



ANALYSIS REPORT

Prepared by:

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Prepared for:

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

Report Date: May 17, 2018 11:44

Project: Hoosick Falls WTP

Account #: 37191
Group Number: 1939833
SDG: HOO01
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	05/03/2018 09:25	9593396
GAC Midfluent Grab Drinking Water	05/03/2018 09:30	9593397
GAC Effluent Grab Drinking Water	05/03/2018 09:35	9593398
FTB01-180503 Grab Blank Water	05/03/2018 09:40	9593399
LTB01-180503 Blank Water	05/03/2018	9593400

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 #: 1939833

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

Sample #s: 9593400

The recovery for several labeled compounds used as extraction standards is outside of QC acceptance limits as noted on the QC Summary. Since the result is high and the associated native compounds are not detected, the data is reported.

Sample #s: 9593396

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Several labeled compounds used as extraction standard areas were outside of the QC limits as noted on the QC Summary for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Batch #: 18125002 (Sample number(s): 9593396-9593400)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9593396, 9593400, Blank, LCS, LCSD

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9593396, LCS, LCSD

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

C. T. Male Associates
ELLE Sample #: PW 9593396
ELLE Group #: 1939833
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 05/04/2018 09:55
Collection Date/Time: 05/03/2018 09:25
SDG#: H001-01

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	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	17	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	16	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	3.8	1.8	1
14070	Perfluorooctanoic acid	335-67-1	490	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	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	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

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Several labeled compounds used as extraction standard areas were outside of the QC limits as noted on the QC Summary for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Sample Comments

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	18127005	05/11/2018 11:26	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18127005	05/11/2018 23:34	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18125002	05/08/2018 10:35	Jason W Knight	1

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

C. T. Male Associates
ELLE Sample #: PW 9593396
ELLE Group #: 1939833
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 05/04/2018 09:55

Collection Date/Time: 05/03/2018 09:25

SDG#: H0001-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18127005	05/07/2018 15:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18125002	05/06/2018 08:15	Danielle D McCully	1

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

C. T. Male Associates
ELLE Sample #: PW 9593397
ELLE Group #: 1939833
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 05/04/2018 09:55
Collection Date/Time: 05/03/2018 09:30
SDG#: H0001-02

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	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	4.0	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	3.1	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	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	6.0	5.3	1
14473	Perfluorodecanesulfonate	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.3 U	5.3	1

Sample Comments

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	18127005	05/11/2018 11:38	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18125002	05/07/2018 01:04	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18127005	05/07/2018 15:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18125002	05/06/2018 08:15	Danielle D McCully	1

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

C. T. Male Associates
ELLE Sample #: PW 9593398
ELLE Group #: 1939833
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 05/04/2018 09:55
Collection Date/Time: 05/03/2018 09:35
SDG#: H0001-03

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	1.7 U	1.7	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.2 U	5.2	1
14473	Perfluorobutanoic acid	375-22-4	5.2 U	5.2	1
14473	Perfluorodecanesulfonate	335-77-3	1.7 U	1.7	1
14473	Perfluoroheptanesulfonate	375-92-8	1.7 U	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.2 U	5.2	1

Sample Comments

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	18127005	05/11/2018 11:49	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18125002	05/07/2018 01:19	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18127005	05/07/2018 15:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18125002	05/06/2018 08:15	Danielle D McCully	1

Sample Description: FTB01-180503 Grab Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9593399
ELLE Group #: 1939833
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 05/04/2018 09:55
Collection Date/Time: 05/03/2018 09:40
SDG#: H001-04TB

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	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	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

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	18127005	05/11/2018 12:01	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18125002	05/07/2018 01:33	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18127005	05/07/2018 15:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18125002	05/06/2018 08:15	Danielle D McCully	1

Sample Description: LTB01-180503 Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9593400
ELLE Group #: 1939833
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 05/04/2018 09:55
Collection Date/Time: 05/03/2018
SDG#: H0001-05TB

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	1.8 U	1.8	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.3 U	5.3	1
14473	Perfluorobutanoic acid	375-22-4	5.3 U	5.3	1
14473	Perfluorodecanesulfonate	335-77-3	1.8 U	1.8	1
14473	Perfluoroheptanesulfonate	375-92-8	1.8 U	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	2.7 U	2.7	1
14473	Perfluoropentanoic acid	2706-90-3	5.3 U	5.3	1

The recovery for several labeled compounds used as extraction standards is outside of QC acceptance limits as noted on the QC Summary. Since the result is high and the associated native compounds are not detected, the data is reported.

Sample Comments

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	18127005	05/11/2018 12:12	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18125002	05/08/2018 10:50	Jason W Knight	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18127005	05/07/2018 15:30	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18125002	05/06/2018 08:15	Danielle D McCully	1

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 05/17/2018 11:44

Group Number: 1939833

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: 18125002	Sample number(s): 9593396-9593400	
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: 18127005	Sample number(s): 9593396-9593400	
NETFOSAA	2.0 U	2.0
NMeFOSAA	2.0 U	2.0
Perfluorobutanesulfonate	2.0 U	2.0
Perfluorodecanoic acid	2.0 U	2.0
Perfluorododecanoic acid	2.0 U	2.0
Perfluoroheptanoic acid	2.0 U	2.0
Perfluorohexanesulfonate	2.0 U	2.0
Perfluorohexanoic acid	2.0 U	2.0
Perfluorononanoic acid	2.0 U	2.0
Perfluoro-octanesulfonate	2.0 U	2.0
Perfluorooctanoic acid	2.0 U	2.0
Perfluorotetradecanoic acid	2.0 U	2.0
Perfluorotridecanoic acid	2.0 U	2.0
Perfluoroundecanoic acid	2.0 U	2.0

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ng/l	ng/l	ng/l	ng/l					
Batch number: 18125002	Sample number(s): 9593396-9593400								
6:2 fluorotelomersulfonate	15.17	14.03	15.17	14.6	93	96	66-155	4	30
8:2 fluorotelomersulfonate	15.33	18.79	15.33	17.49	123	114	66-148	7	30
Perfluorobutanoic acid	5.44	6.30	5.44	6.18	116	114	74-142	2	30
Perfluorodecanesulfonate	5.24	5.36	5.24	4.97	102	95	60-135	8	30
Perfluoroheptanesulfonate	5.18	5.76	5.18	5.52	111	107	64-135	4	30
Perfluorooctanesulfonamide	5.44	5.61	5.44	5.62	103	103	65-164	0	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: 05/17/2018 11:44

Group Number: 1939833

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	6.24	5.44	6.27	115	115	74-134	0	30
Batch number: 18127005	Sample number(s): 9593396-9593400								
NEtFOSAA	4.00	4.25	4.00	4.50	106	113	70-130	6	30
NMeFOSAA	4.00	4.14	4.00	4.22	103	105	70-130	2	30
Perfluorobutanesulfonate	3.54	3.37	3.54	3.67	95	104	70-130	9	30
Perfluorodecanoic acid	4.00	4.44	4.00	4.67	111	117	70-130	5	30
Perfluorododecanoic acid	4.00	4.34	4.00	4.59	109	115	70-130	6	30
Perfluoroheptanoic acid	4.00	4.28	4.00	4.67	107	117	70-130	9	30
Perfluorohexanesulfonate	3.78	3.84	3.78	4.08	101	108	70-130	6	30
Perfluorohexanoic acid	4.00	3.73	4.00	4.17	93	104	70-130	11	30
Perfluorononanoic acid	4.00	4.06	4.00	4.48	102	112	70-130	10	30
Perfluoro-octanesulfonate	3.82	3.61	3.82	4.08	94	107	70-130	12	30
Perfluorooctanoic acid	4.00	3.99	4.00	4.47	100	112	70-130	11	30
Perfluorotetradecanoic acid	4.00	4.18	4.00	4.43	104	111	70-130	6	30
Perfluorotridecanoic acid	4.00	4.20	4.00	4.44	105	111	70-130	6	30
Perfluoroundecanoic acid	4.00	4.29	4.00	4.77	107	119	70-130	11	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: 7 PFAS Compounds

Batch number: 18125002

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C6-PFDA
9593396	105	148*	140*	129	111	93
9593397	83	90	80	103	89	79
9593398	86	87	91	115	91	90
9593399	87	86	77	108	88	87
9593400	115	119	115	160*	123*	119*
Blank	101	102	97	191*	101	101
LCS	102	106	92	223*	101	96
LCSD	108	111	93	221*	114	101
Limits:	33-123	39-135	34-126	39-140	43-115	40-115
	13C2-8:2-FTS	13C8-PFOA				
9593396	157*	44*				
9593397	106	77				
9593398	108	76				
9593399	109	70				

*- 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: 05/17/2018 11:44

Group Number: 1939833

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: 18125002

	13C2-8:2-FTS	13C8-PFOA
9593400	149*	97
Blank	155*	71
LCS	163*	64*
LCSD	193*	62*
Limits:	39-137	70-130

Analysis Name: 14 PFAS Drinking Water List
Batch number: 18127005

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
9593396	91	99	92
9593397	108	101	99
9593398	89	96	102
9593399	94	101	100
9593400	94	105	98
Blank	100	108	101
LCS	83	93	96
LCSD	90	101	97
Limits:	70-130	70-130	70-130

*- Outside of specification

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

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

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

Environmental Services Analysis Request/Chain of Custody

Acct. #: 37191

Group #: 1939833

Sample #: 9593396-400

COC#: 19103

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"/> Potable Water <input checked="" type="checkbox"/> Ground Water <input type="checkbox"/> Surface NPDES Other: <i>Reason water</i>	<input type="checkbox"/> Soil	Preservation Codes										SF#: 303216																					
Project Manager: Kirk Moline		P.O. #: 14.4756				<table border="1" style="width:100%; height: 100px;"> <tr><td style="width: 5%;">Z</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>										Z																				SCR#: 224436	
Z																																					
Sampler: <i>CO</i>																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																					
Phone #:		Quote #: 214135		Total # of Containers 7 PFCs (EPA 537 mod.) 14 PFCs (EPA 537 ver. 1.1)																																	
State where sample(s) were collected: NY																																					
Sample Identification		Collection		Grab	Composite											Remarks																					
		Date	Time																																		
<i>GAC Inflow</i>		<i>5/3/18</i>	<i>0925</i>	<input checked="" type="checkbox"/>												<i>2 Trizma / 2 Non-9000</i>																					
<i>GAC Midflow</i>		↓	<i>0930</i>	<input checked="" type="checkbox"/>												↓																					
<i>GAC Effluent</i>		↓	<i>0935</i>	<input checked="" type="checkbox"/>																																	
<i>FTB01-180503</i>		↓	<i>0940</i>	<input checked="" type="checkbox"/>																																	
<i>LTB01-180503</i>		↓	<i>-</i>																																		
Turnaround Time Requested (TAT) (please check): Standard <input type="checkbox"/> RUSH <input type="checkbox"/>						Relinquished by: <i>Kurt Hentz</i>		Date: <i>5/30/18</i>		Time: <i>1120</i>		Received by: <i>Christina...</i>		Date: <i>5/2/18</i>		Time: <i>1500</i>																					
(RUSH TAT is subject to Eurofins Lancaster Laboratories approval and surcharges.)						Relinquished by: <i>Christina...</i>		Date: <i>5/3/18</i>		Time: <i>1100</i>		Received by:		Date:		Time:																					
Date results are needed:						Relinquished by:		Date:		Time:		Received by:		Date:		Time:																					
E-mail address to send RUSH results:						Relinquished by:		Date:		Time:		Received by:		Date:		Time:																					
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"/>		Relinquished by:		Date:		Time:		Received by:		Date:		Time:																					
Type III (Reduced non-CLP) <input type="checkbox"/>		CT RCP <input type="checkbox"/>				Relinquished by:		Date:		Time:		Received by:		Date:		Time:																					
Type IV (CLP SOW) <input type="checkbox"/>		ASP Type A <input type="checkbox"/>				Relinquished by:		Date:		Time:		Received by:		Date:		Time:																					
Type VI (Raw Data Only) <input type="checkbox"/>		ASP Type B <input checked="" type="checkbox"/>				Relinquished by:		Date:		Time:		Received by: <i>MWP</i>		Date: <i>5/14/18</i>		Time: <i>0955</i>																					
EDD Format: EQUIS						Airbill No.:		Relinquished by Commercial Carrier:		UPS <input type="checkbox"/> FedEx <input checked="" type="checkbox"/> Other <input type="checkbox"/>		Temperature upon receipt: <i>0.5</i> °C																									
If site-specific QC (MS/MSD/Dup) required, indicate QC samples and submit triplicate volume.																																					



Client: C.T. Male Associates, Inc.

Hoosick Falls WTP

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>05/04/2018 9:55</u>
Number of Packages:	<u>5</u>	Number of Projects:	<u>3</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:	Yes		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): Unpreserved

Unpacked by Nicole Reiff (25684) at 14:03 on 05/04/2018

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?
5	DT146	0.5	DT	Wet	Y	Bagged	N

Extra Sample Details: Hoosick Falls WTP

Sample ID on Label	Number of Extra Containers	Date on Label	Comments
PFC Free Blank Water Triplanks	4	-- --	

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.

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.
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.