

April 09, 2019

Rob King
Hampton Bays Water District
P.O. Box 1013
Hampton Bays, NY 11946

RE: Project: PFAS 4/1
Pace Project No.: 7083993

Dear Rob King:

Enclosed are the analytical results for sample(s) received by the laboratory on April 01, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Stu Murrell
stu.murrell@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Warren Booth, Hampton Bays Water District
John Collins, H2M Group
Stella Michaels, Hampton Bays Water District
Paul Ponturo, H2M Group



REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PFAS 4/1

Pace Project No.: 7083993

Lab ID	Sample ID	Matrix	Date Collected	Date Received
7083993001	S-15687	Drinking Water	04/01/19 08:25	04/01/19 10:20
7083993002	S-24848	Drinking Water	04/01/19 08:40	04/01/19 10:20
7083993003	S-31636	Drinking Water	04/01/19 08:50	04/01/19 10:20
7083993004	BLENDED INFLUENT	Drinking Water	04/01/19 09:00	04/01/19 10:20
7083993005	BLENDED EFFLUENT	Drinking Water	04/01/19 09:10	04/01/19 10:20

REPORT OF LABORATORY ANALYSIS

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7083993



Sample Condition Upon Receipt

Client Name: Hampton Bay WR

Project

WO#: 7083993

PM: SWM Due Date: 04/15/19

CLIENT: HBW

Courier: ☐ Fed Ex ☐ UPS ☒ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #:

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☒ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ Ziploc ☒ None ☐ Other

Thermometer Used: TH091

Correction Factor: 0.0

Cooler Temperature (°C): 3.6

Cooler Temperature Corrected (°C): 3.6

Temperature Blank Present: ☐ Yes ☒ No

Type of Ice: Wet Blue None

☒ Samples on ice, cooling process has begun

Date/Time 5035A kits placed in freezer

Temp should be above freezing to 6.0°C

USDA Regulated Soil (☐ N/A, water sample)

Date and Initials of person examining contents: AB 4/1/19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☒ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	☐ Yes ☒ No	1.
Chain of Custody Filled Out:	☐ Yes ☒ No	2.
Chain of Custody Relinquished:	☐ Yes ☒ No	3.
Sampler Name & Signature on COC:	☐ Yes ☒ No ☐ N/A	4.
Samples Arrived within Hold Time:	☐ Yes ☒ No	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No	7.
Sufficient Volume: (Triple volume provided for MS/MSD)	☐ Yes ☒ No	8.
Correct Containers Used:	☐ Yes ☒ No	9.
-Pace Containers Used:	☐ Yes ☒ No	
Containers Intact:	☐ Yes ☒ No	10.
Filtered volume received for Dissolved tests	☐ Yes ☒ No ☐ N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	☐ Yes ☒ No	12.
-Includes date/time/ID/Analysis Matrix SL WT OIL		
All containers needing preservation have been checked	☐ Yes ☒ No ☐ N/A	13. ☐ HNO ₃ ☐ H ₂ SO ₄ ☐ NaOH ☐ HCl
pH paper Lot #		Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide, NaOH>12 Cyanide)	☐ Yes ☒ No ☐ N/A	
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis		Initial when completed: Lot # of added preservative: Date/Time preservative added:
Samples checked for dechlorination:	☐ Yes ☒ No ☐ N/A	14.
KI starch test strips Lot #		Positive for Res. Chlorine? Y N
Residual chlorine strips Lot #		
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☐ Yes ☒ No ☐ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☒ No ☐ N/A	
Pace Trip Blank Lot # (if applicable):		

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted:

Date/Time:

Comments/ Resolution:

ANALYTICAL REPORT

Eurofins TestAmerica, Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
Tel: (802)660-1990

Laboratory Job ID: 200-48134-1

Laboratory Sample Delivery Group: 200-48134-1

Client Project/Site: PFAS, NY DW

For:

Pace Analytical Services, LLC
575 Broad Hollow Road
Melville, New York 11747

Attn: Stu Murrell



Authorized for release by:
4/9/2019 8:59:41 AM

Lori Arnold, Manager of Project Management
(802)923-1043
lori.arnold@testamericainc.com

LINKS

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TotalAccess

Have a Question?



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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Job ID: 200-48134-1

Laboratory: Eurofins TestAmerica, Burlington

Narrative

CASE NARRATIVE

Client: Pace Analytical Services, LLC

Project: PFAS, NY DW

Report Number: 200-48134-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/02/2019; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.5° C.

PERFLUORINATED HYDROCARBONS

Samples S-15687, S-24848, S-31636, BLENDED INFLUENT and BLENDED EFFLUENT were analyzed for Perfluorinated Hydrocarbons in accordance with Method ISO 25101. The samples were prepared on 04/03/2019 and analyzed on 04/05/2019.

The 13C4 PFOS Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: S-15687, S-24848, S-31636, BLENDED INFLUENT, BLENDED EFFLUENT, LCS 200-141591/2-A, LCSD 200-141591/3-A and MB 200-141591/1-A. The 13C4 PFOA Isotope Dilution Analyte (IDA) recovery associated with the following samples is below the method recommended limit: S-15687, S-24848, S-31636, BLENDED INFLUENT, BLENDED EFFLUENT and MB 200-141591/1-A. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the samples. All detection limits are below the lower calibration. The low response is most likely due to a slightly concentrated internal standard that was used to spike the samples.

The RPD of the laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) for batches 200-141591 and 200-141648 recovered outside control limits for Perfluorobutanesulfonic acid (PFBS).

The Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the continuing calibration verification standard, CCVIS 200-141648/6. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The quantitation for the target associated with this IDA, Perfluorohexanesulfonic acid (PFHxS) was within criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Client Sample ID: S-15687

Lab Sample ID: 200-48134-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	5.22		1.84		ng/L	1		25101:2009	Total/NA
Perfluorooctanoic acid (PFOA)	11.7		1.84		ng/L	1		25101:2009	Total/NA
Perfluorononanoic acid (PFNA)	5.62		1.84		ng/L	1		25101:2009	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.29	*	1.84		ng/L	1		25101:2009	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	29.6		1.84		ng/L	1		25101:2009	Total/NA
Perfluorooctanesulfonic acid (PFOS)	179		1.84		ng/L	1		25101:2009	Total/NA

Client Sample ID: S-24848

Lab Sample ID: 200-48134-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	6.24		1.85		ng/L	1		25101:2009	Total/NA
Perfluorooctanoic acid (PFOA)	12.6		1.85		ng/L	1		25101:2009	Total/NA
Perfluorononanoic acid (PFNA)	66.4		1.85		ng/L	1		25101:2009	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.63	*	1.85		ng/L	1		25101:2009	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	11.4		1.85		ng/L	1		25101:2009	Total/NA
Perfluorooctanesulfonic acid (PFOS)	30.3		1.85		ng/L	1		25101:2009	Total/NA

Client Sample ID: S-31636

Lab Sample ID: 200-48134-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	6.47		1.90		ng/L	1		25101:2009	Total/NA
Perfluorooctanoic acid (PFOA)	7.30		1.90		ng/L	1		25101:2009	Total/NA
Perfluorononanoic acid (PFNA)	14.0		1.90		ng/L	1		25101:2009	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.19	*	1.90		ng/L	1		25101:2009	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	22.2		1.90		ng/L	1		25101:2009	Total/NA
Perfluorooctanesulfonic acid (PFOS)	32.2		1.90		ng/L	1		25101:2009	Total/NA

Client Sample ID: BLENDED INFLUENT

Lab Sample ID: 200-48134-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	6.71		1.84		ng/L	1		25101:2009	Total/NA
Perfluorooctanoic acid (PFOA)	8.35		1.84		ng/L	1		25101:2009	Total/NA
Perfluorononanoic acid (PFNA)	24.2		1.84		ng/L	1		25101:2009	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.12	*	1.84		ng/L	1		25101:2009	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	20.3		1.84		ng/L	1		25101:2009	Total/NA
Perfluorooctanesulfonic acid (PFOS)	64.1		1.84		ng/L	1		25101:2009	Total/NA

Client Sample ID: BLENDED EFFLUENT

Lab Sample ID: 200-48134-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Burlington

Client Sample Results

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Client Sample ID: S-15687

Lab Sample ID: 200-48134-1

Date Collected: 04/01/19 08:25

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	5.22		1.84		ng/L		04/03/19 13:32	04/05/19 04:51	1
Perfluorooctanoic acid (PFOA)	11.7		1.84		ng/L		04/03/19 13:32	04/05/19 04:51	1
Perfluorononanoic acid (PFNA)	5.62		1.84		ng/L		04/03/19 13:32	04/05/19 04:51	1
Perfluorobutanesulfonic acid (PFBS)	2.29	*	1.84		ng/L		04/03/19 13:32	04/05/19 04:51	1
Perfluorohexanesulfonic acid (PFHxS)	29.6		1.84		ng/L		04/03/19 13:32	04/05/19 04:51	1
Perfluorooctanesulfonic acid (PFOS)	179		1.84		ng/L		04/03/19 13:32	04/05/19 04:51	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	73		50 - 150				04/03/19 13:32	04/05/19 04:51	1
13C4 PFHpA	63		50 - 150				04/03/19 13:32	04/05/19 04:51	1
13C4 PFOA	60	*	70 - 130				04/03/19 13:32	04/05/19 04:51	1
13C4 PFOS	57	*	70 - 130				04/03/19 13:32	04/05/19 04:51	1
13C5 PFNA	63		50 - 150				04/03/19 13:32	04/05/19 04:51	1
13C3 PFBS	66		50 - 150				04/03/19 13:32	04/05/19 04:51	1

Client Sample ID: S-24848

Lab Sample ID: 200-48134-2

Date Collected: 04/01/19 08:40

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.24		1.85		ng/L		04/03/19 13:32	04/05/19 05:07	1
Perfluorooctanoic acid (PFOA)	12.6		1.85		ng/L		04/03/19 13:32	04/05/19 05:07	1
Perfluorononanoic acid (PFNA)	66.4		1.85		ng/L		04/03/19 13:32	04/05/19 05:07	1
Perfluorobutanesulfonic acid (PFBS)	7.63	*	1.85		ng/L		04/03/19 13:32	04/05/19 05:07	1
Perfluorohexanesulfonic acid (PFHxS)	11.4		1.85		ng/L		04/03/19 13:32	04/05/19 05:07	1
Perfluorooctanesulfonic acid (PFOS)	30.3		1.85		ng/L		04/03/19 13:32	04/05/19 05:07	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	68		50 - 150				04/03/19 13:32	04/05/19 05:07	1
13C4 PFHpA	68		50 - 150				04/03/19 13:32	04/05/19 05:07	1
13C4 PFOA	67	*	70 - 130				04/03/19 13:32	04/05/19 05:07	1
13C4 PFOS	58	*	70 - 130				04/03/19 13:32	04/05/19 05:07	1
13C5 PFNA	66		50 - 150				04/03/19 13:32	04/05/19 05:07	1
13C3 PFBS	70		50 - 150				04/03/19 13:32	04/05/19 05:07	1

Client Sample ID: S-31636

Lab Sample ID: 200-48134-3

Date Collected: 04/01/19 08:50

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.47		1.90		ng/L		04/03/19 13:32	04/05/19 05:23	1
Perfluorooctanoic acid (PFOA)	7.30		1.90		ng/L		04/03/19 13:32	04/05/19 05:23	1
Perfluorononanoic acid (PFNA)	14.0		1.90		ng/L		04/03/19 13:32	04/05/19 05:23	1
Perfluorobutanesulfonic acid (PFBS)	2.19	*	1.90		ng/L		04/03/19 13:32	04/05/19 05:23	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Client Sample ID: S-31636

Lab Sample ID: 200-48134-3

Date Collected: 04/01/19 08:50

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	22.2		1.90		ng/L		04/03/19 13:32	04/05/19 05:23	1
Perfluorooctanesulfonic acid (PFOS)	32.2		1.90		ng/L		04/03/19 13:32	04/05/19 05:23	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	74		50 - 150				04/03/19 13:32	04/05/19 05:23	1
13C4 PFHpA	59		50 - 150				04/03/19 13:32	04/05/19 05:23	1
13C4 PFOA	60	*	70 - 130				04/03/19 13:32	04/05/19 05:23	1
13C4 PFOS	65	*	70 - 130				04/03/19 13:32	04/05/19 05:23	1
13C5 PFNA	64		50 - 150				04/03/19 13:32	04/05/19 05:23	1
13C3 PFBS	76		50 - 150				04/03/19 13:32	04/05/19 05:23	1

Client Sample ID: BLENDED INFLUENT

Lab Sample ID: 200-48134-4

Date Collected: 04/01/19 09:00

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	6.71		1.84		ng/L		04/03/19 13:32	04/05/19 05:39	1
Perfluorooctanoic acid (PFOA)	8.35		1.84		ng/L		04/03/19 13:32	04/05/19 05:39	1
Perfluorononanoic acid (PFNA)	24.2		1.84		ng/L		04/03/19 13:32	04/05/19 05:39	1
Perfluorobutanesulfonic acid (PFBS)	2.12	*	1.84		ng/L		04/03/19 13:32	04/05/19 05:39	1
Perfluorohexanesulfonic acid (PFHxS)	20.3		1.84		ng/L		04/03/19 13:32	04/05/19 05:39	1
Perfluorooctanesulfonic acid (PFOS)	64.1		1.84		ng/L		04/03/19 13:32	04/05/19 05:39	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	74		50 - 150				04/03/19 13:32	04/05/19 05:39	1
13C4 PFHpA	62		50 - 150				04/03/19 13:32	04/05/19 05:39	1
13C4 PFOA	62	*	70 - 130				04/03/19 13:32	04/05/19 05:39	1
13C4 PFOS	63	*	70 - 130				04/03/19 13:32	04/05/19 05:39	1
13C5 PFNA	64		50 - 150				04/03/19 13:32	04/05/19 05:39	1
13C3 PFBS	66		50 - 150				04/03/19 13:32	04/05/19 05:39	1

Client Sample ID: BLENDED EFFLUENT

Lab Sample ID: 200-48134-5

Date Collected: 04/01/19 09:10

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	1.91	U	1.91		ng/L		04/03/19 13:32	04/05/19 05:55	1
Perfluorooctanoic acid (PFOA)	1.91	U	1.91		ng/L		04/03/19 13:32	04/05/19 05:55	1
Perfluorononanoic acid (PFNA)	1.91	U	1.91		ng/L		04/03/19 13:32	04/05/19 05:55	1
Perfluorobutanesulfonic acid (PFBS)	1.91	U *	1.91		ng/L		04/03/19 13:32	04/05/19 05:55	1
Perfluorohexanesulfonic acid (PFHxS)	1.91	U	1.91		ng/L		04/03/19 13:32	04/05/19 05:55	1
Perfluorooctanesulfonic acid (PFOS)	1.91	U	1.91		ng/L		04/03/19 13:32	04/05/19 05:55	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	71		50 - 150				04/03/19 13:32	04/05/19 05:55	1
13C4 PFHpA	60		50 - 150				04/03/19 13:32	04/05/19 05:55	1
13C4 PFOA	61	*	70 - 130				04/03/19 13:32	04/05/19 05:55	1

Eurofins TestAmerica, Burlington

Client Sample Results

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Client Sample ID: BLENDED EFFLUENT

Lab Sample ID: 200-48134-5

Date Collected: 04/01/19 09:10

Matrix: Water

Date Received: 04/02/19 12:03

Method: 25101:2009 - Fluorinated Alkyl Substances (Continued)

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFOS	62	*	70 - 130	04/03/19 13:32	04/05/19 05:55	1
13C5 PFNA	68		50 - 150	04/03/19 13:32	04/05/19 05:55	1
13C3 PFBS	81		50 - 150	04/03/19 13:32	04/05/19 05:55	1

Isotope Dilution Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Method: 25101:2009 - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Isotope Dilution Recovery (Acceptance Limits)					
		PFHxS (50-150)	PFHpA (50-150)	PFOA (70-130)	PFOS (70-130)	PFNA (50-150)	3C3-PFBs (50-150)
200-48134-1	S-15687	73	63	60 *	57 *	63	66
200-48134-2	S-24848	68	68	67 *	58 *	66	70
200-48134-3	S-31636	74	59	60 *	65 *	64	76
200-48134-4	BLENDED INFLUENT	74	62	62 *	63 *	64	66
200-48134-5	BLENDED EFFLUENT	71	60	61 *	62 *	68	81
LCS 200-141591/2-A	Lab Control Sample	74	68	73	67 *	72	83
LCSD 200-141591/3-A	Lab Control Sample Dup	69	70	73	67 *	74	60
MB 200-141591/1-A	Method Blank	58	70	69 *	54 *	68	62

Surrogate Legend

PFHxS = 18O2 PFHxS

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

PFOS = 13C4 PFOS

PFNA = 13C5 PFNA

13C3-PFBS = 13C3 PFBS

QC Sample Results

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Method: 25101:2009 - Fluorinated Alkyl Substances

Lab Sample ID: MB 200-141591/1-A

Matrix: Water

Analysis Batch: 141648

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 141591

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoroheptanoic acid (PFHpA)	2.00	U	2.00		ng/L		04/03/19 13:32	04/05/19 00:21	1
Perfluorooctanoic acid (PFOA)	2.00	U	2.00		ng/L		04/03/19 13:32	04/05/19 00:21	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00		ng/L		04/03/19 13:32	04/05/19 00:21	1
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00		ng/L		04/03/19 13:32	04/05/19 00:21	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00		ng/L		04/03/19 13:32	04/05/19 00:21	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00		ng/L		04/03/19 13:32	04/05/19 00:21	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	58		50 - 150	04/03/19 13:32	04/05/19 00:21	1
13C4 PFHpA	70		50 - 150	04/03/19 13:32	04/05/19 00:21	1
13C4 PFOA	69 *		70 - 130	04/03/19 13:32	04/05/19 00:21	1
13C4 PFOS	54 *		70 - 130	04/03/19 13:32	04/05/19 00:21	1
13C5 PFNA	68		50 - 150	04/03/19 13:32	04/05/19 00:21	1
13C3 PFBS	62		50 - 150	04/03/19 13:32	04/05/19 00:21	1

Lab Sample ID: LCS 200-141591/2-A

Matrix: Water

Analysis Batch: 141648

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 141591

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Perfluoroheptanoic acid (PFHpA)	40.0	37.88		ng/L		95	50 - 150
Perfluorooctanoic acid (PFOA)	40.0	37.57		ng/L		94	70 - 130
Perfluorononanoic acid (PFNA)	40.0	38.28		ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	35.4	34.94		ng/L		99	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.40		ng/L		92	50 - 150
Perfluorooctanesulfonic acid (PFOS)	37.1	32.29		ng/L		87	70 - 130

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
18O2 PFHxS	74		50 - 150
13C4 PFHpA	68		50 - 150
13C4 PFOA	73		70 - 130
13C4 PFOS	67 *		70 - 130
13C5 PFNA	72		50 - 150
13C3 PFBS	83		50 - 150

Lab Sample ID: LCSD 200-141591/3-A

Matrix: Water

Analysis Batch: 141648

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 141591

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Perfluoroheptanoic acid (PFHpA)	40.0	40.57		ng/L		101	50 - 150	7	20
Perfluorooctanoic acid (PFOA)	40.0	39.38		ng/L		98	70 - 130	5	20
Perfluorononanoic acid (PFNA)	40.0	39.27		ng/L		98	50 - 150	3	20
Perfluorobutanesulfonic acid (PFBS)	35.4	44.20 *		ng/L		125	50 - 150	23	20
Perfluorohexanesulfonic acid (PFHxS)	36.4	34.25		ng/L		94	50 - 150	3	20

Eurofins TestAmerica, Burlington

QC Sample Results

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Method: 25101:2009 - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 200-141591/3-A

Matrix: Water

Analysis Batch: 141648

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 141591

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	37.1	35.39		ng/L	—	95	70 - 130	9	20
Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits						
18O2 PFHxS	69		50 - 150						
13C4 PFHpA	70		50 - 150						
13C4 PFOA	73		70 - 130						
13C4 PFOS	67 *		70 - 130						
13C5 PFNA	74		50 - 150						
13C3 PFBS	60		50 - 150						

QC Association Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

LCMS

Prep Batch: 141591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48134-1	S-15687	Total/NA	Water	25101:2009 SPE	
200-48134-2	S-24848	Total/NA	Water	25101:2009 SPE	
200-48134-3	S-31636	Total/NA	Water	25101:2009 SPE	
200-48134-4	BLENDED INFLUENT	Total/NA	Water	25101:2009 SPE	
200-48134-5	BLENDED EFFLUENT	Total/NA	Water	25101:2009 SPE	
MB 200-141591/1-A	Method Blank	Total/NA	Water	25101:2009 SPE	
LCS 200-141591/2-A	Lab Control Sample	Total/NA	Water	25101:2009 SPE	
LCSD 200-141591/3-A	Lab Control Sample Dup	Total/NA	Water	25101:2009 SPE	

Analysis Batch: 141648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
200-48134-1	S-15687	Total/NA	Water	25101:2009	141591
200-48134-2	S-24848	Total/NA	Water	25101:2009	141591
200-48134-3	S-31636	Total/NA	Water	25101:2009	141591
200-48134-4	BLENDED INFLUENT	Total/NA	Water	25101:2009	141591
200-48134-5	BLENDED EFFLUENT	Total/NA	Water	25101:2009	141591
MB 200-141591/1-A	Method Blank	Total/NA	Water	25101:2009	141591
LCS 200-141591/2-A	Lab Control Sample	Total/NA	Water	25101:2009	141591
LCSD 200-141591/3-A	Lab Control Sample Dup	Total/NA	Water	25101:2009	141591

Lab Chronicle

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Client Sample ID: S-15687

Date Collected: 04/01/19 08:25

Date Received: 04/02/19 12:03

Lab Sample ID: 200-48134-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	25101:2009 SPE			141591	04/03/19 13:32	TPB	TAL BUR
Total/NA	Analysis	25101:2009		1	141648	04/05/19 04:51	JM1	TAL BUR

Client Sample ID: S-24848

Date Collected: 04/01/19 08:40

Date Received: 04/02/19 12:03

Lab Sample ID: 200-48134-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	25101:2009 SPE			141591	04/03/19 13:32	TPB	TAL BUR
Total/NA	Analysis	25101:2009		1	141648	04/05/19 05:07	JM1	TAL BUR

Client Sample ID: S-31636

Date Collected: 04/01/19 08:50

Date Received: 04/02/19 12:03

Lab Sample ID: 200-48134-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	25101:2009 SPE			141591	04/03/19 13:32	TPB	TAL BUR
Total/NA	Analysis	25101:2009		1	141648	04/05/19 05:23	JM1	TAL BUR

Client Sample ID: BLENDED INFLUENT

Date Collected: 04/01/19 09:00

Date Received: 04/02/19 12:03

Lab Sample ID: 200-48134-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	25101:2009 SPE			141591	04/03/19 13:32	TPB	TAL BUR
Total/NA	Analysis	25101:2009		1	141648	04/05/19 05:39	JM1	TAL BUR

Client Sample ID: BLENDED EFFLUENT

Date Collected: 04/01/19 09:10

Date Received: 04/02/19 12:03

Lab Sample ID: 200-48134-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	25101:2009 SPE			141591	04/03/19 13:32	TPB	TAL BUR
Total/NA	Analysis	25101:2009		1	141648	04/05/19 05:55	JM1	TAL BUR

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Eurofins TestAmerica, Burlington

Accreditation/Certification Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Laboratory: Eurofins TestAmerica, Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
ANAB	DoD / DOE		L2336	02-25-20
Connecticut	State Program	1	PH-0751	09-30-19
DE Haz. Subst. Cleanup Act (HSCA)	State Program	3	NA	02-01-19 *
Florida	NELAP	4	E87467	06-30-19
Maine	State Program	1	VT00008	04-17-19 *
Minnesota	NELAP	5	050-999-436	12-31-19
New Hampshire	NELAP	1	2006	12-18-19
New Jersey	NELAP	2	VT972	06-30-19
New York	NELAP	2	10391	04-01-20
Pennsylvania	NELAP	3	68-00489	04-30-19 *
Rhode Island	State Program	1	LAO00298	12-30-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-11-00093	07-24-20
Vermont	State Program	1	VT-4000	12-31-19
Virginia	NELAP	3	460209	12-14-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Burlington

Method Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Method	Method Description	Protocol	Laboratory
25101:2009	Fluorinated Alkyl Substances	ISO	TAL BUR
25101:2009 SPE	Solid-Phase Extraction (SPE)	ISO	TAL BUR

Protocol References:

ISO = International Organization for Standardization

Laboratory References:

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Pace Analytical Services, LLC
Project/Site: PFAS, NY DW

Job ID: 200-48134-1
SDG: 200-48134-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
200-48134-1	S-15687	Water	04/01/19 08:25	04/02/19 12:03
200-48134-2	S-24848	Water	04/01/19 08:40	04/02/19 12:03
200-48134-3	S-31636	Water	04/01/19 08:50	04/02/19 12:03
200-48134-4	BLENDED INFLUENT	Water	04/01/19 09:00	04/02/19 12:03
200-48134-5	BLENDED EFFLUENT	Water	04/01/19 09:10	04/02/19 12:03

Chain of Custody



Workorder: 7083993		Workorder Name: PFAS 4/1		Results Requested By: 4/9/2019																			
Report / Invoice To		Subcontract To		Requested Analysis																			
Stu Murrell Pace Analytical Melville 575 Broad Hollow Road Melville, NY 11747 Phone (631)694-3040 Email: stu.murrell@pacelabs.com		Attn: Lori Arnold TestAmerica Burlington 30 Community Drive Suite 11 South Burlington, VT 05403		P.O. 7083993SWM																			
State of Sample Origin: NY		Collect Date/Time		Lab ID		Matrix		Unpreserved		Preserved Containers		Subcontracted ISO 25101		LAB USE ONLY									
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved Containers	Subcontracted ISO 25101																
1	S-15687	4/1/2019 08:25	7083993001	Drinking			X																
2	S-24848	4/1/2019 08:40	7083993002	Drinking			X																
3	S-31636	4/1/2019 08:50	7083993003	Drinking			X																
4	BLENDED INFILUENT	4/1/2019 09:00	7083993004	Drinking			X																
5	BLENDED EFFLUENT	4/1/2019 09:10	7083993005	Drinking			X																
Transfers		Released By		Received By		Date/Time		Comments															
1	Pace Labs		4/1/19 18:00		Sam Hall		4-2-19 12:03		UCMR3 COMPOUNDS														
2									RUSH														
3																							
Cooler Temperature on Receipt		1.5 °C		Custody Seal		Y or N		Received on Ice		Y or N		Samples Intact		Y or N									



200-48134 Chain of Custody



ORIGIN ID:ZMVA (631) 694-3040
RECEIVING
PACE ANALYTICAL SERVICES
575 BROADHOLLOW RD

MELVILLE, NY 11747
UNITED STATES US

SHIP DATE: 01APR19
ACTWGT: 35.00 LB MAN
CAD: 499472/CAFE3211

BILL SENDER

551CL/BTES/104C

TO TEST AMERICA
TEST AMERICA
30 COMMUNITY DRIVE
SUITE #11
SOUTH BURLINGTON VT 05403

(802) 660-1990

REF:

DEPT:



FedEx
Express



TRK#
0201

4899 5747 4892

1C BTVA

TUE - 02 APR 10:30A
PRIORITY OVERNIGHT

05403

VT-US BTVA



Login Sample Receipt Checklist

Client: Pace Analytical Services, LLC

Job Number: 200-48134-1

SDG Number: 200-48134-1

Login Number: 48134

List Number: 1

Creator: Hall, Samuel C

List Source: Eurofins TestAmerica, Burlington

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Not requested on COC.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	