



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: August 21, 2019 10:03

Project: Hoosick Falls WTP

Account #: 37191
Group Number: 2056885
SDG: HOO33
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	Environmental Standards	Attn: St. Gobain
Electronic Copy To	Barr Engineering Company	Attn: Lauren Brady
Electronic Copy To	Barr Engineering Company	Attn: Data Mgt
Electronic Copy To	Barr Engineering Company	Attn: Terri Olson

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	08/01/2019 08:53	1116470
GAC Midfluent Grab Drinking Water	08/01/2019 08:55	1116471
GAC Effluent Grab Drinking Water	08/01/2019 09:00	1116472
PV-1 25 Grab Drinking Water	08/01/2019 09:14	1116473
PV-1 50 Grab Drinking Water	08/01/2019 09:16	1116474
PV-1 75 Grab Drinking Water	08/01/2019 09:18	1116475
FTB01-190801 Grab Blank Water	08/01/2019 09:23	1116476
LTB01-190801 Blank Water	08/01/2019	1116477

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 #: 2056885

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 1116470
ELLE Group #: 2056885
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 08:53
SDG#: HOO33-01

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	
14070	NEtFOSAA ¹ NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA ¹ NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonic acid ¹	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid ¹	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid ¹	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid¹	375-85-9	14	1.8	1
14070	Perfluorohexanesulfonic acid ¹	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid¹	307-24-4	13	1.8	1
14070	Perfluorononanoic acid ¹	375-95-1	1.8 U	1.8	1
14070	Perfluorooctanesulfonic acid¹	1763-23-1	3.2	1.8	1
14070	Perfluorooctanoic acid¹	335-67-1	440	18	10
14070	Perfluorotetradecanoic acid ¹	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid ¹	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid ¹	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.4 U	4.4	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.7 U	2.7	1
14473	Perfluorobutanoic acid ¹	375-22-4	6.2 U	6.2	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.8 U	1.8	1
14473	Perfluoropentanoic acid¹	2706-90-3	4.3	1.8	1

Sample Comments

State of New York Certification No. 10670

¹ = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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	19226015	08/17/2019 02:28	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	19226015	08/20/2019 20:47	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 03:40	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

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

C. T. Male Associates
ELLE Sample #: PW 1116471
ELLE Group #: 2056885
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 08:55
SDG#: HOO33-02

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

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.5 U	4.5	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.7 U	2.7	1
14473	Perfluorobutanoic acid ¹	375-22-4	6.3 U	6.3	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.8 U	1.8	1
14473	Perfluoropentanoic acid ¹	2706-90-3	1.8 U	1.8	1

Sample Comments

State of New York Certification No. 10670

¹ = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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	19226015	08/17/2019 02:39	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 03:49	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

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

C. T. Male Associates
ELLE Sample #: PW 1116472
ELLE Group #: 2056885
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 09:00
SDG#: HOO33-03

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

LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified					
			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.4 U	4.4	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.6 U	2.6	1
14473	Perfluorobutanoic acid ¹	375-22-4	6.2 U	6.2	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.8 U	1.8	1
14473	Perfluoropentanoic acid ¹	2706-90-3	1.8 U	1.8	1

Sample Comments

State of New York Certification No. 10670

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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	19226015	08/17/2019 02:51	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 03:58	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

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

C. T. Male Associates
ELLE Sample #: PW 1116473
ELLE Group #: 2056885
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 09:14
SDG#: HOO33-04

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	
14070	NEtFOSAA ¹ NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA ¹ NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonic acid ¹	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid ¹	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid ¹	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid¹	375-85-9	3.8	1.8	1
14070	Perfluorohexanesulfonic acid ¹	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid¹	307-24-4	6.5	1.8	1
14070	Perfluorononanoic acid ¹	375-95-1	1.8 U	1.8	1
14070	Perfluorooctanesulfonic acid ¹	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid¹	335-67-1	73	18	10
14070	Perfluorotetradecanoic acid ¹	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid ¹	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid ¹	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.5 U	4.5	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.7 U	2.7	1
14473	Perfluorobutanoic acid¹	375-22-4	7.6	6.3	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.8 U	1.8	1
14473	Perfluoropentanoic acid¹	2706-90-3	4.1	1.8	1

Sample Comments

State of New York Certification No. 10670

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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	19226015	08/17/2019 03:02	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	19226015	08/20/2019 20:58	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 04:07	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

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

C. T. Male Associates
ELLE Sample #: PW 1116474
ELLE Group #: 2056885
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 09:16
SDG#: HOO33-05

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

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.3 U	4.3	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.6 U	2.6	1
14473	Perfluorobutanoic acid¹	375-22-4	8.7	6.1	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.7 U	1.7	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.7 U	1.7	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.7 U	1.7	1
14473	Perfluoropentanoic acid¹	2706-90-3	2.9	1.7	1

Sample Comments

State of New York Certification No. 10670

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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	19226015	08/17/2019 03:14	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 04:25	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

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

C. T. Male Associates
ELLE Sample #: PW 1116475
ELLE Group #: 2056885
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 09:18
SDG#: HOO33-06

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

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.5 U	4.5	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.7 U	2.7	1
14473	Perfluorobutanoic acid¹	375-22-4	9.3	6.2	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.8 U	1.8	1
14473	Perfluoropentanoic acid ¹	2706-90-3	1.8 U	1.8	1

Sample Comments

State of New York Certification No. 10670

¹ = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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	19226015	08/17/2019 03:25	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 04:34	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

Sample Description: FTB01-190801 Grab Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 1116476
ELLE Group #: 2056885
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019 09:23
SDG#: HOO33-07FB

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1			ng/l	ng/l	
14070	NEtFOSAA ¹ NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.7 U	1.7	1
14070	NMeFOSAA ¹ NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.7 U	1.7	1
14070	Perfluorobutanesulfonic acid ¹	375-73-5	1.7 U	1.7	1
14070	Perfluorodecanoic acid ¹	335-76-2	1.7 U	1.7	1
14070	Perfluorododecanoic acid ¹	307-55-1	1.7 U	1.7	1
14070	Perfluoroheptanoic acid ¹	375-85-9	1.7 U	1.7	1
14070	Perfluorohexanesulfonic acid ¹	355-46-4	1.7 U	1.7	1
14070	Perfluorohexanoic acid ¹	307-24-4	1.7 U	1.7	1
14070	Perfluorononanoic acid ¹	375-95-1	1.7 U	1.7	1
14070	Perfluorooctanesulfonic acid ¹	1763-23-1	1.7 U	1.7	1
14070	Perfluorooctanoic acid ¹	335-67-1	1.7 U	1.7	1
14070	Perfluorotetradecanoic acid ¹	376-06-7	1.7 U	1.7	1
14070	Perfluorotridecanoic acid ¹	72629-94-8	1.7 U	1.7	1
14070	Perfluoroundecanoic acid ¹	2058-94-8	1.7 U	1.7	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.3 U	4.3	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.6 U	2.6	1
14473	Perfluorobutanoic acid ¹	375-22-4	6.0 U	6.0	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.7 U	1.7	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.7 U	1.7	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.7 U	1.7	1
14473	Perfluoropentanoic acid ¹	2706-90-3	1.7 U	1.7	1

Sample Comments

State of New York Certification No. 10670

¹ = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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	19226015	08/17/2019 03:37	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 04:43	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

Sample Description: LTB01-190801 Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 1116477
ELLE Group #: 2056885
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/02/2019 10:10
Collection Date/Time: 08/01/2019
SDG#: HOO33-08TB

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

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid ¹	27619-97-2	4.4 U	4.4	1
14473	8:2-Fluorotelomersulfonic acid ¹	39108-34-4	2.6 U	2.6	1
14473	Perfluorobutanoic acid ¹	375-22-4	6.1 U	6.1	1
14473	Perfluorodecanesulfonic acid ¹	335-77-3	1.7 U	1.7	1
14473	Perfluoroheptanesulfonic acid ¹	375-92-8	1.7 U	1.7	1
14473	Perfluorooctanesulfonamide ¹	754-91-6	1.7 U	1.7	1
14473	Perfluoropentanoic acid ¹	2706-90-3	1.7 U	1.7	1

Sample Comments

State of New York Certification No. 10670

¹ = This analyte was not on the laboratory's NYSDOH Scope of Accreditation at the time of analysis.

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	19226015	08/17/2019 03:48	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19219004	08/13/2019 04:52	Danielle D McCully	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19226015	08/14/2019 15:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19219004	08/07/2019 08:10	Austin Prince	1

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 08/21/2019 10:03

Group Number: 2056885

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: 19219004	Sample number(s): 1116470-1116477	
6:2-Fluorotelomersulfonic acid	5.0 U	5.0
8:2-Fluorotelomersulfonic acid	3.0 U	3.0
Perfluorobutanoic acid	5.0 U	5.0
Perfluorodecanesulfonic acid	2.0 U	2.0
Perfluoroheptanesulfonic acid	2.0 U	2.0
Perfluorooctanesulfonamide	2.0 U	2.0
Perfluoropentanoic acid	2.0 U	2.0
Batch number: 19226015	Sample number(s): 1116470-1116477	
NETFOSAA	2.0 U	2.0
NMeFOSAA	2.0 U	2.0
Perfluorobutanesulfonic acid	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
Perfluorohexanesulfonic acid	2.0 U	2.0
Perfluorohexanoic acid	2.0 U	2.0
Perfluorononanoic acid	2.0 U	2.0
Perfluorooctanesulfonic acid	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: 19219004	Sample number(s): 1116470-1116477								
6:2-Fluorotelomersulfonic acid	15.17	12.44			82		66-155		
8:2-Fluorotelomersulfonic acid	15.33	15.45			101		66-148		
Perfluorobutanoic acid	5.44	5.28			97		74-142		
Perfluorodecanesulfonic acid	5.24	4.28			82		60-135		
Perfluoroheptanesulfonic acid	5.18	5.19			100		64-135		
Perfluorooctanesulfonamide	5.44	4.55			84		65-164		

*- 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: 08/21/2019 10:03

Group Number: 2056885

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	5.53			102		74-134		
Batch number: 19226015	Sample number(s): 1116470-1116477								
NEtFOSAA	3.84	4.02	3.84	4.11	105	107	50-150	2	30
NMeFOSAA	3.84	4.54	3.84	4.23	118	110	50-150	7	30
Perfluorobutanesulfonic acid	3.40	3.93	3.40	4.06	116	119	50-150	3	30
Perfluorodecanoic acid	3.84	4.05	3.84	4.72	105	123	50-150	15	30
Perfluorododecanoic acid	3.84	3.86	3.84	4.22	100	110	50-150	9	30
Perfluoroheptanoic acid	3.84	4.08	3.84	4.48	106	117	50-150	9	30
Perfluorohexanesulfonic acid	3.50	4.28	3.50	4.64	122	133	50-150	8	30
Perfluorohexanoic acid	3.84	4.21	3.84	4.37	110	114	50-150	4	30
Perfluorononanoic acid	3.84	4.27	3.84	4.52	111	118	50-150	6	30
Perfluorooctanesulfonic acid	3.55	3.95	3.55	4.33	111	122	50-150	9	30
Perfluorooctanoic acid	3.84	4.22	3.84	4.52	110	118	50-150	7	30
Perfluorotetradecanoic acid	3.84	4.11	3.84	4.24	107	110	50-150	3	30
Perfluorotridecanoic acid	3.84	3.72	3.84	3.93	97	102	50-150	5	30
Perfluoroundecanoic acid	3.84	4.14	3.84	4.51	108	117	50-150	8	30

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: 19219004

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C2-8:2-FTS
1116470	93	108	110	113	96	144
1116471	88	85	90	113	80	109
1116472	87	81	83	115	87	120
1116473	96	100	98	125	92	123
1116474	92	88	91	119	87	116
1116475	94	89	96	120	94	123
1116476	92	86	94	121	94	113
1116477	94	89	86	116	90	127
Blank	96	94	104	134	103	141
LCS	89	84	82	112	93	113
Limits:	33-123	31-157	34-126	32-170	50-121	27-164
	13C8-PFOSA					
1116470	81					
1116471	78					

*- 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: 08/21/2019 10:03

Group Number: 2056885

Labeled Isotope Quality Control (continued)

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: 19219004

	13C8-PFOA
1116472	16
1116473	84
1116474	75
1116475	30
1116476	69
1116477	67
Blank	76
LCS	82

Limits: 11-127

Analysis Name: 14 PFAS Drinking Water List
Batch number: 19226015

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
1116470	98	97	86
1116471	90	94	90
1116472	96	96	99
1116473	93	88	89
1116474	91	91	92
1116475	95	94	89
1116476	102	101	100
1116477	92	92	95
Blank	90	90	90
LCS	89	89	91
LCSD	92	95	87

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 Associates

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>08/02/2019 10:10</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:	Yes
Custody Seal Intact:	Yes	Total Trip Blank Qty:	4
Samples Chilled:	Yes	Trip Blank Type:	See Below
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): Two 250ml Trizma bottles and Two Unpreserved bottles

Unpacked by Simon Nies (25112) at 17:43 on 08/02/2019

Samples Chilled Details

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

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT42-01	1.2	DT	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

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

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	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.		
ppb	parts per billion		
Dry weight basis	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.