



ANALYSIS REPORT

Prepared by:

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2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

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

Report Date: January 14, 2019 14:18

Project: Hoosick Falls WTP

Account #: 37191
Group Number: 2022041
SDG: HOO20
PO Number: 14.4756
State of Sample Origin: NY

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

Respectfully Submitted,



Nancy Jean Bornholm
Principal Specialist

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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>
LTB01-181224 Blank Water	12/24/2018	9955746
FTB01-181224 Grab Blank Water	12/24/2018 07:50	9955747
GAC Influent Grab Drinking Water	12/24/2018 08:00	9955748
GAC Midfluent Grab Drinking Water	12/24/2018 08:05	9955749
GAC Effluent Grab Drinking Water	12/24/2018 08:10	9955750

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 #: 2022041

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: LTB01-181224 Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9955746
ELLE Group #: 2022041
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 12/27/2018 09:45
Collection Date/Time: 12/24/2018
SDG#: HOO20-01TB

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 NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
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

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	19003006	01/08/2019 21:29	Joshua P Trost	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19003001	01/04/2019 15:08	Christine E Dolman	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19003006	01/03/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19003001	01/03/2019 07:55	Courtney J Fatta	1

Sample Description: FTB01-181224 Grab Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9955747
ELLE Group #: 2022041
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 12/27/2018 09:45
Collection Date/Time: 12/24/2018 07:50
SDG#: HOO20-02FB

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 NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
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

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	19003006	01/08/2019 21:41	Joshua P Trost	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19003001	01/04/2019 15:17	Christine E Dolman	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19003006	01/03/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19003001	01/03/2019 07:55	Courtney J Fatta	1

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

C. T. Male Associates
ELLE Sample #: PW 9955748
ELLE Group #: 2022041
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 12/27/2018 09:45
Collection Date/Time: 12/24/2018 08:00
SDG#: HOO20-03

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1					
14070	NEtFOSAA NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.9 U	1.9	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.9 U	1.9	1
14070	Perfluorobutanesulfonate	375-73-5	2.0	1.9	1
14070	Perfluorodecanoic acid	335-76-2	1.9 U	1.9	1
14070	Perfluorododecanoic acid	307-55-1	1.9 U	1.9	1
14070	Perfluoroheptanoic acid	375-85-9	15	1.9	1
14070	Perfluorohexanesulfonate	355-46-4	1.9 U	1.9	1
14070	Perfluorohexanoic acid	307-24-4	15	1.9	1
14070	Perfluorononanoic acid	375-95-1	1.9 U	1.9	1
14070	Perfluoro-octanesulfonate	1763-23-1	3.4	1.9	1
14070	Perfluorooctanoic acid	335-67-1	520	19	10
14070	Perfluorotetradecanoic acid	376-06-7	1.9 U	1.9	1
14070	Perfluorotridecanoic acid	72629-94-8	1.9 U	1.9	1
14070	Perfluoroundecanoic acid	2058-94-8	1.9 U	1.9	1

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified							
14473	6:2 fluorotelomersulfonate	27619-97-2	1.8 U		1.8		1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.5 U		5.5		1
14473	Perfluorobutanoic acid	375-22-4	5.5 U		5.5		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	5.8		5.5		1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	19003006	01/08/2019 21:52	Joshua P Trost	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	19003006	01/09/2019 17:33	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19003001	01/04/2019 15:26	Christine E Dolman	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19003006	01/03/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19003001	01/03/2019 07:55	Courtney J Fatta	1

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

C. T. Male Associates
ELLE Sample #: PW 9955749
ELLE Group #: 2022041
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 12/27/2018 09:45
Collection Date/Time: 12/24/2018 08:05
SDG#: HOO20-04

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 NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.8 U	1.8	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.8 U	1.8	1
14070	Perfluorobutanesulfonate	375-73-5	1.8 U	1.8	1
14070	Perfluorodecanoic acid	335-76-2	1.8 U	1.8	1
14070	Perfluorododecanoic acid	307-55-1	1.8 U	1.8	1
14070	Perfluoroheptanoic acid	375-85-9	1.8 U	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	1.8 U	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.8 U	1.8	1
14070	Perfluorooctanoic acid	335-67-1	1.8 U	1.8	1
14070	Perfluorotetradecanoic acid	376-06-7	1.8 U	1.8	1
14070	Perfluorotridecanoic acid	72629-94-8	1.8 U	1.8	1
14070	Perfluoroundecanoic acid	2058-94-8	1.8 U	1.8	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	
14473	6:2 fluorotelomersulfonate	27619-97-2	1.9 U	1.9	1
14473	8:2 fluorotelomersulfonate	39108-34-4	5.7 U	5.7	1
14473	Perfluorobutanoic acid	375-22-4	9.1	5.7	1
14473	Perfluorodecanesulfonate	335-77-3	1.9 U	1.9	1
14473	Perfluoroheptanesulfonate	375-92-8	1.9 U	1.9	1
14473	Perfluorooctanesulfonamide	754-91-6	2.9 U	2.9	1
14473	Perfluoropentanoic acid	2706-90-3	5.7 U	5.7	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	19003006	01/08/2019 22:04	Joshua P Trost	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19003001	01/04/2019 15:44	Christine E Dolman	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19003006	01/03/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19003001	01/03/2019 07:55	Courtney J Fatta	1

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

C. T. Male Associates
ELLE Sample #: PW 9955750
ELLE Group #: 2022041
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 12/27/2018 09:45
Collection Date/Time: 12/24/2018 08:10
SDG#: HOO20-05

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 NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.9 U	1.9	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.9 U	1.9	1
14070	Perfluorobutanesulfonate	375-73-5	1.9 U	1.9	1
14070	Perfluorodecanoic acid	335-76-2	1.9 U	1.9	1
14070	Perfluorododecanoic acid	307-55-1	1.9 U	1.9	1
14070	Perfluoroheptanoic acid	375-85-9	1.9 U	1.9	1
14070	Perfluorohexanesulfonate	355-46-4	1.9 U	1.9	1
14070	Perfluorohexanoic acid	307-24-4	1.9 U	1.9	1
14070	Perfluorononanoic acid	375-95-1	1.9 U	1.9	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.9 U	1.9	1
14070	Perfluorooctanoic acid	335-67-1	1.9 U	1.9	1
14070	Perfluorotetradecanoic acid	376-06-7	1.9 U	1.9	1
14070	Perfluorotridecanoic acid	72629-94-8	1.9 U	1.9	1
14070	Perfluoroundecanoic acid	2058-94-8	1.9 U	1.9	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
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

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	19003006	01/08/2019 22:15	Joshua P Trost	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	19003001	01/04/2019 15:53	Christine E Dolman	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	19003006	01/03/2019 16:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	19003001	01/03/2019 07:55	Courtney J Fatta	1

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 01/14/2019 14:18

Group Number: 2022041

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: 19003001	Sample number(s): 9955746-9955750	
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: 19003006	Sample number(s): 9955746-9955750	
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: 19003001	Sample number(s): 9955746-9955750								
6:2 fluorotelomersulfonate	15.17	16.21	15.17	17.12	107	113	66-155	5	30
8:2 fluorotelomersulfonate	15.33	16.02	15.33	13.62	104	89	66-148	16	30
Perfluorobutanoic acid	5.44	6.89	5.44	6.26	127	115	74-142	10	30
Perfluorodecanesulfonate	5.24	5.88	5.24	5.67	112	108	60-135	4	30
Perfluoroheptanesulfonate	5.18	6.52	5.18	5.76	126	111	64-135	12	30
Perfluorooctanesulfonamide	5.44	6.01	5.44	4.95	110	91	65-164	19	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: 01/14/2019 14:18

Group Number: 2022041

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	6.10	5.44	6.32	112	116	74-134	4	30
Batch number: 19003006	Sample number(s): 9955746-9955750								
NEtFOSAA	20	19.18	20	19.3	96	97	70-130	1	30
NMeFOSAA	20	21.01	20	20.97	105	105	70-130	0	30
Perfluorobutanesulfonate	18.12	17.4	18.12	18.88	96	104	70-130	8	30
Perfluorodecanoic acid	20.48	19.11	20.48	19.39	93	95	70-130	1	30
Perfluorododecanoic acid	20.48	19.35	20.48	18.89	94	92	70-130	2	30
Perfluoroheptanoic acid	20.48	17.91	20.48	18.85	87	92	70-130	5	30
Perfluorohexanesulfonate	19.36	18.91	19.36	20.33	98	105	70-130	7	30
Perfluorohexanoic acid	20.48	18.23	20.48	18.53	89	90	70-130	2	30
Perfluorononanoic acid	20.48	19.69	20.48	19.12	96	93	70-130	3	30
Perfluoro-octanesulfonate	19.58	16.58	19.58	18.52	85	95	70-130	11	30
Perfluorooctanoic acid	20.48	18.79	20.48	19.74	92	96	70-130	5	30
Perfluorotetradecanoic acid	20.48	18.48	20.48	18.36	90	90	70-130	1	30
Perfluorotridecanoic acid	20.48	19.54	20.48	20.29	95	99	70-130	4	30
Perfluoroundecanoic acid	20.48	19.88	20.48	19.15	97	94	70-130	4	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: 19003001

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C2-8:2-FTS
9955746	84	86	86	98	83	80
9955747	81	81	86	100	78	84
9955748	69	87	87	83	74	91
9955749	74	74	81	93	73	65
9955750	88	93	98	118	82	93
Blank	79	82	90	96	78	79
LCS	67	66	59	87	68	81
LCSD	75	70	72	92	75	96
Limits:	33-123	31-157	34-126	32-170	50-121	27-164

13C8-PFOSA

9955746	75
9955747	72
9955748	55
9955749	73

*- 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: 01/14/2019 14:18

Group Number: 2022041

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: 19003001

	13C8-PFOSA
9955750	85
Blank	65
LCS	63
LCSD	73

Limits: 11-127

Analysis Name: 14 PFAS Drinking Water List
Batch number: 19003006

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
9955746	93	96	86
9955747	96	102	103
9955748	100	110	103
9955749	95	104	95
9955750	100	101	93
Blank	102	107	95
LCS	95	96	92
LCSD	92	97	91

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 Assoc.

Hoosick Falls WTP

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>12/27/2018 9:45</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 Unpreserved

Unpacked by Nicole Reiff (25684) at 12:27 on 12/27/2018

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	1.4	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.

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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.
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.