



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: August 14, 2018 08:05

Project: Hoosick Falls WTP

Account #: 37191
Group Number: 1973029
SDG: H0006
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 <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. 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>
G.A.C. Influent Grab Drinking Water	08/02/2018 09:40	9737489
G.A.C. Midfluent Grab Drinking Water	08/02/2018 09:44	9737490
G.A.C. Effluent Grab Drinking Water	08/02/2018 09:47	9737491
FTB01-180802 Grab Blank Water	08/02/2018 09:53	9737492
LTB01-180802 Blank Water	08/02/2018	9737493

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 #: 1973029

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: 9737492

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

Batch #: 18216003 (Sample number(s): 9737489-9737493)

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9737492

Sample Description: G.A.C. Influent Grab Drinking Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 9737489
ELLE Group #: 1973029
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/03/2018 10:00
Collection Date/Time: 08/02/2018 09:40
SDG#: H0006-01

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 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	11	1.8	1
14070	Perfluorohexanesulfonate	355-46-4	1.8 U	1.8	1
14070	Perfluorohexanoic acid	307-24-4	9.5	1.8	1
14070	Perfluorononanoic acid	375-95-1	1.8 U	1.8	1
14070	Perfluoro-octanesulfonate	1763-23-1	3.0	1.8	1
14070	Perfluorooctanoic acid	335-67-1	320	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	5.5 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	2.8 U	2.8	1
14473	Perfluoropentanoic acid	2706-90-3	5.5 U	5.5	1

Sample Comments

State of New York Certification No. 10670

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	18218009	08/07/2018 14:36	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18218009	08/07/2018 17:06	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18216003	08/06/2018 17:21	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18218009	08/06/2018 17:10	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18216003	08/05/2018 11:00	Danielle D McCully	1

Sample Description: G.A.C. Midfluent Grab Drinking Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 9737490
ELLE Group #: 1973029
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/03/2018 10:00
Collection Date/Time: 08/02/2018 09:44
SDG#: H0006-02

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 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	5.3 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

Sample Comments

State of New York Certification No. 10670

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	18218009	08/07/2018 14:47	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18216003	08/06/2018 17:30	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18218009	08/06/2018 17:10	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18216003	08/05/2018 11:00	Danielle D McCully	1

Sample Description: G.A.C. Effluent Grab Drinking Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 9737491
ELLE Group #: 1973029
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 08/03/2018 10:00
Collection Date/Time: 08/02/2018 09:47
SDG#: H0006-03

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 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

Sample Comments

State of New York Certification No. 10670

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	18218009	08/07/2018 14:59	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18216003	08/06/2018 17:39	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18218009	08/06/2018 17:10	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18216003	08/05/2018 11:00	Danielle D McCully	1

Sample Description: FTB01-180802 Grab Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 9737492
ELLE Group #: 1973029
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/03/2018 10:00
Collection Date/Time: 08/02/2018 09:53
SDG#: H0006-04TB

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 NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.7 U	1.7	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.7 U	1.7	1
14070	Perfluorobutanesulfonate	375-73-5	1.7 U	1.7	1
14070	Perfluorodecanoic acid	335-76-2	1.7 U	1.7	1
14070	Perfluorododecanoic acid	307-55-1	1.7 U	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	1.7 U	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	1.7 U	1.7	1
14070	Perfluorohexanoic acid	307-24-4	1.7 U	1.7	1
14070	Perfluorononanoic acid	375-95-1	1.7 U	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.7 U	1.7	1
14070	Perfluorooctanoic acid	335-67-1	1.7 U	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	1.7 U	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	1.7 U	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	1.7 U	1.7	1

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
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	2.6 U	2.6	1
14473	Perfluoropentanoic acid	2706-90-3	5.3 U	5.3	1

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

Sample Comments

State of New York Certification No. 10670

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	18218009	08/07/2018 15:10	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18216003	08/06/2018 17:48	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18218009	08/06/2018 17:10	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18216003	08/05/2018 11:00	Danielle D McCully	1

Sample Description: LTB01-180802 Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: PW 9737493
ELLE Group #: 1973029
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 08/03/2018 10:00
Collection Date/Time: 08/02/2018
SDG#: H0006-05TB

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 NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.	2991-50-6	1.7 U	1.7	1
14070	NMeFOSAA NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.	2355-31-9	1.7 U	1.7	1
14070	Perfluorobutanesulfonate	375-73-5	1.7 U	1.7	1
14070	Perfluorodecanoic acid	335-76-2	1.7 U	1.7	1
14070	Perfluorododecanoic acid	307-55-1	1.7 U	1.7	1
14070	Perfluoroheptanoic acid	375-85-9	1.7 U	1.7	1
14070	Perfluorohexanesulfonate	355-46-4	1.7 U	1.7	1
14070	Perfluorohexanoic acid	307-24-4	1.7 U	1.7	1
14070	Perfluorononanoic acid	375-95-1	1.7 U	1.7	1
14070	Perfluoro-octanesulfonate	1763-23-1	1.7 U	1.7	1
14070	Perfluorooctanoic acid	335-67-1	1.7 U	1.7	1
14070	Perfluorotetradecanoic acid	376-06-7	1.7 U	1.7	1
14070	Perfluorotridecanoic acid	72629-94-8	1.7 U	1.7	1
14070	Perfluoroundecanoic acid	2058-94-8	1.7 U	1.7	1

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

State of New York Certification No. 10670

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	18218009	08/07/2018 15:22	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18216003	08/06/2018 17:57	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18218009	08/06/2018 17:10	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18216003	08/05/2018 11:00	Danielle D McCully	1

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 08/14/2018 08:05

Group Number: 1973029

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: 18216003	Sample number(s): 9737489-9737493	
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: 18218009	Sample number(s): 9737489-9737493	
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: 18216003	Sample number(s): 9737489-9737493								
6:2 fluorotelomersulfonate	15.17	17.32	15.17	17.33	114	114	66-155	0	30
8:2 fluorotelomersulfonate	15.33	14.73	15.33	13.51	96	88	66-148	9	30
Perfluorobutanoic acid	5.44	5.16	5.44	4.98	95	92	74-142	3	30
Perfluorodecanesulfonate	5.24	4.34	5.24	4.52	83	86	60-135	4	30
Perfluoroheptanesulfonate	5.18	4.71	5.18	4.76	91	92	64-135	1	30
Perfluorooctanesulfonamide	5.44	6.15	5.44	6.08	113	112	65-164	1	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: 08/14/2018 08:05

Group Number: 1973029

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	5.22	5.44	5.35	96	98	74-134	2	30
Batch number: 18218009	Sample number(s): 9737489-9737493								
NEtFOSAA	80	66.3	80	70.69	83	88	70-130	6	30
NMeFOSAA	80	63.88	80	69.61	80	87	70-130	9	30
Perfluorobutanesulfonate	70.76	59.06	70.76	57.84	83	82	70-130	2	30
Perfluorodecanoic acid	80	77.93	80	74.42	97	93	70-130	5	30
Perfluorododecanoic acid	80	74.2	80	76.8	93	96	70-130	3	30
Perfluoroheptanoic acid	80	76	80	73.78	95	92	70-130	3	30
Perfluorohexanesulfonate	75.64	58.15	75.64	59.1	77	78	70-130	2	30
Perfluorohexanoic acid	80	68.92	80	63.82	86	80	70-130	8	30
Perfluorononanoic acid	80	75.88	80	73.96	95	92	70-130	3	30
Perfluoro-octanesulfonate	76.48	63.37	76.48	64.5	83	84	70-130	2	30
Perfluorooctanoic acid	80	70.79	80	68.31	88	85	70-130	4	30
Perfluorotetradecanoic acid	80	74.54	80	73.92	93	92	70-130	1	30
Perfluorotridecanoic acid	80	70.69	80	71.98	88	90	70-130	2	30
Perfluoroundecanoic acid	80	76.51	80	75.39	96	94	70-130	1	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: 18216003

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C2-8:2-FTS
9737489	97	109	96	84	88	97
9737490	101	103	84	83	90	96
9737491	100	107	80	84	96	93
9737492	98	98	87	89	87	93
9737493	100	100	85	90	99	96
Blank	102	100	83	88	91	86
LCS	99	101	86	88	89	89
LCSD	100	100	86	85	91	99
Limits:	33-123	39-135	34-126	39-140	43-115	39-137

13C8-PFOSA

9737489	75
9737490	82
9737491	84
9737492	67*

*- 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: 08/14/2018 08:05

Group Number: 1973029

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: 18216003

13C8-PFOSA

9737493	87
Blank	75
LCS	82
LCSD	82

Limits: 70-130

Analysis Name: 14 PFAS Drinking Water List

Batch number: 18218009

13C2-PFHxA

13C2-PFDA

D5-NetFOSAA

9737489	88	99	100
9737490	82	92	93
9737491	81	85	97
9737492	75	92	97
9737493	83	84	92
Blank	75	91	86
LCS	78	84	80
LCSD	80	99	96

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>08/03/2018 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:	TRIZMA
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Suegeily Mendez (14058) at 14:55 on 08/03/2018

Samples Chilled Details

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

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-03	0.5	DT	Wet	Y	Bagged	N

General Comments: RECIEVED 4 EXTRA PFC FREE BLANK WATER

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.
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
R	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.

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.