



## ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental  
2425 New Holland Pike  
Lancaster, PA 17601

Prepared for:

C. T. Male Associates  
50 Century Hill Drive  
Latham NY 12110

Report Date: December 28, 2018 13:41

### Project: Hoosick Falls WTP

Account #: 37191  
Group Number: 2017437  
SDG: HOO19  
PO Number: 14.4756  
State of Sample Origin: NY

Electronic Copy To	C. T. Male Associates	Attn: Kirk Moline
Electronic Copy To	C. T. Male Associates	Attn: Dan Reilly
Electronic Copy To	C. T. Male Associates	Attn: Jeff Marx
Electronic Copy To	Barr Engineering Company	Attn: Lauren Brady
Electronic Copy To	Environmental Standards	Attn: St. Gobain
Electronic Copy To	Barr Engineering Company	Attn: Data Mgt

Respectfully Submitted,



Nancy Jean Bornholm  
Principal Specialist

(717) 556-7250

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. Historical copies may be requested through your project manager.



### SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
G.A.C. Influent Grab Drinking Water	12/10/2018 10:15	9935063
G.A.C. Midfluent Grab Drinking Water	12/10/2018 10:17	9935064
G.A.C. Effluent Grab Drinking Water	12/10/2018 10:20	9935065
FTB01-181210 Grab Blank Water	12/10/2018 10:30	9935066
LTB01-181210 Blank Water	12/10/2018	9935067

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: Hoosick Falls WTP  
ELLE Group #: 2017437

**General Comments:**

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

**Analysis Specific Comments:****EPA 537 Version 1.1, LC/MS/MS Miscellaneous****Sample #s: 9935066**

The peak area count for d3-NMeFOSAA was outside of 70-140% of the peak area of the most recent CCC in this sample. The sample was reinjected and the peak area for D3-NMe-FOSAA was again outside the 70-140% window. The data is reported from the initial injection of the sample.

**Batch #: 18352005 (Sample number(s): 9935063-9935067 UNSPK: P937142)**

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Perfluoroundecanoic acid, Perfluorododecanoic acid, Perfluorotridecanoic acid, Perfluorotetradecanoic acid

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: Perfluoroundecanoic acid, Perfluorododecanoic acid, Perfluorotridecanoic acid, Perfluorotetradecanoic acid

**Sample Description:** G.A.C. Influent Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 9935063  
**ELLE Group #:** 2017437  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 12/11/2018 10:05  
**Collection Date/Time:** 12/10/2018 10:15  
**SDG#:** HOO19-01

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1</b>			<b>ng/l</b>	<b>ng/l</b>	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	<b>Perfluoroheptanoic acid</b>	375-85-9	<b>2.8</b>	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	<b>Perfluorohexanoic acid</b>	307-24-4	<b>5.0</b>	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	<b>Perfluoro-octanesulfonate</b>	1763-23-1	<b>7.9</b>	1.8	1
14070	<b>Perfluorooctanoic acid</b>	335-67-1	<b>120</b>	18	10
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified</b>			<b>ng/l</b>	<b>ng/l</b>	
14473	6:2 fluorotelomersulfonate	27619-97-2	1.7 U	1.7	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.2 U	5.2	1
14473	Perfluorobutanoic acid	375-22-4	5.2 U	5.2	1
14473	Perfluorodecanesulfonate	335-77-3	1.7 U	1.7	1
14473	Perfluoroheptanesulfonate	375-92-8	1.7 U	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.2 U	5.2	1

### Sample Comments

State of New York Certification No. 10670

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18352005	12/19/2018 22:17	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18352005	12/26/2018 19:45	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18347008	12/14/2018 19:11	Isaac Phillips-Cary	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18352005	12/18/2018 07:45	Robert Brown	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18347008	12/13/2018 16:00	Anthony C Polaski	1

**Sample Description:** G.A.C. Midfluent Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 9935064  
**ELLE Group #:** 2017437  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 12/11/2018 10:05  
**Collection Date/Time:** 12/10/2018 10:17  
**SDG#:** HOO19-02

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1</b>			<b>ng/l</b>	<b>ng/l</b>	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified</b>			<b>ng/l</b>	<b>ng/l</b>	
14473	6:2 fluorotelomersulfonate	27619-97-2	1.8 U	1.8	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.3 U	5.3	1
14473	<b>Perfluorobutanoic acid</b>	375-22-4	<b>6.0</b>	5.3	1
14473	Perfluorodecanesulfonate	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	2.7 U	2.7	1
14473	Perfluoropentanoic acid	2706-90-3	5.3 U	5.3	1

### Sample Comments

State of New York Certification No. 10670

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18352005	12/19/2018 22:28	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18347008	12/14/2018 19:20	Isaac Phillips-Cary	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18352005	12/18/2018 07:45	Robert Brown	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18347008	12/13/2018 16:00	Anthony C Polaski	1

**Sample Description:** G.A.C. Effluent Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
ELLE Sample #: PW 9935065  
ELLE Group #: 2017437  
Matrix: Drinking Water

**Project Name:** Hoosick Falls WTP

Submittal Date/Time: 12/11/2018 10:05  
Collection Date/Time: 12/10/2018 10:20  
SDG#: HOO19-03

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1</b>			<b>ng/l</b>	<b>ng/l</b>	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified</b>			<b>ng/l</b>	<b>ng/l</b>	
14473	6:2 fluorotelomersulfonate	27619-97-2	1.8 U	1.8	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.3 U	5.3	1
14473	Perfluorobutanoic acid	375-22-4	5.3 U	5.3	1
14473	Perfluorodecanesulfonate	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.3 U	5.3	1

### Sample Comments

State of New York Certification No. 10670

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18352005	12/19/2018 22:40	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18347008	12/14/2018 19:38	Isaac Phillips-Cary	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18352005	12/18/2018 07:45	Robert Brown	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18347008	12/13/2018 16:00	Anthony C Polaski	1

**Sample Description:** FTB01-181210 Grab Blank Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 9935066  
**ELLE Group #:** 2017437  
**Matrix:** Blank Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 12/11/2018 10:05  
**Collection Date/Time:** 12/10/2018 10:30  
**SDG#:** HOO19-04FB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1</b>					
			ng/l	ng/l	
14070	NEtFOSAA	2991-50-6	1.8 U	1.8	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.				
14070	NMeFOSAA	2355-31-9	1.8 U	1.8	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.				
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

The peak area count for d3-NMeFOSAA was outside of 70-140% of the peak area of the most recent CCC in this sample. The sample was reinjected and the peak area for D3-NMe-FOSAA was again outside the 70-140% window. The data is reported from the initial injection of the sample.

<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified</b>					
			ng/l	ng/l	
14473	6:2 fluorotelomersulfonate	27619-97-2	1.8 U	1.8	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.3 U	5.3	1
14473	Perfluorobutanoic acid	375-22-4	5.3 U	5.3	1
14473	Perfluorodecanesulfonate	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.3 U	5.3	1

### Sample Comments

State of New York Certification No. 10670

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18352005	12/26/2018 19:56	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18347008	12/14/2018 19:48	Isaac Phillips-Cary	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18352005	12/18/2018 07:45	Robert Brown	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18347008	12/13/2018 16:00	Anthony C Polaski	1

**Sample Description:** LTB01-181210 Blank Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 9935067  
**ELLE Group #:** 2017437  
**Matrix:** Blank Water

**Project Name:** Hoosick Falls WTP

**Submittal Date/Time:** 12/11/2018 10:05  
**Collection Date/Time:** 12/10/2018  
**SDG#:** HOO19-05TB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1</b>			<b>ng/l</b>	<b>ng/l</b>	
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified</b>			<b>ng/l</b>	<b>ng/l</b>	
14473	6:2 fluorotelomersulfonate	27619-97-2	1.7 U	1.7	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.2 U	5.2	1
14473	Perfluorobutanoic acid	375-22-4	5.2 U	5.2	1
14473	Perfluorodecanesulfonate	335-77-3	1.7 U	1.7	1
14473	Perfluoroheptanesulfonate	375-92-8	1.7 U	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.2 U	5.2	1

### Sample Comments

State of New York Certification No. 10670

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18352005	12/19/2018 23:03	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18347008	12/14/2018 19:57	Isaac Phillips-Cary	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18352005	12/18/2018 07:45	Robert Brown	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18347008	12/13/2018 16:00	Anthony C Polaski	1



## Quality Control Summary

Client Name: C. T. Male Associates  
Reported: 12/28/2018 13:41

Group Number: 2017437

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

### Method Blank

Analysis Name	Result	LOQ
	ng/l	ng/l
Batch number: 18347008	Sample number(s): 9935063-9935067	
6:2 fluorotelomersulfonate	2.0 U	2.0
8:2 fluorotelomersulfonate	6.0 U	6.0
Perfluorobutanoic acid	6.0 U	6.0
Perfluorodecanesulfonate	2.0 U	2.0
Perfluoroheptanesulfonate	2.0 U	2.0
Perfluorooctanesulfonamide	3.0 U	3.0
Perfluoropentanoic acid	6.0 U	6.0
Batch number: 18352005	Sample number(s): 9935063-9935067	
NETFOSAA	2.0 U	2.0
NMeFOSAA	2.0 U	2.0
Perfluorobutanesulfonate	2.0 U	2.0
Perfluorodecanoic acid	2.0 U	2.0
Perfluorododecanoic acid	2.0 U	2.0
Perfluoroheptanoic acid	2.0 U	2.0
Perfluorohexanesulfonate	2.0 U	2.0
Perfluorohexanoic acid	2.0 U	2.0
Perfluorononanoic acid	2.0 U	2.0
Perfluoro-octanesulfonate	2.0 U	2.0
Perfluorooctanoic acid	2.0 U	2.0
Perfluorotetradecanoic acid	2.0 U	2.0
Perfluorotridecanoic acid	2.0 U	2.0
Perfluoroundecanoic acid	2.0 U	2.0

### LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ng/l	ng/l	ng/l	ng/l					
Batch number: 18347008	Sample number(s): 9935063-9935067								
6:2 fluorotelomersulfonate	15.17	17.07	15.17	16.41	113	108	66-155	4	30
8:2 fluorotelomersulfonate	15.33	15.47	15.33	13.86	101	90	66-148	11	30
Perfluorobutanoic acid	5.44	5.29	5.44	5.33	97	98	74-142	1	30
Perfluorodecanesulfonate	5.24	4.87	5.24	5.26	93	100	60-135	8	30
Perfluoroheptanesulfonate	5.18	4.54	5.18	4.52	88	87	64-135	0	30
Perfluorooctanesulfonamide	5.44	4.46	5.44	3.95	82	73	65-164	12	30

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

## Quality Control Summary

Client Name: C. T. Male Associates  
Reported: 12/28/2018 13:41

Group Number: 2017437

### LCS/LCSD (continued)

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Perfluoropentanoic acid	5.44	5.10	5.44	5.07	94	93	74-134	1	30
Batch number: 18352005	Sample number(s): 9935063-9935067								
NEtFOSAA	80	78.68			98		70-130		
NMeFOSAA	80	83.91			105		70-130		
Perfluorobutanesulfonate	70.76	70.36			99		70-130		
Perfluorodecanoic acid	80	77.23			97		70-130		
Perfluorododecanoic acid	80	71.33			89		70-130		
Perfluoroheptanoic acid	80	74.56			93		70-130		
Perfluorohexanesulfonate	75.64	77.55			103		70-130		
Perfluorohexanoic acid	80	71.2			89		70-130		
Perfluorononanoic acid	80	73.6			92		70-130		
Perfluoro-octanesulfonate	76.48	67.94			89		70-130		
Perfluorooctanoic acid	80	71.81			90		70-130		
Perfluorotetradecanoic acid	80	68.63			86		70-130		
Perfluorotridecanoic acid	80	75.06			94		70-130		
Perfluoroundecanoic acid	80	70.87			89		70-130		

### MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/l	MS Spike Added ng/l	MS Conc ng/l	MSD Spike Added ng/l	MSD Conc ng/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 18352005	Sample number(s): 9935063-9935067 UNSPK: P937142									
NEtFOSAA	1.8 U	70.86	62.25	70.3	64.39	88	92	70-130	3	30
NMeFOSAA	1.8 U	70.86	77.57	70.3	76.69	109	109	70-130	1	30
Perfluorobutanesulfonate	1.8 U	62.68	71.93	62.18	61.67	115	99	70-130	15	30
Perfluorodecanoic acid	1.8 U	70.86	61.6	70.3	66.32	87	94	70-130	7	30
Perfluorododecanoic acid	1.8 U	70.86	21.43	70.3	58.69	30*	83	70-130	93*	30
Perfluoroheptanoic acid	1.8 U	70.86	64.19	70.3	60.66	91	86	70-130	6	30
Perfluorohexanesulfonate	1.8 U	67	75.42	66.47	65.63	113	99	70-130	14	30
Perfluorohexanoic acid	1.8 U	70.86	66.94	70.3	64.58	94	92	70-130	4	30
Perfluorononanoic acid	1.8 U	70.86	59.71	70.3	61.41	84	87	70-130	3	30
Perfluoro-octanesulfonate	1.8 U	67.75	62.36	67.21	59.7	92	89	70-130	4	30
Perfluorooctanoic acid	0.453	70.86	61.53	70.3	58.64	86	83	70-130	5	30
Perfluorotetradecanoic acid	1.8 U	70.86	0.953	70.3	53.2	1*	76	70-130	193*	30
Perfluorotridecanoic acid	1.8 U	70.86	5.28	70.3	60.29	7*	86	70-130	168*	30
Perfluoroundecanoic acid	1.8 U	70.86	41.72	70.3	63.49	59*	90	70-130	41*	30

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

## Quality Control Summary

Client Name: C. T. Male Associates  
Reported: 12/28/2018 13:41

Group Number: 2017437

### Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 7 PFAS Compounds  
Batch number: 18347008

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C2-8:2-FTS
9935063	77	89	83	98	74	97
9935064	79	82	86	103	81	110
9935065	64	66	71	84	76	78
9935066	72	71	69	87	74	86
9935067	80	80	81	99	80	87
Blank	90	94	78	104	81	99
LCS	78	80	71	95	73	87
LCSD	85	88	79	103	79	103
Limits:	33-123	31-157	34-126	32-170	50-121	27-164

#### 13C8-PFOSA

9935063	30
9935064	38
9935065	28
9935066	40
9935067	44
Blank	73
LCS	68
LCSD	75
Limits:	11-127

Analysis Name: 14 PFAS Drinking Water List  
Batch number: 18352005

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
9935063	100	107	92
9935064	91	104	85
9935065	103	111	97
9935066	83	101	93
9935067	93	102	92
Blank	88	99	89
LCS	94	107	93
MS	98	89	89
MSD	89	100	84
Limits:	70-130	70-130	70-130

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

# Environmental Services Analysis Request/Chain of Custody

Acct. #: 37191

Group #: 207437

Sample #: 9935063-67

COC#: 20056

Client: <b>C.T. Male Associates</b>				<b>Matrix</b>			<b>Analyses Requested</b>										<b>For Lab Use Only</b>			
Project Name/#: Hoosick Falls WTP		Site ID:		<input type="checkbox"/> Sediment	<input type="checkbox"/> Potable Ground	<input type="checkbox"/> Surface	<b>Preservation Codes</b>										SF#: 303216			
Project Manager: Kirk Moline		P.O. #: 14.4756		<input type="checkbox"/> Soil	<input checked="" type="checkbox"/> Water	<input type="checkbox"/> NPDES											SCR#: 233819			
Sampler: <i>Chris Ormsby</i>				<input type="checkbox"/> Other: <i>Re-use water</i>													7 PFCs (EPA 537 mod.)		14 PFCs (EPA 537 ver. 1.1)	
Phone #: (518) 786-7400		Quote #: 219169					<b>Total # of Containers</b>												<b>Preservation Codes</b>	
State where sample(s) were collected: NY				<b>Collection</b>																
<b>Sample Identification</b>		Date	Time	Grab	Composite															
<i>G.A.C. Influent</i>		<i>12/10/18</i>	<i>1015</i>	<input checked="" type="checkbox"/>																
<i>G.A.C. Midfluent</i>			<i>1017</i>	<input checked="" type="checkbox"/>																
<i>G.A.C. Effluent</i>			<i>1020</i>	<input checked="" type="checkbox"/>																
<i>FTB 01-181210</i>			<i>1030</i>	<input checked="" type="checkbox"/>																
<i>LTB 01-181210</i>			<i>-</i>																	
<b>Turnaround Time Requested (TAT)</b> (please check): Standard <input checked="" type="checkbox"/> RUSH <input type="checkbox"/>				Relinquished by: <i>Chris Ormsby</i>		Date	Time	Received by:		Date	Time									
(RUSH TAT is subject to Eurofins Lancaster Laboratories approval and surcharges.)						<i>12/10/18</i>	<i>1305</i>													
Date results are needed:				Relinquished by:		Date	Time	Received by:		Date	Time									
E-mail address to send RUSH results:																				
<b>Data Package Options</b> (please check if required)				Relinquished by:		Date	Time	Received by:		Date	Time									
Type I (Validation/non-CLP) <input type="checkbox"/> MA MCP <input type="checkbox"/> TX TRRP - 13 <input type="checkbox"/>																				
Type III (Reduced non-CLP) <input type="checkbox"/> CT RCP <input type="checkbox"/>																				
Type IV (CLP SOW) <input type="checkbox"/> ASP Type A <input type="checkbox"/>																				
Type VI (Raw Data Only) <input type="checkbox"/> ASP Type B <input checked="" type="checkbox"/>																				
EDD Format: EQUIS				Relinquished by:		Date	Time	Received by: <i>Chris Ormsby</i>		Date	Time									
										<i>12-11-18</i>	<i>1005</i>									
If site-specific QC (MS/MSD/Dup) required, indicate QC samples and submit triplicate volume.				Airbill No.:		Relinquished by Commercial Carrier:		Temperature upon receipt <i>0.6/1</i> °C												
				UPS _____ FedEx _____ Other _____																



Client: C.T. Male Associates

**Delivery and Receipt Information**

Delivery Method: Fed Ex                      Arrival Timestamp: 12/11/2018 10:05  
 Number of Packages: 2                              Number of Projects: 2  
 State/Province of Origin: NY

**Arrival Condition Summary**

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	No	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): 2-250 mL (unpre), 2-250 mL (Trizma)

*Unpacked by Melvin Sanchez (8943) at 15:00 on 12/11/2018*

**Samples Chilled Details**

Thermometer Types:    *DT = Digital (Temp. Bottle)    IR = Infrared (Surface Temp)    All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-02	1.1	DT	Wet	Y	Bagged	N
2	DT42-02	0.6	DT	Wet	Y	Bagged	N

# Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

<b>BMQL</b>	Below Minimum Quantitation Level	<b>mL</b>	milliliter(s)
<b>C</b>	degrees Celsius	<b>MPN</b>	Most Probable Number
<b>cfu</b>	colony forming units	<b>N.D.</b>	non-detect
<b>CP Units</b>	cobalt-chloroplatinate units	<b>ng</b>	nanogram(s)
<b>F</b>	degrees Fahrenheit	<b>NTU</b>	nephelometric turbidity units
<b>g</b>	gram(s)	<b>pg/L</b>	picogram/liter
<b>IU</b>	International Units	<b>RL</b>	Reporting Limit
<b>kg</b>	kilogram(s)	<b>TNTC</b>	Too Numerous To Count
<b>L</b>	liter(s)	<b>µg</b>	microgram(s)
<b>lb.</b>	pound(s)	<b>µL</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>umhos/cm</b>	micromhos/cm
<b>meq</b>	milliequivalents	<b>MCL</b>	Maximum Contamination Limit
<b>mg</b>	milligram(s)		
<b>&lt;</b>	less than		
<b>&gt;</b>	greater than		
<b>ppm</b>	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

**Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.**

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

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

**WARRANTY AND LIMITS OF LIABILITY** - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

# Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$ . The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$ . The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$ . The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.