Meritech – Durham

5926 NC Highway 55 East
Durham, NC 27713

Durham County TWWTP

Durham, NC
Samples Received: 08/06/2019

Analytical Report
0819-708

Isotope Dilution Method

PFAS – DEQ List

Enthalpy Analytical, LLC – Ultratrace

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I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains __25__ pages.

Juanica L. Thomas

QA Associate II
Review Performed by: Juanica L. Thomas

Report Issued Date: 09-10-19

ENTHALPY ANALYTICAL

Summary of Results

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Summary of Results: PFAS

Enthalpy Ultratrace Batch # 10443

PFAS

Analyte	Method Blank ng/L	Influent 080519183 ng/L
Acids		
PFBA	ND U	50.2
PFPeA	ND U	ND U
PFHxA	ND U	7.63 J
PFHpA	ND U	1.34 J
PFOA	ND U	5.74 J
PFNA	ND U	ND U
PFDA	ND U	ND U
PFUnA	ND U	ND U
PFDoA	ND U	ND U
PFTrA	ND U	1.98 J
PFTA	ND U	1.45 J
Sulfonates		
L-PFBS	ND U	ND U
PFPeS	ND U	ND U
PFHxS	ND U	ND U
PFHpS	ND U	ND U
PFOS	ND U	7.19 J
PFNS	ND U	ND U
PFDS	ND U	2.62 J
Other		
PFOSA	ND U	ND U
N-MeFOSAA	ND U	ND U
N-EtFOSAA	ND U	0.964 J
Lab Sample ID	MB_10443	0819-708_10443_001

Detailed Results

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Influent 080519183 — Detailed Results - PFAS

Client Details

Client Sample ID:	Influent 080519183	**Client Name:**	**Durham County**
Client Project ID:	N/A	**Sample Collection Date:**	**05-Aug-19**

Lab/Sample Details

Lab Job #:	**0819-708**	**Matrix:**	**Aqueous**	**Date Received:**	**06-Aug-19**
Lab Sample ID:	**0819-708_10443_001**	**Wt./Vol.**	**33.4**	**Date Extracted:**	**03-Sep-19**
QC Batch #:	**10443**			**Date Analyzed:**	**04-Sep-19**
Final Volume (mL)	**0.4**			**Time Analyzed:**	**15:14:39**

Analyte	CAS Number	Conc. (ng/L)		MDL (ng/L)	RL (ng/L)	Qualifiers	Standard	ES Recoveries (%)	Qualifiers
Acids							MPFBA	73.9	
PFBA	375-22-4	50.2		1.18	10.8		M5PFPeA	107	
PFPeA	2706-90-3	ND		0.672	10.8	U	M3PFBS	107	
PFHxA	307-24-4	7.63		1.18	10.8	J	M2-4:2 FTS	205	Q
PFHpA	375-85-9	1.34		0.520	10.8	J	M5PFHxA	83.3	
PFOA	335-67-1	5.74		0.595	10.8	J	M3HFPO-DA	168	Q
PFNA	375-95-1	ND		0.381	10.8	U	M4PFHpA	89.5	
PFDA	335-76-2	ND		0.935	10.8	U	M3PFHxS	88.4	
PFUnA	2058-94-8	ND		0.360	10.8	U	M2-6:2 FTS	172	Q
PFDoDA	307-55-1	ND		0.355	10.8	U	M8PFOA	89.6	
PFTrDA	72629-94-8	1.98		0.557	10.8	J	M9PFNA	80.7	
PFTeDA	376-06-7	1.45		0.621	10.8	J	M8PFOS	84.0	
							M2-8:2 FTS	70.3	
Sulfonates							M8FOSA	43.1	Q
L-PFBS	375-73-5	ND		0.621	10.8	U	M6PFDA	94.5	
PFPeS	2706-91-4	ND		0.741	10.8	U	d3-N-MeFOSAA	38.2	Q
PFHxS	355-46-4	ND		0.619	10.8	U	d5-N-EtFOSAA	48.9	Q
PFHpS	375-92-8	ND		0.583	10.8	U	M7PFUdA	90.8	
PFOS	1763-23-1	7.19		0.352	10.8	J	MPFDoA	75.5	
PFNS	68259-12-1	ND		0.489	10.8	U	M2PFTeDA	122	
PFDS	335-77-3	2.62		1.01	10.8	J			
Other									
PFOSA	754-91-6	ND		2.73	10.8	U			
N-MeFOSAA	2355-31-9	ND		0.407	10.8	U			
N-EtFOSAA	2991-50-6	0.964		0.487	10.8	J			

QC Data

Continuing Calibration PFAS

Concentration (ng/L)	**901**
Standard ID	**AH36**
Acquisition Date	**03-Sep-19**
Acquisition Time	**20:41:47**

Analyte	Concentration (ng/L)	PD (v. ICAL)	Limit	Acceptable
Acids				
PFBA	879.2447	-2.4	±30	Yes
PFPeA	871.9578	-3.2	±30	Yes
PFHxA	845.7906	-6.1	±30	Yes
PFHpA	887.7590	-1.5	±30	Yes
PFOA	916.8137	1.8	±30	Yes
PFNA	847.2186	-6.0	±30	Yes
PFDA	895.7780	-0.6	±30	Yes
PFUnA	859.5914	-4.6	±30	Yes
PFDoDA	865.4775	-3.9	±30	Yes
PFTrDA	927.5120	2.9	±30	Yes
PFTeDA	889.1667	-1.3	±30	Yes
Sulfonates				
L-PFBS	870.0566	9.1	±30	Yes
PFPeS	706.7216	-16.6	±30	Yes
PFHxS	796.2560	-3.1	±30	Yes
PFHpS	836.1744	-2.3	±30	Yes
PFOS	781.8819	-6.2	±30	Yes
PFNS	761.0230	-12.0	±30	Yes
PFDS	778.8848	-10.4	±30	Yes
Other				
PFOSA	871.3513	-3.3	±30	Yes
N-MeFOSAA	806.9535	-10.4	±30	Yes
N-EtFOSAA	892.3253	-1.0	±30	Yes

Continuing Calibration PFAS

Concentration (ng/L)	**5000**
Standard ID	**AH36**
Acquisition Date	**03-Sep-19**
Acquisition Time	**20:41:47**

Analyte	Concentration (ng/g)	Recovery (%)	Limit (%)	Acceptable	
MPFBA	5060	101	±50	Yes	
M5PFPeA	5447	109	±50	Yes	
M3PFBS	5067	101	±50	Yes	
M5PFHxA	5090	102	±50	Yes	
M4PFHpA	5278	106	±50	Yes	
M3PFHxS	5030	101	±50	Yes	
M8PFOA	5151	103	±50	Yes	
M9PFNA	5249	105	±50	Yes	
M8PFOS	4977	99.5	±50	Yes	
M8FOSA	5399	108	±50	Yes	
M6PFDA	5000	100	±50	Yes	
d3-N-MeFOSAA	4377	87.5	±50	Yes	
d5-N-EtFOSAA	5796	116	±50	Yes	
M7PFUdA	5268	105	±50	Yes	
MPFDoA	4188	83.8	±50	Yes	
M2PFTeDA	3684	73.7	±50	Yes	
Injection Standards	Area	Recovery (%)			
MPFBA	45300	118			
M2PFOA	65300	123			
MPFDA	47800	130			
MPFOS	22300	119			

Continuing Calibration PFAS

Concentration (ng/L)	**11510**
Standard ID	**AH33**
Acquisition Date	**04-Sep-19**
Acquisition Time	**16:04:30**

Analyte	Concentration (ng/L)	PD (v. ICAL)	Limit	Acceptable
Acids				
PFBA	12094.7030	5.1	±30	Yes
PFPeA	11632.8702	1.1	±30	Yes
PFHxA	12007.7619	4.3	±30	Yes
PFHpA	11543.2492	0.3	±30	Yes
PFOA	11569.4568	0.5	±30	Yes
PFNA	12052.6473	4.7	±30	Yes
PFDA	11238.3074	-2.4	±30	Yes
PFUnA	11607.6957	0.8	±30	Yes
PFDoDA	12204.4147	6.0	±30	Yes
PFTrDA	11119.4448	-3.4	±30	Yes
PFTeDA	11383.6270	-1.1	±30	Yes
Sulfonates				
L-PFBS	9831.2803	-3.5	±30	Yes
PFPeS	11414.1568	5.5	±30	Yes
PFHxS	10648.9753	1.4	±30	Yes
PFHpS	10634.6186	-2.7	±30	Yes
PFOS	10224.8768	-4.0	±30	Yes
PFNS	11040.1072	-0.1	±30	Yes
PFDS	10437.6063	-6.0	±30	Yes
Other				
PFOSA	11705.0452	1.7	±30	Yes
N-MeFOSAA	12629.4752	9.7	±30	Yes
N-EtFOSAA	11875.5281	3.2	±30	Yes

Continuing Calibration PFAS

Concentration (ng/L)	**5000**
Acquisition Date	**04-Sep-19**
Acquisition Time	**16:04:30**

Analyte	Concentration (ng/g)	Recovery (%)	Limit (%)	Acceptable	
MPFBA	5044	101	±50	Yes	
M5PFPeA	5458	109	±50	Yes	
M3PFBS	4979	99.6	±50	Yes	
M5PFHxA	5096	102	±50	Yes	
M4PFHpA	5240	105	±50	Yes	
M3PFHxS	5036	101	±50	Yes	
M8PFOA	5188	104	±50	Yes	
M9PFNA	4936	98.7	±50	Yes	
M8PFOS	5018	100	±50	Yes	
M8FOSA	5219	104	±50	Yes	
M6PFDA	5277	106	±50	Yes	
d3-N-MeFOSAA	4694	93.9	±50	Yes	
d5-N-EtFOSAA	5146	103	±50	Yes	
M7PFUdA	5355	107	±50	Yes	
MPFDoA	4813	96.3	±50	Yes	
M2PFTeDA	4495	89.9	±50	Yes	
Injection Standards	Area	Recovery (%)			
MPFBA	45600	118			
M2PFOA	62100	117			
MPFDA	42100	114			
MPFOS	21900	117			

OPR Evaluation

Batch ID#: 10443

Analyte	Conc. (ng/g)	Recovery (%)	Lower Limit	Upper Limit	Acceptable?
Acids					
PFBA	384	89.6%	73	129	Y
PFPeA	411	95.8%	72	129	Y
PFHxA	434	101%	72	129	Y
PFHpA	418	97.6%	72	130	Y
PFOA	431	100%	71	133	Y
PFNA	446	104%	69	130	Y
PFDA	403	94.0%	71	129	Y
PFUnA	411	95.8%	69	133	Y
PFDoDA	421	98.2%	72	134	Y
PFTrDA	398	92.8%	65	144	Y
PFTeDA	400	93.4%	71	132	Y
Sulfonates					
L-PFBS	359	94.5%	72	130	Y
PFPeS	437	108%	71	127	Y
PFHxS	409	105%	68	131	Y
PFHpS	459	113%	69	134	Y
PFOS	398	100%	65	140	Y
PFNS	373	90.7%	69	127	Y
PFDS	336	81.3%	53	142	Y
Other					
PFOSA	353	82.3%	68	141	Y
N-MeFOSAA	474	111%	65	136	Y
N-EtFOSAA	438	102%	61	135	Y

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OPR	Detailed Results - PFAS

Lab/Sample Details

		Matrix:	Aqueous	Date Received:	N/A
Lab Sample ID:	OPR_10443	Wt./Vol.	30.0	Date Extracted:	03-Sep-19
QC Batch #:	10443			Date Analyzed:	04-Sep-19
Final Volume (mL)	0.4			Time Analyzed:	11:21:46

Analyte	CAS Number	Conc. (ng/L)		MDL (ng/L)	RL (ng/L)	Qualifiers	Standard	ES Recoveries	Qualifiers
Acids							MPFBA	92.3	
PFBA	375-22-4	384		1.31	12.0		M5PFPeA	97.8	
PFPeA	2706-90-3	411		0.748	12.0		M3PFBS	90.0	
PFHxA	307-24-4	434		1.31	12.0		M5PFHxA	96.6	
PFHpA	375-85-9	418		0.579	12.0		M4PFHpA	94.4	
PFOA	335-67-1	431		0.662	12.0		M3PFHxS	110	
PFNA	375-95-1	446		0.424	12.0		M8PFOA	92.5	
PFDA	335-76-2	403		1.04	12.0		M9PFNA	76.7	
PFUnA	2058-94-8	411		0.401	12.0		M8PFOS	85.5	
PFDoDA	307-55-1	421		0.396	12.0		M8FOSA	81.8	
PFTrDA	72629-94-8	398		0.621	12.0		M6PFDA	92.2	
PFTeDA	376-06-7	400		0.692	12.0		d3-N-MeFOSAA	75.5	
							d5-N-EtFOSAA	84.3	
Sulfonates							M7PFUdA	86.5	
L-PFBS	375-73-5	359		0.692	12.0		MPFDoA	73.3	
PFPeS	2706-91-4	437		0.825	12.0		M2PFTeDA	19.8	Q
PFHxS	355-46-4	409		0.689	12.0				
PFHpS	375-92-8	459		0.649	12.0				
PFOS	1763-23-1	398		0.392	12.0				
PFNS	68259-12-1	373		0.545	12.0				
PFDS	335-77-3	336		1.12	12.0				
Other									
PFOSA	754-91-6	353		3.04	12.0				
N-MeFOSAA	2355-31-9	474		0.453	12.0				
N-EtFOSAA	2991-50-6	438		0.543	12.0				

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Method Blank — Detailed Results - PFAS

Lab/Sample Details

		Matrix:	Aqueous	Date Received:	N/A
Lab Sample ID:	MB_10443	Wt./Vol.	30.0	Date Extracted:	03-Sep-19
QC Batch #:	10443			Date Analyzed:	04-Sep-19
Final Volume (mL)	0.4			Time Analyzed:	11:10:35

Analyte	CAS Number	Conc. (ng/L)		MDL (ng/L)	RL (ng/L)	Qualifiers	Standard	ES Recoveries (%)	Qualifiers
Acids							MPFBA	89.1	
PFBA	375-22-4	ND		1.31	12.0	U	M5PFPeA	97.9	
PFPeA	2706-90-3	ND		0.748	12.0	U	M3PFBS	79.8	
PFHxA	307-24-4	ND		1.31	12.0	U	M5PFHxA	91.7	
PFHpA	375-85-9	ND		0.579	12.0	U	M4PFHpA	95.2	
PFOA	335-67-1	ND		0.662	12.0	U	M3PFHxS	99.9	
PFNA	375-95-1	ND		0.424	12.0	U	M8PFOA	89.7	
PFDA	335-76-2	ND		1.04	12.0	U	M9PFNA	82.2	
PFUnA	2058-94-8	ND		0.401	12.0	U	M8PFOS	90.1	
PFDoDA	307-55-1	ND		0.396	12.0	U	M8FOSA	101	
PFTrDA	72629-94-8	ND		0.621	12.0	U	M6PFDA	86.7	
PFTeDA	376-06-7	ND		0.692	12.0	U	d3-N-MeFOSAA	78.8	
							d5-N-EtFOSAA	92.2	
Sulfonates							M7PFUdA	87.2	
L-PFBS	375-73-5	ND		0.692	12.0	U	MPFDoA	76.9	
PFPeS	2706-91-4	ND		0.825	12.0	U	M2PFTeDA	60.8	
PFHxS	355-46-4	ND		0.689	12.0	U			
PFHpS	375-92-8	ND		0.649	12.0	U			
PFOS	1763-23-1	ND		0.392	12.0	U			
PFNS	68259-12-1	ND		0.545	12.0	U			
PFDS	335-77-3	ND		1.12	12.0	U			
Other									
PFOSA	754-91-6	ND		3.04	12.0	U			
N-MeFOSAA	2355-31-9	ND		0.453	12.0	U			
N-EtFOSAA	2991-50-6	ND		0.543	12.0	U			

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Meritech – Durham
Job#	0819-708 PFAS - DEQ list
Client Project #	n/a

Custody	Braidy May of Enthalpy Analytical Wilmington received the sample(s) (via courier) on 08/06/19 on ice at 5.8°C in good condition. Prior to, during, and after analysis, the sample(s) was stored in the laboratory with access only by authorized personnel of Enthalpy Analytical, LLC.
Analysis	The sample(s) was analyzed by isotope dilution method for PFAS using Waters Acquity UPLC equipped with Xevo TQ MS (LC/MS/MS "Kili"). For aqueous samples, the entire sample, (approximately 30mL) was weighed and spiked with Extraction Standard (ES). The sample was then mixed well and centrifuged. Cleanup procedures were performed on the supernatant and then extracted via SPE. Each final sample extract was transferred to an autosampler vial and spiked with 400 µL of Injection Standard (IS), prior to analysis.
Calibration	The analytes and labeled standards of interest in the initial calibration (ICAL) exhibited RSDs less than 50%. All analytes passed the R2 coefficient correlation criteria with the exception of M8FOSA. The Initial calibration verification (ICV) and continuing calibrations (concals) met the ±30% criteria for native analytes and ±50% criteria for ES recoveries.
QC Notes	The QC injection met the ±50% criteria for ES recoveries with the exception of M2PFTeDA, which fell outside the lower limit. The QC injection met ±30% Recovery criteria of target concentration. Due to % Recovery criteria being met and limited sample available for extraction, data is reported. The method blank contained no analytes and met ES recovery criteria. The samples were initially extracted within the 14-day from collection holding time (Aug 13), however re-extraction was outside the 14-day hold time (Sep 3). Data should not be affected by the additional time as data shows stability for up to 70 days. Extracts were analyzed within the 28-days from extraction to analysis holding time required by the method.
Reporting Notes	During the initial analysis, QC parameters for the method blank did not meet method criteria for several analytes. This required re-extraction of the batch. This report contains data from the re-extracted sample indicated by an "R" in the Lab ID.

Reporting Notes (continued)	Some analytes in the samples fell outside the limits for ES recoveries, notated with a "Q" qualifier. It is concluded to be due to matrix effects. Based on the native results in the OPR meeting criteria, the out-of- range ES recoveries have no impact on the accuracy of the target analyte (native) compounds. Therefore, the data are considered acceptable. The results presented in this report are representative of the samples as provided to the laboratory. The samples, calibrations and standards for the data presented in this report were analyzed at 2714 Exchange Drive, Wilmington, NC 28405.

General Reporting Notes – Data Qualifiers

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc.-Wilmington, NC data reports, unless specifically noted otherwise.

General Data Qualifiers / Data Attributes

- B – The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
- C – Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter**.**
- E – The reported concentration exceeds the calibration range (upper point of the calibration curve).
- EMPC – Represents an estimated maximum possible concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
- J – Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve).
- L - Indicates that an analyte has a concentration below the Minimum Detection Limit (MDL).
- ND – Indicates a non-detect.
- NR – Indicates a value that is not reportable.
- PR – Due to interference, the associated congener is poorly resolved.
- DI – Indicates the presence of a quantitative interference.
- SI – Denotes "Single Ion Mode" and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
- U – The analyte was not detected. The Estimated Detection Limit (EDL) may be reported for this analyte.
- V – The labeled standard recovery was found to be outside of the method control limits.

DRBC/TMDL Specific Data Qualifiers / Data Attributes

- J – The reported result is an estimate. The value is less than the minimum calibration level but greater than the Estimated Detection Limit (EDL).
- U – The analyte was not detected in the sample at the Estimated Detection Limit (EDL).

- E – The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
- D – Dilution Data. Result was obtained from the analysis of a dilution.
- B – Analyte found in the sample and associated method blank.
- Cxx – Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'xx' denotes the IUPAC number with the lowest numerical designated congener.
- NR – Analyte is not reportable because of problems in sample preparation or analysis.
- V – Labeled standard recovery is not within method control limits.
- X – Results from re-injection/repeat/second-column analysis.
- EMPC – Estimated Maximum Possible Concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

Lab Identifiers

- AR – Indicates use of the archived portion of the sample extract.
- CU – Indicates a sample that required additional clean-up prior to HRMS injection/processing.
- D – Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
- DE – Indicates a dilution performed with the addition of ES (Extraction Standard) solution.
- DUP – Designation for a duplicate sample.
- MS – Designation for a matrix spike.
- MSD – Designation for a matrix spike duplicate.
- RJ – Indicates a reinjection of the sample extract.
- S – Indicates a sample split. The number that follows the "S" indicates the split factor.

Attachment B

To locate a lab capable of performing the PFAS analysis, please visit https://www.denix.osd.mil/edqw/accreditation/accreditedlabs/and search by method "PFAS by LCMSMS Compliant with Table B-15 of QSM 5.1 or Latest Version". Grab samples are required to avoid cross-contamination and ensure consistency.

It is the Division's understanding that this test method is capable of providing results for the listed PFAS compounds listed below. The Division recognizes that there may be variations from lab to lab. Each facility shall provide results for PFOA, PFOS, and shall include as many of the following PFAS compounds as possible:

Analyte Name	Acronym	Fluorinated Carbon Chain Length	Molecular Formula	CAS Number
Perfluorotetradecanoic acid	PFTeA	C_{14}	$C_{13}F_{27}COOH$	376-06-7
Perfluorotridecanoic acid	PFTriA	C_{13}	$C_{12}F_{25}COOH$	72629-94-8
Perfluorododecanoic acid	PFDoA	C_{12}	$C_{11}F_{23}COOH$	307-55-1
Perfluoroundecanoic acid	PFUnA	C_{11}	$C_{10}F_{21}COOH$	2058-94-8
Perfluorodecanoic acid	PFDA	C_{10}	$C_9F_{19}COOH$	335-76-2
Perfluorononanoic acid	PFNA	C_9	$C_8F_{17}COOH$	375-95-1
Perfluorooctanoic acid	PFOA	C_8	$C_7F_{15}COOH$	335-67-1
Perfluoroheptanoic acid	PFHpA	C_7	$C_6F_{13}COOH$	375-85-9
Perfluorohexanoic acid	PFHxA	C_6	$C_5F_{11}COOH$	307-24-4
Perfluoropentanoic acid	PFPeA	C_5	C_4F_9COOH	2706-90-3
Perfluorobutanoic acid	PFBA	C_4	C_3F_7COOH	375-22-4
Perfluorodecanesulfonic acid	PFDS	C_{10}	$C_{10}F_{21}SO_3H$	335-77-3
Perfluorononanesulfonic acid	PFNS	C_9	$C_9F_{19}SO_3H$	68259-12-1
Perfluorooctanesulfonic acid	PFOS	C_8	$C_8F_{17}SO_3H$	1763-23-1
Perfluoroheptanesulfonic acid	PFHpS	C_7	$C_7F_{15}SO_3H$	375-92-8
Perfluorohexanesulfonic acid	PFHxS	C_6	$C_6F_{13}SO_3H$	355-46-4
Perfluoropentanesulfonic acid	PFPeS	C_5	$C_5F_{11}SO_3H$	2706-91-4
Perfluorobutanesulfonic acid	PFBS	C_{4OMG}	$C_4F_9SO_3H$	375-73-5
Perfluorooctanesulfonamide	PFOSA	C_8	$C_8F_{17}SO_2NH_2$	754-91-6
2-(N-Ethylperfluorooctanesulfonamido) acetic acid	N-EtFOSAA	C_8	$C_8F_{17}SO_2N(C_2H_5)CH_2COOH$	2991-50-6
2-(N-Methylperfluorooctanesulfonamido) acetic acid	N-MeFOSAA	C_8	$C_8F_{17}SO_2N(CH_3)CHCOOH$	2355-31-9

PFAS Compound Acronym List	
Acronym	**Compound Name**
Target Analytes	
PFBA	Perfluorobutanoic Acid
PFPeA	Perfluoropentanoic Acid
PFHxA	Perfluorohexanoic Acid
PFHpA	Perfluoroheptanoic Acid
PFOA	Perfluorooctanoic Acid
PFNA	Perfluorononanoic Acid
PFDA	Perfluorodecanoic acid
PFUnDA	Perfluoroundecanoic acid
PFDoDA (PFTDoA)	Perfluorododecanoic acid
PFTrDA (PFTrA)	Perfluorotridecanoic acid
PFTeDA (PFTA)	Perfluorotetradecanoic acid
PFBS	Perfluorobutane sulfonate
PFPeS	Perfluoropentane sulfonate
PFHxS	Perfluorohexane sulfonate
PFHpS	Perfluoroheptane sulfonate
PFOS	Perfluorooctane sulfonate
PFNS	Perfluorononane sulfonate
PFDS	Perfluorodecane sulfonate
4:2 FTS	4:2 fluorotelomer sulfonic acid
6:2 FTS	6:2 fluorotelomer sulfonic acid
8:2 FTS	8:2 fluorotelomer sulfonic acid
PFOSA	Perfluorooctane sulfonamide
N-MeFOSAA	N-methyl perfluorooctane sulfonamido acetic acid
N-EtFOSAA	N-ethyl perfluorooctane sulfonamido acetic acid
HFPO-DA	2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid (Gen-X)
Extraction Standards	
M3PFBA	Perfluoro-n-[2,3,4-13C3]butanoic acid
M5PFPeA	Perfluoro-n-[13C5]pentanoic acid
M3PFBS	Sodium perfluoro-1-[2,3,4-13C3]-butanesulfonate
M2-4:2 FTS	Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-hexane sulfonate
M5PFHxA	Perfluoro-n-[1,2,3,4,6-13C5]hexanoic acid
M3HFPO-DA	2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-13C3-propanoic acid
M4PFHpA	Perfluoro-n-[1,2,3,4-13C4]heptanoic acid
M3PFHxS	Sodium perfluoro-1-[1,2,3-13C3]-hexanesulfonate
M2-6:2 FTS	Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate
M8PFOA	Perfluoro-n-[13C8]octanoic acid
M9PFNA	Perfluoro-n-[13C9]nonanoic acid
M8PFOS	Sodium perfluoro-1-[13C8]-octanesulfonate
M2-8:2 FTS	Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate
M8FOSA	Perfluoro-1-[13C8]octanesulfonamide
M6PFDA	Perfluoro-n-[1,2,3,4,5,6-13C6]decanoic acid
d3-N-MeFOSAA	N-methyl-d3-perfluoro-1-octanesulfonamide
d5-N-EtFOSAA	N-ethyl-d5-perfluoro-1-octanesulfonamide
M7PFUnDA (M7PFUdA)	Perfluoro-n-[1,2,3,4,5,6,7-13C7]undecanoic acid
MPFDoA	Perfluoro-n-[1,2-13C2]dodecanoic acid
M2PFTeDA	Perfluoro-n-[1,2-13C2]tetradecanoic acid

Injection Standards	
MPFBA	Perfluoro-n-[13C4]butanoic acid
M2PFOA	Perfluoro-n-[1,2-13C2]octanoic acid
MPFDA	Perfluoro-n-[1,2-13C2]decanoic acid
MPFOS	Sodium perfluoro-1-[1,2,3,4-13C4]-octanesulfonate

Sample Custody

Meriten- Durham County

0819-708

ENTHALPY analytical

Chain of Custody Record

Enthalpy Ultratrace Job#: _____ **COC Page**_____**of**_____

Special Handling:

☐ Standard Turn Around Time

☐ Rush Turn Around Time -- Date Needed_____

• All Fast TATs Subject to Approval by Enthalpy Analytical, Inc.

• All Samples Disposed of After 6 months Unless Otherwise Instructed.

Enthalpy Analytical-Wilmington, NC has added enhancements to standard methods to improve accuracy, precision and permit an assessment of laboratory performance in the context of your specific data needs. For more information email Cindy.James@enthalpy.com.

Client Name: Durham County TWWTP

Project Manager: Amy Moore

Report To: Amy Moore

Project Number:_____

Site Name: TWWTP

Location: Influent

PO#:_____

Telephone#: 919.560.9035

Email: ajmoore@dconc.gov

This Chain of Custody is applicable to Non-Air samples. Standard TAT differ per analysis and are provided by request.

Client Special Instructions:

Matrix: GW-Groundwater, WW-Wastewater, NW-Non-Potable Water, DW-Drinking Water, S-Soil, SL-Sludge, BT-Biological Tissue, O-Other

Type: G=Grab C=Composite Q=Quality Control

Sample ID	Date	Time	Sample Volume	Type	Matrix	Sample Containers: # of Bottles	# of Jars	# of Bags	# Other				Analyses: Method 1613	Method 8290	Method 1668A/B/C PCB	PFAS by LC/MS/MS	PAHs by HRGC/HRMS	Sample on Hold			Notes:
Influent, 080519183	8/5/19	09:14	2x30mL	G	WW	2										X					sampled by KK

Relinquished By:	Date:	Received By:	Date:	Time:	Sample Temperature Upon Receipt:
Kelly Mcamp	8/5/19		8/5/19	1218	☐ Iced ☐ Ambient °C_____
	8/5/19				☐ Iced ☐ Ambient °C_____
	8-6-19		8-6-19	9:46AM	☐ Iced ☐ Ambient °C_____

-0.4°C Raytek5 ASM08-06-19

EA courier, Temp = 5.8°C, T9, no seal, condition: Good, cooler, on ice, 18:30, 8/6/19, B

This Is The Last Page Of This Report.