



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: July 20, 2018 15:01

Project: Hoosick Falls WTP

Account #: 37191
Group Number: 1962934
SDG: H0005
PO Number: 14.4756
State of Sample Origin: NY

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Electronic Copy To	Barr Engineering Company	Attn: Data Mgt
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>
LTB-180705 Blank Water	07/05/2018	9691672
FTB-180705 Grab Blank Water	07/05/2018 09:20	9691673
GAC Influent Grab Drinking Water	07/05/2018 09:25	9691674
GAC Midfluent Grab Drinking Water	07/05/2018 09:30	9691675
GAC Effluent Grab Drinking Water	07/05/2018 09:35	9691676

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 #: 1962934

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: 9691672, 9691673, 9691674, 9691675, 9691676

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

Batch #: 18187014 (Sample number(s): 9691672-9691676)

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9691673, 9691674, 9691675

Sample Description: LTB-180705 Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9691672
ELLE Group #: 1962934
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 07/06/2018 10:15
Collection Date/Time: 07/05/2018
SDG#: H0005-01TB

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	1.7 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

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	18190017	07/12/2018 08:28	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18187014	07/09/2018 11:34	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18190017	07/09/2018 18:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18187014	07/06/2018 15:45	Anthony C Polaski	1

Sample Description: FTB-180705 Grab Blank Water
Hoosick Falls Water Treatment Plant

C. T. Male Associates
ELLE Sample #: WW 9691673
ELLE Group #: 1962934
Matrix: Blank Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 07/06/2018 10:15
Collection Date/Time: 07/05/2018 09:20
SDG#: H0005-02TB

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

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

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	18197009	07/18/2018 19:58	Joshua P Trost	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18187014	07/09/2018 11:49	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	2	18197009	07/16/2018 12:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18187014	07/06/2018 15:45	Anthony C Polaski	1

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

C. T. Male Associates
ELLE Sample #: PW 9691674
ELLE Group #: 1962934
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 07/06/2018 10:15
Collection Date/Time: 07/05/2018 09:25
SDG#: H005-03

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	1.9 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	12	1.9	1
14070	Perfluorohexanesulfonate	355-46-4	1.9 U	1.9	1
14070	Perfluorohexanoic acid	307-24-4	9.4	1.9	1
14070	Perfluorononanoic acid	375-95-1	1.9 U	1.9	1
14070	Perfluoro-octanesulfonate	1763-23-1	3.1	1.9	1
14070	Perfluorooctanoic acid	335-67-1	400	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	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	2.7 U	2.7	1
14473	Perfluoropentanoic acid	2706-90-3	5.5 U	5.5	1

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

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	18190017	07/12/2018 08:51	Marissa C Drexinger	1
14070	14 PFAS Drinking Water List	EPA 537 Version 1.1	1	18190017	07/13/2018 19:57	Marissa C Drexinger	10
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18187014	07/09/2018 12:04	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18190017	07/09/2018 18:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18187014	07/06/2018 15:45	Anthony C Polaski	1

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

C. T. Male Associates
ELLE Sample #: PW 9691675
ELLE Group #: 1962934
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submittal Date/Time: 07/06/2018 10:15
Collection Date/Time: 07/05/2018 09:30
SDG#: H0005-04

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	1.8 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

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

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	18190017	07/12/2018 09:03	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18187014	07/09/2018 12:18	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18190017	07/09/2018 18:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18187014	07/06/2018 15:45	Anthony C Polaski	1

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

C. T. Male Associates
ELLE Sample #: PW 9691676
ELLE Group #: 1962934
Matrix: Drinking Water

Project Name: Hoosick Falls WTP

Submission Date/Time: 07/06/2018 10:15
Collection Date/Time: 07/05/2018 09:35
SDG#: H005-05

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	1.8 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	5.6 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

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

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	18190017	07/12/2018 09:14	Marissa C Drexinger	1
14473	7 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18187014	07/09/2018 12:33	Devon M Whooley	1
14381	DW PFAS Prep	EPA 537 Version 1.1	1	18190017	07/09/2018 18:00	Anthony C Polaski	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18187014	07/06/2018 15:45	Anthony C Polaski	1

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 07/20/2018 15:01

Group Number: 1962934

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: 18187014	Sample number(s): 9691672-9691676	
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: 18190017	Sample number(s): 9691672,9691674-9691676	
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: 18197009	Sample number(s): 9691673	
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

*- 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.

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 07/20/2018 15:01

Group Number: 1962934

LCS/LCSD

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
Batch number: 18187014									
Sample number(s): 9691672-9691676									
6:2 fluorotelomersulfonate	15.17	15.68	15.17	14.91	103	98	66-155	5	30
8:2 fluorotelomersulfonate	15.33	17.13	15.33	18.16	112	118	66-148	6	30
Perfluorobutanoic acid	5.44	6.48	5.44	6.47	119	119	74-142	0	30
Perfluorodecanesulfonate	5.24	5.20	5.24	5.38	99	103	60-135	3	30
Perfluoroheptanesulfonate	5.18	4.13	5.18	5.14	80	99	64-135	22	30
Perfluorooctanesulfonamide	5.44	5.79	5.44	5.39	106	99	65-164	7	30
Perfluoropentanoic acid	5.44	6.26	5.44	6.25	115	115	74-134	0	30
Batch number: 18190017									
Sample number(s): 9691672,9691674-9691676									
NETFOSAA	20	17.32	20	20.63	87	103	70-130	17	30
NMeFOSAA	20	17.29	20	20.09	86	100	70-130	15	30
Perfluorobutanesulfonate	18.12	16.15	18.12	16.83	89	93	70-130	4	30
Perfluorodecanoic acid	20.48	20.32	20.48	24.41	99	119	70-130	18	30
Perfluorododecanoic acid	20.48	21.08	20.48	23.41	103	114	70-130	10	30
Perfluoroheptanoic acid	20.48	20.24	20.48	23.56	99	115	70-130	15	30
Perfluorohexanesulfonate	19.36	16.37	19.36	21.13	85	109	70-130	25	30
Perfluorohexanoic acid	20.48	18.69	20.48	17.97	91	88	70-130	4	30
Perfluorononanoic acid	20.48	19.3	20.48	21.06	94	103	70-130	9	30
Perfluoro-octanesulfonate	19.58	17.07	19.58	19.62	87	100	70-130	14	30
Perfluorooctanoic acid	20.48	19.12	20.48	22.51	93	110	70-130	16	30
Perfluorotetradecanoic acid	20.48	21.32	20.48	24.17	104	118	70-130	13	30
Perfluorotridecanoic acid	20.48	20.54	20.48	23.27	100	114	70-130	12	30
Perfluoroundecanoic acid	20.48	19.91	20.48	22.46	97	110	70-130	12	30
Batch number: 18197009									
Sample number(s): 9691673									
NETFOSAA	20	18.11	20	18.13	91	91	70-130	0	30
NMeFOSAA	20	18.8	20	17.84	94	89	70-130	5	30
Perfluorobutanesulfonate	18.12	16.37	18.12	18.32	90	101	70-130	11	30
Perfluorodecanoic acid	20.48	21.73	20.48	22.77	106	111	70-130	5	30
Perfluorododecanoic acid	20.48	21.94	20.48	22.09	107	108	70-130	1	30
Perfluoroheptanoic acid	20.48	21.48	20.48	22.63	105	111	70-130	5	30
Perfluorohexanesulfonate	19.36	18.38	19.36	19.66	95	102	70-130	7	30
Perfluorohexanoic acid	20.48	19.74	20.48	20.07	96	98	70-130	2	30
Perfluorononanoic acid	20.48	21.43	20.48	22.75	105	111	70-130	6	30
Perfluoro-octanesulfonate	19.58	18.65	19.58	19.23	95	98	70-130	3	30
Perfluorooctanoic acid	20.48	20.61	20.48	21.11	101	103	70-130	2	30
Perfluorotetradecanoic acid	20.48	21.37	20.48	22.21	104	108	70-130	4	30
Perfluorotridecanoic acid	20.48	21.75	20.48	22.11	106	108	70-130	2	30
Perfluoroundecanoic acid	20.48	22.78	20.48	23.38	111	114	70-130	3	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.

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 07/20/2018 15:01

Group Number: 1962934

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: 18187014

	13C4-PFBA	13C5-PFPeA	13C3-PFHxS	13C2-6:2-FTS	13C8-PFOS	13C2-8:2-FTS
9691672	82	81	75	81	86	75
9691673	80	75	72	85	85	81
9691674	87	100	91	71	86	73
9691675	76	78	81	80	82	80
9691676	85	86	82	84	83	81
Blank	80	78	80	76	82	82
LCS	79	78	89	79	83	92
LCSD	82	83	80	86	86	92
Limits:	33-123	39-135	34-126	39-140	43-115	39-137

13C8-PFOSA

9691672	71
9691673	66*
9691674	63*
9691675	11*
9691676	82
Blank	71
LCS	69*
LCSD	75
Limits:	70-130

Analysis Name: 14 PFAS Drinking Water List

Batch number: 18190017

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
9691672	80	95	75
9691674	83	102	90
9691675	88	97	88
9691676	90	95	89
Blank	75	91	81
LCS	87	101	88
LCSD	82	113	99
Limits:	70-130	70-130	70-130

Analysis Name: 14 PFAS Drinking Water List

Batch number: 18197009

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
9691673	82	91	90
Blank	75	80	71

*- 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.

Quality Control Summary

Client Name: C. T. Male Associates
Reported: 07/20/2018 15:01

Group Number: 1962934

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: 14 PFAS Drinking Water List
Batch number: 18197009

	13C2-PFHxA	13C2-PFDA	D5-NetFOSAA
LCS	83	92	90
LCSD	90	103	89
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.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 37191 Group # 1962934 Sample # 9691672

COC # 547389

Client Information				Matrix			Analysis Requested										For Lab Use Only																						
Client: <u>CT Male Associates</u>		Acct. #:		<input type="checkbox"/> Tissue <input type="checkbox"/> Ground <input type="checkbox"/> Surface <input checked="" type="checkbox"/> Sediment <input checked="" type="checkbox"/> Potable <input checked="" type="checkbox"/> Rinse <input type="checkbox"/> NPDES Other: <u>Drinking Water</u>	Total # of Containers	Preservation Codes										FSC: _____	SCR#: _____																						
Project Name/#: <u>SGPP - Mc Caffrey</u>		PWSID #:				<table border="1" style="width:100%; height: 100%; text-align: center;"> <tr> <td colspan="2">Preservation Codes</td> </tr> <tr> <td>H=HCl</td> <td>T=Thiosulfate</td> </tr> <tr> <td>N=HNO₃</td> <td>B=NaOH</td> </tr> <tr> <td>S=H₂SO₄</td> <td>O=Other</td> </tr> <tr> <td colspan="2">Remarks</td> </tr> <tr> <td colspan="2" style="height: 50px;"> </td> </tr> </table>										Preservation Codes		H=HCl	T=Thiosulfate	N=HNO ₃	B=NaOH	S=H ₂ SO ₄	O=Other	Remarks				Project Manager: <u>Kirk Mahone / Dan Reilly</u>		P.O. #: <u>14.4756</u>		Quote #:		7 PFCs (EPA 537 mod.)		14 PFAS (EPA 537 mod.)		N	
Preservation Codes																																							
H=HCl	T=Thiosulfate																																						
N=HNO ₃	B=NaOH																																						
S=H ₂ SO ₄	O=Other																																						
Remarks																																							
Sampler: <u>Jonathan Dippert</u>		State where samples were collected: <u>NY</u>		For Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>		Sample Identification		Collected		Grab		Composite		Soil		Water		Other		Total # of Containers																			
						Date		Time																															
						<u>7/5/18</u>		<u>—</u>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>4</u>																			
						<u>↓</u>		<u>0920</u>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>4</u>																			
						<u>↓</u>		<u>0925</u>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>4</u>																			
						<u>↓</u>		<u>0930</u>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>4</u>																			
						<u>7/5/18</u>		<u>0935</u>		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<u>4</u>																			

Preservation Codes
 H=HCl T=Thiosulfate
 N=HNO₃ B=NaOH
 S=H₂SO₄ O=Other

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: 10 DAYS

E-mail address: D.Reilly@ctmale.com / K.mahone@ctmale.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by: <u>[Signature]</u>	Date: <u>7/5/18</u>	Time: <u>1600</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by: <u>[Signature]</u>	Date: <u>7.6.18</u>	Time: <u>10:15</u>

EDD Required? Yes No

If yes, format: _____

Relinquished by Commercial Carrier: UPS _____ FedEx Other _____

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Temperature upon receipt 1.7 °C



Client: CT MALE ASSOCIATES

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>07/06/2018 10:15</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:	N/A
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 12:46 on 07/06/2018

Samples Chilled Details

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

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT42-02	1.7	DT	Wet	Y	Loose/Bag	N

Explanation of Symbols and Abbreviations

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

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
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.