NAVFAC
Naval Facilities Engineering Command

Off-Base Drinking Water Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Figure, SDG J23919-1

Naval Air Station Whidbey Island
Oak Harbor, Washington

June 2019

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

TestAmerica Job ID: 320-23919-1
Client Project/Site: Whidbey Island
Revision: 1

For:
CH2M Hill Constructors, Inc.
1100 NE Circle Blvd
Corvallis, Oregon 97330

Attn: Tiffany Hill

Authorized for release by:
12/14/2016 9:36:17 AM

Laura Turpen, Project Manager I
(916)374-4414
laura.turpen@testamericainc.com

Table of Contents

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
E	Result exceeded calibration range.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Job ID: 320-23919-1

Laboratory: TestAmerica Sacramento

Narrative

CASE NARRATIVE

Client: CH2M Hill Constructors, Inc.

Project: Whidbey Island

Report Number: 320-23919-1

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.

TestAmerica Sacramento attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

TestAmerica utilizes USEPA approved methods and DOD QSM, where applicable, in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

All parameters for which TestAmerica Sacramento has certification were evaluated to the QSM specified reporting convention or to the client specified format if different from QSM. Parameters not certified under QSM, if any, were evaluated to the detection limit (DL) and include qualified results where applicable.

The sample(s) that contain constituents flagged with U are undetected. The result associated with this flag is the limit of detection (LOD).

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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

Revision

This report was revised December 14, 2016 to correct the narration for the internal standard for samples 320-23919-13 and include information about the various runs for this samples. An additional set of QC samples for prep batch 320-140440/analytical batch 320-140946 has also been included. No data changed as a result of this revision.

RECEIPT

The samples were received on 12/01/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 1.5º C.

PFOA/PFOS

Samples WI-AF-1RW02-1116 (320-23919-1), WI-AF-1FB02-1116 (320-23919-2), WI-AF-1RW03-1116 (320-23919-3), WI-AF-1FB03-1116 (320-23919-4), WI-AF-1RW04-1116 (320-23919-5), WI-AF-1FB04-1116 (320-23919-6), WI-AF-1RW05-1116 (320-23919-7),

Job ID: 320-23919-1 (Continued)

Laboratory: TestAmerica Sacramento (Continued)

WI-AF-1FB05-1116 (320-23919-8), WI-AF-2RW02-1116 (320-23919-9), WI-AF-2FB02-1116 (320-23919-10), WI-AF-2RW03-1116 (320-23919-11), WI-AF-2FB03-1116 (320-23919-12), WI-AF-2RW04-1116 (320-23919-13), WI-AF-2FB04-1116 (320-23919-14), WI-AF-2RW05-1116 (320-23919-15), WI-AF-2FB05-1116 (320-23919-16), WI-AF-2RW06-1116 (320-23919-17), WI-AF-2FB06-1116 (320-23919-18), WI-AF-3RW04-1116 (320-23919-19), WI-AF-3FB04-1116 (320-23919-20), WI-AF-3RW05-1116 (320-23919-21), WI-AF-3FB05-1116 (320-23919-22), WI-AF-3RW06-1116 (320-23919-23), WI-AF-3FB06-1116 (320-23919-24), WI-AF-3RW07-1116 (320-23919-25), WI-AF-3FB07-1116 (320-23919-26), WI-AF-3RW08-1116 (320-23919-27), WI-AF-3FB08-1116 (320-23919-28), WI-AF-3RW09-1116 (320-23919-29) and WI-AF-3FB09-1116 (320-23919-30) were analyzed for PFOA/PFOS in accordance with 537. The samples were prepared on 12/02/2016 and analyzed on 12/08/2016, 12/09/2016 and 12/11/2016.

The following samples were received in the laboratory with a pH of 9: WI-AF-1RW02-1116 (320-23919-1), WI-AF-1FB02-1116 (320-23919-2),WI-AF-1RW03-1116 (320-23919-3), WI-AF-1FB03-1116 (320-23919-4), WI-AF-1RW04-1116 (320-23919-5), WI-AF-1FB04-1116 (320-23919-6), WI-AF-1RW05-1116 (320-23919-7), WI-AF-1FB05-1116 (320-23919-8), WI-AF-2RW02-1116 (320-23919-9), WI-AF-2FB02-1116 (320-23919-10), WI-AF-2RW03-1116 (320-23919-11), WI-AF-2FB03-1116 (320-23919-12), WI-AF-2RW04-1116 (320-23919-13), WI-AF-2FB04-1116 (320-23919-14), WI-AF-2RW05-1116 (320-23919-15), WI-AF-2FB05-1116 (320-23919-16), WI-AF-2RW06-1116 (320-23919-17), WI-AF-2FB06-1116 (320-23919-18), WI-AF-3RW04-1116 (320-23919-19), WI-AF-3FB04-1116 (320-23919-20), WI-AF-3RW05-1116 (320-23919-21), WI-AF-3FB05-1116 (320-23919-22), WI-AF-3RW06-1116 (320-23919-23), WI-AF-3FB06-1116 (320-23919-24), WI-AF-3RW07-1116 (320-23919-25), WI-AF-3FB07-1116 (320-23919-26), WI-AF-3RW08-1116 (320-23919-27), WI-AF-3FB08-1116 (320-23919-28), WI-AF-3RW09-1116 (320-23919-29) and WI-AF-3FB09-1116 (320-23919-30).

Sample WI-AF-1RW05-1116 (320-23919-7) was a dark shade of yellow.

Sample WI-AF-2RW04-1116 (320-23919-13)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Internal Standard recovery for the following sample was outside control limits: WI-AF-2RW04-1116 (320-23919-13). Re-analysis was performed with concurring results. The original analysis has been reported.

The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: WI-AF-2RW04-1116 (320-23919-13). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The sample was also ran at dilution to bring the analytes within the calibration range.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batches 320-140400 and 320-140409.

The laboratory control sample has E flags because it is spiked at the upper level of the calibration curve as specified in the method. (LCS 320-140442/2-A)

The 13C4-PFOS internal standard was outside of the recommended control limits for the following sample. This was confirmed by re-analysis at a 20X dilution due to the native PFOS concentration being greater than the upper calibration range. High levels of the target analyte have been known to impact response of its labeled analog, as in this instance. This matrix interference did impact the internal standard as evident by the confirmation analysis. The sample was not re-extracted due to the expeditious nature of the program. WI-AF-2RW04-1116 (320-23919-13)

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

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-1RW02-1116 — Lab Sample ID: 320-23919-1

No Detections.

Client Sample ID: WI-AF-1FB02-1116 — Lab Sample ID: 320-23919-2

No Detections.

Client Sample ID: WI-AF-1RW03-1116 — Lab Sample ID: 320-23919-3

No Detections.

Client Sample ID: WI-AF-1FB03-1116 — Lab Sample ID: 320-23919-4

No Detections.

Client Sample ID: WI-AF-1RW04-1116 — Lab Sample ID: 320-23919-5

No Detections.

Client Sample ID: WI-AF-1FB04-1116 — Lab Sample ID: 320-23919-6

No Detections.

Client Sample ID: WI-AF-1RW05-1116 — Lab Sample ID: 320-23919-7

No Detections.

Client Sample ID: WI-AF-1FB05-1116 — Lab Sample ID: 320-23919-8

No Detections.

Client Sample ID: WI-AF-2RW02-1116 — Lab Sample ID: 320-23919-9

No Detections.

Client Sample ID: WI-AF-2FB02-1116 — Lab Sample ID: 320-23919-10

No Detections.

Client Sample ID: WI-AF-2RW03-1116 — Lab Sample ID: 320-23919-11

No Detections.

Client Sample ID: WI-AF-2FB03-1116 — Lab Sample ID: 320-23919-12

No Detections.

Client Sample ID: WI-AF-2RW04-1116 — Lab Sample ID: 320-23919-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.6	E	0.059	0.015	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA)	0.016	J M	0.030	0.0093	ug/L	1		537	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.14	0.047	ug/L	1		537	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	2.5	D	1.2	0.30	ug/L	20		537	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-2FB04-1116 — **Lab Sample ID: 320-23919-14**

No Detections.

Client Sample ID: WI-AF-2RW05-1116 — **Lab Sample ID: 320-23919-15**

No Detections.

Client Sample ID: WI-AF-2FB05-1116 — **Lab Sample ID: 320-23919-16**

No Detections.

Client Sample ID: WI-AF-2RW06-1116 — **Lab Sample ID: 320-23919-17**

No Detections.

Client Sample ID: WI-AF-2FB06-1116 — **Lab Sample ID: 320-23919-18**

No Detections.

Client Sample ID: WI-AF-3RW04-1116 — **Lab Sample ID: 320-23919-19**

No Detections.

Client Sample ID: WI-AF-3FB04-1116 — **Lab Sample ID: 320-23919-20**

No Detections.

Client Sample ID: WI-AF-3RW05-1116 — **Lab Sample ID: 320-23919-21**

No Detections.

Client Sample ID: WI-AF-3FB05-1116 — **Lab Sample ID: 320-23919-22**

No Detections.

Client Sample ID: WI-AF-3RW06-1116 — **Lab Sample ID: 320-23919-23**

No Detections.

Client Sample ID: WI-AF-3FB06-1116 — **Lab Sample ID: 320-23919-24**

No Detections.

Client Sample ID: WI-AF-3RW07-1116 — **Lab Sample ID: 320-23919-25**

No Detections.

Client Sample ID: WI-AF-3FB07-1116 — **Lab Sample ID: 320-23919-26**

No Detections.

Client Sample ID: WI-AF-3RW08-1116 — **Lab Sample ID: 320-23919-27**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-3FB08-1116 — Lab Sample ID: 320-23919-28

No Detections.

Client Sample ID: WI-AF-3RW09-1116 — Lab Sample ID: 320-23919-29

No Detections.

Client Sample ID: WI-AF-3FB09-1116 — Lab Sample ID: 320-23919-30

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: WI-AF-1RW02-1116

Lab Sample ID: 320-23919-1
Date Collected: 11/29/16 09:20
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:27	12/08/16 15:17	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0093	ug/L		12/02/16 15:27	12/08/16 15:17	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:27	12/08/16 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:17*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:17*	*1*

Client Sample ID: WI-AF-1FB02-1116

Lab Sample ID: 320-23919-2
Date Collected: 11/29/16 09:25
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:27	12/08/16 15:44	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:27	12/08/16 15:44	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:27	12/08/16 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:44*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:44*	*1*

Client Sample ID: WI-AF-1RW03-1116

Lab Sample ID: 320-23919-3
Date Collected: 11/29/16 10:15
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.015	ug/L		12/02/16 15:42	12/08/16 20:04	1
Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.0092	ug/L		12/02/16 15:42	12/08/16 20:04	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:04*	*1*
13C2 PFDA	*112*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:04*	*1*

Client Sample ID: WI-AF-1FB03-1116

Lab Sample ID: 320-23919-4
Date Collected: 11/29/16 10:20
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.015	ug/L		12/02/16 15:42	12/08/16 20:34	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/08/16 20:34	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:34*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:34*	*1*

Client Sample ID: WI-AF-1RW04-1116

Lab Sample ID: 320-23919-5
Matrix: Water
Date Collected: 11/29/16 11:15
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/08/16 21:03	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/08/16 21:03	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:03*	*1*
13C2 PFDA	*105*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:03*	*1*

Client Sample ID: WI-AF-1FB04-1116

Lab Sample ID: 320-23919-6
Matrix: Water
Date Collected: 11/29/16 11:20
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/08/16 21:33	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/08/16 21:33	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:33*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:33*	*1*

Client Sample ID: WI-AF-1RW05-1116

Lab Sample ID: 320-23919-7
Matrix: Water
Date Collected: 11/29/16 13:25
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.015	ug/L		12/02/16 15:42	12/08/16 22:02	1
Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.0094	ug/L		12/02/16 15:42	12/08/16 22:02	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 15:42	12/08/16 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:02*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:02*	*1*

Client Sample ID: WI-AF-1FB05-1116

Lab Sample ID: 320-23919-8
Matrix: Water
Date Collected: 11/29/16 13:30
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.015	ug/L		12/02/16 15:42	12/08/16 22:32	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/02/16 15:42	12/08/16 22:32	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/08/16 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:32*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:32*	*1*

Client Sample ID: WI-AF-2RW02-1116

Lab Sample ID: 320-23919-9
Matrix: Water
Date Collected: 11/29/16 09:15
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/08/16 23:01	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0093	ug/L		12/02/16 15:42	12/08/16 23:01	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/08/16 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:01*	*1*
13C2 PFDA	*110*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:01*	*1*

Client Sample ID: WI-AF-2FB02-1116

Lab Sample ID: 320-23919-10
Matrix: Water
Date Collected: 11/29/16 09:20
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:42	12/08/16 23:31	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0093	ug/L		12/02/16 15:42	12/08/16 23:31	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/08/16 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:31*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:31*	*1*

Client Sample ID: WI-AF-2RW03-1116

Lab Sample ID: 320-23919-11
Matrix: Water
Date Collected: 11/29/16 10:35
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 00:01	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/09/16 00:01	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 00:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*70 - 130*	*12/02/16 15:42*	*12/09/16 00:01*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:42*	*12/09/16 00:01*	*1*

Client Sample ID: WI-AF-2FB03-1116

Lab Sample ID: 320-23919-12
Matrix: Water
Date Collected: 11/29/16 10:36
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/09/16 01:59	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/09/16 01:59	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/09/16 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*12/02/16 15:42*	*12/09/16 01:59*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/09/16 01:59*	*1*

Client Sample ID: WI-AF-2RW04-1116

Lab Sample ID: 320-23919-13
Matrix: Water
Date Collected: 11/29/16 11:05
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	2.6	E	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 06:25	1
Perfluorooctanoic acid (PFOA)	0.016	J M	0.030	0.0093	ug/L		12/02/16 15:42	12/09/16 06:25	1
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 06:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*70 - 130*	*12/02/16 15:42*	*12/09/16 06:25*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/02/16 15:42*	*12/09/16 06:25*	*1*

Method: 537 - Perfluorinated Alkyl Acids (LC/MS) - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	2.5	D	1.2	0.30	ug/L		12/02/16 15:42	12/09/16 02:29	20
Perfluorooctanoic acid (PFOA)	0.47	U M	0.59	0.19	ug/L		12/02/16 15:42	12/09/16 02:29	20
Perfluorobutanesulfonic acid (PFBS)	2.2	U	2.8	0.94	ug/L		12/02/16 15:42	12/09/16 02:29	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 02:29*	*20*
13C2 PFDA	*87*		*70 - 130*	*12/02/16 15:42*	*12/09/16 02:29*	*20*

Client Sample ID: WI-AF-2FB04-1116

Lab Sample ID: 320-23919-14
Matrix: Water
Date Collected: 11/29/16 11:06
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:42	12/11/16 04:03	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/11/16 04:03	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/11/16 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*95*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:03*	*1*
13C2 PFDA	*97*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:03*	*1*

Client Sample ID: WI-AF-2RW05-1116

Lab Sample ID: 320-23919-15
Matrix: Water
Date Collected: 11/29/16 13:17
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/09/16 03:28	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/09/16 03:28	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/09/16 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:28*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:28*	*1*

Client Sample ID: WI-AF-2FB05-1116

Lab Sample ID: 320-23919-16
Date Collected: 11/29/16 13:15
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 03:57	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0093	ug/L		12/02/16 15:42	12/09/16 03:57	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:57*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:57*	*1*

Client Sample ID: WI-AF-2RW06-1116

Lab Sample ID: 320-23919-17
Date Collected: 11/29/16 14:12
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 04:27	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/09/16 04:27	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/09/16 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:27*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:27*	*1*

Client Sample ID: WI-AF-2FB06-1116

Lab Sample ID: 320-23919-18
Date Collected: 11/29/16 14:10
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.015	ug/L		12/02/16 15:42	12/09/16 04:57	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/09/16 04:57	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.046	ug/L		12/02/16 15:42	12/09/16 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:57*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:57*	*1*

Client Sample ID: WI-AF-3RW04-1116

Lab Sample ID: 320-23919-19
Date Collected: 11/29/16 09:10
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.015	ug/L		12/02/16 15:42	12/09/16 05:26	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/02/16 15:42	12/09/16 05:26	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 05:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 05:26*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 15:42*	*12/09/16 05:26*	*1*

Client Sample ID: WI-AF-3FB04-1116

Lab Sample ID: 320-23919-20
Date Collected: 11/29/16 09:11
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.015	ug/L		12/02/16 15:42	12/11/16 04:33	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0090	ug/L		12/02/16 15:42	12/11/16 04:33	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.046	ug/L		12/02/16 15:42	12/11/16 04:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:33*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:33*	*1*

Client Sample ID: WI-AF-3RW05-1116

Lab Sample ID: 320-23919-21
Date Collected: 11/29/16 10:00
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 08:29	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0092	ug/L		12/02/16 15:42	12/09/16 08:29	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 08:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 08:29*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 08:29*	*1*

Client Sample ID: WI-AF-3FB05-1116

Lab Sample ID: 320-23919-22
Date Collected: 11/29/16 10:01
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/11/16 05:02	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/11/16 05:02	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/11/16 05:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*101*		*70 - 130*	*12/02/16 15:42*	*12/11/16 05:02*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:42*	*12/11/16 05:02*	*1*

Client Sample ID: WI-AF-3RW06-1116

Lab Sample ID: 320-23919-23
Date Collected: 11/29/16 11:05
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.054	0.014	ug/L		12/02/16 20:12	12/09/16 18:30	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.027	0.0084	ug/L		12/02/16 20:12	12/09/16 18:30	1
Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.13	0.043	ug/L		12/02/16 20:12	12/09/16 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*70 - 130*	*12/02/16 20:12*	*12/09/16 18:30*	*1*
13C2 PFDA	*99*		*70 - 130*	*12/02/16 20:12*	*12/09/16 18:30*	*1*

Client Sample ID: WI-AF-3FB06-1116

Lab Sample ID: 320-23919-24

Date Collected: 11/29/16 11:06

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.045	U M	0.057	0.015	ug/L		12/02/16 20:12	12/09/16 19:00	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.028	0.0089	ug/L		12/02/16 20:12	12/09/16 19:00	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.045	ug/L		12/02/16 20:12	12/09/16 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:00*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:00*	*1*

Client Sample ID: WI-AF-3RW07-1116

Lab Sample ID: 320-23919-25

Date Collected: 11/29/16 11:20

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.046	U	0.058	0.015	ug/L		12/02/16 20:12	12/09/16 19:29	1
Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.0091	ug/L		12/02/16 20:12	12/09/16 19:29	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 20:12	12/09/16 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:29*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:29*	*1*

Client Sample ID: WI-AF-3FB07-1116

Lab Sample ID: 320-23919-26

Date Collected: 11/29/16 11:21

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.054	0.014	ug/L		12/02/16 20:12	12/09/16 19:59	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0085	ug/L		12/02/16 20:12	12/09/16 19:59	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/09/16 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:59*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:59*	*1*

Client Sample ID: WI-AF-3RW08-1116

Lab Sample ID: 320-23919-27

Date Collected: 11/29/16 15:15

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.056	0.014	ug/L		12/02/16 20:12	12/09/16 21:57	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.0087	ug/L		12/02/16 20:12	12/09/16 21:57	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/09/16 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 21:57*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/09/16 21:57*	*1*

Client Sample ID: WI-AF-3FB08-1116

Lab Sample ID: 320-23919-28

Date Collected: 11/29/16 15:16

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.052	0.014	ug/L		12/02/16 20:12	12/09/16 22:27	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0082	ug/L		12/02/16 20:12	12/09/16 22:27	1
Perfluorobutanesulfonic acid (PFBS)	0.096	U	0.12	0.042	ug/L		12/02/16 20:12	12/09/16 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:27*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:27*	*1*

Client Sample ID: WI-AF-3RW09-1116

Lab Sample ID: 320-23919-29

Date Collected: 11/29/16 15:30

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.053	0.014	ug/L		12/02/16 20:12	12/09/16 22:57	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.0083	ug/L		12/02/16 20:12	12/09/16 22:57	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/02/16 20:12	12/09/16 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:57*	*1*
13C2 PFDA	*113*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:57*	*1*

Client Sample ID: WI-AF-3FB09-1116

Lab Sample ID: 320-23919-30

Date Collected: 11/29/16 15:31

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.053	0.014	ug/L		12/02/16 20:12	12/09/16 23:26	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/02/16 20:12	12/09/16 23:26	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/02/16 20:12	12/09/16 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:26*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:26*	*1*

Surrogate Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	3C2 PFHx (70-130)	3C2 PFDA (70-130)								
320-23919-1	WI-AF-1RW02-1116	111	111								
320-23919-2	WI-AF-1FB02-1116	108	109								
320-23919-3	WI-AF-1RW03-1116	103	112								
320-23919-4	WI-AF-1FB03-1116	109	107								
320-23919-5	WI-AF-1RW04-1116	110	105								
320-23919-6	WI-AF-1FB04-1116	109	107								
320-23919-7	WI-AF-1RW05-1116	104	108								
320-23919-8	WI-AF-1FB05-1116	111	107								
320-23919-9	WI-AF-2RW02-1116	113	110								
320-23919-10	WI-AF-2FB02-1116	114	108								
320-23919-11	WI-AF-2RW03-1116	123	109								
320-23919-12	WI-AF-2FB03-1116	106	107								
320-23919-13 - DL	WI-AF-2RW04-1116	111	87								
320-23919-13	WI-AF-2RW04-1116	90	104								
320-23919-14	WI-AF-2FB04-1116	95	97								
320-23919-15	WI-AF-2RW05-1116	111	106								
320-23919-16	WI-AF-2FB05-1116	108	107								
320-23919-17	WI-AF-2RW06-1116	96	104								
320-23919-18	WI-AF-2FB06-1116	106	107								
320-23919-19	WI-AF-3RW04-1116	111	108								
320-23919-20	WI-AF-3FB04-1116	110	109								
320-23919-21	WI-AF-3RW05-1116	111	111								
320-23919-22	WI-AF-3FB05-1116	101	109								
320-23919-23	WI-AF-3RW06-1116	105	99								
320-23919-24	WI-AF-3FB06-1116	113	106								
320-23919-25	WI-AF-3RW07-1116	112	109								
320-23919-26	WI-AF-3FB07-1116	110	106								
320-23919-27	WI-AF-3RW08-1116	112	106								
320-23919-28	WI-AF-3FB08-1116	108	108								
320-23919-29	WI-AF-3RW09-1116	112	113								
320-23919-30	WI-AF-3FB09-1116	112	109								
LCS 320-140409/2-A	Lab Control Sample	114	112								
LCS 320-140442/2-A	Lab Control Sample	129	122								
LCSD 320-140409/3-A	Lab Control Sample Dup	114	114								
LLCS 320-140400/2-A	Lab Control Sample	112	108								
LLCSD 320-140400/3-A	Lab Control Sample Dup	112	108								
MB 320-140400/1-A	Method Blank	123	120								
MB 320-140409/1-A	Method Blank	119	122								
MB 320-140442/1-A	Method Blank	118	108								

Surrogate Legend

13C2 PFHxA = 13C2 PFHxA
13C2 PFDA = 13C2 PFDA

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MB 320-140400/1-A
Matrix: Water
Analysis Batch: 140948

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140400

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.016	ug/L		12/02/16 15:27	12/08/16 11:41	1
Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.0094	ug/L		12/02/16 15:27	12/08/16 11:41	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 15:27	12/08/16 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*70 - 130*	*12/02/16 15:27*	*12/08/16 11:41*	*1*
13C2 PFDA	*120*		*70 - 130*	*12/02/16 15:27*	*12/08/16 11:41*	*1*

Lab Sample ID: LLCS 320-140400/2-A
Matrix: Water
Analysis Batch: 140946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140400

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0318	J	ug/L		79	50 - 150
Perfluorooctanoic acid (PFOA)	0.0198	0.0180	J	ug/L		90	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0805	J	ug/L		90	50 - 150

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*

Lab Sample ID: LLCSD 320-140400/3-A
Matrix: Water
Analysis Batch: 140946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140400

Analyte	Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0315	J	ug/L		79	50 - 150	0.7	50
Perfluorooctanoic acid (PFOA)	0.0198	0.0185	J	ug/L		93	50 - 150	3	50
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0796	J	ug/L		89	50 - 150	1	50

Surrogate	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*

Lab Sample ID: MB 320-140409/1-A
Matrix: Water
Analysis Batch: 141249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140409

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.016	ug/L		12/02/16 15:42	12/08/16 17:06	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/02/16 15:42	12/08/16 17:06	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 15:42	12/08/16 17:06	1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MB 320-140409/1-A
Matrix: Water
Analysis Batch: 141249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140409

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	119		70 - 130	12/02/16 15:42	12/08/16 17:06	1
13C2 PFDA	122		70 - 130	12/02/16 15:42	12/08/16 17:06	1

Lab Sample ID: LCS 320-140409/2-A
Matrix: Water
Analysis Batch: 141249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140409

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.160	0.132		ug/L		82	70 - 130
Perfluorooctanoic acid (PFOA)	0.0811	0.0624		ug/L		77	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.359	0.300		ug/L		83	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C2 PFHxA	114		70 - 130
13C2 PFDA	112		70 - 130

Lab Sample ID: LCSD 320-140409/3-A
Matrix: Water
Analysis Batch: 140949

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140409

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.160	0.134		ug/L		84	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	0.0811	0.0663		ug/L		82	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	0.359	0.312		ug/L		87	70 - 130	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFHxA	114		70 - 130
13C2 PFDA	114		70 - 130

Lab Sample ID: MB 320-140442/1-A
Matrix: Water
Analysis Batch: 141291

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140442

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.016	ug/L		12/02/16 20:12	12/09/16 17:31	1
Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.0094	ug/L		12/02/16 20:12	12/09/16 17:31	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 20:12	12/09/16 17:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	118		70 - 130	12/02/16 20:12	12/09/16 17:31	1
13C2 PFDA	108		70 - 130	12/02/16 20:12	12/09/16 17:31	1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LCS 320-140442/2-A
Matrix: Water
Analysis Batch: 141291

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.300	0.317		ug/L		105	70 - 130
Perfluorooctanoic acid (PFOA)	0.152	0.166	E	ug/L		109	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.673	0.588		ug/L		87	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*129*		*70 - 130*
13C2 PFDA	*122*		*70 - 130*

LCMS

Prep Batch: 140400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-1	WI-AF-1RW02-1116	Total/NA	Water	537	
320-23919-2	WI-AF-1FB02-1116	Total/NA	Water	537	
MB 320-140400/1-A	Method Blank	Total/NA	Water	537	
LLCS 320-140400/2-A	Lab Control Sample	Total/NA	Water	537	
LLCSD 320-140400/3-A	Lab Control Sample Dup	Total/NA	Water	537	

Prep Batch: 140409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-3	WI-AF-1RW03-1116	Total/NA	Water	537	
320-23919-4	WI-AF-1FB03-1116	Total/NA	Water	537	
320-23919-5	WI-AF-1RW04-1116	Total/NA	Water	537	
320-23919-6	WI-AF-1FB04-1116	Total/NA	Water	537	
320-23919-7	WI-AF-1RW05-1116	Total/NA	Water	537	
320-23919-8	WI-AF-1FB05-1116	Total/NA	Water	537	
320-23919-9	WI-AF-2RW02-1116	Total/NA	Water	537	
320-23919-10	WI-AF-2FB02-1116	Total/NA	Water	537	
320-23919-11	WI-AF-2RW03-1116	Total/NA	Water	537	
320-23919-12	WI-AF-2FB03-1116	Total/NA	Water	537	
320-23919-13 - DL	WI-AF-2RW04-1116	Total/NA	Water	537	
320-23919-13	WI-AF-2RW04-1116	Total/NA	Water	537	
320-23919-14	WI-AF-2FB04-1116	Total/NA	Water	537	
320-23919-15	WI-AF-2RW05-1116	Total/NA	Water	537	
320-23919-16	WI-AF-2FB05-1116	Total/NA	Water	537	
320-23919-17	WI-AF-2RW06-1116	Total/NA	Water	537	
320-23919-18	WI-AF-2FB06-1116	Total/NA	Water	537	
320-23919-19	WI-AF-3RW04-1116	Total/NA	Water	537	
320-23919-20	WI-AF-3FB04-1116	Total/NA	Water	537	
320-23919-21	WI-AF-3RW05-1116	Total/NA	Water	537	
320-23919-22	WI-AF-3FB05-1116	Total/NA	Water	537	
MB 320-140409/1-A	Method Blank	Total/NA	Water	537	
LCS 320-140409/2-A	Lab Control Sample	Total/NA	Water	537	
LCSD 320-140409/3-A	Lab Control Sample Dup	Total/NA	Water	537	

Prep Batch: 140442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-23	WI-AF-3RW06-1116	Total/NA	Water	537	
320-23919-24	WI-AF-3FB06-1116	Total/NA	Water	537	
320-23919-25	WI-AF-3RW07-1116	Total/NA	Water	537	
320-23919-26	WI-AF-3FB07-1116	Total/NA	Water	537	
320-23919-27	WI-AF-3RW08-1116	Total/NA	Water	537	
320-23919-28	WI-AF-3FB08-1116	Total/NA	Water	537	
320-23919-29	WI-AF-3RW09-1116	Total/NA	Water	537	
320-23919-30	WI-AF-3FB09-1116	Total/NA	Water	537	
MB 320-140442/1-A	Method Blank	Total/NA	Water	537	
LCS 320-140442/2-A	Lab Control Sample	Total/NA	Water	537	

Analysis Batch: 140946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LLCS 320-140400/2-A	Lab Control Sample	Total/NA	Water	537	140400
LLCSD 320-140400/3-A	Lab Control Sample Dup	Total/NA	Water	537	140400

LCMS (Continued)

Analysis Batch: 140948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-140400/1-A	Method Blank	Total/NA	Water	537	140400

Analysis Batch: 140949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-3	WI-AF-1RW03-1116	Total/NA	Water	537	140409
320-23919-4	WI-AF-1FB03-1116	Total/NA	Water	537	140409
320-23919-5	WI-AF-1RW04-1116	Total/NA	Water	537	140409
320-23919-6	WI-AF-1FB04-1116	Total/NA	Water	537	140409
320-23919-7	WI-AF-1RW05-1116	Total/NA	Water	537	140409
320-23919-8	WI-AF-1FB05-1116	Total/NA	Water	537	140409
320-23919-9	WI-AF-2RW02-1116	Total/NA	Water	537	140409
320-23919-10	WI-AF-2FB02-1116	Total/NA	Water	537	140409
320-23919-11	WI-AF-2RW03-1116	Total/NA	Water	537	140409
LCSD 320-140409/3-A	Lab Control Sample Dup	Total/NA	Water	537	140409

Analysis Batch: 140950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-12	WI-AF-2FB03-1116	Total/NA	Water	537	140409
320-23919-13 - DL	WI-AF-2RW04-1116	Total/NA	Water	537	140409
320-23919-13	WI-AF-2RW04-1116	Total/NA	Water	537	140409
320-23919-15	WI-AF-2RW05-1116	Total/NA	Water	537	140409
320-23919-16	WI-AF-2FB05-1116	Total/NA	Water	537	140409
320-23919-17	WI-AF-2RW06-1116	Total/NA	Water	537	140409
320-23919-18	WI-AF-2FB06-1116	Total/NA	Water	537	140409
320-23919-19	WI-AF-3RW04-1116	Total/NA	Water	537	140409

Analysis Batch: 141249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-1	WI-AF-1RW02-1116	Total/NA	Water	537	140400
320-23919-2	WI-AF-1FB02-1116	Total/NA	Water	537	140400
MB 320-140409/1-A	Method Blank	Total/NA	Water	537	140409
LCS 320-140409/2-A	Lab Control Sample	Total/NA	Water	537	140409

Analysis Batch: 141290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-21	WI-AF-3RW05-1116	Total/NA	Water	537	140409

Analysis Batch: 141291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-23	WI-AF-3RW06-1116	Total/NA	Water	537	140442
320-23919-24	WI-AF-3FB06-1116	Total/NA	Water	537	140442
320-23919-25	WI-AF-3RW07-1116	Total/NA	Water	537	140442
320-23919-26	WI-AF-3FB07-1116	Total/NA	Water	537	140442
MB 320-140442/1-A	Method Blank	Total/NA	Water	537	140442
LCS 320-140442/2-A	Lab Control Sample	Total/NA	Water	537	140442

Analysis Batch: 141292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-27	WI-AF-3RW08-1116	Total/NA	Water	537	140442
320-23919-28	WI-AF-3FB08-1116	Total/NA	Water	537	140442
320-23919-29	WI-AF-3RW09-1116	Total/NA	Water	537	140442

LCMS (Continued)

Analysis Batch: 141292 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-30	WI-AF-3FB09-1116	Total/NA	Water	537	140442

Analysis Batch: 141521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-14	WI-AF-2FB04-1116	Total/NA	Water	537	140409
320-23919-20	WI-AF-3FB04-1116	Total/NA	Water	537	140409
320-23919-22	WI-AF-3FB05-1116	Total/NA	Water	537	140409

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-1RW02-1116
Date Collected: 11/29/16 09:20
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			254.4 mL	1 mL	140400	12/02/16 15:27	VPM	TAL SAC
Total/NA	Analysis	537		1			141249	12/08/16 15:17	JRB	TAL SAC

Client Sample ID: WI-AF-1FB02-1116
Date Collected: 11/29/16 09:25
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.4 mL	1 mL	140400	12/02/16 15:27	VPM	TAL SAC
Total/NA	Analysis	537		1			141249	12/08/16 15:44	JRB	TAL SAC

Client Sample ID: WI-AF-1RW03-1116
Date Collected: 11/29/16 10:15
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.3 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 20:04	JRB	TAL SAC

Client Sample ID: WI-AF-1FB03-1116
Date Collected: 11/29/16 10:20
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.8 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 20:34	JRB	TAL SAC

Client Sample ID: WI-AF-1RW04-1116
Date Collected: 11/29/16 11:15
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			256.3 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 21:03	JRB	TAL SAC

Client Sample ID: WI-AF-1FB04-1116
Date Collected: 11/29/16 11:20
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.3 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 21:33	JRB	TAL SAC

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-1RW05-1116
Date Collected: 11/29/16 13:25
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			250.2 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 22:02	JRB	TAL SAC

Client Sample ID: WI-AF-1FB05-1116
Date Collected: 11/29/16 13:30
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			251 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 22:32	JRB	TAL SAC

Client Sample ID: WI-AF-2RW02-1116
Date Collected: 11/29/16 09:15
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			254.5 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 23:01	JRB	TAL SAC

Client Sample ID: WI-AF-2FB02-1116
Date Collected: 11/29/16 09:20
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			254.3 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/08/16 23:31	JRB	TAL SAC

Client Sample ID: WI-AF-2RW03-1116
Date Collected: 11/29/16 10:35
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			255.8 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140949	12/09/16 00:01	JRB	TAL SAC

Client Sample ID: WI-AF-2FB03-1116
Date Collected: 11/29/16 10:36
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.8 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140950	12/09/16 01:59	JRB	TAL SAC

Client Sample ID: WI-AF-2RW04-1116
Lab Sample ID: 320-23919-13
Date Collected: 11/29/16 11:05
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537	DL		254.1 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537	DL	20			140950	12/09/16 02:29	JRB	TAL SAC
Total/NA	Prep	537			254.1 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140950	12/09/16 06:25	JRB	TAL SAC

Client Sample ID: WI-AF-2FB04-1116
Lab Sample ID: 320-23919-14
Date Collected: 11/29/16 11:06
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			255.9 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			141521	12/11/16 04:03	JRB	TAL SAC

Client Sample ID: WI-AF-2RW05-1116
Lab Sample ID: 320-23919-15
Date Collected: 11/29/16 13:17
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.5 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140950	12/09/16 03:28	JRB	TAL SAC

Client Sample ID: WI-AF-2FB05-1116
Lab Sample ID: 320-23919-16
Date Collected: 11/29/16 13:15
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			254.2 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140950	12/09/16 03:57	JRB	TAL SAC

Client Sample ID: WI-AF-2RW06-1116
Lab Sample ID: 320-23919-17
Date Collected: 11/29/16 14:12
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			256.1 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140950	12/09/16 04:27	JRB	TAL SAC

Client Sample ID: WI-AF-2FB06-1116
Lab Sample ID: 320-23919-18
Date Collected: 11/29/16 14:10
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			259.7 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-2FB06-1116
Date Collected: 11/29/16 14:10
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	537		1			140950	12/09/16 04:57	JRB	TAL SAC

Client Sample ID: WI-AF-3RW04-1116
Date Collected: 11/29/16 09:10
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			251.2 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			140950	12/09/16 05:26	JRB	TAL SAC

Client Sample ID: WI-AF-3FB04-1116
Date Collected: 11/29/16 09:11
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			260.4 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			141521	12/11/16 04:33	JRB	TAL SAC

Client Sample ID: WI-AF-3RW05-1116
Date Collected: 11/29/16 10:00
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			254.7 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			141290	12/09/16 08:29	JRB	TAL SAC

Client Sample ID: WI-AF-3FB05-1116
Date Collected: 11/29/16 10:01
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			257.3 mL	1.0 mL	140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1			141521	12/11/16 05:02	JRB	TAL SAC

Client Sample ID: WI-AF-3RW06-1116
Date Collected: 11/29/16 11:05
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			279.6 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141291	12/09/16 18:30	JRB	TAL SAC

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-3FB06-1116
Date Collected: 11/29/16 11:06
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-24
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			264.7 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141291	12/09/16 19:00	JRB	TAL SAC

Client Sample ID: WI-AF-3RW07-1116
Date Collected: 11/29/16 11:20
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			259 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141291	12/09/16 19:29	JRB	TAL SAC

Client Sample ID: WI-AF-3FB07-1116
Date Collected: 11/29/16 11:21
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-26
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			278.1 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141291	12/09/16 19:59	JRB	TAL SAC

Client Sample ID: WI-AF-3RW08-1116
Date Collected: 11/29/16 15:15
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-27
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			269.7 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/09/16 21:57	JRB	TAL SAC

Client Sample ID: WI-AF-3FB08-1116
Date Collected: 11/29/16 15:16
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			286.6 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/09/16 22:27	JRB	TAL SAC

Client Sample ID: WI-AF-3RW09-1116
Date Collected: 11/29/16 15:30
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-29
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			282.1 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/09/16 22:57	JRB	TAL SAC

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-3FB09-1116
Date Collected: 11/29/16 15:31
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			284.3 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/09/16 23:26	JRB	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Laboratory: TestAmerica Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Method	Method Description	Protocol	Laboratory
537	Perfluorinated Alkyl Acids (LC/MS)	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-23919-1	WI-AF-1RW02-1116	Water	11/29/16 09:20	12/01/16 09:50
320-23919-2	WI-AF-1FB02-1116	Water	11/29/16 09:25	12/01/16 09:50
320-23919-3	WI-AF-1RW03-1116	Water	11/29/16 10:15	12/01/16 09:50
320-23919-4	WI-AF-1FB03-1116	Water	11/29/16 10:20	12/01/16 09:50
320-23919-5	WI-AF-1RW04-1116	Water	11/29/16 11:15	12/01/16 09:50
320-23919-6	WI-AF-1FB04-1116	Water	11/29/16 11:20	12/01/16 09:50
320-23919-7	WI-AF-1RW05-1116	Water	11/29/16 13:25	12/01/16 09:50
320-23919-8	WI-AF-1FB05-1116	Water	11/29/16 13:30	12/01/16 09:50
320-23919-9	WI-AF-2RW02-1116	Water	11/29/16 09:15	12/01/16 09:50
320-23919-10	WI-AF-2FB02-1116	Water	11/29/16 09:20	12/01/16 09:50
320-23919-11	WI-AF-2RW03-1116	Water	11/29/16 10:35	12/01/16 09:50
320-23919-12	WI-AF-2FB03-1116	Water	11/29/16 10:36	12/01/16 09:50
320-23919-13	WI-AF-2RW04-1116	Water	11/29/16 11:05	12/01/16 09:50
320-23919-14	WI-AF-2FB04-1116	Water	11/29/16 11:06	12/01/16 09:50
320-23919-15	WI-AF-2RW05-1116	Water	11/29/16 13:17	12/01/16 09:50
320-23919-16	WI-AF-2FB05-1116	Water	11/29/16 13:15	12/01/16 09:50
320-23919-17	WI-AF-2RW06-1116	Water	11/29/16 14:12	12/01/16 09:50
320-23919-18	WI-AF-2FB06-1116	Water	11/29/16 14:10	12/01/16 09:50
320-23919-19	WI-AF-3RW04-1116	Water	11/29/16 09:10	12/01/16 09:50
320-23919-20	WI-AF-3FB04-1116	Water	11/29/16 09:11	12/01/16 09:50
320-23919-21	WI-AF-3RW05-1116	Water	11/29/16 10:00	12/01/16 09:50
320-23919-22	WI-AF-3FB05-1116	Water	11/29/16 10:01	12/01/16 09:50
320-23919-23	WI-AF-3RW06-1116	Water	11/29/16 11:05	12/01/16 09:50
320-23919-24	WI-AF-3FB06-1116	Water	11/29/16 11:06	12/01/16 09:50
320-23919-25	WI-AF-3RW07-1116	Water	11/29/16 11:20	12/01/16 09:50
320-23919-26	WI-AF-3FB07-1116	Water	11/29/16 11:21	12/01/16 09:50
320-23919-27	WI-AF-3RW08-1116	Water	11/29/16 15:15	12/01/16 09:50
320-23919-28	WI-AF-3FB08-1116	Water	11/29/16 15:16	12/01/16 09:50
320-23919-29	WI-AF-3RW09-1116	Water	11/29/16 15:30	12/01/16 09:50
320-23919-30	WI-AF-3FB09-1116	Water	11/29/16 15:31	12/01/16 09:50

TestAmerica Sacramento
880 Riverside Parkway

West Sacramento, CA 95605
phone 916.373.5600 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Katie Tippin	Site Contact: Eric Epple	Date: 11/30/2016	COC No: 2
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	1 of 5 COCs
Project Chemist	Analysis Turnaround Time			Sampler:
1100 NE Circle Blvd Ste 300 Corvallis, OR 97330	☑CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(541) 768-3109	TAT if different from Below 7-Day			Walk-in Client:
(541) 908-3794	☐ 2 weeks			Lab Sampling:
Project Name: CTO-08	☐ 1 week			
Site: NAS Whidbey Island	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.06.FI.FS	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	USEPA Method 537 (PFOA, PFOS, and PFBS)	Sample Specific Notes:
WI-AF-1RW02-1116	11/29/16	0920	G	DW	2	N	N	X	
WI-AF-1FB02-1116	11/29/16	0925	G	DW	2	N	N	X	
WI-AF-1RW03-1116	11/29/16	1015	G	DW	2	N	N	X	
WI-AF-1FB03-1116	11/29/16	1020	G	DW	2	N	N	X	
WI-AF-1RW04-1116	11/29/16	1115	G	DW	2	N	N	x	
WI-AF-1FB04-1116	11/29/16	1120	G	DW	2	N	N	x	
WI-AF-1RW05-1116	11/29/16	1325	G	DW	2	N	N	X	
WI-AF-1FB05-1116	11/29/16	1330	G	DW	2	N	N	X	
WI-AF-2RW02-1116	11/29/16	0915	G	DW	2	N	N	X	
WI-AF-2FB02-1116	11/29/16	0920	G	DW	2	N	N	X	
WI-AF-2RW03-1116	11/29/16	1035	G	DW	2	N	N	X	
WI-AF-2FB03-1116	11/29/16	1036	G	DW	2	N	N	X	
								6	

320-23919 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _Trizma__

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

1.8 0.9

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.4 Corr'd: 1.5 | Therm ID No.: 12-02

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple	CH2M	11-30-16/1600	Mary G. Turpen	TAS	12/1/16 0950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Sacramento
880 Riverside Parkway

West Sacramento, CA 95605
phone 916.373.5600 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Katie Tippin	Site Contact: Eric Epple	Date: 11/30/2016	COC No: 2
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	2 of 3 COCs
Project Chemist	Analysis Turnaround Time			Sampler:
1100 NE Circle Blvd Ste 300 Corvallis, OR 97330	☑CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(541) 768-3109	TAT if different from Below ____7-Day____			Walk-in Client:
(541) 908-3794	☐ 2 weeks			Lab Sampling:
Project Name: CTO-08	☐ 1 week			
Site: NAS Whidbey Island	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.06.FI.FS	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	USEPA Method 537 (PFOA, PFOS, and PFBS)	Sample Specific Notes:
WI-AF-2RW04-1116	11/29/16	1105	G	DW	2	N	N	X	
WI-AF-2FB04-1116	11/29/16	1106	G	DW	2	N	N	X	
WI-AF-2RW05-1116	11/29/16	1317	G	DW	2	N	N	X	
WI-AF-2FB05-1116	11/29/16	1315	G	DW	2	N	N	X	
WI-AF-2RW06-1116	11/29/16	1412	G	DW	2	N	N	X	
WI-AF-2FB06-1116	11/29/16	1410	G	DW	2	N	N	X	
WI-AF-3WR04-1116	11/29/16	0910	G	DW	2	N	N	X	
WI-AF-3FB04-1116	11/29/16	0911	G	DW	2	N	N	X	
WI-AF-3WR05-1116	11/29/16	1000	G	DW	2	N	N	X	
WI-AF-3FB05-1116	11/29/16	1001	G	DW	2	N	N	X	
WI-AF-3WR06-1116	11/29/16	1105	G	DW	2	N	N	X	
WI-AF-3FB06-1116	11/29/16	1106	G	DW	2	N	N	X	
								6	

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _Trizma__

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.4 Corr'd: 1.5 | Therm ID No.: 12 ice

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple /	CH2M	11-29-16/1600	Troy C. Turpen	TAS	12/1/16 0950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Sacramento
880 Riverside Parkway

West Sacramento, CA 95605
phone 916.373.5600 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Katie Tippin	Site Contact: Eric Epple	Date: 11/30/2016	COC No: 2
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	3 of 3 COCs
Project Chemist	Analysis Turnaround Time			Sampler:
1100 NE Circle Blvd Ste 300 Corvallis, OR 97330	☑CALENDAR DAYS ☐WORKING DAYS			For Lab Use Only:
(541) 768-3109	TAT if different from Below 7-Day			Walk-in Client:
(541) 908-3794	☐ 2 weeks			Lab Sampling:
Project Name: CTO-08	☐ 1 week			
Site: NAS Whidbey Island	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.06.FI.FS	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	USEPA Method 537 (PFOA, PFOS, and PFBS)	Sample Specific Notes:
WI-AF-3RW07-1116	11/29/16	1120	G	DW	2	N	N	X	
WI-AF-3FB07-1116	11/29/16	1121	G	DW	2	N	N	X	
WI-AF-3RW08-1116	11/29/16	1515	G	DW	2	N	N	X	
WI-AF-3FB08-1116	11/29/16	1516	G	DW	2	N	N	X	
WI-AF-3RW09-1116	11/29/16	1530	G	DW	2	N	N	X	
WI-AF-3FB09-1116	11/29/16	1531	G	DW	2	N	N	X	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _Trizma__								6	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.4 Corr'd: 1.5 Therm ID No.: 12 Tree

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple /	CH2M	11-29-16/1600	Tury G. Turpen	TAS	12/1/16 0950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 320-23919-1

Login Number: 23919
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
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	
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	
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.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

Job Number: 320-23919-1

Job Description: Whidbey Island

For:
CH2M Hill Constructors, Inc.
1100 NE Circle Blvd
Corvallis, OR 97330

Attention: Tiffany Hill

Approved for release.
Laura Turpen
Project Manager I
12/14/2016 9:38 AM

Laura Turpen, Project Manager I
880 Riverside Parkway, West Sacramento, CA, 95605
(916)374-4414
laura.turpen@testamericainc.com
12/14/2016
Revision: 1

Table of Contents

Table of Contents

Qualifiers

LCMS

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
E	Result exceeded calibration range.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: CH2M Hill Constructors, Inc.

Project: Whidbey Island

Report Number: 320-23919-1

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.

TestAmerica Sacramento attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

TestAmerica utilizes USEPA approved methods and DOD QSM, where applicable, in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

All parameters for which TestAmerica Sacramento has certification were evaluated to the QSM specified reporting convention or to the client specified format if different from QSM. Parameters not certified under QSM, if any, were evaluated to the detection limit (DL) and include qualified results where applicable.

The sample(s) that contain constituents flagged with U are undetected. The result associated with this flag is the limit of detection (LOD).

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.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

Revision

This report was revised December 14, 2016 to correct the narration for the internal standard for samples 320-23919-13 and include information about the various runs for this samples. An additional set of QC samples for prep batch 320-140440/analytical batch 320-140946 has also been included. No data changed as a result of this revision.

RECEIPT

The samples were received on 12/01/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 1.5º C.

PFOA/PFOS

Samples WI-AF-1RW02-1116 (320-23919-1), WI-AF-1FB02-1116 (320-23919-2), WI-AF-1RW03-1116 (320-23919-3), WI-AF-1FB03-1116 (320-23919-4), WI-AF-1RW04-1116 (320-23919-5), WI-AF-1FB04-1116 (320-23919-6), WI-AF-1RW05-1116 (320-23919-7), WI-AF-1FB05-1116 (320-23919-8), WI-AF-2RW02-1116 (320-23919-9), WI-AF-2FB02-1116 (320-23919-10), WI-AF-2RW03-1116 (320-23919-11), WI-AF-2FB03-1116 (320-23919-12), WI-AF-2RW04-1116 (320-23919-13), WI-AF-2FB04-1116 (320-23919-14), WI-AF-2RW05-1116 (320-23919-15), WI-AF-2FB05-1116 (320-23919-16), WI-AF-2RW06-1116 (320-23919-17), WI-AF-2FB06-1116 (320-23919-18), WI-AF-3RW04-1116 (320-23919-19), WI-AF-3FB04-1116 (320-23919-20), WI-AF-3RW05-1116 (320-23919-21), WI-AF-3FB05-1116 (320-23919-22), WI-AF-3RW06-1116 (320-23919-23), WI-AF-3FB06-1116 (320-23919-24), WI-AF-3RW07-1116 (320-23919-25), WI-AF-3FB07-1116 (320-23919-26), WI-AF-3RW08-1116 (320-23919-27), WI-AF-3FB08-1116 (320-23919-28), WI-AF-3RW09-1116 (320-23919-29) and WI-AF-3FB09-1116 (320-23919-30) were analyzed for PFOA/PFOS in accordance with 537. The samples were prepared on 12/02/2016 and analyzed on 12/08/2016, 12/09/2016 and 12/11/2016.

The following samples were received in the laboratory with a pH of 9: WI-AF-1RW02-1116 (320-23919-1), WI-AF-1FB02-1116 (320-23919-2),WI-AF-1RW03-1116 (320-23919-3), WI-AF-1FB03-1116 (320-23919-4), WI-AF-1RW04-1116 (320-23919-5), WI-AF-1FB04-1116 (320-23919-6), WI-AF-1RW05-1116 (320-23919-7), WI-AF-1FB05-1116 (320-23919-8), WI-AF-2RW02-1116 (320-23919-9), WI-AF-2FB02-1116 (320-23919-10), WI-AF-2RW03-1116 (320-23919-11), WI-AF-2FB03-1116 (320-23919-12), WI-AF-2RW04-1116 (320-23919-13), WI-AF-2FB04-1116 (320-23919-14), WI-AF-2RW05-1116 (320-23919-15), WI-AF-2FB05-1116

(320-23919-16), WI-AF-2RW06-1116 (320-23919-17), WI-AF-2FB06-1116 (320-23919-18), WI-AF-3RW04-1116 (320-23919-19), WI-AF-3FB04-1116 (320-23919-20), WI-AF-3RW05-1116 (320-23919-21), WI-AF-3FB05-1116 (320-23919-22), WI-AF-3RW06-1116 (320-23919-23), WI-AF-3FB06-1116 (320-23919-24), WI-AF-3RW07-1116 (320-23919-25), WI-AF-3FB07-1116 (320-23919-26), WI-AF-3RW08-1116 (320-23919-27), WI-AF-3FB08-1116 (320-23919-28), WI-AF-3RW09-1116 (320-23919-29) and WI-AF-3FB09-1116 (320-23919-30).

Sample WI-AF-1RW05-1116 (320-23919-7) was a dark shade of yellow.

Sample WI-AF-2RW04-1116 (320-23919-13)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Internal Standard recovery for the following sample was outside control limits: WI-AF-2RW04-1116 (320-23919-13). Re-analysis was performed with concurring results. The original analysis has been reported.

The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: WI-AF-2RW04-1116 (320-23919-13). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The sample was also ran at dilution to bring the analytes within the calibration range.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batches 320-140400 and 320-140409.

The laboratory control sample has E flags because it is spiked at the upper level of the calibration curve as specified in the method. (LCS 320-140442/2-A)

The 13C4-PFOS internal standard was outside of the recommended control limits for the following sample. This was confirmed by re-analysis at a 20X dilution due to the native PFOS concentration being greater than the upper calibration range. High levels of the target analyte have been known to impact response of its labeled analog, as in this instance. This matrix interference did impact the internal standard as evident by the confirmation analysis. The sample was not re-extracted due to the expeditious nature of the program. WI-AF-2RW04-1116 (320-23919-13)

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

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-1RW02-1116 — Lab Sample ID: 320-23919-1

No Detections.

Client Sample ID: WI-AF-1FB02-1116 — Lab Sample ID: 320-23919-2

No Detections.

Client Sample ID: WI-AF-1RW03-1116 — Lab Sample ID: 320-23919-3

No Detections.

Client Sample ID: WI-AF-1FB03-1116 — Lab Sample ID: 320-23919-4

No Detections.

Client Sample ID: WI-AF-1RW04-1116 — Lab Sample ID: 320-23919-5

No Detections.

Client Sample ID: WI-AF-1FB04-1116 — Lab Sample ID: 320-23919-6

No Detections.

Client Sample ID: WI-AF-1RW05-1116 — Lab Sample ID: 320-23919-7

No Detections.

Client Sample ID: WI-AF-1FB05-1116 — Lab Sample ID: 320-23919-8

No Detections.

Client Sample ID: WI-AF-2RW02-1116 — Lab Sample ID: 320-23919-9

No Detections.

Client Sample ID: WI-AF-2FB02-1116 — Lab Sample ID: 320-23919-10

No Detections.

Client Sample ID: WI-AF-2RW03-1116 — Lab Sample ID: 320-23919-11

No Detections.

Client Sample ID: WI-AF-2FB03-1116 — Lab Sample ID: 320-23919-12

No Detections.

Client Sample ID: WI-AF-2RW04-1116 — Lab Sample ID: 320-23919-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanesulfonic acid (PFOS)	2.6	E	0.059	0.015	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA)	0.016	J M	0.030	0.0093	ug/L	1		537	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.14	0.047	ug/L	1		537	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	2.5	D	1.2	0.30	ug/L	20		537	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-2FB04-1116 **Lab Sample ID: 320-23919-14**

No Detections.

Client Sample ID: WI-AF-2RW05-1116 **Lab Sample ID: 320-23919-15**

No Detections.

Client Sample ID: WI-AF-2FB05-1116 **Lab Sample ID: 320-23919-16**

No Detections.

Client Sample ID: WI-AF-2RW06-1116 **Lab Sample ID: 320-23919-17**

No Detections.

Client Sample ID: WI-AF-2FB06-1116 **Lab Sample ID: 320-23919-18**

No Detections.

Client Sample ID: WI-AF-3RW04-1116 **Lab Sample ID: 320-23919-19**

No Detections.

Client Sample ID: WI-AF-3FB04-1116 **Lab Sample ID: 320-23919-20**

No Detections.

Client Sample ID: WI-AF-3RW05-1116 **Lab Sample ID: 320-23919-21**

No Detections.

Client Sample ID: WI-AF-3FB05-1116 **Lab Sample ID: 320-23919-22**

No Detections.

Client Sample ID: WI-AF-3RW06-1116 **Lab Sample ID: 320-23919-23**

No Detections.

Client Sample ID: WI-AF-3FB06-1116 **Lab Sample ID: 320-23919-24**

No Detections.

Client Sample ID: WI-AF-3RW07-1116 **Lab Sample ID: 320-23919-25**

No Detections.

Client Sample ID: WI-AF-3FB07-1116 **Lab Sample ID: 320-23919-26**

No Detections.

Client Sample ID: WI-AF-3RW08-1116 **Lab Sample ID: 320-23919-27**

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-3FB08-1116 — Lab Sample ID: 320-23919-28

No Detections.

Client Sample ID: WI-AF-3RW09-1116 — Lab Sample ID: 320-23919-29

No Detections.

Client Sample ID: WI-AF-3FB09-1116 — Lab Sample ID: 320-23919-30

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: WI-AF-1RW02-1116

Lab Sample ID: 320-23919-1

Date Collected: 11/29/16 09:20

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:27	12/08/16 15:17	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0093	ug/L		12/02/16 15:27	12/08/16 15:17	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:27	12/08/16 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:17*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:17*	*1*

Client Sample ID: WI-AF-1FB02-1116

Lab Sample ID: 320-23919-2

Date Collected: 11/29/16 09:25

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:27	12/08/16 15:44	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:27	12/08/16 15:44	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:27	12/08/16 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:44*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:27*	*12/08/16 15:44*	*1*

Client Sample ID: WI-AF-1RW03-1116

Lab Sample ID: 320-23919-3

Date Collected: 11/29/16 10:15

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.015	ug/L		12/02/16 15:42	12/08/16 20:04	1
Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.0092	ug/L		12/02/16 15:42	12/08/16 20:04	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:04*	*1*
13C2 PFDA	*112*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:04*	*1*

Client Sample ID: WI-AF-1FB03-1116

Lab Sample ID: 320-23919-4

Date Collected: 11/29/16 10:20

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.015	ug/L		12/02/16 15:42	12/08/16 20:34	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/08/16 20:34	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:34*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/08/16 20:34*	*1*

Client Sample ID: WI-AF-1RW04-1116

Lab Sample ID: 320-23919-5

Date Collected: 11/29/16 11:15

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/08/16 21:03	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/08/16 21:03	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:03*	*1*
13C2 PFDA	*105*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:03*	*1*

Client Sample ID: WI-AF-1FB04-1116

Lab Sample ID: 320-23919-6

Date Collected: 11/29/16 11:20

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/08/16 21:33	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/08/16 21:33	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/08/16 21:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:33*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/08/16 21:33*	*1*

Client Sample ID: WI-AF-1RW05-1116

Lab Sample ID: 320-23919-7

Date Collected: 11/29/16 13:25

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.015	ug/L		12/02/16 15:42	12/08/16 22:02	1
Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.0094	ug/L		12/02/16 15:42	12/08/16 22:02	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 15:42	12/08/16 22:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:02*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:02*	*1*

Client Sample ID: WI-AF-1FB05-1116

Lab Sample ID: 320-23919-8

Date Collected: 11/29/16 13:30

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.015	ug/L		12/02/16 15:42	12/08/16 22:32	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/02/16 15:42	12/08/16 22:32	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/08/16 22:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:32*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/08/16 22:32*	*1*

Client Sample ID: WI-AF-2RW02-1116

Lab Sample ID: 320-23919-9

Date Collected: 11/29/16 09:15

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/08/16 23:01	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0093	ug/L		12/02/16 15:42	12/08/16 23:01	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/08/16 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:01*	*1*
13C2 PFDA	*110*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:01*	*1*

Client Sample ID: WI-AF-2FB02-1116

Lab Sample ID: 320-23919-10

Date Collected: 11/29/16 09:20

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:42	12/08/16 23:31	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0093	ug/L		12/02/16 15:42	12/08/16 23:31	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/08/16 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:31*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 15:42*	*12/08/16 23:31*	*1*

Client Sample ID: WI-AF-2RW03-1116

Lab Sample ID: 320-23919-11

Date Collected: 11/29/16 10:35

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 00:01	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/09/16 00:01	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 00:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*70 - 130*	*12/02/16 15:42*	*12/09/16 00:01*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:42*	*12/09/16 00:01*	*1*

Client Sample ID: WI-AF-2FB03-1116

Lab Sample ID: 320-23919-12

Date Collected: 11/29/16 10:36

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/09/16 01:59	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/09/16 01:59	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/09/16 01:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*12/02/16 15:42*	*12/09/16 01:59*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/09/16 01:59*	*1*

Client Sample ID: WI-AF-2RW04-1116

Lab Sample ID: 320-23919-13

Date Collected: 11/29/16 11:05

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2.6**	**E**	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 06:25	1
Perfluorooctanoic acid (PFOA)	**0.016**	**J M**	0.030	0.0093	ug/L		12/02/16 15:42	12/09/16 06:25	1
Perfluorobutanesulfonic acid (PFBS)	**0.11**	**J**	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 06:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*90*		*70 - 130*	*12/02/16 15:42*	*12/09/16 06:25*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/02/16 15:42*	*12/09/16 06:25*	*1*

Method: 537 - Perfluorinated Alkyl Acids (LC/MS) - DL

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2.5**	**D**	1.2	0.30	ug/L		12/02/16 15:42	12/09/16 02:29	20
Perfluorooctanoic acid (PFOA)	0.47	U M	0.59	0.19	ug/L		12/02/16 15:42	12/09/16 02:29	20
Perfluorobutanesulfonic acid (PFBS)	2.2	U	2.8	0.94	ug/L		12/02/16 15:42	12/09/16 02:29	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 02:29*	*20*
13C2 PFDA	*87*		*70 - 130*	*12/02/16 15:42*	*12/09/16 02:29*	*20*

Client Sample ID: WI-AF-2FB04-1116

Lab Sample ID: 320-23919-14

Date Collected: 11/29/16 11:06

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:42	12/11/16 04:03	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/11/16 04:03	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/11/16 04:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*95*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:03*	*1*
13C2 PFDA	*97*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:03*	*1*

Client Sample ID: WI-AF-2RW05-1116

Lab Sample ID: 320-23919-15

Date Collected: 11/29/16 13:17

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/09/16 03:28	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/09/16 03:28	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/09/16 03:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:28*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:28*	*1*

Client Sample ID: WI-AF-2FB05-1116

Lab Sample ID: 320-23919-16
Date Collected: 11/29/16 13:15
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 03:57	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0093	ug/L		12/02/16 15:42	12/09/16 03:57	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 03:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:57*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/09/16 03:57*	*1*

Client Sample ID: WI-AF-2RW06-1116

Lab Sample ID: 320-23919-17
Date Collected: 11/29/16 14:12
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 04:27	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/09/16 04:27	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/09/16 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*96*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:27*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:27*	*1*

Client Sample ID: WI-AF-2FB06-1116

Lab Sample ID: 320-23919-18
Date Collected: 11/29/16 14:10
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.015	ug/L		12/02/16 15:42	12/09/16 04:57	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0091	ug/L		12/02/16 15:42	12/09/16 04:57	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.046	ug/L		12/02/16 15:42	12/09/16 04:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*106*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:57*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 15:42*	*12/09/16 04:57*	*1*

Client Sample ID: WI-AF-3RW04-1116

Lab Sample ID: 320-23919-19
Date Collected: 11/29/16 09:10
Matrix: Water
Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.015	ug/L		12/02/16 15:42	12/09/16 05:26	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/02/16 15:42	12/09/16 05:26	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 05:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 05:26*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 15:42*	*12/09/16 05:26*	*1*

Client Sample ID: WI-AF-3FB04-1116

Lab Sample ID: 320-23919-20

Date Collected: 11/29/16 09:11

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.015	ug/L		12/02/16 15:42	12/11/16 04:33	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0090	ug/L		12/02/16 15:42	12/11/16 04:33	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.046	ug/L		12/02/16 15:42	12/11/16 04:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:33*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:42*	*12/11/16 04:33*	*1*

Client Sample ID: WI-AF-3RW05-1116

Lab Sample ID: 320-23919-21

Date Collected: 11/29/16 10:00

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.015	ug/L		12/02/16 15:42	12/09/16 08:29	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.0092	ug/L		12/02/16 15:42	12/09/16 08:29	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 15:42	12/09/16 08:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 08:29*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/02/16 15:42*	*12/09/16 08:29*	*1*

Client Sample ID: WI-AF-3FB05-1116

Lab Sample ID: 320-23919-22

Date Collected: 11/29/16 10:01

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.015	ug/L		12/02/16 15:42	12/11/16 05:02	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.0092	ug/L		12/02/16 15:42	12/11/16 05:02	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 15:42	12/11/16 05:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*101*		*70 - 130*	*12/02/16 15:42*	*12/11/16 05:02*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 15:42*	*12/11/16 05:02*	*1*

Client Sample ID: WI-AF-3RW06-1116

Lab Sample ID: 320-23919-23

Date Collected: 11/29/16 11:05

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.054	0.014	ug/L		12/02/16 20:12	12/09/16 18:30	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.027	0.0084	ug/L		12/02/16 20:12	12/09/16 18:30	1
Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.13	0.043	ug/L		12/02/16 20:12	12/09/16 18:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*70 - 130*	*12/02/16 20:12*	*12/09/16 18:30*	*1*
13C2 PFDA	*99*		*70 - 130*	*12/02/16 20:12*	*12/09/16 18:30*	*1*

Client Sample ID: WI-AF-3FB06-1116

Lab Sample ID: 320-23919-24

Date Collected: 11/29/16 11:06

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.045	U M	0.057	0.015	ug/L		12/02/16 20:12	12/09/16 19:00	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.028	0.0089	ug/L		12/02/16 20:12	12/09/16 19:00	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.045	ug/L		12/02/16 20:12	12/09/16 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:00*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:00*	*1*

Client Sample ID: WI-AF-3RW07-1116

Lab Sample ID: 320-23919-25

Date Collected: 11/29/16 11:20

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.046	U	0.058	0.015	ug/L		12/02/16 20:12	12/09/16 19:29	1
Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.0091	ug/L		12/02/16 20:12	12/09/16 19:29	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.046	ug/L		12/02/16 20:12	12/09/16 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:29*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:29*	*1*

Client Sample ID: WI-AF-3FB07-1116

Lab Sample ID: 320-23919-26

Date Collected: 11/29/16 11:21

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.054	0.014	ug/L		12/02/16 20:12	12/09/16 19:59	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0085	ug/L		12/02/16 20:12	12/09/16 19:59	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/09/16 19:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*110*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:59*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/09/16 19:59*	*1*

Client Sample ID: WI-AF-3RW08-1116

Lab Sample ID: 320-23919-27

Date Collected: 11/29/16 15:15

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.056	0.014	ug/L		12/02/16 20:12	12/09/16 21:57	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.0087	ug/L		12/02/16 20:12	12/09/16 21:57	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/09/16 21:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 21:57*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/09/16 21:57*	*1*

Client Sample ID: WI-AF-3FB08-1116

Lab Sample ID: 320-23919-28

Date Collected: 11/29/16 15:16

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.052	0.014	ug/L		12/02/16 20:12	12/09/16 22:27	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0082	ug/L		12/02/16 20:12	12/09/16 22:27	1
Perfluorobutanesulfonic acid (PFBS)	0.096	U	0.12	0.042	ug/L		12/02/16 20:12	12/09/16 22:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:27*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:27*	*1*

Client Sample ID: WI-AF-3RW09-1116

Lab Sample ID: 320-23919-29

Date Collected: 11/29/16 15:30

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.053	0.014	ug/L		12/02/16 20:12	12/09/16 22:57	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.0083	ug/L		12/02/16 20:12	12/09/16 22:57	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/02/16 20:12	12/09/16 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:57*	*1*
13C2 PFDA	*113*		*70 - 130*	*12/02/16 20:12*	*12/09/16 22:57*	*1*

Client Sample ID: WI-AF-3FB09-1116

Lab Sample ID: 320-23919-30

Date Collected: 11/29/16 15:31

Matrix: Water

Date Received: 12/01/16 09:50

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.053	0.014	ug/L		12/02/16 20:12	12/09/16 23:26	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/02/16 20:12	12/09/16 23:26	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/02/16 20:12	12/09/16 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:26*	*1*
13C2 PFDA	*109*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:26*	*1*

Default Detection Limits

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Prep: 537

Analyte	LOQ	DL	Units	Method
Perfluorobutanesulfonic acid (PFBS)	0.14	0.048	ug/L	537
Perfluorooctanesulfonic acid (PFOS)	0.060	0.016	ug/L	537
Perfluorooctanoic acid (PFOA)	0.030	0.0094	ug/L	537

Surrogate Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	3C2 PFHx (70-130)	3C2 PFDA (70-130)								
320-23919-1	WI-AF-1RW02-1116	111	111								
320-23919-2	WI-AF-1FB02-1116	108	109								
320-23919-3	WI-AF-1RW03-1116	103	112								
320-23919-4	WI-AF-1FB03-1116	109	107								
320-23919-5	WI-AF-1RW04-1116	110	105								
320-23919-6	WI-AF-1FB04-1116	109	107								
320-23919-7	WI-AF-1RW05-1116	104	108								
320-23919-8	WI-AF-1FB05-1116	111	107								
320-23919-9	WI-AF-2RW02-1116	113	110								
320-23919-10	WI-AF-2FB02-1116	114	108								
320-23919-11	WI-AF-2RW03-1116	123	109								
320-23919-12	WI-AF-2FB03-1116	106	107								
320-23919-13 - DL	WI-AF-2RW04-1116	111	87								
320-23919-13	WI-AF-2RW04-1116	90	104								
320-23919-14	WI-AF-2FB04-1116	95	97								
320-23919-15	WI-AF-2RW05-1116	111	106								
320-23919-16	WI-AF-2FB05-1116	108	107								
320-23919-17	WI-AF-2RW06-1116	96	104								
320-23919-18	WI-AF-2FB06-1116	106	107								
320-23919-19	WI-AF-3RW04-1116	111	108								
320-23919-20	WI-AF-3FB04-1116	110	109								
320-23919-21	WI-AF-3RW05-1116	111	111								
320-23919-22	WI-AF-3FB05-1116	101	109								
320-23919-23	WI-AF-3RW06-1116	105	99								
320-23919-24	WI-AF-3FB06-1116	113	106								
320-23919-25	WI-AF-3RW07-1116	112	109								
320-23919-26	WI-AF-3FB07-1116	110	106								
320-23919-27	WI-AF-3RW08-1116	112	106								
320-23919-28	WI-AF-3FB08-1116	108	108								
320-23919-29	WI-AF-3RW09-1116	112	113								
320-23919-30	WI-AF-3FB09-1116	112	109								
LCS 320-140409/2-A	Lab Control Sample	114	112								
LCS 320-140442/2-A	Lab Control Sample	129	122								
LCSD 320-140409/3-A	Lab Control Sample Dup	114	114								
LLCS 320-140400/2-A	Lab Control Sample	112	108								
LLCSD 320-140400/3-A	Lab Control Sample Dup	112	108								
MB 320-140400/1-A	Method Blank	123	120								
MB 320-140409/1-A	Method Blank	119	122								
MB 320-140442/1-A	Method Blank	118	108								

Surrogate Legend

13C2 PFHxA = 13C2 PFHxA

13C2 PFDA = 13C2 PFDA

Method: 537 - Perfluorinated Alkyl Acids (LC/MS)

Lab Sample ID: MB 320-140400/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 140948 — **Prep Batch: 140400**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.016	ug/L		12/02/16 15:27	12/08/16 11:41	1
Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.0094	ug/L		12/02/16 15:27	12/08/16 11:41	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 15:27	12/08/16 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*70 - 130*	*12/02/16 15:27*	*12/08/16 11:41*	*1*
13C2 PFDA	*120*		*70 - 130*	*12/02/16 15:27*	*12/08/16 11:41*	*1*

Lab Sample ID: LLCS 320-140400/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 140946 — **Prep Batch: 140400**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0318	J	ug/L		79	50 - 150
Perfluorooctanoic acid (PFOA)	0.0198	0.0180	J	ug/L		90	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0805	J	ug/L		90	50 - 150

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*

Lab Sample ID: LLCSD 320-140400/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 140946 — **Prep Batch: 140400**

Analyte	Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0315	J	ug/L		79	50 - 150	0.7	50
Perfluorooctanoic acid (PFOA)	0.0198	0.0185	J	ug/L		93	50 - 150	3	50
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0796	J	ug/L		89	50 - 150	1	50

Surrogate	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
13C2 PFHxA	*112*		*70 - 130*
13C2 PFDA	*108*		*70 - 130*

Lab Sample ID: MB 320-140409/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141249 — **Prep Batch: 140409**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.016	ug/L		12/02/16 15:42	12/08/16 17:06	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/02/16 15:42	12/08/16 17:06	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 15:42	12/08/16 17:06	1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: MB 320-140409/1-A
Matrix: Water
Analysis Batch: 141249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140409

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	119		70 - 130	12/02/16 15:42	12/08/16 17:06	1
13C2 PFDA	122		70 - 130	12/02/16 15:42	12/08/16 17:06	1

Lab Sample ID: LCS 320-140409/2-A
Matrix: Water
Analysis Batch: 141249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140409

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.160	0.132		ug/L		82	70 - 130
Perfluorooctanoic acid (PFOA)	0.0811	0.0624		ug/L		77	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.359	0.300		ug/L		83	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
13C2 PFHxA	114		70 - 130
13C2 PFDA	112		70 - 130

Lab Sample ID: LCSD 320-140409/3-A
Matrix: Water
Analysis Batch: 140949

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 140409

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.160	0.134		ug/L		84	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	0.0811	0.0663		ug/L		82	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	0.359	0.312		ug/L		87	70 - 130	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
13C2 PFHxA	114		70 - 130
13C2 PFDA	114		70 - 130

Lab Sample ID: MB 320-140442/1-A
Matrix: Water
Analysis Batch: 141291

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140442

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.016	ug/L		12/02/16 20:12	12/09/16 17:31	1
Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.0094	ug/L		12/02/16 20:12	12/09/16 17:31	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/02/16 20:12	12/09/16 17:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	118		70 - 130	12/02/16 20:12	12/09/16 17:31	1
13C2 PFDA	108		70 - 130	12/02/16 20:12	12/09/16 17:31	1

Method: 537 - Perfluorinated Alkyl Acids (LC/MS) (Continued)

Lab Sample ID: LCS 320-140442/2-A
Matrix: Water
Analysis Batch: 141291

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140442

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorooctanesulfonic acid (PFOS)			0.300	0.317		ug/L		105	70 - 130		
Perfluorooctanoic acid (PFOA)			0.152	0.166	E	ug/L		109	70 - 130		
Perfluorobutanesulfonic acid (PFBS)			0.673	0.588		ug/L		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C2 PFHxA	*129*		*70 - 130*
13C2 PFDA	*122*		*70 - 130*

LCMS

Prep Batch: 140400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-1	WI-AF-1RW02-1116	Total/NA	Water	537	
320-23919-2	WI-AF-1FB02-1116	Total/NA	Water	537	
MB 320-140400/1-A	Method Blank	Total/NA	Water	537	
LLCS 320-140400/2-A	Lab Control Sample	Total/NA	Water	537	
LLCSD 320-140400/3-A	Lab Control Sample Dup	Total/NA	Water	537	

Prep Batch: 140409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-3	WI-AF-1RW03-1116	Total/NA	Water	537	
320-23919-4	WI-AF-1FB03-1116	Total/NA	Water	537	
320-23919-5	WI-AF-1RW04-1116	Total/NA	Water	537	
320-23919-6	WI-AF-1FB04-1116	Total/NA	Water	537	
320-23919-7	WI-AF-1RW05-1116	Total/NA	Water	537	
320-23919-8	WI-AF-1FB05-1116	Total/NA	Water	537	
320-23919-9	WI-AF-2RW02-1116	Total/NA	Water	537	
320-23919-10	WI-AF-2FB02-1116	Total/NA	Water	537	
320-23919-11	WI-AF-2RW03-1116	Total/NA	Water	537	
320-23919-12	WI-AF-2FB03-1116	Total/NA	Water	537	
320-23919-13 - DL	WI-AF-2RW04-1116	Total/NA	Water	537	
320-23919-13	WI-AF-2RW04-1116	Total/NA	Water	537	
320-23919-14	WI-AF-2FB04-1116	Total/NA	Water	537	
320-23919-15	WI-AF-2RW05-1116	Total/NA	Water	537	
320-23919-16	WI-AF-2FB05-1116	Total/NA	Water	537	
320-23919-17	WI-AF-2RW06-1116	Total/NA	Water	537	
320-23919-18	WI-AF-2FB06-1116	Total/NA	Water	537	
320-23919-19	WI-AF-3RW04-1116	Total/NA	Water	537	
320-23919-20	WI-AF-3FB04-1116	Total/NA	Water	537	
320-23919-21	WI-AF-3RW05-1116	Total/NA	Water	537	
320-23919-22	WI-AF-3FB05-1116	Total/NA	Water	537	
MB 320-140409/1-A	Method Blank	Total/NA	Water	537	
LCS 320-140409/2-A	Lab Control Sample	Total/NA	Water	537	
LCSD 320-140409/3-A	Lab Control Sample Dup	Total/NA	Water	537	

Prep Batch: 140442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-23	WI-AF-3RW06-1116	Total/NA	Water	537	
320-23919-24	WI-AF-3FB06-1116	Total/NA	Water	537	
320-23919-25	WI-AF-3RW07-1116	Total/NA	Water	537	
320-23919-26	WI-AF-3FB07-1116	Total/NA	Water	537	
320-23919-27	WI-AF-3RW08-1116	Total/NA	Water	537	
320-23919-28	WI-AF-3FB08-1116	Total/NA	Water	537	
320-23919-29	WI-AF-3RW09-1116	Total/NA	Water	537	
320-23919-30	WI-AF-3FB09-1116	Total/NA	Water	537	
MB 320-140442/1-A	Method Blank	Total/NA	Water	537	
LCS 320-140442/2-A	Lab Control Sample	Total/NA	Water	537	

Analysis Batch: 140946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LLCS 320-140400/2-A	Lab Control Sample	Total/NA	Water	537	140400
LLCSD 320-140400/3-A	Lab Control Sample Dup	Total/NA	Water	537	140400

LCMS (Continued)

Analysis Batch: 140948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-140400/1-A	Method Blank	Total/NA	Water	537	140400

Analysis Batch: 140949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-3	WI-AF-1RW03-1116	Total/NA	Water	537	140409
320-23919-4	WI-AF-1FB03-1116	Total/NA	Water	537	140409
320-23919-5	WI-AF-1RW04-1116	Total/NA	Water	537	140409
320-23919-6	WI-AF-1FB04-1116	Total/NA	Water	537	140409
320-23919-7	WI-AF-1RW05-1116	Total/NA	Water	537	140409
320-23919-8	WI-AF-1FB05-1116	Total/NA	Water	537	140409
320-23919-9	WI-AF-2RW02-1116	Total/NA	Water	537	140409
320-23919-10	WI-AF-2FB02-1116	Total/NA	Water	537	140409
320-23919-11	WI-AF-2RW03-1116	Total/NA	Water	537	140409
LCSD 320-140409/3-A	Lab Control Sample Dup	Total/NA	Water	537	140409

Analysis Batch: 140950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-12	WI-AF-2FB03-1116	Total/NA	Water	537	140409
320-23919-13 - DL	WI-AF-2RW04-1116	Total/NA	Water	537	140409
320-23919-13	WI-AF-2RW04-1116	Total/NA	Water	537	140409
320-23919-15	WI-AF-2RW05-1116	Total/NA	Water	537	140409
320-23919-16	WI-AF-2FB05-1116	Total/NA	Water	537	140409
320-23919-17	WI-AF-2RW06-1116	Total/NA	Water	537	140409
320-23919-18	WI-AF-2FB06-1116	Total/NA	Water	537	140409
320-23919-19	WI-AF-3RW04-1116	Total/NA	Water	537	140409

Analysis Batch: 141249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-1	WI-AF-1RW02-1116	Total/NA	Water	537	140400
320-23919-2	WI-AF-1FB02-1116	Total/NA	Water	537	140400
MB 320-140409/1-A	Method Blank	Total/NA	Water	537	140409
LCS 320-140409/2-A	Lab Control Sample	Total/NA	Water	537	140409

Analysis Batch: 141290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-21	WI-AF-3RW05-1116	Total/NA	Water	537	140409

Analysis Batch: 141291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-23	WI-AF-3RW06-1116	Total/NA	Water	537	140442
320-23919-24	WI-AF-3FB06-1116	Total/NA	Water	537	140442
320-23919-25	WI-AF-3RW07-1116	Total/NA	Water	537	140442
320-23919-26	WI-AF-3FB07-1116	Total/NA	Water	537	140442
MB 320-140442/1-A	Method Blank	Total/NA	Water	537	140442
LCS 320-140442/2-A	Lab Control Sample	Total/NA	Water	537	140442

Analysis Batch: 141292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-27	WI-AF-3RW08-1116	Total/NA	Water	537	140442
320-23919-28	WI-AF-3FB08-1116	Total/NA	Water	537	140442
320-23919-29	WI-AF-3RW09-1116	Total/NA	Water	537	140442

LCMS (Continued)

Analysis Batch: 141292 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-30	WI-AF-3FB09-1116	Total/NA	Water	537	140442

Analysis Batch: 141521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23919-14	WI-AF-2FB04-1116	Total/NA	Water	537	140409
320-23919-20	WI-AF-3FB04-1116	Total/NA	Water	537	140409
320-23919-22	WI-AF-3FB05-1116	Total/NA	Water	537	140409

Client Sample ID: WI-AF-1RW02-1116
Lab Sample ID: 320-23919-1
Date Collected: 11/29/16 09:20
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140400	12/02/16 15:27	VPM	TAL SAC
Total/NA	Analysis	537		1	141249	12/08/16 15:17	JRB	TAL SAC

Client Sample ID: WI-AF-1FB02-1116
Lab Sample ID: 320-23919-2
Date Collected: 11/29/16 09:25
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140400	12/02/16 15:27	VPM	TAL SAC
Total/NA	Analysis	537		1	141249	12/08/16 15:44	JRB	TAL SAC

Client Sample ID: WI-AF-1RW03-1116
Lab Sample ID: 320-23919-3
Date Collected: 11/29/16 10:15
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 20:04	JRB	TAL SAC

Client Sample ID: WI-AF-1FB03-1116
Lab Sample ID: 320-23919-4
Date Collected: 11/29/16 10:20
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 20:34	JRB	TAL SAC

Client Sample ID: WI-AF-1RW04-1116
Lab Sample ID: 320-23919-5
Date Collected: 11/29/16 11:15
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 21:03	JRB	TAL SAC

Client Sample ID: WI-AF-1FB04-1116
Lab Sample ID: 320-23919-6
Date Collected: 11/29/16 11:20
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 21:33	JRB	TAL SAC

Client Sample ID: WI-AF-1RW05-1116
Lab Sample ID: 320-23919-7
Date Collected: 11/29/16 13:25
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 22:02	JRB	TAL SAC

Client Sample ID: WI-AF-1FB05-1116
Lab Sample ID: 320-23919-8
Date Collected: 11/29/16 13:30
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 22:32	JRB	TAL SAC

Client Sample ID: WI-AF-2RW02-1116
Lab Sample ID: 320-23919-9
Date Collected: 11/29/16 09:15
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 23:01	JRB	TAL SAC

Client Sample ID: WI-AF-2FB02-1116
Lab Sample ID: 320-23919-10
Date Collected: 11/29/16 09:20
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/08/16 23:31	JRB	TAL SAC

Client Sample ID: WI-AF-2RW03-1116
Lab Sample ID: 320-23919-11
Date Collected: 11/29/16 10:35
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140949	12/09/16 00:01	JRB	TAL SAC

Client Sample ID: WI-AF-2FB03-1116
Lab Sample ID: 320-23919-12
Date Collected: 11/29/16 10:36
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140950	12/09/16 01:59	JRB	TAL SAC

Client Sample ID: WI-AF-2RW04-1116
Lab Sample ID: 320-23919-13
Date Collected: 11/29/16 11:05
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537	DL		140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537	DL	20	140950	12/09/16 02:29	JRB	TAL SAC
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140950	12/09/16 06:25	JRB	TAL SAC

Client Sample ID: WI-AF-2FB04-1116
Lab Sample ID: 320-23919-14
Date Collected: 11/29/16 11:06
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	141521	12/11/16 04:03	JRB	TAL SAC

Client Sample ID: WI-AF-2RW05-1116
Lab Sample ID: 320-23919-15
Date Collected: 11/29/16 13:17
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140950	12/09/16 03:28	JRB	TAL SAC

Client Sample ID: WI-AF-2FB05-1116
Lab Sample ID: 320-23919-16
Date Collected: 11/29/16 13:15
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140950	12/09/16 03:57	JRB	TAL SAC

Client Sample ID: WI-AF-2RW06-1116
Lab Sample ID: 320-23919-17
Date Collected: 11/29/16 14:12
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140950	12/09/16 04:27	JRB	TAL SAC

Client Sample ID: WI-AF-2FB06-1116
Lab Sample ID: 320-23919-18
Date Collected: 11/29/16 14:10
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC

Client Sample ID: WI-AF-2FB06-1116
Lab Sample ID: 320-23919-18
Date Collected: 11/29/16 14:10
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	537		1	140950	12/09/16 04:57	JRB	TAL SAC

Client Sample ID: WI-AF-3RW04-1116
Lab Sample ID: 320-23919-19
Date Collected: 11/29/16 09:10
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	140950	12/09/16 05:26	JRB	TAL SAC

Client Sample ID: WI-AF-3FB04-1116
Lab Sample ID: 320-23919-20
Date Collected: 11/29/16 09:11
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	141521	12/11/16 04:33	JRB	TAL SAC

Client Sample ID: WI-AF-3RW05-1116
Lab Sample ID: 320-23919-21
Date Collected: 11/29/16 10:00
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	141290	12/09/16 08:29	JRB	TAL SAC

Client Sample ID: WI-AF-3FB05-1116
Lab Sample ID: 320-23919-22
Date Collected: 11/29/16 10:01
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140409	12/02/16 15:42	KMK	TAL SAC
Total/NA	Analysis	537		1	141521	12/11/16 05:02	JRB	TAL SAC

Client Sample ID: WI-AF-3RW06-1116
Lab Sample ID: 320-23919-23
Date Collected: 11/29/16 11:05
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141291	12/09/16 18:30	JRB	TAL SAC

Client Sample ID: WI-AF-3FB06-1116
Lab Sample ID: 320-23919-24
Date Collected: 11/29/16 11:06
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141291	12/09/16 19:00	JRB	TAL SAC

Client Sample ID: WI-AF-3RW07-1116
Lab Sample ID: 320-23919-25
Date Collected: 11/29/16 11:20
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141291	12/09/16 19:29	JRB	TAL SAC

Client Sample ID: WI-AF-3FB07-1116
Lab Sample ID: 320-23919-26
Date Collected: 11/29/16 11:21
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141291	12/09/16 19:59	JRB	TAL SAC

Client Sample ID: WI-AF-3RW08-1116
Lab Sample ID: 320-23919-27
Date Collected: 11/29/16 15:15
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141292	12/09/16 21:57	JRB	TAL SAC

Client Sample ID: WI-AF-3FB08-1116
Lab Sample ID: 320-23919-28
Date Collected: 11/29/16 15:16
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141292	12/09/16 22:27	JRB	TAL SAC

Client Sample ID: WI-AF-3RW09-1116
Lab Sample ID: 320-23919-29
Date Collected: 11/29/16 15:30
Matrix: Water
Date Received: 12/01/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141292	12/09/16 22:57	JRB	TAL SAC

Lab Chronicle

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Client Sample ID: WI-AF-3FB09-1116
Date Collected: 11/29/16 15:31
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23919-30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141292	12/09/16 23:26	JRB	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Laboratory: TestAmerica Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-17

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Method	Method Description	Protocol	Laboratory
537	Perfluorinated Alkyl Acids (LC/MS)	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: CH2M Hill Constructors, Inc.
Project/Site: Whidbey Island

TestAmerica Job ID: 320-23919-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-23919-1	WI-AF-1RW02-1116	Water	11/29/16 09:20	12/01/16 09:50
320-23919-2	WI-AF-1FB02-1116	Water	11/29/16 09:25	12/01/16 09:50
320-23919-3	WI-AF-1RW03-1116	Water	11/29/16 10:15	12/01/16 09:50
320-23919-4	WI-AF-1FB03-1116	Water	11/29/16 10:20	12/01/16 09:50
320-23919-5	WI-AF-1RW04-1116	Water	11/29/16 11:15	12/01/16 09:50
320-23919-6	WI-AF-1FB04-1116	Water	11/29/16 11:20	12/01/16 09:50
320-23919-7	WI-AF-1RW05-1116	Water	11/29/16 13:25	12/01/16 09:50
320-23919-8	WI-AF-1FB05-1116	Water	11/29/16 13:30	12/01/16 09:50
320-23919-9	WI-AF-2RW02-1116	Water	11/29/16 09:15	12/01/16 09:50
320-23919-10	WI-AF-2FB02-1116	Water	11/29/16 09:20	12/01/16 09:50
320-23919-11	WI-AF-2RW03-1116	Water	11/29/16 10:35	12/01/16 09:50
320-23919-12	WI-AF-2FB03-1116	Water	11/29/16 10:36	12/01/16 09:50
320-23919-13	WI-AF-2RW04-1116	Water	11/29/16 11:05	12/01/16 09:50
320-23919-14	WI-AF-2FB04-1116	Water	11/29/16 11:06	12/01/16 09:50
320-23919-15	WI-AF-2RW05-1116	Water	11/29/16 13:17	12/01/16 09:50
320-23919-16	WI-AF-2FB05-1116	Water	11/29/16 13:15	12/01/16 09:50
320-23919-17	WI-AF-2RW06-1116	Water	11/29/16 14:12	12/01/16 09:50
320-23919-18	WI-AF-2FB06-1116	Water	11/29/16 14:10	12/01/16 09:50
320-23919-19	WI-AF-3RW04-1116	Water	11/29/16 09:10	12/01/16 09:50
320-23919-20	WI-AF-3FB04-1116	Water	11/29/16 09:11	12/01/16 09:50
320-23919-21	WI-AF-3RW05-1116	Water	11/29/16 10:00	12/01/16 09:50
320-23919-22	WI-AF-3FB05-1116	Water	11/29/16 10:01	12/01/16 09:50
320-23919-23	WI-AF-3RW06-1116	Water	11/29/16 11:05	12/01/16 09:50
320-23919-24	WI-AF-3FB06-1116	Water	11/29/16 11:06	12/01/16 09:50
320-23919-25	WI-AF-3RW07-1116	Water	11/29/16 11:20	12/01/16 09:50
320-23919-26	WI-AF-3FB07-1116	Water	11/29/16 11:21	12/01/16 09:50
320-23919-27	WI-AF-3RW08-1116	Water	11/29/16 15:15	12/01/16 09:50
320-23919-28	WI-AF-3FB08-1116	Water	11/29/16 15:16	12/01/16 09:50
320-23919-29	WI-AF-3RW09-1116	Water	11/29/16 15:30	12/01/16 09:50
320-23919-30	WI-AF-3FB09-1116	Water	11/29/16 15:31	12/01/16 09:50

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 140688

Lab Sample ID: STD 320-140688/2 IC Client Sample ID:

Date Analyzed: 12/05/16 17:26 Lab File ID: 05DEC2016A6A_004.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluoroheptanoic acid	19.37	Split Peak	barnettj	12/06/16 10:00
Perfluorooctanoic acid (PFOA)	20.05	Split Peak	barnettj	12/06/16 10:00

Lab Sample ID: STD 320-140688/3 IC Client Sample ID:

Date Analyzed: 12/05/16 17:55 Lab File ID: 05DEC2016A6A_005.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluoroheptanoic acid	19.38	Split Peak	barnettj	12/06/16 10:03
Perfluorooctanoic acid (PFOA)	20.05	Split Peak	barnettj	12/06/16 10:03

Lab Sample ID: CCV 320-140688/9 CCVL Client Sample ID:

Date Analyzed: 12/05/16 20:53 Lab File ID: 05DEC2016A6A_011.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluoroheptanoic acid	19.38	Split Peak	barnettj	12/06/16 10:08
Perfluorooctanoic acid (PFOA)	20.05	Split Peak	barnettj	12/06/16 10:08

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 140948

Lab Sample ID: MB 320-140400/1-A Client Sample ID:

Date Analyzed: 12/08/16 11:41 Lab File ID: 05DEC2016A6A_138.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.07	Split Peak	barnettj	12/08/16 13:53
Perfluorooctanesulfonic acid (PFOS)	20.67	Missed Peak	barnettj	12/08/16 13:53

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 140949

Lab Sample ID: 320-23919-3 Client Sample ID: WI-AF-1RW03-1116

Date Analyzed: 12/08/16 20:04 Lab File ID: 05DEC2016A6A_154.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.06	Baseline	barnettj	12/09/16 09:51
Perfluorooctanesulfonic acid (PFOS)	20.42	Missed Peak	barnettj	12/09/16 09:51

Lab Sample ID: 320-23919-4 Client Sample ID: WI-AF-1FB03-1116

Date Analyzed: 12/08/16 20:34 Lab File ID: 05DEC2016A6A_155.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.69	Missed Peak	barnettj	12/09/16 09:52

Lab Sample ID: 320-23919-7 Client Sample ID: WI-AF-1RW05-1116

Date Analyzed: 12/08/16 22:02 Lab File ID: 05DEC2016A6A_158.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.06	Split Peak	barnettj	12/09/16 09:56
Perfluorooctanesulfonic acid (PFOS)	20.42	Missed Peak	barnettj	12/09/16 09:56

Lab Sample ID: 320-23919-10 Client Sample ID: WI-AF-2FB02-1116

Date Analyzed: 12/08/16 23:31 Lab File ID: 05DEC2016A6A_161.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.68	Missed Peak	barnettj	12/09/16 09:58

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 140950

Lab Sample ID: 320-23919-13 DL Client Sample ID: WI-AF-2RW04-1116 DL

Date Analyzed: 12/09/16 02:29 Lab File ID: 05DEC2016A6A_167.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.05	Baseline	barnettj	12/09/16 11:00

Lab Sample ID: 320-23919-18 Client Sample ID: WI-AF-2FB06-1116

Date Analyzed: 12/09/16 04:57 Lab File ID: 05DEC2016A6A_172.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.69	Missed Peak	barnettj	12/09/16 11:07

Lab Sample ID: 320-23919-19 Client Sample ID: WI-AF-3RW04-1116

Date Analyzed: 12/09/16 05:26 Lab File ID: 05DEC2016A6A_173.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.68	Missed Peak	barnettj	12/09/16 11:08

Lab Sample ID: 320-23919-13 Client Sample ID: WI-AF-2RW04-1116

Date Analyzed: 12/09/16 06:25 Lab File ID: 05DEC2016A6A_175.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.05	Split Peak	barnettj	12/09/16 11:11

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141249

Lab Sample ID: 320-23919-1 Client Sample ID: WI-AF-1RW02-1116

Date Analyzed: 12/08/16 15:17 Lab File ID: 05DEC2016A6A_145.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.68	Missed Peak	barnettj	12/08/16 16:15

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141290

Lab Sample ID: 320-23919-21 Client Sample ID: WI-AF-3RW05-1116

Date Analyzed: 12/09/16 08:29 Lab File ID: 05DEC2016A6A_179.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.68	Missed Peak	barnettj	12/09/16 13:23

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141291

Lab Sample ID: MB 320-140442/1-A Client Sample ID:

Date Analyzed: 12/09/16 17:31 Lab File ID: 05DEC2016A6A_196.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.04	Baseline	barnettj	12/10/16 10:54
Perfluorooctanesulfonic acid (PFOS)	20.66	Missed Peak	barnettj	12/10/16 10:54

Lab Sample ID: 320-23919-23 Client Sample ID: WI-AF-3RW06-1116

Date Analyzed: 12/09/16 18:30 Lab File ID: 05DEC2016A6A_198.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.04	Baseline	barnettj	12/10/16 10:57
Perfluorooctanesulfonic acid (PFOS)	20.67	Missed Peak	barnettj	12/10/16 10:57

Lab Sample ID: 320-23919-24 Client Sample ID: WI-AF-3FB06-1116

Date Analyzed: 12/09/16 19:00 Lab File ID: 05DEC2016A6A_199.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.67	Missed Peak	barnettj	12/10/16 10:58

Lab Sample ID: 320-23919-25 Client Sample ID: WI-AF-3RW07-1116

Date Analyzed: 12/09/16 19:29 Lab File ID: 05DEC2016A6A_200.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.02	Missed Peak	barnettj	12/10/16 10:59

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141292

Lab Sample ID: 320-23919-28 Client Sample ID: WI-AF-3FB08-1116

Date Analyzed: 12/09/16 22:27 Lab File ID: 05DEC2016A6A_206.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.05	Missed Peak	barnettj	12/10/16 11:03
Perfluorooctanesulfonic acid (PFOS)	20.66	Missed Peak	barnettj	12/10/16 11:03

Lab Sample ID: 320-23919-30 Client Sample ID: WI-AF-3FB09-1116

Date Analyzed: 12/09/16 23:26 Lab File ID: 05DEC2016A6A_208.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.05	Missed Peak	barnettj	12/10/16 11:05
Perfluorooctanesulfonic acid (PFOS)	20.64	Missed Peak	barnettj	12/10/16 11:05

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141521

Lab Sample ID: 320-23919-14 Client Sample ID: WI-AF-2FB04-1116

Date Analyzed: 12/11/16 04:03 Lab File ID: 05DEC2016A6A_266.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.70	Missed Peak	barnettj	12/12/16 10:32

Lab Sample ID: 320-23919-20 Client Sample ID: WI-AF-3FB04-1116

Date Analyzed: 12/11/16 04:33 Lab File ID: 05DEC2016A6A_267.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.70	Missed Peak	barnettj	12/12/16 10:34

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
LC537-HSP_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	375 uL	Perfluorobutane Sulfonate	3366 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	3366 ng/mL
							Perfluoroheptanoic acid	381.857 ng/mL
							Perfluorohexanesulfonic acid	1134.68 ng/mL
							Perfluorononanoic acid	736.695 ng/mL
							Perfluorooctanoic acid (PFOA)	760.489 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	1502.49 ng/mL
.LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutane Sulfonate	89.76 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
..LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutane Sulfonate	2040 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
...LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutane Sulfonate	1 g/g
							Perfluorobutanesulfonic acid (PFBS)	1 g/g
..LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
...LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
..LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
...LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
..LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
...LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
..LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
...LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
..LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
...LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
LC537-ICV_00017	01/13/17	08/09/16	MeOH/H2O, Lot 067374	10 mL	LC537-IS_00018	200 uL	13C2-PFOA	10 ng/mL
							13C4 PFOS	28.68 ng/mL
.LC537-IS_00018	01/13/17	07/13/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00004	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00013	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00004	03/19/17		Wellington Laboratories, Lot M2PFOA0312		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00013	01/22/21		Wellington Laboratories, Lot MPFOS0116		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
LC537-ICV_00017	01/13/17	08/09/16	MeOH/H2O, Lot 067374	10 mL	LC537-SU_00017	500 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL
					LC537ICIM_00013	25 uL	Perfluorobutanesulfonic acid (PFBS)	114.77 ng/mL
							Perfluorooctanoic acid (PFOA)	25.0965 ng/mL

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluorooctanesulfonic acid (PFOS)	27.2389 ng/mL
.LC537-SU_00017	01/19/17	07/19/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20	Wellington Laboratories, Lot MPFDA0815			(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20	Wellington Laboratories, Lot MPFHxA0415			(Purchased Reagent)		13C2 PFHxA	50 ug/mL
.LC537ICIM_00013	02/05/17	08/09/16	Methanol, Lot 090285	25 mL	LC537-PFBS2_00005	0.5 mL	Perfluorobutanesulfonic acid (PFBS)	45.908 ug/mL
					LC537-PFOA2_00007	0.13 mL	Perfluorooctanoic acid (PFOA)	10.0386 ug/mL
					LC537-PFOS2_00005	0.22 mL	Perfluorooctanesulfonic acid (PFOS)	10.8956 ug/mL
..LC537-PFBS2_00005	03/01/17	02/29/16	Methanol, Lot 090285	10 mL	LC537_PFBS2_00001	0.023 g	Perfluorobutanesulfonic acid (PFBS)	2295.4 ug/mL
...LC537_PFBS2_00001	08/09/17	Santa Cruz Biotechnology, Lot H0112			(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	0.998 g/g
..LC537-PFOA2_00007	07/25/17	08/05/16	Methanol, Lot 090285	10 mL	LC537_PFOA2_00001	0.0195 g	Perfluorooctanoic acid (PFOA)	1930.5 ug/mL
...LC537_PFOA2_00001	07/25/17	Afla Aesar, Lot D24Y026			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.99 g/g
..LC537-PFOS2_00005	03/01/17	02/29/16	Methanol, Lot 090285	10 mL	LC537_PFOS2_00001	0.0159 g	Perfluorooctanesulfonic acid (PFOS)	1238.13 ug/mL
...LC537_PFOS2_00001	07/26/17	Sigma, Lot BCBF5116V			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.7787 g/g
LC537-IS_00025	03/19/17	11/21/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00003	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00018	300 uL	13C4 PFOS	1.434 ug/mL
.LCM2PFOA_00003	03/19/17	Wellington Laboratories, Lot M2PFOA0312			(Purchased Reagent)		13C2-PFOA	50 ug/mL
.LCMPFOS_00018	08/03/21	Wellington Laboratories, Lot MPFOS0816			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
LC537-L1_00015	01/13/17	07/28/16	MeOH/H2O, Lot 090285	5 mL	LC537-IS_00018	100 uL	13C2-PFOA	10 ng/mL
							13C4 PFOS	28.68 ng/mL
					LC537-MSP_00012	24.4 uL	Perfluorobutanesulfonic acid (PFBS)	8.76058 ng/mL
							Perfluoroheptanoic acid	0.993847 ng/mL
							Perfluorohexanesulfonic acid	2.9532 ng/mL
							Perfluorononanoic acid	1.91737 ng/mL
							Perfluorooctanoic acid (PFOA)	1.9793 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	3.91048 ng/mL
					LC537-SU_00017	250 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL
.LC537-IS_00018	01/13/17	07/13/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00004	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00013	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00004	03/19/17	Wellington Laboratories, Lot M2PFOA0312			(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00013	01/22/21	Wellington Laboratories, Lot MPFOS0116			(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LC537-MSP_00012	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	200 uL	Perfluorobutanesulfonic acid (PFBS)	1795.2 ng/mL
							Perfluoroheptanoic acid	203.657 ng/mL
							Perfluorohexanesulfonic acid	605.164 ng/mL
							Perfluorononanoic acid	392.904 ng/mL
							Perfluorooctanoic acid (PFOA)	405.594 ng/mL

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluorooctanesulfonic acid (PFOS)	801.328 ng/mL
..LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
...LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
....LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	1 g/g
...LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
....LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
...LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
....LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
...LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
....LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
...LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
....LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
...LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
....LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
.LC537-SU_00017	01/19/17	07/19/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20		Wellington Laboratories, Lot MPFDA0815		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20		Wellington Laboratories, Lot MPFHxA0415		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
LC537-L2_00014	01/13/17	07/28/16	MeOH/H2O, Lot 090285	5 mL	LC537-HSP_00010	34 uL	Perfluorobutanesulfonic acid (PFBS)	22.8888 ng/mL
							Perfluoroheptanoic acid	2.59663 ng/mL
							Perfluorohexanesulfonic acid	7.71585 ng/mL
							Perfluorononanoic acid	5.00953 ng/mL
							Perfluorooctanoic acid (PFOA)	5.17132 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	10.2169 ng/mL
					LC537-IS_00018	100 uL	13C2-PFOA	10 ng/mL
							13C4 PFOS	28.68 ng/mL
					LC537-SU_00017	250 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL
.LC537-HSP_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	375 uL	Perfluorobutanesulfonic acid (PFBS)	3366 ng/mL
							Perfluoroheptanoic acid	381.857 ng/mL
							Perfluorohexanesulfonic acid	1134.68 ng/mL
							Perfluorononanoic acid	736.695 ng/mL
							Perfluorooctanoic acid (PFOA)	760.489 ng/mL

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluorooctanesulfonic acid (PFOS)	1502.49 ng/mL
..LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
...LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
....LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	1 g/g
...LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
....LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
...LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
....LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
...LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
....LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
...LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
....LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
...LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
....LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
.LC537-IS_00018	01/13/17	07/13/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00004	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00013	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00004	03/19/17		Wellington Laboratories, Lot M2PFOA0312		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00013	01/22/21		Wellington Laboratories, Lot MPFOS0116		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LC537-SU_00017	01/19/17	07/19/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20		Wellington Laboratories, Lot MPFDA0815		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20		Wellington Laboratories, Lot MPFHxA0415		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
LC537-L3_00016	01/28/17	11/07/16	MeOH/H2O, Lot 090285	5 mL	LC537-HSP_00010	67 uL	Perfluorobutanesulfonic acid (PFBS)	45.1044 ng/mL
							Perfluoroheptanoic acid	5.11689 ng/mL
							Perfluorohexanesulfonic acid	15.2048 ng/mL
							Perfluorononanoic acid	9.87171 ng/mL
							Perfluorooctanoic acid (PFOA)	10.1905 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	20.1334 ng/mL
					LC537-IS_00024	100 uL	13C2-PFOA	10 ng/mL
							13C4 PFOS	28.68 ng/mL
					LC537-SU_00020	250 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL
.LC537-HSP_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	375 uL	Perfluorobutanesulfonic acid (PFBS)	3366 ng/mL
							Perfluoroheptanoic acid	381.857 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluorohexanesulfonic acid	1134.68 ng/mL
							Perfluorononanoic acid	736.695 ng/mL
							Perfluorooctanoic acid (PFOA)	760.489 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	1502.49 ng/mL
..LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
...LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
....LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	1 g/g
...LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
....LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
...LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
....LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
...LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
....LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
...LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
....LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
...LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
....LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
.LC537-IS_00024	03/19/17	11/03/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00003	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00018	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00003	03/19/17		Wellington Laboratories, Lot M2PFOA0312		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00018	08/03/21		Wellington Laboratories, Lot MPFOS0816		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LC537-SU_00020	04/07/17	10/07/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20		Wellington Laboratories, Lot MPFDA0815		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20		Wellington Laboratories, Lot MPFHxA0415		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
LC537-L4_00015	01/13/17	07/28/16	MeOH/H2O, Lot 090285	5 mL	LC537-HSP_00010	135 uL	Perfluorobutanesulfonic acid (PFBS)	90.882 ng/mL
							Perfluoroheptanoic acid	10.3101 ng/mL
							Perfluorohexanesulfonic acid	30.6364 ng/mL
							Perfluorononanoic acid	19.8908 ng/mL
							Perfluorooctanoic acid (PFOA)	20.5332 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	40.5672 ng/mL
					LC537-IS_00018	100 uL	13C2-PFOA	10 ng/mL
							13C4 PFOS	28.68 ng/mL
					LC537-SU_00017	250 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.LC537-HSP_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	375 uL	Perfluorobutanesulfonic acid (PFBS)	3366 ng/mL
							Perfluoroheptanoic acid	381.857 ng/mL
							Perfluorohexanesulfonic acid	1134.68 ng/mL
							Perfluorononanoic acid	736.695 ng/mL
							Perfluorooctanoic acid (PFOA)	760.489 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	1502.49 ng/mL
..LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
...LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
....LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	1 g/g
...LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
....LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
...LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
....LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
...LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
....LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
...LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
....LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
...LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
....LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
.LC537-IS_00018	01/13/17	07/13/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00004	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00013	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00004	03/19/17		Wellington Laboratories, Lot M2PFOA0312		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00013	01/22/21		Wellington Laboratories, Lot MPFOS0116		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LC537-SU_00017	01/19/17	07/19/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20		Wellington Laboratories, Lot MPFDA0815		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20		Wellington Laboratories, Lot MPFHxA0415		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
LC537-L5_00017	01/28/17	11/07/16	MeOH/H2O, Lot 090285	5 mL	LC537-HSP_00010	200 uL	Perfluorobutanesulfonic acid (PFBS)	134.64 ng/mL
							Perfluoroheptanoic acid	15.2743 ng/mL
							Perfluorohexanesulfonic acid	45.3873 ng/mL
							Perfluorononanoic acid	29.4678 ng/mL
							Perfluorooctanoic acid (PFOA)	30.4196 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	60.0996 ng/mL
					LC537-IS_00024	100 uL	13C2-PFOA	10 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							13C4 PFOS	28.68 ng/mL
					LC537-SU_00020	250 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL
.LC537-HSP_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	375 uL	Perfluorobutanesulfonic acid (PFBS)	3366 ng/mL
							Perfluoroheptanoic acid	381.857 ng/mL
							Perfluorohexanesulfonic acid	1134.68 ng/mL
							Perfluorononanoic acid	736.695 ng/mL
							Perfluorooctanoic acid (PFOA)	760.489 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	1502.49 ng/mL
..LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
...LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
....LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	1 g/g
...LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
....LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
...LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
....LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
...LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
....LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
...LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
....LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
...LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
....LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
.LC537-IS_00024	03/19/17	11/03/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00003	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00018	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00003	03/19/17		Wellington Laboratories, Lot M2PFOA0312		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00018	08/03/21		Wellington Laboratories, Lot MPFOS0816		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LC537-SU_00020	04/07/17	10/07/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20		Wellington Laboratories, Lot MPFDA0815		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20		Wellington Laboratories, Lot MPFHxA0415		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
LC537-L6_00014	01/13/17	07/28/16	MeOH/H2O, Lot 090285	5 mL	LC537-HSP_00010	265 uL	Perfluorobutanesulfonic acid (PFBS)	178.398 ng/mL
							Perfluoroheptanoic acid	20.2384 ng/mL
							Perfluorohexanesulfonic acid	60.1382 ng/mL
							Perfluorononanoic acid	39.0448 ng/mL
							Perfluorooctanoic acid (PFOA)	40.3059 ng/mL

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluorooctanesulfonic acid (PFOS)	79.632 ng/mL
					LC537-IS_00018	100 uL	13C2-PFOA	10 ng/mL
							13C4 PFOS	28.68 ng/mL
					LC537-SU_00017	250 uL	13C2 PFDA	10 ng/mL
							13C2 PFHxA	10 ng/mL
.LC537-HSP_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	375 uL	Perfluorobutanesulfonic acid (PFBS)	3366 ng/mL
							Perfluoroheptanoic acid	381.857 ng/mL
							Perfluorohexanesulfonic acid	1134.68 ng/mL
							Perfluorononanoic acid	736.695 ng/mL
							Perfluorooctanoic acid (PFOA)	760.489 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	1502.49 ng/mL
..LC537SPIM_00012	01/28/17	07/28/16	Methanol, Lot 104453	10 mL	LC537-PFBS_00006	0.44 mL	Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00010	0.1 mL	Perfluoroheptanoic acid	10.1829 ug/mL
					LC537-PFHxS_00008	0.3 mL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00008	0.2 mL	Perfluorononanoic acid	19.6452 ug/mL
					LC537-PFOA_00009	0.098 mL	Perfluorooctanoic acid (PFOA)	20.2797 ug/mL
					LC537-PFOS_00006	0.4 mL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
...LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
....LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutanesulfonic acid (PFBS)	1 g/g
...LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
....LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
...LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
....LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
...LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
....LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
...LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
....LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
...LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
....LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
.LC537-IS_00018	01/13/17	07/13/16	Methanol, Lot 090285	10000 uL	LCM2PFOA_00004	100 uL	13C2-PFOA	0.5 ug/mL
					LCMPFOS_00013	300 uL	13C4 PFOS	1.434 ug/mL
..LCM2PFOA_00004	03/19/17		Wellington Laboratories, Lot M2PFOA0312		(Purchased Reagent)		13C2-PFOA	50 ug/mL
..LCMPFOS_00013	01/22/21		Wellington Laboratories, Lot MPFOS0116		(Purchased Reagent)		13C4 PFOS	47.8 ug/mL
.LC537-SU_00017	01/19/17	07/19/16	Methanol, Lot 104453	25000 uL	LCMPFDA_00008	100 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	100 uL	13C2 PFHxA	0.2 ug/mL
..LCMPFDA_00008	08/19/20		Wellington Laboratories, Lot MPFDA0815		(Purchased Reagent)		13C2 PFDA	50 ug/mL
..LCMPFHxA_00009	04/09/20		Wellington Laboratories, Lot MPFHxA0415		(Purchased Reagent)		13C2 PFHxA	50 ug/mL
LC537-LSP_00016	05/04/17	11/04/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00015	50 uL	Perfluorobutane Sulfonate	448.8 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	448.8 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluoroheptanoic acid	53.7429 ng/mL
							Perfluorohexanesulfonic acid	151.291 ng/mL
							Perfluorononanoic acid	101.553 ng/mL
							Perfluorooctanoic acid (PFOA)	99.234 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	200.332 ng/mL
.LC537SPIM_00015	05/04/17	11/04/16	Methanol, Lot 104453	10000 uL	LC537-PFBS_00006	440 uL	Perfluorobutane Sulfonate	89.76 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	89.76 ug/mL
					LC537-PFHpA_00011	100 uL	Perfluoroheptanoic acid	10.7486 ug/mL
					LC537-PFHxS_00008	300 uL	Perfluorohexanesulfonic acid	30.2582 ug/mL
					LC537-PFNA_00009	200 uL	Perfluorononanoic acid	20.3105 ug/mL
					LC537-PFOA_00010	100 uL	Perfluorooctanoic acid (PFOA)	19.8468 ug/mL
					LC537-PFOS_00006	400 uL	Perfluorooctanesulfonic acid (PFOS)	40.0664 ug/mL
..LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutane Sulfonate	2040 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
...LC537_PFBS_00002	04/01/18		Sigma, Lot MKBP8842V		(Purchased Reagent)		Perfluorobutane Sulfonate	1 g/g
							Perfluorobutanesulfonic acid (PFBS)	1 g/g
..LC537-PFHpA_00011	11/04/17	11/04/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0076 g	Perfluoroheptanoic acid	1074.86 ug/mL
...LC537_PFHpA_00002	04/01/18		Aldrich, Lot BCBM2579V		(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
..LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
...LC537_PFHxS_00002	04/01/18		Sigma, Lot BCBL3545V		(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
..LC537-PFNA_00009	11/04/17	11/04/16	Methanol, Lot 090285	5.5 mL	LC537_PFNA_00002	0.0058 g	Perfluorononanoic acid	1015.53 ug/mL
...LC537_PFNA_00002	04/01/18		TCI America, Lot QN44F		(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
..LC537-PFOA_00010	11/04/17	11/04/16	Methanol, Lot 090285	7.5 mL	LC537_PFOA_00002	0.0149 g	Perfluorooctanoic acid (PFOA)	1984.68 ug/mL
...LC537_PFOA_00002	11/04/18		Fluka, Lot SZBD308XV		(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
..LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
...LC537_PFOS_00002	08/09/17		Fluka, Lot SZBC222XV		(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
LC537-MSP_00014	03/14/17	09/14/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00013	200 uL	Perfluorobutane Sulfonate	1795.2 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	1795.2 ng/mL
							Perfluoroheptanoic acid	203.657 ng/mL
							Perfluorohexanesulfonic acid	605.164 ng/mL
							Perfluorononanoic acid	392.904 ng/mL
							Perfluorooctanoic acid (PFOA)	405.594 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	801.328 ng/mL
.LC537SPIM_00013	03/14/17	09/14/16	Methanol, Lot 104453	10000 uL	LC537-PFBS_00006	440 uL	Perfluorobutane Sulfonate	89760 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	89760 ng/mL
					LC537-PFHpA_00010	100 uL	Perfluoroheptanoic acid	10182.9 ng/mL
					LC537-PFHxS_00008	300 uL	Perfluorohexanesulfonic acid	30258.2 ng/mL
					LC537-PFNA_00008	200 uL	Perfluorononanoic acid	19645.2 ng/mL
					LC537-PFOA_00009	98 uL	Perfluorooctanoic acid (PFOA)	20279.7 ng/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					LC537-PFOS_00006	400 uL	Perfluorooctanesulfonic acid (PFOS)	40066.4 ng/mL
..LC537-PFBS_00006	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFBS_00002	0.0102 g	Perfluorobutane Sulfonate	2040 ug/mL
							Perfluorobutanesulfonic acid (PFBS)	2040 ug/mL
...LC537_PFBS_00002	04/01/18	Sigma, Lot MKBP8842V			(Purchased Reagent)		Perfluorobutane Sulfonate	1 g/g
							Perfluorobutanesulfonic acid (PFBS)	1 g/g
..LC537-PFHpA_00010	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFHpA_00002	0.0072 g	Perfluoroheptanoic acid	1018.29 ug/mL
...LC537_PFHpA_00002	04/01/18	Aldrich, Lot BCBM2579V			(Purchased Reagent)		Perfluoroheptanoic acid	0.99 g/g
..LC537-PFHxS_00008	07/28/17	07/28/16	Methanol, Lot 090285	5.5 mL	LC537_PFHxS_00002	0.0061 g	Perfluorohexanesulfonic acid	1008.61 ug/mL
...LC537_PFHxS_00002	04/01/18	Sigma, Lot BCBL3545V			(Purchased Reagent)		Perfluorohexanesulfonic acid	0.9094 g/g
..LC537-PFNA_00008	07/28/17	07/28/16	Methanol, Lot 090285	5 mL	LC537_PFNA_00002	0.0051 g	Perfluorononanoic acid	982.26 ug/mL
...LC537_PFNA_00002	04/01/18	TCI America, Lot QN44F			(Purchased Reagent)		Perfluorononanoic acid	0.963 g/g
..LC537-PFOA_00009	07/28/17	07/28/16	Methanol, Lot 090285	7 mL	LC537_PFOA_00002	0.0145 g	Perfluorooctanoic acid (PFOA)	2069.36 ug/mL
...LC537_PFOA_00002	11/04/18	Fluka, Lot SZBD308XV			(Purchased Reagent)		Perfluorooctanoic acid (PFOA)	0.999 g/g
..LC537-PFOS_00006	07/28/17	07/28/16	Methanol, Lot 090285	6 mL	LC537_PFOS_00002	0.0066 g	Perfluorooctanesulfonic acid (PFOS)	1001.66 ug/mL
...LC537_PFOS_00002	08/09/17	Fluka, Lot SZBC222XV			(Purchased Reagent)		Perfluorooctanesulfonic acid (PFOS)	0.9106 g/g
LC537-SU_00022	05/21/17	11/21/16	Methanol, Lot 104453	20000 uL	LCMPFDA_00008	80 uL	13C2 PFDA	0.2 ug/mL
					LCMPFHxA_00009	80 uL	13C2 PFHxA	0.2 ug/mL
.LCMPFDA_00008	08/19/20	Wellington Laboratories, Lot MPFDA0815			(Purchased Reagent)		13C2 PFDA	50 ug/mL
.LCMPFHxA_00009	04/09/20	Wellington Laboratories, Lot MPFHxA0415			(Purchased Reagent)		13C2 PFHxA	50 ug/mL

Reagent

LC537_PFBS_00002

R: 4/1/15 SPV

SIGMA-ALDRICH®

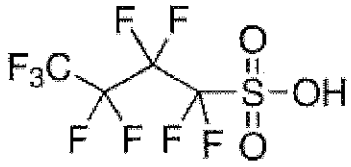
sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Nonafluorobutane-1-sulfonic acid - 97%

Product Number:	**562629**
Batch Number:	**MKBP8842V**
Brand:	ALDRICH
CAS Number:	375-73-5
MDL Number:	MFCD01320794
Formula:	C4HF9O3S
Formula Weight:	300.10 g/mol
Storage Temperature:	Store at 2 - 8 °C
Quality Release Date:	11 OCT 2013



PFBS

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
Infrared Spectrum	Conforms to Structure	Conforms
Fluorine NMR Spectrum	Conforms to Structure	Conforms
Purity (Titration by NaOH)	96.5 - 103.5 %	101.6 %

Jamie Gleason

Jamie Gleason, Manager
Quality Control
Milwaukee, Wisconsin US

Reagent

LC537_PFBS2_00001

CERTIFICATE OF ANALYSIS

The Power to Question

Catalog Number:	sc-236187
Product Name:	Nonafluorobutane-1-sulfonic acid
CAS Number:	375-73-5
Molecular Formula:	$C_4HF_9O_3S$
Molecular Weight:	300.10
Lot Number:	H0112

Test		Result
Refractive Index	1.3200 to 1.3290	1.3219
Purity (Titration)	min. 98.0%	99.8%

Test Conditions: Refractive Index: n20/D

Reagent

LC537_PFHpA_00002

P: 4/1/15 SRV

SIGMA-ALDRICH®

3050 Spruce Street, Saint Louis, MO 63103 USA
Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

PFHpA

Product Name:	PERFLUOROHEPTANOIC ACID 99 %
Product Number:	342041
Batch Number:	BCBM2579V
Brand:	Aldrich
CAS Number:	375-85-9
Formula:	$CF_3(CF_2)_5CO_2H$
Formula Weight:	364.06
Quality Release Date:	06 DEC 2013
Recommended Retest Date:	OCT 2018

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	COLORLESS OR WHITE	WHITE
APPEARANCE (FORM)	LIQUID OR SOLID	SOLID
TITRATION	98.5 - 101.5 %	99.8 %
TITRATION (METHOD)	-	BACK TITRATION
PURITY (GC AREA %)	≥ 98.5 %	99.5 %
INFRARED SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

Claudia Geitner

Dr. Claudia Geitner
Manager Quality Control
Buchs, Switzerland

Reagent

LC537_PFHxS_00002

R: 4/1/15 SKV

SIGMA-ALDRICH®

3050 Spruce Street, Saint Louis, MO 63103 USA
Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:	TRIDECAFLUOROHEXANE-1-SULFONIC ACID POTASSIUM SALT >= 98.0 % T
Product Number:	50929
Batch Number:	BCBL3545V
Brand:	Aldrich
CAS Number:	3871-99-6
Formula:	$C_6F_{13}KO_3S$
Formula Weight:	438.20
Quality Release Date:	20 JUN 2013

PFH_xS-K

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	WHITE TO FAINT BEIGE	WHITE
APPEARANCE (FORM)	POWDER OR CRYSTALS	POWDER
TITRATION (ION EXCHANGE)	≥ 98.0 %	99.5 %
INFRARED SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

Claudia Geitner

Dr. Claudia Geitner
Manager Quality Control
Buchs, Switzerland

$$\text{MW corr} = \frac{(\text{k form}) - (\text{K}) + (\text{H})}{(438.20 - 39.10 + 1.01)} = \frac{0.91307}{438.20\ (\text{K form})}$$ (anion form)

Purity = 90.94 % w/m.w correction

SKV 4/1/15

Reagent

LC537_PFNA_00002

R: 4/1/15 SKV

Certificate of Analysis

Apr 2, 2015 (JST)

TOKYO CHEMICAL INDUSTRY CO.,LTD.
4-10-1 Nihonbashi-Honcho, Chuo-ku, Tokyo 103-0023 Japan

Chemical Name: Heptadecafluorononanoic Acid		
Product Number: H0843 CAS: 375-95-1	Lot: QN44F	

Tests	Results	Specifications
Purity(GC)	96.3 %	min. 95.0 %
Purity(Neutralization titration)	98.1 %	min. 95.0 %
Melting point	63.3 deg-C	62.0 to 67.0 deg-C

TCI Lot numbers are 4-5 characters in length.
Characters listed after the first 4-5 characters are control numbers for internal purpose only.

Customer service:

TCI AMERICA
Tel: +1-800-423-8616 / +1-503-283-1681
Fax: +1-888-520-1075 / +1-503-283-1987
E-mail: Sales-US@TCIchemicals.com

PFNA

Reagent

LC537_PFOA_00002

P: 3/26/15 RV

SIGMA-ALDRICH®

CERTIFICATE OF ANALYSIS

Sigma-Aldrich Laborchemikalien GmbH D-30918 Seelze
Telefon: +49 5137 8238-150

Seelze, 13.11.2013/505378/13/24029

Order-No.:
Customer-No.:

Order-Code:

Quantity:

Production Date: 04.Nov.2013
Expiry Date: 04.Nov.2018

Article/Product: 33824 Batch : SZBD308XV

PFOA

Pentadecafluorooctanoic acid OEKANAL®

Reference Material (RM)

1. General Information

Formula: C8HF15O2
CAS-No.: [335-67-1]
Usage : PFOA

Molar mass: 414.07 g/Mole
Recomm. storage temp.: roomtemp.

The estimated uncertainty of a single measurement of the assay can be expected to be 0.5 % relative (confidence level = 95%, n= 6) whereby the assay measurements are calculated by 100% minus found impurities.

2. Batch Analysis

identiy (GC-MS)	complying
Assay (GCMS)	99.4 %
Date of Analysis	13.Nov.2013

3. Advice and Remarks

- The expiry date is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks/ packages.
- Whenever the container is opened for removal of aliqout portions of the substance, the person handling the substance must assure, that the integrity of the substance is maintained and proper records of all its handlings are kept. Special care has to be taken to avoid any contamination or adulteration of the substance.
- We herewith confirm that the delivery is effected according to the technical delivery conditions agreed.
- Particular properties of the products or the suitability for a particular area of application are not assured.
- We guarantee a proper quality within our General Conditions of Sales.

Sigma-Aldrich Laborchemikalien GmbH
Quality Management SA-LC

This document was produced electronically and is valid without a signature

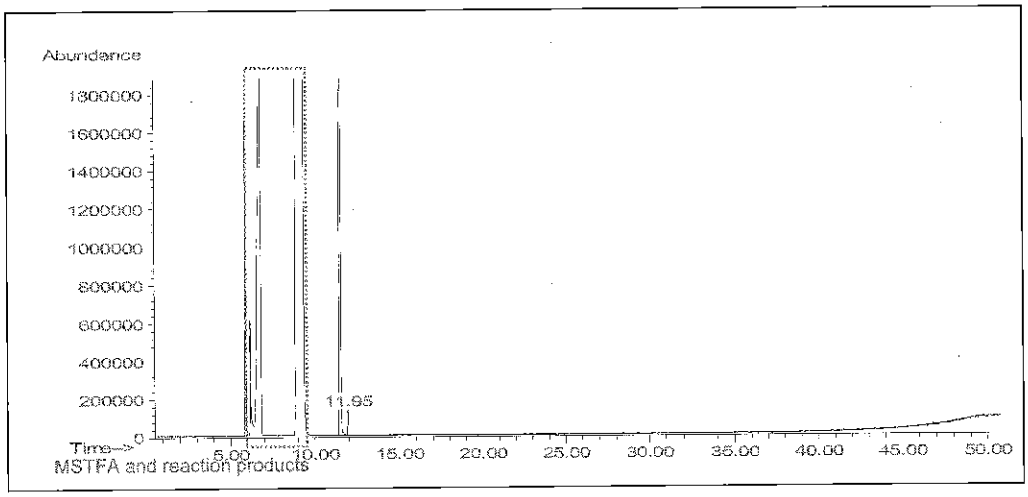
GC/MS-Method

Analytical Department

Article: **Pentadecafluorooctanoic acid OEKANAL**
Article-No.: **33824**
Batch: **SZBD308XV**

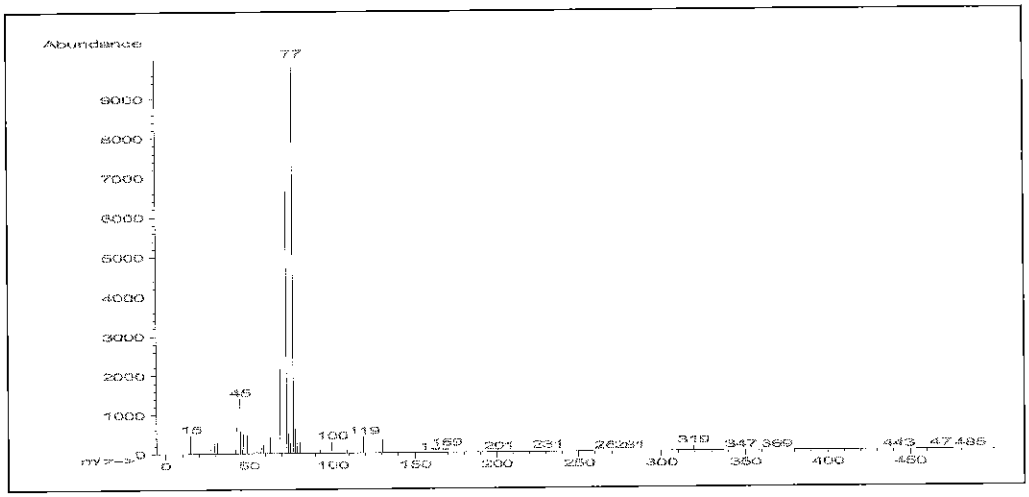
Column:	XTI-5 (Restek); 30 m; fs cap.; I.D.:0.25 mm; 1 µm df
Injector:	Split mode
Injection:	approx. 1 µl of reaction mixture with MSTFA (approx. 10 mg + 200 µl MSTFA)
Inj.-temp.:	280°C
Oven-temp.:	40°C (for 2 min) to 320°C (6°C/min) hold for 2 min
Split:	1:100
Flow:	1 ml He/min (Constant flow mode)
Detector:	MSD
Mass range:	10-600 amu (Scan mode)
Evaluation:	Purity: Total Ion Chromatogram (MSTFA and reaction products blinded out in report) Identity: Mass spectrum complies
Operator:	Ahrens / 2013-11-13

Total Ion Chromatogram:



Ret.time	Area	Area-%	Com
11.54	565.1670	99.4	Pentadecafluorooctanoic acid (as TMS-ester)
11.95	3.6792	0.64	

Mass spectrum (rt = 11.54 min):



Reagent

LC537_PFOA2_00001

Certificate of Analysis

Alfa Aesar
A Johnson Matthey Company

Product No.:	L08862
Product:	Perfluorooctanoic acid, 95%
Lot No.:	D24Y026

PFOA

Appearance	White solid
Melting point	58 - 60°C
Assay	99 %
Identity	Matches reference

This document has been electronically generated and does not require a signature.

Reagent

LC537_PFOS_00002

Γ: 4/1/15 SV

SIGMA-ALDRICH®

CERTIFICATE OF ANALYSIS

Sigma-Aldrich Laborchemikalien GmbH D-30918 Seelze
Telefon: +49 5137 8238-150

Seelze, 13.08.2012/419060/12/17583

Order-No.:
Customer-No.:

Order-Code:

Quantity:

Production Date: 09.Aug.2012
Expiry Date: 09.Aug.2017 – EXP date

Article/Product: 33829 Batch : SZBC222XV

Heptadecafluorooctanesulfonic acid potassium salt OEKANAL® PFOS-K+

Reference Material (RM)

1. General Information

Formula: C8F17KO3S
CAS-No.: [2795-39-3]
Usage : PFOS

Molar mass: 538.22 g/Mole
Recomm. storage temp.: roomtemp.

The estimated uncertainty of a single measurement of the assay can be expected to be 0.5 % relative (confidence level = 95%, n= 6) whereby the assay measurements are calculated by 100% minus found impurities.

2. Batch Analysis

Identity	complying
Assay (LC-MS)	98 %
Date of Analysis	10.Aug.2012

PFOS-Correction: $\frac{538.22 - 39.10 + 1.01}{538.22} = \frac{500.13}{538.22} = 0.92923$

Purity = 91.66 %

3. Advice and Remarks

- The minimum shelf life is based on the current knowledge and holds only for proper storage conditions in the originally closed flasks/ packages.
- Whenever the container is opened for removal of aliqout portions of the substance, the person handling the substance must assure, that the integrity of the substance is maintained and proper records of all its handlings are kept. Special care has to be taken to avoid any contamination or adulteration of the substance.
- We herewith confirm that the delivery is effected according to the technical delivery conditions agreed.
- Particular properties of the products or the suitability for a particular area of application are not assured.
- We guarantee a proper quality within our General Conditions of Sales.

Sigma-Aldrich Laborchemikalien GmbH
Quality Management SA-LC

This document was produced electronically and is valid without a signature

Reagent

LC537_PFOS2_00001

SIGMA-ALDRICH

ALDRICH

Industriestrasse 25, CH-9471 Buchs (SG), Switzerland
Tel: +41 81 755 2511 Fax: +41 81 756 5449

INV 820
12LCMS 0579

Certificate of Analysis

Product Name:	HEPTADECAFLUOROOCTANESULFONIC ACID TETRAETHYLAMMONIUM SALT 98 %
Product Number:	365289
Product Brand:	Aldrich
Molecular Formula:	$C_{16}H_{20}F_{17}NO_3S$
Molecular Mass:	629.37
CAS Number:	56773-42-3

TEST	SPECIFICATION	LOT BCBF5116V RESULTS
APPEARANCE (COLOR)	OFF-WHITE TO WHITE	WHITE
APPEARANCE (FORM)	POWDER, LUMPS OR CHUNKS	POWDER WITH LUMPS
CARBON CONTENT	29.77 % - 31.29 %	30.52
INFRARED SPECTRUM	CONFORMS TO STRUCTURE	CONFORMS

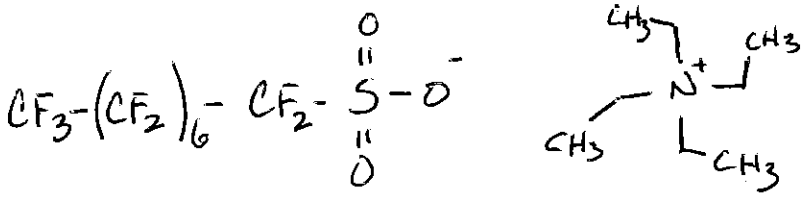
QC RELEASE DATE 13/APR/11

MW correction = $\frac{500.125}{629.37}$ = 0.7946 ~~= 79.46%~~ DEH 7-26-12

Purity + MW Correction = 77.87%

E. Schwärzler

Edeltraud Schwärzler, Manager
Quality Control
Buchs, Switzerland



	$C_8F_{17}SO_3H$	$C_8H_{20}N$
C = 12.011	96.088	96.088
F = 18.998	322.964	-
S = 32.066	32.066	-
O = 15.999	47.997	-
H = 1.008	1.008	20.160
N = 14.007	-	14.007
	500.125	130.255 →

SIGMA-ALDRICH

3050 Spruce Street, Saint Louis, MO 63103 USA
Website: www.sigmaaldrich.com
Email USA techserv@sial.com
Outside USA eurtechserv@sial.com

Certificate of Origin

Product Name:	Heptadecafluorooctanesulfonic acid tetraethylammonium salt 98 %
Product Number:	365289
Product Brand:	Aldrich
Lot:	BCBF5116V
Molecular Formula:	$C_{16}H_{20}F_{17}NO_3S$
Molecular Mass:	629.37
CAS Number:	56773-42-3
Date of Issue:	30-MAR-11

Country of Origin	China

product is of synthetic origin	yes
only synthetic materials used in the manufacturing process	yes
compounds of animal origin used	no
genetically modified organisms used	no
allergenic materials used	no
procedures in place to avoid cross contamination with residue of animal, human, GMO or allergenes in manufacturing process	yes

Sigma-Aldrich has quality systems and procedures in place for monitoring the production process, traceablility and batch consistency.

Document issued by Sigma-Aldrich Corporation "Sigma-Aldrich". This document is valid without signature and has been produced digitally.

This information is to be used for the purpose of determining animal or other biological origin only and not to be confused with "Country of Origin" for import/export purposes. Data provided on this document are property of Sigma-Aldrich.

This information is considered accurate and reliable as of the date appearing on the document and is presented in good faith.

Sigma-Aldrich shall not be held liable for any damage resulting from handling or from processing the above product(s). This document does not make any warranty, express or implied, of fitness for any particular use of the product(s). Purchaser must determine the suitability of the product(s) for its use under the applicable law and regulations.

For further questions please contact your local Sigma-Aldrich representative.

We are committed to the success of our Customers, Employees and Shareholders through leadership in Life Science, High Technology and Service.

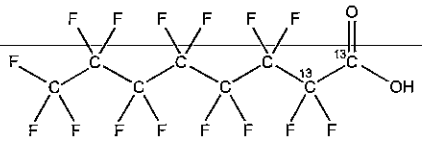
Reagent

LCM2PFOA_00003

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFOA	**LOT NUMBER:**	M2PFOA0312
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	03/19/2012		
EXPIRY DATE: (mm/dd/yyyy)	03/19/2017		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/09/2013 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. They are designed to be used as reference standards for the identification and/or quantification of specific chemical compound(s).

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Material Safety Data Sheets (MSDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product, unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, x-ray crystallography and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS and/or LC/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external, ISO/IEC 17025:2005 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration for the period of time specified by the expiry date in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

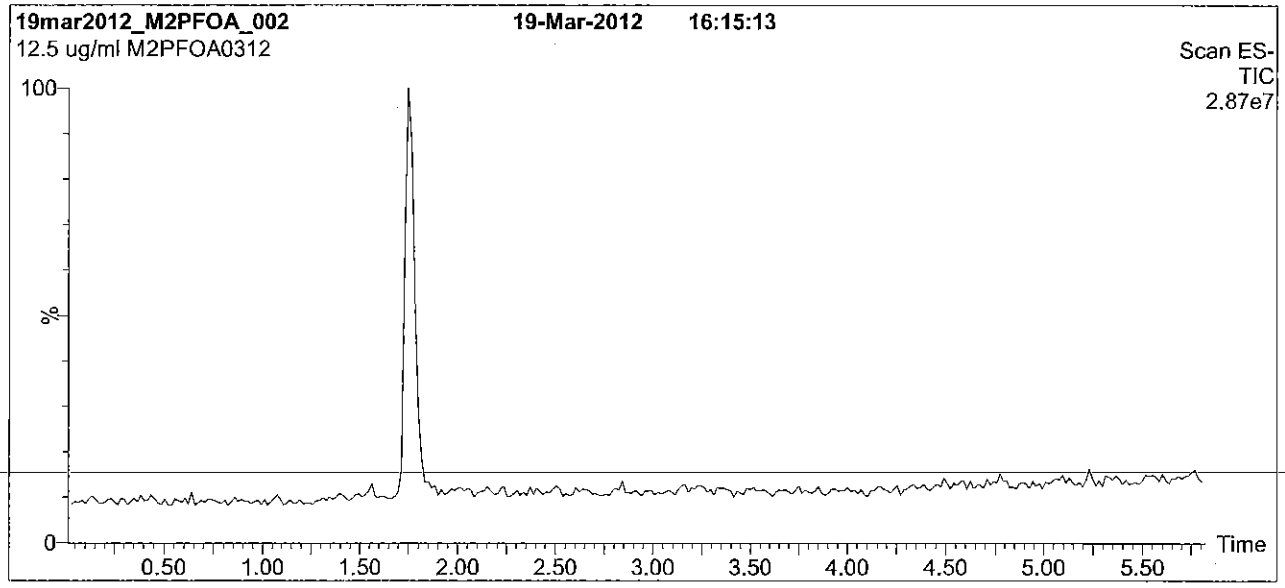
This product was produced using a Quality Management System registered to ISO 9001:2008 by SAI Global, ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34:2009 by ACLASS (certificate number AR-1523).

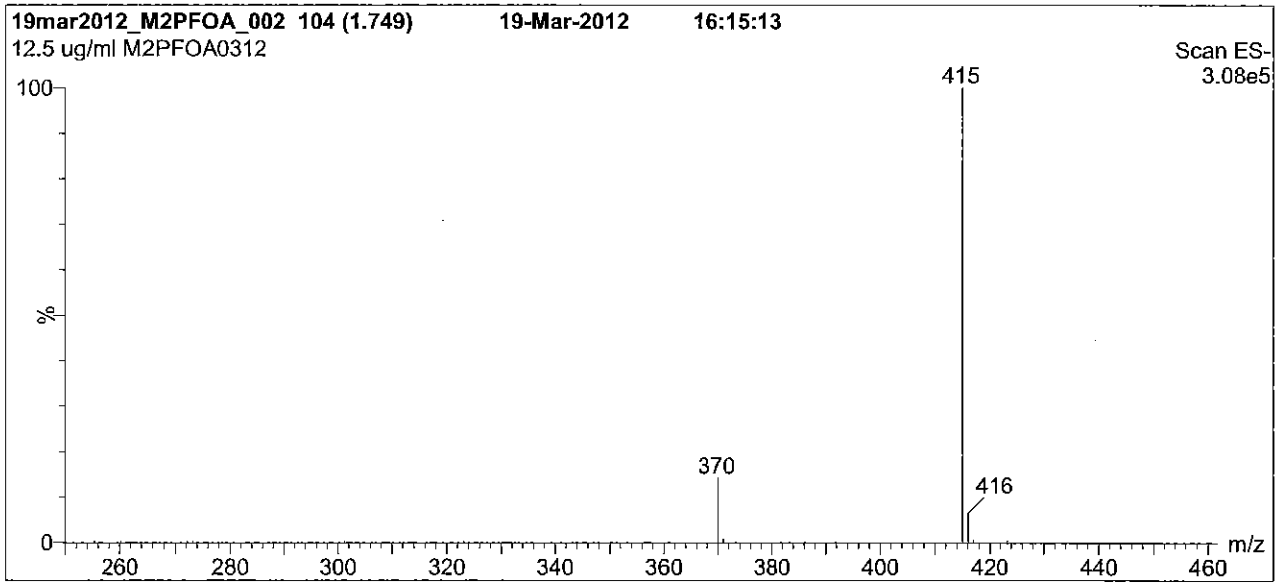
CALA

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M2PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 6.5 min and hold for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

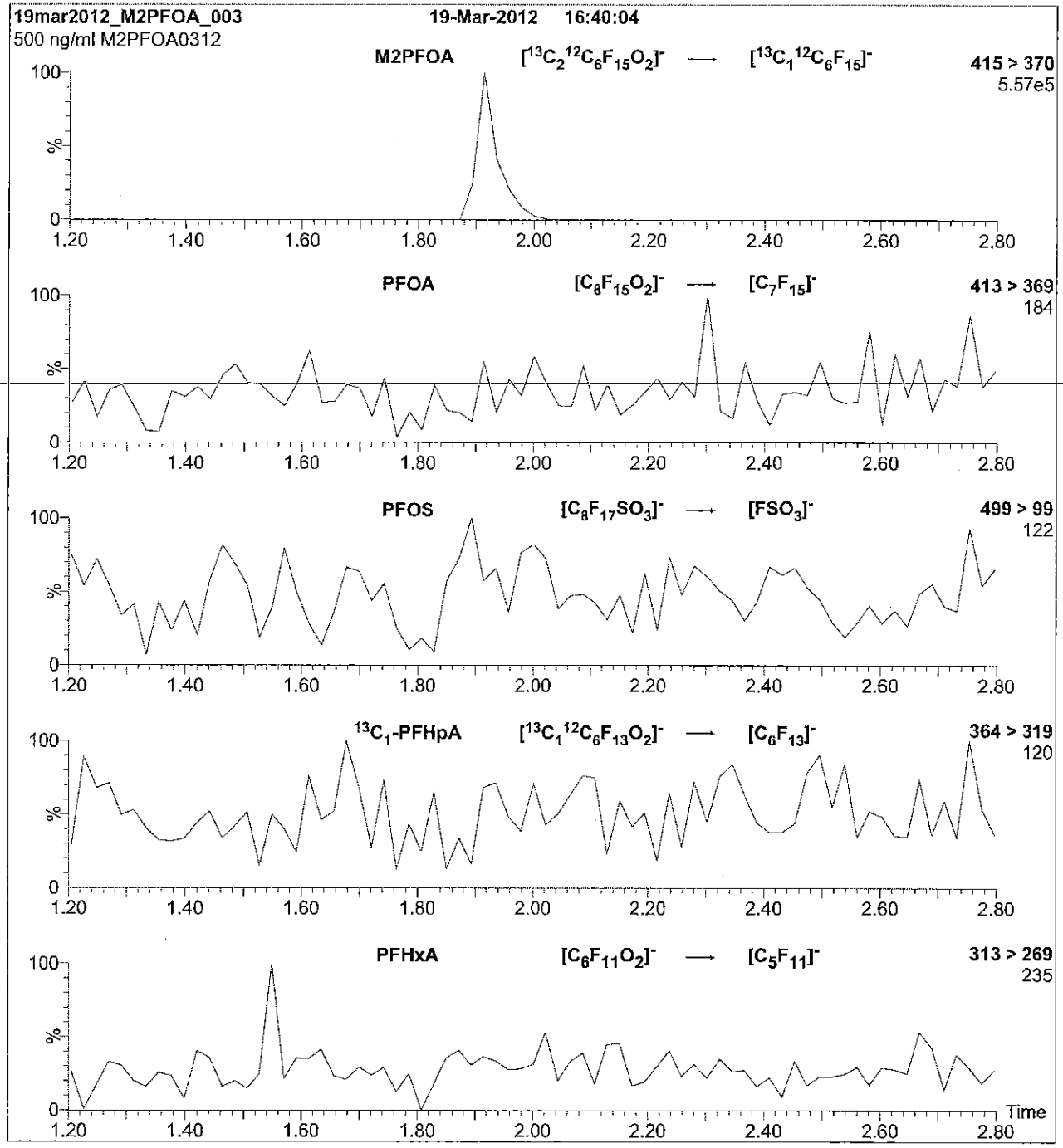
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml M2PFOA)
Mobile phase:	Isocratic 70% (80:20 MeOH:ACN) / 30% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 11

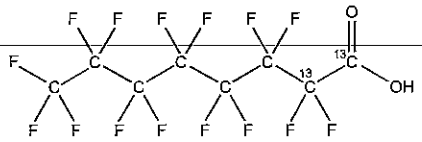
Reagent

LCM2PFOA_00004

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFOA	**LOT NUMBER:**	M2PFOA0312
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	03/19/2012		
EXPIRY DATE: (mm/dd/yyyy)	03/19/2017		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/09/2013 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. They are designed to be used as reference standards for the identification and/or quantification of specific chemical compound(s).

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Material Safety Data Sheets (MSDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product, unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, x-ray crystallography and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS and/or LC/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external, ISO/IEC 17025:2005 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration for the period of time specified by the expiry date in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

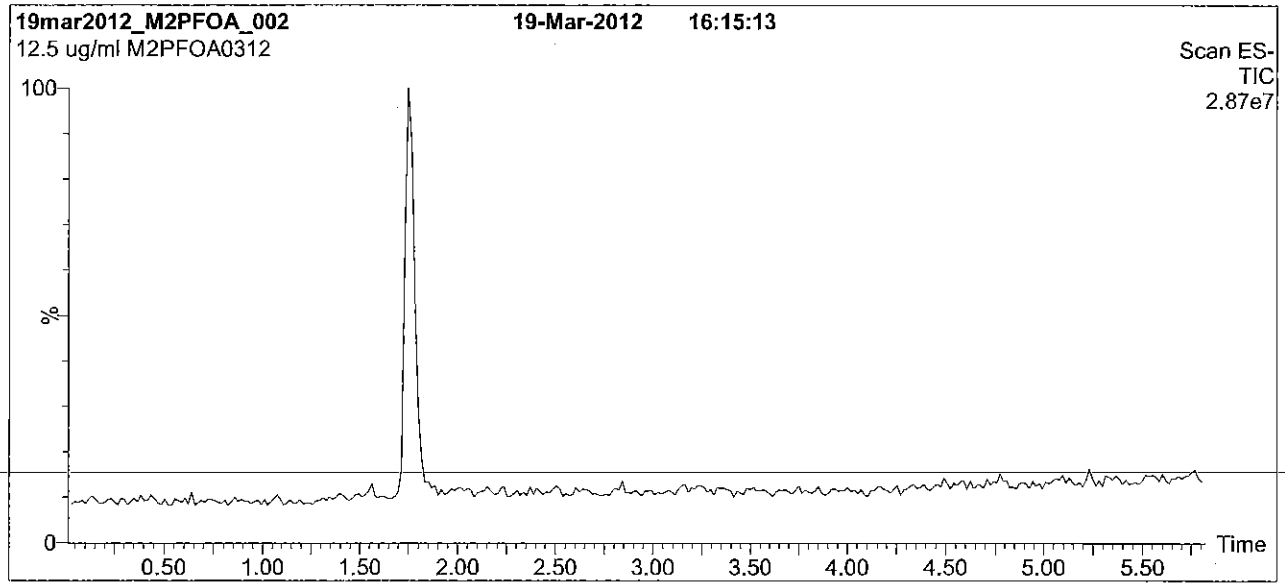
This product was produced using a Quality Management System registered to ISO 9001:2008 by SAI Global, ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34:2009 by ACLASS (certificate number AR-1523).

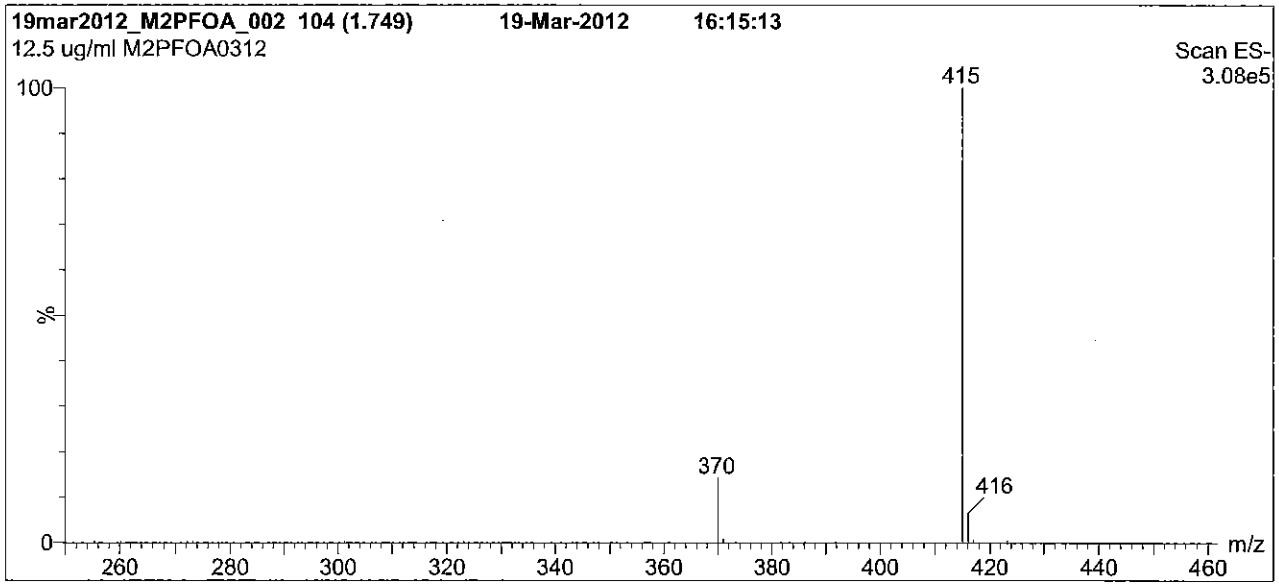
CALA Testing Accreditation No.: A1226

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **M2PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 6.5 min and hold for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

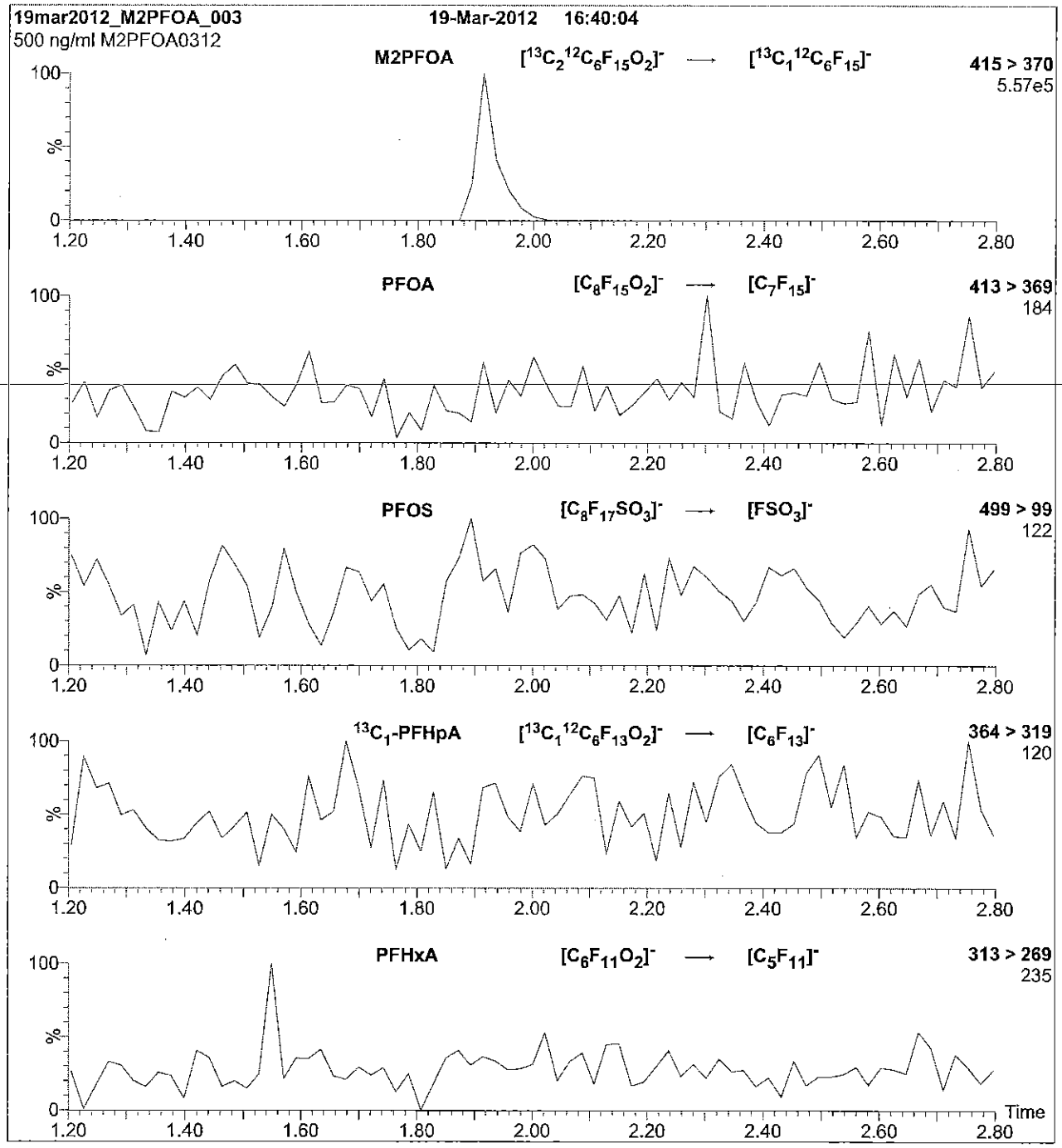
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection:	Direct loop injection 10 µl (500 ng/ml M2PFOA)
Mobile phase:	Isocratic 70% (80:20 MeOH:ACN) / 30% H_2O (both with 10 mM NH_4OAc buffer)
Flow:	300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 11

Reagent

LCMPFDA_00008

Rec. 3/29/16 JRB ✓

WELLINGTON LABORATORIES

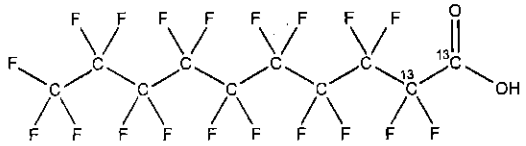
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid

LOT NUMBER: MPFDA0815

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	08/19/2015		
EXPIRY DATE: (mm/dd/yyyy)	08/19/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of $^{13}C_1$-PFNA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/21/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

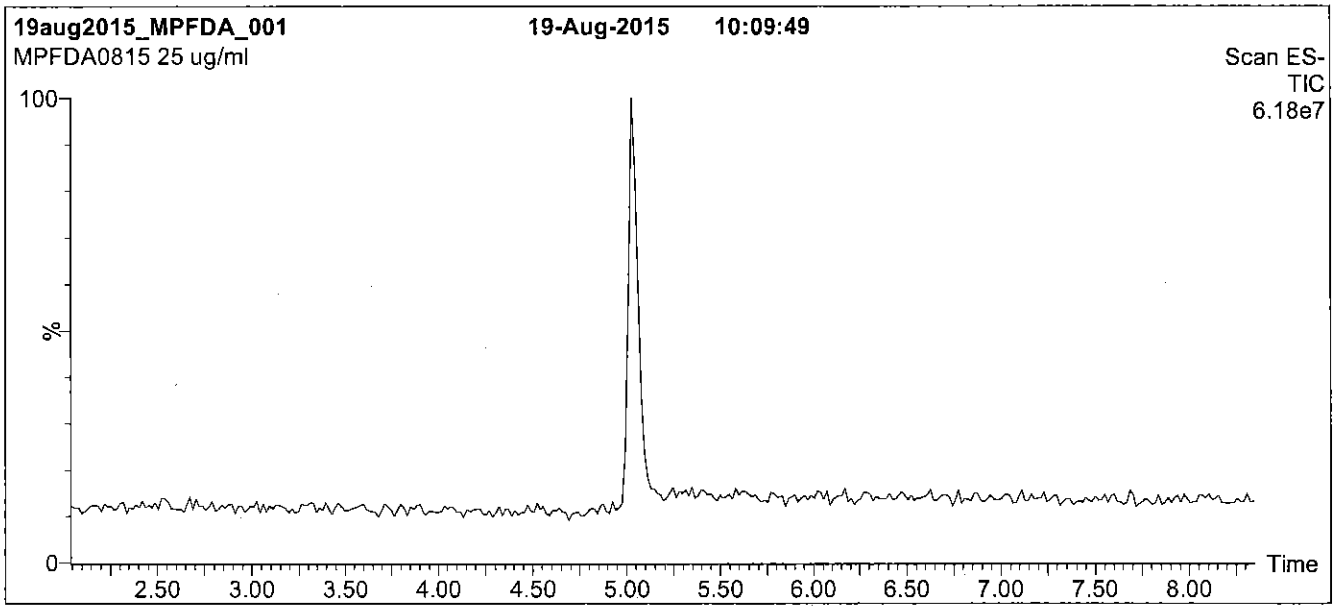
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

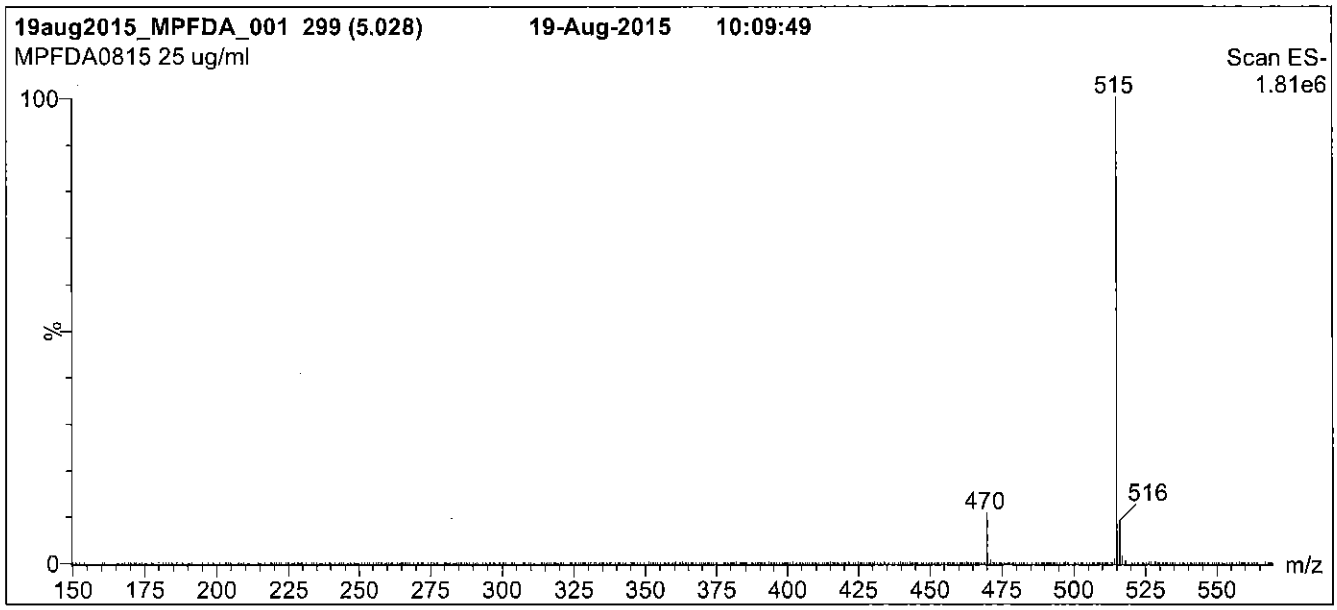
CALA Testing

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **MPFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

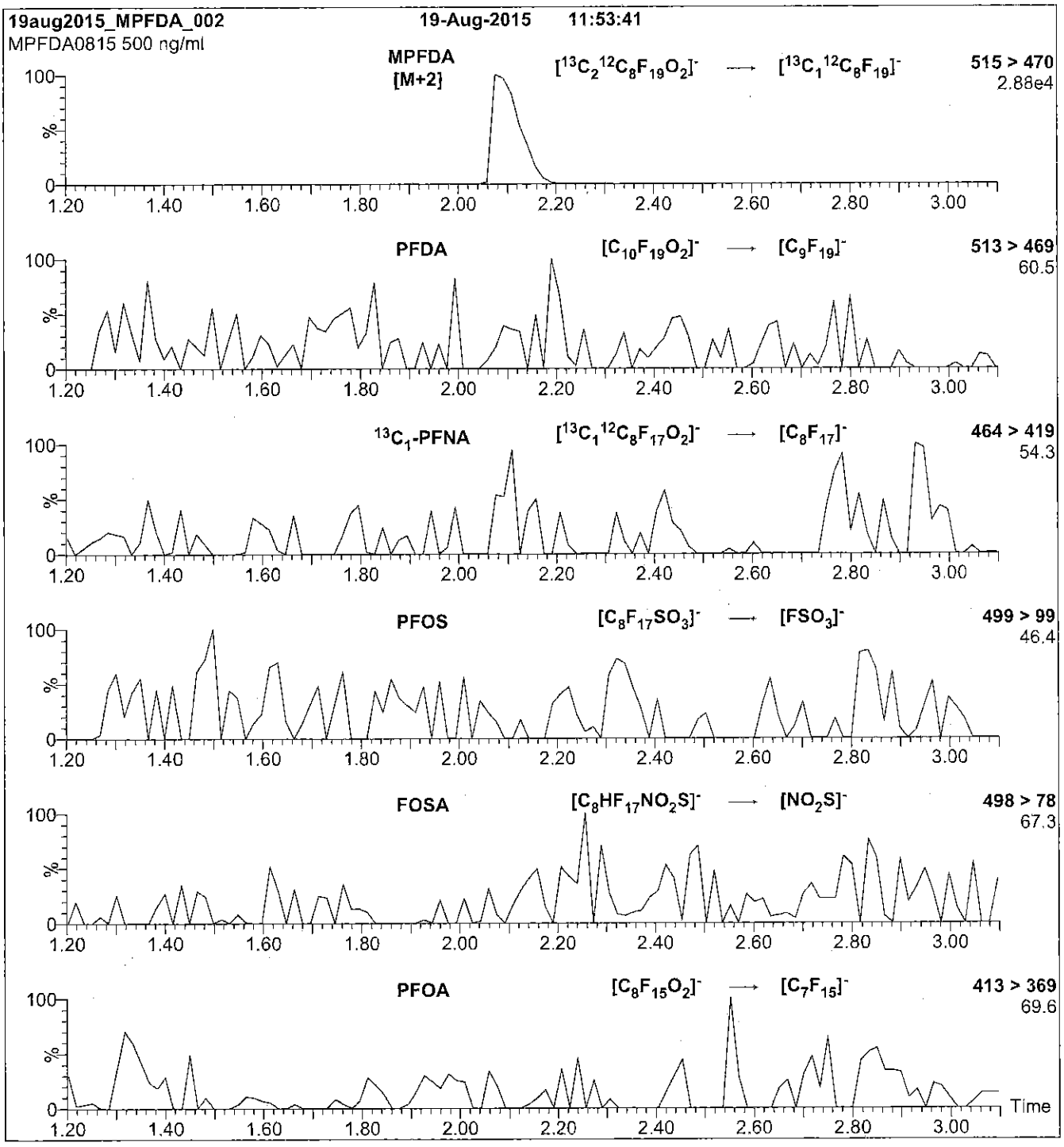
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 13

Reagent

LCMPFHxA_00009

Rec. 3/29/16 JRB ✓

WELLINGTON LABORATORIES

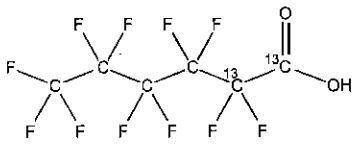
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFHxA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid

LOT NUMBER: MPFHxA0415

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	04/09/2015		
EXPIRY DATE: (mm/dd/yyyy)	04/09/2020		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-hexanoic acid and ~ 0.3% of perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 04/14/2015 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

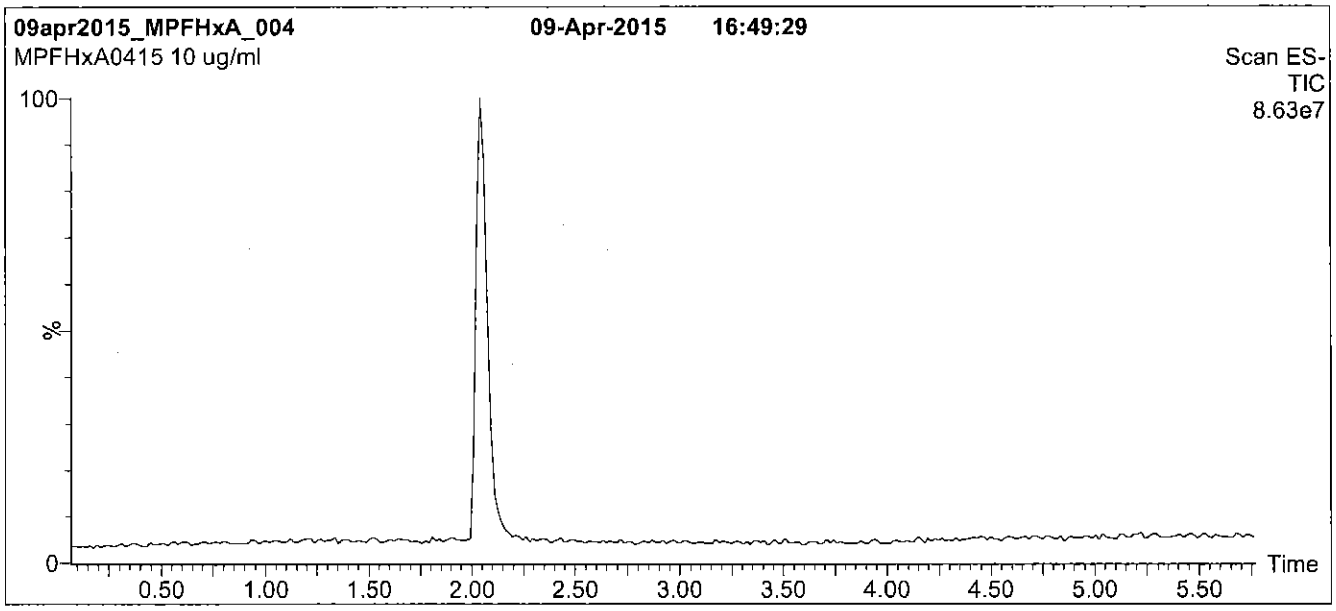
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

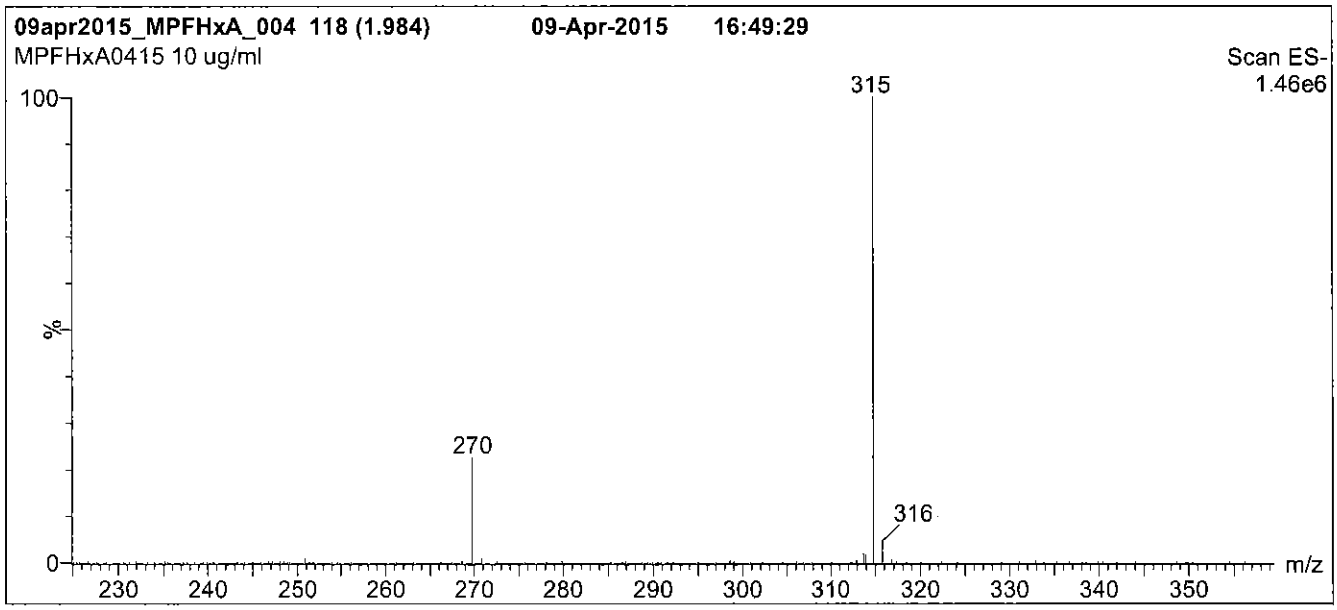
CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions over 0.5 min.
Time: 10 min

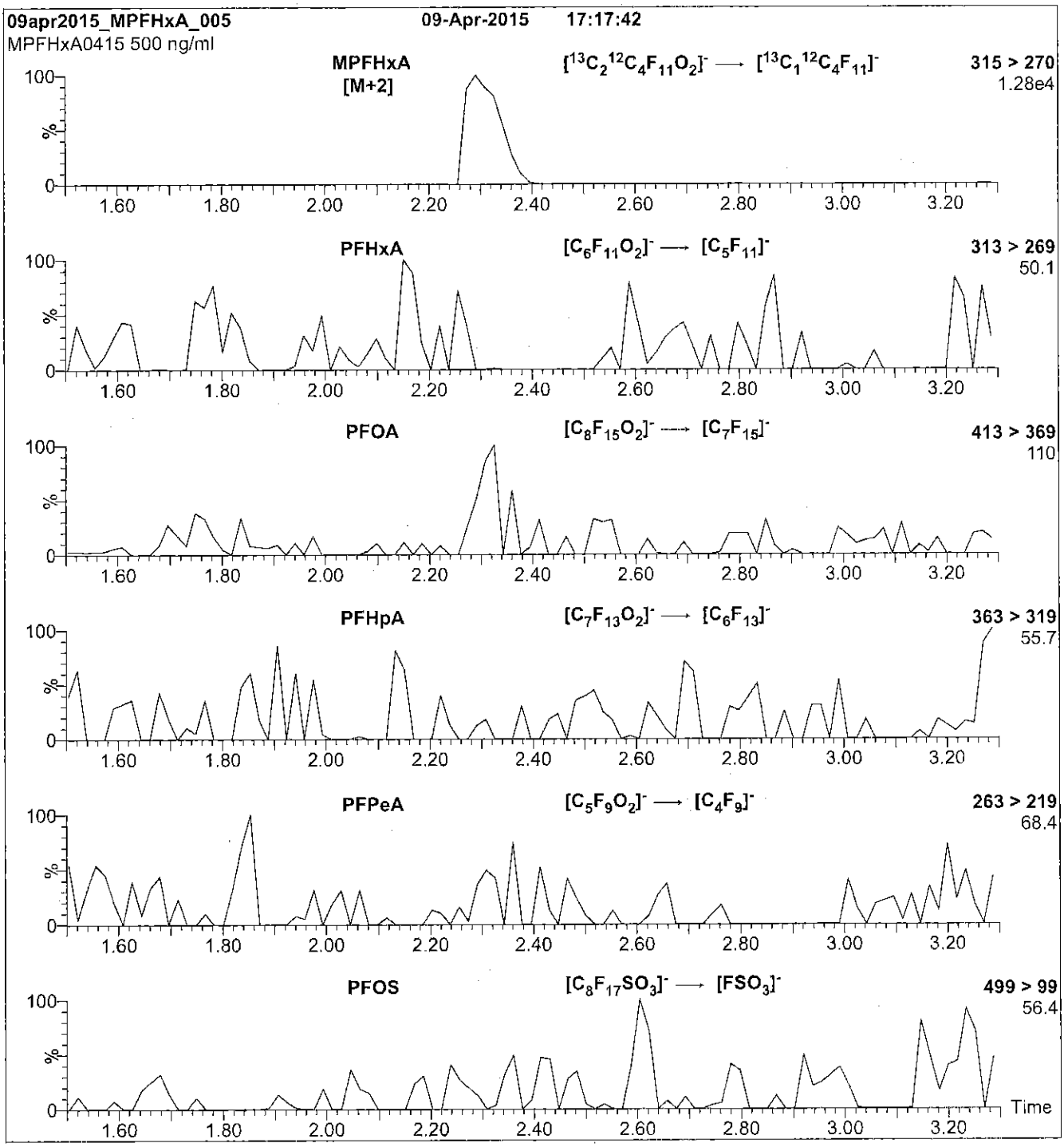
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.20e-3
Collision Energy (eV) = 10

Reagent

LCMPFOS_00013

605227
ID: LCMPFOS_00012
Exp: 01/22/21 Prpd: CBW
13C4-Perfluorooctanesulfo

Rec. 3/29/16 JRB ✓

606228
ID: LCMPFOS_00013
Exp: 01/22/21 Prpd: CBW
13C4-Perfluorooctanesulfo

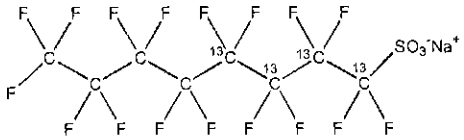
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0116

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4\text{-}^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	01/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	01/22/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.8% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/01/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

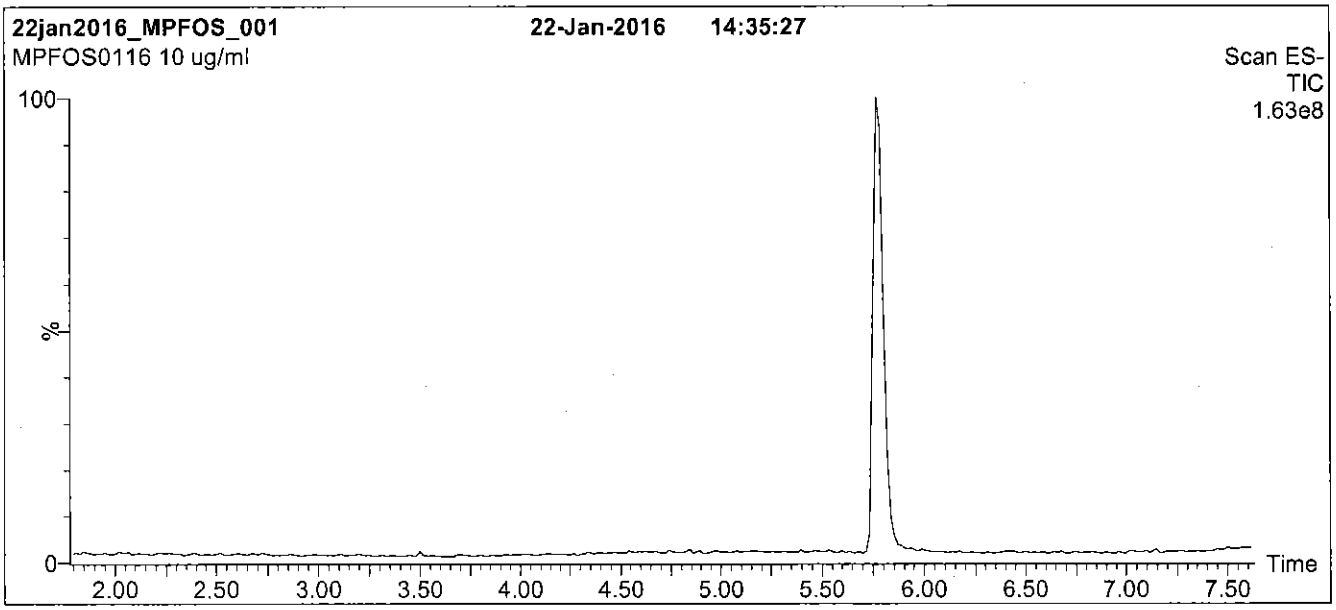
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

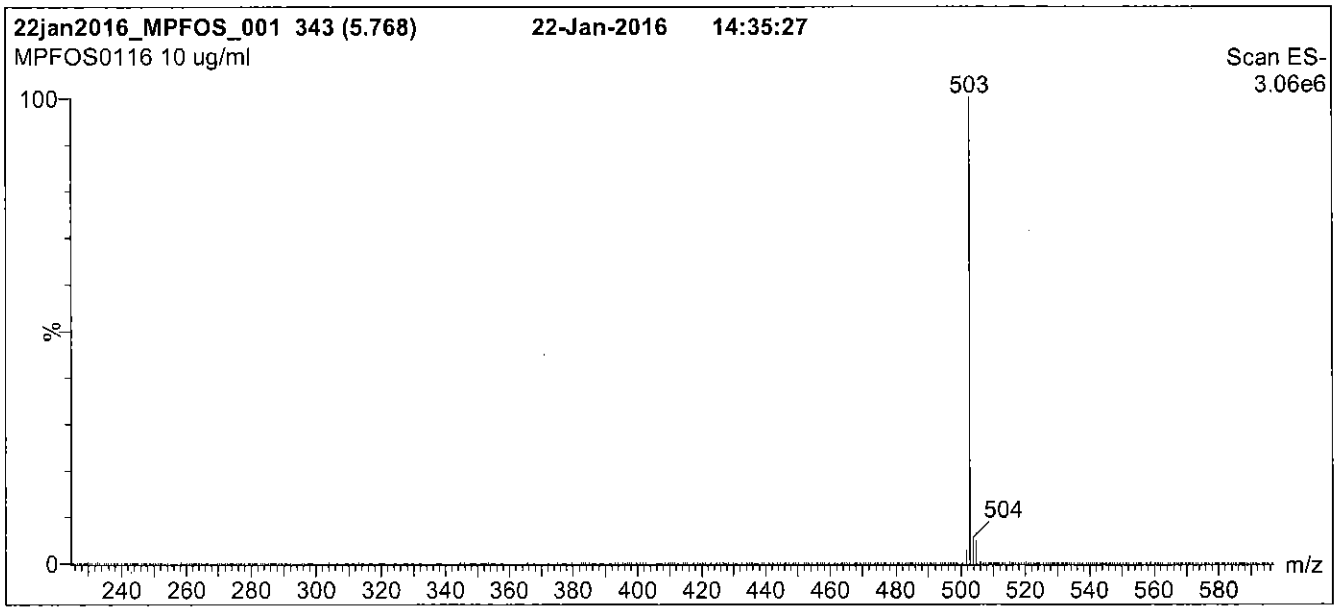
CALA

ANAB ACCREDITED

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **MPFOS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

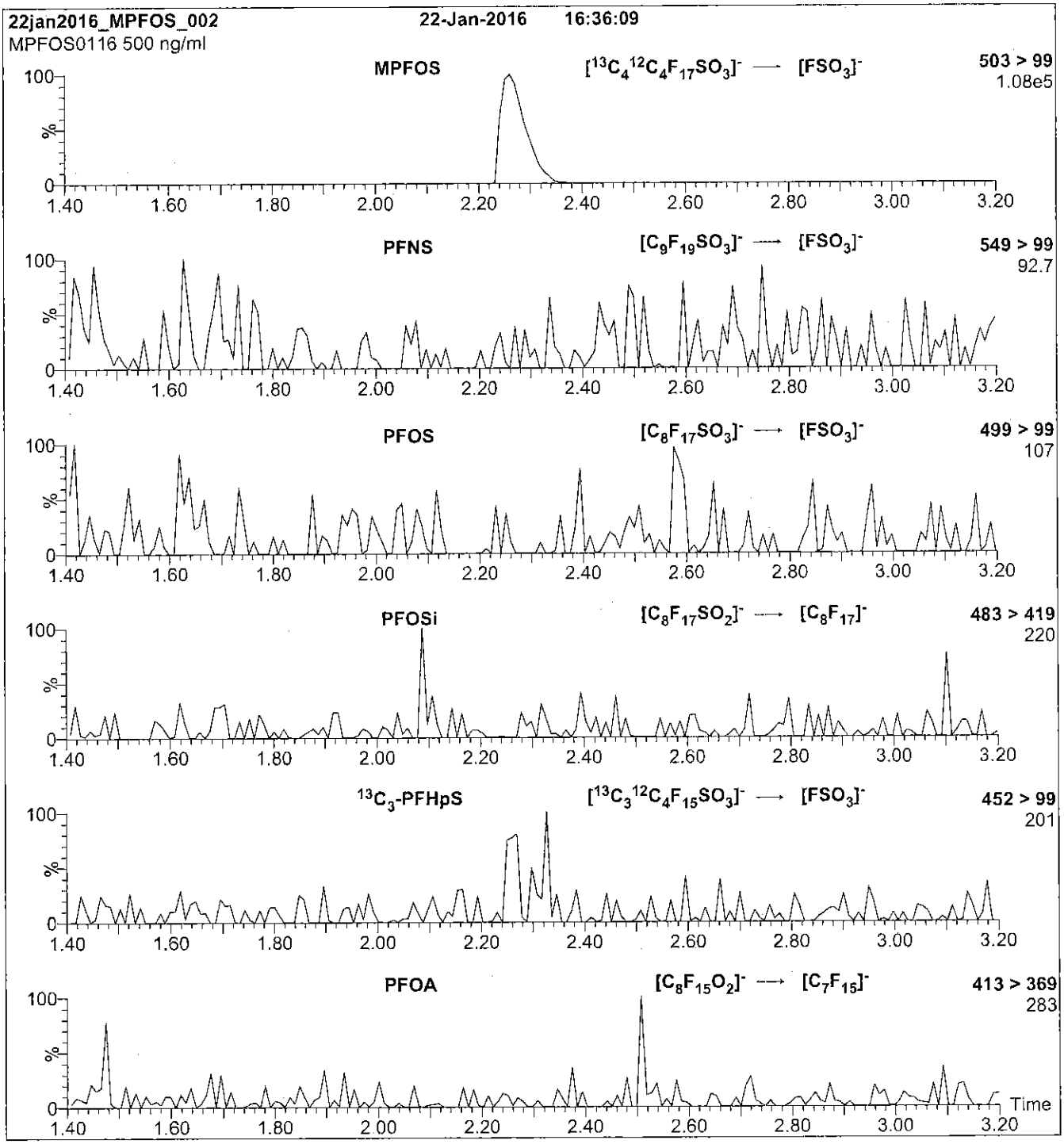
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFOS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFOS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.70e-3
Collision Energy (eV) = 40

Reagent

LCMPFOS_00018

R: SBC 9/22/16

738686
ID: LCMPFOS_00018
Exp: 08/03/21 Ppd: SBC
13C4-Perfluorooctanesulfo

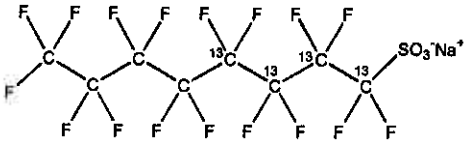
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0816

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	08/03/2016		
EXPIRY DATE: (mm/dd/yyyy)	08/03/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.8% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 08/05/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

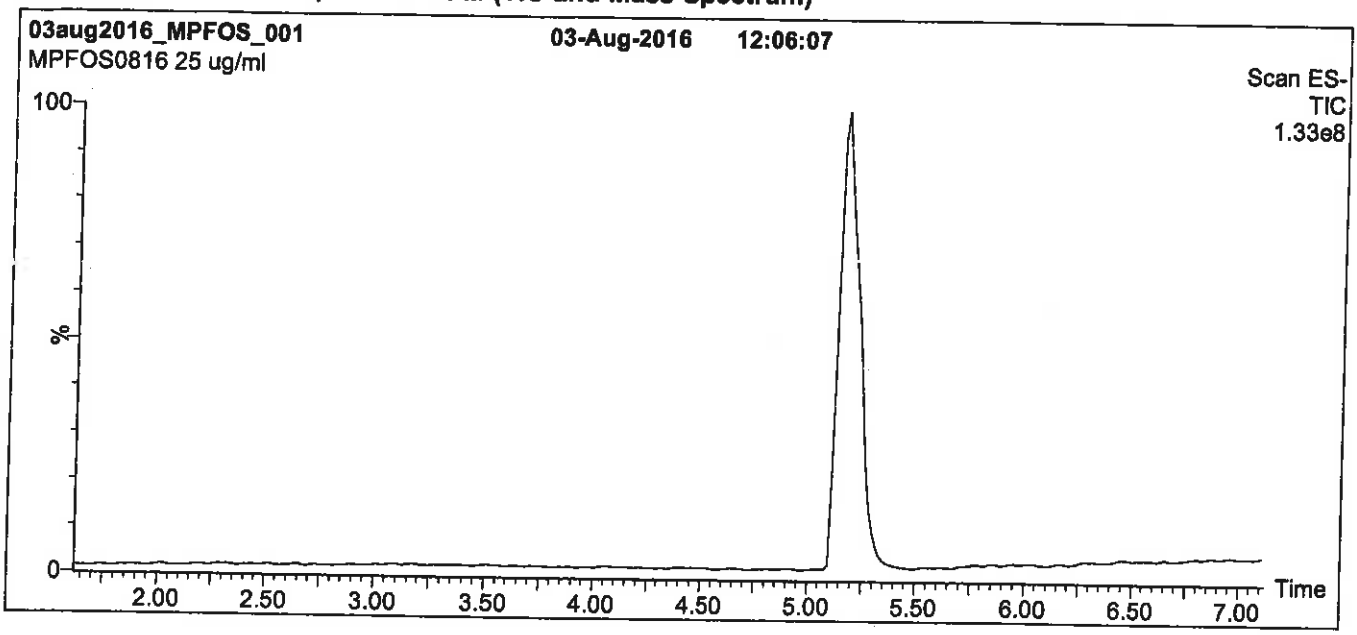
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

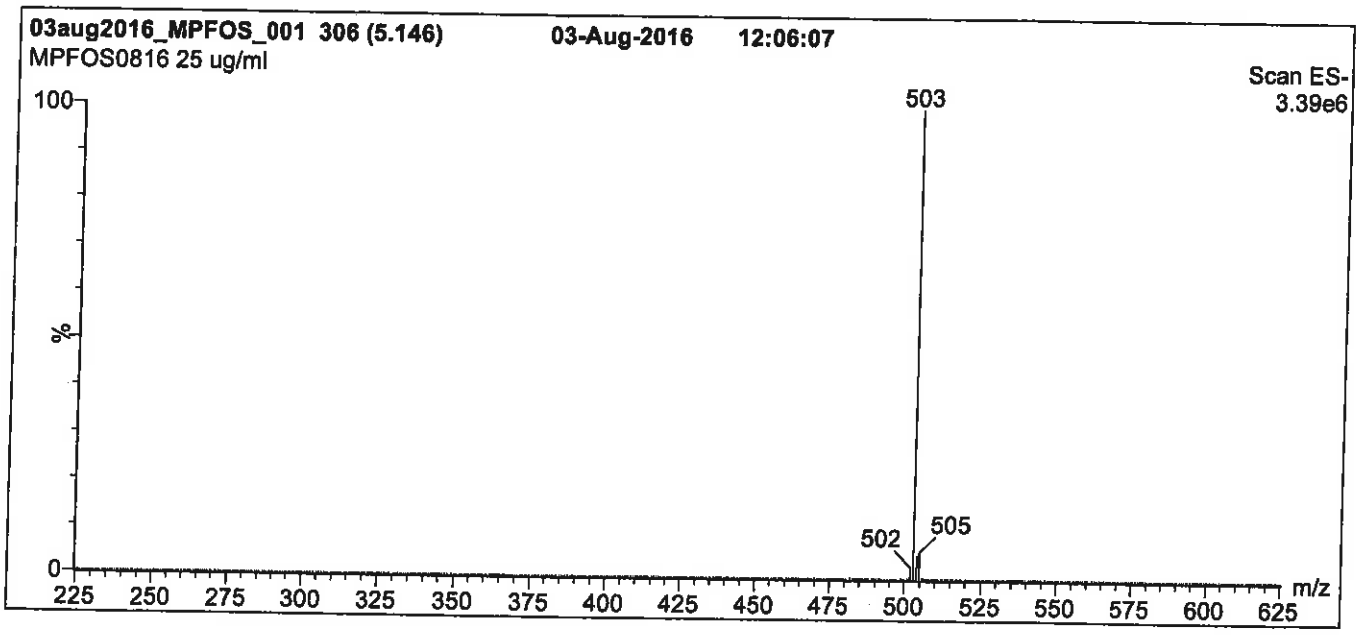
CALA

ANAB ACCREDITED

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **MPFOS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% (80:20 MeOH:ACN) / 55% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

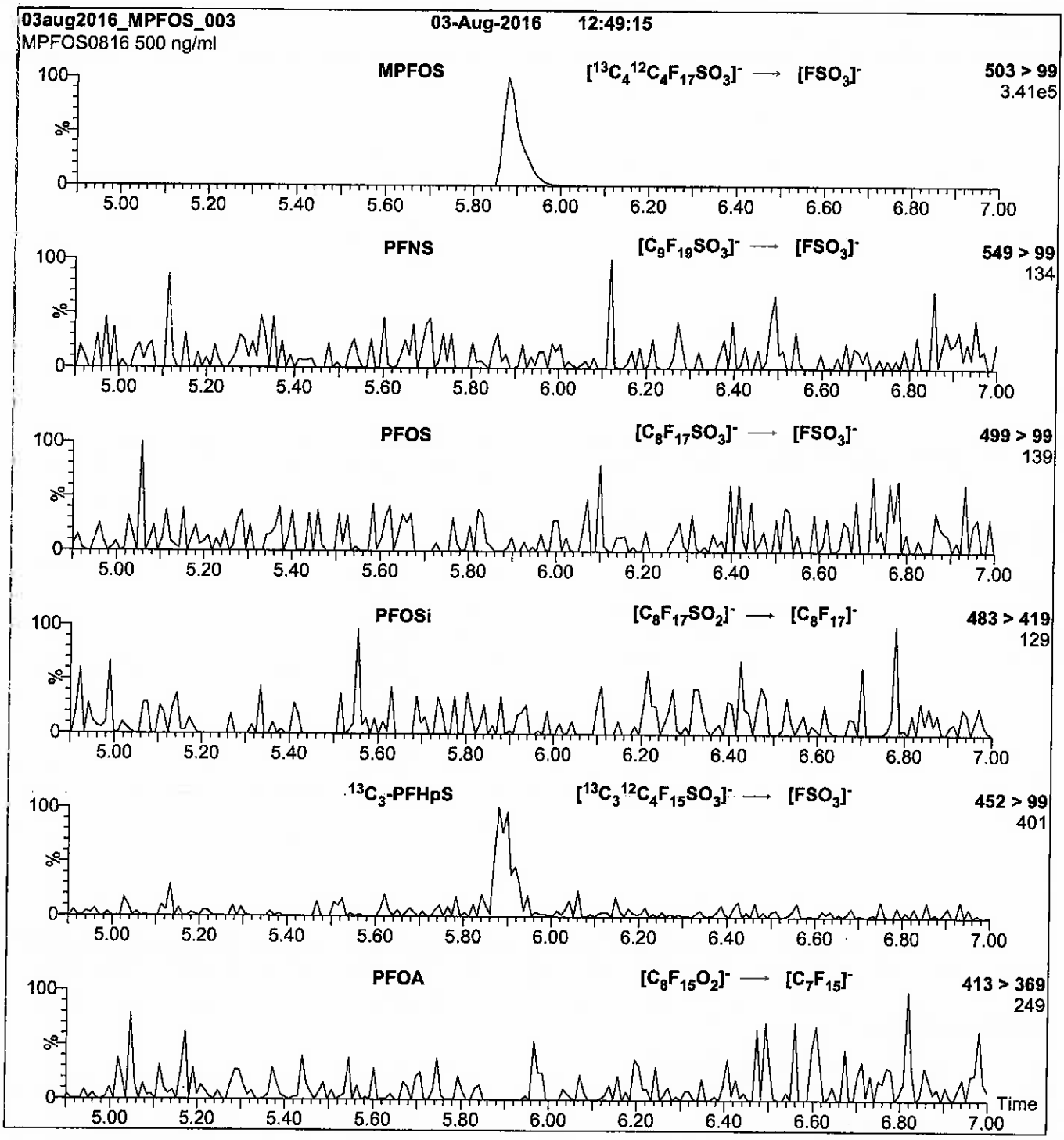
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

Figure 2: **MPFOS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFOS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.46e-3
Collision Energy (eV) = 40

Method 537 DOD

Perfluorinated Alkyl Acids (LC/MS) by Method 537 DOD

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Acquity ID: 2.1 (mm)

Client Sample ID	Lab Sample ID	PFHxA #	PFDA #
WI-AF-1RW02-1116	320-23919-1	111	111
WI-AF-1FB02-1116	320-23919-2	108	109
WI-AF-1RW03-1116	320-23919-3	103	112
WI-AF-1FB03-1116	320-23919-4	109	107
WI-AF-1RW04-1116	320-23919-5	110	105
WI-AF-1FB04-1116	320-23919-6	109	107
WI-AF-1RW05-1116	320-23919-7	104	108
WI-AF-1FB05-1116	320-23919-8	111	107
WI-AF-2RW02-1116	320-23919-9	113	110
WI-AF-2FB02-1116	320-23919-10	114	108
WI-AF-2RW03-1116	320-23919-11	123	109
WI-AF-2FB03-1116	320-23919-12	106	107
WI-AF-2RW04-1116	320-23919-13	90	104
WI-AF-2RW04-1116 DL	320-23919-13 DL	111	87
WI-AF-2FB04-1116	320-23919-14	95	97
WI-AF-2RW05-1116	320-23919-15	111	106
WI-AF-2FB05-1116	320-23919-16	108	107
WI-AF-2RW06-1116	320-23919-17	96	104
WI-AF-2FB06-1116	320-23919-18	106	107
WI-AF-3RW04-1116	320-23919-19	111	108
WI-AF-3FB04-1116	320-23919-20	110	109
WI-AF-3RW05-1116	320-23919-21	111	111
WI-AF-3FB05-1116	320-23919-22	101	109
WI-AF-3RW06-1116	320-23919-23	105	99
WI-AF-3FB06-1116	320-23919-24	113	106
WI-AF-3RW07-1116	320-23919-25	112	109
WI-AF-3FB07-1116	320-23919-26	110	106
WI-AF-3RW08-1116	320-23919-27	112	106
WI-AF-3FB08-1116	320-23919-28	108	108
WI-AF-3RW09-1116	320-23919-29	112	113
WI-AF-3FB09-1116	320-23919-30	112	109
	MB 320-140400/1-A	123	120
	MB 320-140409/1-A	119	122

	QC LIMITS
PFHxA = 13C2 PFHxA	70-130
PFDA = 13C2 PFDA	70-130

Column to be used to flag recovery values

FORM II 537

FORM II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Acquity ID: 2.1 (mm)

Client Sample ID	Lab Sample ID	PFHxA #	PFDA #
	MB 320-140442/1-A	118	108
	LCS 320-140409/2-A	114	112
	LCS 320-140442/2-A	129	122
	LCSD 320-140409/3-A	114	114
	LLCS 320-140400/2-A	112	108
	LLCSD 320-140400/3-A	112	108

	QC LIMITS
PFHxA = 13C2 PFHxA	70-130
PFDA = 13C2 PFDA	70-130

Column to be used to flag recovery values

FORM II 537

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_149.d

Lab ID: LCS 320-140409/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.160	0.132	82	70-130	
Perfluorooctanoic acid (PFOA)	0.0811	0.0624	77	70-130	
Perfluorobutanesulfonic acid (PFBS)	0.359	0.300	83	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_197.d

Lab ID: LCS 320-140442/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.300	0.317	105	70-130	
Perfluorooctanoic acid (PFOA)	0.152	0.166	109	70-130	E
Perfluorobutanesulfonic acid (PFBS)	0.673	0.588	87	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_153.d

Lab ID: LCSD 320-140409/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.160	0.134	84	2	30	70-130	
Perfluorooctanoic acid (PFOA)	0.0811	0.0663	82	6	30	70-130	
Perfluorobutanesulfonic acid (PFBS)	0.359	0.312	87	4	30	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LOW LEVEL CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_116.d

Lab ID: LLCS 320-140400/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LLCS CONCENTRATION (ug/L)	LLCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0318 J	79	50-150	
Perfluorooctanoic acid (PFOA)	0.0198	0.0180 J	90	50-150	
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0805 J	90	50-150	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS LOW LEVEL CONTROL STANDARD DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_117.d

Lab ID: LLCSD 320-140400/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LLCSD CONCENTRATION (ug/L)	LLCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0315 J	79	0.7	50	50-150	
Perfluorooctanoic acid (PFOA)	0.0198	0.0185 J	93	3	50	50-150	
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0796 J	89	1	50	50-150	

Column to be used to flag recovery and RPD values

FORM III 537

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab File ID: 05DEC2016A6A_138.d Lab Sample ID: MB 320-140400/1-A

Matrix: Water Date Extracted: 12/02/2016 15:27

Instrument ID: A6 Date Analyzed: 12/08/2016 11:41

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LLCS 320-140400/2-A	05DEC2016A6A_116.d	12/08/2016 00:53
	LLCSD 320-140400/3-A	05DEC2016A6A_117.d	12/08/2016 01:23
WI-AF-1RW02-1116	320-23919-1	05DEC2016A6A_145.d	12/08/2016 15:17
WI-AF-1FB02-1116	320-23919-2	05DEC2016A6A_146.d	12/08/2016 15:44

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab File ID: 05DEC2016A6A_148.d Lab Sample ID: MB 320-140409/1-A

Matrix: Water Date Extracted: 12/02/2016 15:42

Instrument ID: A6 Date Analyzed: 12/08/2016 17:06

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-140409/2-A	05DEC2016A6A_149.d	12/08/2016 17:36
	LCSD 320-140409/3-A	05DEC2016A6A_153.d	12/08/2016 19:34
WI-AF-1RW03-1116	320-23919-3	05DEC2016A6A_154.d	12/08/2016 20:04
WI-AF-1FB03-1116	320-23919-4	05DEC2016A6A_155.d	12/08/2016 20:34
WI-AF-1RW04-1116	320-23919-5	05DEC2016A6A_156.d	12/08/2016 21:03
WI-AF-1FB04-1116	320-23919-6	05DEC2016A6A_157.d	12/08/2016 21:33
WI-AF-1RW05-1116	320-23919-7	05DEC2016A6A_158.d	12/08/2016 22:02
WI-AF-1FB05-1116	320-23919-8	05DEC2016A6A_159.d	12/08/2016 22:32
WI-AF-2RW02-1116	320-23919-9	05DEC2016A6A_160.d	12/08/2016 23:01
WI-AF-2FB02-1116	320-23919-10	05DEC2016A6A_161.d	12/08/2016 23:31
WI-AF-2RW03-1116	320-23919-11	05DEC2016A6A_162.d	12/09/2016 00:01
WI-AF-2FB03-1116	320-23919-12	05DEC2016A6A_166.d	12/09/2016 01:59
WI-AF-2RW04-1116 DL	320-23919-13 DL	05DEC2016A6A_167.d	12/09/2016 02:29
WI-AF-2RW05-1116	320-23919-15	05DEC2016A6A_169.d	12/09/2016 03:28
WI-AF-2FB05-1116	320-23919-16	05DEC2016A6A_170.d	12/09/2016 03:57
WI-AF-2RW06-1116	320-23919-17	05DEC2016A6A_171.d	12/09/2016 04:27
WI-AF-2FB06-1116	320-23919-18	05DEC2016A6A_172.d	12/09/2016 04:57
WI-AF-3RW04-1116	320-23919-19	05DEC2016A6A_173.d	12/09/2016 05:26
WI-AF-2RW04-1116	320-23919-13	05DEC2016A6A_175.d	12/09/2016 06:25
WI-AF-3RW05-1116	320-23919-21	05DEC2016A6A_179.d	12/09/2016 08:29
WI-AF-2FB04-1116	320-23919-14	05DEC2016A6A_266.d	12/11/2016 04:03
WI-AF-3FB04-1116	320-23919-20	05DEC2016A6A_267.d	12/11/2016 04:33

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab File ID: 05DEC2016A6A_148.d Lab Sample ID: MB 320-140409/1-A

Matrix: Water Date Extracted: 12/02/2016 15:42

Instrument ID: A6 Date Analyzed: 12/08/2016 17:06

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
WI-AF-3FB05-1116	320-23919-22	05DEC2016A6A_268.d	12/11/2016 05:02

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab File ID: 05DEC2016A6A_196.d Lab Sample ID: MB 320-140442/1-A

Matrix: Water Date Extracted: 12/02/2016 20:12

Instrument ID: A6 Date Analyzed: 12/09/2016 17:31

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 320-140442/2-A	05DEC2016A6A_197.d	12/09/2016 18:00
WI-AF-3RW06-1116	320-23919-23	05DEC2016A6A_198.d	12/09/2016 18:30
WI-AF-3FB06-1116	320-23919-24	05DEC2016A6A_199.d	12/09/2016 19:00
WI-AF-3RW07-1116	320-23919-25	05DEC2016A6A_200.d	12/09/2016 19:29
WI-AF-3FB07-1116	320-23919-26	05DEC2016A6A_201.d	12/09/2016 19:59
WI-AF-3RW08-1116	320-23919-27	05DEC2016A6A_205.d	12/09/2016 21:57
WI-AF-3FB08-1116	320-23919-28	05DEC2016A6A_206.d	12/09/2016 22:27
WI-AF-3RW09-1116	320-23919-29	05DEC2016A6A_207.d	12/09/2016 22:57
WI-AF-3FB09-1116	320-23919-30	05DEC2016A6A_208.d	12/09/2016 23:26

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Calibration Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.1(mm) Calibration End Date: 12/05/2016 19:54

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		965911	20.05	2046916	20.67		
UPPER LIMIT		1448867	20.55	3070374	21.17		
LOWER LIMIT		482956	19.55	1023458	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 320-140688/9 CCVL		1025187	20.05	2358079	20.67		
ICV 320-140688/11		877210	20.05	2015178	20.67		
CCV 320-140946/29 CCVIS		825149	20.05	1824739	20.67		
LLCS 320-140400/2-A		827196	20.04	2275824	20.66		
LLCSD 320-140400/3-A		830936	20.05	2269539	20.67		
CCV 320-140946/42 CCVIS		815069	20.04	1721192	20.67		
CCV 320-140948/55 CCVIS		852422	20.04	1761773	20.67		
MB 320-140400/1-A		730789	20.05	1996434	20.67		
CCV 320-140948/101 CCVIS		907626	20.04	1887289	20.66		
CCV 320-141249/101 CCVIS		907626	20.04	1887289	20.66		
320-23919-1	WI-AF-1RW02-1116	669143	20.05	1820238	20.67		
320-23919-2	WI-AF-1FB02-1116	711143	20.04	1995829	20.66		
CCV 320-141249/68 CCVIS		890167	20.06	1723267	20.68		
CCV 320-140949/68 CCVIS		890167	20.06	1723267	20.68		
LCSD 320-140409/3-A		699018	20.06	1794767	20.69		
320-23919-3	WI-AF-1RW03-1116	678808	20.06	1907791	20.69		
320-23919-4	WI-AF-1FB03-1116	870159	20.06	2329614	20.69		
320-23919-5	WI-AF-1RW04-1116	717249	20.06	2010561	20.69		
320-23919-6	WI-AF-1FB04-1116	724311	20.06	1897023	20.69		
320-23919-7	WI-AF-1RW05-1116	726193	20.06	1956562	20.69		
320-23919-8	WI-AF-1FB05-1116	758653	20.06	1996661	20.69		
320-23919-9	WI-AF-2RW02-1116	814182	20.06	2278727	20.69		
320-23919-10	WI-AF-2FB02-1116	832043	20.06	2257623	20.68		
320-23919-11	WI-AF-2RW03-1116	773910	20.06	2255510	20.68		
CCV 320-140949/81 CCVIS		862162	20.06	1775879	20.69		
CCV 320-140950/81 CCVIS		862162	20.06	1775879	20.69		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Calibration Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.1(mm) Calibration End Date: 12/05/2016 19:54

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		965911	20.05	2046916	20.67		
UPPER LIMIT		1448867	20.55	3070374	21.17		
LOWER LIMIT		482956	19.55	1023458	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-12	WI-AF-2FB03-1116	810266	20.06	2275270	20.69		
320-23919-13 DL	WI-AF-2RW04-1116 DL	40273Q	20.06	105675Q	20.68		
320-23919-15	WI-AF-2RW05-1116	800961	20.05	2217509	20.68		
320-23919-16	WI-AF-2FB05-1116	881042	20.05	2396012	20.68		
320-23919-17	WI-AF-2RW06-1116	750456	20.05	2089845	20.68		
320-23919-18	WI-AF-2FB06-1116	825294	20.05	2278933	20.68		
320-23919-19	WI-AF-3RW04-1116	837636	20.05	2403479	20.68		
320-23919-13	WI-AF-2RW04-1116	691397	20.05	1059320Q	20.68		
CCV 320-140950/94 CCVIS		712405	20.05	1555728	20.68		
CCV 320-141290/2 CCVIS		712405	20.05	1555728	20.68		
320-23919-21	WI-AF-3RW05-1116	760601	20.05	2041823	20.68		
CCV 320-141290/15 CCVIS		791868	20.02	1660744	20.66		
CCV 320-141291/15 CCVIS		791868	20.02	1660744	20.66		
MB 320-140442/1-A		732694	20.04	2024869	20.66		
LCS 320-140442/2-A		658018	20.04	1667226	20.66		
320-23919-23	WI-AF-3RW06-1116	652610	20.02	1868885	20.66		
320-23919-24	WI-AF-3FB06-1116	751489	20.04	2262902	20.66		
320-23919-25	WI-AF-3RW07-1116	656002	20.04	1912136	20.67		
320-23919-26	WI-AF-3FB07-1116	755832	20.04	2165503	20.66		
CCV 320-141291/28 CCVIS		792463	20.04	1683186	20.67		
CCV 320-141292/28 CCVIS		792463	20.04	1683186	20.67		
320-23919-27	WI-AF-3RW08-1116	684211	20.04	2036879	20.67		
320-23919-28	WI-AF-3FB08-1116	760388	20.04	2183483	20.66		
320-23919-29	WI-AF-3RW09-1116	699440	20.02	1992464	20.66		
320-23919-30	WI-AF-3FB09-1116	705239	20.04	2001045	20.66		
CCV 320-141292/41 CCVIS		717004	20.05	1606845	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Calibration Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.1(mm) Calibration End Date: 12/05/2016 19:54

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MEAN AREA AND MEAN RT		965911	20.05	2046916	20.67		
UPPER LIMIT		1448867	20.55	3070374	21.17		
LOWER LIMIT		482956	19.55	1023458	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 320-141521/88 CCVIS		805032	20.07	1749979	20.70		
320-23919-14	WI-AF-2FB04-1116	749537	20.07	2098107	20.70		
320-23919-20	WI-AF-3FB04-1116	781897	20.07	2283660	20.70		
320-23919-22	WI-AF-3FB05-1116	730332	20.07	2079557	20.69		
CCV 320-141521/95 CCVIS		763458	20.07	1623212	20.69		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 50%-150% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140946/29 Date Analyzed: 12/07/2016 20:56

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_108.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		825149	20.05	1824739	20.67		
UPPER LIMIT		1155209	20.55	2554635	21.17		
LOWER LIMIT		577604	19.55	1277317	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LLCS 320-140400/2-A		827196	20.04	2275824	20.66		
LLCSD 320-140400/3-A		830936	20.05	2269539	20.67		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140946/42 Date Analyzed: 12/08/2016 03:21

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_121.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		815069	20.04	1721192	20.67		
UPPER LIMIT		1141097	20.54	2409669	21.17		
LOWER LIMIT		570548	19.54	1204834	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LLCS 320-140400/2-A		827196	20.04	2275824	20.66		
LLCSD 320-140400/3-A		830936	20.05	2269539	20.67		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140948/55 Date Analyzed: 12/08/2016 09:46

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_134.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		852422	20.04	1761773	20.67		
UPPER LIMIT		1193391	20.54	2466482	21.17		
LOWER LIMIT		596695	19.54	1233241	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-140400/1-A		730789	20.05	1996434	20.67		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140948/101 Date Analyzed: 12/08/2016 12:14

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_139.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		907626	20.04	1887289	20.66		
UPPER LIMIT		1270676	20.54	2642205	21.16		
LOWER LIMIT		635338	19.54	1321102	20.16		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-140400/1-A		730789	20.05	1996434	20.67		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141249/101 Date Analyzed: 12/08/2016 12:14

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_139.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		907626	20.04	1887289	20.66		
UPPER LIMIT		1270676	20.54	2642205	21.16		
LOWER LIMIT		635338	19.54	1321102	20.16		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-1	WI-AF-1RW02-1116	669143	20.05	1820238	20.67		
320-23919-2	WI-AF-1FB02-1116	711143	20.04	1995829	20.66		
MB 320-140409/1-A		719770	20.05	1998671	20.67		
LCS 320-140409/2-A		735849	20.05	1829616	20.67		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140949/68 Date Analyzed: 12/08/2016 18:35

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_151.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		890167	20.06	1723267	20.68		
UPPER LIMIT		1246234	20.56	2412574	21.18		
LOWER LIMIT		623117	19.56	1206287	20.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCSD 320-140409/3-A		699018	20.06	1794767	20.69		
320-23919-3	WI-AF-1RW03-1116	678808	20.06	1907791	20.69		
320-23919-4	WI-AF-1FB03-1116	870159	20.06	2329614	20.69		
320-23919-5	WI-AF-1RW04-1116	717249	20.06	2010561	20.69		
320-23919-6	WI-AF-1FB04-1116	724311	20.06	1897023	20.69		
320-23919-7	WI-AF-1RW05-1116	726193	20.06	1956562	20.69		
320-23919-8	WI-AF-1FB05-1116	758653	20.06	1996661	20.69		
320-23919-9	WI-AF-2RW02-1116	814182	20.06	2278727	20.69		
320-23919-10	WI-AF-2FB02-1116	832043	20.06	2257623	20.68		
320-23919-11	WI-AF-2RW03-1116	773910	20.06	2255510	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141249/68 Date Analyzed: 12/08/2016 18:35

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_151.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		890167	20.06	1723267	20.68		
UPPER LIMIT		1246234	20.56	2412574	21.18		
LOWER LIMIT		623117	19.56	1206287	20.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-1	WI-AF-1RW02-1116	669143	20.05	1820238	20.67		
320-23919-2	WI-AF-1FB02-1116	711143	20.04	1995829	20.66		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140949/81 Date Analyzed: 12/09/2016 01:00

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_164.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		862162	20.06	1775879	20.69		
UPPER LIMIT		1207027	20.56	2486231	21.19		
LOWER LIMIT		603513	19.56	1243115	20.19		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCSD 320-140409/3-A		699018	20.06	1794767	20.69		
320-23919-3	WI-AF-1RW03-1116	678808	20.06	1907791	20.69		
320-23919-4	WI-AF-1FB03-1116	870159	20.06	2329614	20.69		
320-23919-5	WI-AF-1RW04-1116	717249	20.06	2010561	20.69		
320-23919-6	WI-AF-1FB04-1116	724311	20.06	1897023	20.69		
320-23919-7	WI-AF-1RW05-1116	726193	20.06	1956562	20.69		
320-23919-8	WI-AF-1FB05-1116	758653	20.06	1996661	20.69		
320-23919-9	WI-AF-2RW02-1116	814182	20.06	2278727	20.69		
320-23919-10	WI-AF-2FB02-1116	832043	20.06	2257623	20.68		
320-23919-11	WI-AF-2RW03-1116	773910	20.06	2255510	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140950/81 Date Analyzed: 12/09/2016 01:00

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_164.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		862162	20.06	1775879	20.69		
UPPER LIMIT		1207027	20.56	2486231	21.19		
LOWER LIMIT		603513	19.56	1243115	20.19		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-12	WI-AF-2FB03-1116	810266	20.06	2275270	20.69		
320-23919-13 DL	WI-AF-2RW04-1116 DL	40273Q	20.06	105675Q	20.68		
320-23919-15	WI-AF-2RW05-1116	800961	20.05	2217509	20.68		
320-23919-16	WI-AF-2FB05-1116	881042	20.05	2396012	20.68		
320-23919-17	WI-AF-2RW06-1116	750456	20.05	2089845	20.68		
320-23919-18	WI-AF-2FB06-1116	825294	20.05	2278933	20.68		
320-23919-19	WI-AF-3RW04-1116	837636	20.05	2403479	20.68		
320-23919-13	WI-AF-2RW04-1116	691397	20.05	1059320Q	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-140950/94 Date Analyzed: 12/09/2016 07:25

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_177.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		712405	20.05	1555728	20.68		
UPPER LIMIT		997367	20.55	2178019	21.18		
LOWER LIMIT		498684	19.55	1089010	20.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-12	WI-AF-2FB03-1116	810266	20.06	2275270	20.69		
320-23919-13 DL	WI-AF-2RW04-1116 DL	40273Q	20.06	105675Q	20.68		
320-23919-15	WI-AF-2RW05-1116	800961	20.05	2217509	20.68		
320-23919-16	WI-AF-2FB05-1116	881042	20.05	2396012	20.68		
320-23919-17	WI-AF-2RW06-1116	750456	20.05	2089845	20.68		
320-23919-18	WI-AF-2FB06-1116	825294	20.05	2278933	20.68		
320-23919-19	WI-AF-3RW04-1116	837636	20.05	2403479	20.68		
320-23919-13	WI-AF-2RW04-1116	691397	20.05	1059320Q	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141290/2 Date Analyzed: 12/09/2016 07:25

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_177.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		712405	20.05	1555728	20.68		
UPPER LIMIT		997367	20.55	2178019	21.18		
LOWER LIMIT		498684	19.55	1089010	20.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-21	WI-AF-3RW05-1116	760601	20.05	2041823	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141290/15 Date Analyzed: 12/09/2016 14:33

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_190.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		791868	20.02	1660744	20.66		
UPPER LIMIT		1108615	20.52	2325042	21.16		
LOWER LIMIT		554308	19.52	1162521	20.16		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-21	WI-AF-3RW05-1116	760601	20.05	2041823	20.68		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141291/15 Date Analyzed: 12/09/2016 14:33

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_190.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		791868	20.02	1660744	20.66		
UPPER LIMIT		1108615	20.52	2325042	21.16		
LOWER LIMIT		554308	19.52	1162521	20.16		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-140442/1-A		732694	20.04	2024869	20.66		
LCS 320-140442/2-A		658018	20.04	1667226	20.66		
320-23919-23	WI-AF-3RW06-1116	652610	20.02	1868885	20.66		
320-23919-24	WI-AF-3FB06-1116	751489	20.04	2262902	20.66		
320-23919-25	WI-AF-3RW07-1116	656002	20.04	1912136	20.67		
320-23919-26	WI-AF-3FB07-1116	755832	20.04	2165503	20.66		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141291/28 Date Analyzed: 12/09/2016 20:58

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_203.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		792463	20.04	1683186	20.67		
UPPER LIMIT		1109448	20.54	2356460	21.17		
LOWER LIMIT		554724	19.54	1178230	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 320-140442/1-A		732694	20.04	2024869	20.66		
LCS 320-140442/2-A		658018	20.04	1667226	20.66		
320-23919-23	WI-AF-3RW06-1116	652610	20.02	1868885	20.66		
320-23919-24	WI-AF-3FB06-1116	751489	20.04	2262902	20.66		
320-23919-25	WI-AF-3RW07-1116	656002	20.04	1912136	20.67		
320-23919-26	WI-AF-3FB07-1116	755832	20.04	2165503	20.66		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141292/28 Date Analyzed: 12/09/2016 20:58

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_203.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		792463	20.04	1683186	20.67		
UPPER LIMIT		1109448	20.54	2356460	21.17		
LOWER LIMIT		554724	19.54	1178230	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-27	WI-AF-3RW08-1116	684211	20.04	2036879	20.67		
320-23919-28	WI-AF-3FB08-1116	760388	20.04	2183483	20.66		
320-23919-29	WI-AF-3RW09-1116	699440	20.02	1992464	20.66		
320-23919-30	WI-AF-3FB09-1116	705239	20.04	2001045	20.66		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141292/41 Date Analyzed: 12/10/2016 03:23

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_216.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		717004	20.05	1606845	20.68		
UPPER LIMIT		1003806	20.55	2249583	21.18		
LOWER LIMIT		501903	19.55	1124792	20.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-27	WI-AF-3RW08-1116	684211	20.04	2036879	20.67		
320-23919-28	WI-AF-3FB08-1116	760388	20.04	2183483	20.66		
320-23919-29	WI-AF-3RW09-1116	699440	20.02	1992464	20.66		
320-23919-30	WI-AF-3FB09-1116	705239	20.04	2001045	20.66		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141521/88 Date Analyzed: 12/11/2016 02:34

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_263.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		805032	20.07	1749979	20.70		
UPPER LIMIT		1127045	20.57	2449971	21.20		
LOWER LIMIT		563522	19.57	1224985	20.20		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-14	WI-AF-2FB04-1116	749537	20.07	2098107	20.70		
320-23919-20	WI-AF-3FB04-1116	781897	20.07	2283660	20.70		
320-23919-22	WI-AF-3FB05-1116	730332	20.07	2079557	20.69		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Sample No.: CCV 320-141521/95 Date Analyzed: 12/11/2016 06:02

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_270.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		763458	20.07	1623212	20.69		
UPPER LIMIT		1068841	20.57	2272497	21.19		
LOWER LIMIT		534421	19.57	1136248	20.19		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23919-14	WI-AF-2FB04-1116	749537	20.07	2098107	20.70		
320-23919-20	WI-AF-3FB04-1116	781897	20.07	2283660	20.70		
320-23919-22	WI-AF-3FB05-1116	730332	20.07	2079557	20.69		

13PFOA = 13C2-PFOA
PFOS = 13C4 PFOS

Area Limit = 70%-140% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 537

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW02-1116 | Lab Sample ID: 320-23919-1

Matrix: Water | Lab File ID: 05DEC2016A6A_145.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:27

Sample wt/vol: 254.4(mL) | Date Analyzed: 12/08/2016 15:17

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141249 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	111		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_145.d
Lims ID: 320-23919-A-1-A
Client ID: WI-AF-1RW02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 15:17:30 ALS Bottle#: 23 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-1-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 08-Dec-2016 16:15:28

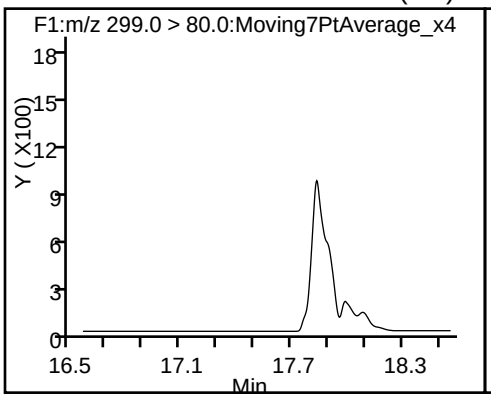
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.548	0.010	1.000	868720	11.1	28432	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		669143	10.0	17503	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.655	0.024	1.000	374	0.005645	14.7	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.655	0.012		1820238	28.7	47568	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.726	0.024	1.000	5460	0.0719	50.0	
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.453	0.009	1.000	653089	11.1	20779	

QC Flag Legend

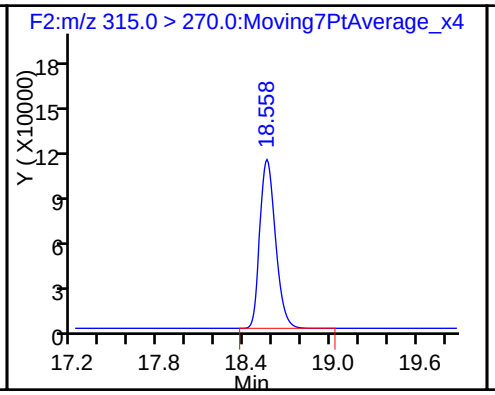
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_145.d
Injection Date: 08-Dec-2016 15:17:30 Instrument ID: A6
Lims ID: 320-23919-A-1-A Lab Sample ID: 320-23919-1
Client ID: WI-AF-1RW02-1116
Operator ID: CBW ALS Bottle#: 23 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

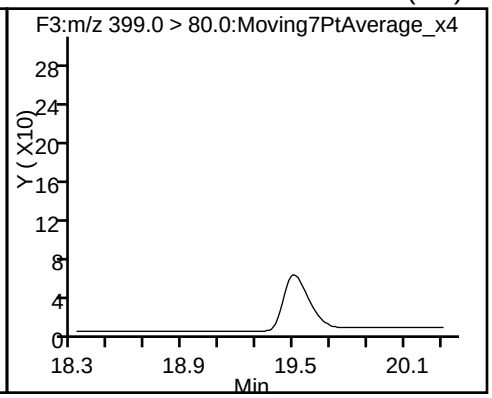
1 Perfluorobutanesulfonic acid (ND)



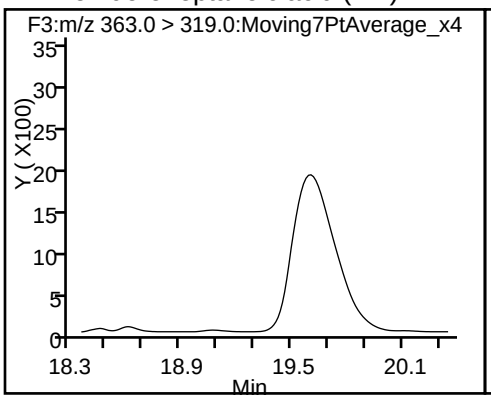
$ 2 13C2 PFHxA



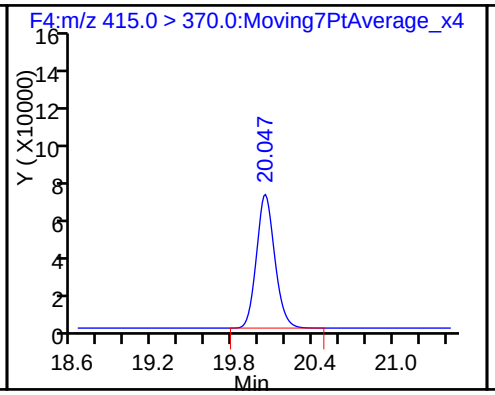
3 Perfluorohexanesulfonic acid (ND)



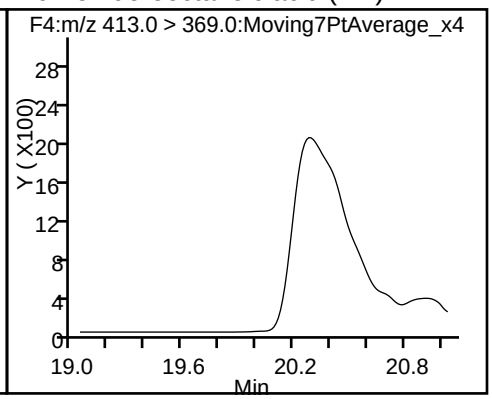
4 Perfluoroheptanoic acid (ND)



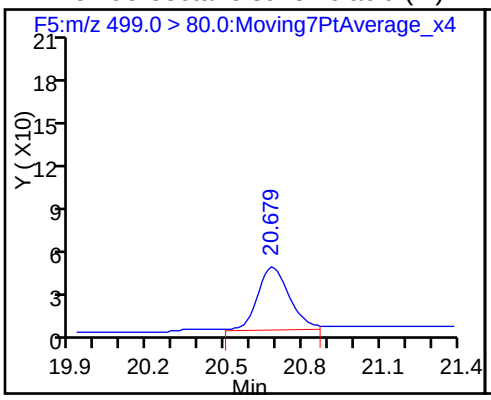
* 5 13C2-PFOA



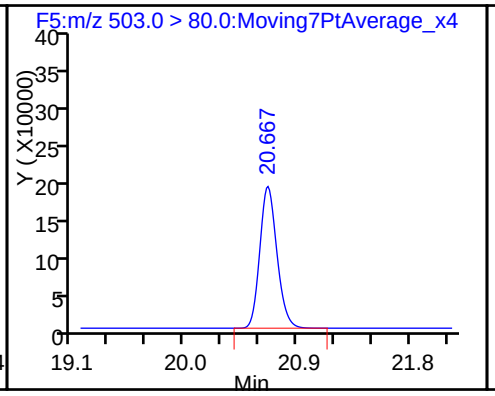
6 Perfluorooctanoic acid (ND)



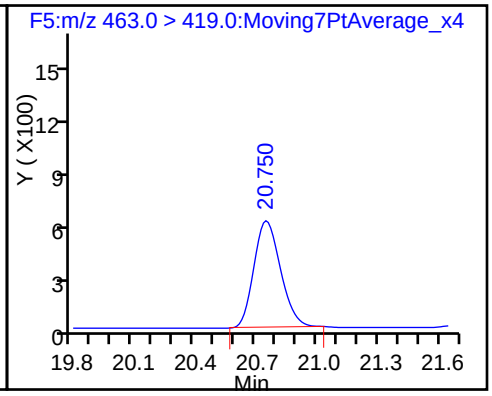
7 Perfluorooctane sulfonic acid (M)



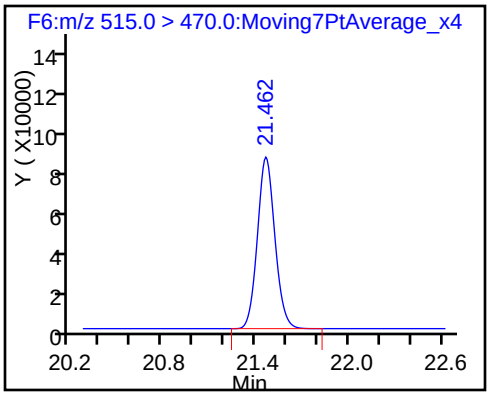
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_145.d
Lims ID: 320-23919-A-1-A
Client ID: WI-AF-1RW02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 15:17:30 ALS Bottle#: 23 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-1-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 08-Dec-2016 16:15:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.29
$ 10 13C2 PFDA	10.0	11.1	111.38

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

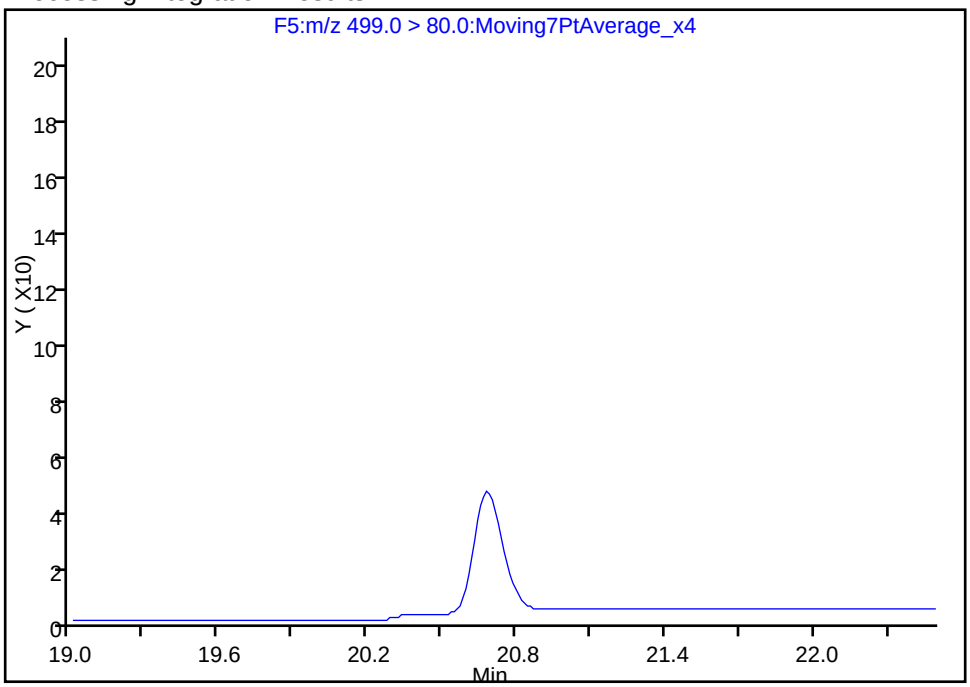
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_145.d				
Injection Date:	08-Dec-2016 15:17:30	Instrument ID:	A6		
Lims ID:	320-23919-A-1-A	Lab Sample ID:	320-23919-1		
Client ID:	WI-AF-1RW02-1116				
Operator ID:	CBW	ALS Bottle#:	23	Worklist Smp#:	63
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

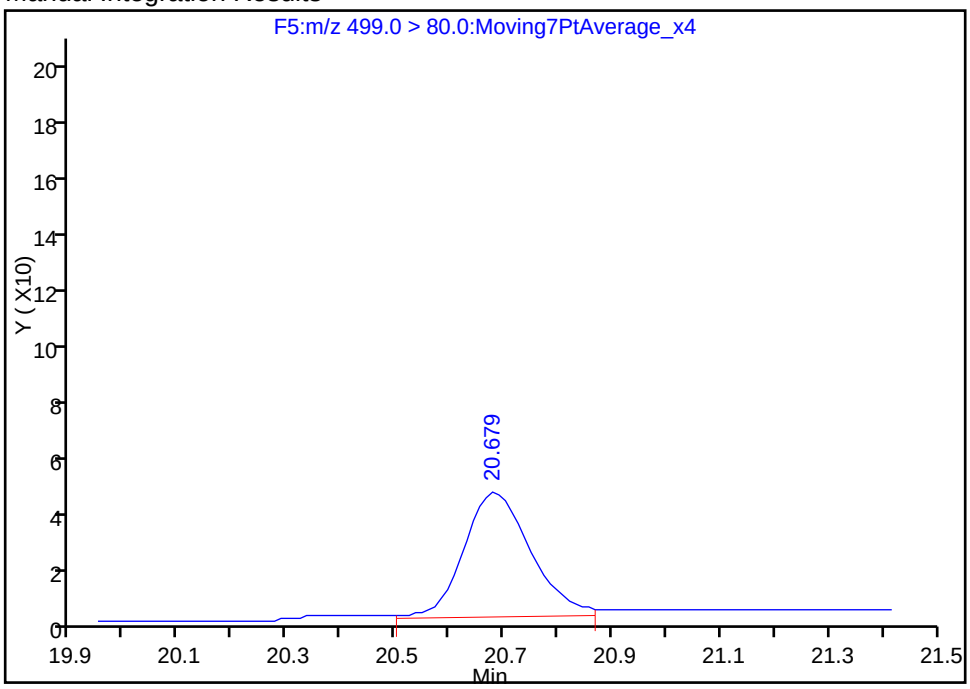
Processing Integration Results

Not Detected
Expected RT: 20.65



Manual Integration Results

RT: 20.68
Area: 374
Amount: 0.005645
Amount Units: ng/ml



Reviewer: barnettj, 08-Dec-2016 16:15:28
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB02-1116 Lab Sample ID: 320-23919-2

Matrix: Water Lab File ID: 05DEC2016A6A_146.d

Analysis Method: 537 Date Collected: 11/29/2016 09:25

Extraction Method: 537 Date Extracted: 12/02/2016 15:27

Sample wt/vol: 257.4(mL) Date Analyzed: 12/08/2016 15:44

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141249 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	109		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_146.d
Lims ID: 320-23919-A-2-A
Client ID: WI-AF-1FB02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 15:44:00 ALS Bottle#: 24 Worklist Smp#: 64
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-2-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

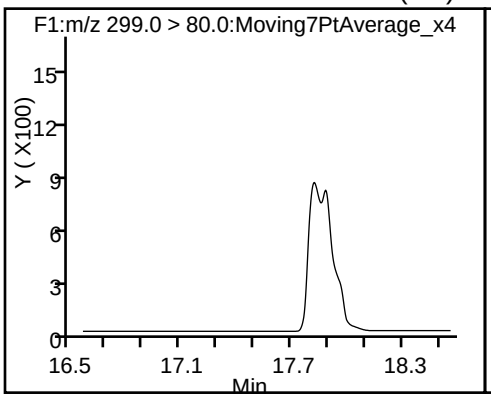
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 08-Dec-2016 16:47:08

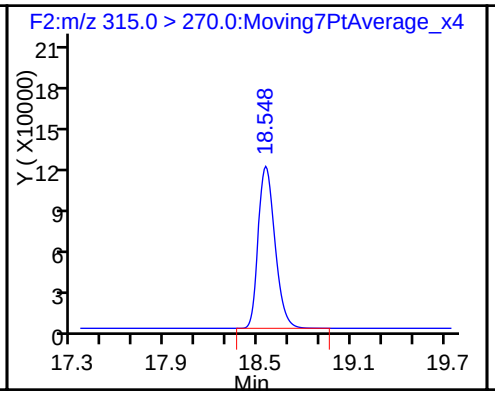
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.548	18.548	0.0	1.000	894089	10.8	29571	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		711143	10.0	18789	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1995829	28.7	23165	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	4854	0.0602	112	
$ 10 13C2 PFDA								
515.0 > 470.0	21.453	21.453	0.0	1.000	680100	10.9	21457	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_146.d
Injection Date: 08-Dec-2016 15:44:00 Instrument ID: A6
Lims ID: 320-23919-A-2-A Lab Sample ID: 320-23919-2
Client ID: WI-AF-1FB02-1116
Operator ID: CBW ALS Bottle#: 24 Worklist Smp#: 64
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

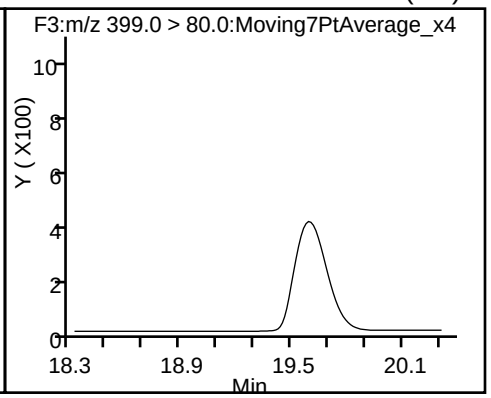
1 Perfluorobutanesulfonic acid (ND)



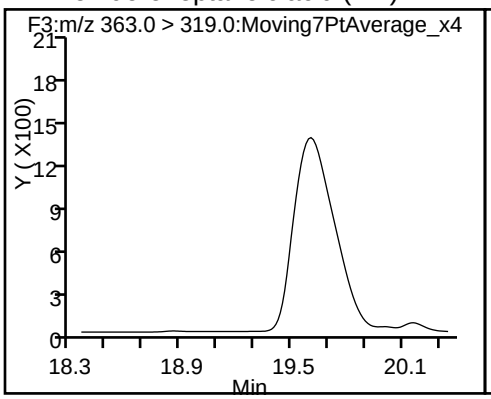
$ 2 13C2 PFHxA



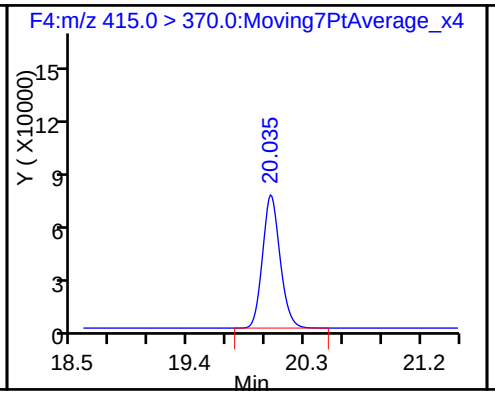
3 Perfluorohexanesulfonic acid (ND)



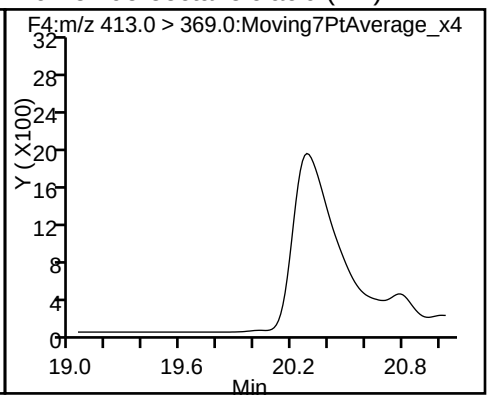
4 Perfluoroheptanoic acid (ND)



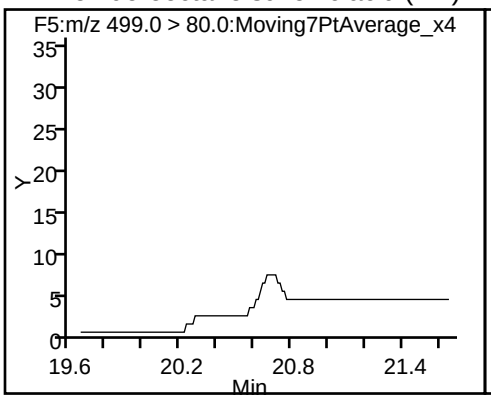
* 5 13C2-PFOA



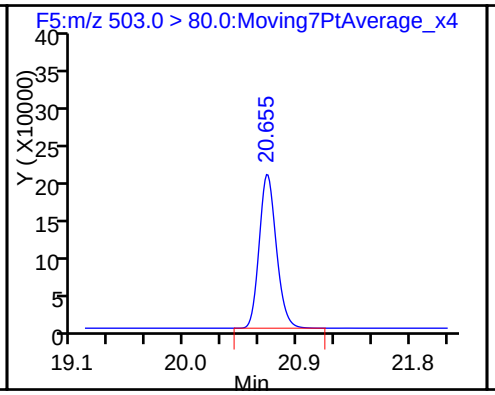
6 Perfluorooctanoic acid (ND)



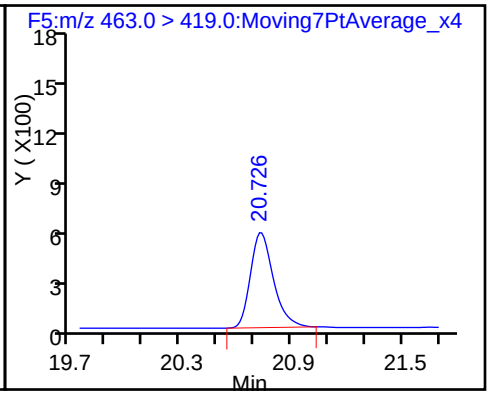
7 Perfluorooctane sulfonic acid (ND)



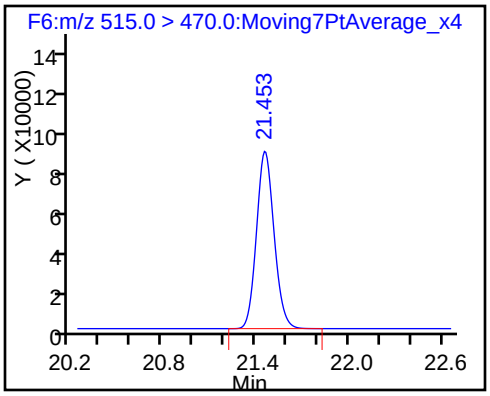
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_146.d
Lims ID: 320-23919-A-2-A
Client ID: WI-AF-1FB02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 15:44:00 ALS Bottle#: 24 Worklist Smp#: 64
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-2-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 08-Dec-2016 16:47:08

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.8	107.78
$ 10 13C2 PFDA	10.0	10.9	109.14

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW03-1116 | Lab Sample ID: 320-23919-3

Matrix: Water | Lab File ID: 05DEC2016A6A_154.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:15

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.3(mL) | Date Analyzed: 12/08/2016 20:04

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	103		70-130
STL00996	13C2 PFDA	112		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_154.d
Lims ID: 320-23919-A-3-A
Client ID: WI-AF-1RW03-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 20:04:24 ALS Bottle#: 28 Worklist Smp#: 71
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-3-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:51:40

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.611	0.007	1.000	18795	0.4028	84.8	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	813062	10.3	26199	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.344	19.344	0.0	1.000	34265	0.5736	34.9	M
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.403	19.380	0.023	1.000	1170	0.0142	1.0	M
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		678808	10.0	17892	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.058	20.058	0.0	1.000	8245	0.1167	2.3	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.418	20.619	-0.201	1.000	18673	0.2689	487	M
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.679	0.012		1907791	28.7	25002	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.773	20.762	0.011	1.000	8694	0.1129	67.0	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	666623	11.2	21336	

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_154.d

Injection Date: 08-Dec-2016 20:04:24 Instrument ID: A6

Lims ID: 320-23919-A-3-A Lab Sample ID: 320-23919-3

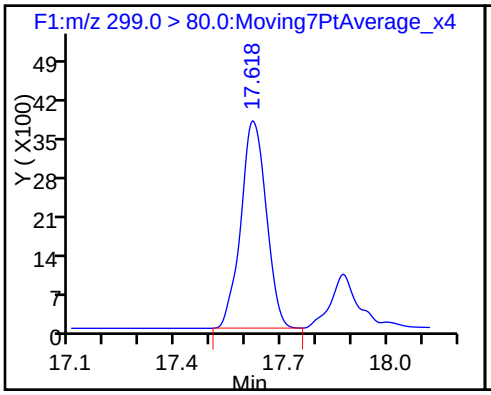
Client ID: WI-AF-1RW03-1116

Operator ID: CBW ALS Bottle#: 28 Worklist Smp#: 71

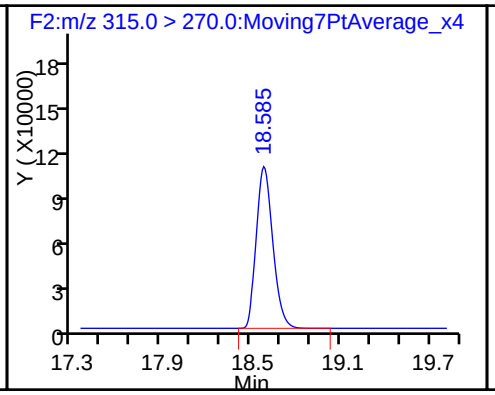
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

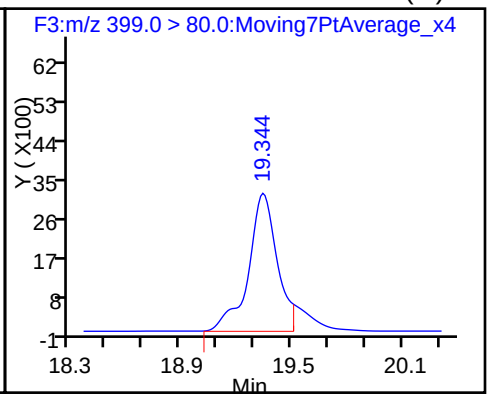
1 Perfluorobutanesulfonic acid



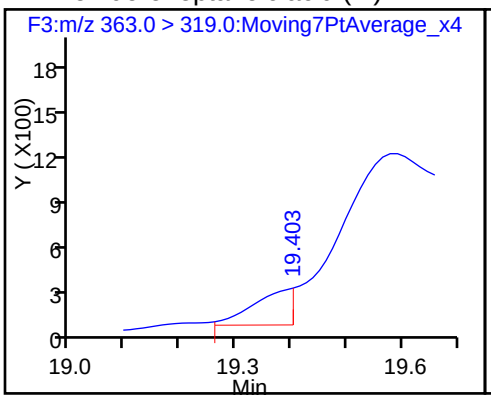
$ 2 13C2 PFHxA



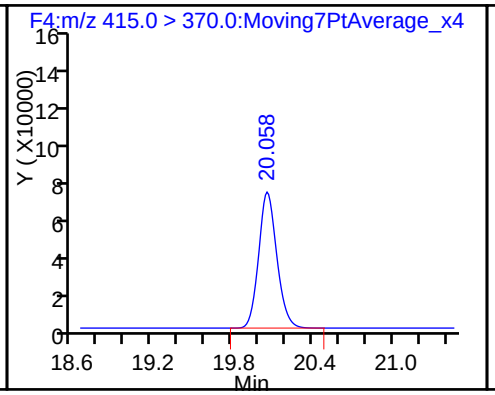
3 Perfluorohexanesulfonic acid (M)



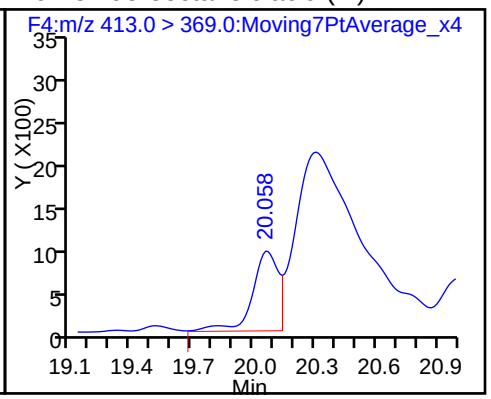
4 Perfluoroheptanoic acid (M)



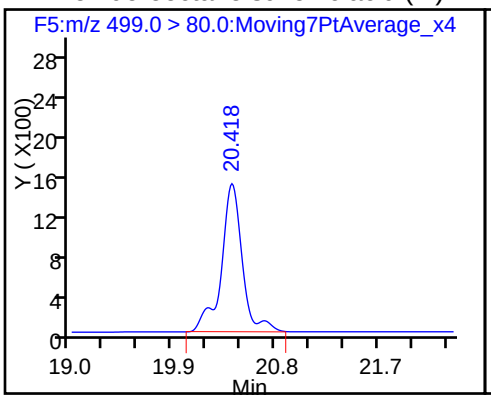
* 5 13C2-PFOA



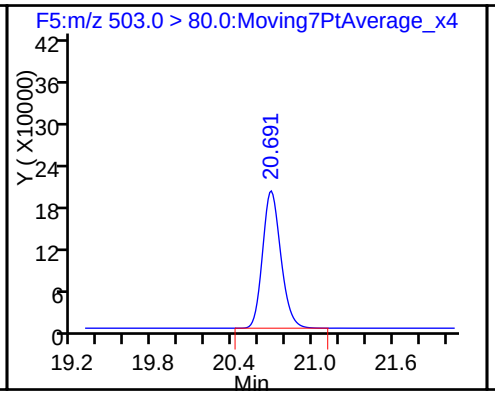
6 Perfluorooctanoic acid (M)



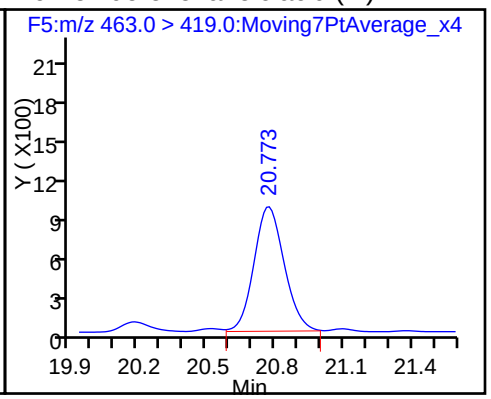
7 Perfluorooctane sulfonic acid (M)



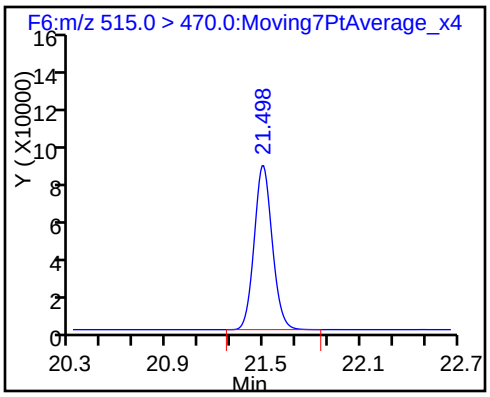
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_154.d
Lims ID: 320-23919-A-3-A
Client ID: WI-AF-1RW03-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 20:04:24 ALS Bottle#: 28 Worklist Smp#: 71
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-3-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:51:40

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.3	102.68
$ 10 13C2 PFDA	10.0	11.2	112.07

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

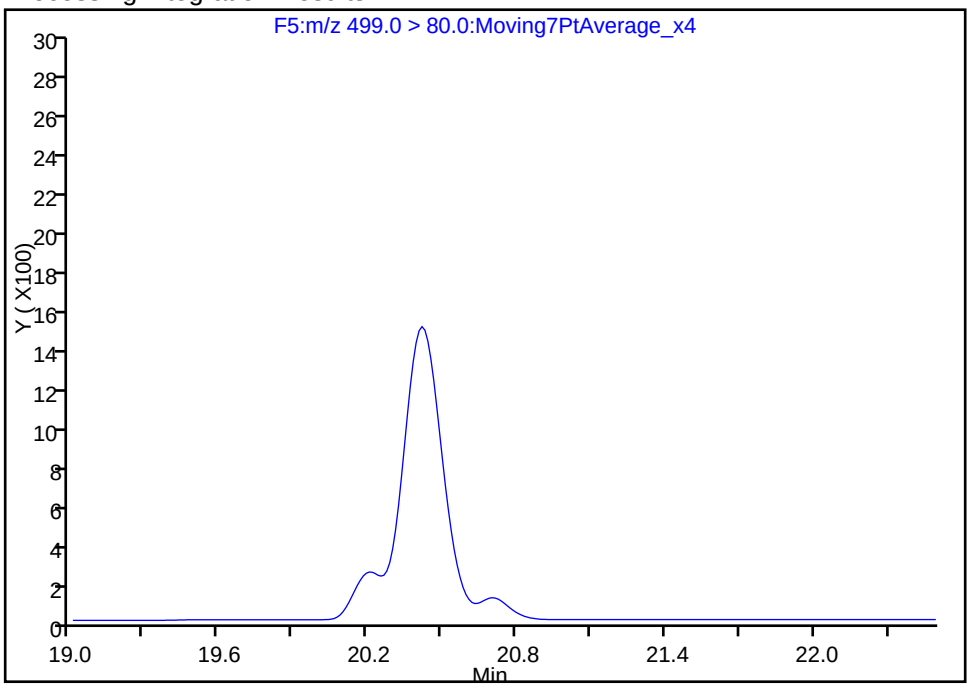
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_154.d				
Injection Date:	08-Dec-2016 20:04:24	Instrument ID:	A6		
Lims ID:	320-23919-A-3-A	Lab Sample ID:	320-23919-3		
Client ID:	WI-AF-1RW03-1116				
Operator ID:	CBW	ALS Bottle#:	28	Worklist Smp#:	71
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

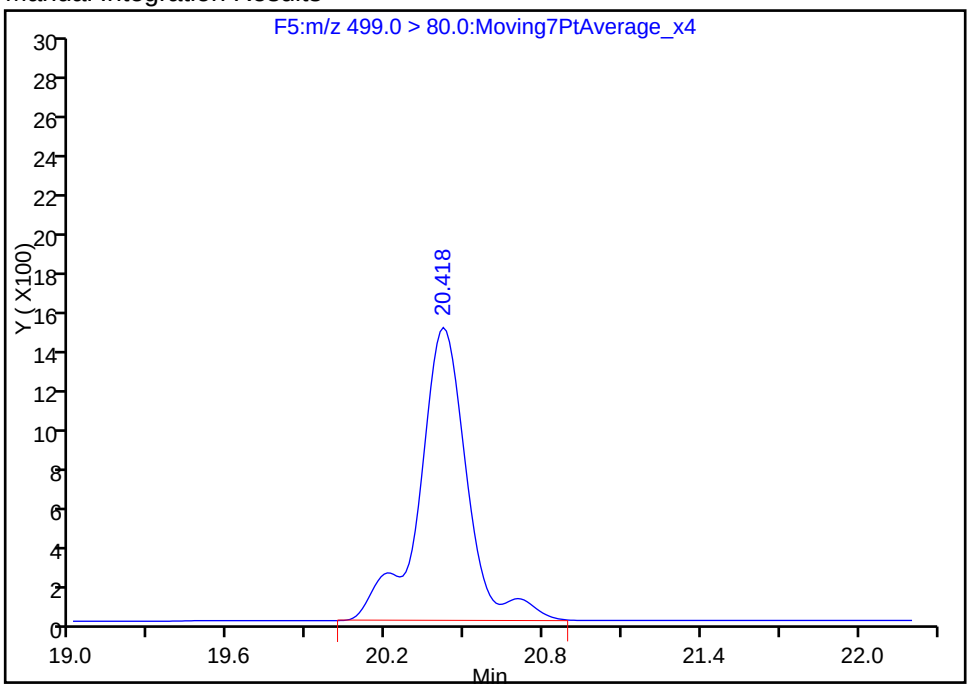
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.42
Area: 18673
Amount: 0.268885
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 09:51:40
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

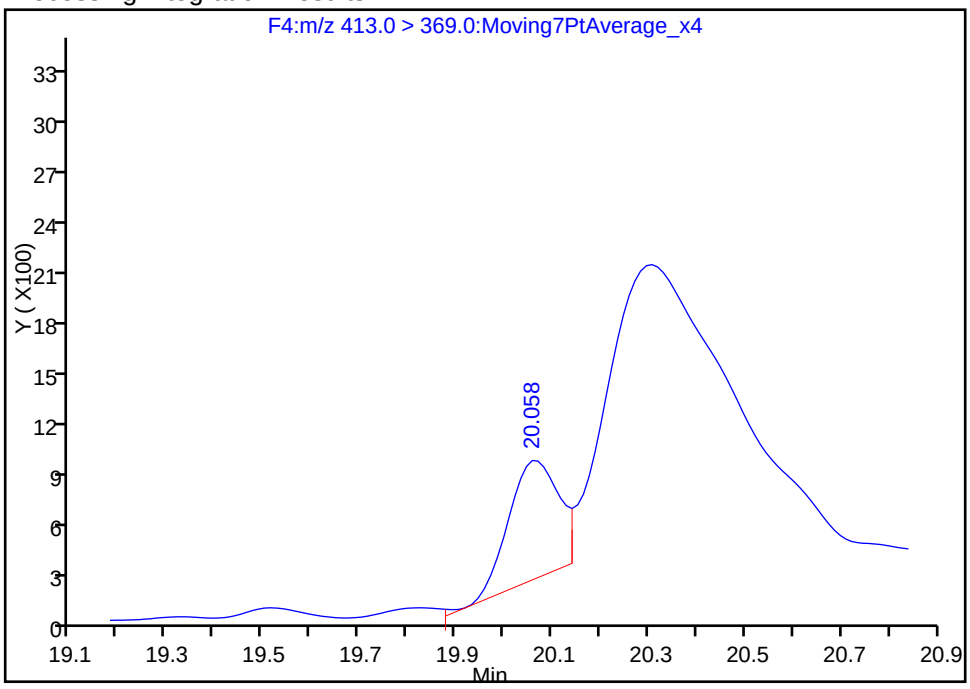
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_154.d				
Injection Date:	08-Dec-2016 20:04:24	Instrument ID:	A6		
Lims ID:	320-23919-A-3-A	Lab Sample ID:	320-23919-3		
Client ID:	WI-AF-1RW03-1116				
Operator ID:	CBW	ALS Bottle#:	28	Worklist Smp#:	71
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

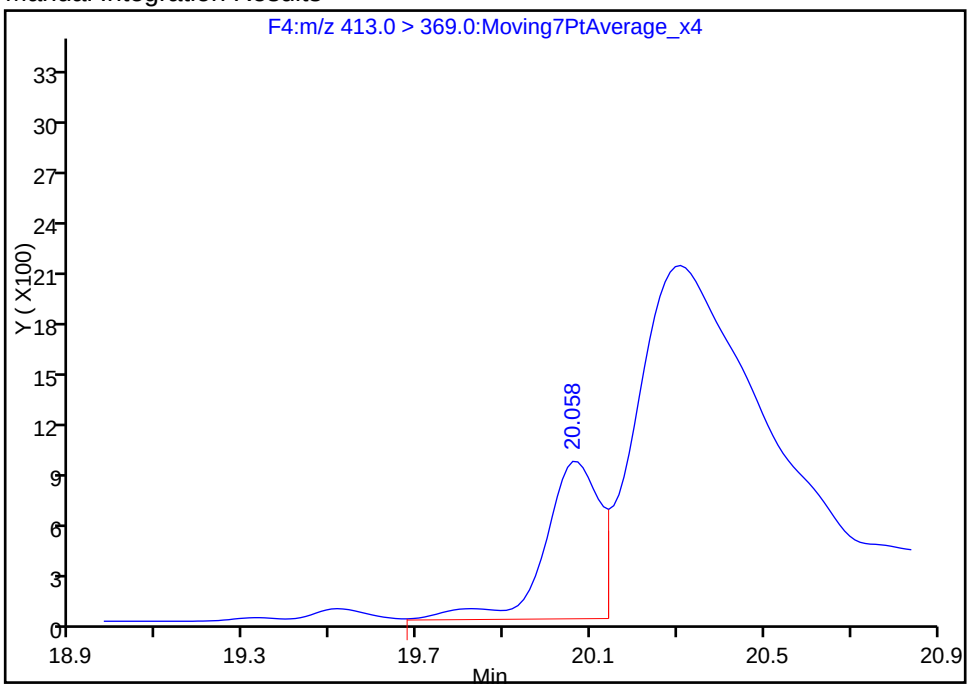
Processing Integration Results

RT: 20.06
Area: 5093
Amount: 0.072113
Amount Units: ng/ml



Manual Integration Results

RT: 20.06
Area: 8245
Amount: 0.116744
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 09:51:40

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB03-1116 | Lab Sample ID: 320-23919-4

Matrix: Water | Lab File ID: 05DEC2016A6A_155.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.8(mL) | Date Analyzed: 12/08/2016 20:34

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_155.d
Lims ID: 320-23919-A-4-A
Client ID: WI-AF-1FB03-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 20:34:00 ALS Bottle#: 29 Worklist Smp#: 72
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-4-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:52:56

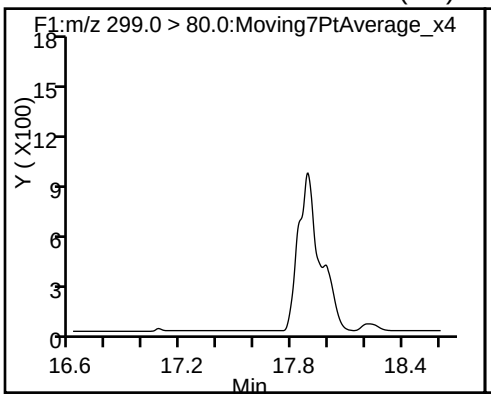
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1106227	10.9	35364	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.058	0.001		870159	10.0	22969	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.691	20.619	0.072	1.000	747	0.008809	21.5	M
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.679	0.012		2329614	28.7	34844	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	4962	0.0503	33.8	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	819653	10.7	104927	

QC Flag Legend

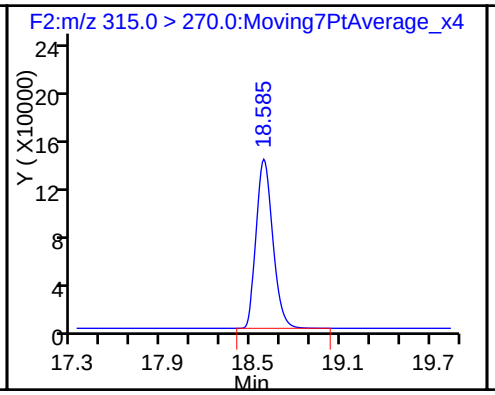
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_155.d
Injection Date: 08-Dec-2016 20:34:00 Instrument ID: A6
Lims ID: 320-23919-A-4-A Lab Sample ID: 320-23919-4
Client ID: WI-AF-1FB03-1116
Operator ID: CBW ALS Bottle#: 29 Worklist Smp#: 72
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

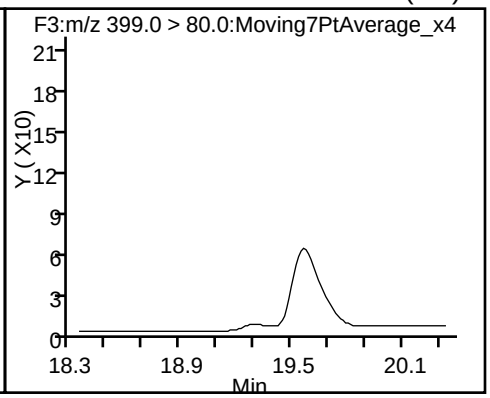
1 Perfluorobutanesulfonic acid (ND)



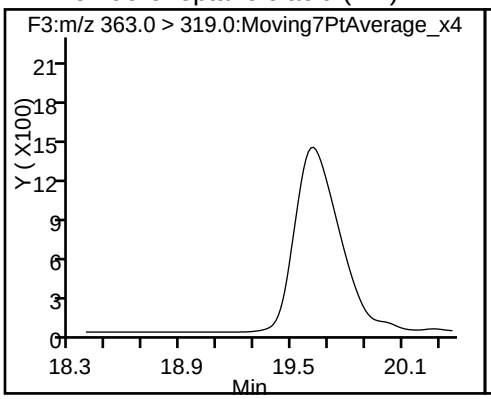
$ 2 13C2 PFHxA



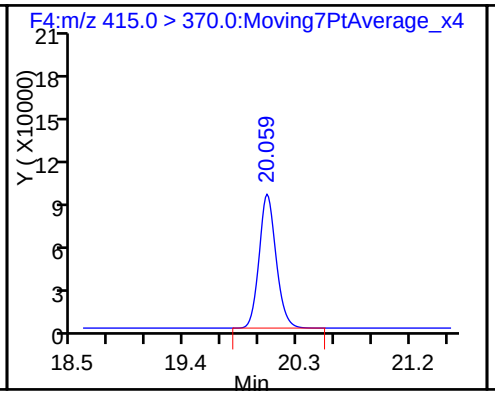
3 Perfluorohexanesulfonic acid (ND)



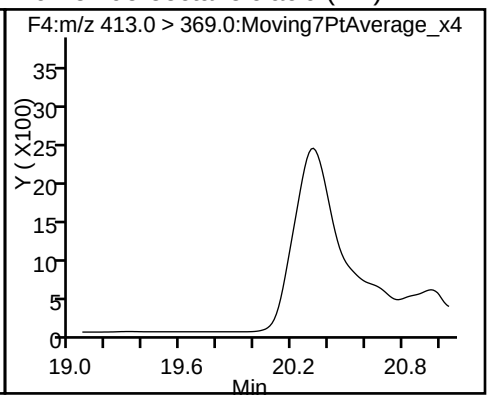
4 Perfluoroheptanoic acid (ND)



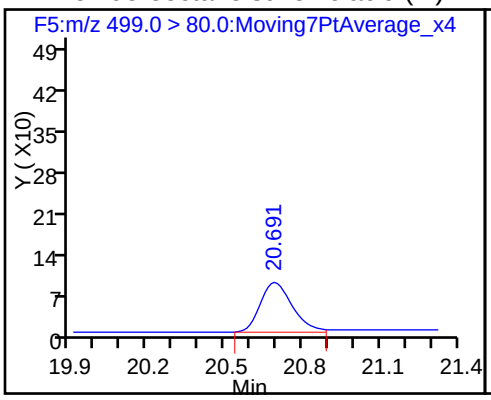
* 5 13C2-PFOA



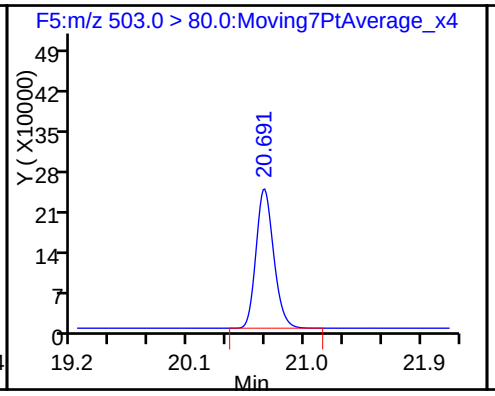
6 Perfluorooctanoic acid (ND)



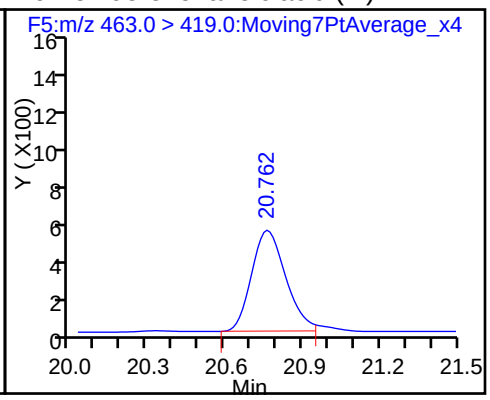
7 Perfluorooctane sulfonic acid (M)



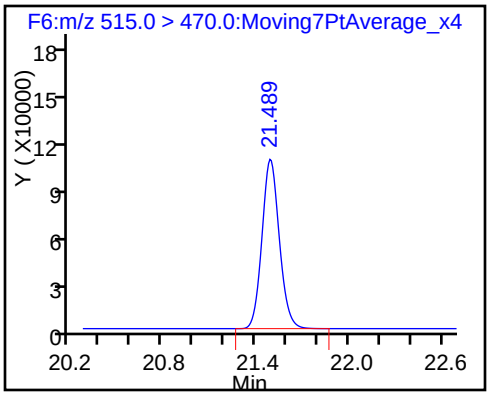
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_155.d
Lims ID: 320-23919-A-4-A
Client ID: WI-AF-1FB03-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 20:34:00 ALS Bottle#: 29 Worklist Smp#: 72
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-4-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:52:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.9	108.98
$ 10 13C2 PFDA	10.0	10.7	107.50

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_155.d				
Injection Date:	08-Dec-2016 20:34:00	Instrument ID:	A6		
Lims ID:	320-23919-A-4-A	Lab Sample ID:	320-23919-4		
Client ID:	WI-AF-1FB03-1116				
Operator ID:	CBW	ALS Bottle#:	29	Worklist Smp#:	72
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

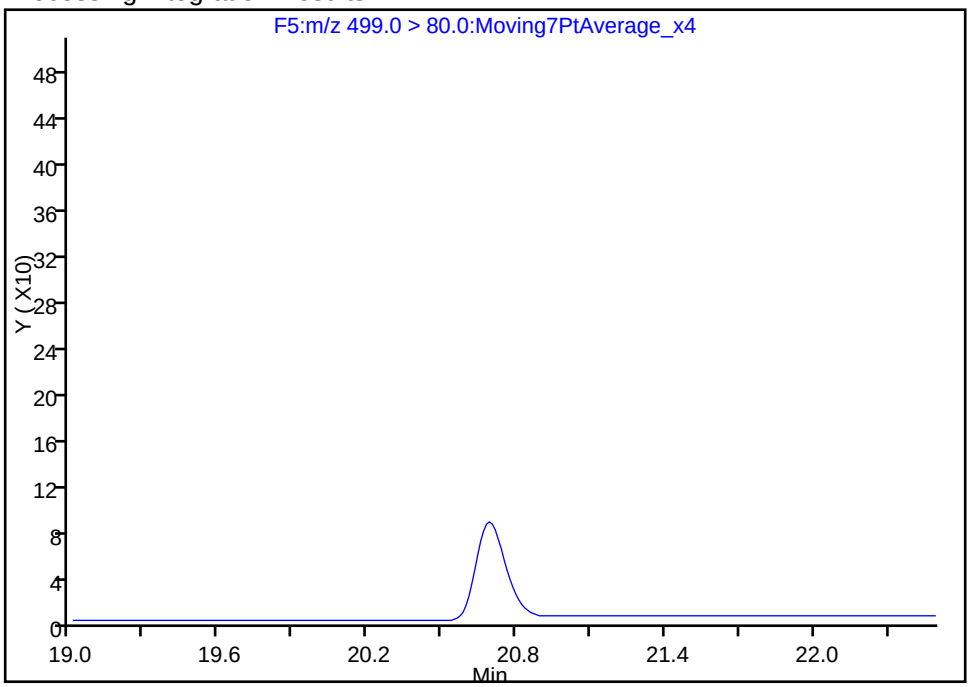
7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

Processing Integration Results

Not Detected

Expected RT: 20.62



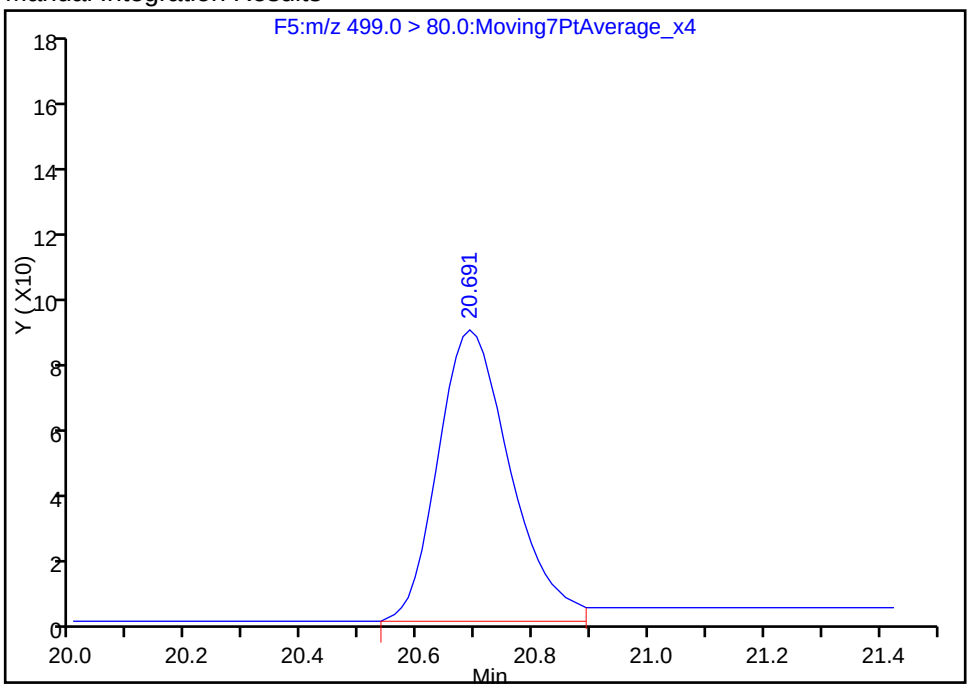
Manual Integration Results

RT: 20.69

Area: 747

Amount: 0.008809

Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 09:52:56

Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW04-1116 | Lab Sample ID: 320-23919-5

Matrix: Water | Lab File ID: 05DEC2016A6A_156.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:15

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 256.3(mL) | Date Analyzed: 12/08/2016 21:03

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	110		70-130
STL00996	13C2 PFDA	105		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_156.d
Lims ID: 320-23919-A-5-A
Client ID: WI-AF-1RW04-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 21:03:37 ALS Bottle#: 30 Worklist Smp#: 73
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-5-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:53:35

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	916236	11.0	29576	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.058	0.001		717249	10.0	19050	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.679	0.011		2010561	28.7	30045	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	7248	0.0891	164	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	657571	10.5	20689	

QC Flag Legend

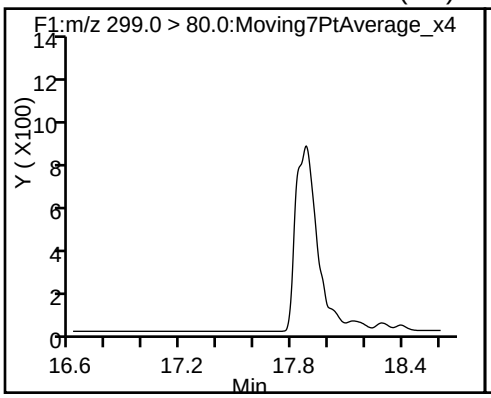
Review Flags
M - Manually Integrated

TestAmerica Sacramento

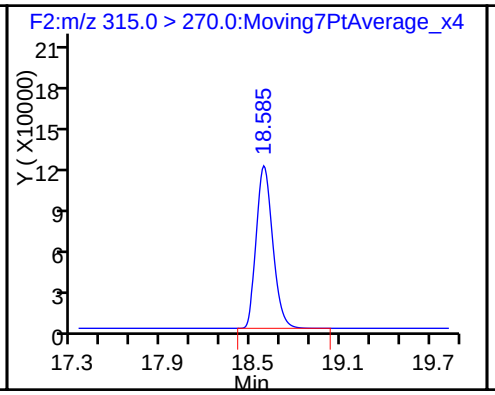
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_156.d

Injection Date:	08-Dec-2016 21:03:37	Instrument ID:	A6		
Lims ID:	320-23919-A-5-A	Lab Sample ID:	320-23919-5		
Client ID:	WI-AF-1RW04-1116				
Operator ID:	CBW	ALS Bottle#:	30	Worklist Smp#:	73
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

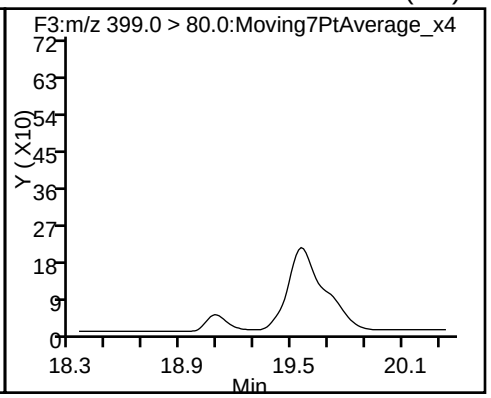
1 Perfluorobutanesulfonic acid (ND)



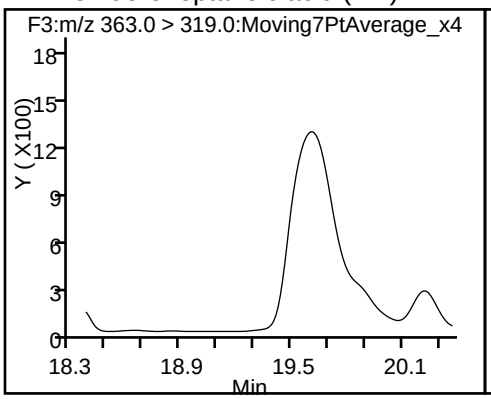
$ 2 13C2 PFHxA



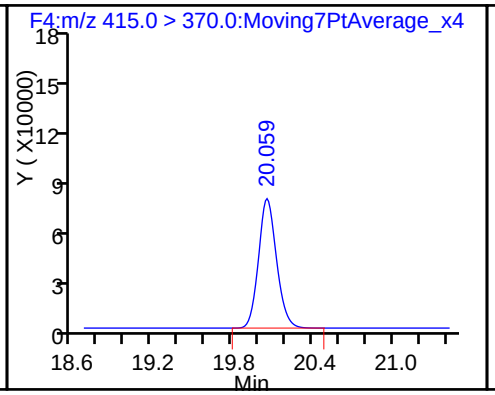
3 Perfluorohexanesulfonic acid (ND)



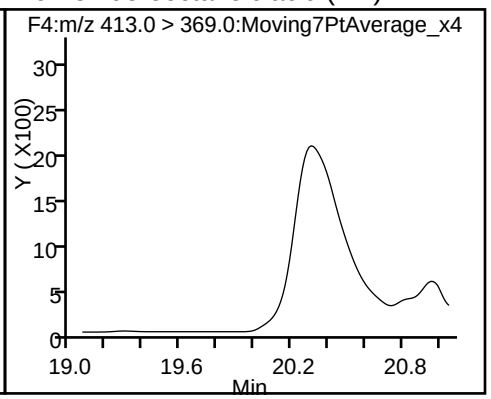
4 Perfluoroheptanoic acid (ND)



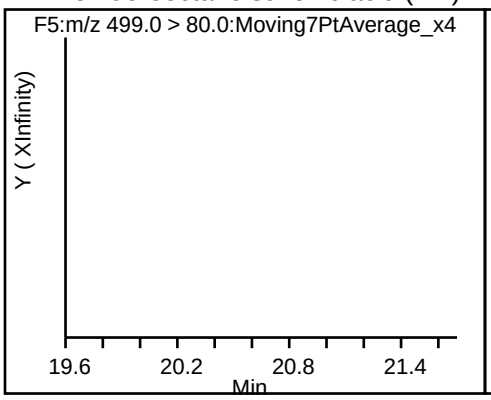
* 5 13C2-PFOA



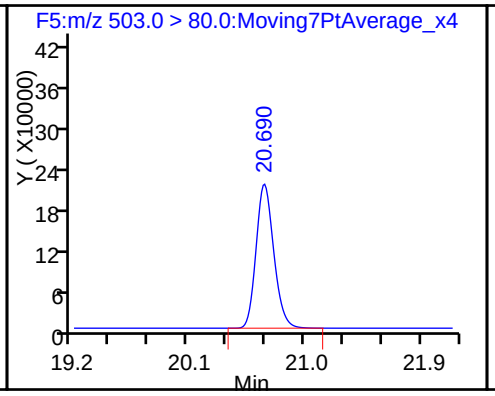
6 Perfluorooctanoic acid (ND)



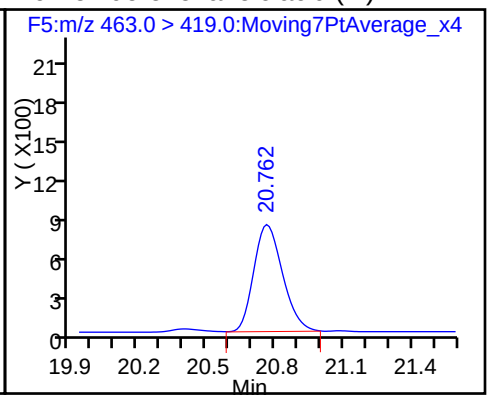
7 Perfluorooctane sulfonic acid (ND)



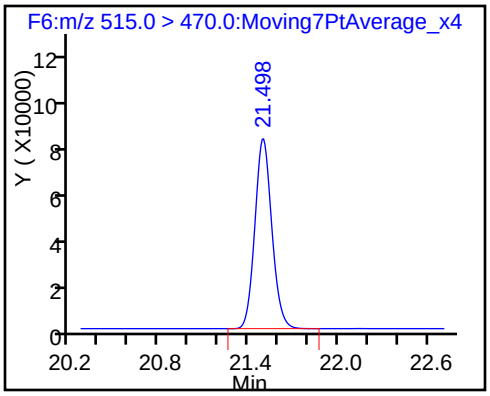
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_156.d
Lims ID: 320-23919-A-5-A
Client ID: WI-AF-1RW04-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 21:03:37 ALS Bottle#: 30 Worklist Smp#: 73
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-5-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:53:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.0	109.51
$ 10 13C2 PFDA	10.0	10.5	104.62

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB04-1116 | Lab Sample ID: 320-23919-6

Matrix: Water | Lab File ID: 05DEC2016A6A_157.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.3(mL) | Date Analyzed: 12/08/2016 21:33

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_157.d
Lims ID: 320-23919-A-6-A
Client ID: WI-AF-1FB04-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 21:33:12 ALS Bottle#: 31 Worklist Smp#: 74
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-6-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:54:23

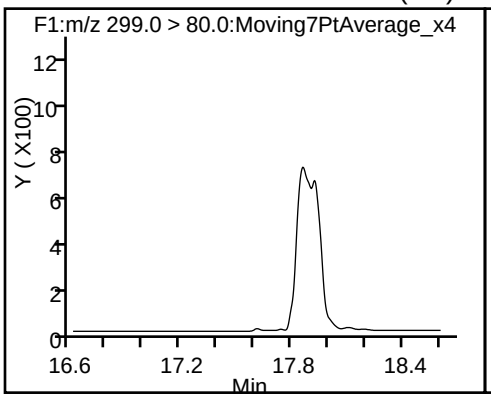
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	920137	10.9	29418	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.058	0.001		724311	10.0	19042	
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.679	0.012		1897023	28.7	33090	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	2235	0.0272	10.3	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	677117	10.7	21275	

QC Flag Legend

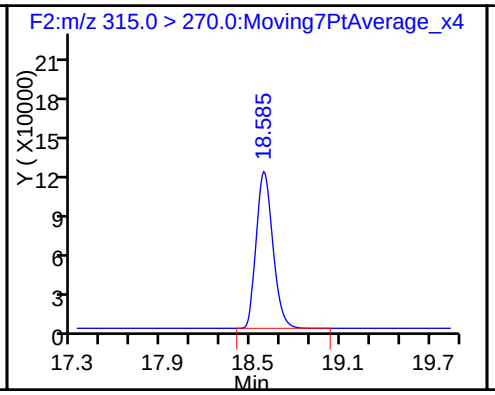
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_157.d
Injection Date: 08-Dec-2016 21:33:12 Instrument ID: A6
Lims ID: 320-23919-A-6-A Lab Sample ID: 320-23919-6
Client ID: WI-AF-1FB04-1116
Operator ID: CBW ALS Bottle#: 31 Worklist Smp#: 74
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

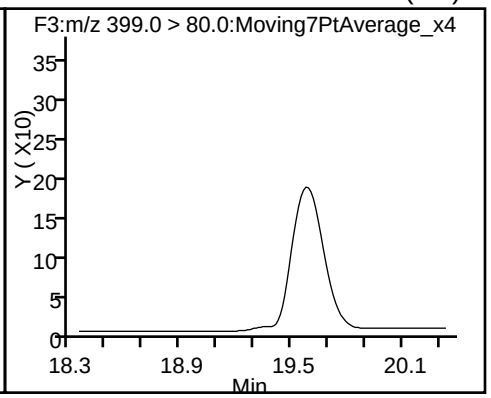
1 Perfluorobutanesulfonic acid (ND)



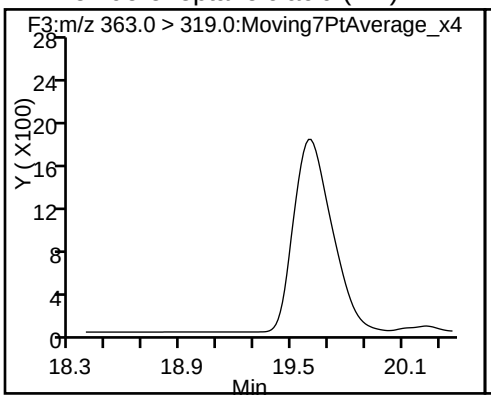
$ 2 13C2 PFHxA



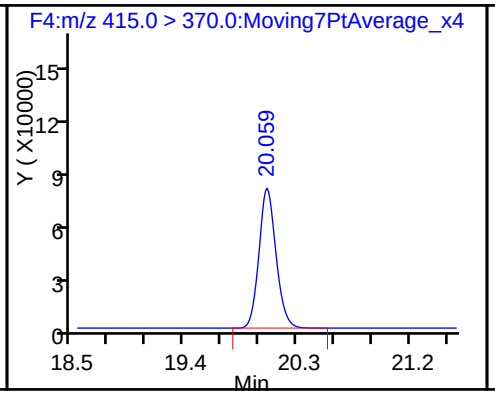
3 Perfluorohexanesulfonic acid (ND)



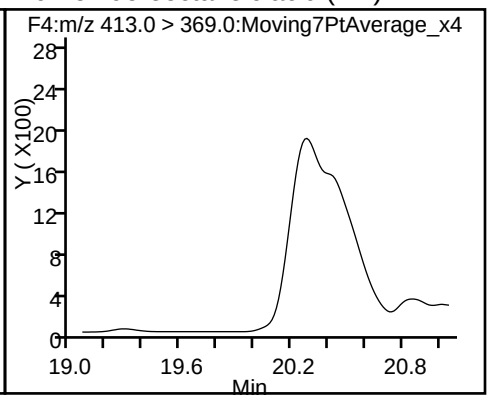
4 Perfluoroheptanoic acid (ND)



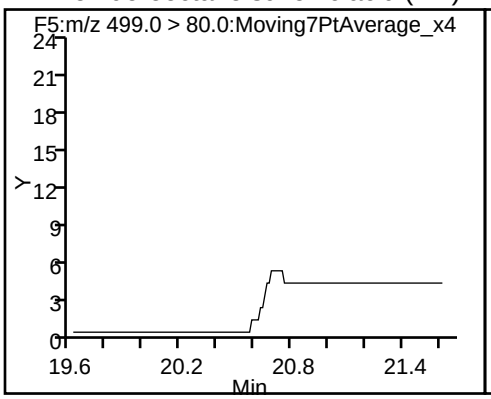
* 5 13C2-PFOA



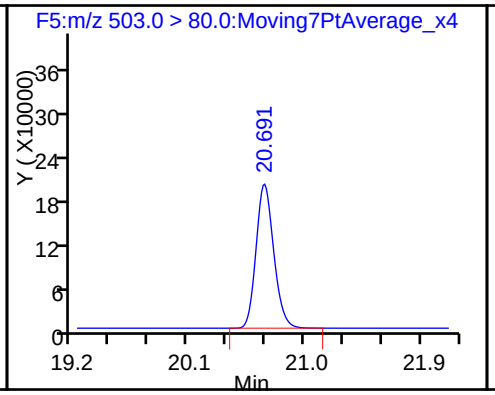
6 Perfluorooctanoic acid (ND)



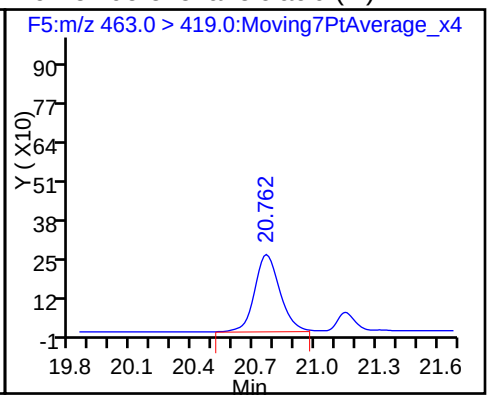
7 Perfluorooctane sulfonic acid (ND)



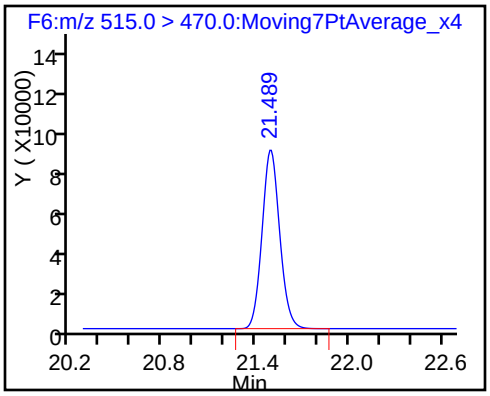
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_157.d
Lims ID: 320-23919-A-6-A
Client ID: WI-AF-1FB04-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 21:33:12 ALS Bottle#: 31 Worklist Smp#: 74
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-6-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:54:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.9	108.90
$ 10 13C2 PFDA	10.0	10.7	106.68

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW05-1116 | Lab Sample ID: 320-23919-7

Matrix: Water | Lab File ID: 05DEC2016A6A_158.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:25

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 250.2(mL) | Date Analyzed: 12/08/2016 22:02

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.048	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	104		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_158.d
Lims ID: 320-23919-A-7-A
Client ID: WI-AF-1RW05-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 22:02:48 ALS Bottle#: 32 Worklist Smp#: 75
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-7-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:56:10

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.611	0.007	1.000	35150	0.7345	52.1	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	877508	10.4	28572	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	37534	0.6127	1719	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.451	19.380	0.071	1.000	10349	0.1173	2.9	M
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		726193	10.0	18948	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.058	20.058	0.0	1.000	34603	0.4580	9.8	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.418	20.619	-0.201	1.000	22703	0.3188	406	M
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.679	0.011		1956562	28.7	29161	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	7464	0.0906	26.3	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	685417	10.8	17232	

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_158.d

Injection Date: 08-Dec-2016 22:02:48 Instrument ID: A6

Lims ID: 320-23919-A-7-A Lab Sample ID: 320-23919-7

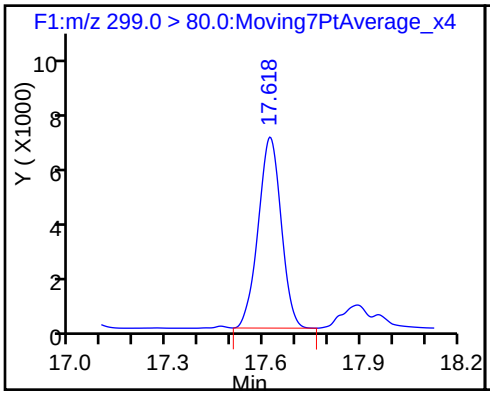
Client ID: WI-AF-1RW05-1116

Operator ID: CBW ALS Bottle#: 32 Worklist Smp#: 75

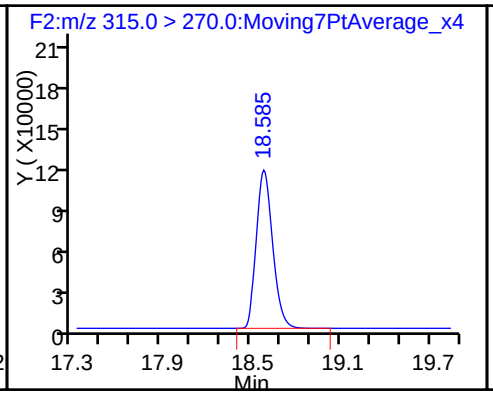
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

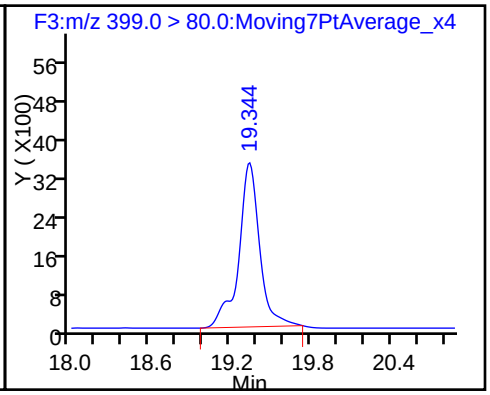
1 Perfluorobutanesulfonic acid



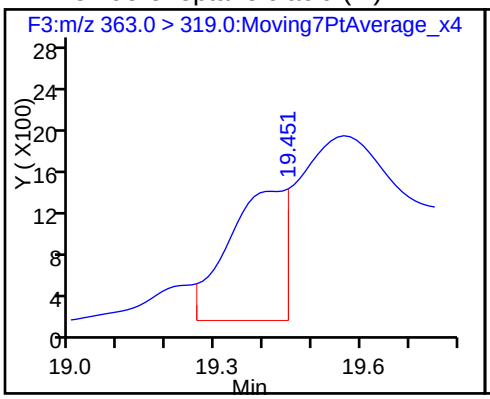
$ 2 13C2 PFHxA



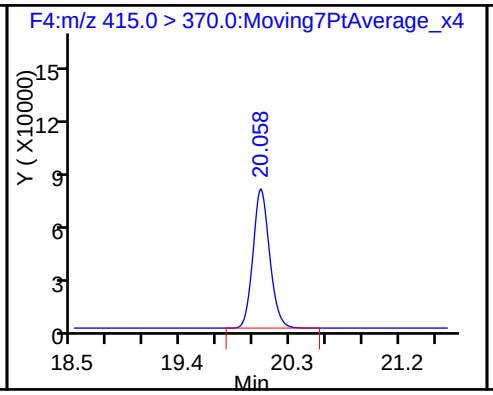
3 Perfluorohexanesulfonic acid



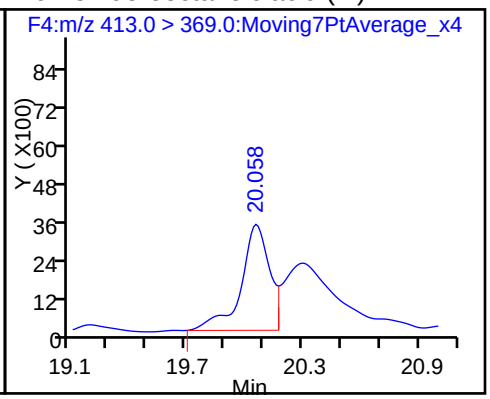
4 Perfluoroheptanoic acid (M)



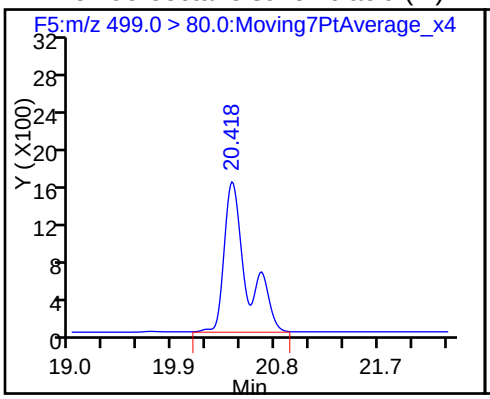
* 5 13C2-PFOA



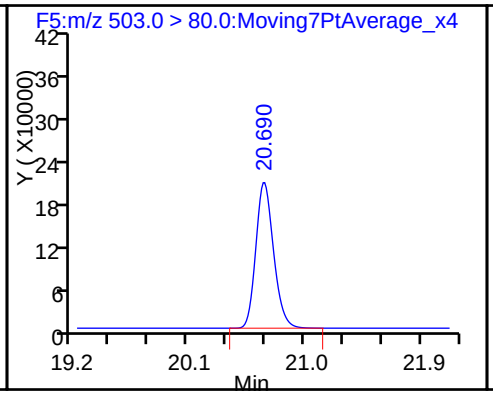
6 Perfluorooctanoic acid (M)



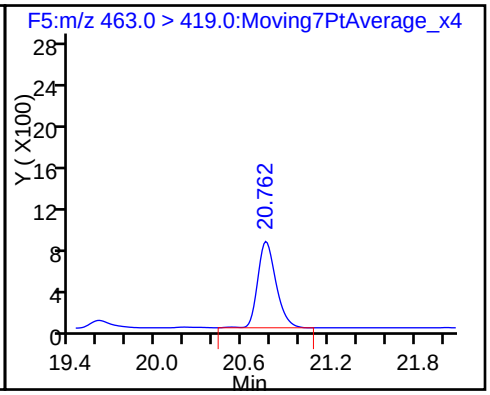
7 Perfluorooctane sulfonic acid (M)



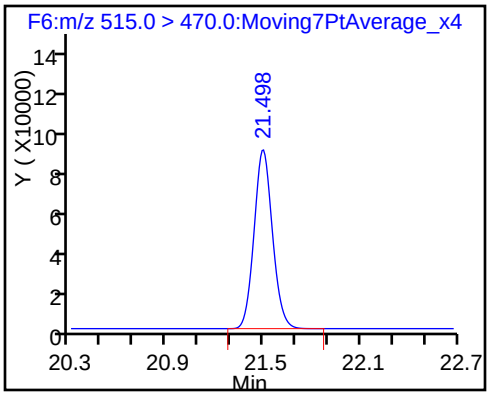
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_158.d
Lims ID: 320-23919-A-7-A
Client ID: WI-AF-1RW05-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 22:02:48 ALS Bottle#: 32 Worklist Smp#: 75
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-7-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:56:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.4	103.59
$ 10 13C2 PFDA	10.0	10.8	107.71

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

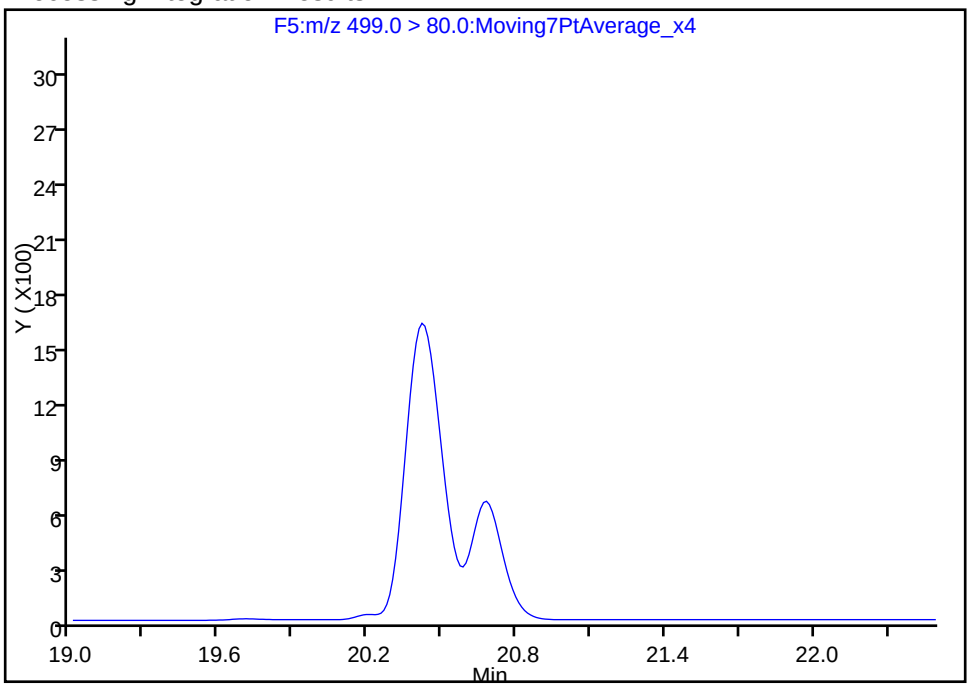
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_158.d				
Injection Date:	08-Dec-2016 22:02:48	Instrument ID:	A6		
Lims ID:	320-23919-A-7-A	Lab Sample ID:	320-23919-7		
Client ID:	WI-AF-1RW05-1116				
Operator ID:	CBW	ALS Bottle#:	32	Worklist Smp#:	75
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

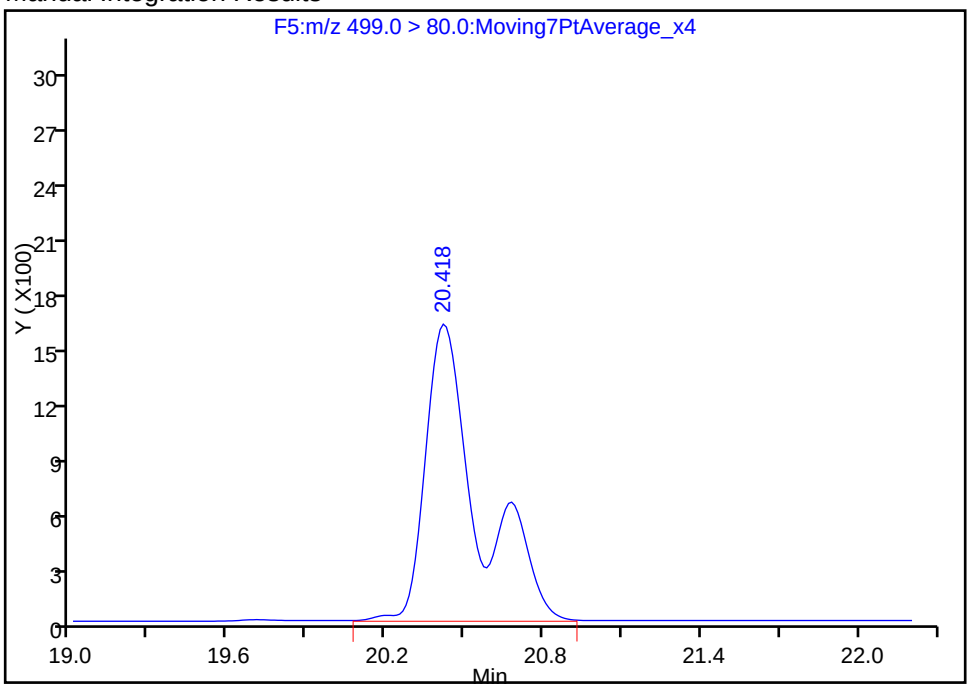
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.42
Area: 22703
Amount: 0.318767
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 09:56:10
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

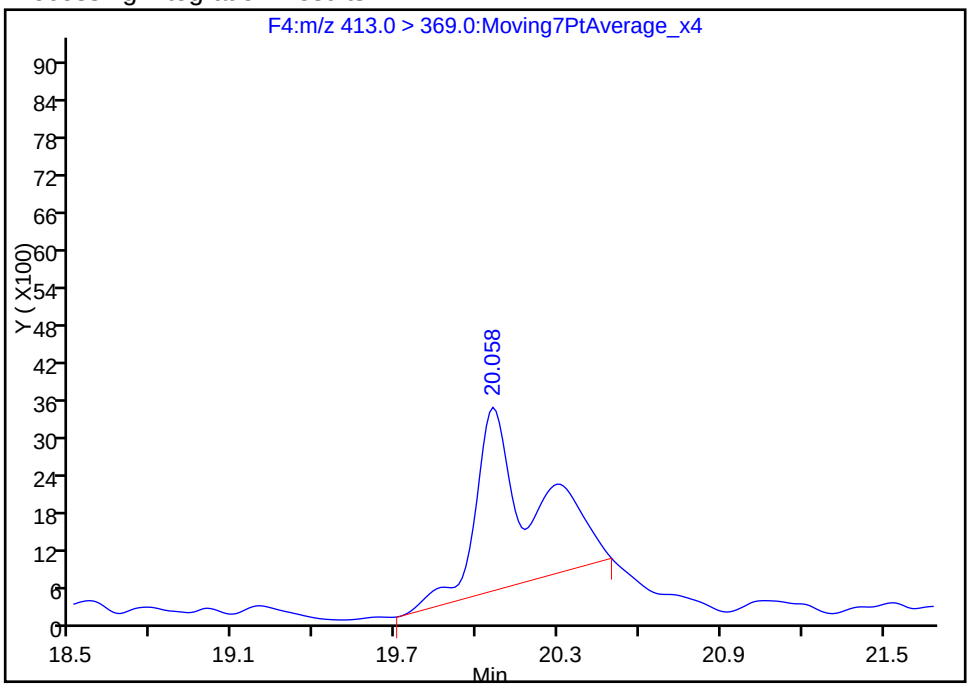
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_158.d				
Injection Date:	08-Dec-2016 22:02:48	Instrument ID:	A6		
Lims ID:	320-23919-A-7-A	Lab Sample ID:	320-23919-7		
Client ID:	WI-AF-1RW05-1116				
Operator ID:	CBW	ALS Bottle#:	32	Worklist Smp#:	75
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

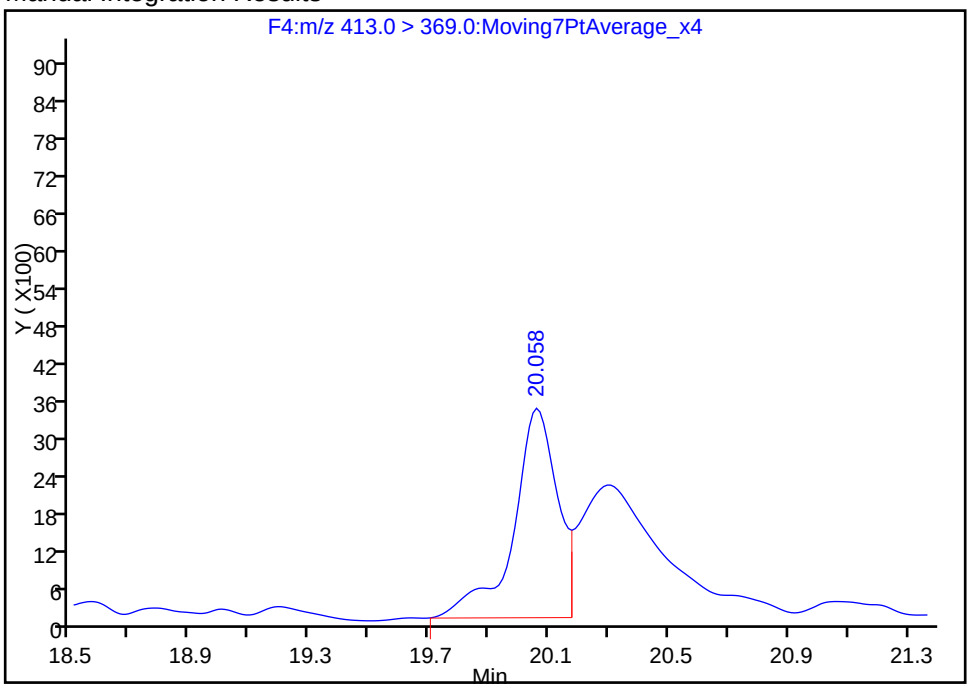
Processing Integration Results

RT: 20.06
Area: 44255
Amount: 0.585733
Amount Units: ng/ml



Manual Integration Results

RT: 20.06
Area: 34603
Amount: 0.457985
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 09:56:10

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB05-1116 | Lab Sample ID: 320-23919-8

Matrix: Water | Lab File ID: 05DEC2016A6A_159.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:30

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 251(mL) | Date Analyzed: 12/08/2016 22:32

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.048	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_159.d
Lims ID: 320-23919-A-8-A
Client ID: WI-AF-1FB05-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 22:32:24 ALS Bottle#: 33 Worklist Smp#: 76
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-8-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:56:54

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	981328	11.1	25145	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		758653	10.0	11483	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.679	0.011		1996661	28.7	34741	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	3203	0.0372	51.0	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	709079	10.7	22237	

QC Flag Legend

Review Flags
M - Manually Integrated

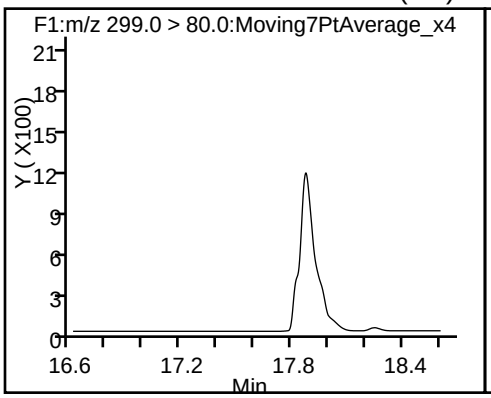
Report Date: 09-Dec-2016 10:29:31 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

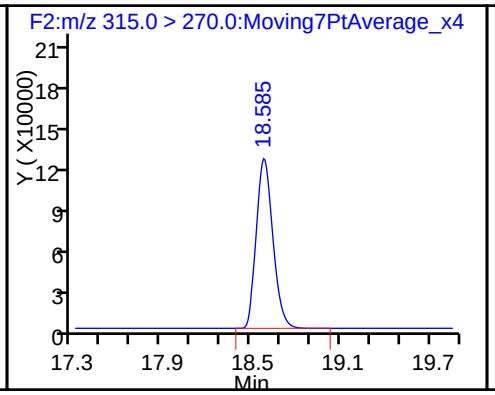
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_159.d

Injection Date:	08-Dec-2016 22:32:24	Instrument ID:	A6		
Lims ID:	320-23919-A-8-A	Lab Sample ID:	320-23919-8		
Client ID:	WI-AF-1FB05-1116				
Operator ID:	CBW	ALS Bottle#:	33	Worklist Smp#:	76
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

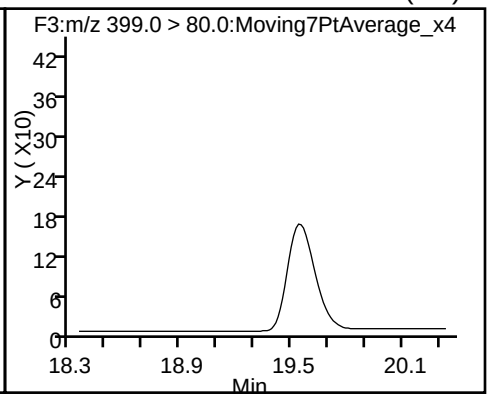
1 Perfluorobutanesulfonic acid (ND)



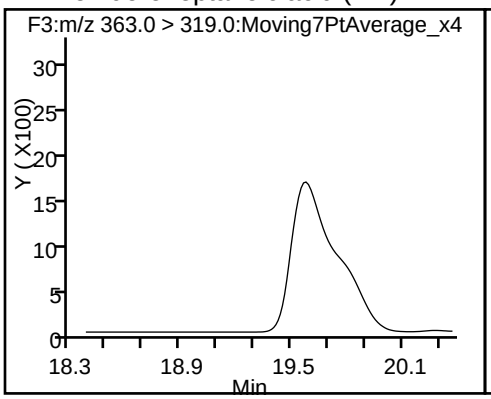
$ 2 13C2 PFHxA



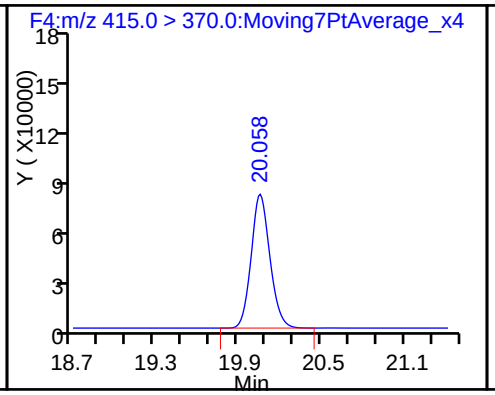
3 Perfluorohexanesulfonic acid (ND)



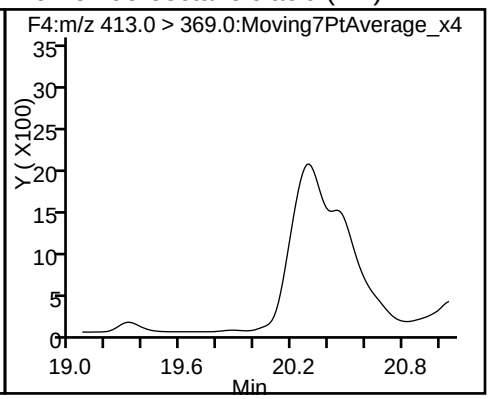
4 Perfluoroheptanoic acid (ND)



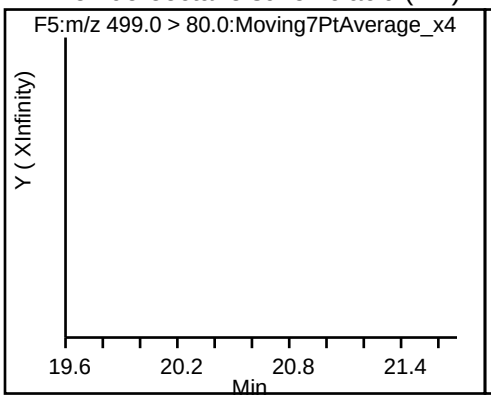
* 5 13C2-PFOA



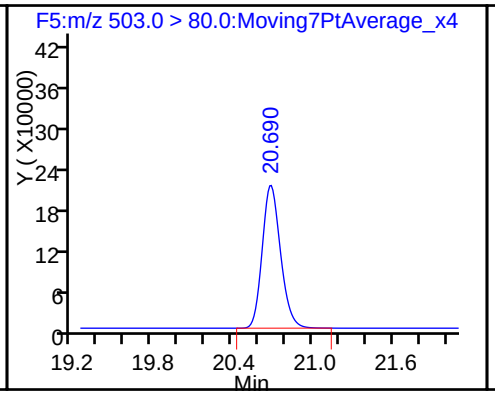
6 Perfluorooctanoic acid (ND)



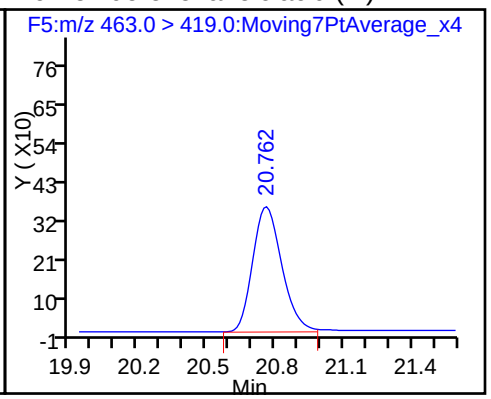
7 Perfluorooctane sulfonic acid (ND)



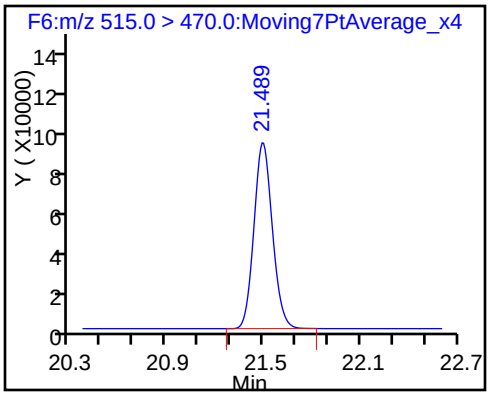
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_159.d
Lims ID: 320-23919-A-8-A
Client ID: WI-AF-1FB05-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 22:32:24 ALS Bottle#: 33 Worklist Smp#: 76
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-8-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:56:54

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	110.89
$ 10 13C2 PFDA	10.0	10.7	106.66

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW02-1116 Lab Sample ID: 320-23919-9

Matrix: Water Lab File ID: 05DEC2016A6A_160.d

Analysis Method: 537 Date Collected: 11/29/2016 09:15

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.5(mL) Date Analyzed: 12/08/2016 23:01

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	113		70-130
STL00996	13C2 PFDA	110		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_160.d
Lims ID: 320-23919-A-9-A
Client ID: WI-AF-2RW02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 23:01:59 ALS Bottle#: 34 Worklist Smp#: 77
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-9-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

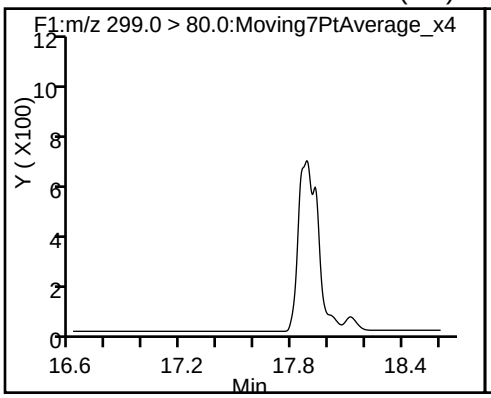
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:57:20

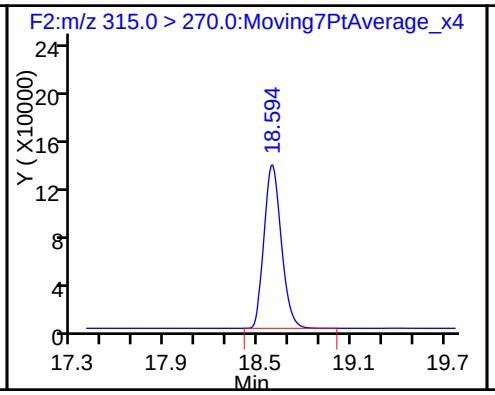
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.585	0.009	1.000	1077306	11.3	7673	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		814182	10.0	21384	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.679	0.011		2278727	28.7	29818	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	7481	0.0810	117	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	784661	11.0	24675	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_160.d
Injection Date: 08-Dec-2016 23:01:59 Instrument ID: A6
Lims ID: 320-23919-A-9-A Lab Sample ID: 320-23919-9
Client ID: WI-AF-2RW02-1116
Operator ID: CBW ALS Bottle#: 34 Worklist Smp#: 77
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

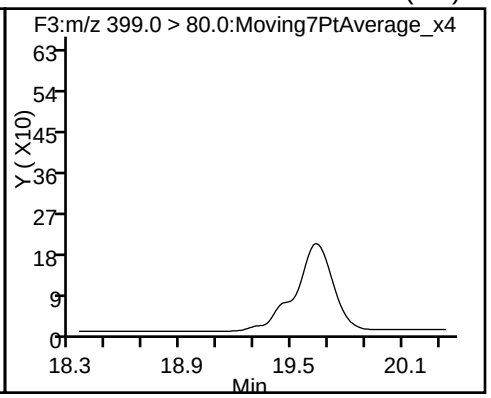
1 Perfluorobutanesulfonic acid (ND)



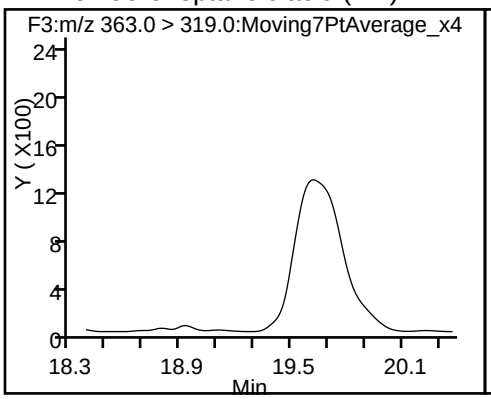
$ 2 13C2 PFHxA



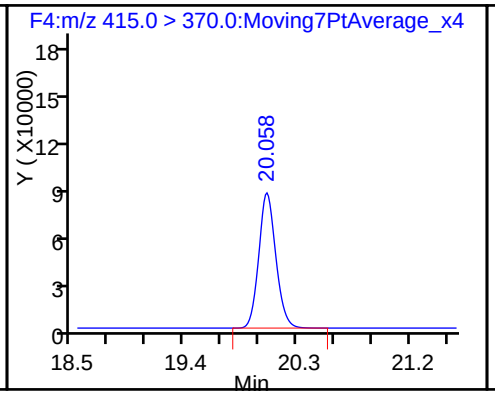
3 Perfluorohexanesulfonic acid (ND)



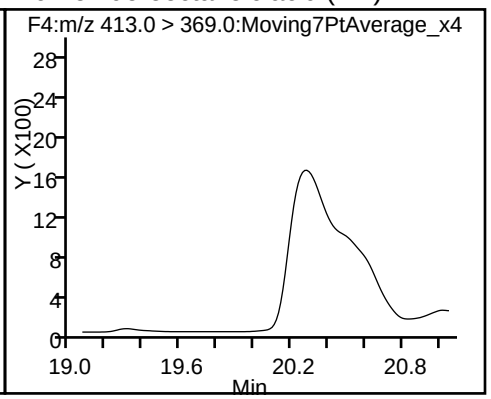
4 Perfluoroheptanoic acid (ND)



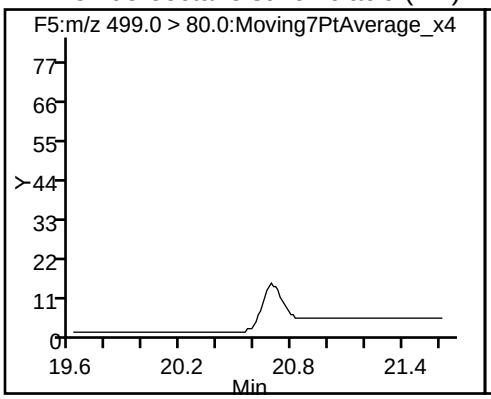
* 5 13C2-PFOA



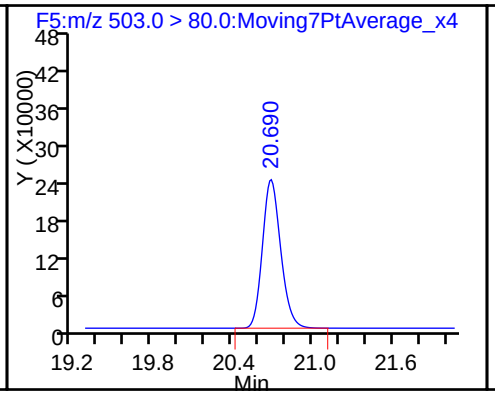
6 Perfluorooctanoic acid (ND)



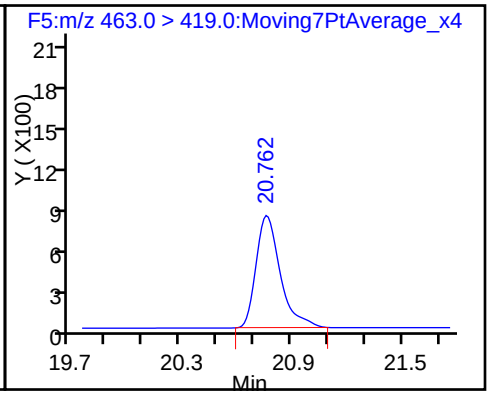
7 Perfluorooctane sulfonic acid (ND)



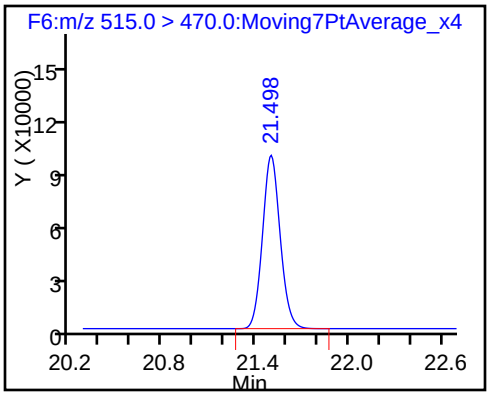
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_160.d
Lims ID: 320-23919-A-9-A
Client ID: WI-AF-2RW02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 23:01:59 ALS Bottle#: 34 Worklist Smp#: 77
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-9-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:57:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.3	113.43
$ 10 13C2 PFDA	10.0	11.0	109.98

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB02-1116 | Lab Sample ID: 320-23919-10

Matrix: Water | Lab File ID: 05DEC2016A6A_161.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.3(mL) | Date Analyzed: 12/08/2016 23:31

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_161.d
Lims ID: 320-23919-A-10-A
Client ID: WI-AF-2FB02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 23:31:35 ALS Bottle#: 35 Worklist Smp#: 78
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-10-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:58:58

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.615	17.611	0.004	1.000	14530	0.2631	19.8	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1106564	11.4	35518	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.344	19.344	0.0	1.000	2134	0.0302	12.9	M
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	1181	0.0117	0.8	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		832043	10.0	21931	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	4376	0.0505	1.6	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.619	0.060	1.000	5482	0.0667	137	M
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		2257623	28.7	58782	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	12311	0.1305	1394	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	785825	10.8	24912	

QC Flag Legend

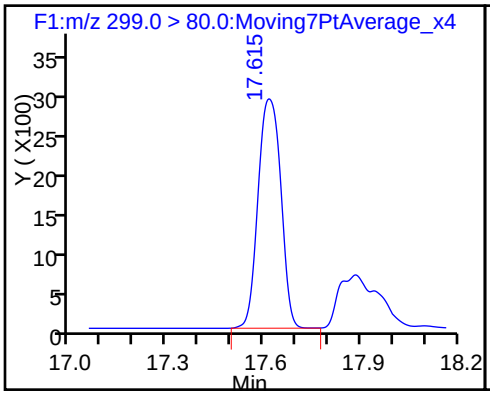
Review Flags
M - Manually Integrated

TestAmerica Sacramento

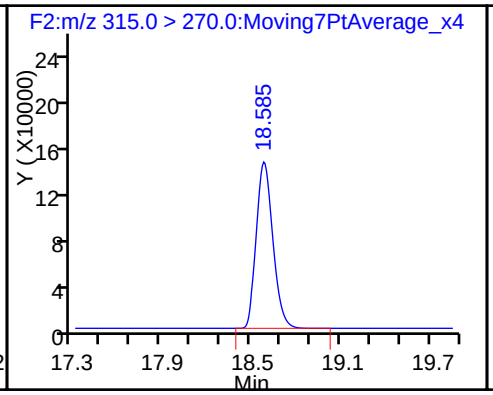
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_161.d

Injection Date:	08-Dec-2016 23:31:35	Instrument ID:	A6		
Lims ID:	320-23919-A-10-A	Lab Sample ID:	320-23919-10		
Client ID:	WI-AF-2FB02-1116				
Operator ID:	CBW	ALS Bottle#:	35	Worklist Smp#:	78
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

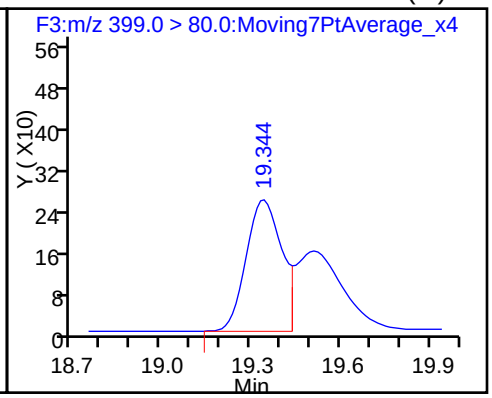
1 Perfluorobutanesulfonic acid



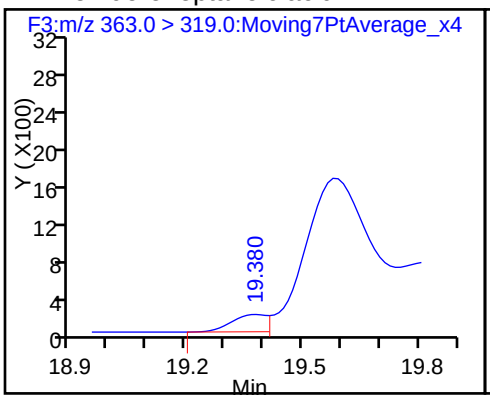
$ 2 13C2 PFHxA



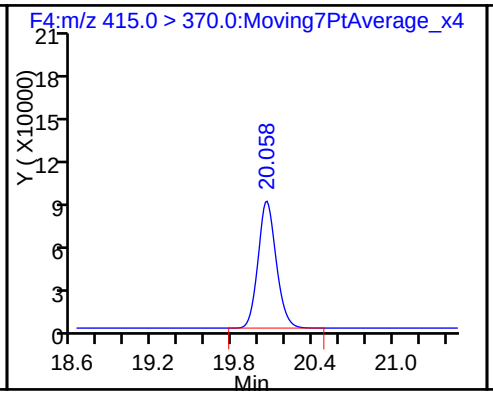
3 Perfluorohexanesulfonic acid (M)



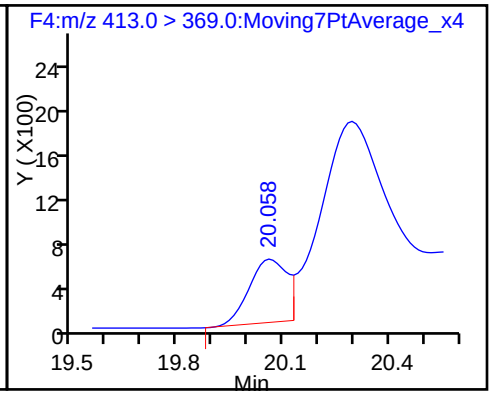
4 Perfluoroheptanoic acid



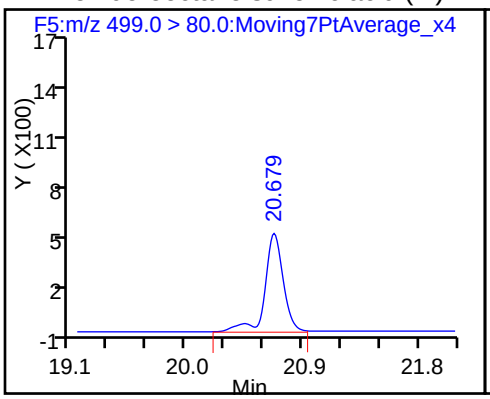
* 5 13C2-PFOA



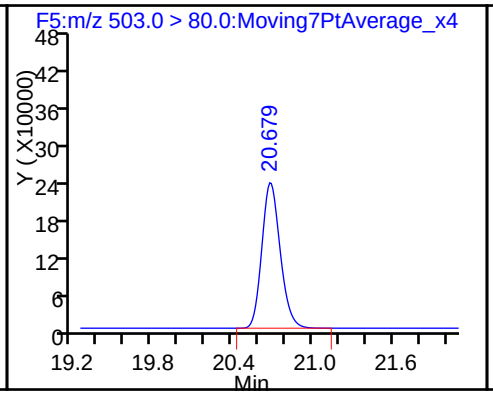
6 Perfluorooctanoic acid



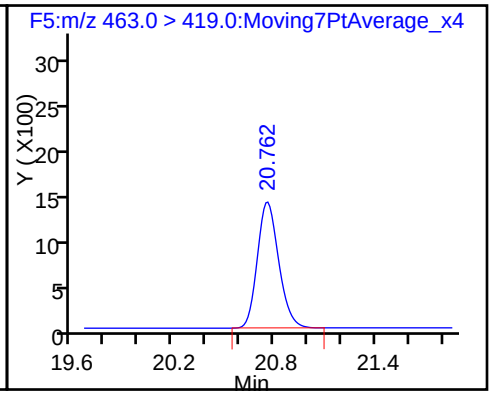
7 Perfluorooctane sulfonic acid (M)



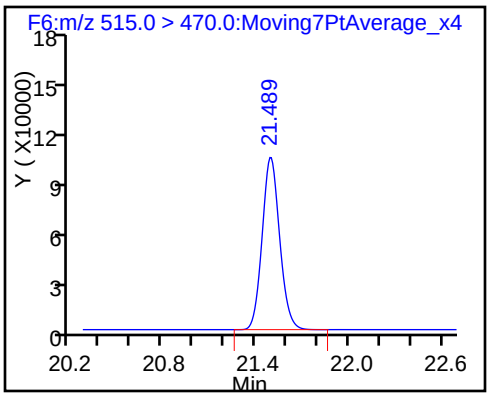
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_161.d
Lims ID: 320-23919-A-10-A
Client ID: WI-AF-2FB02-1116
Sample Type: Client
Inject. Date: 08-Dec-2016 23:31:35 ALS Bottle#: 35 Worklist Smp#: 78
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-10-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:58:58

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	114.01
$ 10 13C2 PFDA	10.0	10.8	107.78

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

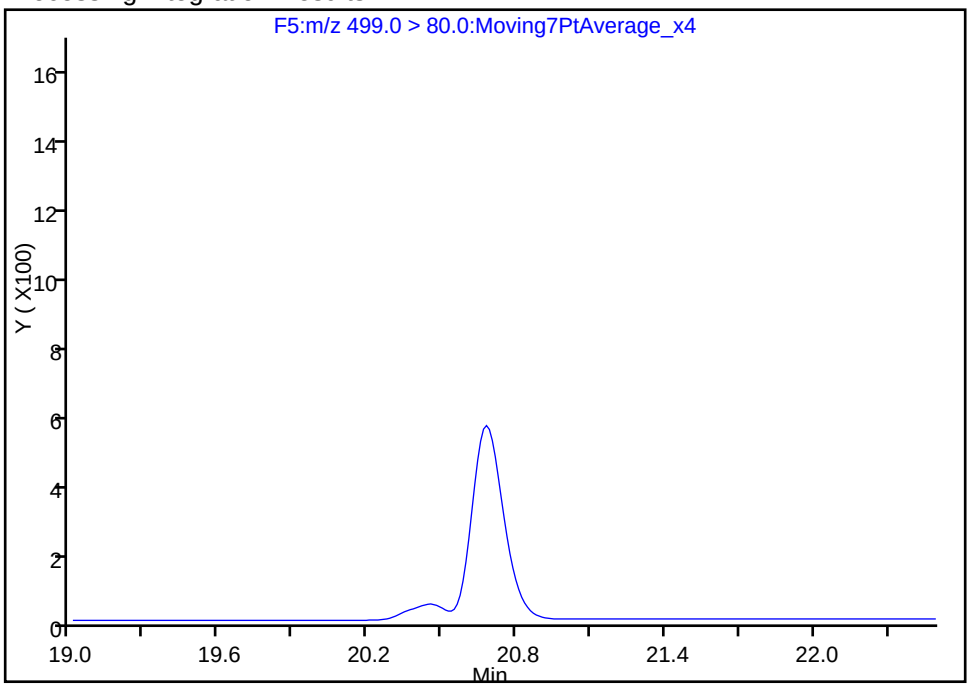
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_161.d				
Injection Date:	08-Dec-2016 23:31:35	Instrument ID:	A6		
Lims ID:	320-23919-A-10-A	Lab Sample ID:	320-23919-10		
Client ID:	WI-AF-2FB02-1116				
Operator ID:	CBW	ALS Bottle#:	35	Worklist Smp#:	78
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

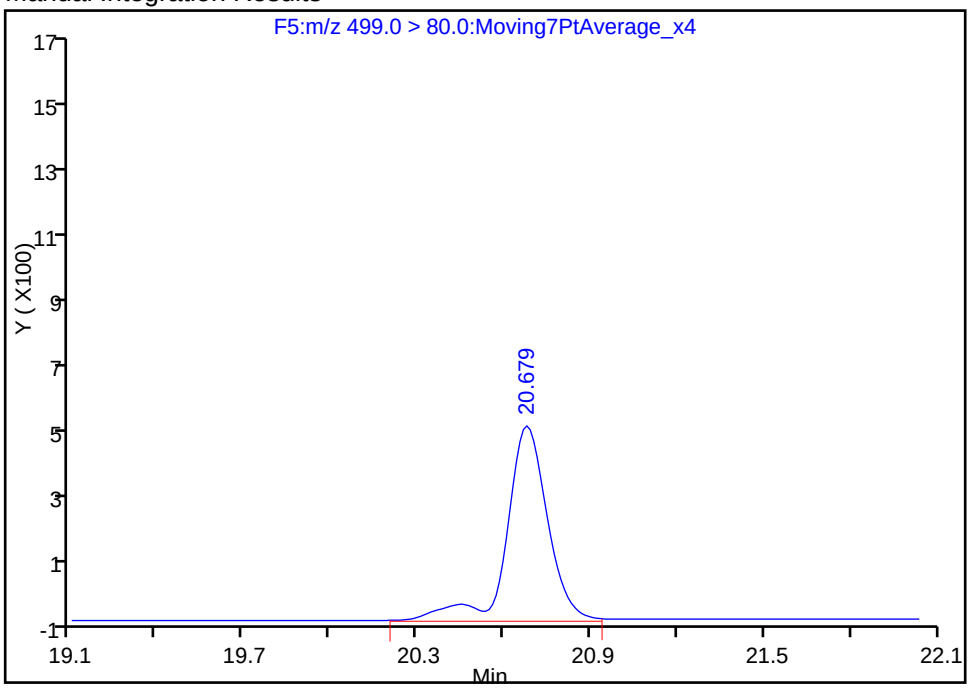
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.68
Area: 5482
Amount: 0.066707
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 09:58:58
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW03-1116 | Lab Sample ID: 320-23919-11

Matrix: Water | Lab File ID: 05DEC2016A6A_162.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:35

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 255.8(mL) | Date Analyzed: 12/09/2016 00:01

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	123		70-130
STL00996	13C2 PFDA	109		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_162.d
Lims ID: 320-23919-A-11-A
Client ID: WI-AF-2RW03-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 00:01:10 ALS Bottle#: 36 Worklist Smp#: 79
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-11-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

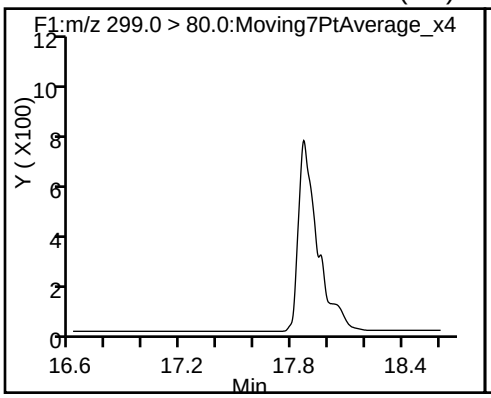
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:59:24

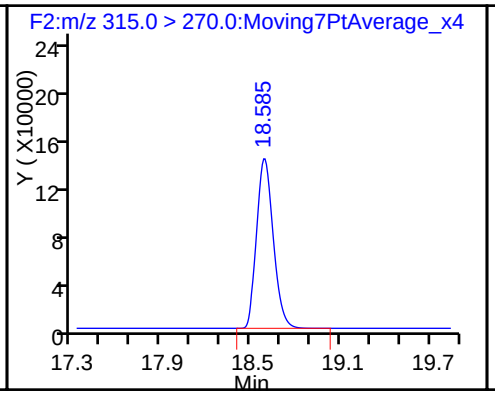
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1113839	12.3	35528	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		773910	10.0	20325	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		2255510	28.7	33619	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	9659	0.1100	354	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	739869	10.9	23207	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_162.d
Injection Date: 09-Dec-2016 00:01:10 Instrument ID: A6
Lims ID: 320-23919-A-11-A Lab Sample ID: 320-23919-11
Client ID: WI-AF-2RW03-1116
Operator ID: CBW ALS Bottle#: 36 Worklist Smp#: 79
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

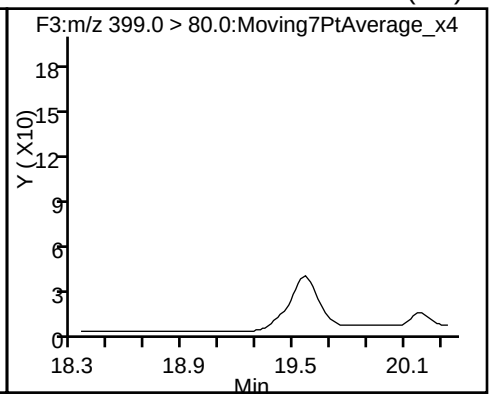
1 Perfluorobutanesulfonic acid (ND)



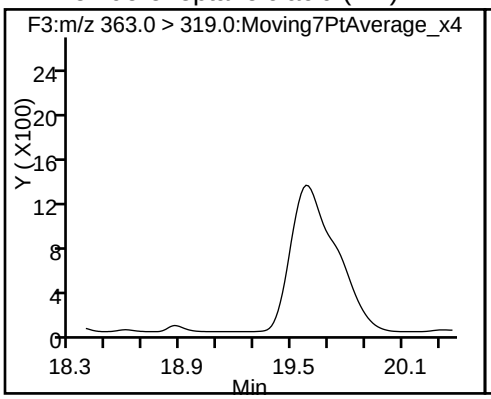
$ 2 13C2 PFHxA



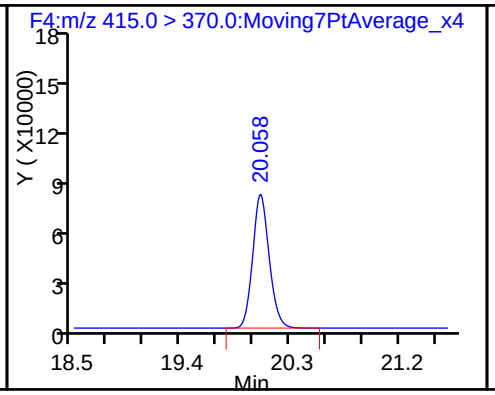
3 Perfluorohexanesulfonic acid (ND)



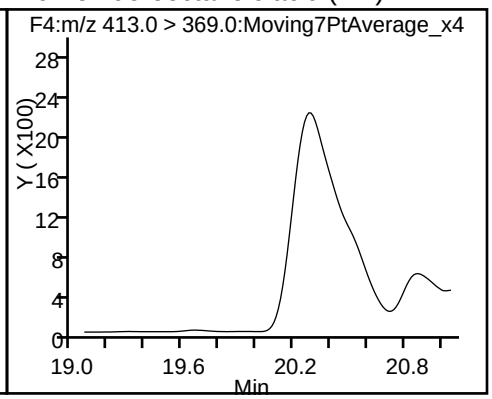
4 Perfluoroheptanoic acid (ND)



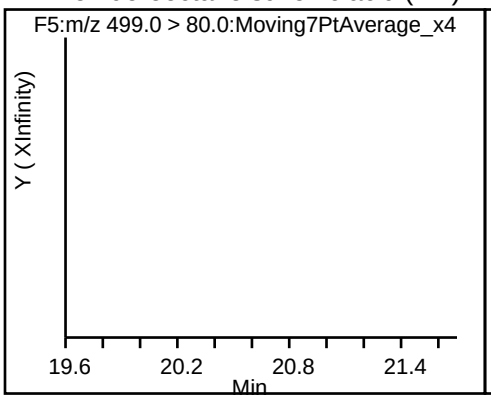
* 5 13C2-PFOA



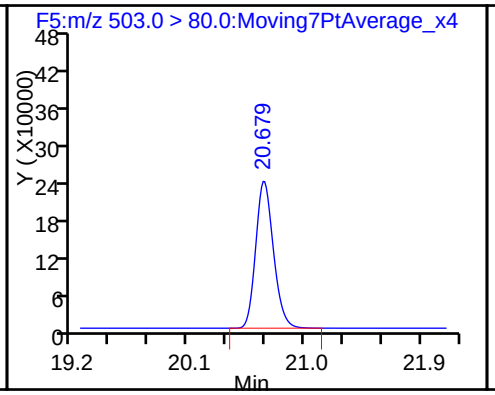
6 Perfluorooctanoic acid (ND)



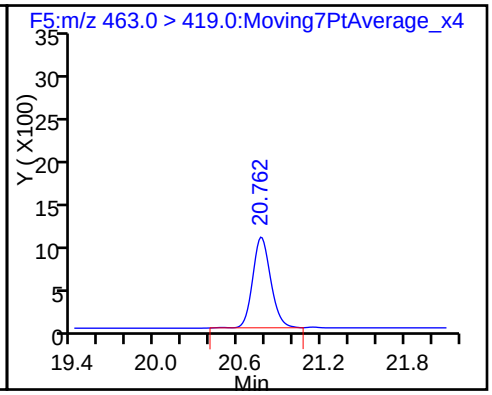
7 Perfluorooctane sulfonic acid (ND)



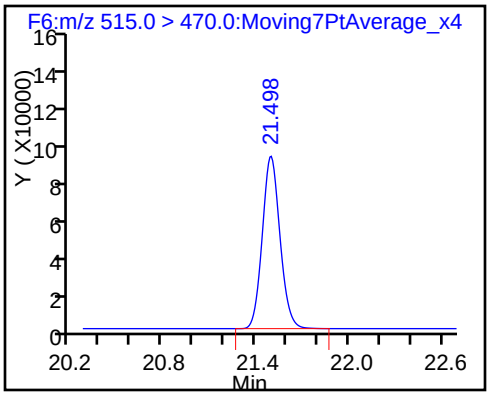
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_162.d				
Lims ID:	320-23919-A-11-A				
Client ID:	WI-AF-2RW03-1116				
Sample Type:	Client				
Inject. Date:	09-Dec-2016 00:01:10	ALS Bottle#:	36	Worklist Smp#:	79
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Sample Info:	320-23919-a-11-a				
Misc. Info.:	Acquity BEH 1.7um, 3X150mm T=35*C				
Operator ID:	CBW	Instrument ID:	A6		
Method:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m				
Limit Group:	LC 537 ICAL				
Last Update:	09-Dec-2016 10:29:19	Calib Date:	05-Dec-2016 19:54:00		
Integrator:	Picker				
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d				
Column 1 :	Acquity BEH C18 (2.10 mm)		Det: F1:MRM		
Process Host:	XAWRK020				

First Level Reviewer: barnettj Date: 09-Dec-2016 09:59:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.3	123.38
$ 10 13C2 PFDA	10.0	10.9	109.10

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB03-1116 | Lab Sample ID: 320-23919-12

Matrix: Water | Lab File ID: 05DEC2016A6A_166.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:36

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.8(mL) | Date Analyzed: 12/09/2016 01:59

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	106		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_166.d
Lims ID: 320-23919-A-12-A
Client ID: WI-AF-2FB03-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 01:59:32 ALS Bottle#: 37 Worklist Smp#: 83
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-12-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 10:58:24

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	999805	10.6	31965	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.059	-0.001		810266	10.0	21497	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.691	-0.001		2275270	28.7	59586	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.773	20.762	0.011	1.000	4317	0.0470	126	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	757985	10.7	24142	

QC Flag Legend

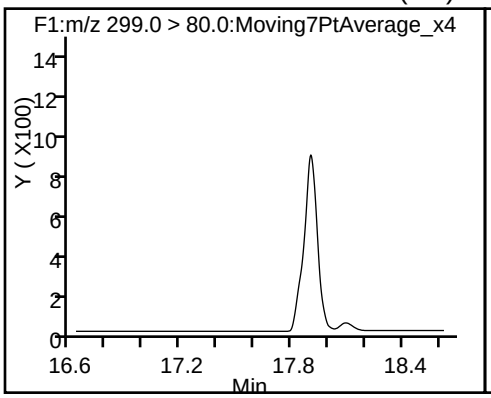
Review Flags
M - Manually Integrated

TestAmerica Sacramento

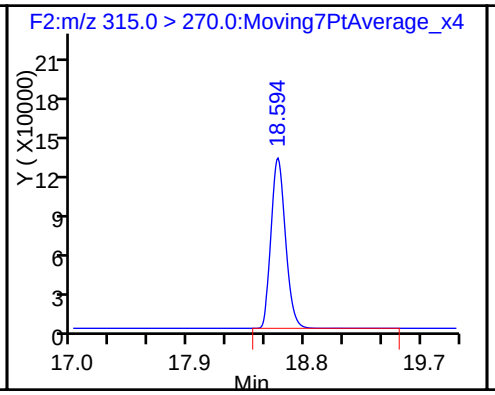
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_166.d

Injection Date:	09-Dec-2016 01:59:32	Instrument ID:	A6		
Lims ID:	320-23919-A-12-A	Lab Sample ID:	320-23919-12		
Client ID:	WI-AF-2FB03-1116				
Operator ID:	CBW	ALS Bottle#:	37	Worklist Smp#:	83
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

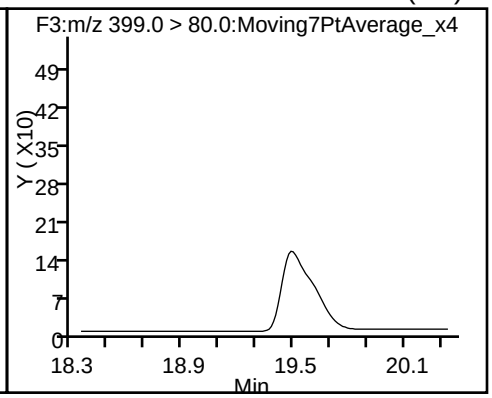
1 Perfluorobutanesulfonic acid (ND)



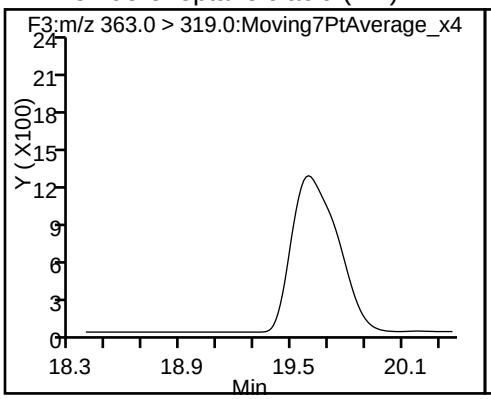
$ 2 13C2 PFHxA



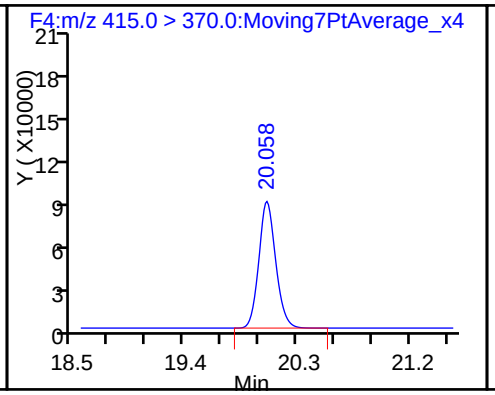
3 Perfluorohexanesulfonic acid (ND)



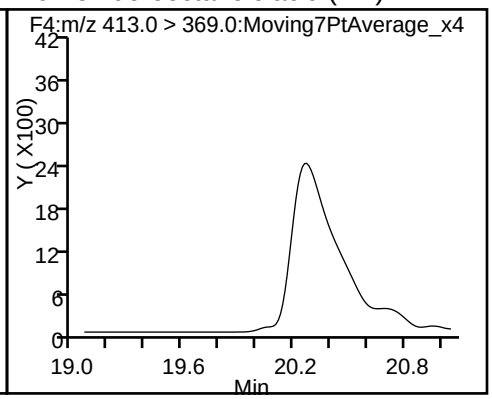
4 Perfluoroheptanoic acid (ND)



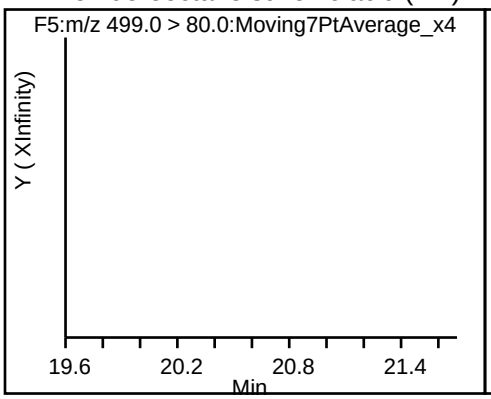
* 5 13C2-PFOA



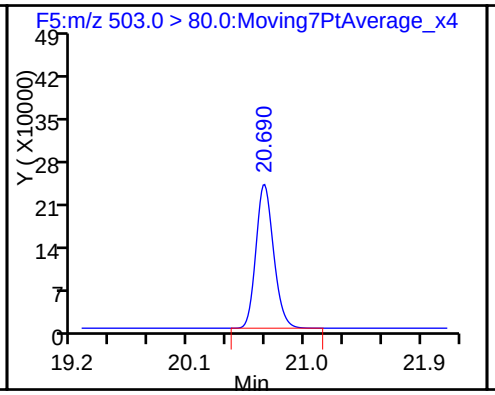
6 Perfluorooctanoic acid (ND)



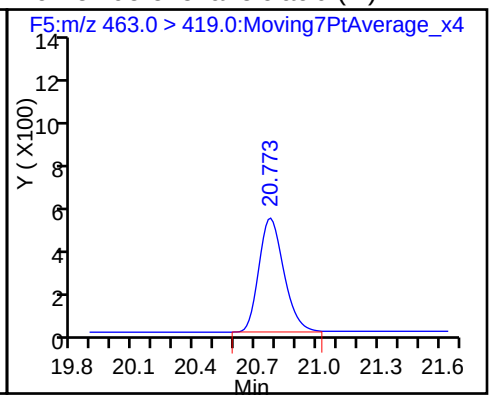
7 Perfluorooctane sulfonic acid (ND)



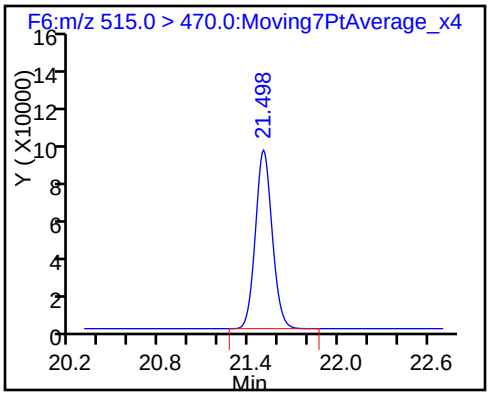
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_166.d
Lims ID: 320-23919-A-12-A
Client ID: WI-AF-2FB03-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 01:59:32 ALS Bottle#: 37 Worklist Smp#: 83
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-12-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 10:58:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.6	105.78
$ 10 13C2 PFDA	10.0	10.7	106.76

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW04-1116 | Lab Sample ID: 320-23919-13

Matrix: Water | Lab File ID: 05DEC2016A6A_175.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:05

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.1(mL) | Date Analyzed: 12/09/2016 06:25

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*2.6*	*E*	*0.059*	0.047	*0.015*
335-67-1	Perfluorooctanoic acid (PFOA)	0.016	J M	0.030	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	90		70-130
STL00996	13C2 PFDA	104		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_175.d
Lims ID: 320-23919-A-13-A
Client ID: WI-AF-2RW04-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 06:25:50 ALS Bottle#: 46 Worklist Smp#: 92
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-13-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:11:15

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.628	17.628	0.0	1.000	693948	26.8	546	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	727971	9.03	11612	
3 Perfluorohexanesulfonic acid								E
399.0 > 80.0	19.344	19.344	0.0	1.000	4561003	137.5	823	E
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.380	19.380	0.0	1.000	130435	1.55	25.5	M
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.059	-0.012		691397	10.0	18111	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.059	-0.012	1.000	286733	3.99	79.5	M
7 Perfluorooctane sulfonic acid								E
499.0 > 80.0	20.619	20.619	0.0	1.000	25898793	671.6	1042	E
* 8 13C4 PFOS								s
503.0 > 80.0	20.679	20.691	-0.012		1059320	28.7	15039	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	8180	0.1043	21.6	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	628382	10.4	19799	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

s - Failed ISTD Recovery Test

Review Flags

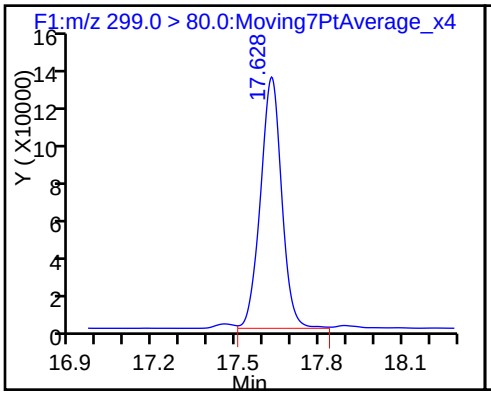
M - Manually Integrated

TestAmerica Sacramento

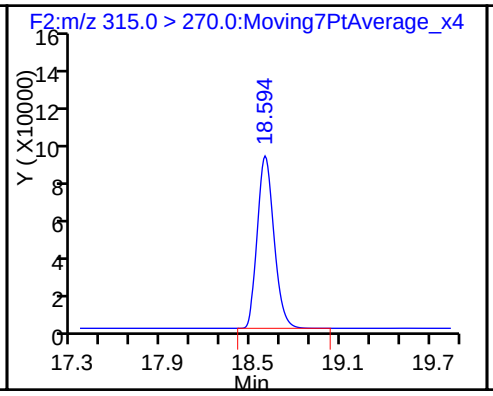
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_175.d

Injection Date:	09-Dec-2016 06:25:50	Instrument ID:	A6		
Lims ID:	320-23919-A-13-A	Lab Sample ID:	320-23919-13		
Client ID:	WI-AF-2RW04-1116				
Operator ID:	CBW	ALS Bottle#:	46	Worklist Smp#:	92
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

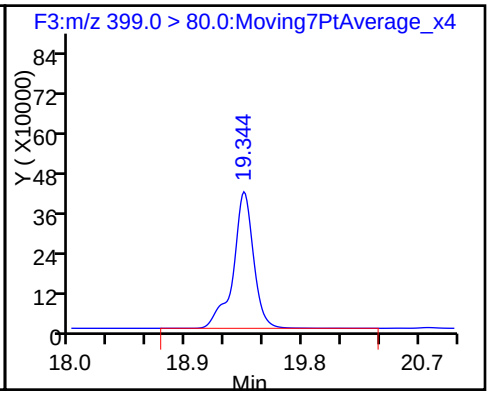
1 Perfluorobutanesulfonic acid



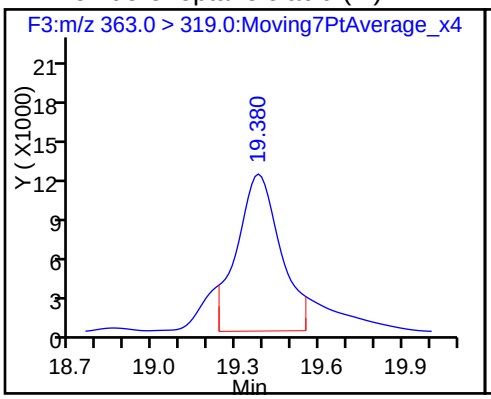
$ 2 13C2 PFHxA



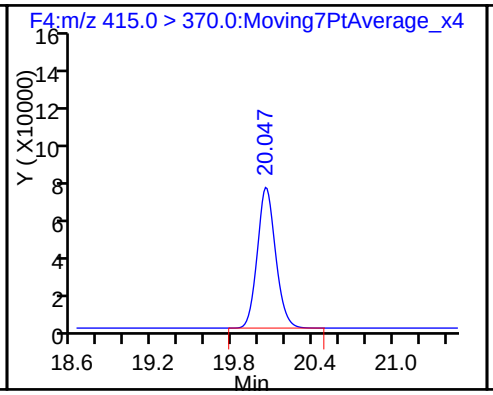
3 Perfluorohexanesulfonic acid



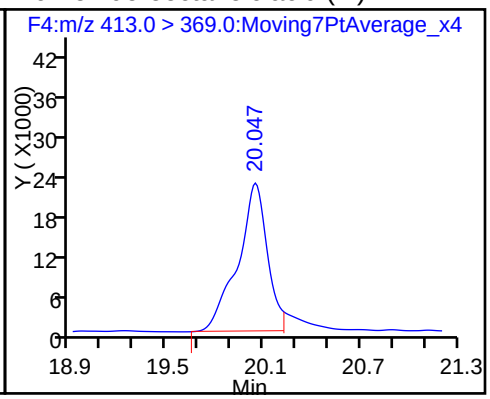
4 Perfluoroheptanoic acid (M)



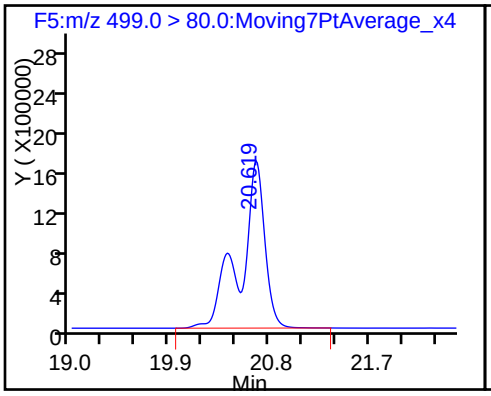
* 5 13C2-PFOA



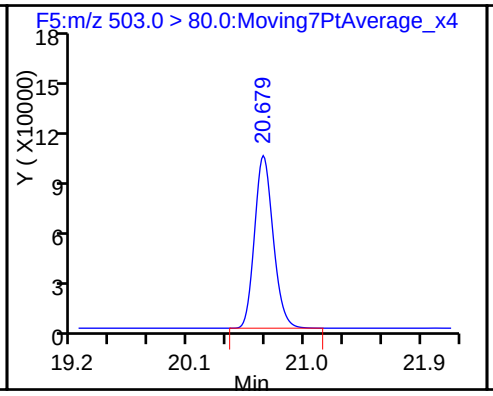
6 Perfluorooctanoic acid (M)



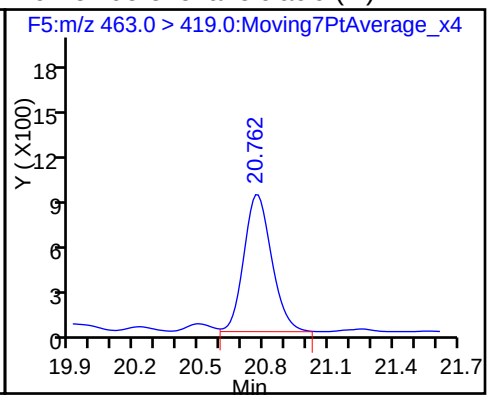
7 Perfluorooctane sulfonic acid



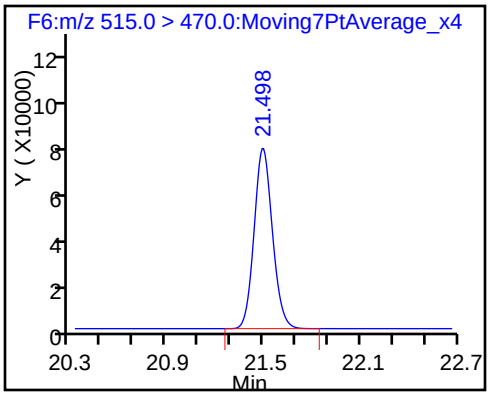
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_175.d
Lims ID: 320-23919-A-13-A
Client ID: WI-AF-2RW04-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 06:25:50 ALS Bottle#: 46 Worklist Smp#: 92
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-13-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:11:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	9.03	90.26
$ 10 13C2 PFDA	10.0	10.4	103.72

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

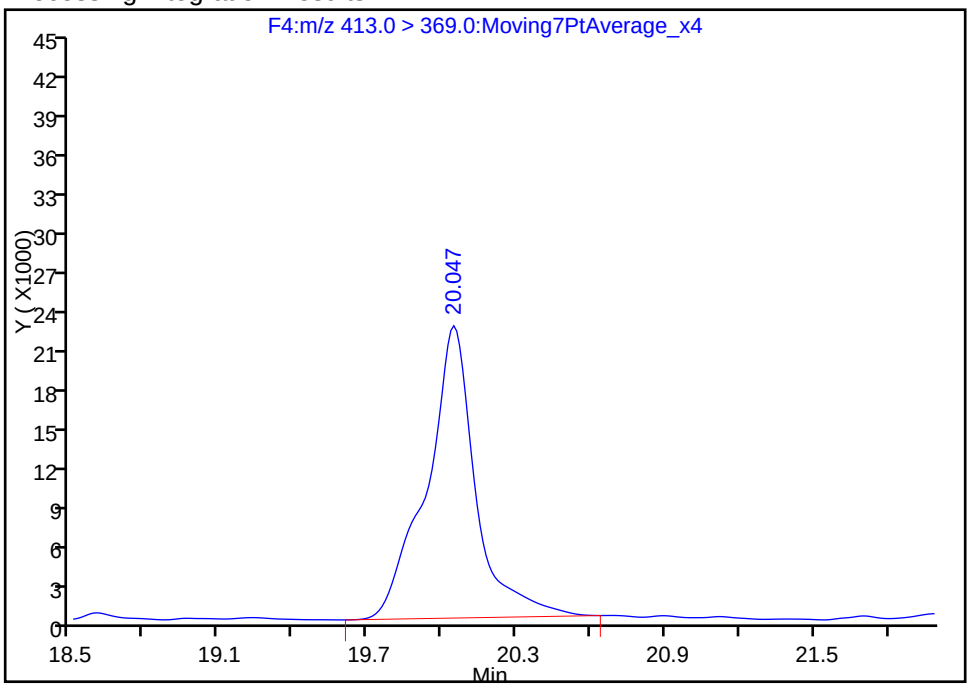
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_175.d				
Injection Date:	09-Dec-2016 06:25:50	Instrument ID:	A6		
Lims ID:	320-23919-A-13-A	Lab Sample ID:	320-23919-13		
Client ID:	WI-AF-2RW04-1116				
Operator ID:	CBW	ALS Bottle#:	46	Worklist Smp#:	92
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

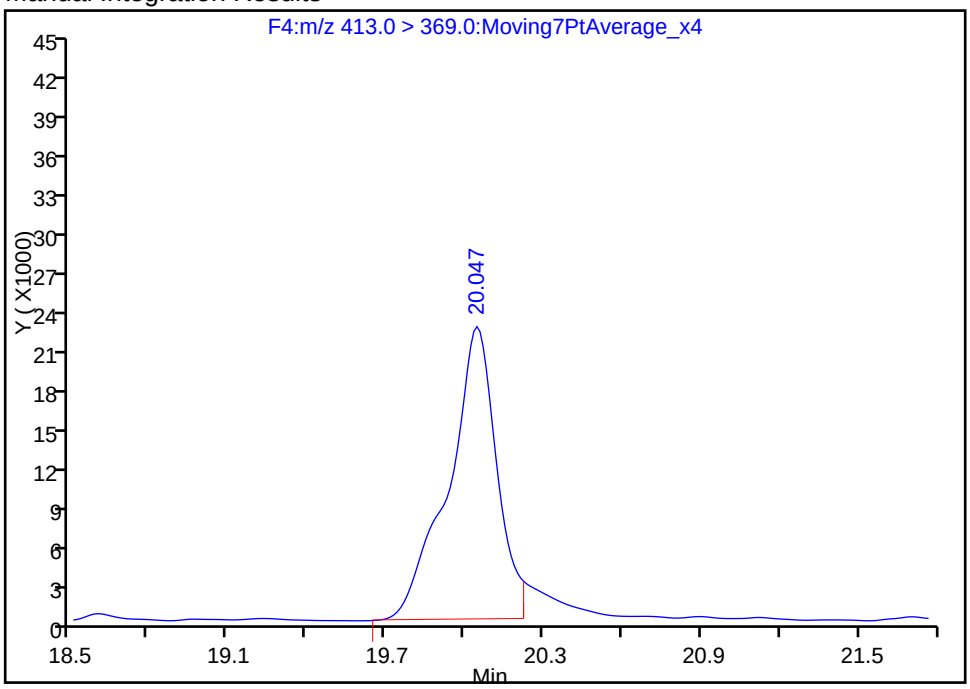
Processing Integration Results

RT: 20.05
Area: 310763
Amount: 4.320073
Amount Units: ng/ml



Manual Integration Results

RT: 20.05
Area: 286733
Amount: 3.986020
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 11:11:15

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW04-1116 DL | Lab Sample ID: 320-23919-13 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_167.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:05

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.1(mL) | Date Analyzed: 12/09/2016 02:29

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 20

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.5	D	1.2	0.94	0.30
335-67-1	*Perfluorooctanoic acid (PFOA)*	*0.47*	*U M*	*0.59*	0.47	*0.19*
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*2.2*	*U*	*2.8*	2.2	*0.94*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	87		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_167.d
Lims ID: 320-23919-A-13-A
Client ID: WI-AF-2RW04-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 02:29:08 ALS Bottle#: 38 Worklist Smp#: 84
Injection Vol: 10.0 ul Dil. Factor: 20.0000
Sample Info: 320-23919-a-13-a 20X
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:00:19

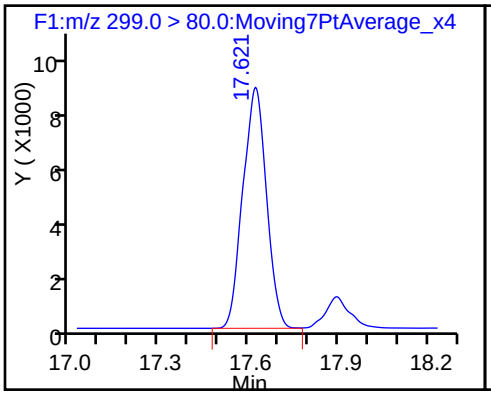
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.628	-0.007	1.000	46259	0.8949	52.6	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	52205	0.5556	1712	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	294190	4.45	4560	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	9549	0.0976	7.6	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.059	-0.001		40273	0.5000	1067	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.059	-0.012	1.000	13295	0.1586	3.0	M
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.679	20.619	0.060	1.000	2453469	31.9	48164	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.691	-0.012		105675	1.43	2779	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	30872	0.4374	466	

QC Flag Legend

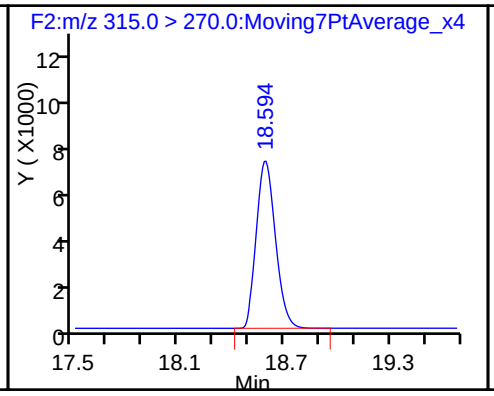
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_167.d
Injection Date: 09-Dec-2016 02:29:08 Instrument ID: A6
Lims ID: 320-23919-A-13-A Lab Sample ID: 320-23919-13
Client ID: WI-AF-2RW04-1116
Operator ID: CBW ALS Bottle#: 38 Worklist Smp#: 84
Injection Vol: 10.0 ul Dil. Factor: 20.0000
Method: 537__A6 Limit Group: LC 537 ICAL

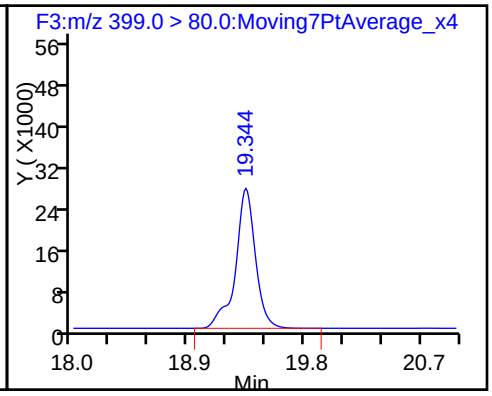
1 Perfluorobutanesulfonic acid



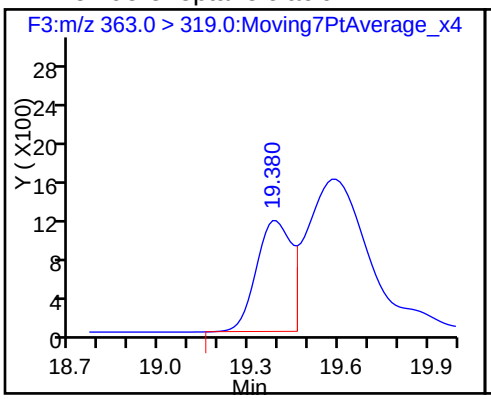
$ 2 13C2 PFHxA



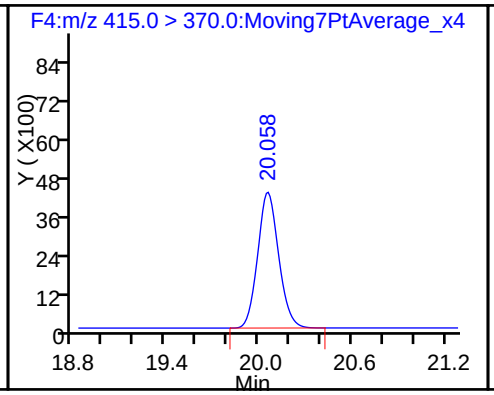
3 Perfluorohexanesulfonic acid



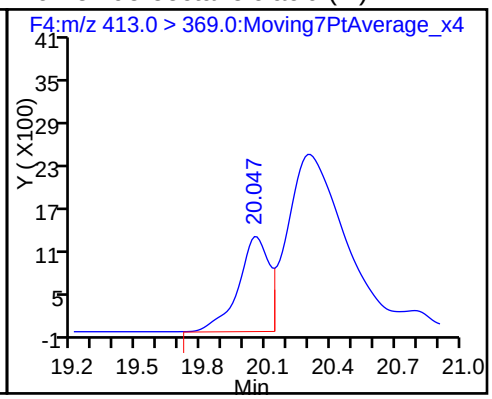
4 Perfluoroheptanoic acid



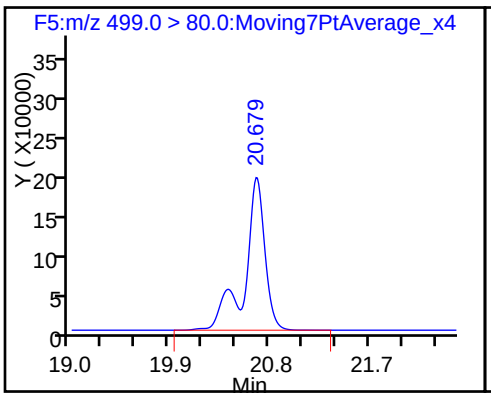
* 5 13C2-PFOA



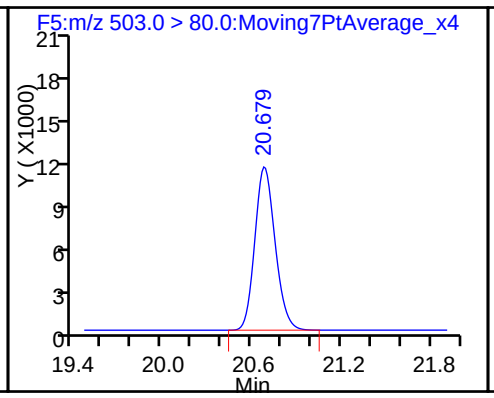
6 Perfluorooctanoic acid (M)



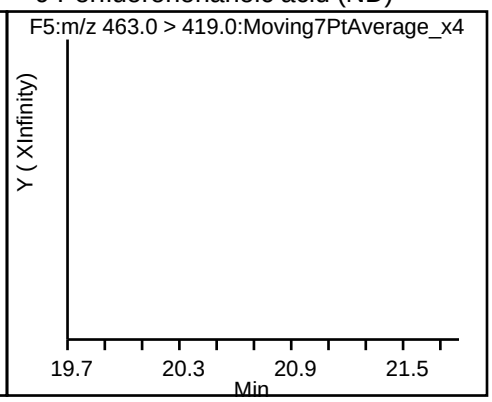
7 Perfluorooctane sulfonic acid



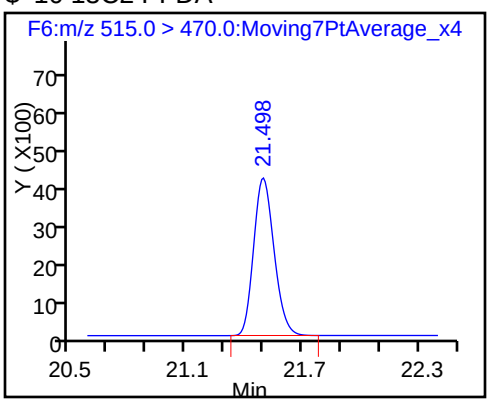
* 8 13C4 PFOS



9 Perfluorononanoic acid (ND)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_167.d
Lims ID: 320-23919-A-13-A
Client ID: WI-AF-2RW04-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 02:29:08 ALS Bottle#: 38 Worklist Smp#: 84
Injection Vol: 10.0 ul Dil. Factor: 20.0000
Sample Info: 320-23919-a-13-a 20X
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:00:19

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	0.5556	111.12
$ 10 13C2 PFDA	10.0	0.4374	87.48

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

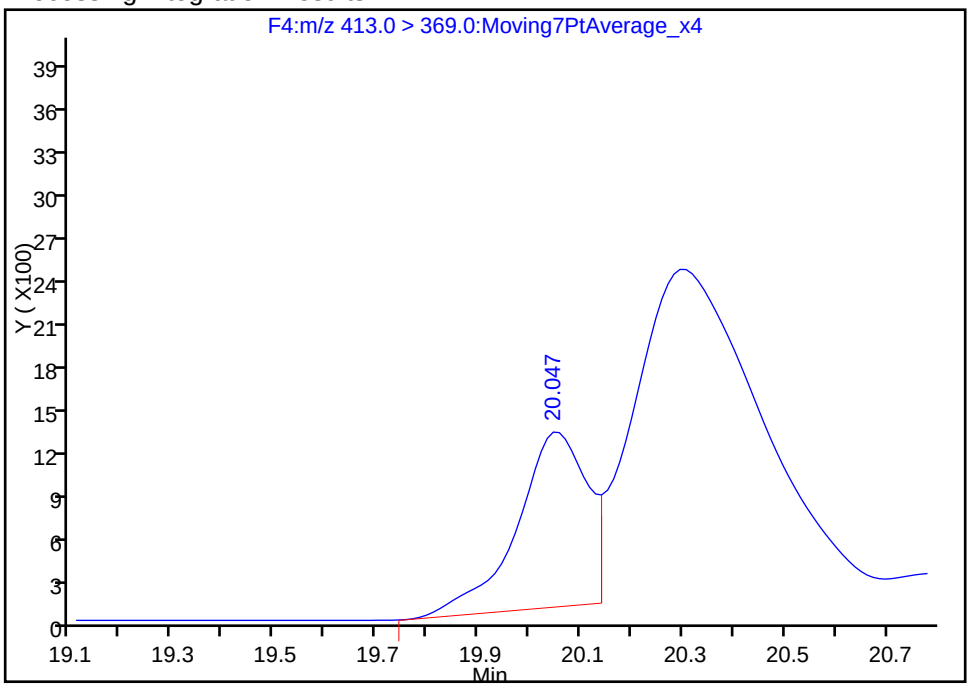
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_167.d				
Injection Date:	09-Dec-2016 02:29:08	Instrument ID:	A6		
Lims ID:	320-23919-A-13-A	Lab Sample ID:	320-23919-13		
Client ID:	WI-AF-2RW04-1116				
Operator ID:	CBW	ALS Bottle#:	38	Worklist Smp#:	84
Injection Vol:	10.0 ul	Dil. Factor:	20.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

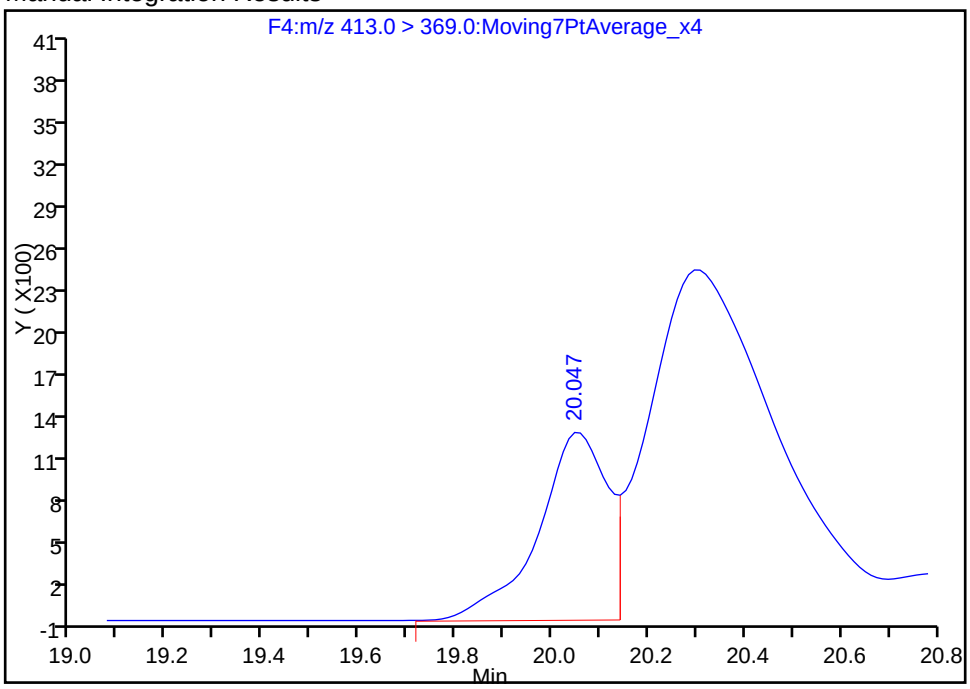
Processing Integration Results

RT: 20.05
Area: 11835
Amount: 0.141226
Amount Units: ng/ml



Manual Integration Results

RT: 20.05
Area: 13295
Amount: 0.158648
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 11:00:19

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB04-1116 Lab Sample ID: 320-23919-14

Matrix: Water Lab File ID: 05DEC2016A6A_266.d

Analysis Method: 537 Date Collected: 11/29/2016 11:06

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 255.9(mL) Date Analyzed: 12/11/2016 04:03

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141521 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	97		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_266.d
Lims ID: 320-23919-A-14-A
Client ID: WI-AF-2FB04-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 04:03:40 ALS Bottle#: 46 Worklist Smp#: 91
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-14-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 10:32:23

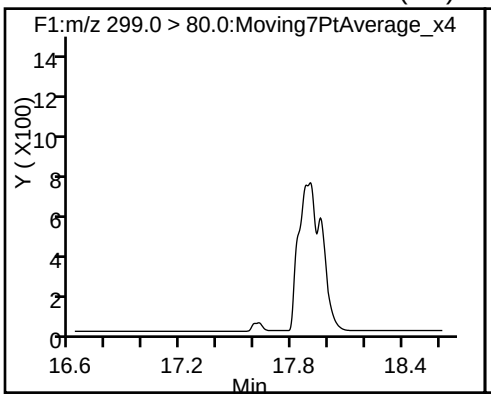
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.603	18.594	0.009	1.000	829353	9.49	26816	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.356	19.356	0.0	1.000	1938	0.0295	10.5	M
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.070	0.0		749537	10.0	19786	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.319	20.070	0.249	1.000	16747	0.2148	10.7	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.702	20.442	0.260	1.000	37273	0.4880	1041	M
* 8 13C4 PFOS								
503.0 > 80.0	20.702	20.702	0.0		2098107	28.7	43907	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.498	0.009	1.000	638823	9.73	20109	

QC Flag Legend

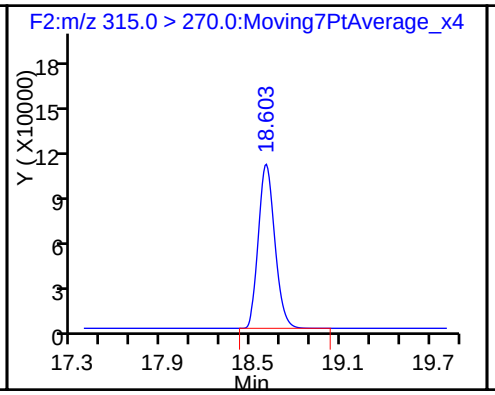
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_266.d
Injection Date: 11-Dec-2016 04:03:40 Instrument ID: A6
Lims ID: 320-23919-A-14-A Lab Sample ID: 320-23919-14
Client ID: WI-AF-2FB04-1116
Operator ID: CBW ALS Bottle#: 46 Worklist Smp#: 91
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

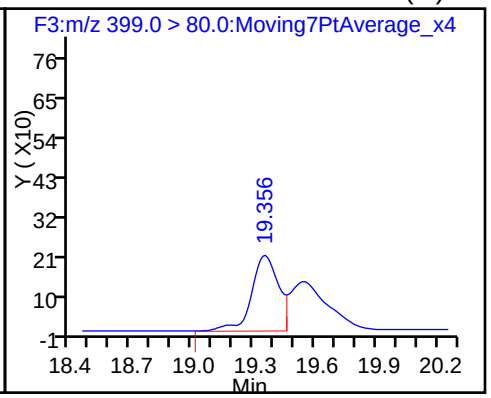
1 Perfluorobutanesulfonic acid (ND)



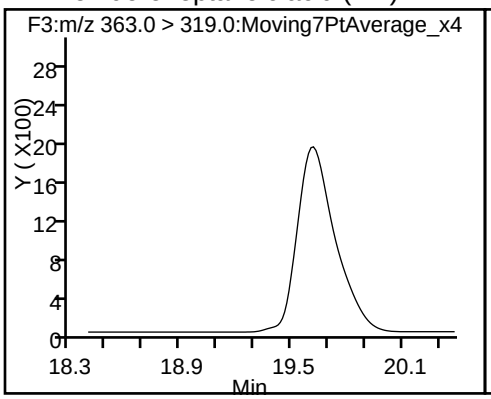
$ 2 13C2 PFHxA



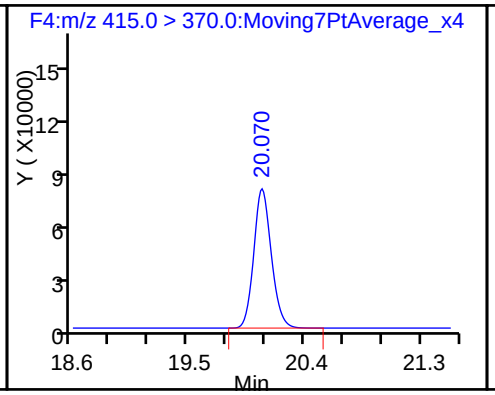
3 Perfluorohexanesulfonic acid (M)



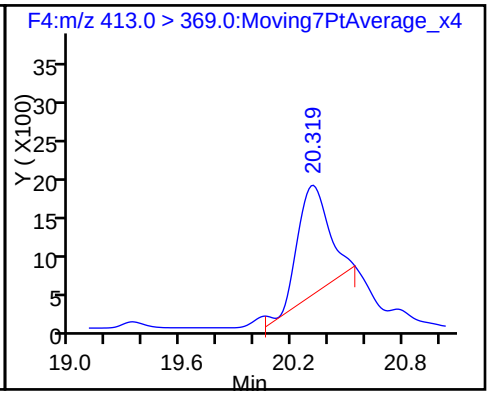
4 Perfluoroheptanoic acid (ND)



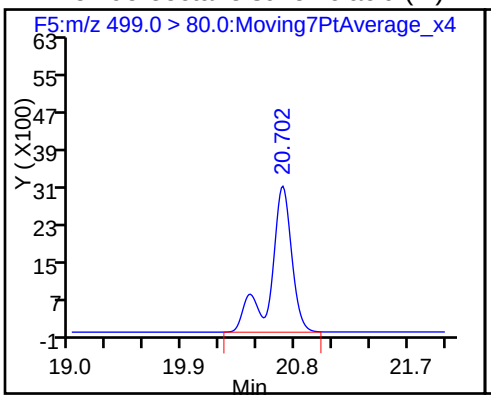
* 5 13C2-PFOA



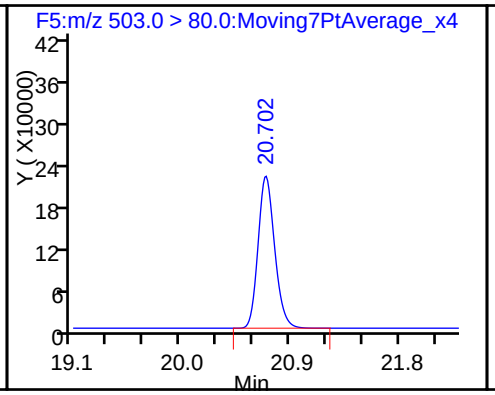
6 Perfluorooctanoic acid



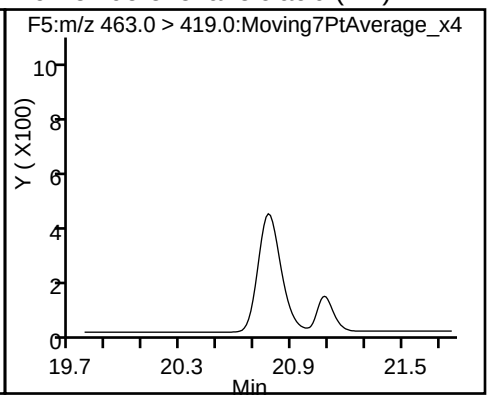
7 Perfluorooctane sulfonic acid (M)



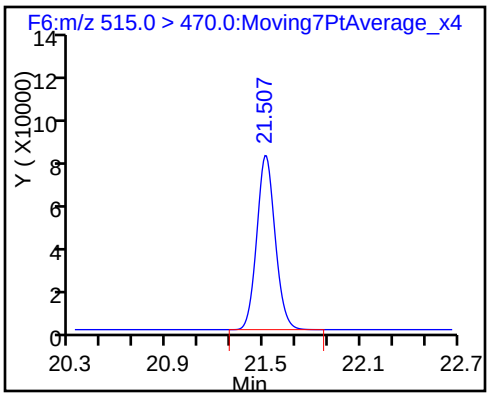
* 8 13C4 PFOS



9 Perfluorononanoic acid (ND)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_266.d
Lims ID: 320-23919-A-14-A
Client ID: WI-AF-2FB04-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 04:03:40 ALS Bottle#: 46 Worklist Smp#: 91
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-14-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 10:32:23

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	9.49	94.85
$ 10 13C2 PFDA	10.0	9.73	97.26

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

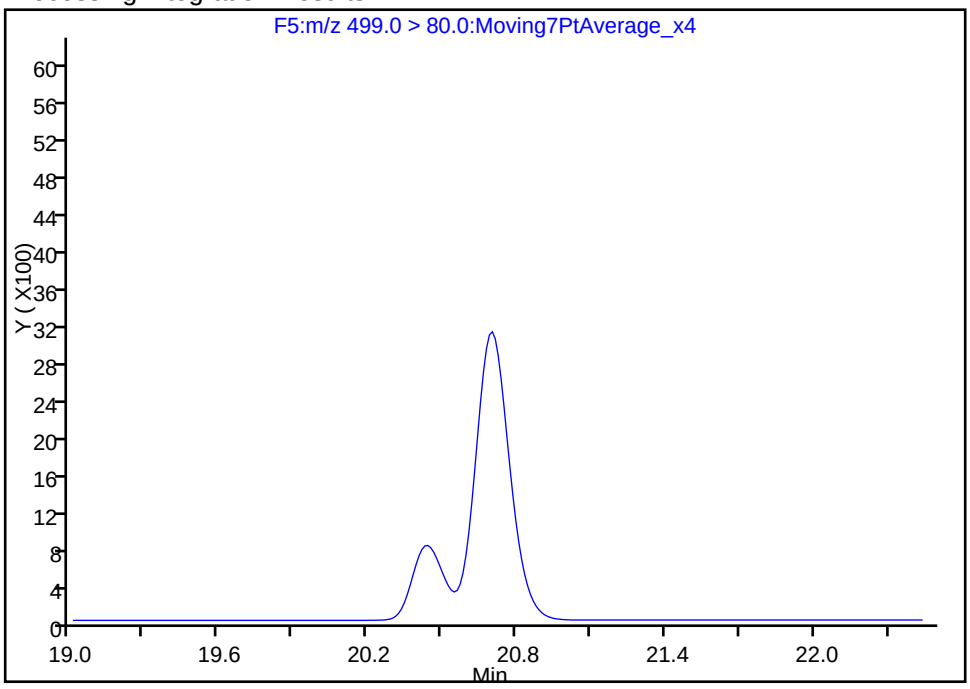
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_266.d				
Injection Date:	11-Dec-2016 04:03:40	Instrument ID:	A6		
Lims ID:	320-23919-A-14-A	Lab Sample ID:	320-23919-14		
Client ID:	WI-AF-2FB04-1116				
Operator ID:	CBW	ALS Bottle#:	46	Worklist Smp#:	91
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

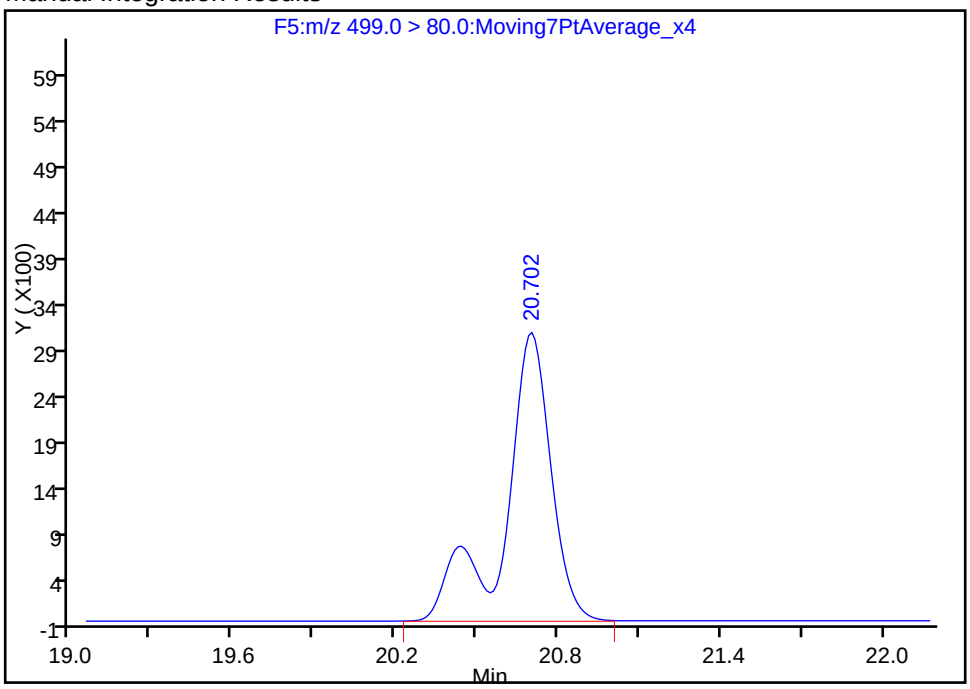
Not Detected
Expected RT: 20.44

Processing Integration Results



Manual Integration Results

RT: 20.70
Area: 37273
Amount: 0.488034
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 10:32:23
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW05-1116 | Lab Sample ID: 320-23919-15

Matrix: Water | Lab File ID: 05DEC2016A6A_169.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:17

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.5(mL) | Date Analyzed: 12/09/2016 03:28

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_169.d
Lims ID: 320-23919-A-15-A
Client ID: WI-AF-2RW05-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 03:28:19 ALS Bottle#: 40 Worklist Smp#: 86
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-15-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:04:47

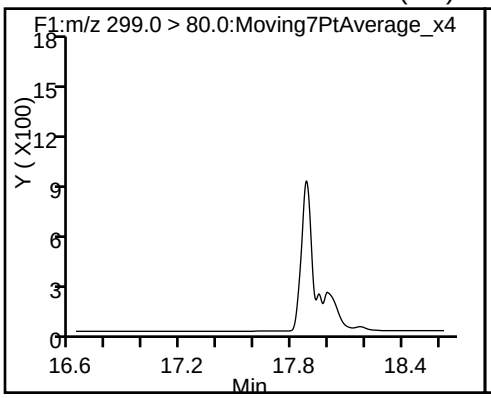
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	1041587	11.1	33524	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.059	-0.012		800961	10.0	20919	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.691	-0.012		2217509	28.7	58207	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	8713	0.0959	139	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	742256	10.6	23273	

QC Flag Legend

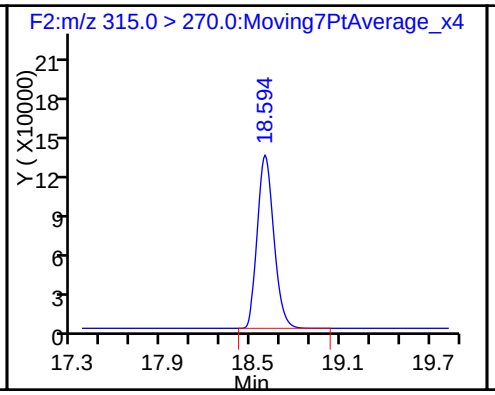
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_169.d
Injection Date: 09-Dec-2016 03:28:19 Instrument ID: A6
Lims ID: 320-23919-A-15-A Lab Sample ID: 320-23919-15
Client ID: WI-AF-2RW05-1116
Operator ID: CBW ALS Bottle#: 40 Worklist Smp#: 86
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

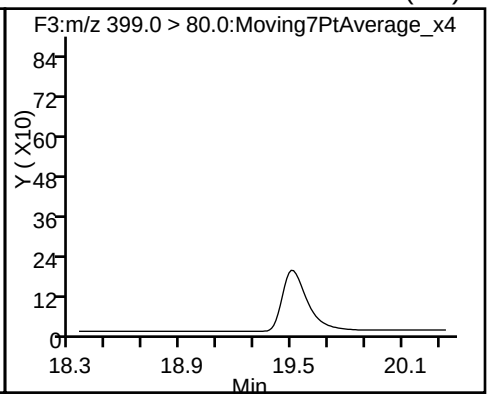
1 Perfluorobutanesulfonic acid (ND)



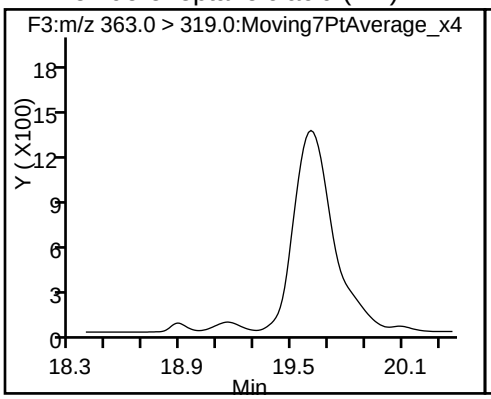
$ 2 13C2 PFHxA



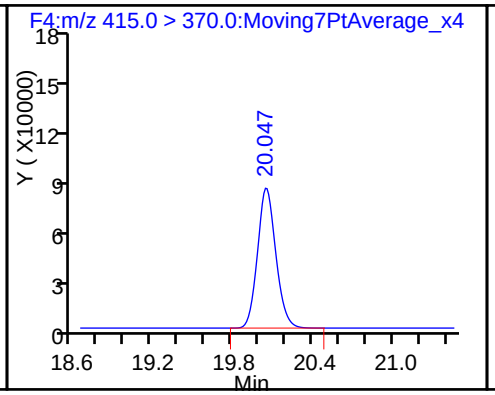
3 Perfluorohexanesulfonic acid (ND)



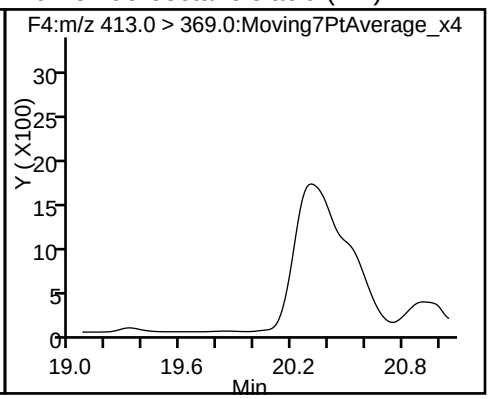
4 Perfluoroheptanoic acid (ND)



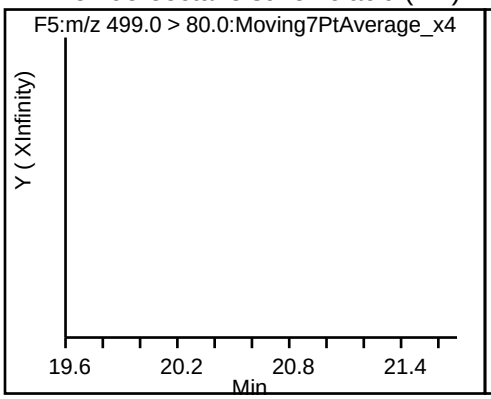
* 5 13C2-PFOA



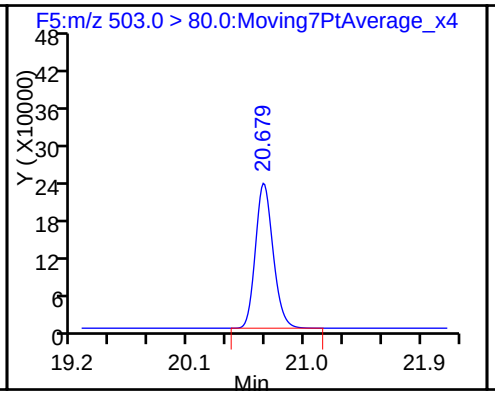
6 Perfluorooctanoic acid (ND)



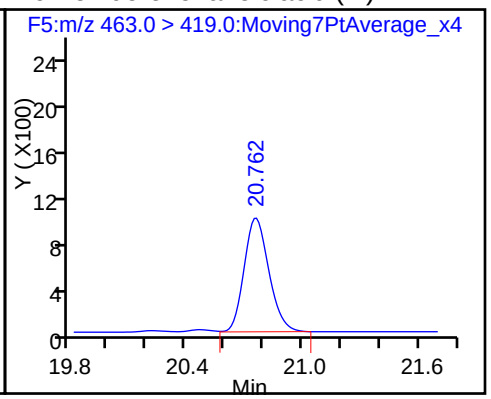
7 Perfluorooctane sulfonic acid (ND)



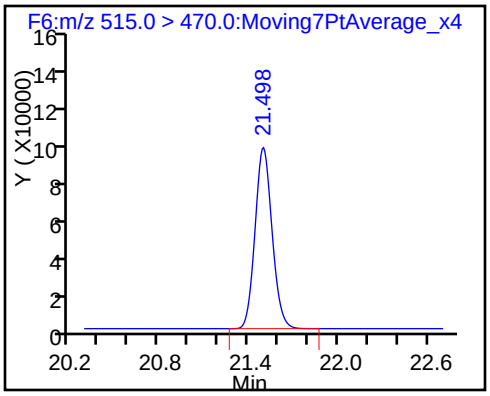
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_169.d
Lims ID: 320-23919-A-15-A
Client ID: WI-AF-2RW05-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 03:28:19 ALS Bottle#: 40 Worklist Smp#: 86
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-15-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:04:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.48
$ 10 13C2 PFDA	10.0	10.6	105.76

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB05-1116 Lab Sample ID: 320-23919-16

Matrix: Water Lab File ID: 05DEC2016A6A_170.d

Analysis Method: 537 Date Collected: 11/29/2016 13:15

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.2(mL) Date Analyzed: 12/09/2016 03:57

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_170.d
Lims ID: 320-23919-A-16-A
Client ID: WI-AF-2FB05-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 03:57:55 ALS Bottle#: 41 Worklist Smp#: 87
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-16-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:05:39

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	1108067	10.8	35208	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.059	-0.012		881042	10.0	23020	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.691	-0.012		2396012	28.7	31116	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.762	0.0	1.000	3028	0.0303	43.3	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	829627	10.7	26040	

QC Flag Legend

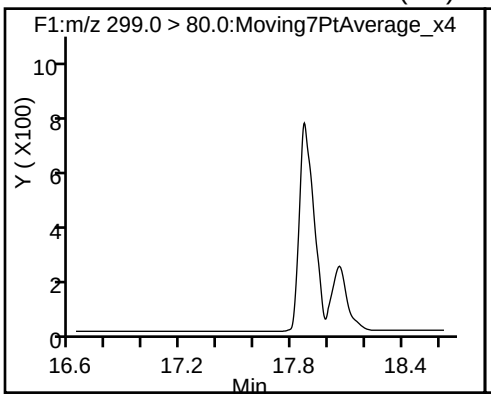
Review Flags
M - Manually Integrated

TestAmerica Sacramento

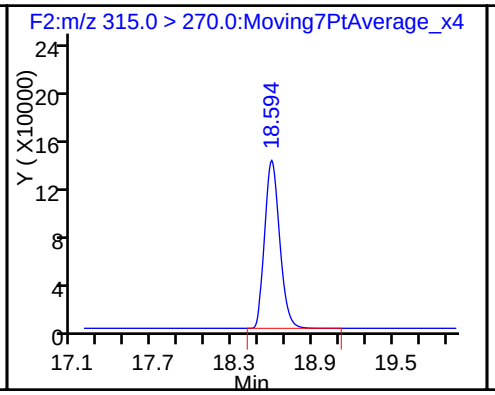
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_170.d

Injection Date:	09-Dec-2016 03:57:55	Instrument ID:	A6		
Lims ID:	320-23919-A-16-A	Lab Sample ID:	320-23919-16		
Client ID:	WI-AF-2FB05-1116				
Operator ID:	CBW	ALS Bottle#:	41	Worklist Smp#:	87
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

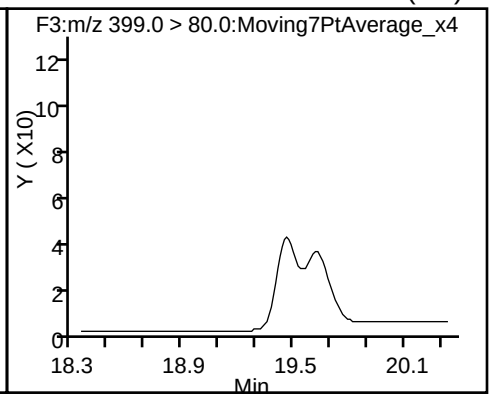
1 Perfluorobutanesulfonic acid (ND)



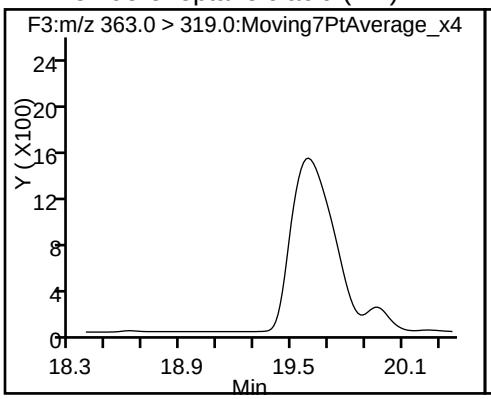
$ 2 13C2 PFHxA



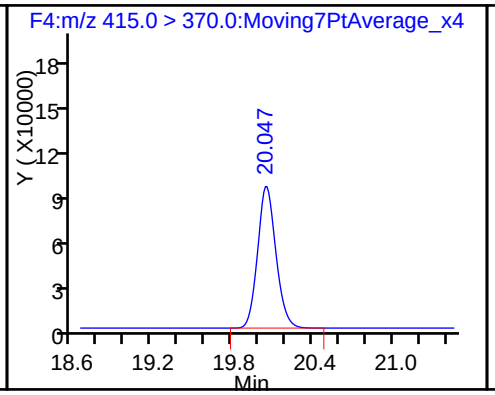
3 Perfluorohexanesulfonic acid (ND)



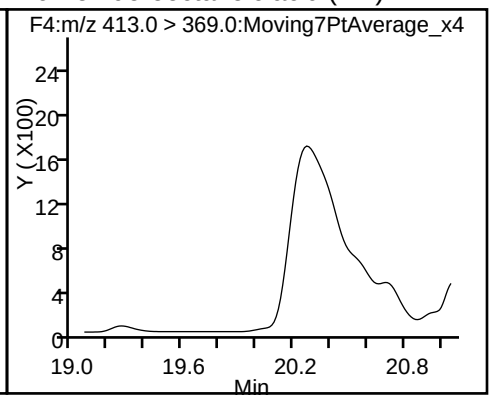
4 Perfluoroheptanoic acid (ND)



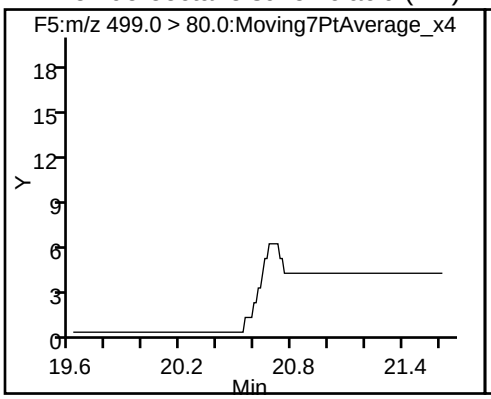
* 5 13C2-PFOA



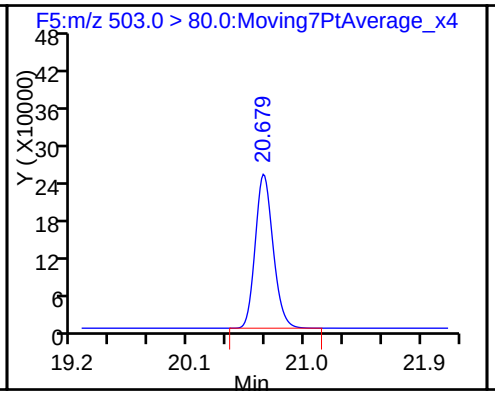
6 Perfluorooctanoic acid (ND)



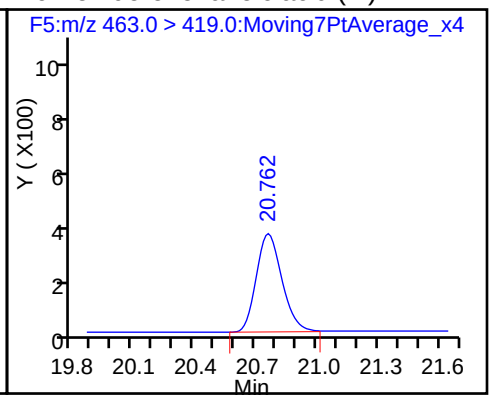
7 Perfluorooctane sulfonic acid (ND)



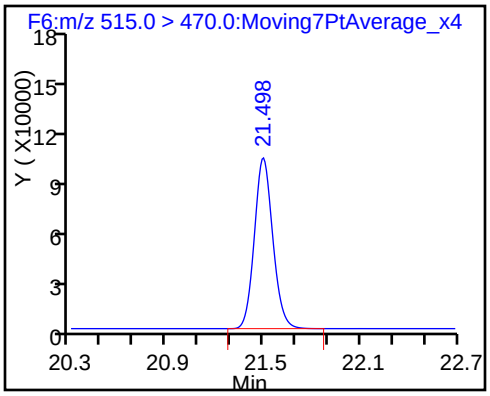
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_170.d
Lims ID: 320-23919-A-16-A
Client ID: WI-AF-2FB05-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 03:57:55 ALS Bottle#: 41 Worklist Smp#: 87
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-16-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:05:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.8	107.81
$ 10 13C2 PFDA	10.0	10.7	107.46

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW06-1116 Lab Sample ID: 320-23919-17

Matrix: Water Lab File ID: 05DEC2016A6A_171.d

Analysis Method: 537 Date Collected: 11/29/2016 14:12

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 256.1(mL) Date Analyzed: 12/09/2016 04:27

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	96		70-130
STL00996	13C2 PFDA	104		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_171.d
Lims ID: 320-23919-A-17-A
Client ID: WI-AF-2RW06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 04:27:31 ALS Bottle#: 42 Worklist Smp#: 88
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-17-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:06:43

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.631	17.628	0.003	1.000	15555	0.3043	11.0	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	844031	9.64	26694	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.344	19.344	0.0	1.000	21387	0.3268	34.0	M
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	1235511	13.5	2498	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.059	-0.012		750456	10.0	19648	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.691	-0.012		2089845	28.7	24015	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	8048	0.0946	43.1	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	686244	10.4	21608	

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_171.d

Injection Date: 09-Dec-2016 04:27:31 Instrument ID: A6

Lims ID: 320-23919-A-17-A Lab Sample ID: 320-23919-17

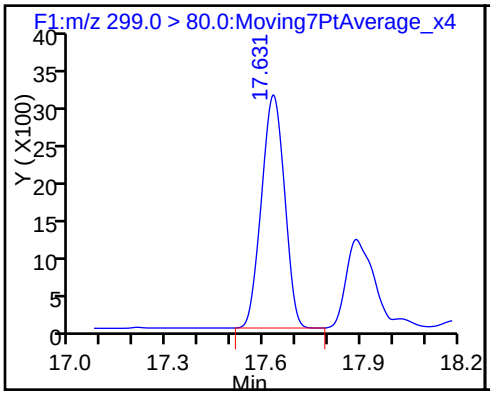
Client ID: WI-AF-2RW06-1116

Operator ID: CBW ALS Bottle#: 42 Worklist Smp#: 88

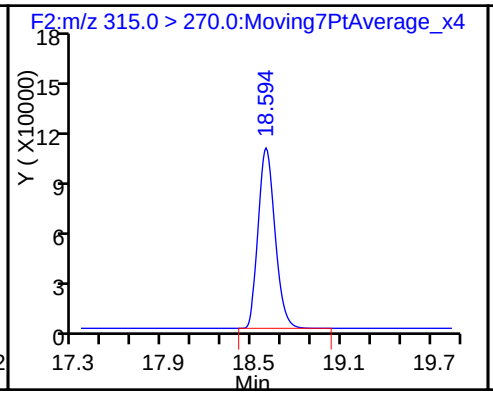
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

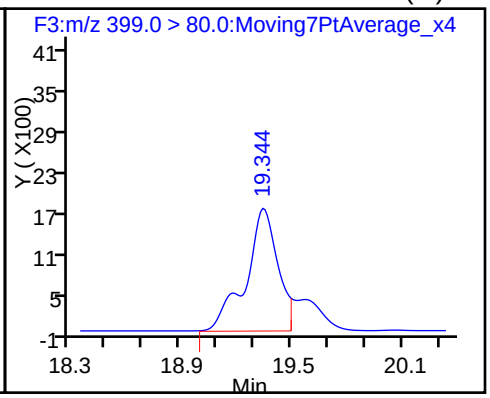
1 Perfluorobutanesulfonic acid



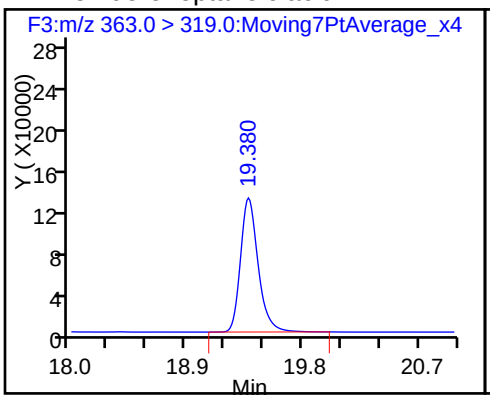
$ 2 13C2 PFHxA



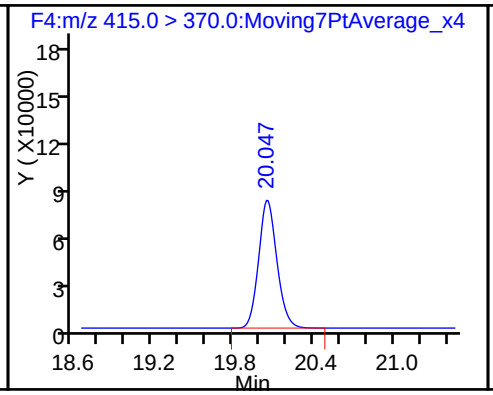
3 Perfluorohexanesulfonic acid (M)



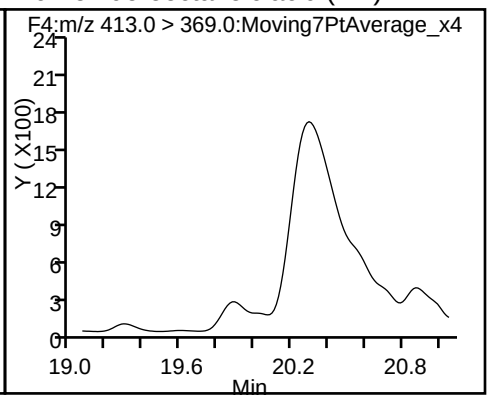
4 Perfluoroheptanoic acid



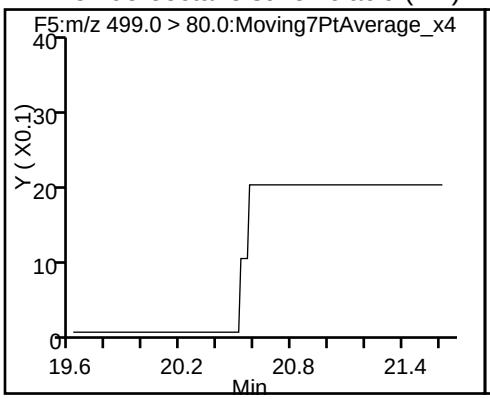
* 5 13C2-PFOA



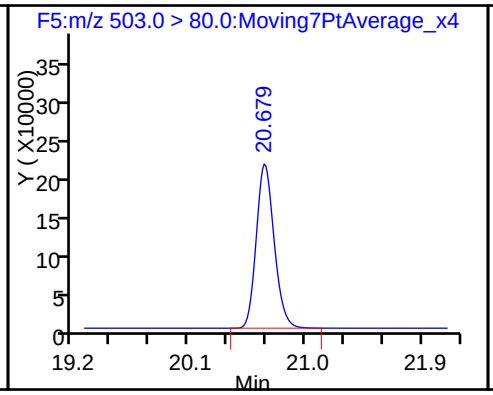
6 Perfluorooctanoic acid (ND)



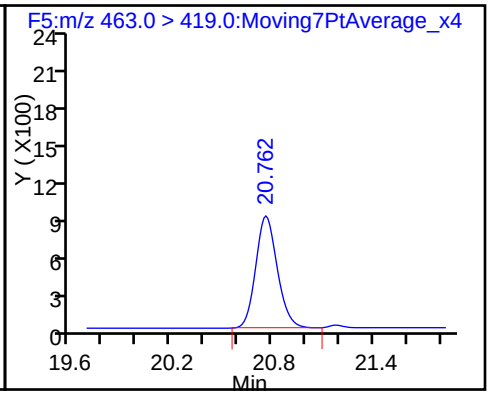
7 Perfluorooctane sulfonic acid (ND)



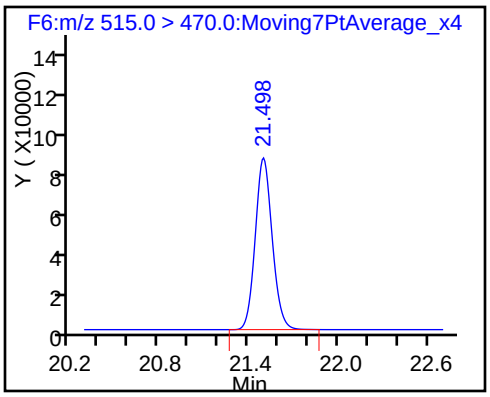
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_171.d
Lims ID: 320-23919-A-17-A
Client ID: WI-AF-2RW06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 04:27:31 ALS Bottle#: 42 Worklist Smp#: 88
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-17-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:06:43

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	9.64	96.41
$ 10 13C2 PFDA	10.0	10.4	104.35

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB06-1116 | Lab Sample ID: 320-23919-18

Matrix: Water | Lab File ID: 05DEC2016A6A_172.d

Analysis Method: 537 | Date Collected: 11/29/2016 14:10

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 259.7(mL) | Date Analyzed: 12/09/2016 04:57

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.046	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	106		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_172.d
Lims ID: 320-23919-A-18-A
Client ID: WI-AF-2FB06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 04:57:06 ALS Bottle#: 43 Worklist Smp#: 89
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-18-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:07:56

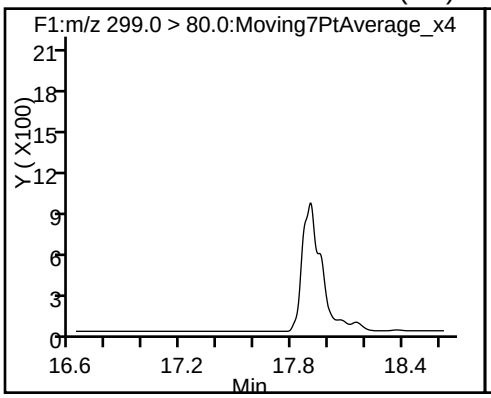
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.594	-0.009	1.000	1016370	10.6	32242	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.380	-0.012	1.000	769	0.007668	0.4	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.059	-0.012		825294	10.0	21619	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.690	20.619	0.071	1.000	6507	0.0784	125	M
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.691	-0.012		2278933	28.7	23691	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	4972	0.0531	42.5	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.498	-0.009	1.000	777035	10.7	24262	

QC Flag Legend

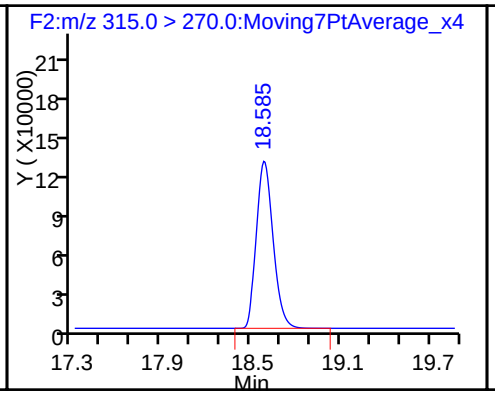
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_172.d
Injection Date: 09-Dec-2016 04:57:06 Instrument ID: A6
Lims ID: 320-23919-A-18-A Lab Sample ID: 320-23919-18
Client ID: WI-AF-2FB06-1116
Operator ID: CBW ALS Bottle#: 43 Worklist Smp#: 89
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

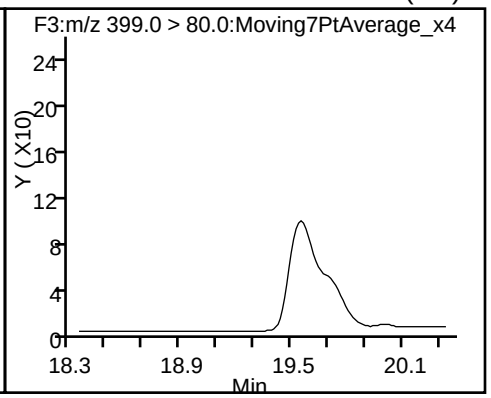
1 Perfluorobutanesulfonic acid (ND)



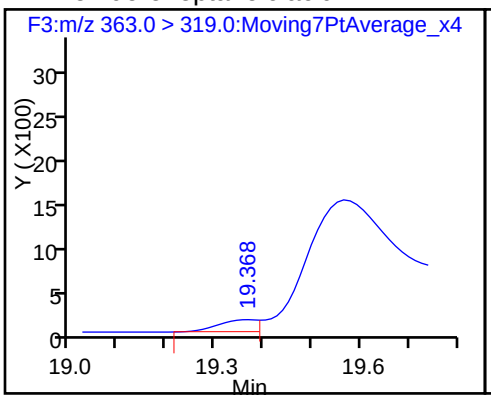
$ 2 13C2 PFHxA



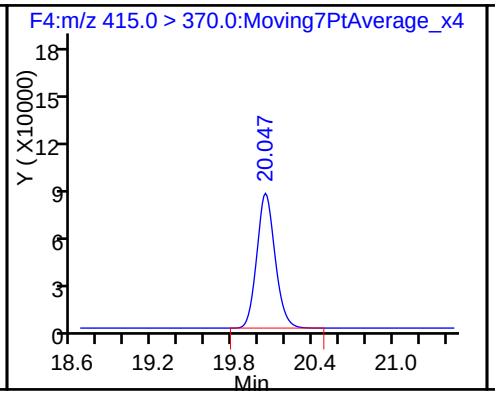
3 Perfluorohexanesulfonic acid (ND)



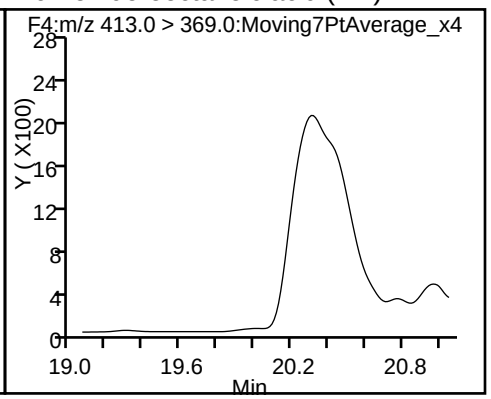
4 Perfluoroheptanoic acid



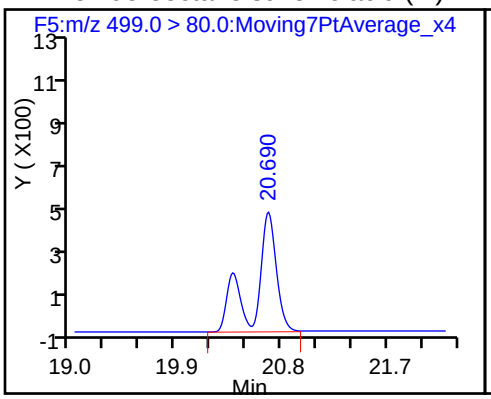
* 5 13C2-PFOA



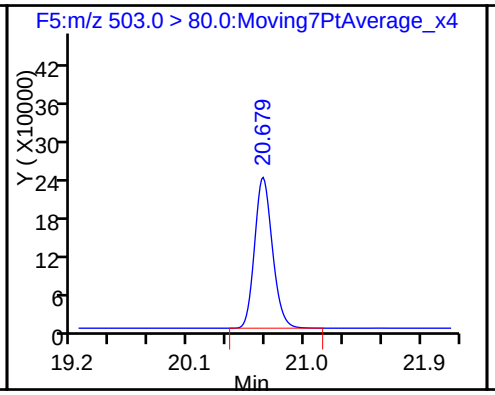
6 Perfluorooctanoic acid (ND)



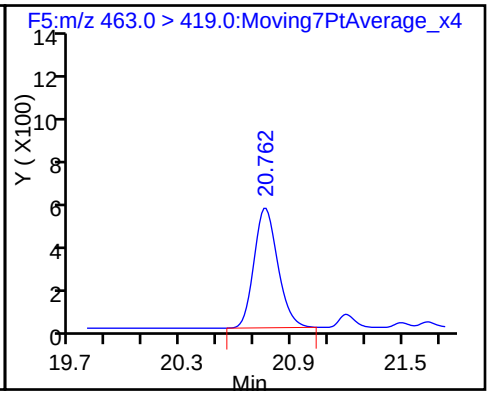
7 Perfluorooctane sulfonic acid (M)



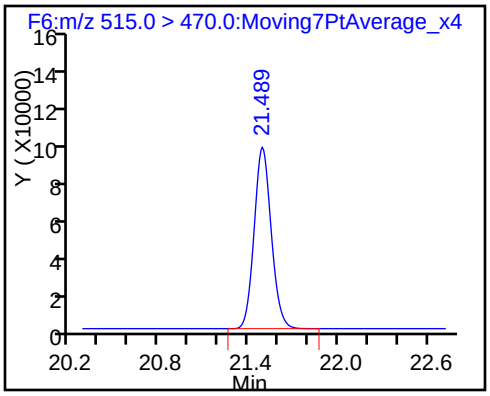
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_172.d
Lims ID: 320-23919-A-18-A
Client ID: WI-AF-2FB06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 04:57:06 ALS Bottle#: 43 Worklist Smp#: 89
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-18-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:07:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.6	105.57
$ 10 13C2 PFDA	10.0	10.7	107.45

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

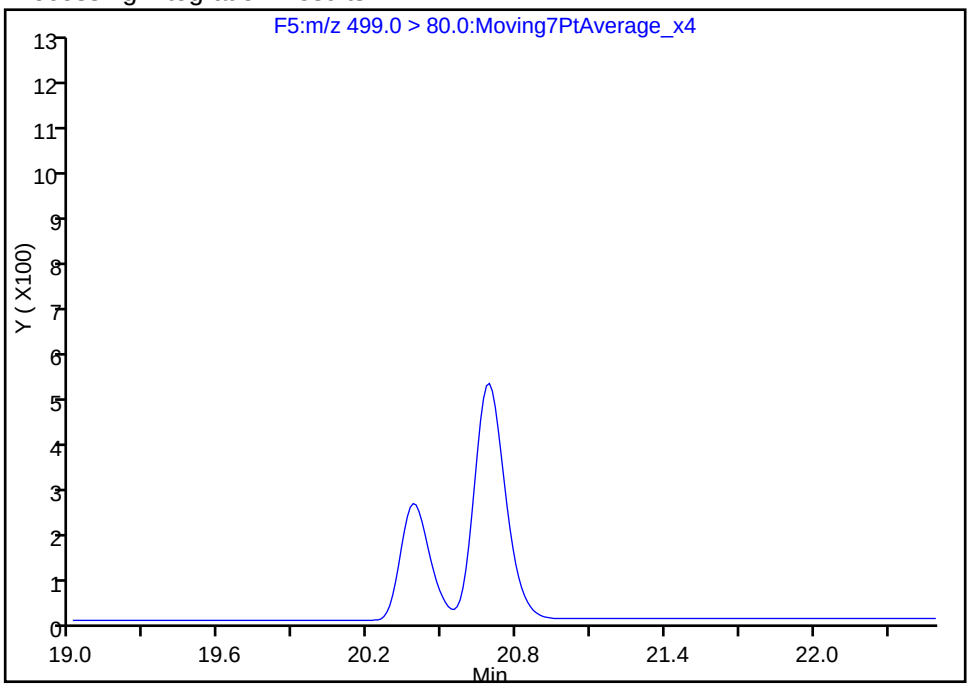
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_172.d				
Injection Date:	09-Dec-2016 04:57:06	Instrument ID:	A6		
Lims ID:	320-23919-A-18-A	Lab Sample ID:	320-23919-18		
Client ID:	WI-AF-2FB06-1116				
Operator ID:	CBW	ALS Bottle#:	43	Worklist Smp#:	89
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

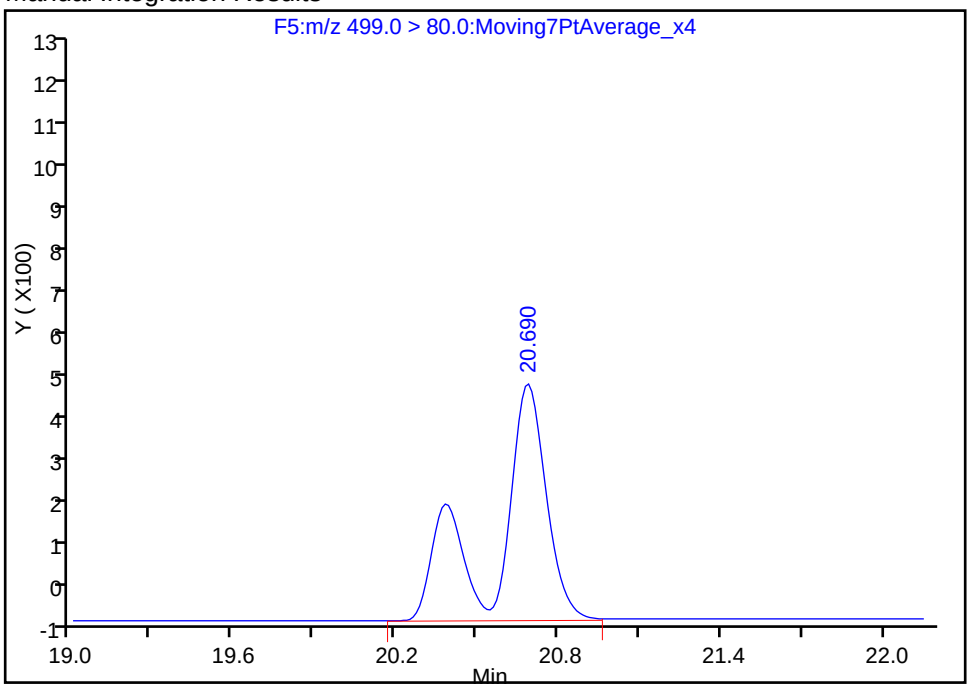
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.69
Area: 6507
Amount: 0.078439
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 11:07:56
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW04-1116 | Lab Sample ID: 320-23919-19

Matrix: Water | Lab File ID: 05DEC2016A6A_173.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:10

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 251.2(mL) | Date Analyzed: 12/09/2016 05:26

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.048	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_173.d
Lims ID: 320-23919-A-19-A
Client ID: WI-AF-3RW04-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 05:26:41 ALS Bottle#: 44 Worklist Smp#: 90
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-19-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:08:41

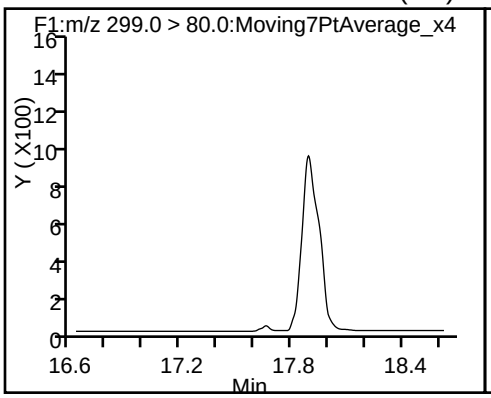
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	1083629	11.1	34929	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.059	-0.012		837636	10.0	22061	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.619	0.060	1.000	1267	0.0145	39.3	M
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.691	-0.012		2403479	28.7	63168	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	9758	0.1027	189	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.498	-0.009	1.000	790922	10.8	25056	

QC Flag Legend

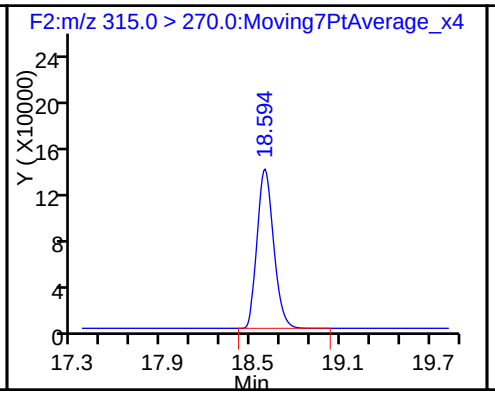
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_173.d
Injection Date: 09-Dec-2016 05:26:41 Instrument ID: A6
Lims ID: 320-23919-A-19-A Lab Sample ID: 320-23919-19
Client ID: WI-AF-3RW04-1116
Operator ID: CBW ALS Bottle#: 44 Worklist Smp#: 90
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

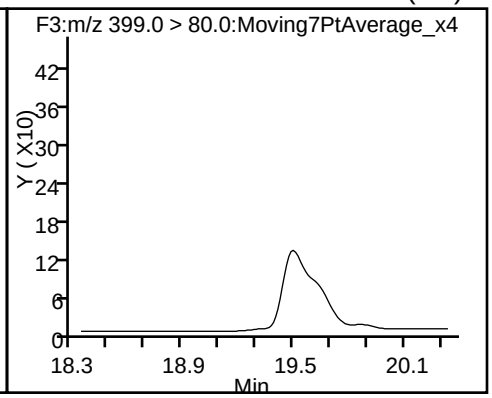
1 Perfluorobutanesulfonic acid (ND)



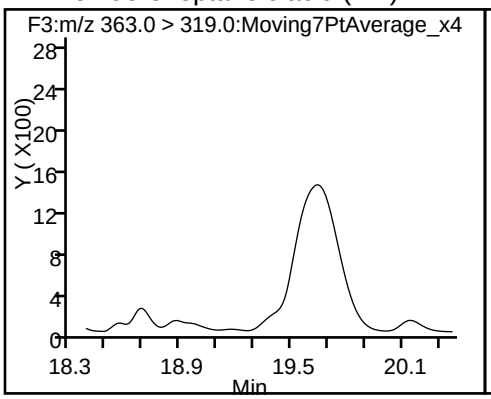
$ 2 13C2 PFHxA



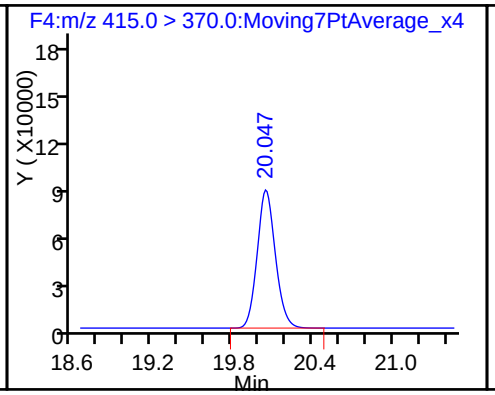
3 Perfluorohexanesulfonic acid (ND)



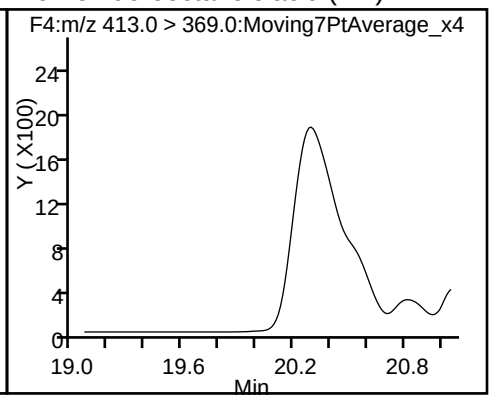
4 Perfluoroheptanoic acid (ND)



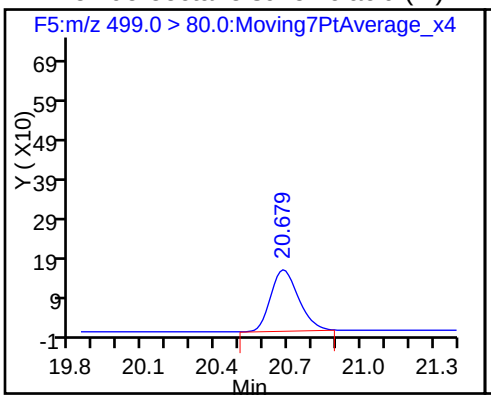
* 5 13C2-PFOA



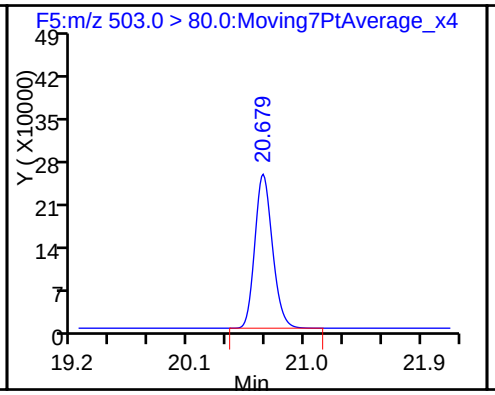
6 Perfluorooctanoic acid (ND)



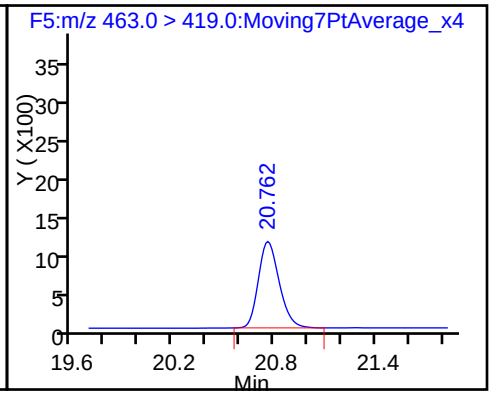
7 Perfluorooctane sulfonic acid (M)



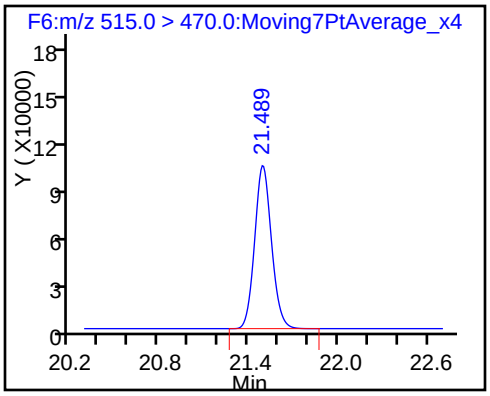
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_173.d
Lims ID: 320-23919-A-19-A
Client ID: WI-AF-3RW04-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 05:26:41 ALS Bottle#: 44 Worklist Smp#: 90
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-19-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:13:02 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:08:41

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	110.90
$ 10 13C2 PFDA	10.0	10.8	107.75

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

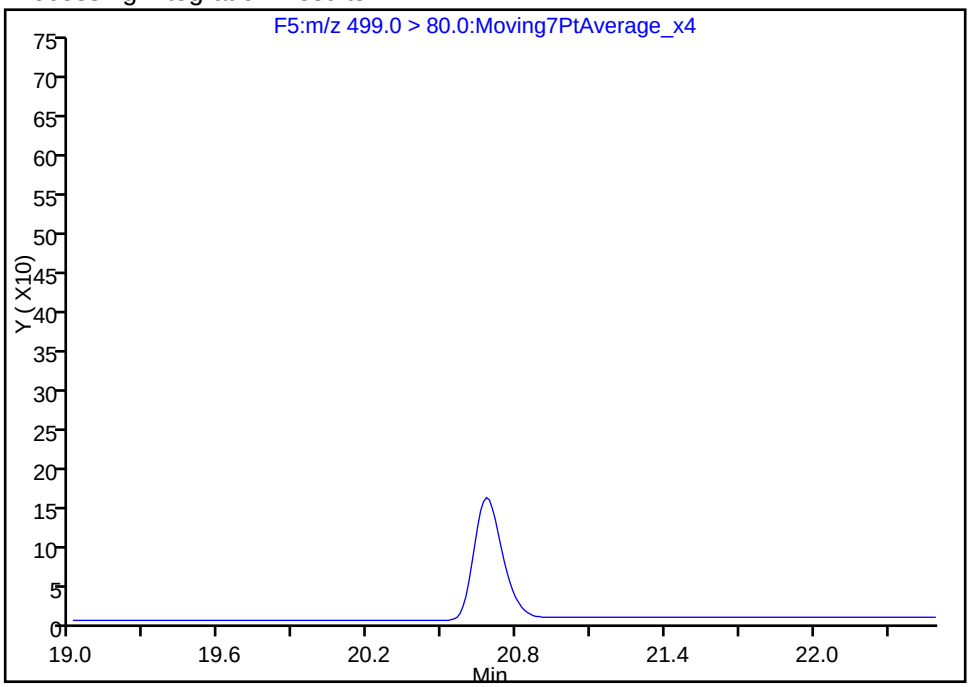
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_173.d				
Injection Date:	09-Dec-2016 05:26:41	Instrument ID:	A6		
Lims ID:	320-23919-A-19-A	Lab Sample ID:	320-23919-19		
Client ID:	WI-AF-3RW04-1116				
Operator ID:	CBW	ALS Bottle#:	44	Worklist Smp#:	90
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

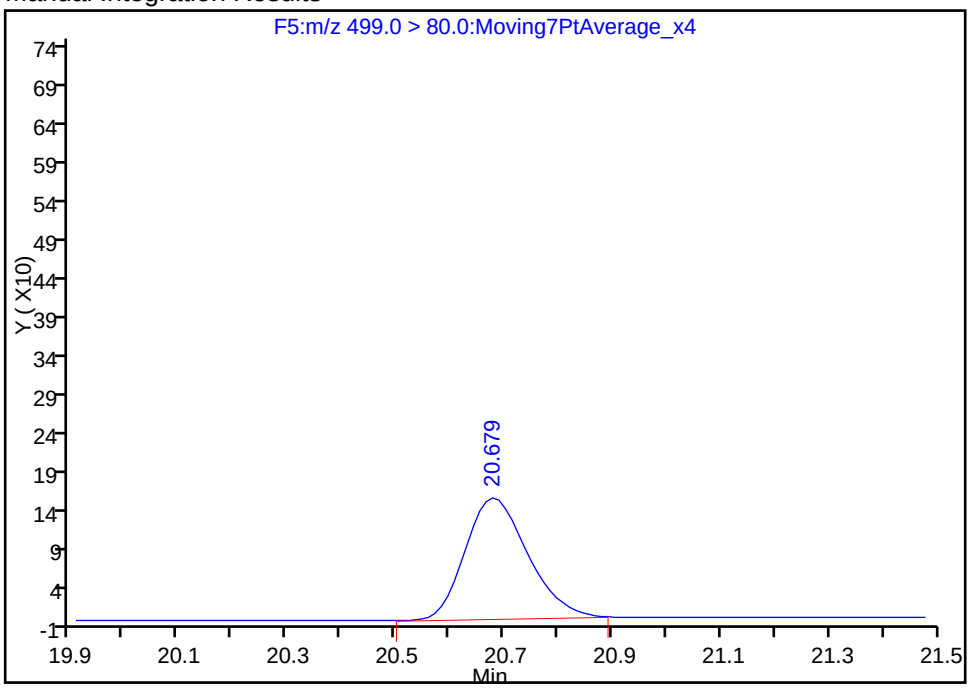
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.68
Area: 1267
Amount: 0.014482
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 11:08:41
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB04-1116 | Lab Sample ID: 320-23919-20

Matrix: Water | Lab File ID: 05DEC2016A6A_267.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:11

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 260.4(mL) | Date Analyzed: 12/11/2016 04:33

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141521 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.046	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0090
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	110		70-130
STL00996	13C2 PFDA	109		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_267.d
Lims ID: 320-23919-A-20-A
Client ID: WI-AF-3FB04-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 04:33:16 ALS Bottle#: 47 Worklist Smp#: 92
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-20-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 10:34:28

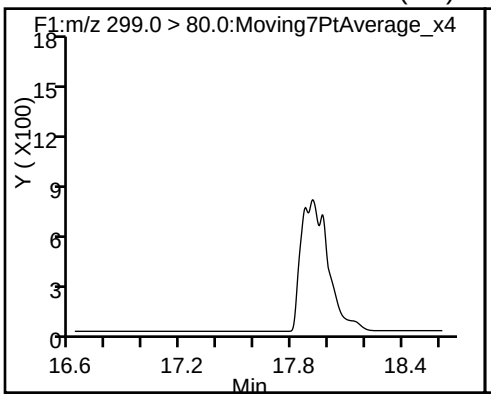
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.604	18.594	0.010	1.000	1005136	11.0	32141	
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.070	0.0		781897	10.0	20584	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.703	20.442	0.261	1.000	1616	0.0194	42.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.703	20.702	0.001		2283660	28.7	39734	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.773	-0.011	1.000	7207	0.0813	78.6	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.498	0.009	1.000	749309	10.9	24056	

QC Flag Legend

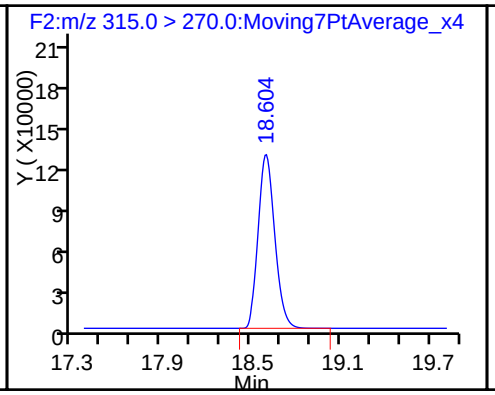
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_267.d
Injection Date: 11-Dec-2016 04:33:16 Instrument ID: A6
Lims ID: 320-23919-A-20-A Lab Sample ID: 320-23919-20
Client ID: WI-AF-3FB04-1116
Operator ID: CBW ALS Bottle#: 47 Worklist Smp#: 92
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

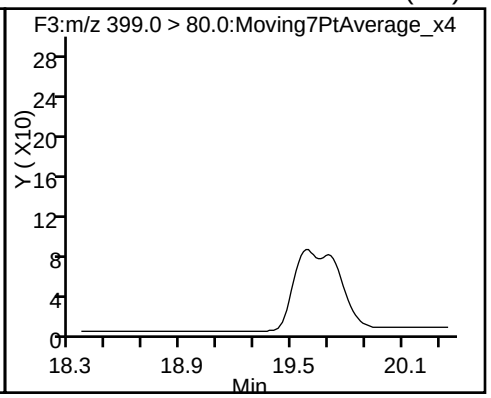
1 Perfluorobutanesulfonic acid (ND)



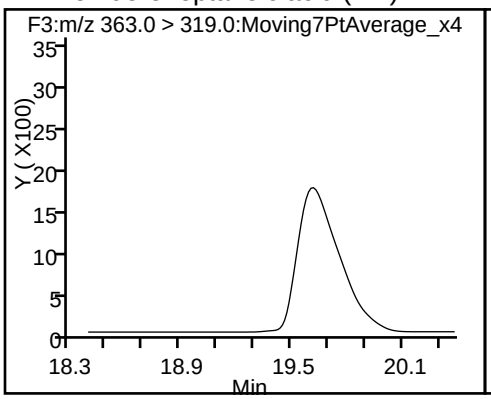
$ 2 13C2 PFHxA



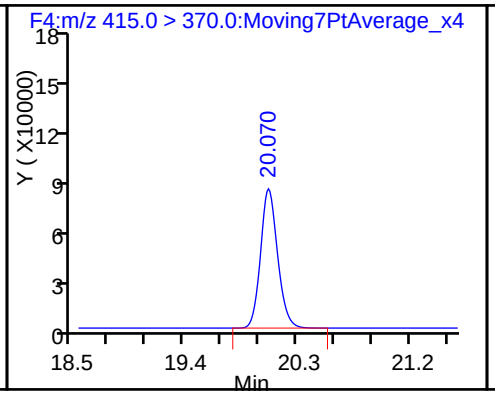
3 Perfluorohexanesulfonic acid (ND)



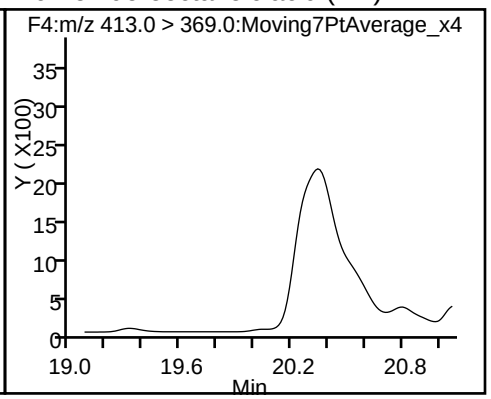
4 Perfluoroheptanoic acid (ND)



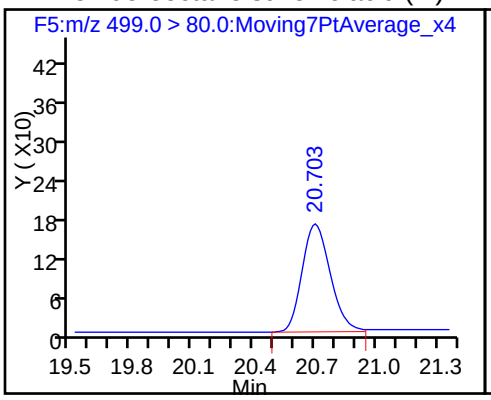
* 5 13C2-PFOA



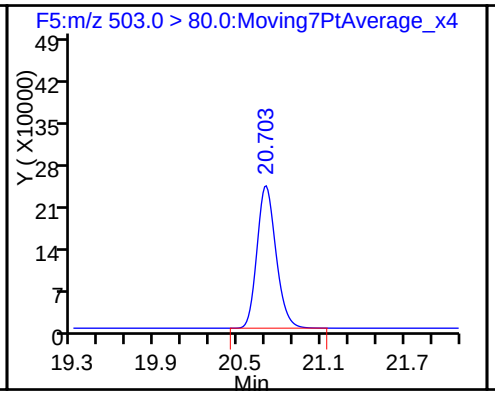
6 Perfluorooctanoic acid (ND)



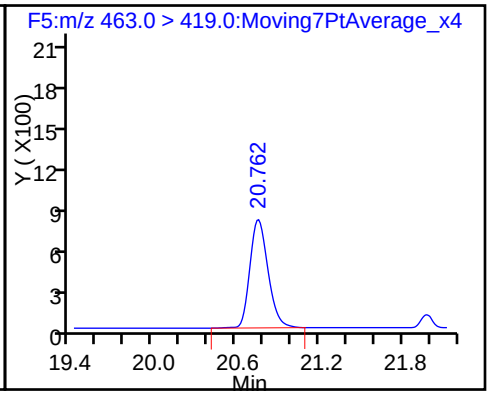
7 Perfluorooctane sulfonic acid (M)



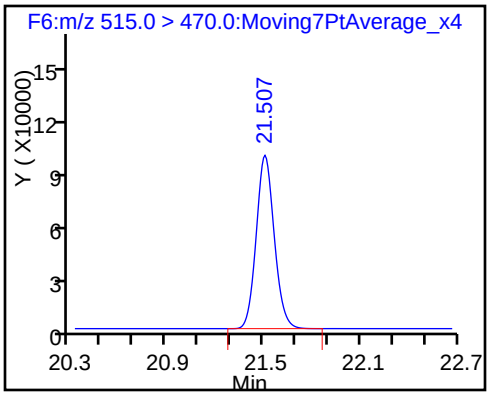
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_267.d
Lims ID: 320-23919-A-20-A
Client ID: WI-AF-3FB04-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 04:33:16 ALS Bottle#: 47 Worklist Smp#: 92
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-20-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 10:34:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.0	110.20
$ 10 13C2 PFDA	10.0	10.9	109.36

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

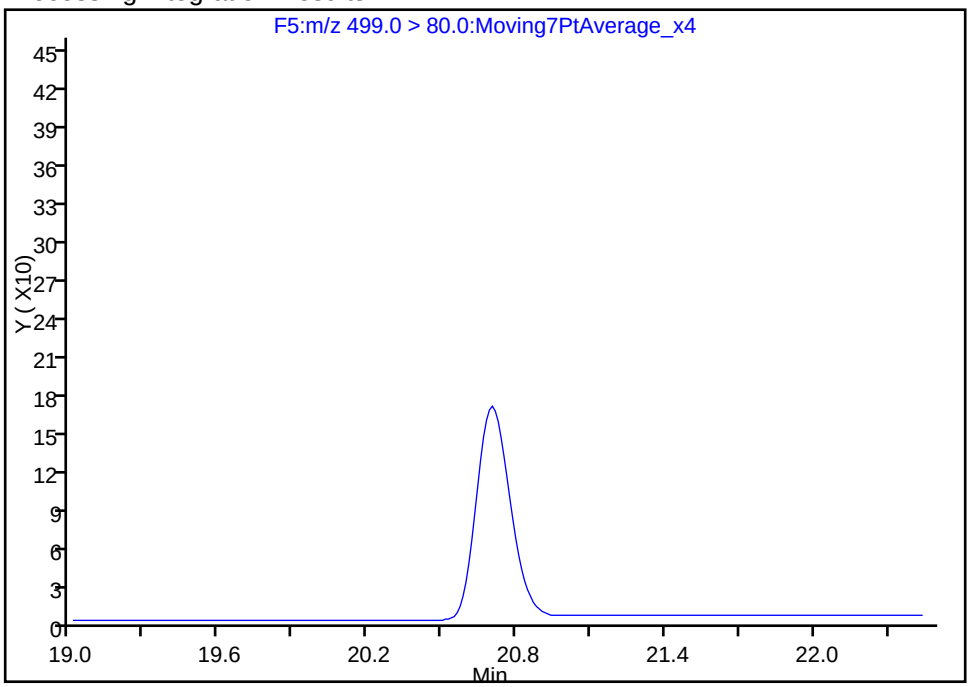
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_267.d				
Injection Date:	11-Dec-2016 04:33:16	Instrument ID:	A6		
Lims ID:	320-23919-A-20-A	Lab Sample ID:	320-23919-20		
Client ID:	WI-AF-3FB04-1116				
Operator ID:	CBW	ALS Bottle#:	47	Worklist Smp#:	92
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

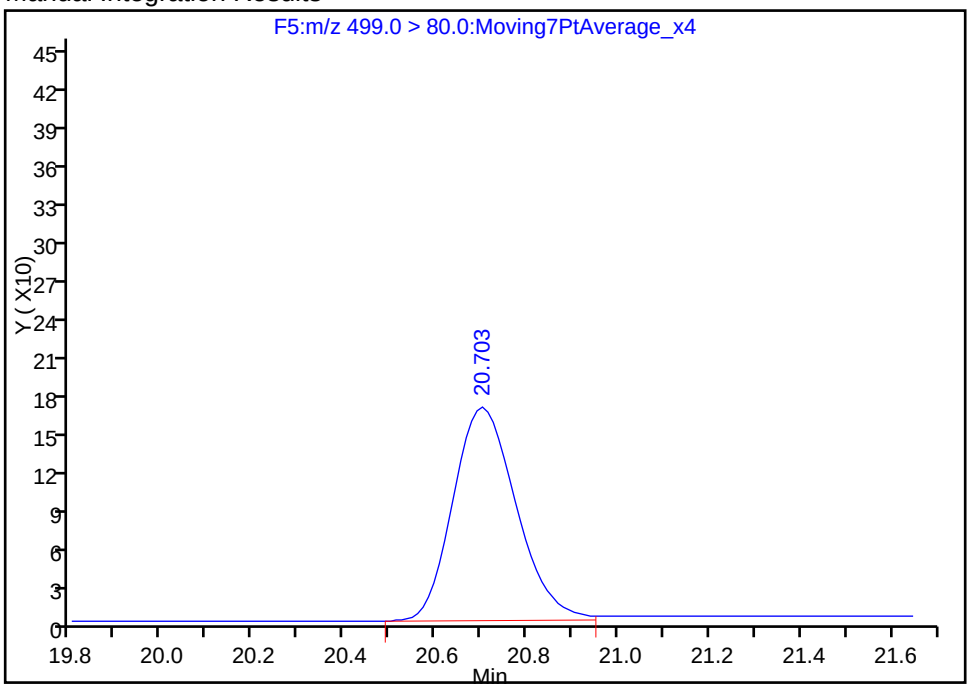
Processing Integration Results

Not Detected
Expected RT: 20.44



Manual Integration Results

RT: 20.70
Area: 1616
Amount: 0.019440
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 10:34:28
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW05-1116 | Lab Sample ID: 320-23919-21

Matrix: Water | Lab File ID: 05DEC2016A6A_179.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:00

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.7(mL) | Date Analyzed: 12/09/2016 08:29

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141290 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	111		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_179.d
Lims ID: 320-23919-A-21-A
Client ID: WI-AF-3RW05-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 08:29:51 ALS Bottle#: 47 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-21-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 14:41:00 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 13:23:21

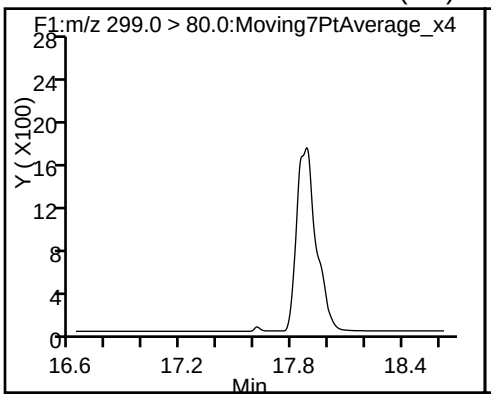
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	988417	11.1	31666	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.344	19.344	0.0	1.000	644	0.0101	1.7	M
* 5 13C2-PFOA								
415.0 > 370.0	20.046	20.047	-0.001		760601	10.0	19973	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.619	0.060	1.000	15958	0.2147	387	M
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		2041823	28.7	35527	
9 Perfluorononanoic acid								
463.0 > 419.0	20.761	20.762	-0.001	1.000	8531	0.0989	47.1	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.498	-0.009	1.000	742197	11.1	23359	

QC Flag Legend

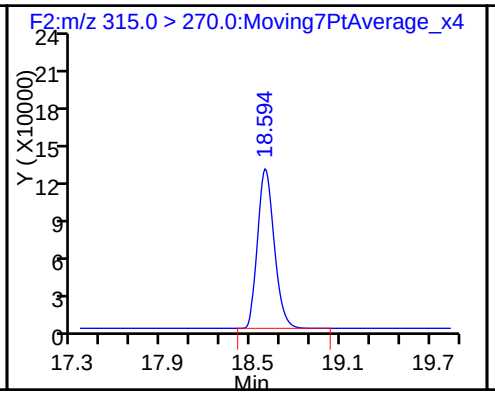
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_179.d
Injection Date: 09-Dec-2016 08:29:51 Instrument ID: A6
Lims ID: 320-23919-A-21-A Lab Sample ID: 320-23919-21
Client ID: WI-AF-3RW05-1116
Operator ID: CBW ALS Bottle#: 47 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

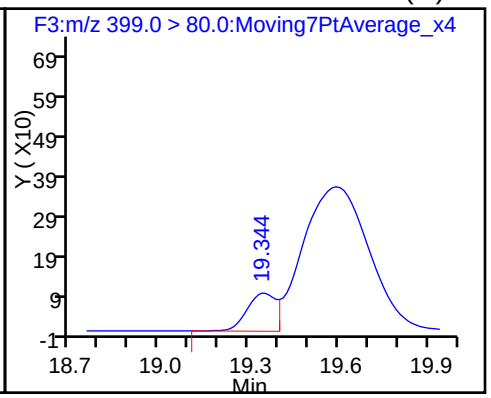
1 Perfluorobutanesulfonic acid (ND)



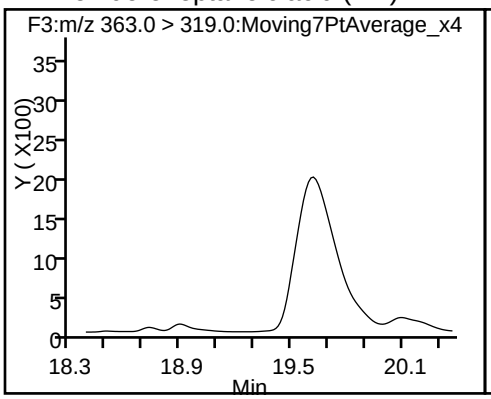
$ 2 13C2 PFHxA



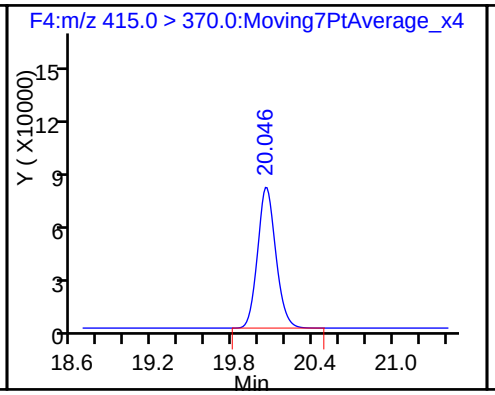
3 Perfluorohexanesulfonic acid (M)



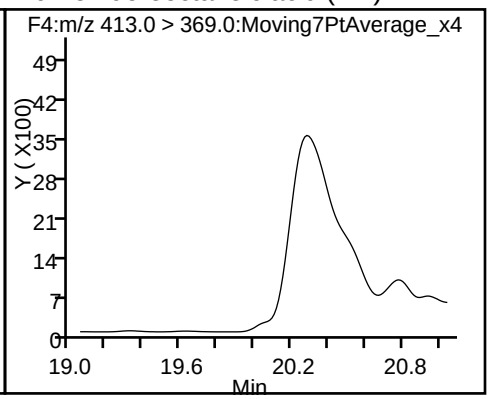
4 Perfluoroheptanoic acid (ND)



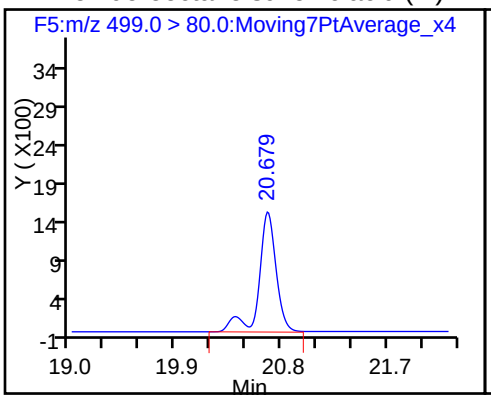
* 5 13C2-PFOA



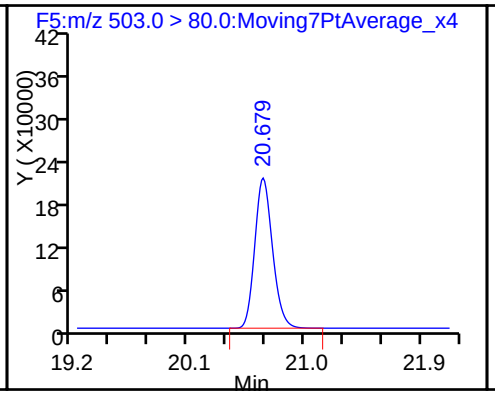
6 Perfluorooctanoic acid (ND)



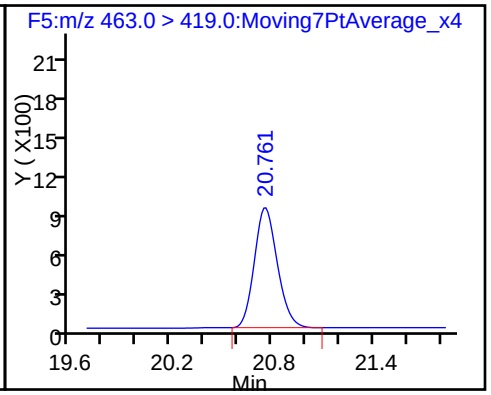
7 Perfluorooctane sulfonic acid (M)



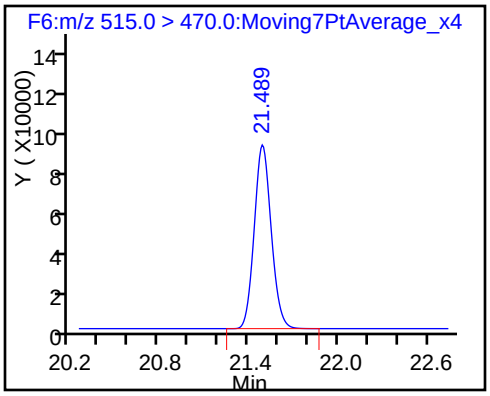
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_179.d
Lims ID: 320-23919-A-21-A
Client ID: WI-AF-3RW05-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 08:29:51 ALS Bottle#: 47 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-21-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 14:41:00 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 13:23:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.40
$ 10 13C2 PFDA	10.0	11.1	111.36

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

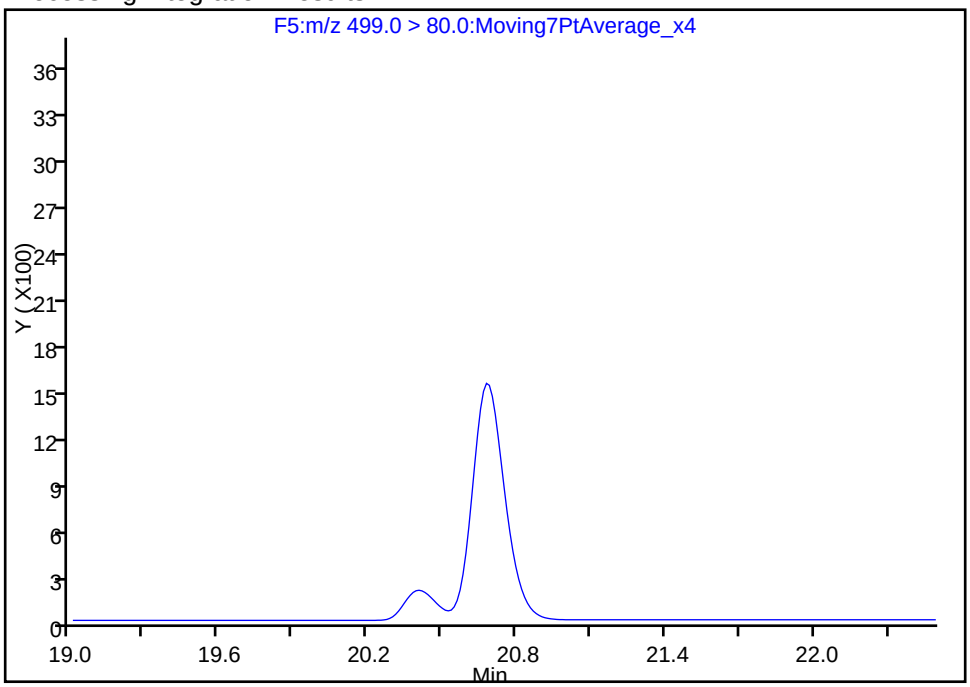
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_179.d				
Injection Date:	09-Dec-2016 08:29:51	Instrument ID:	A6		
Lims ID:	320-23919-A-21-A	Lab Sample ID:	320-23919-21		
Client ID:	WI-AF-3RW05-1116				
Operator ID:	CBW	ALS Bottle#:	47	Worklist Smp#:	4
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

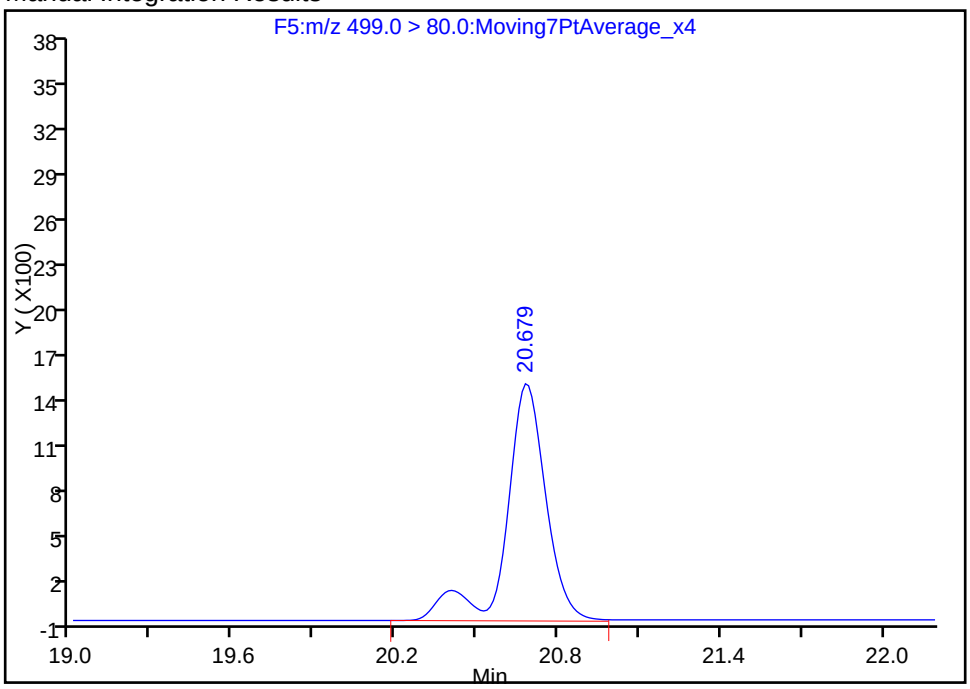
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.68
Area: 15958
Amount: 0.214706
Amount Units: ng/ml



Reviewer: barnettj, 09-Dec-2016 13:23:21
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB05-1116 | Lab Sample ID: 320-23919-22

Matrix: Water | Lab File ID: 05DEC2016A6A_268.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:01

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.3(mL) | Date Analyzed: 12/11/2016 05:02

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141521 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	101		70-130
STL00996	13C2 PFDA	109		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_268.d
Lims ID: 320-23919-A-22-A
Client ID: WI-AF-3FB05-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 05:02:53 ALS Bottle#: 48 Worklist Smp#: 93
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-22-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:42 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 10:35:14

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	859955	10.1	27191	
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.070	0.0		730332	10.0	19177	
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.702	-0.011		2079557	28.7	43344	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.774	20.773	0.001	1.000	4001	0.0483	222	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.498	0.009	1.000	695050	10.9	21697	

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_268.d

Injection Date: 11-Dec-2016 05:02:53 Instrument ID: A6

Lims ID: 320-23919-A-22-A Lab Sample ID: 320-23919-22

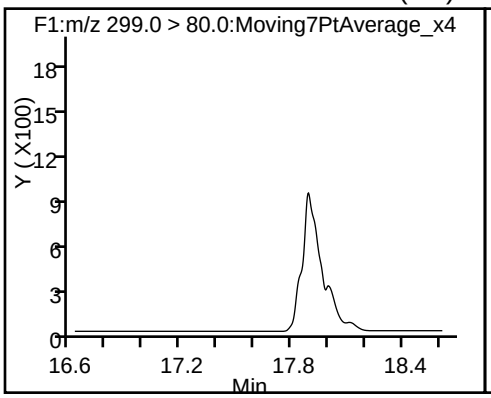
Client ID: WI-AF-3FB05-1116

Operator ID: CBW ALS Bottle#: 48 Worklist Smp#: 93

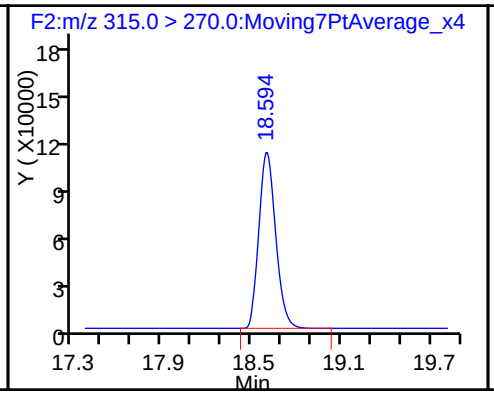
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

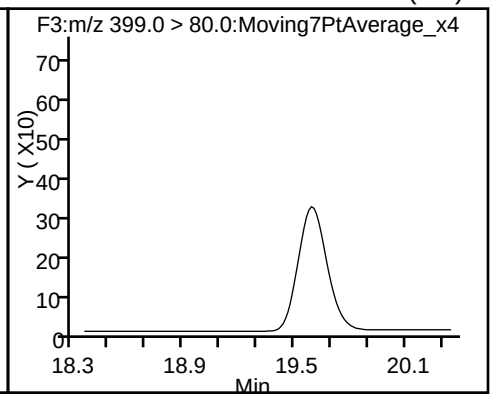
1 Perfluorobutanesulfonic acid (ND)



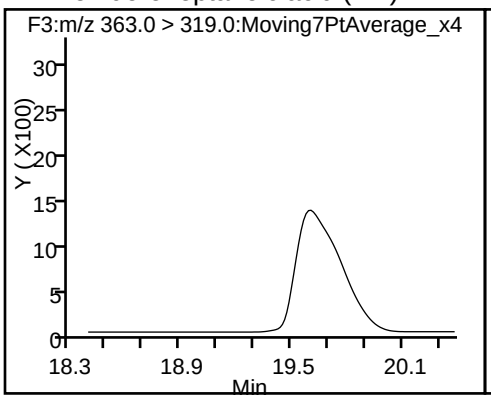
$ 2 13C2 PFHxA



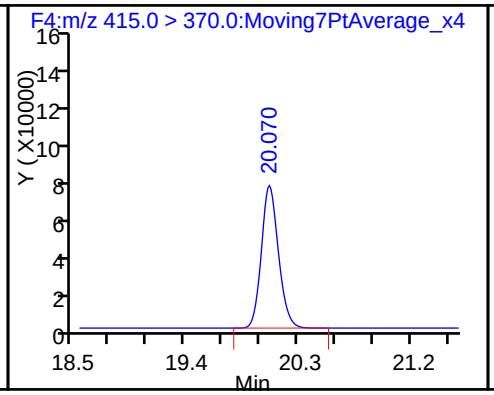
3 Perfluorohexanesulfonic acid (ND)



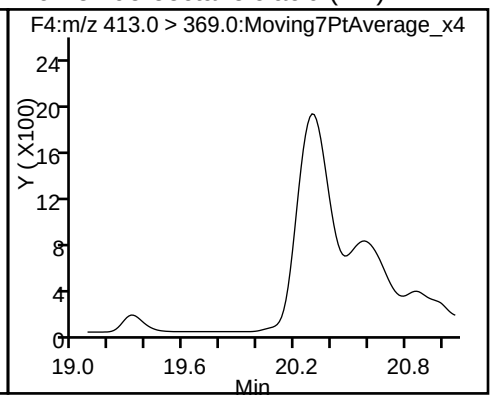
4 Perfluoroheptanoic acid (ND)



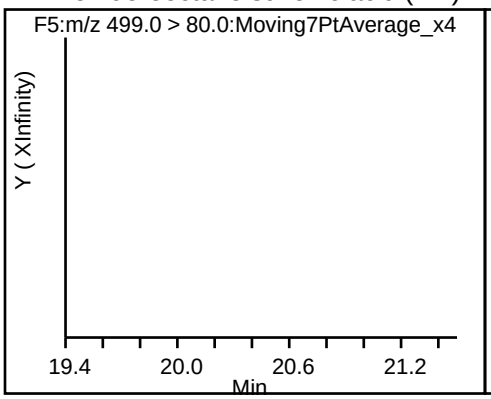
* 5 13C2-PFOA



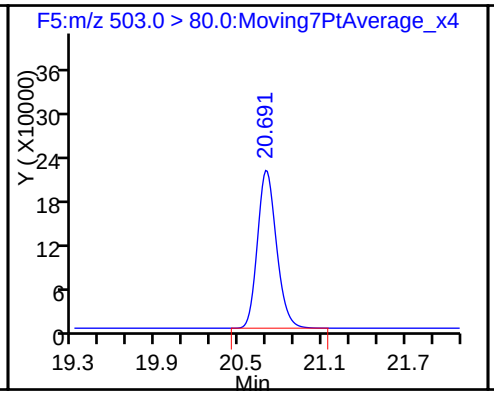
6 Perfluorooctanoic acid (ND)



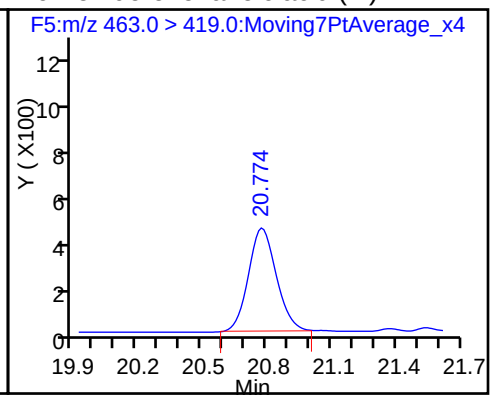
7 Perfluorooctane sulfonic acid (ND)



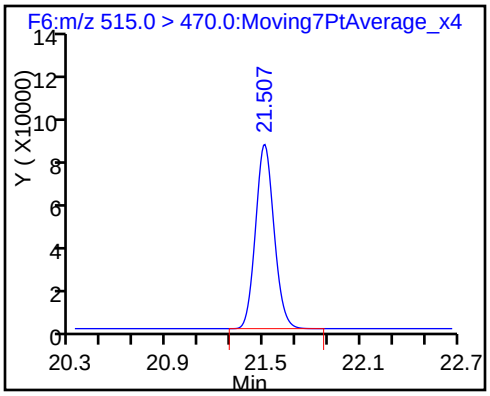
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_268.d
Lims ID: 320-23919-A-22-A
Client ID: WI-AF-3FB05-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 05:02:53 ALS Bottle#: 48 Worklist Smp#: 93
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-a-22-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:42 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 10:35:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.1	100.94
$ 10 13C2 PFDA	10.0	10.9	108.61

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW06-1116 | Lab Sample ID: 320-23919-23

Matrix: Water | Lab File ID: 05DEC2016A6A_198.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:05

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 279.6(mL) | Date Analyzed: 12/09/2016 18:30

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U M	0.027	0.021	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.13	0.098	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	105		70-130
STL00996	13C2 PFDA	99		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_198.d
Lims ID: 320-23919-A-23-A
Client ID: WI-AF-3RW06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 18:30:33 ALS Bottle#: 29 Worklist Smp#: 23
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-23-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:57:47

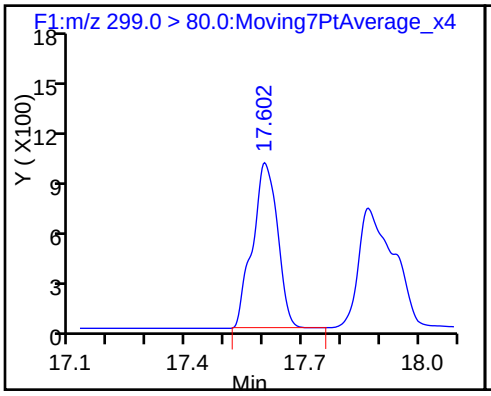
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.602	17.608	-0.006	1.000	4323	0.0946	19.3	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	799710	10.5	26072	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.320	19.332	-0.012	1.000	474	0.008100	8.3	M
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.403	19.368	0.035	1.000	591	0.007453	0.5	M
* 5 13C2-PFOA								
415.0 > 370.0	20.023	20.023	0.0		652610	10.0	16868	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.035	20.023	0.012	1.000	3833	0.0565	2.8	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.667	20.619	0.048	1.000	2204	0.0324	57.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1868885	28.7	39112	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	14467	0.1954	103	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	566191	9.90	17822	

QC Flag Legend

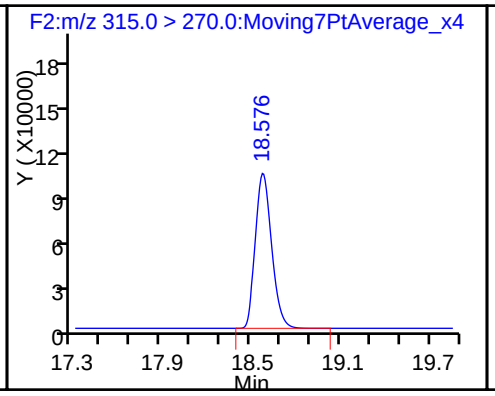
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_198.d
Injection Date: 09-Dec-2016 18:30:33 Instrument ID: A6
Lims ID: 320-23919-A-23-A Lab Sample ID: 320-23919-23
Client ID: WI-AF-3RW06-1116
Operator ID: CBW ALS Bottle#: 29 Worklist Smp#: 23
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

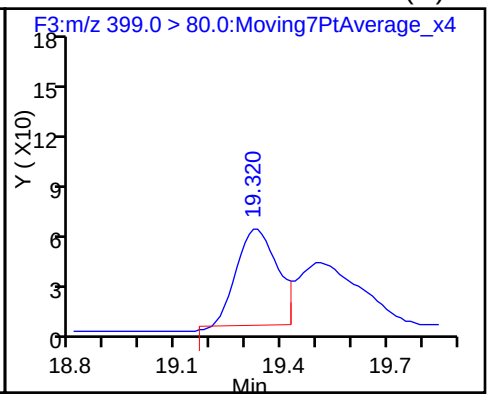
1 Perfluorobutanesulfonic acid



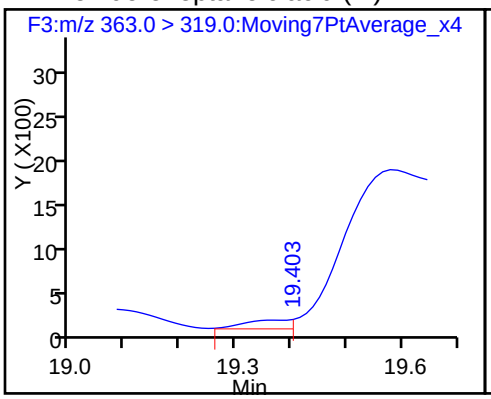
$ 2 13C2 PFHxA



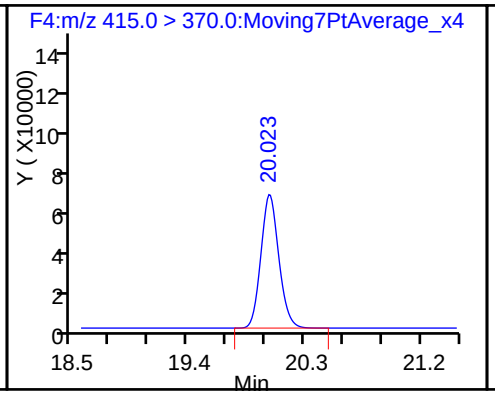
3 Perfluorohexanesulfonic acid (M)



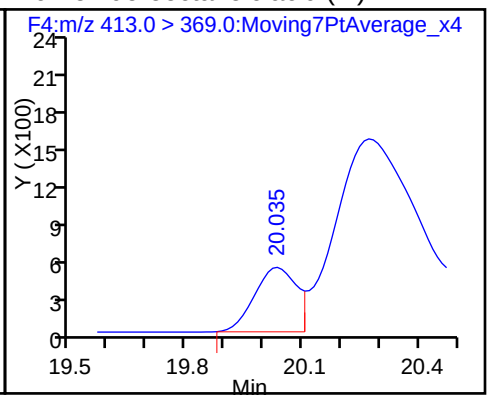
4 Perfluoroheptanoic acid (M)



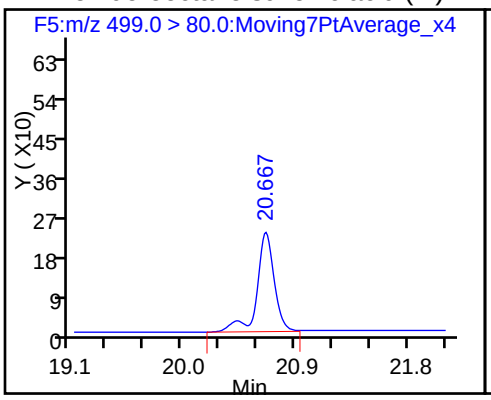
* 5 13C2-PFOA



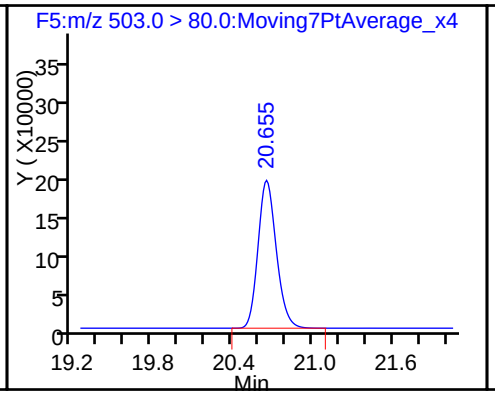
6 Perfluorooctanoic acid (M)



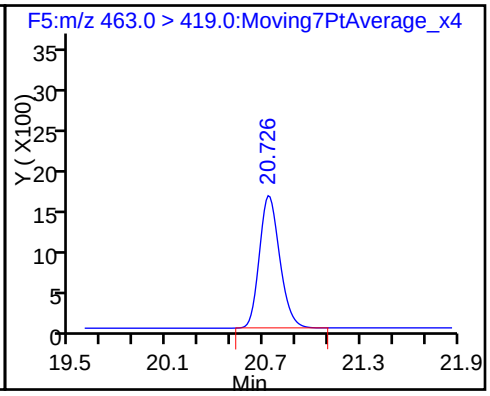
7 Perfluorooctane sulfonic acid (M)



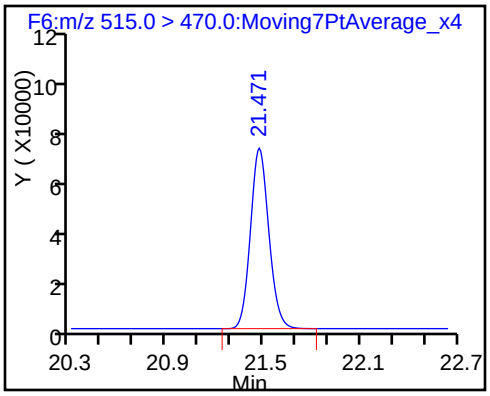
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_198.d
Lims ID: 320-23919-A-23-A
Client ID: WI-AF-3RW06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 18:30:33 ALS Bottle#: 29 Worklist Smp#: 23
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-23-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:57:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.5	105.05
$ 10 13C2 PFDA	10.0	9.90	99.01

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

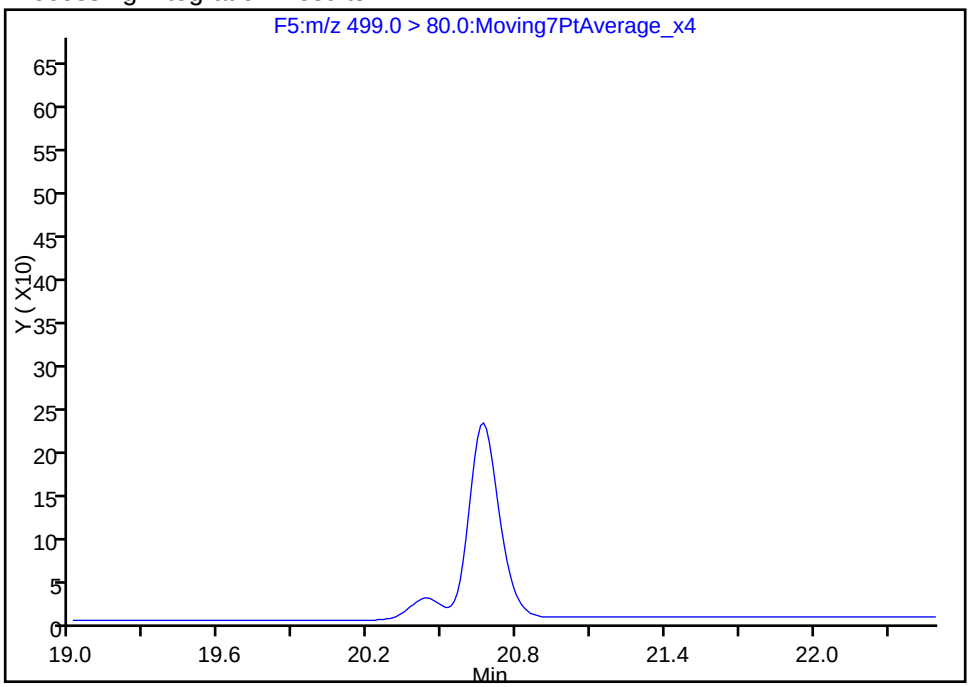
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_198.d				
Injection Date:	09-Dec-2016 18:30:33	Instrument ID:	A6		
Lims ID:	320-23919-A-23-A	Lab Sample ID:	320-23919-23		
Client ID:	WI-AF-3RW06-1116				
Operator ID:	CBW	ALS Bottle#:	29	Worklist Smp#:	23
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

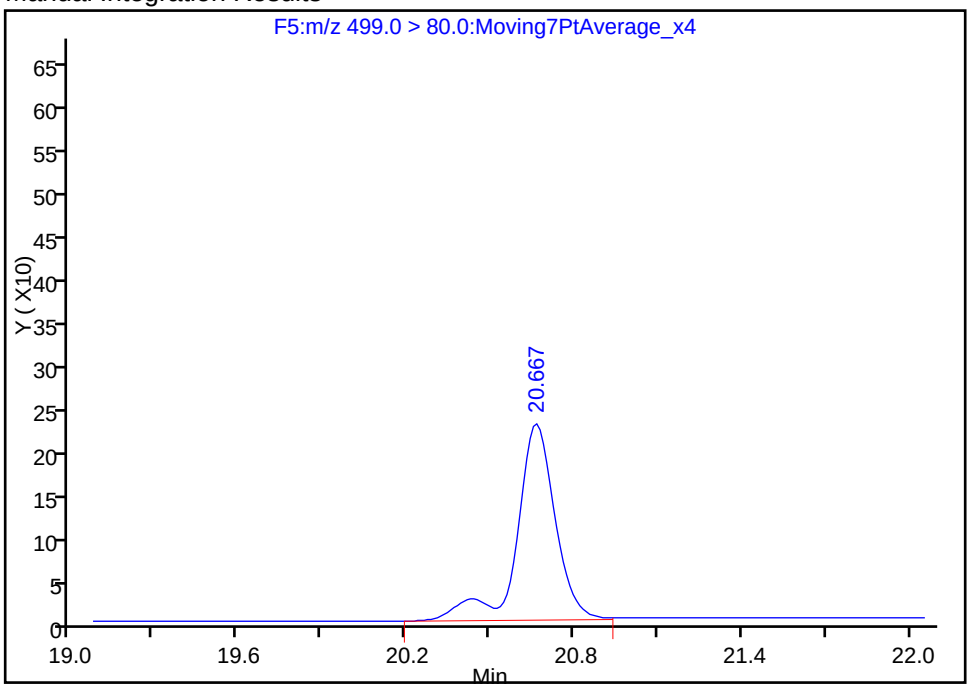
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.67
Area: 2204
Amount: 0.032398
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 10:57:47
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

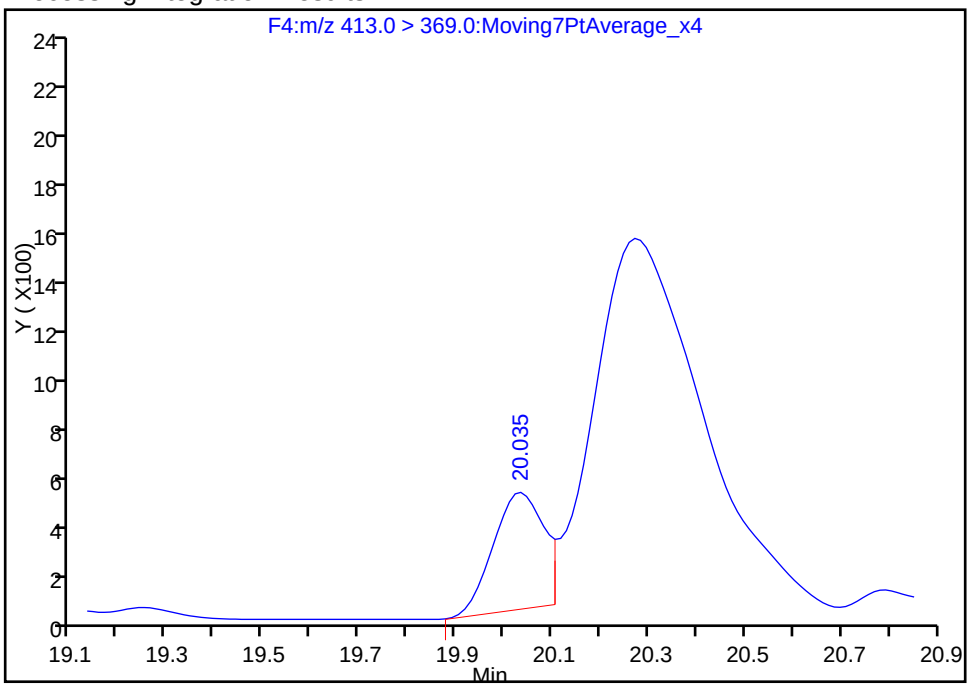
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_198.d				
Injection Date:	09-Dec-2016 18:30:33	Instrument ID:	A6		
Lims ID:	320-23919-A-23-A	Lab Sample ID:	320-23919-23		
Client ID:	WI-AF-3RW06-1116				
Operator ID:	CBW	ALS Bottle#:	29	Worklist Smp#:	23
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

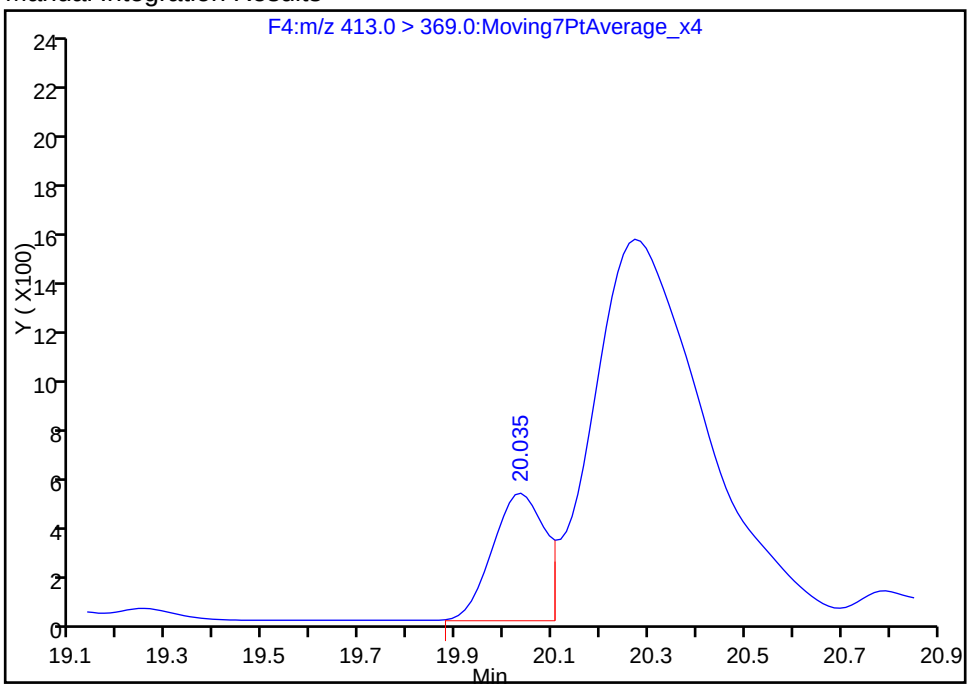
Processing Integration Results

RT: 20.03
Area: 3403
Amount: 0.050118
Amount Units: ng/ml



Manual Integration Results

RT: 20.03
Area: 3833
Amount: 0.056451
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 10:57:47

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB06-1116 | Lab Sample ID: 320-23919-24

Matrix: Water | Lab File ID: 05DEC2016A6A_199.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:06

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 264.7(mL) | Date Analyzed: 12/09/2016 19:00

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.045	U M	0.057	0.045	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.028	0.023	0.0089
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.045

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	113		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_199.d
Lims ID: 320-23919-A-24-A
Client ID: WI-AF-3FB06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 19:00:11 ALS Bottle#: 30 Worklist Smp#: 24
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-24-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:58:41

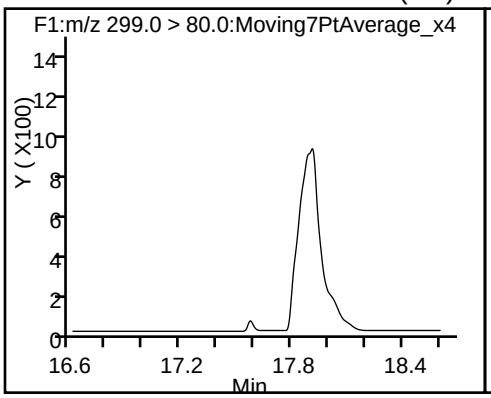
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	993625	11.3	32137	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.320	19.332	-0.012	1.000	174	0.002456	0.9	M
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.023	0.012		751489	10.0	19429	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.667	20.619	0.048	1.000	895	0.0109	15.3	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		2262902	28.7	58934	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.726	0.012	1.000	4121	0.0483	116	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.471	0.009	1.000	696877	10.6	21980	

QC Flag Legend

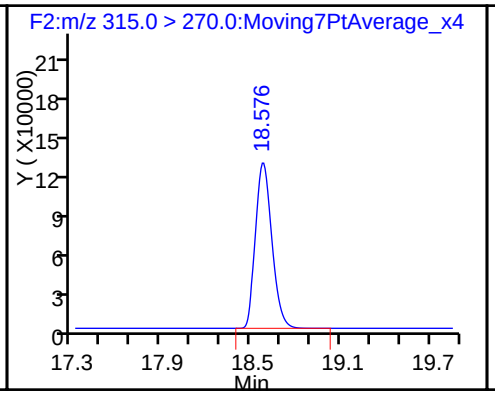
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_199.d
Injection Date: 09-Dec-2016 19:00:11 Instrument ID: A6
Lims ID: 320-23919-A-24-A Lab Sample ID: 320-23919-24
Client ID: WI-AF-3FB06-1116
Operator ID: CBW ALS Bottle#: 30 Worklist Smp#: 24
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

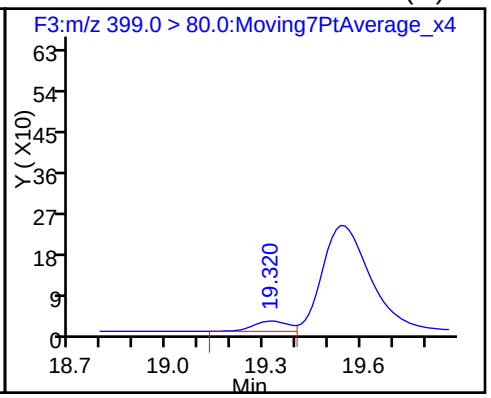
1 Perfluorobutanesulfonic acid (ND)



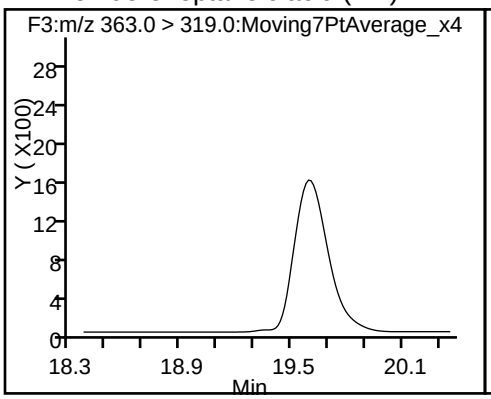
$ 2 13C2 PFHxA



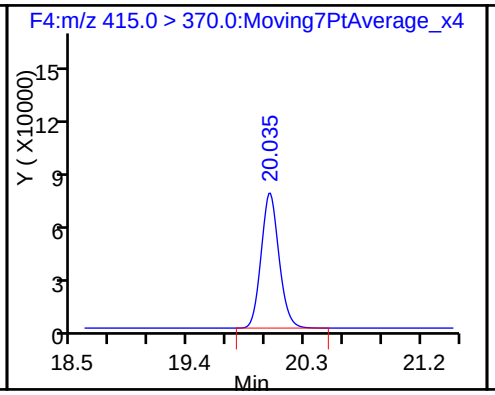
3 Perfluorohexanesulfonic acid (M)



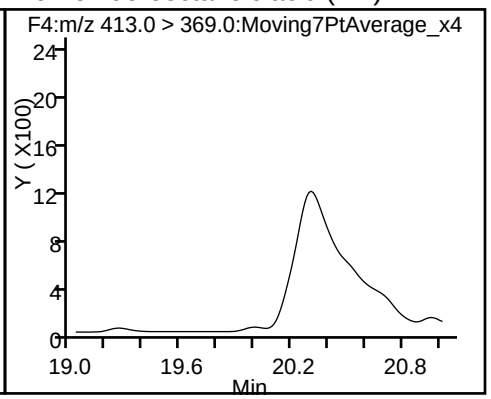
4 Perfluoroheptanoic acid (ND)



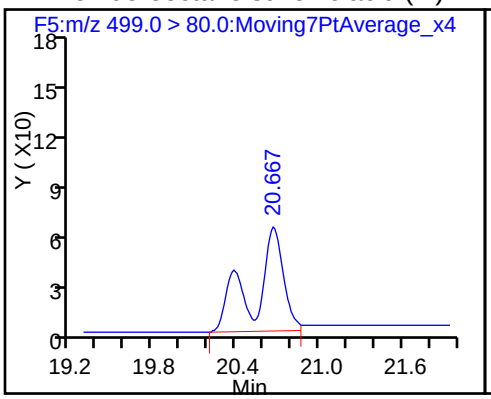
* 5 13C2-PFOA



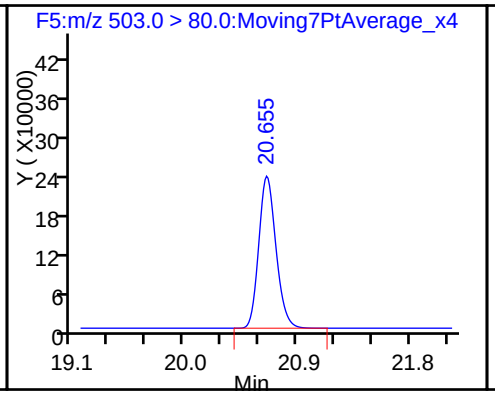
6 Perfluorooctanoic acid (ND)



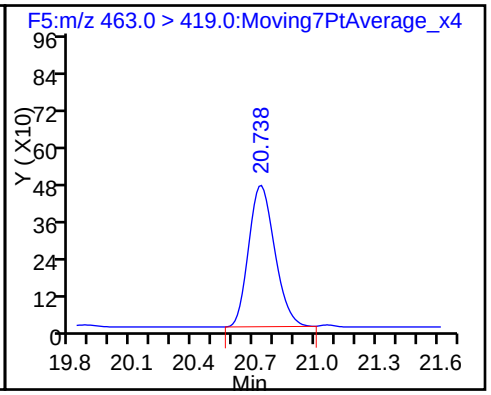
7 Perfluorooctane sulfonic acid (M)



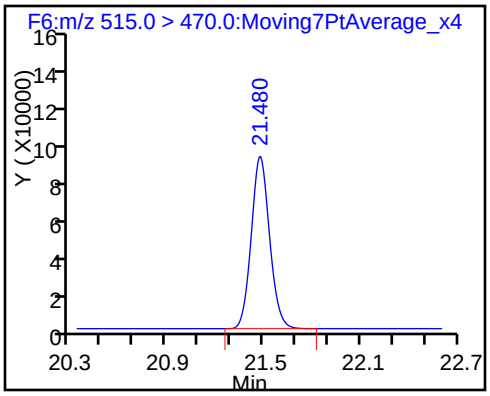
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_199.d
Lims ID: 320-23919-A-24-A
Client ID: WI-AF-3FB06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 19:00:11 ALS Bottle#: 30 Worklist Smp#: 24
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-24-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:58:41

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.3	113.35
$ 10 13C2 PFDA	10.0	10.6	105.83

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

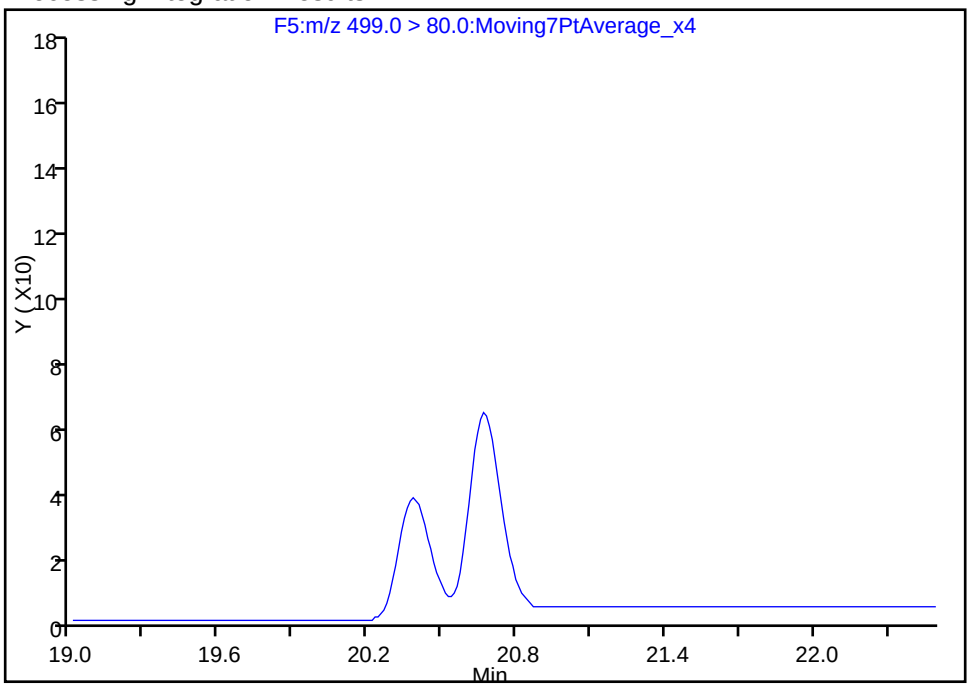
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_199.d				
Injection Date:	09-Dec-2016 19:00:11	Instrument ID:	A6		
Lims ID:	320-23919-A-24-A	Lab Sample ID:	320-23919-24		
Client ID:	WI-AF-3FB06-1116				
Operator ID:	CBW	ALS Bottle#:	30	Worklist Smp#:	24
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

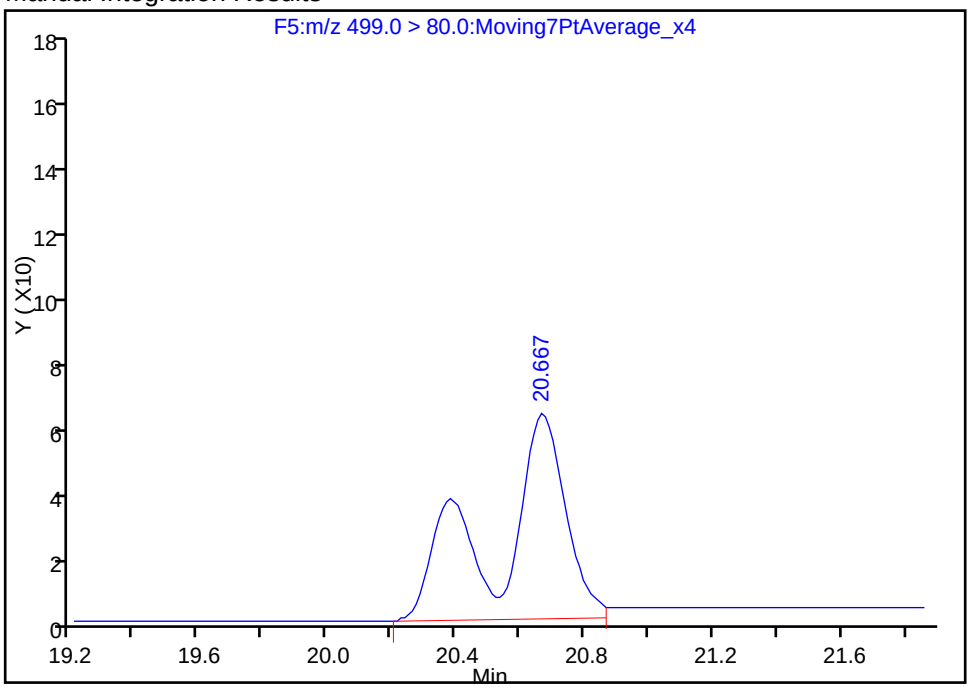
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.67
Area: 895
Amount: 0.010865
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 10:58:41
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW07-1116 | Lab Sample ID: 320-23919-25

Matrix: Water | Lab File ID: 05DEC2016A6A_200.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:20

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 259(mL) | Date Analyzed: 12/09/2016 19:29

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U	0.058	0.046	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	109		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_200.d
Lims ID: 320-23919-A-25-A
Client ID: WI-AF-3RW07-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 19:29:45 ALS Bottle#: 31 Worklist Smp#: 25
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-25-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:59:50

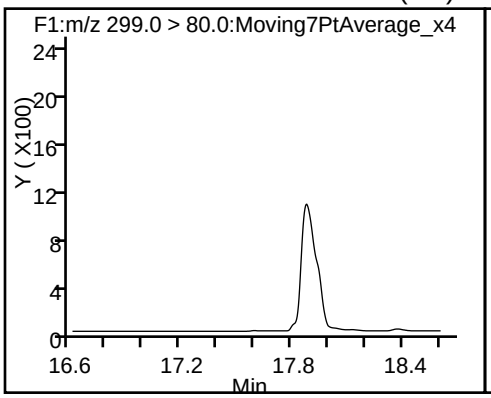
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	857300	11.2	28144	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.344	19.332	0.012	1.000	220	0.003675	1.9	M
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.225	19.368	-0.143	1.000	918	0.0115	0.5	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.023	0.012		656002	10.0	17144	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.023	20.023	0.0	1.000	586	0.008586	0.4	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.655	0.012		1912136	28.7	50032	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.726	0.012	1.000	11100	0.1492	305	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.471	0.009	1.000	627027	10.9	19782	

QC Flag Legend

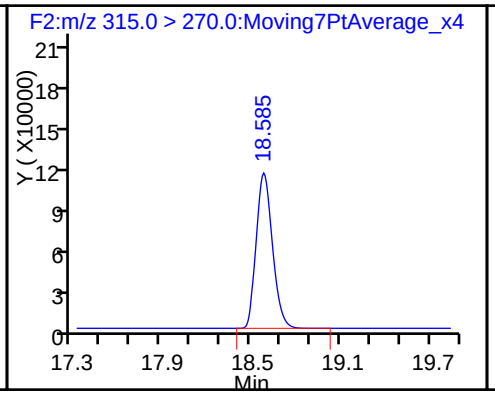
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_200.d
Injection Date: 09-Dec-2016 19:29:45 Instrument ID: A6
Lims ID: 320-23919-A-25-A Lab Sample ID: 320-23919-25
Client ID: WI-AF-3RW07-1116
Operator ID: CBW ALS Bottle#: 31 Worklist Smp#: 25
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

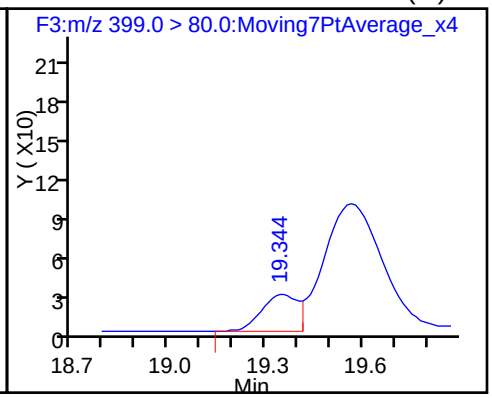
1 Perfluorobutanesulfonic acid (ND)



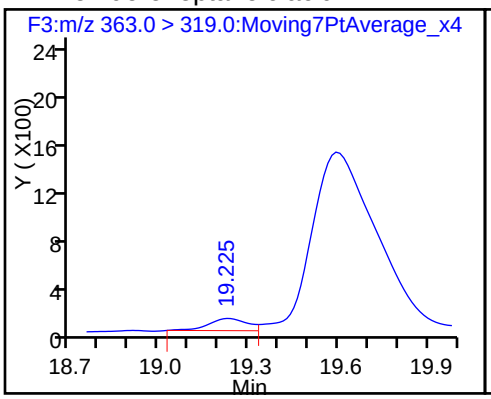
$ 2 13C2 PFHxA



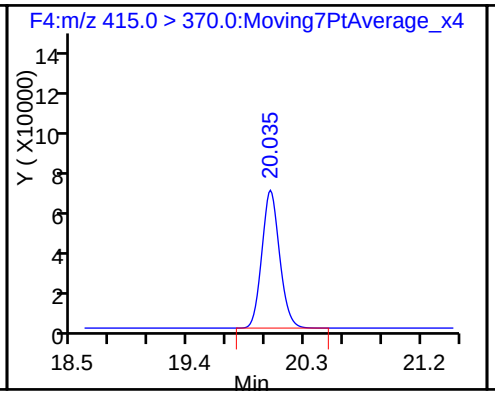
3 Perfluorohexanesulfonic acid (M)



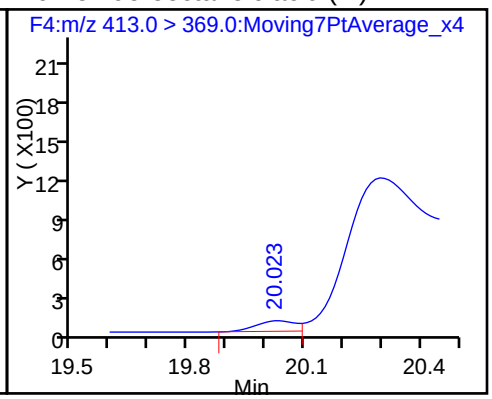
4 Perfluoroheptanoic acid



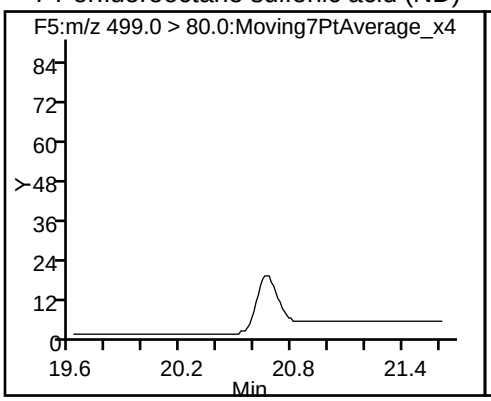
* 5 13C2-PFOA



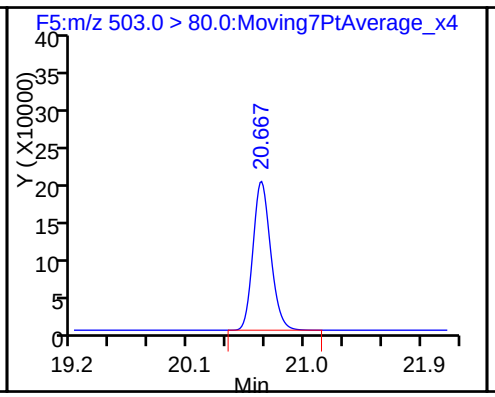
6 Perfluorooctanoic acid (M)



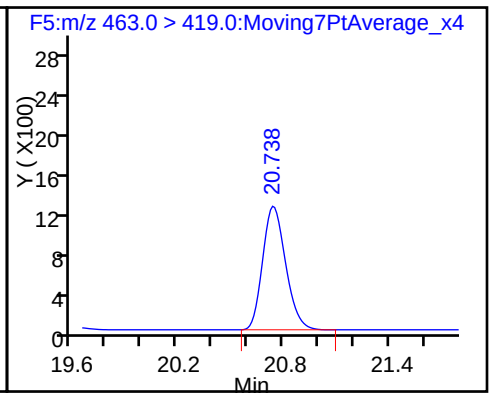
7 Perfluorooctane sulfonic acid (ND)



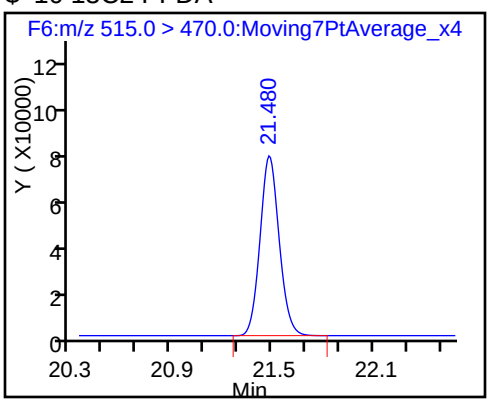
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_200.d
Lims ID: 320-23919-A-25-A
Client ID: WI-AF-3RW07-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 19:29:45 ALS Bottle#: 31 Worklist Smp#: 25
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-25-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:59:50

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	112.03
$ 10 13C2 PFDA	10.0	10.9	109.08

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

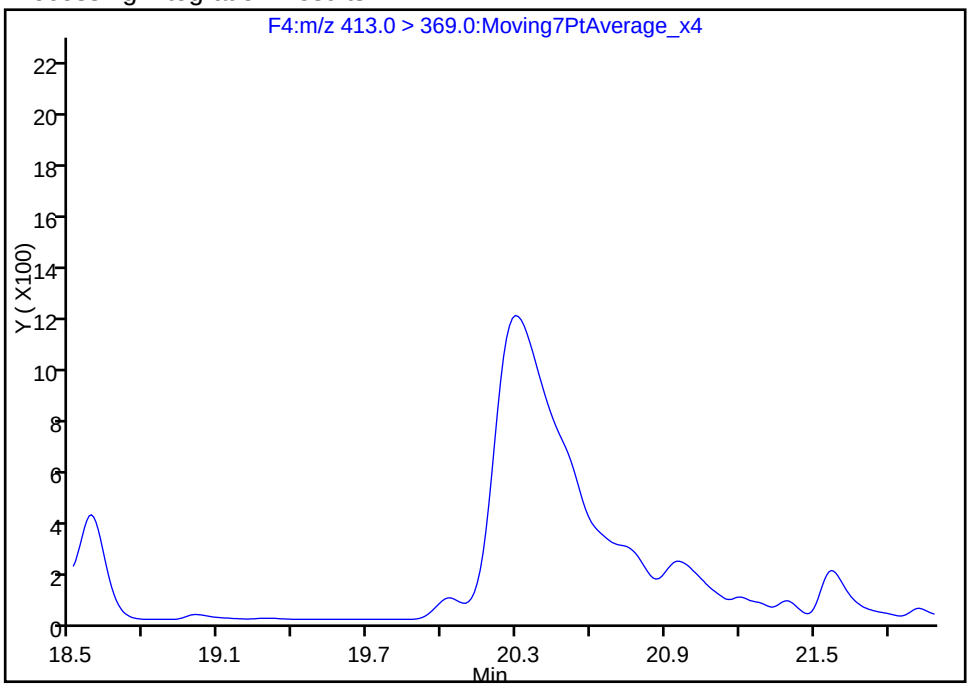
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_200.d				
Injection Date:	09-Dec-2016 19:29:45	Instrument ID:	A6		
Lims ID:	320-23919-A-25-A	Lab Sample ID:	320-23919-25		
Client ID:	WI-AF-3RW07-1116				
Operator ID:	CBW	ALS Bottle#:	31	Worklist Smp#:	25
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

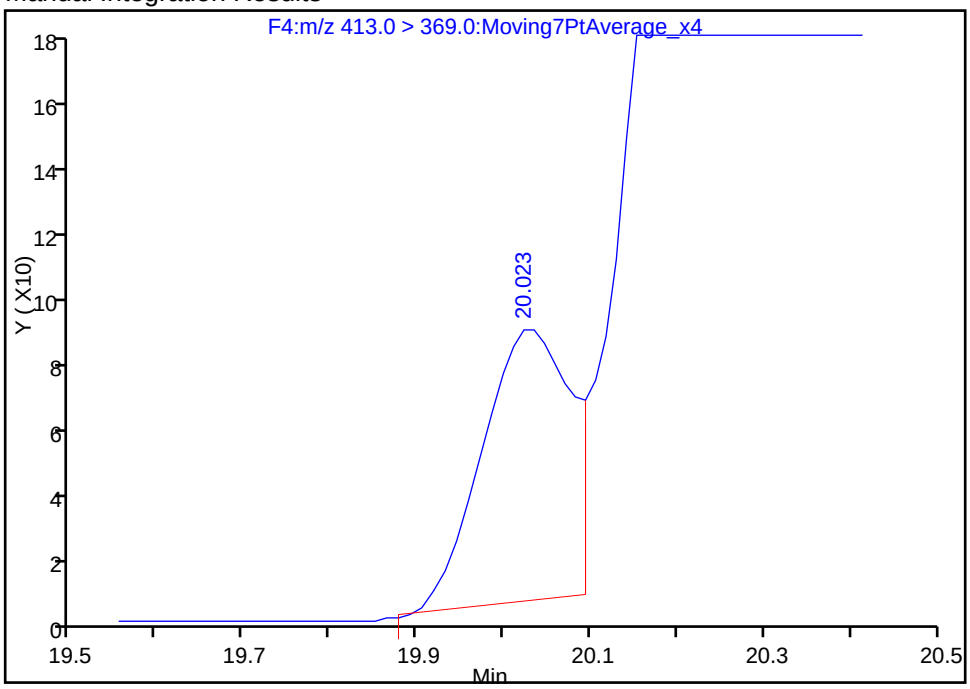
Not Detected
Expected RT: 20.02

Processing Integration Results



Manual Integration Results

RT: 20.02
Area: 586
Amount: 0.008586
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 10:59:50
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB07-1116 | Lab Sample ID: 320-23919-26

Matrix: Water | Lab File ID: 05DEC2016A6A_201.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:21

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 278.1(mL) | Date Analyzed: 12/09/2016 19:59

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.022	0.0085
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.099	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	110		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_201.d
Lims ID: 320-23919-A-26-A
Client ID: WI-AF-3FB07-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 19:59:22 ALS Bottle#: 32 Worklist Smp#: 26
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-26-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:00:34

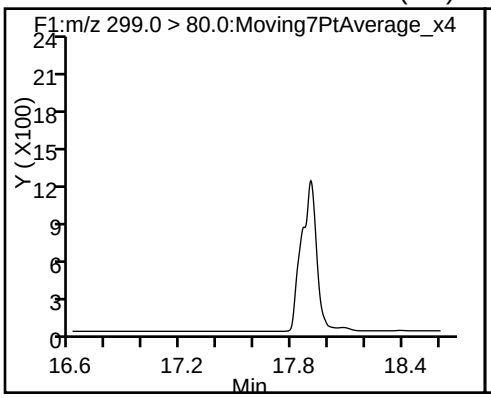
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	970473	11.0	31450	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.023	0.012		755832	10.0	19672	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		2165503	28.7	37510	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.750	20.726	0.024	1.000	1471	0.0172	44.8	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.471	0.009	1.000	699006	10.6	21753	

QC Flag Legend

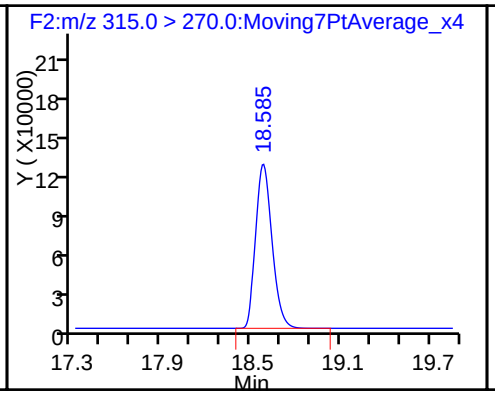
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_201.d
Injection Date: 09-Dec-2016 19:59:22 Instrument ID: A6
Lims ID: 320-23919-A-26-A Lab Sample ID: 320-23919-26
Client ID: WI-AF-3FB07-1116
Operator ID: CBW ALS Bottle#: 32 Worklist Smp#: 26
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

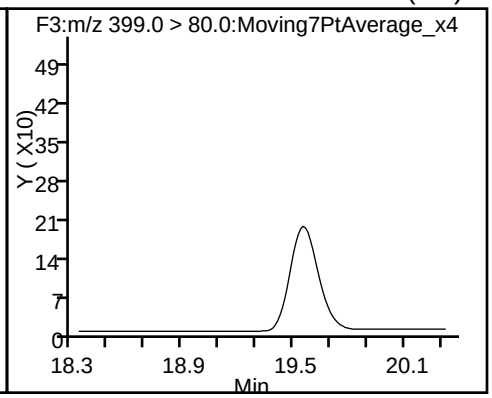
1 Perfluorobutanesulfonic acid (ND)



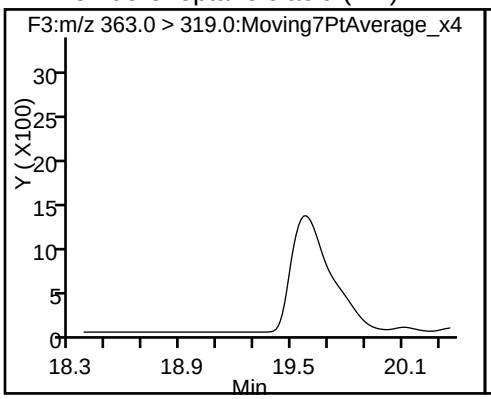
$ 2 13C2 PFHxA



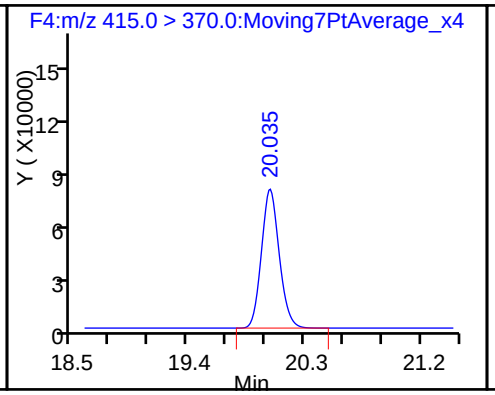
3 Perfluorohexanesulfonic acid (ND)



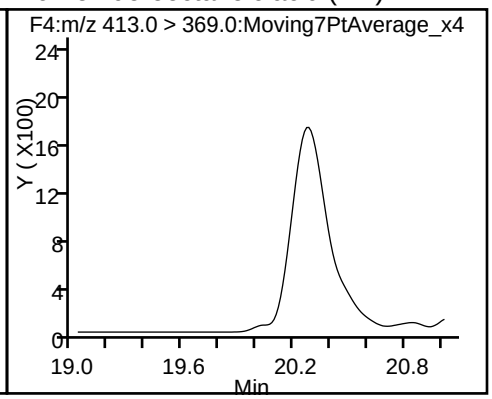
4 Perfluoroheptanoic acid (ND)



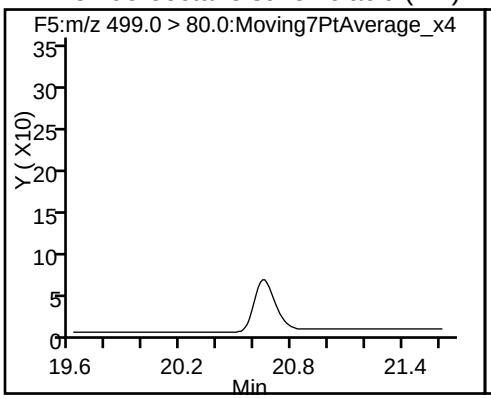
* 5 13C2-PFOA



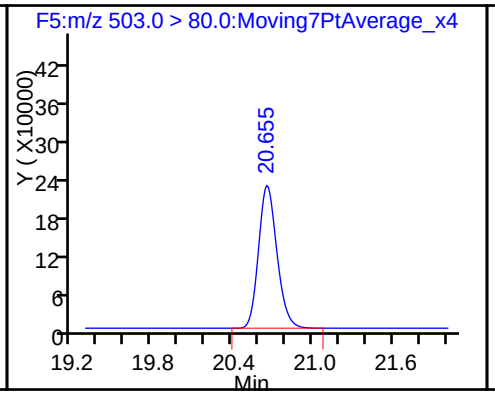
6 Perfluorooctanoic acid (ND)



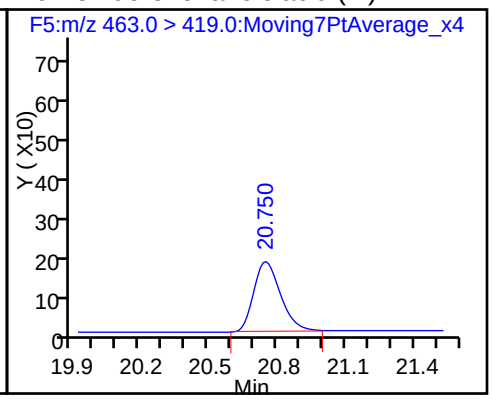
7 Perfluorooctane sulfonic acid (ND)



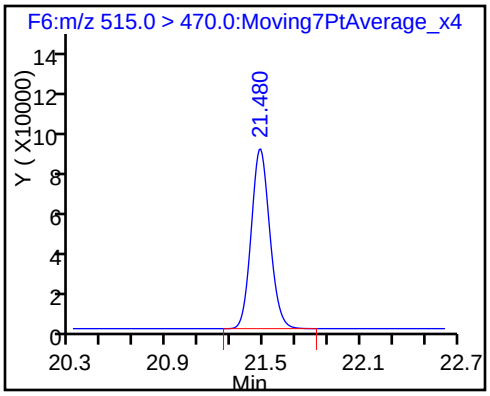
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_201.d
Lims ID: 320-23919-A-26-A
Client ID: WI-AF-3FB07-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 19:59:22 ALS Bottle#: 32 Worklist Smp#: 26
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-26-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:00:34

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.0	110.07
$ 10 13C2 PFDA	10.0	10.6	105.54

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW08-1116 | Lab Sample ID: 320-23919-27

Matrix: Water | Lab File ID: 05DEC2016A6A_205.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:15

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 269.7(mL) | Date Analyzed: 12/09/2016 21:57

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.056	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_205.d
Lims ID: 320-23919-A-27-A
Client ID: WI-AF-3RW08-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 21:57:52 ALS Bottle#: 33 Worklist Smp#: 30
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-27-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

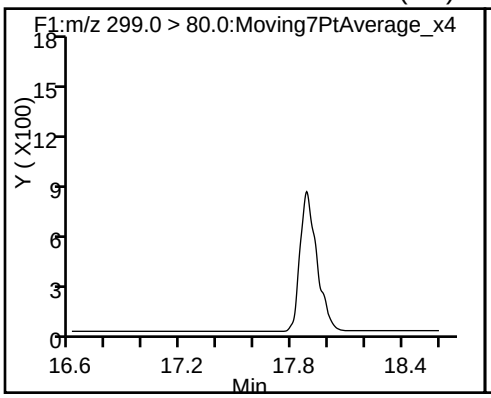
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:02:27

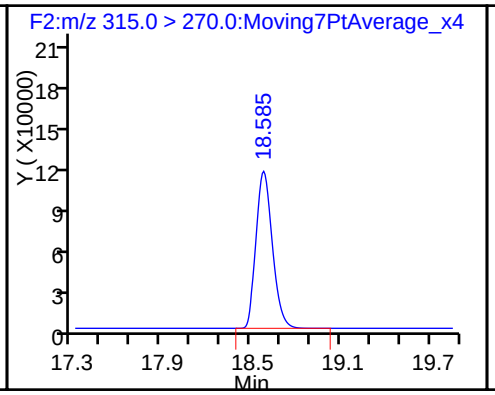
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	890987	11.2	29011	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		684211	10.0	17837	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2036879	28.7	53095	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	11539	0.1487	48.1	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	632786	10.6	19760	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_205.d
Injection Date: 09-Dec-2016 21:57:52 Instrument ID: A6
Lims ID: 320-23919-A-27-A Lab Sample ID: 320-23919-27
Client ID: WI-AF-3RW08-1116
Operator ID: CBW ALS Bottle#: 33 Worklist Smp#: 30
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

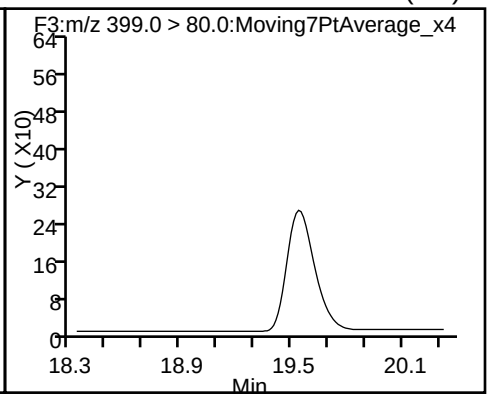
1 Perfluorobutanesulfonic acid (ND)



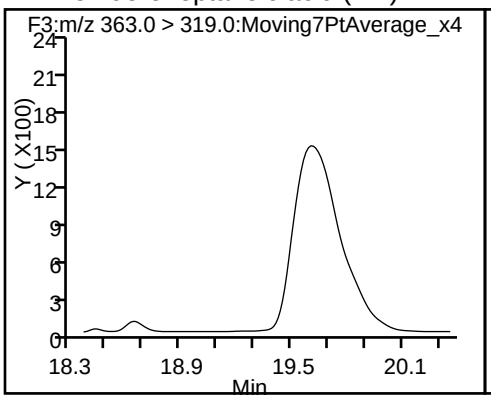
$ 2 13C2 PFHxA



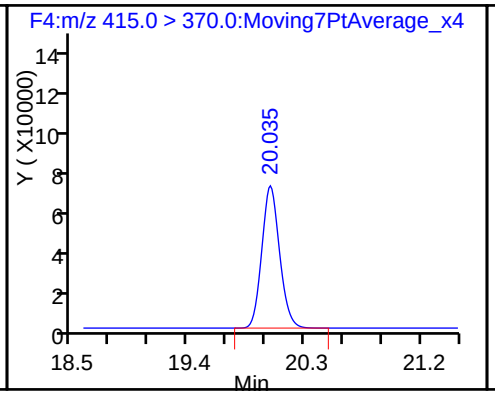
3 Perfluorohexanesulfonic acid (ND)



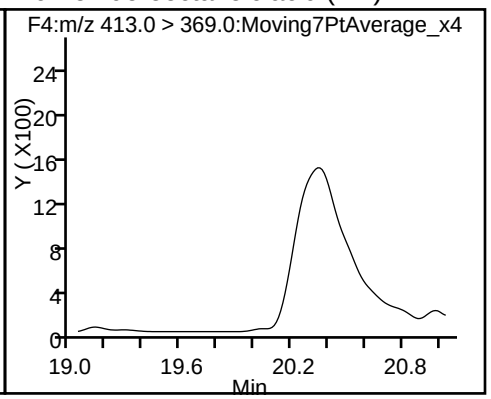
4 Perfluoroheptanoic acid (ND)



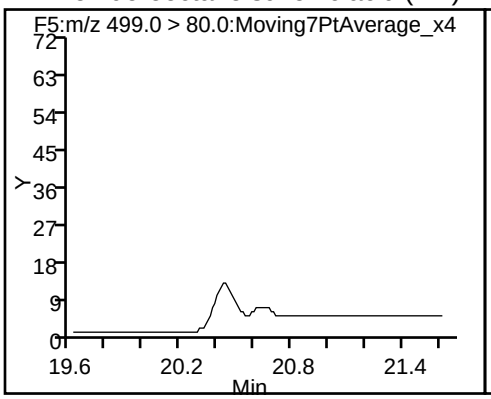
* 5 13C2-PFOA



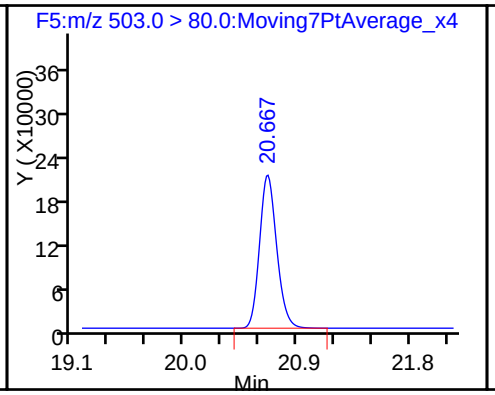
6 Perfluorooctanoic acid (ND)



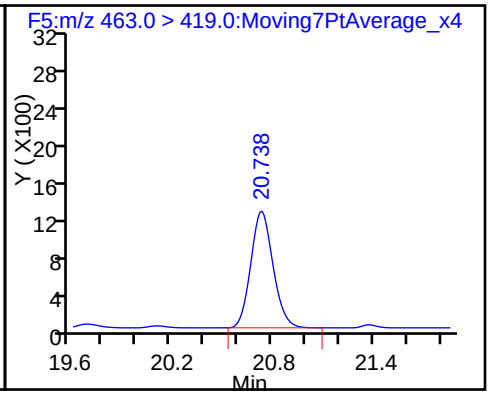
7 Perfluorooctane sulfonic acid (ND)



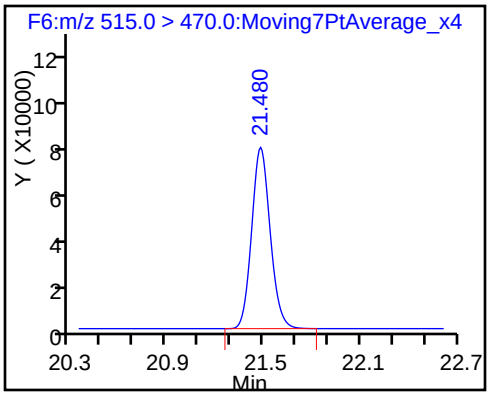
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_205.d
Lims ID: 320-23919-A-27-A
Client ID: WI-AF-3RW08-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 21:57:52 ALS Bottle#: 33 Worklist Smp#: 30
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-27-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:02:27

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	111.63
$ 10 13C2 PFDA	10.0	10.6	105.54

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB08-1116 | Lab Sample ID: 320-23919-28

Matrix: Water | Lab File ID: 05DEC2016A6A_206.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:16

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 286.6(mL) | Date Analyzed: 12/09/2016 22:27

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.052	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.021	0.0082
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.096	U	0.12	0.096	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_206.d
Lims ID: 320-23919-A-28-A
Client ID: WI-AF-3FB08-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 22:27:27 ALS Bottle#: 34 Worklist Smp#: 31
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-28-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:03:37

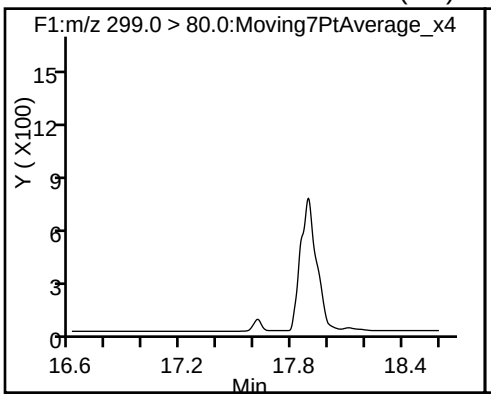
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	957200	10.8	30737	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.368	19.332	0.036	1.000	348	0.005090	2.4	M
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		760388	10.0	19675	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.035	0.012	1.000	978	0.0124	0.7	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.655	20.619	0.036	1.000	3621	0.0456	93.3	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.667	-0.012		2183483	28.7	56963	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.738	-0.012	1.000	7570	0.0878	228	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.480	-0.009	1.000	719511	10.8	22708	

QC Flag Legend

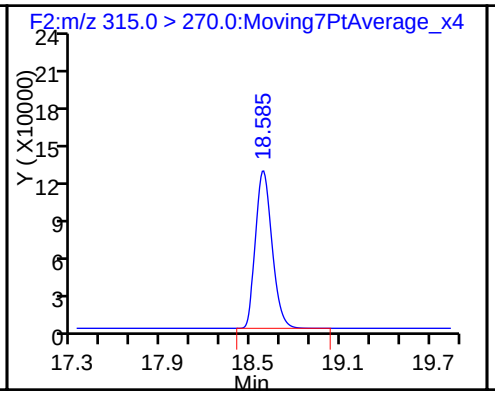
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_206.d
Injection Date: 09-Dec-2016 22:27:27 Instrument ID: A6
Lims ID: 320-23919-A-28-A Lab Sample ID: 320-23919-28
Client ID: WI-AF-3FB08-1116
Operator ID: CBW ALS Bottle#: 34 Worklist Smp#: 31
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

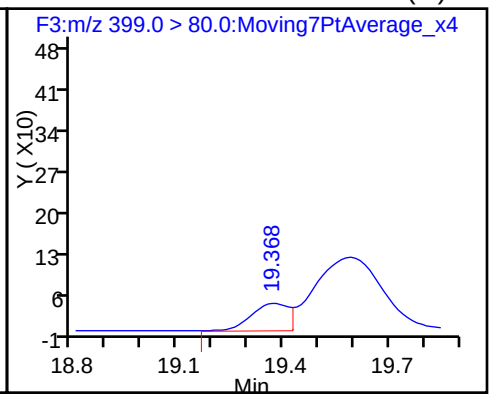
1 Perfluorobutanesulfonic acid (ND)



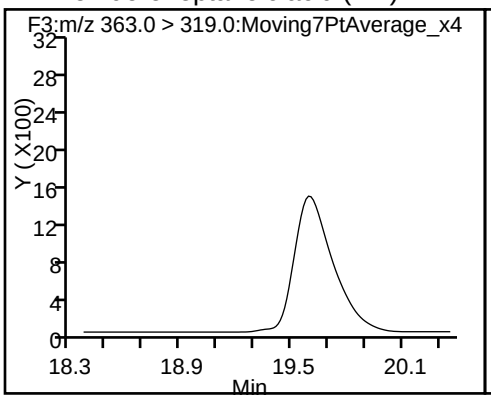
$ 2 13C2 PFHxA



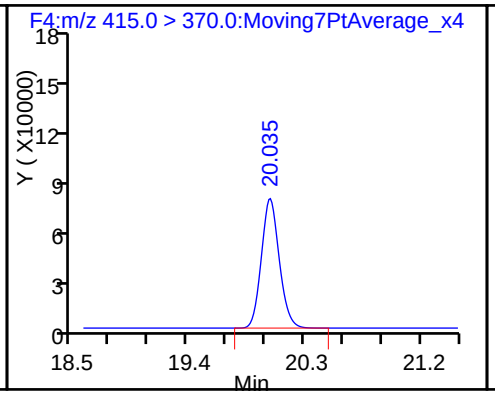
3 Perfluorohexanesulfonic acid (M)



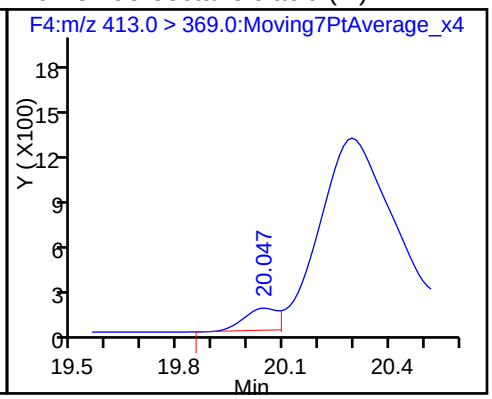
4 Perfluoroheptanoic acid (ND)



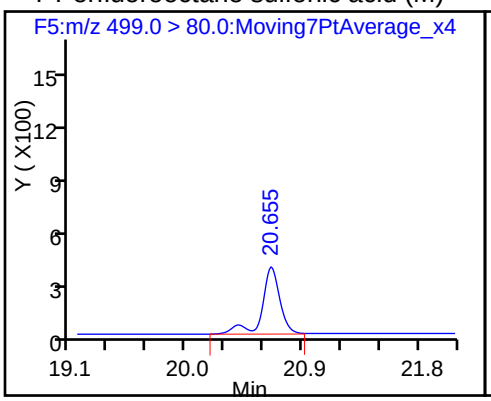
* 5 13C2-PFOA



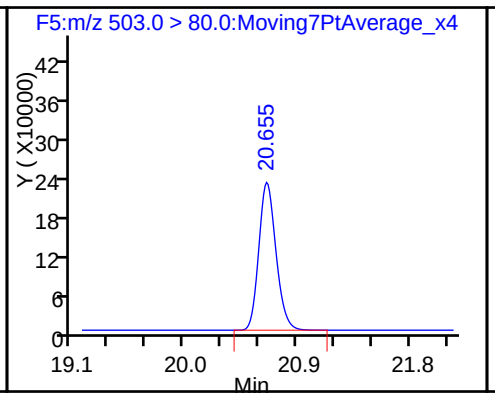
6 Perfluorooctanoic acid (M)



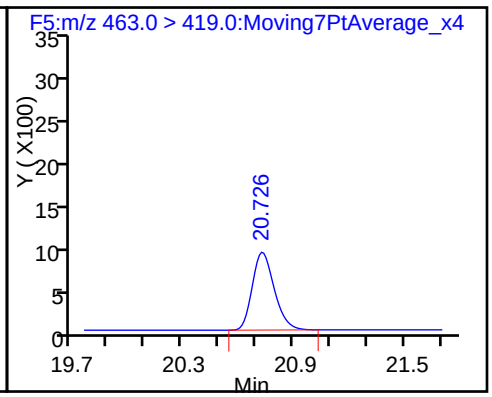
7 Perfluorooctane sulfonic acid (M)



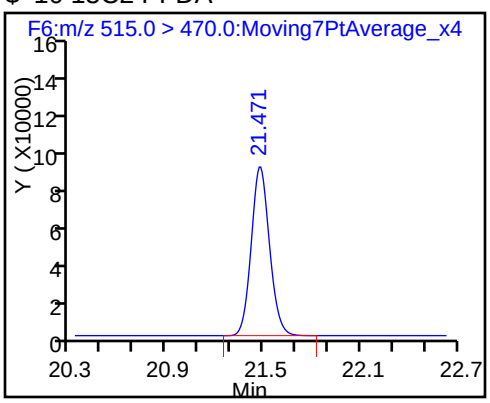
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_206.d
Lims ID: 320-23919-A-28-A
Client ID: WI-AF-3FB08-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 22:27:27 ALS Bottle#: 34 Worklist Smp#: 31
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-28-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:03:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.8	107.91
$ 10 13C2 PFDA	10.0	10.8	107.98

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

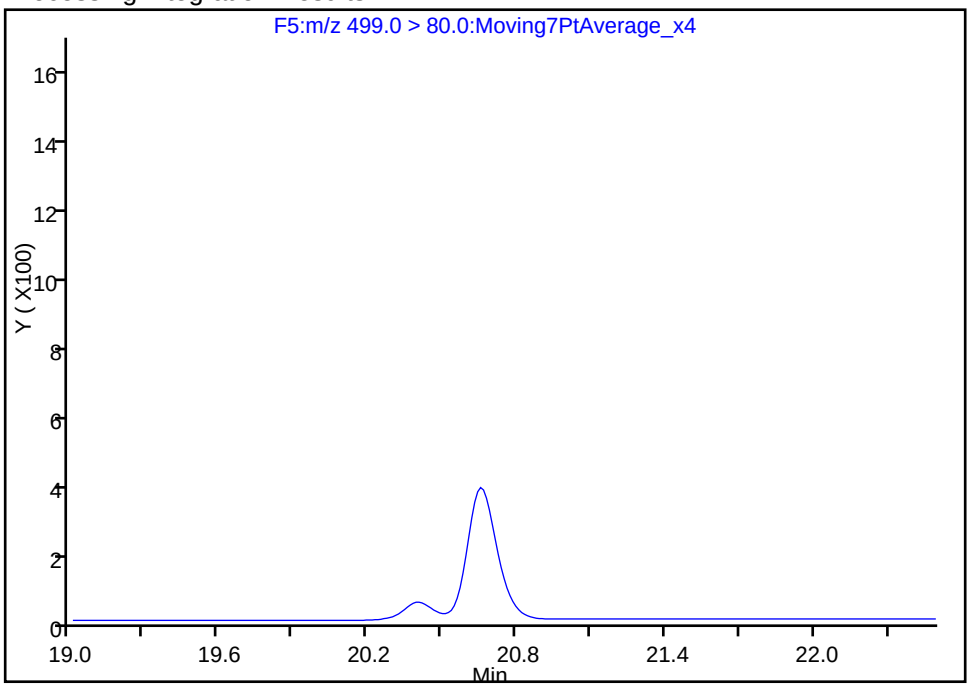
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_206.d				
Injection Date:	09-Dec-2016 22:27:27	Instrument ID:	A6		
Lims ID:	320-23919-A-28-A	Lab Sample ID:	320-23919-28		
Client ID:	WI-AF-3FB08-1116				
Operator ID:	CBW	ALS Bottle#:	34	Worklist Smp#:	31
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

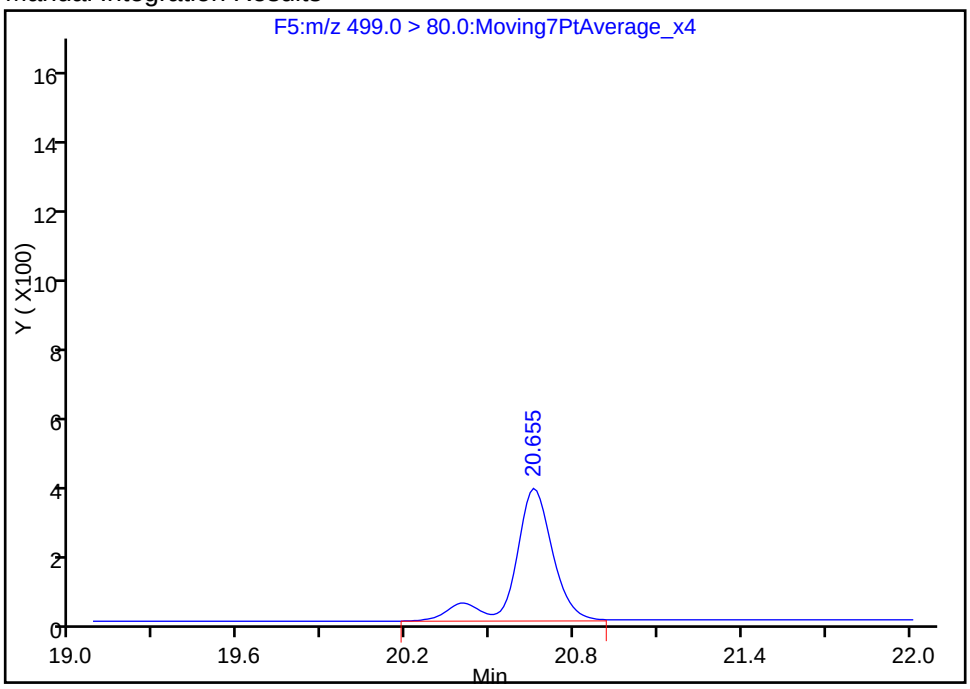
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.65
Area: 3621
Amount: 0.045558
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:03:37
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

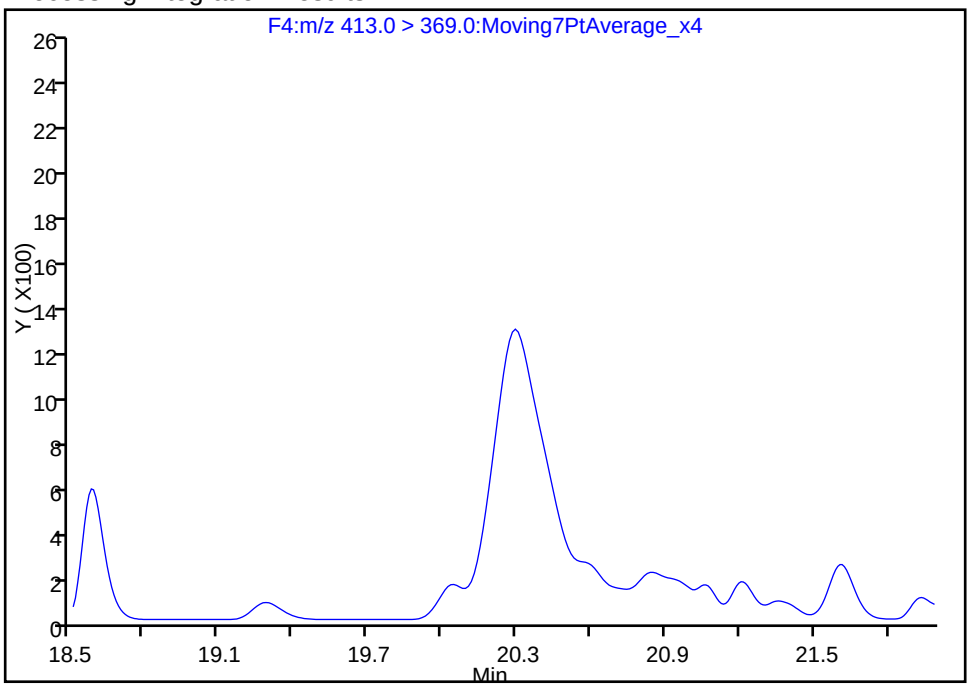
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_206.d				
Injection Date:	09-Dec-2016 22:27:27	Instrument ID:	A6		
Lims ID:	320-23919-A-28-A	Lab Sample ID:	320-23919-28		
Client ID:	WI-AF-3FB08-1116				
Operator ID:	CBW	ALS Bottle#:	34	Worklist Smp#:	31
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

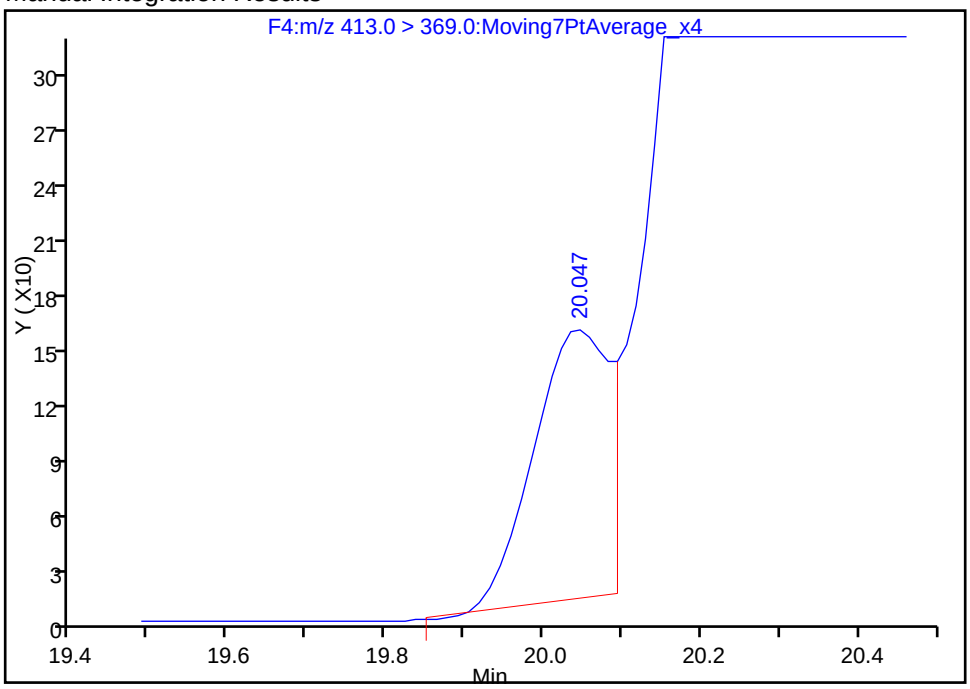
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.05
Area: 978
Amount: 0.012362
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:03:37
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW09-1116 | Lab Sample ID: 320-23919-29

Matrix: Water | Lab File ID: 05DEC2016A6A_207.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:30

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 282.1(mL) | Date Analyzed: 12/09/2016 22:57

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.053	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.021	0.0083
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.097	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	113		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_207.d
Lims ID: 320-23919-A-29-A
Client ID: WI-AF-3RW09-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 22:57:02 ALS Bottle#: 35 Worklist Smp#: 32
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-29-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

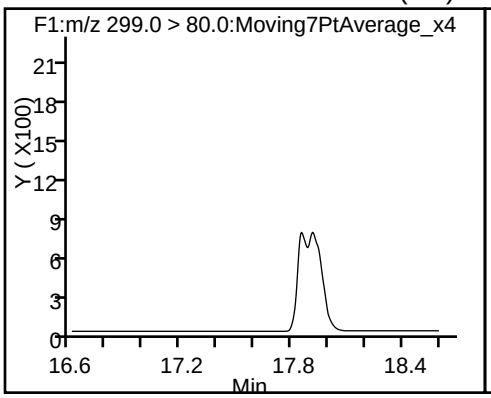
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:04:13

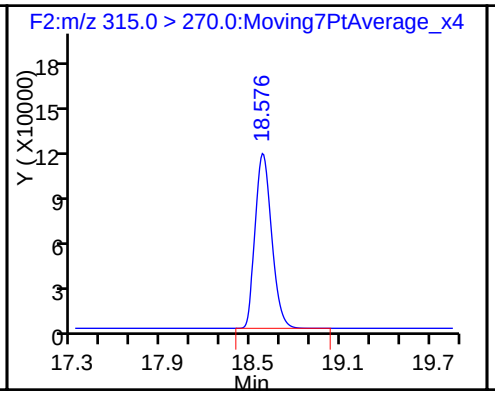
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	914399	11.2	29473	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.344	19.368	-0.024	1.000	184	0.002165	0.1	
* 5 13C2-PFOA								
415.0 > 370.0	20.023	20.035	-0.012		699440	10.0	18095	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.667	-0.012		1992464	28.7	51680	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.738	-0.012	1.000	6177	0.0779	170	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	693841	11.3	21891	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_207.d
Injection Date: 09-Dec-2016 22:57:02 Instrument ID: A6
Lims ID: 320-23919-A-29-A Lab Sample ID: 320-23919-29
Client ID: WI-AF-3RW09-1116
Operator ID: CBW ALS Bottle#: 35 Worklist Smp#: 32
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

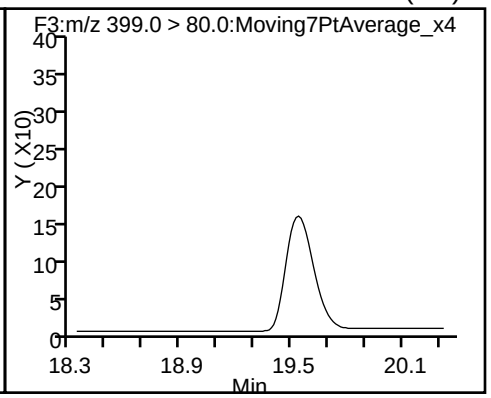
1 Perfluorobutanesulfonic acid (ND)



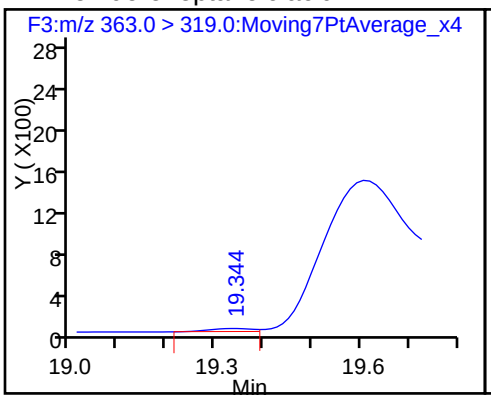
$ 2 13C2 PFHxA



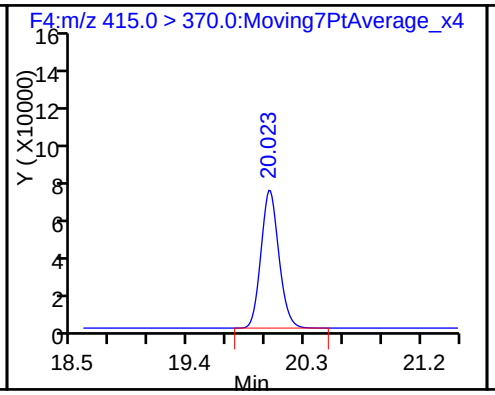
3 Perfluorohexanesulfonic acid (ND)



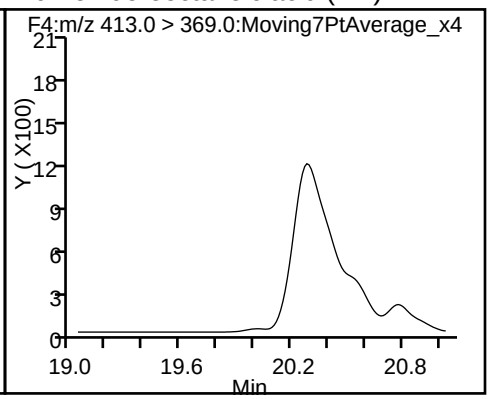
4 Perfluoroheptanoic acid



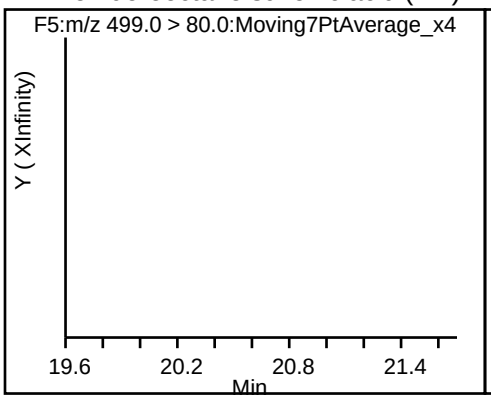
* 5 13C2-PFOA



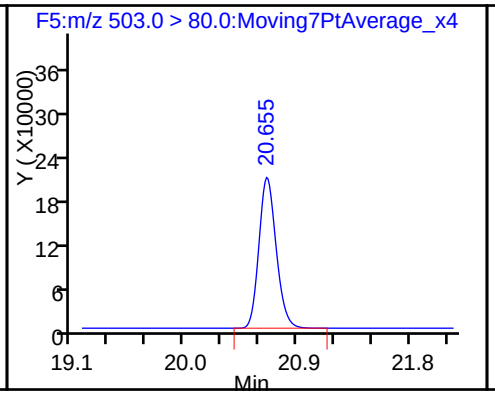
6 Perfluorooctanoic acid (ND)



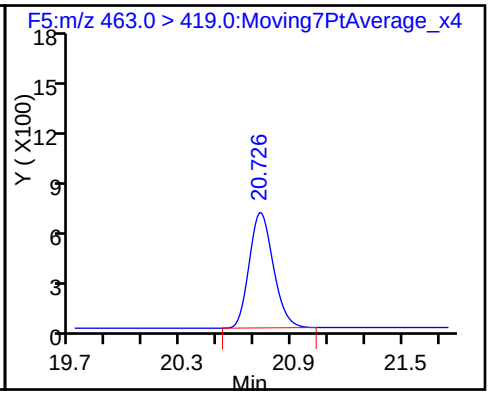
7 Perfluorooctane sulfonic acid (ND)



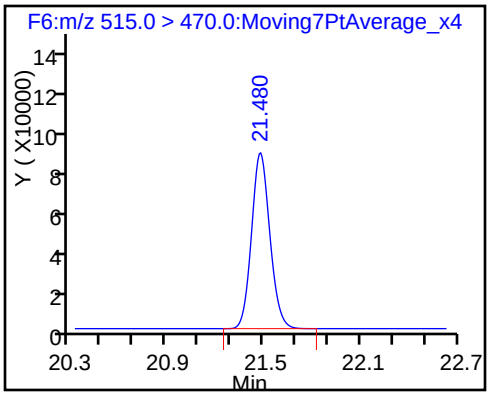
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_207.d
Lims ID: 320-23919-A-29-A
Client ID: WI-AF-3RW09-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 22:57:02 ALS Bottle#: 35 Worklist Smp#: 32
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-29-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:04:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	112.07
$ 10 13C2 PFDA	10.0	11.3	113.21

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB09-1116 | Lab Sample ID: 320-23919-30

Matrix: Water | Lab File ID: 05DEC2016A6A_208.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:31

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 284.3(mL) | Date Analyzed: 12/09/2016 23:26

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.021	0.0083
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.097	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	109		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_208.d
Lims ID: 320-23919-A-30-A
Client ID: WI-AF-3FB09-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 23:26:37 ALS Bottle#: 36 Worklist Smp#: 33
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-30-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:05:17

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	919104	11.2	29572	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		705239	10.0	24415	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.035	0.012	1.000	1094	0.0149	0.6	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.643	20.619	0.024	1.000	695	0.009541	13.5	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.667	-0.012		2001045	28.7	41699	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.738	-0.012	1.000	5494	0.0687	150	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	671200	10.9	21163	

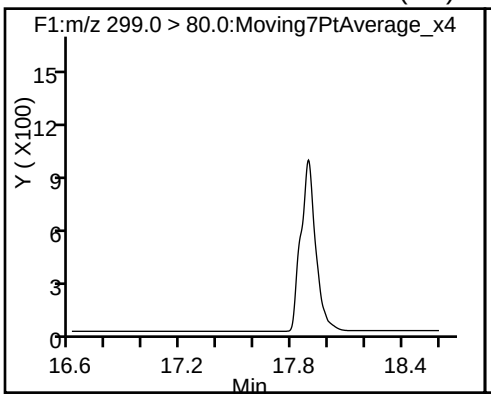
QC Flag Legend

Review Flags
M - Manually Integrated

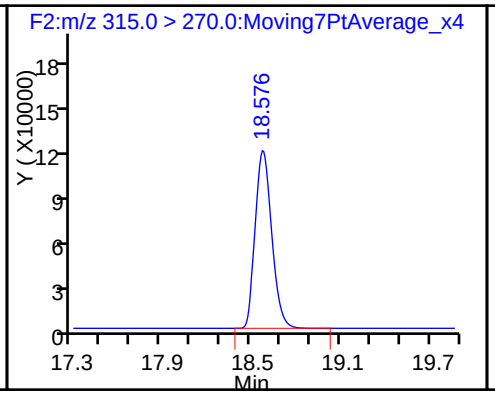
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_208.d
Injection Date: 09-Dec-2016 23:26:37 Instrument ID: A6
Lims ID: 320-23919-A-30-A Lab Sample ID: 320-23919-30
Client ID: WI-AF-3FB09-1116
Operator ID: CBW ALS Bottle#: 36 Worklist Smp#: 33
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

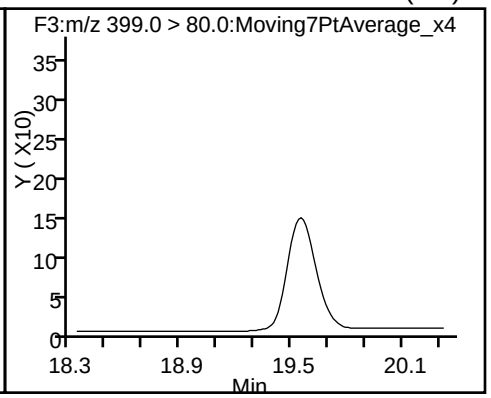
1 Perfluorobutanesulfonic acid (ND)



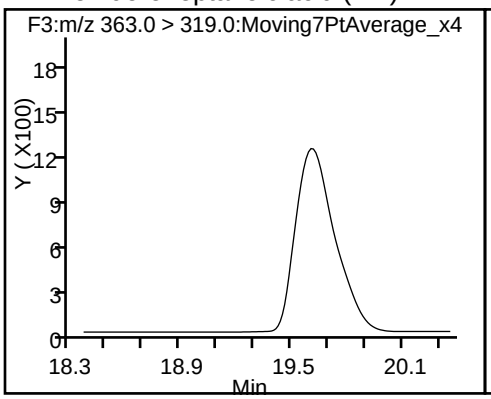
$ 2 13C2 PFHxA



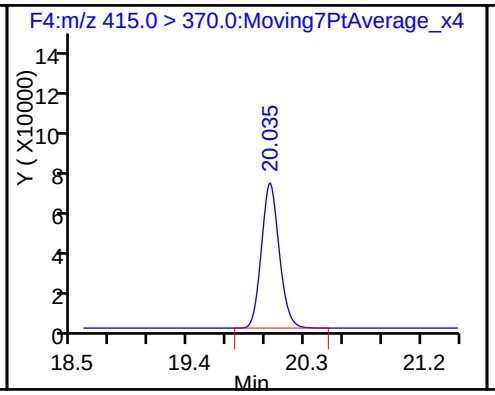
3 Perfluorohexanesulfonic acid (ND)



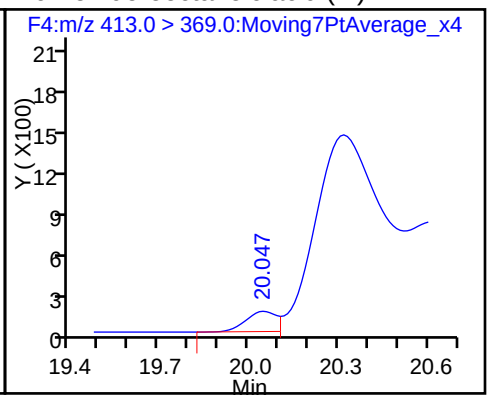
4 Perfluoroheptanoic acid (ND)



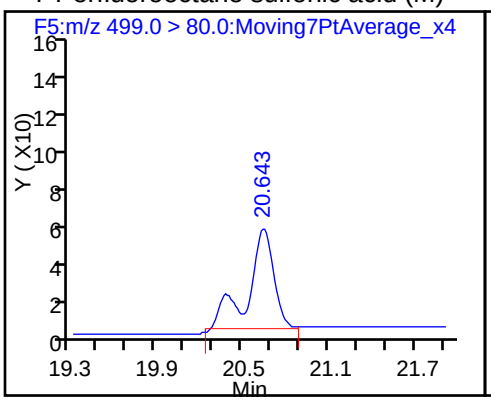
* 5 13C2-PFOA



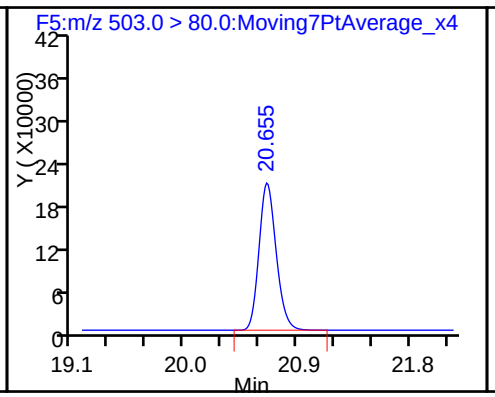
6 Perfluorooctanoic acid (M)



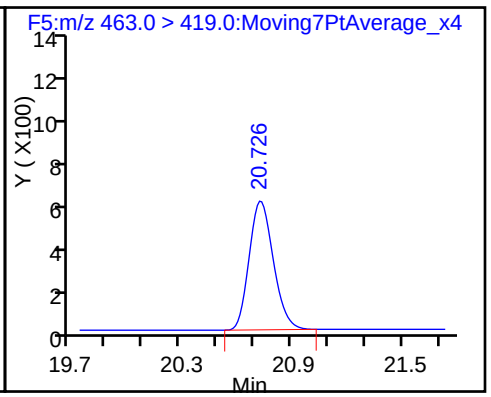
7 Perfluorooctane sulfonic acid (M)



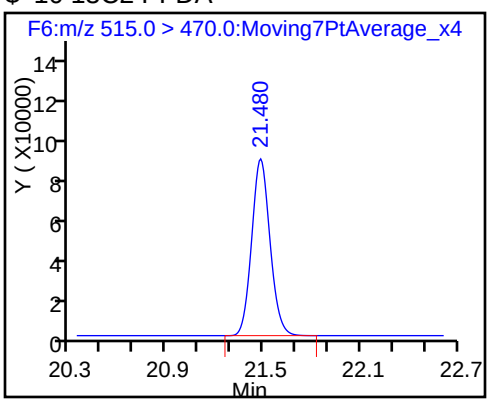
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_208.d
Lims ID: 320-23919-A-30-A
Client ID: WI-AF-3FB09-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 23:26:37 ALS Bottle#: 36 Worklist Smp#: 33
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23919-A-30-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:32:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:05:17

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	111.72
$ 10 13C2 PFDA	10.0	10.9	108.61

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

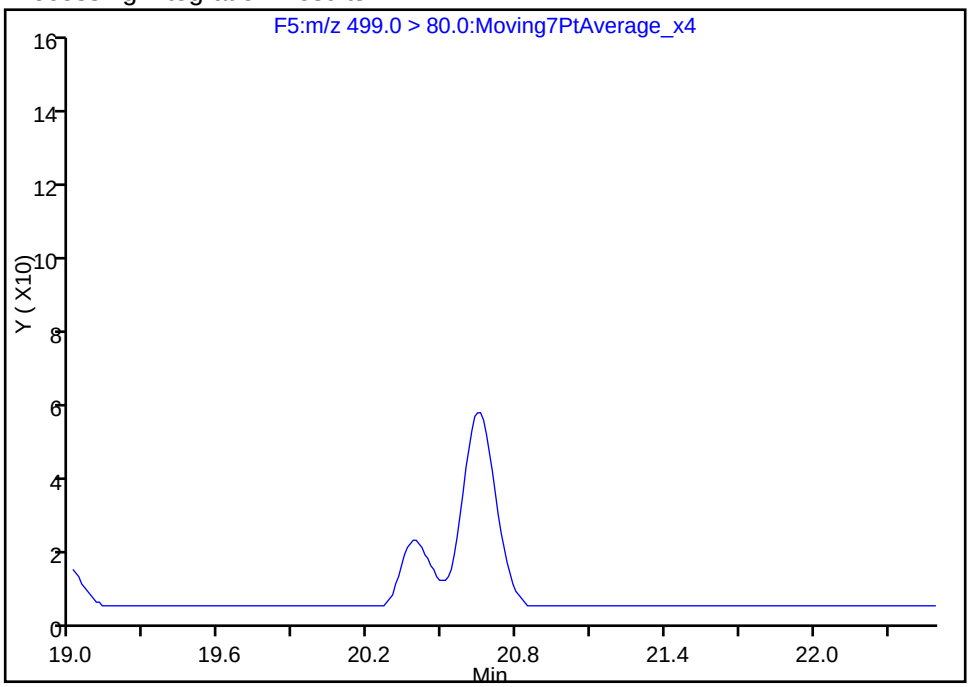
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_208.d				
Injection Date:	09-Dec-2016 23:26:37	Instrument ID:	A6		
Lims ID:	320-23919-A-30-A	Lab Sample ID:	320-23919-30		
Client ID:	WI-AF-3FB09-1116				
Operator ID:	CBW	ALS Bottle#:	36	Worklist Smp#:	33
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F5:MRM		

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

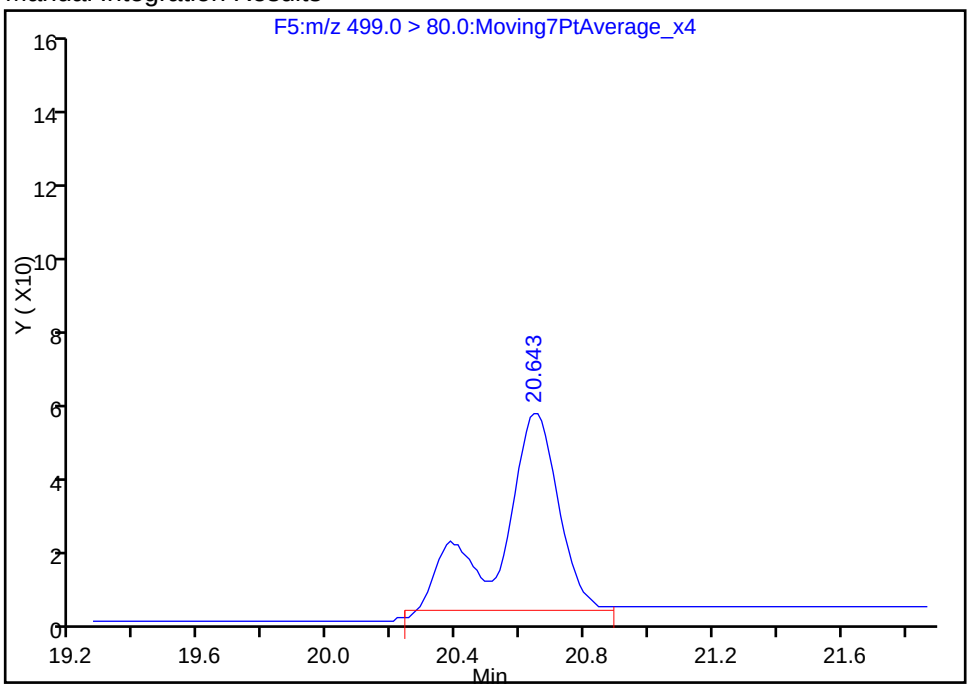
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.64
Area: 695
Amount: 0.009541
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:05:17
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

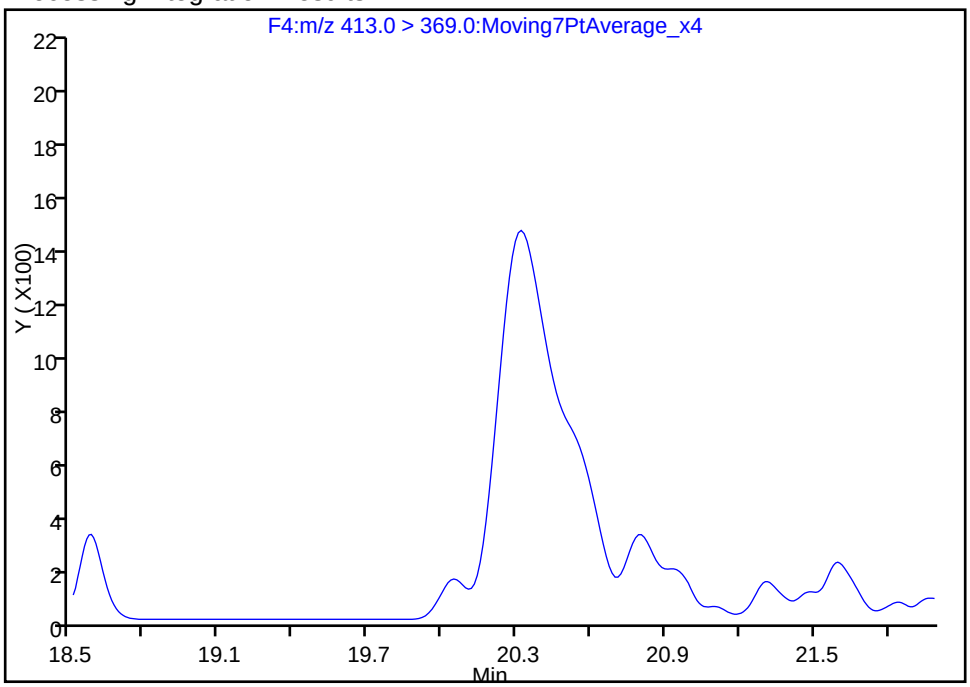
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_208.d				
Injection Date:	09-Dec-2016 23:26:37	Instrument ID:	A6		
Lims ID:	320-23919-A-30-A	Lab Sample ID:	320-23919-30		
Client ID:	WI-AF-3FB09-1116				
Operator ID:	CBW	ALS Bottle#:	36	Worklist Smp#:	33
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

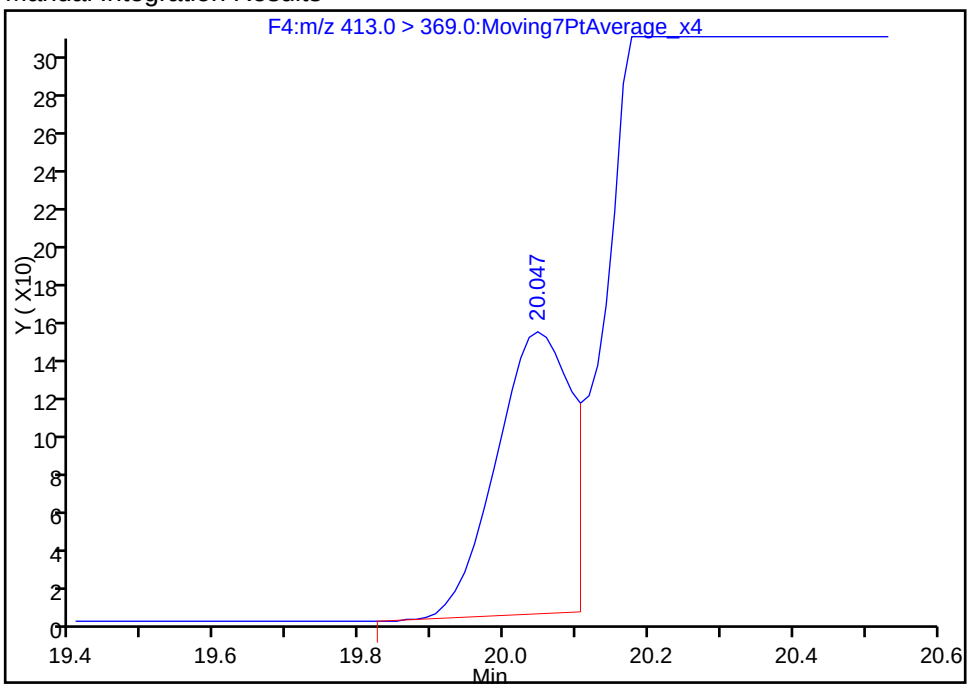
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.05
Area: 1094
Amount: 0.014910
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:05:17
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1 Analy Batch No.: 140688

SDG No.:

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/05/2016 17:26 Calibration End Date: 12/05/2016 19:54 Calibration ID: 26888

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 320-140688/2	05DEC2016A6A_004.d
Level 2	STD 320-140688/3	05DEC2016A6A_005.d
Level 3	STD 320-140688/4	05DEC2016A6A_006.d
Level 4	STD 320-140688/5	05DEC2016A6A_007.d
Level 5	STD 320-140688/6	05DEC2016A6A_008.d
Level 6	STD 320-140688/7	05DEC2016A6A_009.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Perfluorobutanesulfonic acid (PFBS)	0.7247 0.6563	0.6525	0.7178	0.7256	0.7321	Ave		0.7015				5.2		30.0			
Perfluorohexanesulfonic acid	0.8344 0.8930	0.7757	0.9290	0.9478	1.0082	Ave		0.8980				9.3		30.0			
Perfluoroheptanoic acid	1.4137 1.1078	1.1891	1.2161	1.1975	1.1665	Ave		1.2151				8.6		30.0			
Perfluorooctanoic acid (PFOA)	0.9720 1.0610	0.9049	1.0674	1.1235	1.1136	Ave		1.0404				8.2		30.0			
Perfluorooctanesulfonic acid (PFOS)	0.8855 1.0951	0.9020	1.0711	1.0966	1.2136	Ave		1.0440				12.1		30.0			
Perfluorononanoic acid	0.9735 1.1655	0.9961	1.1929	1.2321	1.2453	Ave		1.1342				10.5		30.0			
13C2 PFHxA	1.0366 1.2091	1.0515	1.1929	1.2298	1.2791	Ave		1.1665				8.5		30.0			
13C2 PFDA	0.8084 0.9456	0.7439	0.8674	0.9054	0.9868	Ave		0.8763				10.2		30.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1 Analy Batch No.: 140688

SDG No.:

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/05/2016 17:26 Calibration End Date: 12/05/2016 19:54 Calibration ID: 26888

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 320-140688/2	05DEC2016A6A_004.d
Level 2	STD 320-140688/3	05DEC2016A6A_005.d
Level 3	STD 320-140688/4	05DEC2016A6A_006.d
Level 4	STD 320-140688/5	05DEC2016A6A_007.d
Level 5	STD 320-140688/6	05DEC2016A6A_008.d
Level 6	STD 320-140688/7	05DEC2016A6A_009.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluorobutanesulfonic acid (PFBS)	PFOS	Ave	437563 7753569	1227165	2489398	4401661	6630132	8.76 178	22.9	45.1	90.9	135
Perfluorohexanesulfonic acid	PFOS	Ave	169827 3556638	491809	1086082	1938237	3077974	2.95 60.1	7.72	15.2	30.6	45.4
Perfluoroheptanoic acid	13PFOA	Ave	126557 2032288	324913	658044	1121930	1727957	0.994 20.2	2.60	5.12	10.3	15.3
Perfluorooctanoic acid (PFOA)	13PFOA	Ave	173304 3876381	492431	1150281	2096404	3285195	1.98 40.3	5.17	10.2	20.5	30.4
Perfluorooctanesulfonic acid (PFOS)	PFOS	Ave	238662 5775285	757269	1658139	2969550	4906017	3.91 79.6	10.2	20.1	40.6	60.1
Perfluorononanoic acid	13PFOA	Ave	168128 4124664	525061	1245341	2227031	3558831	1.92 39.0	5.01	9.87	19.9	29.5
13C2 PFHxA	13PFOA	Ave	933751 1095977	1106485	1261522	1117585	1240474	10.0 10.0	10.0	10.0	10.0	10.0
13C2 PFDA	13PFOA	Ave	728204 857144	782778	917302	822787	957025	10.0 10.0	10.0	10.0	10.0	10.0

Curve Type Legend:
Ave = Average ISTD

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1 Analy Batch No.: 140688

SDG No.:

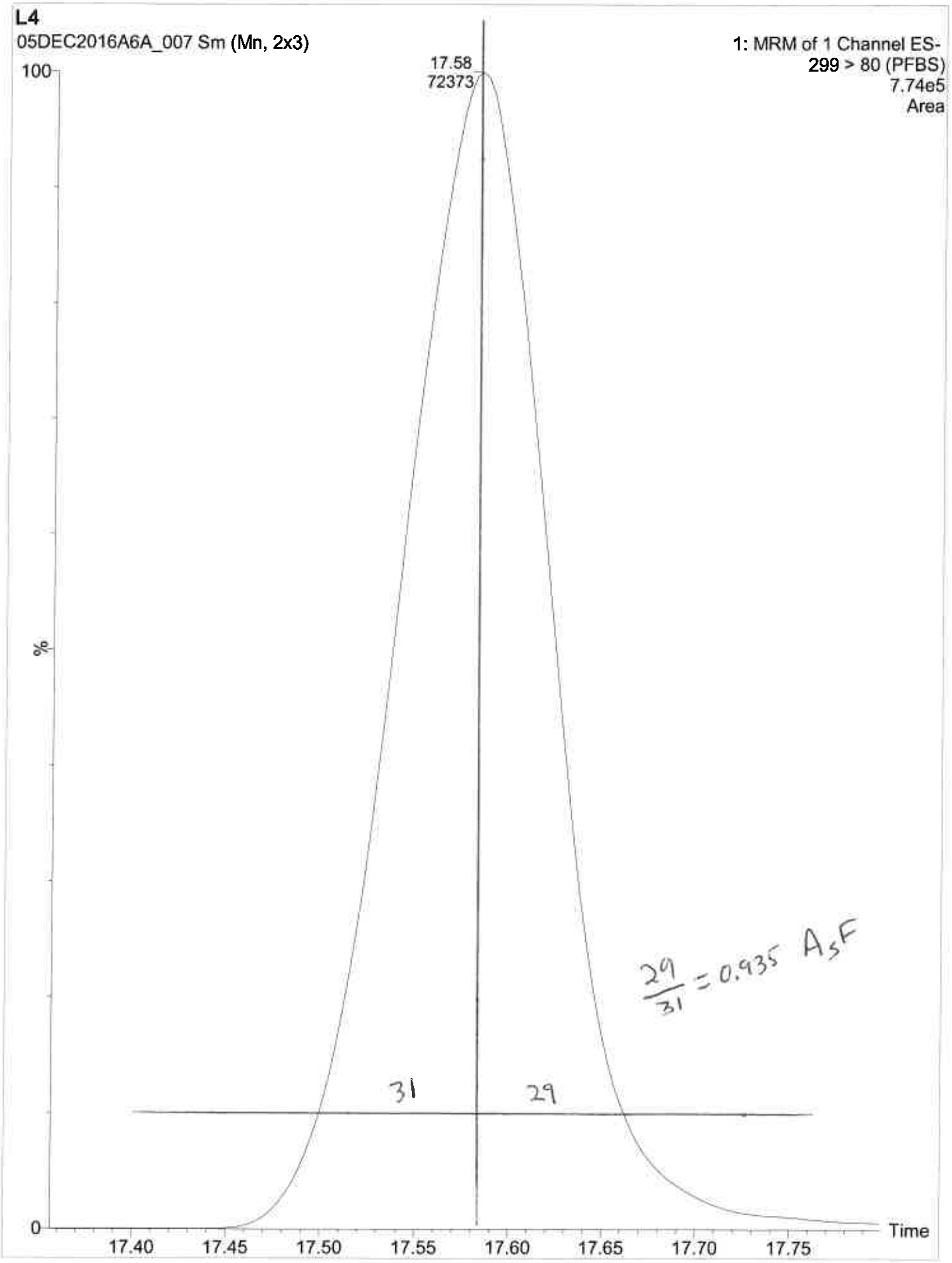
Instrument ID: A6 GC Column: Acquity ID: 2.1(mm) Heated Purge: (Y/N) N

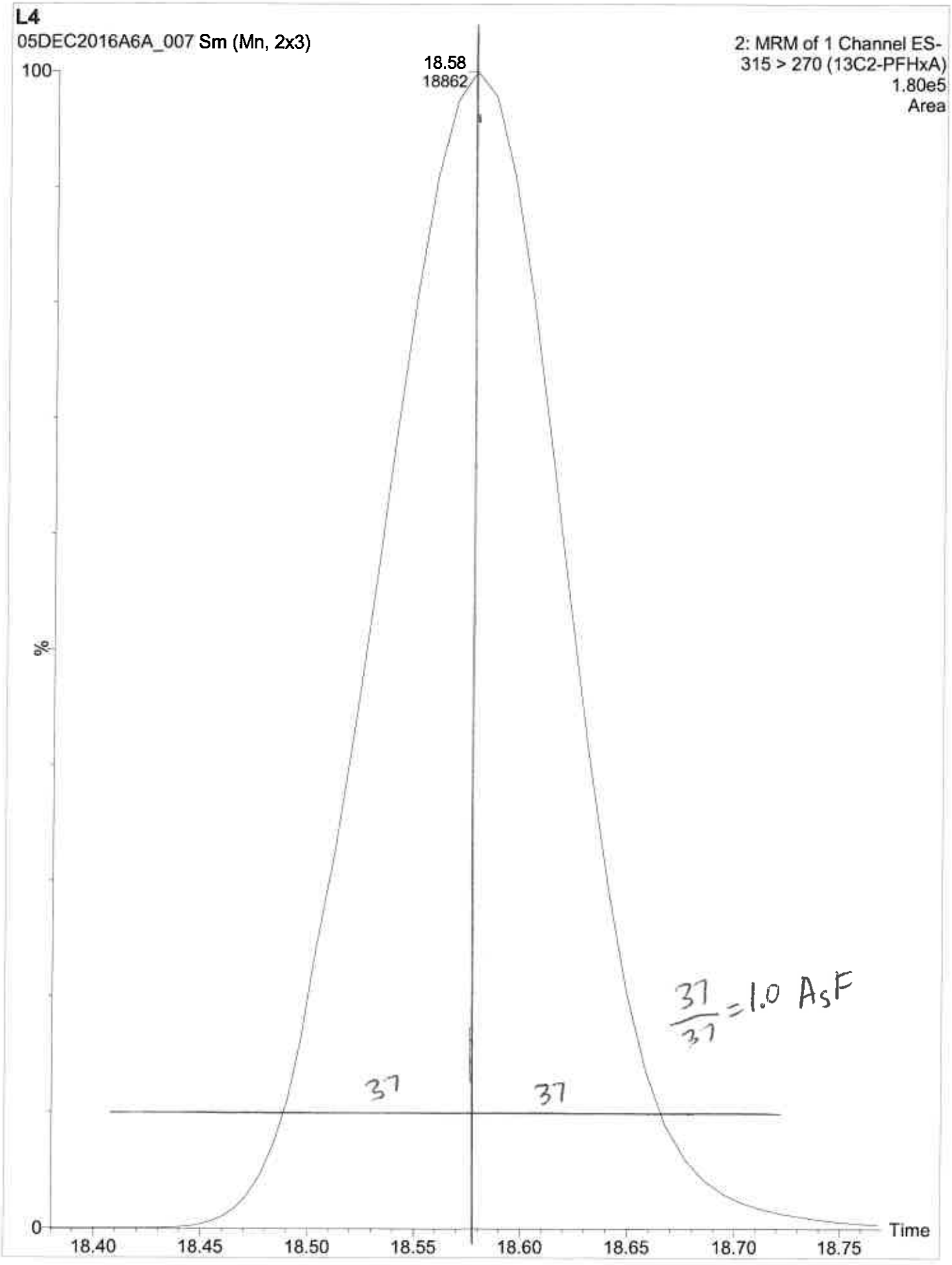
Calibration Start Date: 12/05/2016 17:26 Calibration End Date: 12/05/2016 19:54 Calibration ID: 26888

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 320-140688/2	05DEC2016A6A_004.d
Level 2	STD 320-140688/3	05DEC2016A6A_005.d
Level 3	STD 320-140688/4	05DEC2016A6A_006.d
Level 4	STD 320-140688/5	05DEC2016A6A_007.d
Level 5	STD 320-140688/6	05DEC2016A6A_008.d
Level 6	STD 320-140688/7	05DEC2016A6A_009.d

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 #	LVL 2 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6
Perfluorobutanesulfonic acid (PFBS)	3.3	-7.0	2.3	3.4	4.4	-6.4	50	50	50	50	50	50
Perfluorohexanesulfonic acid	-7.1	-13.6	3.4	5.5	12.3	-0.6	50	50	50	50	50	50
Perfluoroheptanoic acid	16.3	-2.1	0.1	-1.5	-4.0	-8.8	50	50	50	50	50	50
Perfluorooctanoic acid (PFOA)	-6.6	-13.0	2.6	8.0	7.0	2.0	50	50	50	50	50	50
Perfluorooctanesulfonic acid (PFOS)	-15.2	-13.6	2.6	5.0	16.2	4.9	50	50	50	50	50	50
Perfluorononanoic acid	-14.2	-12.2	5.2	8.6	9.8	2.8	50	50	50	50	50	50
13C2 PFHxA	-11.1	-9.9	2.3	5.4	9.7	3.7	30	30	30	30	30	30
13C2 PFDA	-7.7	-15.1	-1.0	3.3	12.6	7.9	30	30	30	30	30	30


L4
05DEC2016A6A_007 Sm (Mn, 2x3)
1: MRM of 1 Channel ES-
299 > 80 (PFBS)
7.74e5
Area
17.58
72373
100
%
0
31
29
$\frac{29}{31} = 0.935$ A$_5$F
17.40
17.45
17.50
17.55
17.60
17.65
17.70
17.75
Time


L4
05DEC2016A6A_007 Sm (Mn, 2x3)
2: MRM of 1 Channel ES-
315 > 270 (13C2-PFHxA)
1.80e5
Area
18.58
18862
100
%
0
37
37
37/37 = 1.0 AsF
18.40
18.45
18.50
18.55
18.60
18.65
18.70
18.75
Time

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_004.d
Lims ID: STD L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 05-Dec-2016 17:26:03 ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: STD L1 L1
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:34 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

First Level Reviewer: barnettj Date: 06-Dec-2016 10:00:02

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.576	17.581	-0.005	1.000	437563	9.05	466	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	933751	8.89	30467	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.342	-0.010	1.000	169827	2.74	4140	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.368	19.378	-0.010	1.000	126557	1.16	45.1	M
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		900764	10.0	23392	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.047	0.0	1.000	173304	1.85	35.0	M
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	238662	3.32	2941	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		1976615	28.7	40886	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.748	-0.010	1.000	168128	1.65	6043	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.474	-0.003	1.000	728204	9.23	22953	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

LC537-L1_00015 Amount Added: 1.00 Units: mL

Report Date: 06-Dec-2016 16:35:34 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_004.d

Injection Date: 05-Dec-2016 17:26:03 Instrument ID: A6

Lims ID: STD L1

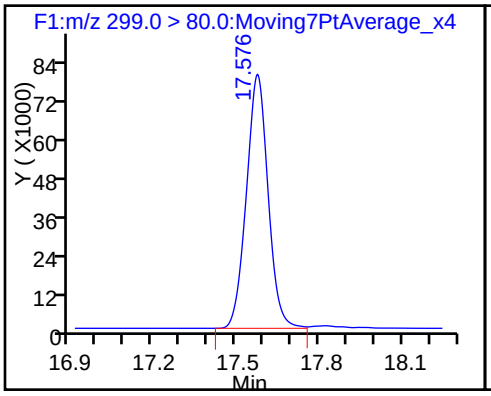
Client ID:

Operator ID: CBW ALS Bottle#: 1 Worklist Smp#: 2

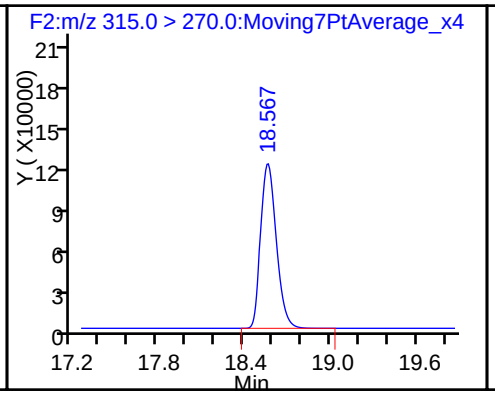
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

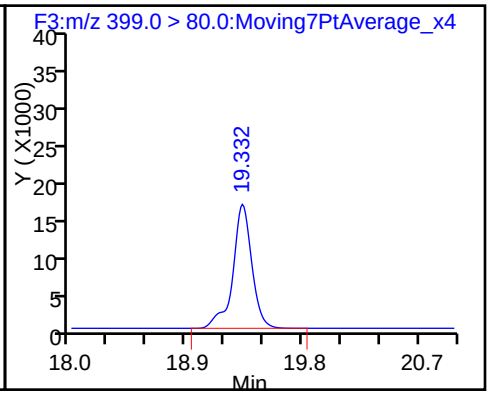
1 Perfluorobutanesulfonic acid



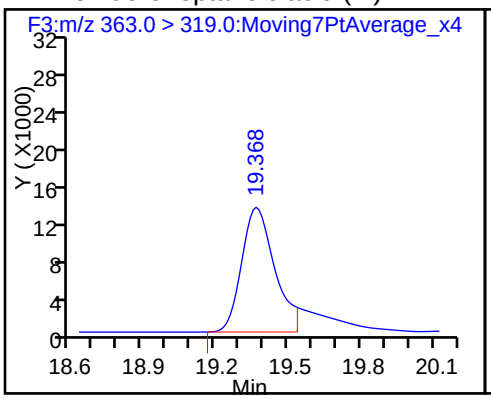
$ 2 13C2 PFHxA



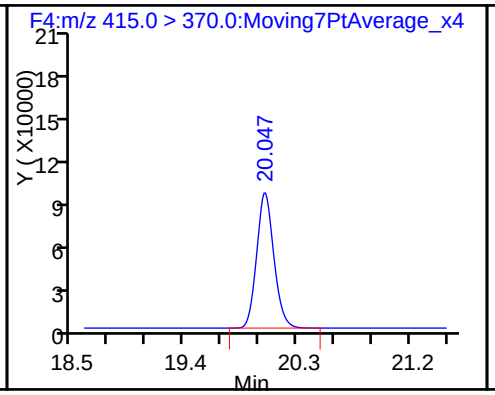
3 Perfluorohexanesulfonic acid



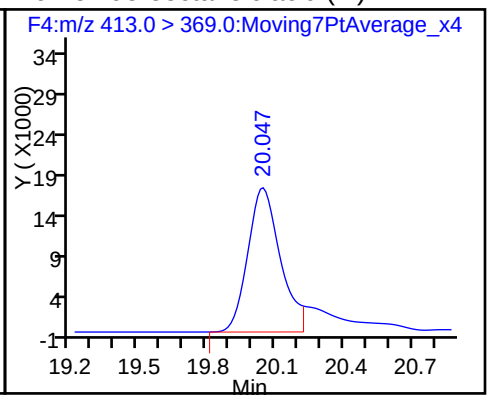
4 Perfluoroheptanoic acid (M)



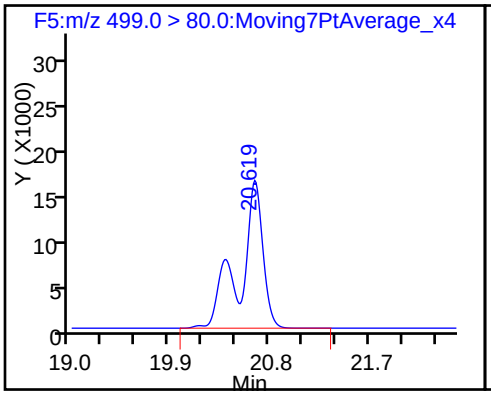
* 5 13C2-PFOA



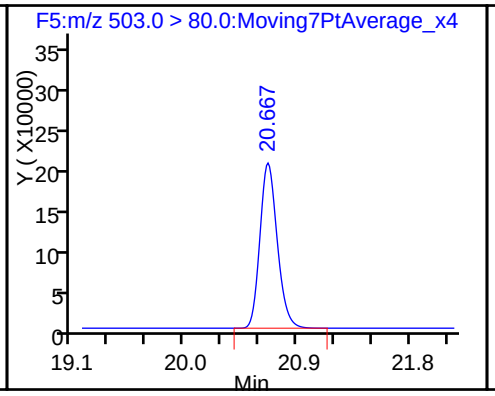
6 Perfluorooctanoic acid (M)



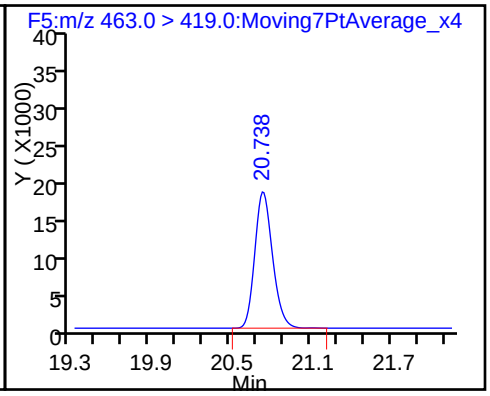
7 Perfluorooctane sulfonic acid



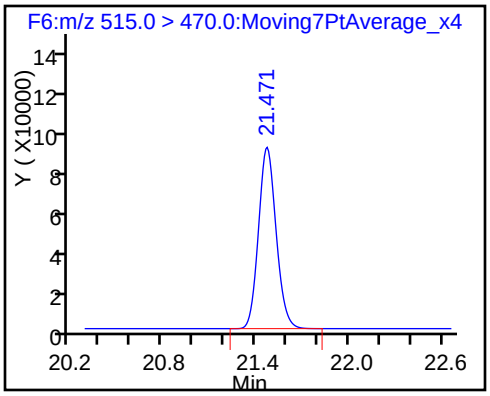
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

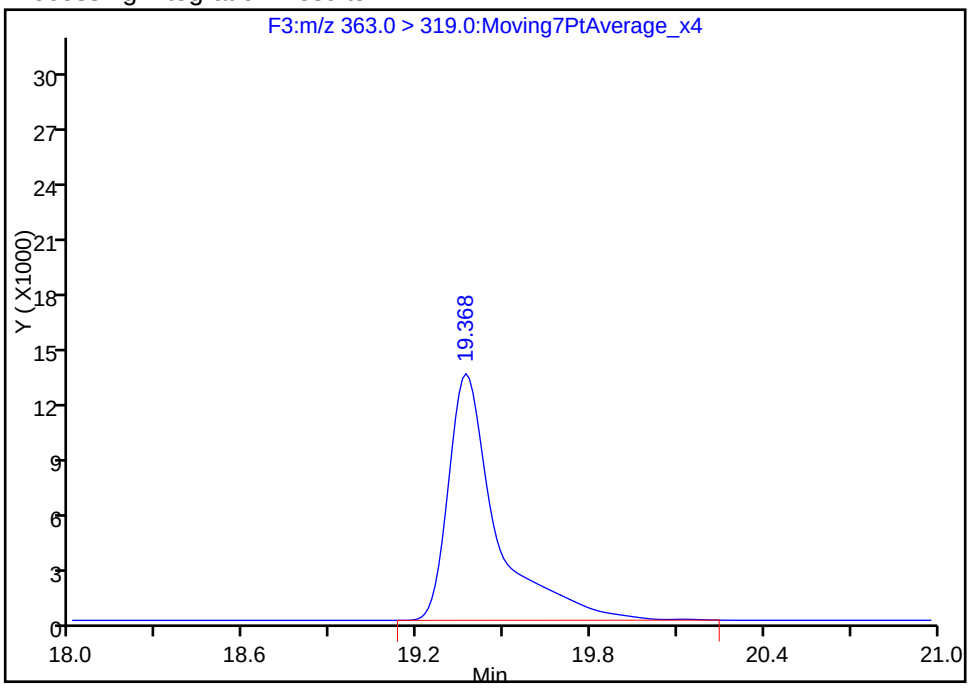
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_004.d
Injection Date: 05-Dec-2016 17:26:03 Instrument ID: A6
Lims ID: STD L1
Client ID:
Operator ID: CBW ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F3:MRM

4 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

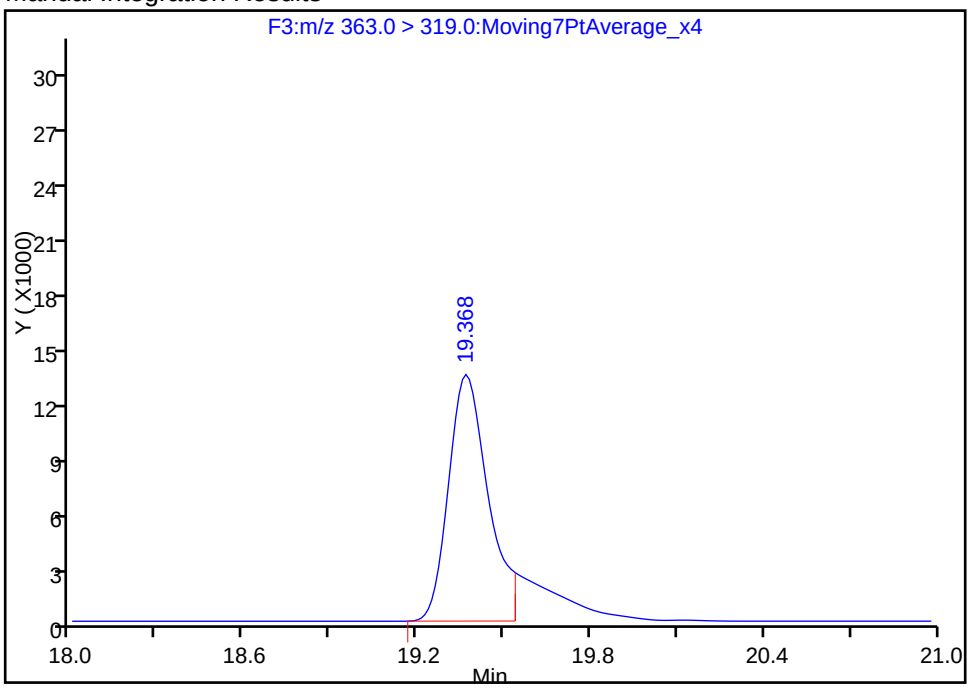
Processing Integration Results

RT: 19.37
Area: 155591
Amount: 1.476072
Amount Units: ng/ml



Manual Integration Results

RT: 19.37
Area: 126557
Amount: 1.156251
Amount Units: ng/ml



Reviewer: barnettj, 06-Dec-2016 10:00:02
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

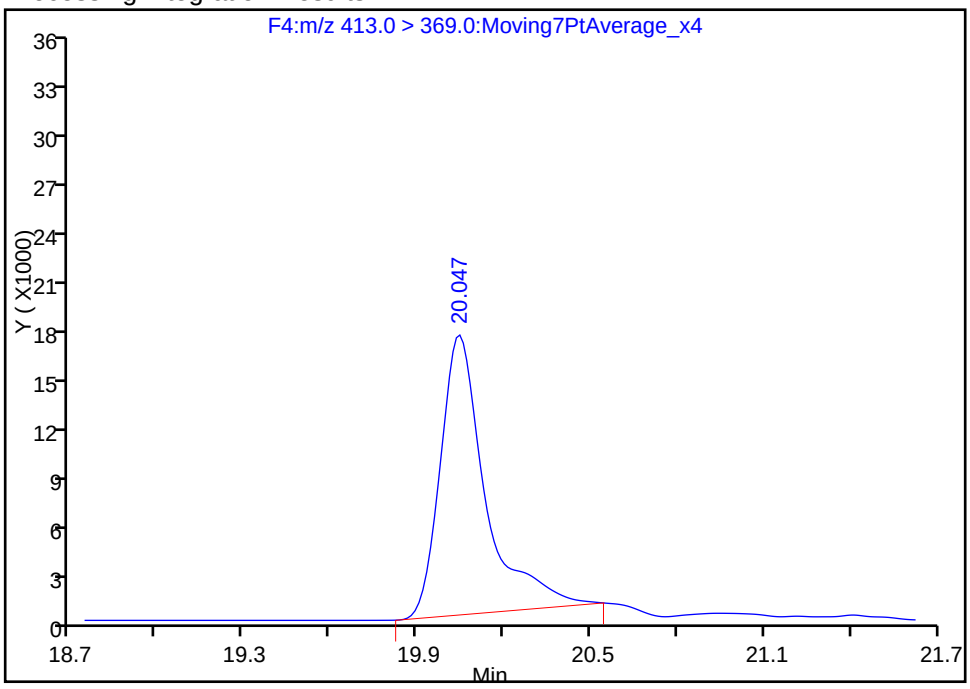
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_004.d
Injection Date: 05-Dec-2016 17:26:03 Instrument ID: A6
Lims ID: STD L1
Client ID:
Operator ID: CBW ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

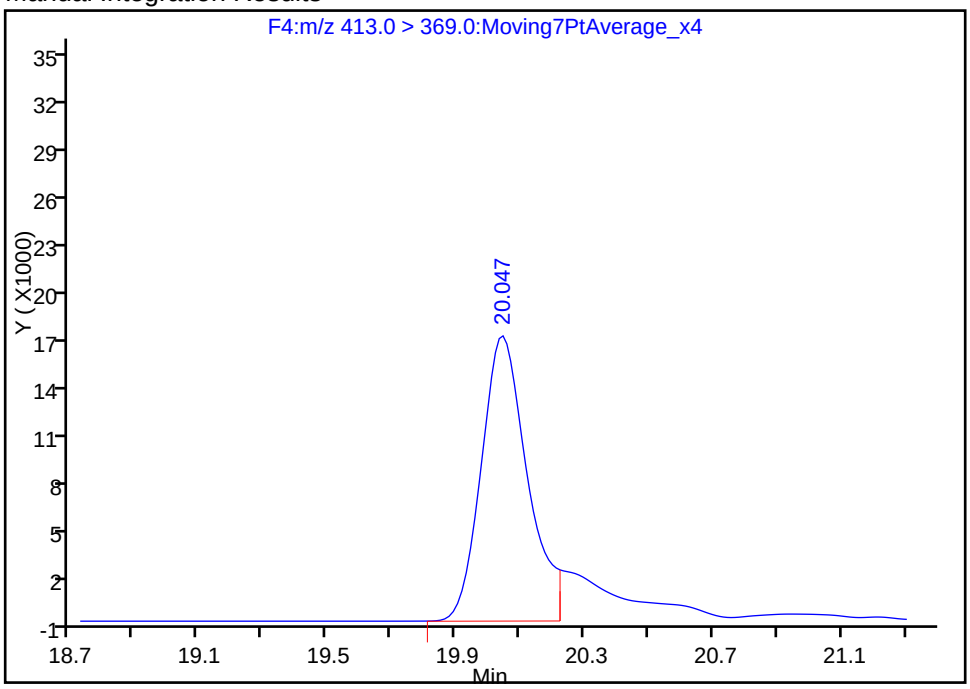
Processing Integration Results

RT: 20.05
Area: 186490
Amount: 1.959453
Amount Units: ng/ml



Manual Integration Results

RT: 20.05
Area: 173304
Amount: 1.849212
Amount Units: ng/ml



Reviewer: barnettj, 06-Dec-2016 10:00:02
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_005.d
Lims ID: STD L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 05-Dec-2016 17:55:38 ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: STD L2 L2
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

First Level Reviewer: barnettj Date: 06-Dec-2016 09:58:24

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	1227165	21.3	5055	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1106485	9.01	35678	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	491809	6.67	11495	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.380	19.378	0.002	1.000	324913	2.54	155	M
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		1052273	10.0	27645	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.047	0.0	1.000	492431	4.50	100	M
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	757269	8.83	8449	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		2356620	28.7	30757	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	525061	4.40	13911	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.474	0.006	1.000	782778	8.49	24678	

QC Flag Legend

Review Flags

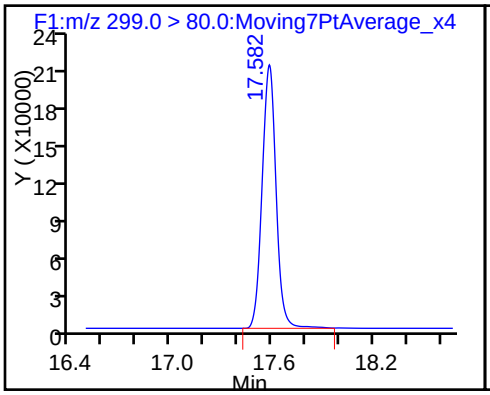
M - Manually Integrated

Reagents:

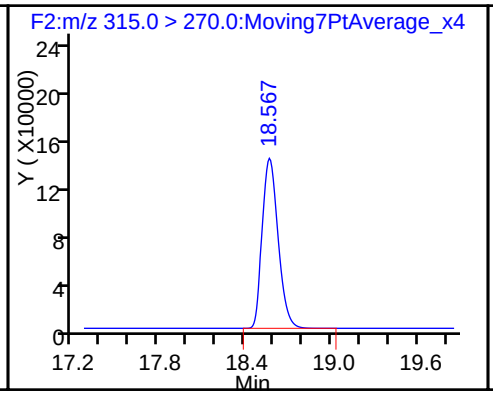
LC537-L2_00014 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_005.d
Injection Date: 05-Dec-2016 17:55:38 Instrument ID: A6
Lims ID: STD L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

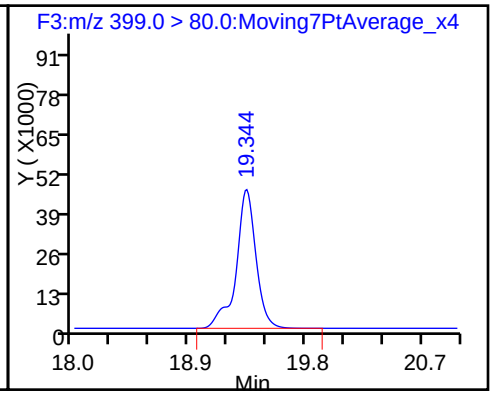
1 Perfluorobutanesulfonic acid



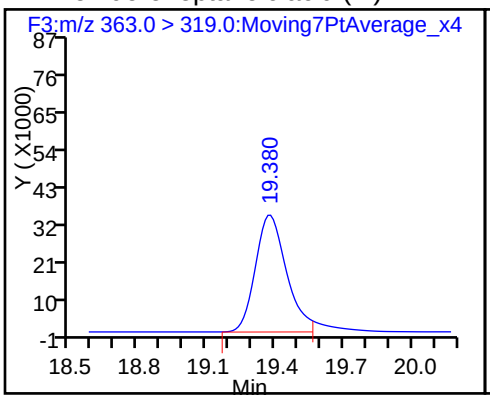
$ 2 13C2 PFHxA



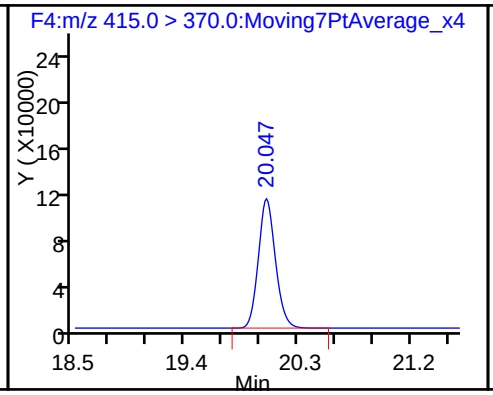
3 Perfluorohexanesulfonic acid



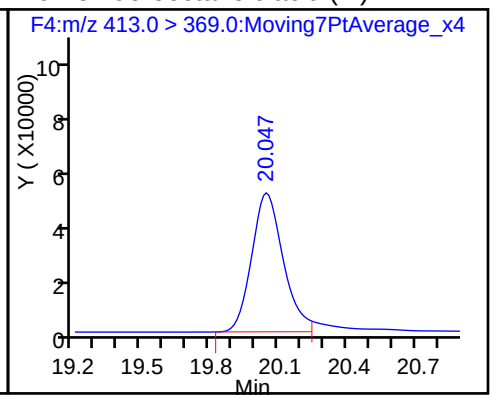
4 Perfluoroheptanoic acid (M)



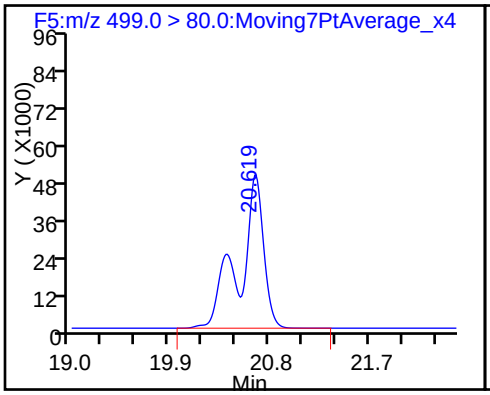
* 5 13C2-PFOA



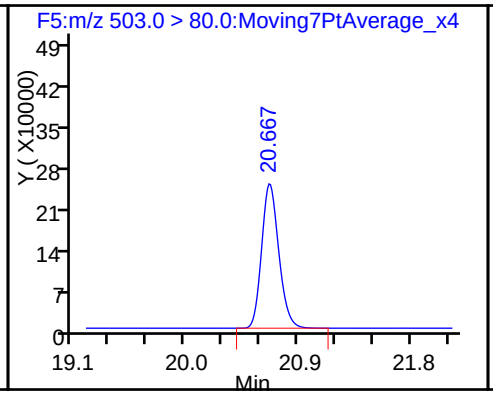
6 Perfluorooctanoic acid (M)



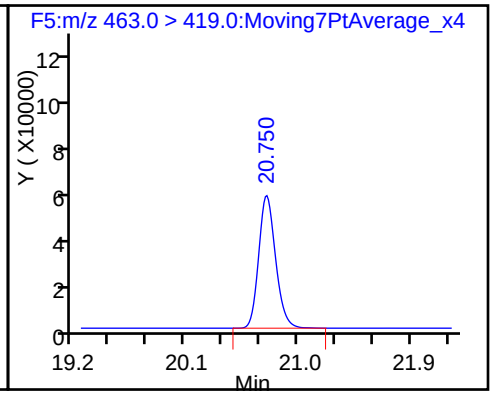
7 Perfluorooctane sulfonic acid



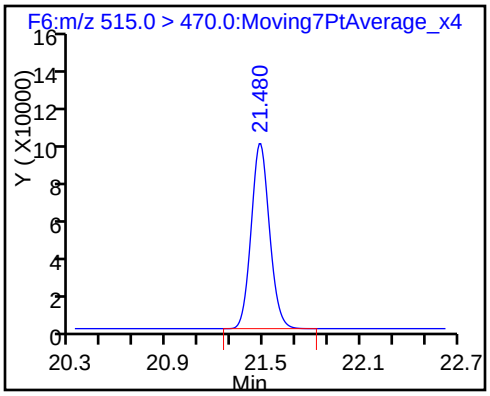
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

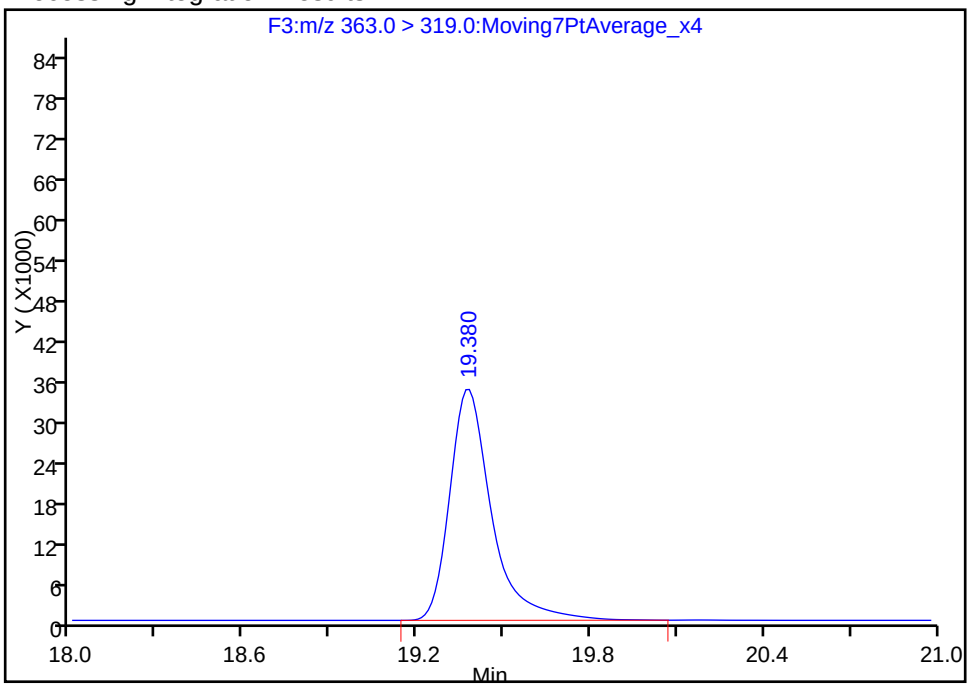
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_005.d
Injection Date: 05-Dec-2016 17:55:38 Instrument ID: A6
Lims ID: STD L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F3:MRM

4 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

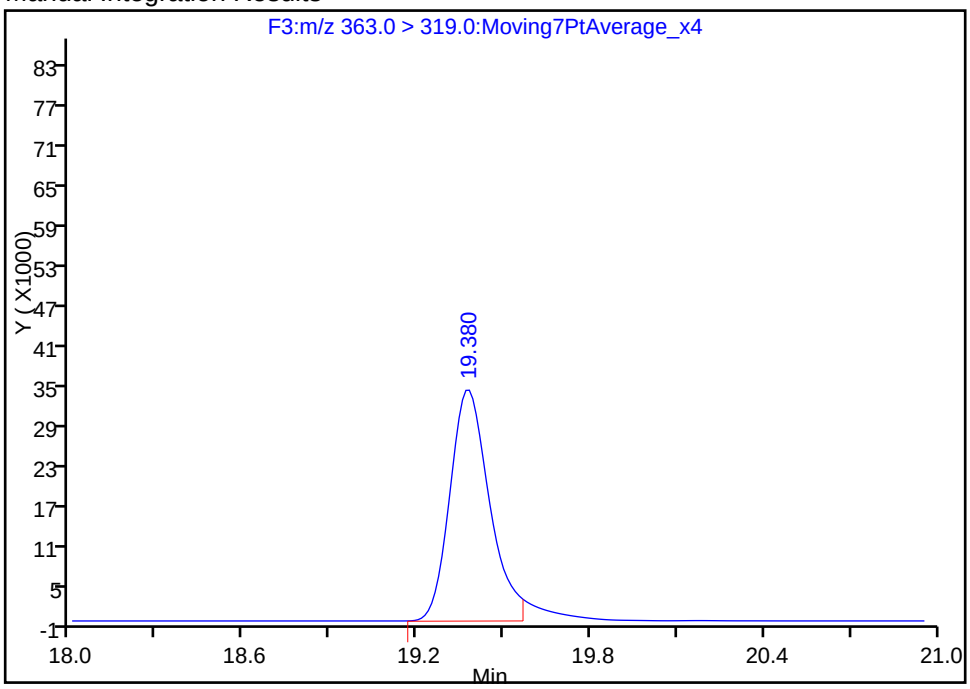
Processing Integration Results

RT: 19.38
Area: 344811
Amount: 2.670013
Amount Units: ng/ml



Manual Integration Results

RT: 19.38
Area: 324913
Amount: 2.541065
Amount Units: ng/ml



Reviewer: barnettj, 06-Dec-2016 10:03:30
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

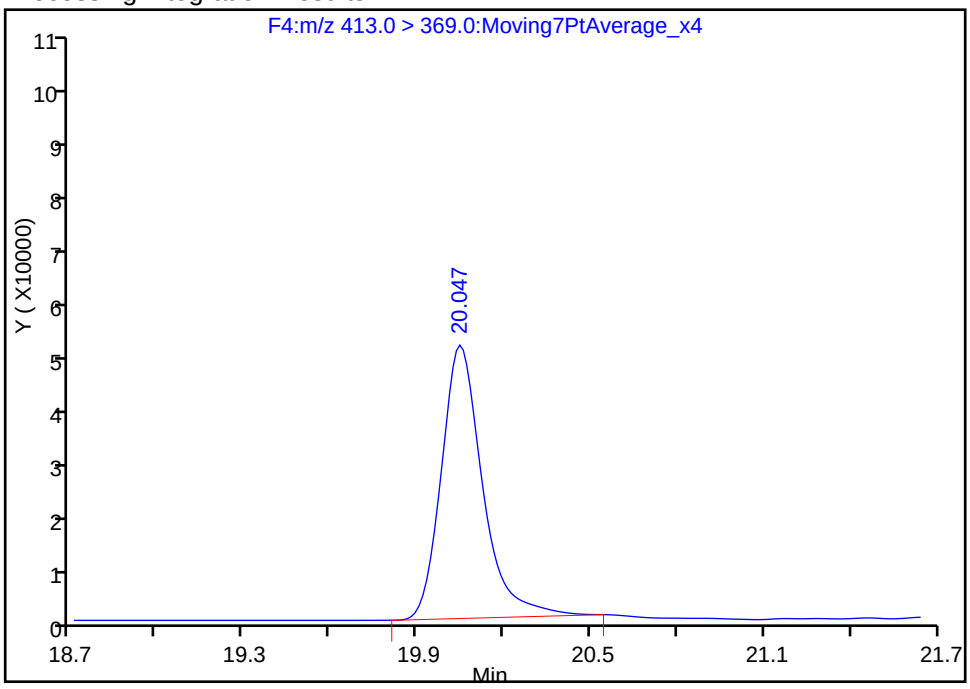
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_005.d
Injection Date: 05-Dec-2016 17:55:38 Instrument ID: A6
Lims ID: STD L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

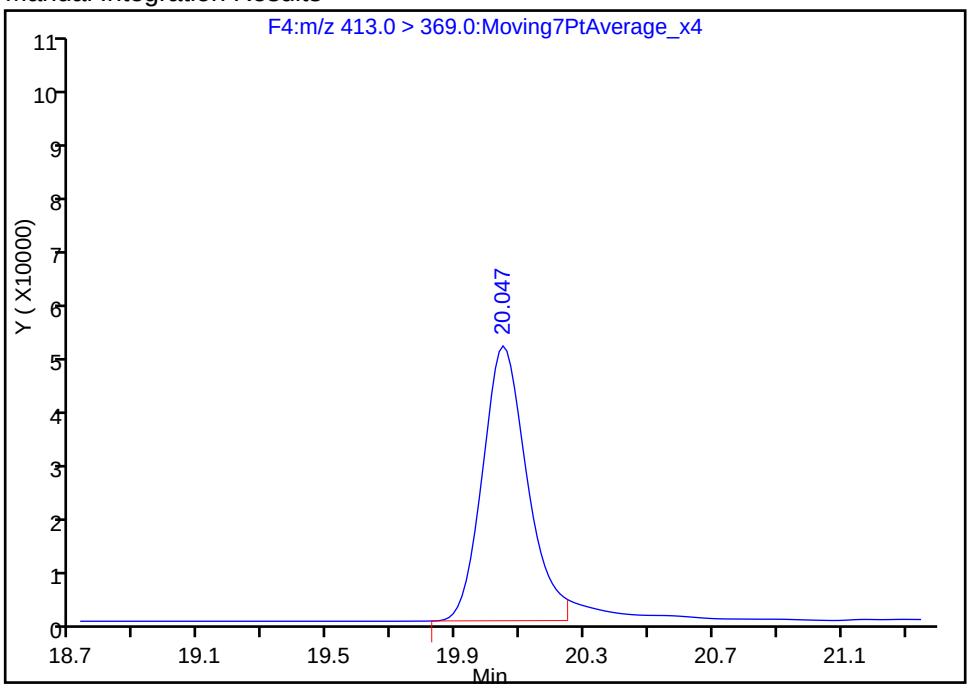
Processing Integration Results

RT: 20.05
Area: 504990
Amount: 4.595586
Amount Units: ng/ml



Manual Integration Results

RT: 20.05
Area: 492431
Amount: 4.497863
Amount Units: ng/ml



Reviewer: barnettj, 06-Dec-2016 10:03:30
Audit Action: Manually Integrated Audit Reason: Split Peak

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_006.d
Lims ID: STD L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 05-Dec-2016 18:25:13 ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: STD L3 L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:36 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

First Level Reviewer: barnettj Date: 06-Dec-2016 09:58:05

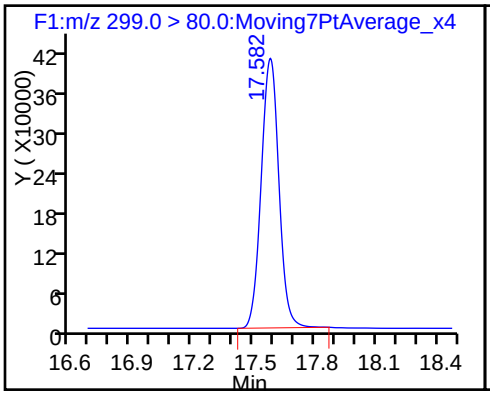
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	2489398	46.2	1804	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1261522	10.2	40506	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	1086082	15.7	25400	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.378	0.002	1.000	658044	5.12	4774	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		1057506	10.0	27287	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	1150281	10.5	429	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1658139	20.7	19019	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		2205243	28.7	57142	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	1245341	10.4	13210	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.474	-0.003	1.000	917302	9.90	28753	

Reagents:

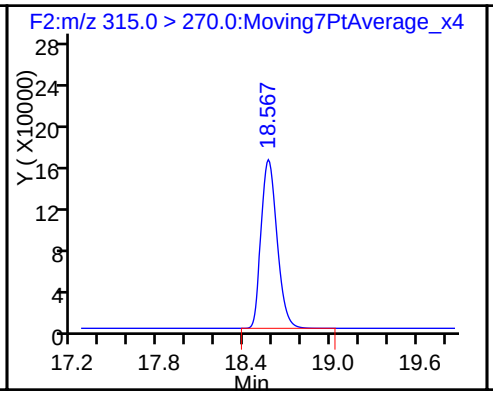
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_006.d
Injection Date: 05-Dec-2016 18:25:13 Instrument ID: A6
Lims ID: STD L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 4
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

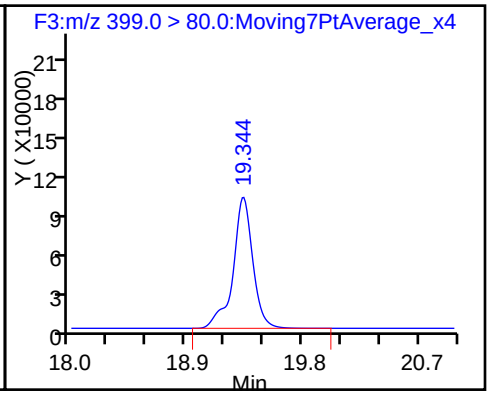
1 Perfluorobutanesulfonic acid



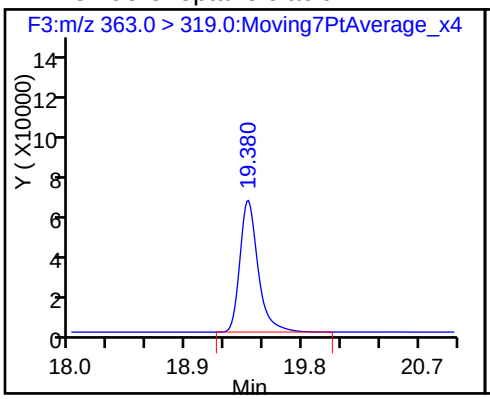
$ 2 13C2 PFHxA



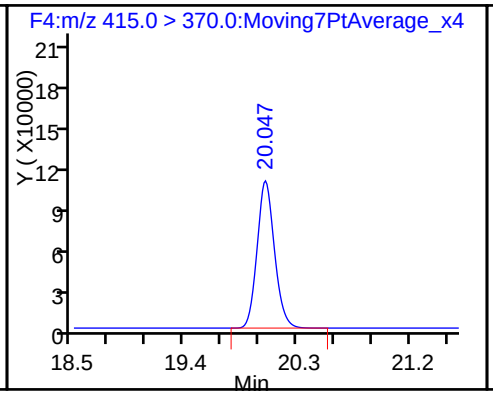
3 Perfluorohexanesulfonic acid



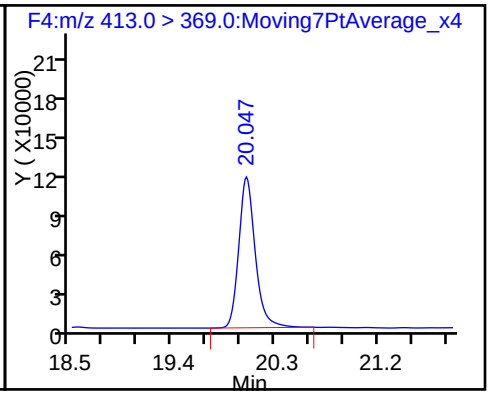
4 Perfluoroheptanoic acid



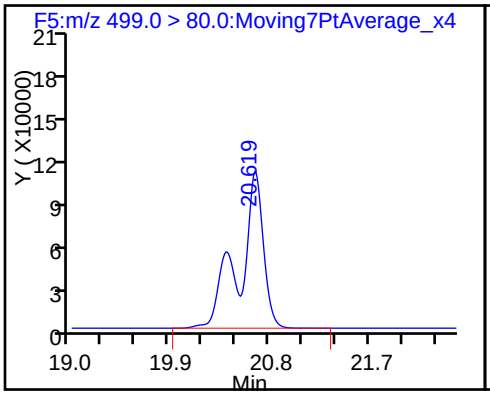
* 5 13C2-PFOA



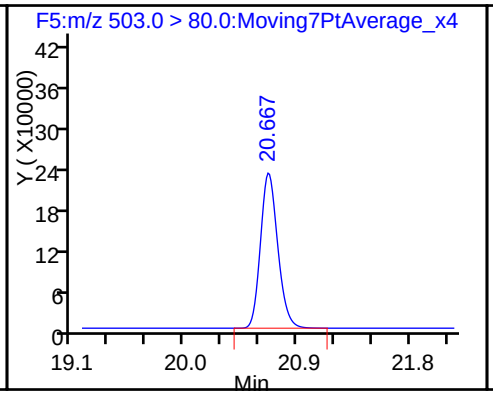
6 Perfluorooctanoic acid



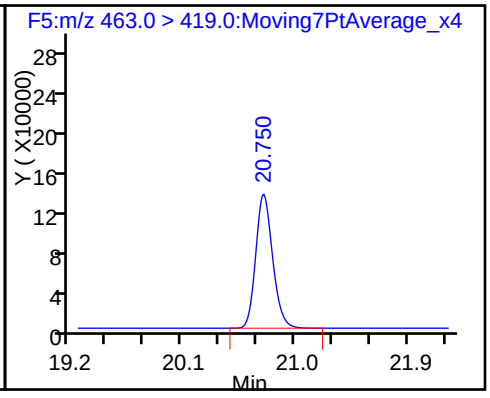
7 Perfluorooctane sulfonic acid



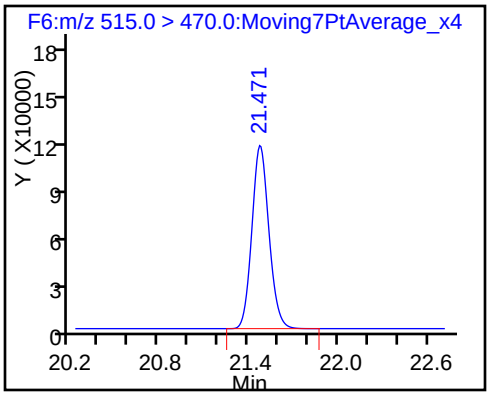
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_007.d
Lims ID: STD L4
Client ID:
Sample Type: ICISAV Calib Level: 4
Inject. Date: 05-Dec-2016 18:54:48 ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: STD L4 L4
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:37 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

First Level Reviewer: barnettj Date: 06-Dec-2016 13:43:03

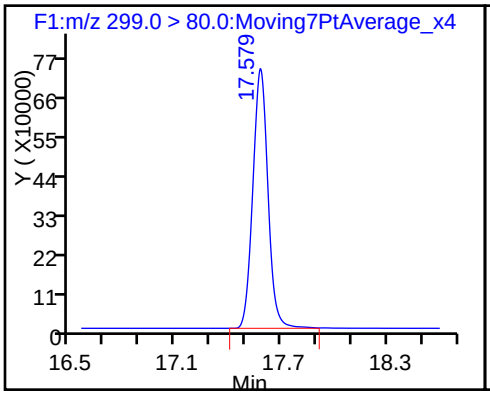
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.579	17.581	-0.002	1.000	4401661	94.0	2768	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1117585	10.5	28676	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	1938237	32.3	25196	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.378	0.002	1.000	1121930	10.2	12796	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		908727	10.0	23744	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	2096404	22.2	516	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	2969550	42.6	9704	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		1914415	28.7	28032	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	2227031	21.6	23494	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.474	-0.003	1.000	822787	10.3	25796	

Reagents:

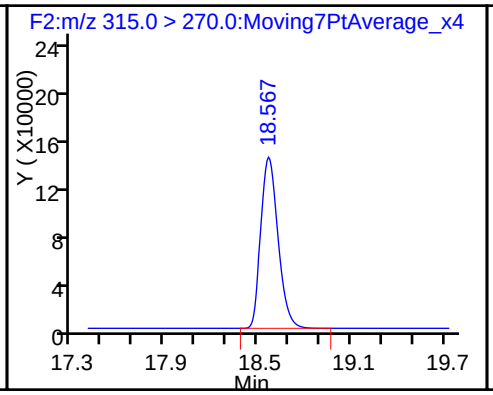
LC537-L4_00015 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_007.d
Injection Date: 05-Dec-2016 18:54:48 Instrument ID: A6
Lims ID: STD L4
Client ID:
Operator ID: CBW ALS Bottle#: 4 Worklist Smp#: 5
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

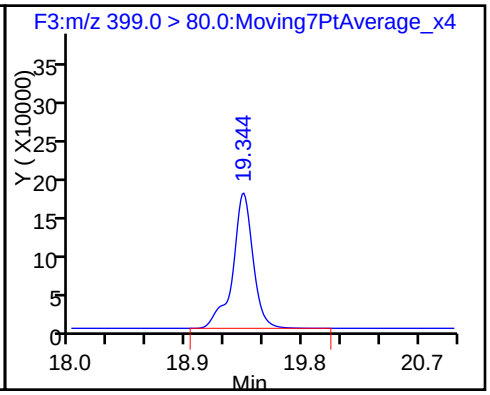
1 Perfluorobutanesulfonic acid



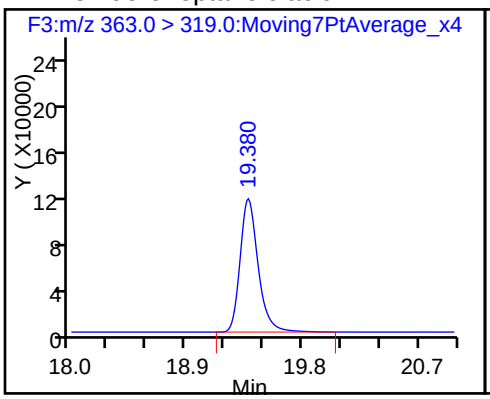
$ 2 13C2 PFHxA



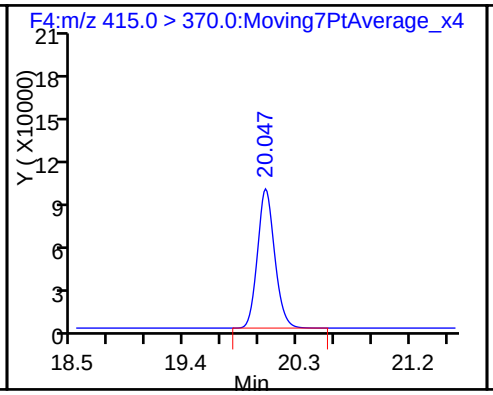
3 Perfluorohexanesulfonic acid



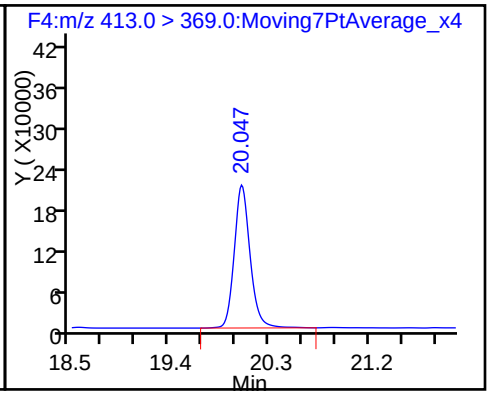
4 Perfluoroheptanoic acid



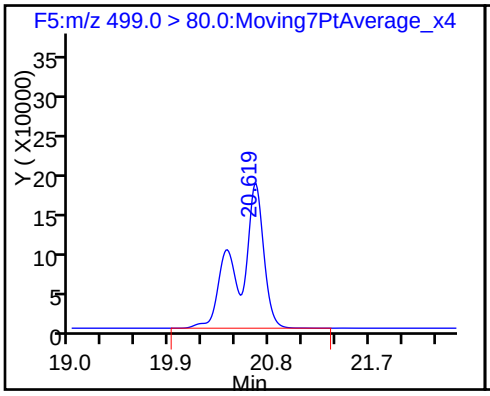
* 5 13C2-PFOA



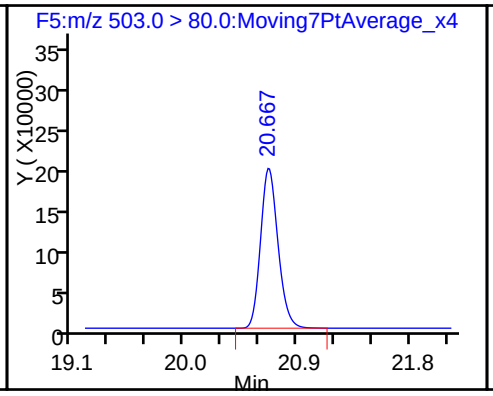
6 Perfluorooctanoic acid



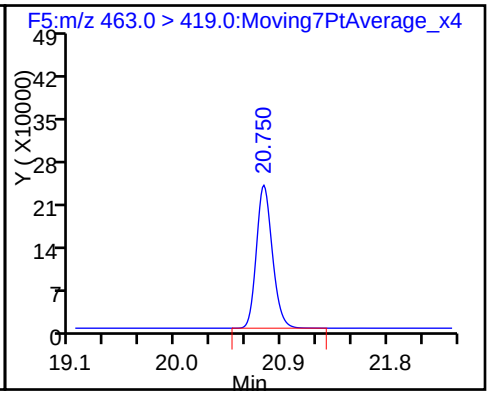
7 Perfluorooctane sulfonic acid



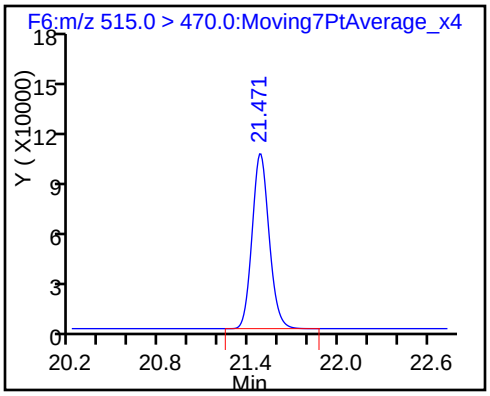
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_008.d
Lims ID: STD L5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 05-Dec-2016 19:24:23 ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: STD L5 L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:38 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

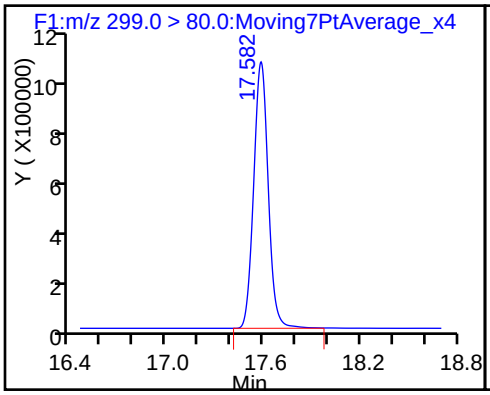
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	6630132	140.5	3208	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1240474	11.0	39454	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	3077974	51.0	14553	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.378	0.002	1.000	1727957	14.7	6886	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		969779	10.0	24964	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	3285195	32.6	1114	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.620	20.619	0.001	1.000	4906017	69.9	10146	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.669	0.010		1929192	28.7	32805	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	3558831	32.4	16307	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.474	0.006	1.000	957025	11.3	30231	

Reagents:

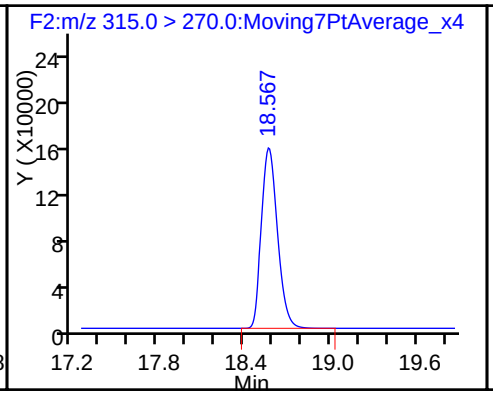
LC537-L5_00017 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_008.d
Injection Date: 05-Dec-2016 19:24:23 Instrument ID: A6
Lims ID: STD L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 6
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

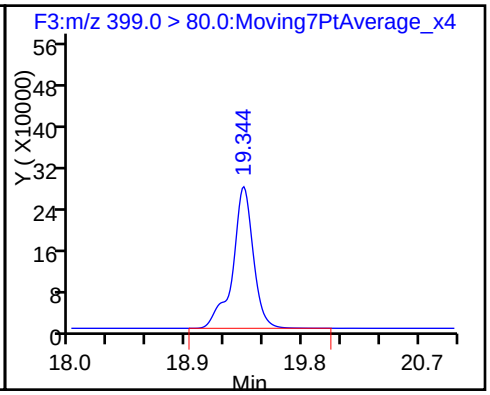
1 Perfluorobutanesulfonic acid



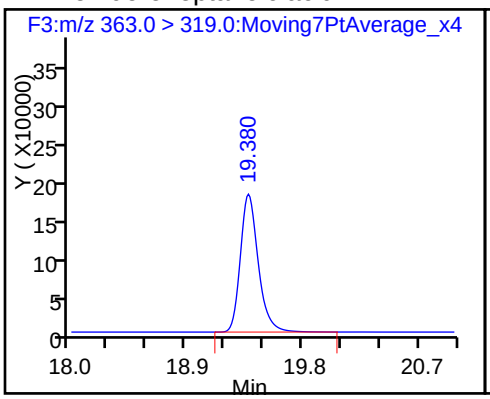
$ 2 13C2 PFHxA



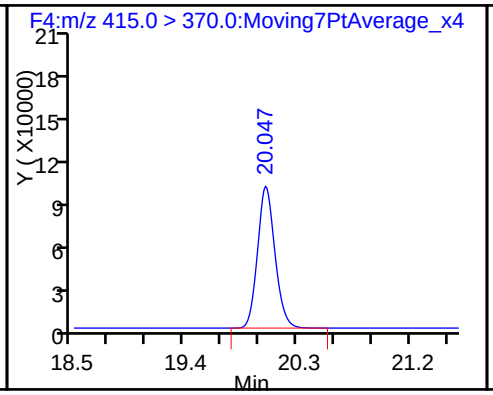
3 Perfluorohexanesulfonic acid



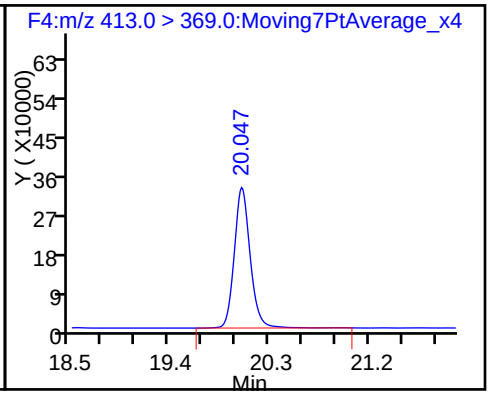
4 Perfluoroheptanoic acid



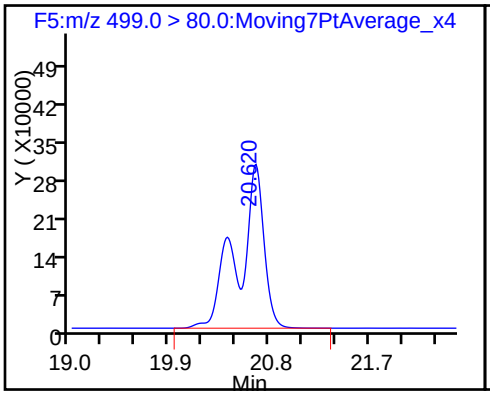
* 5 13C2-PFOA



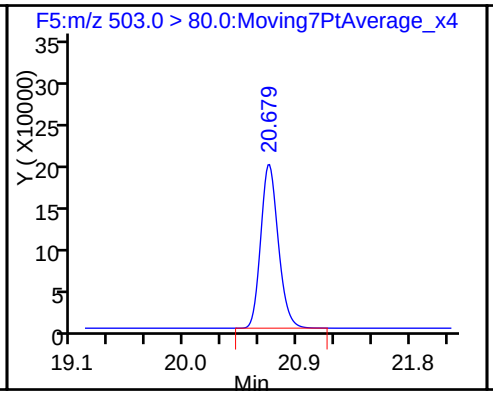
6 Perfluorooctanoic acid



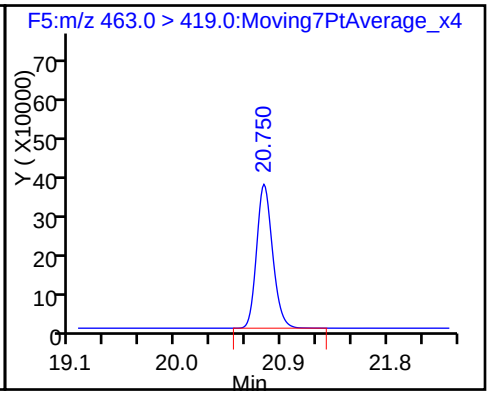
7 Perfluorooctane sulfonic acid



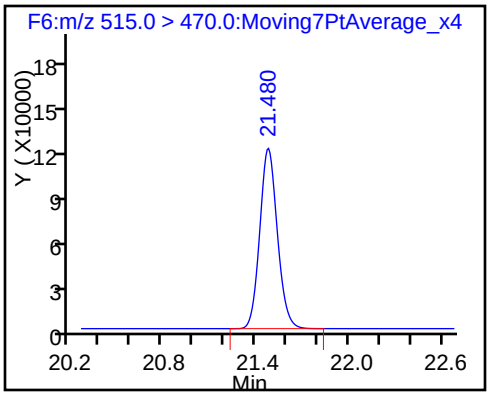
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d
Lims ID: STD L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 05-Dec-2016 19:54:00 ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: STD L6 L6
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

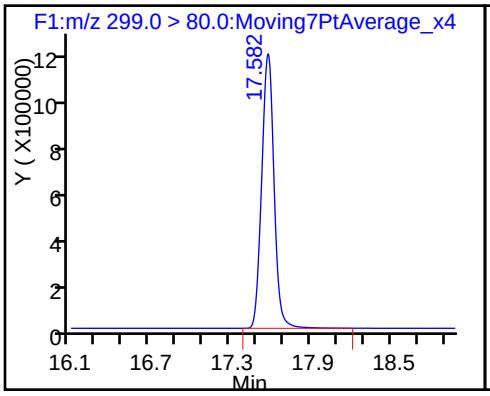
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	7753569	166.9	8570	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1095977	10.4	34796	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	3556638	59.8	31299	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.378	0.002	1.000	2032288	18.5	6367	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		906416	10.0	23083	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	3876381	41.1	917	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	5775285	83.5	12991	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		1899408	28.7	17628	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	4124664	40.1	17939	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.474	-0.003	1.000	857144	10.8	26862	

Reagents:

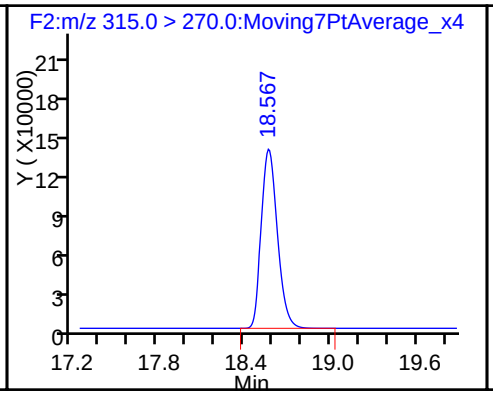
LC537-L6_00014 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d
Injection Date: 05-Dec-2016 19:54:00 Instrument ID: A6
Lims ID: STD L6
Client ID:
Operator ID: CBW ALS Bottle#: 6 Worklist Smp#: 7
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

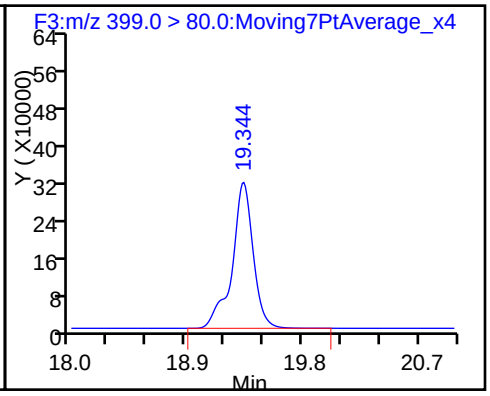
1 Perfluorobutanesulfonic acid



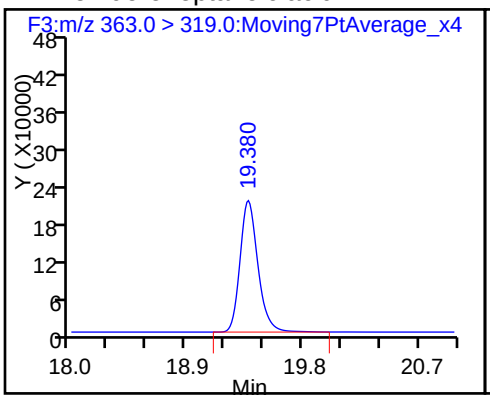
$ 2 13C2 PFHxA



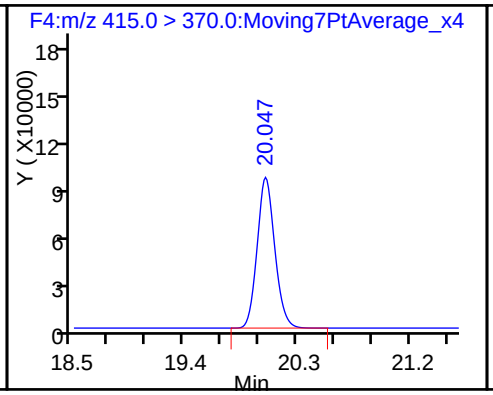
3 Perfluorohexanesulfonic acid



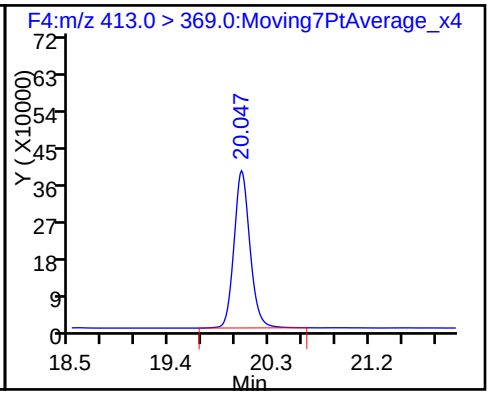
4 Perfluoroheptanoic acid



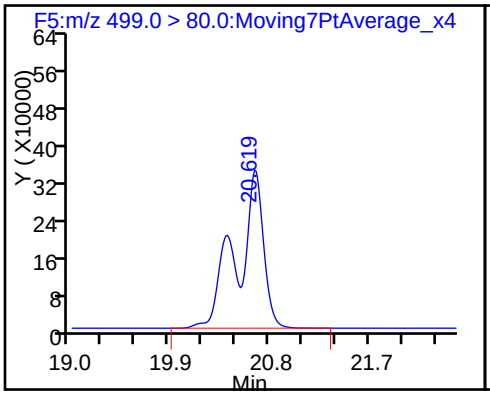
* 5 13C2-PFOA



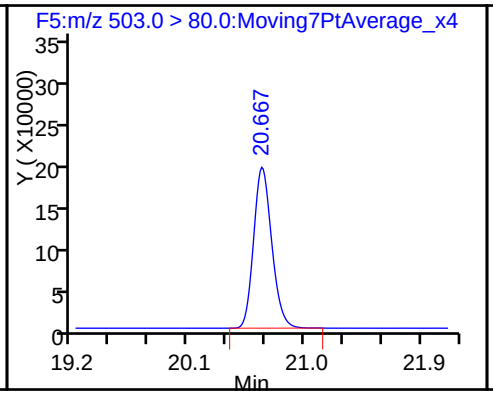
6 Perfluorooctanoic acid



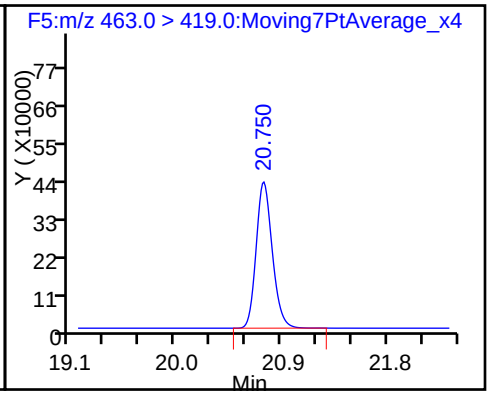
7 Perfluorooctane sulfonic acid



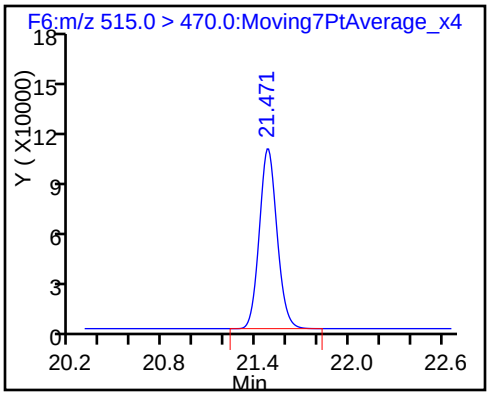
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140688/9 Calibration Date: 12/05/2016 20:53

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_011.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.6306		20.6	22.9	-10.1	50.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.7822		6.72	7.72	-12.9	50.0
Perfluoroheptanoic acid	Ave	1.215	1.239		2.65	2.60	1.9	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	0.9133		4.54	5.17	-12.2	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	0.8902		8.71	10.2	-14.7	50.0
Perfluorononanoic acid	Ave	1.134	1.093		4.83	5.01	-3.6	50.0
13C2 PFHxA	Ave	1.167	1.081		9.27	10.0	-7.3	30.0
13C2 PFDA	Ave	0.8763	0.8211		9.37	10.0	-6.3	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_011.d
Lims ID: CCV L2
Client ID:
Sample Type: CCVL
Inject. Date: 05-Dec-2016 20:53:12 ALS Bottle#: 2 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L2 CCV L2
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:35:40 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

First Level Reviewer: barnettj Date: 06-Dec-2016 10:08:33

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.586	17.581	0.005	1.000	1186753	20.6	693	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1108698	9.27	35970	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	496197	6.72	11535	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.380	19.378	0.002	1.000	329772	2.65	166	M
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		1025187	10.0	21492	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.047	0.0	1.000	484196	4.54	93.2	M
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	747766	8.71	8549	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		2358079	28.7	20478	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	561371	4.83	15032	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.474	-0.003	1.000	841818	9.37	26813	

QC Flag Legend

Review Flags

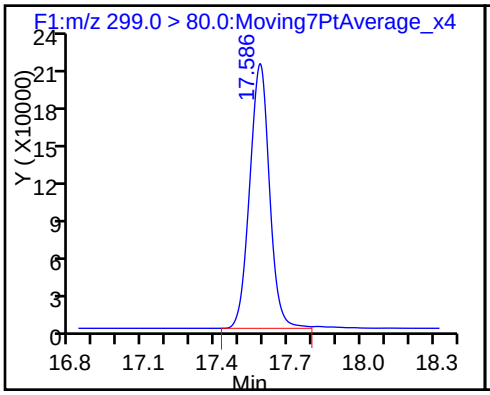
M - Manually Integrated

Reagents:

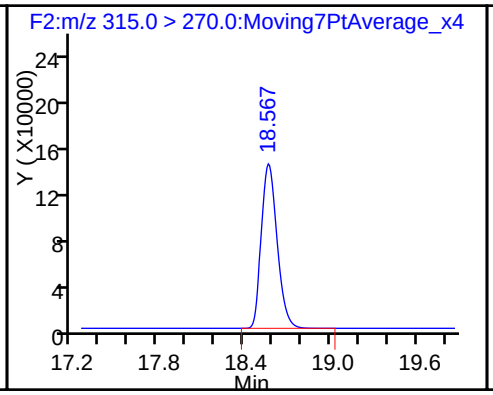
LC537-L2_00014 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_011.d
Injection Date: 05-Dec-2016 20:53:12 Instrument ID: A6
Lims ID: CCV L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

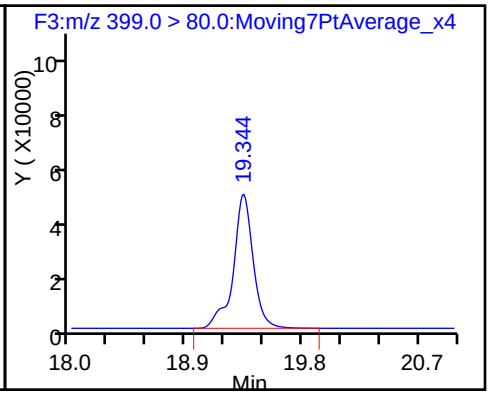
1 Perfluorobutanesulfonic acid



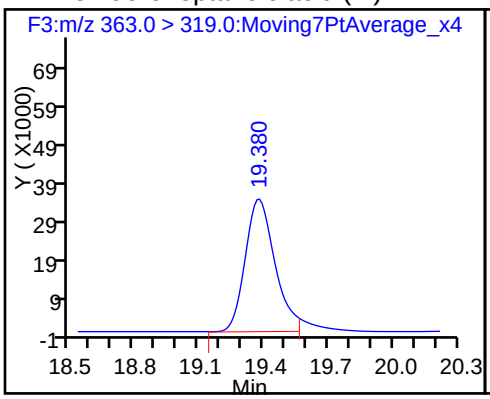
$ 2 13C2 PFHxA



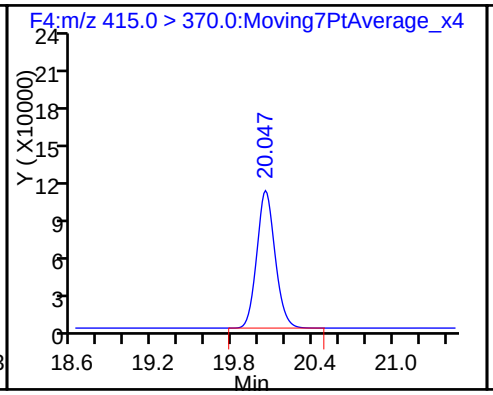
3 Perfluorohexanesulfonic acid



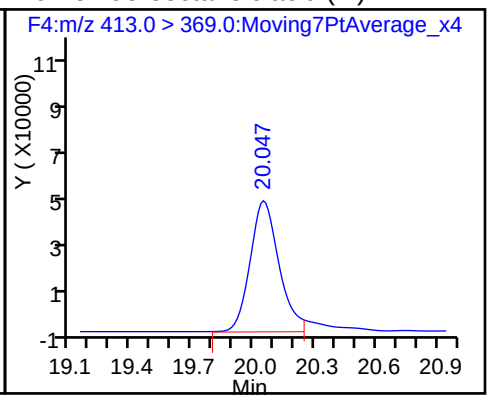
4 Perfluoroheptanoic acid (M)



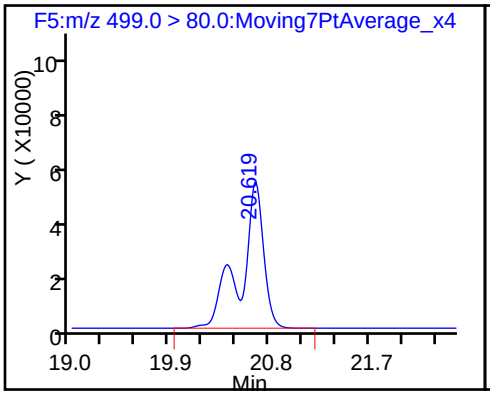
* 5 13C2-PFOA



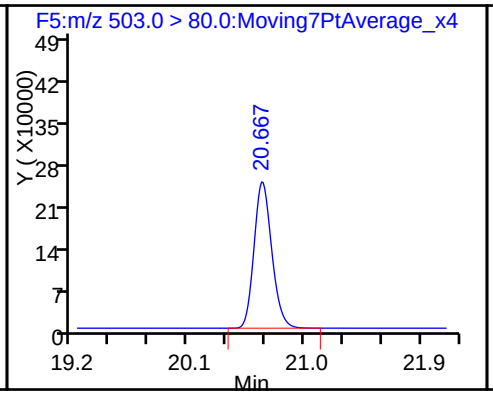
6 Perfluorooctanoic acid (M)



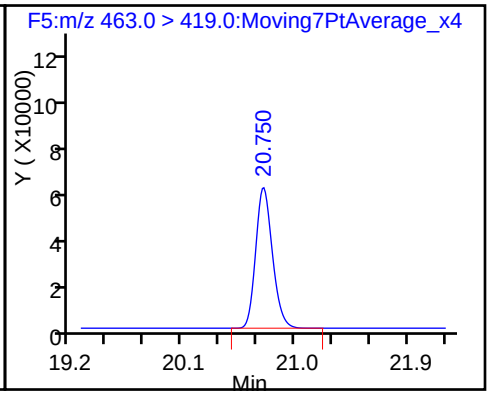
7 Perfluorooctane sulfonic acid



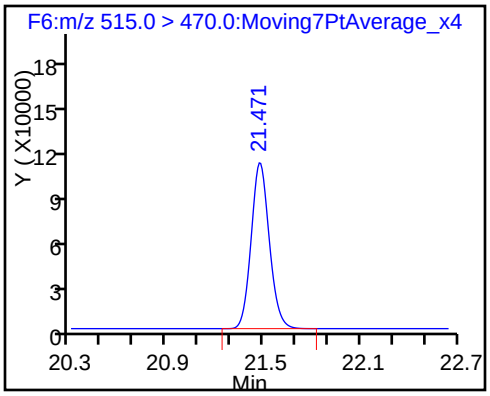
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

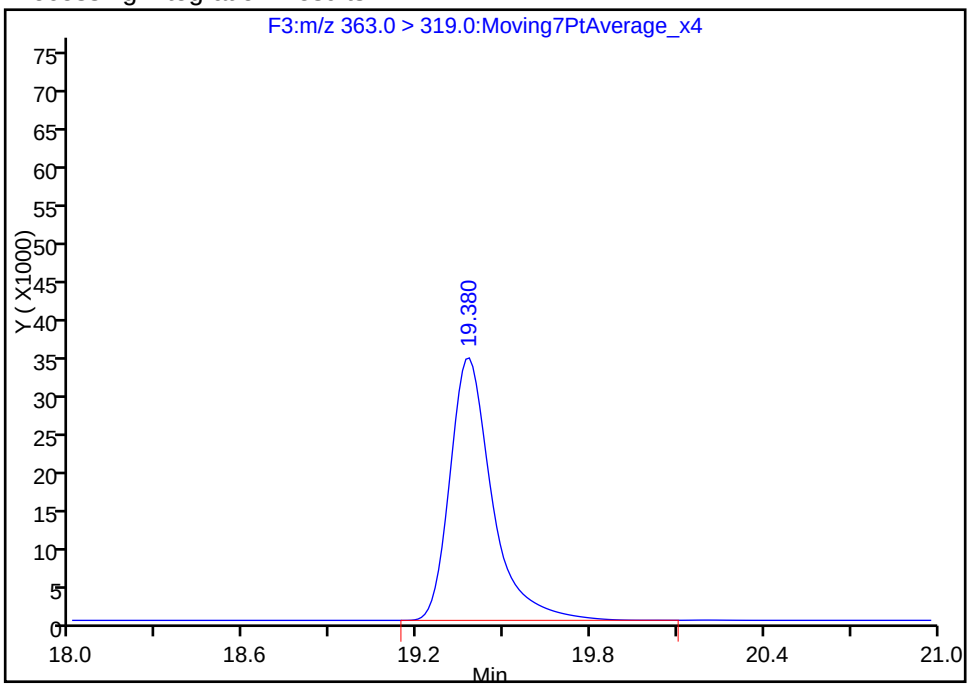
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_011.d
Injection Date: 05-Dec-2016 20:53:12 Instrument ID: A6
Lims ID: CCV L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F3:MRM

4 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

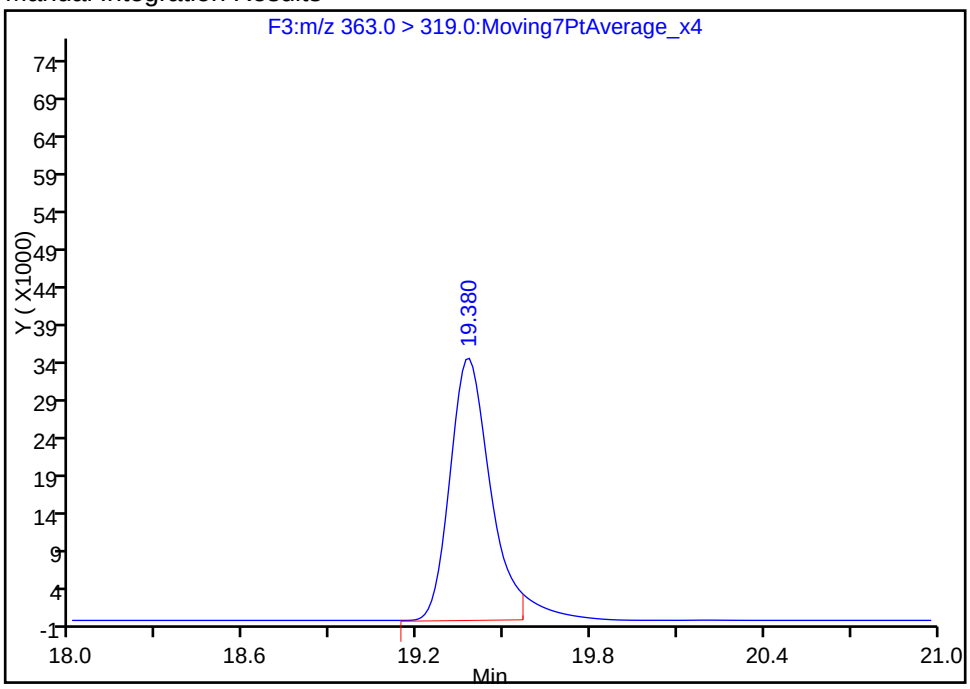
Processing Integration Results

RT: 19.38
Area: 349162
Amount: 2.802857
Amount Units: ng/ml



Manual Integration Results

RT: 19.38
Area: 329772
Amount: 2.647206
Amount Units: ng/ml



Reviewer: barnettj, 06-Dec-2016 10:08:33
Audit Action: Manually Integrated Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

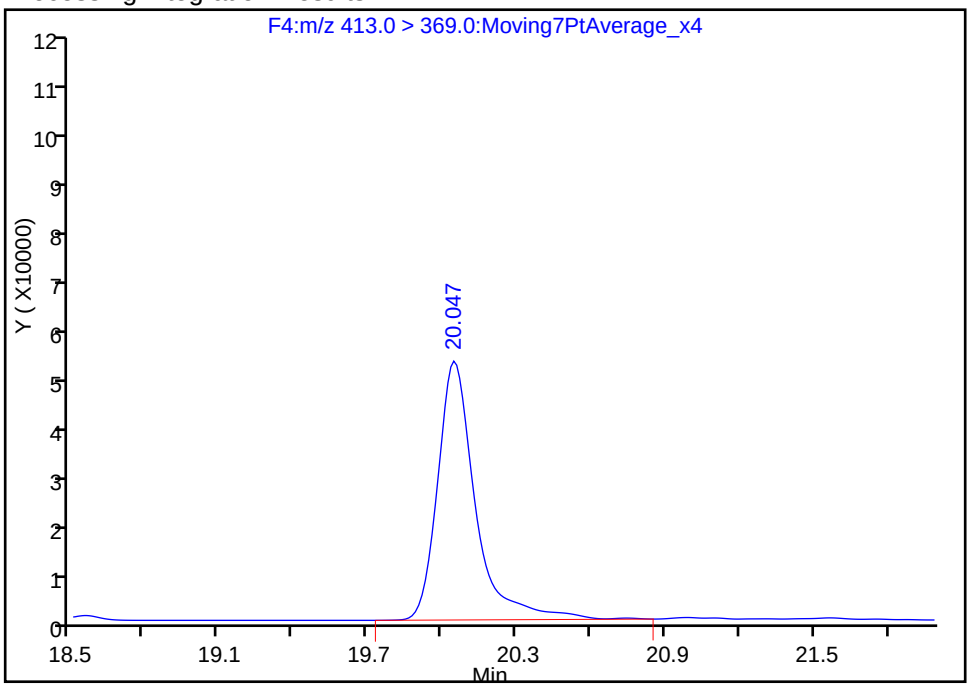
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_011.d
Injection Date: 05-Dec-2016 20:53:12 Instrument ID: A6
Lims ID: CCV L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

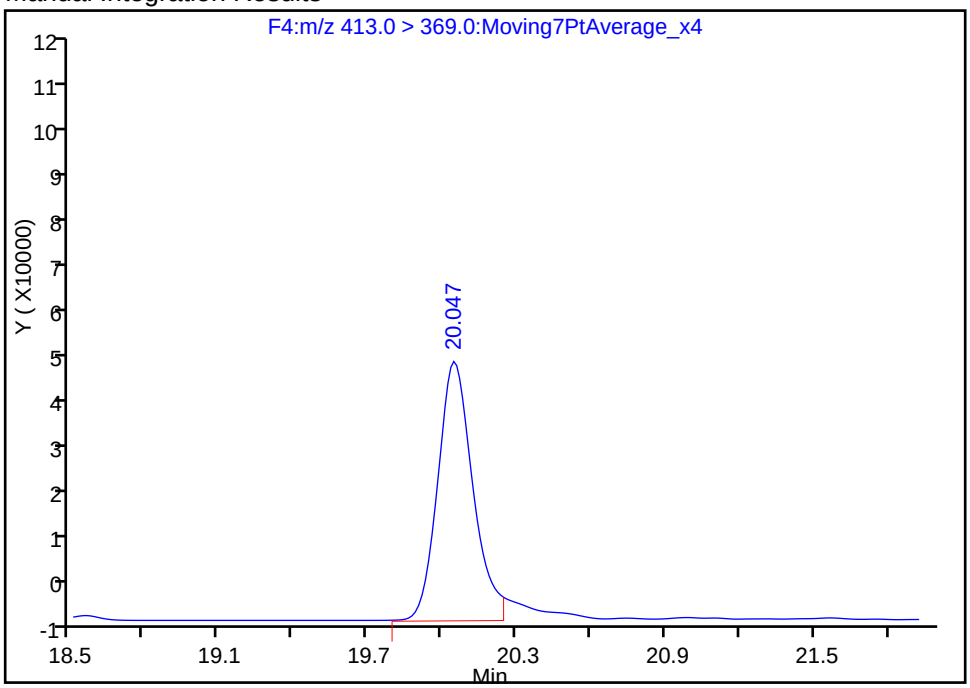
Processing Integration Results

RT: 20.05
Area: 520603
Amount: 4.880820
Amount Units: ng/ml



Manual Integration Results

RT: 20.05
Area: 484196
Amount: 4.539493
Amount Units: ng/ml



Reviewer: barnettj, 06-Dec-2016 10:08:33
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: ICV 320-140688/11 Calibration Date: 12/05/2016 21:52

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_013.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.5756		94.2	115	-18.0	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.6976		20.6	26.5	-22.3	30.0
Perfluoroheptanoic acid	Ave	1.215	1.155		11.9	12.5	-4.9	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	0.9604		23.2	25.1	-7.7	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	0.8424		22.0	27.2	-19.3	30.0
Perfluorononanoic acid	Ave	1.134	0.9316		20.6	25.1	-17.9	30.0
13C2 PFHxA	Ave	1.167	1.079		9.25	10.0	-7.5	30.0
13C2 PFDA	Ave	0.8763	0.8628		9.85	10.0	-1.5	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_013.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 05-Dec-2016 21:52:24 ALS Bottle#: 7 Worklist Smp#: 11
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: ICV ICV
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist:

Method: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 06-Dec-2016 16:53:23 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK024

First Level Reviewer: barnettj Date: 06-Dec-2016 16:34:53

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	4641388	94.2	8629	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	946677	9.25	29673	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	0.002	1.000	1298107	20.6	29738	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.378	0.002	1.000	1267011	11.9	9991	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		877210	10.0	22431	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	2114272	23.2	647	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1612191	22.0	13496	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.669	-0.002		2015178	28.7	51574	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.748	0.002	1.000	2051048	20.6	7161	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.474	0.006	1.000	756809	9.85	23714	

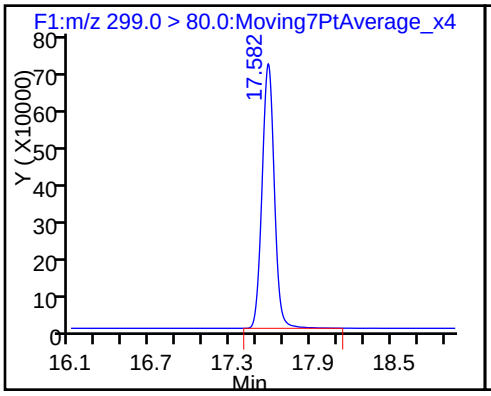
Reagents:

LC537-ICV_00017 Amount Added: 1.00 Units: mL

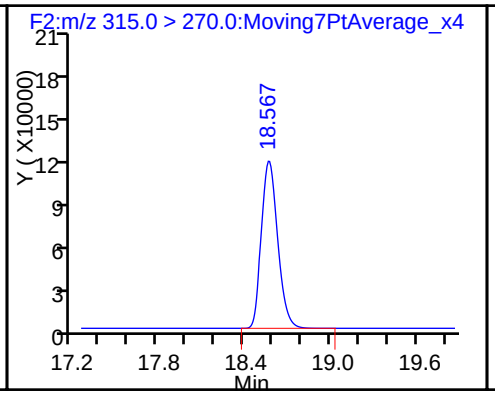
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_013.d
Injection Date: 05-Dec-2016 21:52:24 Instrument ID: A6
Lims ID: ICV
Client ID:
Operator ID: CBW ALS Bottle#: 7 Worklist Smp#: 11
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

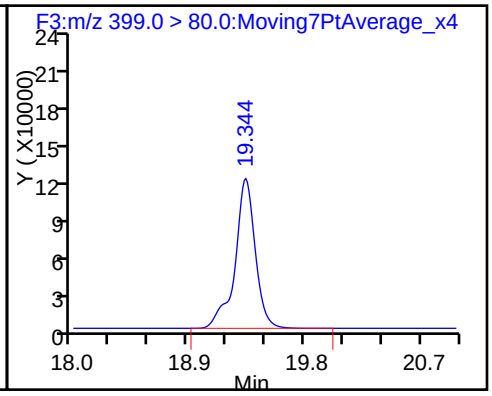
1 Perfluorobutanesulfonic acid



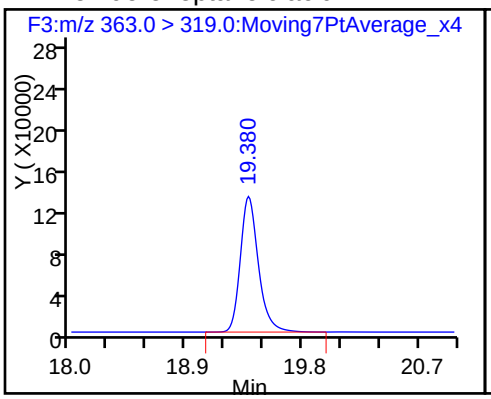
$ 2 13C2 PFHxA



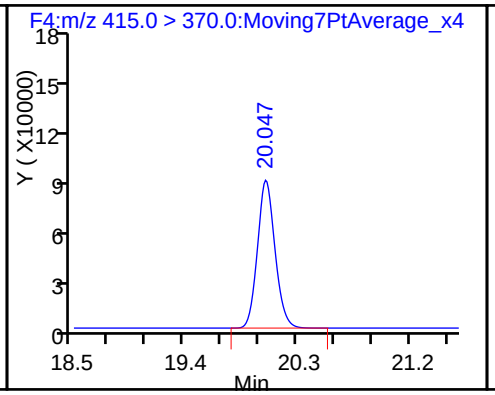
3 Perfluorohexanesulfonic acid



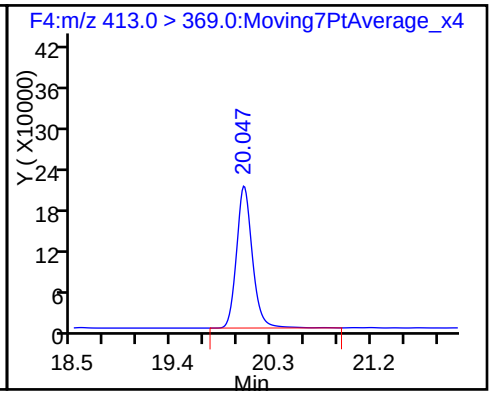
4 Perfluoroheptanoic acid



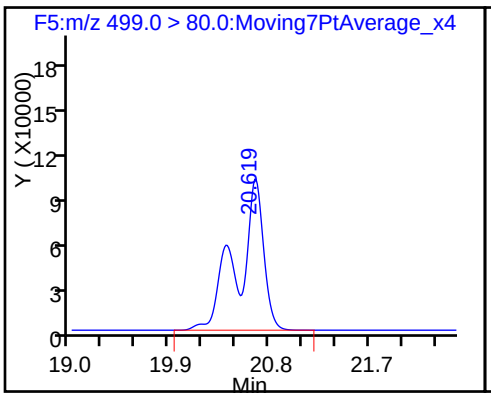
* 5 13C2-PFOA



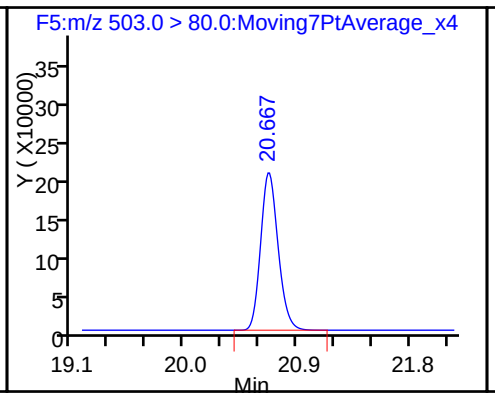
6 Perfluorooctanoic acid



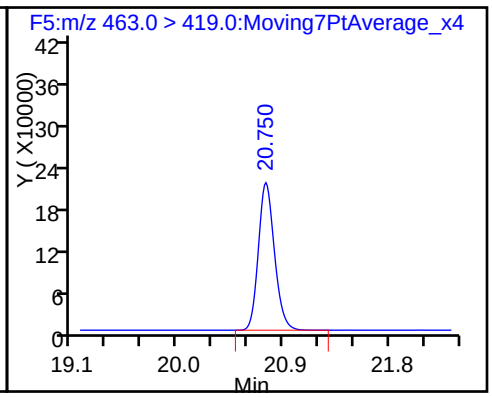
7 Perfluorooctane sulfonic acid



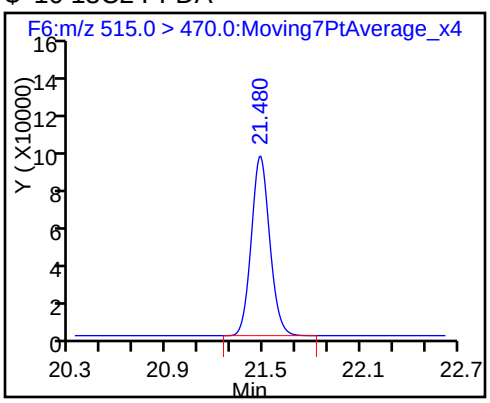
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140946/29 Calibration Date: 12/07/2016 20:56

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_108.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7512		48.3	45.1	7.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9374		15.9	15.2	4.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.222		5.14	5.12	0.5	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.093		10.7	10.2	5.1	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.079		20.8	20.1	3.3	30.0
Perfluorononanoic acid	Ave	1.134	1.162		10.1	9.87	2.5	30.0
13C2 PFHxA	Ave	1.167	1.255		10.8	10.0	7.6	30.0
13C2 PFDA	Ave	0.8763	0.8918		10.2	10.0	1.8	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_108.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 07-Dec-2016 20:56:33 ALS Bottle#: 3 Worklist Smp#: 29
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 11:29:58 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

First Level Reviewer: barnettj Date: 08-Dec-2016 10:01:03

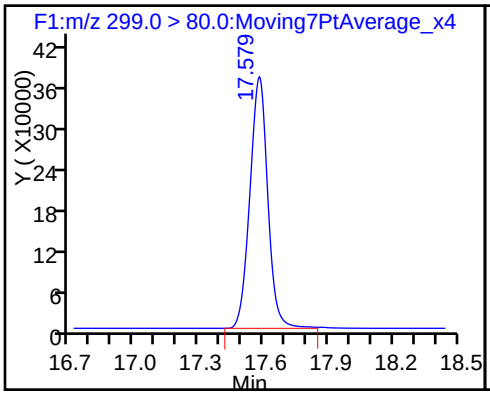
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.579	17.579	0.0	1.000	2155655	48.3	1821	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1035733	10.8	33420	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	906834	15.9	20753	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	515756	5.14	10458	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		825149	10.0	21328	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	919258	10.7	449	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1381989	20.8	16907	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1824739	28.7	47070	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	946706	10.1	25181	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	735878	10.2	23073	

Reagents:

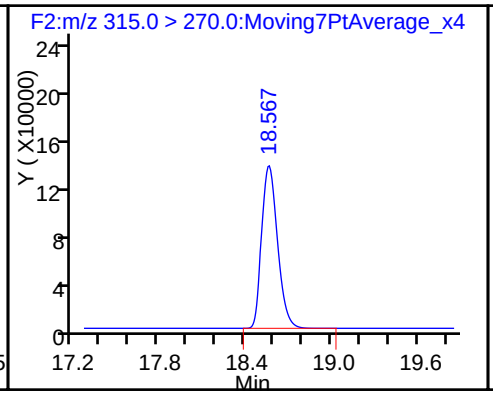
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_108.d
Injection Date: 07-Dec-2016 20:56:33 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 29
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

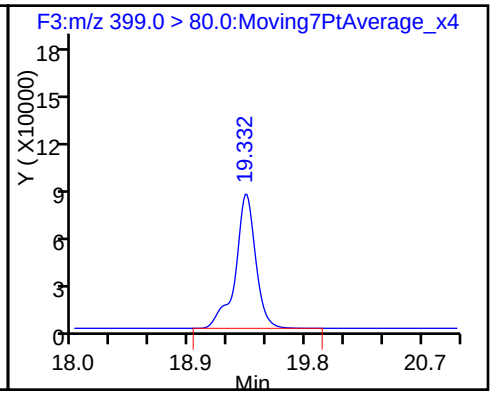
1 Perfluorobutanesulfonic acid



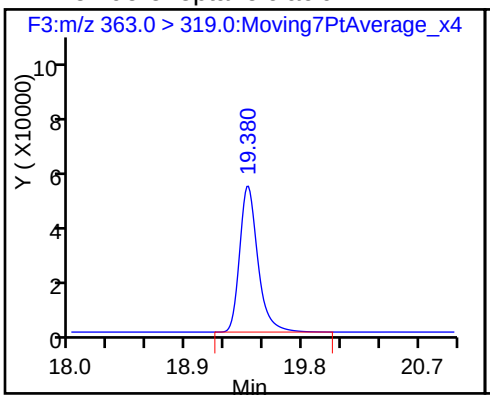
$ 2 13C2 PFHxA



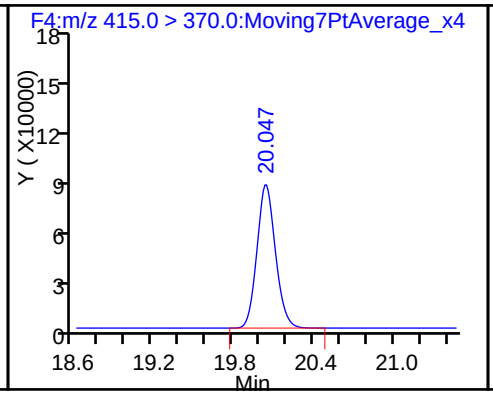
3 Perfluorohexanesulfonic acid



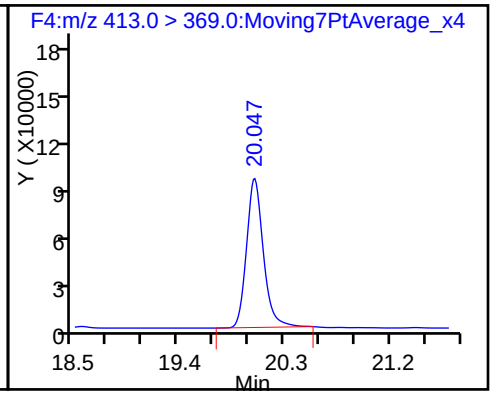
4 Perfluoroheptanoic acid



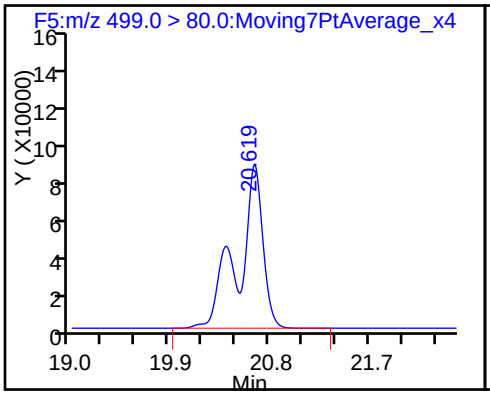
* 5 13C2-PFOA



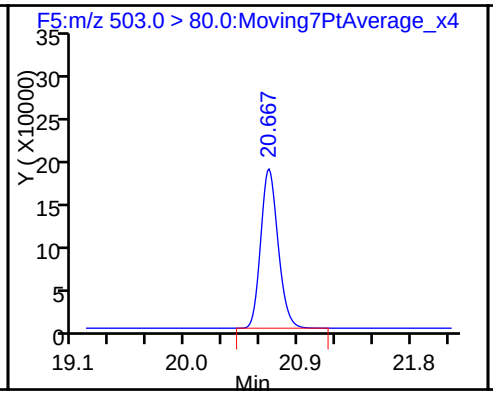
6 Perfluorooctanoic acid



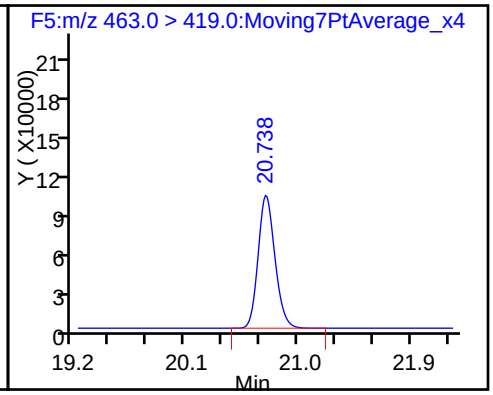
7 Perfluorooctane sulfonic acid



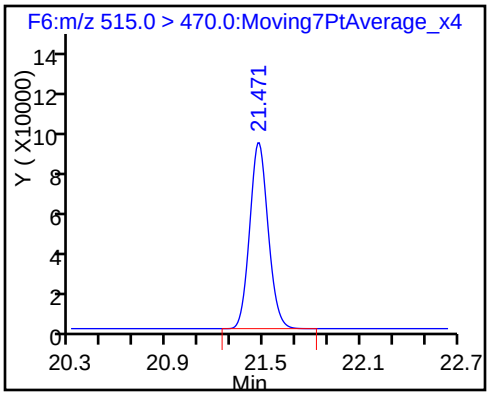
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140946/42 Calibration Date: 12/08/2016 03:21

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_121.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7245		139	135	3.3	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9634		48.7	45.4	7.3	30.0
Perfluoroheptanoic acid	Ave	1.215	1.230		15.5	15.3	1.2	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.095		32.0	30.4	5.2	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.219		70.2	60.1	16.8	30.0
Perfluorononanoic acid	Ave	1.134	1.239		32.2	29.5	9.2	30.0
13C2 PFHxA	Ave	1.167	1.340		11.5	10.0	14.8	30.0
13C2 PFDA	Ave	0.8763	1.020		11.6	10.0	16.4	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_121.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 08-Dec-2016 03:21:26 ALS Bottle#: 5 Worklist Smp#: 42
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 11:31:06 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

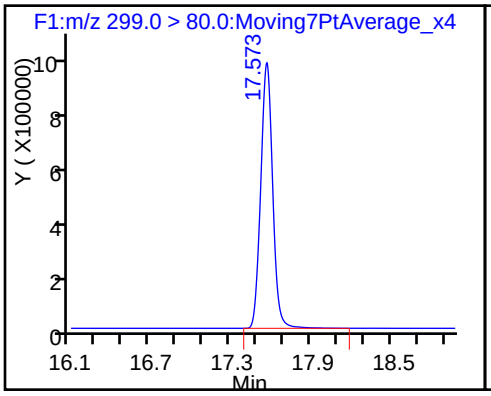
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.573	17.573	0.0	1.000	5854370	139.1	10432	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.558	0.0	1.000	1091977	11.5	35509	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	2624037	48.7	38974	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	1530801	15.5	5445	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		815069	10.0	20880	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	2714168	32.0	1411	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	4397310	70.2	22963	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1721192	28.7	44035	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	2975365	32.2	52083	
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.462	0.0	1.000	831597	11.6	26375	

Reagents:

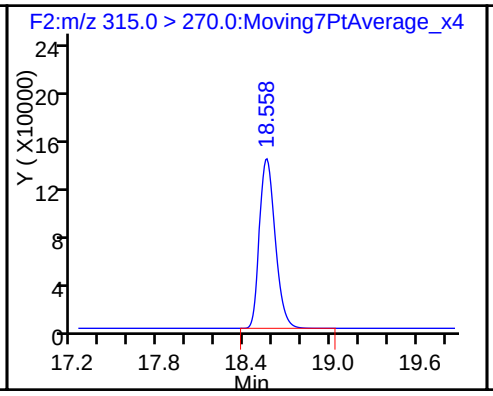
LC537-L5_00017 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_121.d
Injection Date: 08-Dec-2016 03:21:26 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 42
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

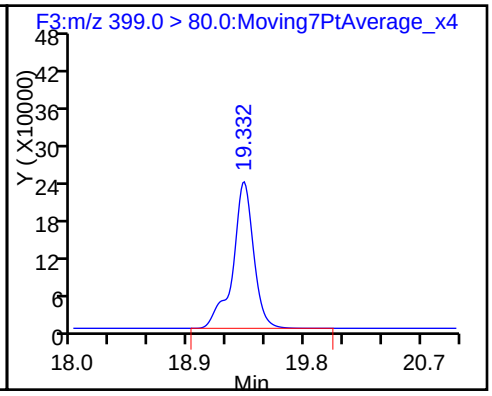
1 Perfluorobutanesulfonic acid



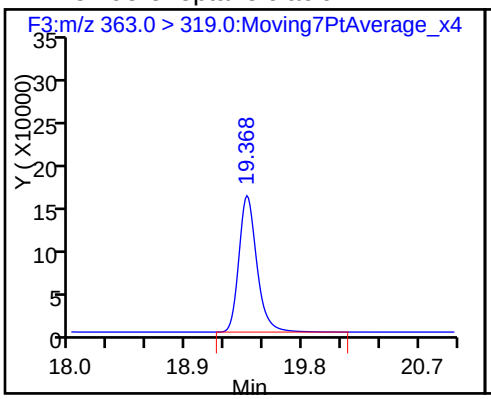
$ 2 13C2 PFHxA



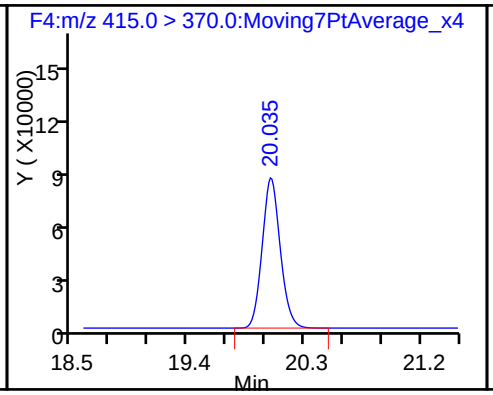
3 Perfluorohexanesulfonic acid



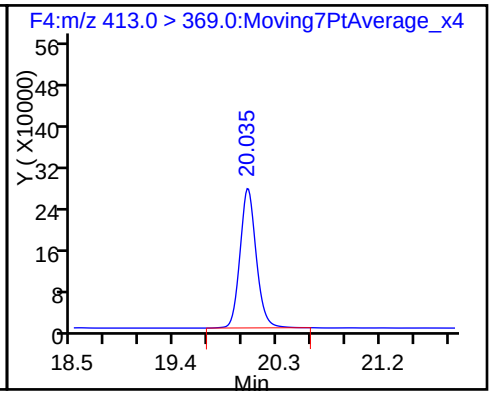
4 Perfluoroheptanoic acid



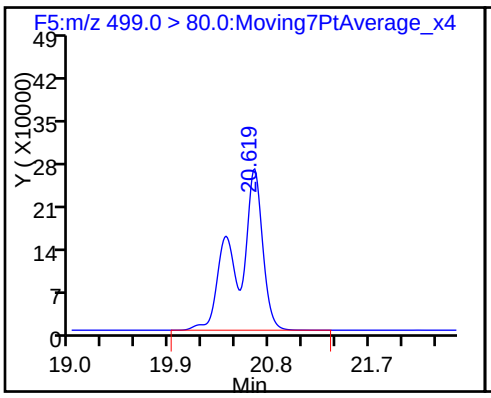
* 5 13C2-PFOA



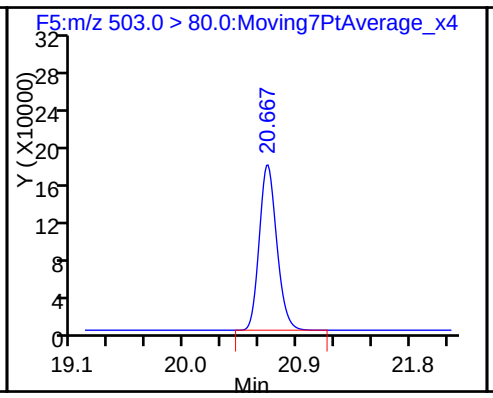
6 Perfluorooctanoic acid



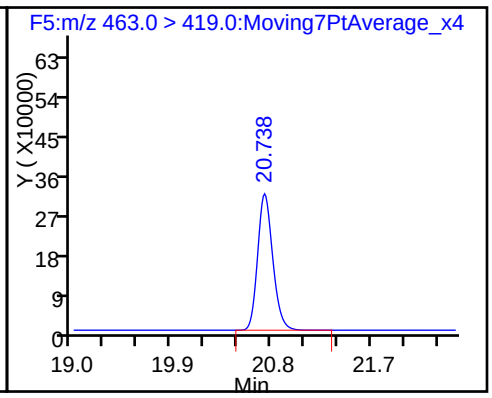
7 Perfluorooctane sulfonic acid



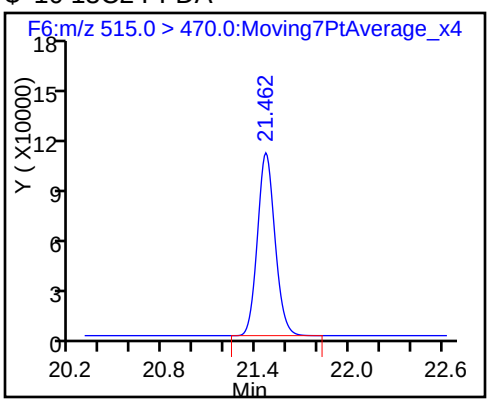
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140948/55 Calibration Date: 12/08/2016 09:46

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_134.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7368		47.4	45.1	5.0	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9518		16.1	15.2	6.0	30.0
Perfluoroheptanoic acid	Ave	1.215	1.236		5.21	5.12	1.7	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.040		10.2	10.2	-0.0	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.105		21.3	20.1	5.9	30.0
Perfluorononanoic acid	Ave	1.134	1.110		9.66	9.87	-2.1	30.0
13C2 PFHxA	Ave	1.167	1.205		10.3	10.0	3.3	30.0
13C2 PFDA	Ave	0.8763	0.8283		9.45	10.0	-5.5	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_134.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 08-Dec-2016 09:46:20 ALS Bottle#: 3 Worklist Smp#: 55
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 13:25:41 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

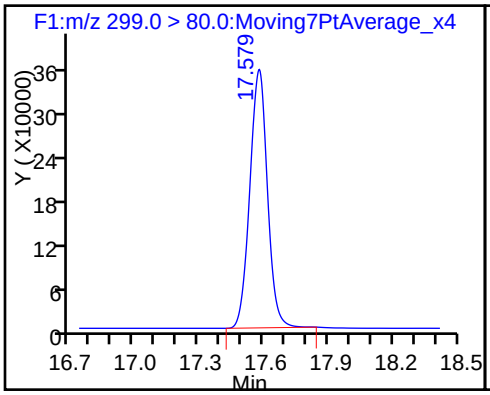
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.579	17.579	0.0	1.000	2041325	47.4	1612	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.558	0.0	1.000	1027004	10.3	33287	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	888976	16.1	20771	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	539217	5.21	11092	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		852422	10.0	22083	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	903388	10.2	345	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1367079	21.3	17937	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1761773	28.7	45688	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	934278	9.66	4122	
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.462	0.0	1.000	706078	9.45	22250	

Reagents:

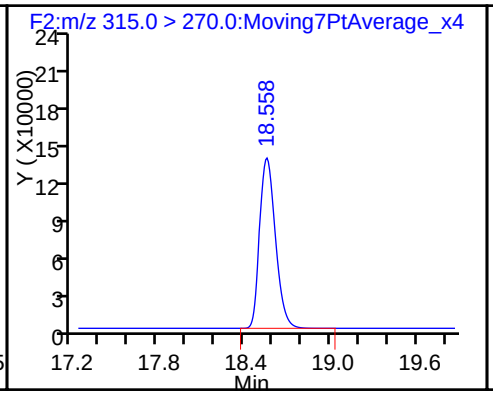
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_134.d
Injection Date: 08-Dec-2016 09:46:20 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 55
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

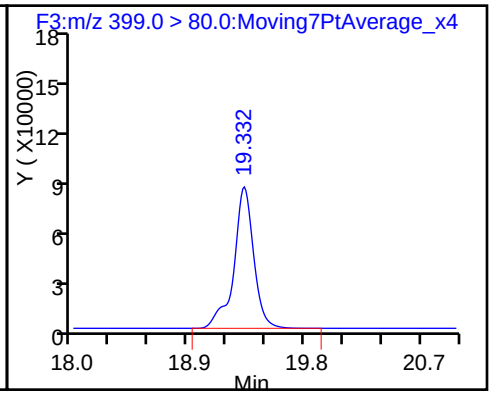
1 Perfluorobutanesulfonic acid



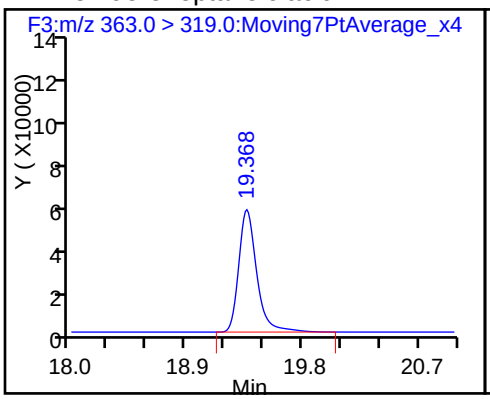
$ 2 13C2 PFHxA



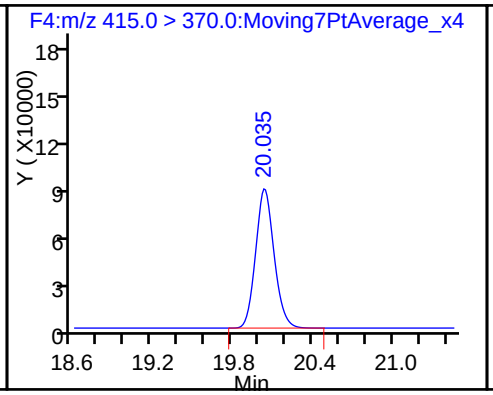
3 Perfluorohexanesulfonic acid



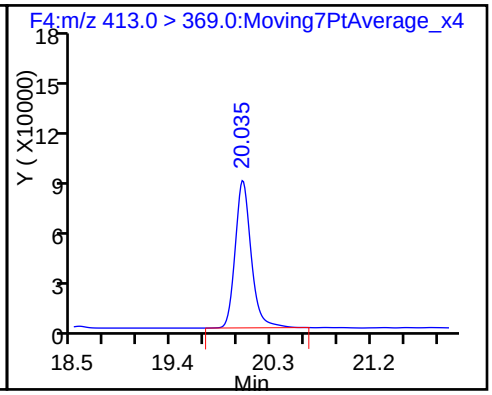
4 Perfluoroheptanoic acid



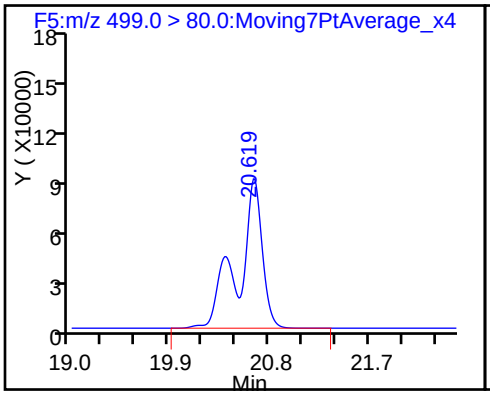
* 5 13C2-PFOA



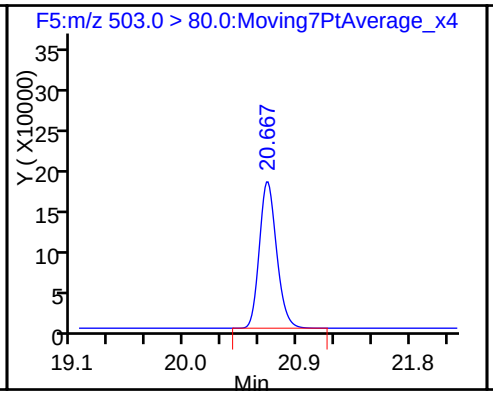
6 Perfluorooctanoic acid



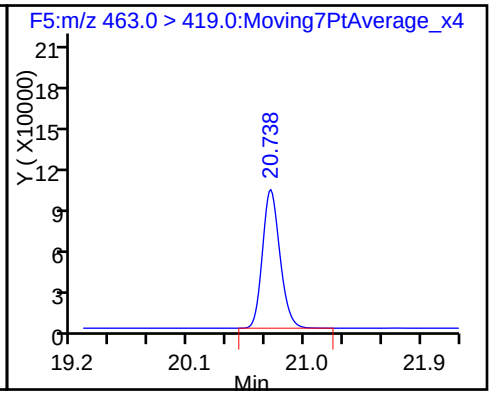
7 Perfluorooctane sulfonic acid



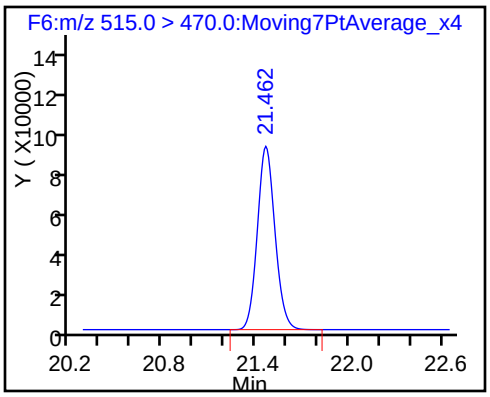
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140948/101 Calibration Date: 12/08/2016 12:14

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_139.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7521		48.4	45.1	7.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9698		16.4	15.2	8.0	30.0
Perfluoroheptanoic acid	Ave	1.215	1.208		5.09	5.12	-0.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.090		10.7	10.2	4.8	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.093		21.1	20.1	4.7	30.0
Perfluorononanoic acid	Ave	1.134	1.138		9.90	9.87	0.3	30.0
13C2 PFHxA	Ave	1.167	1.221		10.5	10.0	4.7	30.0
13C2 PFDA	Ave	0.8763	0.8825		10.1	10.0	0.7	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141249/101 Calibration Date: 12/08/2016 12:14

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_139.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7521		48.4	45.1	7.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9698		16.4	15.2	8.0	30.0
Perfluoroheptanoic acid	Ave	1.215	1.208		5.09	5.12	-0.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.090		10.7	10.2	4.8	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.093		21.1	20.1	4.7	30.0
Perfluorononanoic acid	Ave	1.134	1.138		9.90	9.87	0.3	30.0
13C2 PFHxA	Ave	1.167	1.221		10.5	10.0	4.7	30.0
13C2 PFDA	Ave	0.8763	0.8825		10.1	10.0	0.7	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_139.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 08-Dec-2016 12:14:14 ALS Bottle#: 3 Worklist Smp#: 101
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 14:01:10 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

First Level Reviewer: barnettj Date: 08-Dec-2016 13:54:01

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.566	17.566	0.0	1.000	2232265	48.4	1181	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.548	18.548	0.0	1.000	1108334	10.5	36106	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.320	19.320	0.0	1.000	970349	16.4	22358	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.356	19.356	0.0	1.000	560899	5.09	5757	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		907626	10.0	23440	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	1008028	10.7	310	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.655	20.655	0.0	1.000	1447715	21.1	23592	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1887289	28.7	21676	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	1019625	9.90	9017	
$ 10 13C2 PFDA								
515.0 > 470.0	21.453	21.453	0.0	1.000	800977	10.1	25163	

Reagents:

LC537-L3_00016 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_139.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 08-Dec-2016 12:14:14 ALS Bottle#: 3 Worklist Smp#: 101
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 14:01:10 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

First Level Reviewer: barnettj Date: 08-Dec-2016 13:54:01

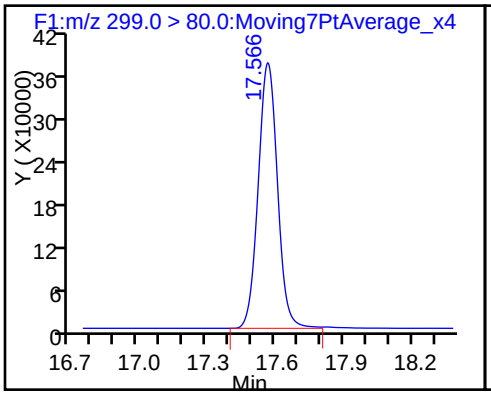
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.566	17.566	0.0	1.000	2232265	48.4	1181	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.548	18.548	0.0	1.000	1108334	10.5	36106	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.320	19.320	0.0	1.000	970349	16.4	22358	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.356	19.356	0.0	1.000	560899	5.09	5757	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		907626	10.0	23440	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	1008028	10.7	310	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.655	20.655	0.0	1.000	1447715	21.1	23592	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1887289	28.7	21676	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	1019625	9.90	9017	
$ 10 13C2 PFDA								
515.0 > 470.0	21.453	21.453	0.0	1.000	800977	10.1	25163	

Reagents:

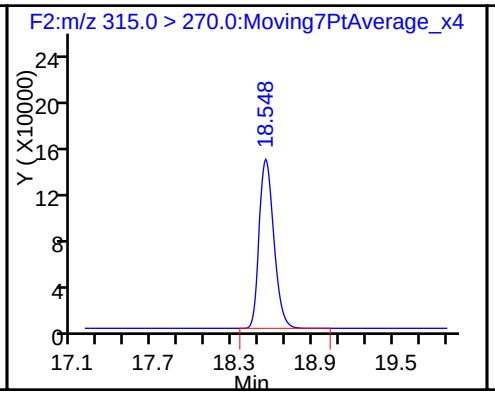
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_139.d
Injection Date: 08-Dec-2016 12:14:14 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 101
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

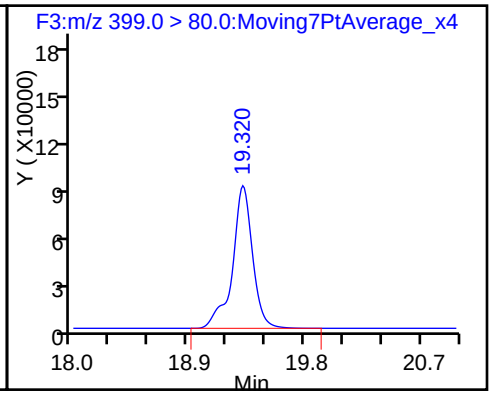
1 Perfluorobutanesulfonic acid



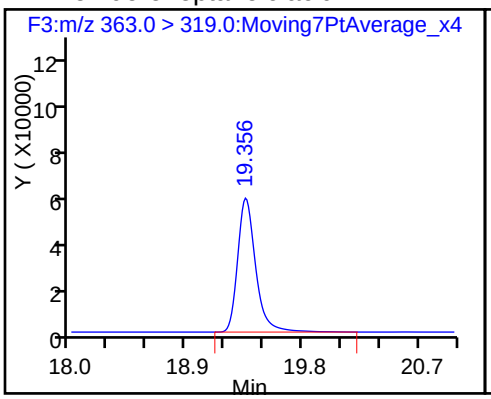
$ 2 13C2 PFHxA



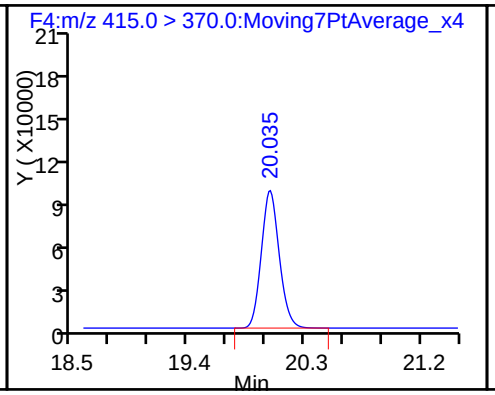
3 Perfluorohexanesulfonic acid



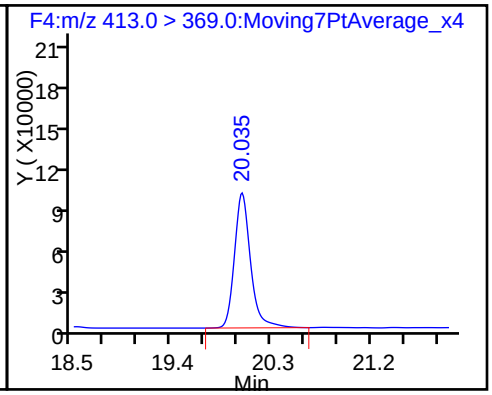
4 Perfluoroheptanoic acid



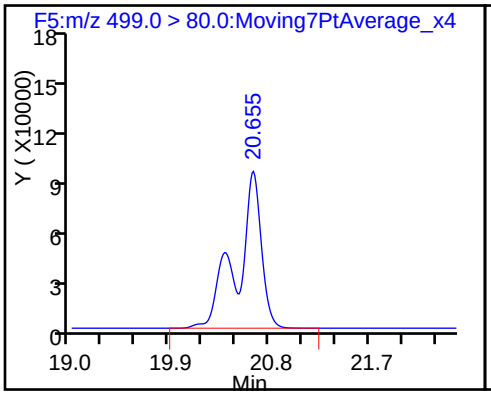
* 5 13C2-PFOA



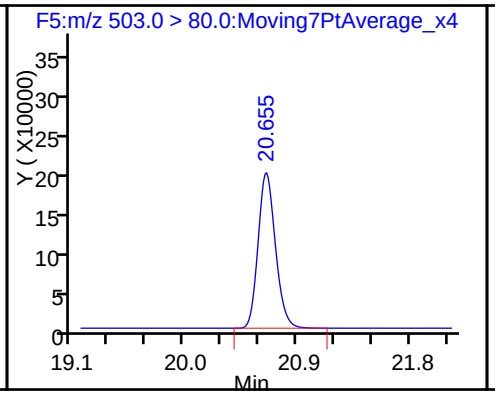
6 Perfluorooctanoic acid



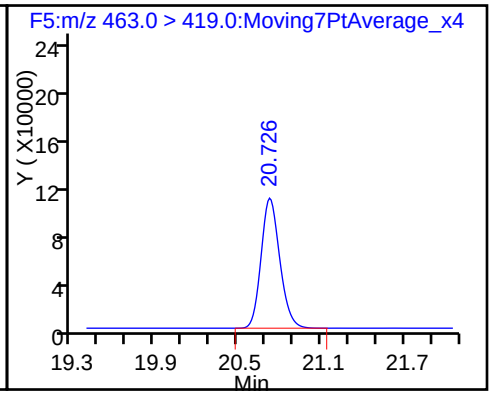
7 Perfluorooctane sulfonic acid



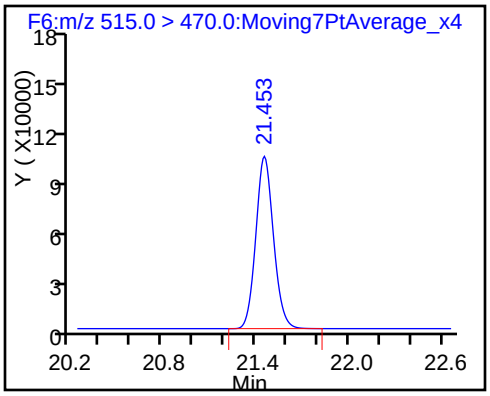
* 8 13C4 PFOS



9 Perfluorononanoic acid

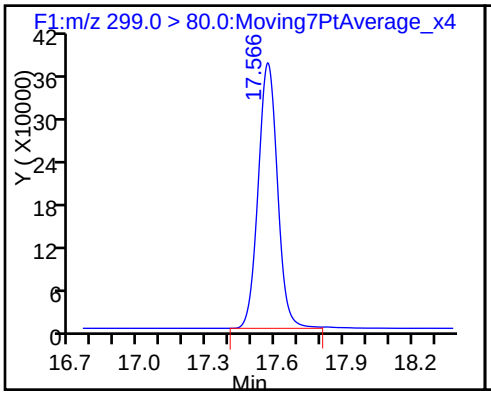


$ 10 13C2 PFDA

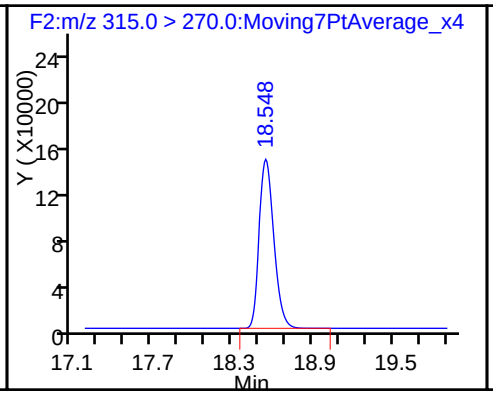


Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_139.d
Injection Date: 08-Dec-2016 12:14:14 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 101
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

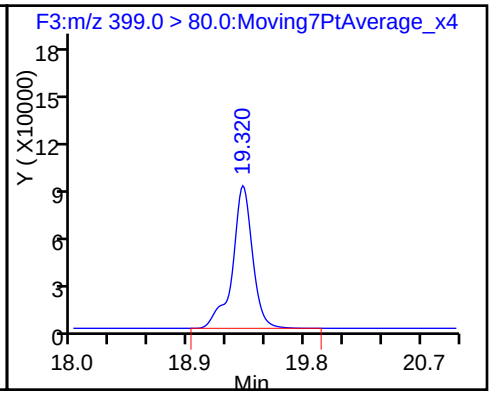
1 Perfluorobutanesulfonic acid



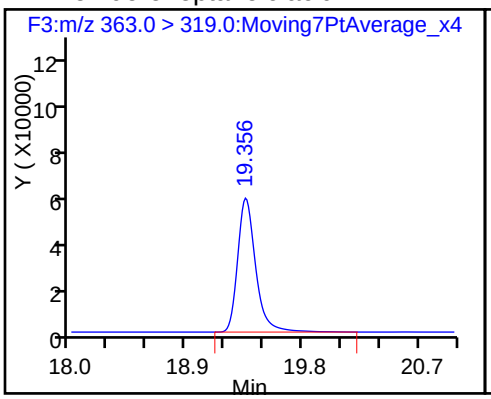
$ 2 13C2 PFHxA



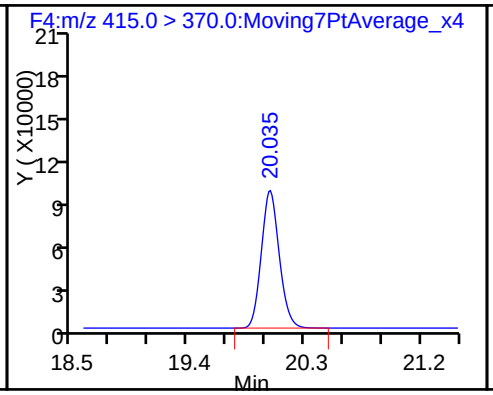
3 Perfluorohexanesulfonic acid



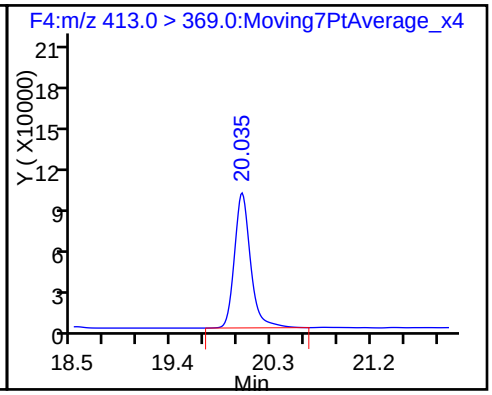
4 Perfluoroheptanoic acid



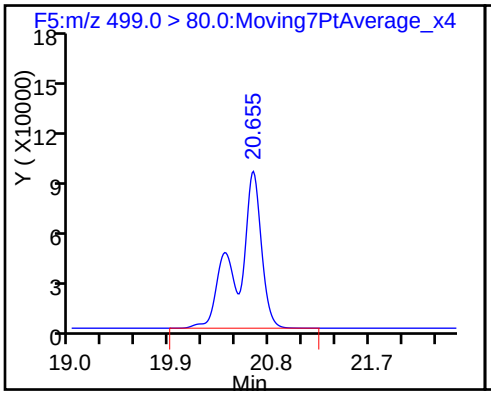
* 5 13C2-PFOA



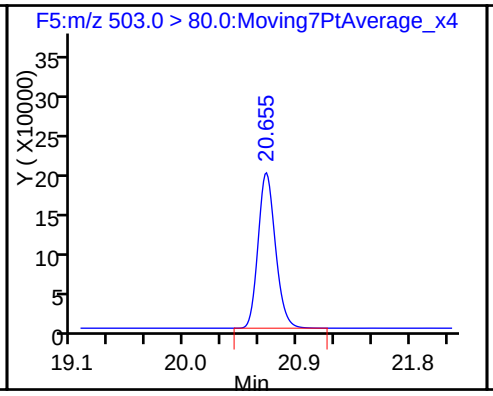
6 Perfluorooctanoic acid



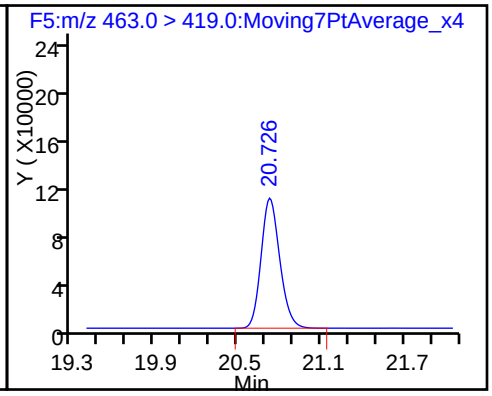
7 Perfluorooctane sulfonic acid



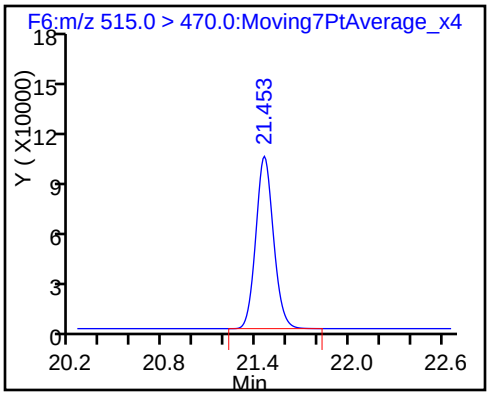
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140949/68 Calibration Date: 12/08/2016 18:35

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_151.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7801		150	135	11.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.080		54.6	45.4	20.3	30.0
Perfluoroheptanoic acid	Ave	1.215	1.178		14.8	15.3	-3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.096		32.0	30.4	5.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.255		72.2	60.1	20.2	30.0
Perfluorononanoic acid	Ave	1.134	1.151		29.9	29.5	1.4	30.0
13C2 PFHxA	Ave	1.167	1.334		11.4	10.0	14.4	30.0
13C2 PFDA	Ave	0.8763	0.9279		10.6	10.0	5.9	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141249/68 Calibration Date: 12/08/2016 18:35

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_151.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7801		150	135	11.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.080		54.6	45.4	20.3	30.0
Perfluoroheptanoic acid	Ave	1.215	1.178		14.8	15.3	-3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.096		32.0	30.4	5.3	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.255		72.2	60.1	20.2	30.0
Perfluorononanoic acid	Ave	1.134	1.151		29.9	29.5	1.4	30.0
13C2 PFHxA	Ave	1.167	1.334		11.4	10.0	14.4	30.0
13C2 PFDA	Ave	0.8763	0.9279		10.6	10.0	5.9	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_151.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 08-Dec-2016 18:35:36 ALS Bottle#: 5 Worklist Smp#: 68
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:02:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.611	17.611	0.0	1.000	6310590	149.7	10277	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1187567	11.4	37984	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	2946634	54.6	6803	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	1601994	14.8	11116	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		890167	10.0	22846	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	2967530	32.0	946	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	4531506	72.2	6922	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1723267	28.7	29354	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	3018094	29.9	24534	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	825969	10.6	26404	

Reagents:

LC537-L5_00017 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_151.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 08-Dec-2016 18:35:36 ALS Bottle#: 5 Worklist Smp#: 68
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:02:15 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.611	17.611	0.0	1.000	6310590	149.7	10277	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1187567	11.4	37984	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	2946634	54.6	6803	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	1601994	14.8	11116	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		890167	10.0	22846	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	2967530	32.0	946	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	4531506	72.2	6922	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1723267	28.7	29354	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	3018094	29.9	24534	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	825969	10.6	26404	

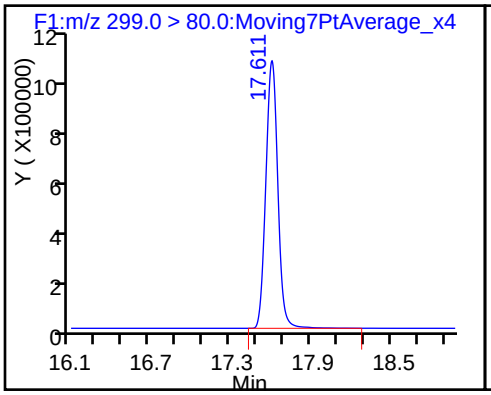
Reagents:

LC537-L5_00017 Amount Added: 1.00 Units: mL

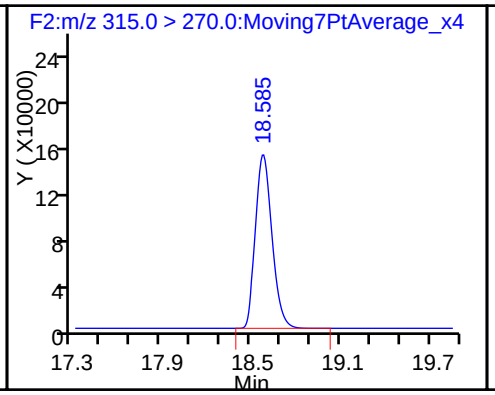
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_151.d
Injection Date: 08-Dec-2016 18:35:36 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 68
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

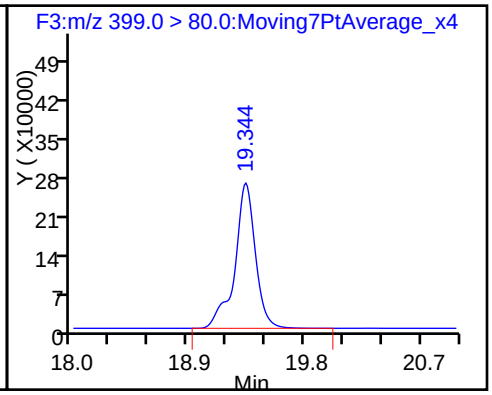
1 Perfluorobutanesulfonic acid



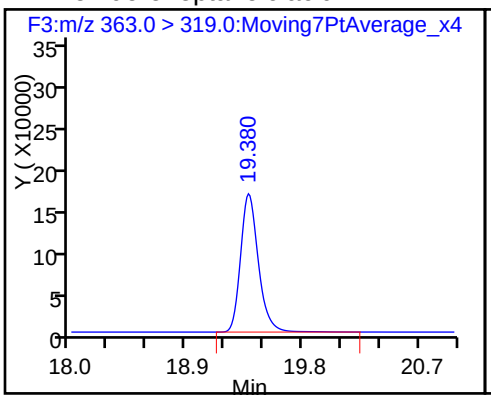
$ 2 13C2 PFHxA



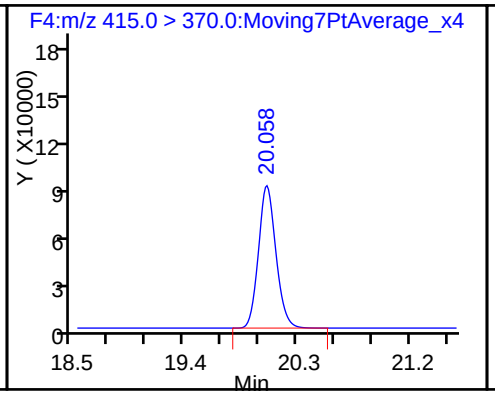
3 Perfluorohexanesulfonic acid



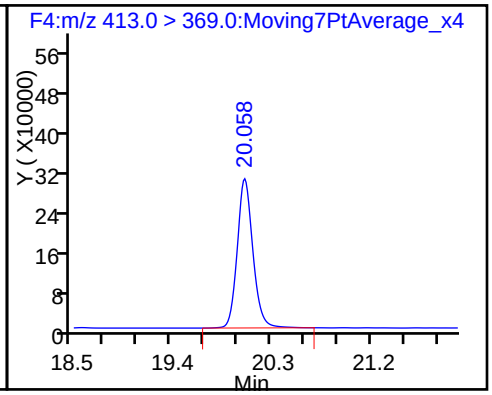
4 Perfluoroheptanoic acid



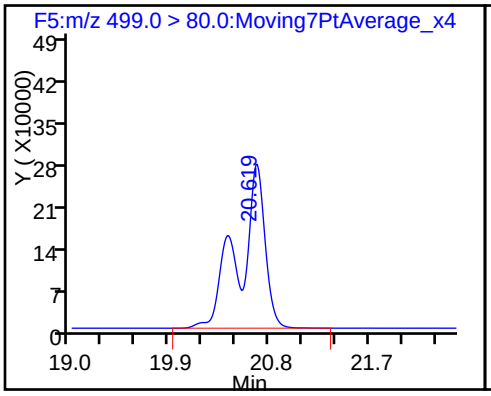
* 5 13C2-PFOA



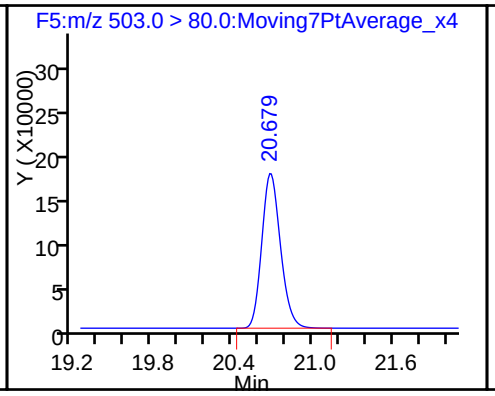
6 Perfluorooctanoic acid



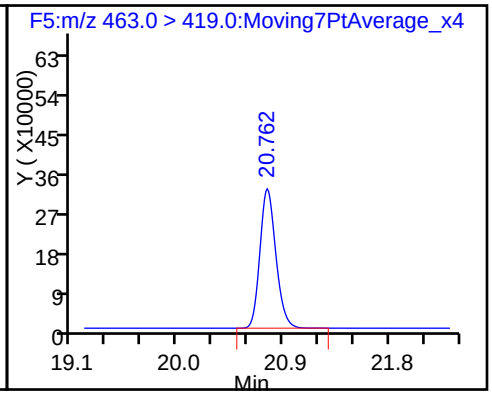
7 Perfluorooctane sulfonic acid



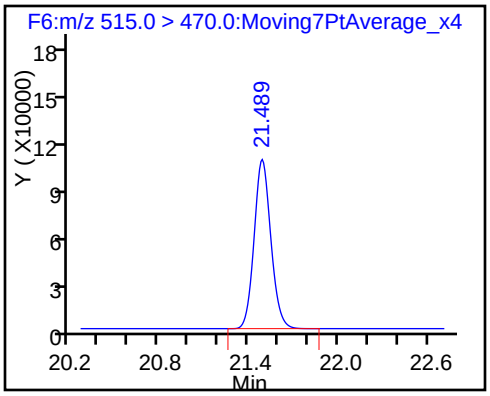
* 8 13C4 PFOS



9 Perfluorononanoic acid

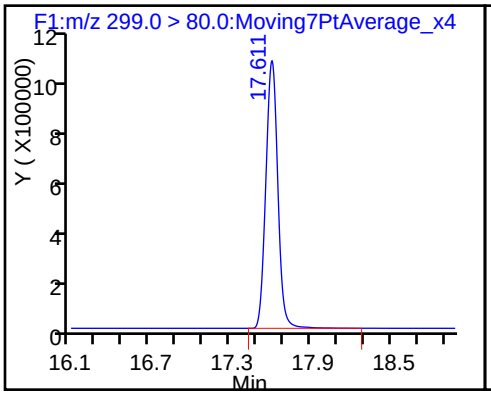


$ 10 13C2 PFDA

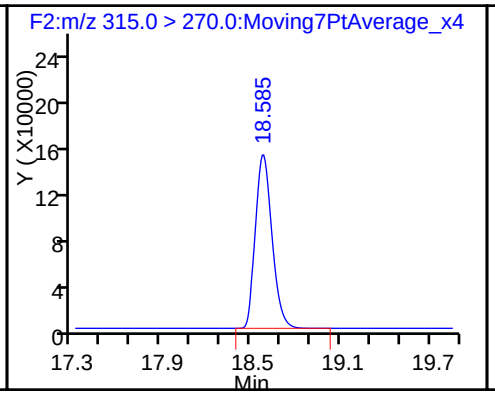


Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_151.d
Injection Date: 08-Dec-2016 18:35:36 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 68
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

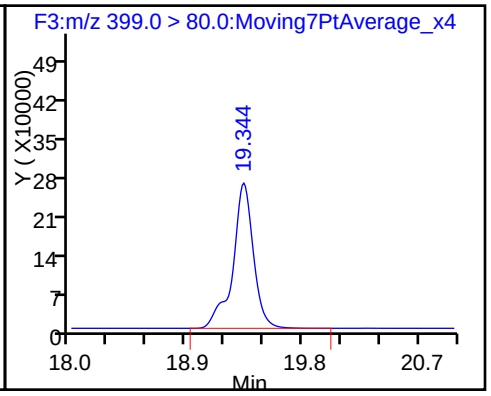
1 Perfluorobutanesulfonic acid



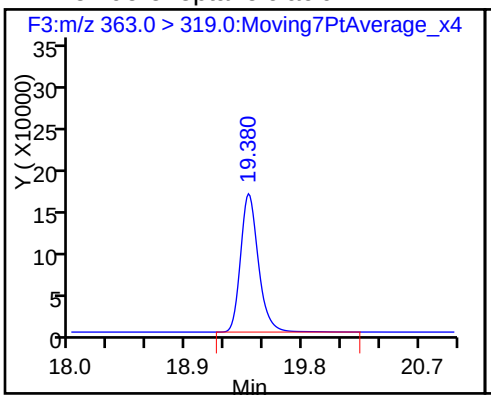
$ 2 13C2 PFHxA



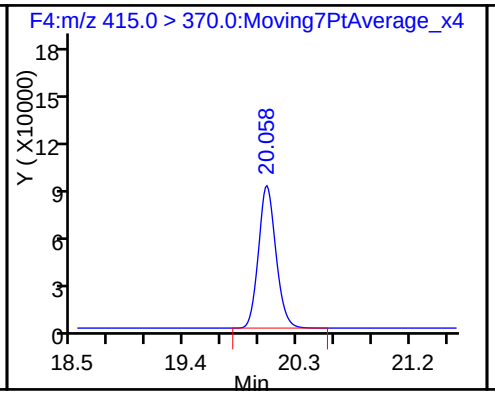
3 Perfluorohexanesulfonic acid



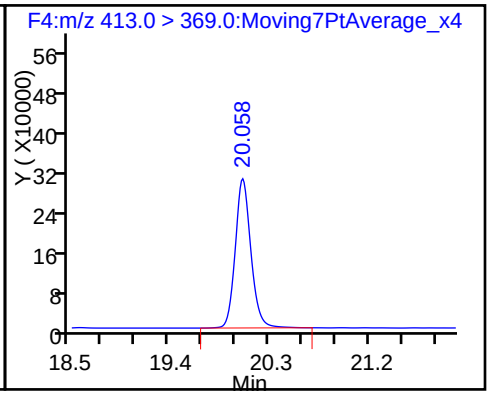
4 Perfluoroheptanoic acid



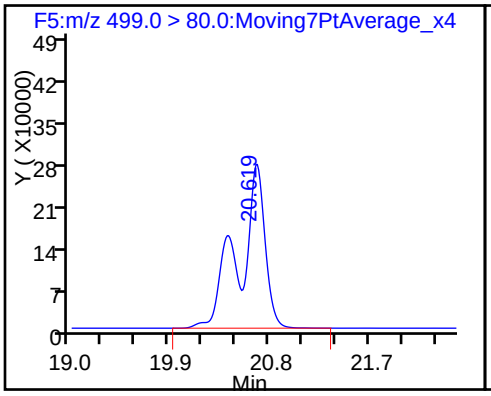
* 5 13C2-PFOA



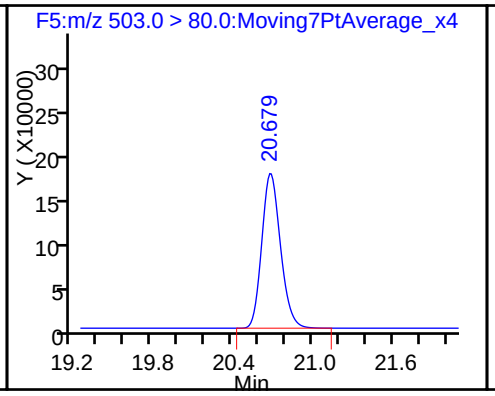
6 Perfluorooctanoic acid



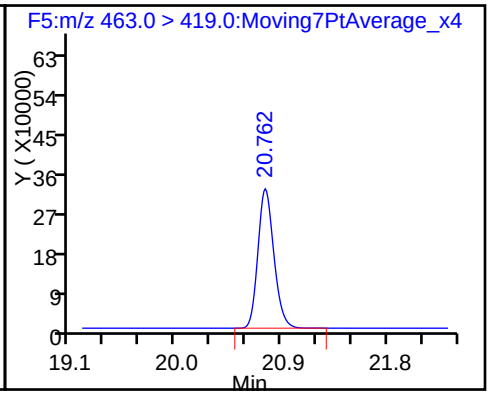
7 Perfluorooctane sulfonic acid



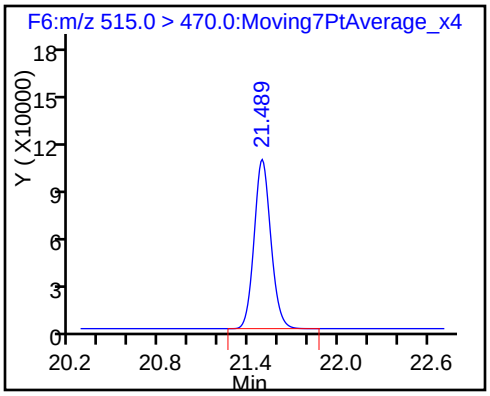
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140949/81 Calibration Date: 12/09/2016 01:00

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_164.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7861		50.5	45.1	12.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9782		16.6	15.2	8.9	30.0
Perfluoroheptanoic acid	Ave	1.215	1.329		5.60	5.12	9.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.066		10.4	10.2	2.4	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.082		20.9	20.1	3.6	30.0
Perfluorononanoic acid	Ave	1.134	1.156		10.1	9.87	1.9	30.0
13C2 PFHxA	Ave	1.167	1.244		10.7	10.0	6.7	30.0
13C2 PFDA	Ave	0.8763	0.8328		9.50	10.0	-5.0	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140950/81 Calibration Date: 12/09/2016 01:00

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_164.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7861		50.5	45.1	12.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9782		16.6	15.2	8.9	30.0
Perfluoroheptanoic acid	Ave	1.215	1.329		5.60	5.12	9.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.066		10.4	10.2	2.4	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.082		20.9	20.1	3.6	30.0
Perfluorononanoic acid	Ave	1.134	1.156		10.1	9.87	1.9	30.0
13C2 PFHxA	Ave	1.167	1.244		10.7	10.0	6.7	30.0
13C2 PFDA	Ave	0.8763	0.8328		9.50	10.0	-5.0	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_164.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 01:00:22 ALS Bottle#: 3 Worklist Smp#: 81
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.628	17.628	0.0	1.000	2195512	50.5	872	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	1072904	10.7	34339	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	920970	16.6	17056	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	586277	5.60	9893	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.059	0.0		862162	10.0	22248	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.059	20.059	0.0	1.000	936225	10.4	399	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1348695	20.9	11420	
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.691	0.0		1775879	28.7	37091	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	983839	10.1	26053	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	718036	9.50	22812	

Reagents:

LC537-L3_00016 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_164.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 01:00:22 ALS Bottle#: 3 Worklist Smp#: 81
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:35 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

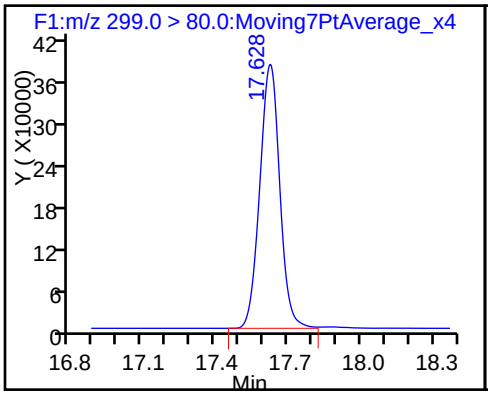
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.628	17.628	0.0	1.000	2195512	50.5	872	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	1072904	10.7	34339	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	920970	16.6	17056	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	586277	5.60	9893	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.059	0.0		862162	10.0	22248	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.059	20.059	0.0	1.000	936225	10.4	399	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1348695	20.9	11420	
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.691	0.0		1775879	28.7	37091	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	983839	10.1	26053	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	718036	9.50	22812	

Reagents:

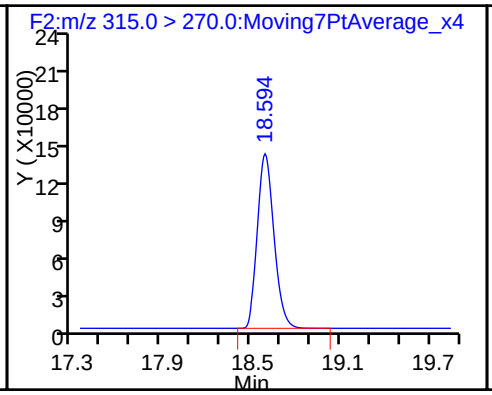
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_164.d
Injection Date: 09-Dec-2016 01:00:22 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 81
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

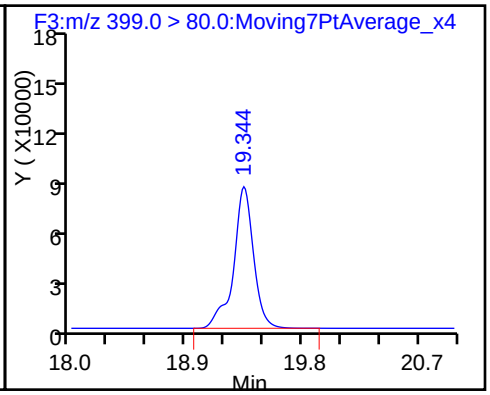
1 Perfluorobutanesulfonic acid



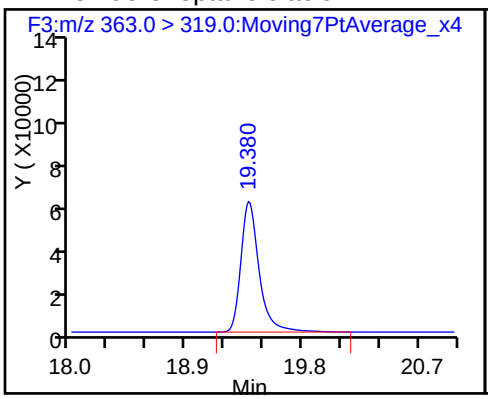
$ 2 13C2 PFHxA



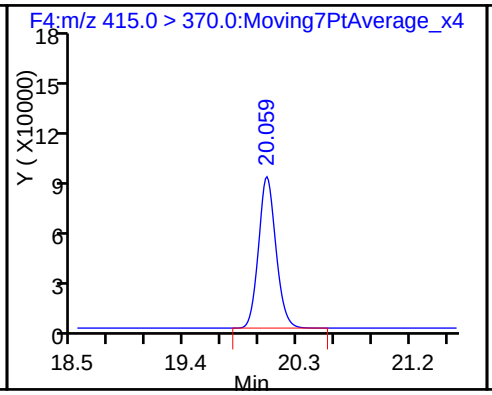
3 Perfluorohexanesulfonic acid



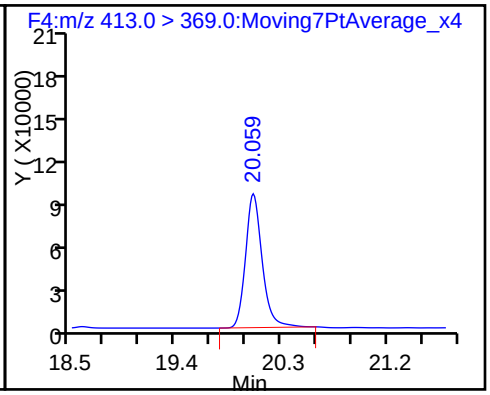
4 Perfluoroheptanoic acid



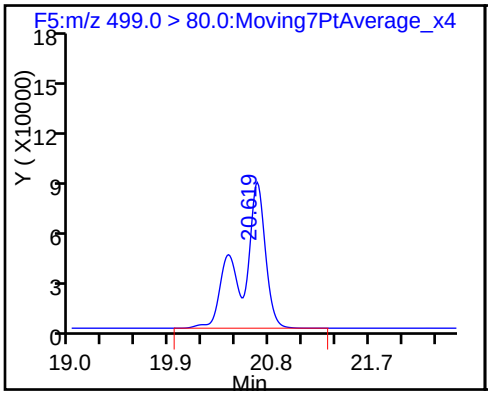
* 5 13C2-PFOA



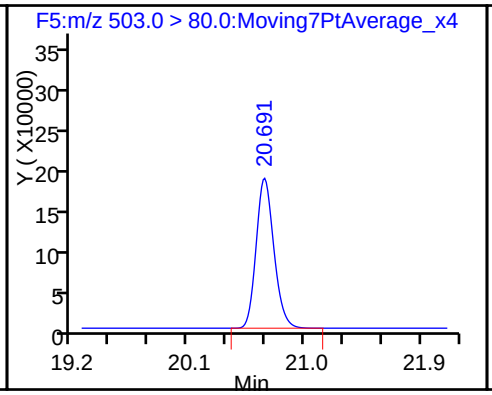
6 Perfluorooctanoic acid



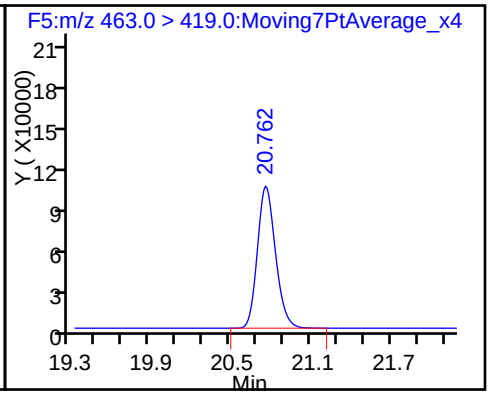
7 Perfluorooctane sulfonic acid



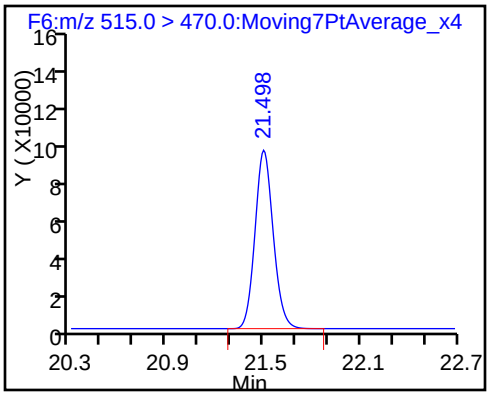
* 8 13C4 PFOS



9 Perfluorononanoic acid

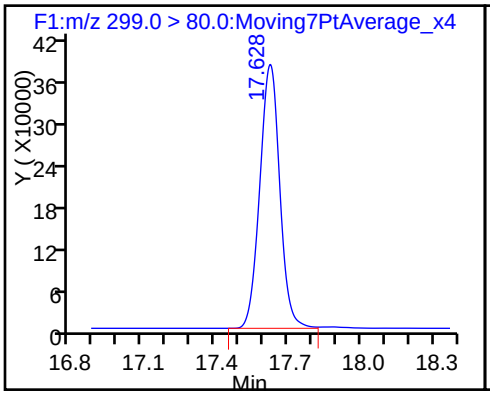


$ 10 13C2 PFDA

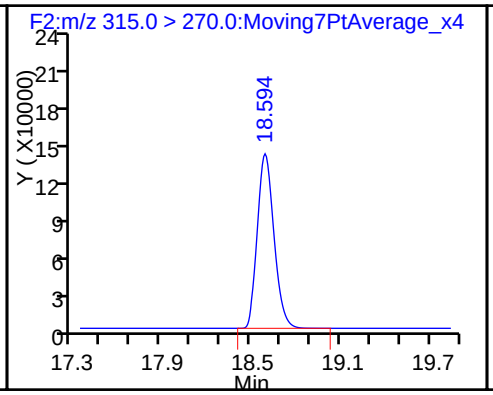


Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_164.d
Injection Date: 09-Dec-2016 01:00:22 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 81
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

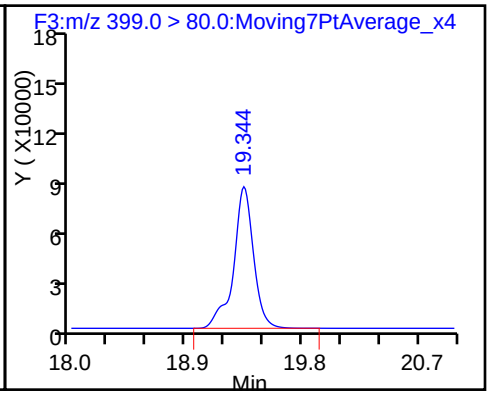
1 Perfluorobutanesulfonic acid



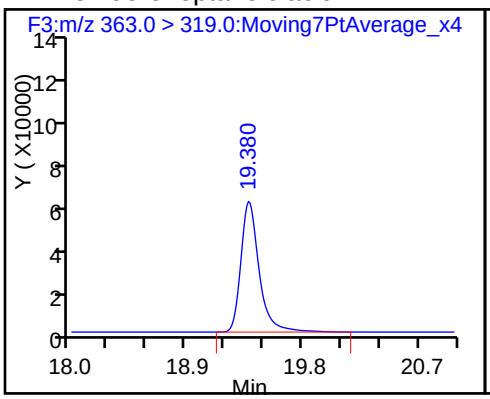
$ 2 13C2 PFHxA



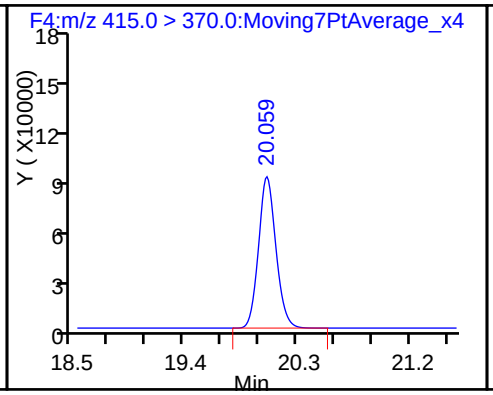
3 Perfluorohexanesulfonic acid



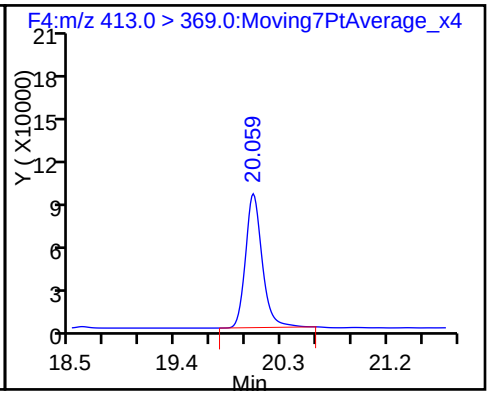
4 Perfluoroheptanoic acid



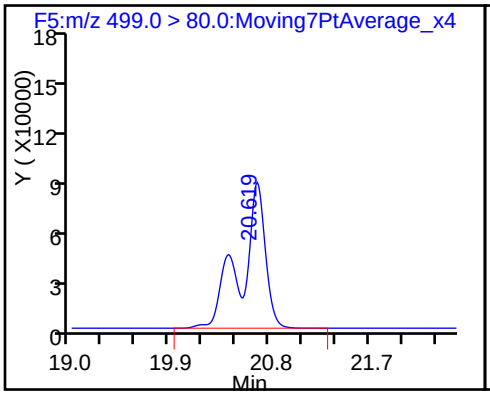
* 5 13C2-PFOA



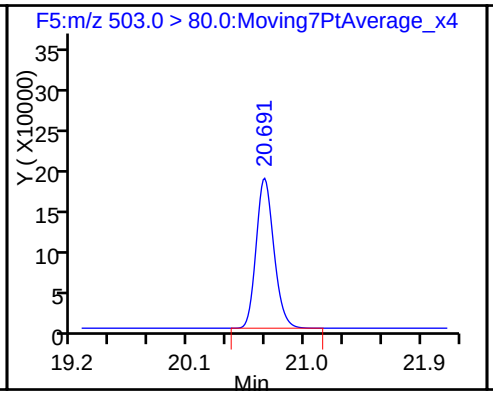
6 Perfluorooctanoic acid



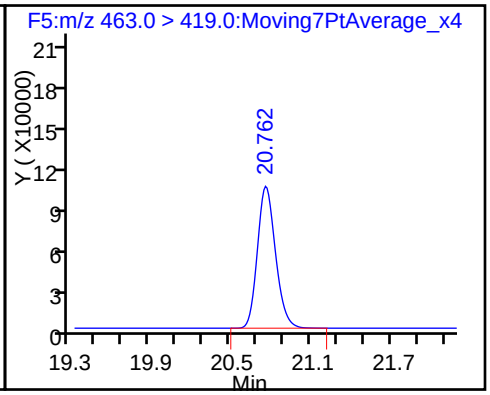
7 Perfluorooctane sulfonic acid



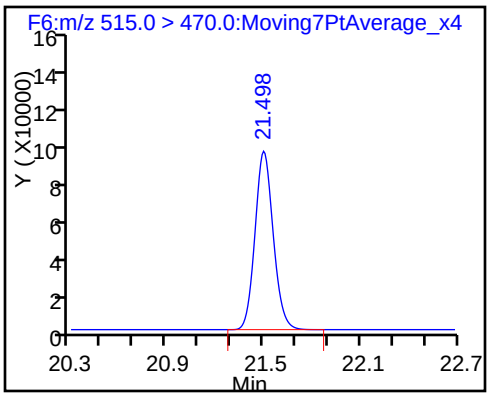
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-140950/94 Calibration Date: 12/09/2016 07:25

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_177.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7446		143	135	6.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.045		52.8	45.4	16.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.318		16.6	15.3	8.5	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.185		34.6	30.4	13.9	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.164		67.0	60.1	11.5	30.0
Perfluorononanoic acid	Ave	1.134	1.267		32.9	29.5	11.7	30.0
13C2 PFHxA	Ave	1.167	1.398		12.0	10.0	19.8	30.0
13C2 PFDA	Ave	0.8763	0.9125		10.4	10.0	4.1	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141290/2 Calibration Date: 12/09/2016 07:25

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_177.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7446		143	135	6.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.045		52.8	45.4	16.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.318		16.6	15.3	8.5	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.185		34.6	30.4	13.9	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.164		67.0	60.1	11.5	30.0
Perfluorononanoic acid	Ave	1.134	1.267		32.9	29.5	11.7	30.0
13C2 PFHxA	Ave	1.167	1.398		12.0	10.0	19.8	30.0
13C2 PFDA	Ave	0.8763	0.9125		10.4	10.0	4.1	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_177.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 07:25:04 ALS Bottle#: 5 Worklist Smp#: 94
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 11:14:41 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 11:11:39

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.628	17.628	0.0	1.000	5438084	142.9	2048	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	995764	12.0	31801	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	2572842	52.8	58279	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.379	19.379	0.0	1.000	1434547	16.6	8203	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		712405	10.0	18378	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	2567243	34.6	1092	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	3794150	67.0	16922	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1555728	28.7	40010	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	2660354	32.9	39804	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	650071	10.4	20399	

Reagents:

LC537-L5_00017 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_177.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 07:25:04 ALS Bottle#: 5 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 14:41:00 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.628	17.628	0.0	1.000	5438084	142.9	2048	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	995764	12.0	31801	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	2572842	52.8	58279	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.379	19.379	0.0	1.000	1434547	16.6	8203	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		712405	10.0	18378	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	2567243	34.6	1092	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	3794150	67.0	16922	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1555728	28.7	40010	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	2660354	32.9	39804	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	650071	10.4	20399	

Reagents:

LC537-L5_00017 Amount Added: 1.00 Units: mL

Report Date: 09-Dec-2016 11:14:41 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_177.d

Injection Date: 09-Dec-2016 07:25:04 Instrument ID: A6

Lims ID: CCV L5

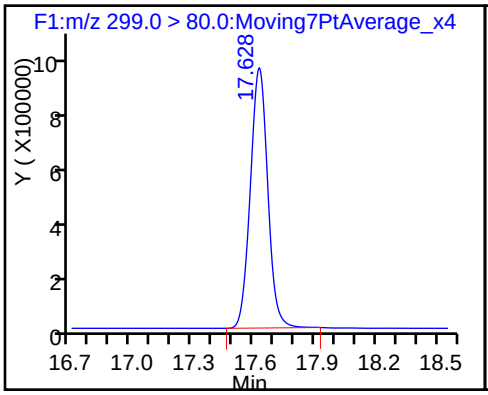
Client ID:

Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 94

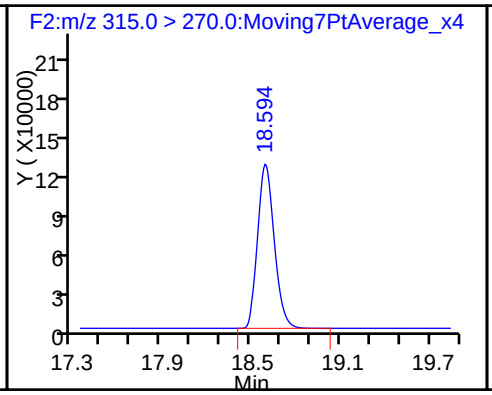
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

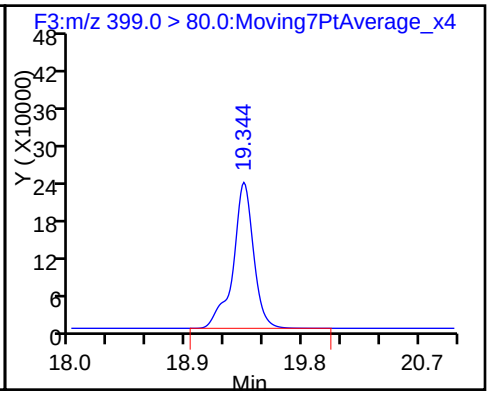
1 Perfluorobutanesulfonic acid



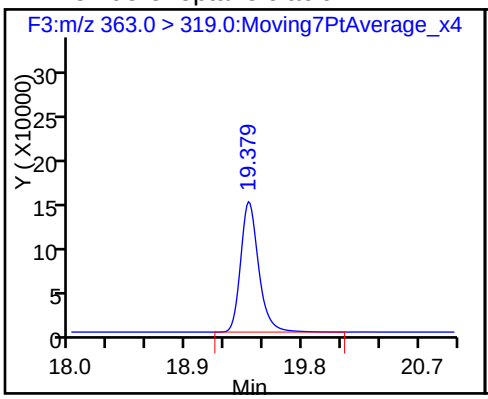
$ 2 13C2 PFHxA



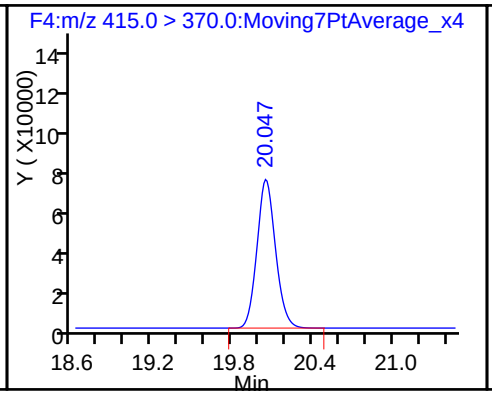
3 Perfluorohexanesulfonic acid



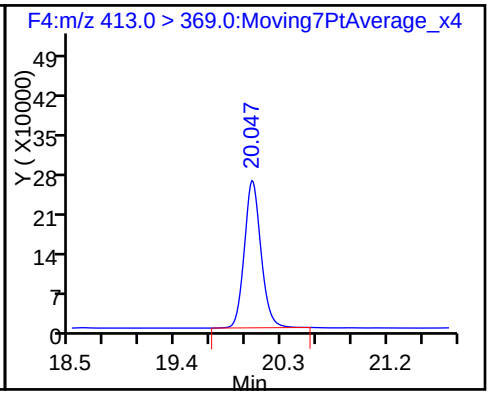
4 Perfluoroheptanoic acid



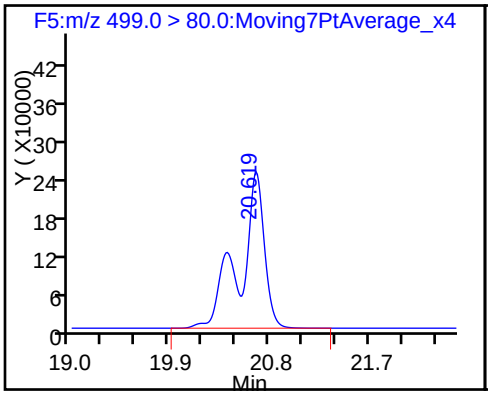
* 5 13C2-PFOA



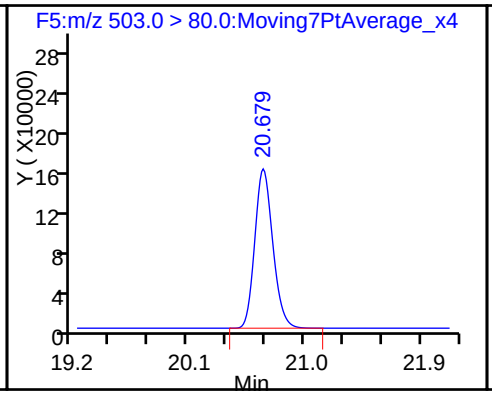
6 Perfluorooctanoic acid



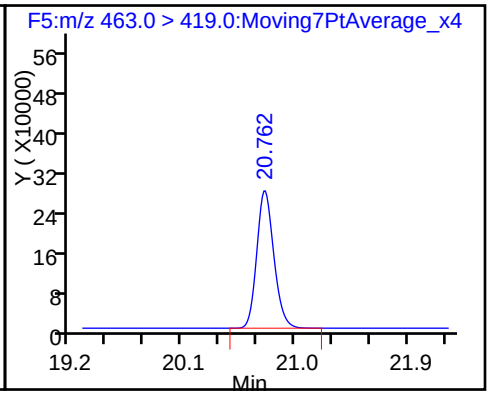
7 Perfluorooctane sulfonic acid



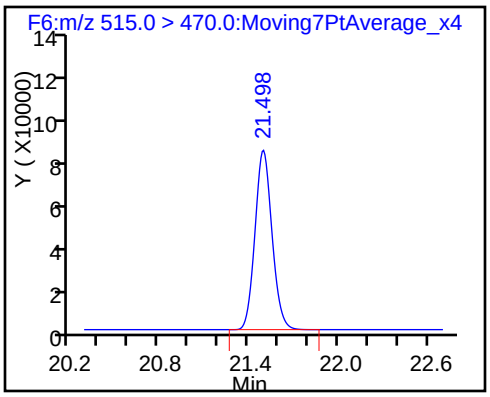
* 8 13C4 PFOS



9 Perfluorononanoic acid

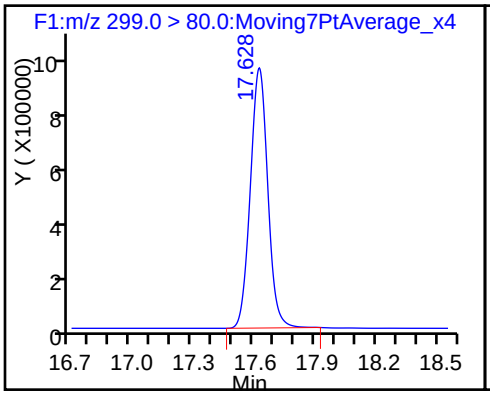


$ 10 13C2 PFDA

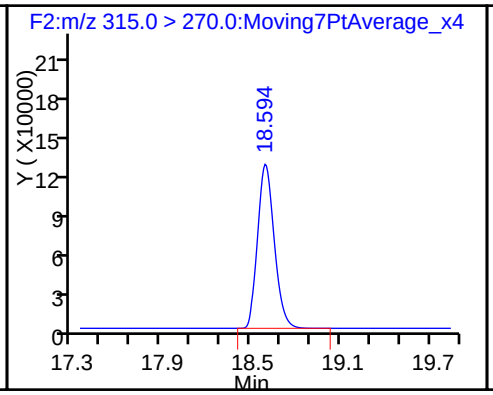


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_177.d
Injection Date: 09-Dec-2016 07:25:04 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

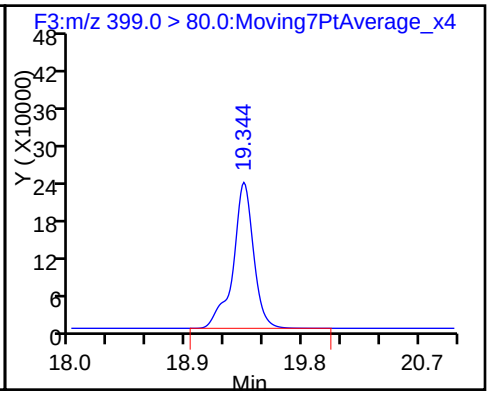
1 Perfluorobutanesulfonic acid



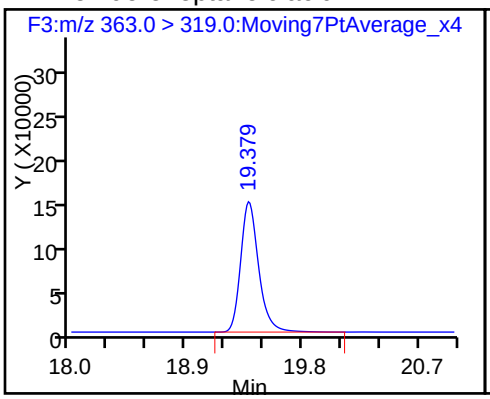
$ 2 13C2 PFHxA



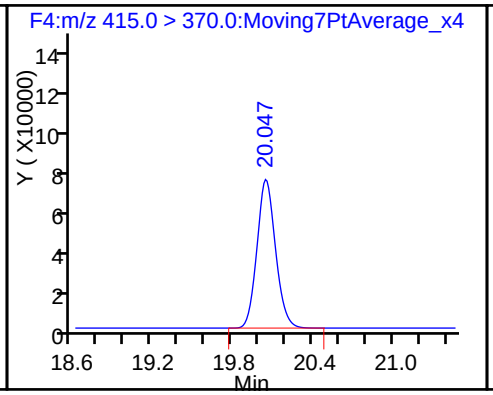
3 Perfluorohexanesulfonic acid



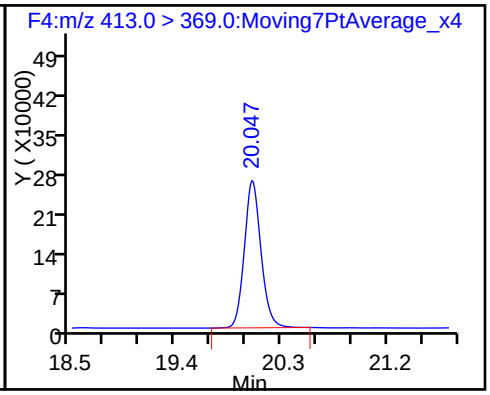
4 Perfluoroheptanoic acid



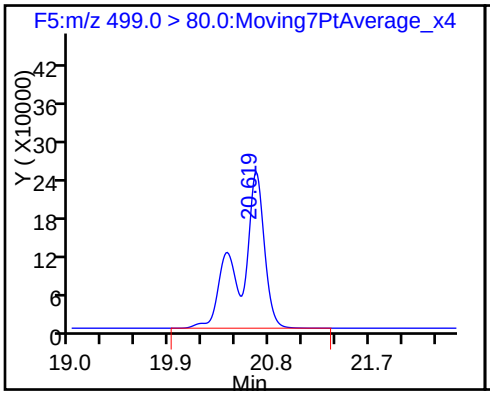
* 5 13C2-PFOA



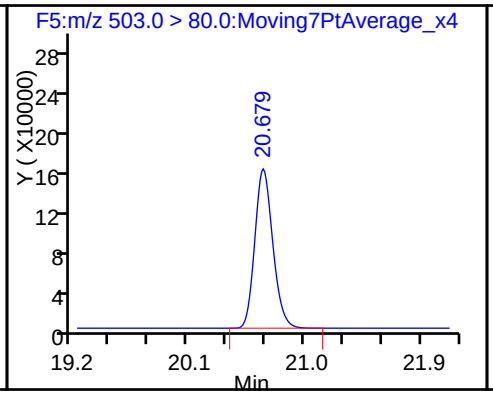
6 Perfluorooctanoic acid



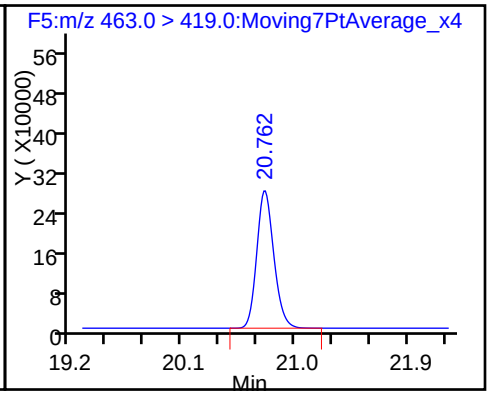
7 Perfluorooctane sulfonic acid



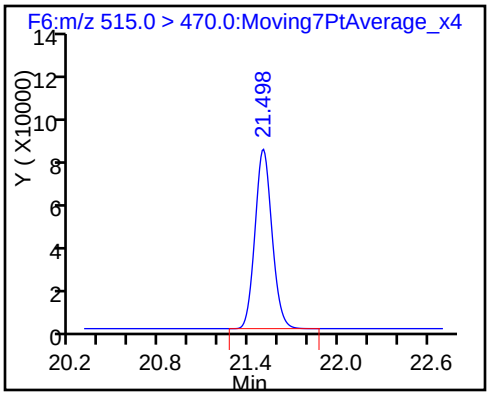
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141290/15 Calibration Date: 12/09/2016 14:33

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_190.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7379		47.4	45.1	5.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9766		16.5	15.2	8.8	30.0
Perfluoroheptanoic acid	Ave	1.215	1.252		5.27	5.12	3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.022		10.0	10.2	-1.8	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.082		20.9	20.1	3.7	30.0
Perfluorononanoic acid	Ave	1.134	1.158		10.1	9.87	2.1	30.0
13C2 PFHxA	Ave	1.167	1.172		10.0	10.0	0.5	30.0
13C2 PFDA	Ave	0.8763	0.8477		9.67	10.0	-3.3	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141291/15 Calibration Date: 12/09/2016 14:33

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_190.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7379		47.4	45.1	5.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9766		16.5	15.2	8.8	30.0
Perfluoroheptanoic acid	Ave	1.215	1.252		5.27	5.12	3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.022		10.0	10.2	-1.8	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.082		20.9	20.1	3.7	30.0
Perfluorononanoic acid	Ave	1.134	1.158		10.1	9.87	2.1	30.0
13C2 PFHxA	Ave	1.167	1.172		10.0	10.0	0.5	30.0
13C2 PFDA	Ave	0.8763	0.8477		9.67	10.0	-3.3	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_190.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 14:33:55 ALS Bottle#: 3 Worklist Smp#: 15
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 15:07:10 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.608	0.0	1.000	1927256	47.4	1049	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	928189	10.0	29771	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	859881	16.5	20205	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	507170	5.27	12834	
* 5 13C2-PFOA								
415.0 > 370.0	20.023	20.023	0.0		791868	10.0	9032	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.023	20.023	0.0	1.000	824885	10.0	537	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1261754	20.9	16957	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1660744	28.7	17129	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	905582	10.1	23726	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	671268	9.67	21277	

Reagents:

LC537-L3_00016 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_190.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 14:33:55 ALS Bottle#: 3 Worklist Smp#: 15
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 15:07:10 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

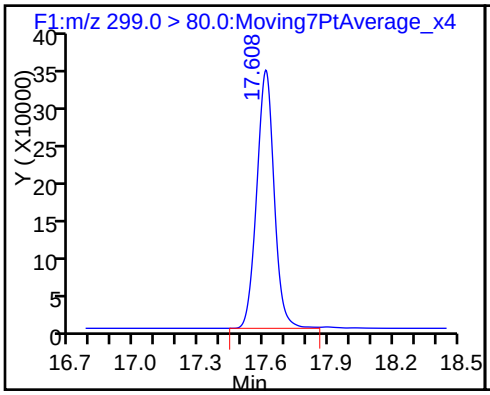
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.608	0.0	1.000	1927256	47.4	1049	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	928189	10.0	29771	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	859881	16.5	20205	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	507170	5.27	12834	
* 5 13C2-PFOA								
415.0 > 370.0	20.023	20.023	0.0		791868	10.0	9032	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.023	20.023	0.0	1.000	824885	10.0	537	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1261754	20.9	16957	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1660744	28.7	17129	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	905582	10.1	23726	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	671268	9.67	21277	

Reagents:

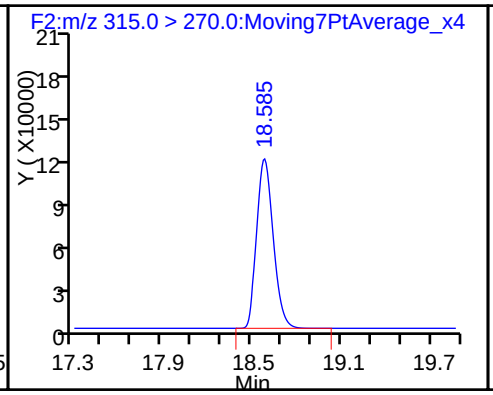
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_190.d
Injection Date: 09-Dec-2016 14:33:55 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 15
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

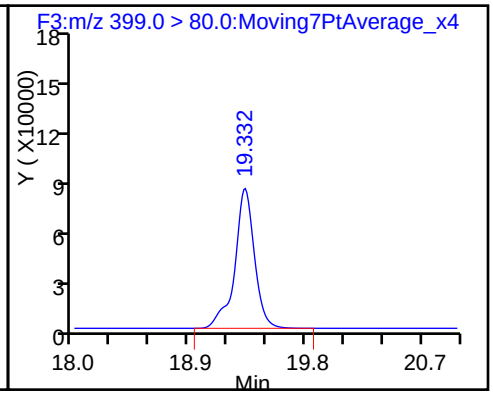
1 Perfluorobutanesulfonic acid



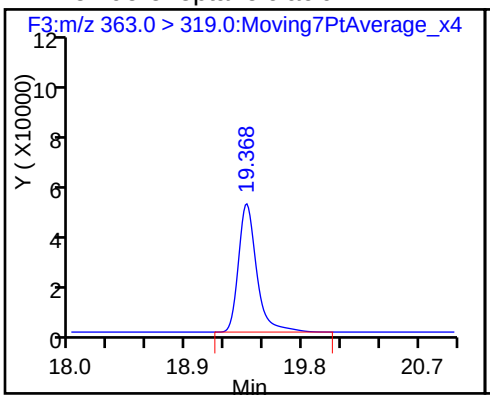
$ 2 13C2 PFHxA



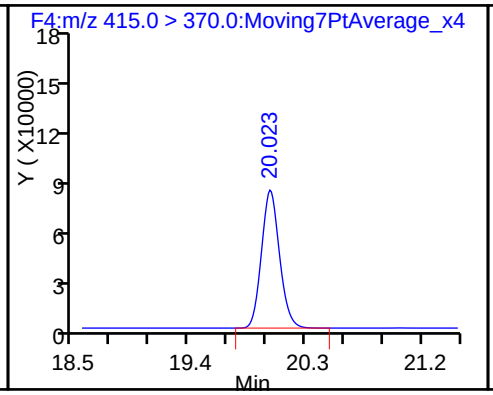
3 Perfluorohexanesulfonic acid



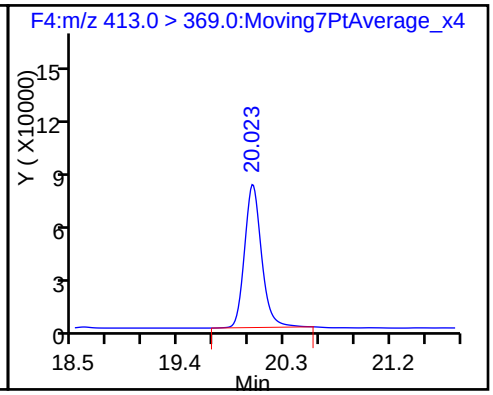
4 Perfluoroheptanoic acid



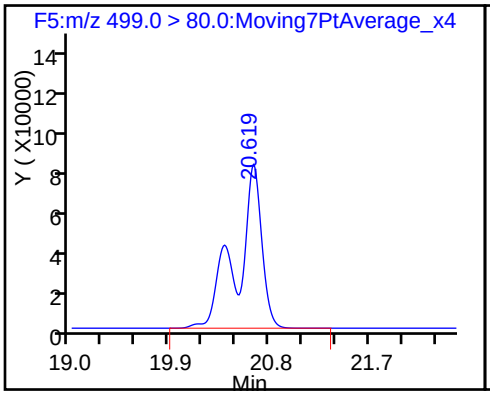
* 5 13C2-PFOA



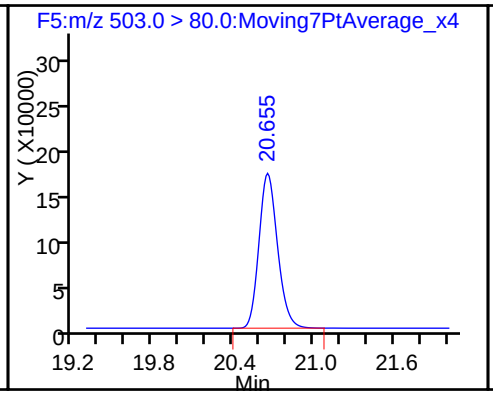
6 Perfluorooctanoic acid



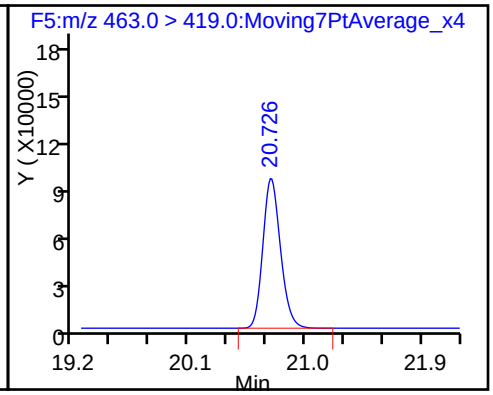
7 Perfluorooctane sulfonic acid



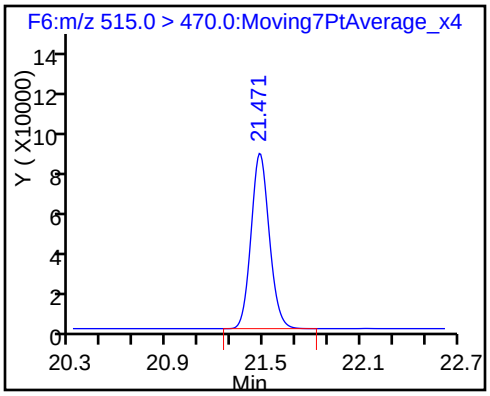
* 8 13C4 PFOS



9 Perfluorononanoic acid

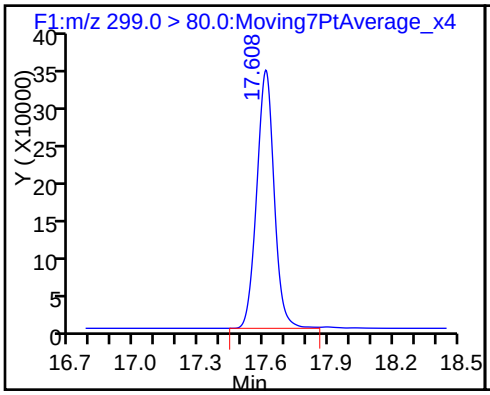


$ 10 13C2 PFDA

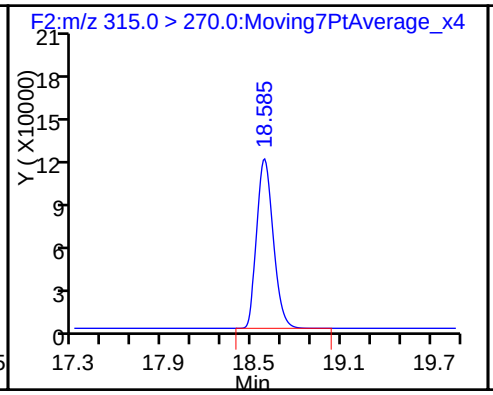


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_190.d
Injection Date: 09-Dec-2016 14:33:55 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 15
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

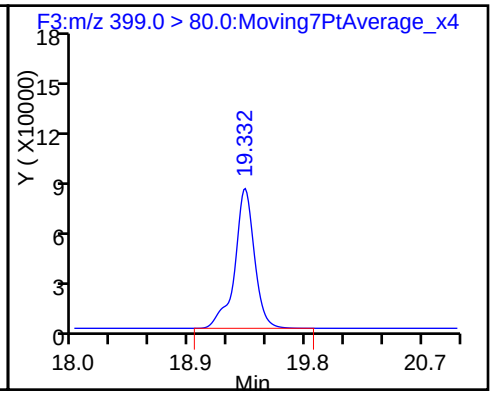
1 Perfluorobutanesulfonic acid



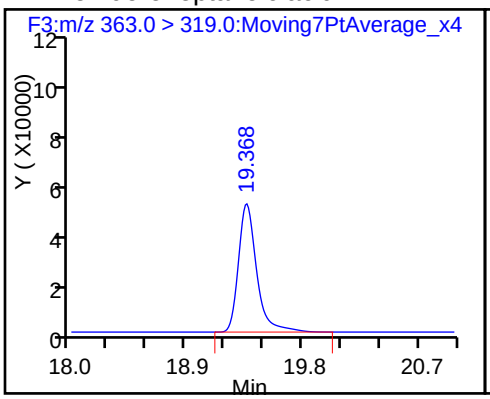
$ 2 13C2 PFHxA



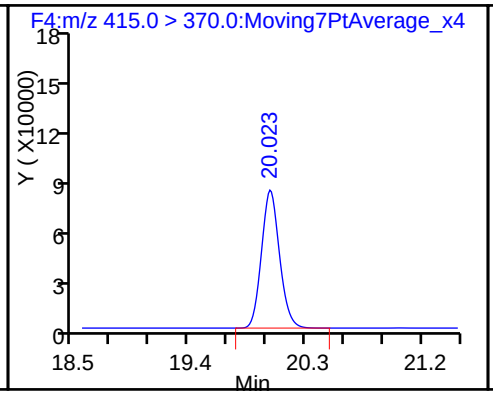
3 Perfluorohexanesulfonic acid



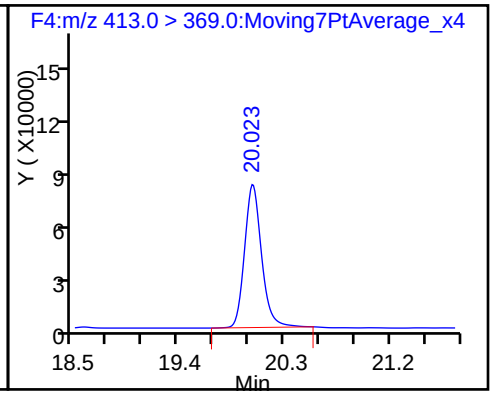
4 Perfluoroheptanoic acid



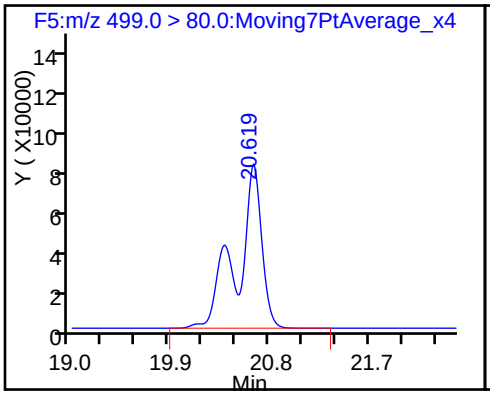
* 5 13C2-PFOA



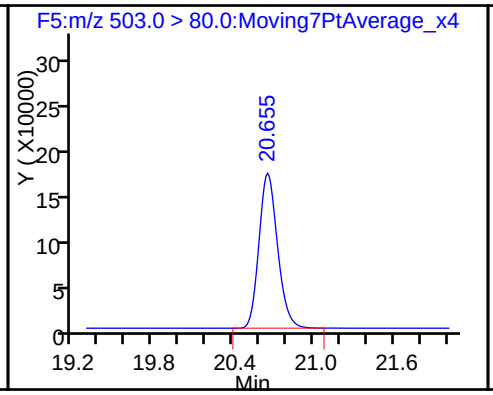
6 Perfluorooctanoic acid



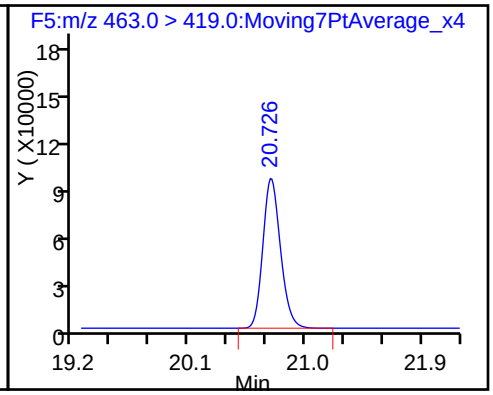
7 Perfluorooctane sulfonic acid



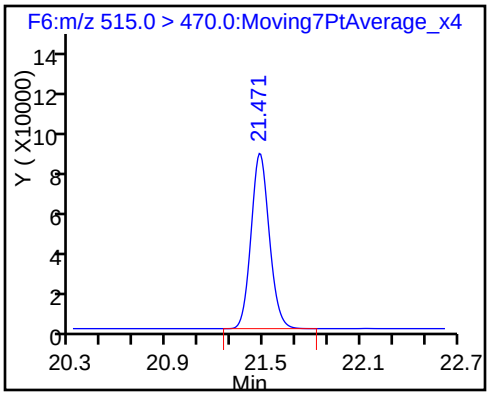
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141291/28 Calibration Date: 12/09/2016 20:58

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_203.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7301		140	135	4.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.018		51.5	45.4	13.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.229		15.4	15.3	1.1	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.075		31.4	30.4	3.4	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.230		70.8	60.1	17.8	30.0
Perfluorononanoic acid	Ave	1.134	1.227		31.9	29.5	8.2	30.0
13C2 PFHxA	Ave	1.167	1.244		10.7	10.0	6.6	30.0
13C2 PFDA	Ave	0.8763	0.8799		10.0	10.0	0.4	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141292/28 Calibration Date: 12/09/2016 20:58

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_203.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7301		140	135	4.1	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.018		51.5	45.4	13.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.229		15.4	15.3	1.1	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.075		31.4	30.4	3.4	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.230		70.8	60.1	17.8	30.0
Perfluorononanoic acid	Ave	1.134	1.227		31.9	29.5	8.2	30.0
13C2 PFHxA	Ave	1.167	1.244		10.7	10.0	6.6	30.0
13C2 PFDA	Ave	0.8763	0.8799		10.0	10.0	0.4	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_203.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 20:58:38 ALS Bottle#: 5 Worklist Smp#: 28
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:31:36 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:46:45

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.605	17.605	0.0	1.000	5769351	140.1	5239	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	985463	10.7	31081	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	2712777	51.5	61314	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	1487713	15.4	38886	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		792463	10.0	20276	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	2592464	31.4	1963	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	4336745	70.8	29414	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1683186	28.7	42597	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	2865963	31.9	50166	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	697306	10.0	21773	

Reagents:

LC537-L5_00017 Amount Added: 1.00 Units: mL

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_203.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 09-Dec-2016 20:58:38 ALS Bottle#: 5 Worklist Smp#: 28
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:31:36 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:46:45

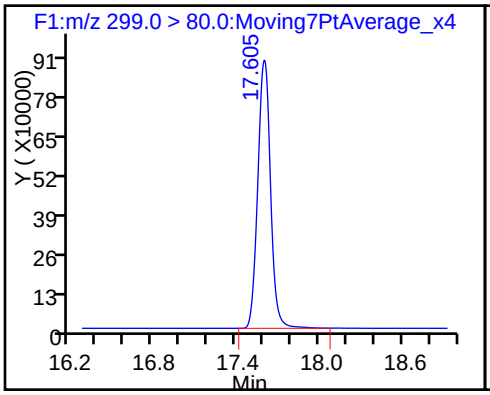
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.605	17.605	0.0	1.000	5769351	140.1	5239	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	985463	10.7	31081	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	2712777	51.5	61314	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	1487713	15.4	38886	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		792463	10.0	20276	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	2592464	31.4	1963	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	4336745	70.8	29414	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1683186	28.7	42597	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	2865963	31.9	50166	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	697306	10.0	21773	

Reagents:

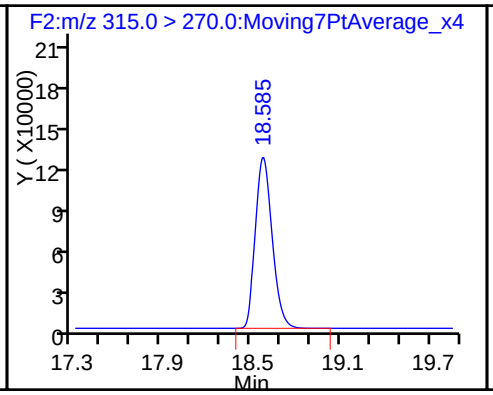
LC537-L5_00017 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_203.d
Injection Date: 09-Dec-2016 20:58:38 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 28
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

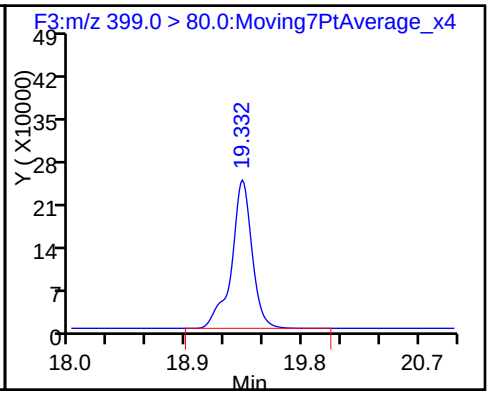
1 Perfluorobutanesulfonic acid



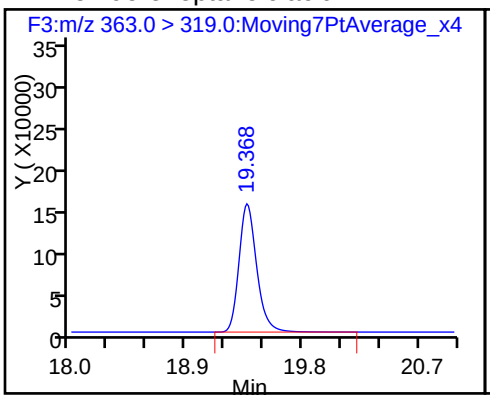
$ 2 13C2 PFHxA



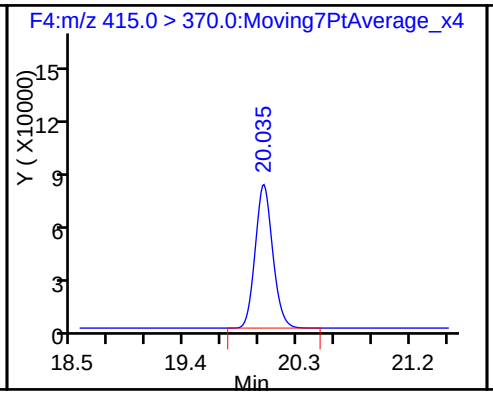
3 Perfluorohexanesulfonic acid



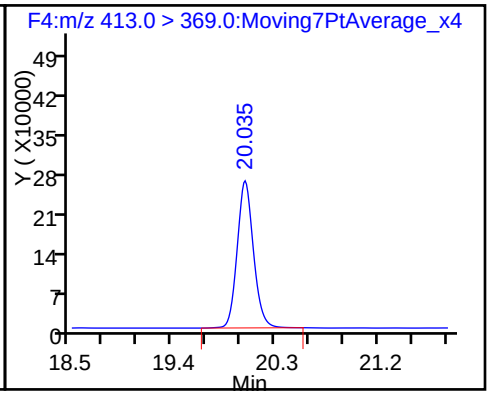
4 Perfluoroheptanoic acid



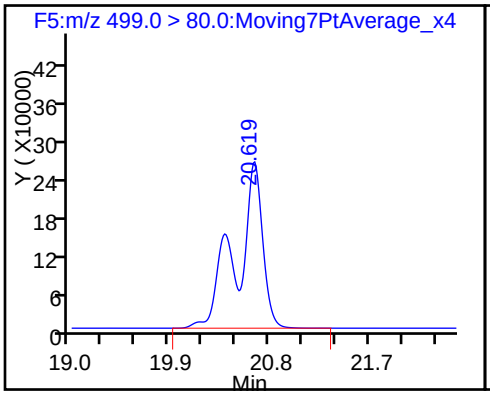
* 5 13C2-PFOA



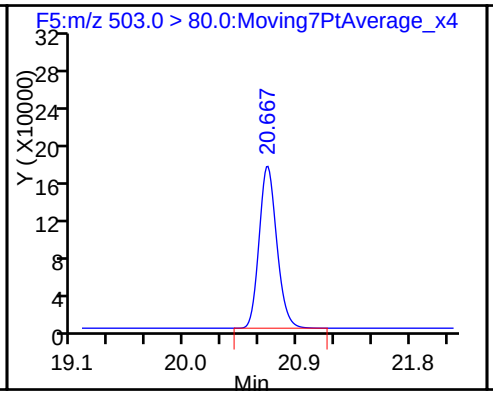
6 Perfluorooctanoic acid



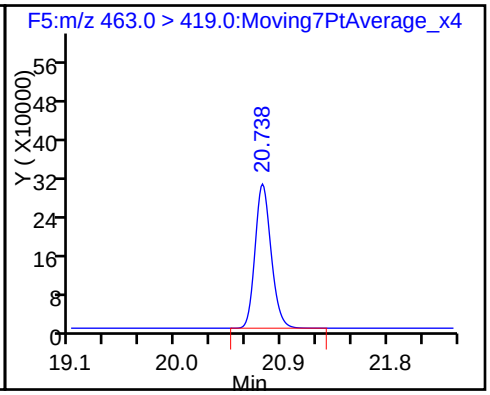
7 Perfluorooctane sulfonic acid



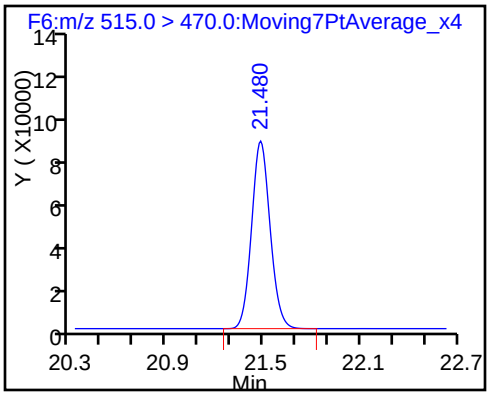
* 8 13C4 PFOS



9 Perfluorononanoic acid

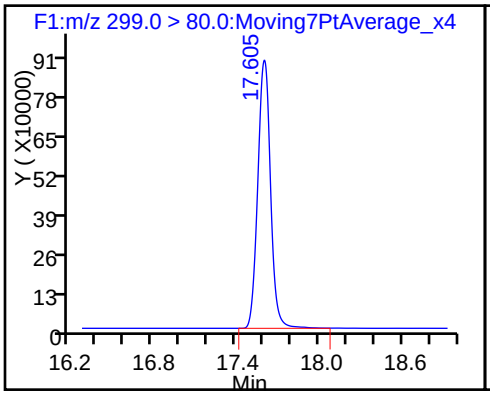


$ 10 13C2 PFDA

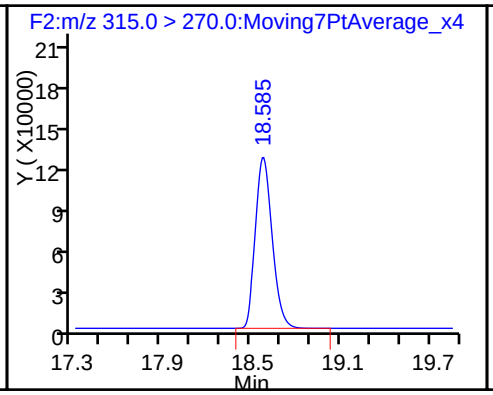


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_203.d
Injection Date: 09-Dec-2016 20:58:38 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 28
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

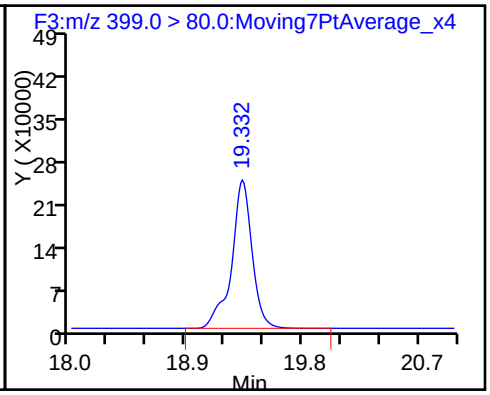
1 Perfluorobutanesulfonic acid



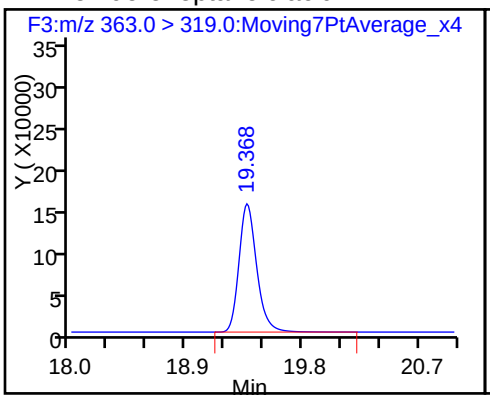
$ 2 13C2 PFHxA



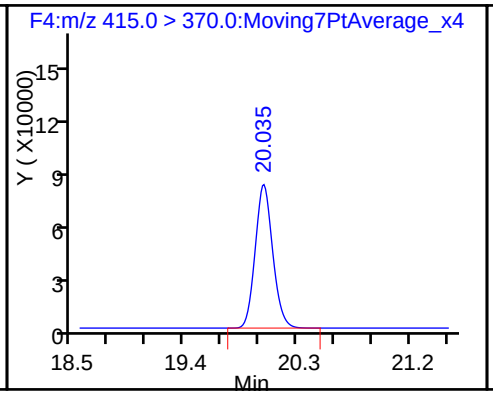
3 Perfluorohexanesulfonic acid



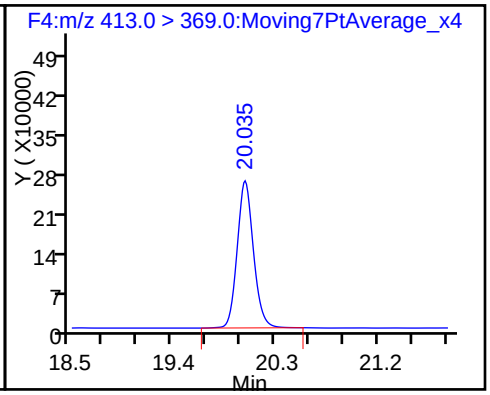
4 Perfluoroheptanoic acid



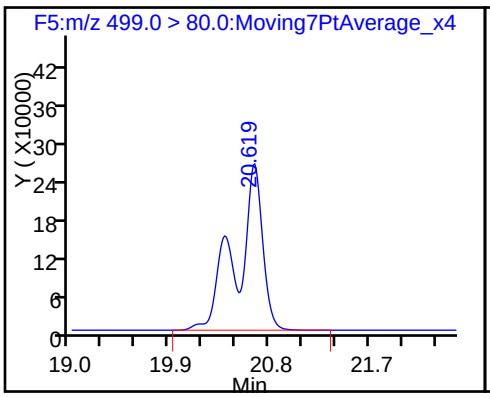
* 5 13C2-PFOA



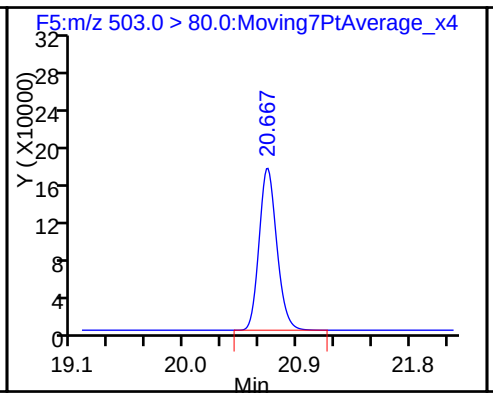
6 Perfluorooctanoic acid



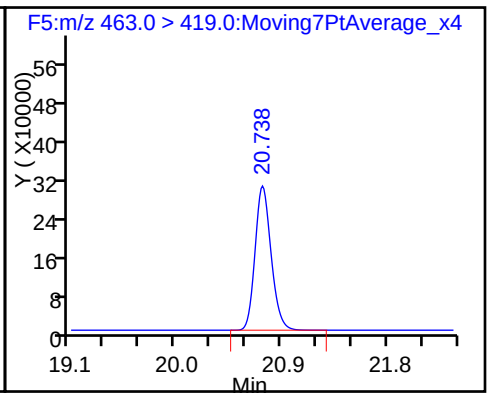
7 Perfluorooctane sulfonic acid



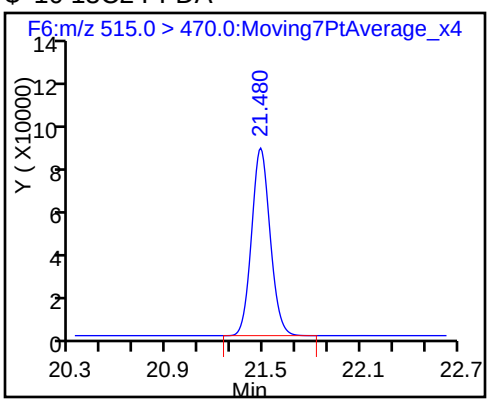
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141292/41 Calibration Date: 12/10/2016 03:23

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_216.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7376		47.4	45.1	5.2	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9167		15.5	15.2	2.1	30.0
Perfluoroheptanoic acid	Ave	1.215	1.336		5.62	5.12	9.9	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.076		10.5	10.2	3.4	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.120		21.6	20.1	7.3	30.0
Perfluorononanoic acid	Ave	1.134	1.203		10.5	9.87	6.1	30.0
13C2 PFHxA	Ave	1.167	1.283		11.0	10.0	10.0	30.0
13C2 PFDA	Ave	0.8763	0.9044		10.3	10.0	3.2	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_216.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 03:23:27 ALS Bottle#: 3 Worklist Smp#: 41
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:33:54 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

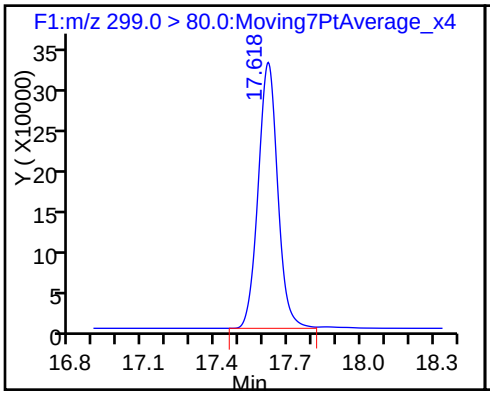
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.618	0.0	1.000	1864051	47.4	851	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	919907	11.0	29629	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	780947	15.5	18152	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	490024	5.62	12468	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		717004	10.0	18365	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	785936	10.5	355	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1263503	21.6	14278	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1606845	28.7	41384	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.750	0.0	1.000	851696	10.5	22539	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	648420	10.3	20409	

Reagents:

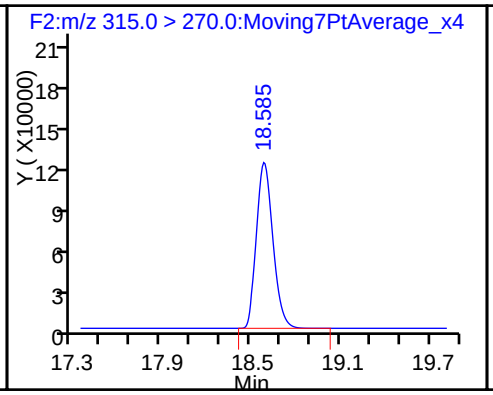
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_216.d
Injection Date: 10-Dec-2016 03:23:27 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 41
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

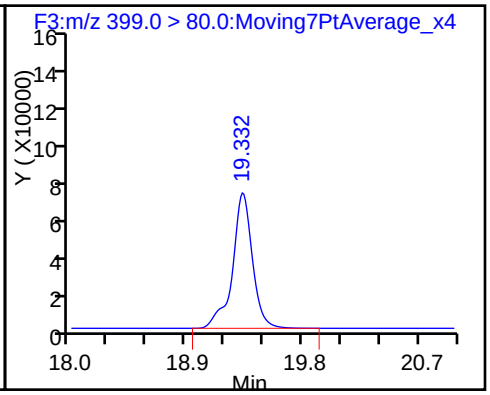
1 Perfluorobutanesulfonic acid



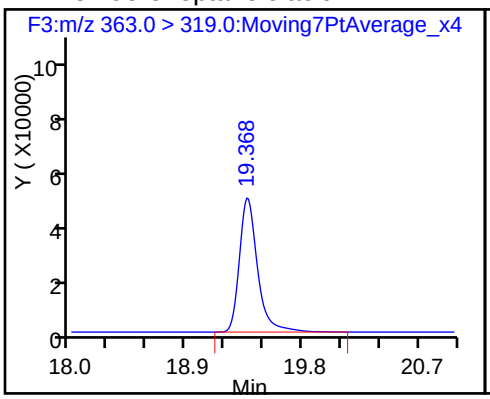
$ 2 13C2 PFHxA



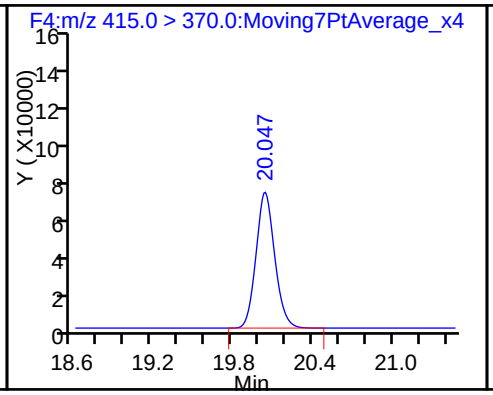
3 Perfluorohexanesulfonic acid



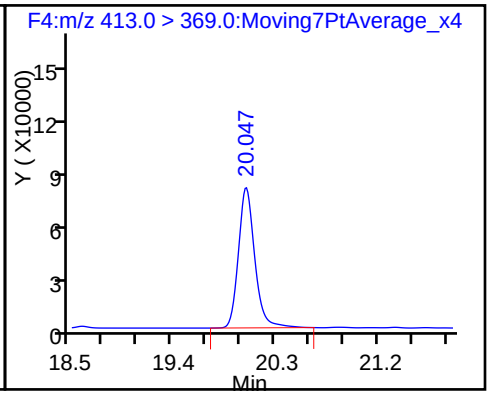
4 Perfluoroheptanoic acid



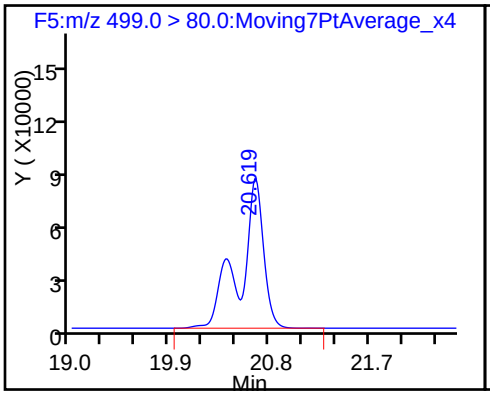
* 5 13C2-PFOA



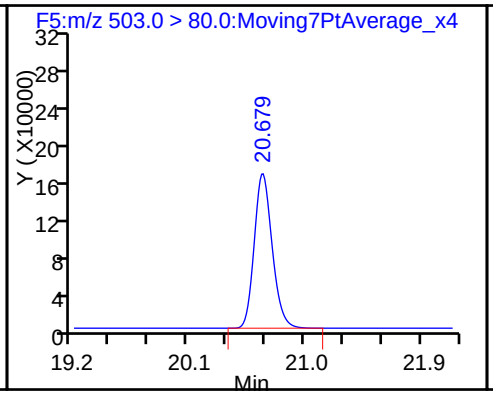
6 Perfluorooctanoic acid



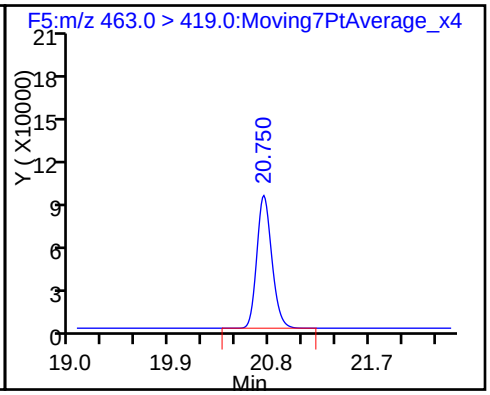
7 Perfluorooctane sulfonic acid



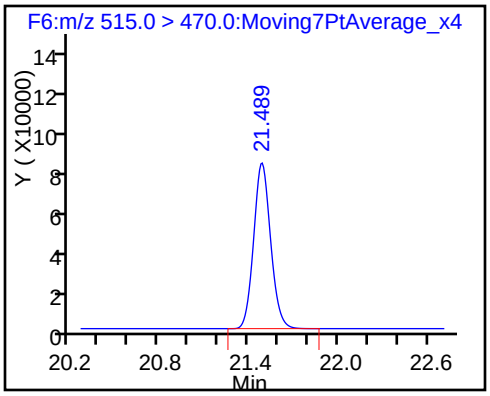
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141521/88 Calibration Date: 12/11/2016 02:34

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_263.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7641		49.1	45.1	8.9	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9774		16.5	15.2	8.8	30.0
Perfluoroheptanoic acid	Ave	1.215	1.257		5.29	5.12	3.4	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.051		10.3	10.2	1.0	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.086		20.9	20.1	4.0	30.0
Perfluorononanoic acid	Ave	1.134	1.178		10.2	9.87	3.8	30.0
13C2 PFHxA	Ave	1.167	1.220		10.5	10.0	4.6	30.0
13C2 PFDA	Ave	0.8763	0.8766		10.0	10.0	0.0	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_263.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 11-Dec-2016 02:34:53 ALS Bottle#: 3 Worklist Smp#: 88
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L3 CCV L3
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:26 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

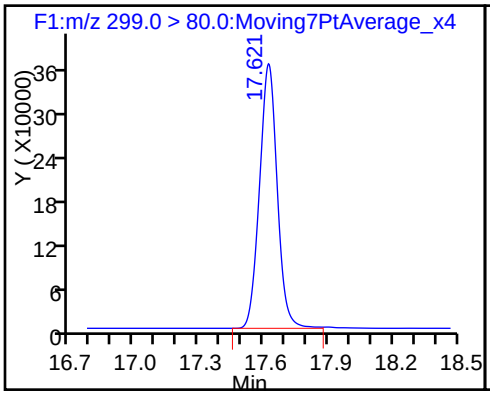
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.621	0.0	1.000	2102949	49.1	1266	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	982310	10.5	31145	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.356	0.0	1.000	906823	16.5	20926	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.391	19.391	0.0	1.000	517610	5.29	13047	
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.070	0.0		805032	10.0	21050	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.070	20.070	0.0	1.000	862389	10.3	443	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.442	20.442	0.0	1.000	1334081	20.9	10735	
* 8 13C4 PFOS								
503.0 > 80.0	20.702	20.702	0.0		1749979	28.7	20121	
9 Perfluorononanoic acid								
463.0 > 419.0	20.773	20.773	0.0	1.000	935868	10.2	9874	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	705672	10.0	22314	

Reagents:

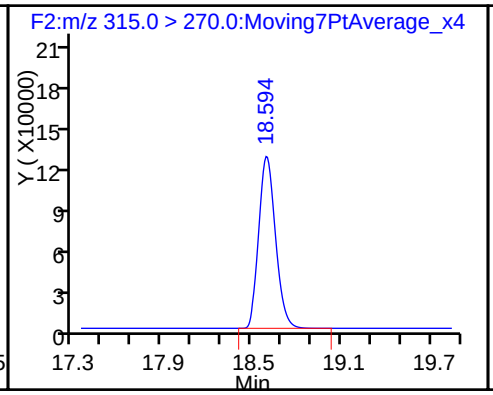
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_263.d
Injection Date: 11-Dec-2016 02:34:53 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 88
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

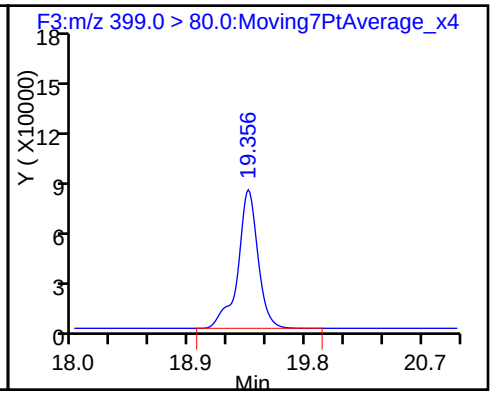
1 Perfluorobutanesulfonic acid



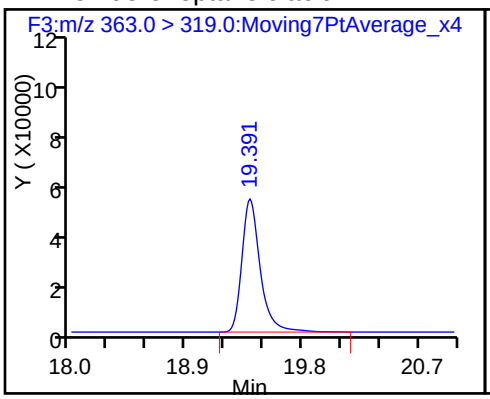
$ 2 13C2 PFHxA



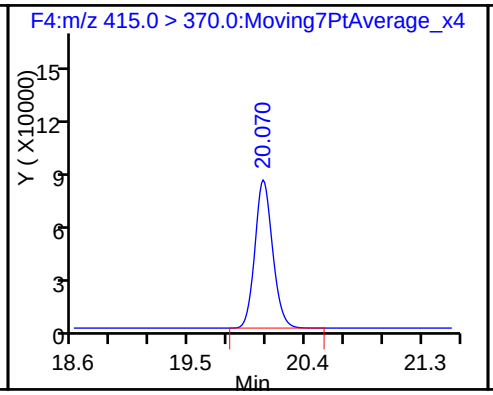
3 Perfluorohexanesulfonic acid



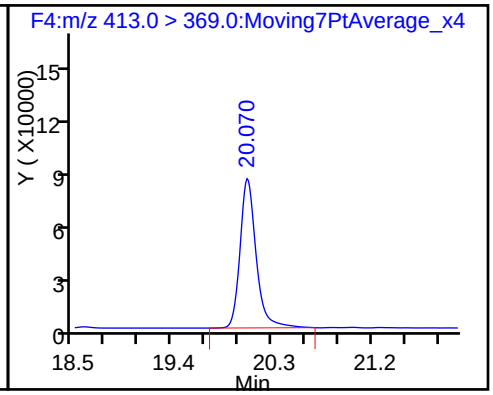
4 Perfluoroheptanoic acid



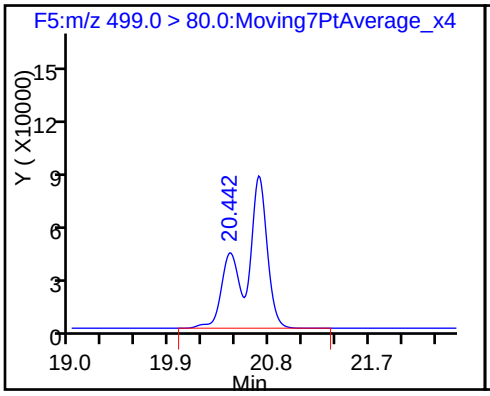
* 5 13C2-PFOA



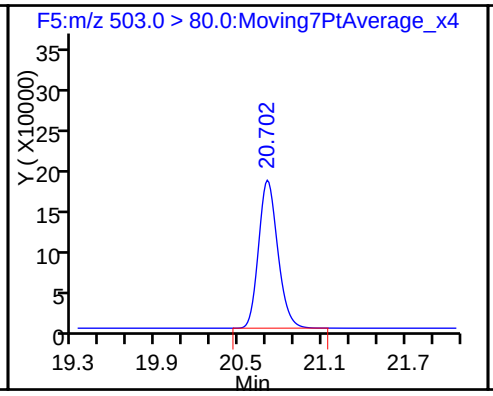
6 Perfluorooctanoic acid



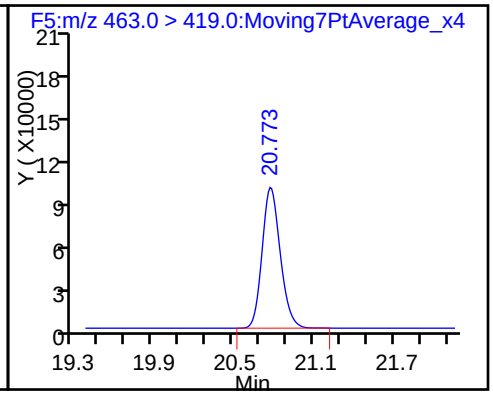
7 Perfluorooctane sulfonic acid



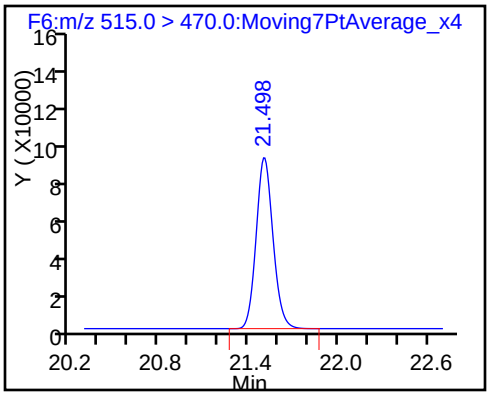
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Lab Sample ID: CCV 320-141521/95 Calibration Date: 12/11/2016 06:02

Instrument ID: A6 Calib Start Date: 12/05/2016 17:26

GC Column: Acquity ID: 2.10(mm) Calib End Date: 12/05/2016 19:54

Lab File ID: 05DEC2016A6A_270.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanesulfonic acid (PFBS)	Ave	0.7015	0.7712		148	135	9.9	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.050		53.1	45.4	16.9	30.0
Perfluoroheptanoic acid	Ave	1.215	1.262		15.9	15.3	3.8	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.160		33.9	30.4	11.5	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.229		70.7	60.1	17.7	30.0
Perfluorononanoic acid	Ave	1.134	1.236		32.1	29.5	9.0	30.0
13C2 PFHxA	Ave	1.167	1.385		11.9	10.0	18.7	30.0
13C2 PFDA	Ave	0.8763	0.9329		10.6	10.0	6.5	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_270.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 11-Dec-2016 06:02:08 ALS Bottle#: 5 Worklist Smp#: 95
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: CCV L5 CCV L5
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6
Sublist: chrom-537__A6*sub3

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 10:36:42 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.624	17.624	0.0	1.000	5876964	148.0	9735	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	1057507	11.9	33949	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.356	0.0	1.000	2697268	53.1	48902	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.391	19.391	0.0	1.000	1471128	15.9	30518	
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.070	0.0		763458	10.0	19906	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.070	20.070	0.0	1.000	2694417	33.9	1387	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.430	20.430	0.0	1.000	4179484	70.7	11805	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.690	0.0		1623212	28.7	14036	
9 Perfluorononanoic acid								
463.0 > 419.0	20.773	20.773	0.0	1.000	2781302	32.1	20791	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.498	0.0	1.000	712253	10.6	22644	

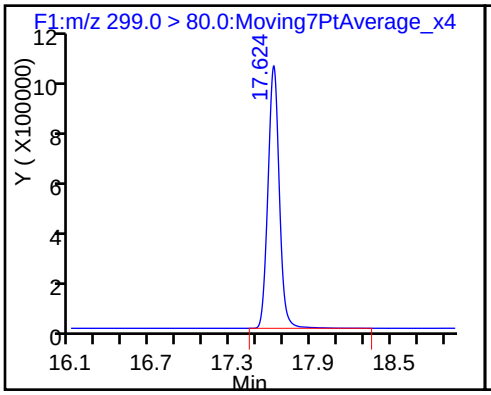
Reagents:

LC537-L5_00017 Amount Added: 1.00 Units: mL

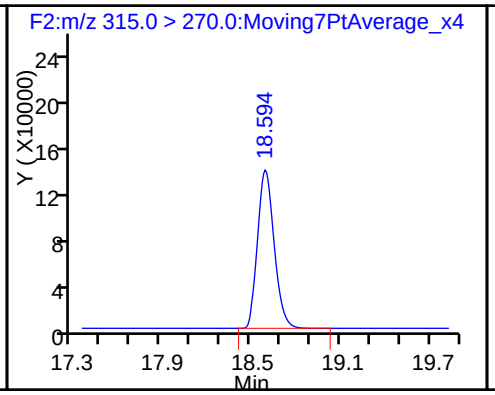
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_270.d
Injection Date: 11-Dec-2016 06:02:08 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 95
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

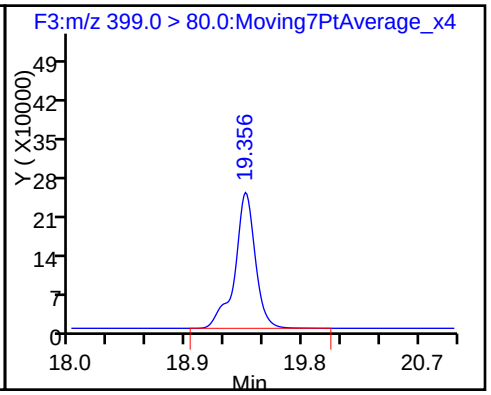
1 Perfluorobutanesulfonic acid



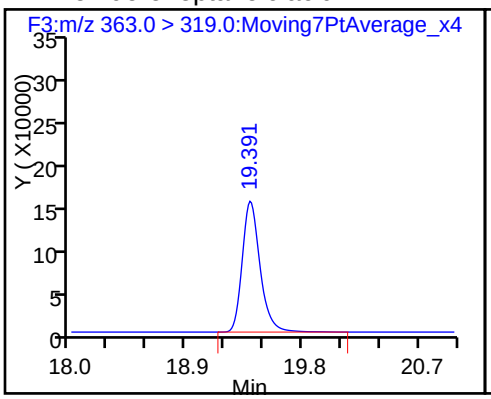
$ 2 13C2 PFHxA



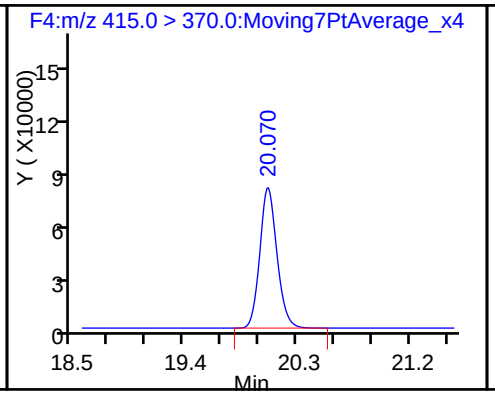
3 Perfluorohexanesulfonic acid



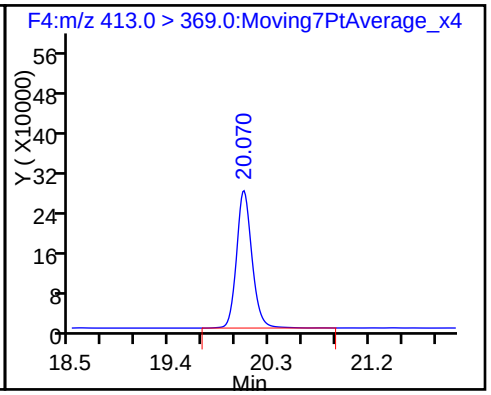
4 Perfluoroheptanoic acid



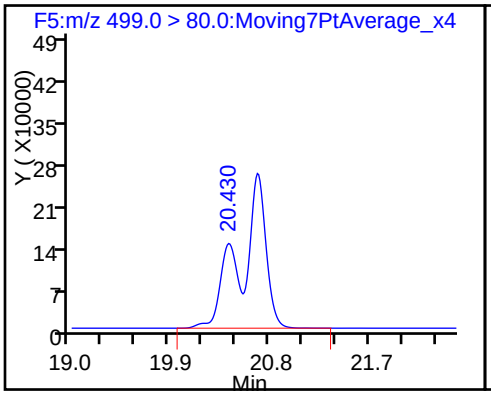
* 5 13C2-PFOA



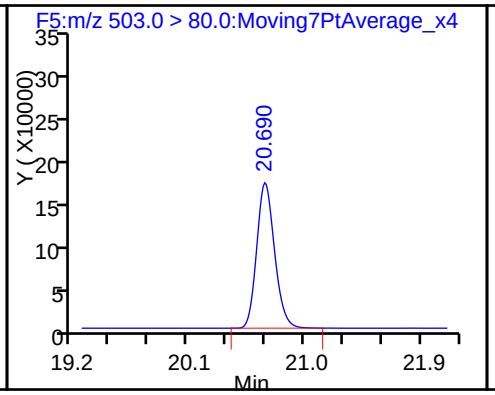
6 Perfluorooctanoic acid



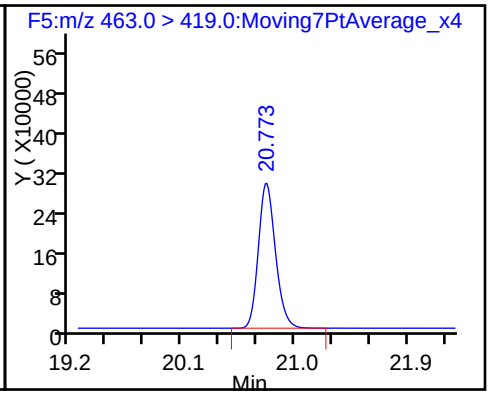
7 Perfluorooctane sulfonic acid



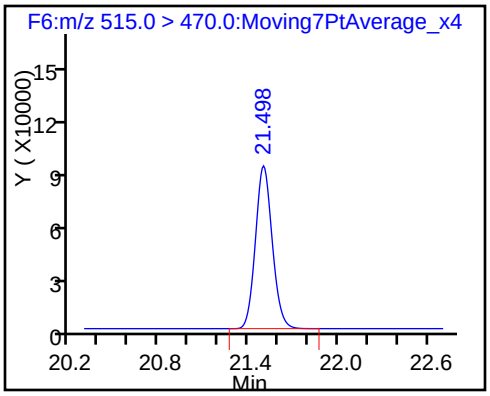
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-140400/1-A

Matrix: Water Lab File ID: 05DEC2016A6A_138.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/02/2016 15:27

Sample wt/vol: 250(mL) Date Analyzed: 12/08/2016 11:41

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140948 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	123		70-130
STL00996	13C2 PFDA	120		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_138.d
Lims ID: MB 320-140400/1-A
Client ID:
Sample Type: MB
Inject. Date: 08-Dec-2016 11:41:08 ALS Bottle#: 2 Worklist Smp#: 100
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-140400/1-a BOX 14
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 13:54:01 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

First Level Reviewer: barnettj Date: 08-Dec-2016 13:53:52

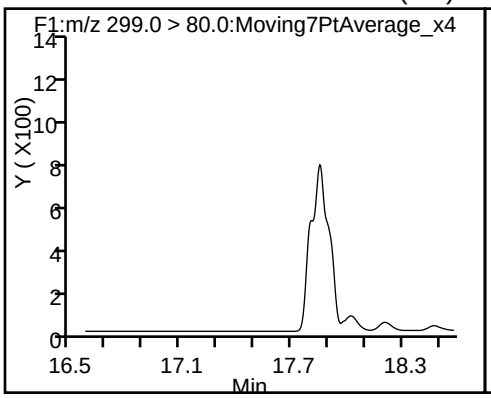
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.558	0.0	1.000	1052399	12.3	34400	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		730789	10.0	38224	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.070	20.035	0.035	1.000	1190	0.0157	0.6	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.667	20.619	0.048	1.000	604	0.008311	11.8	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1996434	28.7	69873	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.750	20.738	0.012	1.000	620	0.007480	9.5	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.462	0.0	1.000	771344	12.0	24463	

QC Flag Legend

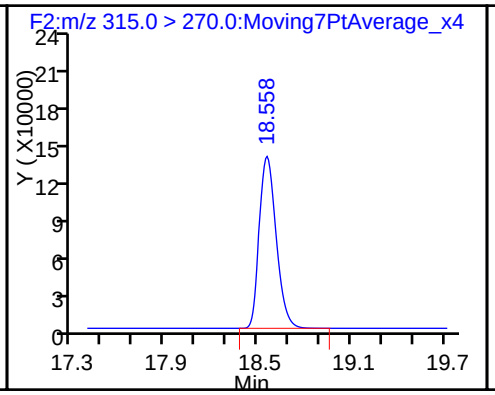
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_138.d
Injection Date: 08-Dec-2016 11:41:08 Instrument ID: A6
Lims ID: MB 320-140400/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 100
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

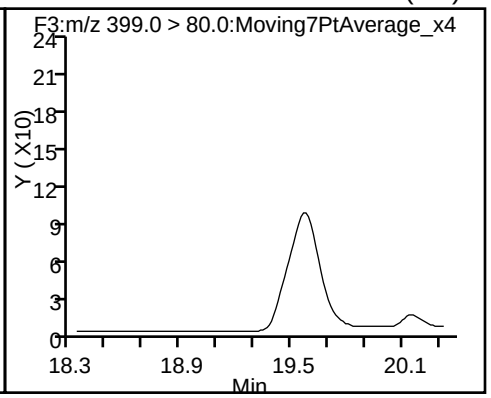
1 Perfluorobutanesulfonic acid (ND)



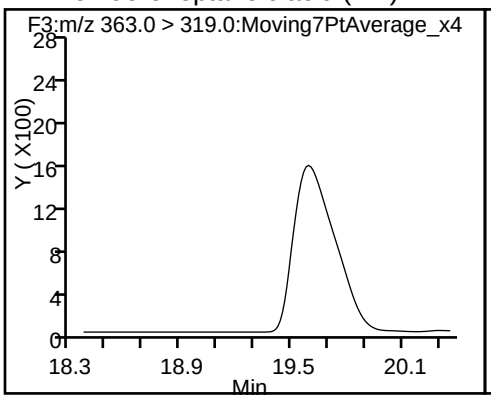
$ 2 13C2 PFHxA



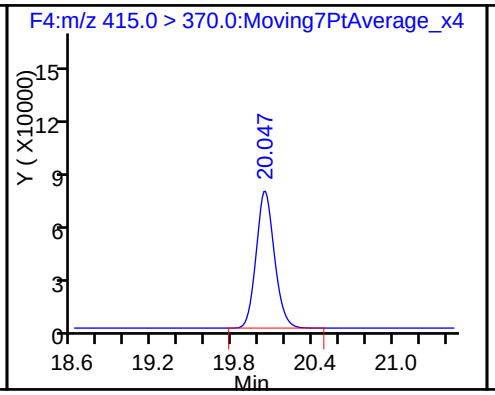
3 Perfluorohexanesulfonic acid (ND)



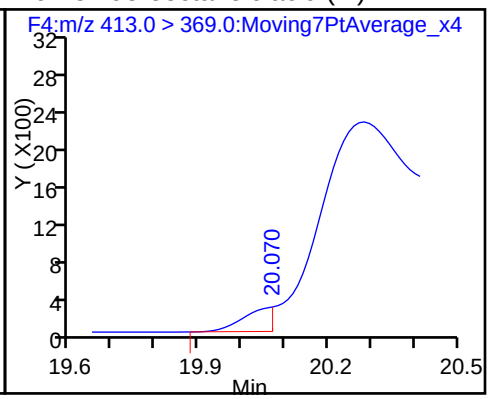
4 Perfluoroheptanoic acid (ND)



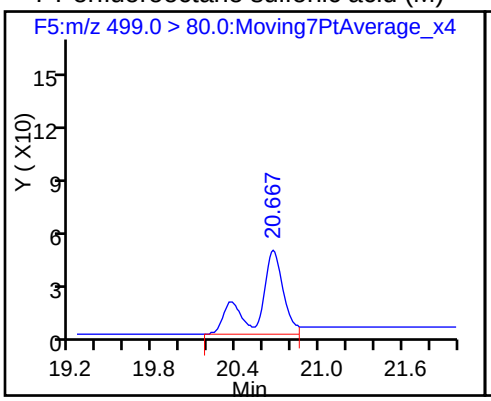
* 5 13C2-PFOA



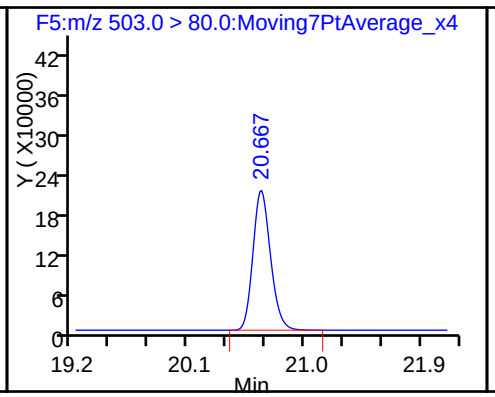
6 Perfluorooctanoic acid (M)



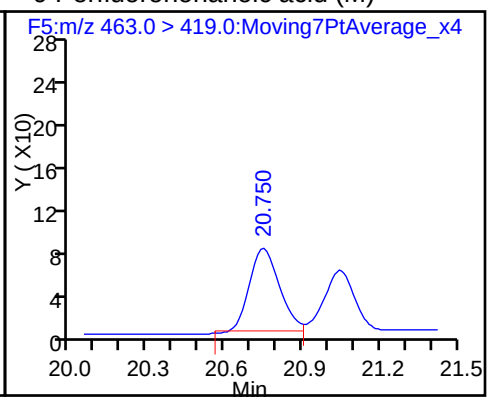
7 Perfluorooctane sulfonic acid (M)



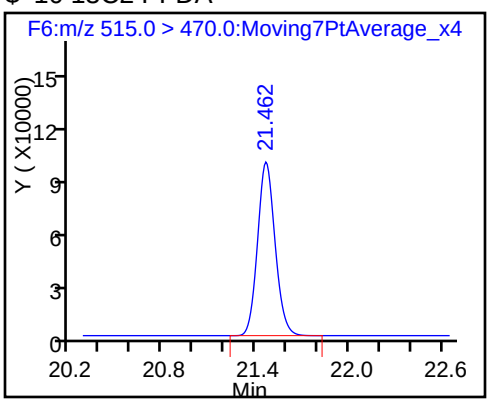
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_138.d
Lims ID: MB 320-140400/1-A
Client ID:
Sample Type: MB
Inject. Date: 08-Dec-2016 11:41:08 ALS Bottle#: 2 Worklist Smp#: 100
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-140400/1-a BOX 14
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 13:54:01 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

First Level Reviewer: barnettj Date: 08-Dec-2016 13:53:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.3	123.45
$ 10 13C2 PFDA	10.0	12.0	120.45

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

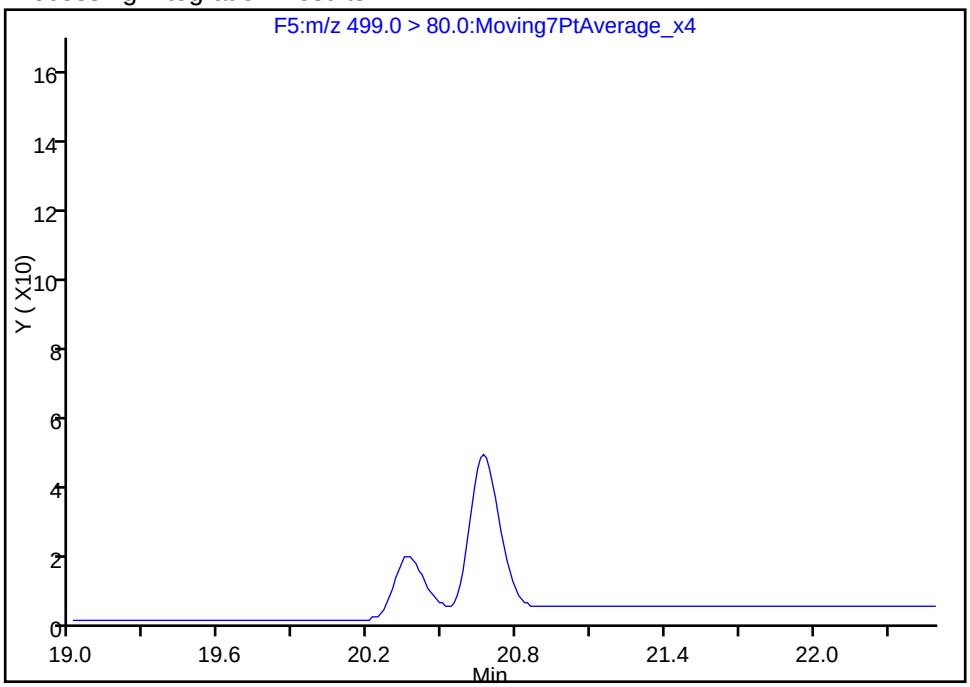
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_138.d
Injection Date: 08-Dec-2016 11:41:08 Instrument ID: A6
Lims ID: MB 320-140400/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 100
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F5:MRM

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

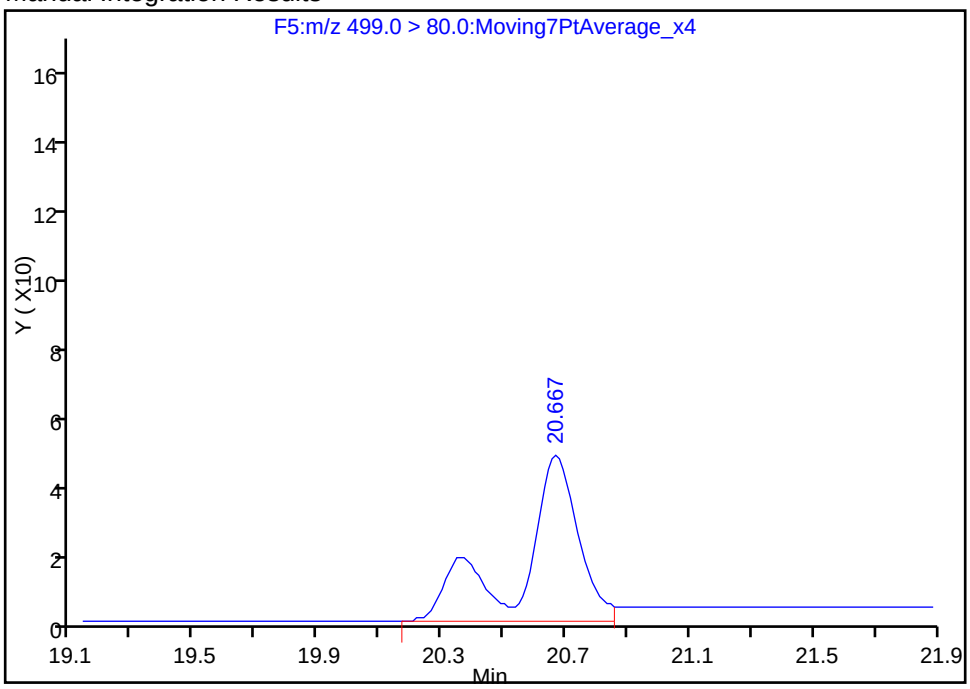
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.67
Area: 604
Amount: 0.008311
Amount Units: ng/ml



Reviewer: barnettj, 08-Dec-2016 13:53:52
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

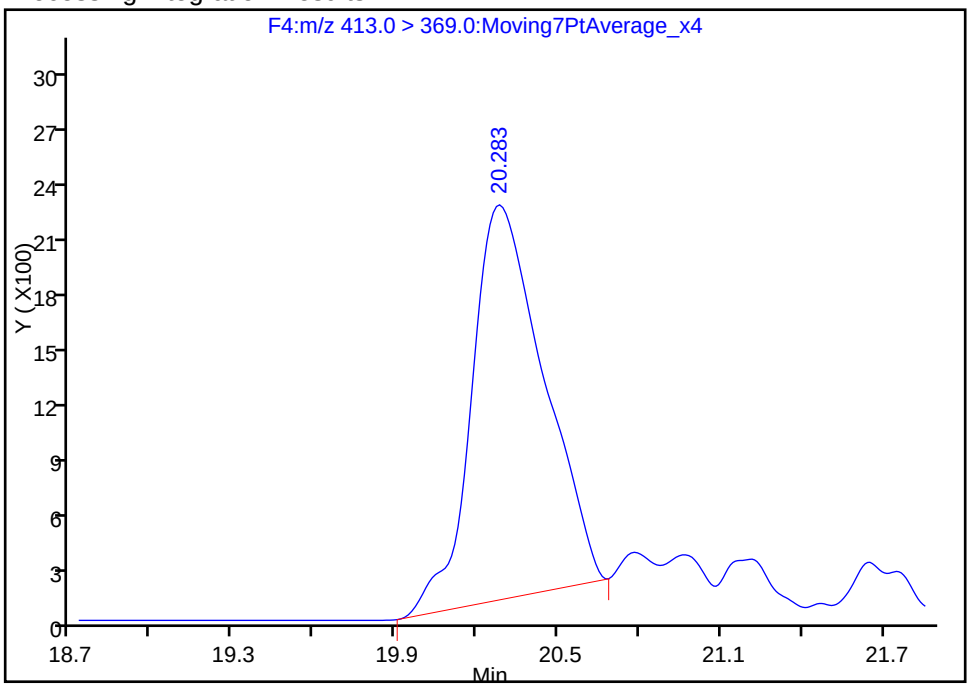
Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_138.d
Injection Date: 08-Dec-2016 11:41:08 Instrument ID: A6
Lims ID: MB 320-140400/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 100
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

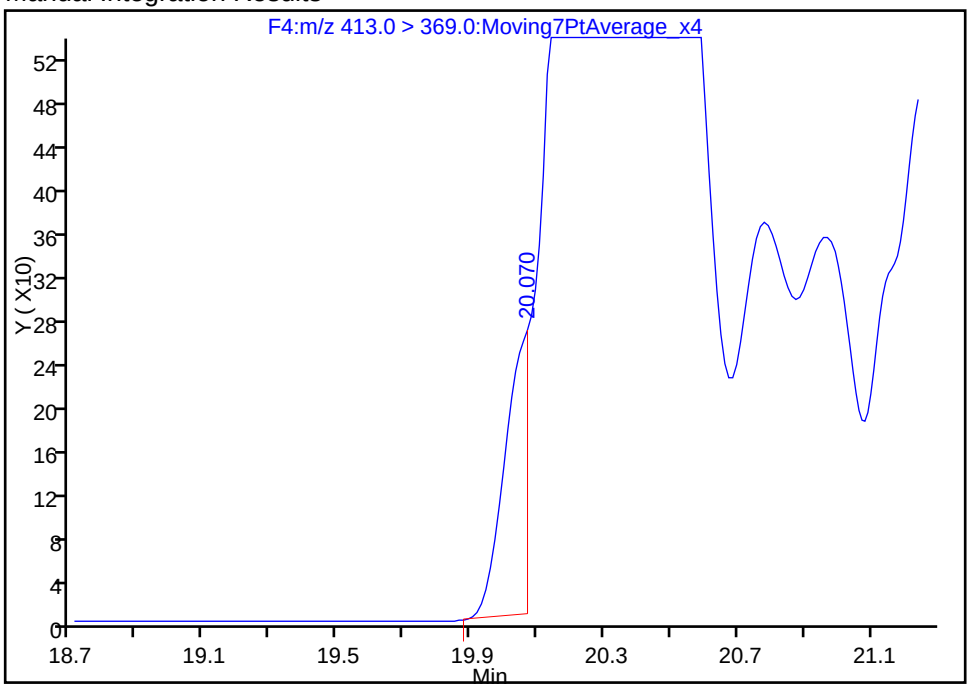
Processing Integration Results

RT: 20.28
Area: 39445
Amount: 0.518787
Amount Units: ng/ml



Manual Integration Results

RT: 20.07
Area: 1190
Amount: 0.015651
Amount Units: ng/ml



Reviewer: barnettj, 08-Dec-2016 13:53:52
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 320-140409/1-A

Matrix: Water | Lab File ID: 05DEC2016A6A_148.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 250(mL) | Date Analyzed: 12/08/2016 17:06

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141249 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	119		70-130
STL00996	13C2 PFDA	122		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_148.d
Lims ID: MB 320-140409/1-A
Client ID:
Sample Type: MB
Inject. Date: 08-Dec-2016 17:06:47 ALS Bottle#: 25 Worklist Smp#: 65
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-140409/1-a BOX 14
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:44:52

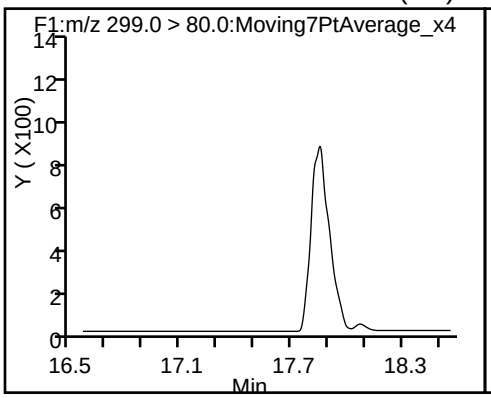
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.548	0.010	1.000	1000468	11.9	32530	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		719770	10.0	18858	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.655	0.012		1998671	28.7	34958	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.738	20.726	0.012	1.000	1341	0.0164	37.3	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.453	0.009	1.000	769829	12.2	24572	

QC Flag Legend

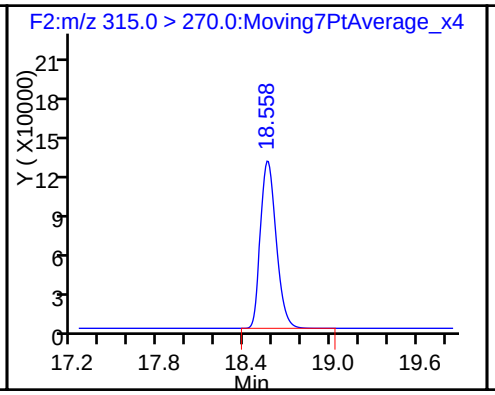
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_148.d
Injection Date: 08-Dec-2016 17:06:47 Instrument ID: A6
Lims ID: MB 320-140409/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 25 Worklist Smp#: 65
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

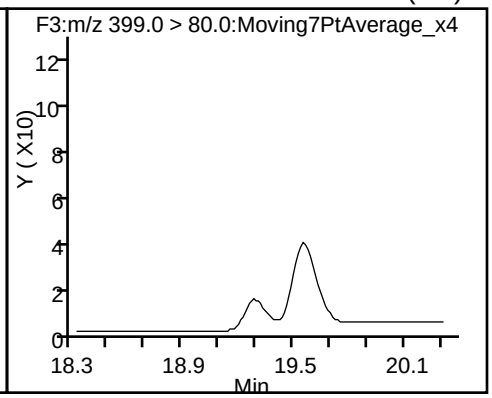
1 Perfluorobutanesulfonic acid (ND)



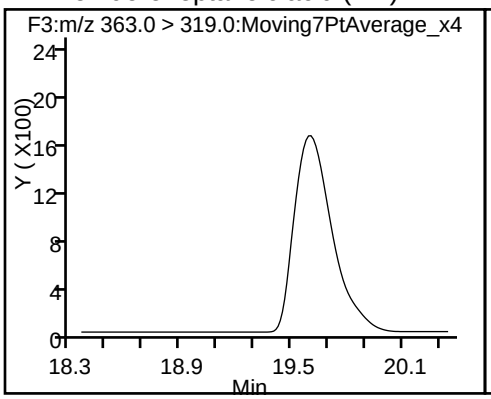
$ 2 13C2 PFHxA



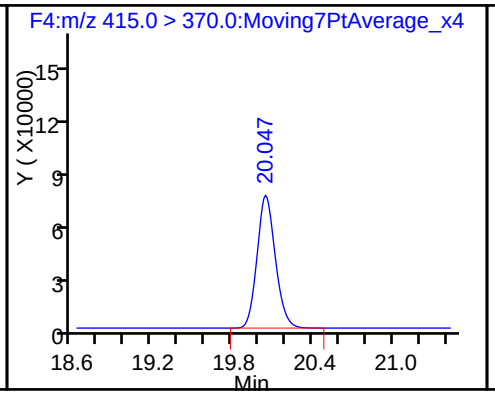
3 Perfluorohexanesulfonic acid (ND)



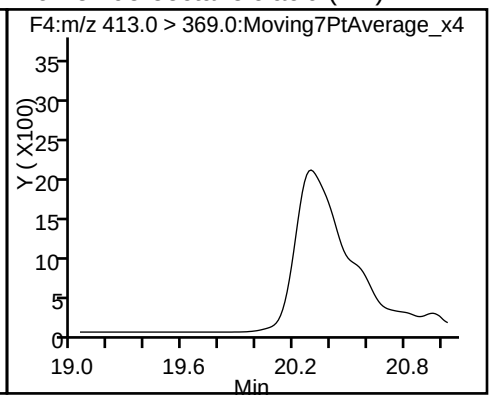
4 Perfluoroheptanoic acid (ND)



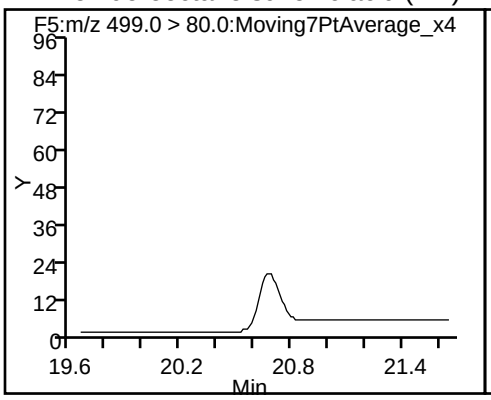
* 5 13C2-PFOA



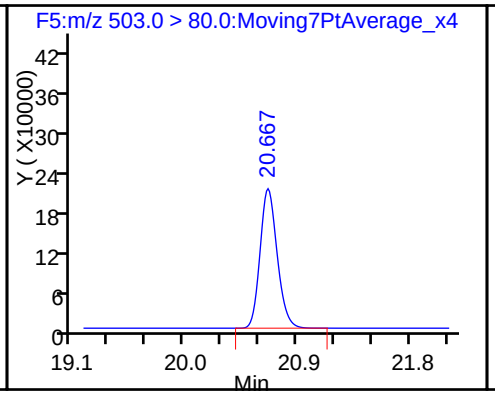
6 Perfluorooctanoic acid (ND)



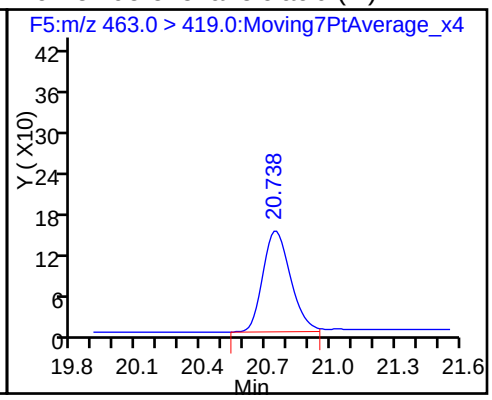
7 Perfluorooctane sulfonic acid (ND)



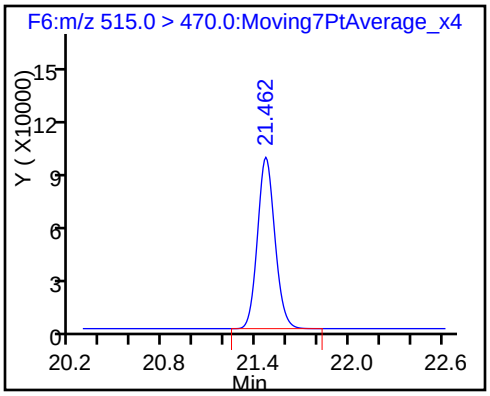
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_148.d
Lims ID: MB 320-140409/1-A
Client ID:
Sample Type: MB
Inject. Date: 08-Dec-2016 17:06:47 ALS Bottle#: 25 Worklist Smp#: 65
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: mb 320-140409/1-a BOX 14
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:44:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.9	119.16
$ 10 13C2 PFDA	10.0	12.2	122.06

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-140442/1-A

Matrix: Water Lab File ID: 05DEC2016A6A_196.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 250.00(mL) Date Analyzed: 12/09/2016 17:31

Con. Extract Vol.: 1.00(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	118		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Lims ID: MB 320-140442/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Dec-2016 17:31:23 ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-140442/1-A BOX 14
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:54:33

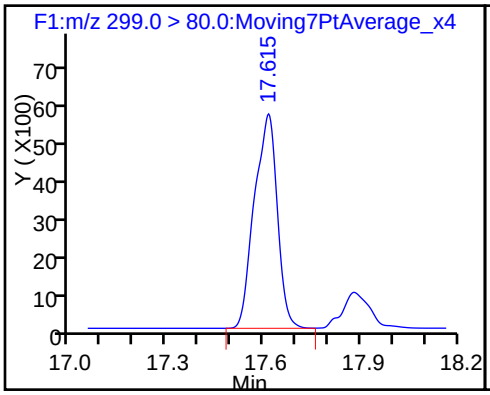
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.615	17.608	0.007	1.000	28459	0.5746	40.8	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1008442	11.8	32505	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.344	19.332	0.012	1.000	7970	0.1257	31.6	M
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	6936	0.0779	3.4	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.023	0.012		732694	10.0	19016	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.035	20.023	0.012	1.000	8764	0.1150	3.0	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.655	20.619	0.036	1.000	15627	0.2120	281	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		2024869	28.7	42234	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.726	0.0	1.000	12120	0.1458	340	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	695830	10.8	21858	

QC Flag Legend

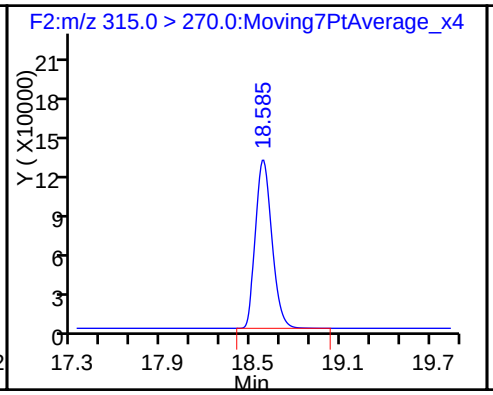
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Injection Date: 09-Dec-2016 17:31:23 Instrument ID: A6
Lims ID: MB 320-140442/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

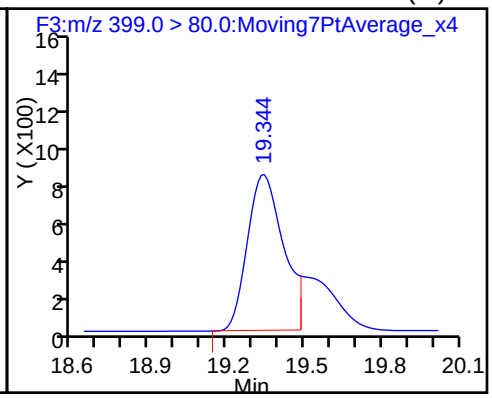
1 Perfluorobutanesulfonic acid



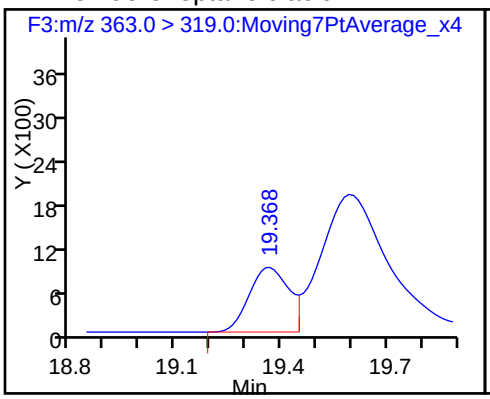
$ 2 13C2 PFHxA



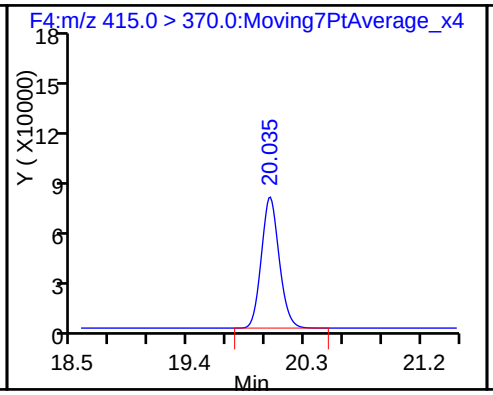
3 Perfluorohexanesulfonic acid (M)



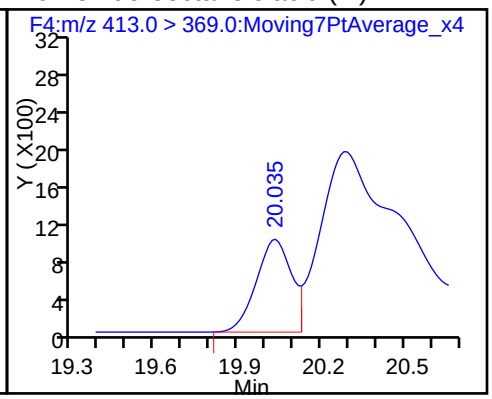
4 Perfluoroheptanoic acid



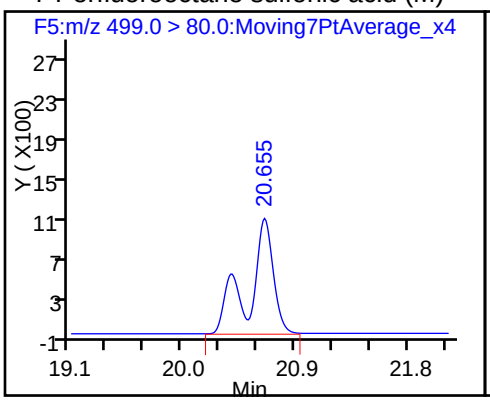
* 5 13C2-PFOA



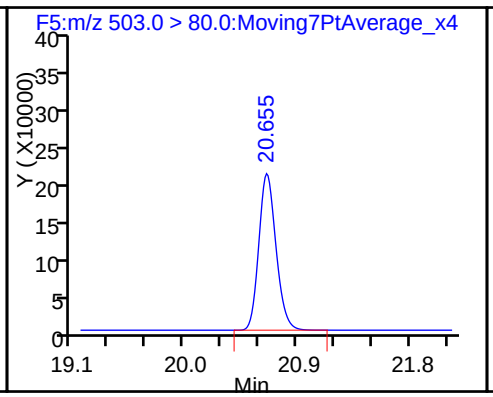
6 Perfluorooctanoic acid (M)



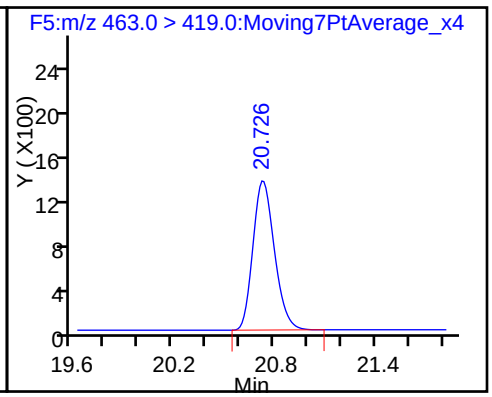
7 Perfluorooctane sulfonic acid (M)



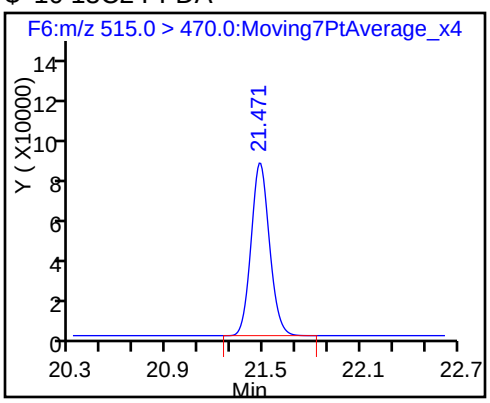
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Lims ID: MB 320-140442/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Dec-2016 17:31:23 ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-140442/1-A BOX 14
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 10:54:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.8	117.99
$ 10 13C2 PFDA	10.0	10.8	108.38

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

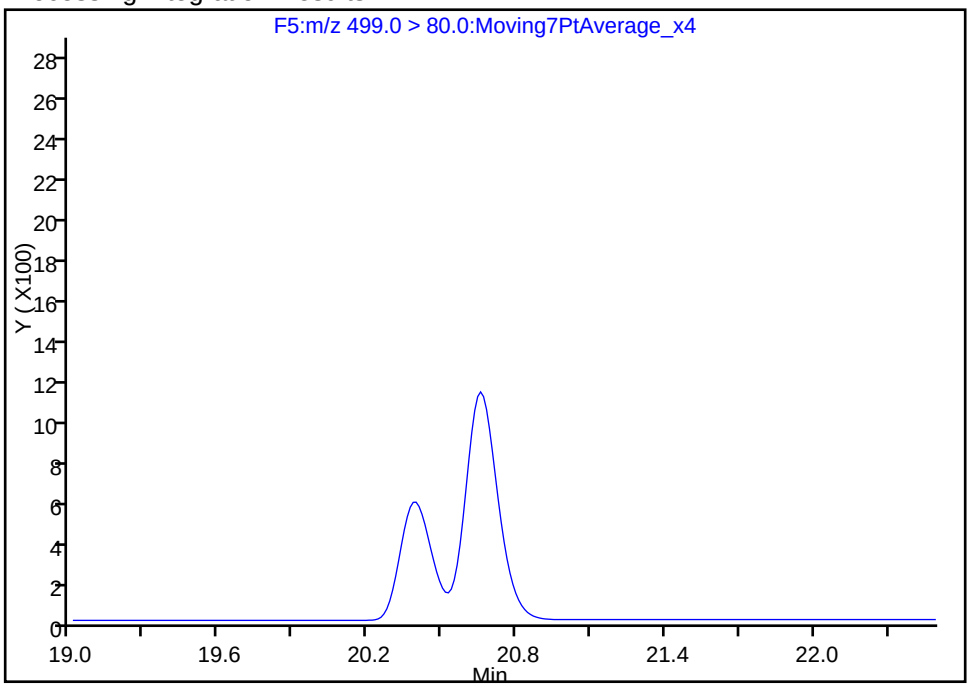
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Injection Date: 09-Dec-2016 17:31:23 Instrument ID: A6
Lims ID: MB 320-140442/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F5:MRM

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

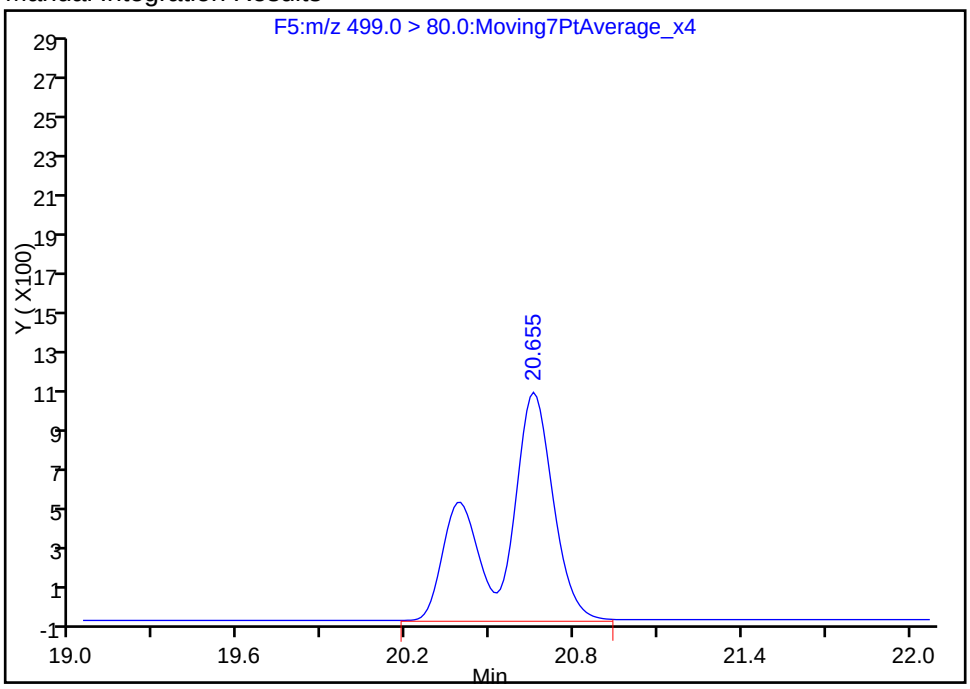
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.65
Area: 15627
Amount: 0.212013
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 10:54:33
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

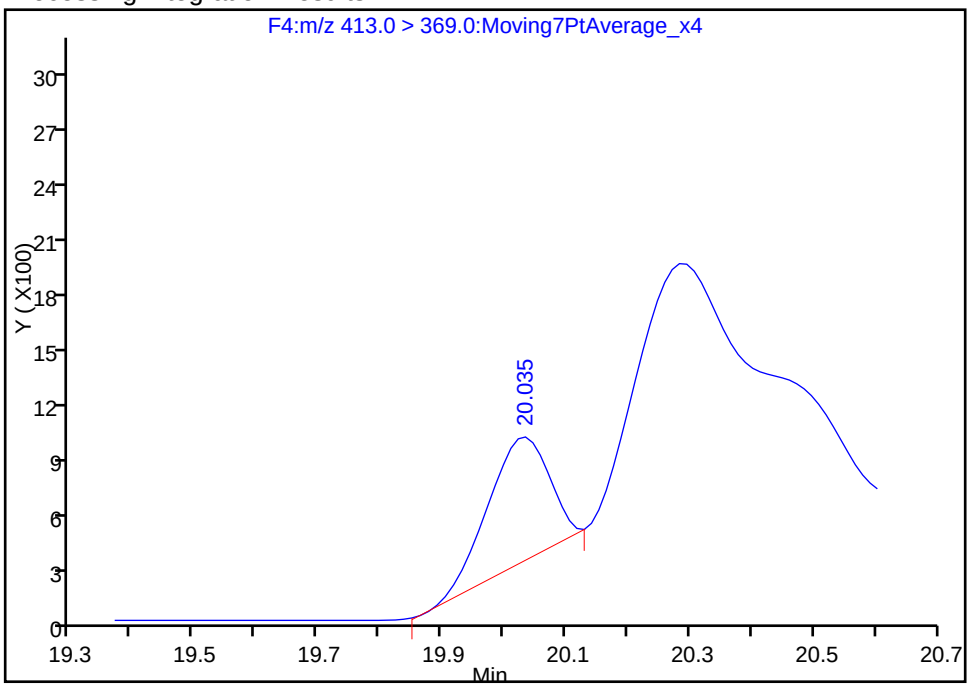
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Injection Date: 09-Dec-2016 17:31:23 Instrument ID: A6
Lims ID: MB 320-140442/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

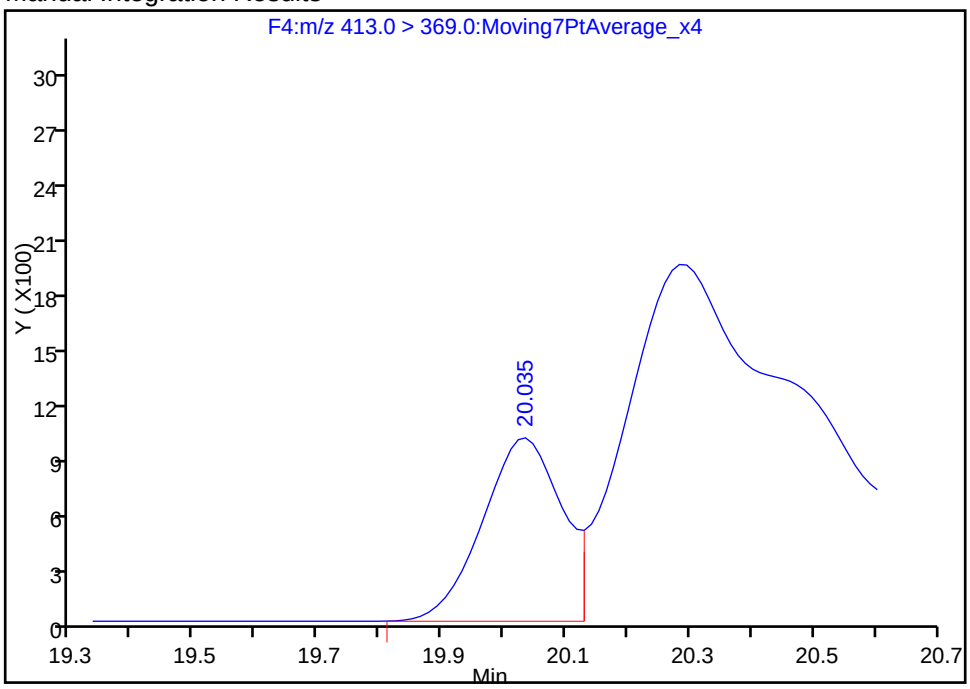
Processing Integration Results

RT: 20.03
Area: 4646
Amount: 0.060946
Amount Units: ng/ml



Manual Integration Results

RT: 20.03
Area: 8764
Amount: 0.114966
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 10:54:33
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-140409/2-A

Matrix: Water Lab File ID: 05DEC2016A6A_149.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 250(mL) Date Analyzed: 12/08/2016 17:36

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141249 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.132		0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.0624		0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.300		0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	112		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_149.d
Lims ID: LCS 320-140409/2-A
Client ID:
Sample Type: LCS
Inject. Date: 08-Dec-2016 17:36:23 ALS Bottle#: 26 Worklist Smp#: 66
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-140409/2-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

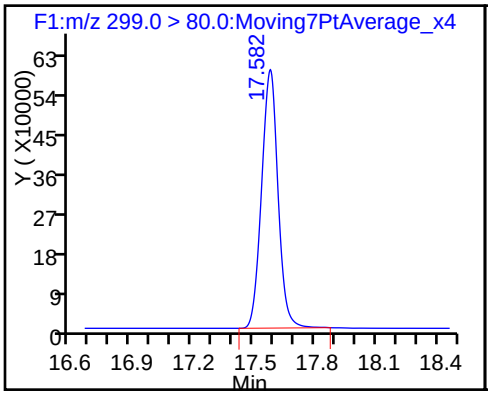
Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

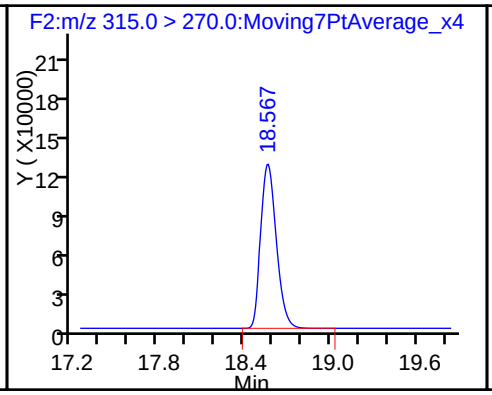
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.566	0.016	1.000	3351077	74.9	2627	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.548	0.019	1.000	974507	11.4	31853	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.320	0.024	1.000	1404119	24.5	32200	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.356	0.024	1.000	731814	8.18	12618	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		735849	10.0	19287	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.035	0.012	1.000	1194812	15.6	527	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.655	-0.036	1.000	2198923	33.0	20783	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.655	0.012		1829616	28.7	47566	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.726	0.012	1.000	1358551	16.3	15990	
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.453	0.009	1.000	720595	11.2	22940	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_149.d
Injection Date: 08-Dec-2016 17:36:23 Instrument ID: A6
Lims ID: LCS 320-140409/2-A
Client ID:
Operator ID: CBW ALS Bottle#: 26 Worklist Smp#: 66
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

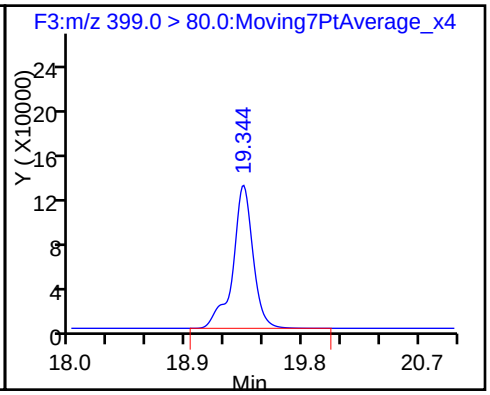
1 Perfluorobutanesulfonic acid



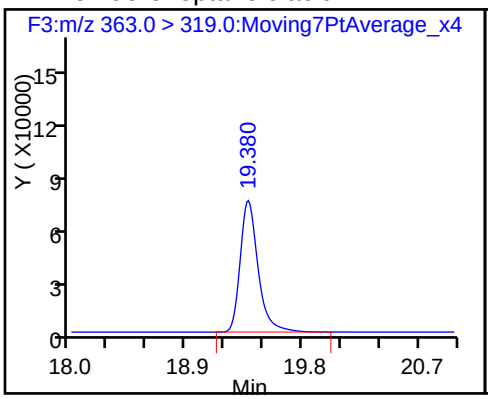
$ 2 13C2 PFHxA



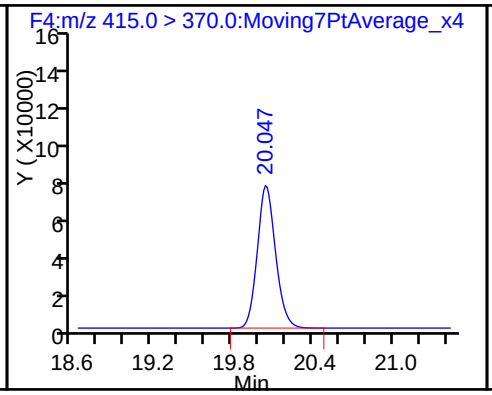
3 Perfluorohexanesulfonic acid



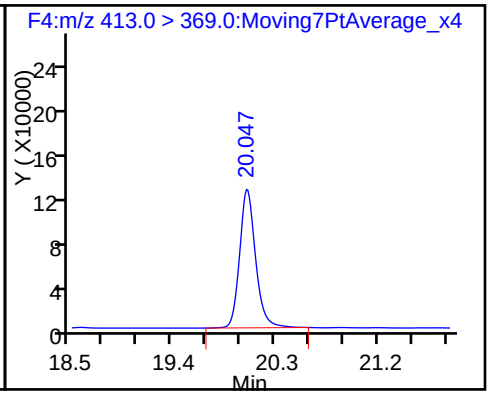
4 Perfluoroheptanoic acid



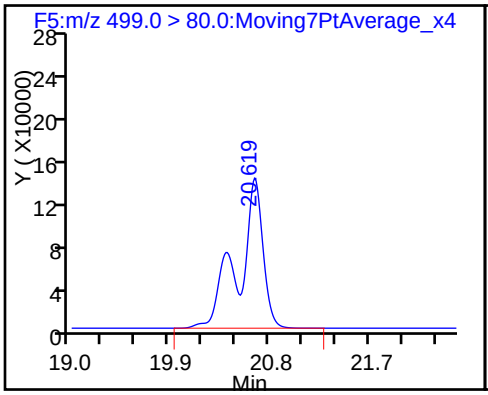
* 5 13C2-PFOA



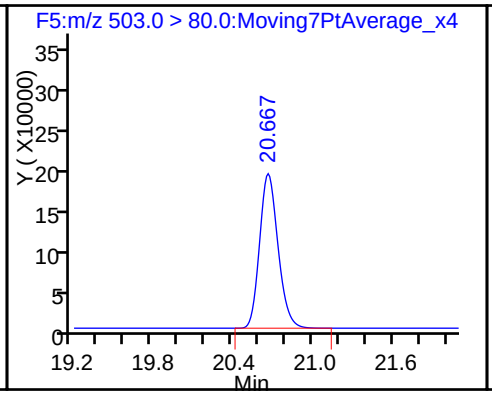
6 Perfluorooctanoic acid



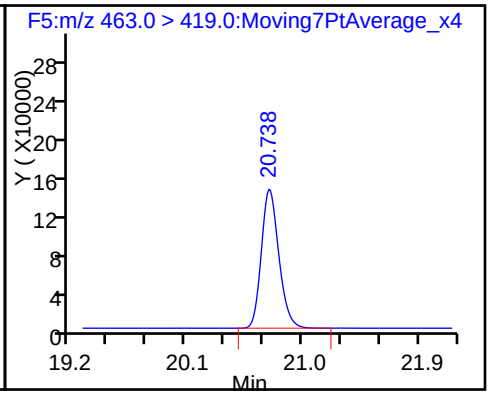
7 Perfluorooctane sulfonic acid



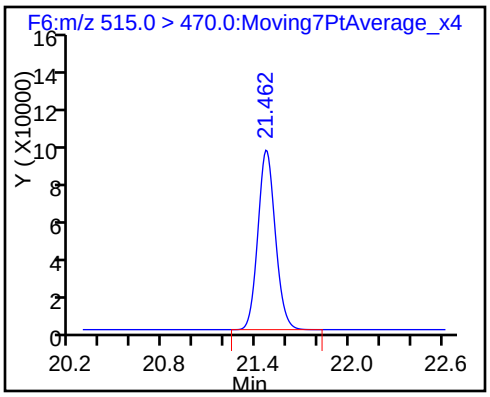
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_149.d
Lims ID: LCS 320-140409/2-A
Client ID:
Sample Type: LCS
Inject. Date: 08-Dec-2016 17:36:23 ALS Bottle#: 26 Worklist Smp#: 66
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: lcs 320-140409/2-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:01:39 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	113.53
$ 10 13C2 PFDA	10.0	11.2	111.75

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 320-140442/2-A

Matrix: Water Lab File ID: 05DEC2016A6A_197.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 250.00(mL) Date Analyzed: 12/09/2016 18:00

Con. Extract Vol.: 1.00(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.317		0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.166	E	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.588		0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	129		70-130
STL00996	13C2 PFDA	122		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_197.d
Lims ID: LCS 320-140442/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Dec-2016 18:00:57 ALS Bottle#: 28 Worklist Smp#: 22
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-140442/2-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

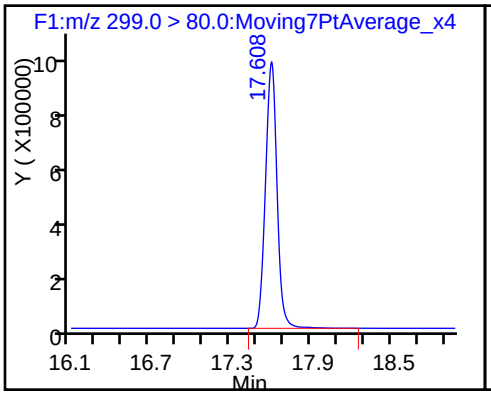
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.608	0.0	1.000	5992977	147.0	15266	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	988347	12.9	31837	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	2989666	57.3	66977	
4 Perfluoroheptanoic acid								E
363.0 > 319.0	19.368	19.368	0.0	1.000	1706273	21.3	35560	E
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.023	0.012		658018	10.0	16832	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.035	20.023	0.012	1.000	2842911	41.5	1585	E
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.620	20.619	0.001	1.000	4803144	79.1	19205	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.655	0.0		1667226	28.7	33927	
9 Perfluorononanoic acid								E
463.0 > 419.0	20.738	20.726	0.012	1.000	3251457	43.6	48367	E
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	702284	12.2	22095	

QC Flag Legend

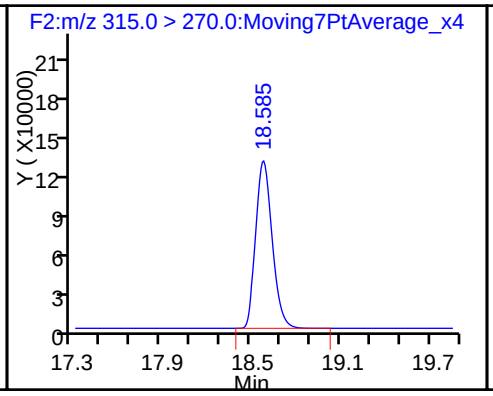
Processing Flags
E - Exceeded Maximum Amount

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_197.d
Injection Date: 09-Dec-2016 18:00:57 Instrument ID: A6
Lims ID: LCS 320-140442/2-A
Client ID:
Operator ID: CBW ALS Bottle#: 28 Worklist Smp#: 22
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

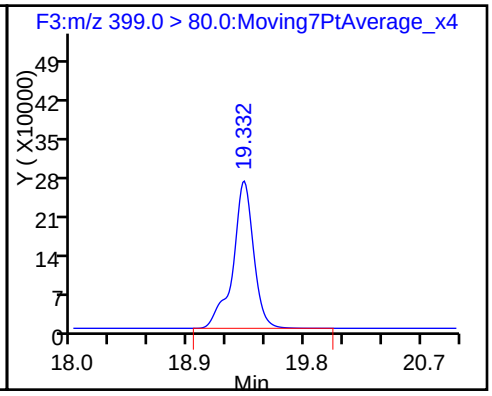
1 Perfluorobutanesulfonic acid



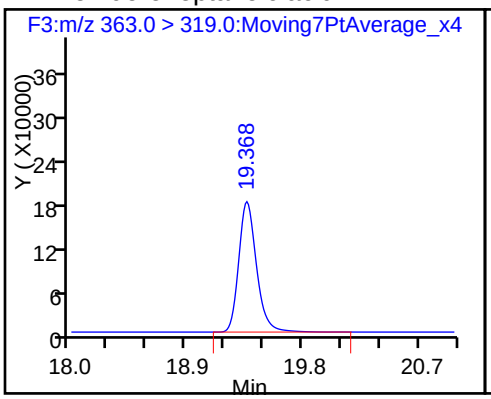
$ 2 13C2 PFHxA



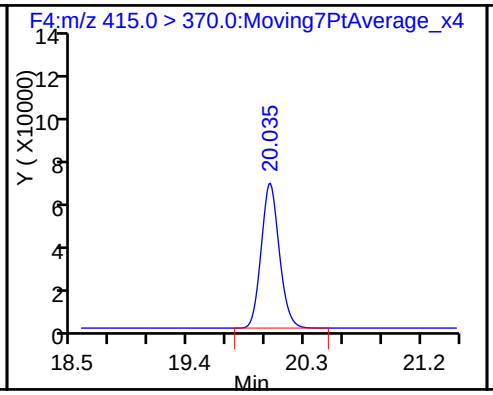
3 Perfluorohexanesulfonic acid



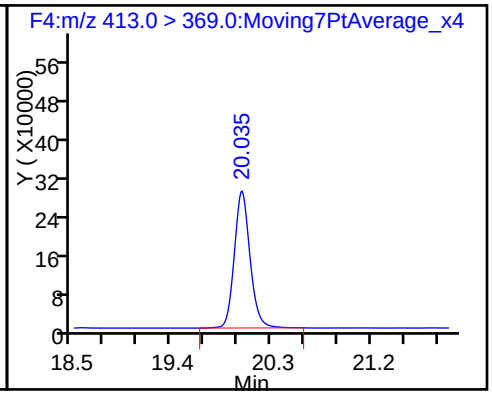
4 Perfluoroheptanoic acid



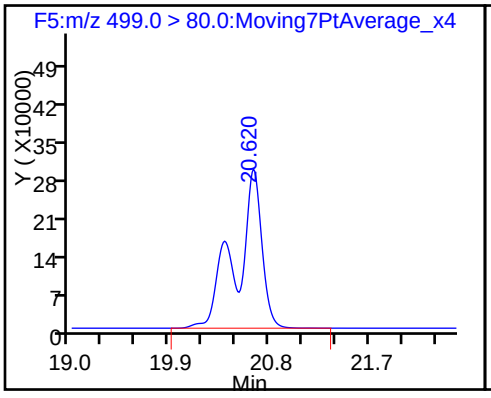
* 5 13C2-PFOA



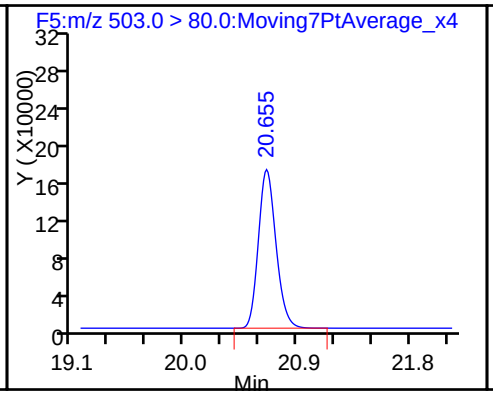
6 Perfluorooctanoic acid



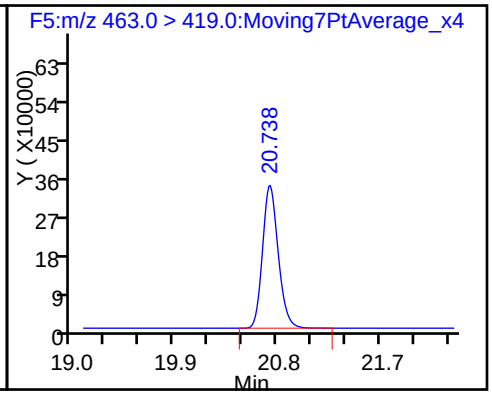
7 Perfluorooctane sulfonic acid



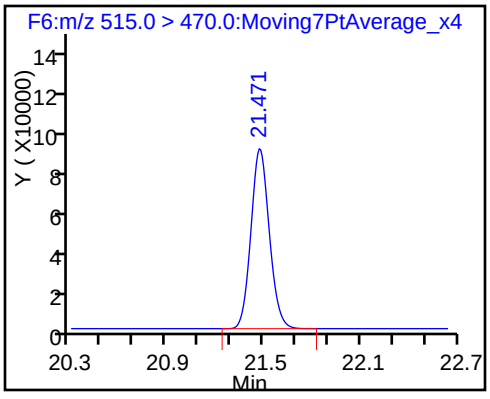
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_197.d
Lims ID: LCS 320-140442/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Dec-2016 18:00:57 ALS Bottle#: 28 Worklist Smp#: 22
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: LCS 320-140442/2-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 10-Dec-2016 11:30:05 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.9	128.76
$ 10 13C2 PFDA	10.0	12.2	121.80

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 320-140409/3-A

Matrix: Water Lab File ID: 05DEC2016A6A_153.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 250(mL) Date Analyzed: 12/08/2016 19:34

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.134		0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.0663		0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.312		0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	114		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_153.d
Lims ID: LCSD 320-140409/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 08-Dec-2016 19:34:49 ALS Bottle#: 27 Worklist Smp#: 70
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-140409/3-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

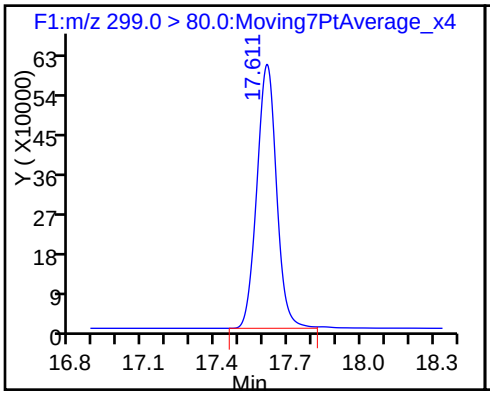
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:49:10

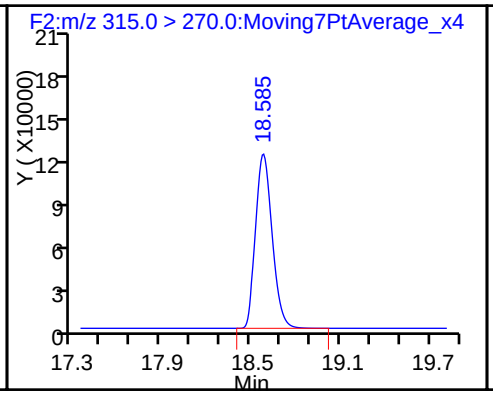
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.611	17.611	0.0	1.000	3428211	78.1	977	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	927939	11.4	23756	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	1471312	26.2	33727	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.379	19.380	-0.001	1.000	745923	8.78	8470	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		699018	10.0	18328	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	1205078	16.6	439	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	2196234	33.6	19654	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.679	0.011		1794767	28.7	31156	
9 Perfluorononanoic acid								
463.0 > 419.0	20.761	20.762	-0.001	1.000	1340598	16.9	20379	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	696270	11.4	22137	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_153.d
Injection Date: 08-Dec-2016 19:34:49 Instrument ID: A6
Lims ID: LCSD 320-140409/3-A
Client ID:
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 70
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

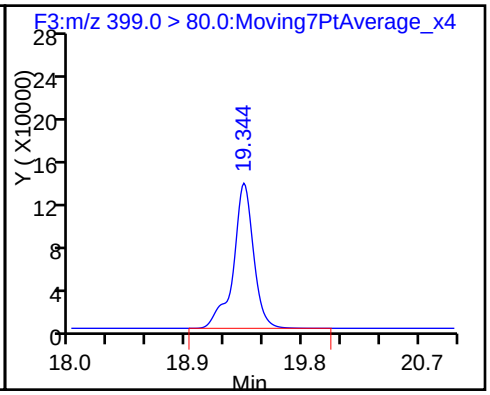
1 Perfluorobutanesulfonic acid



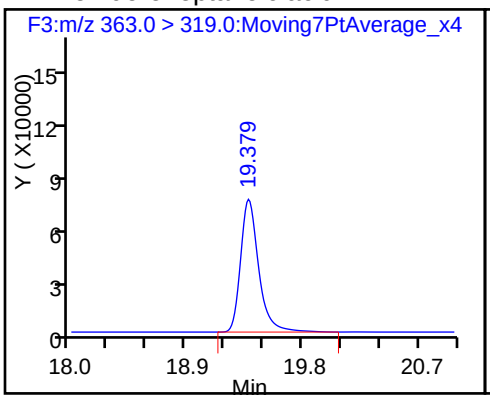
$ 2 13C2 PFHxA



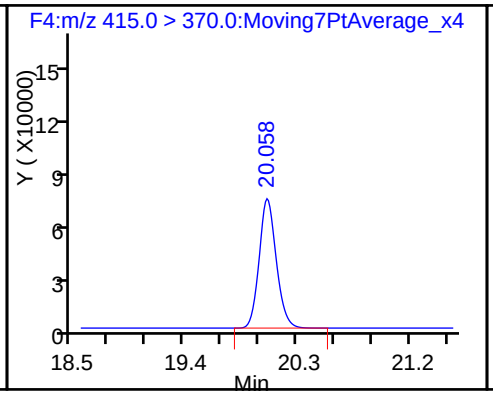
3 Perfluorohexanesulfonic acid



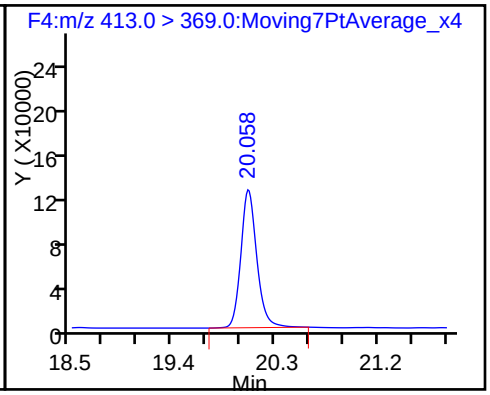
4 Perfluoroheptanoic acid



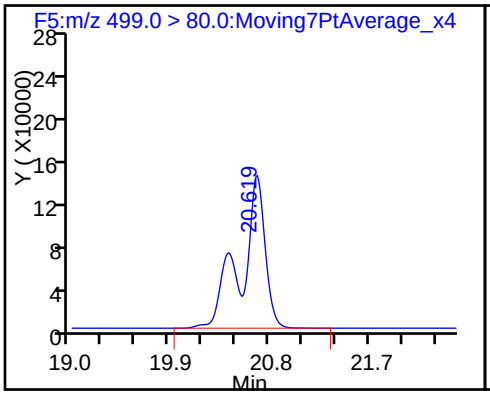
* 5 13C2-PFOA



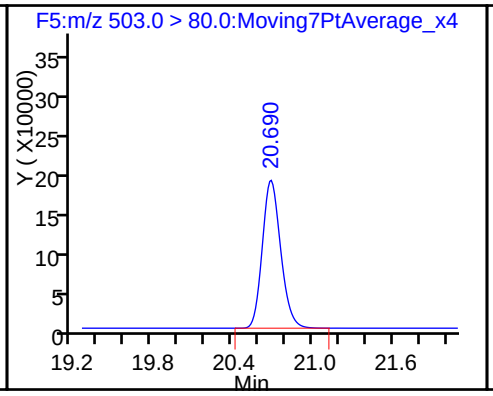
6 Perfluorooctanoic acid



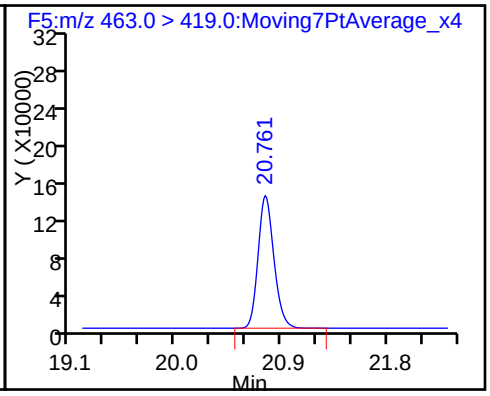
7 Perfluorooctane sulfonic acid



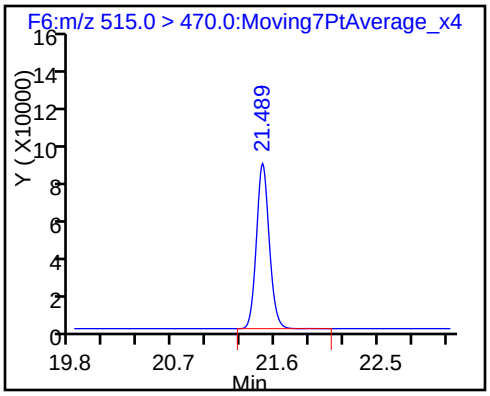
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_153.d
Lims ID: LCSD 320-140409/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 08-Dec-2016 19:34:49 ALS Bottle#: 27 Worklist Smp#: 70
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: lcsd 320-140409/3-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 09-Dec-2016 10:29:19 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK020

First Level Reviewer: barnettj Date: 09-Dec-2016 09:49:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	113.80
$ 10 13C2 PFDA	10.0	11.4	113.67

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: | Lab Sample ID: LLCS 320-140400/2-A

Matrix: Water | Lab File ID: 05DEC2016A6A_116.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 12/02/2016 15:27

Sample wt/vol: 250(mL) | Date Analyzed: 12/08/2016 00:53

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140946 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0318	J	0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.0180	J	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.0805	J	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_116.d
Lims ID: LLCS 320-140400/2-A
Client ID:
Sample Type: LLCS
Inject. Date: 08-Dec-2016 00:53:25 ALS Bottle#: 3 Worklist Smp#: 37
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: llcs 320-140400/2-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 11:30:17 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.573	17.579	-0.006	1.000	1120294	20.1	696	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.567	-0.009	1.000	1079010	11.2	46909	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	406587	5.71	9673	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.380	-0.012	1.000	263401	2.62	1987	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		827196	10.0	21631	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.047	-0.012	1.000	386392	4.49	248	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	657942	7.94	8766	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.667	-0.012		2275824	28.7	59033	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	367468	3.92	9923	
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.471	-0.009	1.000	784265	10.8	24916	

Report Date: 08-Dec-2016 11:30:51 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_116.d

Injection Date: 08-Dec-2016 00:53:25 Instrument ID: A6

Lims ID: LLCS 320-140400/2-A

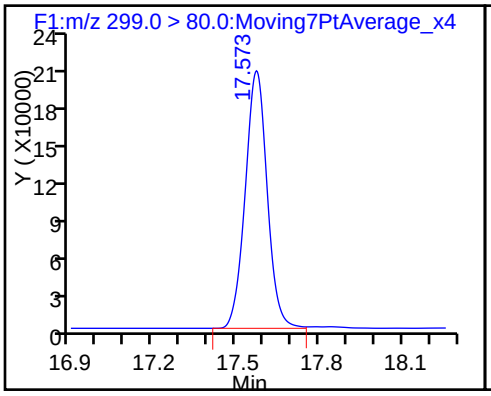
Client ID:

Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 37

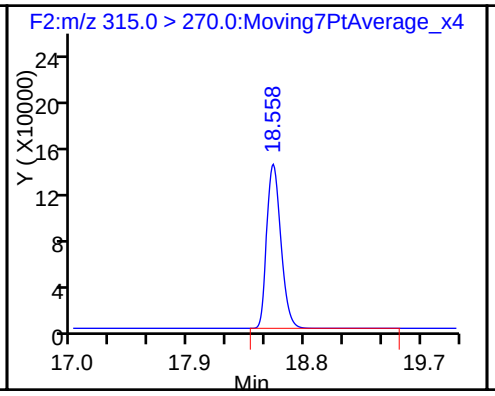
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

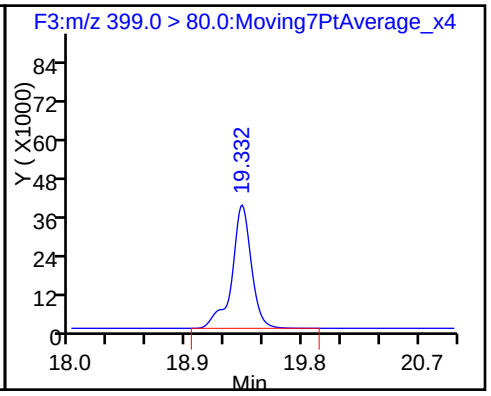
1 Perfluorobutanesulfonic acid



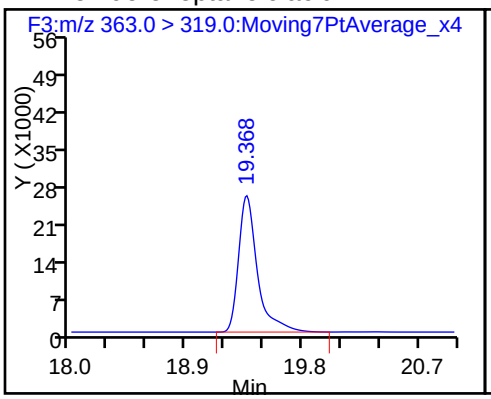
$ 2 13C2 PFHxA



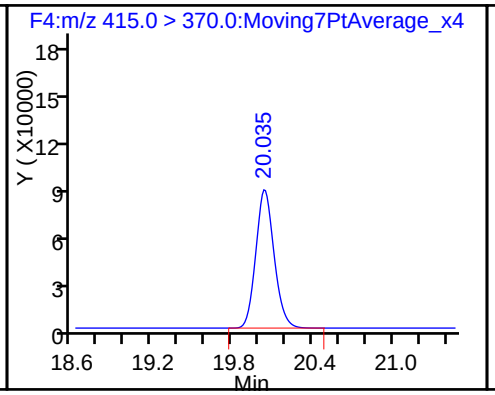
3 Perfluorohexanesulfonic acid



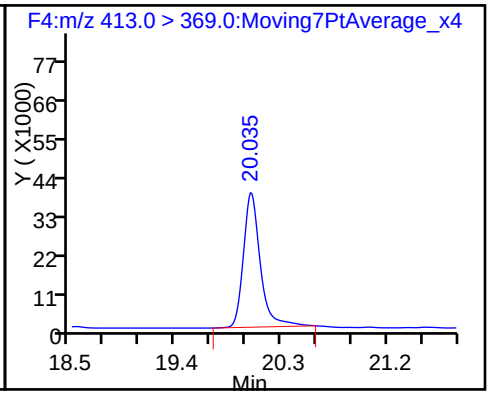
4 Perfluoroheptanoic acid



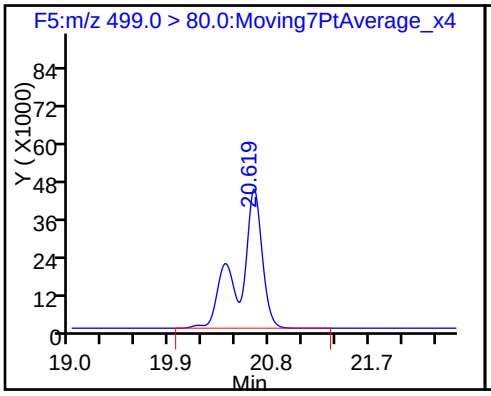
* 5 13C2-PFOA



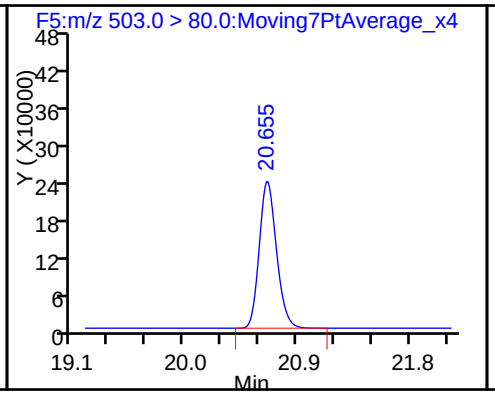
6 Perfluorooctanoic acid



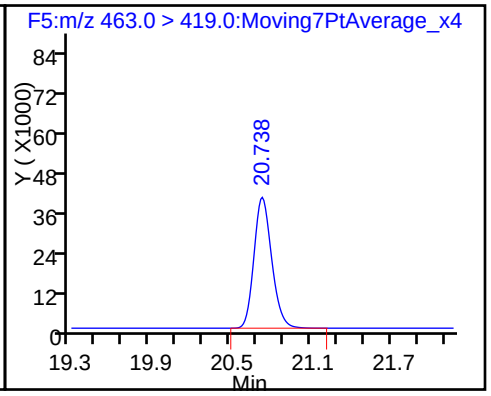
7 Perfluorooctane sulfonic acid



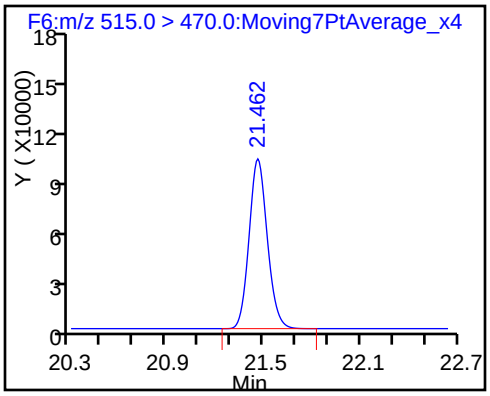
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_116.d
Lims ID: LLCS 320-140400/2-A
Client ID:
Sample Type: LLCS
Inject. Date: 08-Dec-2016 00:53:25 ALS Bottle#: 3 Worklist Smp#: 37
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: llcs 320-140400/2-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 11:30:17 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	111.82
$ 10 13C2 PFDA	10.0	10.8	108.20

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: Lab Sample ID: LLCSD 320-140400/3-A

Matrix: Water Lab File ID: 05DEC2016A6A_117.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/02/2016 15:27

Sample wt/vol: 250(mL) Date Analyzed: 12/08/2016 01:23

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0315	J	0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.0185	J	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.0796	J	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_117.d
Lims ID: LLCSD 320-140400/3-A
Client ID:
Sample Type: LLCSD
Inject. Date: 08-Dec-2016 01:23:01 ALS Bottle#: 4 Worklist Smp#: 38
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: llcsd 320-140400/3-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

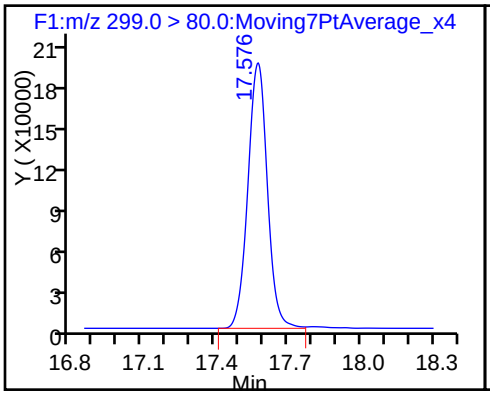
Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 11:30:17 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

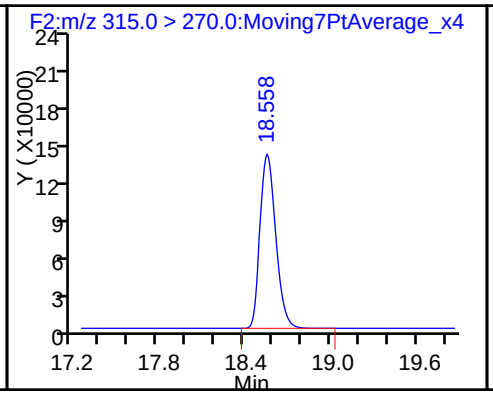
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.576	17.579	-0.003	1.000	1105089	19.9	879	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.558	18.567	-0.009	1.000	1085857	11.2	35333	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	438138	6.17	10252	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.380	-0.012	1.000	273562	2.71	2236	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		830936	10.0	21569	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	398803	4.61	189	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	651554	7.89	8323	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2269539	28.7	46901	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	392806	4.17	20481	
$ 10 13C2 PFDA								
515.0 > 470.0	21.462	21.471	-0.009	1.000	785054	10.8	24569	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_117.d
Injection Date: 08-Dec-2016 01:23:01 Instrument ID: A6
Lims ID: LLCSD 320-140400/3-A
Client ID:
Operator ID: CBW ALS Bottle#: 4 Worklist Smp#: 38
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

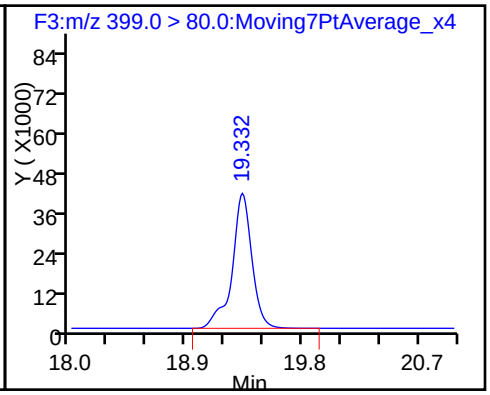
1 Perfluorobutanesulfonic acid



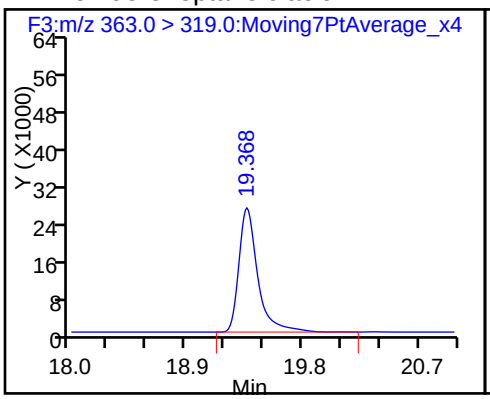
$ 2 13C2 PFHxA



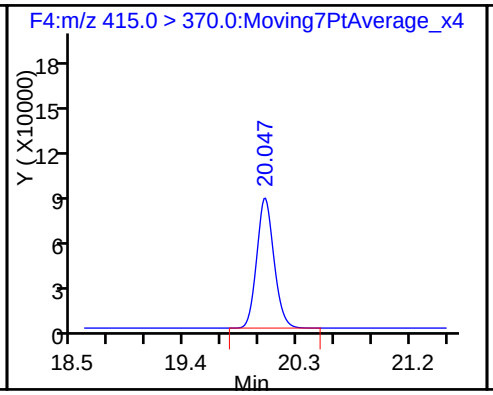
3 Perfluorohexanesulfonic acid



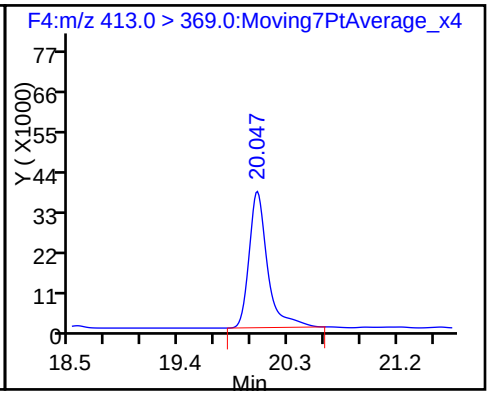
4 Perfluoroheptanoic acid



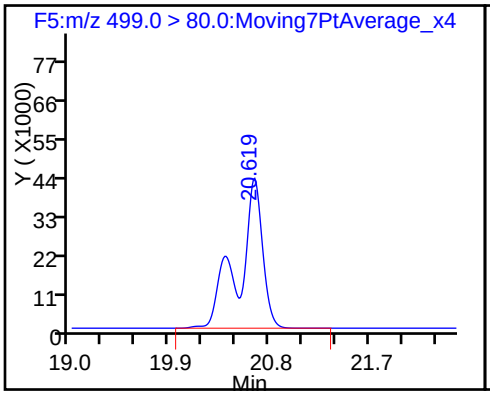
* 5 13C2-PFOA



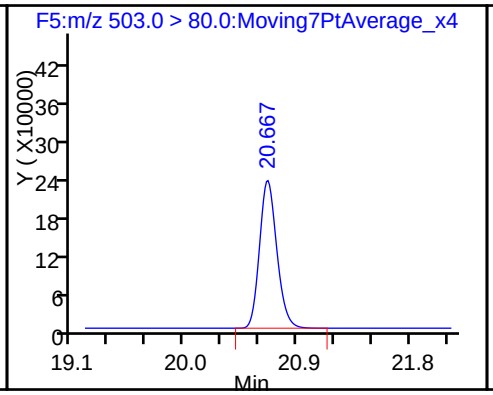
6 Perfluorooctanoic acid



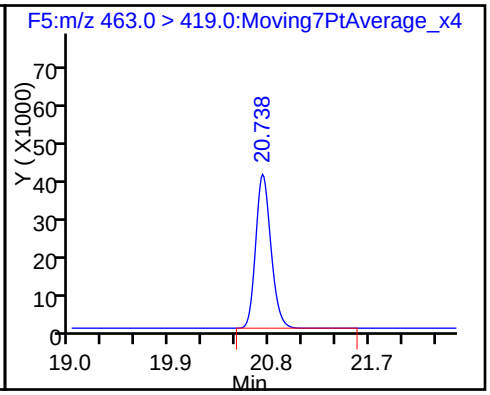
7 Perfluorooctane sulfonic acid



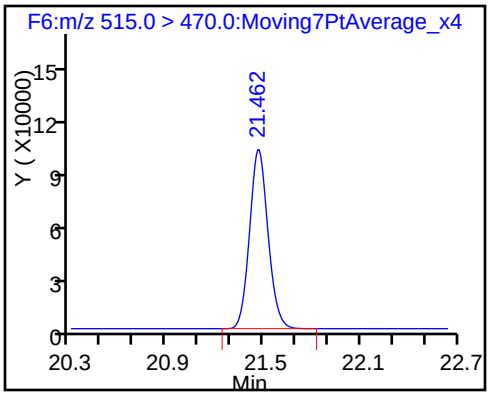
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\05DEC2016A6A_117.d
Lims ID: LLCSD 320-140400/3-A
Client ID:
Sample Type: LLCSD
Inject. Date: 08-Dec-2016 01:23:01 ALS Bottle#: 4 Worklist Smp#: 38
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: llcsd 320-140400/3-a
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 08-Dec-2016 11:30:17 Calib Date: 05-Dec-2016 19:54:00
Integrator: Picker
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_009.d

Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK014

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	112.02
$ 10 13C2 PFDA	10.0	10.8	107.82

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/05/2016 17:26

Analysis Batch Number: 140688 End Date: 12/06/2016 02:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD 320-140688/2 IC		12/05/2016 17:26	1	05DEC2016A6A_004.d	Acquity 2.1(mm)
STD 320-140688/3 IC		12/05/2016 17:55	1	05DEC2016A6A_005.d	Acquity 2.1(mm)
STD 320-140688/4 IC		12/05/2016 18:25	1	05DEC2016A6A_006.d	Acquity 2.1(mm)
STD 320-140688/5 ICISAV		12/05/2016 18:54	1	05DEC2016A6A_007.d	Acquity 2.1(mm)
STD 320-140688/6 IC		12/05/2016 19:24	1	05DEC2016A6A_008.d	Acquity 2.1(mm)
STD 320-140688/7 IC		12/05/2016 19:54	1	05DEC2016A6A_009.d	Acquity 2.1(mm)
ZZZZZ		12/05/2016 20:23	1		Acquity 2.1(mm)
CCV 320-140688/9 CCVL		12/05/2016 20:53	1	05DEC2016A6A_011.d	Acquity 2.1(mm)
ZZZZZ		12/05/2016 21:22	1		Acquity 2.1(mm)
ICV 320-140688/11		12/05/2016 21:52	1	05DEC2016A6A_013.d	Acquity 2.1(mm)
ZZZZZ		12/05/2016 22:22	1		Acquity 2.1(mm)
ZZZZZ		12/05/2016 22:51	1		Acquity 2.1(mm)
ZZZZZ		12/05/2016 23:21	1		Acquity 2.1(mm)
ZZZZZ		12/05/2016 23:50	1		Acquity 2.1(mm)
ZZZZZ		12/06/2016 00:20	1		Acquity 2.1(mm)
ZZZZZ		12/06/2016 00:49	1		Acquity 2.1(mm)
ZZZZZ		12/06/2016 01:19	1		Acquity 2.1(mm)
ZZZZZ		12/06/2016 01:49	1		Acquity 2.1(mm)
ZZZZZ		12/06/2016 02:18	1		Acquity 2.1(mm)
CCV 320-140688/21 CCVIS		12/06/2016 02:48	1		Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/07/2016 20:56

Analysis Batch Number: 140946 End Date: 12/08/2016 03:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-140946/29 CCVIS		12/07/2016 20:56	1	05DEC2016A6A_108.d	Acquity 2.1(mm)
ZZZZZ		12/07/2016 21:26	1		Acquity 2.1(mm)
ZZZZZ		12/07/2016 21:55	1		Acquity 2.1(mm)
ZZZZZ		12/07/2016 22:25	1		Acquity 2.1(mm)
ZZZZZ		12/07/2016 22:54	1		Acquity 2.1(mm)
ZZZZZ		12/07/2016 23:24	1		Acquity 2.1(mm)
ZZZZZ		12/07/2016 23:54	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 00:23	1		Acquity 2.1(mm)
LLCS 320-140400/2-A		12/08/2016 00:53	1	05DEC2016A6A_116.d	Acquity 2.1(mm)
LLCSD 320-140400/3-A		12/08/2016 01:23	1	05DEC2016A6A_117.d	Acquity 2.1(mm)
ZZZZZ		12/08/2016 01:52	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 02:22	1		Acquity 2.1(mm)
CCV 320-140946/42 CCVIS		12/08/2016 03:21	1	05DEC2016A6A_121.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/08/2016 09:46

Analysis Batch Number: 140948 End Date: 12/08/2016 12:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-140948/55 CCVIS		12/08/2016 09:46	1	05DEC2016A6A_134.d	Acquity 2.1(mm)
ZZZZZ		12/08/2016 10:15	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 10:45	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 11:15	1		Acquity 2.1(mm)
MB 320-140400/1-A		12/08/2016 11:41	1	05DEC2016A6A_138.d	Acquity 2.1(mm)
CCV 320-140948/101 CCVIS		12/08/2016 12:14	1	05DEC2016A6A_139.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/08/2016 18:35

Analysis Batch Number: 140949 End Date: 12/09/2016 01:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-140949/68 CCVIS		12/08/2016 18:35	1	05DEC2016A6A_151.d	Acquity 2.1(mm)
ZZZZZ		12/08/2016 19:05	1		Acquity 2.1(mm)
LCSD 320-140409/3-A		12/08/2016 19:34	1	05DEC2016A6A_153.d	Acquity 2.1(mm)
320-23919-3		12/08/2016 20:04	1	05DEC2016A6A_154.d	Acquity 2.1(mm)
320-23919-4		12/08/2016 20:34	1	05DEC2016A6A_155.d	Acquity 2.1(mm)
320-23919-5		12/08/2016 21:03	1	05DEC2016A6A_156.d	Acquity 2.1(mm)
320-23919-6		12/08/2016 21:33	1	05DEC2016A6A_157.d	Acquity 2.1(mm)
320-23919-7		12/08/2016 22:02	1	05DEC2016A6A_158.d	Acquity 2.1(mm)
320-23919-8		12/08/2016 22:32	1	05DEC2016A6A_159.d	Acquity 2.1(mm)
320-23919-9		12/08/2016 23:01	1	05DEC2016A6A_160.d	Acquity 2.1(mm)
320-23919-10		12/08/2016 23:31	1	05DEC2016A6A_161.d	Acquity 2.1(mm)
320-23919-11		12/09/2016 00:01	1	05DEC2016A6A_162.d	Acquity 2.1(mm)
CCV 320-140949/81 CCVIS		12/09/2016 01:00	1	05DEC2016A6A_164.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/09/2016 01:00

Analysis Batch Number: 140950 End Date: 12/09/2016 07:25

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-140950/81 CCVIS		12/09/2016 01:00	1	05DEC2016A6A_164.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 01:29	1		Acquity 2.1(mm)
320-23919-12		12/09/2016 01:59	1	05DEC2016A6A_166.d	Acquity 2.1(mm)
320-23919-13 DL		12/09/2016 02:29	20	05DEC2016A6A_167.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 02:58	1		Acquity 2.1(mm)
320-23919-15		12/09/2016 03:28	1	05DEC2016A6A_169.d	Acquity 2.1(mm)
320-23919-16		12/09/2016 03:57	1	05DEC2016A6A_170.d	Acquity 2.1(mm)
320-23919-17		12/09/2016 04:27	1	05DEC2016A6A_171.d	Acquity 2.1(mm)
320-23919-18		12/09/2016 04:57	1	05DEC2016A6A_172.d	Acquity 2.1(mm)
320-23919-19		12/09/2016 05:26	1	05DEC2016A6A_173.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 05:56	1		Acquity 2.1(mm)
320-23919-13		12/09/2016 06:25	1	05DEC2016A6A_175.d	Acquity 2.1(mm)
CCV 320-140950/94 CCVIS		12/09/2016 07:25	1	05DEC2016A6A_177.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/08/2016 12:14

Analysis Batch Number: 141249 End Date: 12/08/2016 18:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141249/101 CCVIS		12/08/2016 12:14	1	05DEC2016A6A_139.d	Acquity 2.1(mm)
ZZZZZ		12/08/2016 12:43	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 13:19	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 13:48	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 14:18	1		Acquity 2.1(mm)
ZZZZZ		12/08/2016 14:47	1		Acquity 2.1(mm)
320-23919-1		12/08/2016 15:17	1	05DEC2016A6A_145.d	Acquity 2.1(mm)
320-23919-2		12/08/2016 15:44	1	05DEC2016A6A_146.d	Acquity 2.1(mm)
ZZZZZ		12/08/2016 16:35	1		Acquity 2.1(mm)
MB 320-140409/1-A		12/08/2016 17:06	1	05DEC2016A6A_148.d	Acquity 2.1(mm)
LCS 320-140409/2-A		12/08/2016 17:36	1	05DEC2016A6A_149.d	Acquity 2.1(mm)
CCV 320-141249/68 CCVIS		12/08/2016 18:35	1	05DEC2016A6A_151.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/09/2016 07:25

Analysis Batch Number: 141290 End Date: 12/09/2016 14:33

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141290/2 CCVIS		12/09/2016 07:25	1	05DEC2016A6A_177.d	Acquity 2.1(mm)
320-23919-21		12/09/2016 08:29	1	05DEC2016A6A_179.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 09:00	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 09:30	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 10:00	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 10:29	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 11:28	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 11:58	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 12:28	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 13:34	1		Acquity 2.1(mm)
CCV 320-141290/15 CCVIS		12/09/2016 14:33	1	05DEC2016A6A_190.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/09/2016 14:33

Analysis Batch Number: 141291 End Date: 12/09/2016 20:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141291/15 CCVIS		12/09/2016 14:33	1	05DEC2016A6A_190.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 15:03	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 15:29	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 16:02	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 16:32	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 17:01	1		Acquity 2.1(mm)
MB 320-140442/1-A		12/09/2016 17:31	1	05DEC2016A6A_196.d	Acquity 2.1(mm)
LCS 320-140442/2-A		12/09/2016 18:00	1	05DEC2016A6A_197.d	Acquity 2.1(mm)
320-23919-23		12/09/2016 18:30	1	05DEC2016A6A_198.d	Acquity 2.1(mm)
320-23919-24		12/09/2016 19:00	1	05DEC2016A6A_199.d	Acquity 2.1(mm)
320-23919-25		12/09/2016 19:29	1	05DEC2016A6A_200.d	Acquity 2.1(mm)
320-23919-26		12/09/2016 19:59	1	05DEC2016A6A_201.d	Acquity 2.1(mm)
CCV 320-141291/28 CCVIS		12/09/2016 20:58	1	05DEC2016A6A_203.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/09/2016 20:58

Analysis Batch Number: 141292 End Date: 12/10/2016 03:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141292/28 CCVIS		12/09/2016 20:58	1	05DEC2016A6A_203.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 21:28	1		Acquity 2.1(mm)
320-23919-27		12/09/2016 21:57	1	05DEC2016A6A_205.d	Acquity 2.1(mm)
320-23919-28		12/09/2016 22:27	1	05DEC2016A6A_206.d	Acquity 2.1(mm)
320-23919-29		12/09/2016 22:57	1	05DEC2016A6A_207.d	Acquity 2.1(mm)
320-23919-30		12/09/2016 23:26	1	05DEC2016A6A_208.d	Acquity 2.1(mm)
ZZZZZ		12/09/2016 23:56	1		Acquity 2.1(mm)
ZZZZZ		12/10/2016 00:25	1		Acquity 2.1(mm)
ZZZZZ		12/10/2016 00:55	4		Acquity 2.1(mm)
ZZZZZ		12/10/2016 01:25	1		Acquity 2.1(mm)
ZZZZZ		12/10/2016 01:54	1		Acquity 2.1(mm)
ZZZZZ		12/10/2016 02:24	1		Acquity 2.1(mm)
CCV 320-141292/41 CCVIS		12/10/2016 03:23	1	05DEC2016A6A_216.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Instrument ID: A6 Start Date: 12/11/2016 02:34

Analysis Batch Number: 141521 End Date: 12/11/2016 06:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141521/88 CCVIS		12/11/2016 02:34	1	05DEC2016A6A_263.d	Acquity 2.1(mm)
ZZZZZ		12/11/2016 03:04	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 03:34	1		Acquity 2.1(mm)
320-23919-14		12/11/2016 04:03	1	05DEC2016A6A_266.d	Acquity 2.1(mm)
320-23919-20		12/11/2016 04:33	1	05DEC2016A6A_267.d	Acquity 2.1(mm)
320-23919-22		12/11/2016 05:02	1	05DEC2016A6A_268.d	Acquity 2.1(mm)
CCV 320-141521/95 CCVIS		12/11/2016 06:02	1	05DEC2016A6A_270.d	Acquity 2.1(mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140400 Batch Start Date: 12/02/16 15:24 Batch Analyst: Marchenko, Veronika P

Batch Method: 537 Batch End Date: 12/03/16 18:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00025
MB 320-140400/1		537, 537				250 mL	1 mL	7 SU	20 uL
LLCS 320-140400/2		537, 537				250 mL	1 mL	7 SU	20 uL
LLCSD 320-140400/3		537, 537				250 mL	1 mL	7 SU	20 uL
320-23919-A-1	WI-AF-1RW02-1116	537, 537	T	282.15 g	27.77 g	254.4 mL	1 mL	9 SU	20 uL
320-23919-A-2	WI-AF-1FB02-1116	537, 537	T	284.16 g	26.81 g	257.4 mL	1 mL	9 SU	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-LSP 00016	LC537-SU 00022	AnalysisComment			
MB 320-140400/1		537, 537			50 uL	Chlorine ND			
LLCS 320-140400/2		537, 537		50 uL	50 uL	Chlorine ND			
LLCSD 320-140400/3		537, 537		50 uL	50 uL	Chlorine ND			
320-23919-A-1	WI-AF-1RW02-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-2	WI-AF-1FB02-1116	537, 537	T		50 uL	Chlorine ND			

Batch Notes	
Manifold ID	1,3
Methanol ID	789821
Pipette ID	MD05306
Analyst ID - IS Reagent Drop	VPM
Analyst ID - IS Reagent Drop Witness	NSH
Analyst ID - SU Reagent Drop	VPM
Analyst ID - SU Reagent Drop Witness	KMK
Analyst ID - TA Reagent Drop	VPM
Analyst ID - TA Reagent Drop Witness	KMK
SPE Cartridge ID	6332578-03
Trizma ID	SLBN2122V
Reagent Water ID	12-02-16

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140400 Batch Start Date: 12/02/16 15:24 Batch Analyst: Marchenko, Veronika P

Batch Method: 537 Batch End Date: 12/03/16 18:10

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140409 Batch Start Date: 12/02/16 15:42 Batch Analyst: Kolstad, Kate M

Batch Method: 537 Batch End Date: 12/03/16 17:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00025
MB 320-140409/1		537, 537				250 mL	1.0 mL	7 SU	20 uL
LCS 320-140409/2		537, 537				250 mL	1.0 mL	7 SU	20 uL
LCSD 320-140409/3		537, 537				250 mL	1.0 mL	7 SU	20 uL
320-23919-A-3	WI-AF-1RW03-1116	537, 537	T	284.72 g	27.46 g	257.3 mL	1.0 mL	9 SU	20 uL
320-23919-A-4	WI-AF-1FB03-1116	537, 537	T	283.93 g	26.12 g	257.8 mL	1.0 mL	9 SU	20 uL
320-23919-A-5	WI-AF-1RW04-1116	537, 537	T	282.94 g	26.66 g	256.3 mL	1.0 mL	9 SU	20 uL
320-23919-A-6	WI-AF-1FB04-1116	537, 537	T	284.07 g	26.75 g	257.3 mL	1.0 mL	9 SU	20 uL
320-23919-A-7	WI-AF-1RW05-1116	537, 537	T	278.13 g	27.98 g	250.2 mL	1.0 mL	9 SU	20 uL
320-23919-A-8	WI-AF-1FB05-1116	537, 537	T	277.49 g	26.53 g	251 mL	1.0 mL	9 SU	20 uL
320-23919-A-9	WI-AF-2RW02-1116	537, 537	T	281.20 g	26.71 g	254.5 mL	1.0 mL	9 SU	20 uL
320-23919-A-10	WI-AF-2FB02-1116	537, 537	T	280.17 g	25.84 g	254.3 mL	1.0 mL	9 SU	20 uL
320-23919-A-11	WI-AF-2RW03-1116	537, 537	T	282.36 g	26.53 g	255.8 mL	1.0 mL	9 SU	20 uL
320-23919-A-12	WI-AF-2FB03-1116	537, 537	T	283.98 g	26.14 g	257.8 mL	1.0 mL	9 SU	20 uL
320-23919-A-13	WI-AF-2RW04-1116	537, 537	T	281.18 g	27.09 g	254.1 mL	1.0 mL	9 SU	20 uL
320-23919-A-14	WI-AF-2FB04-1116	537, 537	T	282.63 g	26.69 g	255.9 mL	1.0 mL	9 SU	20 uL
320-23919-A-15	WI-AF-2RW05-1116	537, 537	T	285.17 g	27.72 g	257.5 mL	1.0 mL	9 SU	20 uL
320-23919-A-16	WI-AF-2FB05-1116	537, 537	T	280.53 g	26.34 g	254.2 mL	1.0 mL	9 SU	20 uL
320-23919-A-17	WI-AF-2RW06-1116	537, 537	T	282.70 g	26.64 g	256.1 mL	1.0 mL	9 SU	20 uL
320-23919-A-18	WI-AF-2FB06-1116	537, 537	T	286.12 g	26.47 g	259.7 mL	1.0 mL	9 SU	20 uL
320-23919-A-19	WI-AF-3RW04-1116	537, 537	T	278.51 g	27.29 g	251.2 mL	1.0 mL	9 SU	20 uL
320-23919-A-20	WI-AF-3FB04-1116	537, 537	T	286.82 g	26.41 g	260.4 mL	1.0 mL	9 SU	20 uL
320-23919-A-21	WI-AF-3RW05-1116	537, 537	T	281.87 g	27.14 g	254.7 mL	1.0 mL	9 SU	20 uL
320-23919-A-22	WI-AF-3FB05-1116	537, 537	T	283.55 g	26.27 g	257.3 mL	1.0 mL	9 SU	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-MSP 00014	LC537-SU 00022	AnalysisComment			
MB 320-140409/1		537, 537			50 uL	Chlorine ND			
LCS 320-140409/2		537, 537		50 uL	50 uL	Chlorine ND			
LCSD 320-140409/3		537, 537		50 uL	50 uL	Chlorine ND			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140409 Batch Start Date: 12/02/16 15:42 Batch Analyst: Kolstad, Kate M

Batch Method: 537 Batch End Date: 12/03/16 17:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-MSP 00014	LC537-SU 00022	AnalysisComment			
320-23919-A-3	WI-AF-1RW03-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-4	WI-AF-1FB03-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-5	WI-AF-1RW04-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-6	WI-AF-1FB04-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-7	WI-AF-1RW05-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-8	WI-AF-1FB05-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-9	WI-AF-2RW02-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-10	WI-AF-2FB02-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-11	WI-AF-2RW03-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-12	WI-AF-2FB03-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-13	WI-AF-2RW04-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-14	WI-AF-2FB04-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-15	WI-AF-2RW05-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-16	WI-AF-2FB05-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-17	WI-AF-2RW06-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-18	WI-AF-2FB06-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-19	WI-AF-3RW04-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-20	WI-AF-3FB04-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-21	WI-AF-3RW05-1116	537, 537	T		50 uL	Chlorine ND			
320-23919-A-22	WI-AF-3FB05-1116	537, 537	T		50 uL	Chlorine ND			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140409 Batch Start Date: 12/02/16 15:42 Batch Analyst: Kolstad, Kate M

Batch Method: 537 Batch End Date: 12/03/16 17:10

Batch Notes	
Manifold ID	7, 2
Methanol ID	789822
Pipette ID	MD05306
Analyst ID - IS Reagent Drop	NSH
Analyst ID - IS Reagent Drop Witness	VPM
Analyst ID - SU Reagent Drop	VPM
Analyst ID - SU Reagent Drop Witness	KMK
Analyst ID - TA Reagent Drop	VPM
Analyst ID - TA Reagent Drop Witness	KMK
SPE Cartridge ID	6332578-02
Trizma ID	SLBN2122V
Reagent Water ID	12-02-16

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140442 Batch Start Date: 12/02/16 20:12 Batch Analyst: Reed, Jonathan E

Batch Method: 537 Batch End Date: 12/03/16 18:17

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-HSP 00010
MB 320-140442/1		537, 537				250.00 mL	1.00 mL	7 SU	
LCS 320-140442/2		537, 537				250.00 mL	1.00 mL	7 SU	50 uL
320-23919-A-23	WI-AF-3RW06-1116	537, 537	T	306.88 g	27.31 g	279.6 mL	1.00 mL	9 SU	
320-23919-A-24	WI-AF-3FB06-1116	537, 537	T	291.43 g	26.72 g	264.7 mL	1.00 mL	9 SU	
320-23919-A-25	WI-AF-3RW07-1116	537, 537	T	286.82 g	27.86 g	259 mL	1.00 mL	9 SU	
320-23919-A-26	WI-AF-3FB07-1116	537, 537	T	305.09 g	27.04 g	278.1 mL	1.00 mL	9 SU	
320-23919-A-27	WI-AF-3RW08-1116	537, 537	T	296.74 g	27.09 g	269.7 mL	1.00 mL	9 SU	
320-23919-A-28	WI-AF-3FB08-1116	537, 537	T	314.13 g	27.55 g	286.6 mL	1.00 mL	9 SU	
320-23919-A-29	WI-AF-3RW09-1116	537, 537	T	309.70 g	27.62 g	282.1 mL	1.00 mL	9 SU	
320-23919-A-30	WI-AF-3FB09-1116	537, 537	T	311.36 g	27.03 g	284.3 mL	1.00 mL	9 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-IS 00025	LC537-SU 00022	AnalysisComment			
MB 320-140442/1		537, 537		20 uL	50 uL	Free Chlorine: ND			
LCS 320-140442/2		537, 537		20 uL	50 uL	Free Chlorine: ND			
320-23919-A-23	WI-AF-3RW06-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-24	WI-AF-3FB06-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-25	WI-AF-3RW07-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-26	WI-AF-3FB07-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-27	WI-AF-3RW08-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-28	WI-AF-3FB08-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-29	WI-AF-3RW09-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			
320-23919-A-30	WI-AF-3FB09-1116	537, 537	T	20 uL	50 uL	Free Chlorine: ND			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Batch Number: 140442 Batch Start Date: 12/02/16 20:12 Batch Analyst: Reed, Jonathan E

Batch Method: 537 Batch End Date: 12/03/16 18:17

Batch Notes	
Manifold ID	5,6
Methanol ID	789822
Pipette ID	MD05306
Analyst ID - IS Reagent Drop	VPM
Analyst ID - IS Reagent Drop Witness	NSH
Analyst ID - SU Reagent Drop	JER
Analyst ID - SU Reagent Drop Witness	VPM
Analyst ID - TA Reagent Drop	JER
Analyst ID - TA Reagent Drop Witness	VPM
SPE Cartridge ID	6332578-03
Trizma ID	SLBN2122V
Reagent Water ID	11/29/16

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Method 537 CCV/Data Review Checklist

A6

Job No: 23919 Instrument ID & Date: 12-8-16 ICAL Batch: 140688

Extraction Batch: 140409 Worklist #: 37576, 37652 TALS Batch: 141249, 140949, 140950, 141290, 141521

Review Items	— Level 1 — Yes	No	N/A	Level 2
Initial Calibration				
1. Is ICAL verified and locked in Chrom & TALS?	✓			✓
2. Is ICV properly linked in TALS?	✓			✓
Continuing Calibration				
1. Low-range CCV injected at start of analytical run? CCV injected after every 10 samples and at the end of the analytical run and alternated between Low-range, Mid-range and High-range?	✓			✓
2. If sequence was not after an ICAL was a low and mid range CCV injected at the start of the analytical run?			✓	
3. Native compounds and surrogates in control? Low-range within ±50% of true value Mid and High-range within ±30% of true value	✓			✓
4. Internal Standard areas in control? Areas ≥ 50% of average area of the ICal and 70-140% of the most recent CCV.	✓			✓
Client Samples & QC Sample Results				
1. Were preparation and analysis done within holding times?	✓			✓
2. Are Chromatograms reviewed and spectra verified?	✓			✓
3. Are positive results within calibration range?	✓			✓
4. Dilutions due to target cpds? 1 Dilutions due to non-targets? ___	✓			✓
5. All target compounds in MB < 1/3 RL ? (Requires NCM if "no.")	✓			✓
6. Are target constituents in LCS/LCSD within method control limits?	✓			✓
7. Internal Standard areas in control for all samples and QC reported? ±50% from the average area of the ICAL and 70-140% of the most recent CCV NCM	✓			✓
8. Do results (e.g., dilutions/trip blanks) make sense?	✓			✓
9. Are MS/MSD recoveries and RPDs within method control limits?			✓	
10. Are all QC samples properly linked in TALS?	✓			✓
11. All manual integrations appropriate and completely documented?	✓			✓
12. Are nonconformances documented as NCMs?	✓			✓
13. Are all Chrom graphics uploaded?	✓			✓

1st Level Reviewer / Date: JRB 12-12-16 2nd Level Reviewer / Date: MWW 12/12/2016

NCM # and Comments: 72619, 72623, 72624

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Method 537 ICAL Checklist

Instrument ID & Date: A6 12-5-16 Worklist#: 37524

ICAL Batch: 140688, 140689 Calibration ID number: 26888, 26889

Review Items	--- Level 1 --- Yes	No	N/A	Level 2
Initial Calibration				
1. Mass calibration, as needed, verified by full scan of PFC stock standard. All PFC ions used for quantitation are within 0.3 m/z of true mass?	✓			✓
2. Responses increase with increasing concentration?	✓			✓
3. Fit used (circle): (Average) Linear (1/x²)Linear Quadratic (6 points minimum)				
4. Meets fit criteria? Intercept ≤ ½ RL; RSD ≤ 30% for Average; R^2 ≥ 0.990 for Linear; R^2 ≥ 0.990 for Quadratic; NOTE: "Force through Zero" must be used and weighted if needed	✓			✓
5. If quadratic fit used the curve does not "bend over".			✓	
6. Feed calibration points into the calculated curve. Are points ≤MRL within ±50% of true value? Are points >MRL within ±30% of true value?	✓			✓
7. Any carryover from the high calibration point must be ≤ 1/3 RL	✓			✓
8. Asymmetry check meets criteria for the first two eluting peaks?.(0.8 - 1.5).	✓			✓
9. Is the asymmetry check scanned and linked in TALS to the calibration point?	✓			✓
10. Is ICV (2nd source) ± 30% of true value?	✓			✓
11. Is ICV (2nd source) internal standards ±50% of average area of the ICAL?	✓			✓
12. ICal locked in Chrom and uploaded to TALS?	✓			
13. ICal locked in TALS and scanned?				✓

1st Level Reviewer / Date: JRB 12-6-16 2nd Level Reviewer / Date: RHuk, 12/7/16

NCM # and Comments: _____

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 06DEC2016C_A6 537 Worklist Number: 37576
Instrument Name: A6 Chrom Method: 537__A6
Data Directory: \\ChromNA\Sacramento\ChromData\A6\20161207-37576.b
QC Batching: Enabled Limit Group Batching: Enabled

QC Batch: 1	LC 537 ICAL Raw Batch: 140943
# 1 RB	# 1 RB
# 2 CCV L3	# 2 CCV L3
# 3 RB	# 3 RB
# 4 RB	# 4 RB
# 5 MB 320-140280/1-A	# 5 MB 320-140280/1-A
# 6 LCS 320-140280/2-A	# 6 LCS 320-140280/2-A
# 7 LCSD 320-140280/3-A	# 7 LCSD 320-140280/3-A
# 8 320-23917-A-1-A	# 8 320-23917-A-1-A
# 9 320-23917-A-2-A	# 9 320-23917-A-2-A
#10 320-23917-A-3-A	#10 320-23917-A-3-A
#11 320-23917-A-4-A	#11 320-23917-A-4-A
#12 320-23917-A-5-A	#12 320-23917-A-5-A
#13 320-23917-A-6-A	#13 320-23917-A-6-A
#14 320-23917-A-1-A	#14 320-23917-A-1-A
#15 RB	#15 RB
#16 CCV L5	#16 CCV L5

QC Batch: 2	LC 537 ICAL Raw Batch: 140945
#16 CCV L5	#16 CCV L5
#17 RB	#17 RB
#18 320-23917-A-7-A	#18 320-23917-A-7-A
#19 320-23917-A-8-A	#19 320-23917-A-8-A
#20 320-23917-A-9-A	#20 320-23917-A-9-A
#21 320-23917-A-10-A	#21 320-23917-A-10-A
#22 320-23917-A-11-A	#22 320-23917-A-11-A
#23 320-23917-A-12-A	#23 320-23917-A-12-A
#24 320-23917-A-13-A	#24 320-23917-A-13-A
#25 320-23917-A-14-A	#25 320-23917-A-14-A
#26 320-23917-A-15-A	#26 320-23917-A-15-A
#27 320-23917-A-13-A	#27 320-23917-A-13-A
#28 RB	#28 RB
#29 CCV L3	#29 CCV L3

QC Batch: 3	LC 537 ICAL Raw Batch: 140946
#29 CCV L3	#29 CCV L3
#30 RB	#30 RB
#31 320-23917-A-16-A	#31 320-23917-A-16-A
#32 320-23917-A-17-A	#32 320-23917-A-17-A
#33 320-23917-A-18-A	#33 320-23917-A-18-A
#34 320-23917-A-19-A	#34 320-23917-A-19-A
#35 320-23917-A-20-A	#35 320-23917-A-20-A
#36 MB 320-140400/1-A	#36 MB 320-140400/1-A
#37 LLCS 320-140400/2-A	#37 LLCS 320-140400/2-A
#38 LLCSD 320-140400/3-A	#38 LLCSD 320-140400/3-A
#39 320-23917-A-21-A	#39 320-23917-A-21-A
#40 320-23917-A-22-A	#40 320-23917-A-22-A
#41 RB	#41 RB
#42 CCV L5	#42 CCV L5

QC Batch: 4	LC 537 ICAL Raw Batch: 140947
#42 CCV L5	#42 CCV L5
#43 RB	#43 RB
#44 320-23917-A-23-A	#44 320-23917-A-23-A
#45 320-23917-A-24-A	#45 320-23917-A-24-A
#46 320-23917-A-25-A	#46 320-23917-A-25-A
#47 320-23917-A-26-A	#47 320-23917-A-26-A
#48 320-23917-A-27-A	#48 320-23917-A-27-A
#49 320-23917-A-28-A	#49 320-23917-A-28-A
#50 320-23929-A-1-A	#50 320-23929-A-1-A
#51 320-23929-A-2-A	#51 320-23929-A-2-A
#52 320-23929-A-3-A	#52 320-23929-A-3-A
#53 320-23929-A-4-A	#53 320-23929-A-4-A
#54 RB	#54 RB
#55 CCV L3	#55 CCV L3

QC Batch: 5	LC 537 ICAL Raw Batch: 140948
#55 CCV L3	#55 CCV L3
#56 RB	#56 RB
#57 320-23929-A-5-A	#57 320-23929-A-5-A
#58 320-23929-A-6-A	#58 320-23929-A-6-A
#100 MB 320-140400/1-A	#100 MB 320-140400/1-A
#101 CCV L3	#101 CCV L3

QC Batch: 6	LC 537 ICAL Raw Batch: 141249
#101 CCV L3	#101 CCV L3
#102 RB	#102 RB
#59 320-23929-A-7-A	#59 320-23929-A-7-A
#60 320-23929-A-8-A	#60 320-23929-A-8-A
#61 320-23929-A-9-A	#61 320-23929-A-9-A
#62 320-23929-A-10-A	#62 320-23929-A-10-A
#63 320-23919-A-1-A	#63 320-23919-A-1-A
#64 320-23919-A-2-A	#64 320-23919-A-2-A
#103 320-23929-A-6-A	#103 320-23929-A-6-A
#65 MB 320-140409/1-A	#65 MB 320-140409/1-A
#66 LCS 320-140409/2-A	#66 LCS 320-140409/2-A
#67 RB	#67 RB
#68 CCV L5	#68 CCV L5

QC Batch: 7	LC 537 ICAL Raw Batch: 140949
#68 CCV L5	#68 CCV L5
#69 RB	#69 RB
#70 LCSD 320-140409/3-A	#70 LCSD 320-140409/3-A
#71 320-23919-A-3-A	#71 320-23919-A-3-A
#72 320-23919-A-4-A	#72 320-23919-A-4-A
#73 320-23919-A-5-A	#73 320-23919-A-5-A
#74 320-23919-A-6-A	#74 320-23919-A-6-A
#75 320-23919-A-7-A	#75 320-23919-A-7-A
#76 320-23919-A-8-A	#76 320-23919-A-8-A
#77 320-23919-A-9-A	#77 320-23919-A-9-A
#78 320-23919-A-10-A	#78 320-23919-A-10-A
#79 320-23919-A-11-A	#79 320-23919-A-11-A
#80 RB	#80 RB
#81 CCV L3	#81 CCV L3

QC Batch: 8	LC 537 ICAL Raw Batch: 140950
#81 CCV L3	#81 CCV L3
#82 RB	#82 RB
#83 320-23919-A-12-A	#83 320-23919-A-12-A
#84 320-23919-A-13-A	#84 320-23919-A-13-A
#85 320-23919-A-14-A	#85 320-23919-A-14-A — LS out, reran in batch 141521
#86 320-23919-A-15-A	#86 320-23919-A-15-A
#87 320-23919-A-16-A	#87 320-23919-A-16-A
#88 320-23919-A-17-A	#88 320-23919-A-17-A
#89 320-23919-A-18-A	#89 320-23919-A-18-A
#90 320-23919-A-19-A	#90 320-23919-A-19-A
#91 320-23919-A-20-A	#91 320-23919-A-20-A — IS out
#92 320-23919-A-13-A	#92 320-23919-A-13-A — LS out
#93 RB	#93 RB
#94 CCV L5	#94 CCV L5
#95 RB	#95 RB

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 09DEC2016A_A6 537 Worklist Number: 37652
Instrument Name: A6 Chrom Method: 537__A6
Data Directory: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b
QC Batching: Enabled Limit Group Batching: Enabled

QC Batch: 1	LC 537 ICAL Raw Batch: 141290
# 1 RB	# 1 RB
# 2 CCV L5	# 2 CCV L5
# 3 RB	# 3 RB
# 4 320-23919-A-21-A	# 4 320-23919-A-21-A
# 5 320-23919-A-22-A	# 5 320-23919-A-22-A
# 6 MB 320-140094/1-A	# 6 MB 320-140094/1-A
# 7 LCS 320-140094/2-A	# 7 LCS 320-140094/2-A
# 8 LCSD 320-140094/3-A	# 8 LCSD 320-140094/3-A
# 9 wrong sample	# 9 wrong sample
#10 320-23681-B-1-A	#10 320-23681-B-1-A
#11 320-23681-B-4-A	#11 320-23681-B-4-A
#12 320-23681-B-7-A	#12 320-23681-B-7-A
#13 320-23929-A-9-A	#13 320-23929-A-9-A
#14 RB	#14 RB
#15 CCV L3	#15 CCV L3

L.S. out reran in batch 141521

QC Batch: 2	LC 537 ICAL Raw Batch: 141291
#15 CCV L3	#15 CCV L3
#16 RB	#16 RB
#17 320-23681-B-10-A	#17 320-23681-B-10-A
#18 320-23693-B-1-A	#18 320-23693-B-1-A
#19 320-23693-B-4-A	#19 320-23693-B-4-A
#20 320-23693-B-7-A	#20 320-23693-B-7-A
#21 MB 320-140442/1-A	#21 MB 320-140442/1-A
#22 LCS 320-140442/2-A	#22 LCS 320-140442/2-A
#23 320-23919-A-23-A	#23 320-23919-A-23-A
#24 320-23919-A-24-A	#24 320-23919-A-24-A
#25 320-23919-A-25-A	#25 320-23919-A-25-A
#26 320-23919-A-26-A	#26 320-23919-A-26-A
#27 RB	#27 RB
#28 CCV L5	#28 CCV L5

QC Batch: 3	LC 537 ICAL Raw Batch: 141292
#28 CCV L5	#28 CCV L5
#29 RB	#29 RB
#30 320-23919-A-27-A	#30 320-23919-A-27-A
#31 320-23919-A-28-A	#31 320-23919-A-28-A
#32 320-23919-A-29-A	#32 320-23919-A-29-A
#33 320-23919-A-30-A	#33 320-23919-A-30-A
#34 320-23928-A-1-A	#34 320-23928-A-1-A
#35 320-23928-A-2-A	#35 320-23928-A-2-A
#36 320-23928-A-3-A	#36 320-23928-A-3-A
#37 320-23928-A-4-A	#37 320-23928-A-4-A
#38 320-23928-A-5-A	#38 320-23928-A-5-A
#39 320-23928-A-6-A	#39 320-23928-A-6-A
#40 RB	#40 RB
#41 CCV L3	#41 CCV L3

QC Batch: 4	LC 537 ICAL Raw Batch: 141293
#41 CCV L3	#41 CCV L3
#42 RB	#42 RB
#43 320-23928-A-7-A	#43 320-23928-A-7-A
#44 320-23928-A-3-A	#44 320-23928-A-3-A
#45 320-23928-A-8-A	#45 320-23928-A-8-A
#46 320-23928-A-9-A	#46 320-23928-A-9-A
#47 320-23928-A-9-B MS	#47 320-23928-A-9-B MS
#48 320-23928-A-9-C MSD	#48 320-23928-A-9-C MSD
#49 320-23928-A-10-A	#49 320-23928-A-10-A
#50 320-23928-A-11-A	#50 320-23928-A-11-A
#51 320-23928-A-12-A	#51 320-23928-A-12-A
#52 MB 320-140478/1-A	#52 MB 320-140478/1-A
#53 RB	#53 RB
#54 CCV L5	#54 CCV L5

QC Batch: 5	LC 537 ICAL Raw Batch: 141294
#54 CCV L5	#54 CCV L5
#55 RB	#55 RB
#56 LLCS 320-140478/2-A	#56 LLCS 320-140478/2-A
#57 320-23928-A-13-A	#57 320-23928-A-13-A
#58 320-23928-A-13-A	#58 320-23928-A-13-A
#59 320-23928-A-14-A	#59 320-23928-A-14-A
#60 320-23928-A-15-A	#60 320-23928-A-15-A
#61 320-23928-A-16-A	#61 320-23928-A-16-A
#62 320-23928-A-17-A	#62 320-23928-A-17-A
#63 320-23928-A-18-A	#63 320-23928-A-18-A
#64 320-23928-A-19-A	#64 320-23928-A-19-A
#65 320-23928-A-20-A	#65 320-23928-A-20-A
#66 RB	#66 RB
#67 CCV L3	#67 CCV L3

QC Batch: 6	LC 537 ICAL Raw Batch: 141295
#67 CCV L3	#67 CCV L3
#68 RB	#68 RB
#69 320-23928-A-21-A	#69 320-23928-A-21-A
#70 320-23928-A-22-A	#70 320-23928-A-22-A
#71 320-23928-A-23-A	#71 320-23928-A-23-A
#72 320-23928-A-24-A	#72 320-23928-A-24-A
#73 320-23928-A-25-A	#73 320-23928-A-25-A
#74 320-23928-A-25-D MS	#74 320-23928-A-25-D MS
#75 320-23928-A-25-E MSD	#75 320-23928-A-25-E MSD
#76 320-23928-A-26-A	#76 320-23928-A-26-A
#77 320-23928-A-28-A	#77 320-23928-A-28-A
#78 RB	#78 RB
#79 CCV L5	#79 CCV L5

QC Batch: 7	LC 537 ICAL Raw Batch: 141475
#79 CCV L5	#79 CCV L5
#80 RB	#80 RB
#81 320-23928-A-27-A	#81 320-23928-A-27-A
#82 320-23928-A-27-D MS	#82 320-23928-A-27-D MS
#83 320-23928-A-27-E MSD	#83 320-23928-A-27-E MSD
#84 320-23928-A-27-A	#84 320-23928-A-27-A
#85 320-23928-A-27-D MS	#85 320-23928-A-27-D MS
#86 320-23928-A-27-E MSD	#86 320-23928-A-27-E MSD
#87 RB	#87 RB

QC Batch: 7	LC 537 ICAL Raw Batch: 141475
#88 CCV L3	#88 CCV L3

QC Batch: 8	LC 537 ICAL Raw Batch: 141521
#88 CCV L3	#88 CCV L3
#89 RB	#89 RB
#90 320-23919-A-13-A	#90 320-23919-A-13-A
#91 320-23919-A-14-A	#91 320-23919-A-14-A
#92 320-23919-A-20-A	#92 320-23919-A-20-A
#93 320-23919-A-22-A	#93 320-23919-A-22-A
#94 RB	#94 RB
#95 CCV L5	#95 CCV L5
#96 RB	#96 RB

15

Aqueous Extraction Analysis Sheet

AG 12/11/16

(To Accompany Samples to Instruments)

Batch Number: 320-140409

Method Code: 320-537_Prep-320

Analyst: Kolstad, Kate M

Batch Open: 12/2/2016 3:42:00PM

Batch End: 12-3-16 17:10 p.m

Extraction of Perfluorinated Alkyl Acids

A4 Screened 12/5/16

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-140409/1 N/A	N/A		250 mL	7			N/A	N/A	N/A	Chlorine ND	MB 320-140409/1-A
				1.0 mL								
2	LCS~320-140409/2 N/A	N/A		250 mL	7			N/A	N/A	N/A	Chlorine ND	LCS 320-140409/2-A
				1.0 mL								
3	LCSD~320-140409/3 N/A	N/A		250 mL	7			N/A	N/A	N/A	Chlorine ND	LCSD 320-140409/3-A
				1.0 mL								
4	320-23919-A-3 (537_DOD5)	N/A (320-23919-1)	284.72 g	257.3 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-3-A
			27.46 g	1.0 mL								
5	320-23919-A-4 (537_DOD5)	N/A (320-23919-1)	283.93 g	257.8 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-4-A
			26.12 g	1.0 mL								
6	320-23919-A-5 (537_DOD5)	N/A (320-23919-1)	282.94 g	256.3 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-5-A
			26.66 g	1.0 mL								
7	320-23919-A-6 (537_DOD5)	N/A (320-23919-1)	284.07 g	257.3 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-6-A
			26.75 g	1.0 mL								
8	320-23919-A-7 (537_DOD5)	N/A (320-23919-1)	278.13 g	250.2 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-7-A
			27.98 g	1.0 mL								
9	320-23919-A-8 (537_DOD5)	N/A (320-23919-1)	277.49 g	251 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-8-A
			26.53 g	1.0 mL								
10	320-23919-A-9 (537_DOD5)	N/A (320-23919-1)	281.20 g	254.5 mL	9			12/5/16	5_Days	4	Chlorine ND	320-23919-A-9-A
			26.71 g	1.0 mL								

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140409 Analyst: Kolstad, Kate M Batch Open: 12/2/2016 3:42:00PM

Method Code: 320-537_Prep-320 Batch End:

11	320-23919-A-10 (537_DOD5)	N/A (320-23919-1)	280.17 g / 25.84 g	254.3 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
12	320-23919-A-11 (537_DOD5)	N/A (320-23919-1)	282.36 g / 26.53 g	255.8 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
13	320-23919-A-12 (537_DOD5)	N/A (320-23919-1)	283.98 g / 26.14 g	257.8 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
14	320-23919-A-13 (537_DOD5) See Screen	N/A (320-23919-1)	281.18 g / 27.09 g	254.1 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND 20X ~~10X~~ JRB 12-6-16	
15	320-23919-A-14 (537_DOD5)	N/A (320-23919-1)	282.63 g / 26.69 g	255.9 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
16	320-23919-A-15 (537_DOD5)	N/A (320-23919-1)	285.17 g / 27.72 g	257.5 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
17	320-23919-A-16 (537_DOD5)	N/A (320-23919-1)	280.53 g / 26.34 g	254.2 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
18	320-23919-A-17 (537_DOD5)	N/A (320-23919-1)	282.70 g / 26.64 g	256.1 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
19	320-23919-A-18 (537_DOD5)	N/A (320-23919-1)	286.12 g / 26.47 g	259.7 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
20	320-23919-A-19 (537_DOD5)	N/A (320-23919-1)	278.51 g / 27.29 g	251.2 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
21	320-23919-A-20 (537_DOD5)	N/A (320-23919-1)	286.82 g / 26.41 g	260.4 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	
22	320-23919-A-21 (537_DOD5)	N/A (320-23919-1)	281.87 g / 27.14 g	254.7 mL / 1.0 mL	9			12/5/16	5_Days	4	Chlorine ND	

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140409 Analyst: Kolstad, Kate M Batch Open: 12/2/2016 3:42:00PM

Method Code: 320-537_Prep-320 Batch End:

23	320-23919-A-22 (537_DOD5)	N/A (320-23919-1)	283.55 g	1.0 mL	9			12/5/16	5_Days	4	Chlorine ND

Batch Notes

Manifold ID	7, 4
Trizma ID	SLBN2122V
SPE Cartridge ID	6332578-02
Methanol ID	789822
Reagent Water ID	12-02-16
Pipette ID	MD05306
Analyst ID - TA Reagent Drop	VPM
Analyst ID - TA Reagent Drop Witness	KMK
Analyst ID - SU Reagent Drop	VPM
Analyst ID - SU Reagent Drop Witness	KMK
Analyst ID - IS Reagent Drop	LC53 NSH LC537IS 00025 (791602)
Analyst ID - IS Reagent Drop Witness	VPM 12-03-16
Batch Comment	NA

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140409

Analyst: Kolstad, Kate M

Batch Open: 12/2/2016 3:42:00PM

Method Code: 320-537_Prep-320

Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-140409/1	LC537-SU_00022	50 uL	1.0 mL	VPM 12-02-16	KMK 12-2-16
LCS 320-140409/2	LC537-MSP_00014	50 uL	1.0 mL		
LCS 320-140409/2	LC537-SU_00022	50 uL	1.0 mL		
LCSD 320-140409/3	LC537-MSP_00014	50 uL	1.0 mL		
LCSD 320-140409/3	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-3	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-4	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-5	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-6	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-7	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-8	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-9	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-10	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-11	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-12	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-13	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-14	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-15	LC537-SU_00022	50 uL	1.0 mL		

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140409

Analyst: Kolstad, Kate M

Batch Open: 12/2/2016 3:42:00PM

Method Code: 320-537_Prep-320

Batch End:

320-23919-A-16	LC537-SU_00022	50 uL	1.0 mL	VPM 12-02-16	KMK 12-2-16
320-23919-A-17	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-18	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-19	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-20	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-21	LC537-SU_00022	50 uL	1.0 mL		
320-23919-A-22	LC537-SU_00022	50 uL	1.0 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 140409 Test: 537_DOD5 Push

Earliest Holding Time: 12-13-16

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	✓	✓
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and CI Check)	✓	✓
The pH is transcribed correctly in TALS	✓	✓
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: NSH Date: 12-3-16

2nd Level Reviewer: VPM Date: 12/03/16

Comments: _____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Test America – Sacramento

Sample Dilution Record

Method ID 537

Job # 23919, 23917, 23928

Analyst (Print Name) John Barnett

Analyst Initials JRB

Date 12-6-16

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
23919-13	–	10	200	20X
23917-1	–	40	200	5X
23917-13	–	80	160	2X
23928-3	–	50	200	4X

Comments:

C:\Users\phomsophat\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLK708B\QA-747_SampleDilutionRecord.doc
10/20/16 RBH

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Method 537 CCV/Data Review Checklist

23681 (prep w/ 139441) A6

Job No: 23919, 23928 Instrument ID & Date: 12-9-16 ICAL Batch: 140688

Extraction Batch: 140442 Worklist #: 37652 TALS Batch: 141291, 141292, 141293

Review Items	— Level 1 — Yes	No	N/A	Level 2
Initial Calibration				
1. Is ICAL verified and locked in Chrom & TALS?	✓			✓
2. Is ICV properly linked in TALS?	✓			✓
Continuing Calibration				
1. Low-range CCV injected at start of analytical run? CCV injected after every 10 samples and at the end of the analytical run and alternated between Low-range, Mid-range and High-range?	✓			✓
2. If sequence was not after an ICAL was a low and mid range CCV injected at the start of the analytical run?			✓	
3. Native compounds and surrogates in control? Low-range within ±50% of true value Mid and High-range within ±30% of true value	✓			✓
4. Internal Standard areas in control? Areas ≥ 50% of average area of the ICal and 70-140% of the most recent CCV.	✓			✓
Client Samples & QC Sample Results				
1. Were preparation and analysis done within holding times?	✓			✓
2. Are Chromatograms reviewed and spectra verified?	✓			✓
3. Are positive results within calibration range?	✓			✓
4. Dilutions due to target cpds? 1 Dilutions due to non-targets? ___	✓			✓
5. All target compounds in MB < 1/3 RL ? (Requires NCM if "no.")	✓			✓
6. Are target constituents in LCS/LCSD within method control limits?	✓			✓
7. Internal Standard areas in control for all samples and QC reported? ±50% from the average area of the ICAL and 70-140% of the most recent CCV	✓			✓
8. Do results (e.g., dilutions/trip blanks) make sense?	✓			✓
9. Are MS/MSD recoveries and RPDs within method control limits?	✓			✓
10. Are all QC samples properly linked in TALS?	✓			✓
11. All manual integrations appropriate and completely documented?	✓			✓
12. Are nonconformances documented as NCMs?	✓			✓
13. Are all Chrom graphics uploaded?	✓			✓

1st Level Reviewer / Date: JRB 12-10-16 2nd Level Reviewer / Date: [signature] 12/12/2016

NCM # and Comments: 72533, 72606, 72607

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Method 537 ICAL Checklist

Instrument ID & Date: A6 12-5-16 Worklist#: 37524

ICAL Batch: 140688, 140689 Calibration ID number: 26888, 26889

Review Items	-- Level 1 -- Yes	No	N/A	Level 2
Initial Calibration				
1. Mass calibration, as needed, verified by full scan of PFC stock standard. All PFC ions used for quantitation are within 0.3 m/z of true mass?	✓			✓
2. Responses increase with increasing concentration?	✓			✓
3. Fit used (circle): (Average) Linear (1/x²)Linear Quadratic (6 points minimum)				
4. Meets fit criteria? Intercept ≤ ½ RL RSD ≤ 30% for Average R^2 ≥ 0.990 for Linear R^2 ≥ 0.990 for Quadratic NOTE: "Force through Zero" must be used and weighted if needed	✓			✓
5. If quadratic fit used the curve does not "bend over".			✓	
6. Feed calibration points into the calculated curve. Are points ≤MRL within ±50% of true value? Are points >MRL within ±30% of true value?	✓			✓
7. Any carryover from the high calibration point must be ≤ 1/3 RL	✓			✓
8. Asymmetry check meets criteria for the first two eluting peaks?.(0.8 - 1.5).	✓			✓
9. Is the asymmetry check scanned and linked in TALS to the calibration point?	✓			✓
10. Is ICV (2nd source) ± 30% of true value?	✓			✓
11. Is ICV (2nd source) internal standards ±50% of average area of the ICAL?	✓			✓
12. ICal locked in Chrom and uploaded to TALS?	✓			
13. ICal locked in TALS and scanned?				✓

1st Level Reviewer / Date: JRB 12-6-16 2nd Level Reviewer / Date: [signature] 12/7/16

NCM # and Comments: _____

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 09DEC2016A_A6 537 Worklist Number: 37652
Instrument Name: A6 Chrom Method: 537__A6
Data Directory: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b
QC Batching: Enabled Limit Group Batching: Enabled

QC Batch: 1	LC 537 ICAL Raw Batch: 141290
# 1 RB	# 1 RB
# 2 CCV L5	# 2 CCV L5
# 3 RB	# 3 RB
# 4 320-23919-A-21-A	# 4 320-23919-A-21-A
# 5 320-23919-A-22-A	# 5 320-23919-A-22-A
# 6 MB 320-140094/1-A	# 6 MB 320-140094/1-A
# 7 LCS 320-140094/2-A	# 7 LCS 320-140094/2-A
# 8 LCSD 320-140094/3-A	# 8 LCSD 320-140094/3-A
# 9 wrong sample	# 9 wrong sample
#10 320-23681-B-1-A	#10 320-23681-B-1-A
#11 320-23681-B-4-A	#11 320-23681-B-4-A
#12 320-23681-B-7-A	#12 320-23681-B-7-A
#13 320-23929-A-9-A	#13 320-23929-A-9-A
#14 RB	#14 RB
#15 CCV L3	#15 CCV L3

QC Batch: 2	LC 537 ICAL Raw Batch: 141291
#15 CCV L3	#15 CCV L3
#16 RB	#16 RB
#17 320-23681-B-10-A	#17 320-23681-B-10-A
#18 320-23693-B-1-A	#18 320-23693-B-1-A
#19 320-23693-B-4-A	#19 320-23693-B-4-A
#20 320-23693-B-7-A	#20 320-23693-B-7-A
#21 MB 320-140442/1-A	#21 MB 320-140442/1-A
#22 LCS 320-140442/2-A	#22 LCS 320-140442/2-A
#23 320-23919-A-23-A	#23 320-23919-A-23-A
#24 320-23919-A-24-A	#24 320-23919-A-24-A
#25 320-23919-A-25-A	#25 320-23919-A-25-A
#26 320-23919-A-26-A	#26 320-23919-A-26-A
#27 RB	#27 RB
#28 CCV L5	#28 CCV L5

QC Batch: 3	LC 537 ICAL Raw Batch: 141292
#28 CCV L5	#28 CCV L5
#29 RB	#29 RB
#30 320-23919-A-27-A	#30 320-23919-A-27-A
#31 320-23919-A-28-A	#31 320-23919-A-28-A
#32 320-23919-A-29-A	#32 320-23919-A-29-A
#33 320-23919-A-30-A	#33 320-23919-A-30-A
#34 320-23928-A-1-A	#34 320-23928-A-1-A
#35 320-23928-A-2-A	#35 320-23928-A-2-A
#36 320-23928-A-3-A	#36 320-23928-A-3-A
#37 320-23928-A-4-A	#37 320-23928-A-4-A
#38 320-23928-A-5-A	#38 320-23928-A-5-A
#39 320-23928-A-6-A	#39 320-23928-A-6-A
#40 RB	#40 RB
#41 CCV L3	#41 CCV L3

QC Batch: 4	LC 537 ICAL Raw Batch: 141293
#41 CCV L3	#41 CCV L3
#42 RB	#42 RB
#43 320-23928-A-7-A	#43 320-23928-A-7-A
#44 320-23928-A-3-A	#44 320-23928-A-3-A
#45 320-23928-A-8-A	#45 320-23928-A-8-A
#46 320-23928-A-9-A	#46 320-23928-A-9-A
#47 320-23928-A-9-B MS	#47 320-23928-A-9-B MS
#48 320-23928-A-9-C MSD	#48 320-23928-A-9-C MSD
#49 320-23928-A-10-A	#49 320-23928-A-10-A
#50 320-23928-A-11-A	#50 320-23928-A-11-A
#51 320-23928-A-12-A	#51 320-23928-A-12-A
#52 MB 320-140478/1-A	#52 MB 320-140478/1-A
#53 RB	#53 RB
#54 CCV L5	#54 CCV L5

QC Batch: 5	LC 537 ICAL Raw Batch: 141294
#54 CCV L5	#54 CCV L5
#55 RB	#55 RB
#56 LLCS 320-140478/2-A	#56 LLCS 320-140478/2-A
#57 320-23928-A-13-A	#57 320-23928-A-13-A
#58 320-23928-A-13-A	#58 320-23928-A-13-A
#59 320-23928-A-14-A	#59 320-23928-A-14-A
#60 320-23928-A-15-A	#60 320-23928-A-15-A
#61 320-23928-A-16-A	#61 320-23928-A-16-A
#62 320-23928-A-17-A	#62 320-23928-A-17-A
#63 320-23928-A-18-A	#63 320-23928-A-18-A
#64 320-23928-A-19-A	#64 320-23928-A-19-A
#65 320-23928-A-20-A	#65 320-23928-A-20-A
#66 RB	#66 RB
#67 CCV L3	#67 CCV L3

QC Batch: 6	LC 537 ICAL Raw Batch: 141295
#67 CCV L3	#67 CCV L3
#68 RB	#68 RB
#69 320-23928-A-21-A	#69 320-23928-A-21-A
#70 320-23928-A-22-A	#70 320-23928-A-22-A
#71 320-23928-A-23-A	#71 320-23928-A-23-A
#72 320-23928-A-24-A	#72 320-23928-A-24-A
#73 320-23928-A-25-A	#73 320-23928-A-25-A
#74 320-23928-A-25-D MS	#74 320-23928-A-25-D MS
#75 320-23928-A-25-E MSD	#75 320-23928-A-25-E MSD
#76 320-23928-A-26-A	#76 320-23928-A-26-A
#77 320-23928-A-28-A	#77 320-23928-A-28-A
#78 RB	#78 RB
#79 CCV L5	#79 CCV L5

QC Batch: 7	LC 537 ICAL Raw Batch: 141475
#79 CCV L5	#79 CCV L5
#80 RB	#80 RB
#81 320-23928-A-27-A	#81 320-23928-A-27-A
#82 320-23928-A-27-D MS	#82 320-23928-A-27-D MS
#83 320-23928-A-27-E MSD	#83 320-23928-A-27-E MSD
#84 320-23928-A-27-A	#84 320-23928-A-27-A
#85 320-23928-A-27-D MS	#85 320-23928-A-27-D MS
#86 320-23928-A-27-E MSD	#86 320-23928-A-27-E MSD
#87 RB	#87 RB

QC Batch: 7	LC 537 ICAL Raw Batch: 141475
#88 CCV L3	#88 CCV L3

QC Batch: 8	LC 537 ICAL Raw Batch: 141521
#88 CCV L3	#88 CCV L3
#89 RB	#89 RB
#90 320-23919-A-13-A	#90 320-23919-A-13-A
#91 320-23919-A-14-A	#91 320-23919-A-14-A
#92 320-23919-A-20-A	#92 320-23919-A-20-A
#93 320-23919-A-22-A	#93 320-23919-A-22-A
#94 RB	#94 RB
#95 CCV L5	#95 CCV L5
#96 RB	#96 RB

14

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140442
Method Code: 320-537_Prep-320

Analyst: Reed, Jonathan E

Batch Open: 12/2/2016 8:12:00PM
Batch End: 12/03/16 18:17

Extraction of Perfluorinated Alkyl Acids

Screend A4 12/3/16

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	GrossWt TareWt	InitAmnt FinAmnt	PHs Rcvd	PHs Adj1	PHs Adj2	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	MB~320-140442/1 N/A	N/A		250.00 mL 1.00 mL	7			N/A	N/A	N/A	Free Chlorine: ND	MB 320-140442/1-A
2	LCS~320-140442/2 N/A	N/A		250.00 mL 1.00 mL	7			N/A	N/A	N/A	Free Chlorine: ND	LCS 320-140442/2-A
3	320-23919-A-23 (537_DOD5)	N/A (320-23919-1)	306.88 g 27.31 g	279.6 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-23-A
4	320-23919-A-24 (537_DOD5)	N/A (320-23919-1)	291.43 g 26.72 g	264.7 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-24-A
5	320-23919-A-25 (537_DOD5)	N/A (320-23919-1)	286.82 g 27.86 g	259 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-25-A
6	320-23919-A-26 (537_DOD5)	N/A (320-23919-1)	305.09 g 27.04 g	278.1 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-26-A
7	320-23919-A-27 (537_DOD5)	N/A (320-23919-1)	296.74 g 27.09 g	269.7 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-27-A
8	320-23919-A-28 (537_DOD5)	N/A (320-23919-1)	314.13 g 27.55 g	286.6 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-28-A
9	320-23919-A-29 (537_DOD5)	N/A (320-23919-1)	309.70 g 27.62 g	282.1 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-29-A
10	320-23919-A-30 (537_DOD5)	N/A (320-23919-1)	311.36 g 27.03 g	284.3 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23919-A-30-A

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140442 Analyst: Reed, Jonathan E Batch Open: 12/2/2016 8:12:00PM

Method Code: 320-537_Prep-320 Batch End:

11	320-23928-A-1 (537_DOD5)	N/A (320-23928-1)	295.75 g / 26.92 g	268.8 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
12	320-23928-A-2 (537_DOD5)	N/A (320-23928-1)	297.11 g / 26.81 g	270.3 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
13	320-23928-A-3 (537_DOD5) ~~die screen~~	N/A (320-23928-1)	302.04 g / 27.72 g	274.3 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND 4X	
14	320-23928-A-4 (537_DOD5)	N/A (320-23928-1)	307.48 g / 27.39 g	280.1 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
15	320-23928-A-5 (537_DOD5)	N/A (320-23928-1)	304.63 g / 27.32 g	277.3 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
16	320-23928-A-6 (537_DOD5)	N/A (320-23928-1)	299.07 g / 27.09 g	272 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
17	320-23928-A-7 (537_DOD5)	N/A (320-23928-1)	301.61 g / 27.75 g	273.9 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
18	320-23928-A-8 (537_DOD5)	N/A (320-23928-1)	303.21 g / 26.51 g	276.7 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
19	320-23928-A-9 (537_DOD5)	N/A (320-23928-1)	305.04 g / 27.94 g	277.1 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
20	320-23928-A-9~MS (537_DOD5)	N/A (320-23928-1)	300.15 g / 27.94 g	272.2 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
21	320-23928-A-9~MSD (537_DOD5)	N/A (320-23928-1)	294.72 g / 27.21 g	267.5 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
22	320-23928-A-10 (537_DOD5)	N/A (320-23928-1)	296.48 g / 26.61 g	269.9 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	

Page 444 of 454

12/14/2016

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140442 Analyst: Reed, Jonathan E Batch Open: 12/2/2016 8:12:00PM

Method Code: 320-537_Prep-320 Batch End:

23	320-23928-A-11 (537_DOD5)	N/A (320-23928-1)	280.36 g 27.29 g	253.1 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	
24	320-23928-A-12 (537_DOD5)	N/A (320-23928-1)	299.54 g 26.52 g	273 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	

Batch Notes

Manifold ID	5,6
Trizma ID	SLBN2122V
SPE Cartridge ID	6332578-03
Methanol ID	789822
Reagent Water ID	11/29/16
Pipette ID	MD05306
Analyst ID - TA Reagent Drop	JER
Analyst ID - TA Reagent Drop Witness	~~JER~~ VPM VPM 12/03/16
Analyst ID - SU Reagent Drop	~~VPM~~ JER 1
Analyst ID - SU Reagent Drop Witness	VPM
Analyst ID - IS Reagent Drop	VPM 7916002
Analyst ID - IS Reagent Drop Witness	NSH
Batch Comment	

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140442
Method Code: 320-537_Prep-320

Analyst: Reed, Jonathan E

Batch Open: 12/2/2016 8:12:00PM
Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-140442/1	LC537-SU_00022	50 uL	1.00 mL	12/02/16	VPM 12-02-16
LCS 320-140442/2	LC537-HSP_00010	50 uL	1.00 mL		
LCS 320-140442/2	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-23	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-24	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-25	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-26	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-27	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-28	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-29	LC537-SU_00022	50 uL	1.00 mL		
320-23919-A-30	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-1	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-2	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-3	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-4	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-5	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-6	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-7	LC537-SU_00022	50 uL	1.00 mL		

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140442

Analyst: Reed, Jonathan E

Batch Open: 12/2/2016 8:12:00PM

Method Code: 320-537_Prep-320

Batch End:

320-23928-A-8	LC537-SU_00022	50 uL	1.00 mL	12-2-16	VPM 12-02-16
320-23928-A-9	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-9 MS	LC537-MSP_00014	50 uL	1.00 mL		
320-23928-A-9 MS	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-9 MSD	LC537-MSP_00014	50 uL	1.00 mL		
320-23928-A-9 MSD	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-10	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-11	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-12	LC537-SU_00022	50 uL	1.00 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 140442 Test: 537 DOD 5 PFAS

Earliest Holding Time: 12/13/16

Sample List Tab	1st Level Reviewer	2nd Level Reviewer
Samples identified to the correct method	✓	✓
All necessary NCMs filed (including holding time)	✓	✓
Method/sample/login/QAS checked and correct	✓	✓
Worksheet Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All samples properly preserved	✓	✓
Weights in anticipated range and not targeted	✓	✓
All additional test requirements performed, documented, and uploaded to TALS correctly (e.g. final amount, initial amount, turbidity, and Cl Check)	✓	✓
The pH is transcribed correctly in TALS	✓	✓
All additional information transcribed into TALS is correct and raw data is attached	✓	✓
Comments are transcribed correctly in TALS	✓	✓
Reagents Tab	**1st Level Reviewer**	**2nd Level Reviewer**
All necessary reagents not expired and entered into TALS	✓	✓
All spike amounts correct and added to necessary samples and QC	✓	✓
Batch Information	**1st Level Reviewer**	**2nd Level Reviewer**
Date and time accurate and entered into TALS correctly	✓	✓
All necessary 'batch information' complete and entered into TALS correctly	✓	✓

1st Level Reviewer: VDM Date: 12/03/16

2nd Level Reviewer: NSH Date: 12-03-16

Comments: _____

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Test America – Sacramento

Sample Dilution Record

Method ID 537 **Job #** 23919, 23917, 23928

Analyst (Print Name) John Barnett **Analyst Initials** JRB

Date 12-6-16

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
23919-13	—	10	200	20X
23917-1	—	40	200	5X
23917-13	—	80	160	2X
23928-3	—	50	200	4X

Comments:

Shipping and Receiving Documents

TestAmerica Sacramento
880 Riverside Parkway

West Sacramento, CA 95605
phone 916.373.5600 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

TestAmerica Laboratories, Inc.

Client Contact	Project Manager: Katie Tippin	Site Contact: Eric Epple	Date: 11/30/2016	COC No: 2
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	1 of 3 COCs
Project Chemist	Analysis Turnaround Time			Sampler:
1100 NE Circle Blvd Ste 300 Corvallis, OR 97330	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(541) 768-3109	TAT if different from Below ____7-Day____			Walk-in Client:
(541) 908-3794	☐ 2 weeks			Lab Sampling:
Project Name: CTO-08	☐ 1 week			
Site: NAS Whidbey Island	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.06.FI.FS	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	USEPA Method 537 (PFOA, PFOS, and PFBS)	Sample Specific Notes:
WI-AF-1RW02-1116	11/29/16	0920	G	DW	2	N	N	X	
WI-AF-1FB02-1116	11/29/16	0925	G	DW	2	N	N	X	
WI-AF-1RW03-1116	11/29/16	1015	G	DW	2	N	N	X	
WI-AF-1FB03-1116	11/29/16	1020	G	DW	2	N	N	X	
WI-AF-1RW04-1116	11/29/16	1115	G	DW	2	N	N	x	
WI-AF-1FB04-1116	11/29/16	1120	G	DW	2	N	N	x	
WI-AF-1RW05-1116	11/29/16	1325	G	DW	2	N	N	X	
WI-AF-1FB05-1116	11/29/16	1330	G	DW	2	N	N	X	
WI-AF-2RW02-1116	11/29/16	0915	G	DW	2	N	N	X	
WI-AF-2FB02-1116	11/29/16	0920	G	DW	2	N	N	X	
WI-AF-2RW03-1116	11/29/16	1035	G	DW	2	N	N	X	
WI-AF-2FB03-1116	11/29/16	1036	G	DW	2	N	N	X	
								6	

320-23919 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _Trizma__

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

1.8 0.9

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: 2.4	Corr'd: 1.5	Therm ID No.: 12 02

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple	CH2M	11-30-16/1600	Thuy G. Turpen	TAS	12/1/16 0950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Sacramento
880 Riverside Parkway

West Sacramento, CA 95605
phone 916.373.5600 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Katie Tippin	Site Contact: Eric Epple	Date: 11/30/2016	COC No: 3
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	2 of 3 COCs
Project Chemist	**Analysis Turnaround Time**			Sampler:
1100 NE Circle Blvd Ste 300 Corvallis, OR 97330	☑CALENDAR DAYS ☐WORKING DAYS			**For Lab Use Only:**
(541) 768-3109	TAT if different from Below ____7-Day____			Walk-in Client:
(541) 908-3794	☐ 2 weeks			Lab Sampling:
Project Name: CTO-08	☐ 1 week			
Site: NAS Whidbey Island	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.06.FI.FS	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	USEPA Method 537 (PFOA, PFOS, and PFBS)	Sample Specific Notes:
WI-AF-2RW04-1116	11/29/16	1105	G	DW	2	N	N	X	
WI-AF-2FB04-1116	11/29/16	1106	G	DW	2	N	N	X	
WI-AF-2RW05-1116	11/29/16	1317	G	DW	2	N	N	X	
WI-AF-2FB05-1116	11/29/16	1315	G	DW	2	N	N	X	
WI-AF-2RW06-1116	11/29/16	1412	G	DW	2	N	N	X	
WI-AF-2FB06-1116	11/29/16	1410	G	DW	2	N	N	X	
WI-AF-3WR04-1116	11/29/16	0910	G	DW	2	N	N	X	
WI-AF-3FB04-1116	11/29/16	0911	G	DW	2	N	N	X	
WI-AF-3WR05-1116	11/29/16	1000	G	DW	2	N	N	X	
WI-AF-3FB05-1116	11/29/16	1001	G	DW	2	N	N	X	
WI-AF-3WR06-1116	11/29/16	1105	G	DW	2	N	N	X	
WI-AF-3FB06-1116	11/29/16	1106	G	DW	2	N	N	X	
								6	

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _Trizma__

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.4 Corr'd: 1.5 | Therm ID No.: 12 ICE

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple	CH2M	11-29-16/1600	Troy C. Turpen	TAS	12/1/16 0950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

TestAmerica Sacramento
880 Riverside Parkway

West Sacramento, CA 95605
phone 916.373.5600 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☐Other:

Client Contact	Project Manager: Katie Tippin	Site Contact: Eric Epple	Date: 11/30/2016	COC No: 2
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	3 of 3 COCs
Project Chemist	Analysis Turnaround Time			Sampler:
1100 NE Circle Blvd Ste 300 Corvallis, OR 97330	☑ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(541) 768-3109	TAT if different from Below ____7-Day____			Walk-in Client:
(541) 908-3794	☐ 2 weeks			Lab Sampling:
Project Name: CTO-08	☐ 1 week			
Site: NAS Whidbey Island	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.06.FI.FS	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	USEPA Method 537 (PFOA, PFOS, and PFBS)	Sample Specific Notes:
WI-AF-3RW07-1116	11/29/16	1120	G	DW	2	N	N	X	
WI-AF-3FB07-1116	11/29/16	1121	G	DW	2	N	N	X	
WI-AF-3RW08-1116	11/29/16	1515	G	DW	2	N	N	X	
WI-AF-3FB08-1116	11/29/16	1516	G	DW	2	N	N	X	
WI-AF-3RW09-1116	11/29/16	1530	G	DW	2	N	N	X	
WI-AF-3FB09-1116	11/29/16	1531	G	DW	2	N	N	X	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _Trizma__								6	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 2.4 Corr'd: 0.8 | Therm ID No.: 12 Fe

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple /	CH2M	11-29-16/1600	Tony G. Turpen	TAS	12/1/16 0950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Login Sample Receipt Checklist

Client: CH2M Hill Constructors, Inc.

Job Number: 320-23919-1

Login Number: 23919
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
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	
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	
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.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Contract_ID	QCI_TTO_Number	Phase	Investigator_ID	Sample_Name	Order_Critic	Analysis_Group	Analytical_Method	ENV_Code	Lab_Code	Lab_Name	Leachate_Method	Sample_Basis	Extraction_Method	Result_Type	Lab_QC_Type	Sample_Medium	QC_Level	Date/Time_Collected	Date_Received	Leachate_Date	Leachate_Time	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Station	Run_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Limit	Lab_Qualifier	Validator_Qualifier	QC_Ceramic_Type	Analyte_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	SC_Narrative	MDL	Detection_Limit	LOQ_Version	DL	LOD	LOQ	Analyses_Batch	Validator_Name	Val_Date
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:20	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:17:00	320-29818-1		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147																				320-29818/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:20	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:17:00	320-29818-1		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.11		0.0147	J																		320-29818/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:20	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:17:00	320-29818-1		1			1Ch2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29818/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:20	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:17:00	320-29818-1		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29818/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:25	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:46:00	320-29819-1		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147																		320-29819/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:25	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:46:00	320-29819-1		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.11		0.0147	J																		320-29819/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB08-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/28/2016 09:25	12/01/2016			01/01/2017	15:27:00	02/01/2017	15:46:00	320-29819-1		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-141249		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 10:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	16:04:00	320-29819-3		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 10:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	16:04:00	320-29819-3		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 10:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	16:04:00	320-29819-3		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 10:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	16:24:00	320-29819-4		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 10:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	16:24:00	320-29819-4		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 10:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	16:24:00	320-29819-4		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 11:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:00:00	320-29819-5		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 11:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:00:00	320-29819-5		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 11:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:00:00	320-29819-5		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 11:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:21:00	320-29819-6		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 11:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:21:00	320-29819-6		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 11:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:21:00	320-29819-6		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 12:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:42:00	320-29819-7		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 12:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:42:00	320-29819-7		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 12:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	17:42:00	320-29819-7		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 13:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	18:02:00	320-29819-8		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 13:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	18:02:00	320-29819-8		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 13:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	18:02:00	320-29819-8		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 13:30	12/01/2016			01/01/2017	15:42:00	02/01/2017	18:23:00	320-29819-9		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 13:30	12/01/2016			01/01/2017	15:42:00	02/01/2017	18:23:00	320-29819-9		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	11/29/2016 13:30	12/01/2016			01/01/2017	15:42:00	02/01/2017	18:23:00	320-29819-9		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:01:00	320-29819-10		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:01:00	320-29819-10		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:01:00	320-29819-10		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:22:00	320-29819-11		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:22:00	320-29819-11		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:22:00	320-29819-11		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:30	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:42:00	320-29819-12		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:30	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:42:00	320-29819-12		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:30	12/01/2016			01/01/2017	15:42:00	02/01/2017	12:42:00	320-29819-12		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:39	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:00:00	320-29819-13		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:39	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:00:00	320-29819-13		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:39	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:00:00	320-29819-13		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:45	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:07:00	320-29819-14		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:45	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:07:00	320-29819-14		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:45	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:07:00	320-29819-14		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:50	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:28:00	320-29819-15		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:50	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:28:00	320-29819-15		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:50	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:28:00	320-29819-15		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:55	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:47:00	320-29819-16		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:55	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:47:00	320-29819-16		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 08:55	12/01/2016			01/01/2017	15:42:00	02/01/2017	13:47:00	320-29819-16		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:00	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:07:00	320-29819-17		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:00	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:07:00	320-29819-17		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:00	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:07:00	320-29819-17		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:05	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:27:00	320-29819-18		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:05	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:27:00	320-29819-18		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:05	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:27:00	320-29819-18		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:10	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:47:00	320-29819-19		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:10	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:47:00	320-29819-19		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:10	12/01/2016			01/01/2017	15:42:00	02/01/2017	14:47:00	320-29819-19		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	15:07:00	320-29819-20		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147		0.0147	J	U M																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	15:07:00	320-29819-20		1			Perfluorooctanesulfonic acid (PFBS)	375-73-5	0.11		0.0147	J	U																	320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:15	12/01/2016			01/01/2017	15:42:00	02/01/2017	15:07:00	320-29819-20		1			1Cl2,2F4SA	C6Cl2F9NSA	0.111		0.0147	J																		320-29819/1	320-140949		
REACH16040400	0008		SHINDBEY_ISLAND_NAS	SHIAP-SRB09-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EDD	REG	SF	N	12/02/2016 09:20	12/01/2016			01/01/2017	15:42:00	02/01/2017	15:27:00	320-29819-21		1			Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0147	

Contract_ID	DO_CTO_Number	Phase	Installation_ID	Sample_Name	CH2M_Code	Analysis_Group	Analytical_Method	PRC_Code	Lab_Code	Lab_Name	Leachate_Method	Sample_Basis	Extraction_Method	Result_Type	Lab_QC_Type	Sample_Medium	QC_Level	DateTime_Collected	Date_Received	Leachate_Date	Leachate_Time	Extraction_Date	Extraction_Time	Analysis_Date	Analysis_Time	Lab_Sample_ID	Dilution	Run_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier	GC_Column_Type	Analysis_Result_Type	Result_Narrative	QC_Control_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	QC_Narrative	MDL	Detection_Limit	QSM_Version	DL	LOD	LOQ	SDG	Analysis_Batch	Validator_Name	Val_Date
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140400/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 15:27	12/02/2016			20161202	15:27:00	20161208	11:41:00	MB 320-140400/1-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.024	UG_L	U M		PR	TRG					00000000				5.0	0.0094	0.024	0.030	320-23929-1	320-140948		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140400/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 15:27	12/02/2016			20161202	15:27:00	20161208	11:41:00	MB 320-140400/1-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.048	0.11	0.14	320-23929-1	320-140948		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140400/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 15:27	12/02/2016			20161202	15:27:00	20161208	11:41:00	MB 320-140400/1-A	1	1			13C2 PFHXA	13C2 PFHXA		123	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23929-1	320-140948		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140400/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 15:27	12/02/2016			20161202	15:27:00	20161208	11:41:00	MB 320-140400/1-A	1	1			13C2 PFDA	13C2 PFDA		120	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23929-1	320-140948		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:10	12/02/2016			20161205	11:42:00	20161211	15:00:00	320-23971-1	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.047	UG_L	U M		PR	TRG					00000000				5.0	0.015	0.047	0.058	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:10	12/02/2016			20161205	11:42:00	20161211	15:00:00	320-23971-1	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0091	0.023	0.029	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:10	12/02/2016			20161205	11:42:00	20161211	15:00:00	320-23971-1	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.046	0.11	0.14	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:10	12/02/2016			20161205	11:42:00	20161211	15:00:00	320-23971-1	1	1			13C2 PFHXA	13C2 PFHXA		103	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:10	12/02/2016			20161205	11:42:00	20161211	15:00:00	320-23971-1	1	1			13C2 PFDA	13C2 PFDA		118	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:12	12/02/2016			20161205	11:42:00	20161211	15:30:00	320-23971-2	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U M		PR	TRG					00000000				5.0	0.015	0.045	0.056	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:12	12/02/2016			20161205	11:42:00	20161211	15:30:00	320-23971-2	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0088	0.023	0.028	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:12	12/02/2016			20161205	11:42:00	20161211	15:30:00	320-23971-2	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:12	12/02/2016			20161205	11:42:00	20161211	15:30:00	320-23971-2	1	1			13C2 PFHXA	13C2 PFHXA		112	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:12	12/02/2016			20161205	11:42:00	20161211	15:30:00	320-23971-2	1	1			13C2 PFDA	13C2 PFDA		112	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:30	12/02/2016			20161205	11:42:00	20161211	15:59:00	320-23971-3	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U M		PR	TRG					00000000				5.0	0.014	0.045	0.056	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:30	12/02/2016			20161205	11:42:00	20161211	15:59:00	320-23971-3	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U M		PR	TRG					00000000				5.0	0.0088	0.022	0.028	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:30	12/02/2016			20161205	11:42:00	20161211	15:59:00	320-23971-3	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:30	12/02/2016			20161205	11:42:00	20161211	15:59:00	320-23971-3	1	1			13C2 PFHXA	13C2 PFHXA		96	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:30	12/02/2016			20161205	11:42:00	20161211	15:59:00	320-23971-3	1	1			13C2 PFDA	13C2 PFDA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:32	12/02/2016			20161205	11:42:00	20161211	16:29:00	320-23971-4	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:32	12/02/2016			20161205	11:42:00	20161211	16:29:00	320-23971-4	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0089	0.023	0.028	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:32	12/02/2016			20161205	11:42:00	20161211	16:29:00	320-23971-4	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:32	12/02/2016			20161205	11:42:00	20161211	16:29:00	320-23971-4	1	1			13C2 PFHXA	13C2 PFHXA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-2FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:32	12/02/2016			20161205	11:42:00	20161211	16:29:00	320-23971-4	1	1			13C2 PFDA	13C2 PFDA		105	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	16:58:00	320-23971-5	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U		PR	TRG					00000000				5.0	0.015	0.045	0.057	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	16:58:00	320-23971-5	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0089	0.023	0.028	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	16:58:00	320-23971-5	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	16:58:00	320-23971-5	1	1			13C2 PFHXA	13C2 PFHXA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	16:58:00	320-23971-5	1	1			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	17:28:00	320-23971-6	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.044	UG_L	U M		PR	TRG					00000000				5.0	0.014	0.044	0.056	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	17:28:00	320-23971-6	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U		PR	TRG					00000000				5.0	0.0087	0.022	0.028	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	17:28:00	320-23971-6	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	17:28:00	320-23971-6	1	1			13C2 PFHXA	13C2 PFHXA		117	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:00	12/02/2016			20161205	11:42:00	20161211	17:28:00	320-23971-6	1	1			13C2 PFDA	13C2 PFDA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:30	12/02/2016			20161205	11:42:00	20161211	17:58:00	320-23971-7	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U		PR	TRG					00000000				5.0	0.014	0.045	0.056	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:30	12/02/2016			20161205	11:42:00	20161211	17:58:00	320-23971-7	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U		PR	TRG					00000000				5.0	0.0088	0.022	0.028	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:30	12/02/2016			20161205	11:42:00	20161211	17:58:00	320-23971-7	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:30	12/02/2016			20161205	11:42:00	20161211	17:58:00	320-23971-7	1	1			13C2 PFHXA	13C2 PFHXA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:30	12/02/2016			20161205	11:42:00	20161211	17:58:00	320-23971-7	1	1			13C2 PFDA	13C2 PFDA		109	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:31	12/02/2016			20161205	11:42:00	20161211	19:56:00	320-23971-8	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U M		PR	TRG					00000000				5.0	0.015	0.045	0.057	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:31	12/02/2016			20161205	11:42:00	20161211	19:56:00	320-23971-8	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0089	0.023	0.028	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:31	12/02/2016			20161205	11:42:00	20161211	19:56:00	320-23971-8	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:31	12/02/2016			20161205	11:42:00	20161211	19:56:00	320-23971-8	1	1			13C2 PFHXA	13C2 PFHXA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:31	12/02/2016			20161205	11:42:00	20161211	19:56:00	320-23971-8	1	1			13C2 PFDA	13C2 PFDA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:00	12/02/2016			20161205	11:42:00	20161211	20:26:00	320-23971-9	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.047	UG_L	U		PR	TRG					00000000				5.0	0.015	0.047	0.059	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:00	12/02/2016			20161205	11:42:00	20161211	20:26:00	320-23971-9	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0092	0.023	0.029	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:00	12/02/2016			20161205	11:42:00	20161211	20:26:00	320-23971-9	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.046	0.11	0.14	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:00	12/02/2016			20161205	11:42:00	20161211	20:26:00	320-23971-9	1	1			13C2 PFHXA	13C2 PFHXA		119	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:00	12/02/2016			20161205	11:42:00	20161211	20:26:00	320-23971-9	1	1			13C2 PFDA	13C2 PFDA		130	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:01	12/02/2016			20161205	11:42:00	20161211	20:55:00	320-23971-10	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U		PR	TRG					00000000				5.0	0.015	0.045	0.057	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:01	12/02/2016			20161205	11:42:00	20161211	20:55:00	320-23971-10	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0089	0.023	0.028	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:01	12/02/2016			20161205	11:42:00	20161211	20:55:00	320-23971-10	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:01	12/02/2016			20161205	11:42:00	20161211	20:55:00	320-23971-10	1	1			13C2 PFHXA	13C2 PFHXA		99	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 17:01	12/02/2016			20161205	11:42:00	20161211	20:55:00	320-23971-10	1	1			13C2 PFDA	13C2 PFDA		105	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140632/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:01:00	LCS 320-140632/2-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		77	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.016	0.048	0.060	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140632/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:01:00	LCS 320-140632/2-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		76	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.0094	0.024	0.030	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140632/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:01:00	LCS 320-140632/2-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		77	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.048	0.11	0.14	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140632/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:01:00	LCS 320-140632/2-A	1	1			13C2 PFHXA	13C2 PFHXA		113	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140632/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:01:00	LCS 320-140632/2-A	1	1			13C2 PFDA	13C2 PFDA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140632/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:30:00	LCSD 320-140632/3-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		80	PCT_REC			PR	TRG		LSP	130	70	00000000				5.0	0.016	0.048	0.060	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140632/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:30:00	LCSD 320-140632/3-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		77	PCT_REC			PR	TRG		LSP	130	70	00000000				5.0	0.0094	0.024	0.030	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140632/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:30:00	LCSD 320-140632/3-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		82	PCT_REC			PR	TRG		LSP	130	70	00000000				5.0	0.048	0.11	0.14	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140632/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:30:00	LCSD 320-140632/3-A	1	1			13C2 PFHXA	13C2 PFHXA		117	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140632/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	14:30:00	LCSD 320-140632/3-A	1	1			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140632/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	13:31:00	MB 320-140632/1-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.048	UG_L	U M		PR	TRG					00000000				5.0	0.016	0.048	0.060	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140632/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	13:31:00	MB 320-140632/1-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.024	UG_L	U M		PR	TRG					00000000				5.0	0.0094	0.024	0.030	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140632/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	13:31:00	MB 320-140632/1-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.048	0.11	0.14	320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140632/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	13:31:00	MB 320-140632/1-A	1	1			13C2 PFHXA	13C2 PFHXA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140632/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 11:42	12/05/2016			20161205	11:42:00	20161211	13:31:00	MB 320-140632/1-A	1	1			13C2 PFDA	13C2 PFDA		104	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23971-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:40	12/03/2016			20161205	19:07:00	20161212	03:20:00	320-24005-1	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U M		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:40	12/03/2016			20161205	19:07:00	20161212	03:20:00	320-24005-1	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U M		PR	TRG					00000000				5.0	0.0090	0.023	0.029	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:40	12/03/2016			20161205	19:07:00	20161212	03:20:00	320-24005-1	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:40	12/03/2016			20161205	19:07:00	20161212	03:20:00	320-24005-1	1	1			13C2 PFHXA	13C2 PFHXA		120	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:40	12/03/2016			20161205	19:07:00	20161212	03:20:00	320-24005-1	1	1			13C2 PFDA	13C2 PFDA		128	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:41	12/03/2016			20161205	19:07:00	20161212	03:49:00	320-24005-2	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.047	UG_L	U		PR	TRG					00000000				5.0	0.015	0.047	0.059	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:41	12/03/2016			20161205	19:07:00	20161212	03:49:00	320-24005-2	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.024	UG_L	U M		PR	TRG					00000000				5.0	0.0092	0.024	0.029	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:41	12/03/2016			20161205	19:07:00	20161212	03:49:00	320-24005-2	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.047	0.11	0.14	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:41	12/03/2016			20161205	19:07:00	20161212	03:49:00	320-24005-2	1	1			13C2 PFHXA	13C2 PFHXA		109	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:41	12/03/2016			20161205	19:07:00	20161212	03:49:00	320-24005-2	1	1			13C2 PFDA	13C2 PFDA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:55	12/03/2016			20161205	19:07:00	20161212	23:33:00	320-24005-3	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U		PR	TRG					00000000				5.0	0.015	0.045	0.056	320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:55	12/03/2016			20161205	19:07:00	20161212	23:33:00	320-24005-3	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0089	0.023	0.028	320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:55	12/03/2016			20161205	19:07:00	20161212	23:33:00	320-24005-3	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:55	12/03/2016			20161205	19:07:00	20161212	23:33:00	320-24005-3	1	1			13C2 PFHXA	13C2 PFHXA		115	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:55	12/03/2016			20161205	19:07:00	20161212	23:33:00	320-24005-3	1	1			13C2 PFDA	13C2 PFDA		127	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:56	12/03/2016			20161205	19:07:00	20161212	04:49:00	320-24005-4	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.044	UG_L	U		PR	TRG					00000000				5.0	0.014	0.044	0.055	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:56	12/03/2016			20161205	19:07:00	20161212	04:49:00	320-24005-4	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U		PR	TRG					00000000				5.0	0.0086	0.022	0.027	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:56	12/03/2016			20161205	19:07:00	20161212	04:49:00	320-24005-4	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.043	0.10	0.13	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:56	12/03/2016			20161205	19:07:00	20161212	04:49:00	320-24005-4	1	1			13C2 PFHXA	13C2 PFHXA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14A-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 10:56	12/03/2016			20161205	19:07:00	20161212	04:49:00	320-24005-4	1	1			13C2 PFDA	13C2 PFDA		104	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:20	12/03/2016			20161205	19:07:00	20161212	05:18:00	320-24005-5	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.051	UG_L	U		PR	TRG					00000000				5.0	0.017	0.051	0.064	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:20	12/03/2016			20161205	19:07:00	20161212	05:18:00	320-24005-5	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.026	UG_L	U		PR	TRG					00000000				5.0	0.010	0.026	0.032	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:20	12/03/2016			20161205	19:07:00	20161212	05:18:00	320-24005-5	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.12	UG_L	U		PR	TRG					00000000				5.0	0.051	0.12	0.15	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:20	12/03/2016			20161205	19:07:00	20161212	05:18:00	320-24005-5	1	1			13C2 PFHXA	13C2 PFHXA		119	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:20	12/03/2016			20161205	19:07:00	20161212	05:18:00	320-24005-5	1	1			13C2 PFDA	13C2 PFDA		124	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:21	12/03/2016			20161205	19:07:00	20161212	05:48:00	320-24005-6	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.048	UG_L	U		PR	TRG					00000000				5.0	0.015	0.048	0.060	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:21	12/03/2016			20161205	19:07:00	20161212	05:48:00	320-24005-6	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.024	UG_L	U M		PR	TRG					00000000				5.0	0.0094	0.024	0.030	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:21	12/03/2016			20161205	19:07:00	20161212	05:48:00	320-24005-6	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.047	0.11	0.14	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:21	12/03/2016			20161205	19:07:00	20161212	05:48:00	320-24005-6	1	1			13C2 PFHXA	13C2 PFHXA		107	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB14B-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 11:21	12/03/2016			20161205	19:07:00	20161212	05:48:00	320-24005-6	1	1			13C2 PFDA	13C2 PFDA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:30	12/03/2016			20161205	19:07:00	20161212	06:17:00	320-24005-7	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.058	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:30	12/03/2016			20161205	19:07:00	20161212	06:17:00	320-24005-7	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0091	0.023	0.029	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:30	12/03/2016			20161205	19:07:00	20161212	06:17:00	320-24005-7	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.046	0.11	0.13	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:30	12/03/2016			20161205	19:07:00	20161212	06:17:00	320-24005-7	1	1			13C2 PFHXA	13C2 PFHXA		127	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3RW15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:30	12/03/2016			20161205	19:07:00	20161212	06:17:00	320-24005-7	1	1			13C2 PFDA	13C2 PFDA		127	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:31	12/03/2016			20161205	19:07:00	20161213	00:03:00	320-24005-8	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.047	UG_L	U		PR	TRG					00000000				5.0	0.015	0.047	0.059	320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:31	12/03/2016			20161205	19:07:00	20161213	00:03:00	320-24005-8	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.024	UG_L	U M		PR	TRG					00000000				5.0	0.0093	0.024	0.030	320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:31	12/03/2016			20161205	19:07:00	20161213	00:03:00	320-24005-8	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.047	0.11	0.14	320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:31	12/03/2016			20161205	19:07:00	20161213	00:03:00	320-24005-8	1	1			13C2 PFHXA	13C2 PFHXA		117	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-AF-3FB15-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 16:31	12/03/2016			20161205	19:07:00	20161213	00:03:00	320-24005-8	1	1			13C2 PFDA	13C2 PFDA		116	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141759		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140697/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:21:00	LCS 320-140697/2-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		103	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.016	0.048	0.060	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140697/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:21:00	LCS 320-140697/2-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		108	PCT_REC	E		PR	TRG		LSA	130	70	00000000				5.0	0.0094	0.024	0.030	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140697/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:21:00	LCS 320-140697/2-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		92	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.048	0.11	0.14	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140697/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:21:00	LCS 320-140697/2-A	1	1			13C2 PFHXA	13C2 PFHXA		125	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140697/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:21:00	LCS 320-140697/2-A	1	1			13C2 PFDA	13C2 PFDA		124	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140697/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:50:00	LCSD 320-140697/3-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		100	PCT_REC			PR	TRG		LSP	130	70	00000000				5.0	0.016	0.048	0.060	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140697/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:50:00	LCSD 320-140697/3-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		98	PCT_REC			PR	TRG		LSP	130	70	00000000				5.0	0.0094	0.024	0.030	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140697/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:50:00	LCSD 320-140697/3-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		90	PCT_REC			PR	TRG		LSP	130	70	00000000				5.0	0.048	0.11	0.14	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140697/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:50:00	LCSD 320-140697/3-A	1	1			13C2 PFHXA	13C2 PFHXA		117	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCSD 320-140697/3-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BSD	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	02:50:00	LCSD 320-140697/3-A	1	1			13C2 PFDA	13C2 PFDA		118	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140697/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	01:51:00	MB 320-140697/1-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.048	UG_L	U		PR	TRG					00000000				5.0	0.016	0.048	0.060	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140697/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	01:51:00	MB 320-140697/1-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.024	UG_L	U		PR	TRG					00000000				5.0	0.0094	0.024	0.030	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140697/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	01:51:00	MB 320-140697/1-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.048	0.11	0.14	320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140697/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	01:51:00	MB 320-140697/1-A	1	1			13C2 PFHXA	13C2 PFHXA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140697/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/05/2016 19:07	12/05/2016			20161205	19:07:00	20161212	01:51:00	MB 320-140697/1-A	1	1			13C2 PFDA	13C2 PFDA		114	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24005-1	320-141575		

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
WHIDBEY ISLAND, WASHINGTON

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 320-23919
Laboratory: Test America, Sacramento, California
Site: Whidbey Island, CTO-0008, Washington
Date: December 20, 2016

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	WI-AF-1RW02-1116	320-23919-1	Water
2	WI-AF-1FB02-1116	320-23919-2	Water
3	WI-AF-1RW03-1116	320-23919-3	Water
4	WI-AF-1FB03-1116	320-23919-4	Water
5	WI-AF-1RW04-1116	320-23919-5	Water
6	WI-AF-1FB04-1116	320-23919-6	Water
7	WI-AF-1RW05-1116	320-23919-7	Water
8	WI-AF-1FB05-1116	320-23919-8	Water
9	WI-AF-2RW02-1116	320-23919-9	Water
10	WI-AF-2FB02-1116	320-23919-10	Water
11	WI-AF-2RW03-1116	320-23919-11	Water
12	WI-AF-2FB03-1116	320-23919-12	Water
13	WI-AF-2RW04-1116	320-23919-13	Water
13DL	WI-AF-2RW04-1116DL	320-23919-13DL	Water
14	WI-AF-2FB04-1116	320-23919-14	Water
15	WI-AF-2RW05-1116	320-23919-15	Water
16	WI-AF-2FB05-1116	320-23919-16	Water
17	WI-AF-2RW06-1116	320-23919-17	Water
18	WI-AF-2FB06-1116	320-23919-18	Water
19	WI-AF-3RW04-1116	320-23919-19	Water
20	WI-AF-3FB04-1116	320-23919-20	Water
21	WI-AF-3RW05-1116	320-23919-21	Water
22	WI-AF-3FB05-1116	320-23919-22	Water
23	WI-AF-3RW06-1116	320-23919-23	Water
24	WI-AF-3FB06-1116	320-23919-24	Water
25	WI-AF-3RW07-1116	320-23919-25	Water
26	WI-AF-3FB07-1116	320-23919-26	Water
27	WI-AF-3RW08-1116	320-23919-27	Water
28	WI-AF-3FB08-1116	320-23919-28	Water
29	WI-AF-3RW09-1116	320-23919-29	Water
30	WI-AF-3FB09-1116	320-23919-30	Water

A full data validation was performed on the analytical data for fifteen water samples and fifteen aqueous field blank samples collected on November 29, 2016 by CH2M HILL at the Whidbey Island site in Washington. The samples were analyzed under the EPA Method "Determination of

Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)".

Specific method references are as follows:

Analysis	*Method References*
PFCs	USEPA Method 537 Rev 1.1 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical method, and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM), Version 5.0 (DoD 2013) and the USEPA National Functional Guidelines for Organic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," August 2014;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Date Completeness, Case Narrative & Custody Documentation
- Holding times
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Data Usability Assessment

There were minor rejections of data. This data cannot be used in the decision-making process for this project.

- PFOS was rejected in one dilution sample due to a severely low internal standard area count. This result was not used for reporting purposes.

Overall the remaining data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Perfluorinated Compounds (PFCs)

Data Completeness, Case Narrative & Custody Documentation

- The case narrative and chain-of-custody documentation were included in the data package as required.

Holding Times

- All samples were extracted within 14 days for water samples and analyzed within 28 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All percent difference (%D) or correlation coefficients criteria were met.

Continuing Calibration

- All percent difference (%D) and RRF criteria were met.

Method Blank

- The method blanks were free of contamination.

Field QC Blank

- All field blank samples were free of contamination.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- A MS/MSD sample was not collected.

Laboratory Control Samples/Laboratory Control Sample Duplicate (LCS/LCSD)

- The LCS/LCSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria except for the following.

Sample ID	Internal Standard	Area Count	Qualifier
13	13C4-PFOS	Low	None - Dilution Result Used
13DL	13C2-PFOA	Severely Low	R - Associated Compound
	13C4-PFOS	Severely Low	J - Associated Compound

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- EDS Sample ID #13 exhibited a high concentration of PFOS over the calibration range of the instrument and was flagged (E) by the laboratory. The sample was diluted 20X and reanalyzed and the dilution result for PFOS should be used for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 12/21/16

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW02-1116 | Lab Sample ID: 320-23919-1

Matrix: Water | Lab File ID: 05DEC2016A6A_145.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:27

Sample wt/vol: 254.4(mL) | Date Analyzed: 12/08/2016 15:17

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141249 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	111		70-130

NW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

2

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB02-1116 | Lab Sample ID: 320-23919-2

Matrix: Water | Lab File ID: 05DEC2016A6A_146.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:25

Extraction Method: 537 | Date Extracted: 12/02/2016 15:27

Sample wt/vol: 257.4(mL) | Date Analyzed: 12/08/2016 15:44

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141249 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	109		70-130

Rev 12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

3

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW03-1116 Lab Sample ID: 320-23919-3

Matrix: Water Lab File ID: 05DEC2016A6A_154.d

Analysis Method: 537 Date Collected: 11/29/2016 10:15

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.3(mL) Date Analyzed: 12/08/2016 20:04

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U M	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	103		70-130
STL00996	13C2 PFDA	112		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

4

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB03-1116 Lab Sample ID: 320-23919-4

Matrix: Water Lab File ID: 05DEC2016A6A_155.d

Analysis Method: 537 Date Collected: 11/29/2016 10:20

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.8(mL) Date Analyzed: 12/08/2016 20:34

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	107		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

5

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW04-1116 | Lab Sample ID: 320-23919-5

Matrix: Water | Lab File ID: 05DEC2016A6A_156.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:15

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 256.3(mL) | Date Analyzed: 12/08/2016 21:03

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	110		70-130
STL00996	13C2 PFDA	105		70-130

NW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

6

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB04-1116 | Lab Sample ID: 320-23919-6

Matrix: Water | Lab File ID: 05DEC2016A6A_157.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.3(mL) | Date Analyzed: 12/08/2016 21:33

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	107		70-130

MJ 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

7

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1RW05-1116 Lab Sample ID: 320-23919-7

Matrix: Water Lab File ID: 05DEC2016A6A_158.d

Analysis Method: 537 Date Collected: 11/29/2016 13:25

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 250.2(mL) Date Analyzed: 12/08/2016 22:02

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.048	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U M	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	104		70-130
STL00996	13C2 PFDA	108		70-130

MW 2/20/17

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

8

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-1FB05-1116 | Lab Sample ID: 320-23919-8

Matrix: Water | Lab File ID: 05DEC2016A6A_159.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:30

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 251(mL) | Date Analyzed: 12/08/2016 22:32

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U	0.060	0.048	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	107		70-130

NW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

9

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW02-1116 | Lab Sample ID: 320-23919-9

Matrix: Water | Lab File ID: 05DEC2016A6A_160.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:15

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.5(mL) | Date Analyzed: 12/08/2016 23:01

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	113		70-130
STL00996	13C2 PFDA	110		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

10

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB02-1116 | Lab Sample ID: 320-23919-10

Matrix: Water | Lab File ID: 05DEC2016A6A_161.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:20

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.3(mL) | Date Analyzed: 12/08/2016 23:31

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	108		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

11

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW03-1116 Lab Sample ID: 320-23919-11

Matrix: Water Lab File ID: 05DEC2016A6A_162.d

Analysis Method: 537 Date Collected: 11/29/2016 10:35

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 255.8(mL) Date Analyzed: 12/09/2016 00:01

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140949 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	123		70-130
STL00996	13C2 PFDA	109		70-130

Rev. 2 12/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

12

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB03-1116 Lab Sample ID: 320-23919-12

Matrix: Water Lab File ID: 05DEC2016A6A_166.d

Analysis Method: 537 Date Collected: 11/29/2016 10:36

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.8(mL) Date Analyzed: 12/09/2016 01:59

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	106		70-130
STL00996	13C2 PFDA	107		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

13

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW04-1116 | Lab Sample ID: 320-23919-13

Matrix: Water | Lab File ID: 05DEC2016A6A_175.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:05

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.1(mL) | Date Analyzed: 12/09/2016 06:25

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	2.5 ~~2.6~~	~~E~~ J	1.2 ~~0.059~~	0.94 ~~0.047~~	0.30 ~~0.015~~ ISL
335-67-1	Perfluorooctanoic acid (PFOA)	0.016	J ~~N~~	0.030	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	J	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	90		70-130
STL00996	13C2 PFDA	104		70-130

NW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

13DL

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW04-1116 DL | Lab Sample ID: 320-23919-13 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_167.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:05

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.1(mL) | Date Analyzed: 12/09/2016 02:29

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 20

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

use original results

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL	
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.5	~~B~~ J	1.2	0.94	0.30	ISL
335-67-1	*Perfluorooctanoic acid (PFOA)*	*0.47*	~~U~~ R	*0.59*	0.47	*0.19*	ISL
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*2.2*	*U*	*2.8*	2.2	*0.94*	

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	87		70-130

New 12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

14

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB04-1116 Lab Sample ID: 320-23919-14

Matrix: Water Lab File ID: 05DEC2016A6A_266.d

Analysis Method: 537 Date Collected: 11/29/2016 11:06

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 255.9(mL) Date Analyzed: 12/11/2016 04:03

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141521 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	97		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

15

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW05-1116 | Lab Sample ID: 320-23919-15

Matrix: Water | Lab File ID: 05DEC2016A6A_169.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:17

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.5(mL) | Date Analyzed: 12/09/2016 03:28

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	106		70-130

Dec 12 2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

16

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB05-1116 | Lab Sample ID: 320-23919-16

Matrix: Water | Lab File ID: 05DEC2016A6A_170.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:15

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.2(mL) | Date Analyzed: 12/09/2016 03:57

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	107		70-130

KW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

17

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2RW06-1116 Lab Sample ID: 320-23919-17

Matrix: Water Lab File ID: 05DEC2016A6A_171.d

Analysis Method: 537 Date Collected: 11/29/2016 14:12

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 256.1(mL) Date Analyzed: 12/09/2016 04:27

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	96		70-130
STL00996	13C2 PFDA	104		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

18

Lab Name: TestAmerica Sacramento Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-2FB06-1116 Lab Sample ID: 320-23919-18

Matrix: Water Lab File ID: 05DEC2016A6A_172.d

Analysis Method: 537 Date Collected: 11/29/2016 14:10

Extraction Method: 537 Date Extracted: 12/02/2016 15:42

Sample wt/vol: 259.7(mL) Date Analyzed: 12/09/2016 04:57

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.046	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	106		70-130
STL00996	13C2 PFDA	107		70-130

Rev 12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

19

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW04-1116 | Lab Sample ID: 320-23919-19

Matrix: Water | Lab File ID: 05DEC2016A6A_173.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:10

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 251.2(mL) | Date Analyzed: 12/09/2016 05:26

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 140950 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.048	U M	0.060	0.048	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	108		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

20

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB04-1116 | Lab Sample ID: 320-23919-20

Matrix: Water | Lab File ID: 05DEC2016A6A_267.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:11

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 260.4(mL) | Date Analyzed: 12/11/2016 04:33

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141521 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U M	0.058	0.046	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0090
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.13	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	110		70-130
STL00996	13C2 PFDA	109		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

21

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW05-1116 | Lab Sample ID: 320-23919-21

Matrix: Water | Lab File ID: 05DEC2016A6A_179.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:00

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 254.7(mL) | Date Analyzed: 12/09/2016 08:29

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141290 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U M	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.029	0.024	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	111		70-130

LW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

22

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB05-1116 | Lab Sample ID: 320-23919-22

Matrix: Water | Lab File ID: 05DEC2016A6A_268.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:01

Extraction Method: 537 | Date Extracted: 12/02/2016 15:42

Sample wt/vol: 257.3(mL) | Date Analyzed: 12/11/2016 05:02

Con. Extract Vol.: 1.0(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141521 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.058	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.029	0.023	0.0092
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	101		70-130
STL00996	13C2 PFDA	109		70-130

Rev. 2/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

23

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW06-1116 | Lab Sample ID: 320-23919-23

Matrix: Water | Lab File ID: 05DEC2016A6A_198.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:05

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 279.6(mL) | Date Analyzed: 12/09/2016 18:30

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U M	0.027	0.021	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.13	0.098	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	105		70-130
STL00996	13C2 PFDA	99		70-130

NEW 12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

24

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB06-1116 | Lab Sample ID: 320-23919-24

Matrix: Water | Lab File ID: 05DEC2016A6A_199.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:06

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 264.7(mL) | Date Analyzed: 12/09/2016 19:00

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.045	U M	0.057	0.045	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U	0.028	0.023	0.0089
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.045

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	113		70-130
STL00996	13C2 PFDA	106		70-130

Rev 12/22/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

25

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW07-1116 | Lab Sample ID: 320-23919-25

Matrix: Water | Lab File ID: 05DEC2016A6A_200.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:20

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 259(mL) | Date Analyzed: 12/09/2016 19:29

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U	0.058	0.046	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.023	U J	0.029	0.023	0.0091
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.046

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	109		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

26

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB07-1116 | Lab Sample ID: 320-23919-26

Matrix: Water | Lab File ID: 05DEC2016A6A_201.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:21

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 278.1(mL) | Date Analyzed: 12/09/2016 19:59

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141291 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.022	0.0085
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.099	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	110		70-130
STL00996	13C2 PFDA	106		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

27

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW08-1116 | Lab Sample ID: 320-23919-27

Matrix: Water | Lab File ID: 05DEC2016A6A_205.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:15

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 269.7(mL) | Date Analyzed: 12/09/2016 21:57

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.056	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	106		70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

28

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB08-1116 | Lab Sample ID: 320-23919-28

Matrix: Water | Lab File ID: 05DEC2016A6A_206.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:16

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 286.6(mL) | Date Analyzed: 12/09/2016 22:27

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.052	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.021	0.0082
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.096	U	0.12	0.096	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	108		70-130

NW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

29

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3RW09-1116 | Lab Sample ID: 320-23919-29

Matrix: Water | Lab File ID: 05DEC2016A6A_207.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:30

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 282.1(mL) | Date Analyzed: 12/09/2016 22:57

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U	0.053	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.021	0.0083
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.097	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	113		70-130

12/14/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

30

Lab Name: TestAmerica Sacramento | Job No.: 320-23919-1

SDG No.:

Client Sample ID: WI-AF-3FB09-1116 | Lab Sample ID: 320-23919-30

Matrix: Water | Lab File ID: 05DEC2016A6A_208.d

Analysis Method: 537 | Date Collected: 11/29/2016 15:31

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 284.3(mL) | Date Analyzed: 12/09/2016 23:26

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 1

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

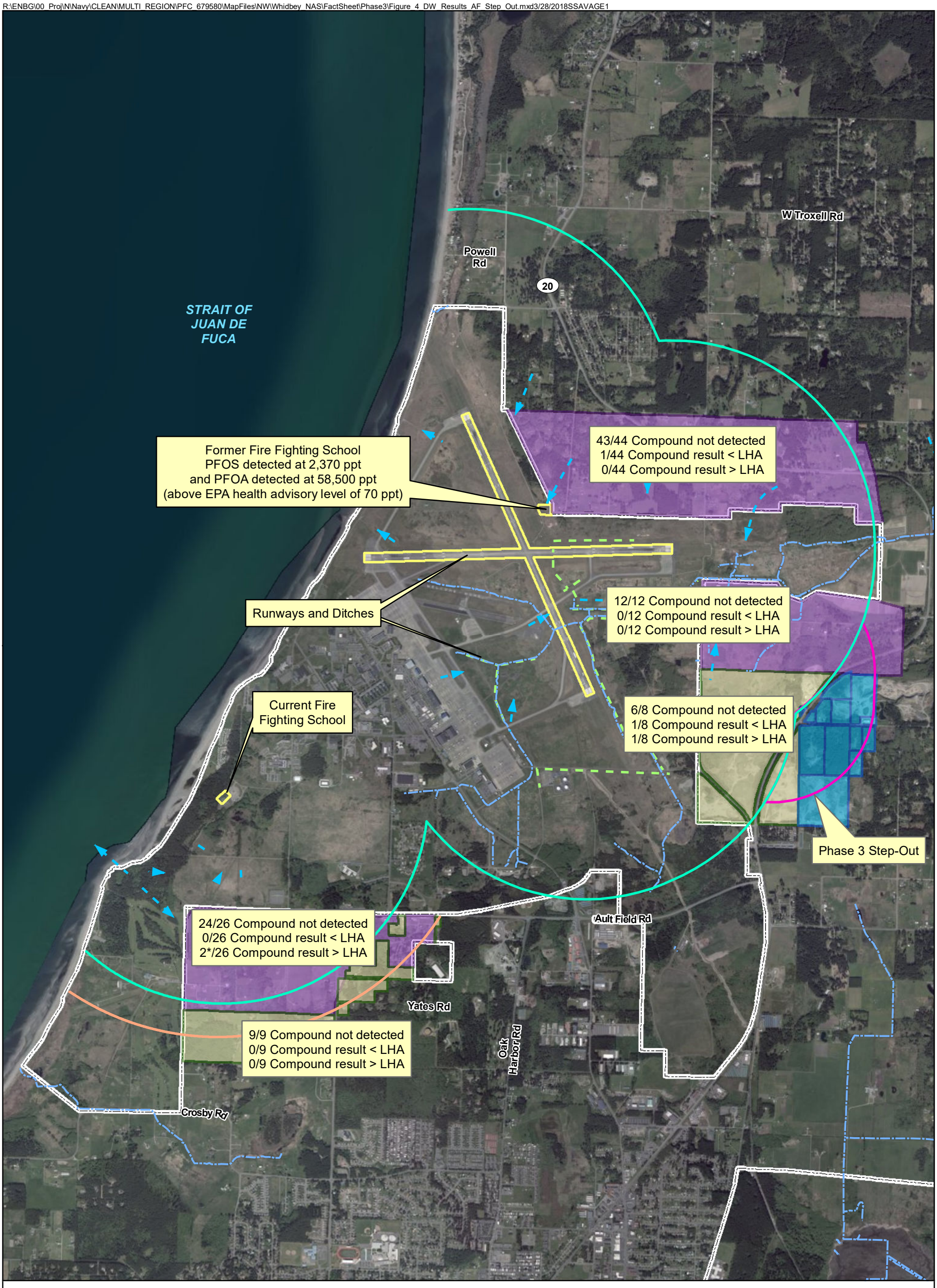
Analysis Batch No.: 141292 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U M	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.021	0.0083
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.097	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	112		70-130
STL00996	13C2 PFDA	109		70-130

12/21/2016

R:\ENBG\00_Proj\N\Navy\CLEAN\MULTI_REGION\PFC_679580\MapFiles\NW\Whidbey_NAS\FactSheet\Phase3\Figure_4_DW_Results_AF_Step_Out.mxd3/28/2018SSAVAGE1



Legend

- 1 Mile Zone
- Half-mile Step-out Downgradient
- Surface Water
- Drainage Ditch
- Half-mile Step-out Downgradient
- Suspected Source Area
- Parcels in Phase 1 Sampling Area
- Parcels Identified in Phase 2 Sampling Area
- Parcels Identified in Phase 3 Sampling Area
- Base Boundary
- Inferred Groundwater Flow Direction

* Second result above the EPA health advisory is from a duplicate sample collected from the well with the first exceedance near Ault Field.

Note:
PFOA and PFOS results reflected on figure, PFBS results discussed in Table 2 and text.

N

0 0.225 0.45 Miles

1 inch = 0.45 mile

Imagery Source: Esri

Figure 2
Results for Drinking Water Well Sampling
Ault Field
Naval Air Station Whidbey Island
Oak Harbor, Washington