



## 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: March 24, 2019 16:23

### Project: Hoosick Falls WTP

Account #: 37191  
Group Number: 2032615  
SDG: HOO26  
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 <https://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/certifications-and-accreditations-eurofins-lancaster-laboratories-environmental/> . 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>
GAC Influent Grab Drinking Water	03/07/2019 12:08	1003793
GAC Midfluent Grab Drinking Water	03/07/2019 12:10	1003794
GAC Effluent Grab Drinking Water	03/07/2019 12:12	1003795
PV-1 25 Grab Drinking Water	03/07/2019 12:25	1003796
PV-1 50 Grab Drinking Water	03/07/2019 12:35	1003797
PV-1 75 Grab Drinking Water	03/07/2019 12:43	1003798
FTB 01-190307 Grab Blank Water	03/07/2019 12:50	1003799
LTB 01-190307 Blank Water	03/07/2019	1003800

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 #: 2032615

**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:**

No additional comments are necessary.

**Sample Description:** GAC Influent Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 1003793  
**ELLE Group #:** 2032615  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:08  
**SDG#:** HOO26-01

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	1.7 U	1.7	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.7 U	1.7	1
14070	Perfluorobutanesulfonate	375-73-5	1.7 U	1.7	1
14070	Perfluorodecanoic acid	335-76-2	1.7 U	1.7	1
14070	Perfluorododecanoic acid	307-55-1	1.7 U	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	1.7 U	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	1.7 U	1.7	1
14070	<b>Perfluorohexanoic acid</b>	307-24-4	<b>3.5</b>	1.7	1
14070	Perfluorononanoic acid	375-95-1	1.7 U	1.7	1
14070	<b>Perfluoro-octanesulfonate</b>	1763-23-1	<b>8.4</b>	1.7	1
14070	<b>Perfluorooctanoic acid</b>	335-67-1	<b>110</b>	17	10
14070	Perfluorotetradecanoic acid	376-06-7	1.7 U	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	1.7 U	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	1.7 U	1.7	1

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	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	U	1.7	1	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.2	U	5.2	1	1
14473	<b>Perfluorobutanoic acid</b>	375-22-4	<b>6.2</b>		6.1	1	1
14473	Perfluorodecanesulfonate	335-77-3	1.7	U	1.7	1	1
14473	Perfluoroheptanesulfonate	375-92-8	1.7	U	1.7	1	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6	U	2.6	1	1
14473	Perfluoropentanoic acid	2706-90-3	5.2	U	5.2	1	1

### 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	19079001	03/22/2019 01:08	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	19079001	03/22/2019 01:31	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 12:11	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	2	19079001	03/20/2019 08:15	Courtney J Fatta	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

**Sample Description:** GAC Midfluent Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 1003794  
**ELLE Group #:** 2032615  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submittal Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:10  
**SDG#:** HOO26-02

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	5.4 U	5.4	1
14473	Perfluorobutanoic acid	375-22-4	6.2 U	6.2	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	5.4 U	5.4	1

### 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	19071007	03/13/2019 19:13	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 12:20	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

**Sample Description:** GAC Effluent Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 1003795  
**ELLE Group #:** 2032615  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:12  
**SDG#:** HOO26-03

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	6.2 U	6.2	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

### 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	19071007	03/13/2019 19:25	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 12:29	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

**Sample Description:** PV-1 25 Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 1003796  
**ELLE Group #:** 2032615  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:25  
**SDG#:** HOO26-04

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	2.0 U	2.0	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	2.0 U	2.0	1
14070	Perfluorobutanesulfonate	375-73-5	2.0 U	2.0	1
14070	Perfluorodecanoic acid	335-76-2	2.0 U	2.0	1
14070	Perfluorododecanoic acid	307-55-1	2.0 U	2.0	1
14070	Perfluoroheptanoic acid	375-85-9	2.0 U	2.0	1
14070	Perfluorohexanesulfonate	355-46-4	2.0 U	2.0	1
14070	Perfluorohexanoic acid	307-24-4	2.0 U	2.0	1
14070	Perfluorononanoic acid	375-95-1	2.0 U	2.0	1
14070	Perfluoro-octanesulfonate	1763-23-1	2.0 U	2.0	1
14070	<b>Perfluorooctanoic acid</b>	335-67-1	<b>3.9</b>	2.0	1
14070	Perfluorotetradecanoic acid	376-06-7	2.0 U	2.0	1
14070	Perfluorotridecanoic acid	72629-94-8	2.0 U	2.0	1
14070	Perfluoroundecanoic acid	2058-94-8	2.0 U	2.0	1

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
<b>LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified</b>					<b>ng/l</b>		
14473	6:2 fluorotelomersulfonate	27619-97-2	1.9 U	1.9	1		
14473	8:2 fluorotelomersulfonate	39108-34-4	5.8 U	5.8	1		
14473	<b>Perfluorobutanoic acid</b>	375-22-4	<b>8.7</b>	6.7	1		
14473	Perfluorodecanesulfonate	335-77-3	1.9 U	1.9	1		
14473	Perfluoroheptanesulfonate	375-92-8	1.9 U	1.9	1		
14473	Perfluorooctanesulfonamide	754-91-6	2.9 U	2.9	1		
14473	Perfluoropentanoic acid	2706-90-3	5.8 U	5.8	1		

### 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	19071007	03/13/2019 19:36	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 12:38	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

**Sample Description:** PV-1 50 Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 1003797  
**ELLE Group #:** 2032615  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submittal Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:35  
**SDG#:** HOO26-05

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	1.9 U	1.9	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.9 U	1.9	1
14070	Perfluorobutanesulfonate	375-73-5	1.9 U	1.9	1
14070	Perfluorodecanoic acid	335-76-2	1.9 U	1.9	1
14070	Perfluorododecanoic acid	307-55-1	1.9 U	1.9	1
14070	Perfluoroheptanoic acid	375-85-9	1.9 U	1.9	1
14070	Perfluorohexanesulfonate	355-46-4	1.9 U	1.9	1
14070	Perfluorohexanoic acid	307-24-4	1.9 U	1.9	1
14070	Perfluorononanoic acid	375-95-1	1.9 U	1.9	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.9 U	1.9	1
14070	Perfluorooctanoic acid	335-67-1	1.9 U	1.9	1
14070	Perfluorotetradecanoic acid	376-06-7	1.9 U	1.9	1
14070	Perfluorotridecanoic acid	72629-94-8	1.9 U	1.9	1
14070	Perfluoroundecanoic acid	2058-94-8	1.9 U	1.9	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	5.5 U	5.5	1
14473	<b>Perfluorobutanoic acid</b>	375-22-4	<b>8.1</b>	6.4	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	5.5 U	5.5	1

### 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	19071007	03/13/2019 19:59	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 12:47	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1



**Sample Description:** PV-1 75 Grab Drinking Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** PW 1003798  
**ELLE Group #:** 2032615  
**Matrix:** Drinking Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:43  
**SDG#:** HOO26-06

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	1.9 U	1.9	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.9 U	1.9	1
14070	Perfluorobutanesulfonate	375-73-5	1.9 U	1.9	1
14070	Perfluorodecanoic acid	335-76-2	1.9 U	1.9	1
14070	Perfluorododecanoic acid	307-55-1	1.9 U	1.9	1
14070	Perfluoroheptanoic acid	375-85-9	1.9 U	1.9	1
14070	Perfluorohexanesulfonate	355-46-4	1.9 U	1.9	1
14070	Perfluorohexanoic acid	307-24-4	1.9 U	1.9	1
14070	Perfluorononanoic acid	375-95-1	1.9 U	1.9	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.9 U	1.9	1
14070	Perfluorooctanoic acid	335-67-1	1.9 U	1.9	1
14070	Perfluorotetradecanoic acid	376-06-7	1.9 U	1.9	1
14070	Perfluorotridecanoic acid	72629-94-8	1.9 U	1.9	1
14070	Perfluoroundecanoic acid	2058-94-8	1.9 U	1.9	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	5.5 U	5.5	1
14473	Perfluorobutanoic acid	375-22-4	6.4 U	6.4	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	5.5 U	5.5	1

### 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	19071007	03/13/2019 20:11	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 12:56	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

**Sample Description:** FTB 01-190307 Grab Blank Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** WW 1003799  
**ELLE Group #:** 2032615  
**Matrix:** Blank Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019 12:50  
**SDG#:** HOO26-07FB

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	1.7 U	1.7	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.7 U	1.7	1
14070	Perfluorobutanesulfonate	375-73-5	1.7 U	1.7	1
14070	Perfluorodecanoic acid	335-76-2	1.7 U	1.7	1
14070	Perfluorododecanoic acid	307-55-1	1.7 U	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	1.7 U	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	1.7 U	1.7	1
14070	Perfluorohexanoic acid	307-24-4	1.7 U	1.7	1
14070	Perfluorononanoic acid	375-95-1	1.7 U	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.7 U	1.7	1
14070	Perfluorooctanoic acid	335-67-1	1.7 U	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	1.7 U	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	1.7 U	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	1.7 U	1.7	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	6.1 U	6.1	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

### 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	19071007	03/13/2019 20:22	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 13:15	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

**Sample Description:** LTB 01-190307 Blank Water  
Hoosick Falls Water Treatment Plant

**C. T. Male Associates**  
**ELLE Sample #:** WW 1003800  
**ELLE Group #:** 2032615  
**Matrix:** Blank Water

**Project Name:** Hoosick Falls WTP

**Submission Date/Time:** 03/08/2019 10:00  
**Collection Date/Time:** 03/07/2019  
**SDG#:** HOO26-08TB

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	1.7 U	1.7	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.7 U	1.7	1
14070	Perfluorobutanesulfonate	375-73-5	1.7 U	1.7	1
14070	Perfluorodecanoic acid	335-76-2	1.7 U	1.7	1
14070	Perfluorododecanoic acid	307-55-1	1.7 U	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	1.7 U	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	1.7 U	1.7	1
14070	Perfluorohexanoic acid	307-24-4	1.7 U	1.7	1
14070	Perfluorononanoic acid	375-95-1	1.7 U	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.7 U	1.7	1
14070	Perfluorooctanoic acid	335-67-1	1.7 U	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	1.7 U	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	1.7 U	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	1.7 U	1.7	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	6.2 U	6.2	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

### 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	19071007	03/13/2019 20:34	Devon M Whooley	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19071004	03/13/2019 13:24	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19071007	03/12/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19071004	03/12/2019 07:55	Courtney J Fatta	1

## Quality Control Summary

Client Name: C. T. Male Associates  
Reported: 03/24/2019 16:23

Group Number: 2032615

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: 19071004	Sample number(s): 1003793-1003800	
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: 19071007	Sample number(s): 1003794-1003800	
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
Batch number: 19079001	Sample number(s): 1003793	
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

\*- 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: 03/24/2019 16:23

Group Number: 2032615

### LCS/LCSD

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
Batch number: 19071004									
Sample number(s): 1003793-1003800									
6:2 fluorotelomersulfonate	15.17	13.84	15.17	14.3	91	94	66-155	3	30
8:2 fluorotelomersulfonate	15.33	14.06	15.33	14.19	92	93	66-148	1	30
Perfluorobutanoic acid	5.44	5.32	5.44	5.41	98	99	74-142	2	30
Perfluorodecanesulfonate	5.24	4.83	5.24	4.52	92	86	60-135	7	30
Perfluoroheptanesulfonate	5.18	5.22	5.18	4.81	101	93	64-135	8	30
Perfluorooctanesulfonamide	5.44	5.49	5.44	4.99	101	92	65-164	10	30
Perfluoropentanoic acid	5.44	5.24	5.44	5.24	96	96	74-134	0	30
Batch number: 19071007									
Sample number(s): 1003794-1003800									
NEtFOSAA	4.00	4.13	4.00	4.05	103	101	50-150	2	30
NMeFOSAA	4.00	3.73	4.00	3.53	93	88	50-150	6	30
Perfluorobutanesulfonate	3.54	3.06	3.54	2.87	86	81	50-150	6	30
Perfluorodecanoic acid	4.00	3.29	4.00	3.01	82	75	50-150	9	30
Perfluorododecanoic acid	4.00	2.98	4.00	2.73	75	68	50-150	9	30
Perfluoroheptanoic acid	4.00	3.58	4.00	3.19	89	80	50-150	11	30
Perfluorohexanesulfonate	3.78	3.36	3.78	3.37	89	89	50-150	0	30
Perfluorohexanoic acid	4.00	3.62	4.00	3.22	90	80	50-150	12	30
Perfluorononanoic acid	4.00	3.46	4.00	3.01	87	75	50-150	14	30
Perfluoro-octanesulfonate	3.82	3.01	3.82	2.95	79	77	50-150	2	30
Perfluorooctanoic acid	4.00	3.58	4.00	3.26	90	81	50-150	10	30
Perfluorotetradecanoic acid	4.00	2.78	4.00	2.46	69	61	50-150	12	30
Perfluorotridecanoic acid	4.00	3.01	4.00	2.77	75	69	50-150	8	30
Perfluoroundecanoic acid	4.00	3.28	4.00	2.91	82	73	50-150	12	30
Batch number: 19079001									
Sample number(s): 1003793									
NEtFOSAA	20	18.92	20	20.19	95	101	70-130	7	30
NMeFOSAA	20	18.11	20	18.65	91	93	70-130	3	30
Perfluorobutanesulfonate	18.12	15.06	18.12	16.03	83	88	70-130	6	30
Perfluorodecanoic acid	20.48	20.16	20.48	20.06	98	98	70-130	1	30
Perfluorododecanoic acid	20.48	17.41	20.48	18.32	85	89	70-130	5	30
Perfluoroheptanoic acid	20.48	19.25	20.48	19.97	94	97	70-130	4	30
Perfluorohexanesulfonate	19.36	17.2	19.36	17.42	89	90	70-130	1	30
Perfluorohexanoic acid	20.48	18.24	20.48	19.29	89	94	70-130	6	30
Perfluorononanoic acid	20.48	18.96	20.48	20.14	93	98	70-130	6	30
Perfluoro-octanesulfonate	19.58	15.82	19.58	16.8	81	86	70-130	6	30
Perfluorooctanoic acid	20.48	18.58	20.48	20.22	91	99	70-130	8	30
Perfluorotetradecanoic acid	20.48	17.86	20.48	18.27	87	89	70-130	2	30
Perfluorotridecanoic acid	20.48	17.15	20.48	18.39	84	90	70-130	7	30
Perfluoroundecanoic acid	20.48	19.14	20.48	19.6	93	96	70-130	2	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: 03/24/2019 16:23

Group Number: 2032615

### 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: 19071004

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C2-8:2-FTS
1003793	89	105	95	98	91	108
1003794	82	81	84	88	79	80
1003795	86	86	88	96	87	89
1003796	86	87	89	98	90	93
1003797	85	88	91	99	85	92
1003798	81	82	82	91	78	86
1003799	76	79	80	83	74	74
1003800	83	86	83	90	75	78
Blank	86	86	90	93	89	87
LCS	80	81	78	86	79	83
LCSD	78	79	77	81	65	71
Limits:	33-123	31-157	34-126	32-170	50-121	27-164

#### 13C8-PFOSA

1003793	66
1003794	76
1003795	80
1003796	75
1003797	79
1003798	68
1003799	72
1003800	69
Blank	73
LCS	70
LCSD	68

Limits: 11-127

Analysis Name: 14 PFAS Drinking Water List  
Batch number: 19071007

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
1003794	100	89	98
1003795	107	90	97
1003796	98	86	99
1003797	102	88	98
1003798	101	87	95
1003799	100	97	100
1003800	103	94	101
Blank	98	93	100

\*- 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: 03/24/2019 16:23

Group Number: 2032615

### Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 14 PFAS Drinking Water List  
Batch number: 19071007

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
LCS	105	92	104
LCSD	94	84	108
Limits:	70-130	70-130	70-130

Analysis Name: 14 PFAS Drinking Water List  
Batch number: 19079001

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
1003793	104	111	95
Blank	103	107	99
LCS	107	118	108
LCSD	101	107	95
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.







Client: C.T. Male

**Hoosick Falls WTP**

**Delivery and Receipt Information**

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>03/08/2019 10:00</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>NY</u>		

**Arrival Condition Summary**

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	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): unpreserved

Unpacked by Leah Foreman (12616) at 14:41 on 03/08/2019

**Samples Chilled Details: Hoosick Falls WTP**

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	1.3	DT	Wet	Y	Bagged	N

**Sample Date/Time Discrepancy Details: Hoosick Falls WTP**

Sample ID on COC	Date/Time on Label	Comments
GAC Effluent	3/07/2019 12:10	This time is only on one bottle. The other 3 are correct.

# 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.

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# 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.