	70 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C4-PFHpA	IS	100	60 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C3-PFHxS	IS	133	60 - 130	H	B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-6:2 FTS	IS	66.5	40 - 150	D	B9J0058	11-Oct-19	0.242 L	17-Oct-19 13:48	5
13C5-PFNA	IS	89.1	50 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C8-PFOA	IS	50.8	20 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFOA	IS	96.4	60 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C8-PFOS	IS	82.1	60 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFDA	IS	87.9	60 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-8:2 FTS	IS	45.8	40 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
d3-MeFOSAA	IS	57.0	50 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFUnA	IS	86.6	60 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
d5-EtFOSAA	IS	79.8	50 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFDoA	IS	97.0	30 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
d3-MeFOSA	IS	16.0	10 - 130		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFTeDA	IS	77.5	20 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
d5-EtFOSA	IS	15.8	10 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
13C2-PFHxDA	IS	72.6	20 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
d7-MeFOSE	IS	58.8	10 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1
d9-EtFOSE	IS	57.9	10 - 150		B9J0058	11-Oct-19	0.242 L	16-Oct-19 17:07	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

**Sample ID: Bag 2**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-02	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:51	Date Received:	10-Oct-19 10:00		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	61.6	0.378	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFPeA	2706-90-3	32.3	0.664	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFBS	375-73-5	1.52	0.929	2.08	J	B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
4:2 FTS	757124-72-4	ND	0.721	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFHxA	307-24-4	95.1	1.13	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFPeS	2706-91-4	ND	1.26	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
HFPO-DA	13252-13-6	ND	2.50	2.59		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFHpA	375-85-9	8.86	0.307	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
ADONA	919005-14-4	ND	0.375	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFHxS	355-46-4	9.26	0.491	2.08	Q	B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
6:2 FTS	27619-97-2	750	1.04	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFOA	335-67-1	36.2	0.338	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFHpS	375-92-8	ND	0.486	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFNA	375-95-1	1.91	0.420	2.08	J	B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFOSA	754-91-6	7.34	0.918	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFOS	1763-23-1	4.94	0.419	2.08	B	B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
9Cl-PF3ONS	756426-58-1	ND	0.752	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFDA	335-76-2	ND	0.773	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
8:2 FTS	39108-34-4	17.5	1.07	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFNS	68259-12-1	ND	2.01	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
MeFOSAA	2355-31-9	ND	0.856	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
EtFOSAA	2991-50-6	ND	0.711	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFUnA	2058-94-8	ND	0.545	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFDS	335-77-3	ND	0.638	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
11Cl-PF3OUdS	763051-92-9	ND	1.25	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
10:2 FTS	120226-60-0	ND	1.62	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFDoA	307-55-1	ND	0.411	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
MeFOSA	31506-32-8	ND	1.99	10.4		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFTtDA	72629-94-8	ND	0.256	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFDoS	79780-39-5	ND	2.16	2.59		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFTeDA	376-06-7	ND	0.392	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
EtFOSA	4151-50-2	ND	2.65	10.4		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFHxDA	67905-19-5	ND	0.153	2.08		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
PFODA	16517-11-6	ND	3.19	3.63		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
MeFOSE	24448-09-7	ND	3.15	10.4		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
EtFOSE	1691-99-2	ND	4.90	10.4		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	65.6	60 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1

Sample ID: Bag 2

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-02	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:51	Date Received:	10-Oct-19 10:00		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	106	60 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C3-PFBS	IS	148	60 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C3-HFPO-DA	IS	136	60 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-4:2 FTS	IS	147	20 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFHxA	IS	97.2	70 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C4-PFHpA	IS	116	60 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C3-PFHxS	IS	99.5	60 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-6:2 FTS	IS	79.5	40 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C5-PFNA	IS	97.9	50 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C8-PFOA	IS	39.1	20 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFOA	IS	107	60 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C8-PFOS	IS	97.0	60 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFDA	IS	102	60 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-8:2 FTS	IS	33.5	40 - 150	H	B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
d3-MeFOSAA	IS	89.4	50 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFUnA	IS	88.1	60 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
d5-EtFOSAA	IS	98.4	50 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFDoA	IS	150	30 - 130	H	B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
d3-MeFOSA	IS	22.4	10 - 130		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFTeDA	IS	81.8	20 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
d5-EtFOSA	IS	27.1	10 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
13C2-PFHxDA	IS	67.3	20 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
d7-MeFOSE	IS	65.2	10 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1
d9-EtFOSE	IS	68.5	10 - 150		B9J0058	11-Oct-19	0.241 L	17-Oct-19 13:37	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.



Sample ID: ZEO

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-03	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:53	Date Received:	10-Oct-19 10:00		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	44.6	0.385	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFPeA	2706-90-3	15.3	0.676	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFBS	375-73-5	ND	0.946	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
4:2 FTS	757124-72-4	ND	0.734	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFHxA	307-24-4	29.7	1.15	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFPeS	2706-91-4	ND	1.28	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
HFPO-DA	13252-13-6	ND	2.55	2.64		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFHpA	375-85-9	1.31	0.312	2.11	J	B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
ADONA	919005-14-4	ND	0.381	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFHxS	355-46-4	ND	0.500	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
6:2 FTS	27619-97-2	86.3	1.06	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFOA	335-67-1	9.16	0.344	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFHpS	375-92-8	ND	0.495	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFNA	375-95-1	ND	0.428	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFOSA	754-91-6	72.6	0.935	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFOS	1763-23-1	8.34	0.426	2.11	B	B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
9Cl-PF3ONS	756426-58-1	ND	0.766	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFDA	335-76-2	ND	0.787	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
8:2 FTS	39108-34-4	ND	1.09	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFNS	68259-12-1	ND	2.04	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
MeFOSAA	2355-31-9	ND	0.872	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
EtFOSAA	2991-50-6	ND	0.724	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFUnA	2058-94-8	ND	0.555	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFDS	335-77-3	ND	0.650	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
11Cl-PF3OUdS	763051-92-9	ND	1.27	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
10:2 FTS	120226-60-0	ND	1.65	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFDoA	307-55-1	ND	0.418	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
MeFOSA	31506-32-8	ND	2.02	10.6		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFTtDA	72629-94-8	ND	0.261	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFDoS	79780-39-5	ND	2.20	2.64		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFTeDA	376-06-7	ND	0.399	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
EtFOSA	4151-50-2	ND	2.70	10.6		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFHxDA	67905-19-5	ND	0.155	2.11		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
PFODA	16517-11-6	ND	3.24	3.70		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
MeFOSE	24448-09-7	ND	3.21	10.6		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
EtFOSE	1691-99-2	ND	4.99	10.6		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	70.4	60 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1

**Sample ID: ZEO**

**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-03	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:53	Date Received:	10-Oct-19 10:00		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.3	60 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C3-PFBS	IS	104	60 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C3-HFPO-DA	IS	91.0	60 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-4:2 FTS	IS	104	20 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFHxA	IS	90.4	70 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C4-PFHpA	IS	99.3	60 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C3-PFHxS	IS	79.1	60 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-6:2 FTS	IS	135	40 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C5-PFNA	IS	82.8	50 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C8-PFOA	IS	54.6	20 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFOA	IS	87.7	60 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C8-PFOS	IS	79.9	60 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFDA	IS	77.4	60 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-8:2 FTS	IS	67.4	40 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
d3-MeFOSAA	IS	99.7	50 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFUnA	IS	79.1	60 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
d5-EtFOSAA	IS	89.3	50 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFDoA	IS	52.1	30 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
d3-MeFOSA	IS	18.6	10 - 130		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFTeDA	IS	29.2	20 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
d5-EtFOSA	IS	15.9	10 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
13C2-PFHxDA	IS	22.6	20 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
d7-MeFOSE	IS	51.9	10 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1
d9-EtFOSE	IS	56.8	10 - 150		B9J0058	11-Oct-19	0.237 L	16-Oct-19 18:00	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

**Sample ID: GAC 1**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-04	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:55	Date Received:	10-Oct-19 10:00		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.387	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFPeA	2706-90-3	ND	0.680	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFBS	375-73-5	ND	0.951	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
4:2 FTS	757124-72-4	ND	0.739	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFHxA	307-24-4	ND	1.16	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFPeS	2706-91-4	ND	1.29	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
HFPO-DA	13252-13-6	ND	2.56	2.66		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFHpA	375-85-9	ND	0.314	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
ADONA	919005-14-4	ND	0.384	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFHxS	355-46-4	ND	0.503	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
6:2 FTS	27619-97-2	2.62	1.06	2.13	Q	B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFOA	335-67-1	ND	0.346	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFHpS	375-92-8	ND	0.498	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFNA	375-95-1	ND	0.431	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFOSA	754-91-6	7.71	0.941	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFOS	1763-23-1	0.632	0.429	2.13	J, B, Q	B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
9Cl-PF3ONS	756426-58-1	ND	0.771	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFDA	335-76-2	ND	0.792	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
8:2 FTS	39108-34-4	ND	1.09	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFNS	68259-12-1	ND	2.06	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
MeFOSAA	2355-31-9	ND	0.877	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
EtFOSAA	2991-50-6	ND	0.728	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFUnA	2058-94-8	ND	0.558	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFDS	335-77-3	ND	0.654	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
11Cl-PF3OUdS	763051-92-9	ND	1.28	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
10:2 FTS	120226-60-0	ND	1.66	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFDaA	307-55-1	ND	0.421	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
MeFOSA	31506-32-8	ND	2.04	10.6		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFTrDA	72629-94-8	ND	0.263	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFDoS	79780-39-5	ND	2.22	2.66		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFTeDA	376-06-7	ND	0.401	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
EtFOSA	4151-50-2	ND	2.72	10.6		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFHxDA	67905-19-5	ND	0.156	2.13		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
PFODA	16517-11-6	ND	3.26	3.72		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
MeFOSE	24448-09-7	ND	3.23	10.6		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
EtFOSE	1691-99-2	ND	5.02	10.6		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	92.4	60 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1

Sample ID: GAC 1

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-04	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:55	Date Received:	10-Oct-19 10:00		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	92.3	60 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C3-PFBS	IS	102	60 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C3-HFPO-DA	IS	69.6	60 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-4:2 FTS	IS	112	20 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFHxA	IS	96.6	70 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C4-PFHpA	IS	90.0	60 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C3-PFHxS	IS	111	60 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-6:2 FTS	IS	100	40 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C5-PFNA	IS	96.7	50 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C8-PFOA	IS	64.1	20 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFOA	IS	95.4	60 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C8-PFOS	IS	97.7	60 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFDA	IS	90.6	60 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-8:2 FTS	IS	98.9	40 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
d3-MeFOSAA	IS	90.1	50 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFUnA	IS	88.0	60 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
d5-EtFOSAA	IS	88.0	50 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFDoA	IS	83.6	30 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
d3-MeFOSA	IS	18.5	10 - 130		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFTeDA	IS	83.4	20 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
d5-EtFOSA	IS	15.0	10 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
13C2-PFHxDA	IS	77.7	20 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
d7-MeFOSE	IS	44.5	10 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1
d9-EtFOSE	IS	45.2	10 - 150		B9J0058	11-Oct-19	0.235 L	16-Oct-19 18:11	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: GAC 2

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-05	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:58	Date Received:	10-Oct-19 10:00		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.383	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFPeA	2706-90-3	ND	0.672	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFBS	375-73-5	ND	0.939	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
4:2 FTS	757124-72-4	ND	0.730	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFHxA	307-24-4	ND	1.14	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFPeS	2706-91-4	ND	1.27	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
HFPO-DA	13252-13-6	ND	2.53	2.62		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFHpA	375-85-9	ND	0.310	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
ADONA	919005-14-4	ND	0.379	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFHxS	355-46-4	ND	0.497	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
6:2 FTS	27619-97-2	ND	1.05	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFOA	335-67-1	ND	0.342	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFHpS	375-92-8	ND	0.492	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFNA	375-95-1	ND	0.425	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFOSA	754-91-6	3.34	0.929	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFOS	1763-23-1	0.520	0.424	2.10	J, B	B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
9Cl-PF3ONS	756426-58-1	ND	0.761	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFDA	335-76-2	ND	0.782	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
8:2 FTS	39108-34-4	ND	1.08	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFNS	68259-12-1	ND	2.03	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
MeFOSAA	2355-31-9	ND	0.866	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
EtFOSAA	2991-50-6	ND	0.719	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFUnA	2058-94-8	ND	0.551	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFDS	335-77-3	ND	0.646	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
11Cl-PF3OUdS	763051-92-9	ND	1.26	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
10:2 FTS	120226-60-0	ND	1.64	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFDoA	307-55-1	ND	0.416	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
MeFOSA	31506-32-8	ND	2.01	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFTTrDA	72629-94-8	ND	0.259	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFDoS	79780-39-5	ND	2.19	2.62		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFTeDA	376-06-7	ND	0.396	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
EtFOSA	4151-50-2	ND	2.68	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFHxDA	67905-19-5	ND	0.154	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
PFODA	16517-11-6	ND	3.22	3.67		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
MeFOSE	24448-09-7	ND	3.19	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
EtFOSE	1691-99-2	ND	4.95	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	92.2	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1

**Sample ID: GAC 2**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-05	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 13:58	Date Received:	10-Oct-19 10:00		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.0	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C3-PFBS	IS	113	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C3-HFPO-DA	IS	91.6	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-4:2 FTS	IS	120	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFHxA	IS	93.9	70 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C4-PFHpA	IS	103	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C3-PFHxS	IS	101	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-6:2 FTS	IS	90.5	40 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C5-PFNA	IS	94.8	50 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C8-PFOA	IS	50.0	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFOA	IS	92.2	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C8-PFOS	IS	97.1	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFDA	IS	90.3	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-8:2 FTS	IS	100	40 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
d3-MeFOSAA	IS	83.2	50 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFUnA	IS	84.1	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
d5-EtFOSAA	IS	83.3	50 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFDoA	IS	87.2	30 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
d3-MeFOSA	IS	10.9	10 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFTeDA	IS	78.5	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
d5-EtFOSA	IS	9.50	10 - 150	H	B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
13C2-PFHxDA	IS	77.5	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
d7-MeFOSE	IS	32.3	10 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1
d9-EtFOSE	IS	31.1	10 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:21	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Discharge					PFAS Isotope Dilution Method						
Client Data					Laboratory Data						
Name:	AECOM		Matrix:	Aqueous		Lab Sample:	1903574-06		Column:	BEH C18	
Project:	ATC - Madison		Date Collected:	08-Oct-19 14:00		Date Received:	10-Oct-19 10:00				
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	375-22-4	ND	0.383	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFPeA	2706-90-3	ND	0.672	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFBS	375-73-5	ND	0.940	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
4:2 FTS	757124-72-4	ND	0.730	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFHxA	307-24-4	ND	1.14	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFPeS	2706-91-4	ND	1.27	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
HFPO-DA	13252-13-6	ND	2.53	2.62		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFHpA	375-85-9	ND	0.310	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
ADONA	919005-14-4	ND	0.379	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFHxS	355-46-4	ND	0.497	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
6:2 FTS	27619-97-2	ND	1.05	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFOA	335-67-1	ND	0.342	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFHpS	375-92-8	ND	0.492	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFNA	375-95-1	ND	0.425	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFOSA	754-91-6	2.49	0.929	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFOS	1763-23-1	0.553	0.424	2.10	J, B	B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
9Cl-PF3ONS	756426-58-1	ND	0.761	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFDA	335-76-2	ND	0.782	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
8:2 FTS	39108-34-4	ND	1.08	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFNS	68259-12-1	ND	2.03	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
MeFOSAA	2355-31-9	ND	0.866	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
EtFOSAA	2991-50-6	ND	0.719	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFUnA	2058-94-8	ND	0.551	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFDS	335-77-3	ND	0.646	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
11Cl-PF3OUdS	763051-92-9	ND	1.27	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
10:2 FTS	120226-60-0	ND	1.64	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFDoA	307-55-1	ND	0.416	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
MeFOSA	31506-32-8	ND	2.01	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFTTrDA	72629-94-8	ND	0.259	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFDoS	79780-39-5	ND	2.19	2.62		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFTeDA	376-06-7	ND	0.396	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
EtFOSA	4151-50-2	ND	2.68	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFHxDA	67905-19-5	ND	0.154	2.10		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
PFODA	16517-11-6	ND	3.22	3.67		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
MeFOSE	24448-09-7	ND	3.19	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
EtFOSE	1691-99-2	ND	4.96	10.5		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	93.2	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1		

Sample ID: Discharge					PFAS Isotope Dilution Method					
Client Data				Laboratory Data						
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-06	Column:	BEH C18			
Project:	ATC - Madison	Date Collected:	08-Oct-19 14:00	Date Received:	10-Oct-19 10:00					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFPeA	IS	91.7	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C3-PFBS	IS	121	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C3-HFPO-DA	IS	90.8	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-4:2 FTS	IS	132	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFHxA	IS	99.0	70 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C4-PFHpA	IS	100	60 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C3-PFHxS	IS	120	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-6:2 FTS	IS	117	40 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C5-PFNA	IS	97.3	50 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C8-PFOA	IS	51.4	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFOA	IS	97.1	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C8-PFOS	IS	97.4	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFDA	IS	91.2	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-8:2 FTS	IS	105	40 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
d3-MeFOSAA	IS	79.1	50 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFUnA	IS	92.2	60 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
d5-EtFOSAA	IS	84.4	50 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFDoA	IS	86.2	30 - 130		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
d3-MeFOSA	IS	9.90	10 - 130	H	B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFTeDA	IS	78.9	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
d5-EtFOSA	IS	9.90	10 - 150	H	B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
13C2-PFHxDA	IS	83.3	20 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
d7-MeFOSE	IS	26.1	10 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	
d9-EtFOSE	IS	23.9	10 - 150		B9J0058	11-Oct-19	0.238 L	16-Oct-19 18:32	1	

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.



**Sample ID: Field Blank**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-07	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 00:00	Date Received:	10-Oct-19 10:00		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.370	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFPeA	2706-90-3	ND	0.650	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFBS	375-73-5	ND	0.909	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
4:2 FTS	757124-72-4	ND	0.706	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFHxA	307-24-4	ND	1.11	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFPeS	2706-91-4	ND	1.23	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
HFPO-DA	13252-13-6	ND	2.45	2.54		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFHpA	375-85-9	ND	0.300	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
ADONA	919005-14-4	ND	0.367	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFHxS	355-46-4	ND	0.481	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
6:2 FTS	27619-97-2	ND	1.02	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFOA	335-67-1	ND	0.331	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFHpS	375-92-8	ND	0.476	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFNA	375-95-1	ND	0.411	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFOSA	754-91-6	ND	0.899	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFOS	1763-23-1	0.412	0.410	2.03	J, B	B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
9Cl-PF3ONS	756426-58-1	ND	0.736	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFDA	335-76-2	ND	0.757	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
8:2 FTS	39108-34-4	ND	1.05	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFNS	68259-12-1	ND	1.97	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
MeFOSAA	2355-31-9	ND	0.838	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
EtFOSAA	2991-50-6	ND	0.696	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFUnA	2058-94-8	ND	0.533	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFDS	335-77-3	ND	0.625	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
11Cl-PF3OUdS	763051-92-9	ND	1.22	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
10:2 FTS	120226-60-0	ND	1.59	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFDaA	307-55-1	ND	0.402	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
MeFOSA	31506-32-8	ND	1.95	10.2		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFTrDA	72629-94-8	ND	0.251	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFDoS	79780-39-5	ND	2.12	2.54		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFTeDA	376-06-7	ND	0.383	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
EtFOSA	4151-50-2	ND	2.60	10.2		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFHxDA	67905-19-5	ND	0.149	2.03		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
PFODA	16517-11-6	ND	3.12	3.55		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
MeFOSE	24448-09-7	ND	3.08	10.2		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
EtFOSE	1691-99-2	ND	4.79	10.2		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	96.0	60 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1

Sample ID: Field Blank

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903574-07	Column:	BEH C18
Project:	ATC - Madison	Date Collected:	08-Oct-19 00:00	Date Received:	10-Oct-19 10:00		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.3	60 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C3-PFBS	IS	101	60 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C3-HFPO-DA	IS	76.1	60 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-4:2 FTS	IS	106	20 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFHxA	IS	92.7	70 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C4-PFHpA	IS	97.1	60 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C3-PFHxS	IS	94.5	60 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-6:2 FTS	IS	99.2	40 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C5-PFNA	IS	91.2	50 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C8-PFOA	IS	49.4	20 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFOA	IS	96.6	60 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C8-PFOS	IS	99.4	60 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFDA	IS	98.9	60 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-8:2 FTS	IS	104	40 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
d3-MeFOSAA	IS	78.7	50 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFUnA	IS	91.4	60 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
d5-EtFOSAA	IS	77.8	50 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFDoA	IS	88.7	30 - 130		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
d3-MeFOA	IS	9.50	10 - 130	H	B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFTeDA	IS	74.9	20 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
d5-EtFOA	IS	9.30	10 - 150	H	B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
13C2-PFHxDA	IS	80.2	20 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
d7-MeFOSE	IS	38.9	10 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1
d9-EtFOSE	IS	35.9	10 - 150		B9J0058	11-Oct-19	0.246 L	16-Oct-19 18:43	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

## DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

**Vista Analytical Laboratory Certifications**

<b>Accrediting Authority</b>	<b>Certificate Number</b>
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

*Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.*

### NELAP Accredited Test Methods

<b>MATRIX: Air</b>	
<b>Description of Test</b>	<b>Method</b>
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

<b>MATRIX: Biological Tissue</b>	
<b>Description of Test</b>	<b>Method</b>
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

<b>MATRIX: Drinking Water</b>	
<b>Description of Test</b>	<b>Method</b>
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

<b>MATRIX: Non-Potable Water</b>	
<b>Description of Test</b>	<b>Method</b>
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

<b>MATRIX: Solids</b>	
<b>Description of Test</b>	<b>Method</b>
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A



# CHAIN OF CUSTODY

**For Laboratory Use Only**  
 Work Order #: 1903574 Temp: 2.9 °C  
 Storage ID: R-13, WK-2 Storage Secured: Yes  No

Project ID: ATC - Madison PO#: 60611431 Sampler: dsh  
 (name)

TAT Standard:  21 days  
 (check one): Rush (surcharge may apply)  14 days  7 days Specify: \_\_\_\_\_

Emily Sengstock 10/9/19 300pm  
 Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time  
Hayden Crana 10/10/19 10:00  
 Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

SHIP TO: Vista Analytical Laboratory  
 1104 Windfield Way  
 El Dorado Hills, CA 95762  
 (916) 673-1520 \* Fax (916) 673-0106  
 Method of Shipment: \_\_\_\_\_  
 Tracking No.: \_\_\_\_\_  
 ATTN: \_\_\_\_\_

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	Add Analysis(es) Requested				OTHER: Please attach analyte list	Comments		
							PFAS by Isotope Dilution	PFAS by Isotope Dilution	PFAS by Isotope Dilution	PFAS by Isotope Dilution				
Inlet	10/8/19	1349	/	Z	P	AQ							WI List of 36	
Bag 2	10/8/19	1351												WI List of 36
ZEO	10/8/19	1353												WI List of 36
GAC 1	10/8/19	1355												WI List of 36
GAC 2	10/8/19	1358												WI List of 36
Discharge	10/8/19	1400												WI List of 36
/	10/8/19	/												WI List of 36
/	10/8/19	/												WI List of 36

Special Instructions/Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**SEND DOCUMENTATION AND RESULTS TO:**  
 Name: Dave Henderson  
 Company: AECOM  
 Address: 1555 N Rivercenter dr  
 City: Milwaukee WI 53212  
 Phone: 414-429-8304  
 Email: Dave.henderson@aecom.com

Container Types: P= HDPE, PJ= HDPE Jar  
 Bottle Preservation Type: TZ = Trizma: none  
 Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment,  
 PY= Polypropylene, O = Other: AQ  
 SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: AQ

## Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 1903574

TAT push

Samples Arrival:	Date/Time 10/10/19 10:00	Initials: HOG	Location: WR-2
			Shelf/Rack: <u>NA</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
	<input type="checkbox"/> GSO	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered
	<input type="checkbox"/> Other		
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 2.9 (uncorrected)	Probe used: Y <input checked="" type="checkbox"/> N		Thermometer ID: <u>IR-3</u>
Temp °C: 2.9 (corrected)			

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trk # <u>7766 4555 7167</u>			
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container	<input type="checkbox"/> Vista	<input checked="" type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logged In:	Date/Time 10/10/19 1049	Initials: WWS	Location: R-13, WR-2 ↓ ↓ Shelf/Rack: <u>A-2, E-6</u>
COC Anomaly/Sample Acceptance Form completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:



# CoC/Label Reconciliation Report WO# 1903574

LabNumber	CoC Sample ID	Label ID matches COCID	Label ID doesn't match COCID	SampleAlias	Sampled	Label Sampled matches	Sampled doesn't match	Container	Container Correct	BaseMatrix	ReportMatrix
1903574-01	A Inlet	<input checked="" type="checkbox"/>			08-Oct-19 13:49	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-01	B Inlet	<input checked="" type="checkbox"/>			08-Oct-19 13:49	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-02	A Bag 2	<input checked="" type="checkbox"/>			08-Oct-19 13:51	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-02	B Bag 2	<input checked="" type="checkbox"/>			08-Oct-19 13:51	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-03	A ZEO	<input checked="" type="checkbox"/>			08-Oct-19 13:53	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-03	B ZEO	<input checked="" type="checkbox"/>			08-Oct-19 13:53	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-04	A GAC 1	<input checked="" type="checkbox"/>			08-Oct-19 13:55	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-04	B GAC 1	<input checked="" type="checkbox"/>			08-Oct-19 13:55	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-05	A GAC 2	<input checked="" type="checkbox"/>			08-Oct-19 13:58	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-05	B GAC 2	<input checked="" type="checkbox"/>			08-Oct-19 13:58	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-06	A Discharge	<input checked="" type="checkbox"/>			08-Oct-19 14:00	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-06	B Discharge	<input checked="" type="checkbox"/>			08-Oct-19 14:00	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
A) 1903574-07	A Field Blank	<input checked="" type="checkbox"/>			08-Oct-19 00:00	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous
1903574-07	B Field Blank	<input checked="" type="checkbox"/>			08-Oct-19 00:00	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	Aqueous

X

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Preservation Documented: Na2S2O3 Trizma <u>None</u> Other	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Verified by/Date: SLJ 10/10/19

Comments:

\* Time & Date not indicated on Client label

A) Sample not listed on Coc. Received (2) 250ml HDPE bottles

Chain of Custody Anomaly/Sample Acceptance Form



Client: AECOM
Contact: Dave Henderson
Email: Dave.Henderson@aecom.com
Phone: (414) 944-6190

Workorder Number: 1903574
Date Received: 10-Oct-19 10:00
Documented by/date: MSparks/10-10-19

Please review the following information and complete the Client Authorization section. To comply with NELAC regulations, we must receive authorization before proceeding with sample analysis.

- Sample Collection Date and/or Time not provided on sample container labels
Temperature outside Method Requirement (WI-PHT)
Sample ID Not Reconcilable
Sample Holding Time Missed
Insufficient Sample Size
All Sample Container(s) Broken
Drinking Water Incorrect Container Type
Chain-of-Custody not received, illegible or destroyed
Other: see comments

Comments/Samples Affected:

Received 2-250mL HDPE bottles with sample label ID "Field Blank". Not listed on COC.

Client Authorization
Proceed with Analysis: YES NO
Signature and Date [Signature] 10/17/19
Client Comments/Instructions: The client was notified by email Friday 10/11/19. -AMR

**Figure 1**  
**Treatment System Schematic**

**Notes:**

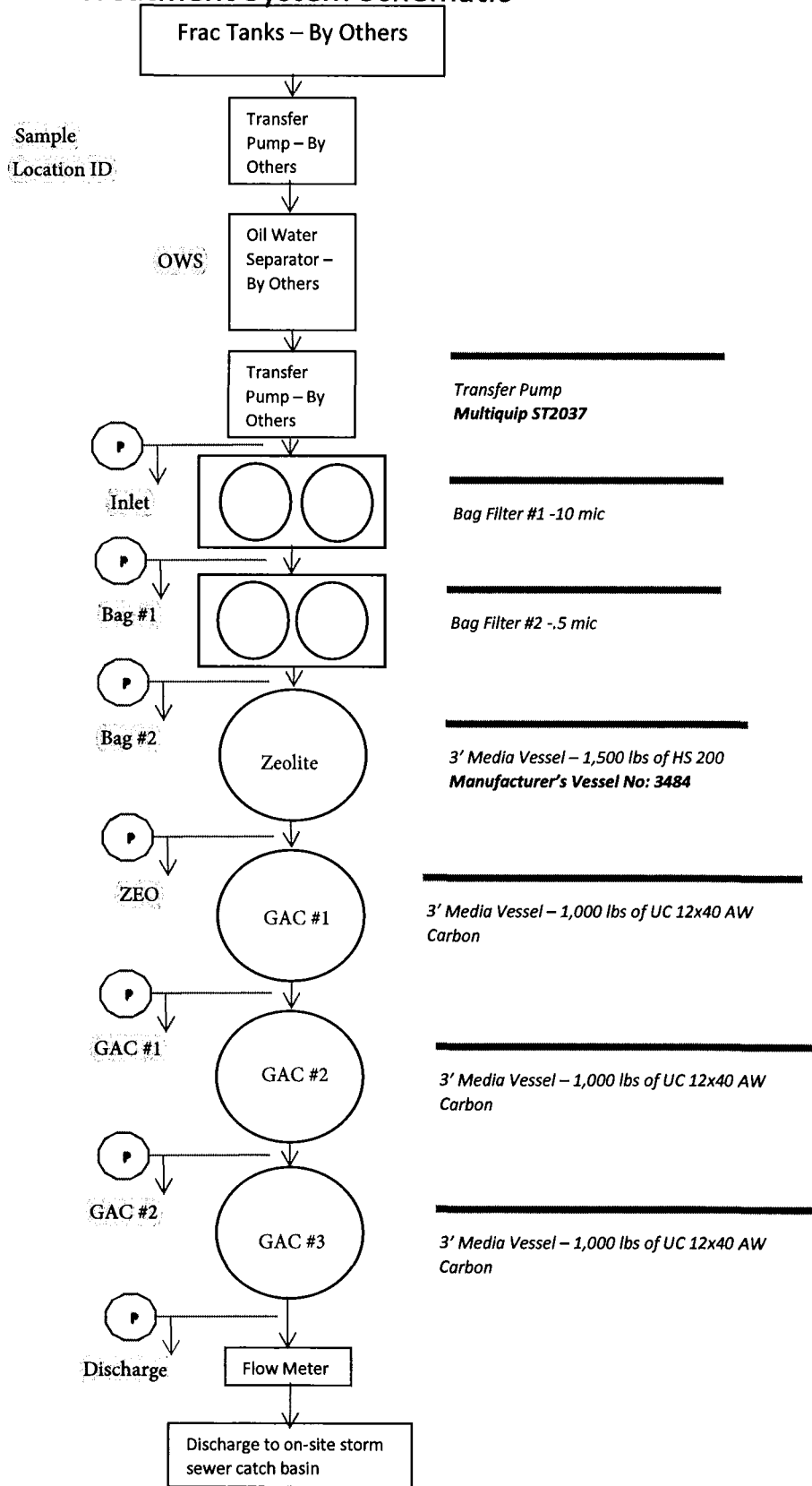
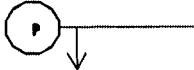
Flow diagram is not to scale. Please see cut sheets for complete sizing of equipment

All pieces (of ProAct system) will be connected by 2" OSD Hose

Discharge hose will be in place after flow meter and is 2" Lay Flat Hose

Drawing does not incorporate additional vessel(s)

Pressure gauge and sample port



WEEKLY  
GRAB  
Before 4<sup>th</sup>  
CARBON unit Added



November 22, 2019

**Vista Work Order No. 1903838**

Mr. Dave Henderson  
AECOM  
1555 N. River Center Drive  
Milwaukee, WI 53212

Dear Mr. Henderson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 26, 2019 under your Project Name 'ATC Madison'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [mmaier@vista-analytical.com](mailto:mmaier@vista-analytical.com).

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

A handwritten signature in cursive script that reads "Martha Maier".

Martha Maier  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.*

**Vista Work Order No. 1903838**

**Case Narrative**

**Sample Condition on Receipt:**

Seven aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

**Analytical Notes:**

**PFAS Isotope Dilution Method**

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The internal standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1903838-03	ZEO	PFAS Isotope Dilution Method	13C2-PFHxDA	H	1.80
1903838-04	GAC-1	PFAS Isotope Dilution Method	d3-MeFOSA	H	1.40
1903838-04	GAC-1	PFAS Isotope Dilution Method	d5-EtFOSA	H	1.60

H = Recovery was outside laboratory acceptance criteria.

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# Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1903838-01	Inlet	25-Oct-19 14:25	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903838-02	Bag 2	25-Oct-19 14:20	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903838-03	ZEO	25-Oct-19 14:15	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903838-04	GAC-1	25-Oct-19 14:10	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903838-05	GAC-2	25-Oct-19 14:05	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903838-06	Discharge	25-Oct-19 14:00	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
1903838-07	Field Blank	25-Oct-19 14:45	26-Oct-19 09:56	HDPE Bottle, 250 mL HDPE Bottle, 250 mL

## **ANALYTICAL RESULTS**



Sample ID: Method Blank					PFAS Isotope Dilution Method						
Client Data				Laboratory Data							
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	B9J0318-BLK1	Column:	BEH C18				
Project:	ATC Madison										
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	375-22-4	ND	0.365	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFPeA	2706-90-3	ND	0.640	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFBS	375-73-5	ND	0.895	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
4:2 FTS	757124-72-4	ND	0.695	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFHxA	307-24-4	ND	1.09	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFPeS	2706-91-4	ND	1.21	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
HFPO-DA	13252-13-6	ND	2.41	2.50		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFHpA	375-85-9	ND	0.296	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
ADONA	919005-14-4	ND	0.361	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFHxS	355-46-4	ND	0.474	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
6:2 FTS	27619-97-2	ND	1.00	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFOA	335-67-1	ND	0.326	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFHpS	375-92-8	ND	0.469	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFNA	375-95-1	ND	0.405	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFOSA	754-91-6	ND	0.885	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFOS	1763-23-1	ND	0.404	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
9Cl-PF3ONS	756426-58-1	ND	0.725	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFDA	335-76-2	ND	0.745	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
8:2 FTS	39108-34-4	ND	1.03	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFNS	68259-12-1	ND	1.94	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
MeFOSAA	2355-31-9	ND	0.825	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
EtFOSAA	2991-50-6	ND	0.685	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFUnA	2058-94-8	ND	0.525	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFDS	335-77-3	ND	0.615	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
11Cl-PF3OUdS	763051-92-9	ND	1.21	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
10:2 FTS	120226-60-0	ND	1.57	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFDoA	307-55-1	ND	0.396	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
MeFOSA	31506-32-8	ND	1.92	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFTeDA	72629-94-8	ND	0.247	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFDoS	79780-39-5	ND	2.09	2.50		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFTeDA	376-06-7	ND	0.378	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
EtFOSA	4151-50-2	ND	2.56	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFHxDA	67905-19-5	ND	0.147	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
PFODA	16517-11-6	ND	3.07	3.50		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
MeFOSE	24448-09-7	ND	3.04	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
EtFOSE	1691-99-2	ND	4.72	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	104	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1		

**Sample ID: Method Blank**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	B9J0318-BLK1	Column:	BEH C18
Project:	ATC Madison						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	106	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C3-PFBS	IS	101	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C3-HFPO-DA	IS	99.4	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFHxA	IS	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C4-PFHpA	IS	102	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C3-PFHxS	IS	96.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-6:2 FTS	IS	112	40 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C5-PFNA	IS	104	50 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C8-PFOSA	IS	49.5	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFOA	IS	94.7	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C8-PFOS	IS	105	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFDA	IS	101	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-8:2 FTS	IS	89.8	40 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d3-MeFOSAA	IS	81.5	50 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFUnA	IS	81.1	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d5-EtFOSAA	IS	78.9	50 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFDoA	IS	80.8	30 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d3-MeFOSA	IS	25.7	10 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFTeDA	IS	76.7	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d5-EtFOSA	IS	23.8	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFHxDA	IS	77.6	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d7-MeFOSE	IS	38.0	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d9-EtFOSE	IS	37.7	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data				
Name:	AECOM	Matrix:	Aqueous		Lab Sample:	B9J0318-BS1	Column:	BEH C18	
Project:	ATC Madison								

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	40.0	40.0	99.9	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFPeA	2706-90-3	42.7	40.0	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFBS	375-73-5	37.7	40.0	94.4	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
4:2 FTS	757124-72-4	36.9	40.0	92.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHxA	307-24-4	39.9	40.0	99.9	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFPeS	2706-91-4	38.3	40.0	95.7	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
HFPO-DA	13252-13-6	41.1	40.0	103	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHpA	375-85-9	37.9	40.0	94.8	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
ADONA	919005-14-4	42.9	40.0	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHxS	355-46-4	34.8	40.0	87.1	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
6:2 FTS	27619-97-2	36.5	40.0	91.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFOA	335-67-1	39.1	40.0	97.7	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHpS	375-92-8	45.5	40.0	114	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFNA	375-95-1	40.2	40.0	100	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFOSA	754-91-6	42.9	40.0	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFOS	1763-23-1	41.9	40.1	105	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
9Cl-PF3ONS	756426-58-1	33.1	40.0	82.8	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDA	335-76-2	42.8	40.0	107	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
8:2 FTS	39108-34-4	42.9	40.0	107	60 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFNS	68259-12-1	35.0	40.0	87.5	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
MeFOSAA	2355-31-9	40.2	40.0	100	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
EtFOSAA	2991-50-6	45.7	40.0	114	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFUnA	2058-94-8	36.5	40.0	91.2	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDS	335-77-3	30.9	40.1	77.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
11Cl-PF3OUdS	763051-92-9	41.8	40.0	104	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
10:2 FTS	120226-60-0	41.1	40.0	103	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDoA	307-55-1	39.2	40.0	98.1	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
MeFOSA	31506-32-8	182	200	91.1	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFTtDA	72629-94-8	41.7	40.0	104	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDoS	79780-39-5	40.9	40.0	102	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFTeDA	376-06-7	39.9	40.0	99.8	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
EtFOSA	4151-50-2	218	200	109	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHxDA	67905-19-5	40.6	40.0	102	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFODA	16517-11-6	36.7	40.0	91.7	40 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1

Sample ID: OPR						PFAS Isotope Dilution Method					
Client Data					Laboratory Data						
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	B9J0318-BS1	Column:	BEH C18				
Project:	ATC Madison										
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	208	200	104	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
EtFOSE	1691-99-2	191	200	95.7	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		99.4	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-PFPeA		IS		107	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-PFBS		IS		96.2	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-HFPO-DA		IS		108	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFHxA		IS		106	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C4-PFHpA		IS		105	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-PFHxS		IS		93.1	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-6:2 FTS		IS		107	40 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C5-PFNA		IS		101	50 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C8-PFOSA		IS		62.8	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFOA		IS		104	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C8-PFOS		IS		106	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFDA		IS		96.4	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-8:2 FTS		IS		87.9	40 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d3-MeFOSAA		IS		84.9	50 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFUnA		IS		88.5	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d5-EtFOSAA		IS		80.5	50 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFDoA		IS		75.0	30 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d3-MeFOSA		IS		33.5	10 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFTeDA		IS		79.1	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d5-EtFOSA		IS		29.2	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFHxDA		IS		78.1	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d7-MeFOSE		IS		43.0	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d9-EtFOSE		IS		45.3	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1

Sample ID: Inlet					PFAS Isotope Dilution Method						
Client Data					Laboratory Data						
Name:	AECOM		Matrix:	Aqueous		Lab Sample:	1903838-01		Column:	BEH C18	
Project:	ATC Madison		Date Collected:	25-Oct-19 14:25		Date Received:	26-Oct-19 09:56				
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	375-22-4	58.4	0.379	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFPeA	2706-90-3	158	0.666	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFBS	375-73-5	6.81	0.931	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
4:2 FTS	757124-72-4	ND	0.723	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFHxA	307-24-4	183	1.13	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFPeS	2706-91-4	ND	1.26	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
HFPO-DA	13252-13-6	11.3	2.51	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFHpA	375-85-9	44.1	0.308	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
ADONA	919005-14-4	ND	0.376	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFHxS	355-46-4	5.36	0.493	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
6:2 FTS	27619-97-2	ND	1.04	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFOA	335-67-1	18.4	0.339	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFHpS	375-92-8	ND	0.488	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFNA	375-95-1	10.0	0.422	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFOSA	754-91-6	ND	0.921	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFOS	1763-23-1	11.8	0.420	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
9Cl-PF3ONS	756426-58-1	ND	0.755	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFDA	335-76-2	5.49	0.775	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
8:2 FTS	39108-34-4	35.2	1.07	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFNS	68259-12-1	ND	2.01	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
MeFOSAA	2355-31-9	ND	0.859	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
EtFOSAA	2991-50-6	ND	0.713	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFUnA	2058-94-8	0.672	0.546	2.08	J	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFDS	335-77-3	ND	0.640	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
11Cl-PF3OUdS	763051-92-9	ND	1.25	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
10:2 FTS	120226-60-0	ND	1.63	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFDoA	307-55-1	ND	0.412	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
MeFOSA	31506-32-8	ND	1.99	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFTTrDA	72629-94-8	ND	0.257	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFDoS	79780-39-5	ND	2.17	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFTeDA	376-06-7	ND	0.393	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
EtFOSA	4151-50-2	ND	2.66	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFHxDA	67905-19-5	ND	0.153	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
PFODA	16517-11-6	ND	3.20	3.64		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
MeFOSE	24448-09-7	ND	3.16	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
EtFOSE	1691-99-2	ND	4.91	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	69.3	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1		

**Sample ID: Inlet**

**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-01	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:25	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	109	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C3-PFBS	IS	104	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C3-HFPO-DA	IS	105	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFHxA	IS	99.8	70 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C4-PFHpA	IS	108	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C3-PFHxS	IS	108	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-6:2 FTS	IS	80.2	40 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C5-PFNA	IS	110	50 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C8-PFOA	IS	53.3	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFOA	IS	102	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C8-PFOS	IS	108	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFDA	IS	102	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-8:2 FTS	IS	106	40 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d3-MeFOSAA	IS	97.4	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFUnA	IS	89.6	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d5-EtFOSAA	IS	96.5	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFDoA	IS	91.4	30 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d3-MeFOSA	IS	16.7	10 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFTeDA	IS	80.0	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d5-EtFOSA	IS	16.8	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFHxDA	IS	68.4	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d7-MeFOSE	IS	54.5	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d9-EtFOSE	IS	56.6	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

**Sample ID: Bag 2**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-02	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:20	Date Received:	26-Oct-19 09:56		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	55.9	0.379	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFPeA	2706-90-3	155	0.666	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFBS	375-73-5	7.33	0.931	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
4:2 FTS	757124-72-4	ND	0.723	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHxA	307-24-4	173	1.13	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFPeS	2706-91-4	ND	1.26	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
HFPO-DA	13252-13-6	10.7	2.51	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHpA	375-85-9	47.3	0.307	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
ADONA	919005-14-4	ND	0.375	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHxS	355-46-4	3.11	0.492	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
6:2 FTS	27619-97-2	3800	5.20	10.4	D	B9J0318	07-Nov-19	0.240 L	21-Nov-19 20:38	5
PFOA	335-67-1	16.9	0.339	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHpS	375-92-8	ND	0.487	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFNA	375-95-1	9.03	0.421	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFOSA	754-91-6	ND	0.920	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFOS	1763-23-1	12.4	0.420	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
9Cl-PF3ONS	756426-58-1	ND	0.754	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDA	335-76-2	5.90	0.775	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
8:2 FTS	39108-34-4	28.2	1.07	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFNS	68259-12-1	ND	2.01	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
MeFOSAA	2355-31-9	ND	0.858	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
EtFOSAA	2991-50-6	ND	0.712	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFUnA	2058-94-8	0.782	0.546	2.08	J	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDS	335-77-3	ND	0.640	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
11Cl-PF3OUdS	763051-92-9	ND	1.25	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
10:2 FTS	120226-60-0	ND	1.63	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDoA	307-55-1	ND	0.412	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
MeFOSA	31506-32-8	ND	1.99	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFTTrDA	72629-94-8	ND	0.257	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDoS	79780-39-5	ND	2.17	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFTeDA	376-06-7	ND	0.393	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
EtFOSA	4151-50-2	ND	2.66	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHxDA	67905-19-5	ND	0.153	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFODA	16517-11-6	ND	3.19	3.64		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
MeFOSE	24448-09-7	ND	3.16	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
EtFOSE	1691-99-2	ND	4.91	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	71.8	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1	

Sample ID: Bag 2

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-02	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:20	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	106	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C3-PFBS	IS	97.4	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C3-HFPO-DA	IS	100	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFHxA	IS	102	70 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C4-PFHpA	IS	102	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C3-PFHxS	IS	97.6	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-6:2 FTS	IS	114	40 - 150	D	B9J0318	07-Nov-19	0.240 L	21-Nov-19 20:38	5
13C5-PFNA	IS	102	50 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C8-PFOA	IS	58.0	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFOA	IS	102	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C8-PFOS	IS	97.6	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFDA	IS	104	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-8:2 FTS	IS	91.8	40 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d3-MeFOSAA	IS	112	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFUnA	IS	96.7	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d5-EtFOSAA	IS	102	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFDoA	IS	86.5	30 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d3-MeFOSA	IS	16.8	10 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFTeDA	IS	80.7	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d5-EtFOSA	IS	17.4	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFHxDA	IS	74.3	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d7-MeFOSE	IS	55.8	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d9-EtFOSE	IS	59.7	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.



Sample ID: ZEO

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-03	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:15	Date Received:	26-Oct-19 09:56		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	47.0	0.404	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFPeA	2706-90-3	164	0.710	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFBS	375-73-5	2.87	0.992	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
4:2 FTS	757124-72-4	ND	0.771	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHxA	307-24-4	114	1.21	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFPeS	2706-91-4	ND	1.34	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
HFPO-DA	13252-13-6	ND	2.67	2.77		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHpA	375-85-9	17.3	0.328	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
ADONA	919005-14-4	ND	0.400	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHxS	355-46-4	ND	0.525	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
6:2 FTS	27619-97-2	1320	1.11	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFOA	335-67-1	9.89	0.361	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHpS	375-92-8	ND	0.519	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFNA	375-95-1	1.55	0.449	2.22	J, Q	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFOSA	754-91-6	7.54	0.981	2.22	Q	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFOS	1763-23-1	5.64	0.447	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
9Cl-PF3ONS	756426-58-1	ND	0.804	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDA	335-76-2	ND	0.826	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
8:2 FTS	39108-34-4	8.62	1.14	2.22	Q	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFNS	68259-12-1	ND	2.15	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
MeFOSAA	2355-31-9	ND	0.915	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
EtFOSAA	2991-50-6	ND	0.760	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFUnA	2058-94-8	ND	0.582	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDS	335-77-3	ND	0.682	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
11Cl-PF3OUdS	763051-92-9	ND	1.34	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
10:2 FTS	120226-60-0	ND	1.74	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDoA	307-55-1	ND	0.439	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
MeFOSA	31506-32-8	ND	2.12	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFTrDA	72629-94-8	ND	0.274	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDoS	79780-39-5	ND	2.31	2.77		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFTeDA	376-06-7	ND	0.419	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
EtFOSA	4151-50-2	ND	2.83	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHxDA	67905-19-5	ND	0.163	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFODA	16517-11-6	ND	3.40	3.88		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
MeFOSE	24448-09-7	ND	3.37	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
EtFOSE	1691-99-2	ND	5.23	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	80.3	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1

**Sample ID: ZEO**

**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-03	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:15	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	96.0	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C3-PFBS	IS	102	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C3-HFPO-DA	IS	98.0	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFHxA	IS	94.6	70 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C4-PFHpA	IS	99.6	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C3-PFHxS	IS	105	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-6:2 FTS	IS	80.9	40 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C5-PFNA	IS	98.1	50 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C8-PFOSA	IS	57.2	20 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFOA	IS	98.3	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C8-PFOS	IS	94.7	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFDA	IS	89.5	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-8:2 FTS	IS	73.4	40 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d3-MeFOSAA	IS	82.3	50 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFUnA	IS	81.4	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d5-EtFOSAA	IS	73.4	50 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFDoA	IS	80.0	30 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d3-MeFOSA	IS	13.5	10 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFTeDA	IS	42.8	20 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d5-EtFOSA	IS	11.5	10 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFHxDA	IS	1.80	20 - 150	H	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d7-MeFOSE	IS	55.2	10 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d9-EtFOSE	IS	54.5	10 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

**Sample ID: GAC-1**

**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-04	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:10	Date Received:	26-Oct-19 09:56		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.400	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFPeA	2706-90-3	ND	0.702	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFBS	375-73-5	ND	0.981	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
4:2 FTS	757124-72-4	ND	0.762	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHxA	307-24-4	ND	1.20	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFPeS	2706-91-4	ND	1.33	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
HFPO-DA	13252-13-6	ND	2.64	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHpA	375-85-9	ND	0.324	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
ADONA	919005-14-4	ND	0.396	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHxS	355-46-4	ND	0.519	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
6:2 FTS	27619-97-2	2.09	1.10	2.19	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFOA	335-67-1	1.58	0.357	2.19	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHpS	375-92-8	ND	0.514	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFNA	375-95-1	ND	0.444	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFOSA	754-91-6	48.1	0.970	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFOS	1763-23-1	0.817	0.442	2.19	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
9Cl-PF3ONS	756426-58-1	ND	0.795	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDA	335-76-2	ND	0.817	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
8:2 FTS	39108-34-4	ND	1.13	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFNS	68259-12-1	ND	2.12	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
MeFOSAA	2355-31-9	ND	0.904	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
EtFOSAA	2991-50-6	ND	0.751	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFUnA	2058-94-8	ND	0.576	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDS	335-77-3	ND	0.674	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
11Cl-PF3OUdS	763051-92-9	ND	1.32	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
10:2 FTS	120226-60-0	ND	1.72	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDaA	307-55-1	ND	0.434	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
MeFOSA	31506-32-8	ND	2.10	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFTrDA	72629-94-8	ND	0.271	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDoS	79780-39-5	ND	2.29	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFTeDA	376-06-7	ND	0.414	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
EtFOSA	4151-50-2	ND	2.80	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHxDA	67905-19-5	ND	0.161	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFODA	16517-11-6	ND	3.37	3.84		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
MeFOSE	24448-09-7	ND	3.33	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
EtFOSE	1691-99-2	ND	5.17	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	97.4	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1

**Sample ID: GAC-1**

**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-04	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:10	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	105	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C3-PFBS	IS	98.9	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C3-HFPO-DA	IS	99.9	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFHxA	IS	102	70 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C4-PFHpA	IS	94.5	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C3-PFHxS	IS	83.3	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-6:2 FTS	IS	94.1	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C5-PFNA	IS	101	50 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C8-PFOA	IS	41.2	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFOA	IS	93.9	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C8-PFOS	IS	104	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFDA	IS	93.9	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-8:2 FTS	IS	96.4	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d3-MeFOSAA	IS	96.7	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFUnA	IS	89.0	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d5-EtFOSAA	IS	90.6	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFDoA	IS	84.7	30 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d3-MeFOSA	IS	1.40	10 - 130	H	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFTeDA	IS	81.7	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d5-EtFOSA	IS	1.60	10 - 150	H	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFHxDA	IS	69.4	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d7-MeFOSE	IS	36.3	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d9-EtFOSE	IS	40.4	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

**Sample ID: GAC-2**

**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-05	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:05	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	102	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C3-PFBS	IS	122	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C3-HFPO-DA	IS	100	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFHxA	IS	103	70 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C4-PFHpA	IS	103	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C3-PFHxS	IS	121	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-6:2 FTS	IS	90.0	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C5-PFNA	IS	106	50 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C8-PFOA	IS	87.6	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFOA	IS	95.5	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C8-PFOS	IS	98.5	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFDA	IS	92.3	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-8:2 FTS	IS	80.1	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d3-MeFOSAA	IS	112	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFUnA	IS	100	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d5-EtFOSAA	IS	99.5	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFDoA	IS	95.9	30 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d3-MeFOSA	IS	30.5	10 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFTeDA	IS	88.2	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d5-EtFOSA	IS	25.1	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFHxDA	IS	76.1	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d7-MeFOSE	IS	72.8	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d9-EtFOSE	IS	77.0	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: GAC-2

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-05	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:05	Date Received:	26-Oct-19 09:56		

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.400	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFPeA	2706-90-3	ND	0.702	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFBS	375-73-5	ND	0.982	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
4:2 FTS	757124-72-4	ND	0.763	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHxA	307-24-4	ND	1.20	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFPeS	2706-91-4	ND	1.33	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
HFPO-DA	13252-13-6	ND	2.65	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHpA	375-85-9	ND	0.324	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
ADONA	919005-14-4	ND	0.396	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHxS	355-46-4	ND	0.520	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
6:2 FTS	27619-97-2	1.66	1.10	2.20	J	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFOA	335-67-1	0.543	0.357	2.20	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHpS	375-92-8	ND	0.514	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFNA	375-95-1	ND	0.445	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFOSA	754-91-6	9.14	0.971	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFOS	1763-23-1	1.03	0.443	2.20	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
9Cl-PF3ONS	756426-58-1	ND	0.796	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDA	335-76-2	ND	0.818	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
8:2 FTS	39108-34-4	ND	1.13	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFNS	68259-12-1	ND	2.12	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
MeFOSAA	2355-31-9	ND	0.906	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
EtFOSAA	2991-50-6	ND	0.752	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFUnA	2058-94-8	ND	0.576	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDS	335-77-3	ND	0.675	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
11Cl-PF3OUdS	763051-92-9	ND	1.32	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
10:2 FTS	120226-60-0	ND	1.72	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDoA	307-55-1	ND	0.435	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
MeFOSA	31506-32-8	ND	2.10	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFTtDA	72629-94-8	ND	0.271	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDoS	79780-39-5	ND	2.29	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFTeDA	376-06-7	ND	0.414	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
EtFOSA	4151-50-2	ND	2.80	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHxDA	67905-19-5	ND	0.161	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFODA	16517-11-6	ND	3.37	3.84		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
MeFOSE	24448-09-7	ND	3.33	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
EtFOSE	1691-99-2	ND	5.18	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	102	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1

Sample ID: Discharge					PFAS Isotope Dilution Method						
Client Data					Laboratory Data						
Name:	AECOM		Matrix:	Aqueous		Lab Sample:	1903838-06		Column:	BEH C18	
Project:	ATC Madison		Date Collected:	25-Oct-19 14:00		Date Received:	26-Oct-19 09:56				
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	375-22-4	ND	0.408	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFPeA	2706-90-3	ND	0.717	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFBS	375-73-5	ND	1.00	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
4:2 FTS	757124-72-4	ND	0.778	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFHxA	307-24-4	ND	1.22	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFPeS	2706-91-4	ND	1.35	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
HFPO-DA	13252-13-6	ND	2.70	2.80		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFHpA	375-85-9	ND	0.331	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
ADONA	919005-14-4	ND	0.404	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFHxS	355-46-4	ND	0.530	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
6:2 FTS	27619-97-2	1.95	1.12	2.24	J, Q	B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFOA	335-67-1	1.02	0.364	2.24	J, Q	B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFHpS	375-92-8	ND	0.525	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFNA	375-95-1	ND	0.453	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFOSA	754-91-6	14.5	0.991	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFOS	1763-23-1	2.38	0.452	2.24	Q	B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
9Cl-PF3ONS	756426-58-1	ND	0.812	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFDA	335-76-2	ND	0.834	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
8:2 FTS	39108-34-4	ND	1.15	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFNS	68259-12-1	ND	2.17	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
MeFOSAA	2355-31-9	ND	0.924	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
EtFOSAA	2991-50-6	ND	0.767	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFUnA	2058-94-8	ND	0.588	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFDS	335-77-3	ND	0.689	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
11Cl-PF3OUdS	763051-92-9	ND	1.35	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
10:2 FTS	120226-60-0	ND	1.75	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFDoA	307-55-1	ND	0.443	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
MeFOSA	31506-32-8	ND	2.14	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFTTrDA	72629-94-8	ND	0.277	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFDoS	79780-39-5	ND	2.33	2.80		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFTTeDA	376-06-7	ND	0.423	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
EtFOSA	4151-50-2	ND	2.86	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFHxDA	67905-19-5	ND	0.165	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
PFODA	16517-11-6	ND	3.44	3.92		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
MeFOSE	24448-09-7	ND	3.40	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
EtFOSE	1691-99-2	ND	5.29	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	106	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1		

**Sample ID: Discharge**
**PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-06	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:00	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	111	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C3-PFBS	IS	98.5	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C3-HFPO-DA	IS	108	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFHxA	IS	109	70 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C4-PFHpA	IS	107	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C3-PFHxS	IS	108	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-6:2 FTS	IS	107	40 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C5-PFNA	IS	101	50 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C8-PFOA	IS	93.6	20 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFOA	IS	104	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C8-PFOS	IS	113	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFDA	IS	104	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-8:2 FTS	IS	102	40 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d3-MeFOSAA	IS	105	50 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFUnA	IS	92.8	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d5-EtFOSAA	IS	99.5	50 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFDoA	IS	87.5	30 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d3-MeFOSA	IS	22.9	10 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFTeDA	IS	85.7	20 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d5-EtFOSA	IS	20.4	10 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFHxDA	IS	62.4	20 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d7-MeFOSE	IS	66.9	10 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d9-EtFOSE	IS	65.9	10 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.



Sample ID: Field Blank				PFAS Isotope Dilution Method						
Client Data				Laboratory Data						
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-07	Column:	BEH C18			
Project:	ATC Madison	Date Collected:	25-Oct-19 14:45	Date Received:	26-Oct-19 09:56					
Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.375	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFPeA	2706-90-3	ND	0.659	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFBS	375-73-5	ND	0.922	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
4:2 FTS	757124-72-4	ND	0.716	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHxA	307-24-4	ND	1.12	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFPeS	2706-91-4	ND	1.25	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
HFPO-DA	13252-13-6	ND	2.48	2.57		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHpA	375-85-9	ND	0.304	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
ADONA	919005-14-4	ND	0.372	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHxS	355-46-4	ND	0.488	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
6:2 FTS	27619-97-2	ND	1.03	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFOA	335-67-1	ND	0.335	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHpS	375-92-8	ND	0.483	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFNA	375-95-1	ND	0.417	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFOSA	754-91-6	ND	0.912	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFOS	1763-23-1	0.652	0.416	2.06	J, Q	B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
9Cl-PF3ONS	756426-58-1	ND	0.747	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDA	335-76-2	ND	0.767	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
8:2 FTS	39108-34-4	1.37	1.06	2.06	J	B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFNS	68259-12-1	ND	1.99	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
MeFOSAA	2355-31-9	ND	0.850	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
EtFOSAA	2991-50-6	ND	0.706	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFUnA	2058-94-8	ND	0.541	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDS	335-77-3	ND	0.633	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
11Cl-PF3OUdS	763051-92-9	ND	1.24	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
10:2 FTS	120226-60-0	ND	1.61	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDoA	307-55-1	ND	0.408	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
MeFOSA	31506-32-8	ND	1.97	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFTtDA	72629-94-8	ND	0.254	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDoS	79780-39-5	ND	2.15	2.57		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFTeDA	376-06-7	ND	0.389	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
EtFOSA	4151-50-2	ND	2.63	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHxDA	67905-19-5	ND	0.151	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFODA	16517-11-6	ND	3.16	3.60		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
MeFOSE	24448-09-7	ND	3.13	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
EtFOSE	1691-99-2	ND	4.86	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	104	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1	

**Sample ID: Field Blank** **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	AECOM	Matrix:	Aqueous	Lab Sample:	1903838-07	Column:	BEH C18
Project:	ATC Madison	Date Collected:	25-Oct-19 14:45	Date Received:	26-Oct-19 09:56		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	103	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C3-PFBS	IS	101	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C3-HFPO-DA	IS	98.9	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFHxA	IS	109	70 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C4-PFHpA	IS	99.5	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C3-PFHxS	IS	101	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-6:2 FTS	IS	92.7	40 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C5-PFNA	IS	108	50 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C8-PFOSA	IS	63.0	20 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFOA	IS	100	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C8-PFOS	IS	98.3	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFDA	IS	97.7	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-8:2 FTS	IS	93.6	40 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d3-MeFOSAA	IS	87.4	50 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFUnA	IS	90.9	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d5-EtFOSAA	IS	89.9	50 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFDoA	IS	90.9	30 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d3-MeFOSA	IS	20.9	10 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFTeDA	IS	73.5	20 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d5-EtFOSA	IS	18.9	10 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFHxDA	IS	67.1	20 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d7-MeFOSE	IS	35.2	10 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d9-EtFOSE	IS	36.6	10 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1

MDL - Method Detection Limit      RL - Reporting limit      Results reported to MDL.      When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

## DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

**Vista Analytical Laboratory Certifications**

<b>Accrediting Authority</b>	<b>Certificate Number</b>
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

*Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.*

### NELAP Accredited Test Methods

<b>MATRIX: Air</b>	
<b>Description of Test</b>	<b>Method</b>
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

<b>MATRIX: Biological Tissue</b>	
<b>Description of Test</b>	<b>Method</b>
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

<b>MATRIX: Drinking Water</b>	
<b>Description of Test</b>	<b>Method</b>
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

<b>MATRIX: Non-Potable Water</b>	
<b>Description of Test</b>	<b>Method</b>
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

<b>MATRIX: Solids</b>	
<b>Description of Test</b>	<b>Method</b>
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A



# CHAIN OF CUSTODY

**For Laboratory Use Only**  
 Work Order #: 1903838 Temp: 1.2 °C  
 Storage ID: R-13, WR-2 Storage Secured: Yes  No

Project ID: ATC Madison PO#: 60611431 Sampler: Leo Linnemanstons  
 (name)

TAT Standard:  21 days  
 (check one): Rush (surcharge may apply)  14 days  7 days Specify: \_\_\_\_\_

Relinquished by (printed name and signature) Leo Linnemanstons Leo Linnemanstons Date 10/25/2019 Time @ 17:00  
 Received by (printed name and signature) Kim Furi Date 10/26/19 Time 0956

Relinquished by (printed name and signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
 Received by (printed name and signature) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

SHIP TO: Vista Analytical Laboratory  
 1104 Windfield Way  
 El Dorado Hills, CA 95762  
 (916) 673-1520 \* Fax (916) 673-0106  
 ATTN: \_\_\_\_\_  
 Method of Shipment: \_\_\_\_\_  
 Tracking No.: \_\_\_\_\_

Add Analysis(es) Requested  
 Container(s) \_\_\_\_\_  
 PFOA/PPOS  
 UCMR3 PFAS List 14 or 18 (Circle One)  
 537.1 List: 14 or 18  
 EPA Draft List of 24  
 OTHER: Please attach analyte list  
 PFAS by Isotope Dilution  
 PFOA/PPOS  
 UCMR3 PFAS List 14  
 537.1 List of 18  
 EPA Method 537 (DW only)

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	PFOA/PPOS	UCMR3 PFAS List 14 or 18 (Circle One)	537.1 List: 14 or 18	EPA Draft List of 24	OTHER: Please attach analyte list	PFOA/PPOS	UCMR3 PFAS List 14	537.1 List of 18	EPA Method 537 (DW only)	Comments
Inlet	10/25/19	14:25		Z	P	AQ					WI List of 36					WI List of 36
Bag Z		14:20														
ZEO		14:15														
GAC-1		14:10														
GAC-2		14:05														
Discharge	↓	14:00		↓	↓	↓										
Field Blank	↓	14:45		↓	↓	↓										

Special Instructions/Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

SEND DOCUMENTATION AND RESULTS TO:  
 Name: Leo Linnemanstons  
 Company: AECOM  
 Address: 1350 Deming Way, Suite 100  
 City: Middleton WI 53562  
 Phone: 608-828-8208  
 Email: leo.linnemanstons@aecom.com

Container Types: P= HDPE, PJ= HDPE Jar      Bottle Preservation Type:      Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, PY= Polypropylene, O = Other: \_\_\_\_\_      TZ = Trizma: \_\_\_\_\_      SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: \_\_\_\_\_

## Sample Log-In Checklist

 Page # 1 of 1

 Vista Work Order #: 1903838 TAT std

Samples Arrival:	Date/Time <u>10/26/19 0956</u>	Initials: <u>KE</u>	Location: <u>WR-2</u>
			Shelf/Rack: <u>N/A</u>
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> GSO	<input type="checkbox"/> DHL
		<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: <u>1.2</u> (uncorrected)	Probe used: Y / <input checked="" type="checkbox"/> N		Thermometer ID: <u>IR-4</u>
Temp °C: <u>1.2</u> (corrected)			

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>		
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>		
Airbill <u>✓</u> Trk # <u>7768 1889 4389</u>	<input checked="" type="checkbox"/>		
Shipping Documentation Present?	<input checked="" type="checkbox"/>		
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>		
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>		
Holding Time Acceptable?	<input checked="" type="checkbox"/>		
Logged In:	Date/Time <u>10/28/19</u>	Initials: <u>KE</u>	Location: <u>R-13</u>   <u>WR-2</u>
			Shelf/Rack: <u>A3</u>   <u>E6</u>
COC Anomaly/Sample Acceptance Form completed?		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Comments:



# CoC/Label Reconciliation Report WO# 1903838

LabNumber	CoC Sample ID	Label ID matches COCID	Label ID doesn't match COCID	SampleAlias	Sampled	Label Sampled matches	Sampled doesn't match	Container	Container Correct	BaseMatrix	Sample Comments
1903838-01	A Inlet	<input checked="" type="checkbox"/>			✓25-Oct-19 14:25	<input type="checkbox"/>	no times	HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-01	B Inlet	<input checked="" type="checkbox"/>			✓25-Oct-19 14:25	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-02	A Bag 2	<input checked="" type="checkbox"/>			✓25-Oct-19 14:20	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-02	B Bag 2	<input checked="" type="checkbox"/>			✓25-Oct-19 14:20	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-03	A ZEO	<input checked="" type="checkbox"/>			✓25-Oct-19 14:15	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-03	B ZEO	<input checked="" type="checkbox"/>			✓25-Oct-19 14:15	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-04	A GAC-1	<input checked="" type="checkbox"/>			✓25-Oct-19 14:10	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-04	B GAC-1	<input checked="" type="checkbox"/>			✓25-Oct-19 14:10	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-05	A GAC-2	<input checked="" type="checkbox"/>			✓25-Oct-19 14:05	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-05	B GAC-2	<input checked="" type="checkbox"/>			✓25-Oct-19 14:05	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-06	A Discharge	<input checked="" type="checkbox"/>			✓25-Oct-19 14:00	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-06	B Discharge	<input checked="" type="checkbox"/>			✓25-Oct-19 14:00	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-07	A Field Blank	<input checked="" type="checkbox"/>			✓25-Oct-19 14:45	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	
1903838-07	B Field Blank	<input checked="" type="checkbox"/>			✓25-Oct-19 14:45	<input type="checkbox"/>		HDPE Bottle, 250 mL	<input checked="" type="checkbox"/>	Aqueous	

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Preservation Documented: Na2S2O3 Trizma None Other			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments:

Verified by/Date: Ka 10/28/19

**From:** Dave Johnson <davej@nsecinc.com>  
**Sent:** Tuesday, December 03, 2019 2:14 PM  
**To:** Dan Buehler <DBuehler@cpwwi.org>  
**Subject:** Ware after treatment

Dan here is the analytical and some summary numbers of the DRO as we were treating it.

Attached is the final DRO (mg/l) laboratory report from 10/29, and the results are summarized below: The analytical for pfas shows each stage as we were treating and the main one would be the discharge results.

Date	OWS	Inlet	Bag	ZEO	GAC-1	GAC-2	GAC-3	GAC-4	Volume	
10/8	37	6.3	5.6	1.8	0.12	0.048 J	<0.031	Unit added after 10/25	7,363	
10/22	660	300	12	1.3	0.16	0.093 J	0.062 J		17,950	
10/23	490	98	15	1.5	<0.031	<0.032	<0.032		45,975	
10/24	1,600	10	4.3	2.8	0.083 J	0.050 J	0.035 J		75,795	
10/25	230	30	27	9.6	0.23	0.18	0.14		99,800	
10/26	300	14	11	9.6	Not sampled	0.15	0.20	0.057 J	111,260	
10/27	Not sampled	No system operation (Sunday)				Not sampled				---
10/28		80	83	49			0.68	0.61	0.60	119,758
10/29		94	89	150	4.7		4.7	2.2	147,252	
10/30		System is no longer discharging							147,818	

147,252

Thanks,

David Johnson  
Vice President of Operations  
North Shore Environmental Construction, Inc  
N117 W18493 Fulton Drive  
Germantown, WI 53022  
O. 262-255-4468  
C. 414-708-1505  
[www.nsecinc.com](http://www.nsecinc.com)

**Dave Johnson**

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**From:** Dave Johnson  
**Sent:** Tuesday, December 3, 2019 2:45 PM  
**To:** Dan Buehler  
**Subject:** RE: Ware after treatment

Sounds good I will set it up.

Thanks,

David Johnson  
Vice President of Operations  
North Shore Environmental Construction, Inc  
N117 W18493 Fulton Drive  
Germantown, WI 53022  
O. 262-255-4468  
C. 414-708-1505  
[www.nsecinc.com](http://www.nsecinc.com)

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**From:** Dan Buehler <[DBuehler@cpwwi.org](mailto:DBuehler@cpwwi.org)>  
**Sent:** Tuesday, December 3, 2019 2:40 PM  
**To:** Dave Johnson <[davej@nsecinc.com](mailto:davej@nsecinc.com)>  
**Subject:** RE: Ware after treatment

Dave;

We would take this wastewater at our remote site.....

\$50 per thousand gallons,

Thanks,

**\*Please note new email – [DBuehler@cpwwi.org](mailto:DBuehler@cpwwi.org)**

Dan Buehler, WWTP Superintendent  
City of Port Washington WWTP  
450 North Lake Street  
Port Washington, WI 53074  
Telephone: 262-284-5051  
Fax: 262-284-5798  
[www.cityofportwashington.com](http://www.cityofportwashington.com)

