



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: April 27, 2018 10:34

Project: Hoosick Falls WTP

Account #: 37191
Group Number: 1928769
SDG: SMC54
PO Number: 14.4756
State of Sample Origin: NY

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

Respectfully Submitted,



Nancy Jean Bornholm
Principal Specialist

(717) 556-7250



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
GAC Influent Grab Drinking Water	04/05/2018 09:17	9546389
GAC Midfluent Grab Drinking Water	04/05/2018 09:19	9546390
GAC Effluent Grab Drinking Water	04/05/2018 09:20	9546391
FTB-180405 Grab Blank Water	04/05/2018 09:25	9546392
LTB-180405 Blank Water	04/05/2018	9546393

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 #: 1928769

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 Modified, LC/MS/MS Miscellaneous

Batch #: 18103012 (Sample number(s): 9546389-9546393)

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9546389, 9546393, LCS

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

C. T. Male Associates
ELLE Sample #: PW 9546389
ELLE Group #: 1928769
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 04/06/2018 10:00
Collection Date/Time: 04/05/2018 09:17
SDG#: SMC54-01

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	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	15	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	15	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	3.3	1.8	1
14070	Perfluorooctanoic acid	335-67-1	530	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
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2 fluorotelomersulfonate	27619-97-2	8.4 U	8.4	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.6 U	5.6	1
14473	Perfluorobutanoic acid	375-22-4	5.6 U	5.6	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	2.8 U	2.8	1
14473	Perfluoropentanoic acid	2706-90-3	5.6 U	5.6	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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	18101010	04/17/2018 07:06	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18101010	04/18/2018 07:06	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18103012	04/20/2018 03:27	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18101010	04/11/2018 14:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18103012	04/14/2018 08:30	Danielle D McCully	1

REVISED

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

C. T. Male Associates
ELLE Sample #: PW 9546390
ELLE Group #: 1928769
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 04/06/2018 10:00
Collection Date/Time: 04/05/2018 09:19
SDG#: SMC54-02

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	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	Perfluorododecanoic 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	1.9	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
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2 fluorotelomersulfonate	27619-97-2	8.3 U	8.3	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.6 U	5.6	1
14473	Perfluorobutanoic acid	375-22-4	6.3	5.6	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	2.8 U	2.8	1
14473	Perfluoropentanoic acid	2706-90-3	5.6 U	5.6	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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	18101010	04/17/2018 07:18	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18103012	04/20/2018 03:42	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18101010	04/11/2018 14:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18103012	04/14/2018 08:30	Danielle D McCully	1

REVISED

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

C. T. Male Associates
ELLE Sample #: PW 9546391
ELLE Group #: 1928769
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 04/06/2018 10:00
Collection Date/Time: 04/05/2018 09:20
SDG#: SMC54-03

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	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

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 fluorotelomersulfonate	27619-97-2	8.4 U	8.4	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.6 U	5.6	1
14473	Perfluorobutanoic acid	375-22-4	5.6 U	5.6	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	2.8 U	2.8	1
14473	Perfluoropentanoic acid	2706-90-3	5.6 U	5.6	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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	18101010	04/17/2018 07:29	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18103012	04/20/2018 03:56	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18101010	04/11/2018 14:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18103012	04/14/2018 08:30	Danielle D McCully	1

REVISED

Sample Description: FTB-180405 Grab Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9546392
ELLE Group #: 1928769
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 04/06/2018 10:00
Collection Date/Time: 04/05/2018 09:25
SDG#: SMC54-04TB

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	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

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 fluorotelomersulfonate	27619-97-2	8.4 U	8.4	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.6 U	5.6	1
14473	Perfluorobutanoic acid	375-22-4	5.6 U	5.6	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	2.8 U	2.8	1
14473	Perfluoropentanoic acid	2706-90-3	5.6 U	5.6	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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	18101010	04/17/2018 07:41	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18103012	04/20/2018 04:11	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18101010	04/11/2018 14:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18103012	04/14/2018 08:30	Danielle D McCully	1

REVISED

Sample Description: LTB-180405 Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9546393
ELLE Group #: 1928769
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 04/06/2018 10:00
Collection Date/Time: 04/05/2018
SDG#: SMC54-05TB

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	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

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 fluorotelomersulfonate	27619-97-2	8.2 U	8.2	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.4 U	5.4	1
14473	Perfluorobutanoic acid	375-22-4	5.4 U	5.4	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	5.4 U	5.4	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

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	18101010	04/17/2018 07:52	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18103012	04/20/2018 04:25	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18101010	04/11/2018 14:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18103012	04/14/2018 08:30	Danielle D McCully	1

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 04/27/2018 10:34

Group Number: 1928769

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: 18101010	Sample number(s): 9546389-9546393	
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: 18103012	Sample number(s): 9546389-9546393	
6:2 fluorotelomersulfonate	9.0 U	9.0
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

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: 18101010	Sample number(s): 9546389-9546393								
NEtFOSAA	20	22.96	20	23.06	115	115	70-130	0	30
NMeFOSAA	20	23.07	20	21.66	115	108	70-130	6	30
Perfluorobutanesulfonate	18.12	20.87	18.12	20.67	115	114	70-130	1	30
Perfluorodecanoic acid	20.48	24.21	20.48	23.97	118	117	70-130	1	30
Perfluorododecanoic acid	20.48	23.77	20.48	23.7	116	116	70-130	0	30
Perfluoroheptanoic acid	20.48	23.67	20.48	22.67	116	111	70-130	4	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: 04/27/2018 10:34

Group Number: 1928769

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
Perfluorohexanesulfonate	19.36	21.15	19.36	21.49	109	111	70-130	2	30
Perfluorohexanoic acid	20.48	23.23	20.48	23.44	113	114	70-130	1	30
Perfluorononanoic acid	20.48	24.39	20.48	23.95	119	117	70-130	2	30
Perfluoro-octanesulfonate	19.58	19.27	19.58	20.47	98	105	70-130	6	30
Perfluorooctanoic acid	20.48	23.36	20.48	22.2	114	108	70-130	5	30
Perfluorotetradecanoic acid	20.48	23.49	20.48	23.55	115	115	70-130	0	30
Perfluorotridecanoic acid	20.48	24.34	20.48	24.07	119	118	70-130	1	30
Perfluoroundecanoic acid	20.48	23.48	20.48	22.78	115	111	70-130	3	30
Batch number: 18103012 Sample number(s): 9546389-9546393									
6:2 fluorotelomersulfonate	15.17	15.53	15.17	14.54	102	96	66-155	7	30
8:2 fluorotelomersulfonate	15.33	17.78	15.33	14.75	116	96	66-148	19	30
Perfluorobutanoic acid	5.44	5.21	5.44	4.98	96	92	74-142	4	30
Perfluorodecanesulfonate	5.24	4.30	5.24	4.64	82	88	60-135	8	30
Perfluoroheptanesulfonate	5.18	4.50	5.18	4.38	87	85	64-135	3	30
Perfluorooctanesulfonamide	5.44	4.73	5.44	4.68	87	86	65-164	1	30
Perfluoropentanoic acid	5.44	5.30	5.44	4.91	97	90	74-134	8	30

Surrogate Quality Control

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: 18101010

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
9546389	108	110	106
9546390	101	100	97
9546391	99	96	84
9546392	97	94	86
9546393	86	84	74
Blank	100	98	84
LCS	101	109	88
LCSD	102	108	87
Limits:	70-130	70-130	70-130

Analysis Name: 7 PFAS Compounds
Batch number: 18103012

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C4-PFHpA	13C2-6:2-FTS	13C8-PFOS
9546389	80	106	103	101	86	75
9546390	83	86	75	81	97	82
9546391	76	77	70	74	89	76

*- 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: 04/27/2018 10:34

Group Number: 1928769

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: 7 PFAS Compounds
Batch number: 18103012

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C4-PFHpA	13C2-6:2-FTS	13C8-PFOS
9546392	81	81	79	80	96	81
9546393	73	69	72	71	83	71
Blank	81	80	81	86	94	86
LCS	76	74	73	72	86	79
LCSD	80	81	77	79	94	82
Limits:	33-123	39-135	34-126	35-126	39-140	43-115

13C8-PFOSA

9546389	57*
9546390	74
9546391	70
9546392	70
9546393	63*
Blank	70
LCS	68*
LCSD	70
Limits:	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 1 of 2

Acct. #: 37191

Group #:

1928769

Sample #:

9846389-99

COC#: 18881

Client: C.T. Male Associates				Matrix			Analyses Requested										For Lab Use Only				
Project Name/#: Hoosick Falls WTP		Site ID:		<input type="checkbox"/> Sediment	<input type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation Codes										SF#: 303216				
Project Manager: Kirk Moline		P.O. #: 14.4756		<input type="checkbox"/> Potable	<input checked="" type="checkbox"/> NPDES	<input type="checkbox"/> Other: <i>Reagent Water</i>											SCR#: 222456				
Sampler: <i>CO, DA</i>		Quote #: 214135		<input type="checkbox"/> Soil	<input type="checkbox"/> Water												Preservation Codes H = HCl T = Thiosulfate N = HNO ₃ B = NaOH S = H ₂ SO ₄ P = H ₃ PO ₄ O = Other Z = Trizma				
State where sample(s) were collected: NY																					
Sample Identification	Collection		Grab	Composite	Soil	Water	Other: <i>Reagent Water</i>	Total # of Containers	7 PFCs (EPA 537 mod.)	24 PFCs (EPA 537 ver. 1.1)											Remarks
	Date	Time																			
<i>GAC Influent</i>	<i>4/5/18</i>	<i>917</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											<i>2 Trizma / 2 non-Trizma</i>
<i>GAC Mid Influent</i>	<i>4/5/18</i>	<i>919</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
<i>GAC Effluent</i>	<i>4/5/18</i>	<i>920</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
<i>FTB-180405</i>	<i>4/5/18</i>	<i>925</i>	<i>X</i>			<i>X</i>		<i>4</i>	<i>X</i>	<i>X</i>											
<i>LTB-180405</i>	<i>4/5/18</i>	<i>—</i>	<i>X</i>			<i>X</i>		<i>4</i>	<i>X</i>	<i>X</i>											
<i>PV1-25</i>	<i>4/5/18</i>	<i>0943</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
<i>PV1-50</i>	<i>4/5/18</i>	<i>0950</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
<i>PV1-75</i>	<i>4/5/18</i>	<i>0955</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
<i>PV2-25</i>	<i>4/5/18</i>	<i>1000</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
<i>PV2-50</i>	<i>4/5/18</i>	<i>1005</i>	<i>X</i>		<i>X</i>			<i>4</i>	<i>X</i>	<i>X</i>											
Turnaround Time Requested (TAT) (please check): Standard <input checked="" type="checkbox"/> RUSH <input type="checkbox"/>				Relinquished by: <i>[Signature]</i>			Date	Time	Received by:			Date	Time								
(RUSH TAT is subject to Eurofins Lancaster Laboratories approval and surcharges.)							<i>4/5/18</i>	<i>1530</i>													
Date results are needed:				Relinquished by:			Date	Time	Received by:			Date	Time								
E-mail address to send RUSH results:																					
Data Package Options (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:			Date	Time								
									<i>[Signature]</i>			<i>4/16/18</i>	<i>1000</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>3.1</i> °C											
				UPS <input type="checkbox"/> FedEx <input checked="" type="checkbox"/> Other <input type="checkbox"/>																	

Environmental Services Analysis Request/Chain of Custody 2 of 2

Acct. #: 37191

Group #: 1928769

Sample #: 9546389-99

COC#: 18881

Client: C.T. Male Associates				Matrix			Analyses Requested										For Lab Use Only	
Project Name/#: Hoosick Falls WTP		Site ID:		<input type="checkbox"/> Sediment	<input type="checkbox"/> Ground	<input type="checkbox"/> Surface	Preservation Codes										SF#: 303216	
Project Manager: Kirk Moline		P.O. #: 14.4756		<input type="checkbox"/> Potable	<input checked="" type="checkbox"/> NPDES	<input type="checkbox"/> Other:	Z										SCR#: 222456	
Sampler: <i>CO, DA</i>		Quote #: 214135		<input type="checkbox"/> Soil	<input type="checkbox"/> Water	Total # of Containers	7 PFCs (EPA 537 mod.) 21 PFCs (EPA 537 ver. 1.1)										Preservation Codes	
Phone #:		State where sample(s) were collected: NY		<input type="checkbox"/> Composite													H = HCl	
Sample Identification		Collection		Grab	Composite											Remarks		
		Date	Time													H = HNO ₃		B = NaOH
<i>PV2-75</i>		<i>4/5/18</i>	<i>1010</i>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<i>4</i>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<i>2 Trizma / 2 non-Trizma</i>						
Turnaround Time Requested (TAT) (please check): Standard <input checked="" type="checkbox"/> RUSH <input type="checkbox"/>				Relinquished by: <i>Chris...</i>			Date	Time	Received by:			Date	Time					
(RUSH TAT is subject to Eurofins Lancaster Laboratories approval and surcharges.)							<i>4/5/18</i>	<i>1530</i>										
Date results are needed:				Relinquished by:			Date	Time	Received by:			Date	Time					
E-mail address to send RUSH results:																		
Data Package Options (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>MWR</i>			Date	Time					
												<i>4/6/18</i>	<i>1000</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>3-1</i> °C								
				UPS _____ FedEx <input checked="" type="checkbox"/> Other _____														



Client: C.T. Male Associates, Inc.

Hoosick Falls WTP

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>04/06/2018 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:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 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 Trizma + 2 Unpres.

Unpacked by Nicole Reiff (25684) at 15:12 on 04/06/2018

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	DT146	3.1	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	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	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.

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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.
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.