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 J23928-1

Naval Air Station Whidbey Island
Oak Harbor, Washington

June 2019

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
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TestAmerica Job ID: 320-23928-1
Client Project/Site: Whidbey Island

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

Attn: Tiffany Hill

Authorized for release by:
12/14/2016 9:18:17 AM

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Definitions/Glossary

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

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Qualifiers

LCMS

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
E	Result exceeded calibration range.
D	The reported value is from a dilution.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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: 320-23928-1

Laboratory: TestAmerica Sacramento

Narrative

CASE NARRATIVE

Client: CH2M Hill Constructors, Inc.

Project: Whidbey Island

Report Number: 320-23928-1

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.

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 0.7º C and 4.9º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): WI-CV-3RW09-1116 (320-23928-24). The container labels list WI-CV-3FB09-1116, while the COC lists WI-CV-3RW09-1116.

PFOA/PFOS

Samples WI-CV-1RW06-1116 (320-23928-1), WI-CV-1FB06-1116 (320-23928-2), WI-CV-1RW07-1116 (320-23928-3), WI-CV-1FB07-1116 (320-23928-4), WI-CV-1RW08-1116 (320-23928-5), WI-CV-1FB08-1116 (320-23928-6), WI-CV-1RW09-1116 (320-23928-7),

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Laboratory: TestAmerica Sacramento (Continued)

WI-CV-1FB09-1116 (320-23928-8), WI-CV-1RW10-1116 (320-23928-9), WI-CV-1FB10-1116 (320-23928-10), WI-CV-2RW05-1116 (320-23928-11), WI-CV-2FB05-1116 (320-23928-12), WI-CV-2RW06-1116 (320-23928-13), WI-CV-2FB06-1116 (320-23928-14), WI-CV-2RW07-1116 (320-23928-15), WI-CV-2FB07-1116 (320-23928-16), WI-CV-3RW06-1116 (320-23928-17), WI-CV-3FB06-1116 (320-23928-18), WI-CV-3RW07-1116 (320-23928-19), WI-CV-3FB07-1116 (320-23928-20), WI-CV-3RW08-1116 (320-23928-21), WI-CV-3FB08-1116 (320-23928-22), WI-CV-3RW09-1116 (320-23928-23), WI-CV-FB09-1116 (320-23928-24), WI-CV-3RW10-1116 (320-23928-25), WI-CV-3FB10-1116 (320-23928-26), WI-CV-3RW11-1116 (320-23928-27) and WI-CV-3FB11-1116 (320-23928-28) were analyzed for PFOA/PFOS in accordance with 537. The samples were prepared on 12/02/2016 and 12/03/2016 and analyzed on 12/09/2016, 12/10/2016, 12/11/2016 and 12/12/2016.

The following samples were received in the laboratory with a pH of 9:
WI-CV-1RW06-1116 (320-23928-1), WI-CV-1FB06-1116 (320-23928-2), WI-CV-1RW07-1116 (320-23928-3), WI-CV-1FB07-1116 (320-23928-4), WI-CV-1RW08-1116 (320-23928-5), WI-CV-1FB08-1116 (320-23928-6), WI-CV-1RW09-1116 (320-23928-7), WI-CV-1FB09-1116 (320-23928-8), WI-CV-1RW10-1116 (320-23928-9), WI-CV-1RW10-1116 (320-23928-9[MS]), WI-CV-1RW10-1116 (320-23928-9[MSD]), WI-CV-1FB10-1116 (320-23928-10), WI-CV-2RW05-1116 (320-23928-11), WI-CV-2FB05-1116 (320-23928-12), WI-CV-2RW06-1116 (320-23928-13), WI-CV-2FB06-1116 (320-23928-14), WI-CV-2RW07-1116 (320-23928-15), WI-CV-2FB07-1116 (320-23928-16), WI-CV-3RW06-1116 (320-23928-17), WI-CV-3FB06-1116 (320-23928-18), WI-CV-3RW07-1116 (320-23928-19), WI-CV-3FB07-1116 (320-23928-20), WI-CV-3RW08-1116 (320-23928-21), WI-CV-3FB08-1116 (320-23928-22), WI-CV-3RW09-1116 (320-23928-23), WI-CV-FB09-1116 (320-23928-24), WI-CV-3RW10-1116 (320-23928-25), WI-CV-3RW10-1116 (320-23928-25[MS]), WI-CV-3RW10-1116 (320-23928-25[MSD]), WI-CV-3FB10-1116 (320-23928-26), WI-CV-3RW11-1116 (320-23928-27), WI-CV-3RW11-1116 (320-23928-27[MS]), WI-CV-3RW11-1116 (320-23928-27[MSD]) and WI-CV-3FB11-1116 (320-23928-28).

Results for samples WI-CV-1RW07-1116 (320-23928-3) and WI-CV-2RW06-1116 (320-23928-13) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: WI-CV-1RW07-1116 (320-23928-3) and WI-CV-2RW06-1116 (320-23928-13). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The sample was also run at a dilution to bring the analytes within the calibration range.

Surrogate recovery for the following sample was outside control limits: WI-CV-2RW07-1116 (320-23928-15). Re-analysis was performed with concurring results. The original analysis has been reported. There is no impact on the data since the analytes are Non-Detect (ND).

Results for samples WI-CV-3RW11-1116 (320-23928-27) and WI-CV-3RW11-1116 (320-23928-27[MS]) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits. Both the dilute and undiluted results are reported. The dilution for the MS/MSD on sample 320-23928-27 resulted in values below the MDL. These recoveries are reported as NC.

Surrogate recovery for the following samples were outside control limits: WI-CV-3RW11-1116 (320-23928-27) and WI-CV-3RW11-1116 (320-23928-27[MS]). Re-analysis was performed with concurring results. The original analysis has been reported.

Perfluorooctanoic acid (PFOA) failed the recovery criteria low for the MSD of sample WI-CV-3RW10-1116MSD (320-23928-25) in batch 320-141295. The matrix spike (MS) has an E flag because it was spiked at the upper level of the calibration curve.
Perfluorooctanoic acid (PFOA) failed the recovery criteria high for the MS/MSD of sample WI-CV-3RW11-1116 (320-23928-27) in batch 320-141475.
The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples WI-CV-1RW07-1116 (320-23928-3)[4X], WI-CV-2RW06-1116 (320-23928-13)[2X] and WI-CV-3RW11-1116 (320-23928-27)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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)

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

Job ID: 320-23928-1 (Continued)

Laboratory: TestAmerica Sacramento (Continued)

Detection Summary

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

TestAmerica Job ID: 320-23928-1

Client Sample ID: WI-CV-1RW06-1116 — Lab Sample ID: 320-23928-1

No Detections.

Client Sample ID: WI-CV-1FB06-1116 — Lab Sample ID: 320-23928-2

No Detections.

Client Sample ID: WI-CV-1RW07-1116 — Lab Sample ID: 320-23928-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.26	E	0.027	0.0086	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA) - DL	0.26	D	0.11	0.034	ug/L	4		537	Total/NA

Client Sample ID: WI-CV-1FB07-1116 — Lab Sample ID: 320-23928-4

No Detections.

Client Sample ID: WI-CV-1RW08-1116 — Lab Sample ID: 320-23928-5

No Detections.

Client Sample ID: WI-CV-1FB08-1116 — Lab Sample ID: 320-23928-6

No Detections.

Client Sample ID: WI-CV-1RW09-1116 — Lab Sample ID: 320-23928-7

No Detections.

Client Sample ID: WI-CV-1FB09-1116 — Lab Sample ID: 320-23928-8

No Detections.

Client Sample ID: WI-CV-1RW10-1116 — Lab Sample ID: 320-23928-9

No Detections.

Client Sample ID: WI-CV-1FB10-1116 — Lab Sample ID: 320-23928-10

No Detections.

Client Sample ID: WI-CV-2RW05-1116 — Lab Sample ID: 320-23928-11

No Detections.

Client Sample ID: WI-CV-2FB05-1116 — Lab Sample ID: 320-23928-12

No Detections.

Client Sample ID: WI-CV-2RW06-1116 — Lab Sample ID: 320-23928-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.22	E	0.028	0.0087	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA) - DL	0.23	D	0.055	0.017	ug/L	2		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: 320-23928-1

Client Sample ID: WI-CV-2FB06-1116 — Lab Sample ID: 320-23928-14

No Detections.

Client Sample ID: WI-CV-2RW07-1116 — Lab Sample ID: 320-23928-15

No Detections.

Client Sample ID: WI-CV-2FB07-1116 — Lab Sample ID: 320-23928-16

No Detections.

Client Sample ID: WI-CV-3RW06-1116 — Lab Sample ID: 320-23928-17

No Detections.

Client Sample ID: WI-CV-3FB06-1116 — Lab Sample ID: 320-23928-18

No Detections.

Client Sample ID: WI-CV-3RW07-1116 — Lab Sample ID: 320-23928-19

No Detections.

Client Sample ID: WI-CV-3FB07-1116 — Lab Sample ID: 320-23928-20

No Detections.

Client Sample ID: WI-CV-3RW08-1116 — Lab Sample ID: 320-23928-21

No Detections.

Client Sample ID: WI-CV-3FB08-1116 — Lab Sample ID: 320-23928-22

No Detections.

Client Sample ID: WI-CV-3RW09-1116 — Lab Sample ID: 320-23928-23

No Detections.

Client Sample ID: WI-CV-FB09-1116 — Lab Sample ID: 320-23928-24

No Detections.

Client Sample ID: WI-CV-3RW10-1116 — Lab Sample ID: 320-23928-25

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.13	J	0.027	0.0084	ug/L	1		537	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.12	0.042	ug/L	1		537	Total/NA

Client Sample ID: WI-CV-3FB10-1116 — Lab Sample ID: 320-23928-26

No Detections.

Client Sample ID: WI-CV-3RW11-1116 — Lab Sample ID: 320-23928-27

This Detection Summary does not include radiochemical test results.

Client Sample ID: WI-CV-3RW11-1116 (Continued) — Lab Sample ID: 320-23928-27

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.62	J E	0.027	0.0084	ug/L	1		537	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.13	0.043	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA) - DL	0.59	J D	0.27	0.084	ug/L	10		537	Total/NA

Client Sample ID: WI-CV-3FB11-1116 — Lab Sample ID: 320-23928-28

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: WI-CV-1RW06-1116

Lab Sample ID: 320-23928-1
Date Collected: 11/29/16 09:07
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	0.056	0.014	ug/L		12/02/16 20:12	12/09/16 23:56	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0088	ug/L		12/02/16 20:12	12/09/16 23:56	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/09/16 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*125*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:56*	*1*
13C2 PFDA	*114*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:56*	*1*

Client Sample ID: WI-CV-1FB06-1116

Lab Sample ID: 320-23928-2
Date Collected: 11/29/16 09:06
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)	0.044	U	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 00:25	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.0087	ug/L		12/02/16 20:12	12/10/16 00:25	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:25*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:25*	*1*

Client Sample ID: WI-CV-1RW07-1116

Lab Sample ID: 320-23928-3
Date Collected: 11/29/16 10:05
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)	0.044	U M	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 04:52	1
Perfluorooctanoic acid (PFOA)	**0.26**	**E**	0.027	0.0086	ug/L		12/02/16 20:12	12/10/16 04:52	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*119*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:52*	*1*
13C2 PFDA	*118*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:52*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.17	U M	0.22	0.057	ug/L		12/02/16 20:12	12/10/16 00:55	4
Perfluorooctanoic acid (PFOA)	**0.26**	**D**	0.11	0.034	ug/L		12/02/16 20:12	12/10/16 00:55	4
Perfluorobutanesulfonic acid (PFBS)	0.40	U	0.51	0.17	ug/L		12/02/16 20:12	12/10/16 00:55	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:55*	*4*
13C2 PFDA	*105*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:55*	*4*

Client Sample ID: WI-CV-1FB07-1116

Lab Sample ID: 320-23928-4
Date Collected: 11/29/16 10:04
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	12/10/16 01:25	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.0084	ug/L		12/02/16 20:12	12/10/16 01:25	1
Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.042	ug/L		12/02/16 20:12	12/10/16 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:25*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:25*	*1*

Client Sample ID: WI-CV-1RW08-1116

Lab Sample ID: 320-23928-5
Date Collected: 11/29/16 12:12
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)	0.043	U M	0.054	0.014	ug/L		12/02/16 20:12	12/10/16 01:54	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0085	ug/L		12/02/16 20:12	12/10/16 01:54	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:54*	*1*
13C2 PFDA	*120*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:54*	*1*

Client Sample ID: WI-CV-1FB08-1116

Lab Sample ID: 320-23928-6
Date Collected: 11/29/16 12:11
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)	0.044	U	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 02:24	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.0087	ug/L		12/02/16 20:12	12/10/16 02:24	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/02/16 20:12*	*12/10/16 02:24*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 02:24*	*1*

Client Sample ID: WI-CV-1RW09-1116

Lab Sample ID: 320-23928-7
Date Collected: 11/29/16 16:17
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)	0.044	U	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 04:22	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.0086	ug/L		12/02/16 20:12	12/10/16 04:22	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 04:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*126*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:22*	*1*
13C2 PFDA	*116*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:22*	*1*

Client Sample ID: WI-CV-1FB09-1116

Lab Sample ID: 320-23928-8
Date Collected: 11/29/16 16:16
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)	0.043	U	0.054	0.014	ug/L		12/02/16 20:12	12/10/16 05:21	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.0085	ug/L		12/02/16 20:12	12/10/16 05:21	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:21*	*1*
13C2 PFDA	*105*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:21*	*1*

Client Sample ID: WI-CV-1RW10-1116

Lab Sample ID: 320-23928-9
Date Collected: 11/29/16 16:29
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	12/10/16 05:51	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.0085	ug/L		12/02/16 20:12	12/10/16 05:51	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 05:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:51*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:51*	*1*

Client Sample ID: WI-CV-1FB10-1116

Lab Sample ID: 320-23928-10
Date Collected: 11/29/16 16:28
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 M	0.056	0.014	ug/L		12/02/16 20:12	12/10/16 07:20	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/02/16 20:12	12/10/16 07:20	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 07:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*127*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:20*	*1*
13C2 PFDA	*117*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:20*	*1*

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

Lab Sample ID: 320-23928-11
Date Collected: 11/29/16 09:29
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 20:12	12/10/16 07:49	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0093	ug/L		12/02/16 20:12	12/10/16 07:49	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 20:12	12/10/16 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:49*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:49*	*1*

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

Lab Sample ID: 320-23928-12

Date Collected: 11/29/16 09:30

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)	0.044	U M	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 08:19	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0086	ug/L		12/02/16 20:12	12/10/16 08:19	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 08:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/10/16 08:19*	*1*
13C2 PFDA	*110*		*70 - 130*	*12/02/16 20:12*	*12/10/16 08:19*	*1*

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

Lab Sample ID: 320-23928-13

Date Collected: 11/29/16 10:08

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 M	0.055	0.014	ug/L		12/03/16 12:19	12/10/16 11:17	1
Perfluorooctanoic acid (PFOA)	**0.22**	**E**	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 11:17	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:17*	*1*
13C2 PFDA	*115*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:17*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.089	U	0.11	0.029	ug/L		12/03/16 12:19	12/10/16 11:46	2
Perfluorooctanoic acid (PFOA)	**0.23**	**D**	0.055	0.017	ug/L		12/03/16 12:19	12/10/16 11:46	2
Perfluorobutanesulfonic acid (PFBS)	0.20	U	0.26	0.088	ug/L		12/03/16 12:19	12/10/16 11:46	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:46*	*2*
13C2 PFDA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:46*	*2*

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

Lab Sample ID: 320-23928-14

Date Collected: 11/29/16 10:09

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	0.057	0.015	ug/L		12/03/16 12:19	12/10/16 12:16	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.028	0.0089	ug/L		12/03/16 12:19	12/10/16 12:16	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.045	ug/L		12/03/16 12:19	12/10/16 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 12:16*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 12:16*	*1*

Client Sample ID: WI-CV-2RW07-1116

Lab Sample ID: 320-23928-15
Matrix: Water
Date Collected: 11/29/16 10:59
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	0.056	0.014	ug/L		12/03/16 12:19	12/10/16 12:45	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 12:45	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*70 - 130*	*12/03/16 12:19*	*12/10/16 12:45*	*1*
13C2 PFDA	*143*	*Q*	*70 - 130*	*12/03/16 12:19*	*12/10/16 12:45*	*1*

Client Sample ID: WI-CV-2FB07-1116

Lab Sample ID: 320-23928-16
Matrix: Water
Date Collected: 11/29/16 11:00
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		12/03/16 12:19	12/10/16 13:15	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0085	ug/L		12/03/16 12:19	12/10/16 13:15	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/03/16 12:19	12/10/16 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*119*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:15*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:15*	*1*

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

Lab Sample ID: 320-23928-17
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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 13:45	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 13:45	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:45*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:45*	*1*

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

Lab Sample ID: 320-23928-18
Matrix: Water
Date Collected: 11/29/16 09:16
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	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 14:14	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 14:14	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:14*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:14*	*1*

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

Lab Sample ID: 320-23928-19
Date Collected: 11/29/16 10:05
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)	0.044	U	0.055	0.014	ug/L		12/03/16 12:19	12/10/16 14:44	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 14:44	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:44*	*1*
13C2 PFDA	*102*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:44*	*1*

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

Lab Sample ID: 320-23928-20
Date Collected: 11/29/16 10:06
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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 15:13	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 15:13	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*70 - 130*	*12/03/16 12:19*	*12/10/16 15:13*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/03/16 12:19*	*12/10/16 15:13*	*1*

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

Lab Sample ID: 320-23928-21
Date Collected: 11/29/16 11:11
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)	0.044	U	0.055	0.014	ug/L		12/03/16 12:19	12/10/16 17:12	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 17:12	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:12*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:12*	*1*

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

Lab Sample ID: 320-23928-22
Date Collected: 11/29/16 11:12
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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 17:41	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.026	0.0082	ug/L		12/03/16 12:19	12/10/16 17:41	1
Perfluorobutanesulfonic acid (PFBS)	0.096	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*98*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:41*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:41*	*1*

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

Lab Sample ID: 320-23928-23
Date Collected: 11/29/16 13:05
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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 18:11	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 18:11	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:11*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:11*	*1*

Client Sample ID: WI-CV-FB09-1116

Lab Sample ID: 320-23928-24
Date Collected: 11/29/16 13:06
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)	0.043	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 18:41	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.0084	ug/L		12/03/16 12:19	12/10/16 18:41	1
Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:41*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:41*	*1*

Client Sample ID: WI-CV-3RW10-1116

Lab Sample ID: 320-23928-25
Date Collected: 11/29/16 16:10
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)	0.043	U M	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 19:10	1
Perfluorooctanoic acid (PFOA)	**0.13**	**J**	0.027	0.0084	ug/L		12/03/16 12:19	12/10/16 19:10	1
Perfluorobutanesulfonic acid (PFBS)	**0.076**	**J**	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 19:10*	*1*
13C2 PFDA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 19:10*	*1*

Client Sample ID: WI-CV-3FB10-1116

Lab Sample ID: 320-23928-26
Date Collected: 11/29/16 16:12
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)	0.043	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 20:39	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.027	0.0083	ug/L		12/03/16 12:19	12/10/16 20:39	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*70 - 130*	*12/03/16 12:19*	*12/10/16 20:39*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/03/16 12:19*	*12/10/16 20:39*	*1*

Client Sample ID: WI-CV-3RW11-1116

Lab Sample ID: 320-23928-27

Date Collected: 11/29/16 16:35

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)	0.043	U M	0.054	0.014	ug/L		12/03/16 12:19	12/11/16 00:36	1
Perfluorooctanoic acid (PFOA)	**0.62**	**J E**	0.027	0.0084	ug/L		12/03/16 12:19	12/11/16 00:36	1
Perfluorobutanesulfonic acid (PFBS)	**0.052**	**J**	0.13	0.043	ug/L		12/03/16 12:19	12/11/16 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*70 - 130*	*12/03/16 12:19*	*12/11/16 00:36*	*1*
13C2 PFDA	*131*	*Q*	*70 - 130*	*12/03/16 12:19*	*12/11/16 00:36*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.43	U M	0.54	0.14	ug/L		12/03/16 12:19	12/10/16 23:07	10
Perfluorooctanoic acid (PFOA)	**0.59**	**J D**	0.27	0.084	ug/L		12/03/16 12:19	12/10/16 23:07	10
Perfluorobutanesulfonic acid (PFBS)	0.98	U	1.3	0.43	ug/L		12/03/16 12:19	12/10/16 23:07	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*12/03/16 12:19*	*12/10/16 23:07*	*10*
13C2 PFDA	*89*		*70 - 130*	*12/03/16 12:19*	*12/10/16 23:07*	*10*

Client Sample ID: WI-CV-3FB11-1116

Lab Sample ID: 320-23928-28

Date Collected: 11/29/16 16:36

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)	0.044	U	0.055	0.014	ug/L		12/03/16 12:19	12/12/16 18:08	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0086	ug/L		12/03/16 12:19	12/12/16 18:08	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.043	ug/L		12/03/16 12:19	12/12/16 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*70 - 130*	*12/03/16 12:19*	*12/12/16 18:08*	*1*
13C2 PFDA	*123*		*70 - 130*	*12/03/16 12:19*	*12/12/16 18:08*	*1*

Surrogate Summary

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

TestAmerica Job ID: 320-23928-1

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)										
320-23928-1	WI-CV-1RW06-1116	125	114										
320-23928-2	WI-CV-1FB06-1116	107	104										
320-23928-3 - DL	WI-CV-1RW07-1116	109	105										
320-23928-3	WI-CV-1RW07-1116	119	118										
320-23928-4	WI-CV-1FB07-1116	114	106										
320-23928-5	WI-CV-1RW08-1116	115	120										
320-23928-6	WI-CV-1FB08-1116	114	107										
320-23928-7	WI-CV-1RW09-1116	126	116										
320-23928-8	WI-CV-1FB09-1116	107	105										
320-23928-9	WI-CV-1RW10-1116	111	108										
320-23928-9 MS	WI-CV-1RW10-1116	119	117										
320-23928-9 MSD	WI-CV-1RW10-1116	120	117										
320-23928-10	WI-CV-1FB10-1116	127	117										
320-23928-11	WI-CV-2RW05-1116	111	107										
320-23928-12	WI-CV-2FB05-1116	112	110										
320-23928-13	WI-CV-2RW06-1116	105	115										
320-23928-13 - DL	WI-CV-2RW06-1116	114	111										
320-23928-14	WI-CV-2FB06-1116	111	111										
320-23928-15	WI-CV-2RW07-1116	115	143 Q										
320-23928-16	WI-CV-2FB07-1116	119	111										
320-23928-17	WI-CV-3RW06-1116	112	107										
320-23928-18	WI-CV-3FB06-1116	103	104										
320-23928-19	WI-CV-3RW07-1116	114	102										
320-23928-20	WI-CV-3FB07-1116	104	107										
320-23928-21	WI-CV-3RW08-1116	114	108										
320-23928-22	WI-CV-3FB08-1116	98	104										
320-23928-23	WI-CV-3RW09-1116	111	106										
320-23928-24	WI-CV-FB09-1116	108	106										
320-23928-25	WI-CV-3RW10-1116	111	114										
320-23928-25 MS	WI-CV-3RW10-1116	116	120										
320-23928-25 MSD	WI-CV-3RW10-1116	109	111										
320-23928-26	WI-CV-3FB10-1116	113	107										
320-23928-27 - DL	WI-CV-3RW11-1116	103	89										
320-23928-27	WI-CV-3RW11-1116	123	131 Q										
320-23928-27 MS - DL	WI-CV-3RW11-1116	115	102										
320-23928-27 MS	WI-CV-3RW11-1116	124	135 Q										
320-23928-27 MSD - DL	WI-CV-3RW11-1116	111	103										
320-23928-27 MSD	WI-CV-3RW11-1116	127	129										
320-23928-28	WI-CV-3FB11-1116	115	123										
LCS 320-140442/2-A	Lab Control Sample	129	122										
LLCS 320-140478/2-A	Lab Control Sample	109	106										
MB 320-140442/1-A	Method Blank	118	108										
MB 320-140478/1-A	Method Blank	111	103										

Surrogate Legend

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

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

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*

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*

Lab Sample ID: 320-23928-9 MS
Matrix: Water
Analysis Batch: 141293

Client Sample ID: WI-CV-1RW10-1116
Prep Type: Total/NA
Prep Batch: 140442

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.147	0.122		ug/L		83	70 - 130
Perfluorooctanoic acid (PFOA)	0.022	U M	0.0745	0.0603		ug/L		81	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.330	0.264		ug/L		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*117*		*70 - 130*

Lab Sample ID: 320-23928-9 MSD
Matrix: Water
Analysis Batch: 141293

Client Sample ID: WI-CV-1RW10-1116
Prep Type: Total/NA
Prep Batch: 140442

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.150	0.124		ug/L		83	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	0.022	U M	0.0758	0.0642		ug/L		85	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.336	0.279		ug/L		83	70 - 130	5	30

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

Lab Sample ID: 320-23928-9 MSD
Matrix: Water
Analysis Batch: 141293

Client Sample ID: WI-CV-1RW10-1116
Prep Type: Total/NA
Prep Batch: 140442

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*120*		*70 - 130*
13C2 PFDA	*117*		*70 - 130*

Lab Sample ID: MB 320-140478/1-A
Matrix: Water
Analysis Batch: 141293

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140478

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		12/03/16 12:19	12/10/16 08:49	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/03/16 12:19	12/10/16 08:49	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/03/16 12:19	12/10/16 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 08:49*	*1*
13C2 PFDA	*103*		*70 - 130*	*12/03/16 12:19*	*12/10/16 08:49*	*1*

Lab Sample ID: LLCS 320-140478/2-A
Matrix: Water
Analysis Batch: 141294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0358	J	ug/L		89	50 - 150
Perfluorooctanoic acid (PFOA)	0.0203	0.0191	J M	ug/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0862	J	ug/L		96	50 - 150

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*106*		*70 - 130*

Lab Sample ID: 320-23928-25 MS
Matrix: Water
Analysis Batch: 141295

Client Sample ID: WI-CV-3RW10-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0351	0.0328	J	ug/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	0.13	J	0.0178	0.152	E 4	ug/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.0787	0.136		ug/L		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*116*		*70 - 130*
13C2 PFDA	*120*		*70 - 130*

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

Lab Sample ID: 320-23928-25 MSD
Matrix: Water
Analysis Batch: 141295

Client Sample ID: WI-CV-3RW10-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0361	0.0315	J	ug/L		87	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	0.13	J	0.0183	0.144	4	ug/L		53	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.0808	0.135		ug/L		73	70 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*111*		*70 - 130*

Lab Sample ID: 320-23928-27 MS
Matrix: Water
Analysis Batch: 141475

Client Sample ID: WI-CV-3RW11-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0343	0.0330	J	ug/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	0.62	J E	0.0173	0.674	E 4	ug/L		291	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.0768	0.121		ug/L		89	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*124*		*70 - 130*
13C2 PFDA	*135*	*Q*	*70 - 130*

Lab Sample ID: 320-23928-27 MSD
Matrix: Water
Analysis Batch: 141475

Client Sample ID: WI-CV-3RW11-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0358	0.0319	J	ug/L		89	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	0.62	J E	0.0181	0.650	E 4	ug/L		150	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.0802	0.123	J	ug/L		88	70 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*127*		*70 - 130*
13C2 PFDA	*129*		*70 - 130*

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

Lab Sample ID: 320-23928-27 MS
Matrix: Water
Analysis Batch: 141475

Client Sample ID: WI-CV-3RW11-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS) - DL	0.43	U M	0.0343	0.41	U M	ug/L		NC	70 - 130

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

Lab Sample ID: 320-23928-27 MS
Matrix: Water
Analysis Batch: 141475

Client Sample ID: WI-CV-3RW11-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanoic acid (PFOA) - DL	0.59	J D	0.0173	0.705	4 D	ug/L		675	70 - 130
Perfluorobutanesulfonic acid (PFBS) - DL	0.98	U	0.0768	0.94	U	ug/L		NC	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA - DL	*115*		*70 - 130*
13C2 PFDA - DL	*102*		*70 - 130*

Lab Sample ID: 320-23928-27 MSD
Matrix: Water
Analysis Batch: 141475

Client Sample ID: WI-CV-3RW11-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS) - DL	0.43	U M	0.0358	0.43	U M	ug/L		NC	70 - 130	NC	30
Perfluorooctanoic acid (PFOA) - DL	0.59	J D	0.0181	0.672	D 4	ug/L		462	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS) - DL	0.98	U	0.0802	0.98	U	ug/L		NC	70 - 130	NC	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA - DL	*111*		*70 - 130*
13C2 PFDA - DL	*103*		*70 - 130*

LCMS

Prep Batch: 140442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-1	WI-CV-1RW06-1116	Total/NA	Water	537	
320-23928-2	WI-CV-1FB06-1116	Total/NA	Water	537	
320-23928-3	WI-CV-1RW07-1116	Total/NA	Water	537	
320-23928-3 - DL	WI-CV-1RW07-1116	Total/NA	Water	537	
320-23928-4	WI-CV-1FB07-1116	Total/NA	Water	537	
320-23928-5	WI-CV-1RW08-1116	Total/NA	Water	537	
320-23928-6	WI-CV-1FB08-1116	Total/NA	Water	537	
320-23928-7	WI-CV-1RW09-1116	Total/NA	Water	537	
320-23928-8	WI-CV-1FB09-1116	Total/NA	Water	537	
320-23928-9	WI-CV-1RW10-1116	Total/NA	Water	537	
320-23928-10	WI-CV-1FB10-1116	Total/NA	Water	537	
320-23928-11	WI-CV-2RW05-1116	Total/NA	Water	537	
320-23928-12	WI-CV-2FB05-1116	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	
320-23928-9 MS	WI-CV-1RW10-1116	Total/NA	Water	537	
320-23928-9 MSD	WI-CV-1RW10-1116	Total/NA	Water	537	

Prep Batch: 140478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-13	WI-CV-2RW06-1116	Total/NA	Water	537	
320-23928-13 - DL	WI-CV-2RW06-1116	Total/NA	Water	537	
320-23928-14	WI-CV-2FB06-1116	Total/NA	Water	537	
320-23928-15	WI-CV-2RW07-1116	Total/NA	Water	537	
320-23928-16	WI-CV-2FB07-1116	Total/NA	Water	537	
320-23928-17	WI-CV-3RW06-1116	Total/NA	Water	537	
320-23928-18	WI-CV-3FB06-1116	Total/NA	Water	537	
320-23928-19	WI-CV-3RW07-1116	Total/NA	Water	537	
320-23928-20	WI-CV-3FB07-1116	Total/NA	Water	537	
320-23928-21	WI-CV-3RW08-1116	Total/NA	Water	537	
320-23928-22	WI-CV-3FB08-1116	Total/NA	Water	537	
320-23928-23	WI-CV-3RW09-1116	Total/NA	Water	537	
320-23928-24	WI-CV-FB09-1116	Total/NA	Water	537	
320-23928-25	WI-CV-3RW10-1116	Total/NA	Water	537	
320-23928-26	WI-CV-3FB10-1116	Total/NA	Water	537	
320-23928-27	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 - DL	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-28	WI-CV-3FB11-1116	Total/NA	Water	537	
MB 320-140478/1-A	Method Blank	Total/NA	Water	537	
LLCS 320-140478/2-A	Lab Control Sample	Total/NA	Water	537	
320-23928-25 MS	WI-CV-3RW10-1116	Total/NA	Water	537	
320-23928-25 MSD	WI-CV-3RW10-1116	Total/NA	Water	537	
320-23928-27 MS	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 MS - DL	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 MSD - DL	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 MSD	WI-CV-3RW11-1116	Total/NA	Water	537	

Analysis Batch: 141291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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

QC Association Summary

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

TestAmerica Job ID: 320-23928-1

Analysis Batch: 141292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-1	WI-CV-1RW06-1116	Total/NA	Water	537	140442
320-23928-2	WI-CV-1FB06-1116	Total/NA	Water	537	140442
320-23928-3 - DL	WI-CV-1RW07-1116	Total/NA	Water	537	140442
320-23928-4	WI-CV-1FB07-1116	Total/NA	Water	537	140442
320-23928-5	WI-CV-1RW08-1116	Total/NA	Water	537	140442
320-23928-6	WI-CV-1FB08-1116	Total/NA	Water	537	140442

Analysis Batch: 141293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-3	WI-CV-1RW07-1116	Total/NA	Water	537	140442
320-23928-7	WI-CV-1RW09-1116	Total/NA	Water	537	140442
320-23928-8	WI-CV-1FB09-1116	Total/NA	Water	537	140442
320-23928-9	WI-CV-1RW10-1116	Total/NA	Water	537	140442
320-23928-10	WI-CV-1FB10-1116	Total/NA	Water	537	140442
320-23928-11	WI-CV-2RW05-1116	Total/NA	Water	537	140442
320-23928-12	WI-CV-2FB05-1116	Total/NA	Water	537	140442
MB 320-140478/1-A	Method Blank	Total/NA	Water	537	140478
320-23928-9 MS	WI-CV-1RW10-1116	Total/NA	Water	537	140442
320-23928-9 MSD	WI-CV-1RW10-1116	Total/NA	Water	537	140442

Analysis Batch: 141294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-13	WI-CV-2RW06-1116	Total/NA	Water	537	140478
320-23928-13 - DL	WI-CV-2RW06-1116	Total/NA	Water	537	140478
320-23928-14	WI-CV-2FB06-1116	Total/NA	Water	537	140478
320-23928-15	WI-CV-2RW07-1116	Total/NA	Water	537	140478
320-23928-16	WI-CV-2FB07-1116	Total/NA	Water	537	140478
320-23928-17	WI-CV-3RW06-1116	Total/NA	Water	537	140478
320-23928-18	WI-CV-3FB06-1116	Total/NA	Water	537	140478
320-23928-19	WI-CV-3RW07-1116	Total/NA	Water	537	140478
320-23928-20	WI-CV-3FB07-1116	Total/NA	Water	537	140478
LLCS 320-140478/2-A	Lab Control Sample	Total/NA	Water	537	140478

Analysis Batch: 141295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-21	WI-CV-3RW08-1116	Total/NA	Water	537	140478
320-23928-22	WI-CV-3FB08-1116	Total/NA	Water	537	140478
320-23928-23	WI-CV-3RW09-1116	Total/NA	Water	537	140478
320-23928-24	WI-CV-FB09-1116	Total/NA	Water	537	140478
320-23928-25	WI-CV-3RW10-1116	Total/NA	Water	537	140478
320-23928-26	WI-CV-3FB10-1116	Total/NA	Water	537	140478
320-23928-25 MS	WI-CV-3RW10-1116	Total/NA	Water	537	140478
320-23928-25 MSD	WI-CV-3RW10-1116	Total/NA	Water	537	140478

Analysis Batch: 141475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-27 - DL	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MS - DL	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MS	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MSD - DL	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MSD	WI-CV-3RW11-1116	Total/NA	Water	537	140478

LCMS (Continued)

Analysis Batch: 141758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-28	WI-CV-3FB11-1116	Total/NA	Water	537	140478

Lab Chronicle

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

TestAmerica Job ID: 320-23928-1

Client Sample ID: WI-CV-1RW06-1116
Date Collected: 11/29/16 09:07
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-1
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			268.8 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/09/16 23:56	JRB	TAL SAC

Client Sample ID: WI-CV-1FB06-1116
Date Collected: 11/29/16 09:06
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-2
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			270.3 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/10/16 00:25	JRB	TAL SAC

Client Sample ID: WI-CV-1RW07-1116
Date Collected: 11/29/16 10:05
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-3
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	DL		274.3 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537	DL	4			141292	12/10/16 00:55	JRB	TAL SAC
Total/NA	Prep	537			274.3 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 04:52	JRB	TAL SAC

Client Sample ID: WI-CV-1FB07-1116
Date Collected: 11/29/16 10:04
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-4
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			280.1 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/10/16 01:25	JRB	TAL SAC

Client Sample ID: WI-CV-1RW08-1116
Date Collected: 11/29/16 12:12
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-5
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			277.3 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/10/16 01:54	JRB	TAL SAC

Lab Chronicle

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

TestAmerica Job ID: 320-23928-1

Client Sample ID: WI-CV-1FB08-1116
Lab Sample ID: 320-23928-6
Date Collected: 11/29/16 12:11
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			272 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141292	12/10/16 02:24	JRB	TAL SAC

Client Sample ID: WI-CV-1RW09-1116
Lab Sample ID: 320-23928-7
Date Collected: 11/29/16 16:17
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			273.9 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 04:22	JRB	TAL SAC

Client Sample ID: WI-CV-1FB09-1116
Lab Sample ID: 320-23928-8
Date Collected: 11/29/16 16:16
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			276.7 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 05:21	JRB	TAL SAC

Client Sample ID: WI-CV-1RW10-1116
Lab Sample ID: 320-23928-9
Date Collected: 11/29/16 16:29
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			277.1 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 05:51	JRB	TAL SAC

Client Sample ID: WI-CV-1FB10-1116
Lab Sample ID: 320-23928-10
Date Collected: 11/29/16 16:28
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			269.9 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 07:20	JRB	TAL SAC

Client Sample ID: WI-CV-2RW05-1116
Lab Sample ID: 320-23928-11
Date Collected: 11/29/16 09:29
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			253.1 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 07:49	JRB	TAL SAC

Lab Chronicle

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

TestAmerica Job ID: 320-23928-1

Client Sample ID: WI-CV-2FB05-1116
Lab Sample ID: 320-23928-12
Date Collected: 11/29/16 09:30
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			273 mL	1.00 mL	140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1			141293	12/10/16 08:19	JRB	TAL SAC

Client Sample ID: WI-CV-2RW06-1116
Lab Sample ID: 320-23928-13
Date Collected: 11/29/16 10:08
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			270.4 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 11:17	JRB	TAL SAC
Total/NA	Prep	537	DL		270.4 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537	DL	2			141294	12/10/16 11:46	JRB	TAL SAC

Client Sample ID: WI-CV-2FB06-1116
Lab Sample ID: 320-23928-14
Date Collected: 11/29/16 10:09
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			263.5 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 12:16	JRB	TAL SAC

Client Sample ID: WI-CV-2RW07-1116
Lab Sample ID: 320-23928-15
Date Collected: 11/29/16 10:59
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			269.5 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 12:45	JRB	TAL SAC

Client Sample ID: WI-CV-2FB07-1116
Lab Sample ID: 320-23928-16
Date Collected: 11/29/16 11:00
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			276.9 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 13:15	JRB	TAL SAC

Client Sample ID: WI-CV-3RW06-1116
Lab Sample ID: 320-23928-17
Date Collected: 11/29/16 09:15
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			284.2 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC

Lab Chronicle

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

TestAmerica Job ID: 320-23928-1

Client Sample ID: WI-CV-3RW06-1116
Date Collected: 11/29/16 09:15
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-17
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			141294	12/10/16 13:45	JRB	TAL SAC

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

Lab Sample ID: 320-23928-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	537			284.2 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 14:14	JRB	TAL SAC

Client Sample ID: WI-CV-3RW07-1116
Date Collected: 11/29/16 10:05
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-19
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			271 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 14:44	JRB	TAL SAC

Client Sample ID: WI-CV-3FB07-1116
Date Collected: 11/29/16 10:06
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-20
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			284.6 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141294	12/10/16 15:13	JRB	TAL SAC

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

Lab Sample ID: 320-23928-21
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			271.8 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141295	12/10/16 17:12	JRB	TAL SAC

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

Lab Sample ID: 320-23928-22
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			285.6 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141295	12/10/16 17:41	JRB	TAL SAC

Client Sample ID: WI-CV-3RW09-1116
Lab Sample ID: 320-23928-23
Date Collected: 11/29/16 13:05
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			283.5 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141295	12/10/16 18:11	JRB	TAL SAC

Client Sample ID: WI-CV-FB09-1116
Lab Sample ID: 320-23928-24
Date Collected: 11/29/16 13:06
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			281.6 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141295	12/10/16 18:41	JRB	TAL SAC

Client Sample ID: WI-CV-3RW10-1116
Lab Sample ID: 320-23928-25
Date Collected: 11/29/16 16:10
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			280.4 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141295	12/10/16 19:10	JRB	TAL SAC

Client Sample ID: WI-CV-3FB10-1116
Lab Sample ID: 320-23928-26
Date Collected: 11/29/16 16:12
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			282.2 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141295	12/10/16 20:39	JRB	TAL SAC

Client Sample ID: WI-CV-3RW11-1116
Lab Sample ID: 320-23928-27
Date Collected: 11/29/16 16:35
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		279.3 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537	DL	10			141475	12/10/16 23:07	JRB	TAL SAC
Total/NA	Prep	537			279.3 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1			141475	12/11/16 00:36	JRB	TAL SAC

Client Sample ID: WI-CV-3FB11-1116
Lab Sample ID: 320-23928-28
Date Collected: 11/29/16 16:36
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			273.7 mL	1.00 mL	140478	12/03/16 12:19	JER	TAL SAC

Lab Chronicle

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

TestAmerica Job ID: 320-23928-1

Client Sample ID: WI-CV-3FB11-1116
Date Collected: 11/29/16 16:36
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	537		1			141758	12/12/16 18:08	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: 320-23928-1

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: 320-23928-1

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: 320-23928-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-23928-1	WI-CV-1RW06-1116	Water	11/29/16 09:07	12/01/16 09:50
320-23928-2	WI-CV-1FB06-1116	Water	11/29/16 09:06	12/01/16 09:50
320-23928-3	WI-CV-1RW07-1116	Water	11/29/16 10:05	12/01/16 09:50
320-23928-4	WI-CV-1FB07-1116	Water	11/29/16 10:04	12/01/16 09:50
320-23928-5	WI-CV-1RW08-1116	Water	11/29/16 12:12	12/01/16 09:50
320-23928-6	WI-CV-1FB08-1116	Water	11/29/16 12:11	12/01/16 09:50
320-23928-7	WI-CV-1RW09-1116	Water	11/29/16 16:17	12/01/16 09:50
320-23928-8	WI-CV-1FB09-1116	Water	11/29/16 16:16	12/01/16 09:50
320-23928-9	WI-CV-1RW10-1116	Water	11/29/16 16:29	12/01/16 09:50
320-23928-10	WI-CV-1FB10-1116	Water	11/29/16 16:28	12/01/16 09:50
320-23928-11	WI-CV-2RW05-1116	Water	11/29/16 09:29	12/01/16 09:50
320-23928-12	WI-CV-2FB05-1116	Water	11/29/16 09:30	12/01/16 09:50
320-23928-13	WI-CV-2RW06-1116	Water	11/29/16 10:08	12/01/16 09:50
320-23928-14	WI-CV-2FB06-1116	Water	11/29/16 10:09	12/01/16 09:50
320-23928-15	WI-CV-2RW07-1116	Water	11/29/16 10:59	12/01/16 09:50
320-23928-16	WI-CV-2FB07-1116	Water	11/29/16 11:00	12/01/16 09:50
320-23928-17	WI-CV-3RW06-1116	Water	11/29/16 09:15	12/01/16 09:50
320-23928-18	WI-CV-3FB06-1116	Water	11/29/16 09:16	12/01/16 09:50
320-23928-19	WI-CV-3RW07-1116	Water	11/29/16 10:05	12/01/16 09:50
320-23928-20	WI-CV-3FB07-1116	Water	11/29/16 10:06	12/01/16 09:50
320-23928-21	WI-CV-3RW08-1116	Water	11/29/16 11:11	12/01/16 09:50
320-23928-22	WI-CV-3FB08-1116	Water	11/29/16 11:12	12/01/16 09:50
320-23928-23	WI-CV-3RW09-1116	Water	11/29/16 13:05	12/01/16 09:50
320-23928-24	WI-CV-FB09-1116	Water	11/29/16 13:06	12/01/16 09:50
320-23928-25	WI-CV-3RW10-1116	Water	11/29/16 16:10	12/01/16 09:50
320-23928-26	WI-CV-3FB10-1116	Water	11/29/16 16:12	12/01/16 09:50
320-23928-27	WI-CV-3RW11-1116	Water	11/29/16 16:35	12/01/16 09:50
320-23928-28	WI-CV-3FB11-1116	Water	11/29/16 16:36	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: 3
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: OLF Coupeville	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.09.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-CV-1RW06-1116	11/29/16	0907	G	DW	2	N	N	X	
WI-CV-1FB06-1116	11/29/16	0906	G	DW	2	N	N	X	
WI-CV-1RW07-1116	11/29/16	1005	G	DW	2	N	N	X	
WI-CV-1FB07-1116	11/29/16	1004	G	DW	2	N	N	X	
WI-CV-1RW08-1116	11/29/16	1212	G	DW	2	N	N	X	
WI-CV-1FB08-1116	11/29/16	1211	G	DW	2	N	N	X	
WI-CV-1RW09-1116	11/29/16	1617	G	DW	2	N	N	X	
WI-CV-1FB09-1116	11/29/16	1616	G	DW	2	N	N	X	
WI-CV-1RW10-1116	11/29/16	1629	G	DW	2	N	N	X	
WI-CV-1RW10-1116-MS	11/29/16	1629	G	DW	2	N	N	X	
WI-CV-1RW10-1116-SD	11/29/16	1629	G	DW	2	N	N	X	
WI-CV-1FB10-1116	11/29/16	1628	G	DW	2	N	N	X	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _Trizma_								6	

320-23928 Chain of Custody

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:

4.9 4.8

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 4.6 Corr'd: 4.9 | Therm ID No.: 12 ice

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple	CH2M	11-29-16/1600	Tracy Gotsman	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

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: 1
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	2 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: OLF Coupeville	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.09.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-CV-2RW05-1116	11/29/16	0929	G	DW	2	N	N	X	
WI-CV-2FB05-1116	11/29/16	0930	G	DW	2	N	N	X	
WI-CV-2RW06-1116	11/29/16	1008	G	DW	2	N	N	X	
WI-CV-2FB06-1116	11/29/16	1009	G	DW	2	N	N	X	
WI-CV-2RW07-1116	11/29/16	1059	G	DW	2	N	N	X	
WI-CV-2FB07-1116	11/29/16	1100	G	DW	2	N	N	X	
WI-CV-3RW06-1116	11/29/16	0915	G	DW	2	N	N	X	
WI-CV-3FB06-1116	11/29/16	0916	G	DW	2	N	N	X	
WI-CV-3RW07-1116	11/29/16	1005	G	DW	2	N	N	X	
WI-CV-3FB07-1116	11/29/16	1006	G	DW	2	N	N	X	
WI-CV-3RW08-1116	11/29/16	1111	G	DW	2	N	N	X	
WI-CV-3FB08-1116	11/29/16	1112	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: 0.6 Corr'd: 0.1 Therm ID No.: 12

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple /	CH2M	11-29-16/1600	Tracy G Turpen	TAS	12/1/16 09:50
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: 1
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	_____ of _____ 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: OLF Coupeville	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.09.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-CV-3RW09-1116	11/29/16	1305	G	DW	2	N	N	X	
WI-CV-3RW09-1116	11/29/16	1306	G	DW	2	N	N	X	
WI-CV-3RW10-1116	11/29/16	1610	G	DW	2	N	N	X	
WI-CV-3RW10-1116-MS	11/29/16	1610	G	DW	2	N	N	X	
WI-CV-3RW10-1116-SD	11/29/16	1610	G	DW	2	N	N	X	
WI-CV-3FB10-1116	11/29/16	1612	G	DW	2	N	N	X	
WI-CV-3RW11-1116	11/29/16	1635	G	DW	2	N	N	X	
WI-CV-3RW11-1116-MS	11/29/16	1635	G	DW	2	N	N	X	
WI-CV-3RW11-1116-SD	11/29/16	1635	G	DW	2	N	N	X	
WI-CV-3FB11-1116	11/29/16	1636	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: 4.6 Corr'd: 4.7 Therm ID No.: 02 TEC

Relinquished by: Eric Epple	Company: CH2M	Date/Time: 11-29-16/1600	Received by: Tracy A. Turpen	Company: TAS	Date/Time: 12/1/16 09:50
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: 320-23928-1

Login Number: 23928
List Number: 1
Creator: Hytrek, Cheryl

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	

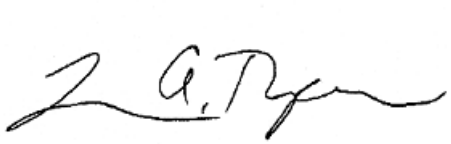
ANALYTICAL REPORT

Job Number: 320-23928-1

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 9:18 AM

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

Table of Contents

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Qualifiers

LCMS

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
M	Manual integrated compound.
E	Result exceeded calibration range.
D	The reported value is from a dilution.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

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: 320-23928-1

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.

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 0.7º C and 4.9º C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): WI-CV-3RW09-1116 (320-23928-24). The container labels list WI-CV-3FB09-1116, while the COC lists WI-CV-3RW09-1116.

PFOA/PFOS

Samples WI-CV-1RW06-1116 (320-23928-1), WI-CV-1FB06-1116 (320-23928-2), WI-CV-1RW07-1116 (320-23928-3), WI-CV-1FB07-1116 (320-23928-4), WI-CV-1RW08-1116 (320-23928-5), WI-CV-1FB08-1116 (320-23928-6), WI-CV-1RW09-1116 (320-23928-7), WI-CV-1FB09-1116 (320-23928-8), WI-CV-1RW10-1116 (320-23928-9), WI-CV-1FB10-1116 (320-23928-10), WI-CV-2RW05-1116 (320-23928-11), WI-CV-2FB05-1116 (320-23928-12), WI-CV-2RW06-1116 (320-23928-13), WI-CV-2FB06-1116 (320-23928-14), WI-CV-2RW07-1116 (320-23928-15), WI-CV-2FB07-1116 (320-23928-16), WI-CV-3RW06-1116 (320-23928-17), WI-CV-3FB06-1116 (320-23928-18), WI-CV-3RW07-1116 (320-23928-19), WI-CV-3FB07-1116 (320-23928-20), WI-CV-3RW08-1116 (320-23928-21), WI-CV-3FB08-1116 (320-23928-22), WI-CV-3RW09-1116 (320-23928-23), WI-CV-FB09-1116 (320-23928-24), WI-CV-3RW10-1116 (320-23928-25), WI-CV-3FB10-1116 (320-23928-26), WI-CV-3RW11-1116 (320-23928-27) and WI-CV-3FB11-1116 (320-23928-28) were analyzed for PFOA/PFOS in accordance with 537. The samples were prepared on 12/02/2016 and 12/03/2016 and analyzed on 12/09/2016, 12/10/2016, 12/11/2016 and 12/12/2016.

The following samples were received in the laboratory with a pH of 9:
WI-CV-1RW06-1116 (320-23928-1), WI-CV-1FB06-1116 (320-23928-2), WI-CV-1RW07-1116 (320-23928-3), WI-CV-1FB07-1116 (320-23928-4), WI-CV-1RW08-1116 (320-23928-5), WI-CV-1FB08-1116 (320-23928-6), WI-CV-1RW09-1116 (320-23928-7), WI-CV-1FB09-1116 (320-23928-8), WI-CV-1RW10-1116 (320-23928-9), WI-CV-1RW10-1116 (320-23928-9[MS]), WI-CV-1RW10-1116 (320-23928-9[MSD]), WI-CV-1FB10-1116 (320-23928-10), WI-CV-2RW05-1116 (320-23928-11), WI-CV-2FB05-1116 (320-23928-12),

WI-CV-2RW06-1116 (320-23928-13), WI-CV-2FB06-1116 (320-23928-14), WI-CV-2RW07-1116 (320-23928-15), WI-CV-2FB07-1116 (320-23928-16), WI-CV-3RW06-1116 (320-23928-17), WI-CV-3FB06-1116 (320-23928-18), WI-CV-3RW07-1116 (320-23928-19), WI-CV-3FB07-1116 (320-23928-20), WI-CV-3RW08-1116 (320-23928-21), WI-CV-3FB08-1116 (320-23928-22), WI-CV-3RW09-1116 (320-23928-23), WI-CV-FB09-1116 (320-23928-24), WI-CV-3RW10-1116 (320-23928-25), WI-CV-3RW10-1116 (320-23928-25[MS]), WI-CV-3RW10-1116 (320-23928-25[MSD]), WI-CV-3FB10-1116 (320-23928-26), WI-CV-3RW11-1116 (320-23928-27), WI-CV-3RW11-1116 (320-23928-27[MS]), WI-CV-3RW11-1116 (320-23928-27[MSD]) and WI-CV-3FB11-1116 (320-23928-28).

Results for samples WI-CV-1RW07-1116 (320-23928-3) and WI-CV-2RW06-1116 (320-23928-13) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

The concentration of one or more analytes associated with the following sample exceeded the instrument calibration range: WI-CV-1RW07-1116 (320-23928-3) and WI-CV-2RW06-1116 (320-23928-13). These analytes have been qualified; however, the peaks did not saturate the instrument detector. The sample was also run at a dilution to bring the analytes within the calibration range.

Surrogate recovery for the following sample was outside control limits: WI-CV-2RW07-1116 (320-23928-15). Re-analysis was performed with concurring results. The original analysis has been reported. There is no impact on the data since the analytes are Non-Detect (ND).

Results for samples WI-CV-3RW11-1116 (320-23928-27) and WI-CV-3RW11-1116 (320-23928-27[MS]) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits. Both the dilute and undiluted results are reported. The dilution for the MS/MSD on sample 320-23928-27 resulted in values below the MDL. These recoveries are reported as NC.

Surrogate recovery for the following samples were outside control limits: WI-CV-3RW11-1116 (320-23928-27) and WI-CV-3RW11-1116 (320-23928-27[MS]). Re-analysis was performed with concurring results. The original analysis has been reported.

Perfluorooctanoic acid (PFOA) failed the recovery criteria low for the MSD of sample WI-CV-3RW10-1116MSD (320-23928-25) in batch 320-141295. The matrix spike (MS) has an E flag because it was spiked at the upper level of the calibration curve.
Perfluorooctanoic acid (PFOA) failed the recovery criteria high for the MS/MSD of sample WI-CV-3RW11-1116 (320-23928-27) in batch 320-141475.
The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Samples WI-CV-1RW07-1116 (320-23928-3)[4X], WI-CV-2RW06-1116 (320-23928-13)[2X] and WI-CV-3RW11-1116 (320-23928-27)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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)

No additional 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: 320-23928-1

Client Sample ID: WI-CV-1RW06-1116 — Lab Sample ID: 320-23928-1

No Detections.

Client Sample ID: WI-CV-1FB06-1116 — Lab Sample ID: 320-23928-2

No Detections.

Client Sample ID: WI-CV-1RW07-1116 — Lab Sample ID: 320-23928-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.26	E	0.027	0.0086	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA) - DL	0.26	D	0.11	0.034	ug/L	4		537	Total/NA

Client Sample ID: WI-CV-1FB07-1116 — Lab Sample ID: 320-23928-4

No Detections.

Client Sample ID: WI-CV-1RW08-1116 — Lab Sample ID: 320-23928-5

No Detections.

Client Sample ID: WI-CV-1FB08-1116 — Lab Sample ID: 320-23928-6

No Detections.

Client Sample ID: WI-CV-1RW09-1116 — Lab Sample ID: 320-23928-7

No Detections.

Client Sample ID: WI-CV-1FB09-1116 — Lab Sample ID: 320-23928-8

No Detections.

Client Sample ID: WI-CV-1RW10-1116 — Lab Sample ID: 320-23928-9

No Detections.

Client Sample ID: WI-CV-1FB10-1116 — Lab Sample ID: 320-23928-10

No Detections.

Client Sample ID: WI-CV-2RW05-1116 — Lab Sample ID: 320-23928-11

No Detections.

Client Sample ID: WI-CV-2FB05-1116 — Lab Sample ID: 320-23928-12

No Detections.

Client Sample ID: WI-CV-2RW06-1116 — Lab Sample ID: 320-23928-13

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.22	E	0.028	0.0087	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA) - DL	0.23	D	0.055	0.017	ug/L	2		537	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: WI-CV-2FB06-1116 — Lab Sample ID: 320-23928-14

No Detections.

Client Sample ID: WI-CV-2RW07-1116 — Lab Sample ID: 320-23928-15

No Detections.

Client Sample ID: WI-CV-2FB07-1116 — Lab Sample ID: 320-23928-16

No Detections.

Client Sample ID: WI-CV-3RW06-1116 — Lab Sample ID: 320-23928-17

No Detections.

Client Sample ID: WI-CV-3FB06-1116 — Lab Sample ID: 320-23928-18

No Detections.

Client Sample ID: WI-CV-3RW07-1116 — Lab Sample ID: 320-23928-19

No Detections.

Client Sample ID: WI-CV-3FB07-1116 — Lab Sample ID: 320-23928-20

No Detections.

Client Sample ID: WI-CV-3RW08-1116 — Lab Sample ID: 320-23928-21

No Detections.

Client Sample ID: WI-CV-3FB08-1116 — Lab Sample ID: 320-23928-22

No Detections.

Client Sample ID: WI-CV-3RW09-1116 — Lab Sample ID: 320-23928-23

No Detections.

Client Sample ID: WI-CV-FB09-1116 — Lab Sample ID: 320-23928-24

No Detections.

Client Sample ID: WI-CV-3RW10-1116 — Lab Sample ID: 320-23928-25

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.13	J	0.027	0.0084	ug/L	1		537	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.12	0.042	ug/L	1		537	Total/NA

Client Sample ID: WI-CV-3FB10-1116 — Lab Sample ID: 320-23928-26

No Detections.

Client Sample ID: WI-CV-3RW11-1116 — Lab Sample ID: 320-23928-27

This Detection Summary does not include radiochemical test results.

Client Sample ID: WI-CV-3RW11-1116 (Continued)

Lab Sample ID: 320-23928-27

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.62	J E	0.027	0.0084	ug/L	1		537	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.13	0.043	ug/L	1		537	Total/NA
Perfluorooctanoic acid (PFOA) - DL	0.59	J D	0.27	0.084	ug/L	10		537	Total/NA

Client Sample ID: WI-CV-3FB11-1116

Lab Sample ID: 320-23928-28

No Detections.

Client Sample ID: WI-CV-1RW06-1116

Lab Sample ID: 320-23928-1

Date Collected: 11/29/16 09:07

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	0.056	0.014	ug/L		12/02/16 20:12	12/09/16 23:56	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0088	ug/L		12/02/16 20:12	12/09/16 23:56	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/09/16 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*125*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:56*	*1*
13C2 PFDA	*114*		*70 - 130*	*12/02/16 20:12*	*12/09/16 23:56*	*1*

Client Sample ID: WI-CV-1FB06-1116

Lab Sample ID: 320-23928-2

Date Collected: 11/29/16 09:06

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)	0.044	U	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 00:25	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.0087	ug/L		12/02/16 20:12	12/10/16 00:25	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 00:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:25*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:25*	*1*

Client Sample ID: WI-CV-1RW07-1116

Lab Sample ID: 320-23928-3

Date Collected: 11/29/16 10:05

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)	0.044	U M	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 04:52	1
Perfluorooctanoic acid (PFOA)	**0.26**	**E**	0.027	0.0086	ug/L		12/02/16 20:12	12/10/16 04:52	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*119*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:52*	*1*
13C2 PFDA	*118*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:52*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.17	U M	0.22	0.057	ug/L		12/02/16 20:12	12/10/16 00:55	4
Perfluorooctanoic acid (PFOA)	**0.26**	**D**	0.11	0.034	ug/L		12/02/16 20:12	12/10/16 00:55	4
Perfluorobutanesulfonic acid (PFBS)	0.40	U	0.51	0.17	ug/L		12/02/16 20:12	12/10/16 00:55	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*109*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:55*	*4*
13C2 PFDA	*105*		*70 - 130*	*12/02/16 20:12*	*12/10/16 00:55*	*4*

Client Sample ID: WI-CV-1FB07-1116

Lab Sample ID: 320-23928-4

Date Collected: 11/29/16 10:04

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	12/10/16 01:25	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.0084	ug/L		12/02/16 20:12	12/10/16 01:25	1
Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.042	ug/L		12/02/16 20:12	12/10/16 01:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:25*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:25*	*1*

Client Sample ID: WI-CV-1RW08-1116

Lab Sample ID: 320-23928-5

Date Collected: 11/29/16 12:12

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)	0.043	U M	0.054	0.014	ug/L		12/02/16 20:12	12/10/16 01:54	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0085	ug/L		12/02/16 20:12	12/10/16 01:54	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 01:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:54*	*1*
13C2 PFDA	*120*		*70 - 130*	*12/02/16 20:12*	*12/10/16 01:54*	*1*

Client Sample ID: WI-CV-1FB08-1116

Lab Sample ID: 320-23928-6

Date Collected: 11/29/16 12:11

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)	0.044	U	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 02:24	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.0087	ug/L		12/02/16 20:12	12/10/16 02:24	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 02:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/02/16 20:12*	*12/10/16 02:24*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 02:24*	*1*

Client Sample ID: WI-CV-1RW09-1116

Lab Sample ID: 320-23928-7

Date Collected: 11/29/16 16:17

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)	0.044	U	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 04:22	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.0086	ug/L		12/02/16 20:12	12/10/16 04:22	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 04:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*126*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:22*	*1*
13C2 PFDA	*116*		*70 - 130*	*12/02/16 20:12*	*12/10/16 04:22*	*1*

Client Sample ID: WI-CV-1FB09-1116

Lab Sample ID: 320-23928-8

Date Collected: 11/29/16 16:16

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)	0.043	U	0.054	0.014	ug/L		12/02/16 20:12	12/10/16 05:21	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.0085	ug/L		12/02/16 20:12	12/10/16 05:21	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:21*	*1*
13C2 PFDA	*105*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:21*	*1*

Client Sample ID: WI-CV-1RW10-1116

Lab Sample ID: 320-23928-9

Date Collected: 11/29/16 16:29

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	12/10/16 05:51	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.0085	ug/L		12/02/16 20:12	12/10/16 05:51	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/02/16 20:12	12/10/16 05:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:51*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/02/16 20:12*	*12/10/16 05:51*	*1*

Client Sample ID: WI-CV-1FB10-1116

Lab Sample ID: 320-23928-10

Date Collected: 11/29/16 16:28

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 M	0.056	0.014	ug/L		12/02/16 20:12	12/10/16 07:20	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/02/16 20:12	12/10/16 07:20	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 07:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*127*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:20*	*1*
13C2 PFDA	*117*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:20*	*1*

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

Lab Sample ID: 320-23928-11

Date Collected: 11/29/16 09:29

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 20:12	12/10/16 07:49	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0093	ug/L		12/02/16 20:12	12/10/16 07:49	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.047	ug/L		12/02/16 20:12	12/10/16 07:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:49*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/02/16 20:12*	*12/10/16 07:49*	*1*

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

Lab Sample ID: 320-23928-12

Date Collected: 11/29/16 09:30

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)	0.044	U M	0.055	0.014	ug/L		12/02/16 20:12	12/10/16 08:19	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0086	ug/L		12/02/16 20:12	12/10/16 08:19	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/02/16 20:12	12/10/16 08:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/02/16 20:12*	*12/10/16 08:19*	*1*
13C2 PFDA	*110*		*70 - 130*	*12/02/16 20:12*	*12/10/16 08:19*	*1*

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

Lab Sample ID: 320-23928-13

Date Collected: 11/29/16 10:08

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 M	0.055	0.014	ug/L		12/03/16 12:19	12/10/16 11:17	1
Perfluorooctanoic acid (PFOA)	**0.22**	**E**	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 11:17	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 11:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*105*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:17*	*1*
13C2 PFDA	*115*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:17*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.089	U	0.11	0.029	ug/L		12/03/16 12:19	12/10/16 11:46	2
Perfluorooctanoic acid (PFOA)	**0.23**	**D**	0.055	0.017	ug/L		12/03/16 12:19	12/10/16 11:46	2
Perfluorobutanesulfonic acid (PFBS)	0.20	U	0.26	0.088	ug/L		12/03/16 12:19	12/10/16 11:46	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:46*	*2*
13C2 PFDA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 11:46*	*2*

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

Lab Sample ID: 320-23928-14

Date Collected: 11/29/16 10:09

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	0.057	0.015	ug/L		12/03/16 12:19	12/10/16 12:16	1
Perfluorooctanoic acid (PFOA)	0.023	U	0.028	0.0089	ug/L		12/03/16 12:19	12/10/16 12:16	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.045	ug/L		12/03/16 12:19	12/10/16 12:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 12:16*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 12:16*	*1*

Client Sample ID: WI-CV-2RW07-1116

Lab Sample ID: 320-23928-15

Date Collected: 11/29/16 10:59

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	0.056	0.014	ug/L		12/03/16 12:19	12/10/16 12:45	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 12:45	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*70 - 130*	*12/03/16 12:19*	*12/10/16 12:45*	*1*
13C2 PFDA	*143*	*Q*	*70 - 130*	*12/03/16 12:19*	*12/10/16 12:45*	*1*

Client Sample ID: WI-CV-2FB07-1116

Lab Sample ID: 320-23928-16

Date Collected: 11/29/16 11:00

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)	0.043	U	0.054	0.014	ug/L		12/03/16 12:19	12/10/16 13:15	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0085	ug/L		12/03/16 12:19	12/10/16 13:15	1
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.13	0.043	ug/L		12/03/16 12:19	12/10/16 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*119*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:15*	*1*
13C2 PFDA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:15*	*1*

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

Lab Sample ID: 320-23928-17

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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 13:45	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 13:45	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 13:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*112*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:45*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/03/16 12:19*	*12/10/16 13:45*	*1*

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

Lab Sample ID: 320-23928-18

Date Collected: 11/29/16 09:16

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	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 14:14	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 14:14	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 14:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:14*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:14*	*1*

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

Lab Sample ID: 320-23928-19

Date Collected: 11/29/16 10:05

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)	0.044	U	0.055	0.014	ug/L		12/03/16 12:19	12/10/16 14:44	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 14:44	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 14:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:44*	*1*
13C2 PFDA	*102*		*70 - 130*	*12/03/16 12:19*	*12/10/16 14:44*	*1*

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

Lab Sample ID: 320-23928-20

Date Collected: 11/29/16 10:06

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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 15:13	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 15:13	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*104*		*70 - 130*	*12/03/16 12:19*	*12/10/16 15:13*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/03/16 12:19*	*12/10/16 15:13*	*1*

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

Lab Sample ID: 320-23928-21

Date Collected: 11/29/16 11:11

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)	0.044	U	0.055	0.014	ug/L		12/03/16 12:19	12/10/16 17:12	1
Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.0087	ug/L		12/03/16 12:19	12/10/16 17:12	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.044	ug/L		12/03/16 12:19	12/10/16 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:12*	*1*
13C2 PFDA	*108*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:12*	*1*

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

Lab Sample ID: 320-23928-22

Date Collected: 11/29/16 11:12

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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 17:41	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.026	0.0082	ug/L		12/03/16 12:19	12/10/16 17:41	1
Perfluorobutanesulfonic acid (PFBS)	0.096	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 17:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*98*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:41*	*1*
13C2 PFDA	*104*		*70 - 130*	*12/03/16 12:19*	*12/10/16 17:41*	*1*

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

Lab Sample ID: 320-23928-23

Date Collected: 11/29/16 13:05
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)	0.042	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 18:11	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.026	0.0083	ug/L		12/03/16 12:19	12/10/16 18:11	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:11*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:11*	*1*

Client Sample ID: WI-CV-FB09-1116

Lab Sample ID: 320-23928-24

Date Collected: 11/29/16 13:06
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)	0.043	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 18:41	1
Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.0084	ug/L		12/03/16 12:19	12/10/16 18:41	1
Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*108*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:41*	*1*
13C2 PFDA	*106*		*70 - 130*	*12/03/16 12:19*	*12/10/16 18:41*	*1*

Client Sample ID: WI-CV-3RW10-1116

Lab Sample ID: 320-23928-25

Date Collected: 11/29/16 16:10
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)	0.043	U M	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 19:10	1
Perfluorooctanoic acid (PFOA)	**0.13**	**J**	0.027	0.0084	ug/L		12/03/16 12:19	12/10/16 19:10	1
Perfluorobutanesulfonic acid (PFBS)	**0.076**	**J**	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 19:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 19:10*	*1*
13C2 PFDA	*114*		*70 - 130*	*12/03/16 12:19*	*12/10/16 19:10*	*1*

Client Sample ID: WI-CV-3FB10-1116

Lab Sample ID: 320-23928-26

Date Collected: 11/29/16 16:12
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)	0.043	U	0.053	0.014	ug/L		12/03/16 12:19	12/10/16 20:39	1
Perfluorooctanoic acid (PFOA)	0.021	U M	0.027	0.0083	ug/L		12/03/16 12:19	12/10/16 20:39	1
Perfluorobutanesulfonic acid (PFBS)	0.097	U	0.12	0.042	ug/L		12/03/16 12:19	12/10/16 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*113*		*70 - 130*	*12/03/16 12:19*	*12/10/16 20:39*	*1*
13C2 PFDA	*107*		*70 - 130*	*12/03/16 12:19*	*12/10/16 20:39*	*1*

Client Sample ID: WI-CV-3RW11-1116

Lab Sample ID: 320-23928-27

Date Collected: 11/29/16 16:35

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)	0.043	U M	0.054	0.014	ug/L		12/03/16 12:19	12/11/16 00:36	1
Perfluorooctanoic acid (PFOA)	**0.62**	**J E**	0.027	0.0084	ug/L		12/03/16 12:19	12/11/16 00:36	1
Perfluorobutanesulfonic acid (PFBS)	**0.052**	**J**	0.13	0.043	ug/L		12/03/16 12:19	12/11/16 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*123*		*70 - 130*	*12/03/16 12:19*	*12/11/16 00:36*	*1*
13C2 PFDA	*131*	*Q*	*70 - 130*	*12/03/16 12:19*	*12/11/16 00:36*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	0.43	U M	0.54	0.14	ug/L		12/03/16 12:19	12/10/16 23:07	10
Perfluorooctanoic acid (PFOA)	**0.59**	**J D**	0.27	0.084	ug/L		12/03/16 12:19	12/10/16 23:07	10
Perfluorobutanesulfonic acid (PFBS)	0.98	U	1.3	0.43	ug/L		12/03/16 12:19	12/10/16 23:07	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*103*		*70 - 130*	*12/03/16 12:19*	*12/10/16 23:07*	*10*
13C2 PFDA	*89*		*70 - 130*	*12/03/16 12:19*	*12/10/16 23:07*	*10*

Client Sample ID: WI-CV-3FB11-1116

Lab Sample ID: 320-23928-28

Date Collected: 11/29/16 16:36

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)	0.044	U	0.055	0.014	ug/L		12/03/16 12:19	12/12/16 18:08	1
Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.0086	ug/L		12/03/16 12:19	12/12/16 18:08	1
Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.043	ug/L		12/03/16 12:19	12/12/16 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*115*		*70 - 130*	*12/03/16 12:19*	*12/12/16 18:08*	*1*
13C2 PFDA	*123*		*70 - 130*	*12/03/16 12:19*	*12/12/16 18:08*	*1*

Default Detection Limits

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

TestAmerica Job ID: 320-23928-1

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: 320-23928-1

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)								
320-23928-1	WI-CV-1RW06-1116	125	114								
320-23928-2	WI-CV-1FB06-1116	107	104								
320-23928-3 - DL	WI-CV-1RW07-1116	109	105								
320-23928-3	WI-CV-1RW07-1116	119	118								
320-23928-4	WI-CV-1FB07-1116	114	106								
320-23928-5	WI-CV-1RW08-1116	115	120								
320-23928-6	WI-CV-1FB08-1116	114	107								
320-23928-7	WI-CV-1RW09-1116	126	116								
320-23928-8	WI-CV-1FB09-1116	107	105								
320-23928-9	WI-CV-1RW10-1116	111	108								
320-23928-9 MS	WI-CV-1RW10-1116	119	117								
320-23928-9 MSD	WI-CV-1RW10-1116	120	117								
320-23928-10	WI-CV-1FB10-1116	127	117								
320-23928-11	WI-CV-2RW05-1116	111	107								
320-23928-12	WI-CV-2FB05-1116	112	110								
320-23928-13	WI-CV-2RW06-1116	105	115								
320-23928-13 - DL	WI-CV-2RW06-1116	114	111								
320-23928-14	WI-CV-2FB06-1116	111	111								
320-23928-15	WI-CV-2RW07-1116	115	143 Q								
320-23928-16	WI-CV-2FB07-1116	119	111								
320-23928-17	WI-CV-3RW06-1116	112	107								
320-23928-18	WI-CV-3FB06-1116	103	104								
320-23928-19	WI-CV-3RW07-1116	114	102								
320-23928-20	WI-CV-3FB07-1116	104	107								
320-23928-21	WI-CV-3RW08-1116	114	108								
320-23928-22	WI-CV-3FB08-1116	98	104								
320-23928-23	WI-CV-3RW09-1116	111	106								
320-23928-24	WI-CV-FB09-1116	108	106								
320-23928-25	WI-CV-3RW10-1116	111	114								
320-23928-25 MS	WI-CV-3RW10-1116	116	120								
320-23928-25 MSD	WI-CV-3RW10-1116	109	111								
320-23928-26	WI-CV-3FB10-1116	113	107								
320-23928-27 - DL	WI-CV-3RW11-1116	103	89								
320-23928-27	WI-CV-3RW11-1116	123	131 Q								
320-23928-27 MS - DL	WI-CV-3RW11-1116	115	102								
320-23928-27 MS	WI-CV-3RW11-1116	124	135 Q								
320-23928-27 MSD - DL	WI-CV-3RW11-1116	111	103								
320-23928-27 MSD	WI-CV-3RW11-1116	127	129								
320-23928-28	WI-CV-3FB11-1116	115	123								
LCS 320-140442/2-A	Lab Control Sample	129	122								
LLCS 320-140478/2-A	Lab Control Sample	109	106								
MB 320-140442/1-A	Method Blank	118	108								
MB 320-140478/1-A	Method Blank	111	103								

Surrogate Legend

13C2 PFHxA = 13C2 PFHxA

13C2 PFDA = 13C2 PFDA

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

Lab Sample ID: MB 320-140442/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141291 — **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*

Lab Sample ID: LCS 320-140442/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141291 — **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*

Lab Sample ID: 320-23928-9 MS — **Client Sample ID: WI-CV-1RW10-1116**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141293 — **Prep Batch: 140442**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.147	0.122		ug/L		83	70 - 130
Perfluorooctanoic acid (PFOA)	0.022	U M	0.0745	0.0603		ug/L		81	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.330	0.264		ug/L		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*119*		*70 - 130*
13C2 PFDA	*117*		*70 - 130*

Lab Sample ID: 320-23928-9 MSD — **Client Sample ID: WI-CV-1RW10-1116**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141293 — **Prep Batch: 140442**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.150	0.124		ug/L		83	70 - 130	2	30
Perfluorooctanoic acid (PFOA)	0.022	U M	0.0758	0.0642		ug/L		85	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	0.099	U	0.336	0.279		ug/L		83	70 - 130	5	30

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

Lab Sample ID: 320-23928-9 MSD
Matrix: Water
Analysis Batch: 141293

Client Sample ID: WI-CV-1RW10-1116
Prep Type: Total/NA
Prep Batch: 140442

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*120*		*70 - 130*
13C2 PFDA	*117*		*70 - 130*

Lab Sample ID: MB 320-140478/1-A
Matrix: Water
Analysis Batch: 141293

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 140478

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		12/03/16 12:19	12/10/16 08:49	1
Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.0094	ug/L		12/03/16 12:19	12/10/16 08:49	1
Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.048	ug/L		12/03/16 12:19	12/10/16 08:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C2 PFHxA	*111*		*70 - 130*	*12/03/16 12:19*	*12/10/16 08:49*	*1*
13C2 PFDA	*103*		*70 - 130*	*12/03/16 12:19*	*12/10/16 08:49*	*1*

Lab Sample ID: LLCS 320-140478/2-A
Matrix: Water
Analysis Batch: 141294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0358	J	ug/L		89	50 - 150
Perfluorooctanoic acid (PFOA)	0.0203	0.0191	J M	ug/L		94	50 - 150
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0862	J	ug/L		96	50 - 150

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*106*		*70 - 130*

Lab Sample ID: 320-23928-25 MS
Matrix: Water
Analysis Batch: 141295

Client Sample ID: WI-CV-3RW10-1116
Prep Type: Total/NA
Prep Batch: 140478

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0351	0.0328	J	ug/L		93	70 - 130
Perfluorooctanoic acid (PFOA)	0.13	J	0.0178	0.152	E 4	ug/L		103	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.0787	0.136		ug/L		76	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*116*		*70 - 130*
13C2 PFDA	*120*		*70 - 130*

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

Lab Sample ID: 320-23928-25 MSD — **Client Sample ID: WI-CV-3RW10-1116**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141295 — **Prep Batch: 140478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0361	0.0315	J	ug/L		87	70 - 130	4	30
Perfluorooctanoic acid (PFOA)	0.13	J	0.0183	0.144	4	ug/L		53	70 - 130	6	30
Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.0808	0.135		ug/L		73	70 - 130	1	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*109*		*70 - 130*
13C2 PFDA	*111*		*70 - 130*

Lab Sample ID: 320-23928-27 MS — **Client Sample ID: WI-CV-3RW11-1116**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141475 — **Prep Batch: 140478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0343	0.0330	J	ug/L		96	70 - 130
Perfluorooctanoic acid (PFOA)	0.62	J E	0.0173	0.674	E 4	ug/L		291	70 - 130
Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.0768	0.121		ug/L		89	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA	*124*		*70 - 130*
13C2 PFDA	*135*	*Q*	*70 - 130*

Lab Sample ID: 320-23928-27 MSD — **Client Sample ID: WI-CV-3RW11-1116**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141475 — **Prep Batch: 140478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.0358	0.0319	J	ug/L		89	70 - 130	3	30
Perfluorooctanoic acid (PFOA)	0.62	J E	0.0181	0.650	E 4	ug/L		150	70 - 130	4	30
Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.0802	0.123	J	ug/L		88	70 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA	*127*		*70 - 130*
13C2 PFDA	*129*		*70 - 130*

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

Lab Sample ID: 320-23928-27 MS — **Client Sample ID: WI-CV-3RW11-1116**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 141475 — **Prep Batch: 140478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonic acid (PFOS) - DL	0.43	U M	0.0343	0.41	U M	ug/L		NC	70 - 130

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

Lab Sample ID: 320-23928-27 MS | **Client Sample ID: WI-CV-3RW11-1116**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 141475 | **Prep Batch: 140478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorooctanoic acid (PFOA) - DL	0.59	J D	0.0173	0.705	4 D	ug/L		675	70 - 130		
Perfluorobutanesulfonic acid (PFBS) - DL	0.98	U	0.0768	0.94	U	ug/L		NC	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
13C2 PFHxA - DL	*115*		*70 - 130*
13C2 PFDA - DL	*102*		*70 - 130*

Lab Sample ID: 320-23928-27 MSD | **Client Sample ID: WI-CV-3RW11-1116**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 141475 | **Prep Batch: 140478**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS) - DL	0.43	U M	0.0358	0.43	U M	ug/L		NC	70 - 130	NC	30
Perfluorooctanoic acid (PFOA) - DL	0.59	J D	0.0181	0.672	D 4	ug/L		462	70 - 130	5	30
Perfluorobutanesulfonic acid (PFBS) - DL	0.98	U	0.0802	0.98	U	ug/L		NC	70 - 130	NC	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C2 PFHxA - DL	*111*		*70 - 130*
13C2 PFDA - DL	*103*		*70 - 130*

LCMS

Prep Batch: 140442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-1	WI-CV-1RW06-1116	Total/NA	Water	537	
320-23928-2	WI-CV-1FB06-1116	Total/NA	Water	537	
320-23928-3	WI-CV-1RW07-1116	Total/NA	Water	537	
320-23928-3 - DL	WI-CV-1RW07-1116	Total/NA	Water	537	
320-23928-4	WI-CV-1FB07-1116	Total/NA	Water	537	
320-23928-5	WI-CV-1RW08-1116	Total/NA	Water	537	
320-23928-6	WI-CV-1FB08-1116	Total/NA	Water	537	
320-23928-7	WI-CV-1RW09-1116	Total/NA	Water	537	
320-23928-8	WI-CV-1FB09-1116	Total/NA	Water	537	
320-23928-9	WI-CV-1RW10-1116	Total/NA	Water	537	
320-23928-10	WI-CV-1FB10-1116	Total/NA	Water	537	
320-23928-11	WI-CV-2RW05-1116	Total/NA	Water	537	
320-23928-12	WI-CV-2FB05-1116	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	
320-23928-9 MS	WI-CV-1RW10-1116	Total/NA	Water	537	
320-23928-9 MSD	WI-CV-1RW10-1116	Total/NA	Water	537	

Prep Batch: 140478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-13	WI-CV-2RW06-1116	Total/NA	Water	537	
320-23928-13 - DL	WI-CV-2RW06-1116	Total/NA	Water	537	
320-23928-14	WI-CV-2FB06-1116	Total/NA	Water	537	
320-23928-15	WI-CV-2RW07-1116	Total/NA	Water	537	
320-23928-16	WI-CV-2FB07-1116	Total/NA	Water	537	
320-23928-17	WI-CV-3RW06-1116	Total/NA	Water	537	
320-23928-18	WI-CV-3FB06-1116	Total/NA	Water	537	
320-23928-19	WI-CV-3RW07-1116	Total/NA	Water	537	
320-23928-20	WI-CV-3FB07-1116	Total/NA	Water	537	
320-23928-21	WI-CV-3RW08-1116	Total/NA	Water	537	
320-23928-22	WI-CV-3FB08-1116	Total/NA	Water	537	
320-23928-23	WI-CV-3RW09-1116	Total/NA	Water	537	
320-23928-24	WI-CV-FB09-1116	Total/NA	Water	537	
320-23928-25	WI-CV-3RW10-1116	Total/NA	Water	537	
320-23928-26	WI-CV-3FB10-1116	Total/NA	Water	537	
320-23928-27 - DL	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-28	WI-CV-3FB11-1116	Total/NA	Water	537	
MB 320-140478/1-A	Method Blank	Total/NA	Water	537	
LLCS 320-140478/2-A	Lab Control Sample	Total/NA	Water	537	
320-23928-25 MS	WI-CV-3RW10-1116	Total/NA	Water	537	
320-23928-25 MSD	WI-CV-3RW10-1116	Total/NA	Water	537	
320-23928-27 MS	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 MS - DL	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 MSD	WI-CV-3RW11-1116	Total/NA	Water	537	
320-23928-27 MSD - DL	WI-CV-3RW11-1116	Total/NA	Water	537	

Analysis Batch: 141291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
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
320-23928-1	WI-CV-1RW06-1116	Total/NA	Water	537	140442
320-23928-2	WI-CV-1FB06-1116	Total/NA	Water	537	140442
320-23928-3 - DL	WI-CV-1RW07-1116	Total/NA	Water	537	140442
320-23928-4	WI-CV-1FB07-1116	Total/NA	Water	537	140442
320-23928-5	WI-CV-1RW08-1116	Total/NA	Water	537	140442
320-23928-6	WI-CV-1FB08-1116	Total/NA	Water	537	140442

Analysis Batch: 141293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-3	WI-CV-1RW07-1116	Total/NA	Water	537	140442
320-23928-7	WI-CV-1RW09-1116	Total/NA	Water	537	140442
320-23928-8	WI-CV-1FB09-1116	Total/NA	Water	537	140442
320-23928-9	WI-CV-1RW10-1116	Total/NA	Water	537	140442
320-23928-10	WI-CV-1FB10-1116	Total/NA	Water	537	140442
320-23928-11	WI-CV-2RW05-1116	Total/NA	Water	537	140442
320-23928-12	WI-CV-2FB05-1116	Total/NA	Water	537	140442
MB 320-140478/1-A	Method Blank	Total/NA	Water	537	140478
320-23928-9 MS	WI-CV-1RW10-1116	Total/NA	Water	537	140442
320-23928-9 MSD	WI-CV-1RW10-1116	Total/NA	Water	537	140442

Analysis Batch: 141294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-13	WI-CV-2RW06-1116	Total/NA	Water	537	140478
320-23928-13 - DL	WI-CV-2RW06-1116	Total/NA	Water	537	140478
320-23928-14	WI-CV-2FB06-1116	Total/NA	Water	537	140478
320-23928-15	WI-CV-2RW07-1116	Total/NA	Water	537	140478
320-23928-16	WI-CV-2FB07-1116	Total/NA	Water	537	140478
320-23928-17	WI-CV-3RW06-1116	Total/NA	Water	537	140478
320-23928-18	WI-CV-3FB06-1116	Total/NA	Water	537	140478
320-23928-19	WI-CV-3RW07-1116	Total/NA	Water	537	140478
320-23928-20	WI-CV-3FB07-1116	Total/NA	Water	537	140478
LLCS 320-140478/2-A	Lab Control Sample	Total/NA	Water	537	140478

Analysis Batch: 141295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-21	WI-CV-3RW08-1116	Total/NA	Water	537	140478
320-23928-22	WI-CV-3FB08-1116	Total/NA	Water	537	140478
320-23928-23	WI-CV-3RW09-1116	Total/NA	Water	537	140478
320-23928-24	WI-CV-FB09-1116	Total/NA	Water	537	140478
320-23928-25	WI-CV-3RW10-1116	Total/NA	Water	537	140478
320-23928-26	WI-CV-3FB10-1116	Total/NA	Water	537	140478
320-23928-25 MS	WI-CV-3RW10-1116	Total/NA	Water	537	140478
320-23928-25 MSD	WI-CV-3RW10-1116	Total/NA	Water	537	140478

Analysis Batch: 141475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-27 - DL	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MS - DL	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MS	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MSD - DL	WI-CV-3RW11-1116	Total/NA	Water	537	140478
320-23928-27 MSD	WI-CV-3RW11-1116	Total/NA	Water	537	140478

LCMS (Continued)

Analysis Batch: 141758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-23928-28	WI-CV-3FB11-1116	Total/NA	Water	537	140478

Client Sample ID: WI-CV-1RW06-1116
Lab Sample ID: 320-23928-1
Date Collected: 11/29/16 09:07
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 23:56	JRB	TAL SAC

Client Sample ID: WI-CV-1FB06-1116
Lab Sample ID: 320-23928-2
Date Collected: 11/29/16 09:06
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	141292	12/10/16 00:25	JRB	TAL SAC

Client Sample ID: WI-CV-1RW07-1116
Lab Sample ID: 320-23928-3
Date Collected: 11/29/16 10:05
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		140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537	DL	4	141292	12/10/16 00:55	JRB	TAL SAC
Total/NA	Prep	537			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141293	12/10/16 04:52	JRB	TAL SAC

Client Sample ID: WI-CV-1FB07-1116
Lab Sample ID: 320-23928-4
Date Collected: 11/29/16 10:04
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	12/10/16 01:25	JRB	TAL SAC

Client Sample ID: WI-CV-1RW08-1116
Lab Sample ID: 320-23928-5
Date Collected: 11/29/16 12:12
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			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141292	12/10/16 01:54	JRB	TAL SAC

Client Sample ID: WI-CV-1FB08-1116
Lab Sample ID: 320-23928-6
Date Collected: 11/29/16 12:11
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			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141292	12/10/16 02:24	JRB	TAL SAC

Client Sample ID: WI-CV-1RW09-1116
Lab Sample ID: 320-23928-7
Date Collected: 11/29/16 16:17
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			140442	12/02/16 20:12	JER	TAL SAC
Total/NA	Analysis	537		1	141293	12/10/16 04:22	JRB	TAL SAC

Client Sample ID: WI-CV-1FB09-1116
Lab Sample ID: 320-23928-8
Date Collected: 11/29/16 16:16
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	141293	12/10/16 05:21	JRB	TAL SAC

Client Sample ID: WI-CV-1RW10-1116
Lab Sample ID: 320-23928-9
Date Collected: 11/29/16 16:29
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	141293	12/10/16 05:51	JRB	TAL SAC

Client Sample ID: WI-CV-1FB10-1116
Lab Sample ID: 320-23928-10
Date Collected: 11/29/16 16:28
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	141293	12/10/16 07:20	JRB	TAL SAC

Client Sample ID: WI-CV-2RW05-1116
Lab Sample ID: 320-23928-11
Date Collected: 11/29/16 09:29
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	141293	12/10/16 07:49	JRB	TAL SAC

Client Sample ID: WI-CV-2FB05-1116
Lab Sample ID: 320-23928-12
Date Collected: 11/29/16 09:30
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	141293	12/10/16 08:19	JRB	TAL SAC

Client Sample ID: WI-CV-2RW06-1116
Lab Sample ID: 320-23928-13
Date Collected: 11/29/16 10:08
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 11:17	JRB	TAL SAC
Total/NA	Prep	537	DL		140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537	DL	2	141294	12/10/16 11:46	JRB	TAL SAC

Client Sample ID: WI-CV-2FB06-1116
Lab Sample ID: 320-23928-14
Date Collected: 11/29/16 10:09
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 12:16	JRB	TAL SAC

Client Sample ID: WI-CV-2RW07-1116
Lab Sample ID: 320-23928-15
Date Collected: 11/29/16 10:59
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 12:45	JRB	TAL SAC

Client Sample ID: WI-CV-2FB07-1116
Lab Sample ID: 320-23928-16
Date Collected: 11/29/16 11:00
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 13:15	JRB	TAL SAC

Client Sample ID: WI-CV-3RW06-1116
Lab Sample ID: 320-23928-17
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			140478	12/03/16 12:19	JER	TAL SAC

Client Sample ID: WI-CV-3RW06-1116
Lab Sample ID: 320-23928-17
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	Analysis	537		1	141294	12/10/16 13:45	JRB	TAL SAC

Client Sample ID: WI-CV-3FB06-1116
Lab Sample ID: 320-23928-18
Date Collected: 11/29/16 09:16
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 14:14	JRB	TAL SAC

Client Sample ID: WI-CV-3RW07-1116
Lab Sample ID: 320-23928-19
Date Collected: 11/29/16 10:05
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 14:44	JRB	TAL SAC

Client Sample ID: WI-CV-3FB07-1116
Lab Sample ID: 320-23928-20
Date Collected: 11/29/16 10:06
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141294	12/10/16 15:13	JRB	TAL SAC

Client Sample ID: WI-CV-3RW08-1116
Lab Sample ID: 320-23928-21
Date Collected: 11/29/16 11:11
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141295	12/10/16 17:12	JRB	TAL SAC

Client Sample ID: WI-CV-3FB08-1116
Lab Sample ID: 320-23928-22
Date Collected: 11/29/16 11:12
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141295	12/10/16 17:41	JRB	TAL SAC

Client Sample ID: WI-CV-3RW09-1116
Lab Sample ID: 320-23928-23
Date Collected: 11/29/16 13:05
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141295	12/10/16 18:11	JRB	TAL SAC

Client Sample ID: WI-CV-FB09-1116
Lab Sample ID: 320-23928-24
Date Collected: 11/29/16 13:06
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141295	12/10/16 18:41	JRB	TAL SAC

Client Sample ID: WI-CV-3RW10-1116
Lab Sample ID: 320-23928-25
Date Collected: 11/29/16 16:10
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141295	12/10/16 19:10	JRB	TAL SAC

Client Sample ID: WI-CV-3FB10-1116
Lab Sample ID: 320-23928-26
Date Collected: 11/29/16 16:12
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			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141295	12/10/16 20:39	JRB	TAL SAC

Client Sample ID: WI-CV-3RW11-1116
Lab Sample ID: 320-23928-27
Date Collected: 11/29/16 16:35
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	DL		140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537	DL	10	141475	12/10/16 23:07	JRB	TAL SAC
Total/NA	Prep	537			140478	12/03/16 12:19	JER	TAL SAC
Total/NA	Analysis	537		1	141475	12/11/16 00:36	JRB	TAL SAC

Client Sample ID: WI-CV-3FB11-1116
Lab Sample ID: 320-23928-28
Date Collected: 11/29/16 16:36
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			140478	12/03/16 12:19	JER	TAL SAC

Client Sample ID: WI-CV-3FB11-1116

Date Collected: 11/29/16 16:36
Date Received: 12/01/16 09:50

Lab Sample ID: 320-23928-28

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	537		1	141758	12/12/16 18:08	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: 320-23928-1

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: 320-23928-1

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: 320-23928-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-23928-1	WI-CV-1RW06-1116	Water	11/29/16 09:07	12/01/16 09:50
320-23928-2	WI-CV-1FB06-1116	Water	11/29/16 09:06	12/01/16 09:50
320-23928-3	WI-CV-1RW07-1116	Water	11/29/16 10:05	12/01/16 09:50
320-23928-4	WI-CV-1FB07-1116	Water	11/29/16 10:04	12/01/16 09:50
320-23928-5	WI-CV-1RW08-1116	Water	11/29/16 12:12	12/01/16 09:50
320-23928-6	WI-CV-1FB08-1116	Water	11/29/16 12:11	12/01/16 09:50
320-23928-7	WI-CV-1RW09-1116	Water	11/29/16 16:17	12/01/16 09:50
320-23928-8	WI-CV-1FB09-1116	Water	11/29/16 16:16	12/01/16 09:50
320-23928-9	WI-CV-1RW10-1116	Water	11/29/16 16:29	12/01/16 09:50
320-23928-10	WI-CV-1FB10-1116	Water	11/29/16 16:28	12/01/16 09:50
320-23928-11	WI-CV-2RW05-1116	Water	11/29/16 09:29	12/01/16 09:50
320-23928-12	WI-CV-2FB05-1116	Water	11/29/16 09:30	12/01/16 09:50
320-23928-13	WI-CV-2RW06-1116	Water	11/29/16 10:08	12/01/16 09:50
320-23928-14	WI-CV-2FB06-1116	Water	11/29/16 10:09	12/01/16 09:50
320-23928-15	WI-CV-2RW07-1116	Water	11/29/16 10:59	12/01/16 09:50
320-23928-16	WI-CV-2FB07-1116	Water	11/29/16 11:00	12/01/16 09:50
320-23928-17	WI-CV-3RW06-1116	Water	11/29/16 09:15	12/01/16 09:50
320-23928-18	WI-CV-3FB06-1116	Water	11/29/16 09:16	12/01/16 09:50
320-23928-19	WI-CV-3RW07-1116	Water	11/29/16 10:05	12/01/16 09:50
320-23928-20	WI-CV-3FB07-1116	Water	11/29/16 10:06	12/01/16 09:50
320-23928-21	WI-CV-3RW08-1116	Water	11/29/16 11:11	12/01/16 09:50
320-23928-22	WI-CV-3FB08-1116	Water	11/29/16 11:12	12/01/16 09:50
320-23928-23	WI-CV-3RW09-1116	Water	11/29/16 13:05	12/01/16 09:50
320-23928-24	WI-CV-FB09-1116	Water	11/29/16 13:06	12/01/16 09:50
320-23928-25	WI-CV-3RW10-1116	Water	11/29/16 16:10	12/01/16 09:50
320-23928-26	WI-CV-3FB10-1116	Water	11/29/16 16:12	12/01/16 09:50
320-23928-27	WI-CV-3RW11-1116	Water	11/29/16 16:35	12/01/16 09:50
320-23928-28	WI-CV-3FB11-1116	Water	11/29/16 16:36	12/01/16 09:50

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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.: 320-23928-1

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

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141292

Lab Sample ID: 320-23928-1 Client Sample ID: WI-CV-1RW06-1116

Date Analyzed: 12/09/16 23:56 Lab File ID: 05DEC2016A6A_209.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 11:06

Lab Sample ID: 320-23928-3 DL Client Sample ID: WI-CV-1RW07-1116 DL

Date Analyzed: 12/10/16 00:55 Lab File ID: 05DEC2016A6A_211.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.37	Missed Peak	barnettj	12/10/16 11:09

Lab Sample ID: 320-23928-5 Client Sample ID: WI-CV-1RW08-1116

Date Analyzed: 12/10/16 01:54 Lab File ID: 05DEC2016A6A_213.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 11:13

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141293

Lab Sample ID: 320-23928-7 Client Sample ID: WI-CV-1RW09-1116

Date Analyzed: 12/10/16 04:22 Lab File ID: 05DEC2016A6A_218.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.06	Missed Peak	barnettj	12/10/16 11:21

Lab Sample ID: 320-23928-3 Client Sample ID: WI-CV-1RW07-1116

Date Analyzed: 12/10/16 04:52 Lab File ID: 05DEC2016A6A_219.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.38	Missed Peak	barnettj	12/10/16 11:22

Lab Sample ID: 320-23928-8 Client Sample ID: WI-CV-1FB09-1116

Date Analyzed: 12/10/16 05:21 Lab File ID: 05DEC2016A6A_220.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.04	Split Peak	barnettj	12/10/16 11:23

Lab Sample ID: 320-23928-9 Client Sample ID: WI-CV-1RW10-1116

Date Analyzed: 12/10/16 05:51 Lab File ID: 05DEC2016A6A_221.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.08	Split Peak	barnettj	12/10/16 11:25
Perfluorooctanesulfonic acid (PFOS)	20.66	Missed Peak	barnettj	12/10/16 11:25

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141293

Lab Sample ID: 320-23928-10 Client Sample ID: WI-CV-1FB10-1116

Date Analyzed: 12/10/16 07:20 Lab File ID: 05DEC2016A6A_224.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.04	Split Peak	barnettj	12/10/16 11:27
Perfluorooctanesulfonic acid (PFOS)	20.68	Missed Peak	barnettj	12/10/16 11:27

Lab Sample ID: 320-23928-11 Client Sample ID: WI-CV-2RW05-1116

Date Analyzed: 12/10/16 07:49 Lab File ID: 05DEC2016A6A_225.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.66	Missed Peak	barnettj	12/10/16 11:28

Lab Sample ID: 320-23928-12 Client Sample ID: WI-CV-2FB05-1116

Date Analyzed: 12/10/16 08:19 Lab File ID: 05DEC2016A6A_226.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	12/10/16 11:29

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141294

Lab Sample ID: LLCS 320-140478/2-A Client Sample ID:

Date Analyzed: 12/10/16 10:47 Lab File ID: 05DEC2016A6A_231.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	12/12/16 09:43

Lab Sample ID: 320-23928-13 Client Sample ID: WI-CV-2RW06-1116

Date Analyzed: 12/10/16 11:17 Lab File ID: 05DEC2016A6A_232.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	12/12/16 09:45

Lab Sample ID: 320-23928-15 Client Sample ID: WI-CV-2RW07-1116

Date Analyzed: 12/10/16 12:45 Lab File ID: 05DEC2016A6A_235.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.08	Split Peak	barnettj	12/12/16 09:47

Lab Sample ID: 320-23928-17 Client Sample ID: WI-CV-3RW06-1116

Date Analyzed: 12/10/16 13:45 Lab File ID: 05DEC2016A6A_237.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	12/12/16 09:49

Lab Sample ID: 320-23928-18 Client Sample ID: WI-CV-3FB06-1116

Date Analyzed: 12/10/16 14:14 Lab File ID: 05DEC2016A6A_238.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	12/12/16 09:50

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141294

Lab Sample ID: 320-23928-19 Client Sample ID: WI-CV-3RW07-1116

Date Analyzed: 12/10/16 14:44 Lab File ID: 05DEC2016A6A_239.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.09	Missed Peak	barnettj	12/12/16 09:50

Lab Sample ID: 320-23928-20 Client Sample ID: WI-CV-3FB07-1116

Date Analyzed: 12/10/16 15:13 Lab File ID: 05DEC2016A6A_240.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.04	Split Peak	barnettj	12/12/16 09:51

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141295

Lab Sample ID: 320-23928-21 Client Sample ID: WI-CV-3RW08-1116

Date Analyzed: 12/10/16 17:12 Lab File ID: 05DEC2016A6A_244.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.08	Split Peak	barnettj	12/12/16 09:54

Lab Sample ID: 320-23928-25 Client Sample ID: WI-CV-3RW10-1116

Date Analyzed: 12/10/16 19:10 Lab File ID: 05DEC2016A6A_248.d GC Column: Acquity ID: 2.1(mm)

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

Lab Sample ID: 320-23928-26 Client Sample ID: WI-CV-3FB10-1116

Date Analyzed: 12/10/16 20:39 Lab File ID: 05DEC2016A6A_251.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	20.11	Missed Peak	barnettj	12/12/16 09:58

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Analysis Batch Number: 141475

Lab Sample ID: 320-23928-27 DL Client Sample ID: WI-CV-3RW11-1116 DL

Date Analyzed: 12/10/16 23:07 Lab File ID: 05DEC2016A6A_256.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.43	Missed Peak	barnettj	12/12/16 10:21

Lab Sample ID: 320-23928-27 MS DL Client Sample ID: WI-CV-3RW11-1116 MS DL

Date Analyzed: 12/10/16 23:37 Lab File ID: 05DEC2016A6A_257.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	12/12/16 10:22

Lab Sample ID: 320-23928-27 MSD DL Client Sample ID: WI-CV-3RW11-1116 MSD DL

Date Analyzed: 12/11/16 00:06 Lab File ID: 05DEC2016A6A_258.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 10:23

Lab Sample ID: 320-23928-27 Client Sample ID: WI-CV-3RW11-1116

Date Analyzed: 12/11/16 00:36 Lab File ID: 05DEC2016A6A_259.d GC Column: Acquity ID: 2.1(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	20.42	Missed Peak	barnettj	12/12/16 10:24

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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

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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

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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

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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.: 320-23928-1

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.: 320-23928-1

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.: 320-23928-1

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.: 320-23928-1

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_00010	01/28/17	07/28/16	Methanol, Lot 090285	10000 uL	LC537SPIM_00012	50 uL	Perfluorobutane Sulfonate	448.8 ng/mL
							Perfluorobutanesulfonic acid (PFBS)	448.8 ng/mL

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perfluoroheptanoic acid	50.9143 ng/mL
							Perfluorohexanesulfonic acid	151.291 ng/mL
							Perfluorononanoic acid	98.226 ng/mL
							Perfluorooctanoic acid (PFOA)	101.399 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	200.332 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-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.: 320-23928-1

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

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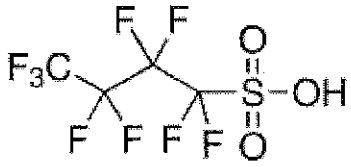
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

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

R: 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

$$MW\ corr = \frac{(k\,form) - (K) + (H)}{(438.20 - 39.10 + 1.01)} = \frac{0.91307}{438.20\,(K\,form)}$$ (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

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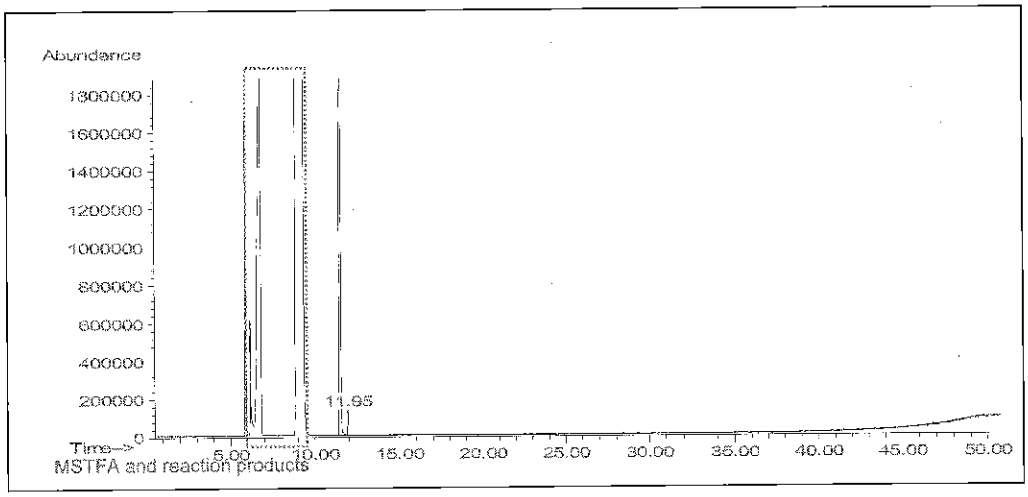
GC/MS-Method

Analytical Department

Article: **Pentadecafluorooctanoic acid OEKANAL**
Article-No.: **33824**
Batch: **SZBD308XV**

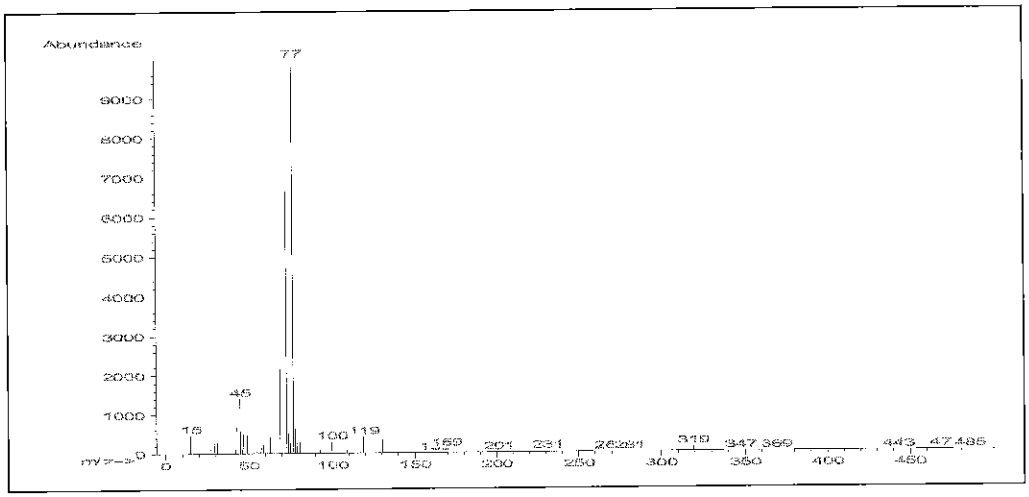
Column:	XTI-5 (Restek); 30 m; fs cap.; I.D.:0.25 mm; 1 µm df
Injector:	Split mode
Injection:	approx. 1 µl of reaction mixture with MSTFA (approx. 10 mg + 200 µl MSTFA)
Inj.-temp.:	280°C
Oven-temp.:	40°C (for 2 min) to 320°C (6°C/min) hold for 2 min
Split:	1:100
Flow:	1 ml He/min (Constant flow mode)
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 = 91.06 %

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

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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

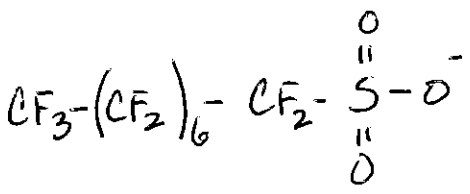
QC RELEASE DATE 13/APR/11

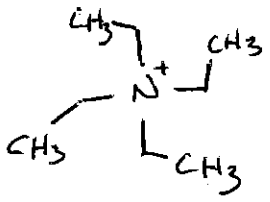
MW correction = $\frac{500.125}{629.37} = 0.7946$ ~~= 79.46%~~ DEH 7-26-12

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.

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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.

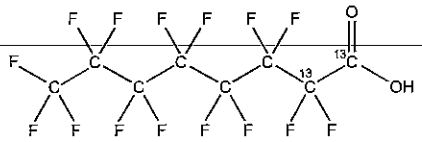
Reagent

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:

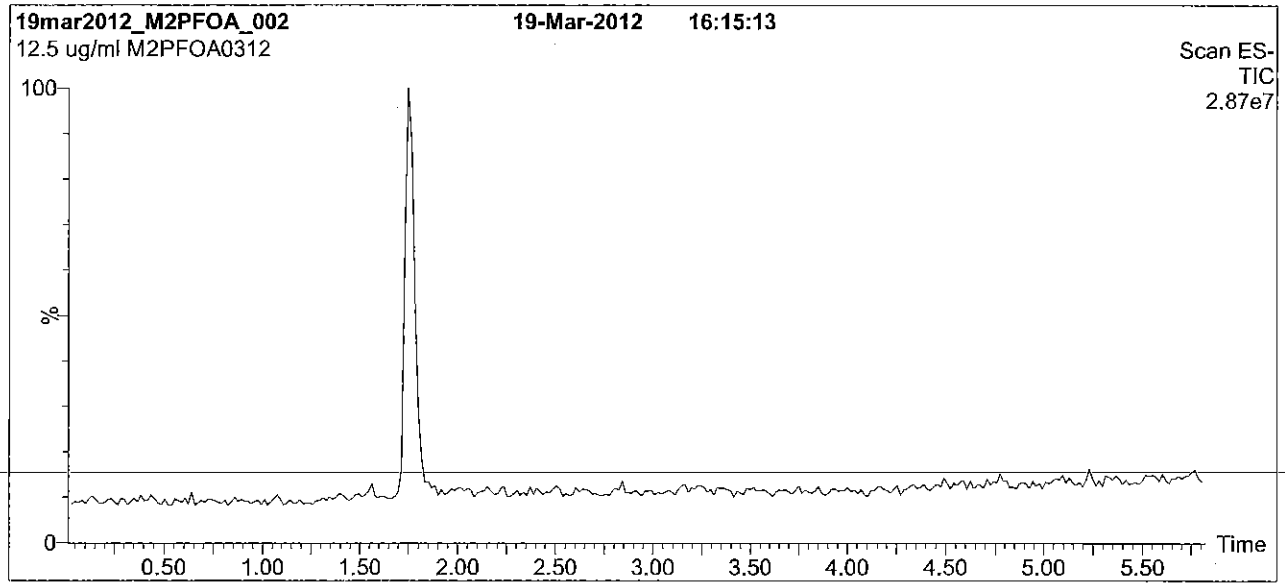
This product was produced using a Quality Management System registered to ISO 9001:2008 by SAI Global, ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34:2009 by ACLASS (certificate number AR-1523).

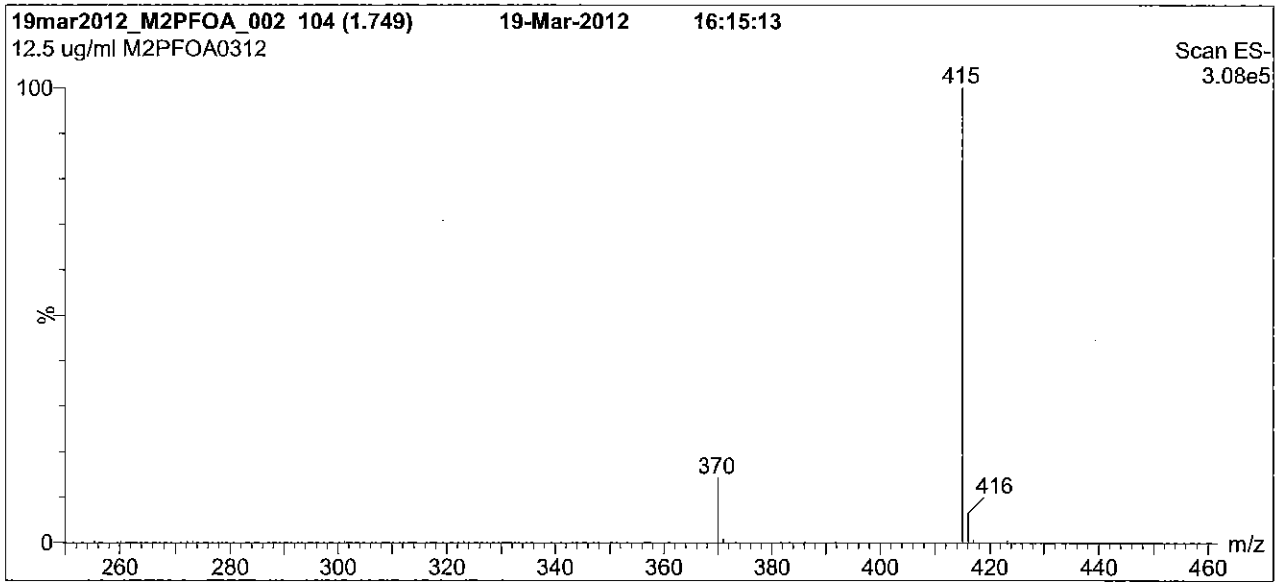
CALA

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

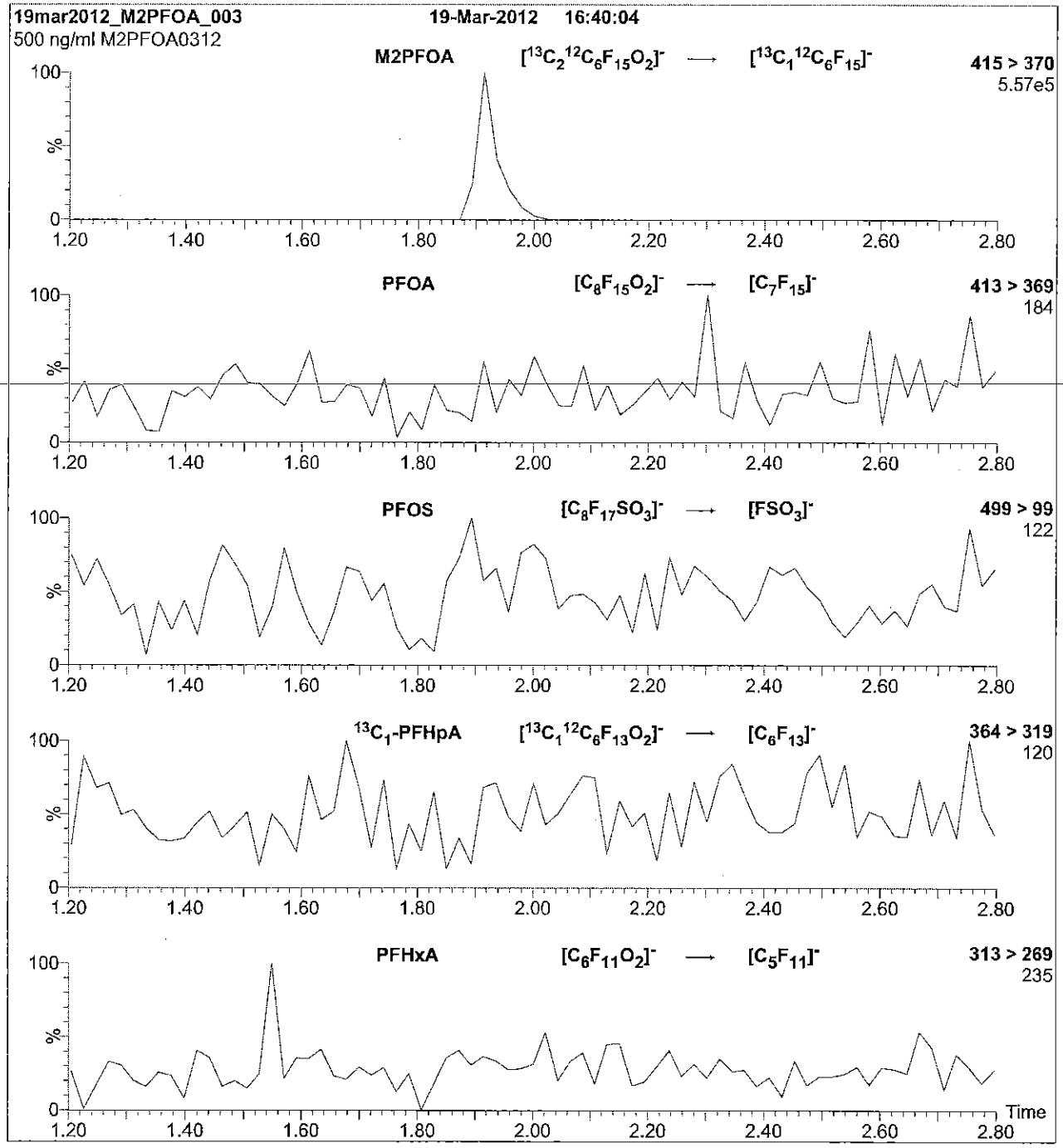
Flow: 300 µl/min

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

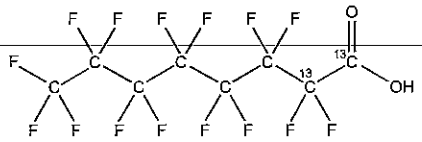
LCM2PFOA_00004

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 ($1,2\text{-}^{13}C_2$)
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.

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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

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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,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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:

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QUALITY MANAGEMENT:

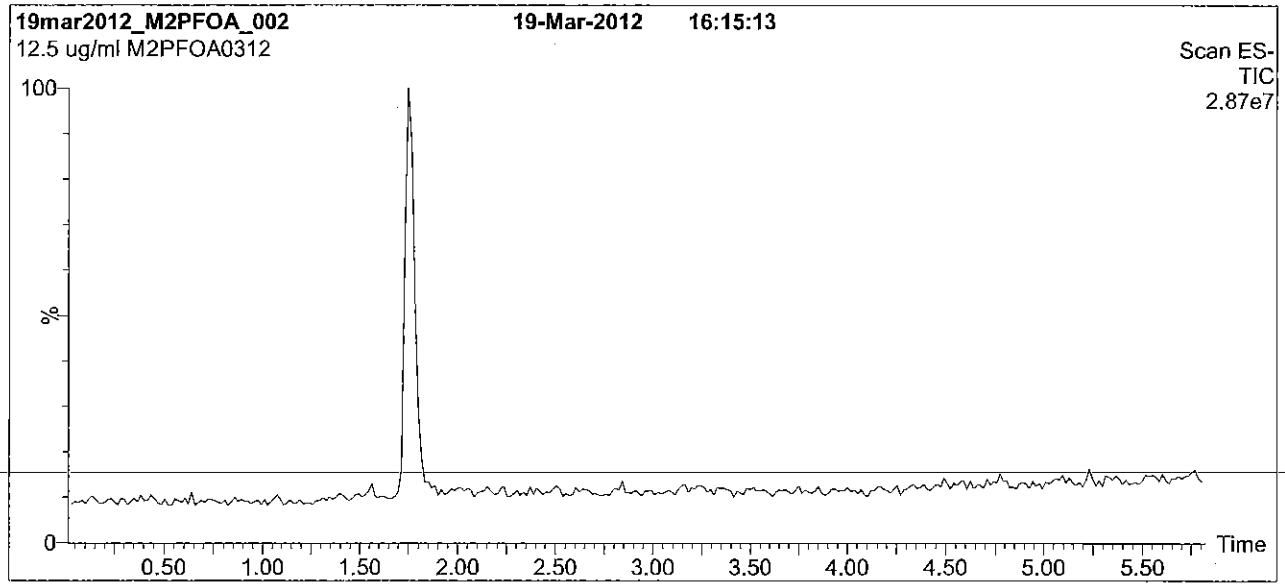
This product was produced using a Quality Management System registered to ISO 9001:2008 by SAI Global, ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34:2009 by ACLASS (certificate number AR-1523).

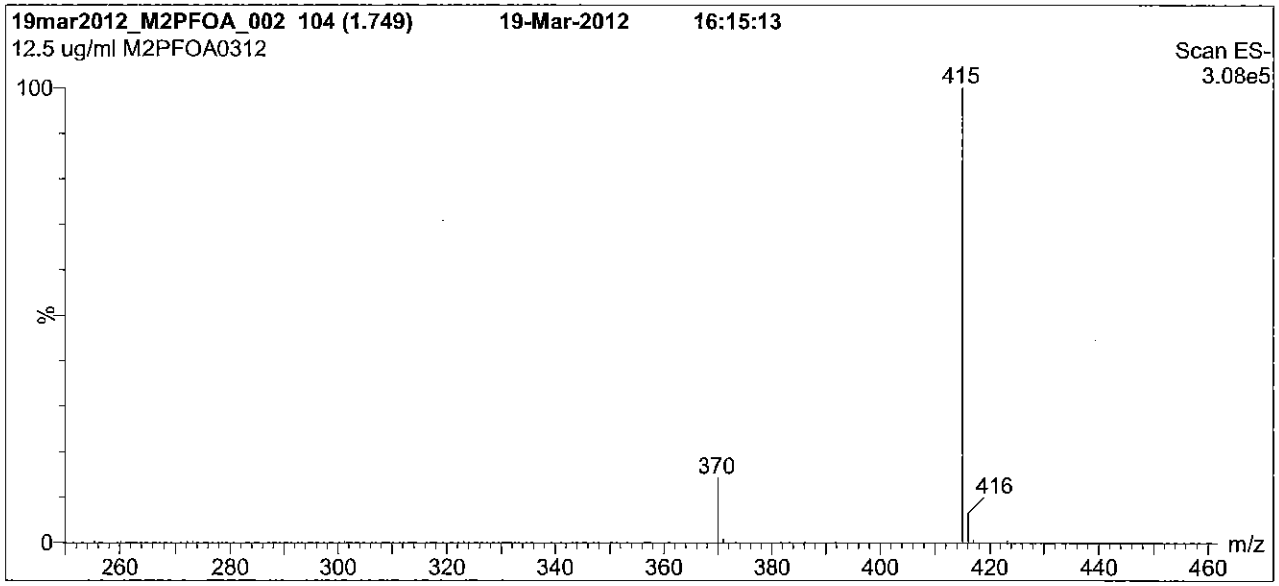
CALA

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

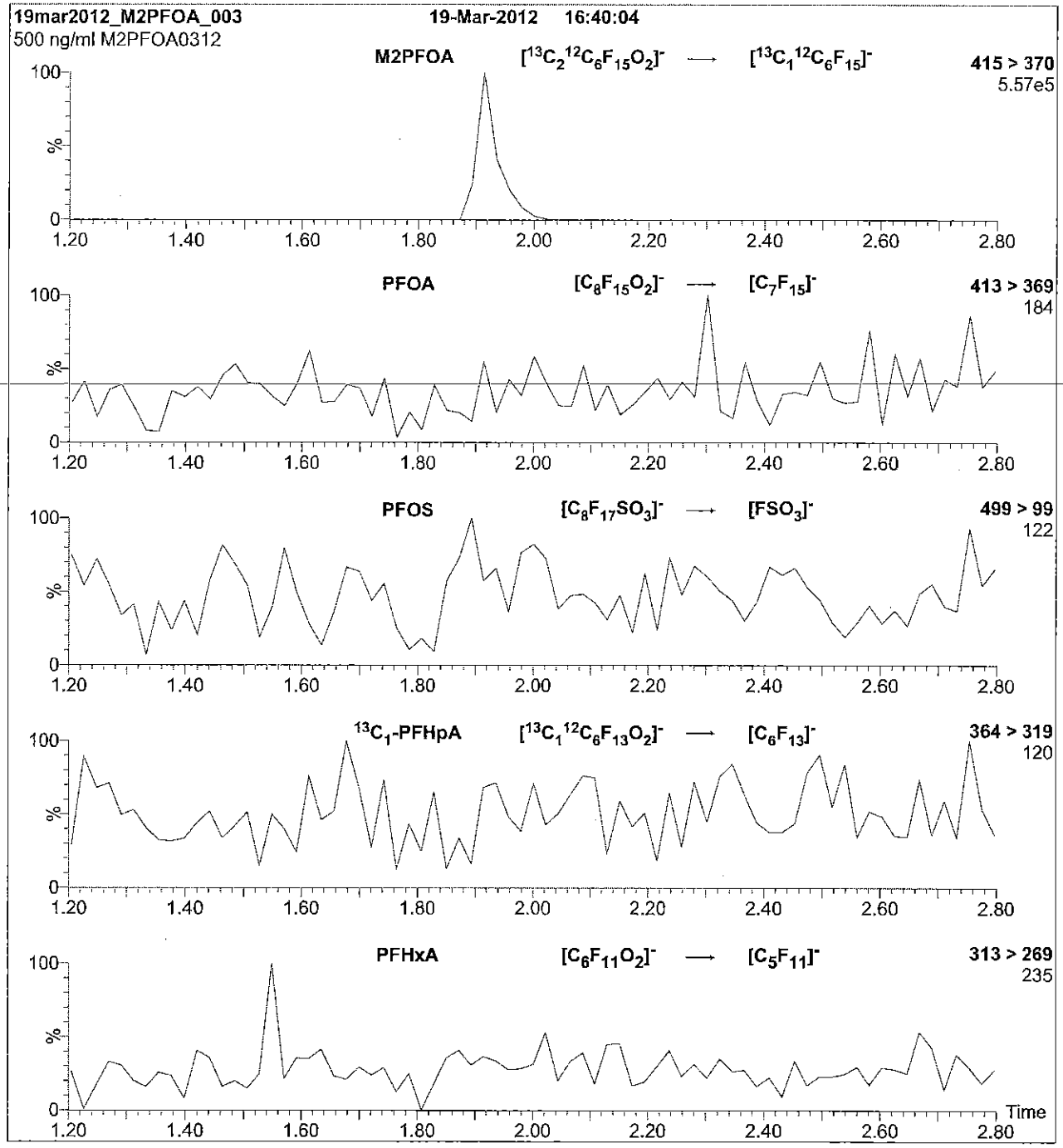
Flow: 300 µl/min

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

LCMPFDA_00008

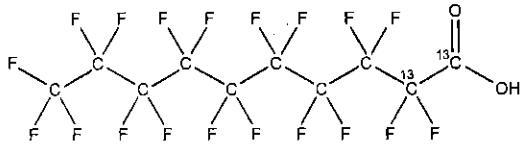
605243
ID: LCMPFDA_00008
Exp: 08/19/20 Prpd: CBW
13C2-Perfluorodecanoic a

Rec. 3/29/16 JRB ✓

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFDA	**LOT NUMBER:**	MPFDA0815
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid		
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

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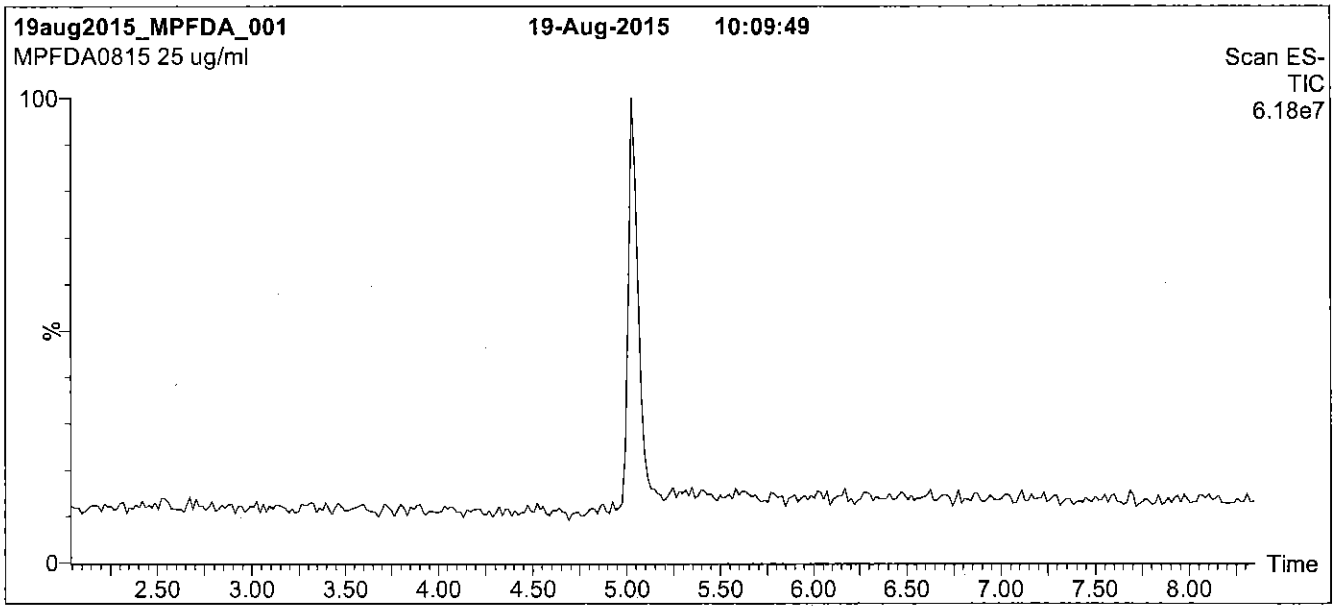
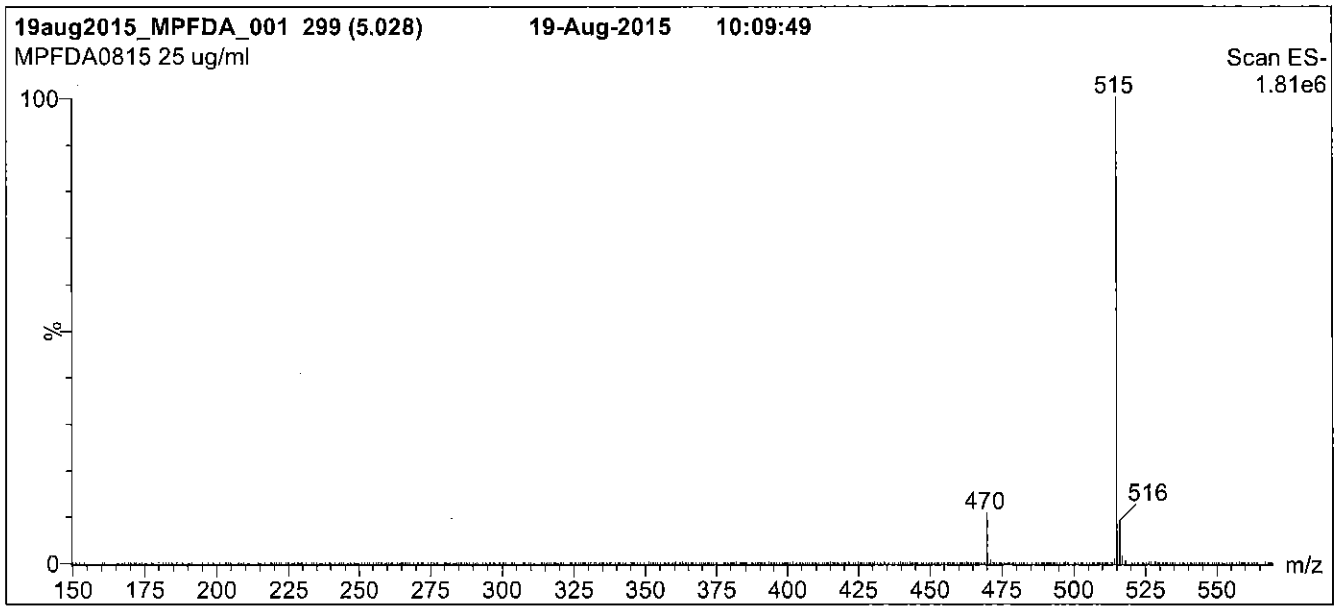
Figure 1: **MPFDA; LC/MS Data (TIC and Mass Spectrum)**





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

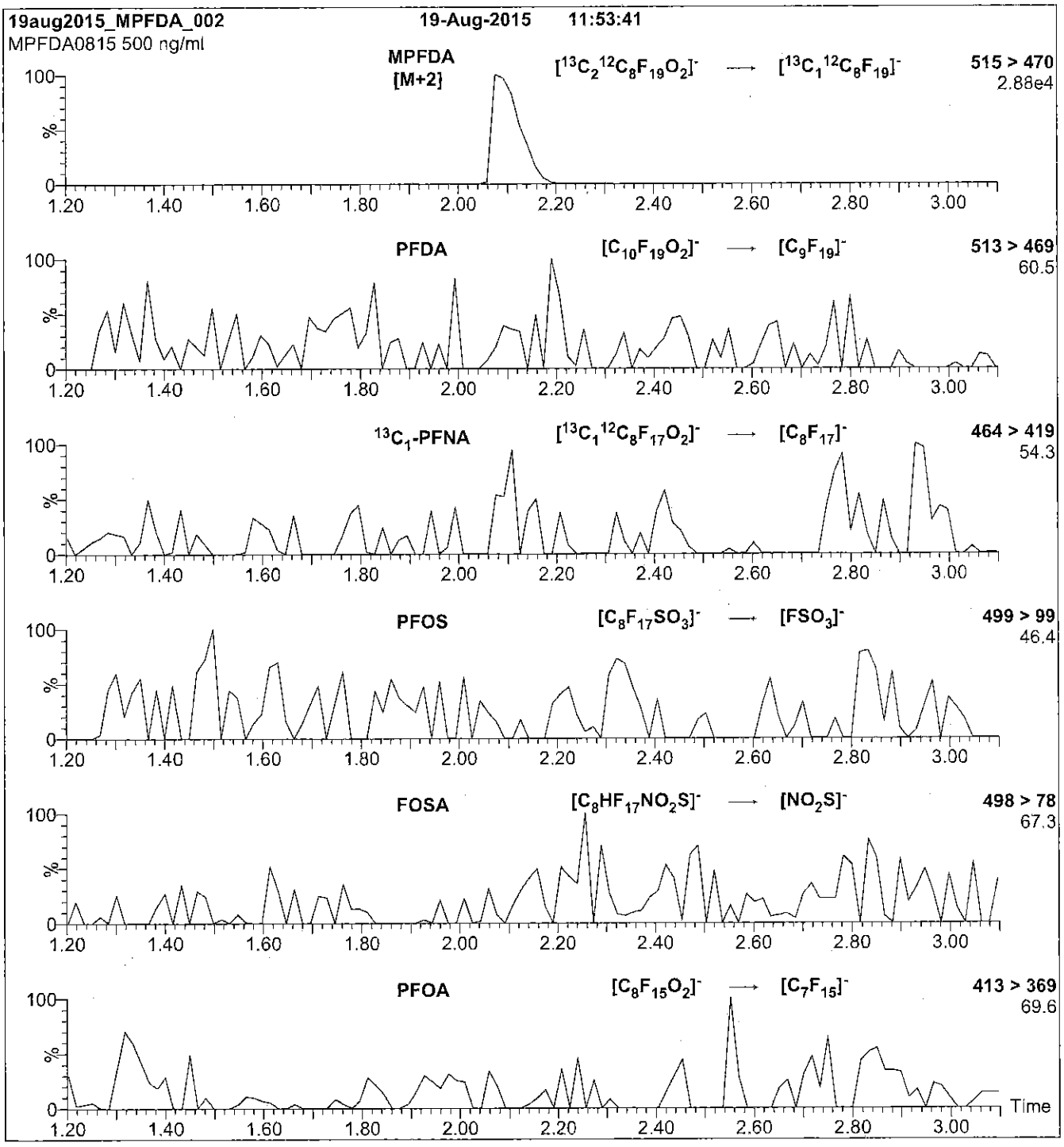
Flow: 300 µl/min

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

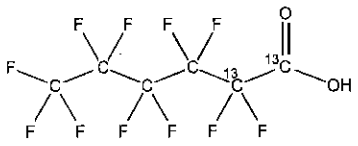
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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:

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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:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

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:

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QUALITY MANAGEMENT:

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CALA

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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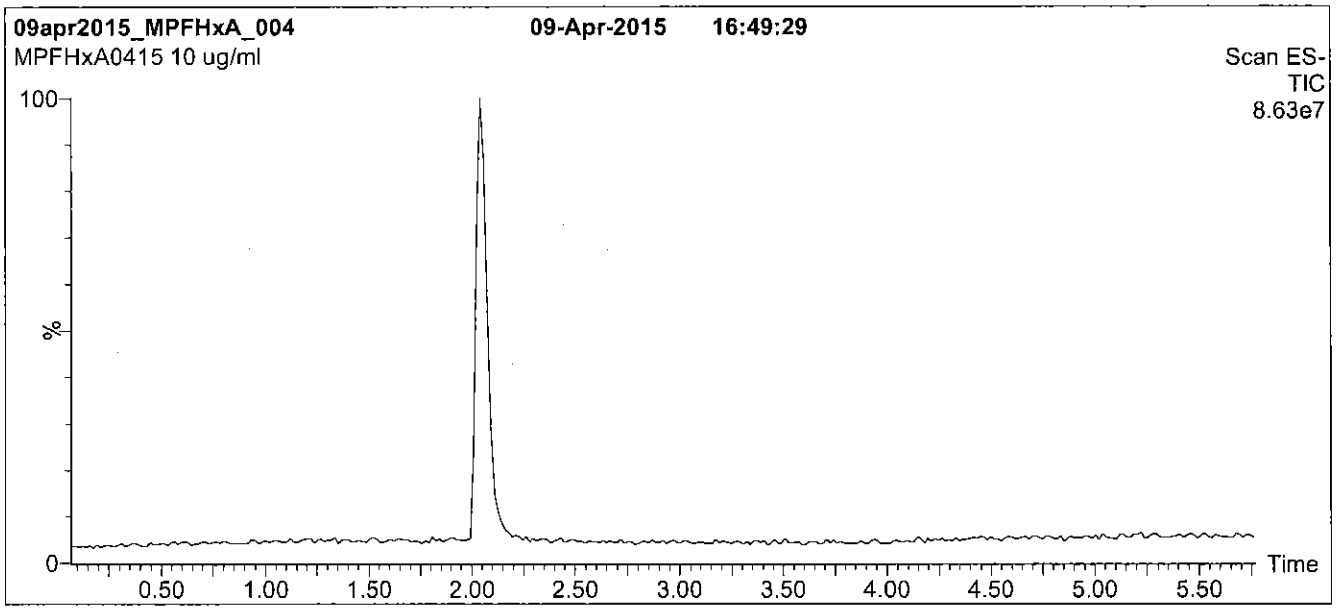
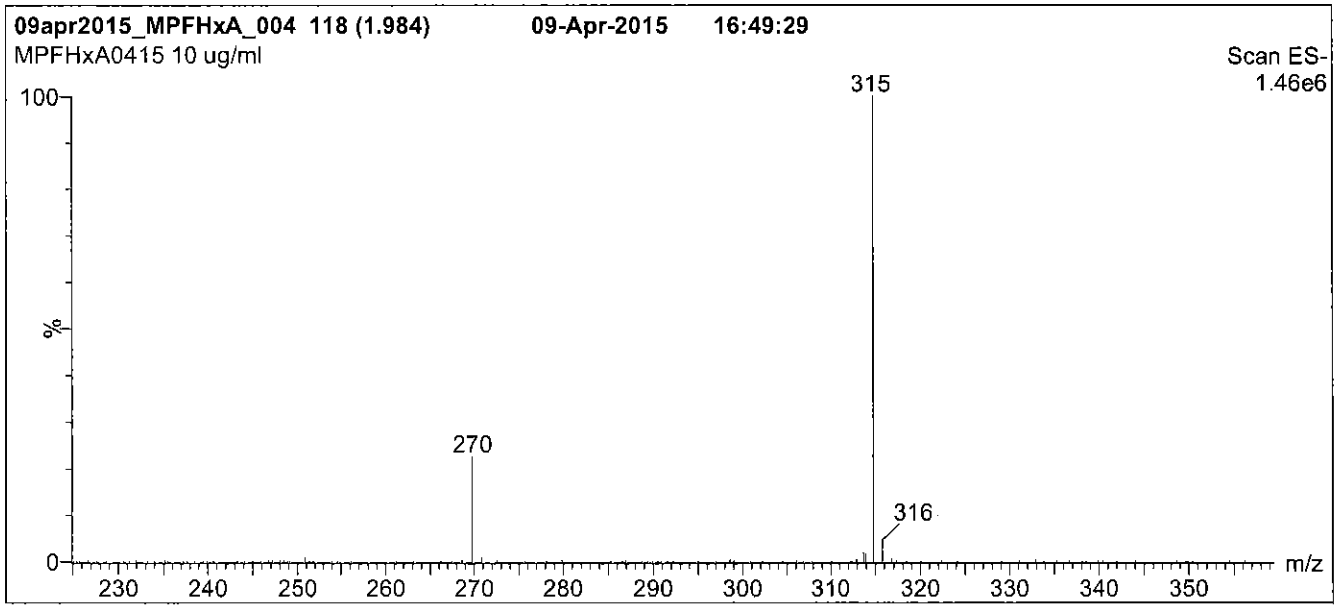
Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





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

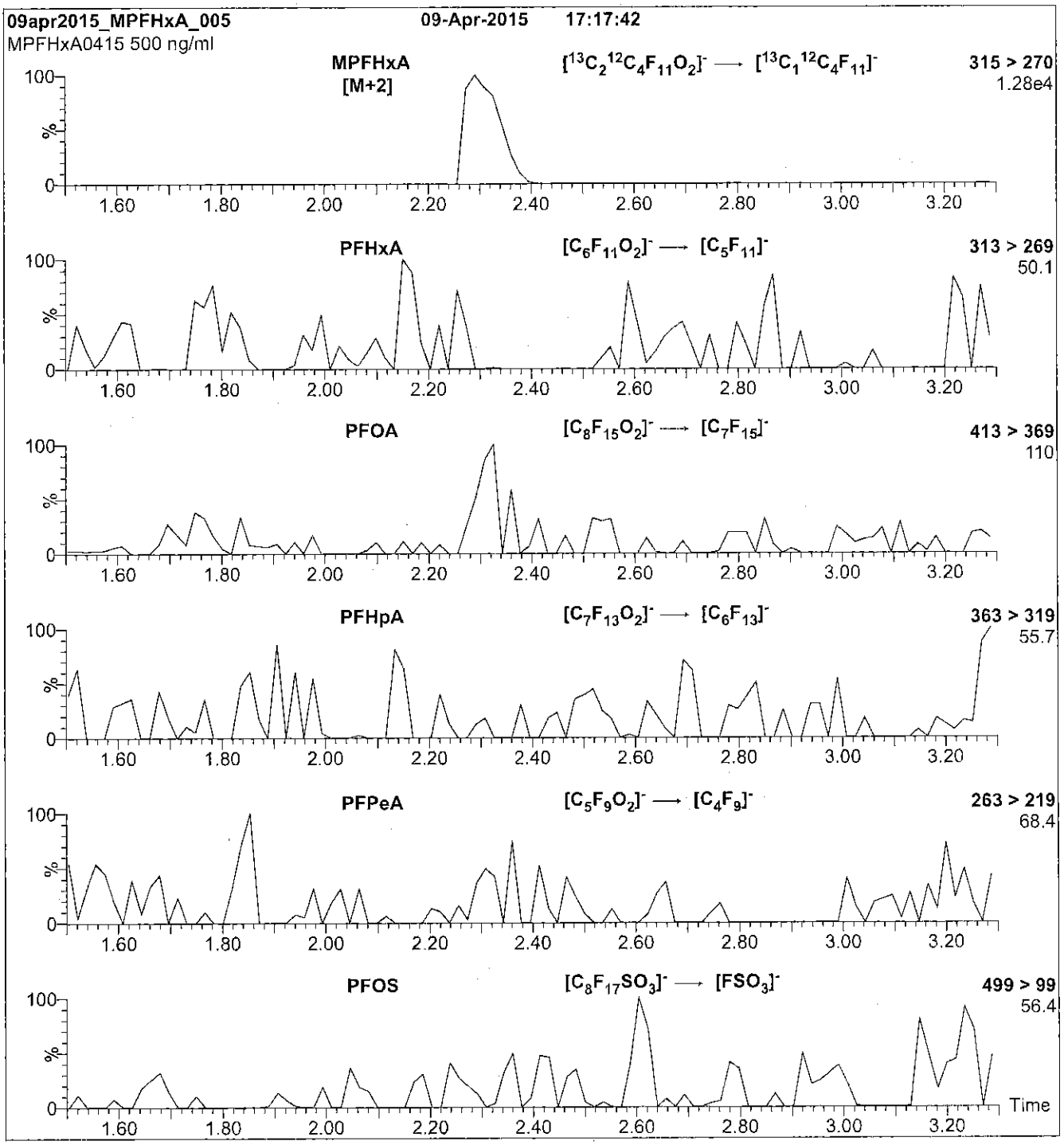
Flow: 300 µl/min

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

Rec. 3/29/16 JRB ✓

605227
ID: LCMPFOS_00012
Exp: 01/22/21 Prpd: CBW
13C4-Perfluorooctanesulfo

606228
ID: LCMPFOS_00013
Exp: 01/22/21 Prpd: CBW
13C4-Perfluorooctanesulfo

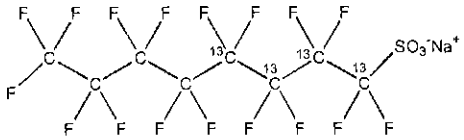
WELLINGTON LABORATORIES

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

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CALA

ANAB ACCREDITED

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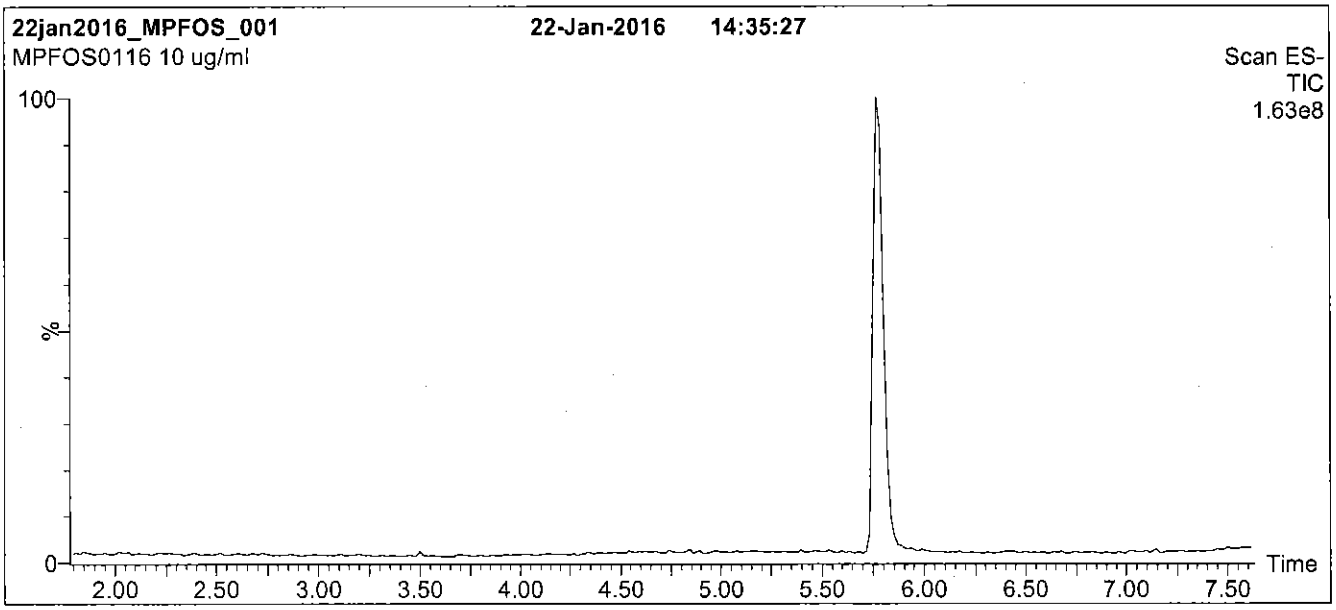
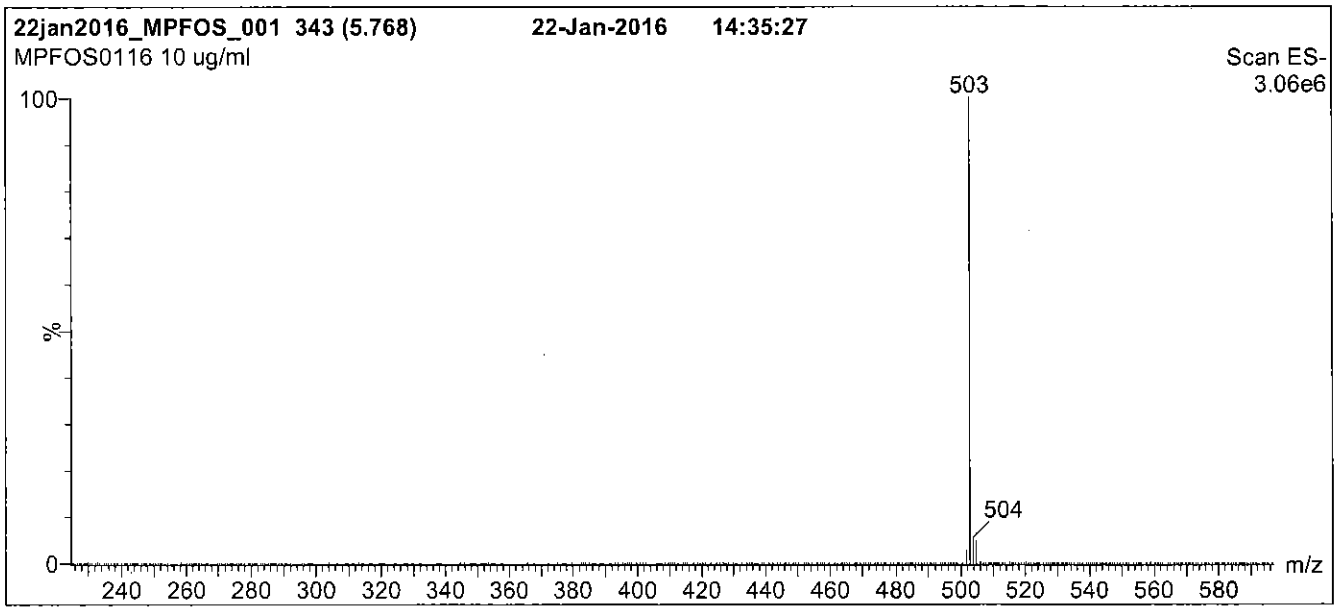
Figure 1: **MPFOS; LC/MS Data (TIC and Mass Spectrum)**





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

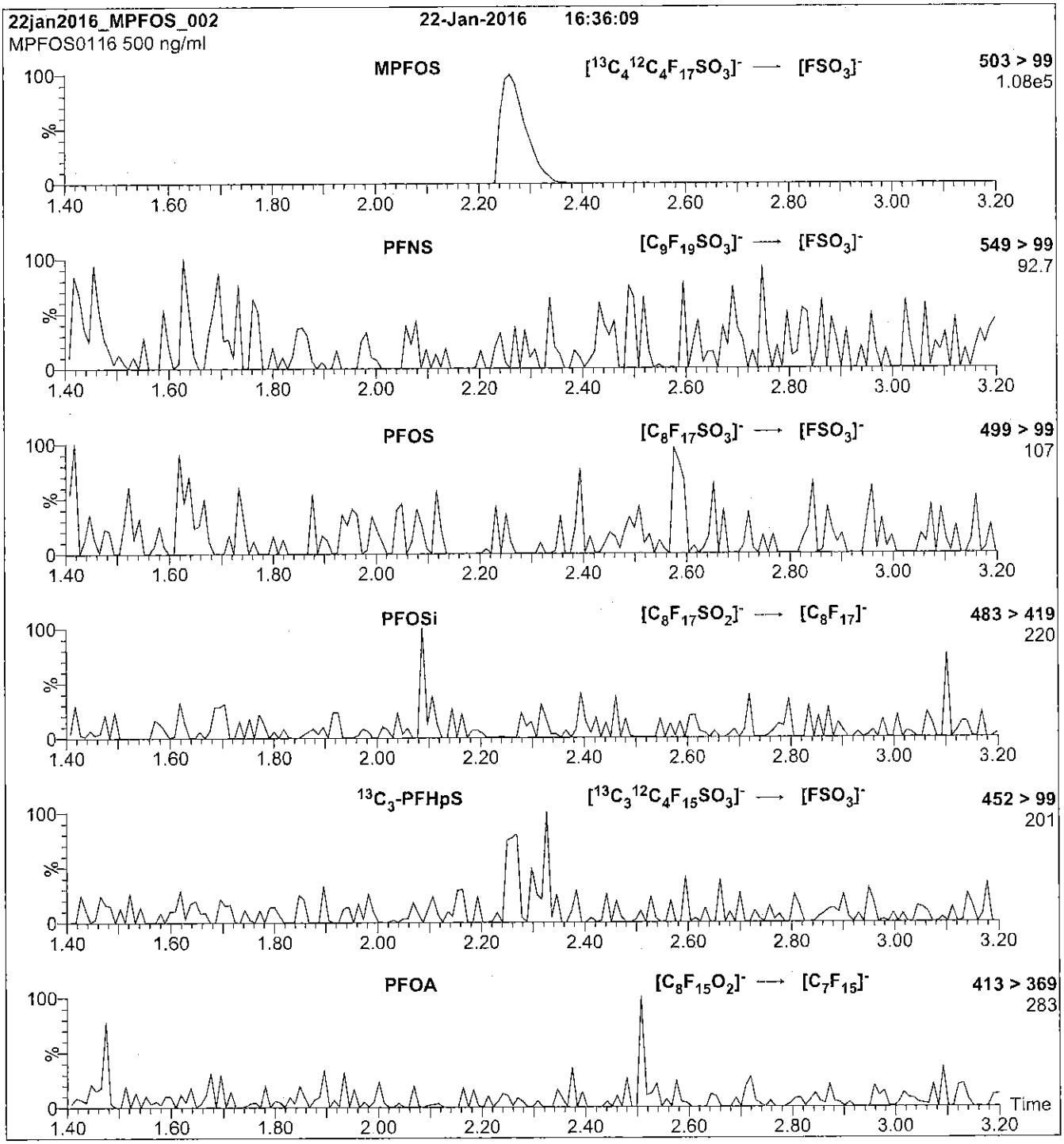
Flow: 300 µl/min

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

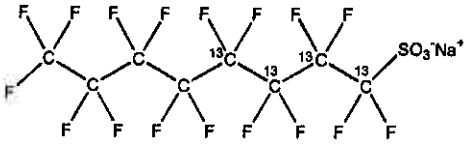
WELLINGTON LABORATORIES

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 ($1,2,3,4\text{-}^{13}C_4$)
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:

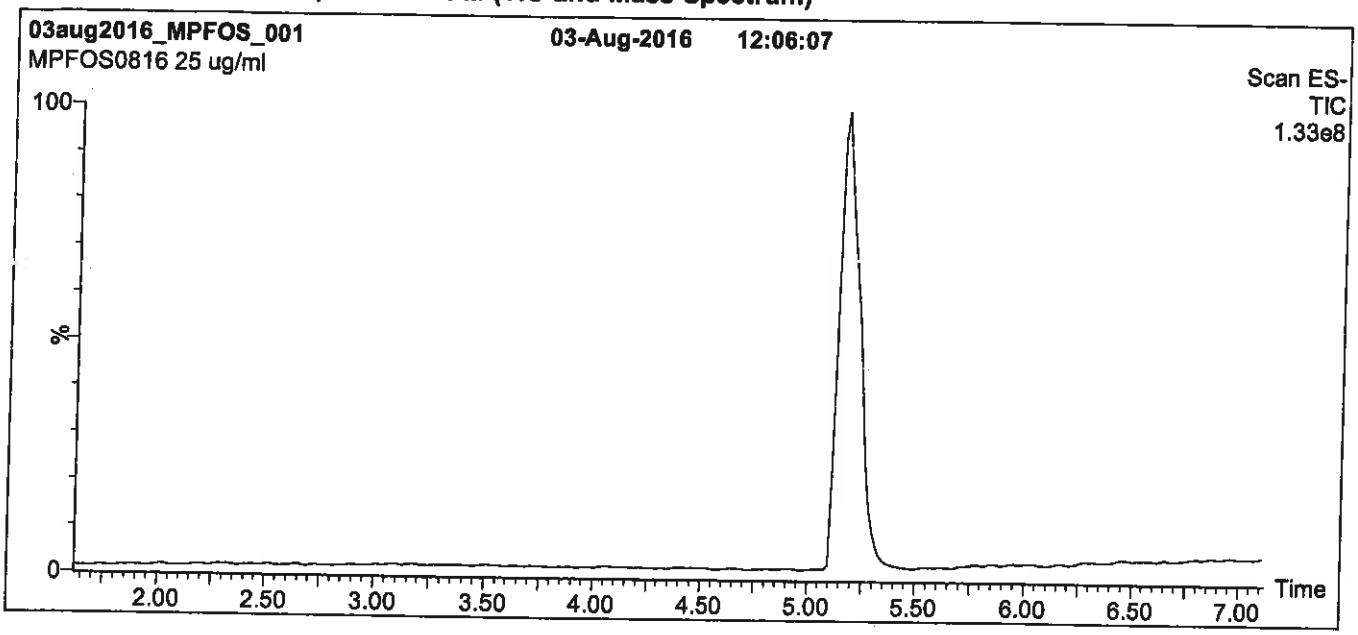
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

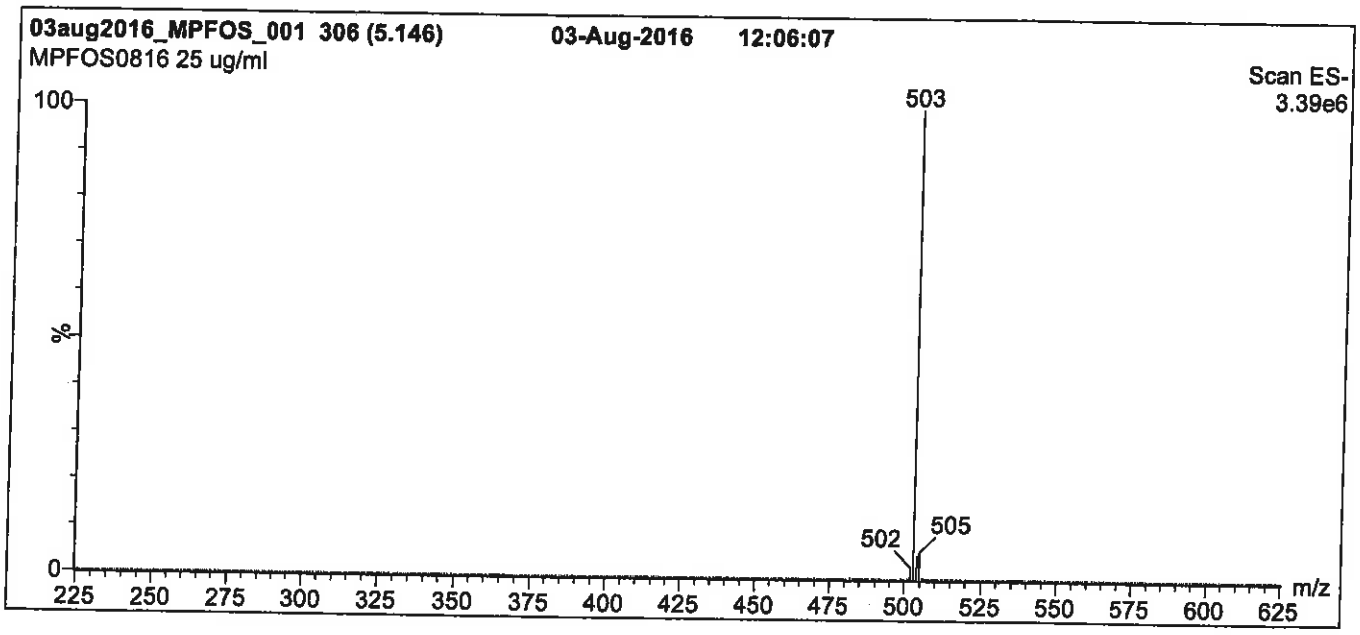
CALA

ANAB ACCREDITED 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: **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

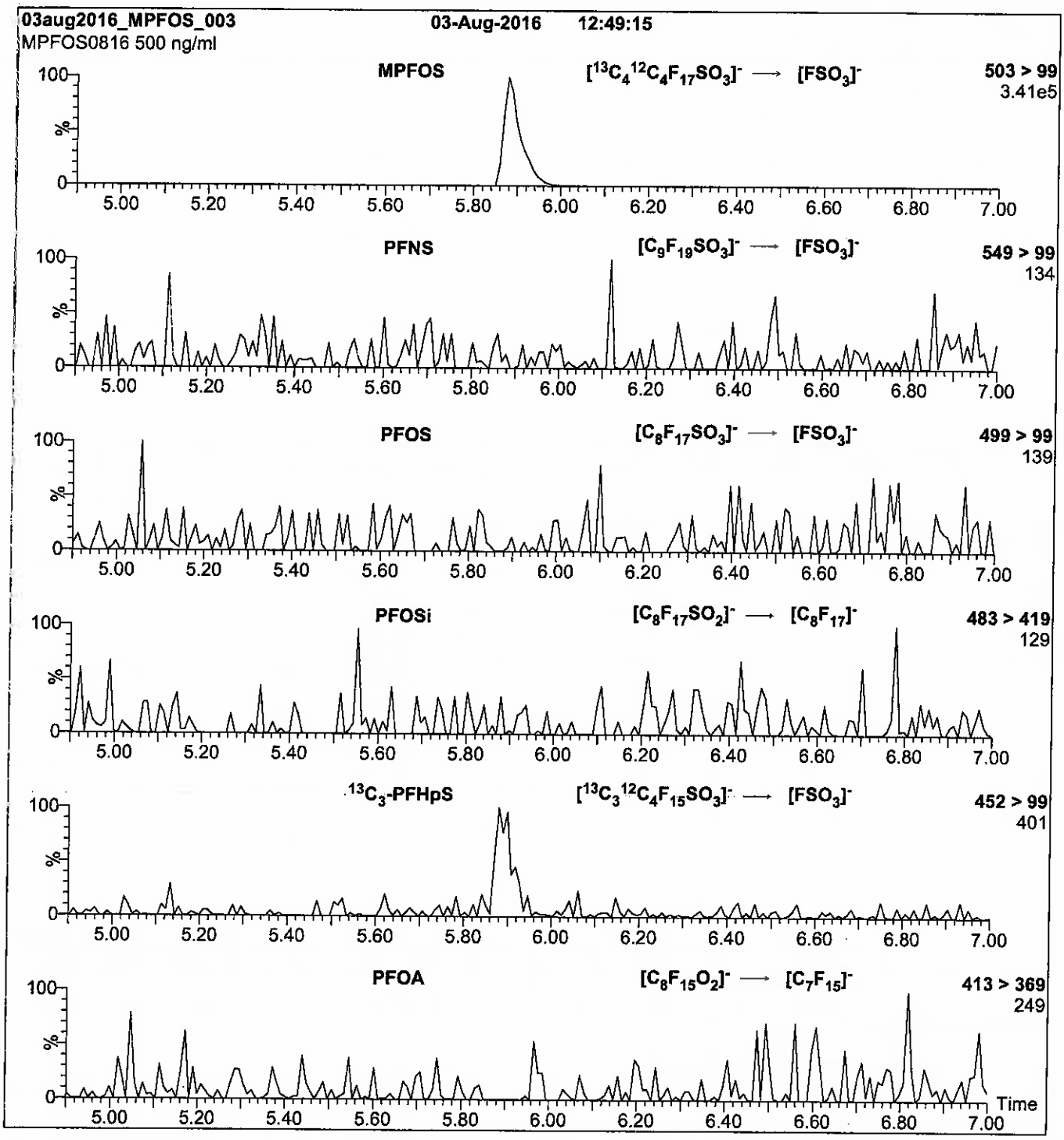
Flow: 300 µl/min

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.: 320-23928-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Acquity ID: 2.1 (mm)

Client Sample ID	Lab Sample ID	PFHxA #	PFDA #	
WI-CV-1RW06-1116	320-23928-1	125	114	
WI-CV-1FB06-1116	320-23928-2	107	104	
WI-CV-1RW07-1116	320-23928-3	119	118	
WI-CV-1RW07-1116 DL	320-23928-3 DL	109	105	
WI-CV-1FB07-1116	320-23928-4	114	106	
WI-CV-1RW08-1116	320-23928-5	115	120	
WI-CV-1FB08-1116	320-23928-6	114	107	
WI-CV-1RW09-1116	320-23928-7	126	116	
WI-CV-1FB09-1116	320-23928-8	107	105	
WI-CV-1RW10-1116	320-23928-9	111	108	
WI-CV-1FB10-1116	320-23928-10	127	117	
WI-CV-2RW05-1116	320-23928-11	111	107	
WI-CV-2FB05-1116	320-23928-12	112	110	
WI-CV-2RW06-1116	320-23928-13	105	115	
WI-CV-2RW06-1116 DL	320-23928-13 DL	114	111	
WI-CV-2FB06-1116	320-23928-14	111	111	
WI-CV-2RW07-1116	320-23928-15	115	143	Q
WI-CV-2FB07-1116	320-23928-16	119	111	
WI-CV-3RW06-1116	320-23928-17	112	107	
WI-CV-3FB06-1116	320-23928-18	103	104	
WI-CV-3RW07-1116	320-23928-19	114	102	
WI-CV-3FB07-1116	320-23928-20	104	107	
WI-CV-3RW08-1116	320-23928-21	114	108	
WI-CV-3FB08-1116	320-23928-22	98	104	
WI-CV-3RW09-1116	320-23928-23	111	106	
WI-CV-FB09-1116	320-23928-24	108	106	
WI-CV-3RW10-1116	320-23928-25	111	114	
WI-CV-3FB10-1116	320-23928-26	113	107	
WI-CV-3RW11-1116	320-23928-27	123	131	Q
WI-CV-3RW11-1116 DL	320-23928-27 DL	103	89	
WI-CV-3FB11-1116	320-23928-28	115	123	
	MB 320-140442/1-A	118	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 II
LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Acquity ID: 2.1 (mm)

Client Sample ID	Lab Sample ID	PFHxA #	PFDA #
	MB 320-140478/1-A	111	103
	LCS 320-140442/2-A	129	122
	LLCS 320-140478/2-A	109	106
WI-CV-1RW10-1116 MS	320-23928-9 MS	119	117
WI-CV-3RW10-1116 MS	320-23928-25 MS	116	120
WI-CV-3RW11-1116 MS	320-23928-27 MS	124	135 Q
WI-CV-3RW11-1116 MS DL	320-23928-27 MS DL	115	102
WI-CV-1RW10-1116 MSD	320-23928-9 MSD	120	117
WI-CV-3RW10-1116 MSD	320-23928-25 MSD	109	111
WI-CV-3RW11-1116 MSD	320-23928-27 MSD	127	129
WI-CV-3RW11-1116 MSD DL	320-23928-27 MSD DL	111	103

	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.: 320-23928-1

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 LOW LEVEL CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_231.d

Lab ID: LLCS 320-140478/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LLCS CONCENTRATION (ug/L)	LLCS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0401	0.0358 J	89	50-150	
Perfluorooctanoic acid (PFOA)	0.0203	0.0191 J	94	50-150	M
Perfluorobutanesulfonic acid (PFBS)	0.0898	0.0862 J	96	50-150	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_222.d

Lab ID: 320-23928-9 MS Client ID: WI-CV-1RW10-1116 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.147	0.043 U	0.122	83	70-130	
Perfluorooctanoic acid (PFOA)	0.0745	0.022 U	0.0603	81	70-130	
Perfluorobutanesulfonic acid (PFBS)	0.330	0.099 U	0.264	80	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_249.d

Lab ID: 320-23928-25 MS Client ID: WI-CV-3RW10-1116 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0351	0.043 U	0.0328 J	93	70-130	
Perfluorooctanoic acid (PFOA)	0.0178	0.13	0.152	103	70-130	E 4
Perfluorobutanesulfonic acid (PFBS)	0.0787	0.076 J	0.136	76	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_260.d

Lab ID: 320-23928-27 MS Client ID: WI-CV-3RW11-1116 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0343	0.043 U	0.0330 J	96	70-130	
Perfluorooctanoic acid (PFOA)	0.0173	0.62	0.674	291	70-130	E 4
Perfluorobutanesulfonic acid (PFBS)	0.0768	0.052 J	0.121	89	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_257.d

Lab ID: 320-23928-27 MS DL Client ID: WI-CV-3RW11-1116 MS DL

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0343	0.43 U	0.41 U	NC	70-130	M
Perfluorooctanoic acid (PFOA)	0.0173	0.59	0.705	675	70-130	4 D
Perfluorobutanesulfonic acid (PFBS)	0.0768	0.98 U	0.94 U	NC	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_223.d

Lab ID: 320-23928-9 MSD Client ID: WI-CV-1RW10-1116 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.150	0.124	83	2	30	70-130	
Perfluorooctanoic acid (PFOA)	0.0758	0.0642	85	6	30	70-130	
Perfluorobutanesulfonic acid (PFBS)	0.336	0.279	83	5	30	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_250.d

Lab ID: 320-23928-25 MSD Client ID: WI-CV-3RW10-1116 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0361	0.0315 J	87	4	30	70-130	
Perfluorooctanoic acid (PFOA)	0.0183	0.144	53	6	30	70-130	4
Perfluorobutanesulfonic acid (PFBS)	0.0808	0.135	73	1	30	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_261.d

Lab ID: 320-23928-27 MSD Client ID: WI-CV-3RW11-1116 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0358	0.0319 J	89	3	30	70-130	
Perfluorooctanoic acid (PFOA)	0.0181	0.650	150	4	30	70-130	E 4
Perfluorobutanesulfonic acid (PFBS)	0.0802	0.123 J	88	2	30	70-130	

Column to be used to flag recovery and RPD values

FORM III 537

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 05DEC2016A6A_258.d

Lab ID: 320-23928-27 MSD DL Client ID: WI-CV-3RW11-1116 MSD DL

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Perfluorooctanesulfonic acid (PFOS)	0.0358	0.43 U	NC	NC	30	70-130	M
Perfluorooctanoic acid (PFOA)	0.0181	0.672	462	5	30	70-130	D 4
Perfluorobutanesulfonic acid (PFBS)	0.0802	0.98 U	NC	NC	30	70-130	

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.: 320-23928-1

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-CV-1RW06-1116	320-23928-1	05DEC2016A6A_209.d	12/09/2016 23:56
WI-CV-1FB06-1116	320-23928-2	05DEC2016A6A_210.d	12/10/2016 00:25
WI-CV-1RW07-1116 DL	320-23928-3 DL	05DEC2016A6A_211.d	12/10/2016 00:55
WI-CV-1FB07-1116	320-23928-4	05DEC2016A6A_212.d	12/10/2016 01:25
WI-CV-1RW08-1116	320-23928-5	05DEC2016A6A_213.d	12/10/2016 01:54
WI-CV-1FB08-1116	320-23928-6	05DEC2016A6A_214.d	12/10/2016 02:24
WI-CV-1RW09-1116	320-23928-7	05DEC2016A6A_218.d	12/10/2016 04:22
WI-CV-1RW07-1116	320-23928-3	05DEC2016A6A_219.d	12/10/2016 04:52
WI-CV-1FB09-1116	320-23928-8	05DEC2016A6A_220.d	12/10/2016 05:21
WI-CV-1RW10-1116	320-23928-9	05DEC2016A6A_221.d	12/10/2016 05:51
WI-CV-1RW10-1116 MS	320-23928-9 MS	05DEC2016A6A_222.d	12/10/2016 06:21
WI-CV-1RW10-1116 MSD	320-23928-9 MSD	05DEC2016A6A_223.d	12/10/2016 06:50
WI-CV-1FB10-1116	320-23928-10	05DEC2016A6A_224.d	12/10/2016 07:20
WI-CV-2RW05-1116	320-23928-11	05DEC2016A6A_225.d	12/10/2016 07:49
WI-CV-2FB05-1116	320-23928-12	05DEC2016A6A_226.d	12/10/2016 08:19

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab File ID: 05DEC2016A6A_227.d Lab Sample ID: MB 320-140478/1-A

Matrix: Water Date Extracted: 12/03/2016 12:19

Instrument ID: A6 Date Analyzed: 12/10/2016 08:49

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LLCS 320-140478/2-A	05DEC2016A6A_231.d	12/10/2016 10:47
WI-CV-2RW06-1116	320-23928-13	05DEC2016A6A_232.d	12/10/2016 11:17
WI-CV-2RW06-1116 DL	320-23928-13 DL	05DEC2016A6A_233.d	12/10/2016 11:46
WI-CV-2FB06-1116	320-23928-14	05DEC2016A6A_234.d	12/10/2016 12:16
WI-CV-2RW07-1116	320-23928-15	05DEC2016A6A_235.d	12/10/2016 12:45
WI-CV-2FB07-1116	320-23928-16	05DEC2016A6A_236.d	12/10/2016 13:15
WI-CV-3RW06-1116	320-23928-17	05DEC2016A6A_237.d	12/10/2016 13:45
WI-CV-3FB06-1116	320-23928-18	05DEC2016A6A_238.d	12/10/2016 14:14
WI-CV-3RW07-1116	320-23928-19	05DEC2016A6A_239.d	12/10/2016 14:44
WI-CV-3FB07-1116	320-23928-20	05DEC2016A6A_240.d	12/10/2016 15:13
WI-CV-3RW08-1116	320-23928-21	05DEC2016A6A_244.d	12/10/2016 17:12
WI-CV-3FB08-1116	320-23928-22	05DEC2016A6A_245.d	12/10/2016 17:41
WI-CV-3RW09-1116	320-23928-23	05DEC2016A6A_246.d	12/10/2016 18:11
WI-CV-FB09-1116	320-23928-24	05DEC2016A6A_247.d	12/10/2016 18:41
WI-CV-3RW10-1116	320-23928-25	05DEC2016A6A_248.d	12/10/2016 19:10
WI-CV-3RW10-1116 MS	320-23928-25 MS	05DEC2016A6A_249.d	12/10/2016 19:40
WI-CV-3RW10-1116 MSD	320-23928-25 MSD	05DEC2016A6A_250.d	12/10/2016 20:09
WI-CV-3FB10-1116	320-23928-26	05DEC2016A6A_251.d	12/10/2016 20:39
WI-CV-3RW11-1116 DL	320-23928-27 DL	05DEC2016A6A_256.d	12/10/2016 23:07
WI-CV-3RW11-1116 MS DL	320-23928-27 MS DL	05DEC2016A6A_257.d	12/10/2016 23:37
WI-CV-3RW11-1116 MSD DL	320-23928-27 MSD DL	05DEC2016A6A_258.d	12/11/2016 00:06
WI-CV-3RW11-1116	320-23928-27	05DEC2016A6A_259.d	12/11/2016 00:36

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab File ID: 05DEC2016A6A_227.d Lab Sample ID: MB 320-140478/1-A

Matrix: Water Date Extracted: 12/03/2016 12:19

Instrument ID: A6 Date Analyzed: 12/10/2016 08:49

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
WI-CV-3RW11-1116 MS	320-23928-27 MS	05DEC2016A6A_260.d	12/11/2016 01:06
WI-CV-3RW11-1116 MSD	320-23928-27 MSD	05DEC2016A6A_261.d	12/11/2016 01:35
WI-CV-3FB11-1116	320-23928-28	11DEC2016A6A_064.d	12/12/2016 18:08

FORM VIII
LCMS INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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 320-141291/15 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		
CCV 320-141291/28 CCVIS		792463	20.04	1683186	20.67		
CCV 320-141292/28 CCVIS		792463	20.04	1683186	20.67		
320-23928-1	WI-CV-1RW06-1116	628501	20.04	1731485	20.66		
320-23928-2	WI-CV-1FB06-1116	729963	20.04	1972633	20.66		
320-23928-3 DL	WI-CV-1RW07-1116 DL	184676Q	20.04	561529Q	20.67		
320-23928-4	WI-CV-1FB07-1116	732888	20.04	2044336	20.67		
320-23928-5	WI-CV-1RW08-1116	640314	20.04	1916111	20.67		
320-23928-6	WI-CV-1FB08-1116	748286	20.04	2082165	20.67		
CCV 320-141292/41 CCVIS		717004	20.05	1606845	20.68		
CCV 320-141293/41 CCVIS		717004	20.05	1606845	20.68		
320-23928-7	WI-CV-1RW09-1116	688060	20.05	2015520	20.67		
320-23928-3	WI-CV-1RW07-1116	694397	20.04	2110814	20.67		
320-23928-8	WI-CV-1FB09-1116	787559	20.05	2142930	20.68		
320-23928-9	WI-CV-1RW10-1116	737132	20.04	2075075	20.67		
320-23928-9 MS	WI-CV-1RW10-1116 MS	713927	20.02	1905246	20.66		
320-23928-9 MSD	WI-CV-1RW10-1116 MSD	685571	20.04	1862826	20.67		
320-23928-10	WI-CV-1FB10-1116	632382	20.04	1901228	20.67		
320-23928-11	WI-CV-2RW05-1116	866137	20.02	2175392	20.66		
320-23928-12	WI-CV-2FB05-1116	671703	20.04	1894767	20.67		
MB 320-140478/1-A		701544	20.04	1812551	20.67		
CCV 320-141293/54 CCVIS		736856	20.04	1558901	20.67		

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.: 320-23928-1

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 320-141294/54 CCVIS		736856	20.04	1558901	20.67		
LLCS 320-140478/2-A		772518	20.05	2079540	20.68		
320-23928-13	WI-CV-2RW06-1116	684801	20.04	2049167	20.67		
320-23928-13 DL	WI-CV-2RW06-1116 DL	325846Q	20.04	998560	20.67		
320-23928-14	WI-CV-2FB06-1116	732771	20.04	2131134	20.67		
320-23928-15	WI-CV-2RW07-1116	696843	20.04	1821820	20.67		
320-23928-16	WI-CV-2FB07-1116	647471	20.04	1844147	20.67		
320-23928-17	WI-CV-3RW06-1116	662634	20.04	1924384	20.67		
320-23928-18	WI-CV-3FB06-1116	673467	20.04	1865088	20.67		
320-23928-19	WI-CV-3RW07-1116	668649	20.04	1836517	20.67		
320-23928-20	WI-CV-3FB07-1116	645220	20.04	1943057	20.67		
CCV 320-141294/67 CCVIS		666434	20.04	1534139	20.67		
CCV 320-141295/67 CCVIS		666434	20.04	1534139	20.67		
320-23928-21	WI-CV-3RW08-1116	644097	20.04	1792339	20.67		
320-23928-22	WI-CV-3FB08-1116	705259	20.06	1918234	20.68		
320-23928-23	WI-CV-3RW09-1116	694423	20.06	2026482	20.69		
320-23928-24	WI-CV-FB09-1116	689861	20.05	2002749	20.68		
320-23928-25	WI-CV-3RW10-1116	653460	20.06	2005583	20.69		
320-23928-25 MS	WI-CV-3RW10-1116 MS	590543	20.05	1851623	20.67		
320-23928-25 MSD	WI-CV-3RW10-1116 MSD	648215	20.05	1944459	20.68		
320-23928-26	WI-CV-3FB10-1116	711218	20.06	1981133	20.69		
CCV 320-141295/79 CCVIS		710350	20.06	1573578	20.69		
CCV 320-141475/79 CCVIS		710350	20.06	1573578	20.69		
320-23928-27 DL	WI-CV-3RW11-1116 DL	82819Q	20.06	233449Q	20.69		
320-23928-27 MS DL	WI-CV-3RW11-1116 MS DL	67603Q	20.06	193695Q	20.69		
320-23928-27 MSD DL	WI-CV-3RW11-1116 MSD DL	72588Q	20.06	202454Q	20.69		
320-23928-27	WI-CV-3RW11-1116	633993	20.07	2138085	20.70		

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.: 320-23928-1

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						
320-23928-27 MS	WI-CV-3RW11-1116 MS	632297	20.07	2163581	20.70		
320-23928-27 MSD	WI-CV-3RW11-1116 MSD	632976	20.07	2072278	20.70		
CCV 320-141475/88 CCVIS		805032	20.07	1749979	20.70		
CCV 320-141573/3 CCVL		802153	20.06	1836390	20.68		
CCV 320-141758/61 CCVIS		806424	20.05	1700311	20.67		
320-23928-28	WI-CV-3FB11-1116	672514	20.05	2099066	20.67		
CCV 320-141758/71 CCVIS		848262	20.06	1670248	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.: 320-23928-1

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		

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.: 320-23928-1

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		

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.: 320-23928-1

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						
320-23928-1	WI-CV-1RW06-1116	628501	20.04	1731485	20.66		
320-23928-2	WI-CV-1FB06-1116	729963	20.04	1972633	20.66		
320-23928-3 DL	WI-CV-1RW07-1116 DL	184676Q	20.04	561529Q	20.67		
320-23928-4	WI-CV-1FB07-1116	732888	20.04	2044336	20.67		
320-23928-5	WI-CV-1RW08-1116	640314	20.04	1916111	20.67		
320-23928-6	WI-CV-1FB08-1116	748286	20.04	2082165	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.: 320-23928-1

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						
320-23928-1	WI-CV-1RW06-1116	628501	20.04	1731485	20.66		
320-23928-2	WI-CV-1FB06-1116	729963	20.04	1972633	20.66		
320-23928-3 DL	WI-CV-1RW07-1116 DL	184676Q	20.04	561529Q	20.67		
320-23928-4	WI-CV-1FB07-1116	732888	20.04	2044336	20.67		
320-23928-5	WI-CV-1RW08-1116	640314	20.04	1916111	20.67		
320-23928-6	WI-CV-1FB08-1116	748286	20.04	2082165	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141293/41 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						
320-23928-7	WI-CV-1RW09-1116	688060	20.05	2015520	20.67		
320-23928-3	WI-CV-1RW07-1116	694397	20.04	2110814	20.67		
320-23928-8	WI-CV-1FB09-1116	787559	20.05	2142930	20.68		
320-23928-9	WI-CV-1RW10-1116	737132	20.04	2075075	20.67		
320-23928-9 MS	WI-CV-1RW10-1116 MS	713927	20.02	1905246	20.66		
320-23928-9 MSD	WI-CV-1RW10-1116 MSD	685571	20.04	1862826	20.67		
320-23928-10	WI-CV-1FB10-1116	632382	20.04	1901228	20.67		
320-23928-11	WI-CV-2RW05-1116	866137	20.02	2175392	20.66		
320-23928-12	WI-CV-2FB05-1116	671703	20.04	1894767	20.67		
MB 320-140478/1-A		701544	20.04	1812551	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141293/54 Date Analyzed: 12/10/2016 09:48

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_229.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		736856	20.04	1558901	20.67		
UPPER LIMIT		1031598	20.54	2182461	21.17		
LOWER LIMIT		515799	19.54	1091231	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23928-7	WI-CV-1RW09-1116	688060	20.05	2015520	20.67		
320-23928-3	WI-CV-1RW07-1116	694397	20.04	2110814	20.67		
320-23928-8	WI-CV-1FB09-1116	787559	20.05	2142930	20.68		
320-23928-9	WI-CV-1RW10-1116	737132	20.04	2075075	20.67		
320-23928-9 MS	WI-CV-1RW10-1116 MS	713927	20.02	1905246	20.66		
320-23928-9 MSD	WI-CV-1RW10-1116 MSD	685571	20.04	1862826	20.67		
320-23928-10	WI-CV-1FB10-1116	632382	20.04	1901228	20.67		
320-23928-11	WI-CV-2RW05-1116	866137	20.02	2175392	20.66		
320-23928-12	WI-CV-2FB05-1116	671703	20.04	1894767	20.67		
MB 320-140478/1-A		701544	20.04	1812551	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141294/54 Date Analyzed: 12/10/2016 09:48

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_229.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		736856	20.04	1558901	20.67		
UPPER LIMIT		1031598	20.54	2182461	21.17		
LOWER LIMIT		515799	19.54	1091231	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LLCS 320-140478/2-A		772518	20.05	2079540	20.68		
320-23928-13	WI-CV-2RW06-1116	684801	20.04	2049167	20.67		
320-23928-13 DL	WI-CV-2RW06-1116 DL	325846Q	20.04	998560	20.67		
320-23928-14	WI-CV-2FB06-1116	732771	20.04	2131134	20.67		
320-23928-15	WI-CV-2RW07-1116	696843	20.04	1821820	20.67		
320-23928-16	WI-CV-2FB07-1116	647471	20.04	1844147	20.67		
320-23928-17	WI-CV-3RW06-1116	662634	20.04	1924384	20.67		
320-23928-18	WI-CV-3FB06-1116	673467	20.04	1865088	20.67		
320-23928-19	WI-CV-3RW07-1116	668649	20.04	1836517	20.67		
320-23928-20	WI-CV-3FB07-1116	645220	20.04	1943057	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141294/67 Date Analyzed: 12/10/2016 16:13

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_242.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		666434	20.04	1534139	20.67		
UPPER LIMIT		933008	20.54	2147795	21.17		
LOWER LIMIT		466504	19.54	1073897	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
LLCS 320-140478/2-A		772518	20.05	2079540	20.68		
320-23928-13	WI-CV-2RW06-1116	684801	20.04	2049167	20.67		
320-23928-13 DL	WI-CV-2RW06-1116 DL	325846Q	20.04	998560	20.67		
320-23928-14	WI-CV-2FB06-1116	732771	20.04	2131134	20.67		
320-23928-15	WI-CV-2RW07-1116	696843	20.04	1821820	20.67		
320-23928-16	WI-CV-2FB07-1116	647471	20.04	1844147	20.67		
320-23928-17	WI-CV-3RW06-1116	662634	20.04	1924384	20.67		
320-23928-18	WI-CV-3FB06-1116	673467	20.04	1865088	20.67		
320-23928-19	WI-CV-3RW07-1116	668649	20.04	1836517	20.67		
320-23928-20	WI-CV-3FB07-1116	645220	20.04	1943057	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141295/67 Date Analyzed: 12/10/2016 16:13

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_242.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		666434	20.04	1534139	20.67		
UPPER LIMIT		933008	20.54	2147795	21.17		
LOWER LIMIT		466504	19.54	1073897	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23928-21	WI-CV-3RW08-1116	644097	20.04	1792339	20.67		
320-23928-22	WI-CV-3FB08-1116	705259	20.06	1918234	20.68		
320-23928-23	WI-CV-3RW09-1116	694423	20.06	2026482	20.69		
320-23928-24	WI-CV-FB09-1116	689861	20.05	2002749	20.68		
320-23928-25	WI-CV-3RW10-1116	653460	20.06	2005583	20.69		
320-23928-25 MS	WI-CV-3RW10-1116 MS	590543	20.05	1851623	20.67		
320-23928-25 MSD	WI-CV-3RW10-1116 MSD	648215	20.05	1944459	20.68		
320-23928-26	WI-CV-3FB10-1116	711218	20.06	1981133	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141295/79 Date Analyzed: 12/10/2016 22:08

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_254.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		710350	20.06	1573578	20.69		
UPPER LIMIT		994490	20.56	2203009	21.19		
LOWER LIMIT		497245	19.56	1101505	20.19		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23928-21	WI-CV-3RW08-1116	644097	20.04	1792339	20.67		
320-23928-22	WI-CV-3FB08-1116	705259	20.06	1918234	20.68		
320-23928-23	WI-CV-3RW09-1116	694423	20.06	2026482	20.69		
320-23928-24	WI-CV-FB09-1116	689861	20.05	2002749	20.68		
320-23928-25	WI-CV-3RW10-1116	653460	20.06	2005583	20.69		
320-23928-25 MS	WI-CV-3RW10-1116 MS	590543	20.05	1851623	20.67		
320-23928-25 MSD	WI-CV-3RW10-1116 MSD	648215	20.05	1944459	20.68		
320-23928-26	WI-CV-3FB10-1116	711218	20.06	1981133	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141475/79 Date Analyzed: 12/10/2016 22:08

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 05DEC2016A6A_254.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		710350	20.06	1573578	20.69		
UPPER LIMIT		994490	20.56	2203009	21.19		
LOWER LIMIT		497245	19.56	1101505	20.19		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23928-27 DL	WI-CV-3RW11-1116 DL	82819Q	20.06	233449Q	20.69		
320-23928-27 MS DL	WI-CV-3RW11-1116 MS DL	67603Q	20.06	193695Q	20.69		
320-23928-27 MSD DL	WI-CV-3RW11-1116 MSD DL	72588Q	20.06	202454Q	20.69		
320-23928-27	WI-CV-3RW11-1116	633993	20.07	2138085	20.70		
320-23928-27 MS	WI-CV-3RW11-1116 MS	632297	20.07	2163581	20.70		
320-23928-27 MSD	WI-CV-3RW11-1116 MSD	632976	20.07	2072278	20.70		

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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141475/88 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						
320-23928-27 DL	WI-CV-3RW11-1116 DL	82819Q	20.06	233449Q	20.69		
320-23928-27 MS DL	WI-CV-3RW11-1116 MS DL	67603Q	20.06	193695Q	20.69		
320-23928-27 MSD DL	WI-CV-3RW11-1116 MSD DL	72588Q	20.06	202454Q	20.69		
320-23928-27	WI-CV-3RW11-1116	633993	20.07	2138085	20.70		
320-23928-27 MS	WI-CV-3RW11-1116 MS	632297	20.07	2163581	20.70		
320-23928-27 MSD	WI-CV-3RW11-1116 MSD	632976	20.07	2072278	20.70		

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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141758/61 Date Analyzed: 12/12/2016 16:39

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 11DEC2016A6A_061.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		806424	20.05	1700311	20.67		
UPPER LIMIT		1128994	20.55	2380435	21.17		
LOWER LIMIT		564497	19.55	1190218	20.17		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23928-28	WI-CV-3FB11-1116	672514	20.05	2099066	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.: 320-23928-1

SDG No.:

Sample No.: CCV 320-141758/71 Date Analyzed: 12/12/2016 22:05

Instrument ID: A6 GC Column: Acquity ID: 2.1(mm)

Lab File ID (Standard): 11DEC2016A6A_072.d Heated Purge: (Y/N) N

Calibration ID: 26888

		13PFOA		PFOS			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		848262	20.06	1670248	20.68		
UPPER LIMIT		1187567	20.56	2338347	21.18		
LOWER LIMIT		593783	19.56	1169174	20.18		
LAB SAMPLE ID	CLIENT SAMPLE ID						
320-23928-28	WI-CV-3FB11-1116	672514	20.05	2099066	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 I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW06-1116 | Lab Sample ID: 320-23928-1

Matrix: Water | Lab File ID: 05DEC2016A6A_209.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:07

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 268.8(mL) | Date Analyzed: 12/09/2016 23:56

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)	0.045	U	0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	125		70-130
STL00996	13C2 PFDA	114		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_209.d
Lims ID: 320-23928-A-1-A
Client ID: WI-CV-1RW06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 23:56:13 ALS Bottle#: 37 Worklist Smp#: 34
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-1-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 11:06:19

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	914303	12.5	29345	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.320	19.332	-0.012	1.000	162	0.002988	1.2	M
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		628501	10.0	16278	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.023	20.035	-0.012	1.000	989	0.0151	0.6	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.667	-0.012		1731485	28.7	45299	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.738	0.012	1.000	7579	0.1063	70.4	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	629541	11.4	19903	

QC Flag Legend

Review Flags
M - Manually Integrated

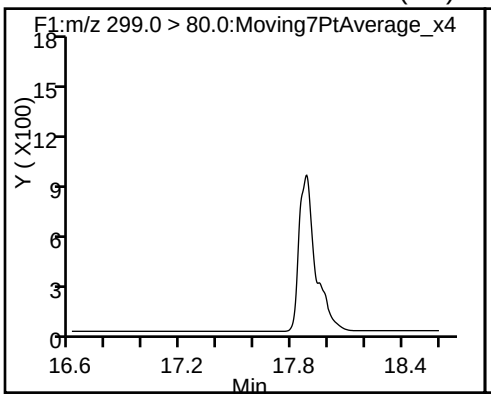
Report Date: 10-Dec-2016 11:33:04 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

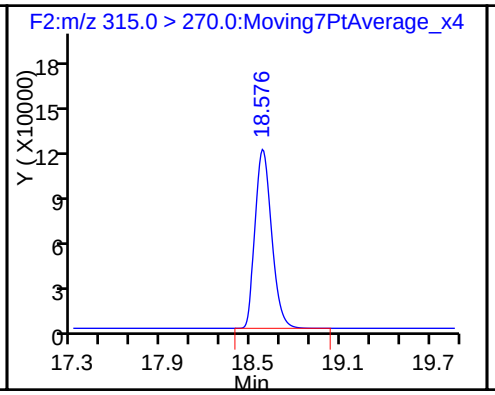
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_209.d

Injection Date:	09-Dec-2016 23:56:13	Instrument ID:	A6		
Lims ID:	320-23928-A-1-A	Lab Sample ID:	320-23928-1		
Client ID:	WI-CV-1RW06-1116				
Operator ID:	CBW	ALS Bottle#:	37	Worklist Smp#:	34
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

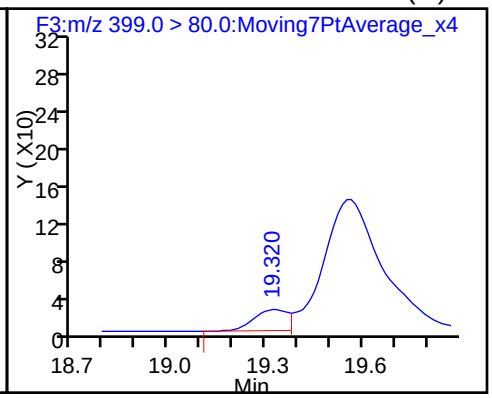
1 Perfluorobutanesulfonic acid (ND)



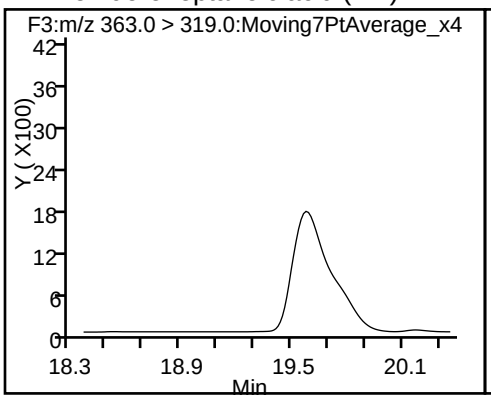
$ 2 13C2 PFHxA



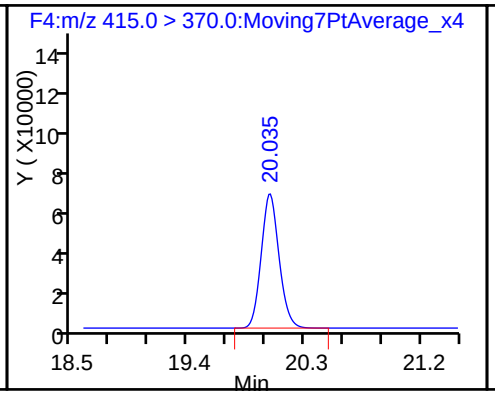
3 Perfluorohexanesulfonic acid (M)



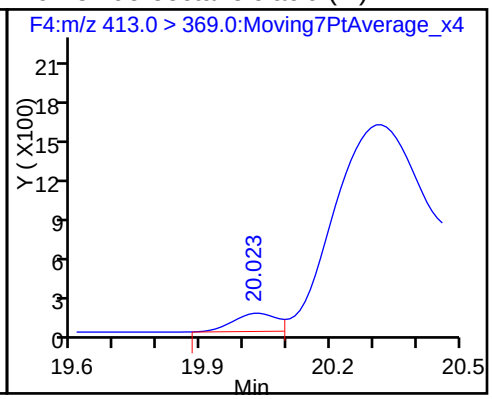
4 Perfluoroheptanoic acid (ND)



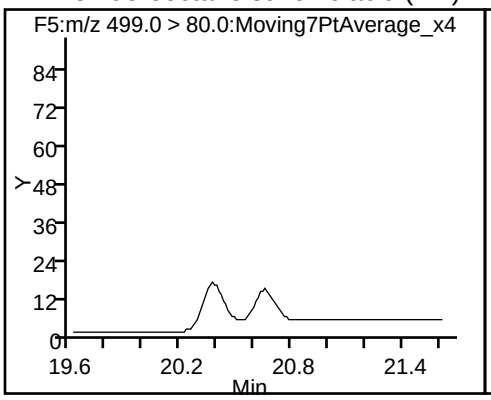
* 5 13C2-PFOA



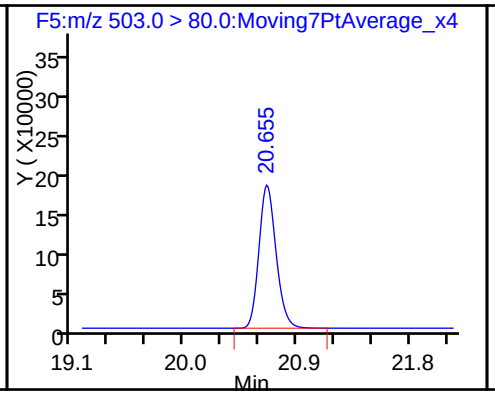
6 Perfluorooctanoic acid (M)



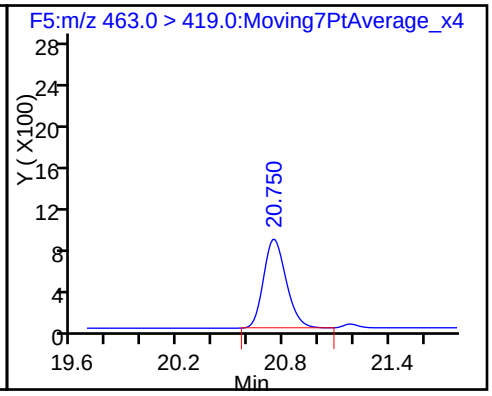
7 Perfluorooctane sulfonic acid (ND)



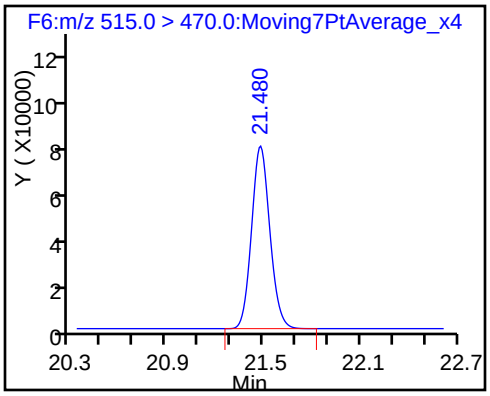
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_209.d
Lims ID: 320-23928-A-1-A
Client ID: WI-CV-1RW06-1116
Sample Type: Client
Inject. Date: 09-Dec-2016 23:56:13 ALS Bottle#: 37 Worklist Smp#: 34
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-1-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 11:06:19

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.5	124.71
$ 10 13C2 PFDA	10.0	11.4	114.31

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

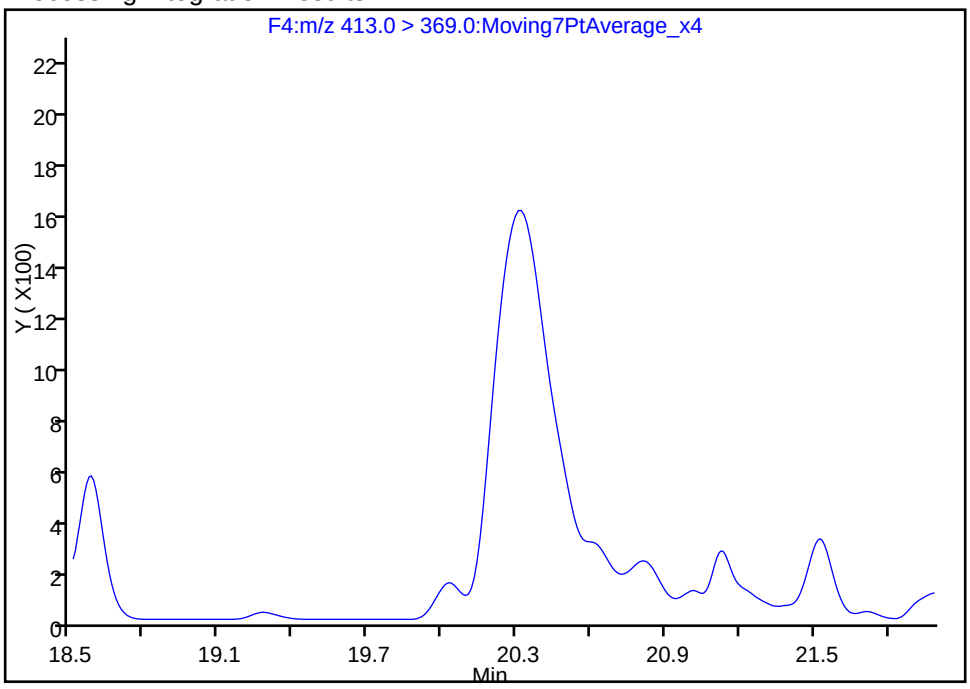
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_209.d				
Injection Date:	09-Dec-2016 23:56:13	Instrument ID:	A6		
Lims ID:	320-23928-A-1-A	Lab Sample ID:	320-23928-1		
Client ID:	WI-CV-1RW06-1116				
Operator ID:	CBW	ALS Bottle#:	37	Worklist Smp#:	34
Injection Vol:	10.0 ul	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

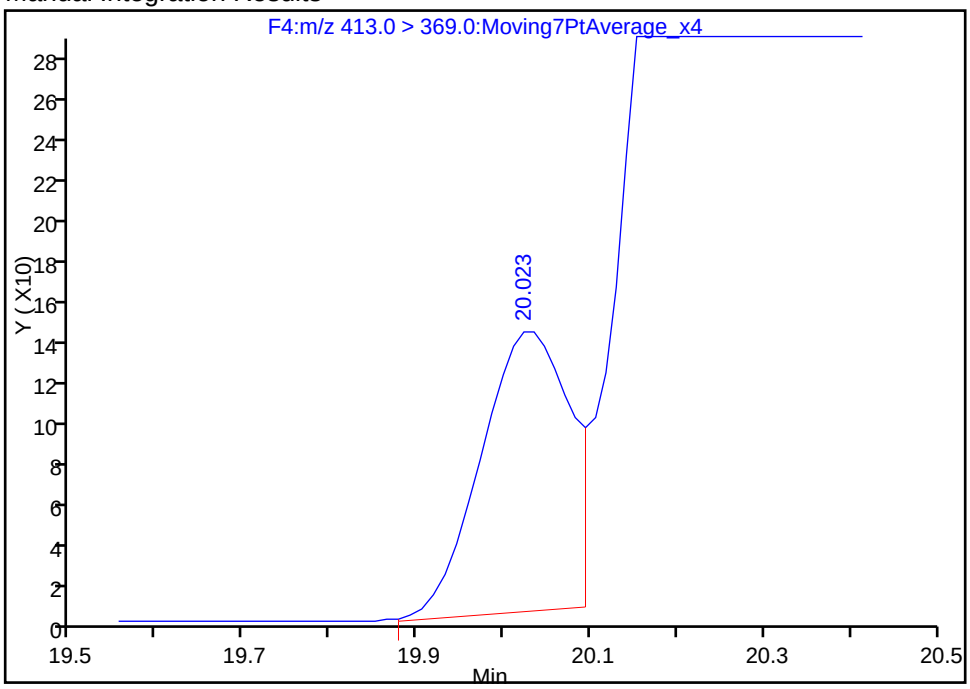
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.02
Area: 989
Amount: 0.015124
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:06:19
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB06-1116 Lab Sample ID: 320-23928-2

Matrix: Water Lab File ID: 05DEC2016A6A_210.d

Analysis Method: 537 Date Collected: 11/29/2016 09:06

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 270.3(mL) Date Analyzed: 12/10/2016 00:25

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	0.055	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	107		70-130
STL00996	13C2 PFDA	104		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_210.d
Lims ID: 320-23928-A-2-A
Client ID: WI-CV-1FB06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 00:25:49 ALS Bottle#: 38 Worklist Smp#: 35
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-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 11:32:15 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 11:08:16

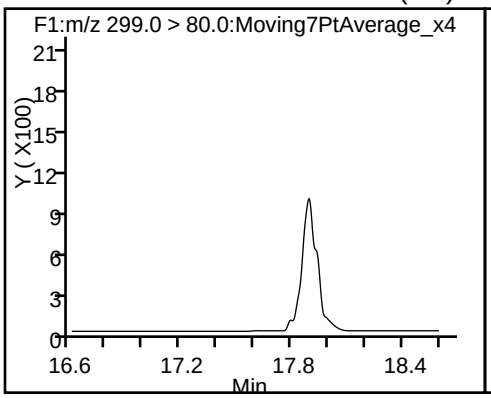
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	911037	10.7	29359	
3 Perfluorohexanesulfonic acid								M
399.0 > 80.0	19.332	19.332	0.0	1.000	936	0.0152	7.4	M
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		729963	10.0	19036	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.667	-0.012		1972633	28.7	51009	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.738	20.738	0.0	1.000	2594	0.0313	77.0	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	662317	10.4	21019	

QC Flag Legend

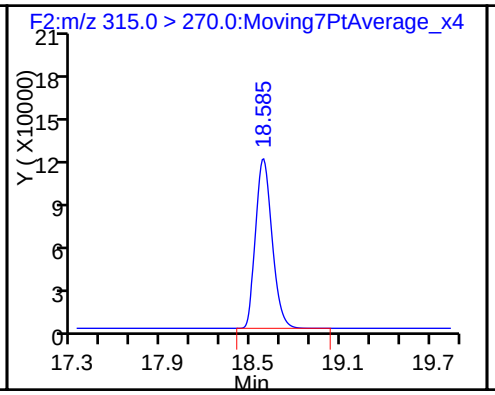
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_210.d
Injection Date: 10-Dec-2016 00:25:49 Instrument ID: A6
Lims ID: 320-23928-A-2-A Lab Sample ID: 320-23928-2
Client ID: WI-CV-1FB06-1116
Operator ID: CBW ALS Bottle#: 38 Worklist Smp#: 35
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

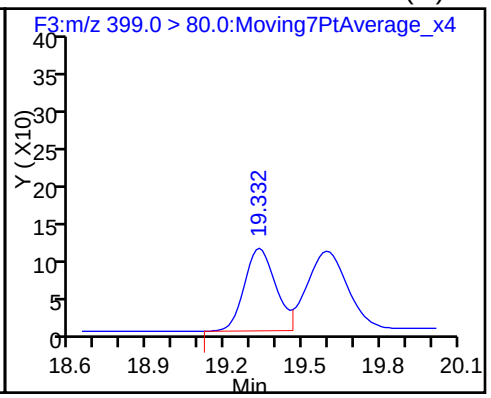
1 Perfluorobutanesulfonic acid (ND)



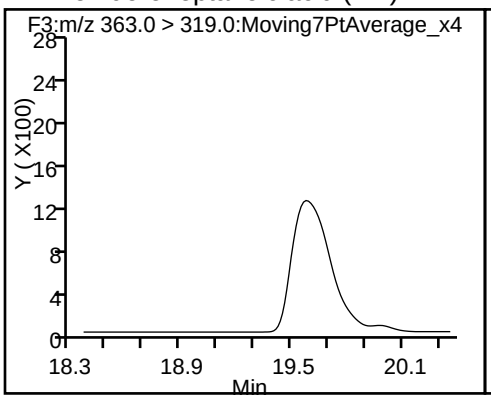
$ 2 13C2 PFHxA



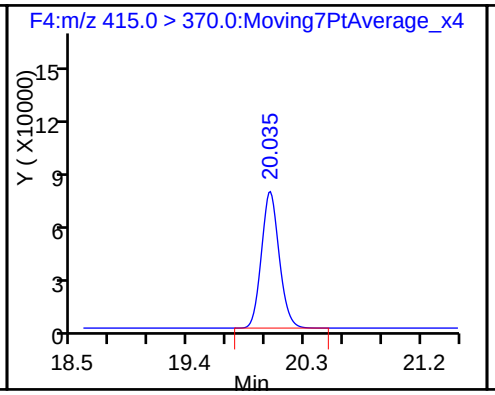
3 Perfluorohexanesulfonic acid (M)



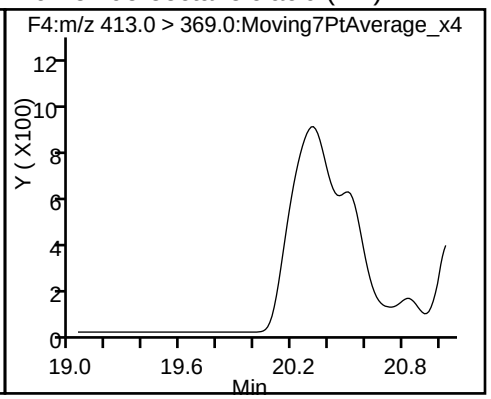
4 Perfluoroheptanoic acid (ND)



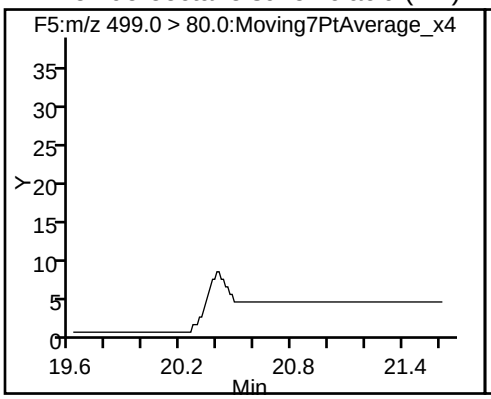
* 5 13C2-PFOA



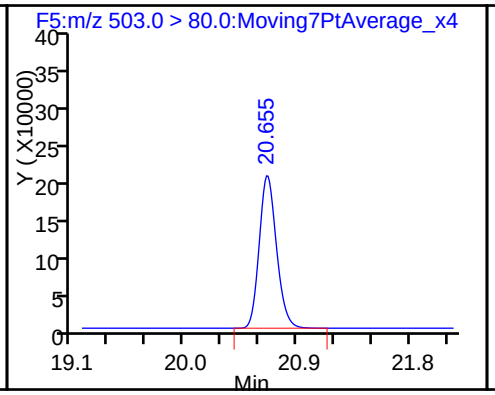
6 Perfluorooctanoic acid (ND)



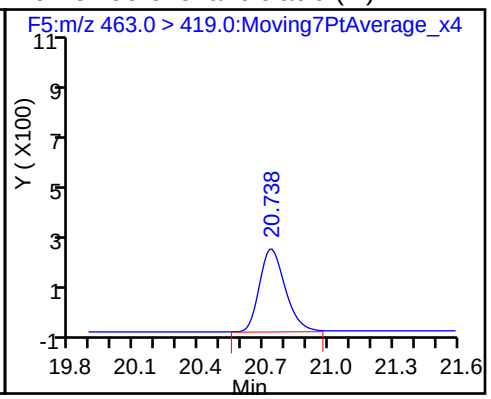
7 Perfluorooctane sulfonic acid (ND)



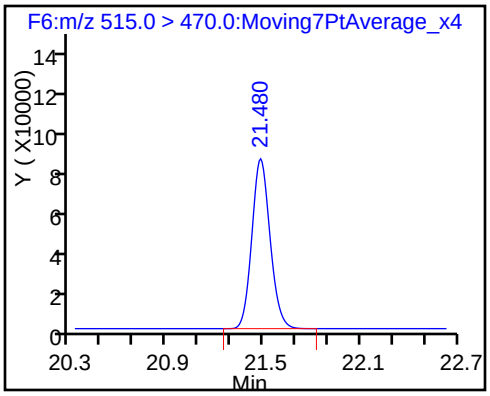
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_210.d
Lims ID: 320-23928-A-2-A
Client ID: WI-CV-1FB06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 00:25:49 ALS Bottle#: 38 Worklist Smp#: 35
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-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 11:32:15 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 11:08:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.7	106.99
$ 10 13C2 PFDA	10.0	10.4	103.54

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW07-1116 | Lab Sample ID: 320-23928-3

Matrix: Water | Lab File ID: 05DEC2016A6A_219.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:05

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 274.3(mL) | Date Analyzed: 12/10/2016 04:52

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	*Perfluorooctanoic acid (PFOA)*	*0.26*	*E*	*0.027*	0.022	*0.0086*
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	119		70-130
STL00996	13C2 PFDA	118		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_219.d
Lims ID: 320-23928-A-3-A
Client ID: WI-CV-1RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 04:52:14 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-3-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:22:45

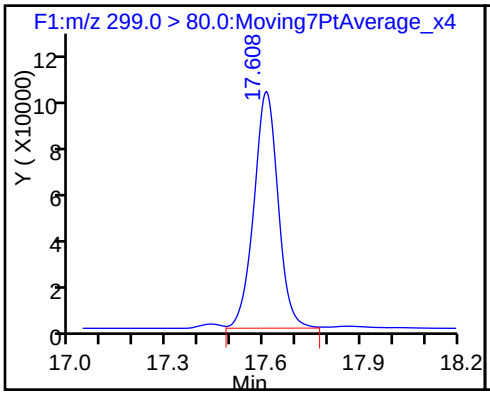
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.618	-0.010	1.000	528299	10.2	691	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	967323	11.9	24574	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	1396090	21.1	19519	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	597748	7.08	2578	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		694397	10.0	17865	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.035	20.047	-0.012	1.000	5067139	70.1	1588	E
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.383	20.619	-0.236	1.000	35354	0.4601	630	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		2110814	28.7	55352	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.750	0.0	1.000	8296	0.1053	147	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.489	-0.009	1.000	720404	11.8	22779	

QC Flag Legend

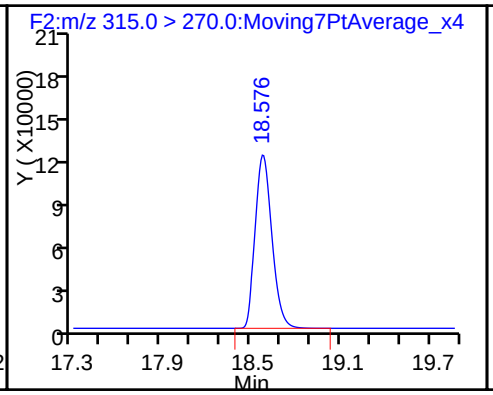
Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_219.d
Injection Date: 10-Dec-2016 04:52:14 Instrument ID: A6
Lims ID: 320-23928-A-3-A Lab Sample ID: 320-23928-3
Client ID: WI-CV-1RW07-1116
Operator ID: CBW ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

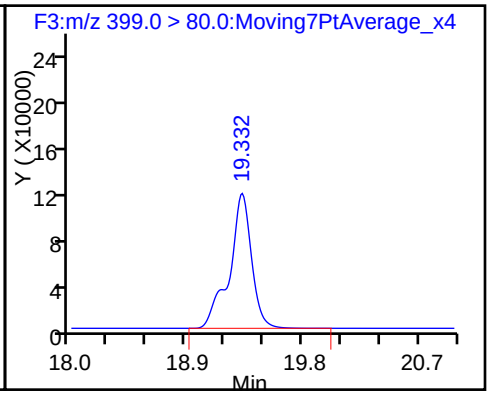
1 Perfluorobutanesulfonic acid



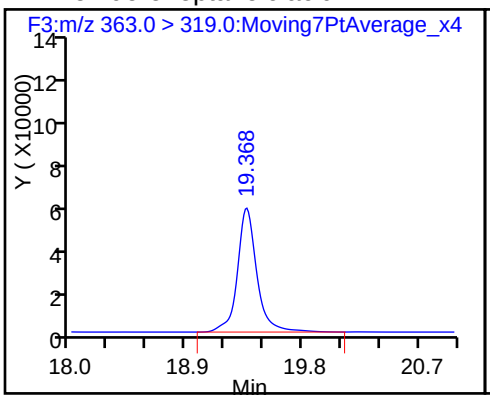
$ 2 13C2 PFHxA



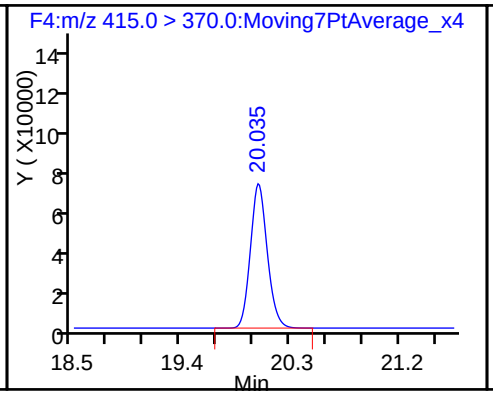
3 Perfluorohexanesulfonic acid



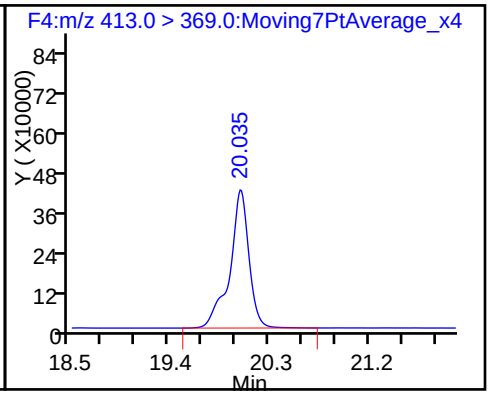
4 Perfluoroheptanoic acid



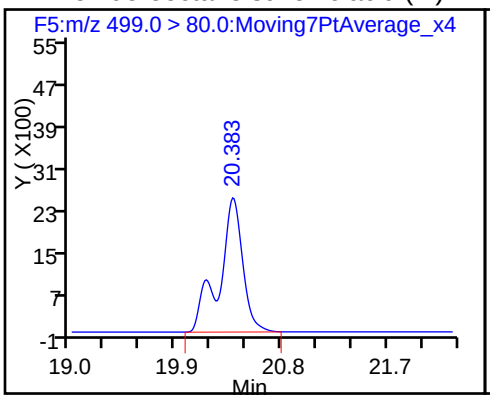
* 5 13C2-PFOA



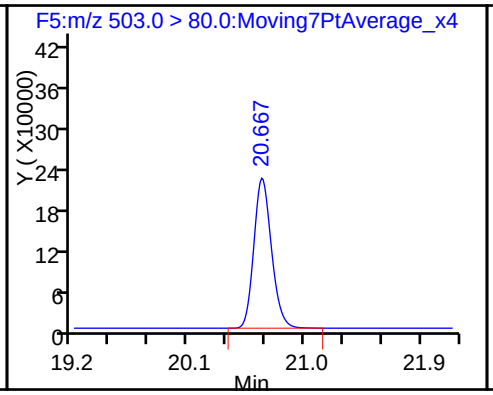
6 Perfluorooctanoic acid



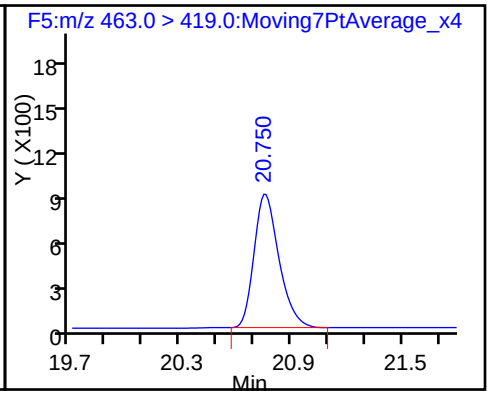
7 Perfluorooctane sulfonic acid (M)



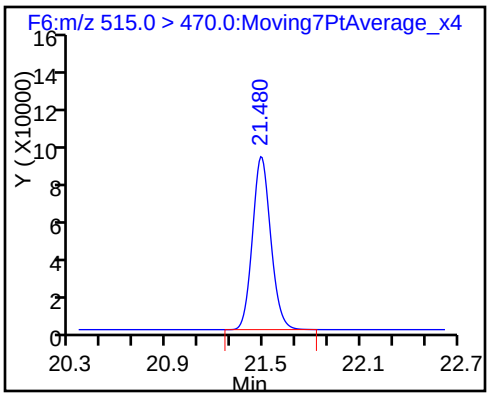
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_219.d
Lims ID: 320-23928-A-3-A
Client ID: WI-CV-1RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 04:52:14 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-3-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:22:45

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.9	119.42
$ 10 13C2 PFDA	10.0	11.8	118.39

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

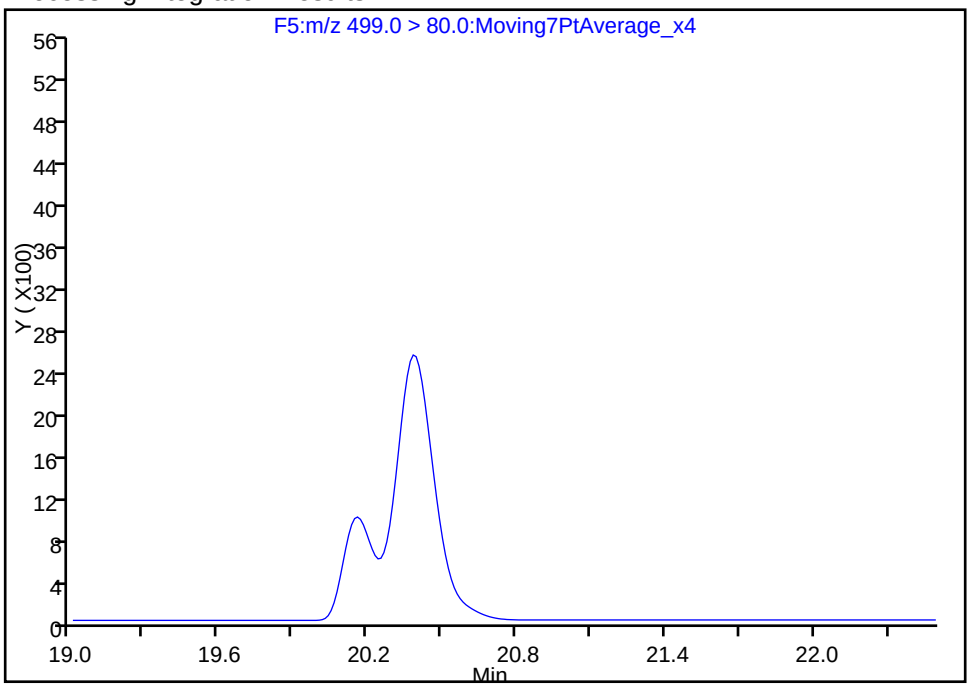
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_219.d				
Injection Date:	10-Dec-2016 04:52:14	Instrument ID:	A6		
Lims ID:	320-23928-A-3-A	Lab Sample ID:	320-23928-3		
Client ID:	WI-CV-1RW07-1116				
Operator ID:	CBW	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	10.0 ul	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

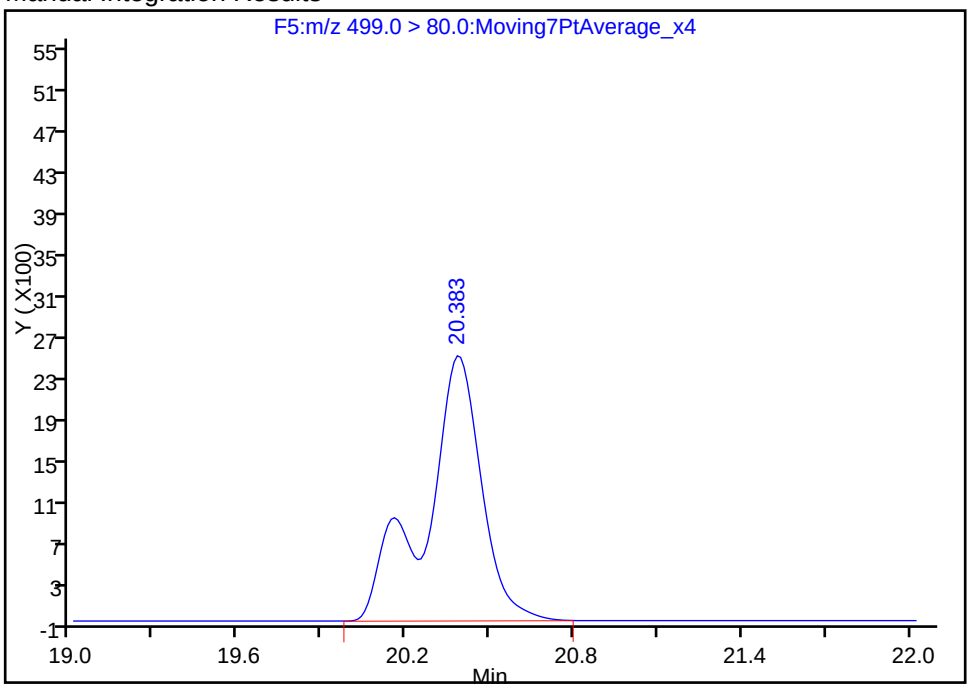
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.38
Area: 35354
Amount: 0.460121
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:22:45
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW07-1116 DL | Lab Sample ID: 320-23928-3 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_211.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:05

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 274.3(mL) | Date Analyzed: 12/10/2016 00:55

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 4

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)*	*0.17*	*U M*	*0.22*	0.17	*0.057*
335-67-1	Perfluorooctanoic acid (PFOA)	0.26	D	0.11	0.087	0.034
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.40*	*U*	*0.51*	0.40	*0.17*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	105		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_211.d
Lims ID: 320-23928-A-3-A
Client ID: WI-CV-1RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 00:55:25 ALS Bottle#: 39 Worklist Smp#: 36
Injection Vol: 10.0 ul Dil. Factor: 4.0000
Sample Info: 320-23928-A-3-A 4x
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 11:09:14

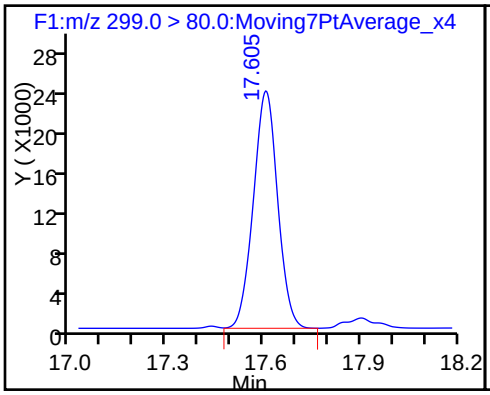
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.605	17.605	0.0	1.000	125758	2.29	148	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	235060	2.73	7713	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	371076	5.28	8092	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	166979	1.86	2456	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		184676	2.50	4783	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	1358986	17.7	1131	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.371	20.619	-0.248	1.000	2515	0.0308	62.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		561529	7.17	14838	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.762	20.738	0.024	1.000	388	0.004631	10.8	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	170476	2.63	5457	

QC Flag Legend

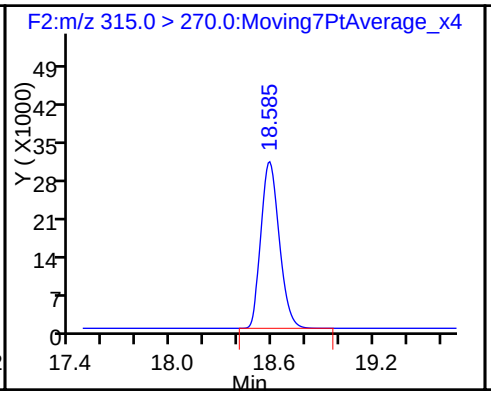
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_211.d
Injection Date: 10-Dec-2016 00:55:25 Instrument ID: A6
Lims ID: 320-23928-A-3-A Lab Sample ID: 320-23928-3
Client ID: WI-CV-1RW07-1116
Operator ID: CBW ALS Bottle#: 39 Worklist Smp#: 36
Injection Vol: 10.0 ul Dil. Factor: 4.0000
Method: 537__A6 Limit Group: LC 537 ICAL

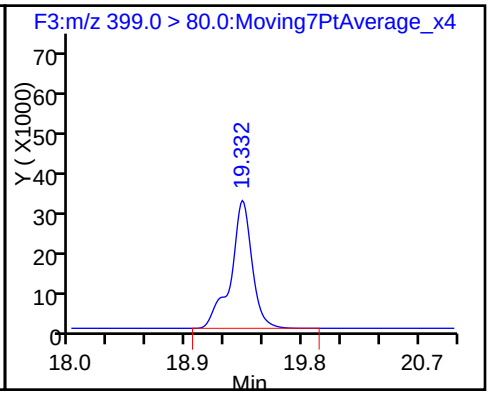
1 Perfluorobutanesulfonic acid



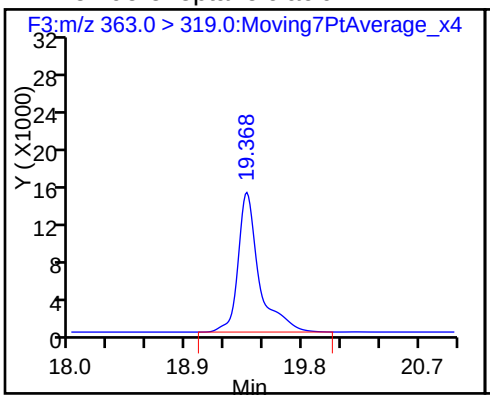
$ 2 13C2 PFHxA



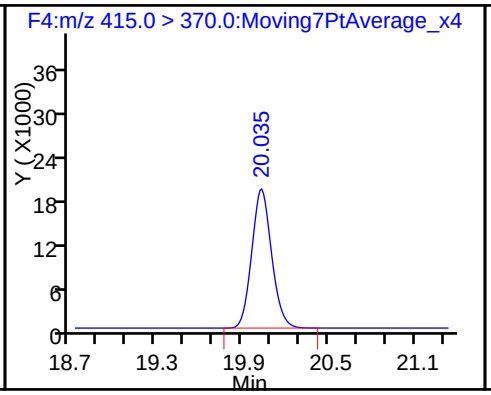
3 Perfluorohexanesulfonic acid



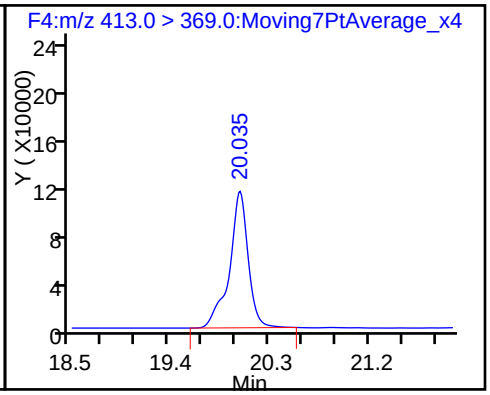
4 Perfluoroheptanoic acid



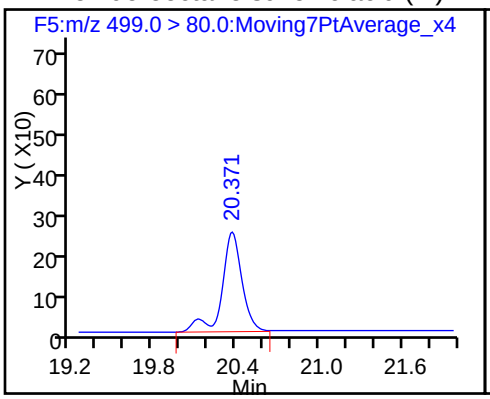
* 5 13C2-PFOA



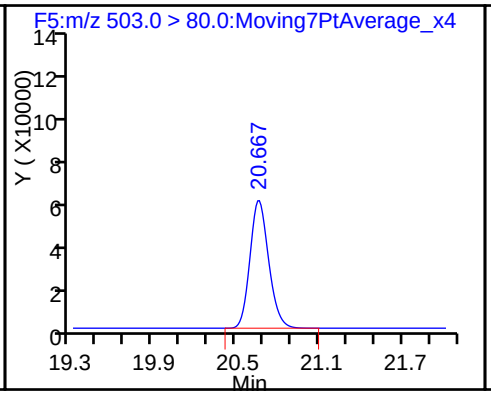
6 Perfluorooctanoic acid



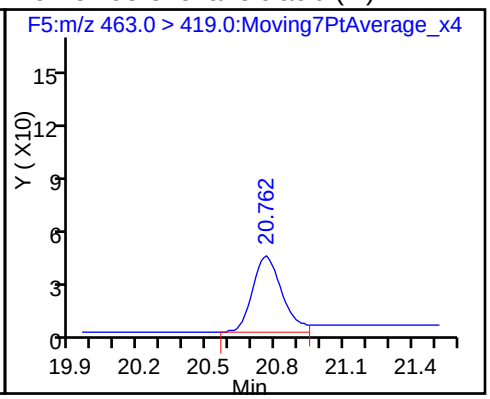
7 Perfluorooctane sulfonic acid (M)



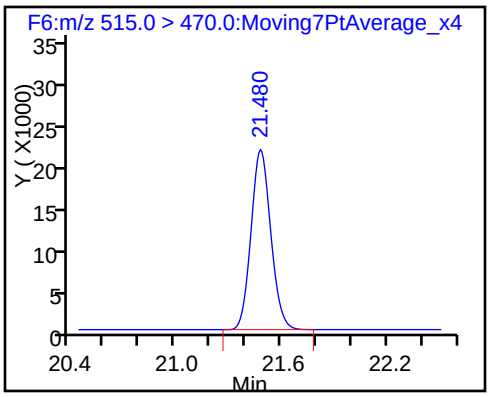
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_211.d
Lims ID: 320-23928-A-3-A
Client ID: WI-CV-1RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 00:55:25 ALS Bottle#: 39 Worklist Smp#: 36
Injection Vol: 10.0 ul Dil. Factor: 4.0000
Sample Info: 320-23928-A-3-A 4x
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 11:09:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	2.73	109.11
$ 10 13C2 PFDA	10.0	2.63	105.34

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

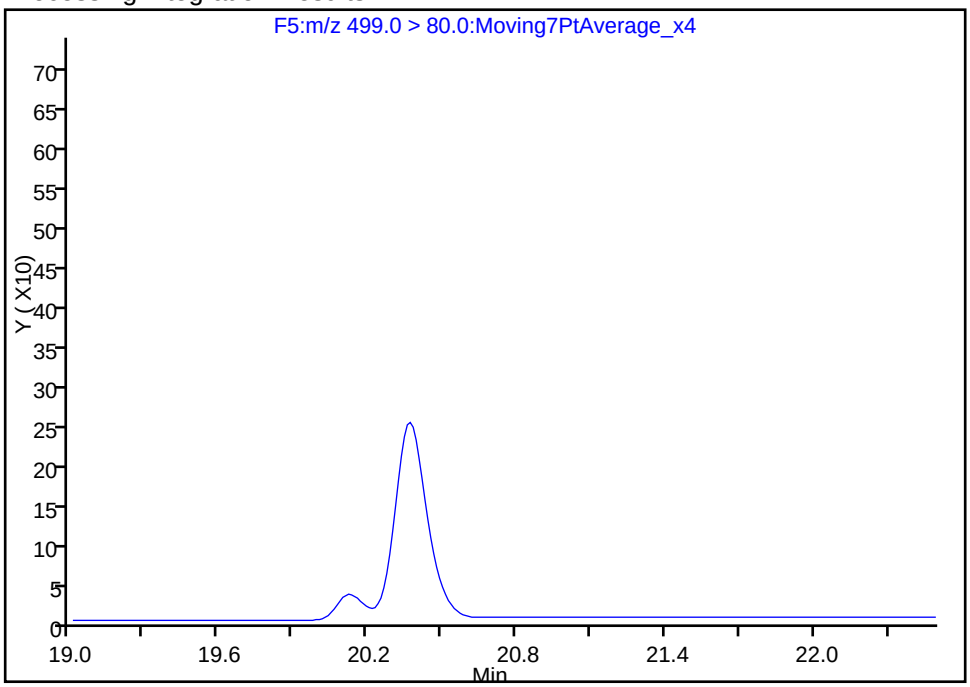
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_211.d				
Injection Date:	10-Dec-2016 00:55:25	Instrument ID:	A6		
Lims ID:	320-23928-A-3-A	Lab Sample ID:	320-23928-3		
Client ID:	WI-CV-1RW07-1116				
Operator ID:	CBW	ALS Bottle#:	39	Worklist Smp#:	36
Injection Vol:	10.0 ul	Dil. Factor:	4.0000		
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

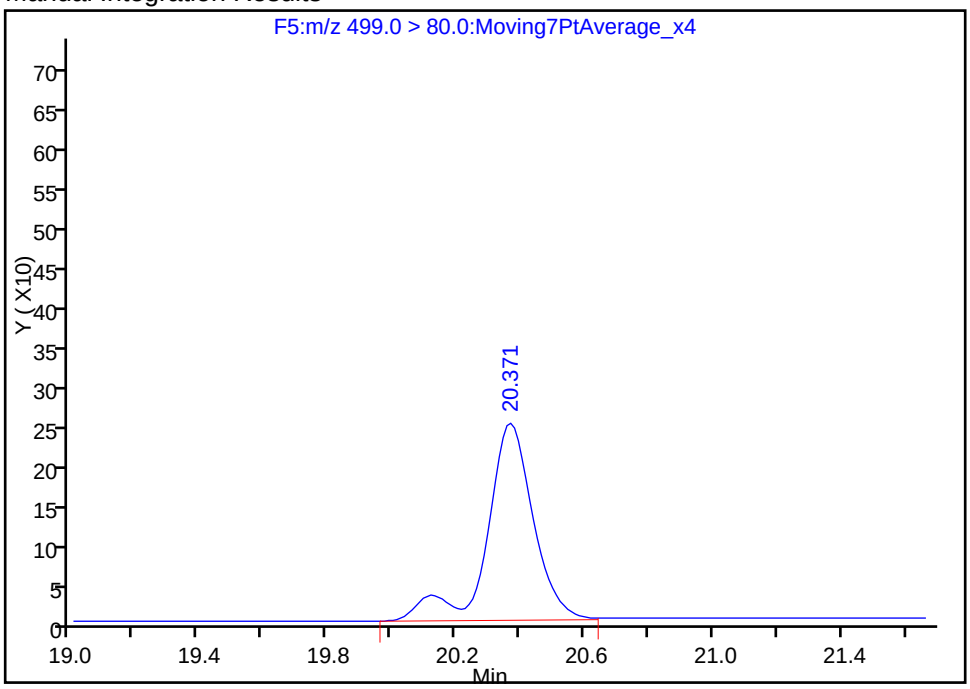
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.37
Area: 2515
Amount: 0.030760
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:09:14
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB07-1116 | Lab Sample ID: 320-23928-4

Matrix: Water | Lab File ID: 05DEC2016A6A_212.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:04

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 280.1(mL) | Date Analyzed: 12/10/2016 01:25

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	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.021	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.098	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_212.d
Lims ID: 320-23928-A-4-A
Client ID: WI-CV-1FB07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 01:25:02 ALS Bottle#: 40 Worklist Smp#: 37
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-4-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

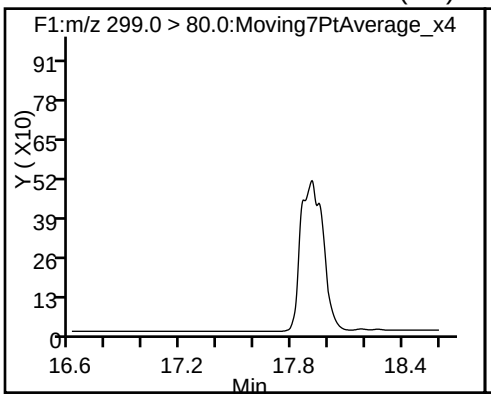
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:12:35

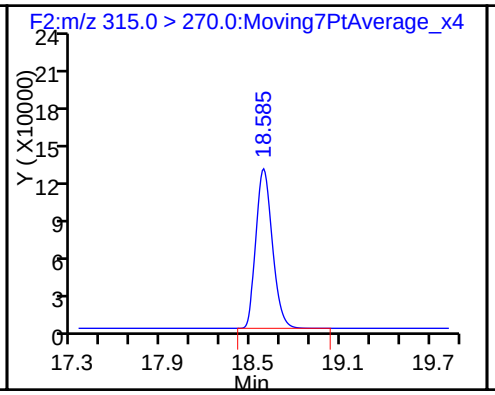
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	975924	11.4	31605	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		732888	10.0	19124	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2044336	28.7	42603	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	5611	0.0675	149	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	681006	10.6	21621	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_212.d
Injection Date: 10-Dec-2016 01:25:02 Instrument ID: A6
Lims ID: 320-23928-A-4-A Lab Sample ID: 320-23928-4
Client ID: WI-CV-1FB07-1116
Operator ID: CBW ALS Bottle#: 40 Worklist Smp#: 37
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

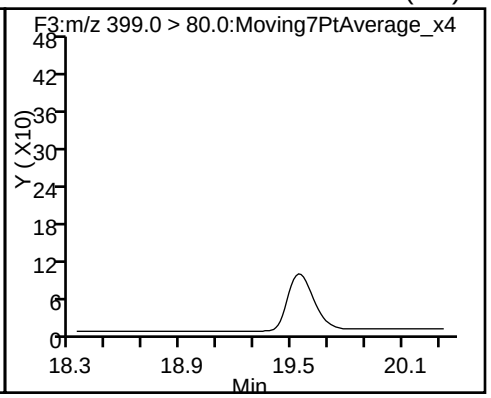
1 Perfluorobutanesulfonic acid (ND)



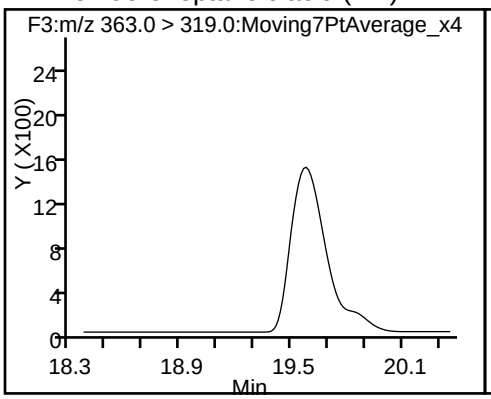
$ 2 13C2 PFHxA



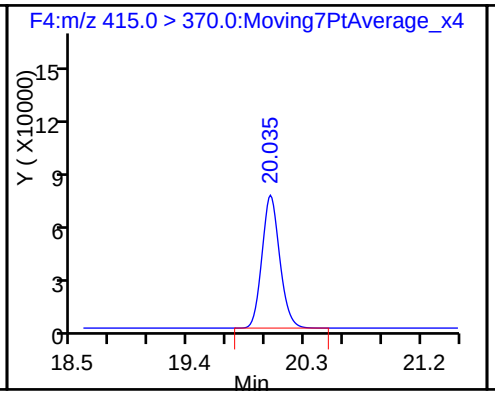
3 Perfluorohexanesulfonic acid (ND)



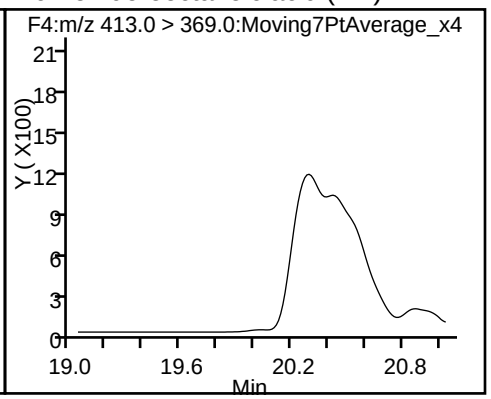
4 Perfluoroheptanoic acid (ND)



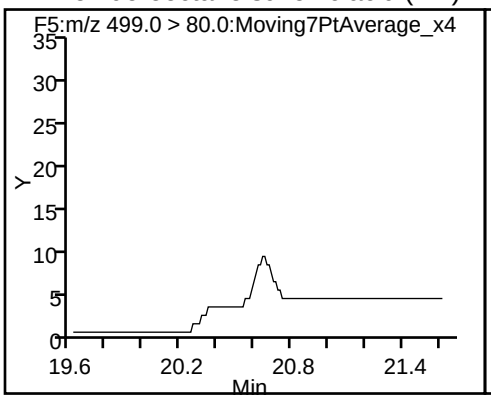
* 5 13C2-PFOA



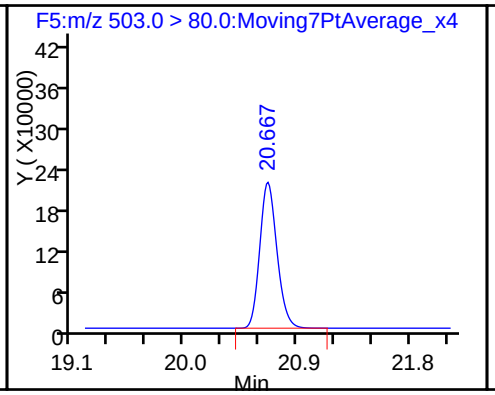
6 Perfluorooctanoic acid (ND)



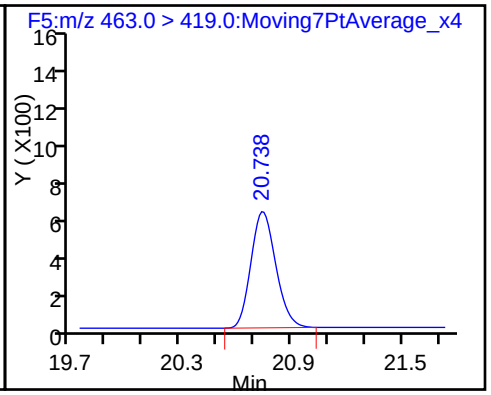
7 Perfluorooctane sulfonic acid (ND)



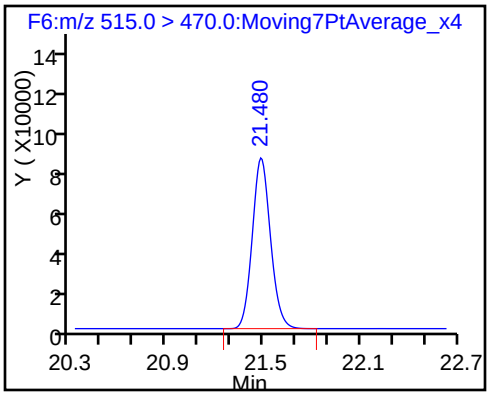
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_212.d
Lims ID: 320-23928-A-4-A
Client ID: WI-CV-1FB07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 01:25:02 ALS Bottle#: 40 Worklist Smp#: 37
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-4-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 11:12:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	114.15
$ 10 13C2 PFDA	10.0	10.6	106.04

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW08-1116 | Lab Sample ID: 320-23928-5

Matrix: Water | Lab File ID: 05DEC2016A6A_213.d

Analysis Method: 537 | Date Collected: 11/29/2016 12:12

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 277.3(mL) | Date Analyzed: 12/10/2016 01:54

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 M	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	115		70-130
STL00996	13C2 PFDA	120		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_213.d
Lims ID: 320-23928-A-5-A
Client ID: WI-CV-1RW08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 01:54:39 ALS Bottle#: 41 Worklist Smp#: 38
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-5-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 11:13:06

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	860495	11.5	27858	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.308	19.368	-0.060	1.000	1461	0.0188	0.5	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		640314	10.0	16417	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.667	20.619	0.048	1.000	898	0.0129	25.5	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1916111	28.7	49591	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	9696	0.1335	80.9	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	673336	12.0	21104	

QC Flag Legend

Review Flags
M - Manually Integrated

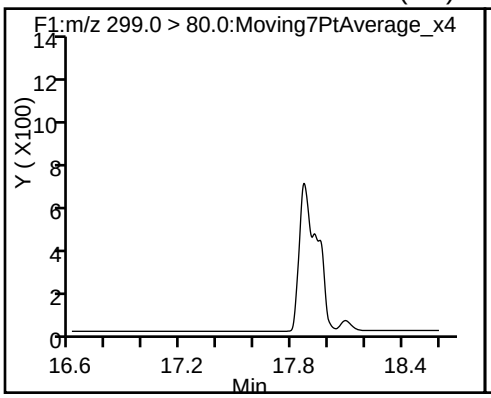
Report Date: 10-Dec-2016 11:33:38 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

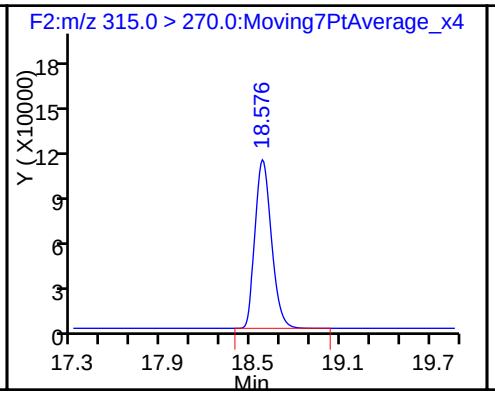
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_213.d

Injection Date:	10-Dec-2016 01:54:39	Instrument ID:	A6		
Lims ID:	320-23928-A-5-A	Lab Sample ID:	320-23928-5		
Client ID:	WI-CV-1RW08-1116				
Operator ID:	CBW	ALS Bottle#:	41	Worklist Smp#:	38
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

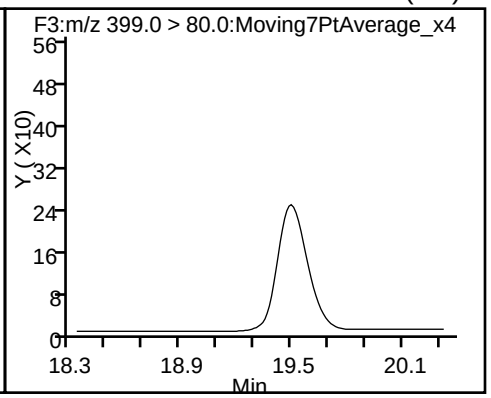
1 Perfluorobutanesulfonic acid (ND)



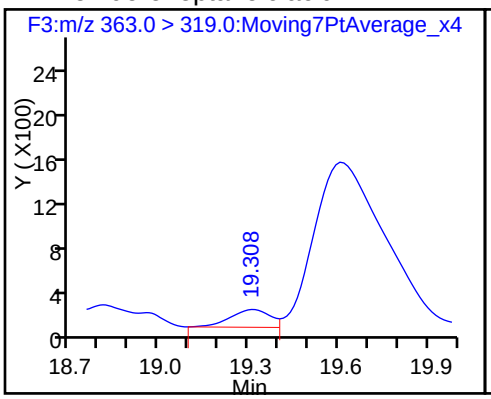
$ 2 13C2 PFHxA



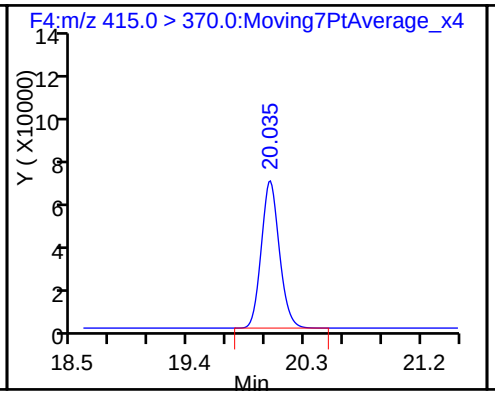
3 Perfluorohexanesulfonic acid (ND)



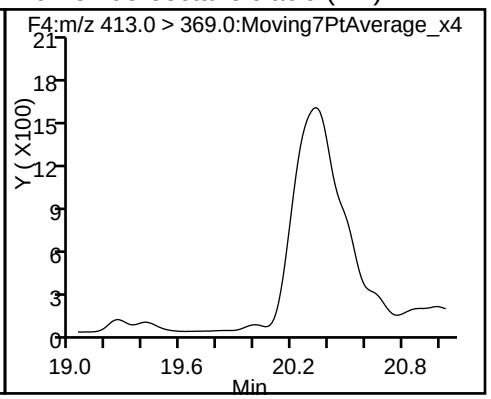
4 Perfluoroheptanoic acid



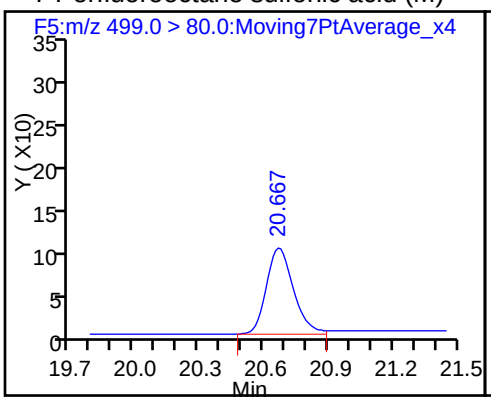
* 5 13C2-PFOA



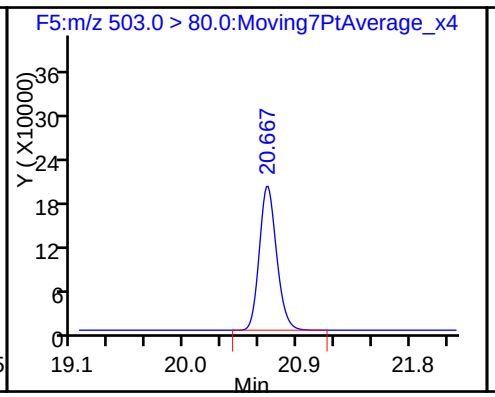
6 Perfluorooctanoic acid (ND)



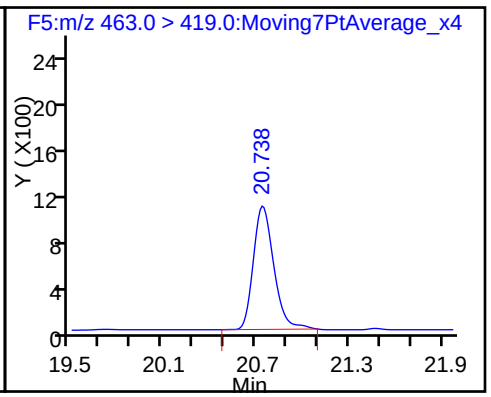
7 Perfluorooctane sulfonic acid (M)



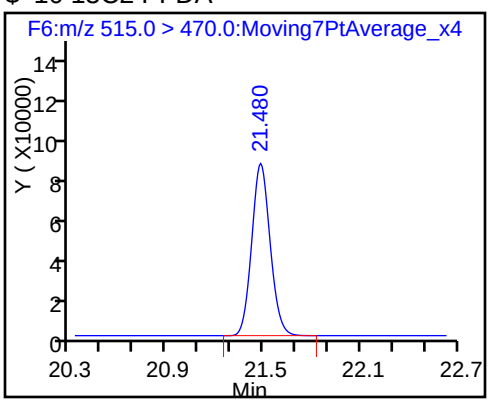
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_213.d
Lims ID: 320-23928-A-5-A
Client ID: WI-CV-1RW08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 01:54:39 ALS Bottle#: 41 Worklist Smp#: 38
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-5-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 11:13:06

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.5	115.20
$ 10 13C2 PFDA	10.0	12.0	120.00

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

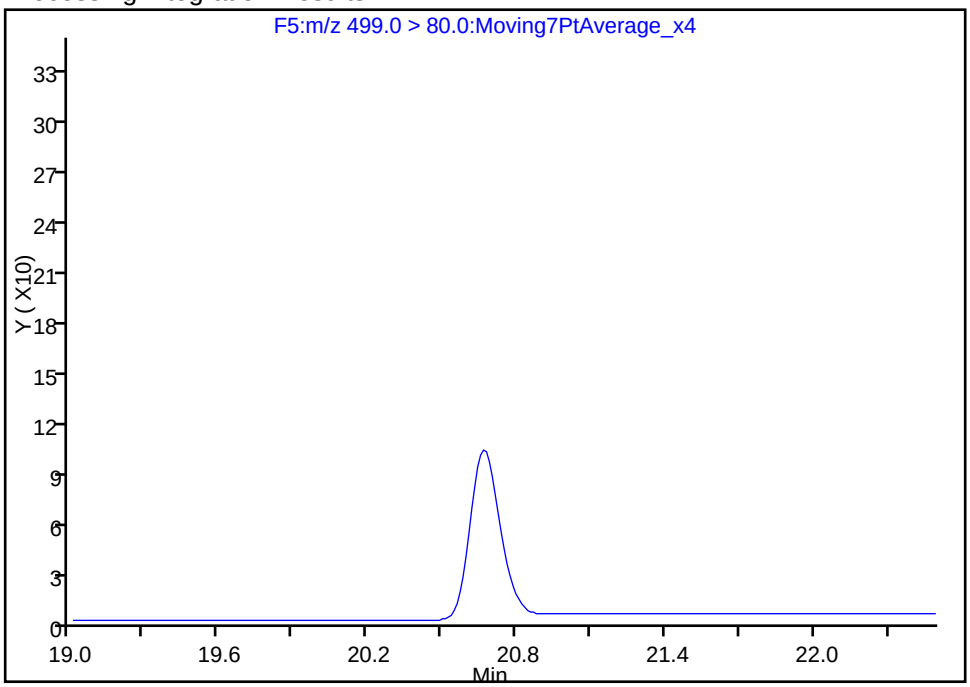
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_213.d				
Injection Date:	10-Dec-2016 01:54:39	Instrument ID:	A6		
Lims ID:	320-23928-A-5-A	Lab Sample ID:	320-23928-5		
Client ID:	WI-CV-1RW08-1116				
Operator ID:	CBW	ALS Bottle#:	41	Worklist Smp#:	38
Injection Vol:	10.0 ul	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

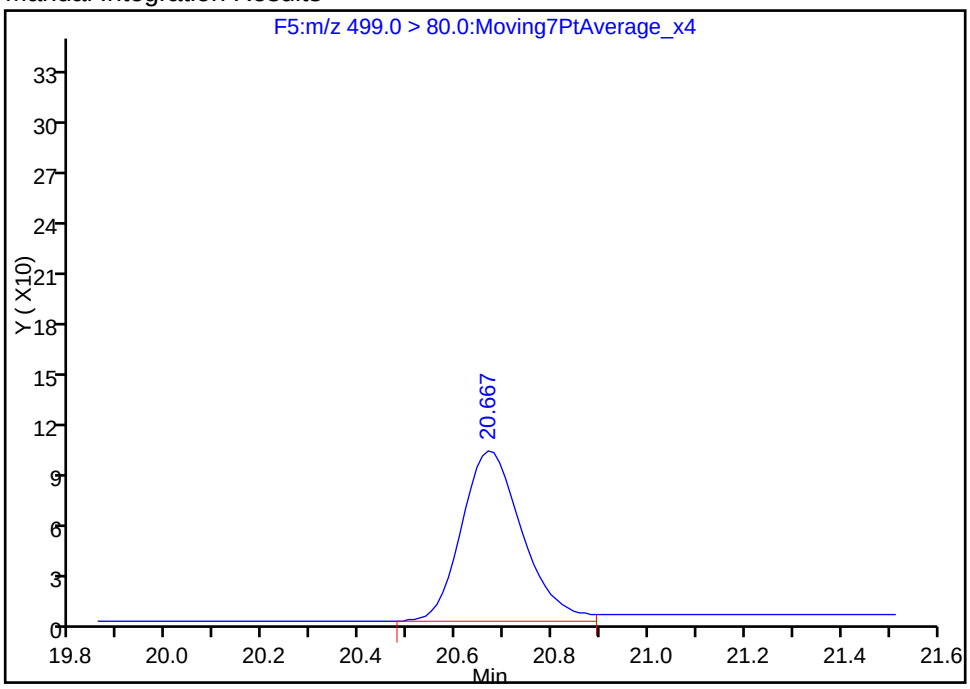
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.67
Area: 898
Amount: 0.012875
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:13:06
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB08-1116 | Lab Sample ID: 320-23928-6

Matrix: Water | Lab File ID: 05DEC2016A6A_214.d

Analysis Method: 537 | Date Collected: 11/29/2016 12:11

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 272(mL) | Date Analyzed: 12/10/2016 02:24

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	0.055	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	114		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_214.d
Lims ID: 320-23928-A-6-A
Client ID: WI-CV-1FB08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 02:24:15 ALS Bottle#: 42 Worklist Smp#: 39
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-6-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 11:13:51

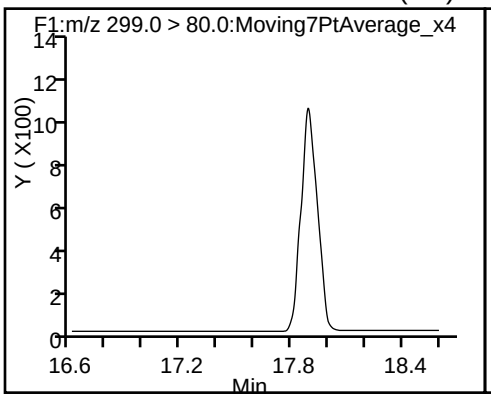
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	993555	11.4	32033	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		748286	10.0	19521	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2082165	28.7	31117	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.750	20.738	0.012	1.000	2972	0.0350	87.0	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	699880	10.7	21822	

QC Flag Legend

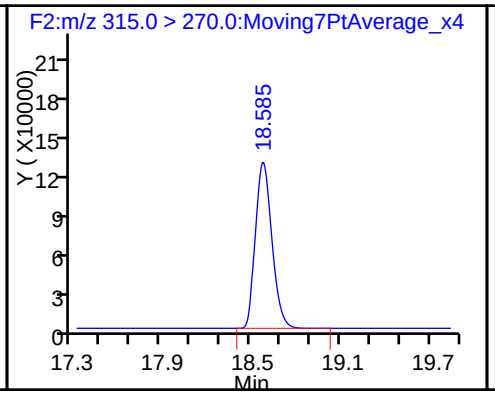
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_214.d
Injection Date: 10-Dec-2016 02:24:15 Instrument ID: A6
Lims ID: 320-23928-A-6-A Lab Sample ID: 320-23928-6
Client ID: WI-CV-1FB08-1116
Operator ID: CBW ALS Bottle#: 42 Worklist Smp#: 39
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

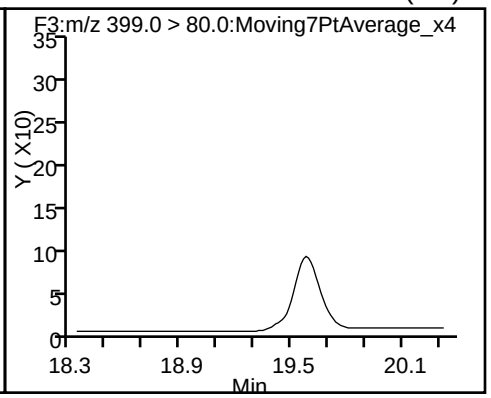
1 Perfluorobutanesulfonic acid (ND)



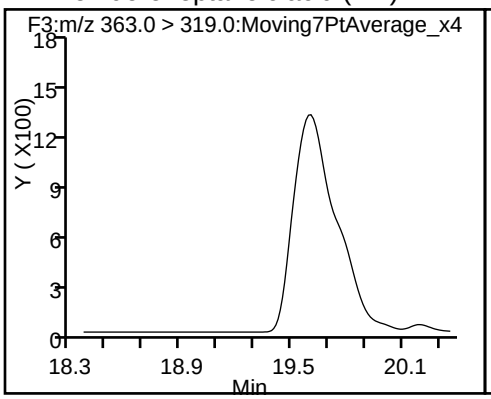
$ 2 13C2 PFHxA



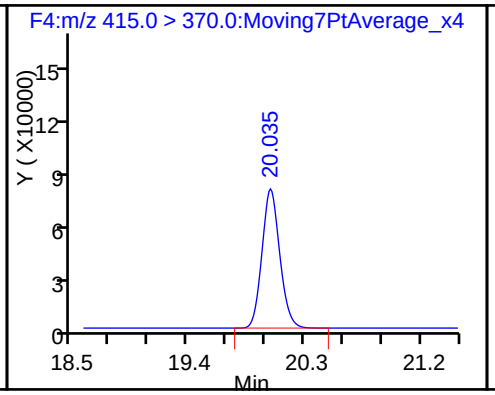
3 Perfluorohexanesulfonic acid (ND)



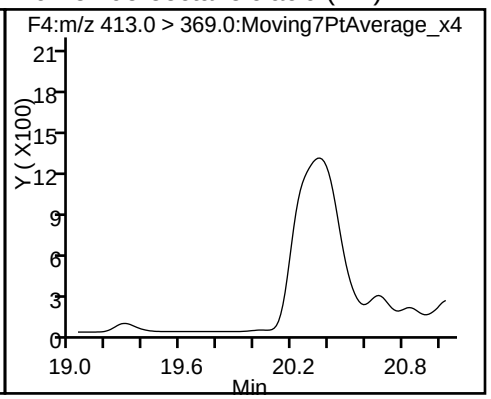
4 Perfluoroheptanoic acid (ND)



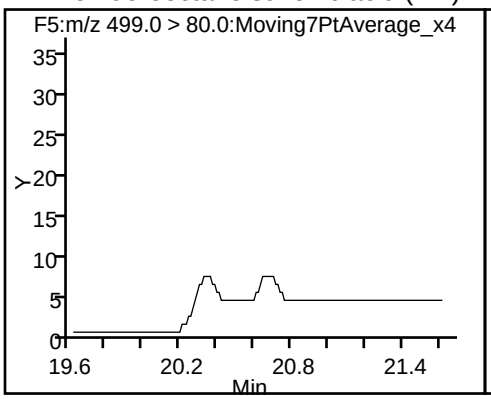
* 5 13C2-PFOA



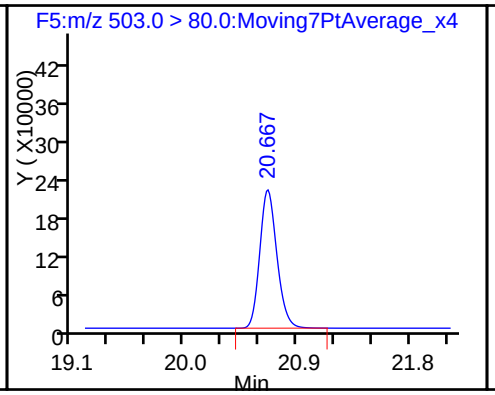
6 Perfluorooctanoic acid (ND)



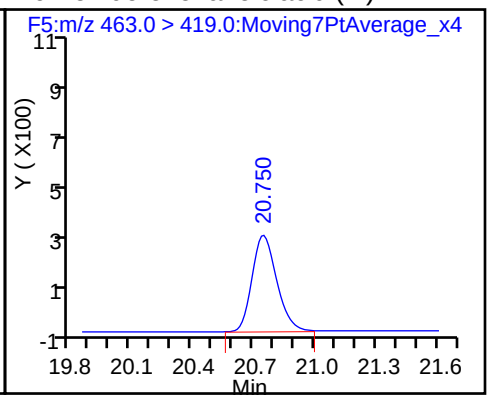
7 Perfluorooctane sulfonic acid (ND)



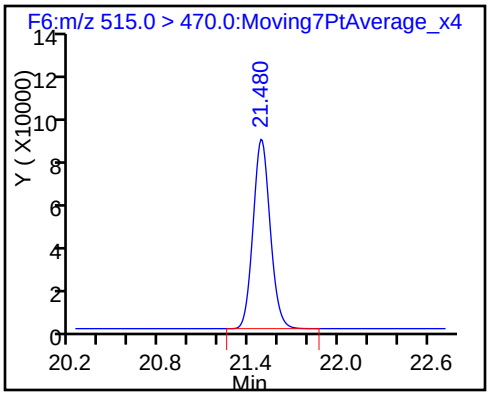
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_214.d
Lims ID: 320-23928-A-6-A
Client ID: WI-CV-1FB08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 02:24:15 ALS Bottle#: 42 Worklist Smp#: 39
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-6-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 11:13:51

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	113.82
$ 10 13C2 PFDA	10.0	10.7	106.74

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW09-1116 | Lab Sample ID: 320-23928-7

Matrix: Water | Lab File ID: 05DEC2016A6A_218.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:17

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 273.9(mL) | Date Analyzed: 12/10/2016 04:22

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.022	0.0086
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	126		70-130
STL00996	13C2 PFDA	116		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_218.d
Lims ID: 320-23928-A-7-A
Client ID: WI-CV-1RW09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 04:22:38 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-7-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:21:44

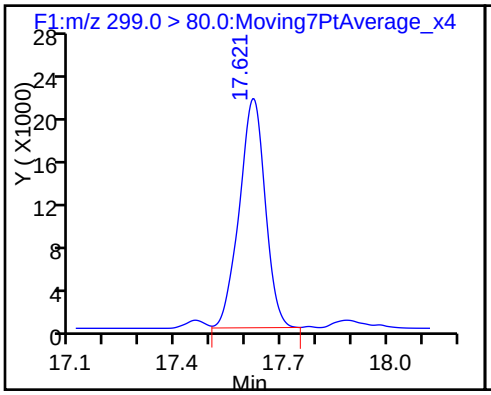
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.618	0.003	1.000	109644	2.22	289	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	1008658	12.6	32575	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		688060	10.0	17966	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.058	20.047	0.011	1.000	1407	0.0197	1.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		2015520	28.7	23379	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.750	0.0	1.000	10592	0.1357	40.4	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	697889	11.6	21830	

QC Flag Legend

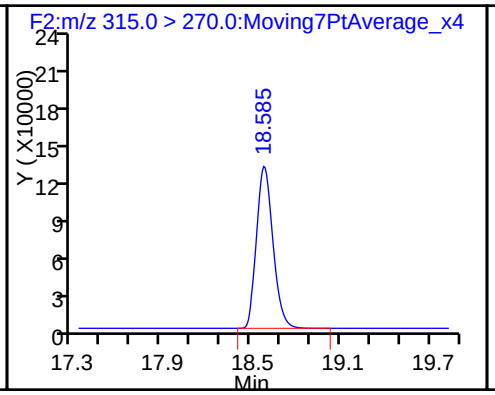
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_218.d
Injection Date: 10-Dec-2016 04:22:38 Instrument ID: A6
Lims ID: 320-23928-A-7-A Lab Sample ID: 320-23928-7
Client ID: WI-CV-1RW09-1116
Operator ID: CBW ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

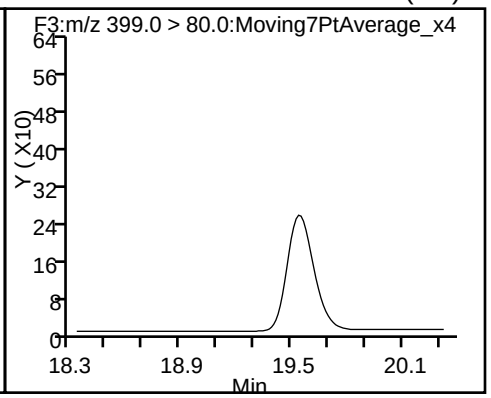
1 Perfluorobutanesulfonic acid



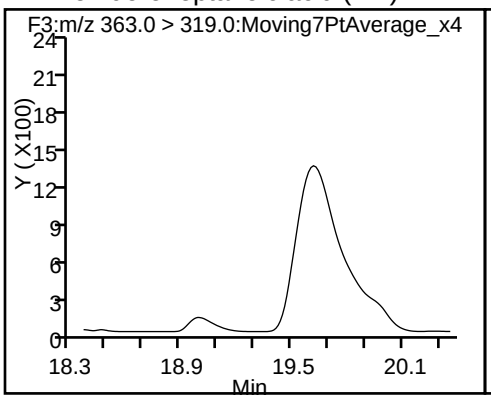
$ 2 13C2 PFHxA



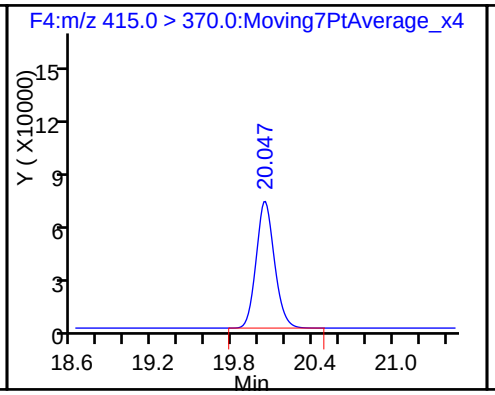
3 Perfluorohexanesulfonic acid (ND)



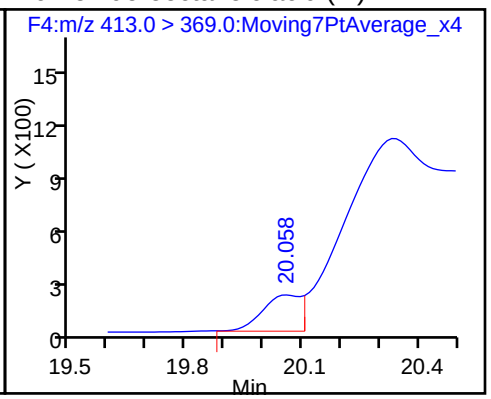
4 Perfluoroheptanoic acid (ND)



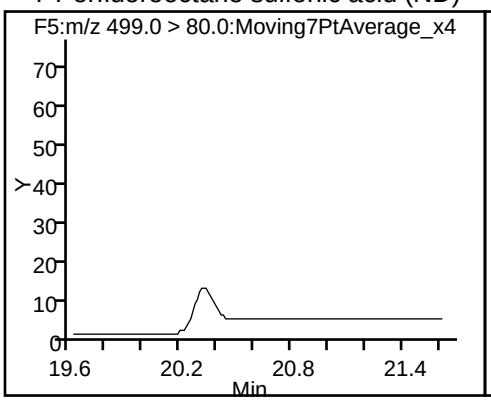
* 5 13C2-PFOA



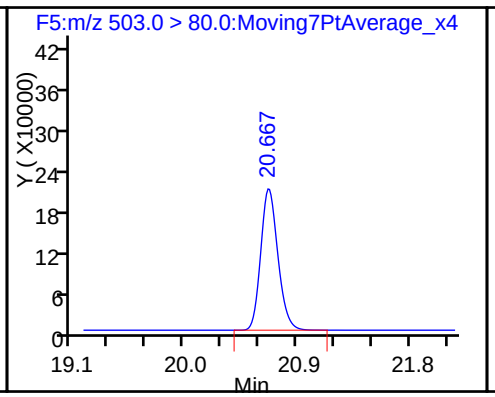
6 Perfluorooctanoic acid (M)



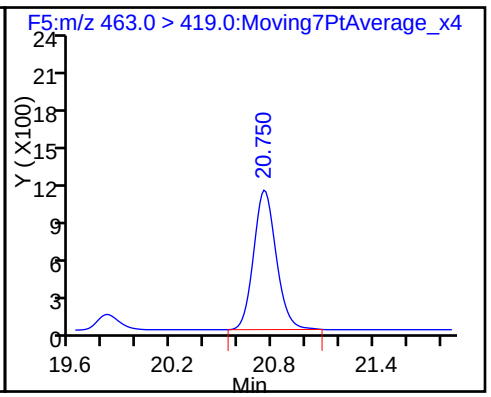
7 Perfluorooctane sulfonic acid (ND)



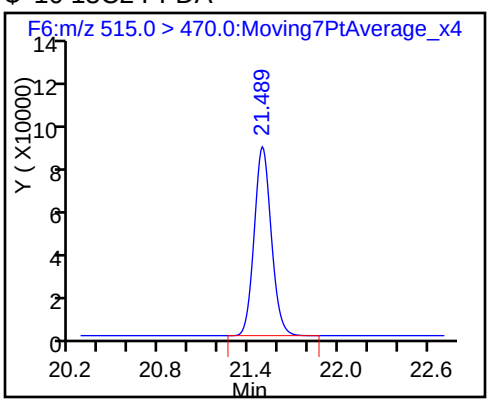
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_218.d
Lims ID: 320-23928-A-7-A
Client ID: WI-CV-1RW09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 04:22:38 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-7-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:21:44

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.6	125.67
$ 10 13C2 PFDA	10.0	11.6	115.75

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

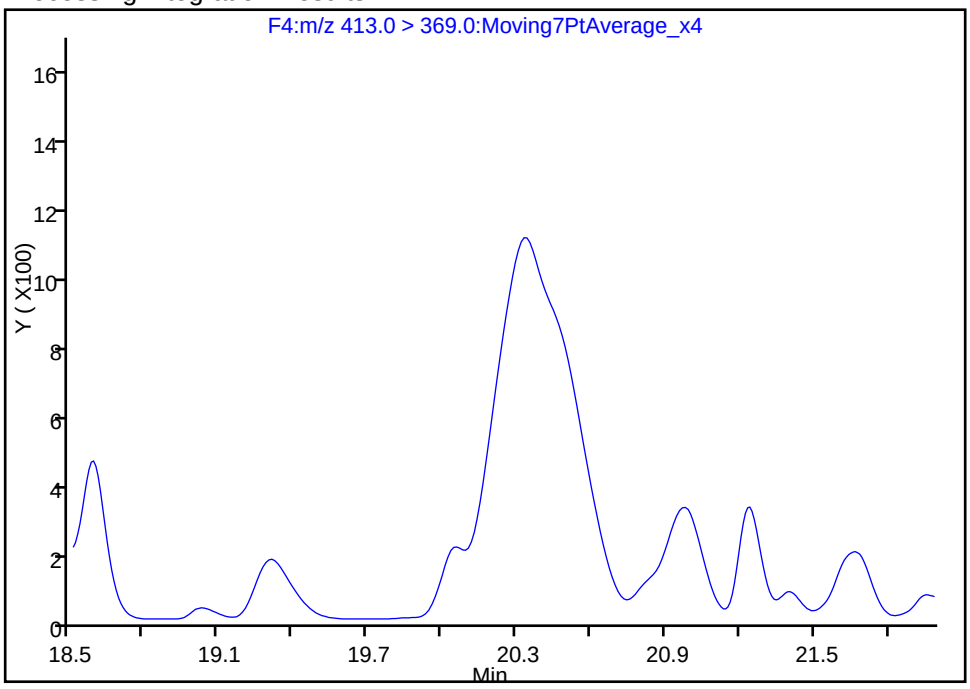
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_218.d				
Injection Date:	10-Dec-2016 04:22:38	Instrument ID:	A6		
Lims ID:	320-23928-A-7-A	Lab Sample ID:	320-23928-7		
Client ID:	WI-CV-1RW09-1116				
Operator ID:	CBW	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	10.0 ul	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

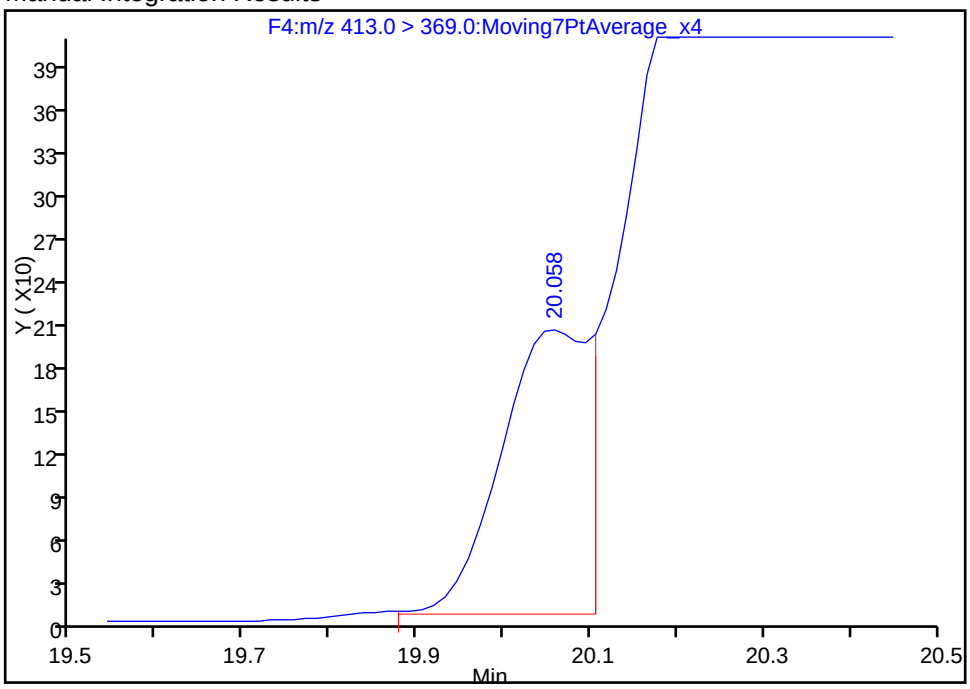
Not Detected
Expected RT: 20.05

Processing Integration Results



Manual Integration Results

RT: 20.06
Area: 1407
Amount: 0.019654
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:21:44
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB09-1116 | Lab Sample ID: 320-23928-8

Matrix: Water | Lab File ID: 05DEC2016A6A_220.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:16

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 276.7(mL) | Date Analyzed: 12/10/2016 05:21

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.: 141293 | 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 M	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	107		70-130
STL00996	13C2 PFDA	105		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_220.d
Lims ID: 320-23928-A-8-A
Client ID: WI-CV-1FB09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 05:21:50 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-8-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:23:44

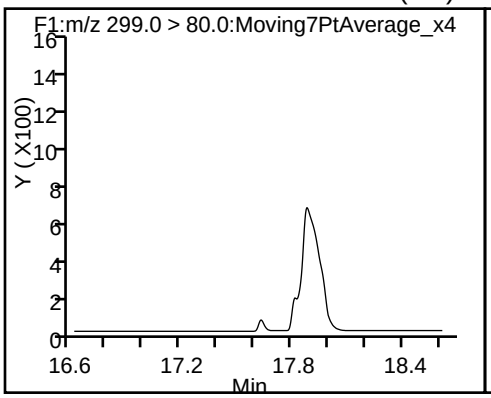
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	980470	10.7	18026	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		787559	10.0	20560	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.035	20.047	-0.012	1.000	1793	0.0219	0.8	M
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		2142930	28.7	55209	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	723999	10.5	22979	

QC Flag Legend

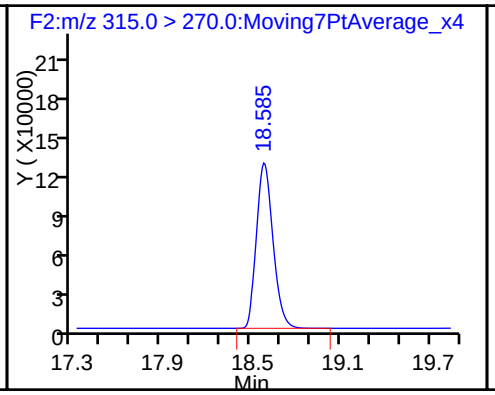
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_220.d
Injection Date: 10-Dec-2016 05:21:50 Instrument ID: A6
Lims ID: 320-23928-A-8-A Lab Sample ID: 320-23928-8
Client ID: WI-CV-1FB09-1116
Operator ID: CBW ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

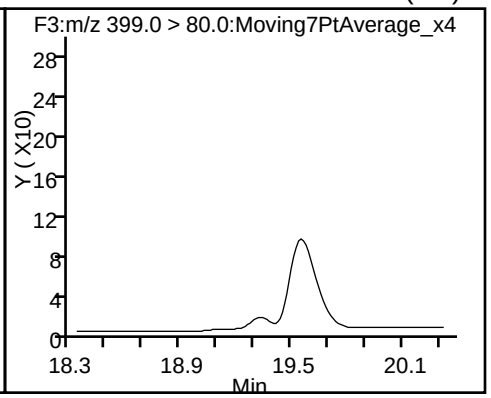
1 Perfluorobutanesulfonic acid (ND)



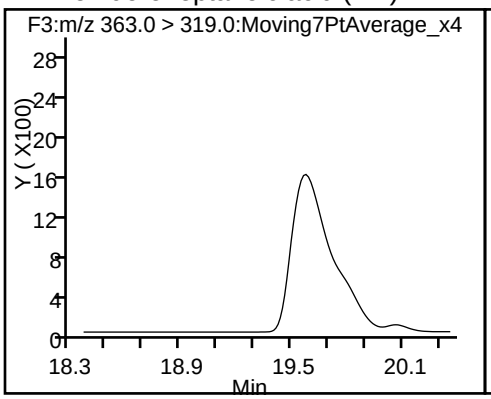
$ 2 13C2 PFHxA



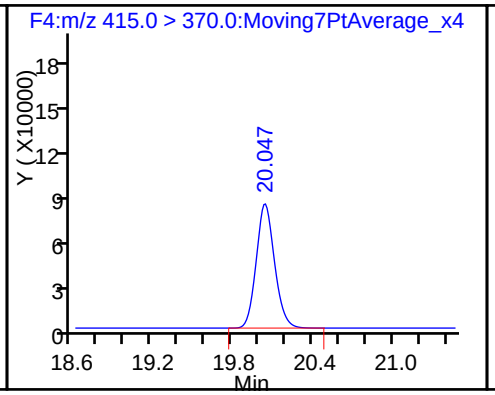
3 Perfluorohexanesulfonic acid (ND)



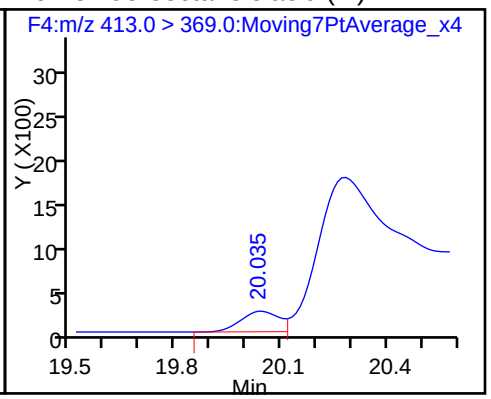
4 Perfluoroheptanoic acid (ND)



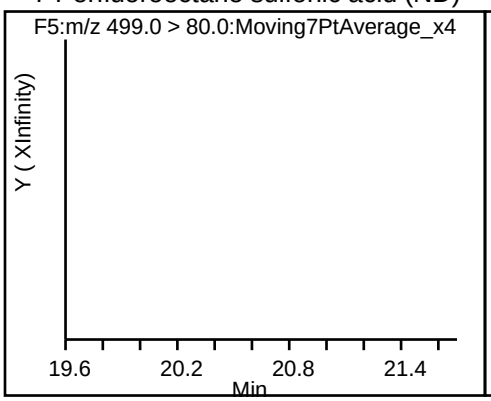
* 5 13C2-PFOA



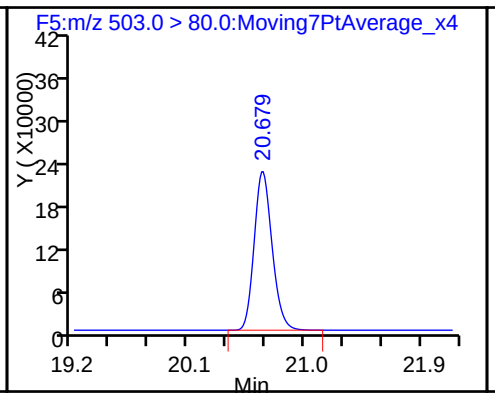
6 Perfluorooctanoic acid (M)



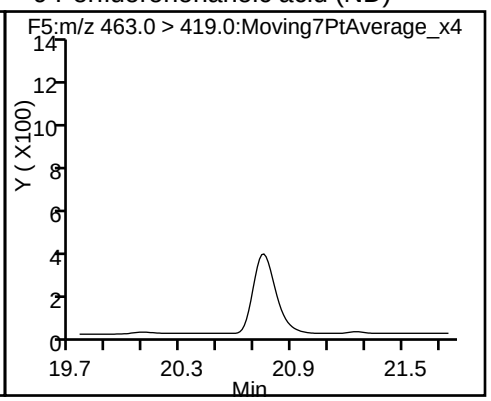
7 Perfluorooctane sulfonic acid (ND)



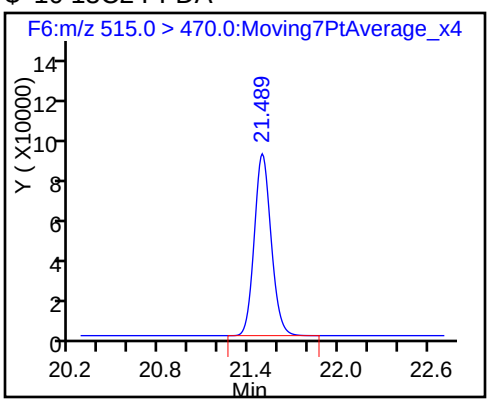
* 8 13C4 PFOS



9 Perfluorononanoic acid (ND)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_220.d
Lims ID: 320-23928-A-8-A
Client ID: WI-CV-1FB09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 05:21:50 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-8-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:23:44

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.7	106.72
$ 10 13C2 PFDA	10.0	10.5	104.91

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

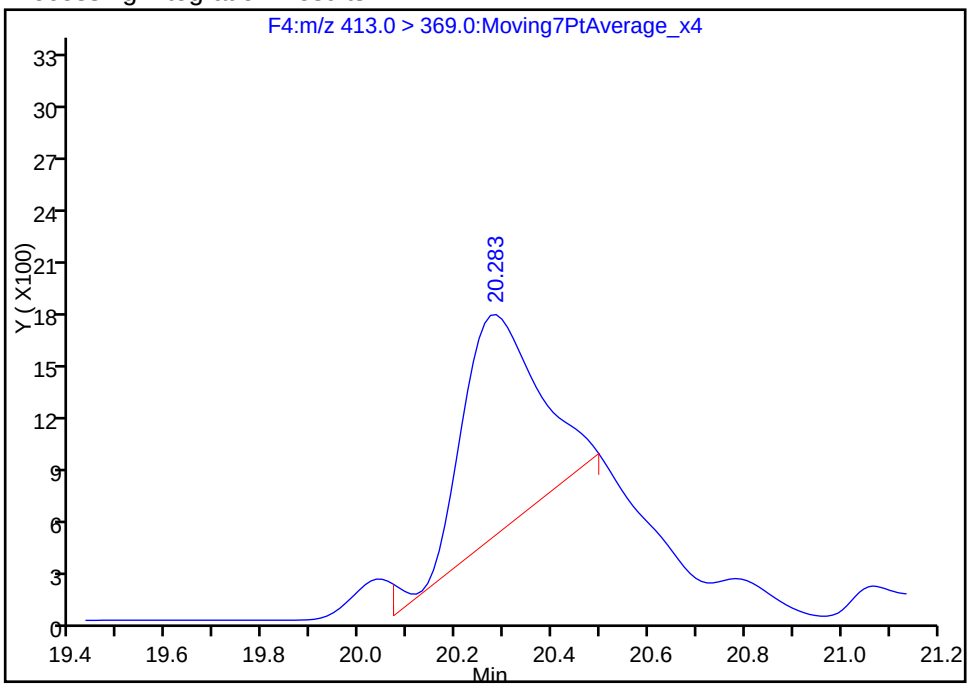
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_220.d				
Injection Date:	10-Dec-2016 05:21:50	Instrument ID:	A6		
Lims ID:	320-23928-A-8-A	Lab Sample ID:	320-23928-8		
Client ID:	WI-CV-1FB09-1116				
Operator ID:	CBW	ALS Bottle#:	45	Worklist Smp#:	45
Injection Vol:	10.0 ul	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

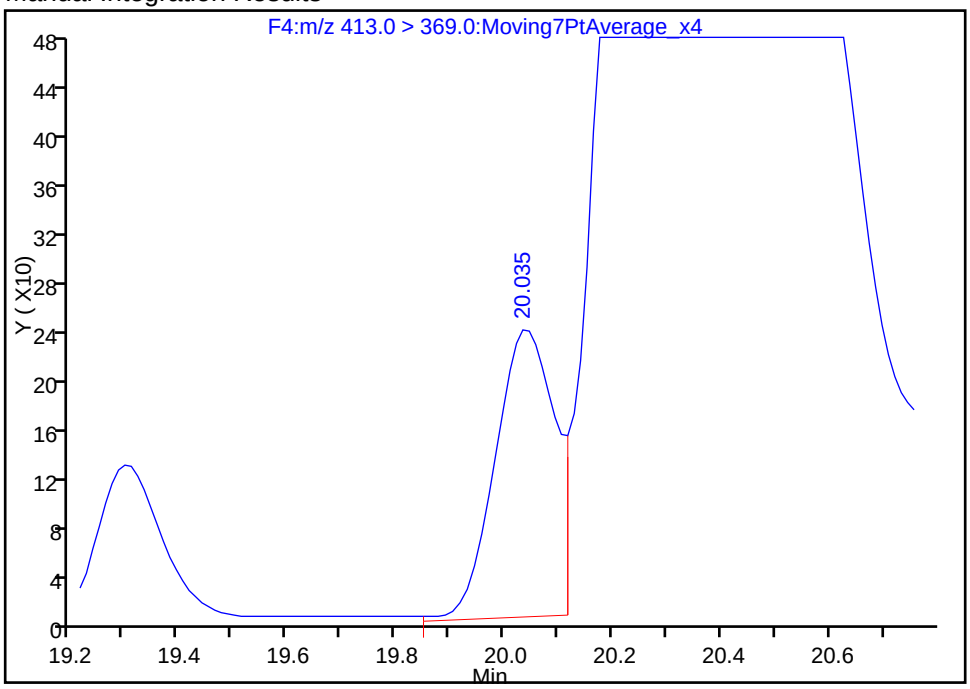
Processing Integration Results

RT: 20.28
Area: 13992
Amount: 0.170760
Amount Units: ng/ml



Manual Integration Results

RT: 20.03
Area: 1793
Amount: 0.021882
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:23:44

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW10-1116 | Lab Sample ID: 320-23928-9

Matrix: Water | Lab File ID: 05DEC2016A6A_221.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:29

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 277.1(mL) | Date Analyzed: 12/10/2016 05:51

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.: 141293 | 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)	0.022	U M	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	111		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_221.d
Lims ID: 320-23928-A-9-A
Client ID: WI-CV-1RW10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 05:51:26 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-9-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:25:31

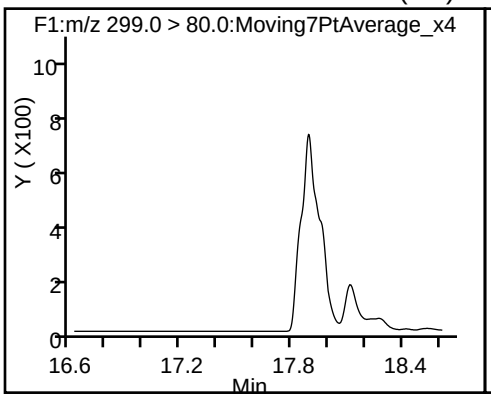
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	950439	11.1	30801	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		737132	10.0	19140	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.082	20.047	0.035	1.000	587	0.007654	0.3	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.655	20.619	0.036	1.000	2813	0.0372	73.8	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		2075075	28.7	42961	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.750	0.0	1.000	12011	0.1437	98.8	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	696394	10.8	21848	

QC Flag Legend

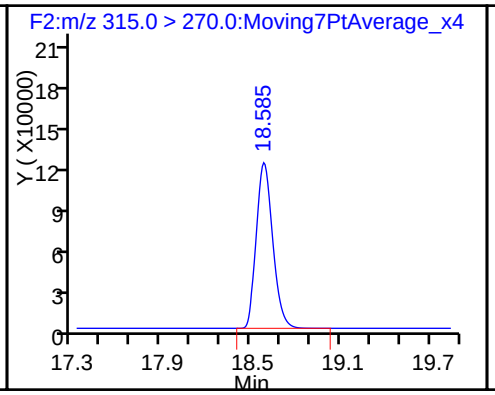
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_221.d
Injection Date: 10-Dec-2016 05:51:26 Instrument ID: A6
Lims ID: 320-23928-A-9-A Lab Sample ID: 320-23928-9
Client ID: WI-CV-1RW10-1116
Operator ID: CBW ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

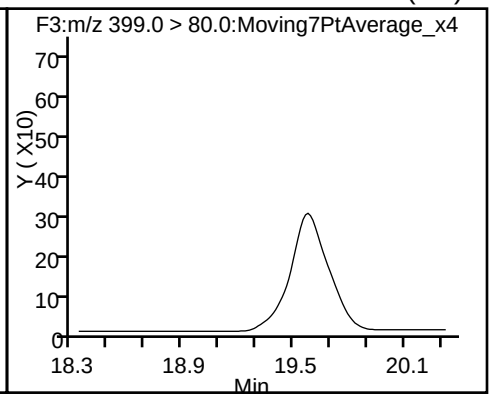
1 Perfluorobutanesulfonic acid (ND)



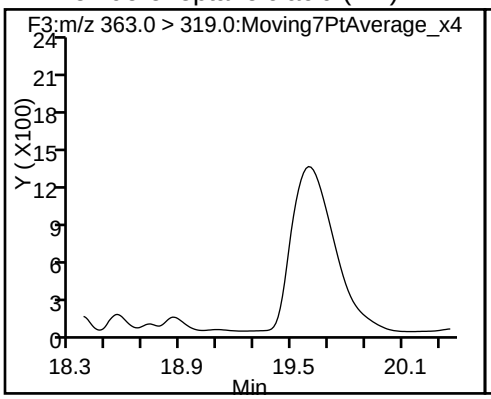
$ 2 13C2 PFHxA



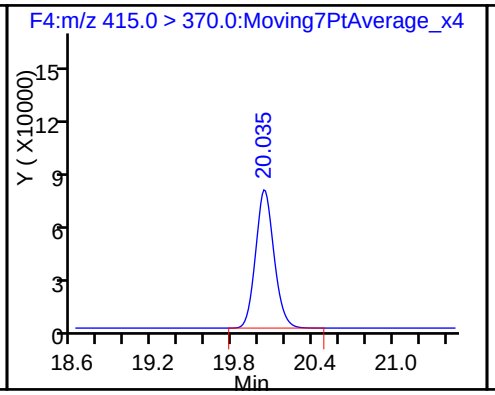
3 Perfluorohexanesulfonic acid (ND)



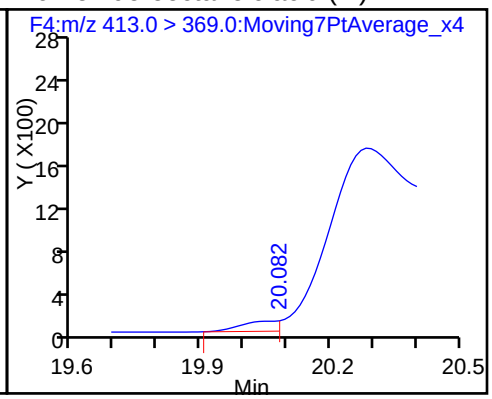
4 Perfluoroheptanoic acid (ND)



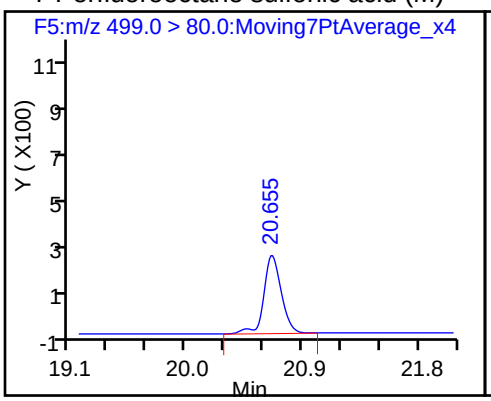
* 5 13C2-PFOA



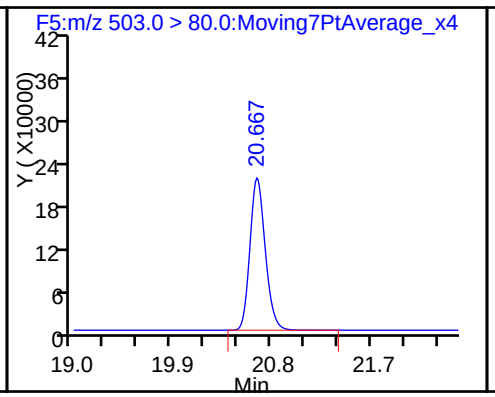
6 Perfluorooctanoic acid (M)



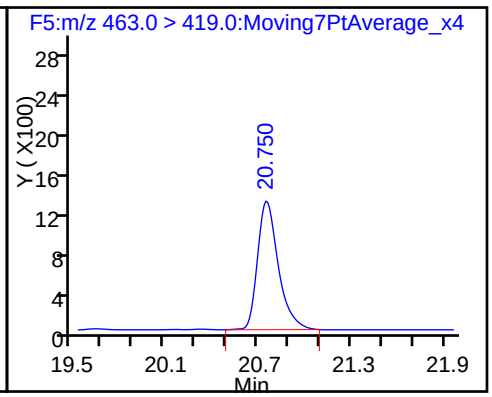
7 Perfluorooctane sulfonic acid (M)



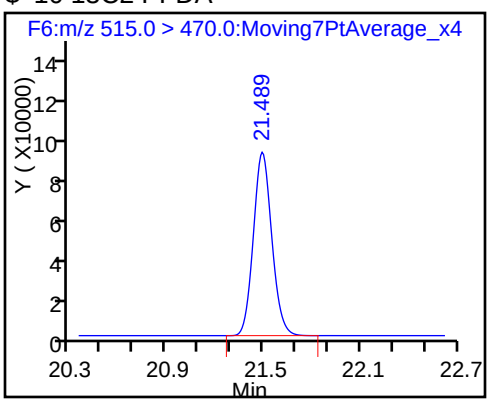
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_221.d
Lims ID: 320-23928-A-9-A
Client ID: WI-CV-1RW10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 05:51:26 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-9-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:25:31

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	110.53
$ 10 13C2 PFDA	10.0	10.8	107.81

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

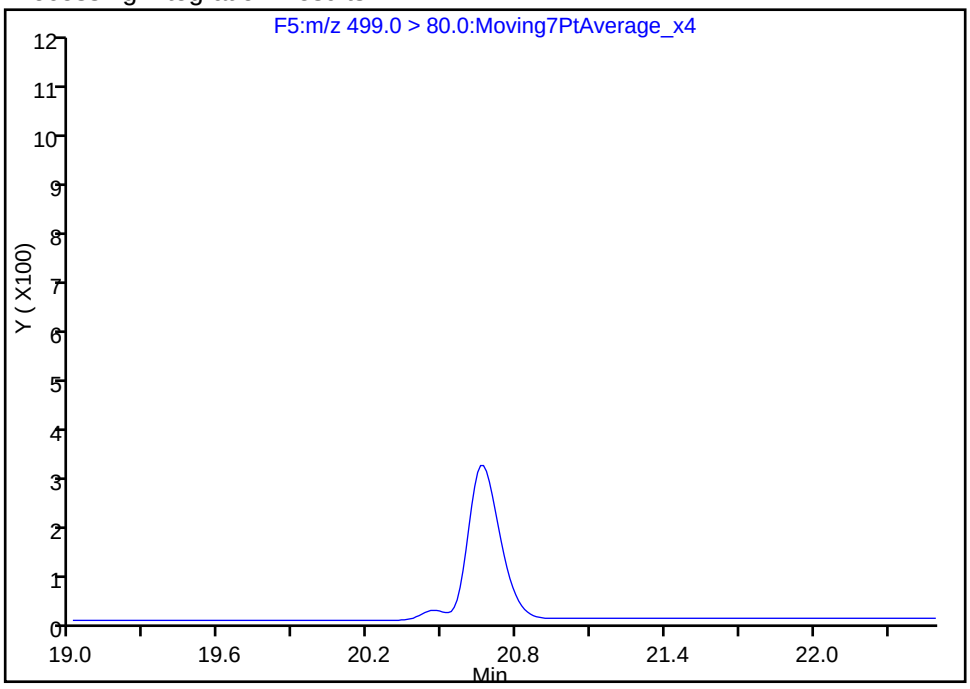
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_221.d				
Injection Date:	10-Dec-2016 05:51:26	Instrument ID:	A6		
Lims ID:	320-23928-A-9-A	Lab Sample ID:	320-23928-9		
Client ID:	WI-CV-1RW10-1116				
Operator ID:	CBW	ALS Bottle#:	46	Worklist Smp#:	46
Injection Vol:	10.0 ul	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

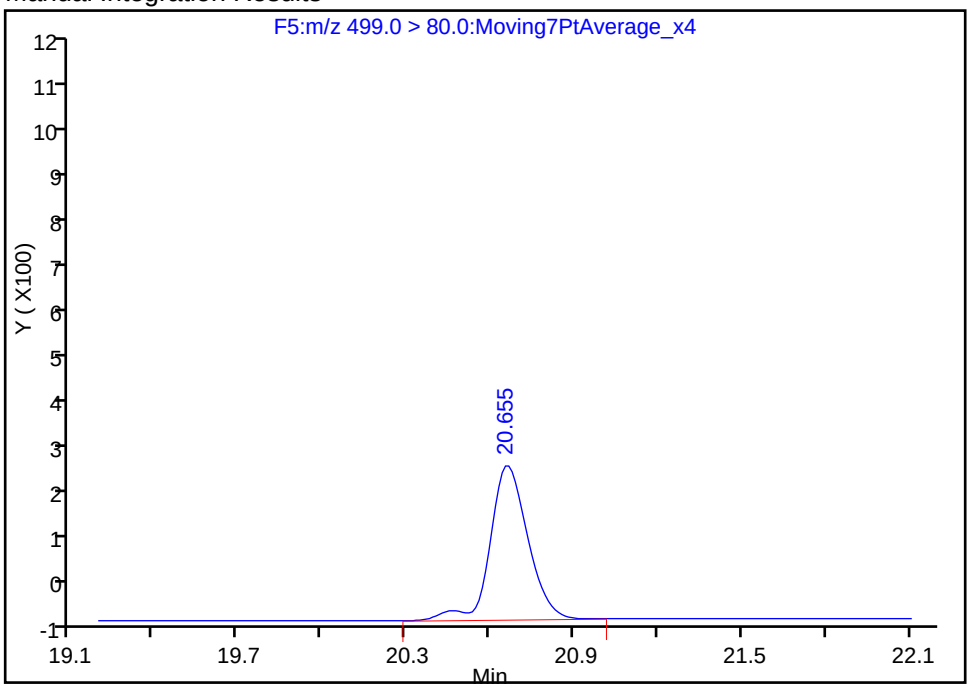
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.65
Area: 2813
Amount: 0.037241
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:25:31
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

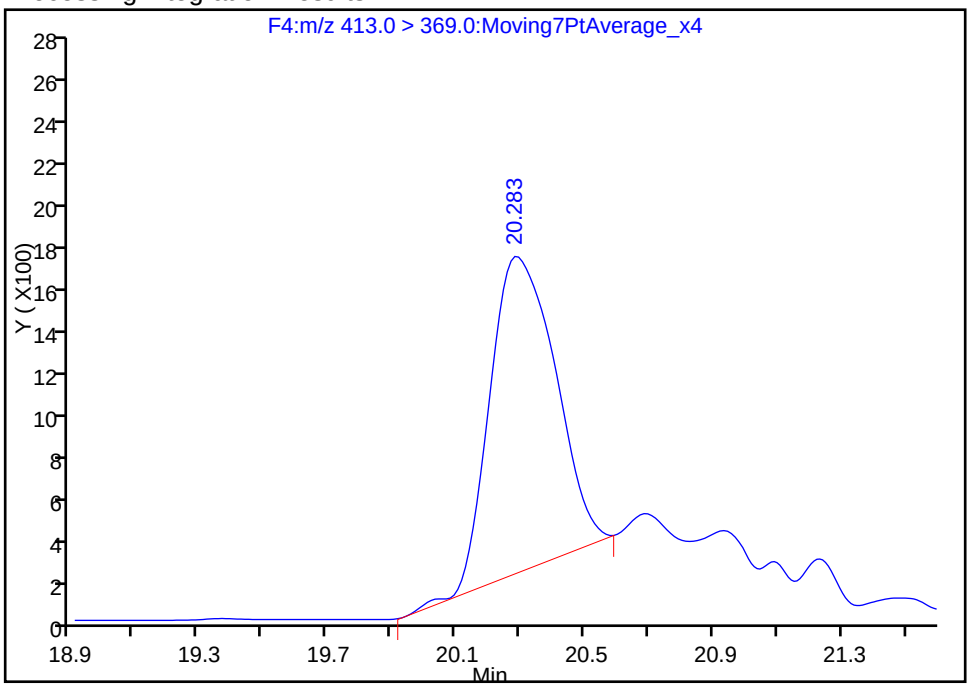
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_221.d				
Injection Date:	10-Dec-2016 05:51:26	Instrument ID:	A6		
Lims ID:	320-23928-A-9-A	Lab Sample ID:	320-23928-9		
Client ID:	WI-CV-1RW10-1116				
Operator ID:	CBW	ALS Bottle#:	46	Worklist Smp#:	46
Injection Vol:	10.0 ul	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

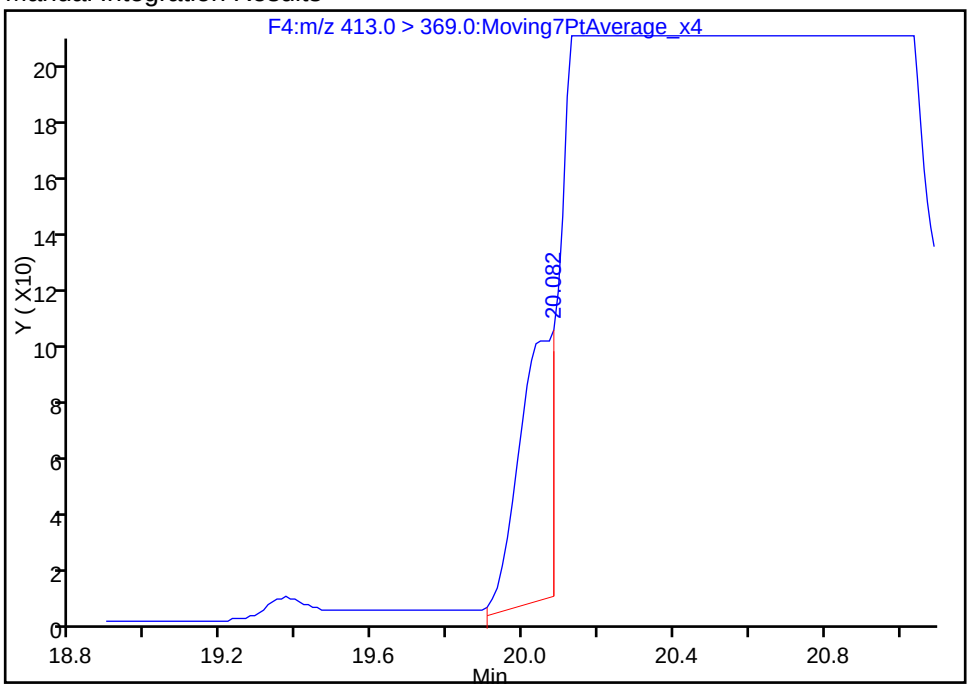
Processing Integration Results

RT: 20.28
Area: 21191
Amount: 0.276309
Amount Units: ng/ml



Manual Integration Results

RT: 20.08
Area: 587
Amount: 0.007654
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:25:31

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB10-1116 Lab Sample ID: 320-23928-10

Matrix: Water Lab File ID: 05DEC2016A6A_224.d

Analysis Method: 537 Date Collected: 11/29/2016 16:28

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 269.9(mL) Date Analyzed: 12/10/2016 07:20

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.: 141293 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.056	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	127		70-130
STL00996	13C2 PFDA	117		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_224.d
Lims ID: 320-23928-A-10-A
Client ID: WI-CV-1FB10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 07:20:17 ALS Bottle#: 1 Worklist Smp#: 49
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-10-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:27:36

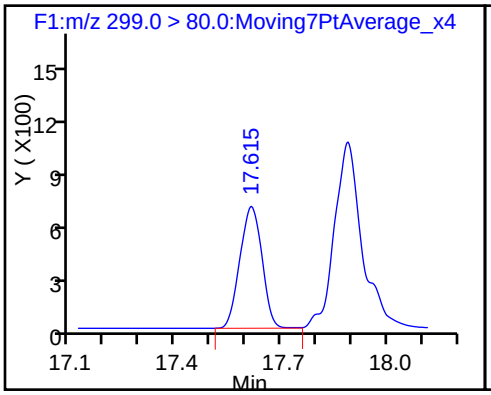
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.615	17.618	-0.003	1.000	2962	0.0637	4.8	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	938799	12.7	30284	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		632382	10.0	16520	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.035	20.047	-0.012	1.000	954	0.0145	0.5	M
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.619	0.060	1.000	6316	0.0913	125	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		1901228	28.7	49340	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.750	-0.012	1.000	10132	0.1413	283	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	649968	11.7	20265	

QC Flag Legend

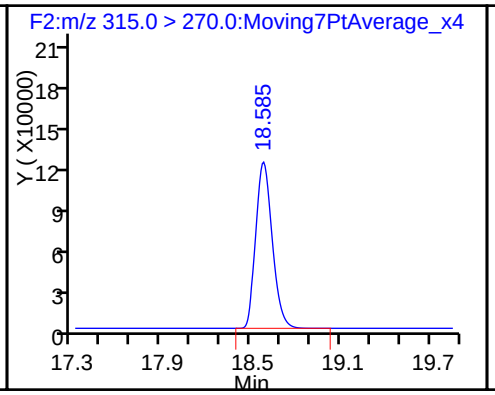
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_224.d
Injection Date: 10-Dec-2016 07:20:17 Instrument ID: A6
Lims ID: 320-23928-A-10-A Lab Sample ID: 320-23928-10
Client ID: WI-CV-1FB10-1116
Operator ID: CBW ALS Bottle#: 1 Worklist Smp#: 49
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

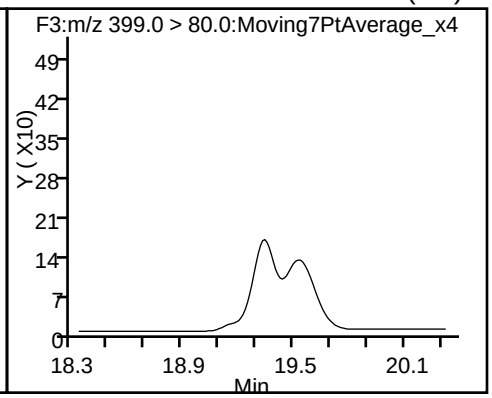
1 Perfluorobutanesulfonic acid



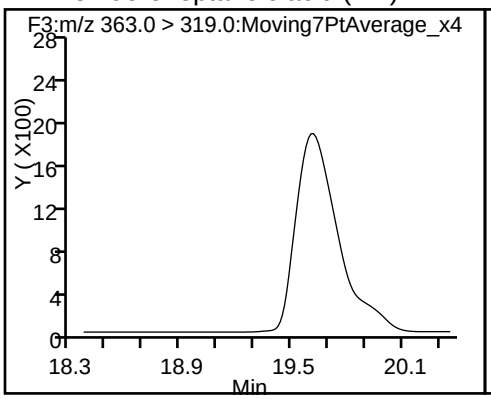
$ 2 13C2 PFHxA



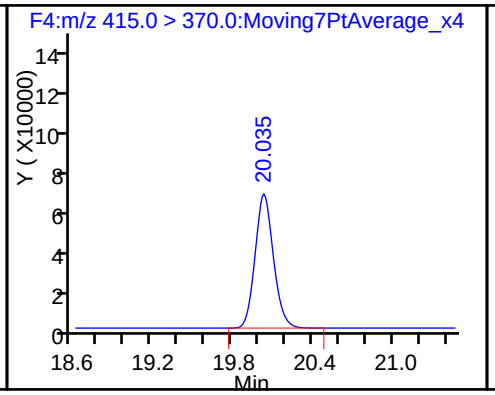
3 Perfluorohexanesulfonic acid (ND)



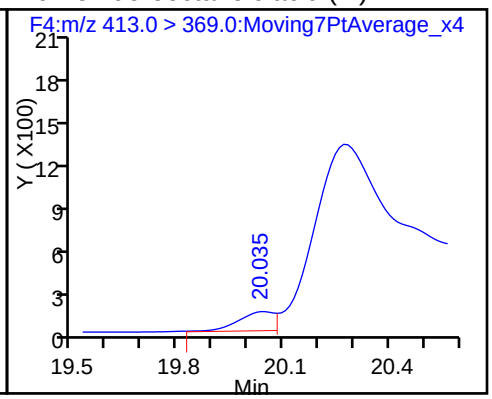
4 Perfluoroheptanoic acid (ND)



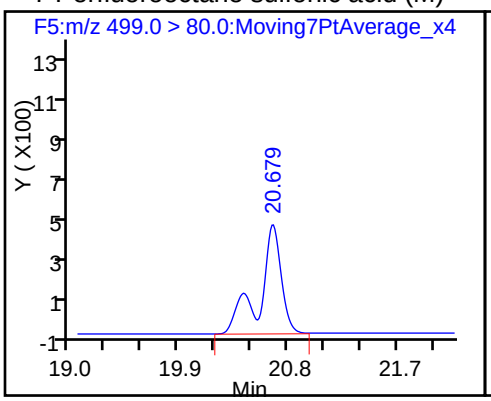
* 5 13C2-PFOA



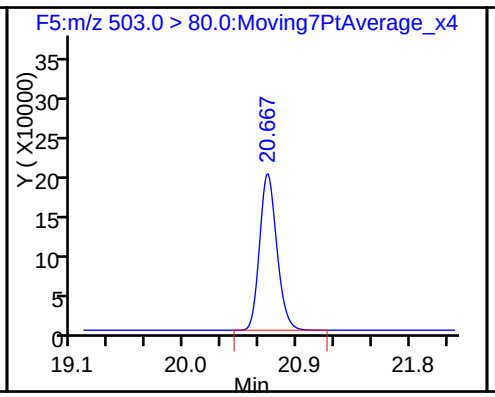
6 Perfluorooctanoic acid (M)



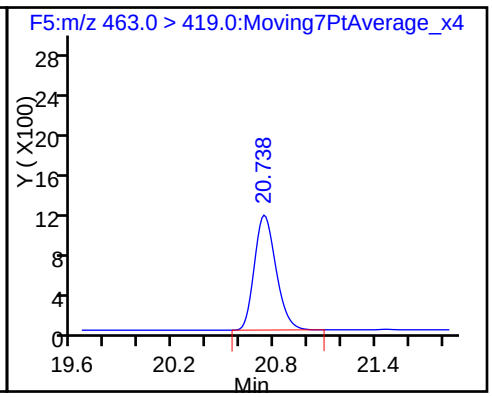
7 Perfluorooctane sulfonic acid (M)



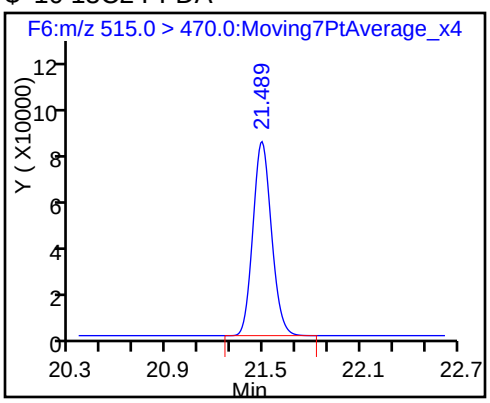
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_224.d
Lims ID: 320-23928-A-10-A
Client ID: WI-CV-1FB10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 07:20:17 ALS Bottle#: 1 Worklist Smp#: 49
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-10-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:27:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.7	127.26
$ 10 13C2 PFDA	10.0	11.7	117.29

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

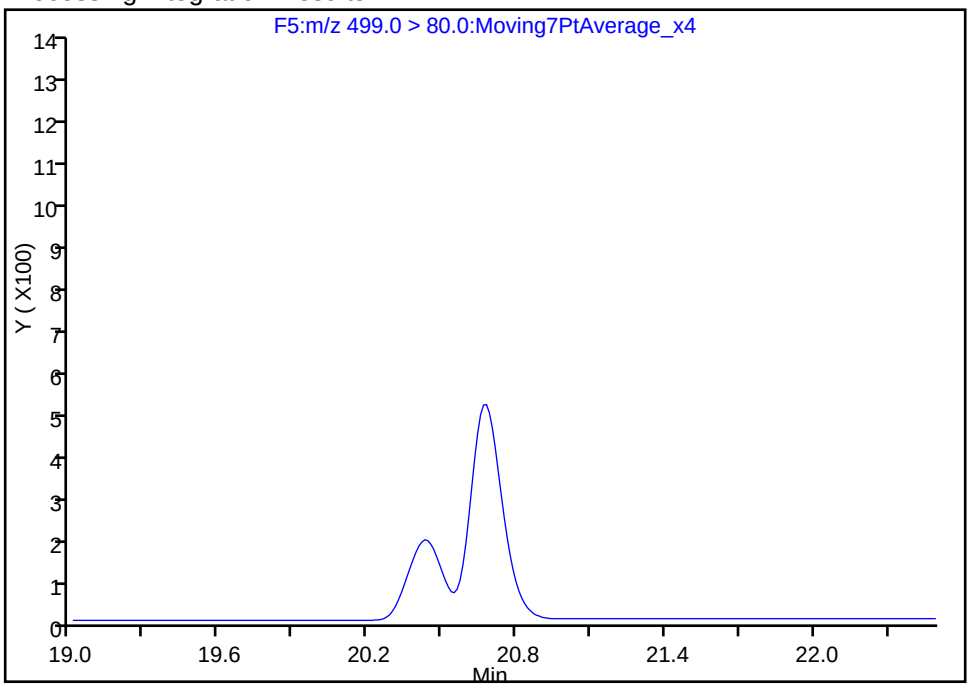
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_224.d				
Injection Date:	10-Dec-2016 07:20:17	Instrument ID:	A6		
Lims ID:	320-23928-A-10-A	Lab Sample ID:	320-23928-10		
Client ID:	WI-CV-1FB10-1116				
Operator ID:	CBW	ALS Bottle#:	1	Worklist Smp#:	49
Injection Vol:	10.0 ul	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

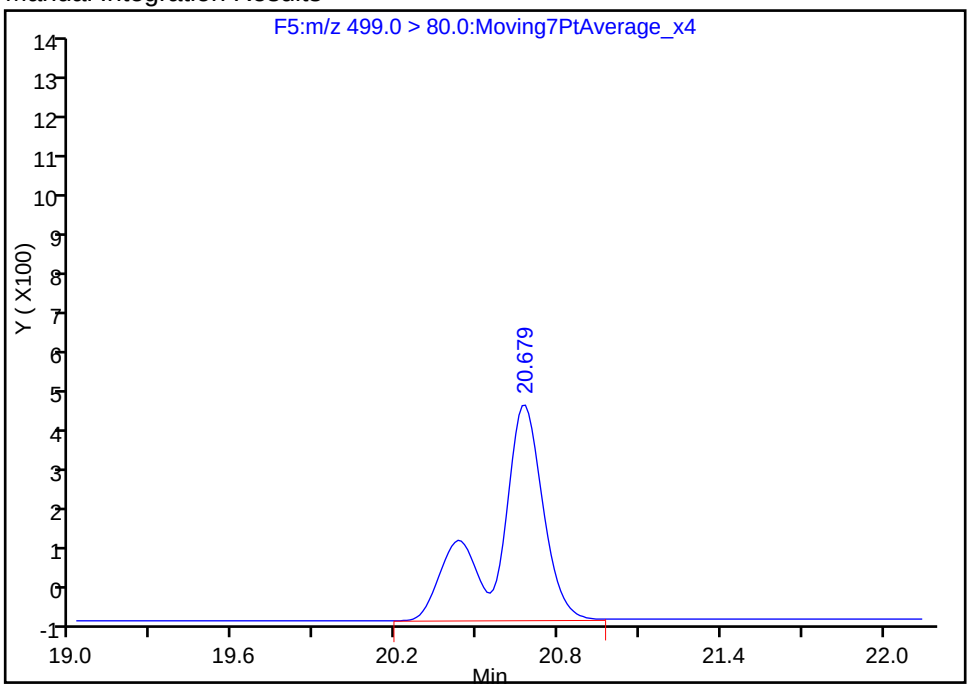
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.68
Area: 6316
Amount: 0.091262
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:27:36
Audit Action: Manually Integrated Audit Reason: Missed Peak

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

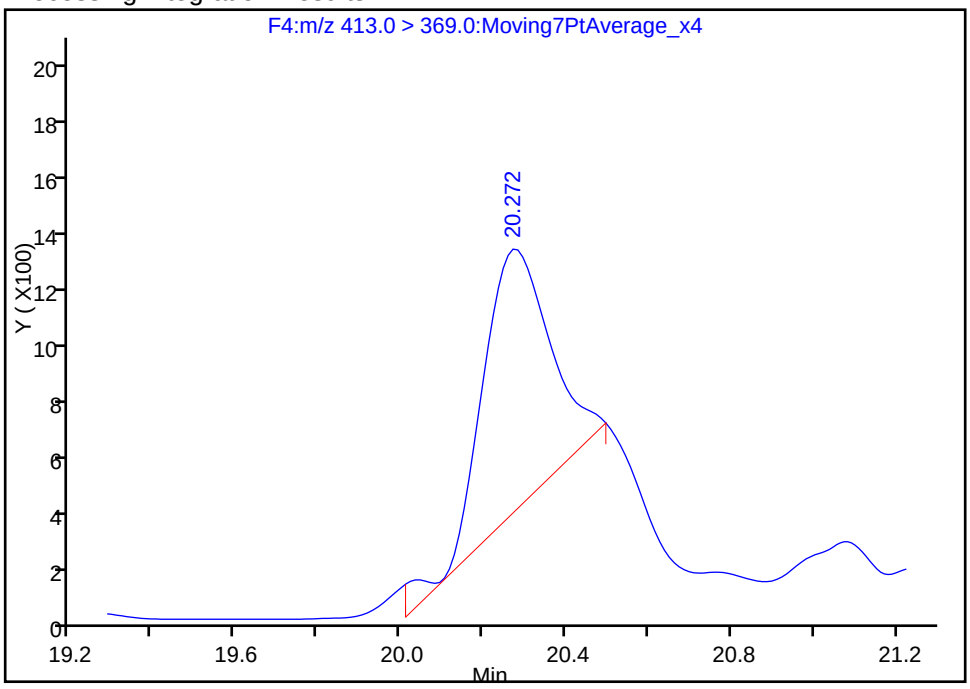
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_224.d				
Injection Date:	10-Dec-2016 07:20:17	Instrument ID:	A6		
Lims ID:	320-23928-A-10-A	Lab Sample ID:	320-23928-10		
Client ID:	WI-CV-1FB10-1116				
Operator ID:	CBW	ALS Bottle#:	1	Worklist Smp#:	49
Injection Vol:	10.0 ul	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

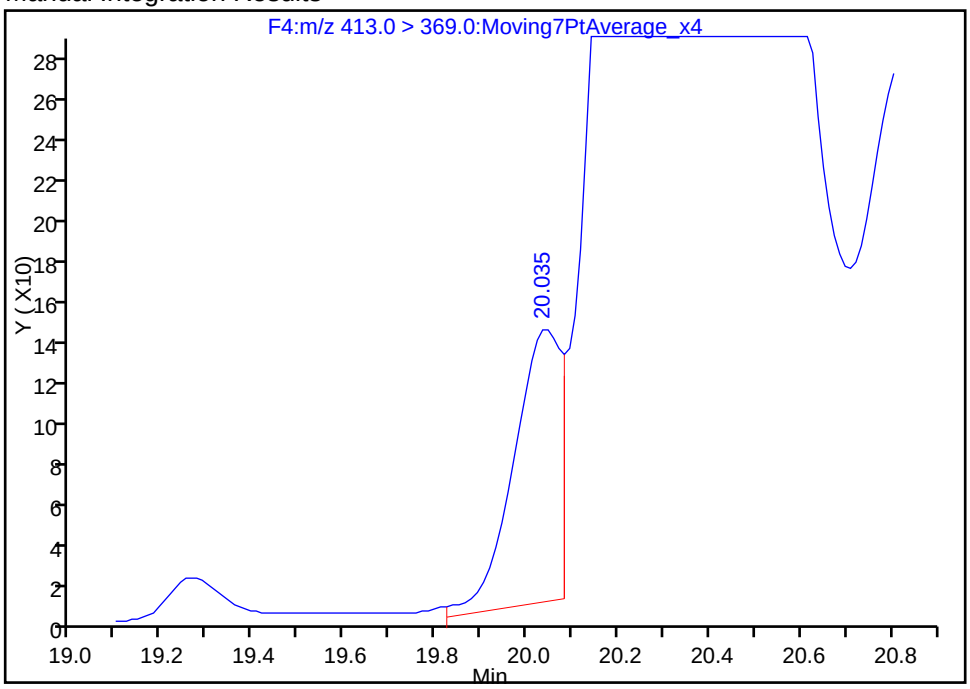
Processing Integration Results

RT: 20.27
Area: 10541
Amount: 0.160211
Amount Units: ng/ml



Manual Integration Results

RT: 20.03
Area: 954
Amount: 0.014500
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:27:36

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW05-1116 Lab Sample ID: 320-23928-11

Matrix: Water Lab File ID: 05DEC2016A6A_225.d

Analysis Method: 537 Date Collected: 11/29/2016 09:29

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 253.1(mL) Date Analyzed: 12/10/2016 07:49

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.: 141293 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	0.030	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	111		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_225.d
Lims ID: 320-23928-A-11-A
Client ID: WI-CV-2RW05-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 07:49:54 ALS Bottle#: 2 Worklist Smp#: 50
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-11-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:28:30

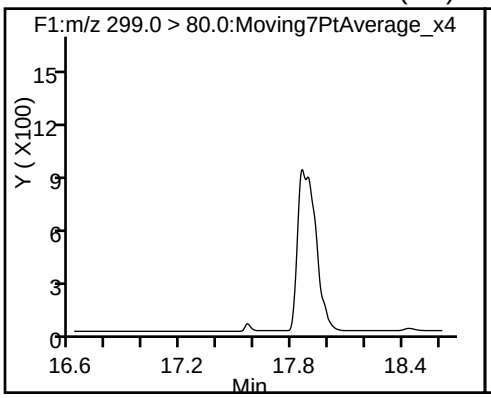
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	1124397	11.1	36382	
* 5 13C2-PFOA								
415.0 > 370.0	20.023	20.047	-0.024		866137	10.0	22409	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.655	20.619	0.036	1.000	453	0.005721	18.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.679	-0.024		2175392	28.7	45776	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.750	-0.012	1.000	11068	0.1127	121	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.489	-0.009	1.000	813331	10.7	25823	

QC Flag Legend

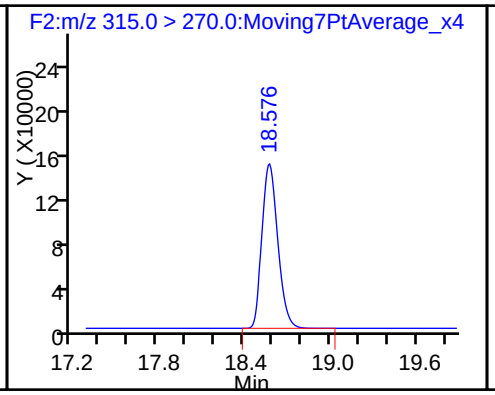
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_225.d
Injection Date: 10-Dec-2016 07:49:54 Instrument ID: A6
Lims ID: 320-23928-A-11-A Lab Sample ID: 320-23928-11
Client ID: WI-CV-2RW05-1116
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 50
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

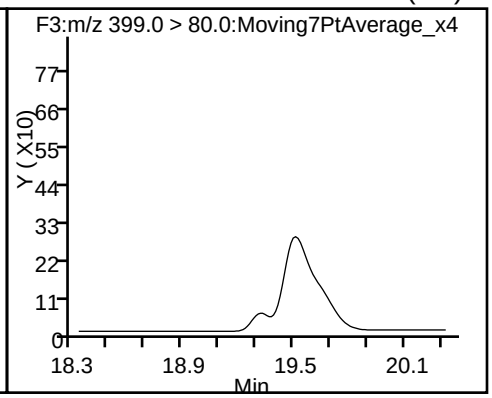
1 Perfluorobutanesulfonic acid (ND)



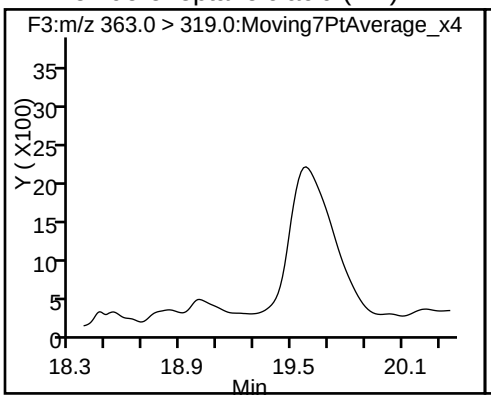
$ 2 13C2 PFHxA



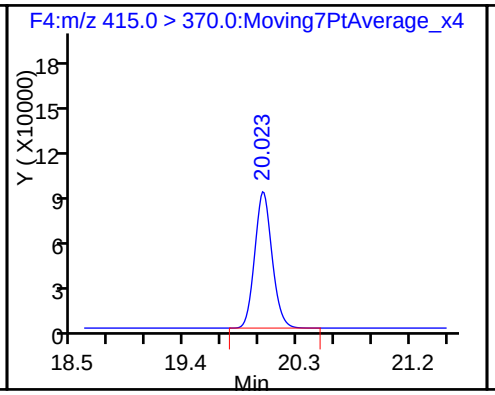
3 Perfluorohexanesulfonic acid (ND)



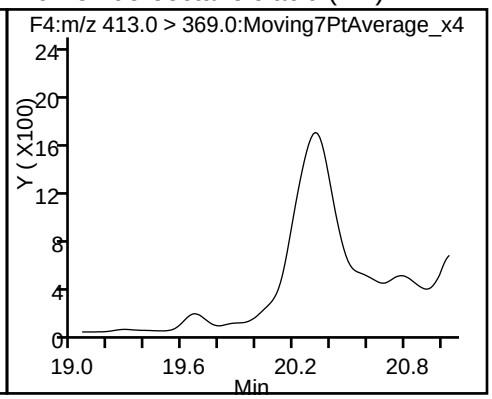
4 Perfluoroheptanoic acid (ND)



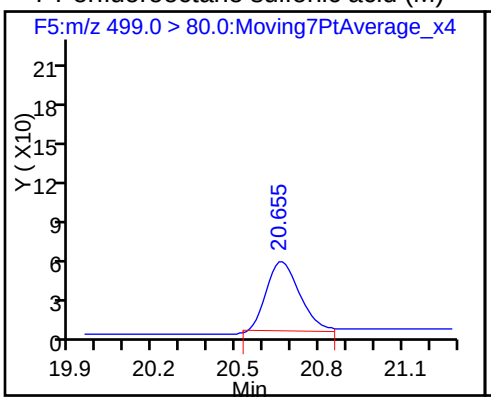
* 5 13C2-PFOA



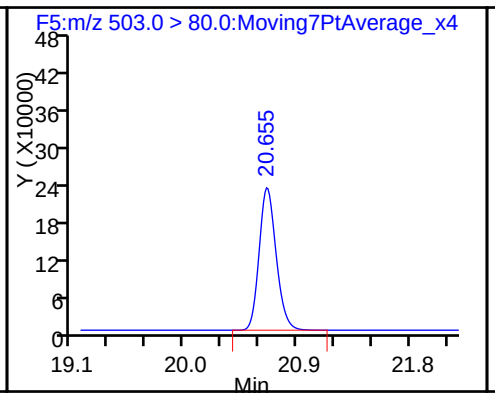
6 Perfluorooctanoic acid (ND)



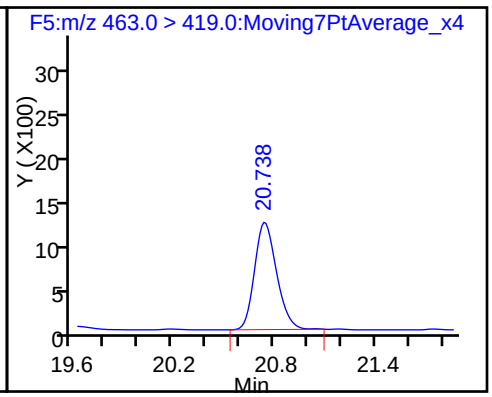
7 Perfluorooctane sulfonic acid (M)



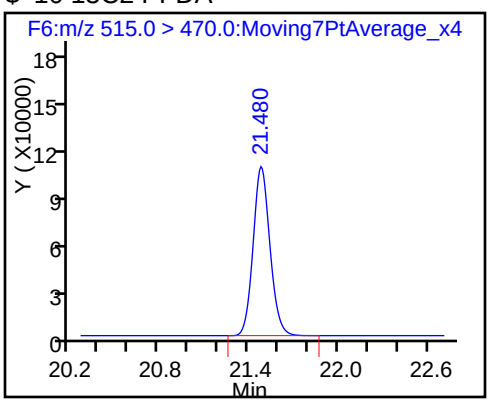
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_225.d
Lims ID: 320-23928-A-11-A
Client ID: WI-CV-2RW05-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 07:49:54 ALS Bottle#: 2 Worklist Smp#: 50
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-11-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:28:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.29
$ 10 13C2 PFDA	10.0	10.7	107.16

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

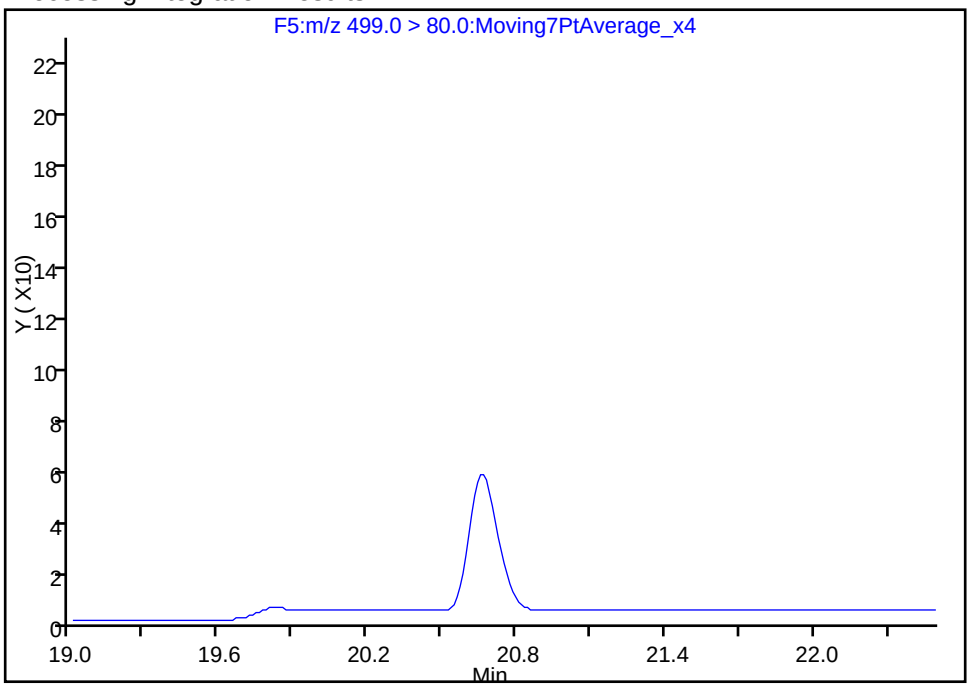
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_225.d				
Injection Date:	10-Dec-2016 07:49:54	Instrument ID:	A6		
Lims ID:	320-23928-A-11-A	Lab Sample ID:	320-23928-11		
Client ID:	WI-CV-2RW05-1116				
Operator ID:	CBW	ALS Bottle#:	2	Worklist Smp#:	50
Injection Vol:	10.0 ul	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

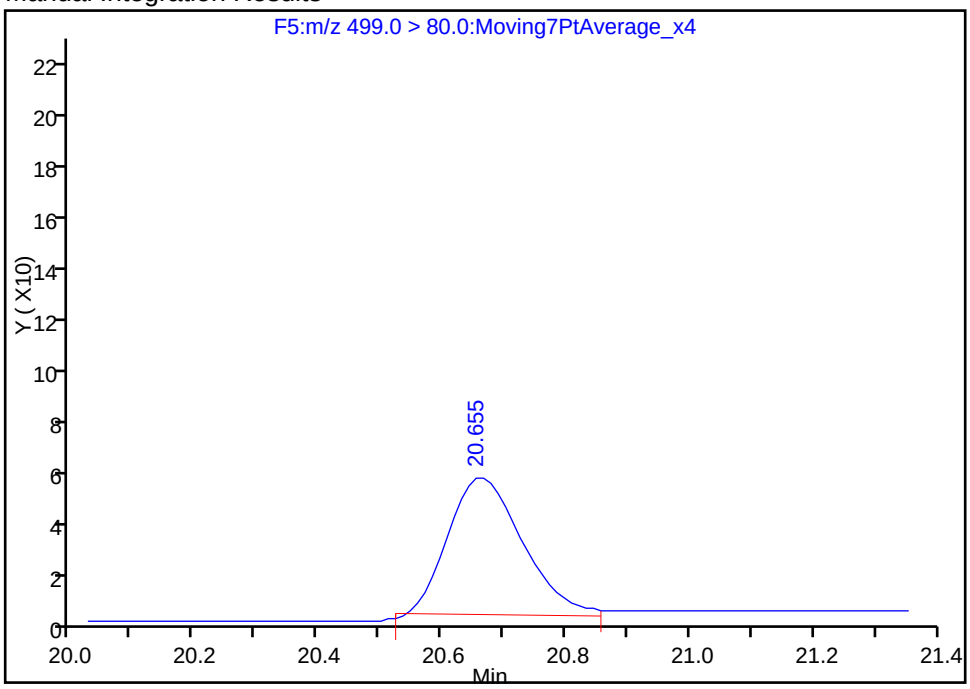
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.65
Area: 453
Amount: 0.005721
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:28:30
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2FB05-1116 | Lab Sample ID: 320-23928-12

Matrix: Water | Lab File ID: 05DEC2016A6A_226.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:30

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 273(mL) | Date Analyzed: 12/10/2016 08:19

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.022	0.0086
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	110		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_226.d
Lims ID: 320-23928-A-12-A
Client ID: WI-CV-2FB05-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 08:19:30 ALS Bottle#: 3 Worklist Smp#: 51
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-12-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:29:24

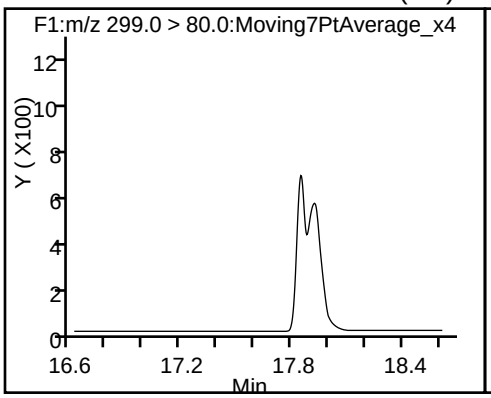
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	879445	11.2	28379	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		671703	10.0	17480	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.619	0.060	1.000	452	0.006553	19.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		1894767	28.7	49315	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.750	-0.012	1.000	4730	0.0621	112	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	646083	11.0	20351	

QC Flag Legend

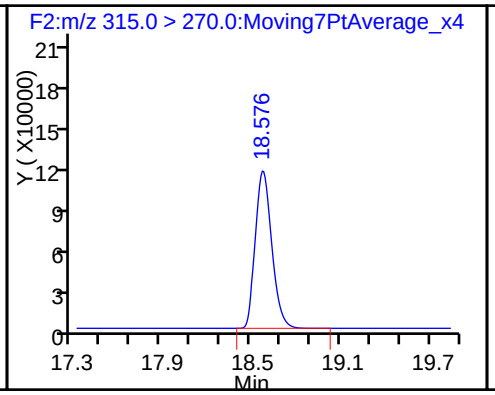
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_226.d
Injection Date: 10-Dec-2016 08:19:30 Instrument ID: A6
Lims ID: 320-23928-A-12-A Lab Sample ID: 320-23928-12
Client ID: WI-CV-2FB05-1116
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 51
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

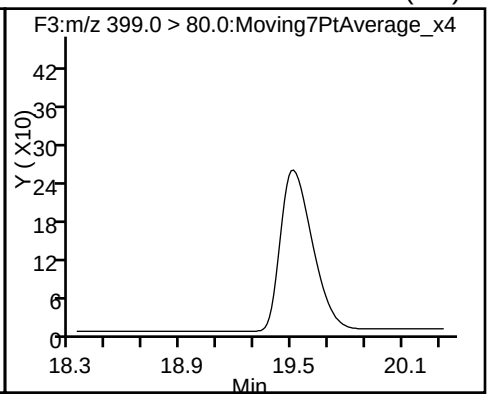
1 Perfluorobutanesulfonic acid (ND)



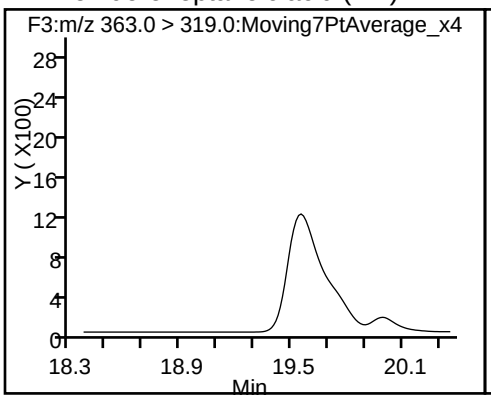
$ 2 13C2 PFHxA



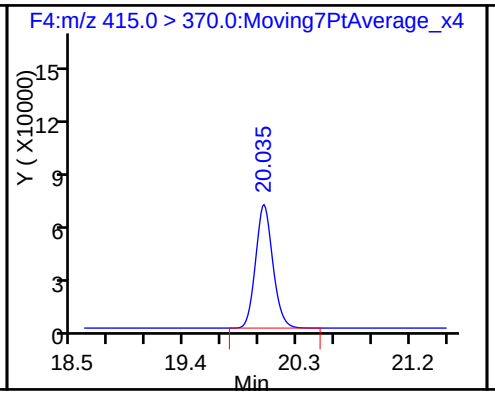
3 Perfluorohexanesulfonic acid (ND)



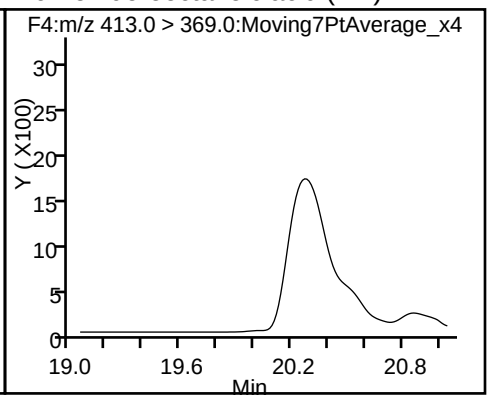
4 Perfluoroheptanoic acid (ND)



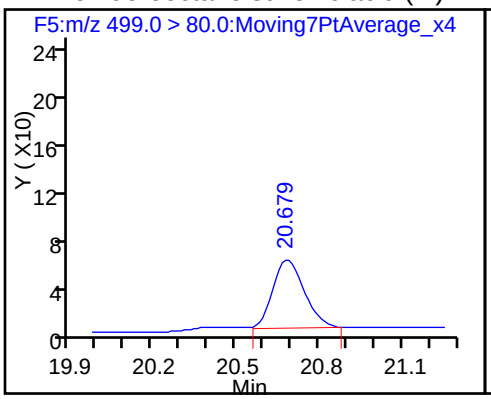
* 5 13C2-PFOA



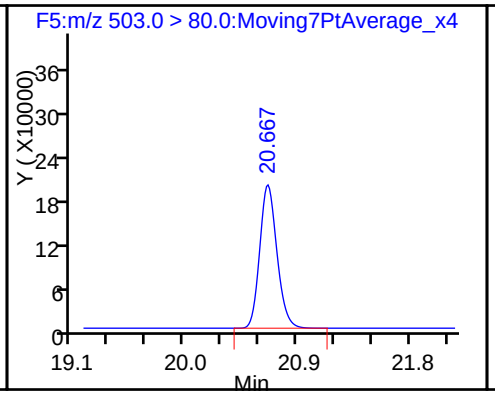
6 Perfluorooctanoic acid (ND)



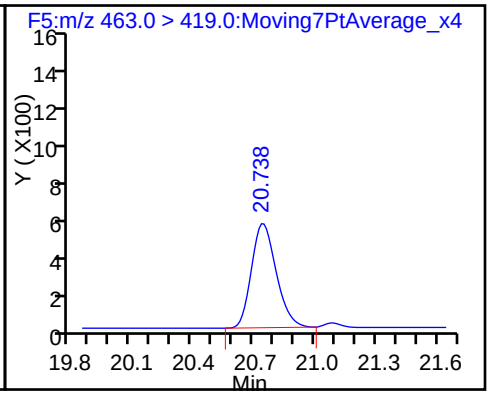
7 Perfluorooctane sulfonic acid (M)



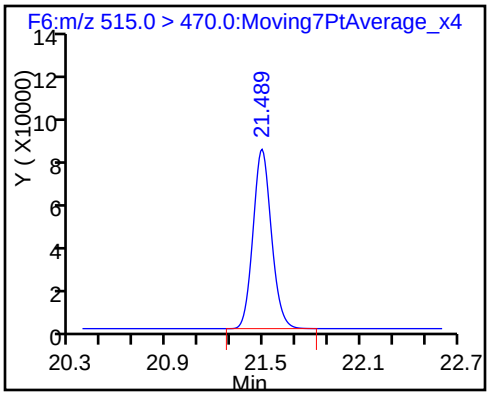
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_226.d
Lims ID: 320-23928-A-12-A
Client ID: WI-CV-2FB05-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 08:19:30 ALS Bottle#: 3 Worklist Smp#: 51
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-12-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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:29:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	112.24
$ 10 13C2 PFDA	10.0	11.0	109.77

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

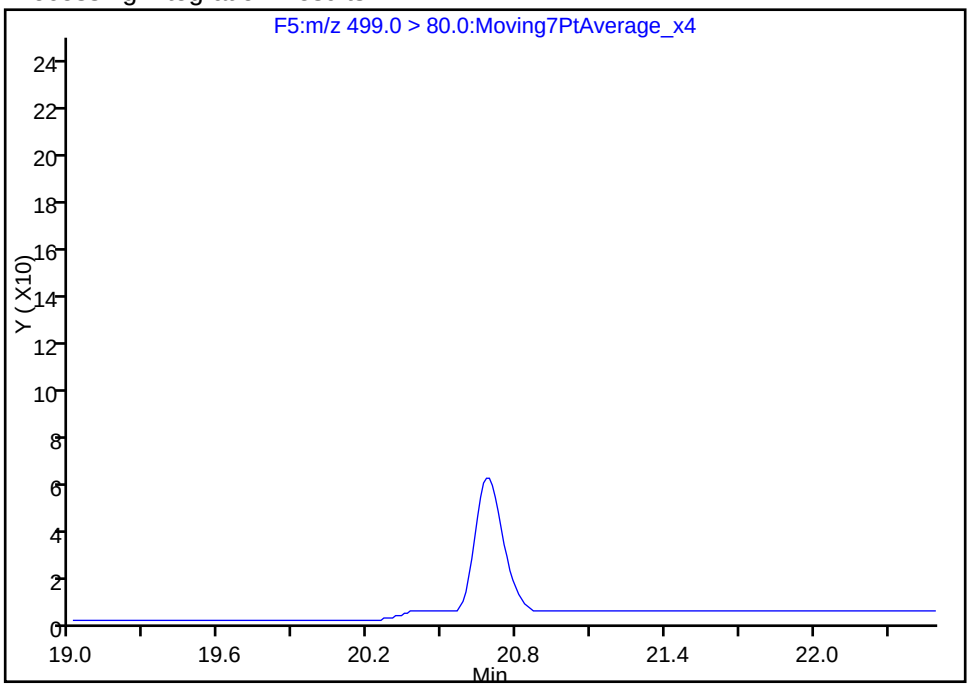
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_226.d				
Injection Date:	10-Dec-2016 08:19:30	Instrument ID:	A6		
Lims ID:	320-23928-A-12-A	Lab Sample ID:	320-23928-12		
Client ID:	WI-CV-2FB05-1116				
Operator ID:	CBW	ALS Bottle#:	3	Worklist Smp#:	51
Injection Vol:	10.0 ul	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

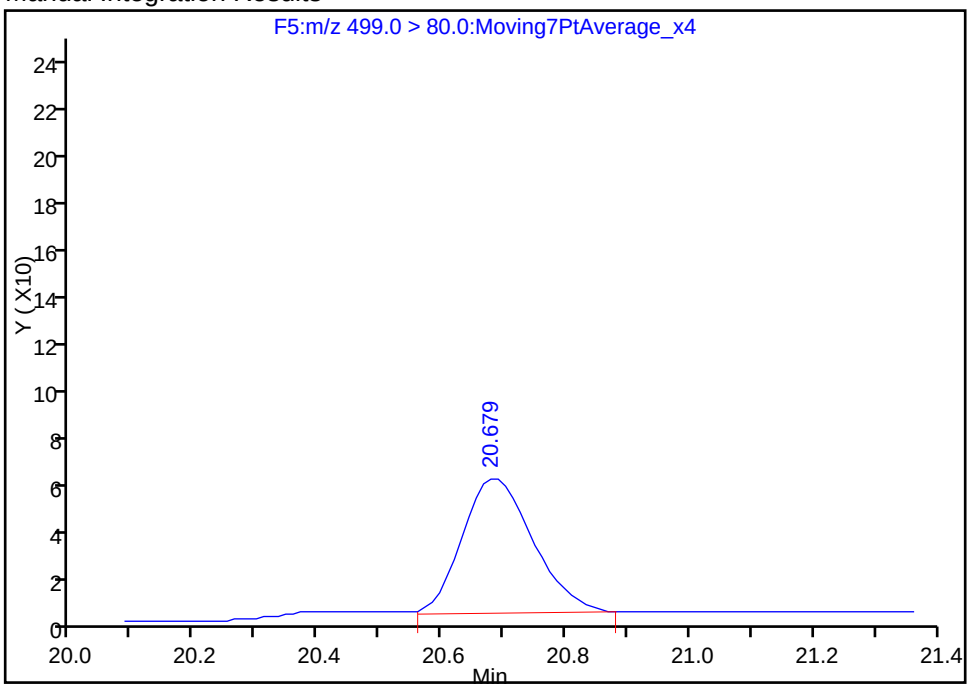
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.68
Area: 452
Amount: 0.006553
Amount Units: ng/ml



Reviewer: barnettj, 10-Dec-2016 11:29:24
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW06-1116 | Lab Sample ID: 320-23928-13

Matrix: Water | Lab File ID: 05DEC2016A6A_232.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:08

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 270.4(mL) | Date Analyzed: 12/10/2016 11:17

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	*Perfluorooctanoic acid (PFOA)*	*0.22*	*E*	*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	105		70-130
STL00996	13C2 PFDA	115		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_232.d
Lims ID: 320-23928-A-13-A
Client ID: WI-CV-2RW06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 11:17:08 ALS Bottle#: 6 Worklist Smp#: 57
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-13-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 10:34:28 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 09:45:12

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	364581	7.27	198	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	840822	10.5	26323	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	492813	7.68	9993	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.368	19.368	0.0	1.000	513499	6.17	123	M
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		684801	10.0	17660	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.035	20.035	0.0	1.000	4161614	58.4	1242	E
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.679	20.619	0.060	1.000	372	0.004987	15.0	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2049167	28.7	19398	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.738	0.012	1.000	18987	0.2445	389	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	688863	11.5	21794	

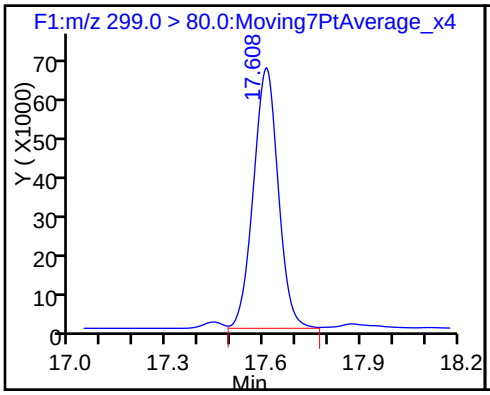
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

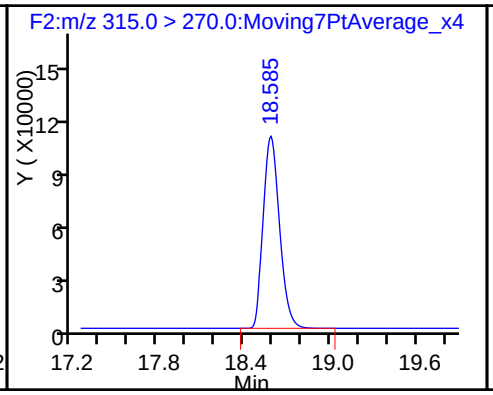
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_232.d
Injection Date: 10-Dec-2016 11:17:08 Instrument ID: A6
Lims ID: 320-23928-A-13-A Lab Sample ID: 320-23928-13
Client ID: WI-CV-2RW06-1116
Operator ID: CBW ALS Bottle#: 6 Worklist Smp#: 57
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

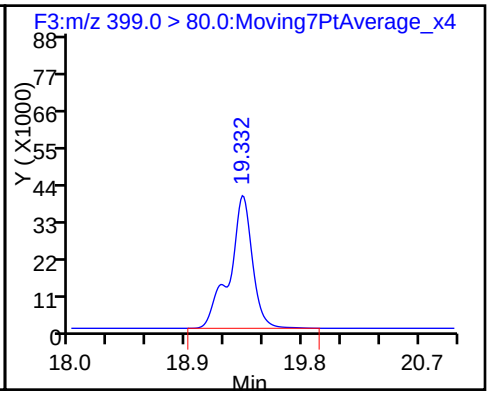
1 Perfluorobutanesulfonic acid



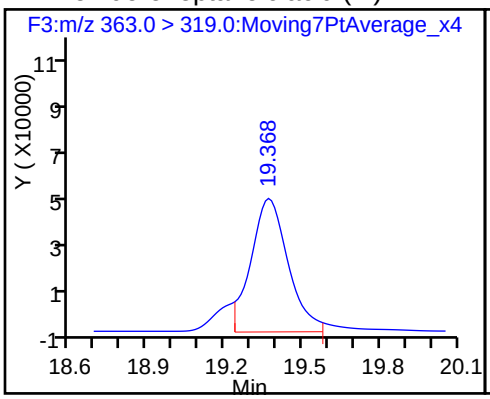
$ 2 13C2 PFHxA



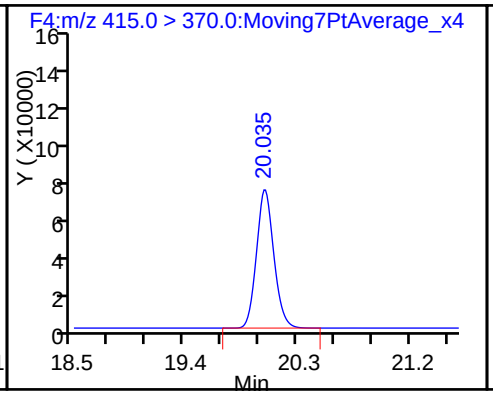
3 Perfluorohexanesulfonic acid



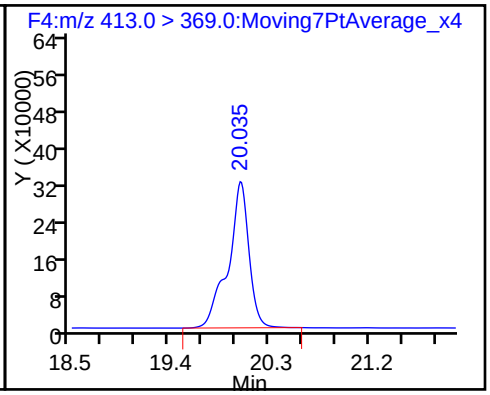
4 Perfluoroheptanoic acid (M)



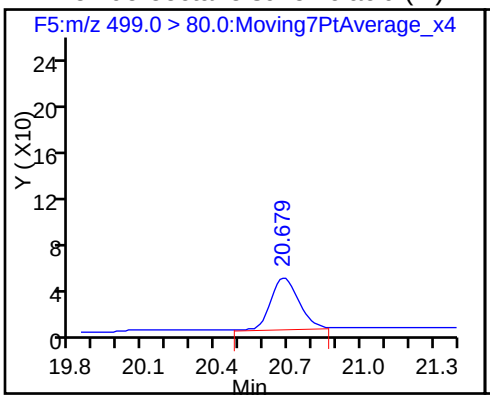
* 5 13C2-PFOA



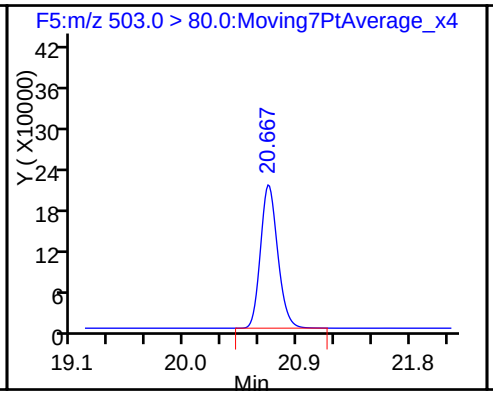
6 Perfluorooctanoic acid



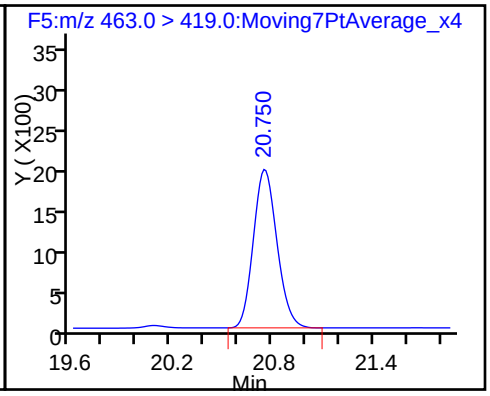
7 Perfluorooctane sulfonic acid (M)



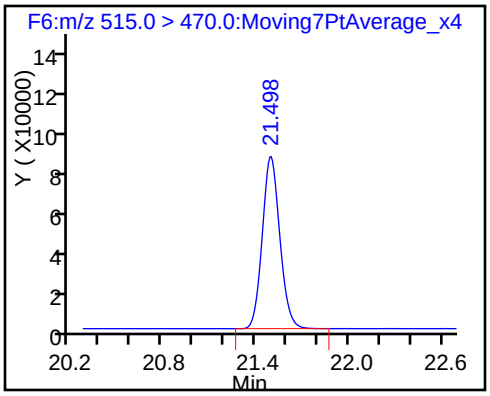
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_232.d
Lims ID: 320-23928-A-13-A
Client ID: WI-CV-2RW06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 11:17:08 ALS Bottle#: 6 Worklist Smp#: 57
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-13-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 10:34:28 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 09:45:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.5	105.26
$ 10 13C2 PFDA	10.0	11.5	114.80

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

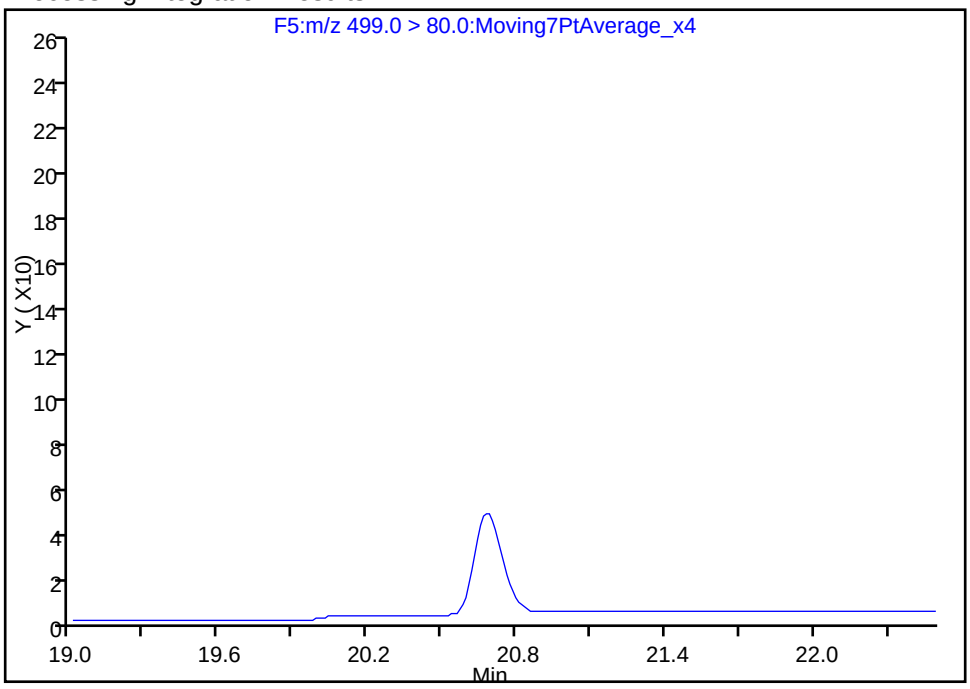
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_232.d				
Injection Date:	10-Dec-2016 11:17:08	Instrument ID:	A6		
Lims ID:	320-23928-A-13-A	Lab Sample ID:	320-23928-13		
Client ID:	WI-CV-2RW06-1116				
Operator ID:	CBW	ALS Bottle#:	6	Worklist Smp#:	57
Injection Vol:	10.0 ul	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

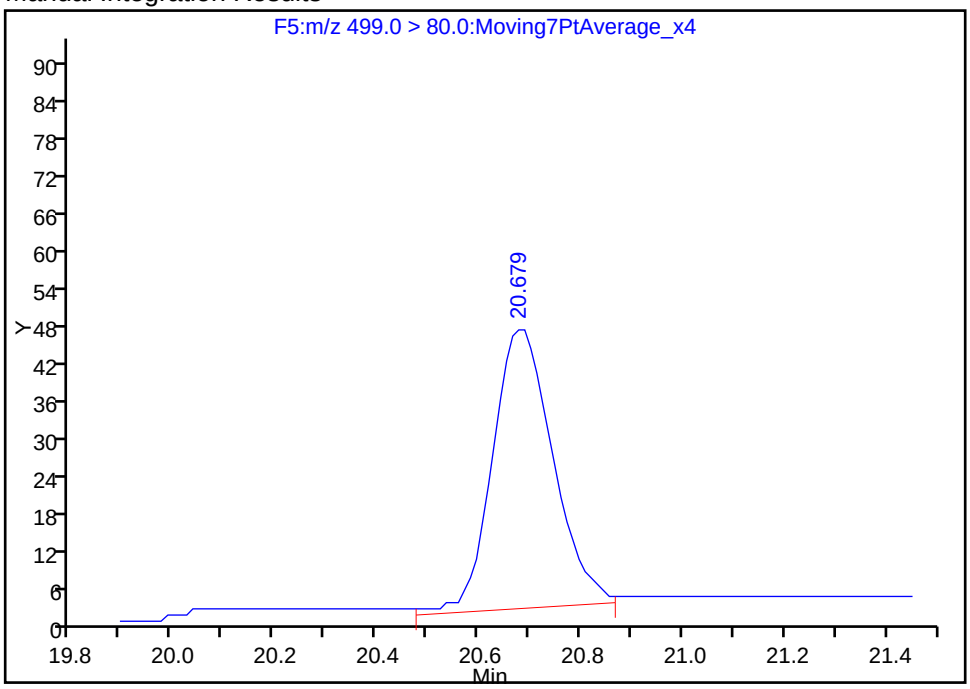
Not Detected
Expected RT: 20.62

Processing Integration Results



Manual Integration Results

RT: 20.68
Area: 372
Amount: 0.004987
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:45:12
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW06-1116 DL | Lab Sample ID: 320-23928-13 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_233.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:08

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 270.4(mL) | Date Analyzed: 12/10/2016 11:46

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 2

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.089*	*U*	*0.11*	0.089	*0.029*
335-67-1	Perfluorooctanoic acid (PFOA)	0.23	D	0.055	0.044	0.017
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.20*	*U*	*0.26*	0.20	*0.088*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	111		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_233.d
Lims ID: 320-23928-A-13-A
Client ID: WI-CV-2RW06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 11:46:47 ALS Bottle#: 7 Worklist Smp#: 58
Injection Vol: 10.0 ul Dil. Factor: 2.0000
Sample Info: 320-23928-A-13-A 2x
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 10:34:28 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 09:45:47

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	179603	3.68	249	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	433420	5.70	13922	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	238962	3.82	4733	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.368	19.368	0.0	1.000	241046	3.04	64.4	M
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		325846	5.00	8500	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	2094552	30.9	805	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		998560	14.3	26194	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	5133	0.0694	52.3	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	315522	5.53	10005	

QC Flag Legend

Review Flags
M - Manually Integrated

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_233.d

Injection Date: 10-Dec-2016 11:46:47 Instrument ID: A6

Lims ID: 320-23928-A-13-A Lab Sample ID: 320-23928-13

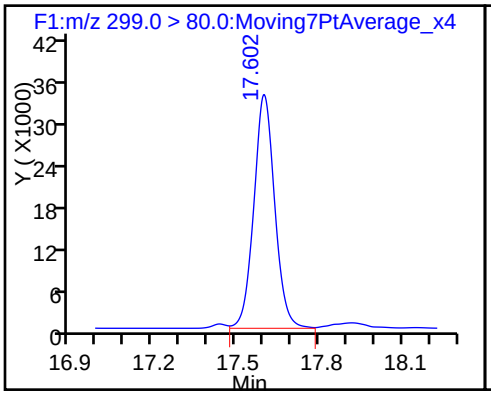
Client ID: WI-CV-2RW06-1116

Operator ID: CBW ALS Bottle#: 7 Worklist Smp#: 58

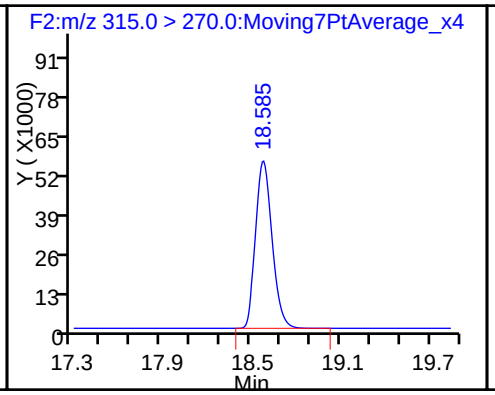
Injection Vol: 10.0 ul Dil. Factor: 2.0000

Method: 537__A6 Limit Group: LC 537 ICAL

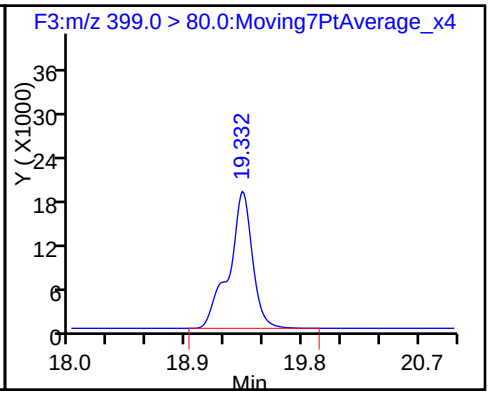
1 Perfluorobutanesulfonic acid



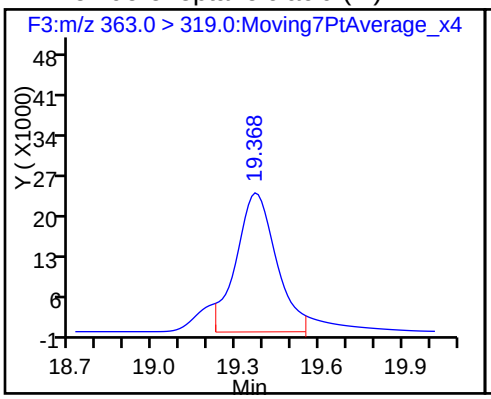
$ 2 13C2 PFHxA



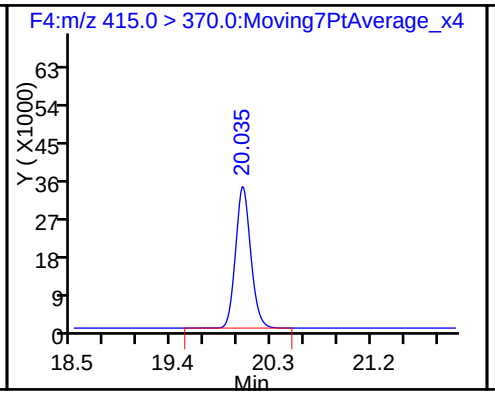
3 Perfluorohexanesulfonic acid



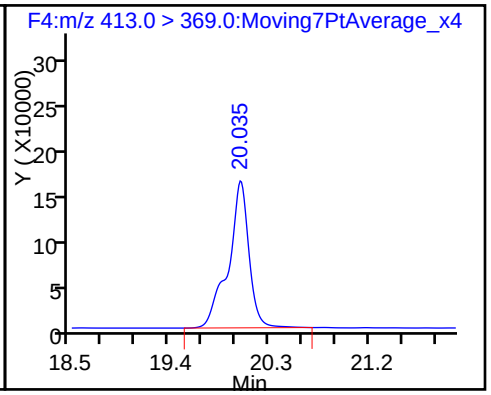
4 Perfluoroheptanoic acid (M)



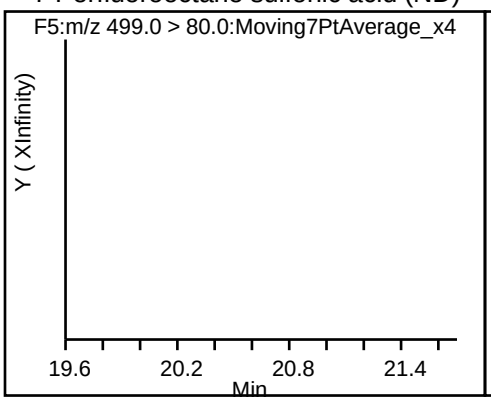
* 5 13C2-PFOA



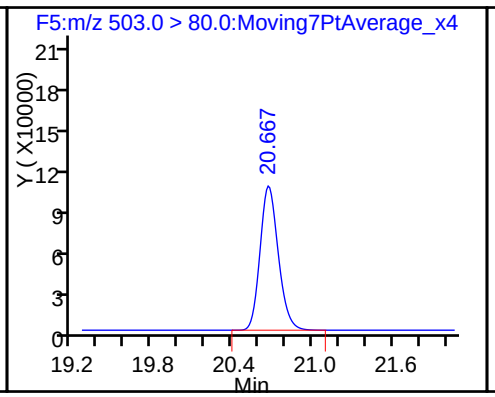
6 Perfluorooctanoic acid



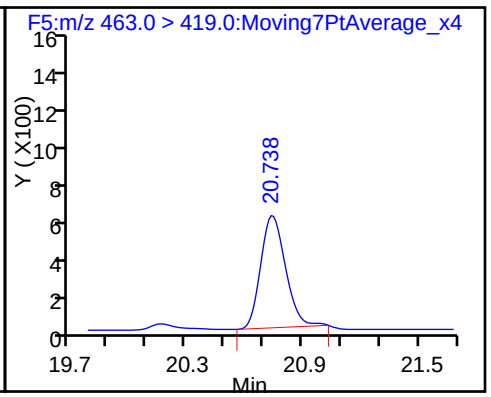
7 Perfluorooctane sulfonic acid (ND)



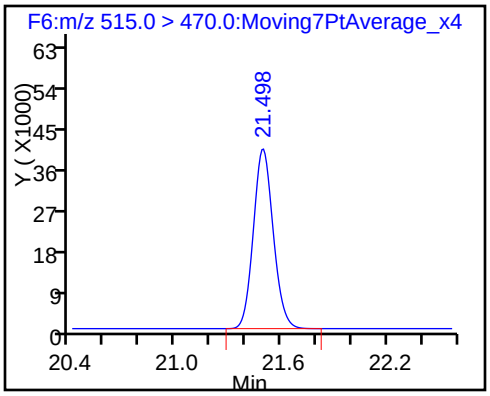
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_233.d
Lims ID: 320-23928-A-13-A
Client ID: WI-CV-2RW06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 11:46:47 ALS Bottle#: 7 Worklist Smp#: 58
Injection Vol: 10.0 ul Dil. Factor: 2.0000
Sample Info: 320-23928-A-13-A 2x
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 10:34:28 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 09:45:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	5.70	114.03
$ 10 13C2 PFDA	10.0	5.53	110.50

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2FB06-1116 | Lab Sample ID: 320-23928-14

Matrix: Water | Lab File ID: 05DEC2016A6A_234.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:09

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 263.5(mL) | Date Analyzed: 12/10/2016 12:16

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U	0.057	0.046	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	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_234.d
Lims ID: 320-23928-A-14-A
Client ID: WI-CV-2FB06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 12:16:23 ALS Bottle#: 8 Worklist Smp#: 59
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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 10:34:28 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

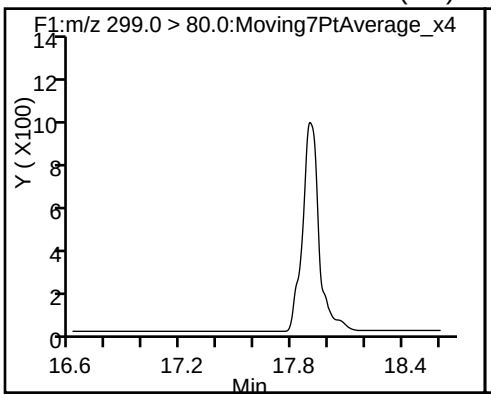
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 09:46:11

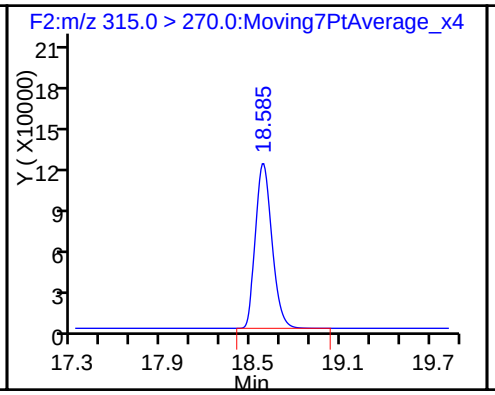
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	949786	11.1	40688	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		732771	10.0	37963	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2131134	28.7	44314	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	7961	0.0958	105	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	711231	11.1	22276	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_234.d
Injection Date: 10-Dec-2016 12:16:23 Instrument ID: A6
Lims ID: 320-23928-A-14-A Lab Sample ID: 320-23928-14
Client ID: WI-CV-2FB06-1116
Operator ID: CBW ALS Bottle#: 8 Worklist Smp#: 59
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

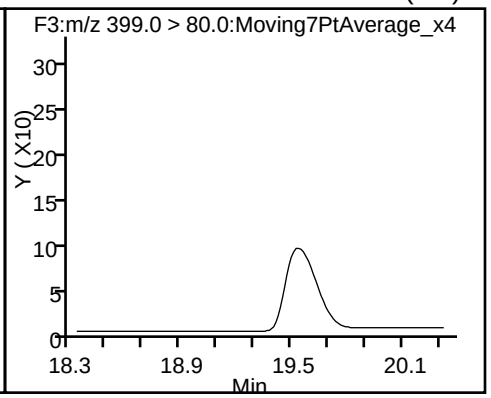
1 Perfluorobutanesulfonic acid (ND)



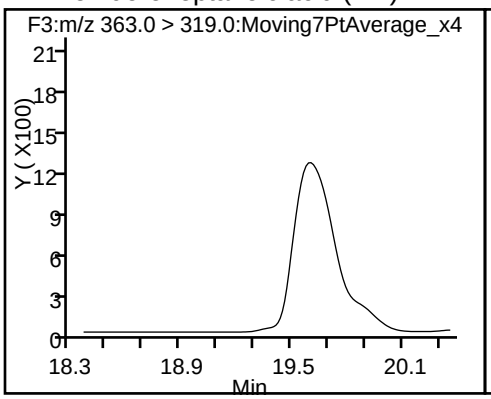
$ 2 13C2 PFHxA



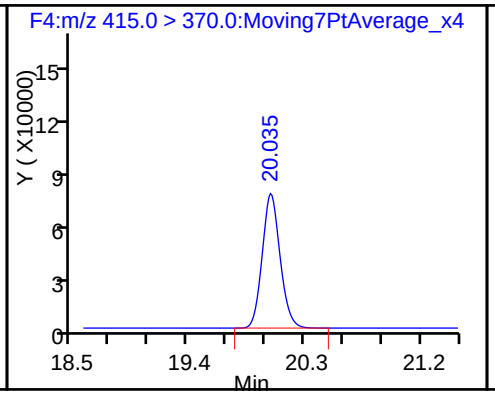
3 Perfluorohexanesulfonic acid (ND)



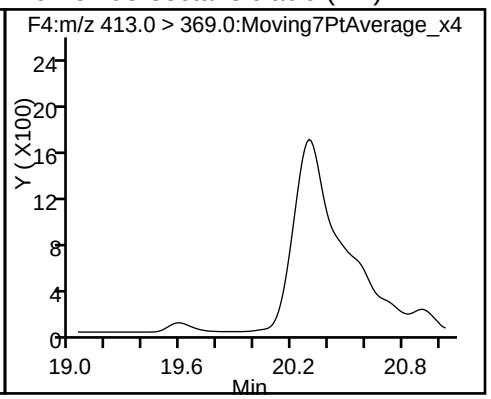
4 Perfluoroheptanoic acid (ND)



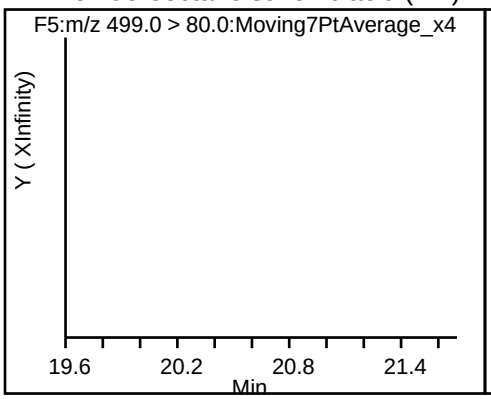
* 5 13C2-PFOA



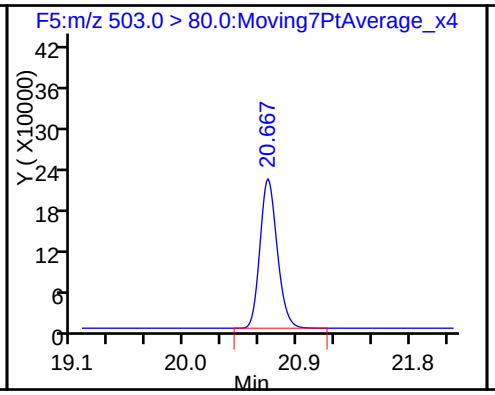
6 Perfluorooctanoic acid (ND)



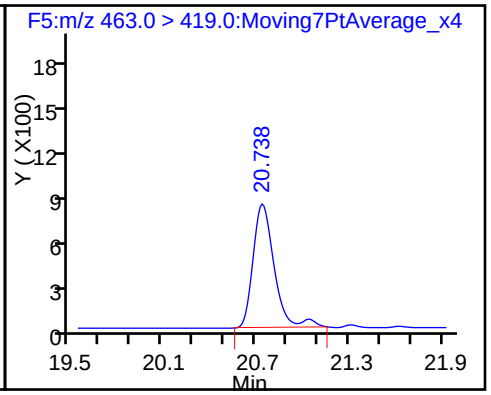
7 Perfluorooctane sulfonic acid (ND)



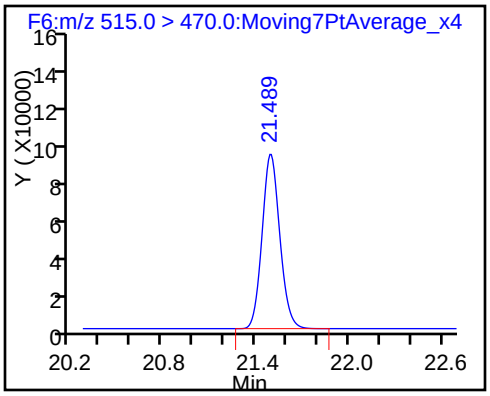
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_234.d
Lims ID: 320-23928-A-14-A
Client ID: WI-CV-2FB06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 12:16:23 ALS Bottle#: 8 Worklist Smp#: 59
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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 10:34:28 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 09:46:11

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.11
$ 10 13C2 PFDA	10.0	11.1	110.76

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW07-1116 | Lab Sample ID: 320-23928-15

Matrix: Water | Lab File ID: 05DEC2016A6A_235.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:59

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 269.5(mL) | Date Analyzed: 12/10/2016 12:45

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.045	U	0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	115		70-130
STL00996	13C2 PFDA	143	Q	70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_235.d
Lims ID: 320-23928-A-15-A
Client ID: WI-CV-2RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 12:45:59 ALS Bottle#: 9 Worklist Smp#: 60
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-15-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 10:34:28 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 09:47:16

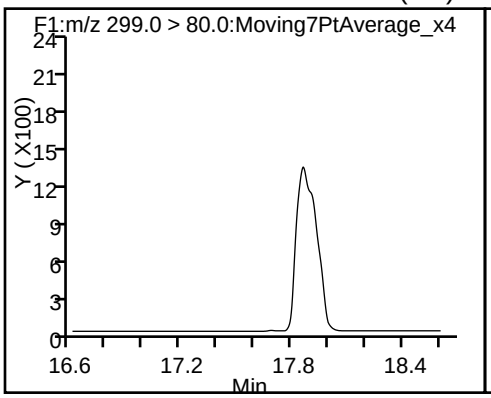
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	931946	11.5	30434	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.332	19.368	-0.036	1.000	3062	0.0362	1.5	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		696843	10.0	36628	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.082	20.035	0.047	1.000	668	0.009214	0.4	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1821820	28.7	47746	
9 Perfluorononanoic acid								M
463.0 > 419.0	20.738	20.738	0.0	1.000	15548	0.1967	14.3	M
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	873703	14.3	27831	

QC Flag Legend

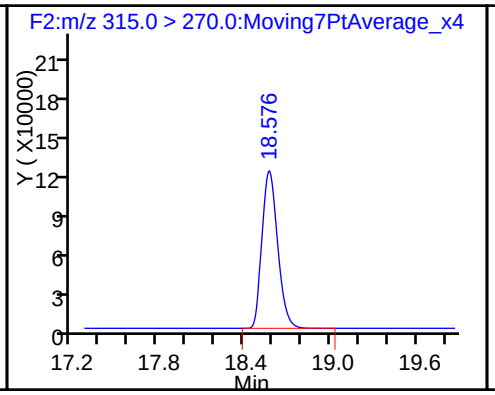
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_235.d
Injection Date: 10-Dec-2016 12:45:59 Instrument ID: A6
Lims ID: 320-23928-A-15-A Lab Sample ID: 320-23928-15
Client ID: WI-CV-2RW07-1116
Operator ID: CBW ALS Bottle#: 9 Worklist Smp#: 60
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

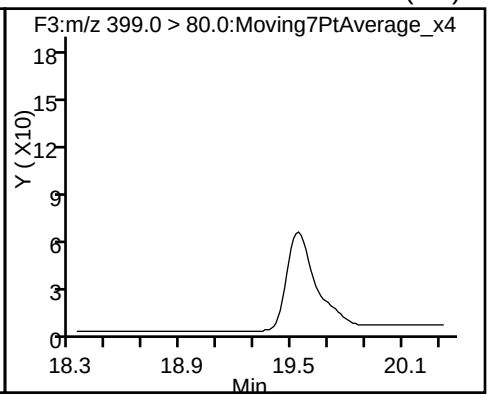
1 Perfluorobutanesulfonic acid (ND)



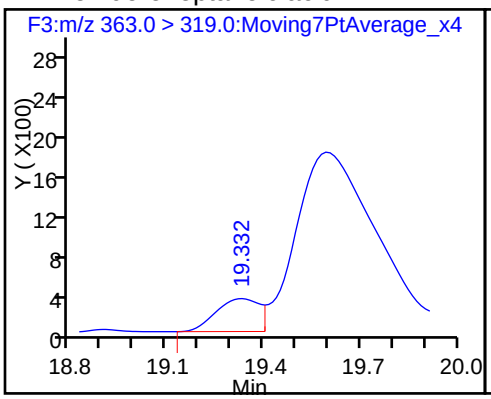
$ 2 13C2 PFHxA



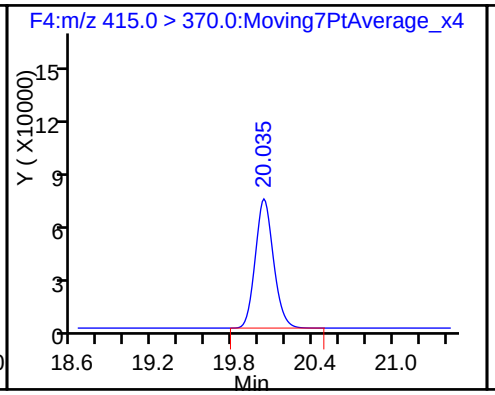
3 Perfluorohexanesulfonic acid (ND)



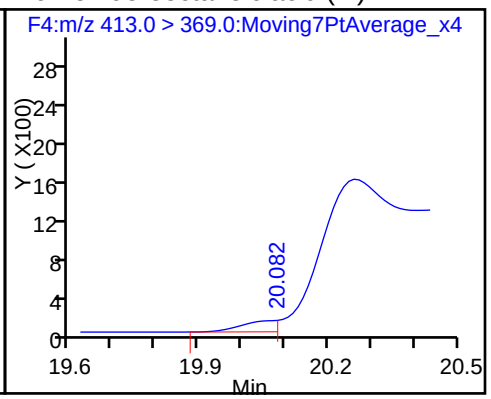
4 Perfluoroheptanoic acid



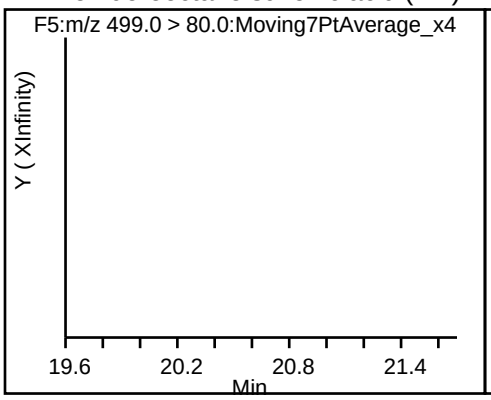
* 5 13C2-PFOA



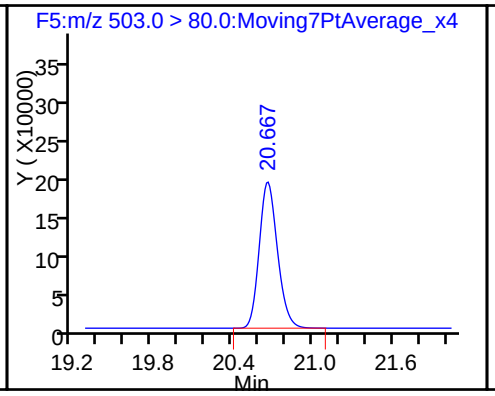
6 Perfluorooctanoic acid (M)



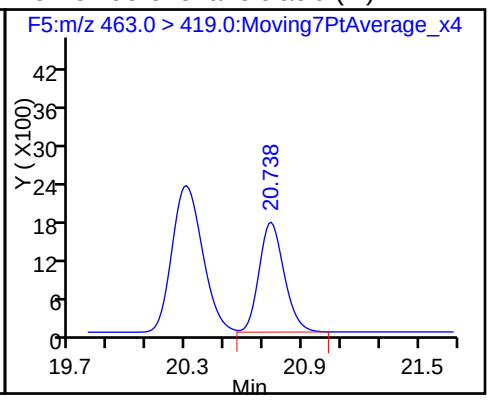
7 Perfluorooctane sulfonic acid (ND)



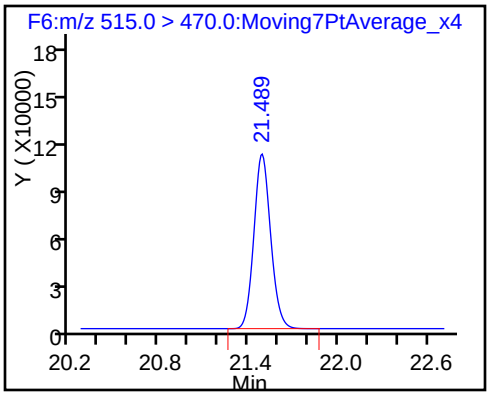
* 8 13C4 PFOS



9 Perfluorononanoic acid (M)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_235.d
Lims ID: 320-23928-A-15-A
Client ID: WI-CV-2RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 12:45:59 ALS Bottle#: 9 Worklist Smp#: 60
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-15-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 10:34:28 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 09:47:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.5	114.65
$ 10 13C2 PFDA	10.0	14.3	143.08

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

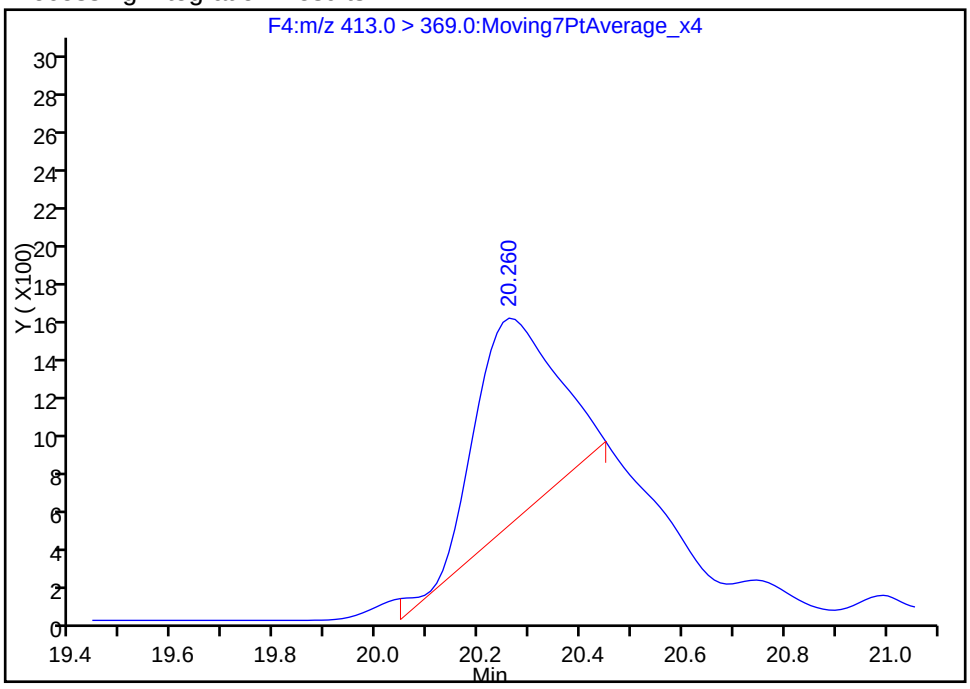
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_235.d				
Injection Date:	10-Dec-2016 12:45:59	Instrument ID:	A6		
Lims ID:	320-23928-A-15-A	Lab Sample ID:	320-23928-15		
Client ID:	WI-CV-2RW07-1116				
Operator ID:	CBW	ALS Bottle#:	9	Worklist Smp#:	60
Injection Vol:	10.0 ul	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

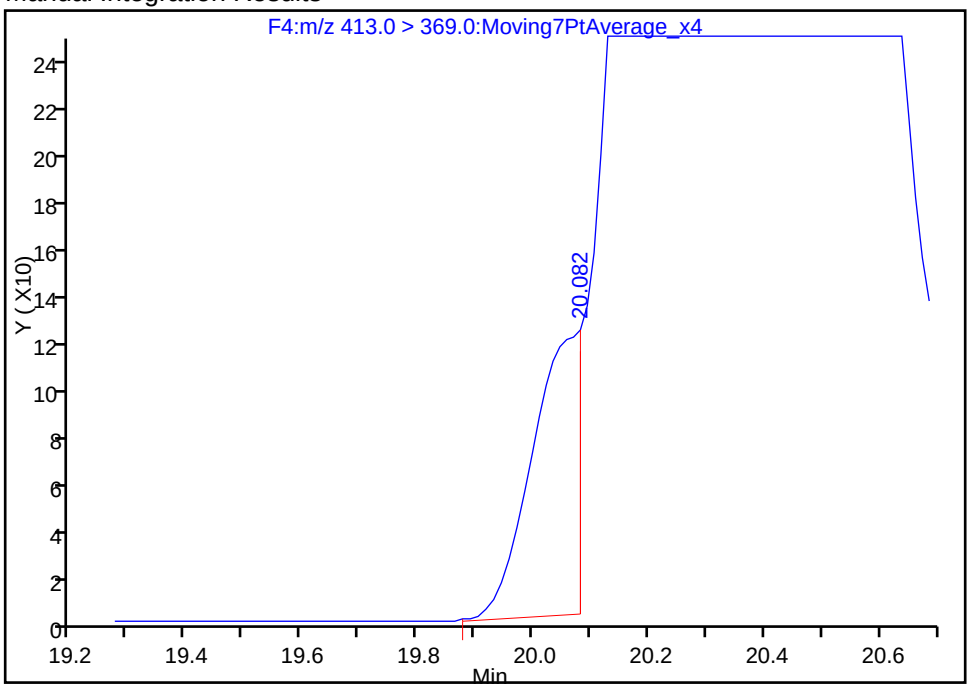
Processing Integration Results

RT: 20.26
Area: 11780
Amount: 0.162480
Amount Units: ng/ml



Manual Integration Results

RT: 20.08
Area: 668
Amount: 0.009214
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:47:16

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2FB07-1116 | Lab Sample ID: 320-23928-16

Matrix: Water | Lab File ID: 05DEC2016A6A_236.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:00

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 276.9(mL) | Date Analyzed: 12/10/2016 13:15

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.: 141294 | 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	119		70-130
STL00996	13C2 PFDA	111		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_236.d
Lims ID: 320-23928-A-16-A
Client ID: WI-CV-2FB07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 13:15:35 ALS Bottle#: 10 Worklist Smp#: 61
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-16-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 10:34:28 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

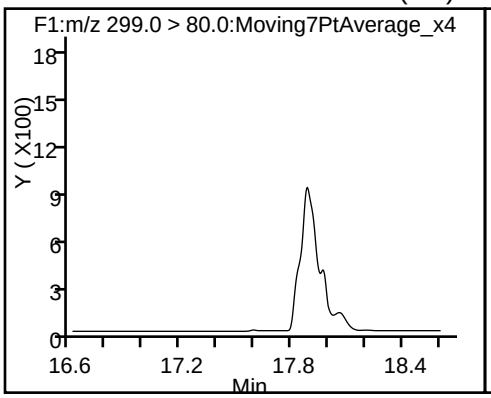
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 09:48:33

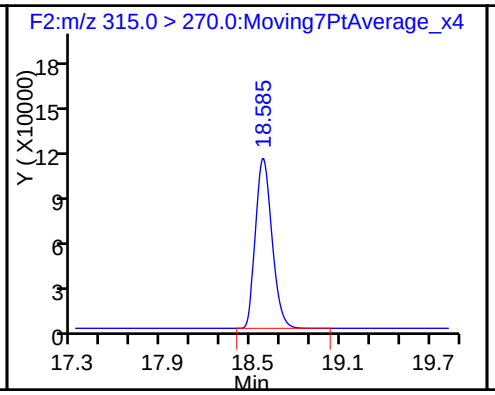
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	895557	11.9	28785	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		647471	10.0	16963	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1844147	28.7	47928	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.738	-0.012	1.000	6113	0.0832	671	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	631285	11.1	19836	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_236.d
Injection Date: 10-Dec-2016 13:15:35 Instrument ID: A6
Lims ID: 320-23928-A-16-A Lab Sample ID: 320-23928-16
Client ID: WI-CV-2FB07-1116
Operator ID: CBW ALS Bottle#: 10 Worklist Smp#: 61
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

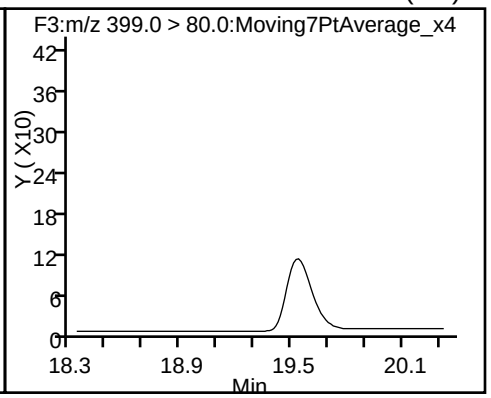
1 Perfluorobutanesulfonic acid (ND)



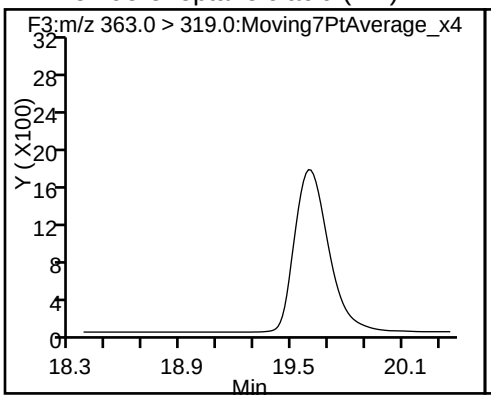
$ 2 13C2 PFHxA



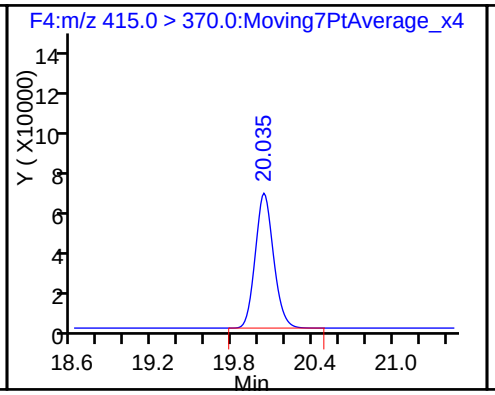
3 Perfluorohexanesulfonic acid (ND)



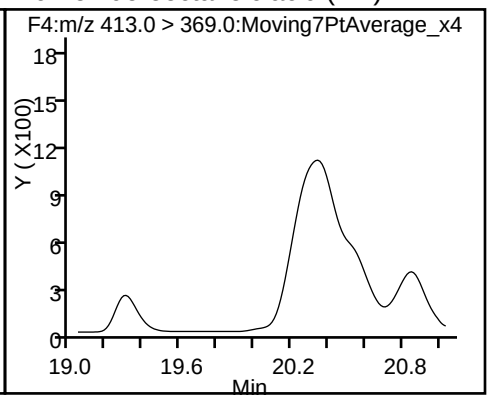
4 Perfluoroheptanoic acid (ND)



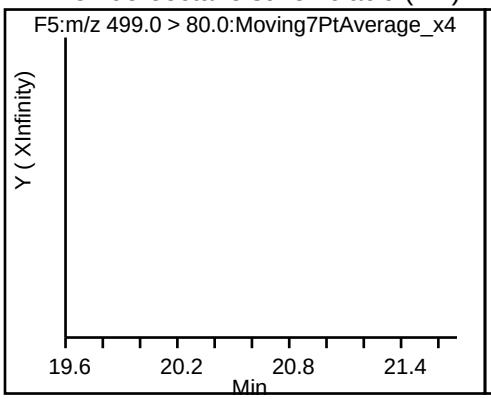
* 5 13C2-PFOA



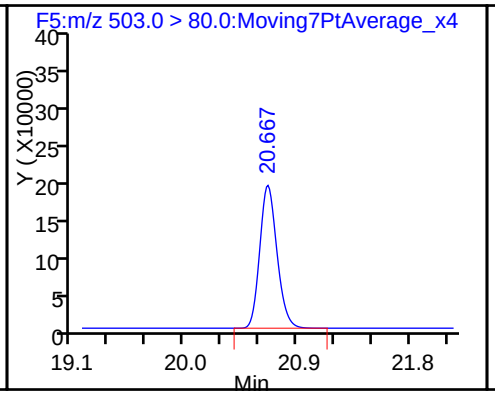
6 Perfluorooctanoic acid (ND)



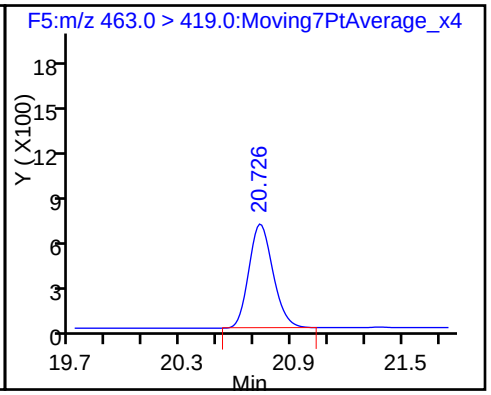
7 Perfluorooctane sulfonic acid (ND)



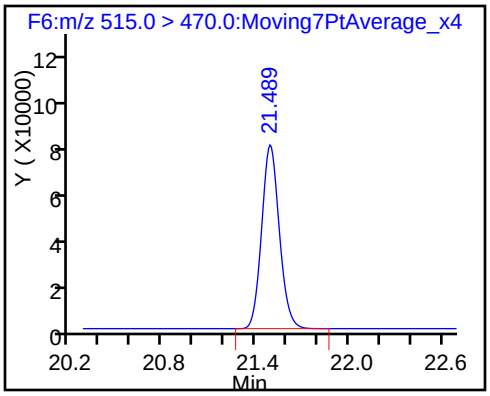
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_236.d
Lims ID: 320-23928-A-16-A
Client ID: WI-CV-2FB07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 13:15:35 ALS Bottle#: 10 Worklist Smp#: 61
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-16-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 10:34:28 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 09:48:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.9	118.57
$ 10 13C2 PFDA	10.0	11.1	111.27

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW06-1116 | Lab Sample ID: 320-23928-17

Matrix: Water | Lab File ID: 05DEC2016A6A_237.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:15

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 284.2(mL) | Date Analyzed: 12/10/2016 13:45

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	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	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_237.d
Lims ID: 320-23928-A-17-A
Client ID: WI-CV-3RW06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 13:45:09 ALS Bottle#: 11 Worklist Smp#: 62
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-17-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 10:34:28 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 09:49:12

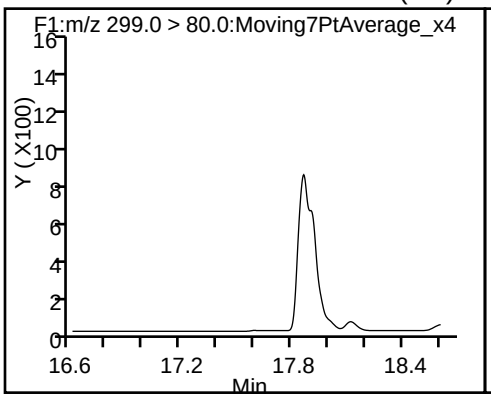
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	863393	11.2	27796	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		662634	10.0	17263	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.035	0.012	1.000	413	0.005991	0.2	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1924384	28.7	25193	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	12802	0.1703	460	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	618521	10.7	19353	

QC Flag Legend

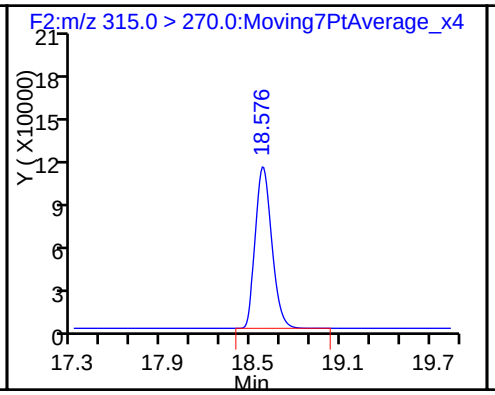
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_237.d
Injection Date: 10-Dec-2016 13:45:09 Instrument ID: A6
Lims ID: 320-23928-A-17-A Lab Sample ID: 320-23928-17
Client ID: WI-CV-3RW06-1116
Operator ID: CBW ALS Bottle#: 11 Worklist Smp#: 62
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

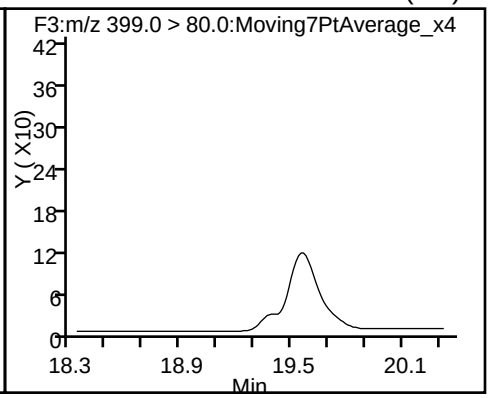
1 Perfluorobutanesulfonic acid (ND)



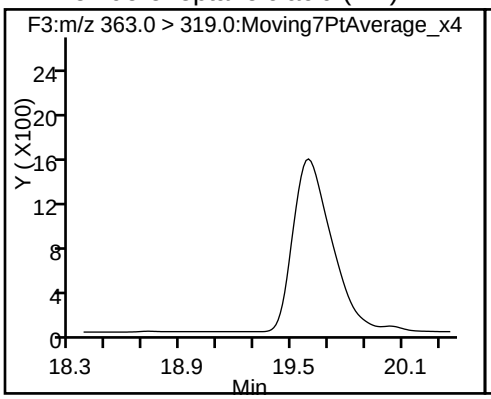
$ 2 13C2 PFHxA



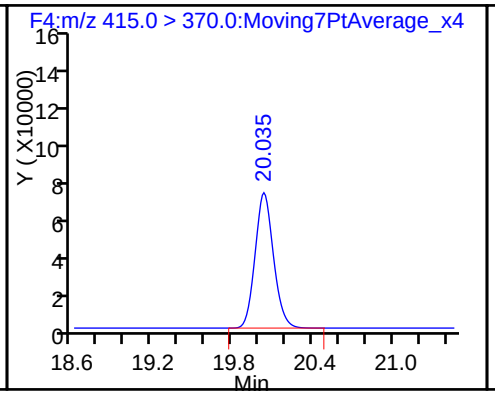
3 Perfluorohexanesulfonic acid (ND)



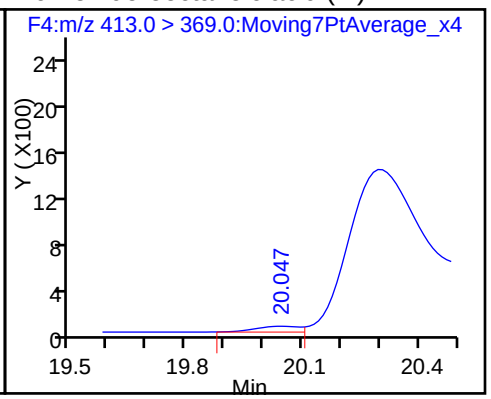
4 Perfluoroheptanoic acid (ND)



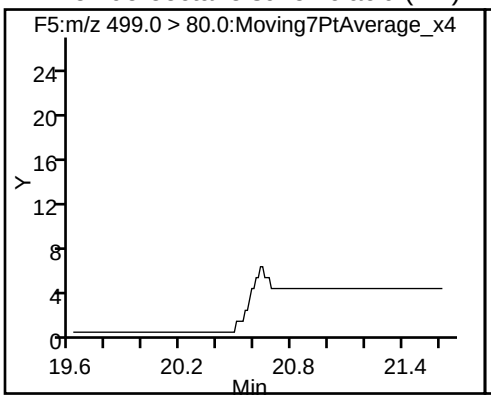
* 5 13C2-PFOA



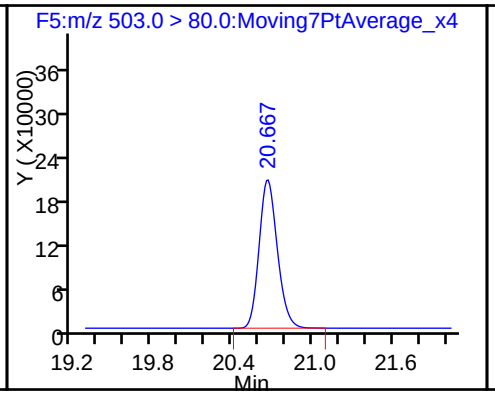
6 Perfluorooctanoic acid (M)



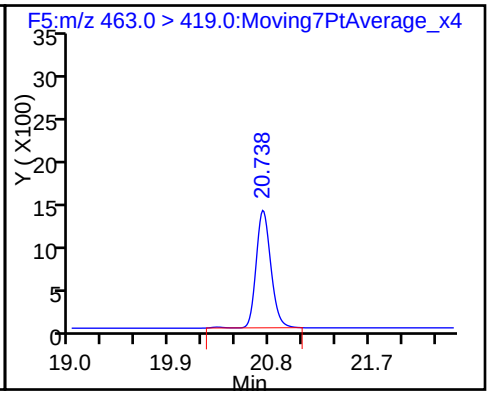
7 Perfluorooctane sulfonic acid (ND)



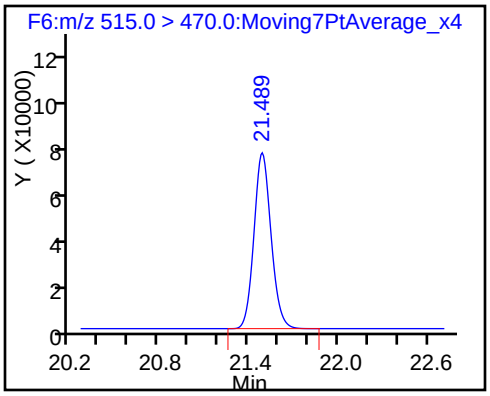
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_237.d
Lims ID: 320-23928-A-17-A
Client ID: WI-CV-3RW06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 13:45:09 ALS Bottle#: 11 Worklist Smp#: 62
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-17-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 10:34:28 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 09:49:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.2	111.70
$ 10 13C2 PFDA	10.0	10.7	106.52

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

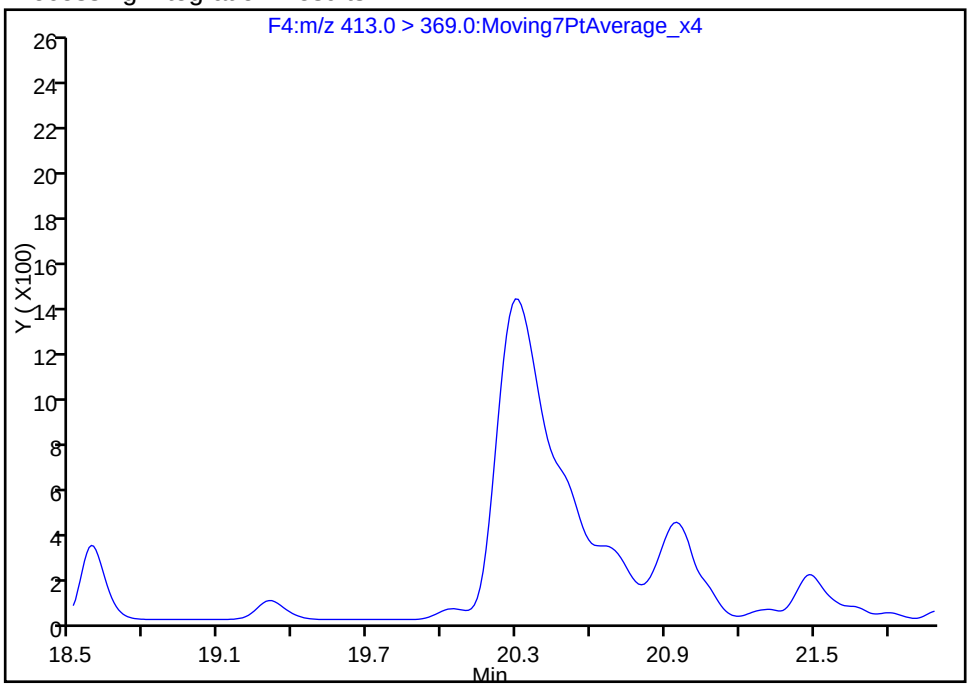
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_237.d				
Injection Date:	10-Dec-2016 13:45:09	Instrument ID:	A6		
Lims ID:	320-23928-A-17-A	Lab Sample ID:	320-23928-17		
Client ID:	WI-CV-3RW06-1116				
Operator ID:	CBW	ALS Bottle#:	11	Worklist Smp#:	62
Injection Vol:	10.0 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

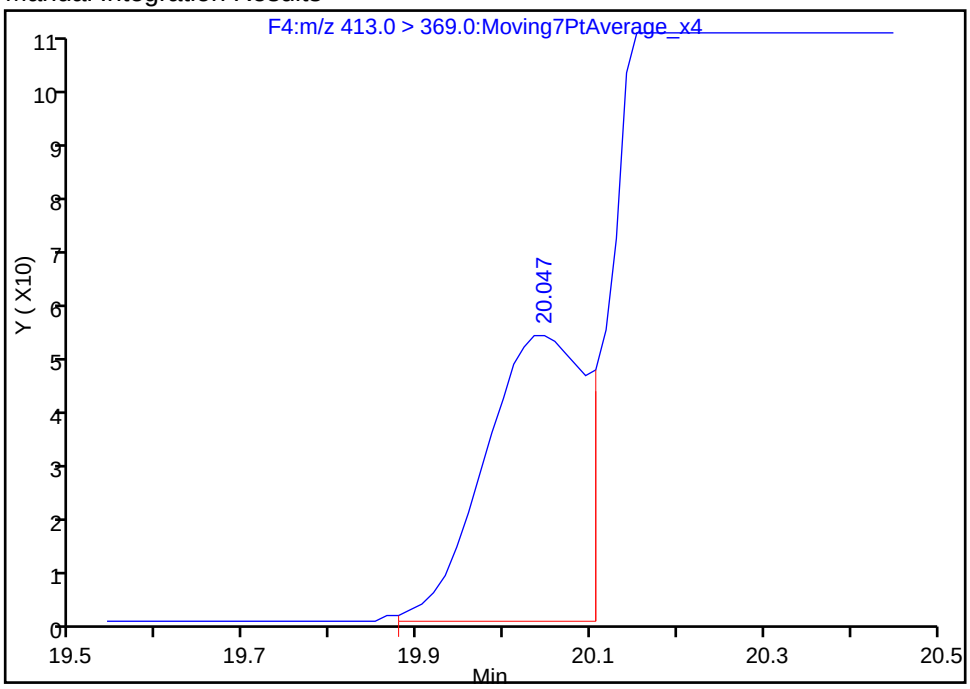
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.05
Area: 413
Amount: 0.005991
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:49:12
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB06-1116 Lab Sample ID: 320-23928-18

Matrix: Water Lab File ID: 05DEC2016A6A_238.d

Analysis Method: 537 Date Collected: 11/29/2016 09:16

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 284.2(mL) Date Analyzed: 12/10/2016 14:14

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.: 141294 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	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	103		70-130
STL00996	13C2 PFDA	104		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_238.d
Lims ID: 320-23928-A-18-A
Client ID: WI-CV-3FB06-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 14:14:45 ALS Bottle#: 12 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-18-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 10:34:28 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 09:50:15

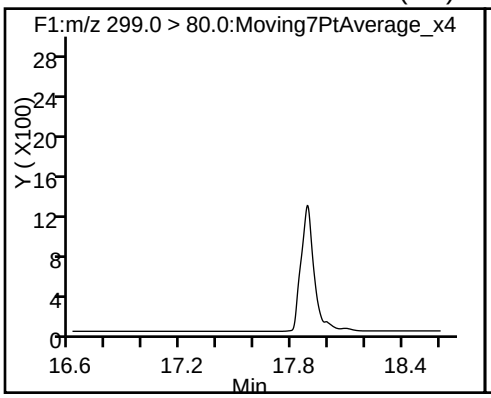
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	808521	10.3	26157	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		673467	10.0	17550	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.059	20.035	0.024	1.000	147	0.002098	0.2	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1865088	28.7	48748	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	5481	0.0718	164	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	614033	10.4	19518	

QC Flag Legend

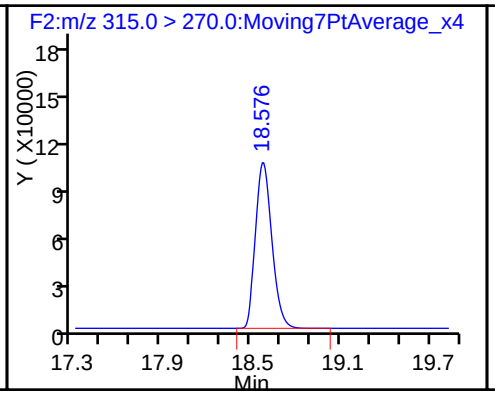
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_238.d
Injection Date: 10-Dec-2016 14:14:45 Instrument ID: A6
Lims ID: 320-23928-A-18-A Lab Sample ID: 320-23928-18
Client ID: WI-CV-3FB06-1116
Operator ID: CBW ALS Bottle#: 12 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

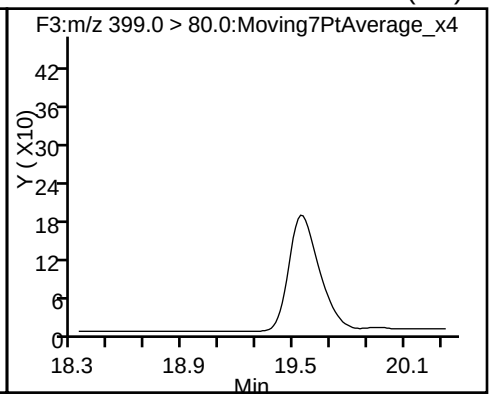
1 Perfluorobutanesulfonic acid (ND)



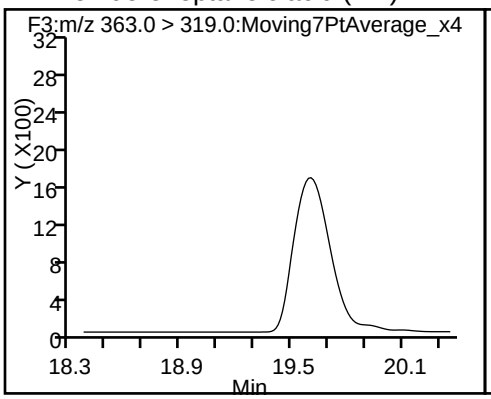
$ 2 13C2 PFHxA



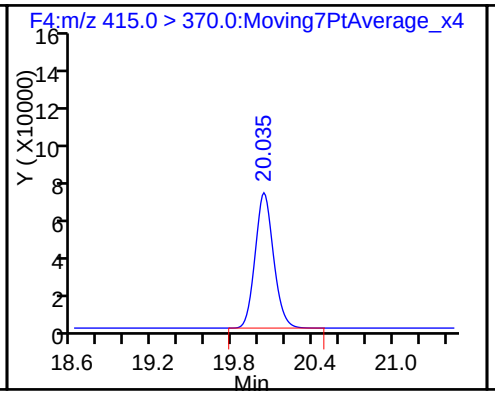
3 Perfluorohexanesulfonic acid (ND)



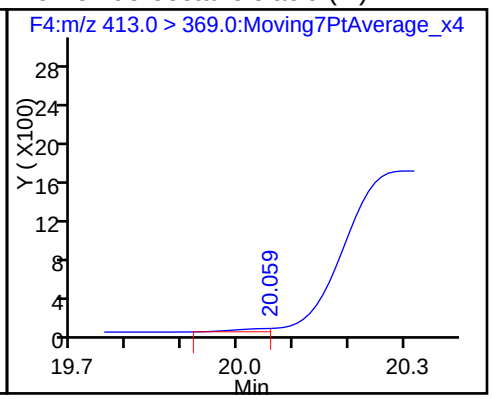
4 Perfluoroheptanoic acid (ND)



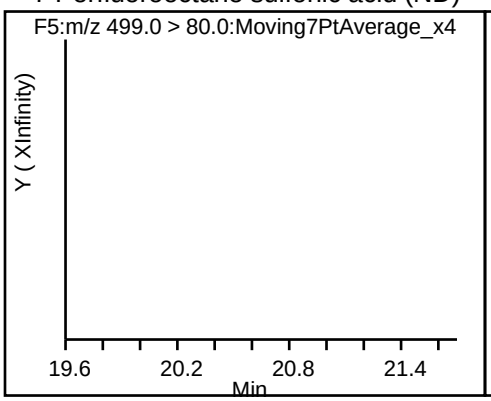
* 5 13C2-PFOA



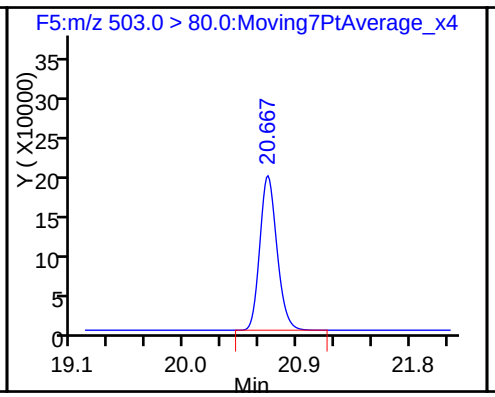
6 Perfluorooctanoic acid (M)



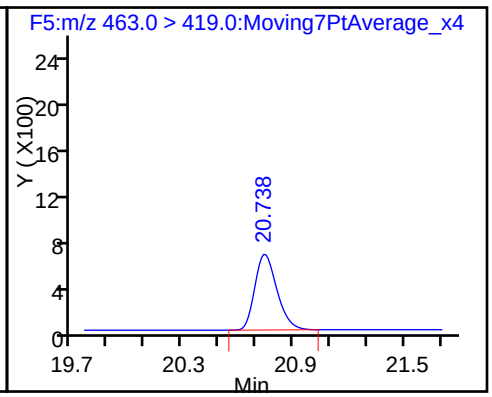
7 Perfluorooctane sulfonic acid (ND)



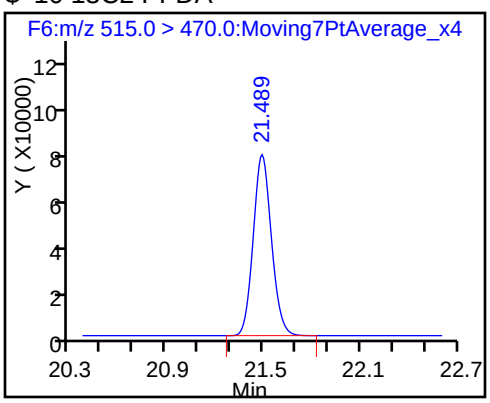
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_238.d				
Lims ID:	320-23928-A-18-A				
Client ID:	WI-CV-3FB06-1116				
Sample Type:	Client				
Inject. Date:	10-Dec-2016 14:14:45	ALS Bottle#:	12	Worklist Smp#:	63
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Sample Info:	320-23928-A-18-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 10:34:28	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 09:50:15		

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.3	102.92
$ 10 13C2 PFDA	10.0	10.4	104.05

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

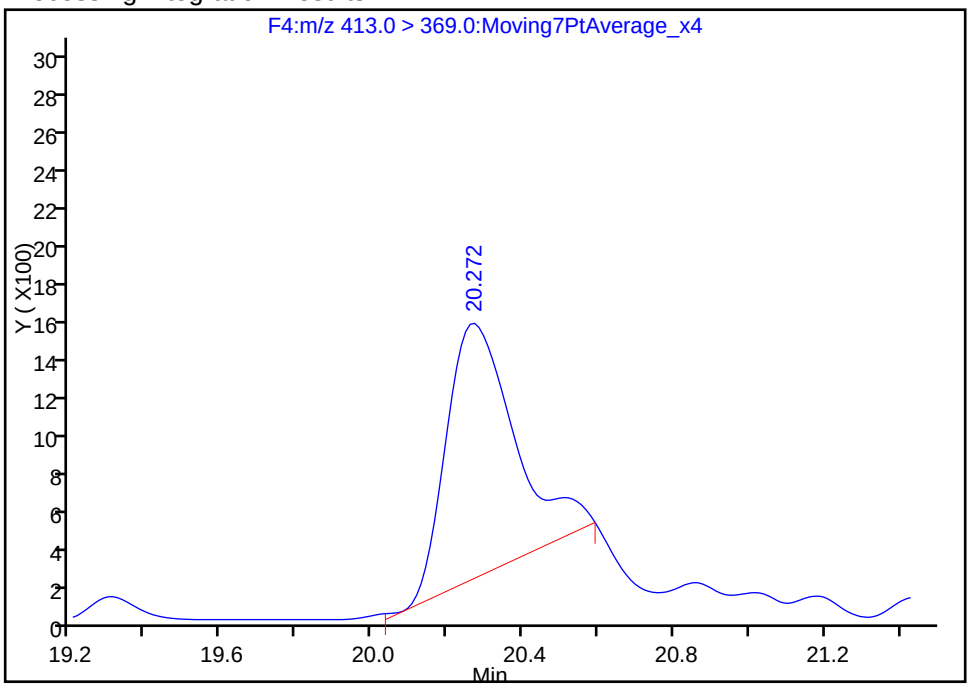
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_238.d				
Injection Date:	10-Dec-2016 14:14:45	Instrument ID:	A6		
Lims ID:	320-23928-A-18-A	Lab Sample ID:	320-23928-18		
Client ID:	WI-CV-3FB06-1116				
Operator ID:	CBW	ALS Bottle#:	12	Worklist Smp#:	63
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		
Column:	Acquity BEH C18 (2.10 mm)	Detector	F4:MRM		

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

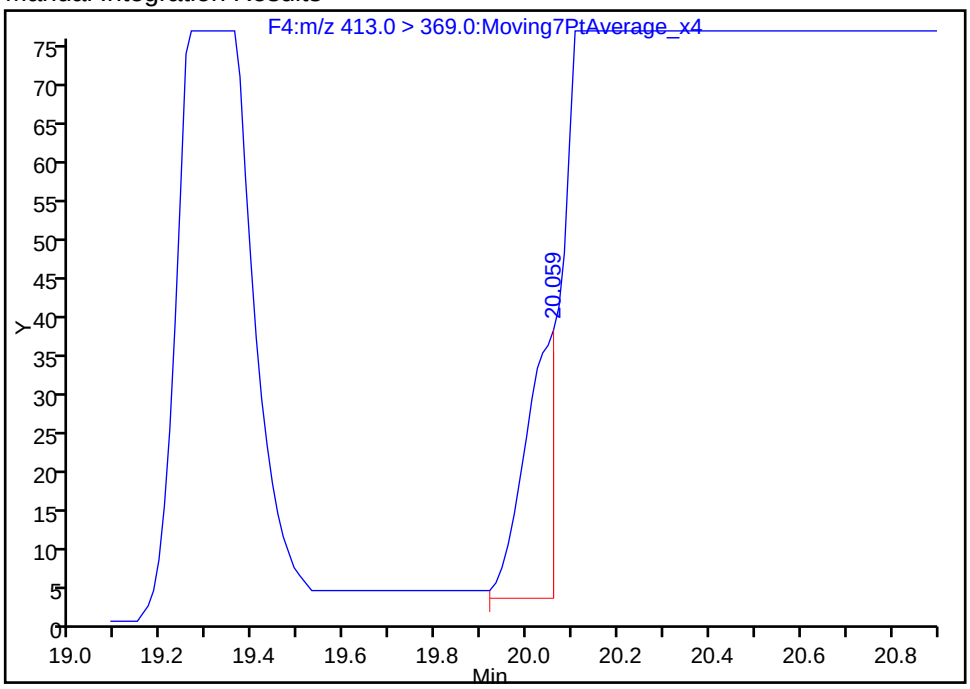
Processing Integration Results

RT: 20.27
Area: 16730
Amount: 0.238764
Amount Units: ng/ml



Manual Integration Results

RT: 20.06
Area: 147
Amount: 0.002098
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:50:15

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW07-1116 | Lab Sample ID: 320-23928-19

Matrix: Water | Lab File ID: 05DEC2016A6A_239.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:05

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 271(mL) | Date Analyzed: 12/10/2016 14:44

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	114		70-130
STL00996	13C2 PFDA	102		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_239.d
Lims ID: 320-23928-A-19-A
Client ID: WI-CV-3RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 14:44:22 ALS Bottle#: 13 Worklist Smp#: 64
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-19-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 10:34:28 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 09:50:49

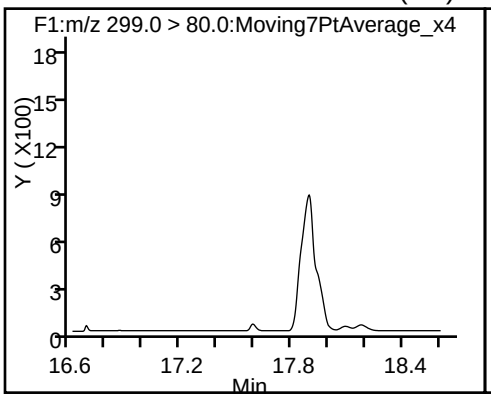
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	887512	11.4	28599	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		668649	10.0	17444	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.094	20.035	0.059	1.000	648	0.009315	0.5	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1836517	28.7	48188	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	11815	0.1558	591	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	600474	10.2	18954	

QC Flag Legend

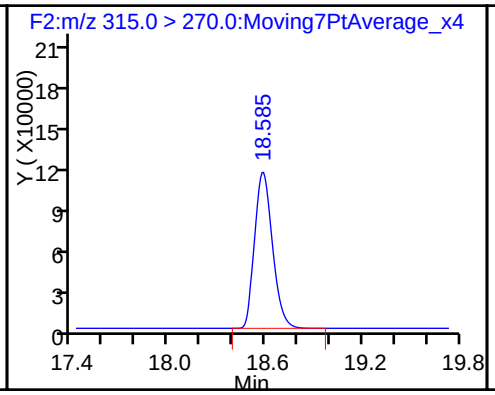
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_239.d
Injection Date: 10-Dec-2016 14:44:22 Instrument ID: A6
Lims ID: 320-23928-A-19-A Lab Sample ID: 320-23928-19
Client ID: WI-CV-3RW07-1116
Operator ID: CBW ALS Bottle#: 13 Worklist Smp#: 64
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

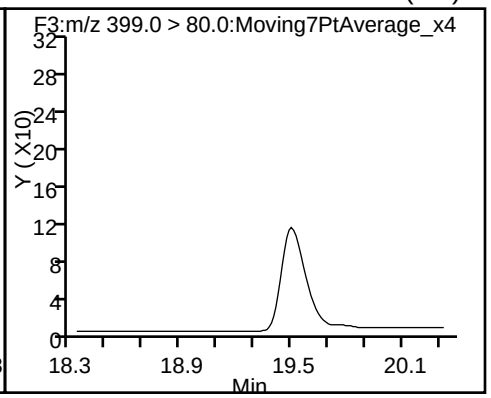
1 Perfluorobutanesulfonic acid (ND)



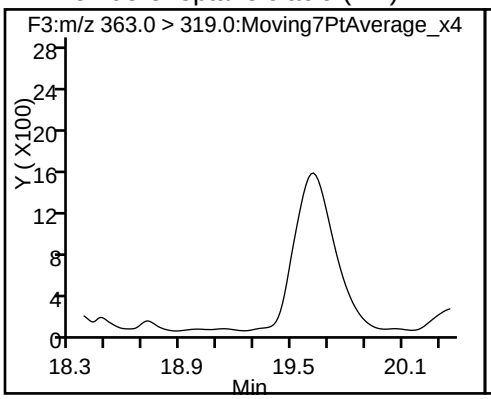
$ 2 13C2 PFHxA



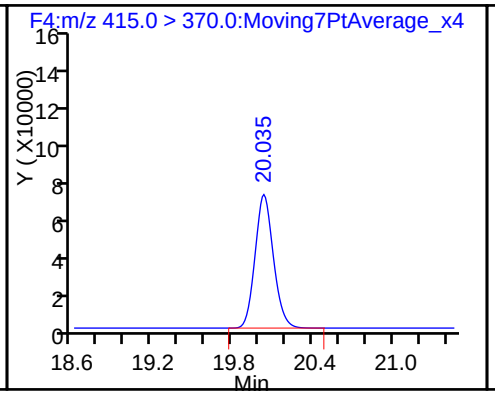
3 Perfluorohexanesulfonic acid (ND)



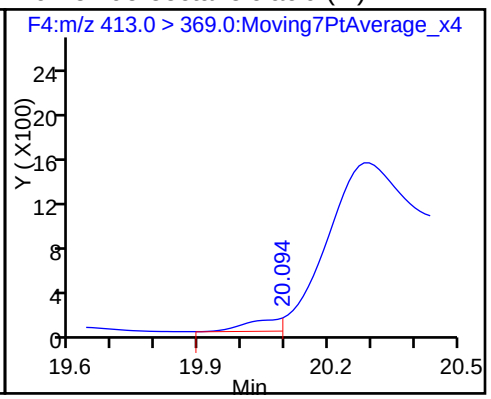
4 Perfluoroheptanoic acid (ND)



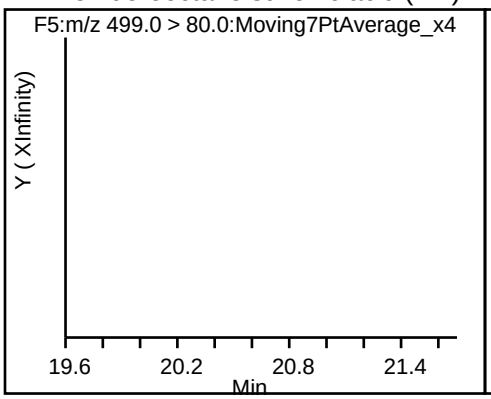
* 5 13C2-PFOA



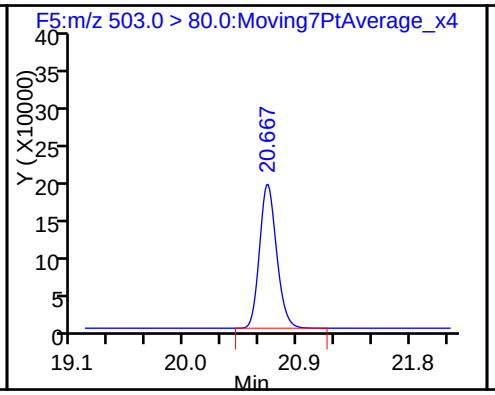
6 Perfluorooctanoic acid (M)



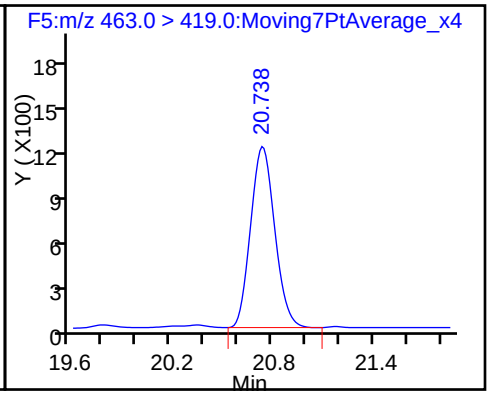
7 Perfluorooctane sulfonic acid (ND)



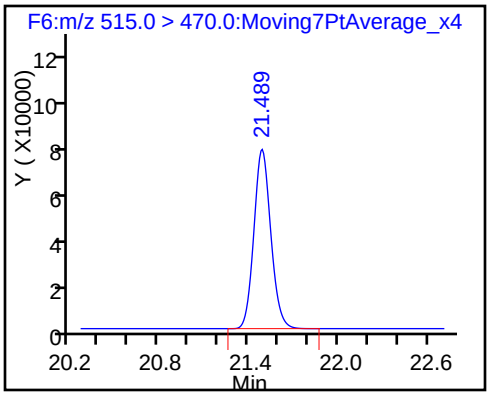
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_239.d
Lims ID: 320-23928-A-19-A
Client ID: WI-CV-3RW07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 14:44:22 ALS Bottle#: 13 Worklist Smp#: 64
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-19-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 10:34:28 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 09:50:49

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	113.78
$ 10 13C2 PFDA	10.0	10.2	102.48

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

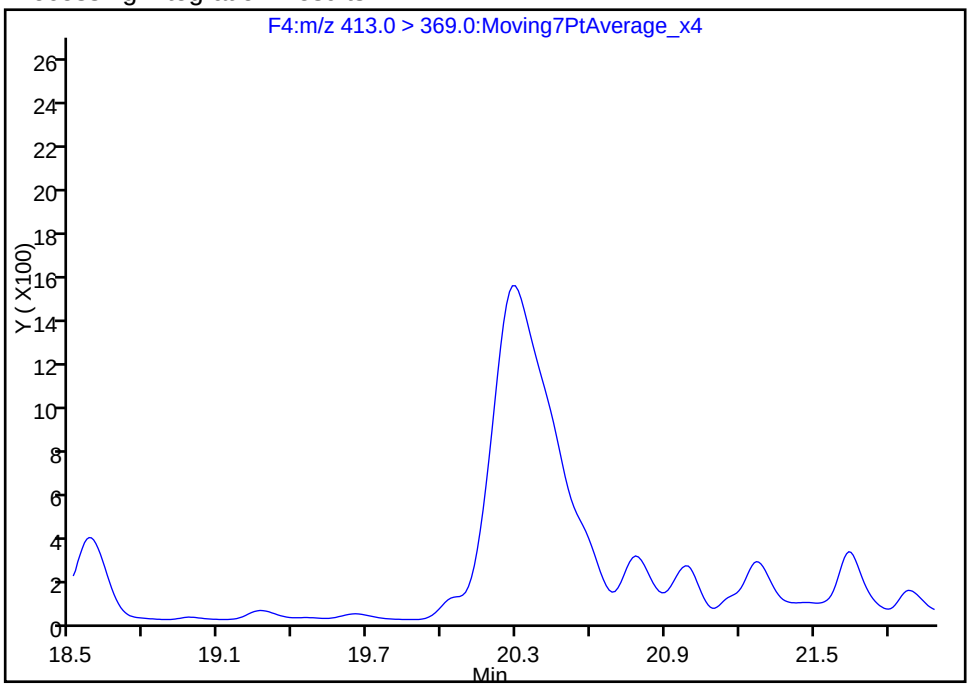
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_239.d				
Injection Date:	10-Dec-2016 14:44:22	Instrument ID:	A6		
Lims ID:	320-23928-A-19-A	Lab Sample ID:	320-23928-19		
Client ID:	WI-CV-3RW07-1116				
Operator ID:	CBW	ALS Bottle#:	13	Worklist Smp#:	64
Injection Vol:	10.0 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

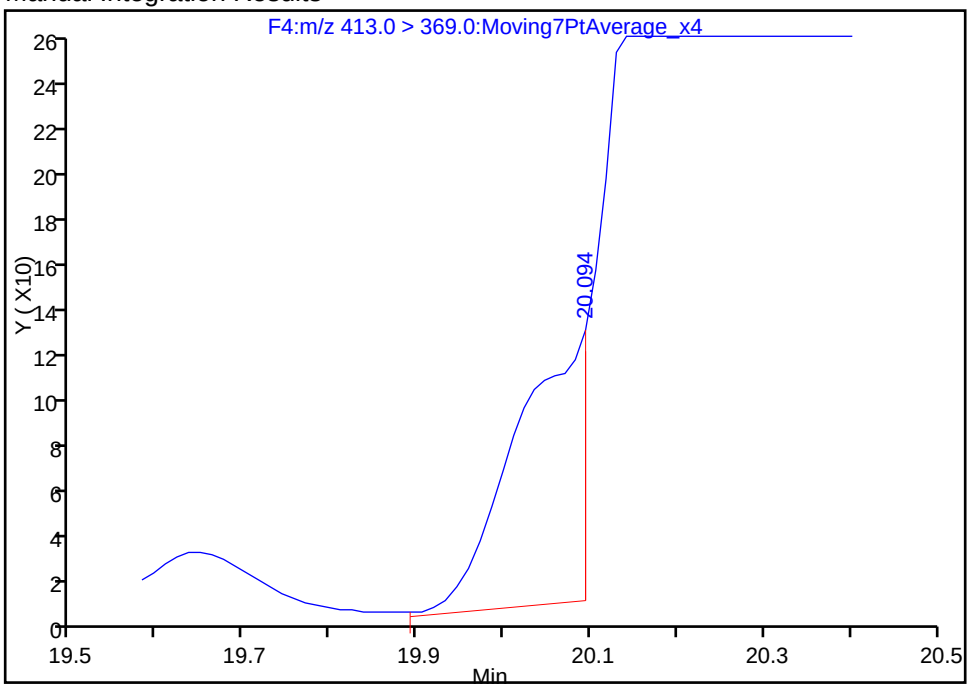
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.09
Area: 648
Amount: 0.009315
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:50:49
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB07-1116 | Lab Sample ID: 320-23928-20

Matrix: Water | Lab File ID: 05DEC2016A6A_240.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:06

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 284.6(mL) | Date Analyzed: 12/10/2016 15:13

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	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	104		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_240.d
Lims ID: 320-23928-A-20-A
Client ID: WI-CV-3FB07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 15:13:58 ALS Bottle#: 14 Worklist Smp#: 65
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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 10:34:28 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 09:51:41

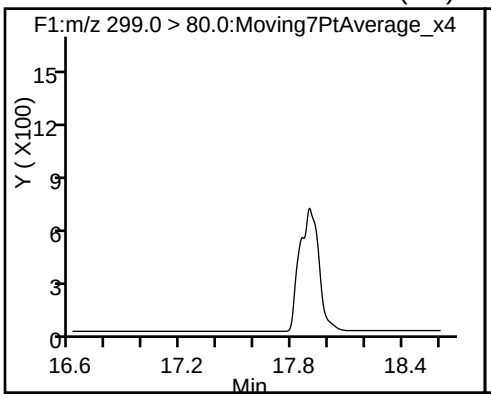
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	783671	10.4	25319	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		645220	10.0	16844	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.035	20.035	0.0	1.000	756	0.0113	0.4	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1943057	28.7	51224	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	4234	0.0579	40.1	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	605098	10.7	19116	

QC Flag Legend

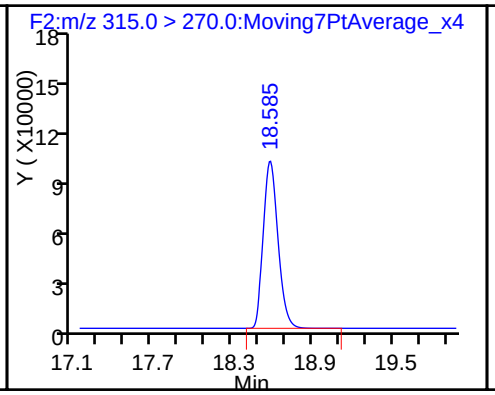
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_240.d
Injection Date: 10-Dec-2016 15:13:58 Instrument ID: A6
Lims ID: 320-23928-A-20-A Lab Sample ID: 320-23928-20
Client ID: WI-CV-3FB07-1116
Operator ID: CBW ALS Bottle#: 14 Worklist Smp#: 65
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

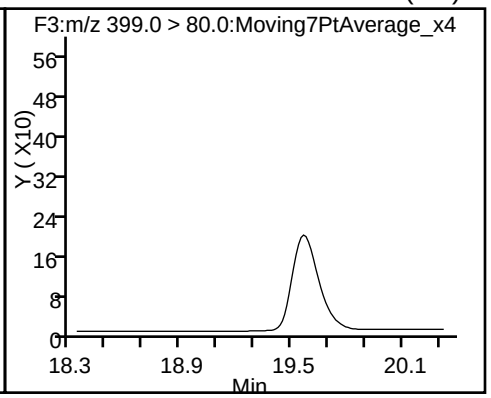
1 Perfluorobutanesulfonic acid (ND)



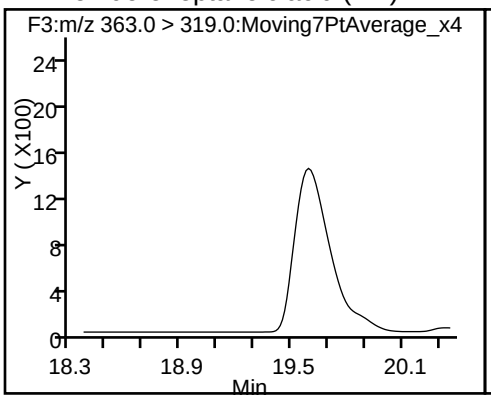
$ 2 13C2 PFHxA



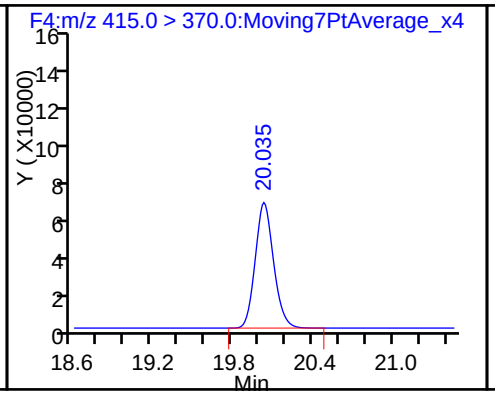
3 Perfluorohexanesulfonic acid (ND)



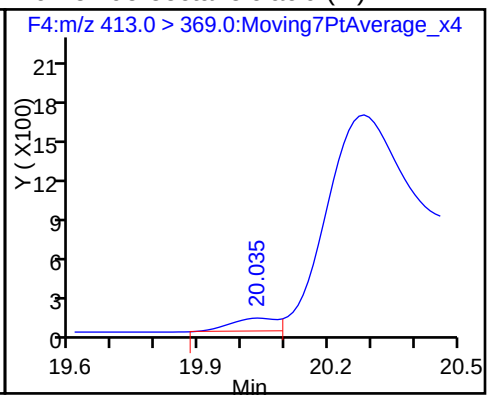
4 Perfluoroheptanoic acid (ND)



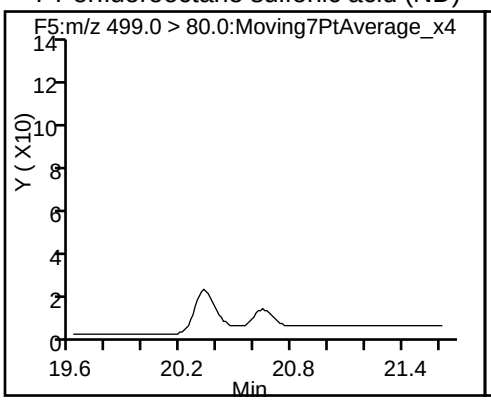
* 5 13C2-PFOA



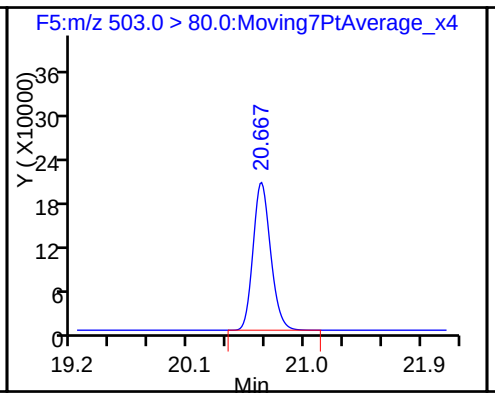
6 Perfluorooctanoic acid (M)



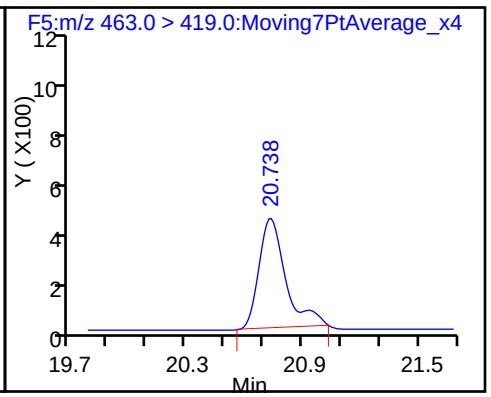
7 Perfluorooctane sulfonic acid (ND)



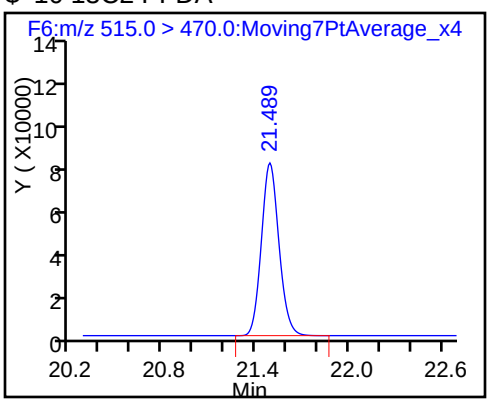
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_240.d
Lims ID: 320-23928-A-20-A
Client ID: WI-CV-3FB07-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 15:13:58 ALS Bottle#: 14 Worklist Smp#: 65
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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 10:34:28 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 09:51:41

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.4	104.12
$ 10 13C2 PFDA	10.0	10.7	107.02

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

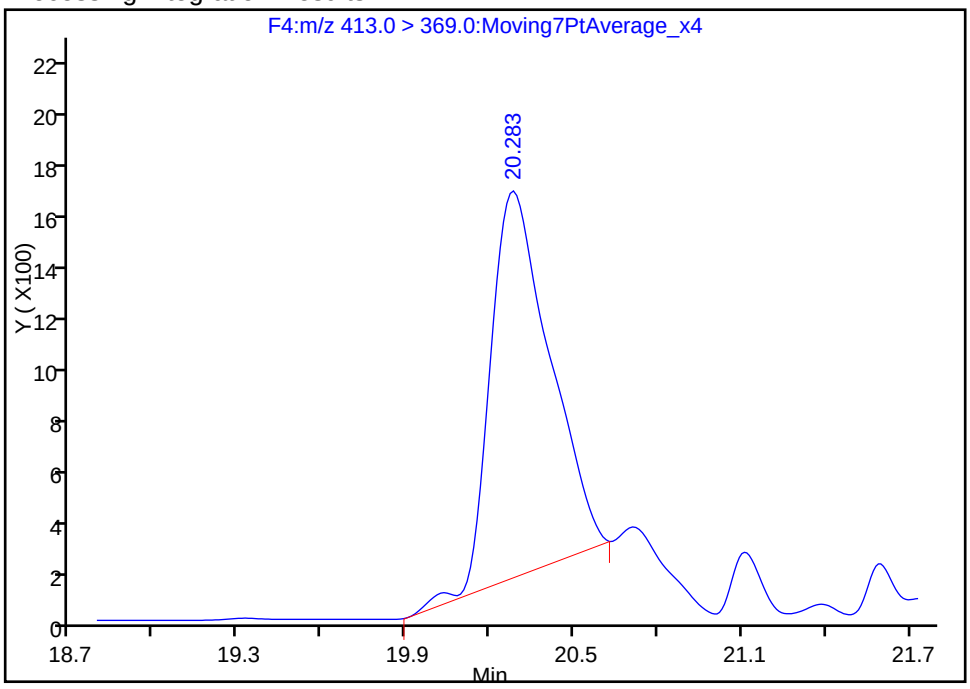
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_240.d				
Injection Date:	10-Dec-2016 15:13:58	Instrument ID:	A6		
Lims ID:	320-23928-A-20-A	Lab Sample ID:	320-23928-20		
Client ID:	WI-CV-3FB07-1116				
Operator ID:	CBW	ALS Bottle#:	14	Worklist Smp#:	65
Injection Vol:	10.0 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

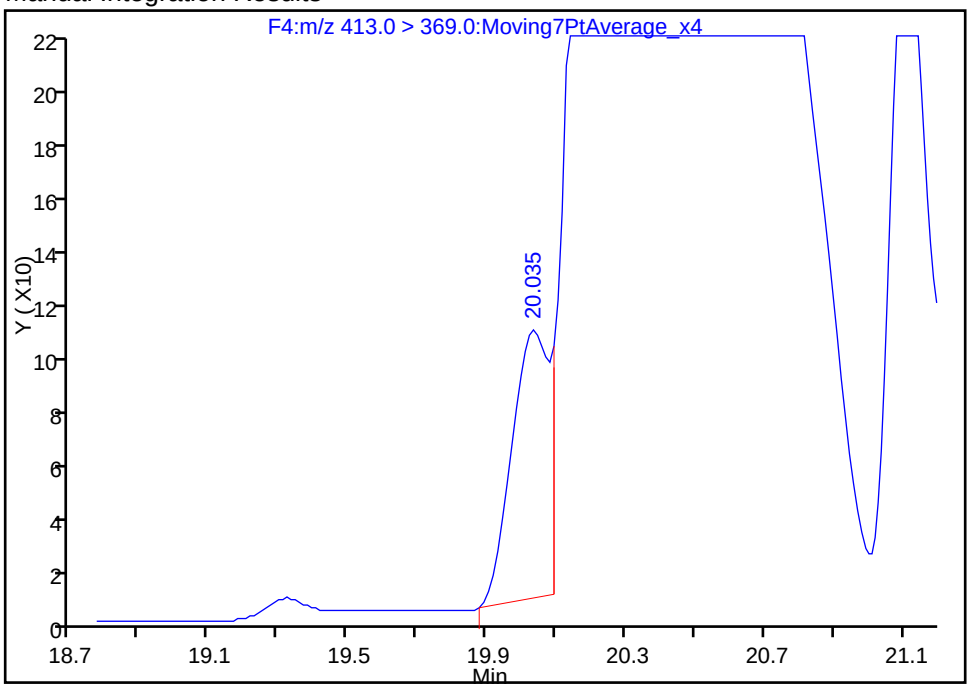
Processing Integration Results

RT: 20.28
Area: 22261
Amount: 0.331609
Amount Units: ng/ml



Manual Integration Results

RT: 20.03
Area: 756
Amount: 0.011262
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:51:41

Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW08-1116 | Lab Sample ID: 320-23928-21

Matrix: Water | Lab File ID: 05DEC2016A6A_244.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:11

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 271.8(mL) | Date Analyzed: 12/10/2016 17:12

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	114		70-130
STL00996	13C2 PFDA	108		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_244.d
Lims ID: 320-23928-A-21-A
Client ID: WI-CV-3RW08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 17:12:21 ALS Bottle#: 15 Worklist Smp#: 69
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:54:46

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.602	0.006	1.000	6597	0.1505	8.7	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.576	0.009	1.000	857972	11.4	27813	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		644097	10.0	16831	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.082	20.035	0.047	1.000	333	0.004969	0.3	M
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1792339	28.7	37608	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.738	0.012	1.000	9094	0.1245	166	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	607394	10.8	19183	

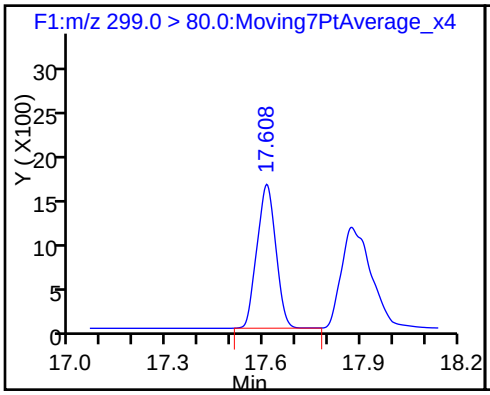
QC Flag Legend

Review Flags
M - Manually Integrated

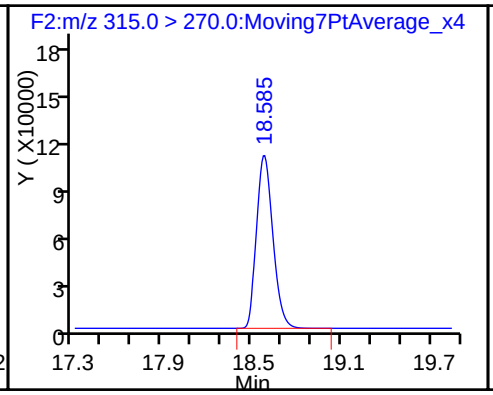
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_244.d
Injection Date: 10-Dec-2016 17:12:21 Instrument ID: A6
Lims ID: 320-23928-A-21-A Lab Sample ID: 320-23928-21
Client ID: WI-CV-3RW08-1116
Operator ID: CBW ALS Bottle#: 15 Worklist Smp#: 69
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

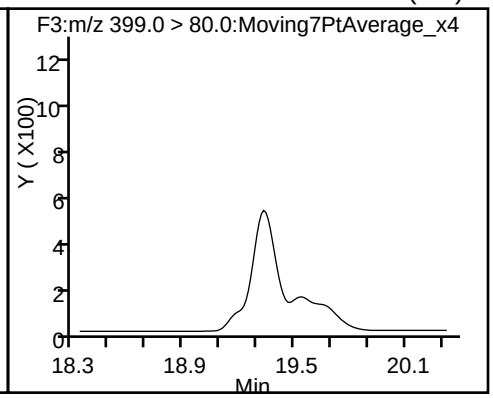
1 Perfluorobutanesulfonic acid



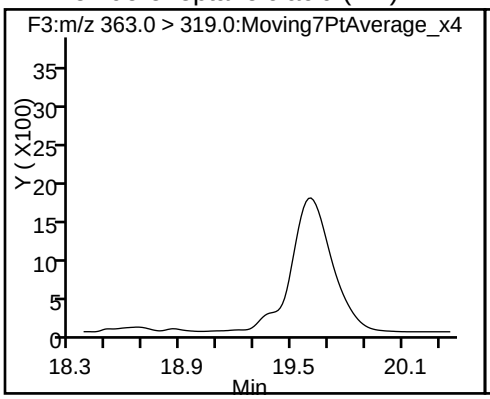
$ 2 13C2 PFHxA



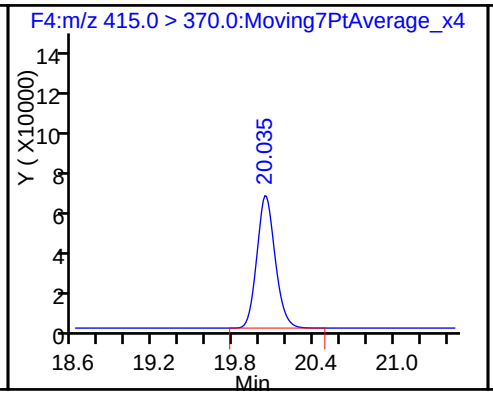
3 Perfluorohexanesulfonic acid (ND)



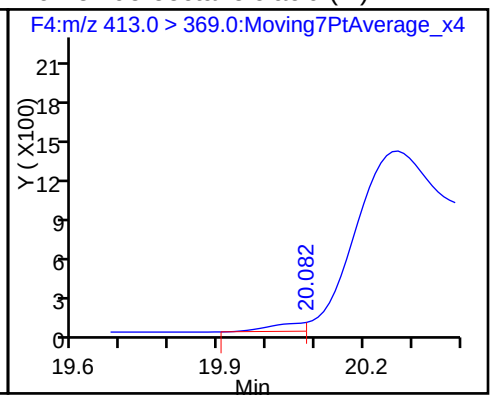
4 Perfluoroheptanoic acid (ND)



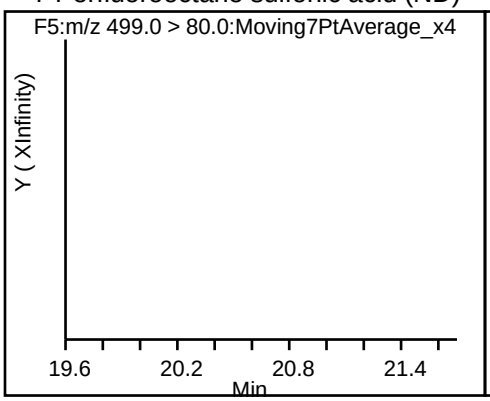
* 5 13C2-PFOA



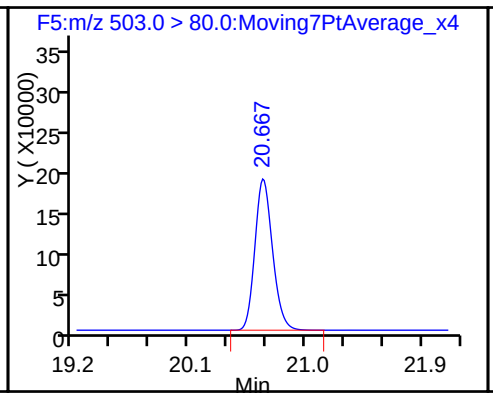
6 Perfluorooctanoic acid (M)



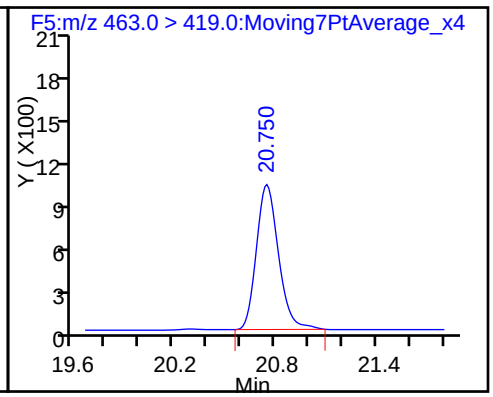
7 Perfluorooctane sulfonic acid (ND)



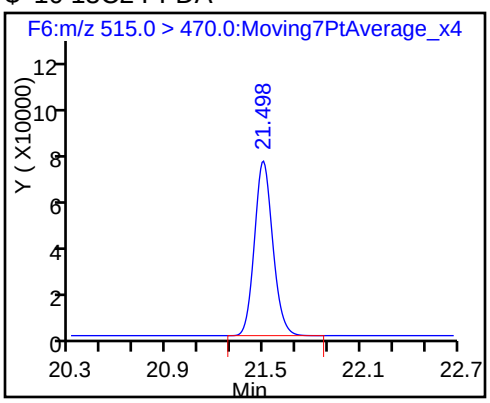
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_244.d
Lims ID: 320-23928-A-21-A
Client ID: WI-CV-3RW08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 17:12:21 ALS Bottle#: 15 Worklist Smp#: 69
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:54:46

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.4	114.19
$ 10 13C2 PFDA	10.0	10.8	107.62

TestAmerica Sacramento

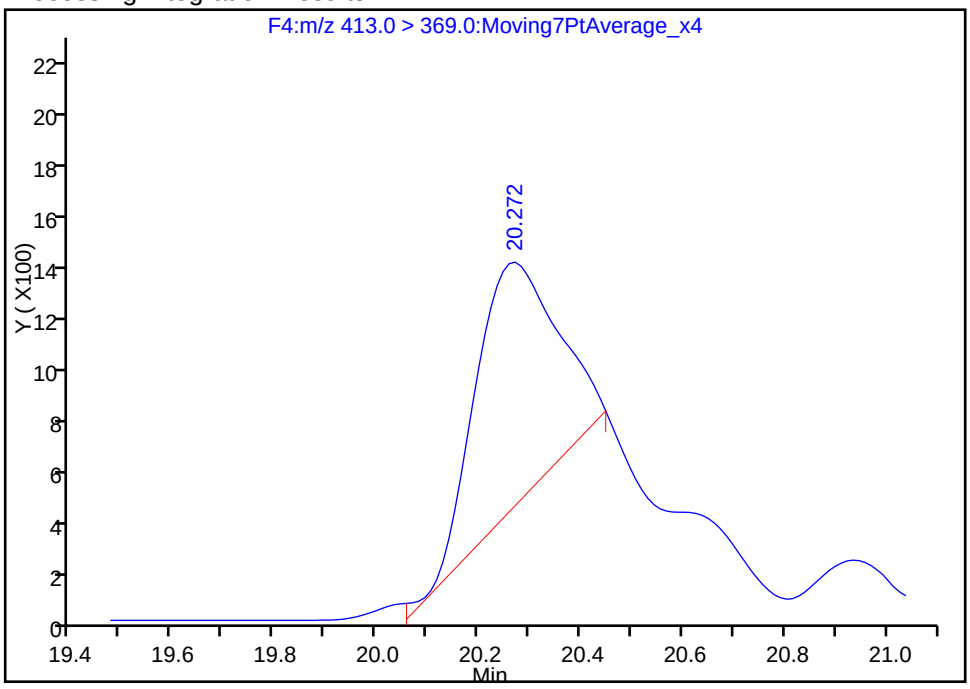
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_244.d				
Injection Date:	10-Dec-2016 17:12:21	Instrument ID:	A6		
Lims ID:	320-23928-A-21-A	Lab Sample ID:	320-23928-21		
Client ID:	WI-CV-3RW08-1116				
Operator ID:	CBW	ALS Bottle#:	15	Worklist Smp#:	69
Injection Vol:	10.0 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

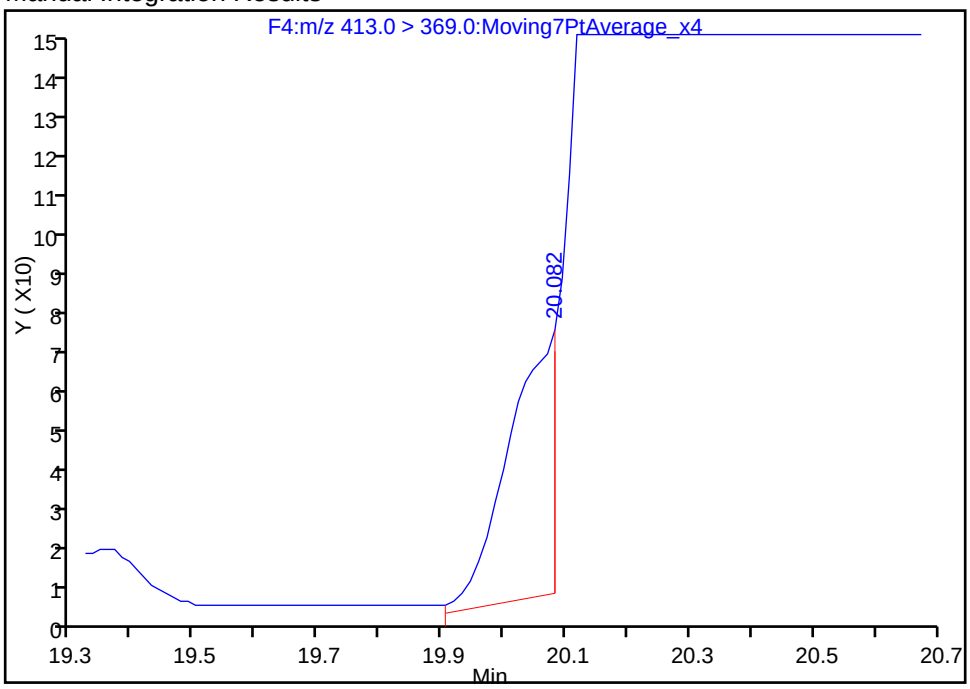
Processing Integration Results

RT: 20.27
Area: 10435
Amount: 0.155715
Amount Units: ng/ml



Manual Integration Results

RT: 20.08
Area: 333
Amount: 0.004969
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:54:46
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB08-1116 | Lab Sample ID: 320-23928-22

Matrix: Water | Lab File ID: 05DEC2016A6A_245.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:12

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 285.6(mL) | Date Analyzed: 12/10/2016 17:41

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	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	98		70-130
STL00996	13C2 PFDA	104		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_245.d
Lims ID: 320-23928-A-22-A
Client ID: WI-CV-3FB08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 17:41:58 ALS Bottle#: 16 Worklist Smp#: 70
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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 10:35:47 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 09:55:08

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	807242	9.81	25723	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.035	0.024		705259	10.0	18557	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.667	0.012		1918234	28.7	33329	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.489	0.018	1.000	643133	10.4	20361	

Report Date: 12-Dec-2016 10:35:51 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_245.d

Injection Date: 10-Dec-2016 17:41:58 Instrument ID: A6

Lims ID: 320-23928-A-22-A Lab Sample ID: 320-23928-22

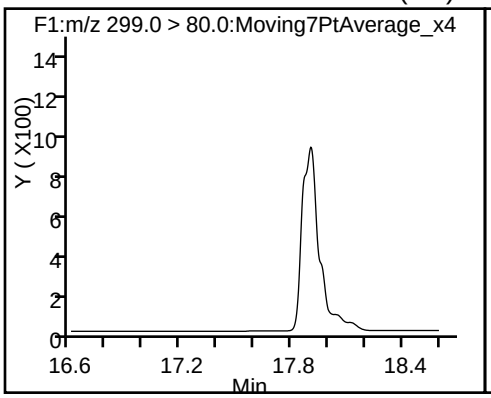
Client ID: WI-CV-3FB08-1116

Operator ID: CBW ALS Bottle#: 16 Worklist Smp#: 70

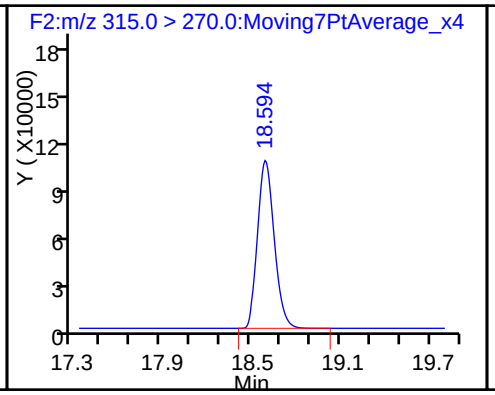
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

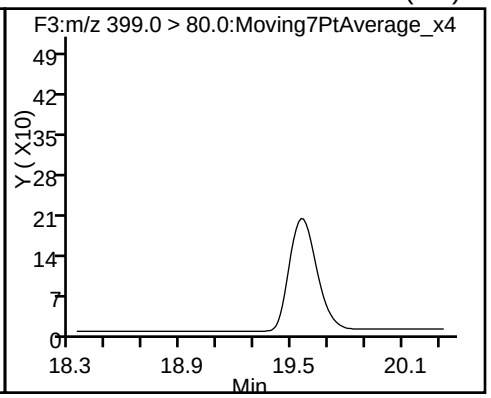
1 Perfluorobutanesulfonic acid (ND)



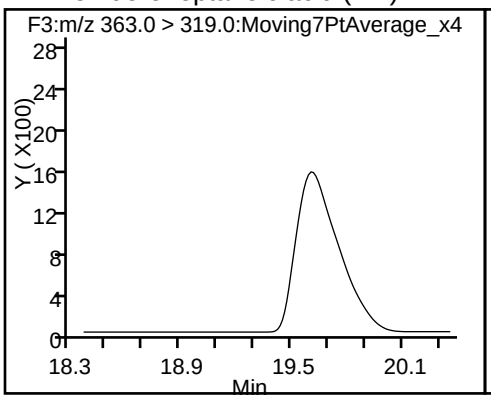
$ 2 13C2 PFHxA



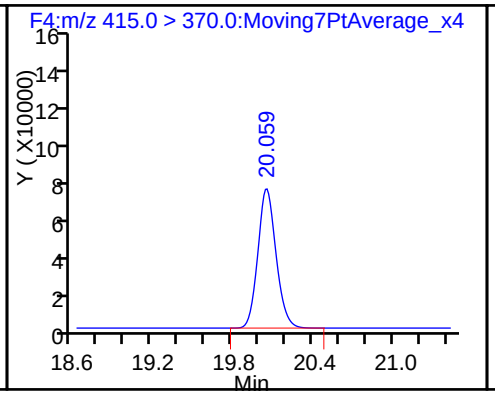
3 Perfluorohexanesulfonic acid (ND)



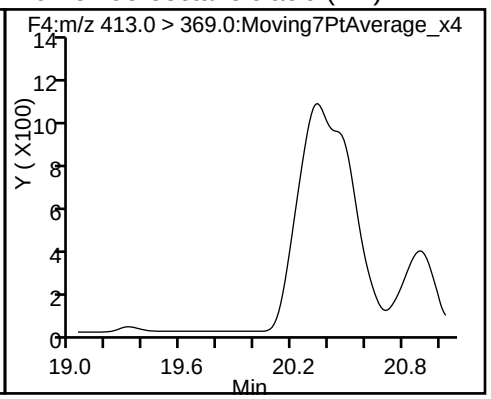
4 Perfluoroheptanoic acid (ND)



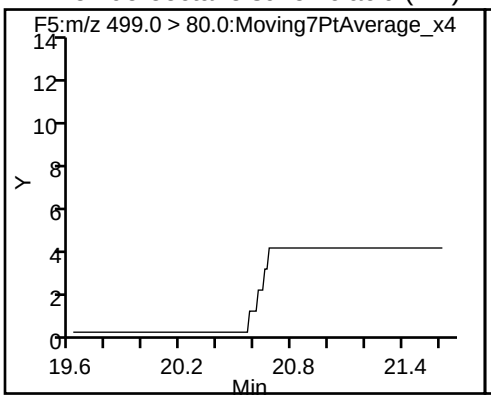
* 5 13C2-PFOA



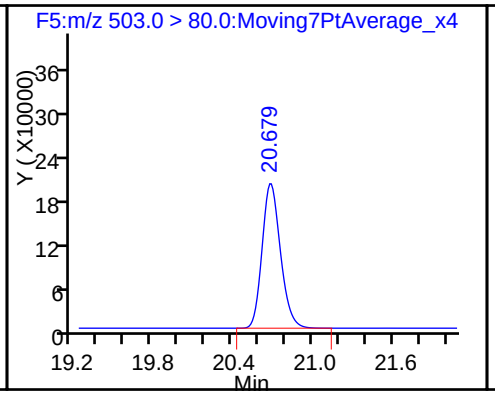
6 Perfluorooctanoic acid (ND)



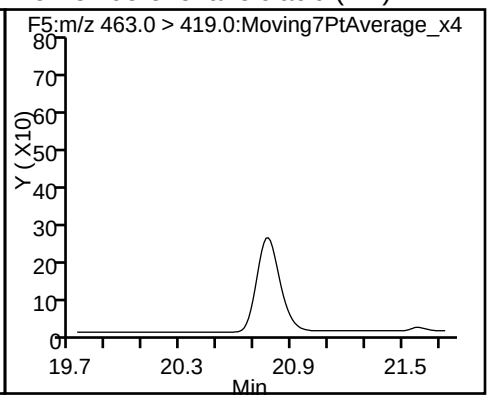
7 Perfluorooctane sulfonic acid (ND)



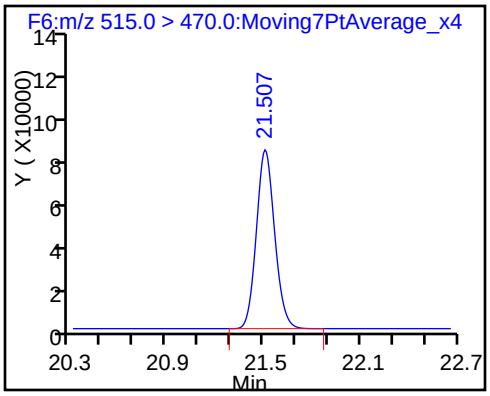
* 8 13C4 PFOS



9 Perfluorononanoic acid (ND)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_245.d
Lims ID: 320-23928-A-22-A
Client ID: WI-CV-3FB08-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 17:41:58 ALS Bottle#: 16 Worklist Smp#: 70
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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 10:35:47 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 09:55:08

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	9.81	98.12
$ 10 13C2 PFDA	10.0	10.4	104.07

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW09-1116 | Lab Sample ID: 320-23928-23

Matrix: Water | Lab File ID: 05DEC2016A6A_246.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:05

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 283.5(mL) | Date Analyzed: 12/10/2016 18:11

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	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	111		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_246.d
Lims ID: 320-23928-A-23-A
Client ID: WI-CV-3RW09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 18:11:35 ALS Bottle#: 17 Worklist Smp#: 71
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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

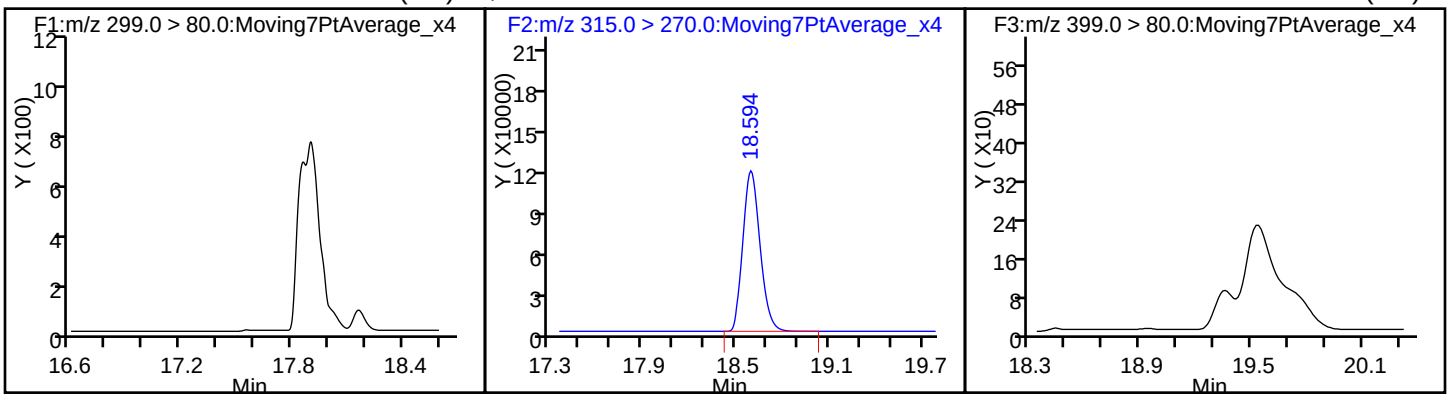
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 09:55:30

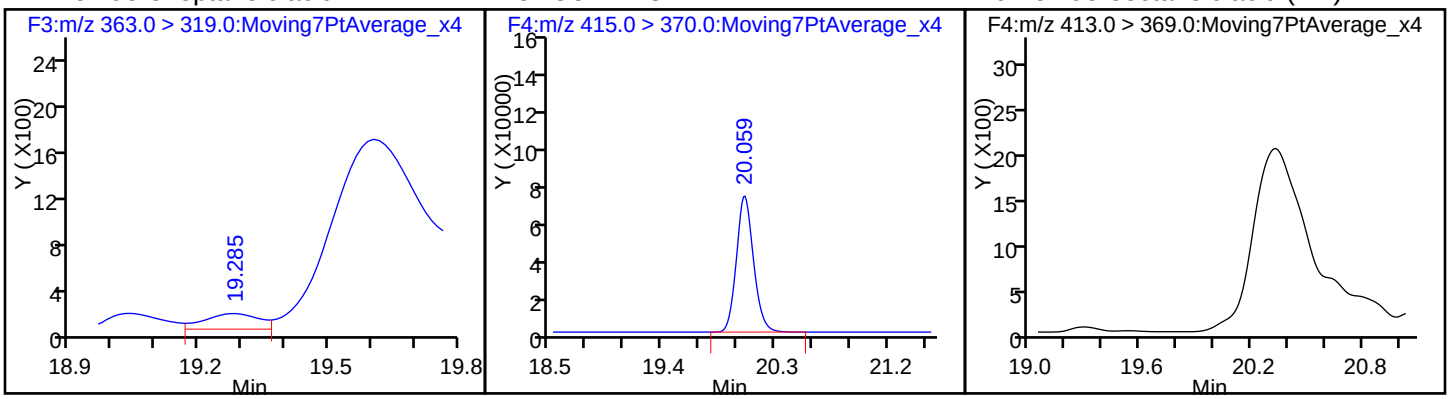
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	901006	11.1	29010	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.285	19.368	-0.083	1.000	1207	0.0143	0.6	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.035	0.024		694423	10.0	18142	
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.667	0.024		2026482	28.7	26612	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.738	0.024	1.000	15325	0.1946	71.0	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.489	0.018	1.000	642775	10.6	20230	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_246.d
Injection Date: 10-Dec-2016 18:11:35 Instrument ID: A6
Lims ID: 320-23928-A-23-A Lab Sample ID: 320-23928-23
Client ID: WI-CV-3RW09-1116
Operator ID: CBW ALS Bottle#: 17 Worklist Smp#: 71
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

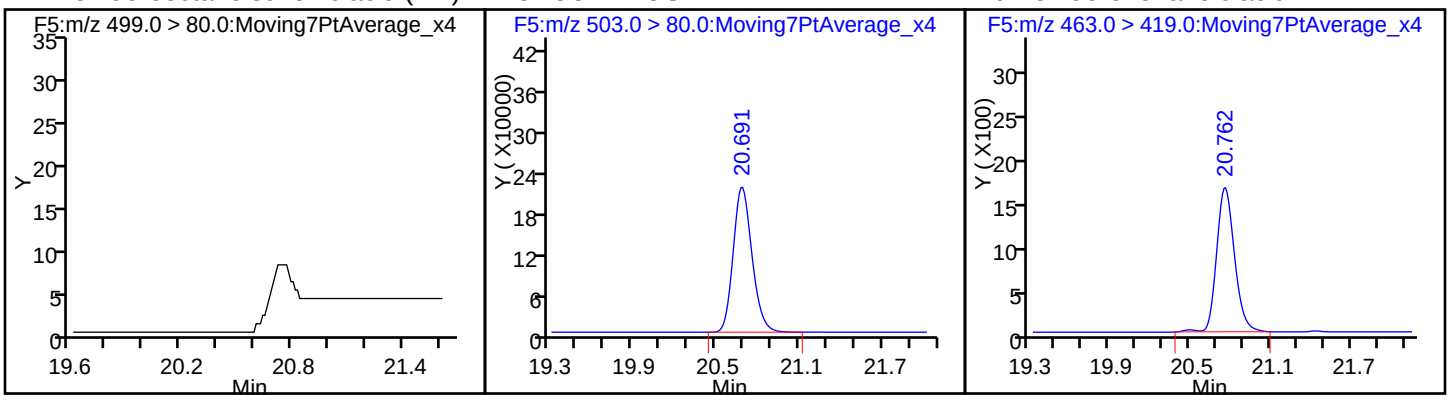
1 Perfluorobutanesulfonic acid (ND) $ 2 13C2 PFHxA 3 Perfluorohexanesulfonic acid (ND)



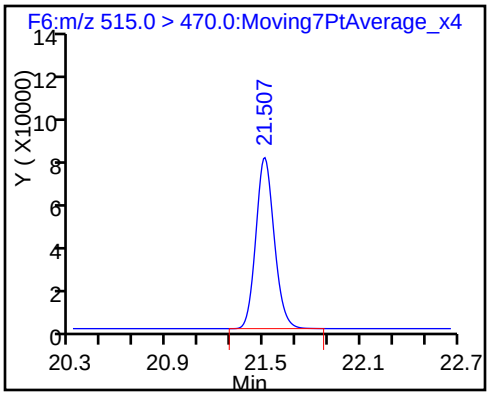
4 Perfluoroheptanoic acid * 5 13C2-PFOA 6 Perfluorooctanoic acid (ND)



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_246.d
Lims ID: 320-23928-A-23-A
Client ID: WI-CV-3RW09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 18:11:35 ALS Bottle#: 17 Worklist Smp#: 71
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:55:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.23
$ 10 13C2 PFDA	10.0	10.6	105.63

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-FB09-1116 | Lab Sample ID: 320-23928-24

Matrix: Water | Lab File ID: 05DEC2016A6A_247.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:06

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 281.6(mL) | Date Analyzed: 12/10/2016 18:41

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.: 141295 | 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	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.098	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_247.d
Lims ID: 320-23928-A-24-A
Client ID: WI-CV-FB09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 18:41:10 ALS Bottle#: 18 Worklist Smp#: 72
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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

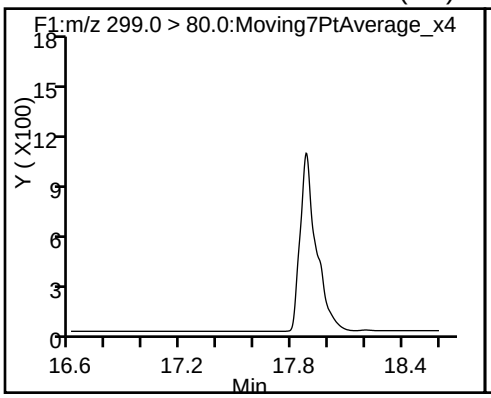
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 09:56:00

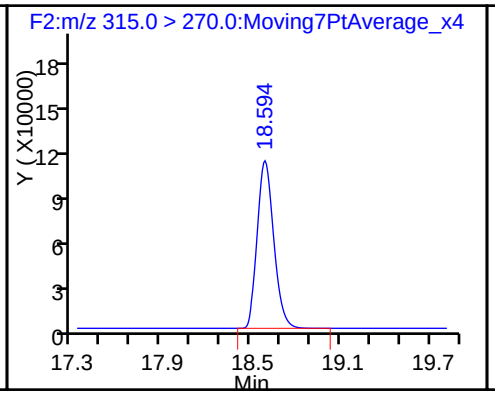
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	869138	10.8	27981	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		689861	10.0	17980	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.667	0.012		2002749	28.7	29911	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.738	0.024	1.000	6154	0.0786	110	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.489	0.018	1.000	639103	10.6	20065	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_247.d
Injection Date: 10-Dec-2016 18:41:10 Instrument ID: A6
Lims ID: 320-23928-A-24-A Lab Sample ID: 320-23928-24
Client ID: WI-CV-FB09-1116
Operator ID: CBW ALS Bottle#: 18 Worklist Smp#: 72
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

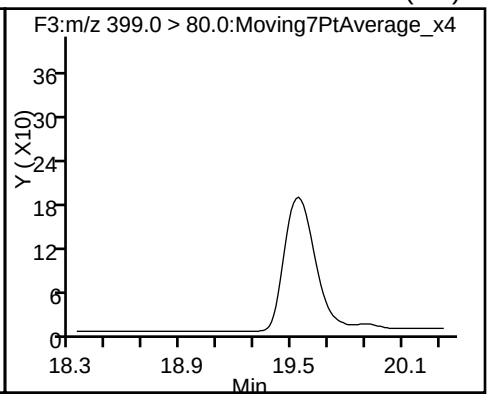
1 Perfluorobutanesulfonic acid (ND)



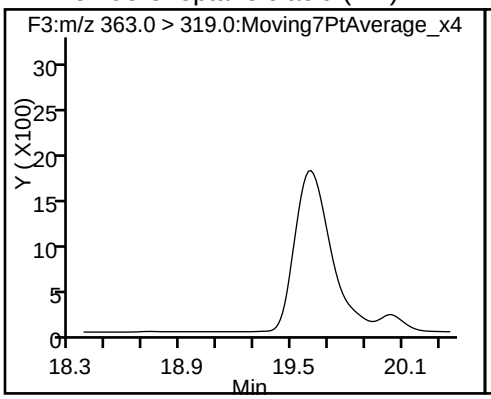
$ 2 13C2 PFHxA



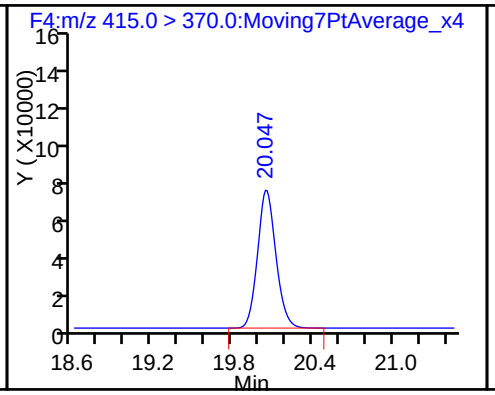
3 Perfluorohexanesulfonic acid (ND)



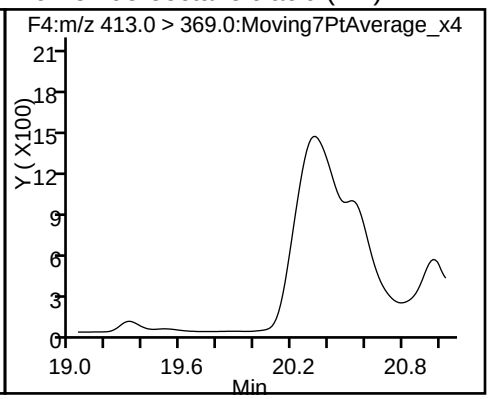
4 Perfluoroheptanoic acid (ND)



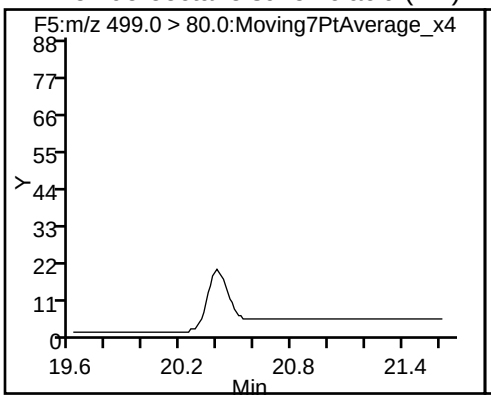
* 5 13C2-PFOA



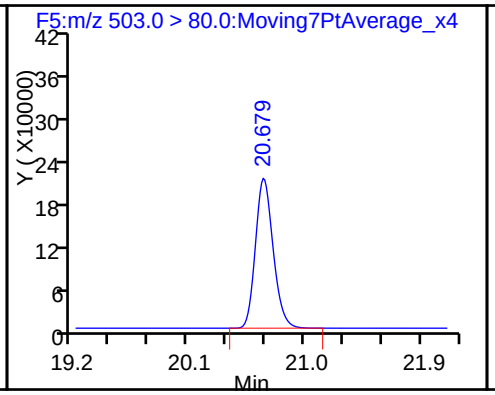
6 Perfluorooctanoic acid (ND)



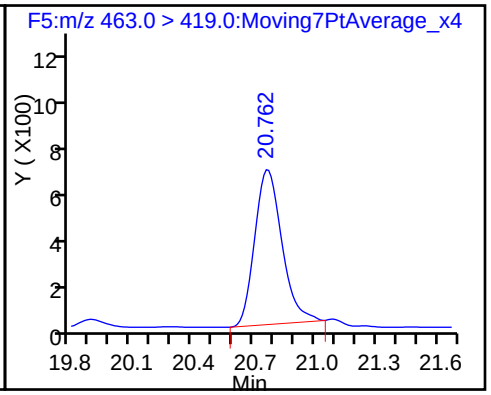
7 Perfluorooctane sulfonic acid (ND)



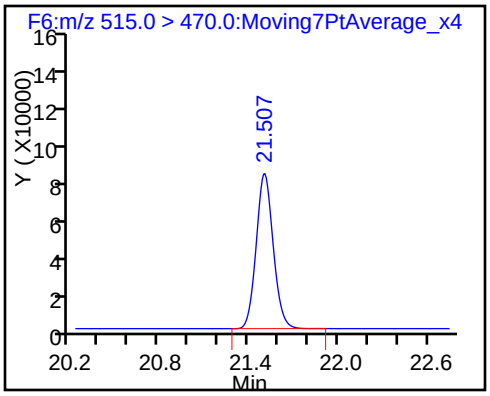
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_247.d
Lims ID: 320-23928-A-24-A
Client ID: WI-CV-FB09-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 18:41:10 ALS Bottle#: 18 Worklist Smp#: 72
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:56:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.8	108.00
$ 10 13C2 PFDA	10.0	10.6	105.72

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW10-1116 | Lab Sample ID: 320-23928-25

Matrix: Water | Lab File ID: 05DEC2016A6A_248.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:10

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 280.4(mL) | Date Analyzed: 12/10/2016 19:10

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.053	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.13	J	0.027	0.021	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.12	0.098	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	114		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_248.d
Lims ID: 320-23928-A-25-A
Client ID: WI-CV-3RW10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 19:10:46 ALS Bottle#: 19 Worklist Smp#: 73
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:56:48

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.602	0.016	1.000	1039664	21.2	317	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	846095	11.1	26749	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.332	0.012	1.000	1134629	18.1	22658	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.368	0.012	1.000	434572	5.47	3089	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.035	0.024		653460	10.0	17066	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.059	20.035	0.024	1.000	2552426	37.5	873	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.418	20.619	-0.201	1.000	37315	0.5111	709	M
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.667	0.024		2005583	28.7	29871	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.738	0.024	1.000	10715	0.1446	291	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.489	0.018	1.000	651969	11.4	20418	

QC Flag Legend

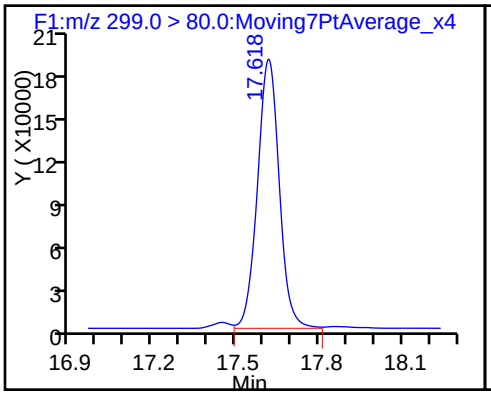
Review Flags
M - Manually Integrated

TestAmerica Sacramento

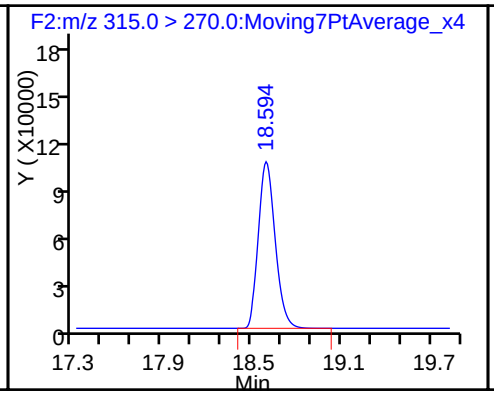
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_248.d

Injection Date:	10-Dec-2016 19:10:46	Instrument ID:	A6		
Lims ID:	320-23928-A-25-A	Lab Sample ID:	320-23928-25		
Client ID:	WI-CV-3RW10-1116				
Operator ID:	CBW	ALS Bottle#:	19	Worklist Smp#:	73
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

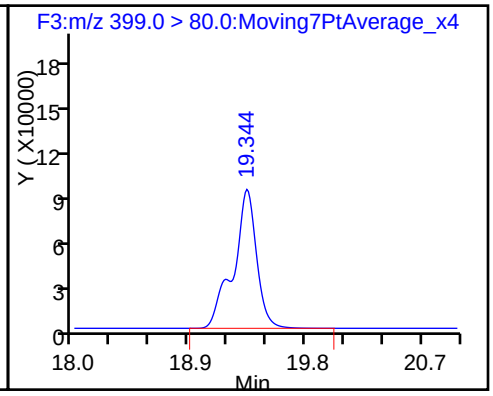
1 Perfluorobutanesulfonic acid



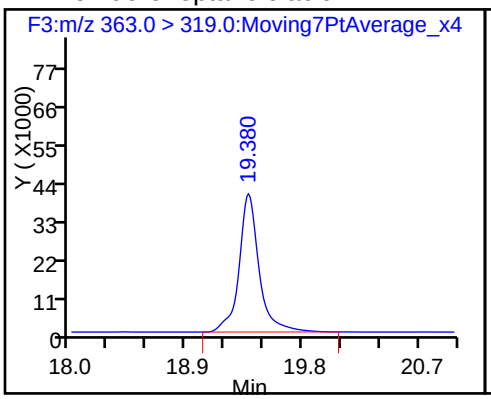
$ 2 13C2 PFHxA



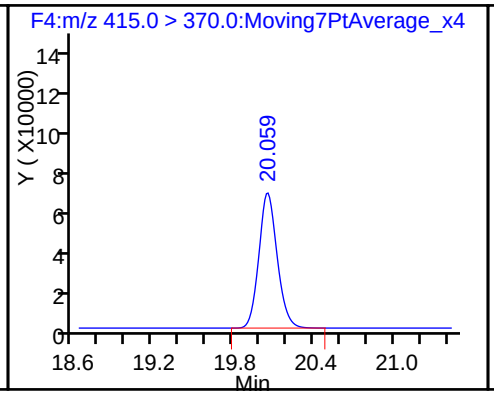
3 Perfluorohexanesulfonic acid



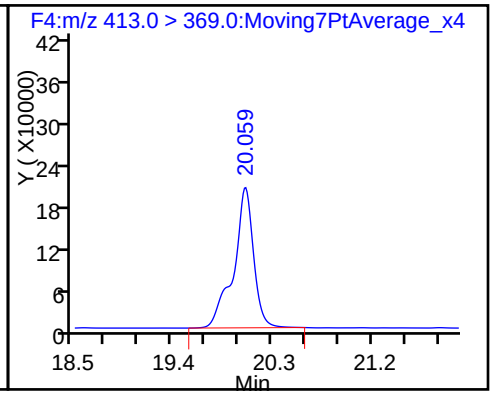
4 Perfluoroheptanoic acid



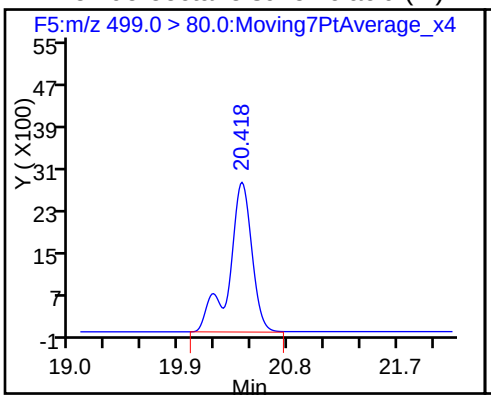
* 5 13C2-PFOA



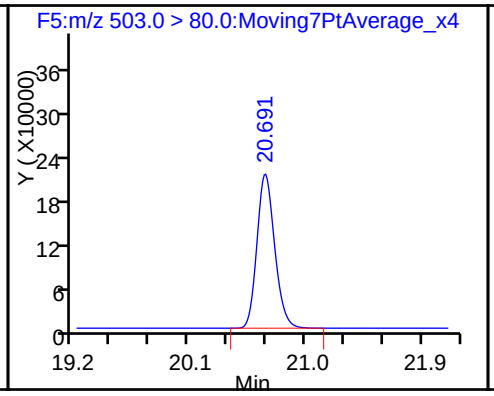
6 Perfluorooctanoic acid



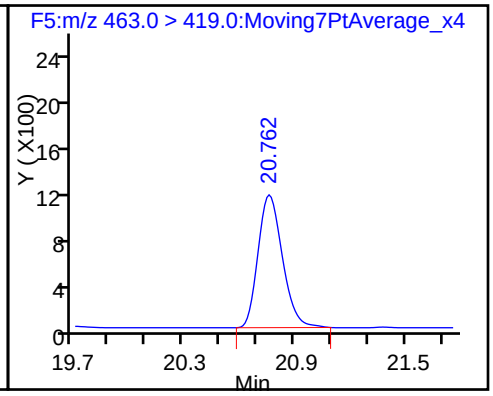
7 Perfluorooctane sulfonic acid (M)



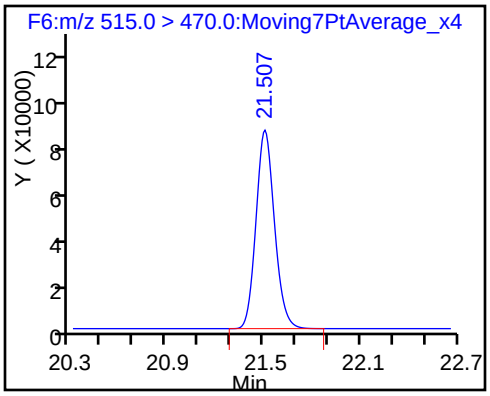
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_248.d
Lims ID: 320-23928-A-25-A
Client ID: WI-CV-3RW10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 19:10:46 ALS Bottle#: 19 Worklist Smp#: 73
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:56:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	111.00
$ 10 13C2 PFDA	10.0	11.4	113.86

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

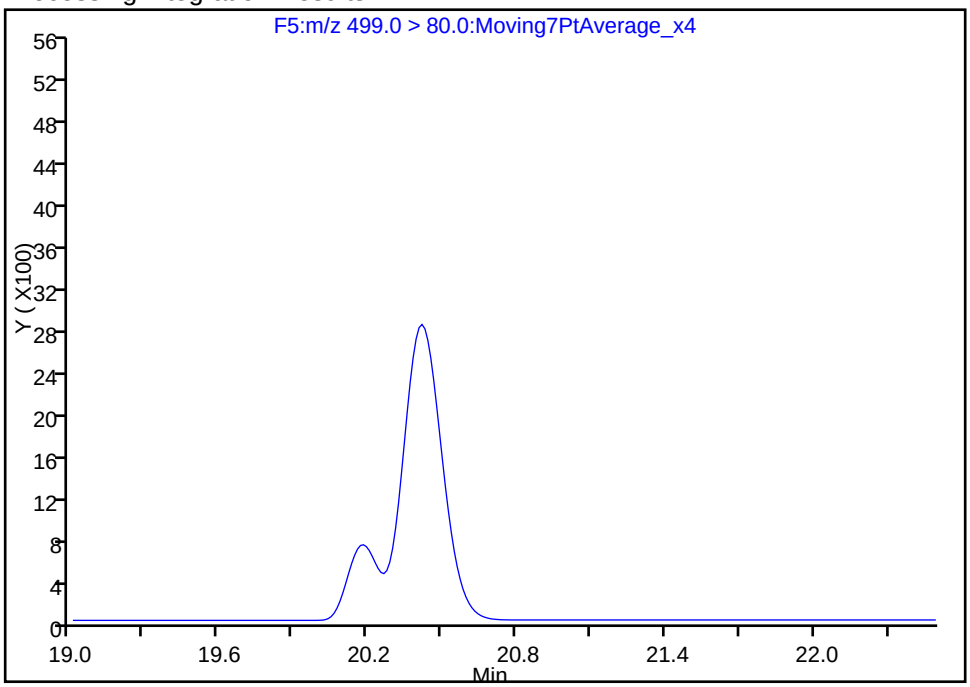
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_248.d				
Injection Date:	10-Dec-2016 19:10:46	Instrument ID:	A6		
Lims ID:	320-23928-A-25-A	Lab Sample ID:	320-23928-25		
Client ID:	WI-CV-3RW10-1116				
Operator ID:	CBW	ALS Bottle#:	19	Worklist Smp#:	73
Injection Vol:	10.0 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

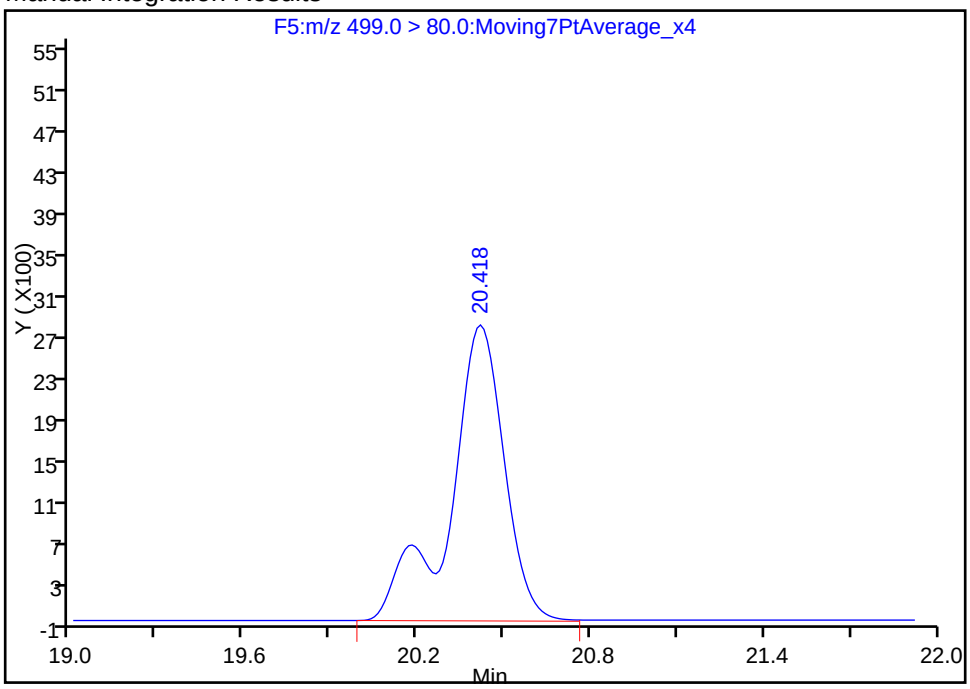
Processing Integration Results

Not Detected
Expected RT: 20.62



Manual Integration Results

RT: 20.42
Area: 37315
Amount: 0.511124
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:56:48
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB10-1116 | Lab Sample ID: 320-23928-26

Matrix: Water | Lab File ID: 05DEC2016A6A_251.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:12

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 282.2(mL) | Date Analyzed: 12/10/2016 20:39

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.: 141295 | 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 M	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	113		70-130
STL00996	13C2 PFDA	107		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_251.d
Lims ID: 320-23928-A-26-A
Client ID: WI-CV-3FB10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 20:39:33 ALS Bottle#: 22 Worklist Smp#: 76
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:58:32

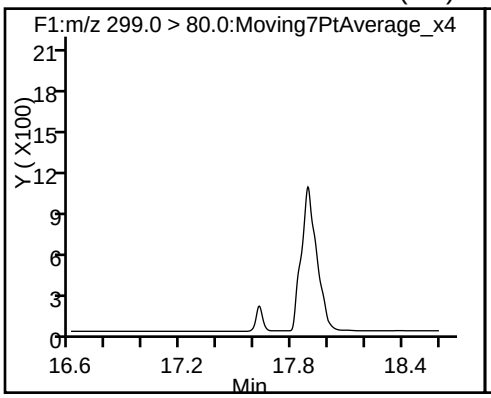
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	937543	11.3	30222	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.035	0.023		711218	10.0	18795	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.106	20.035	0.071	1.000	1120	0.0151	0.5	M
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.667	0.023		1981133	28.7	51822	
9 Perfluorononanoic acid								
463.0 > 419.0	20.761	20.738	0.023	1.000	10578	0.1311	298	
$ 10 13C2 PFDA								
515.0 > 470.0	21.506	21.489	0.017	1.000	664938	10.7	20963	

QC Flag Legend

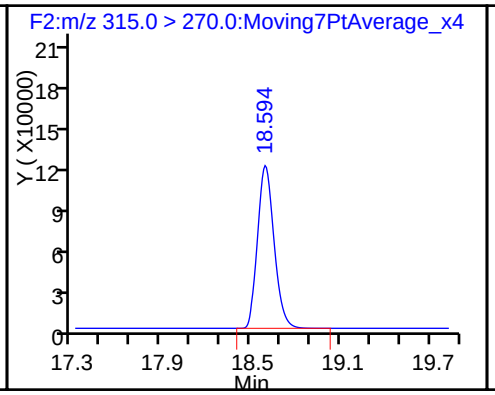
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_251.d
Injection Date: 10-Dec-2016 20:39:33 Instrument ID: A6
Lims ID: 320-23928-A-26-A Lab Sample ID: 320-23928-26
Client ID: WI-CV-3FB10-1116
Operator ID: CBW ALS Bottle#: 22 Worklist Smp#: 76
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

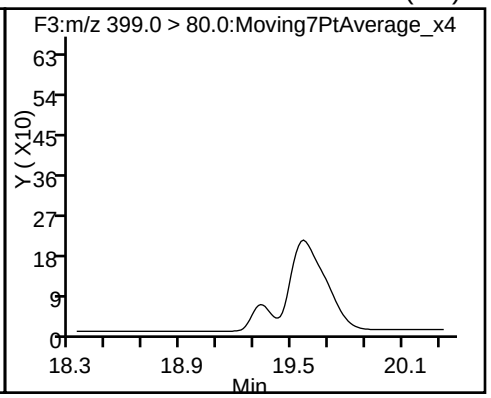
1 Perfluorobutanesulfonic acid (ND)



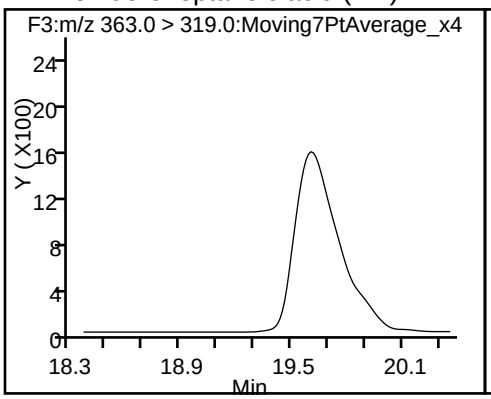
$ 2 13C2 PFHxA



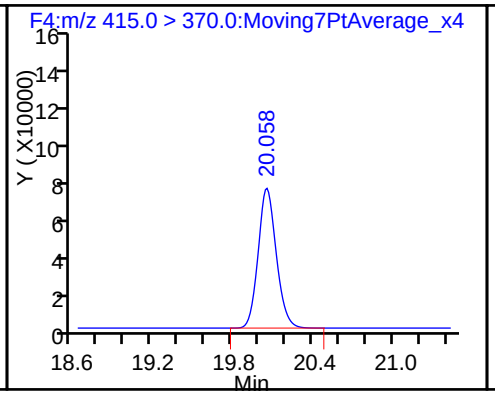
3 Perfluorohexanesulfonic acid (ND)



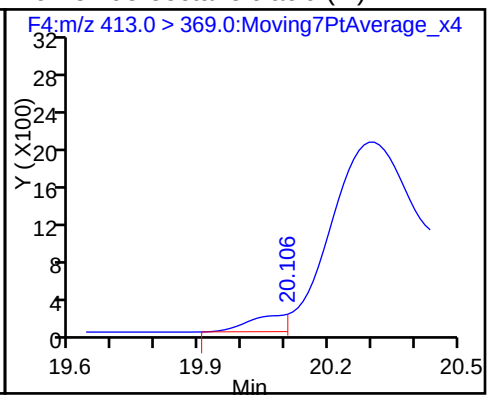
4 Perfluoroheptanoic acid (ND)



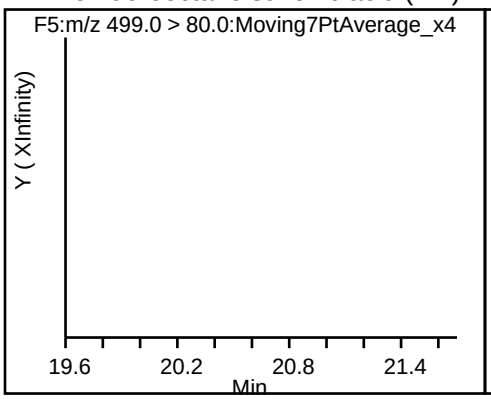
* 5 13C2-PFOA



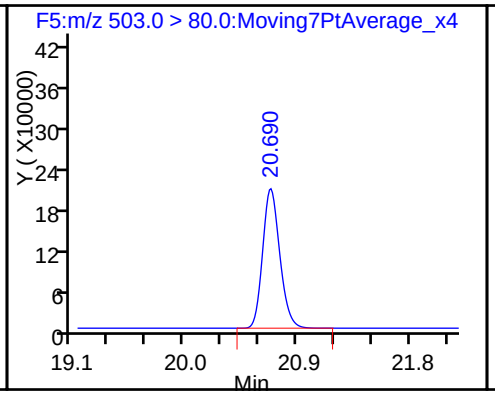
6 Perfluorooctanoic acid (M)



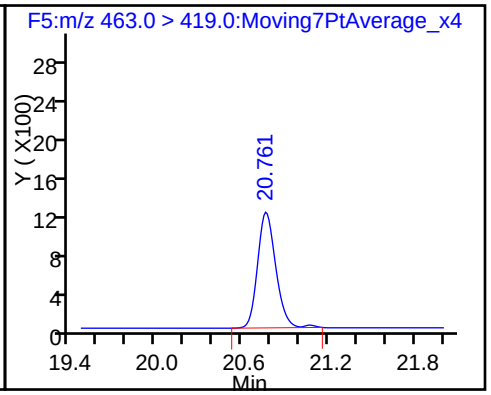
7 Perfluorooctane sulfonic acid (ND)



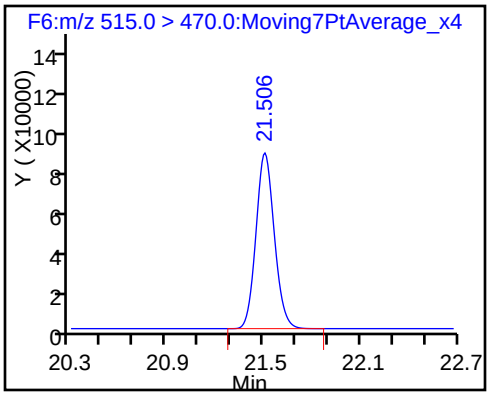
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_251.d
Lims ID: 320-23928-A-26-A
Client ID: WI-CV-3FB10-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 20:39:33 ALS Bottle#: 22 Worklist Smp#: 76
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:35:47 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 09:58:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.3	113.00
$ 10 13C2 PFDA	10.0	10.7	106.69

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

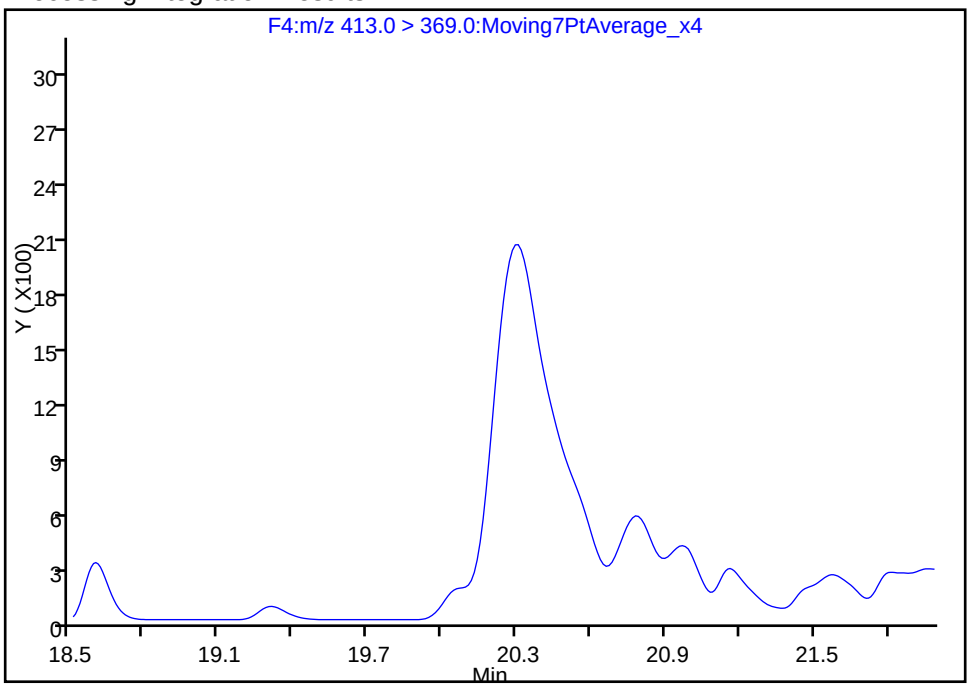
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_251.d				
Injection Date:	10-Dec-2016 20:39:33	Instrument ID:	A6		
Lims ID:	320-23928-A-26-A	Lab Sample ID:	320-23928-26		
Client ID:	WI-CV-3FB10-1116				
Operator ID:	CBW	ALS Bottle#:	22	Worklist Smp#:	76
Injection Vol:	10.0 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

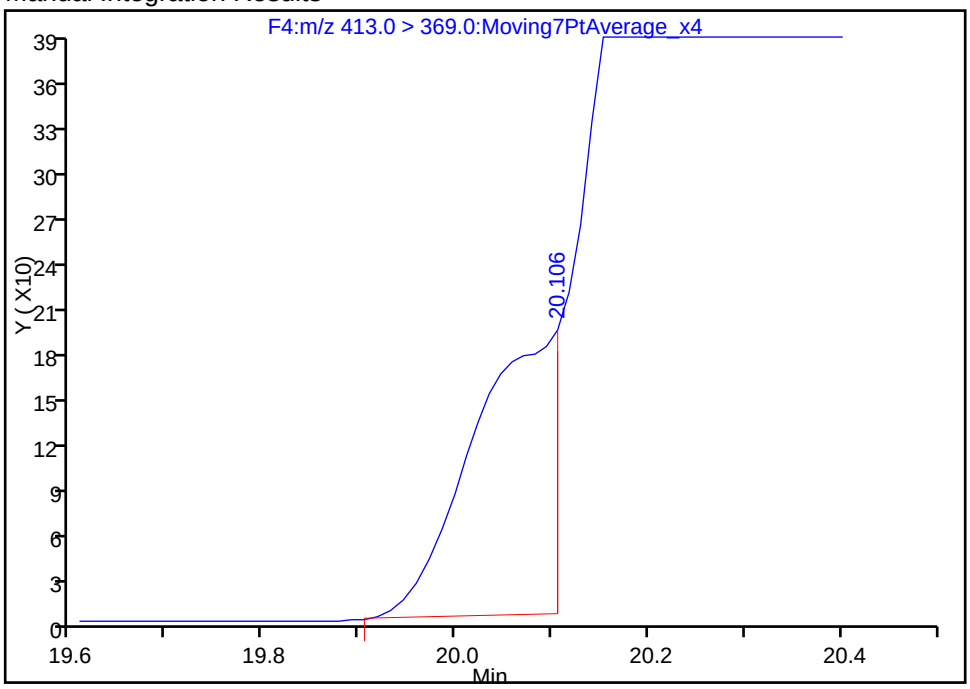
Not Detected
Expected RT: 20.03

Processing Integration Results



Manual Integration Results

RT: 20.11
Area: 1120
Amount: 0.015136
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:58:32
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 | Lab Sample ID: 320-23928-27

Matrix: Water | Lab File ID: 05DEC2016A6A_259.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:35

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 279.3(mL) | Date Analyzed: 12/11/2016 00:36

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.: 141475 | 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)*	*0.62*	*J E*	*0.027*	0.021	*0.0084*
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.052	J	0.13	0.098	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	123		70-130
STL00996	13C2 PFDA	131	Q	70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_259.d
Lims ID: 320-23928-A-27-A
Client ID: WI-CV-3RW11-1116
Sample Type: Client
Inject. Date: 11-Dec-2016 00:36:28 ALS Bottle#: 27 Worklist Smp#: 84
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-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: 12-Dec-2016 10:36:14 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 10:24:06

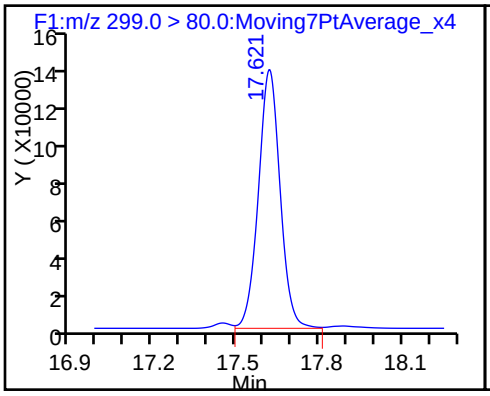
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.618	0.003	1.000	765528	14.6	301	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	912466	12.3	28634	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.344	0.012	1.000	1504124	22.5	29948	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.392	19.380	0.012	1.000	886619	11.5	215	M
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.058	0.012		633993	10.0	16542	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.070	20.058	0.012	1.000	11482866	174.1	3227	E
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.418	20.430	-0.012	1.000	22908	0.2943	398	M
* 8 13C4 PFOS								
503.0 > 80.0	20.702	20.690	0.012		2138085	28.7	24845	
9 Perfluorononanoic acid								
463.0 > 419.0	20.774	20.773	0.001	1.000	11073	0.1540	416	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.506	0.001	1.000	727652	13.1	22815	

QC Flag Legend

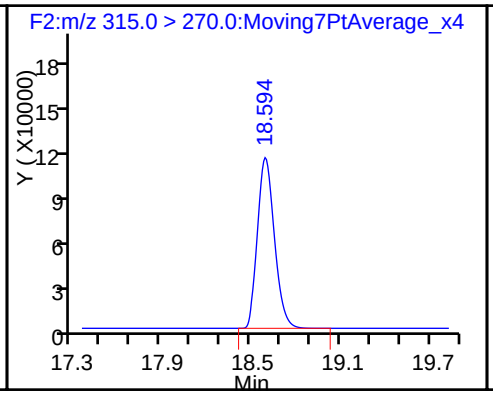
Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_259.d
Injection Date: 11-Dec-2016 00:36:28 Instrument ID: A6
Lims ID: 320-23928-A-27-A Lab Sample ID: 320-23928-27
Client ID: WI-CV-3RW11-1116
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 84
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

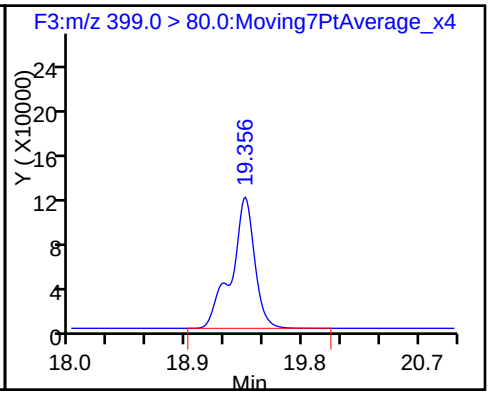
1 Perfluorobutanesulfonic acid



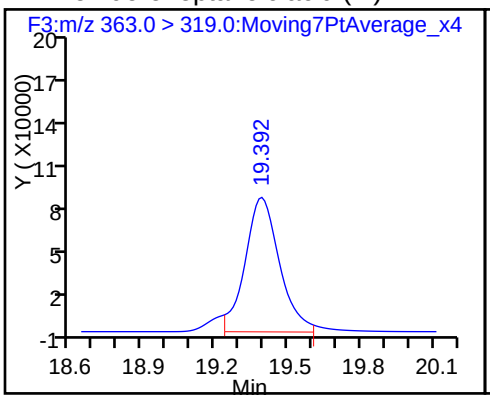
$ 2 13C2 PFHxA



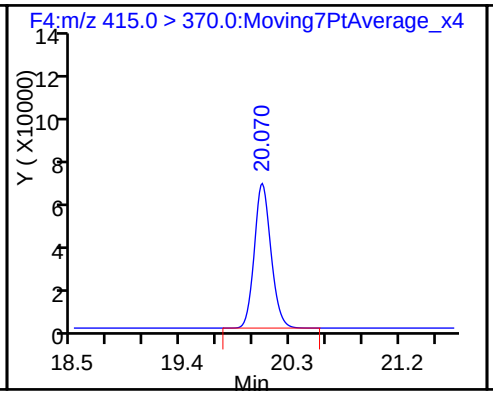
3 Perfluorohexanesulfonic acid



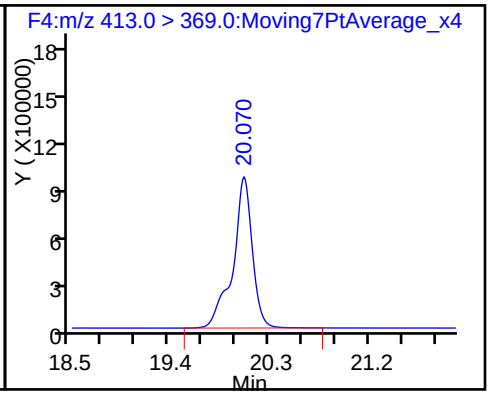
4 Perfluoroheptanoic acid (M)



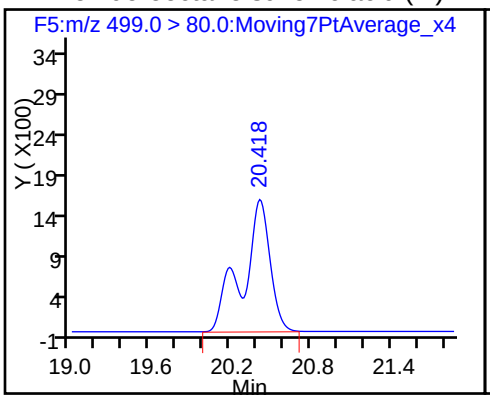
* 5 13C2-PFOA



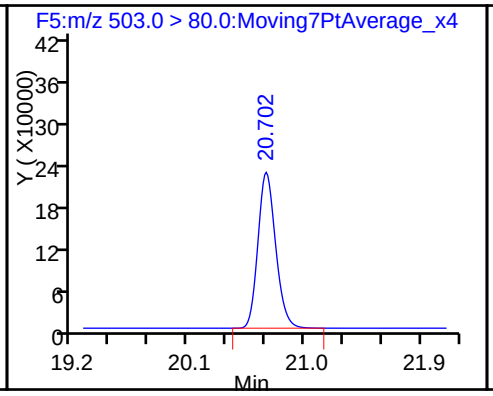
6 Perfluorooctanoic acid



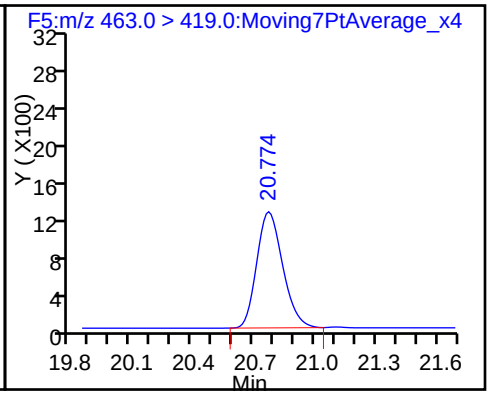
7 Perfluorooctane sulfonic acid (M)



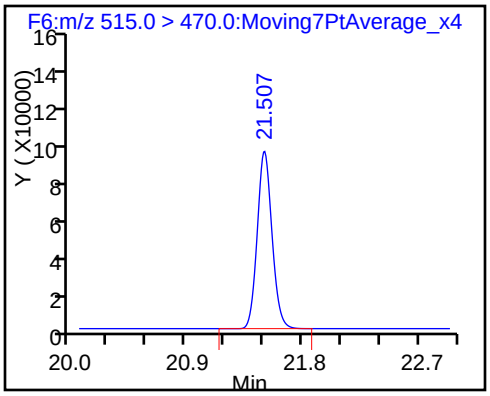
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_259.d				
Lims ID:	320-23928-A-27-A				
Client ID:	WI-CV-3RW11-1116				
Sample Type:	Client				
Inject. Date:	11-Dec-2016 00:36:28	ALS Bottle#:	27	Worklist Smp#:	84
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Sample Info:	320-23928-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:	12-Dec-2016 10:36:14	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 10:24:06		

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.3	123.38
$ 10 13C2 PFDA	10.0	13.1	130.98

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

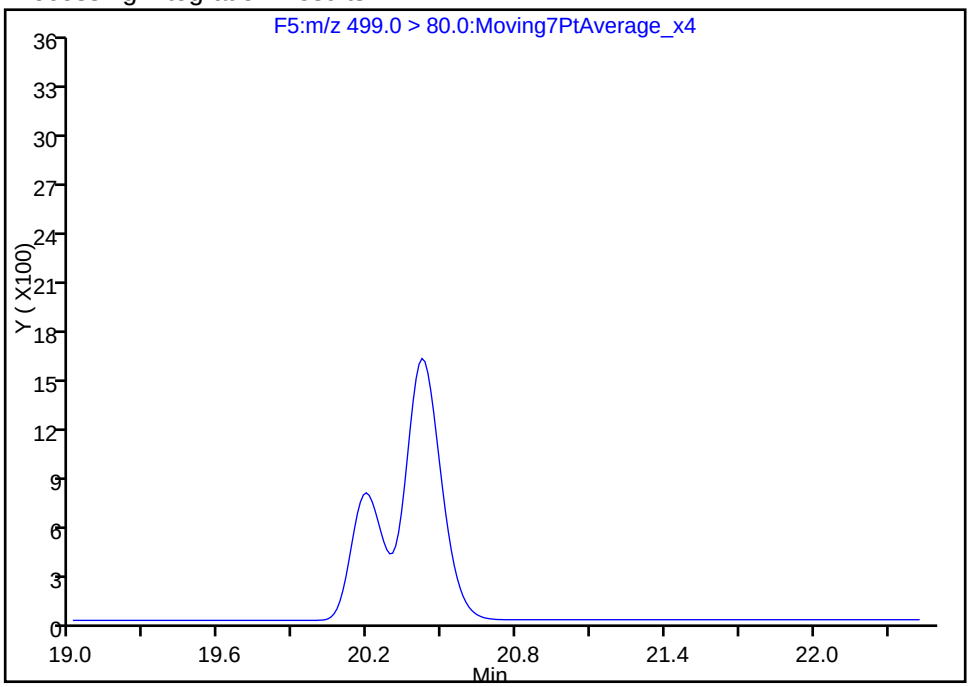
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_259.d				
Injection Date:	11-Dec-2016 00:36:28	Instrument ID:	A6		
Lims ID:	320-23928-A-27-A	Lab Sample ID:	320-23928-27		
Client ID:	WI-CV-3RW11-1116				
Operator ID:	CBW	ALS Bottle#:	27	Worklist Smp#:	84
Injection Vol:	10.0 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

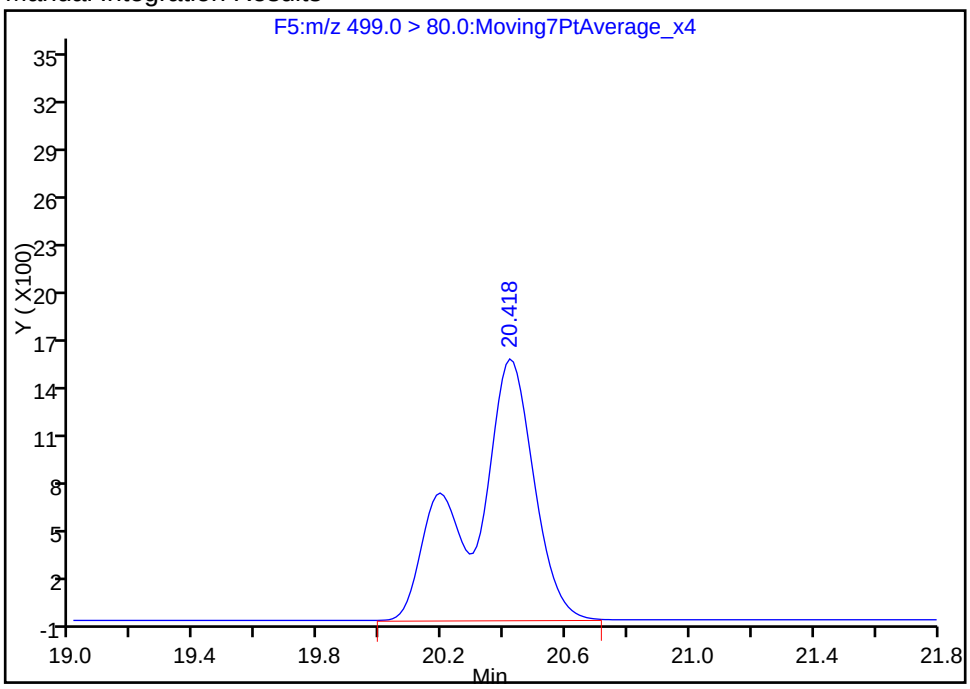
Not Detected
Expected RT: 20.43

Processing Integration Results



Manual Integration Results

RT: 20.42
Area: 22908
Amount: 0.294338
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 10:24:06
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 DL | Lab Sample ID: 320-23928-27 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_256.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:35

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 279.3(mL) | Date Analyzed: 12/10/2016 23:07

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 10

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141475 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.43*	*U M*	*0.54*	0.43	*0.14*
335-67-1	Perfluorooctanoic acid (PFOA)	0.59	J D	0.27	0.21	0.084
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.98*	*U*	*1.3*	0.98	*0.43*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	103		70-130
STL00996	13C2 PFDA	89		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_256.d
Lims ID: 320-23928-A-27-A
Client ID: WI-CV-3RW11-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 23:07:39 ALS Bottle#: 24 Worklist Smp#: 81
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 320-23928-A-27-A 10X
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 10:36:14 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 10:21:18

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.615	17.618	-0.003	1.000	69544	1.22	84.0	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	99258	1.03	3167	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	158369	2.17	3311	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.391	19.380	0.011	1.000	99416	0.9879	48.5	M
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		82819	1.00	2174	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	1415697	16.4	529	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.430	20.430	0.0	1.000	455	0.005354	8.0	M
* 8 13C4 PFOS								s
503.0 > 80.0	20.690	20.690	0.0		233449	2.87	6114	
$ 10 13C2 PFDA								
515.0 > 470.0	21.507	21.506	0.001	1.000	64854	0.8936	2141	

QC Flag Legend

Processing Flags
s - Failed ISTD Recovery Test
Review Flags
M - Manually Integrated

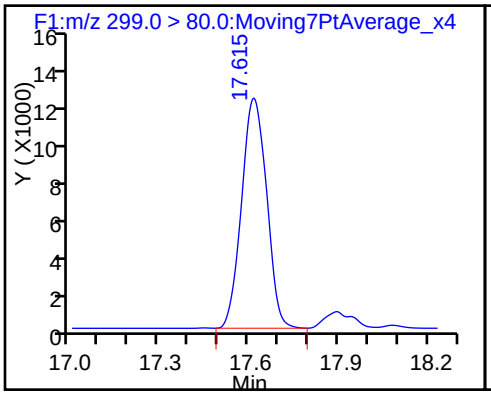
Report Date: 12-Dec-2016 10:36:18 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

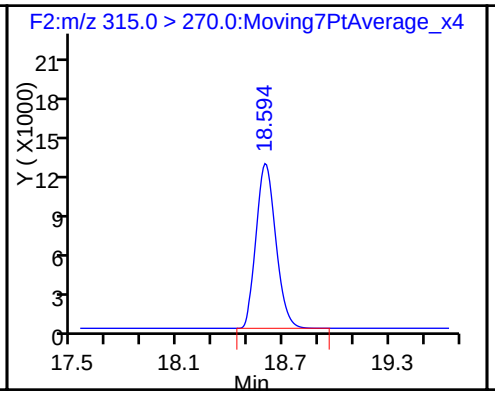
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_256.d

Injection Date:	10-Dec-2016 23:07:39	Instrument ID:	A6		
Lims ID:	320-23928-A-27-A	Lab Sample ID:	320-23928-27		
Client ID:	WI-CV-3RW11-1116				
Operator ID:	CBW	ALS Bottle#:	24	Worklist Smp#:	81
Injection Vol:	10.0 ul	Dil. Factor:	10.0000		
Method:	537__A6	Limit Group:	LC 537 ICAL		

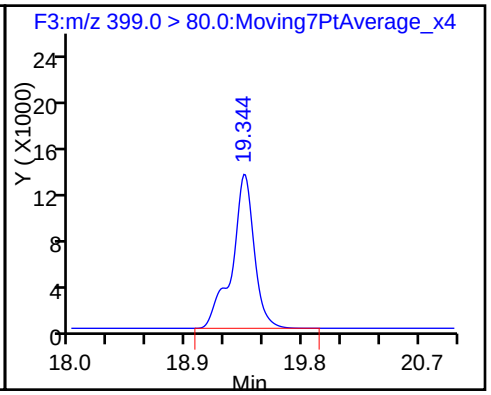
1 Perfluorobutanesulfonic acid



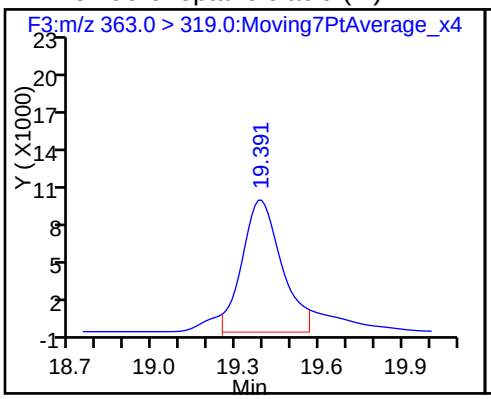
$ 2 13C2 PFHxA



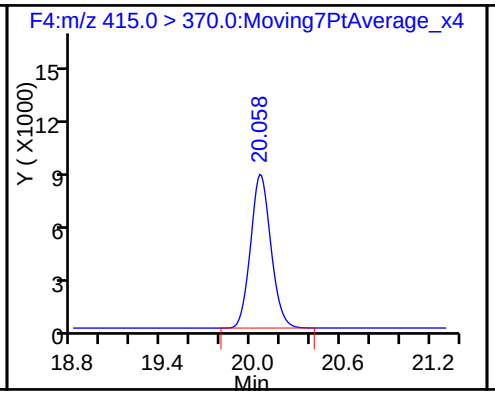
3 Perfluorohexanesulfonic acid



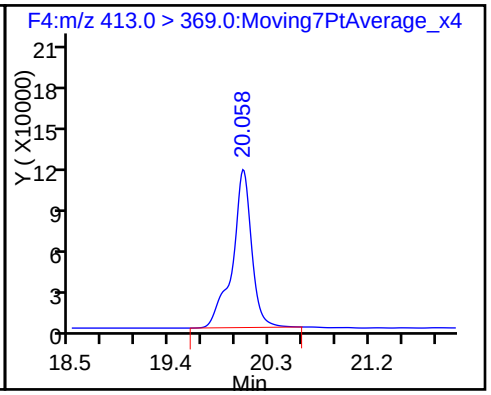
4 Perfluoroheptanoic acid (M)



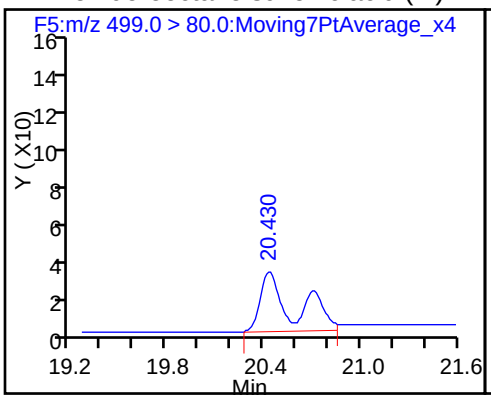
* 5 13C2-PFOA



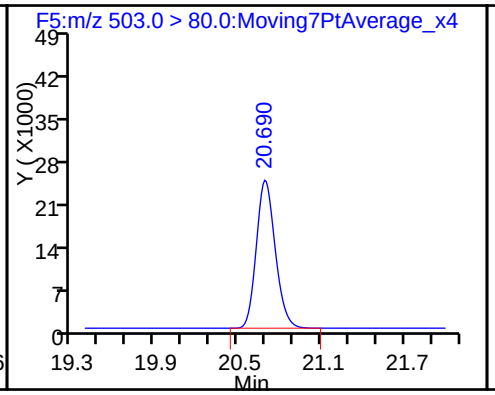
6 Perfluorooctanoic acid



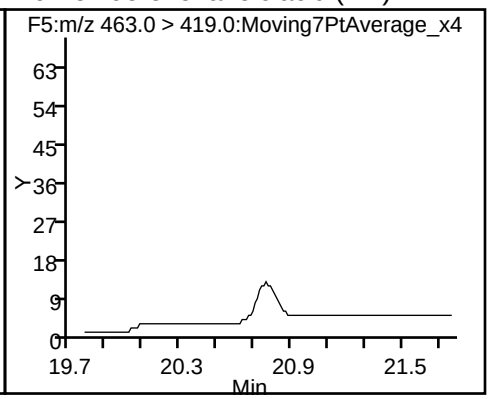
7 Perfluorooctane sulfonic acid (M)



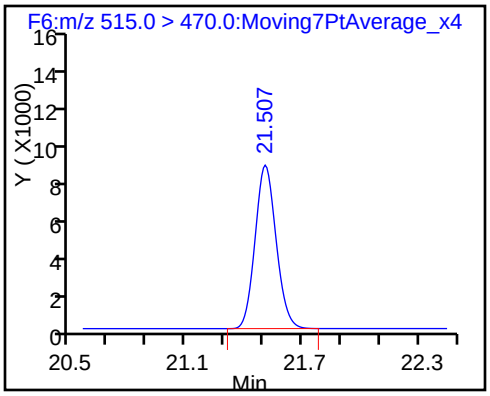
* 8 13C4 PFOS



9 Perfluorononanoic acid (ND)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_256.d
Lims ID: 320-23928-A-27-A
Client ID: WI-CV-3RW11-1116
Sample Type: Client
Inject. Date: 10-Dec-2016 23:07:39 ALS Bottle#: 24 Worklist Smp#: 81
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 320-23928-A-27-A 10X
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 10:36:14 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 10:21:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	1.03	102.74
$ 10 13C2 PFDA	10.0	0.8936	89.36

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

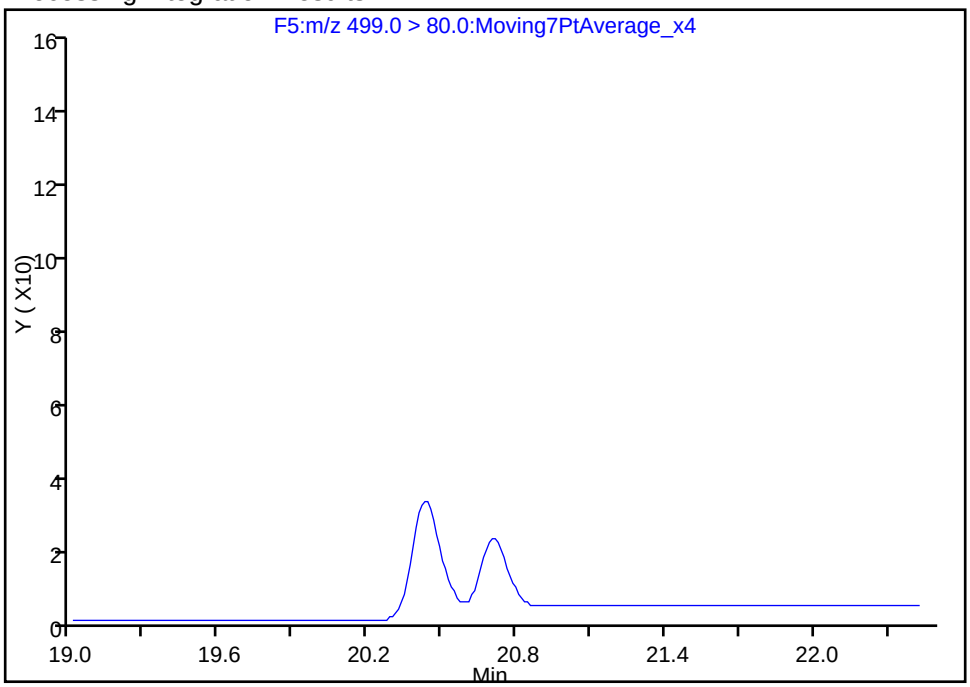
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_256.d				
Injection Date:	10-Dec-2016 23:07:39	Instrument ID:	A6		
Lims ID:	320-23928-A-27-A	Lab Sample ID:	320-23928-27		
Client ID:	WI-CV-3RW11-1116				
Operator ID:	CBW	ALS Bottle#:	24	Worklist Smp#:	81
Injection Vol:	10.0 ul	Dil. Factor:	10.0000		
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

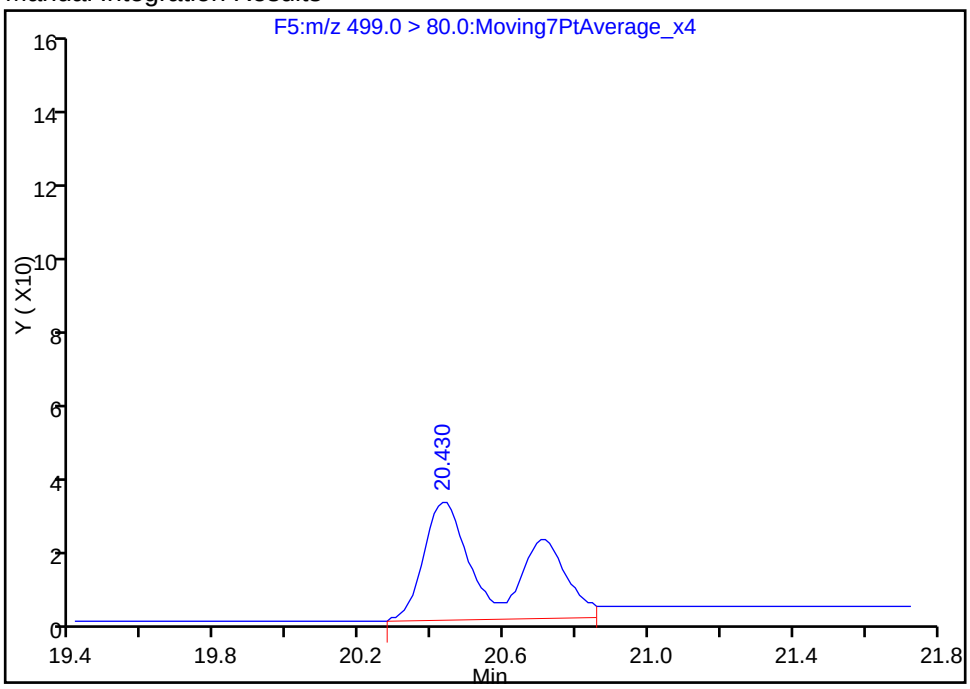
Not Detected
Expected RT: 20.43

Processing Integration Results



Manual Integration Results

RT: 20.43
Area: 455
Amount: 0.005354
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 10:21:18
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB11-1116 | Lab Sample ID: 320-23928-28

Matrix: Water | Lab File ID: 11DEC2016A6A_064.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:36

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 273.7(mL) | Date Analyzed: 12/12/2016 18:08

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.: 141758 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.022	0.0086
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	115		70-130
STL00996	13C2 PFDA	123		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_064.d
Lims ID: 320-23928-A-28-A
Client ID: WI-CV-3FB11-1116
Sample Type: Client
Inject. Date: 12-Dec-2016 18:08:07 ALS Bottle#: 2 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-28-A
Misc. Info.: Acquity BEH 1.7um, 3X150mm T=35*C
Operator ID: CBW Instrument ID: A6

Method: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 13-Dec-2016 10:29:54 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

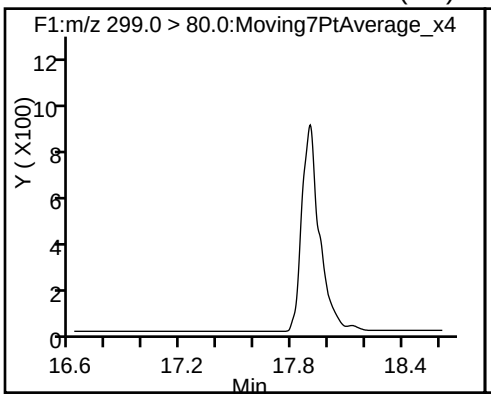
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK022

First Level Reviewer: barnettj Date: 13-Dec-2016 10:25:19

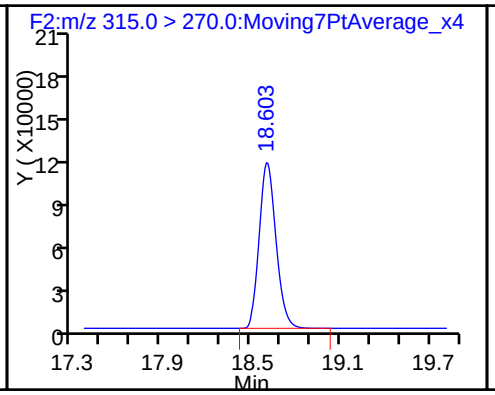
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.603	18.594	0.009	1.000	903817	11.5	28610	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		672514	10.0	17412	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		2099066	28.7	54544	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.750	-0.012	1.000	4996	0.0655	111	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	722927	12.3	22828	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_064.d
Injection Date: 12-Dec-2016 18:08:07 Instrument ID: A6
Lims ID: 320-23928-A-28-A Lab Sample ID: 320-23928-28
Client ID: WI-CV-3FB11-1116
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 63
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

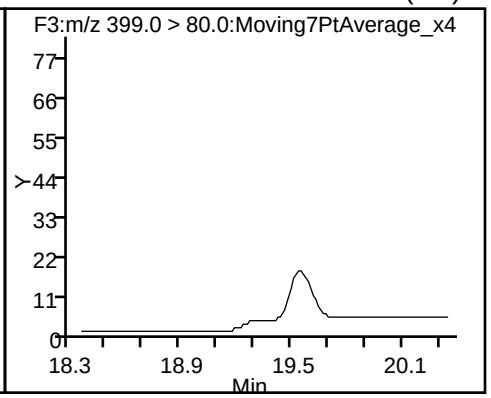
1 Perfluorobutanesulfonic acid (ND)



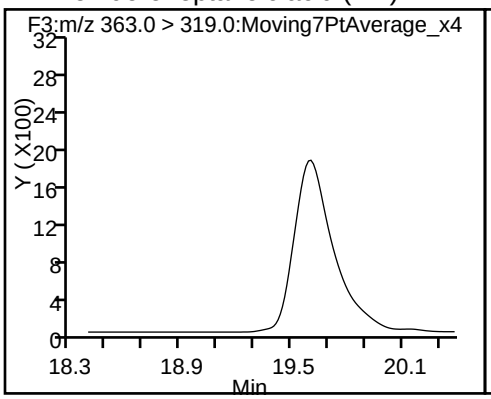
$ 2 13C2 PFHxA



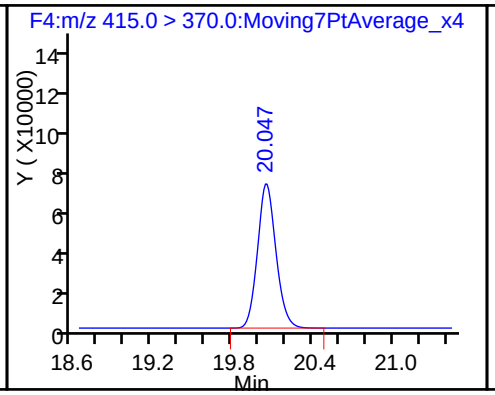
3 Perfluorohexanesulfonic acid (ND)



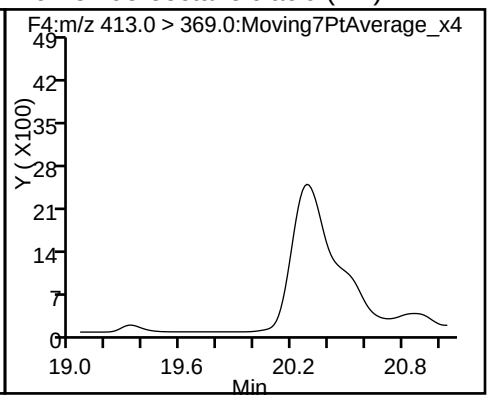
4 Perfluoroheptanoic acid (ND)



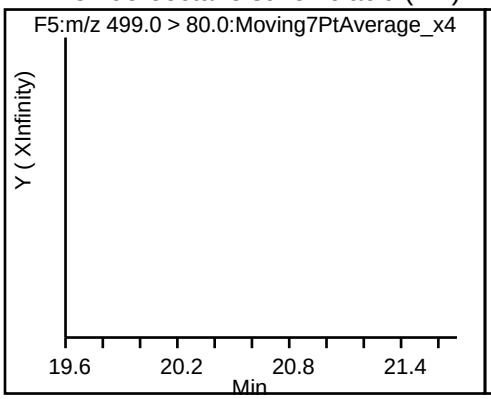
* 5 13C2-PFOA



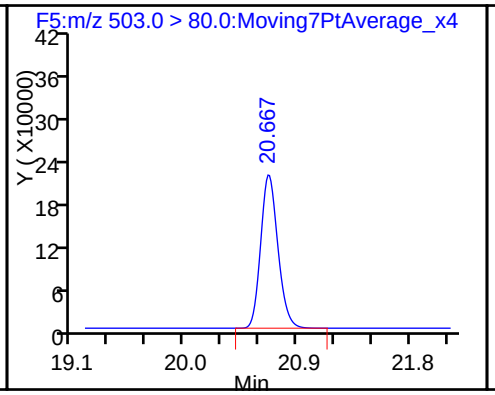
6 Perfluorooctanoic acid (ND)



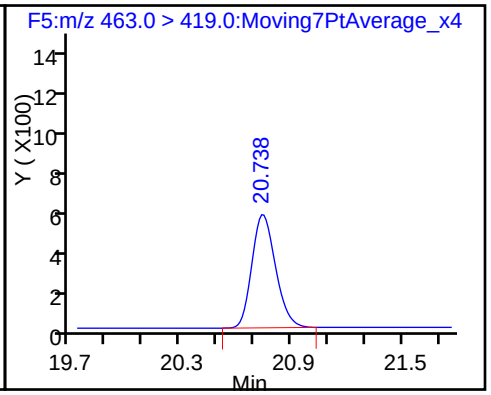
7 Perfluorooctane sulfonic acid (ND)



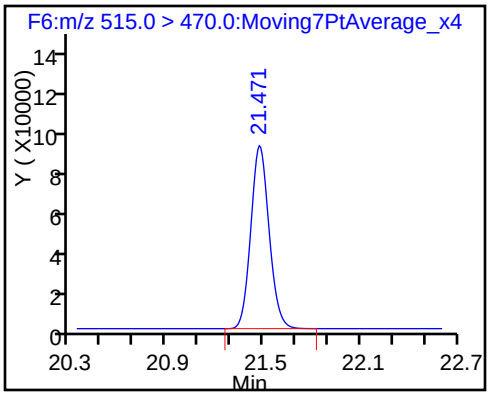
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File:	\\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_064.d				
Lims ID:	320-23928-A-28-A				
Client ID:	WI-CV-3FB11-1116				
Sample Type:	Client				
Inject. Date:	12-Dec-2016 18:08:07	ALS Bottle#:	2	Worklist Smp#:	63
Injection Vol:	10.0 ul	Dil. Factor:	1.0000		
Sample Info:	320-23928-A-28-A				
Misc. Info.:	Acquity BEH 1.7um, 3X150mm T=35*C				
Operator ID:	CBW	Instrument ID:	A6		
Method:	\\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\537__A6.m				
Limit Group:	LC 537 ICAL				
Last Update:	13-Dec-2016 10:29:54	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:	XAWRK022				
First Level Reviewer: barnettj		Date:	13-Dec-2016 10:25:19		

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.5	115.21
$ 10 13C2 PFDA	10.0	12.3	122.67

FORM VI
LCMS BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1 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.: 320-23928-1 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.: 320-23928-1 Analy Batch No.: 140688

SDG No.:

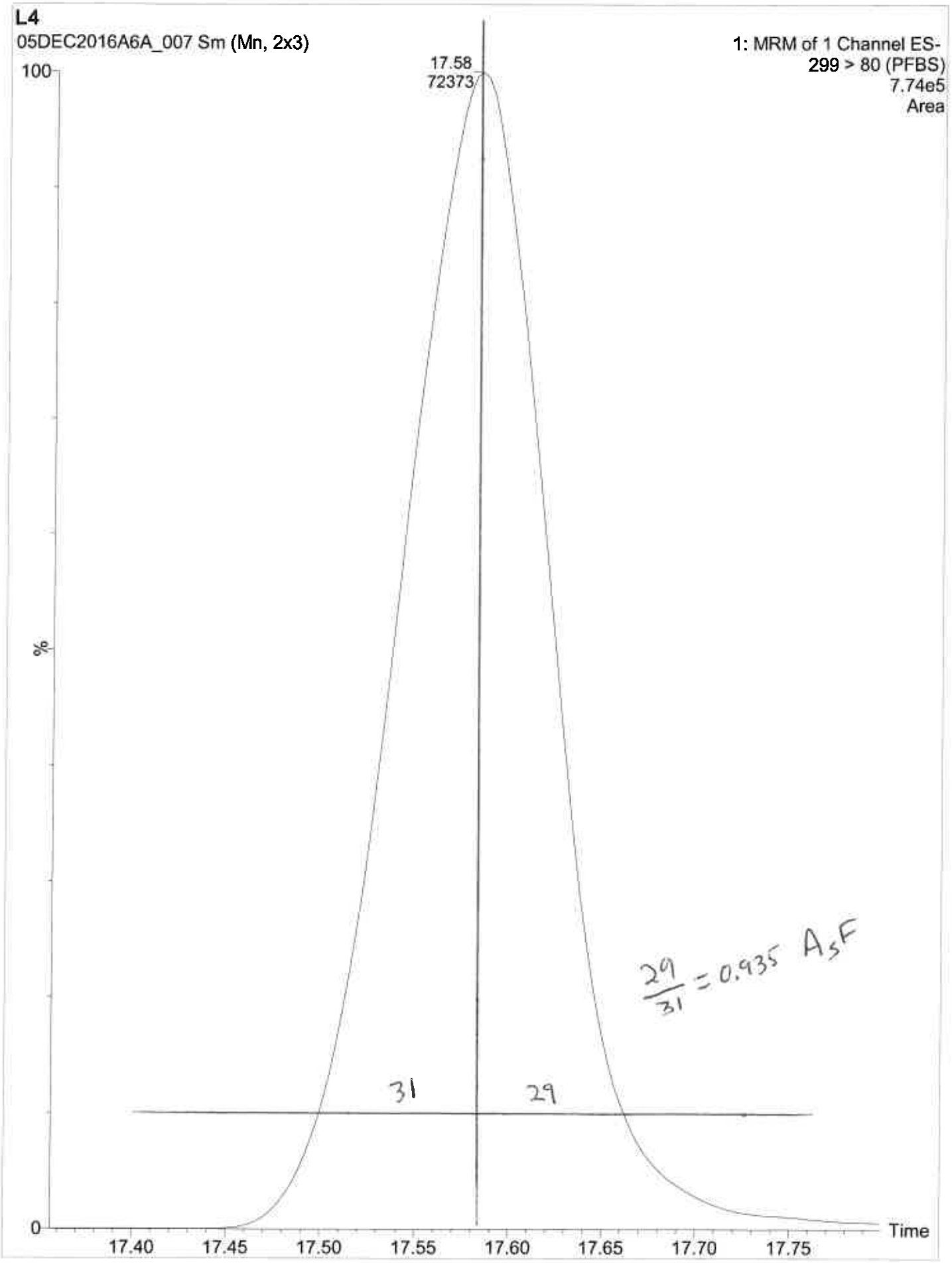
Instrument ID: A6 GC Column: Acquity ID: 2.1(mm) Heated Purge: (Y/N) N

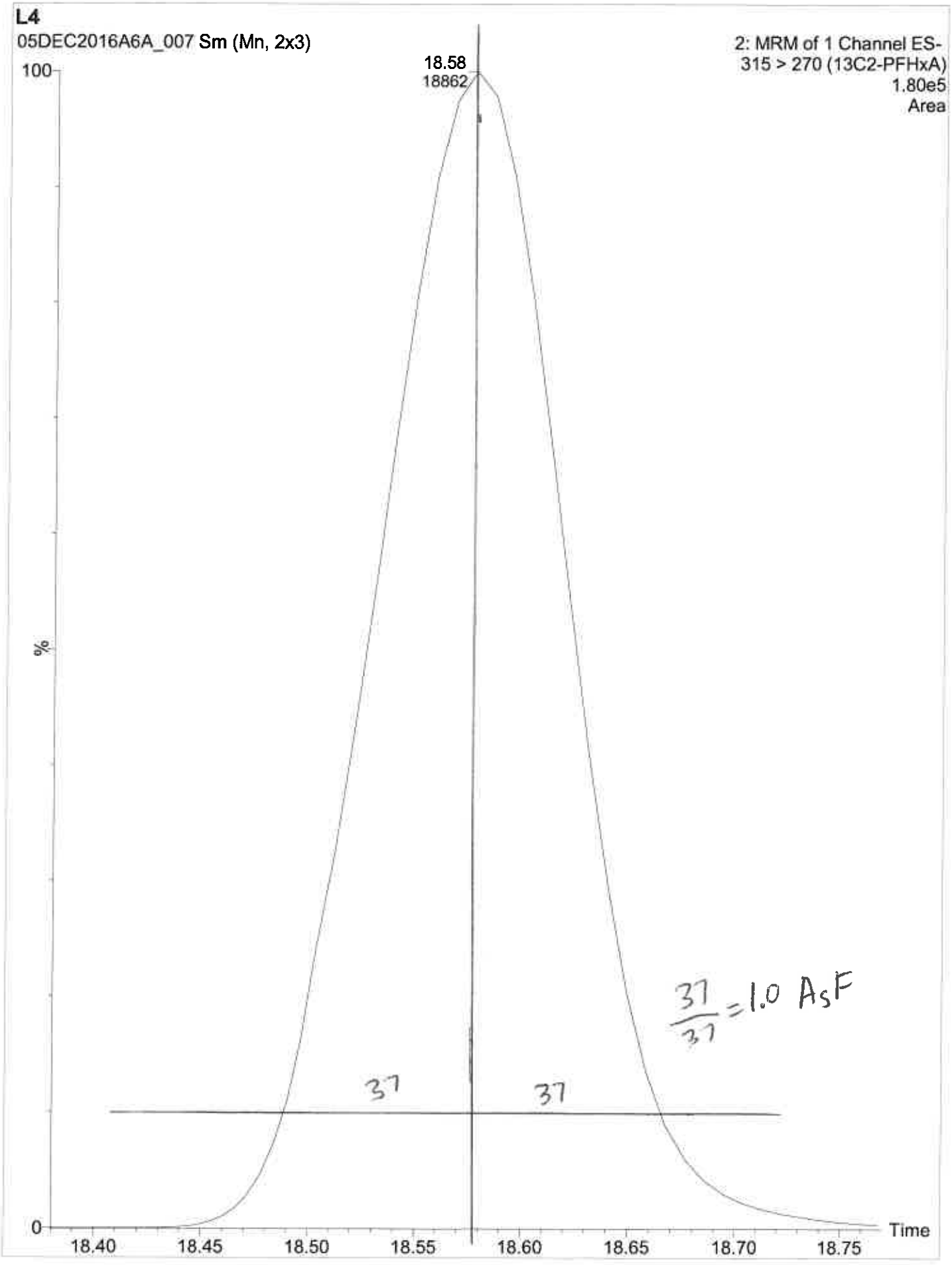
Calibration Start Date: 12/05/2016 17:26 Calibration End Date: 12/05/2016 19:54 Calibration ID: 26888

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$_s$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

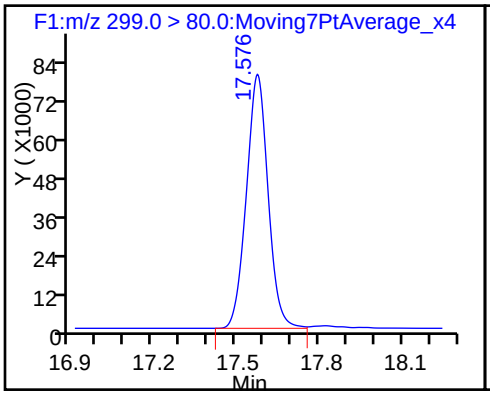
M - Manually Integrated

Reagents:

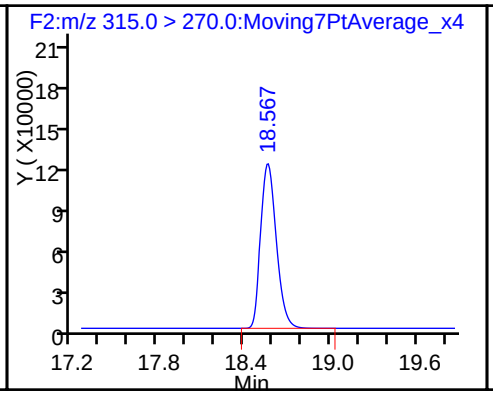
LC537-L1_00015 Amount Added: 1.00 Units: mL

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

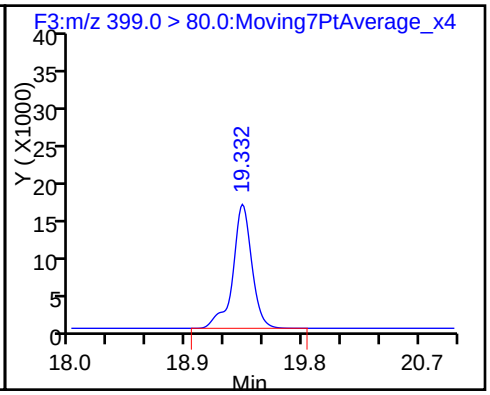
1 Perfluorobutanesulfonic acid



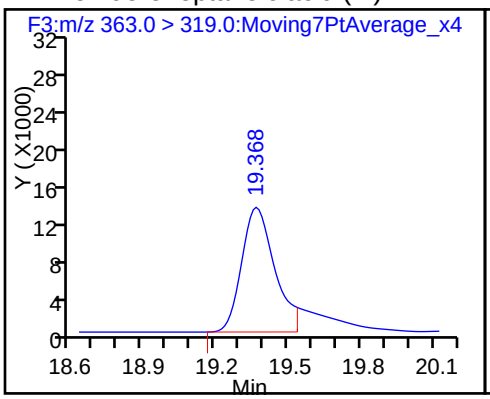
$ 2 13C2 PFHxA



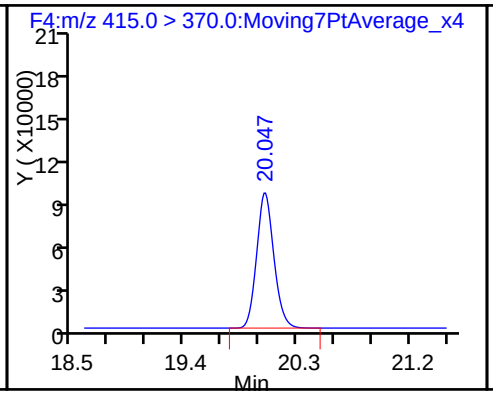
3 Perfluorohexanesulfonic acid



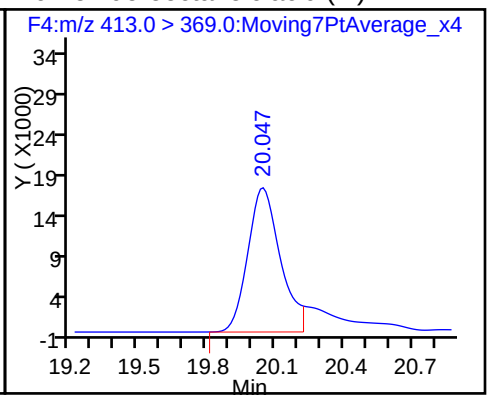
4 Perfluoroheptanoic acid (M)



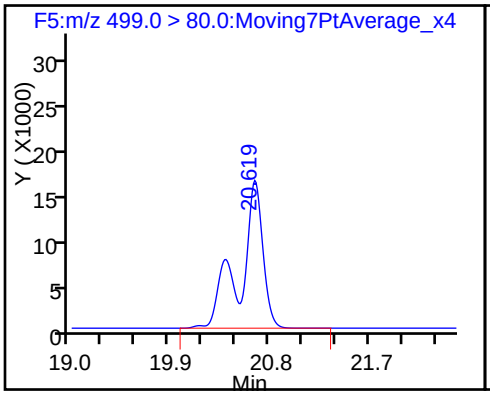
* 5 13C2-PFOA



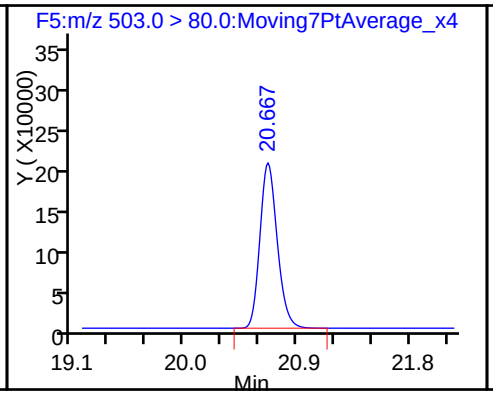
6 Perfluorooctanoic acid (M)



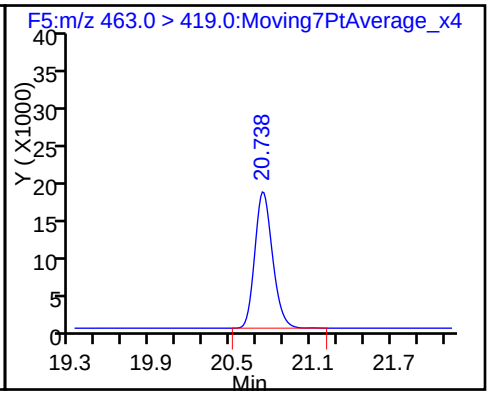
7 Perfluorooctane sulfonic acid



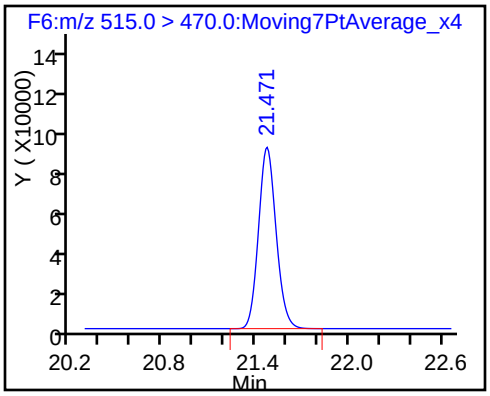
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

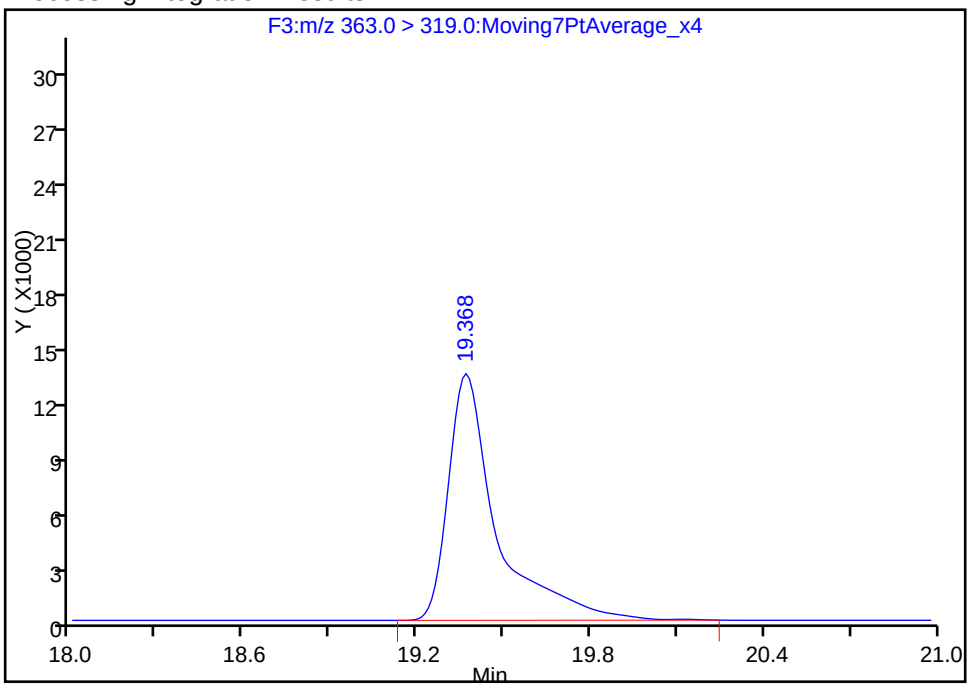
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_004.d
Injection Date: 05-Dec-2016 17:26:03 Instrument ID: A6
Lims ID: STD L1
Client ID:
Operator ID: CBW ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F3:MRM

4 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

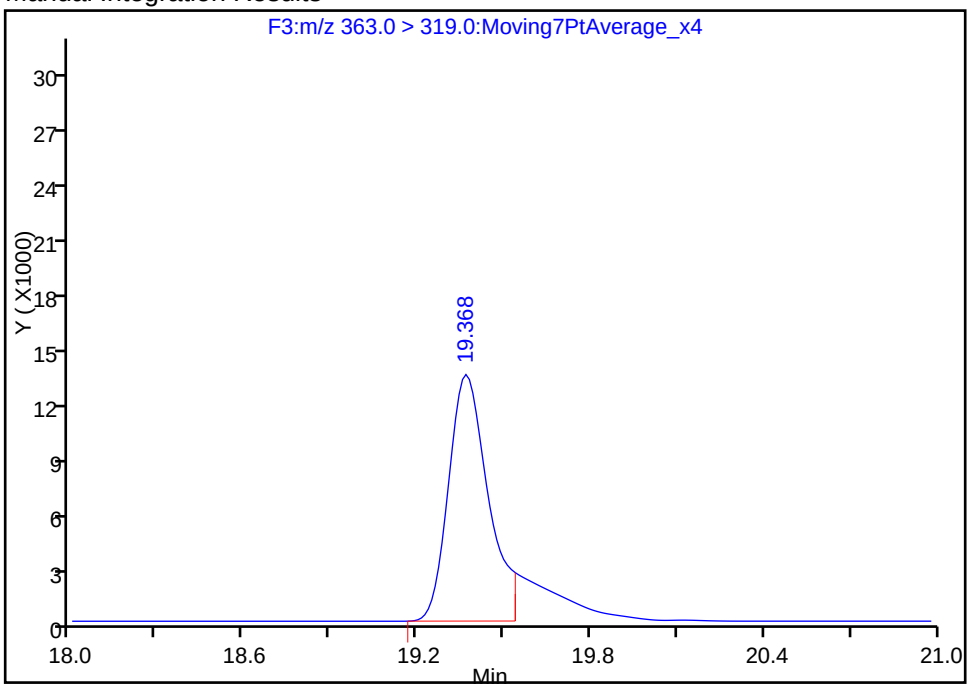
Processing Integration Results

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

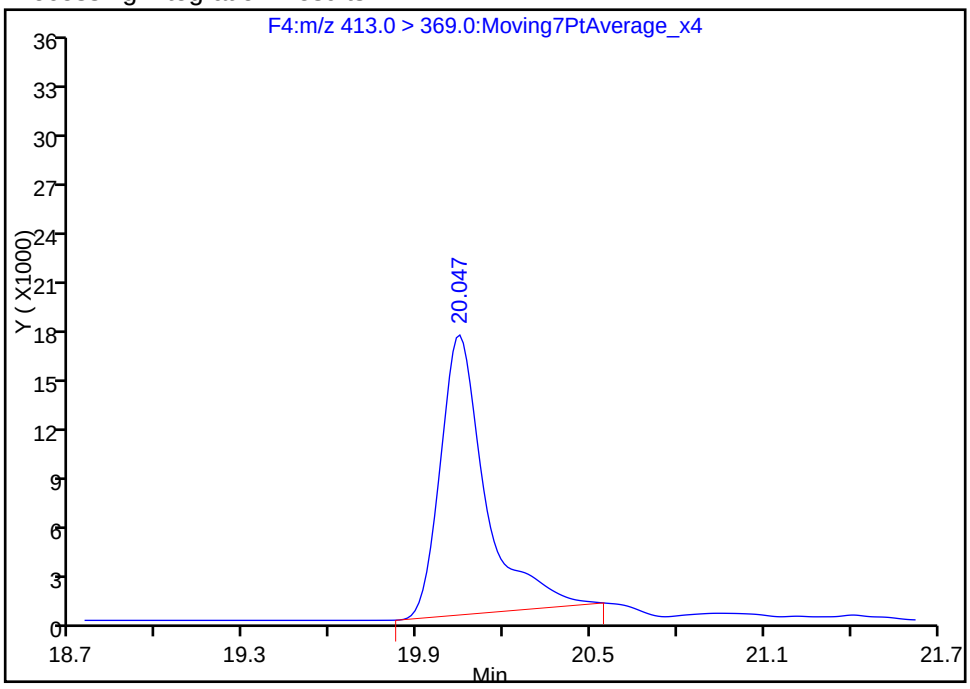
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_004.d
Injection Date: 05-Dec-2016 17:26:03 Instrument ID: A6
Lims ID: STD L1
Client ID:
Operator ID: CBW ALS Bottle#: 1 Worklist Smp#: 2
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

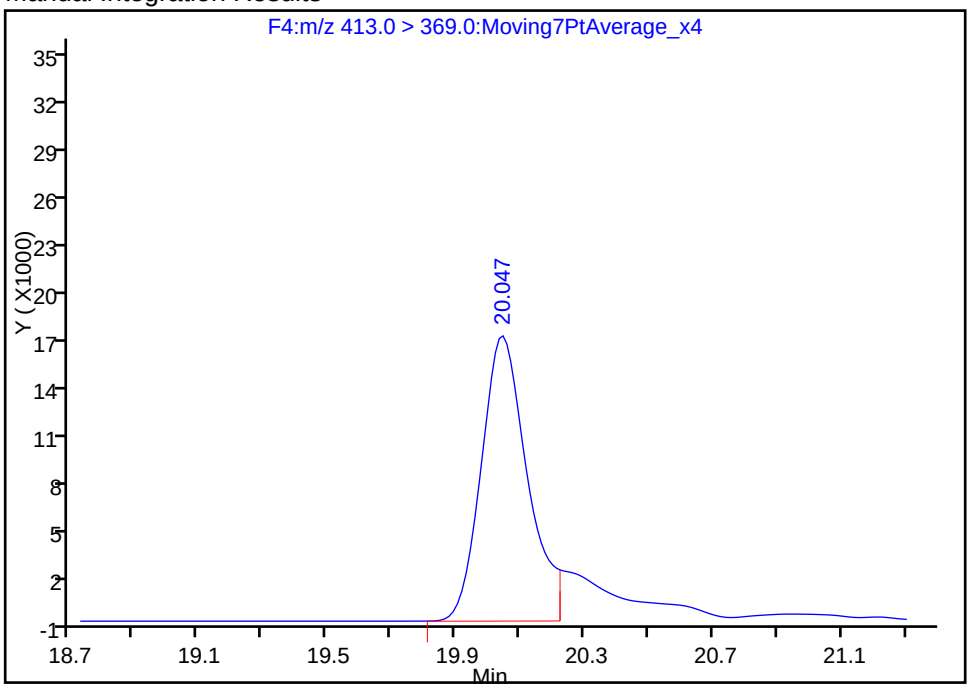
Processing Integration Results

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

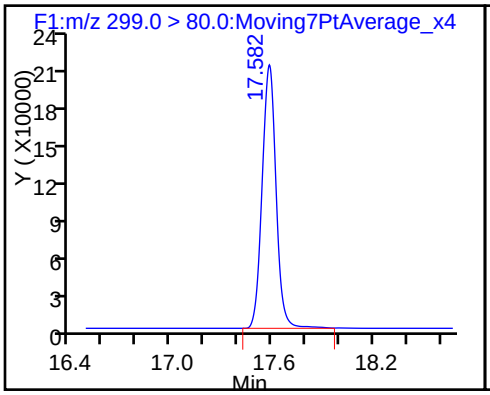
M - Manually Integrated

Reagents:

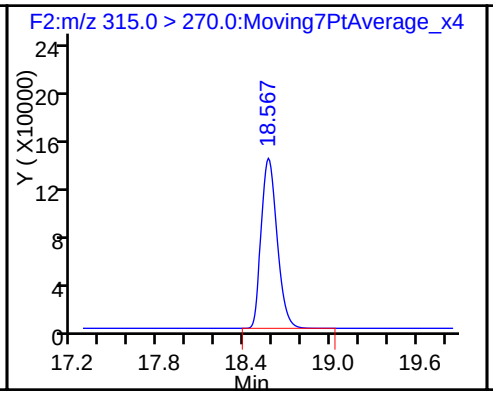
LC537-L2_00014 Amount Added: 1.00 Units: mL

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

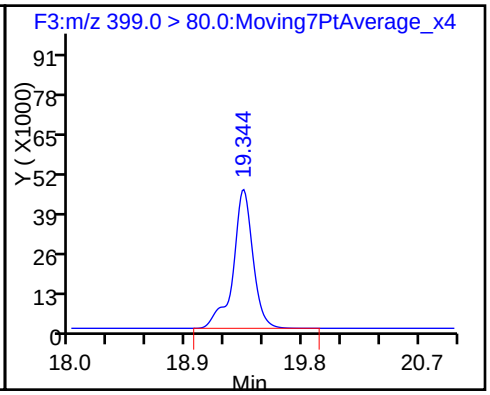
1 Perfluorobutanesulfonic acid



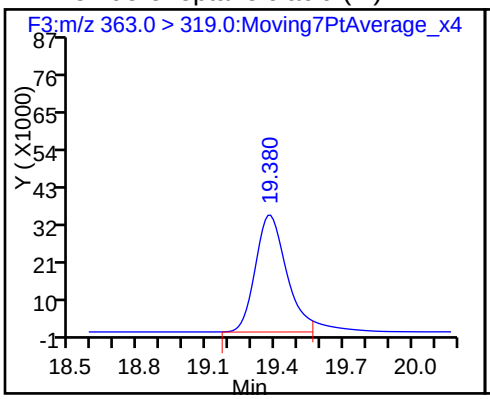
$ 2 13C2 PFHxA



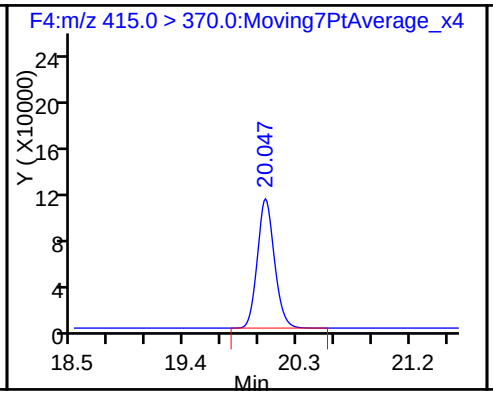
3 Perfluorohexanesulfonic acid



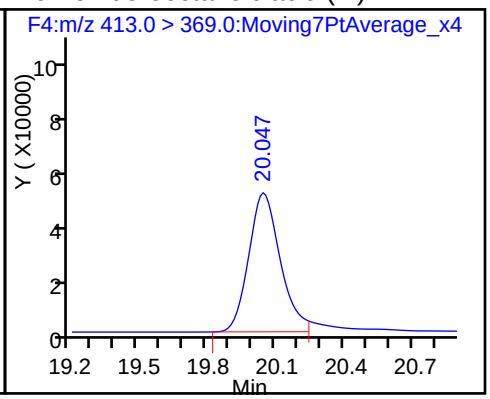
4 Perfluoroheptanoic acid (M)



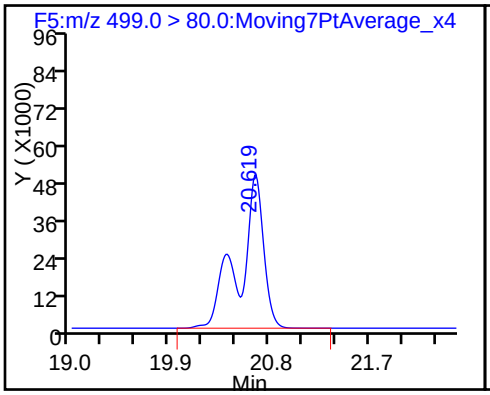
* 5 13C2-PFOA



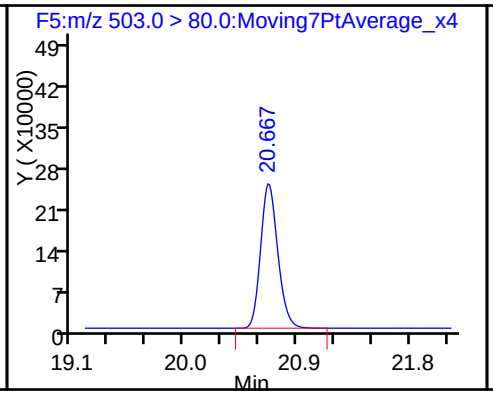
6 Perfluorooctanoic acid (M)



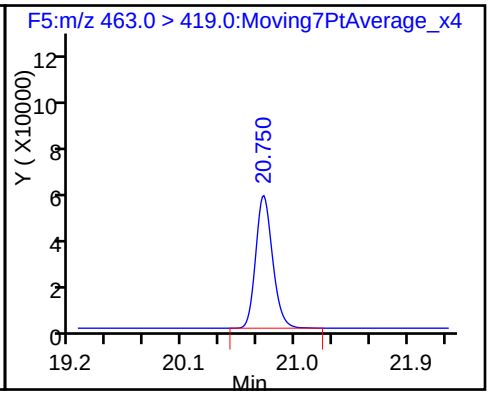
7 Perfluorooctane sulfonic acid



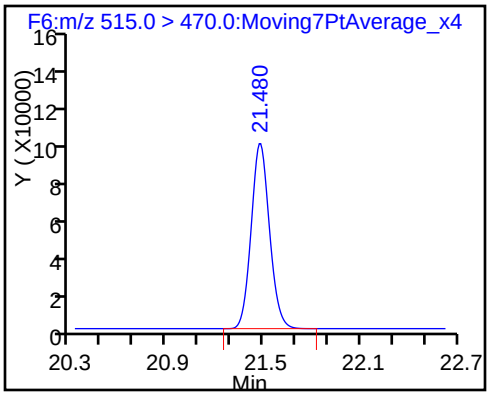
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

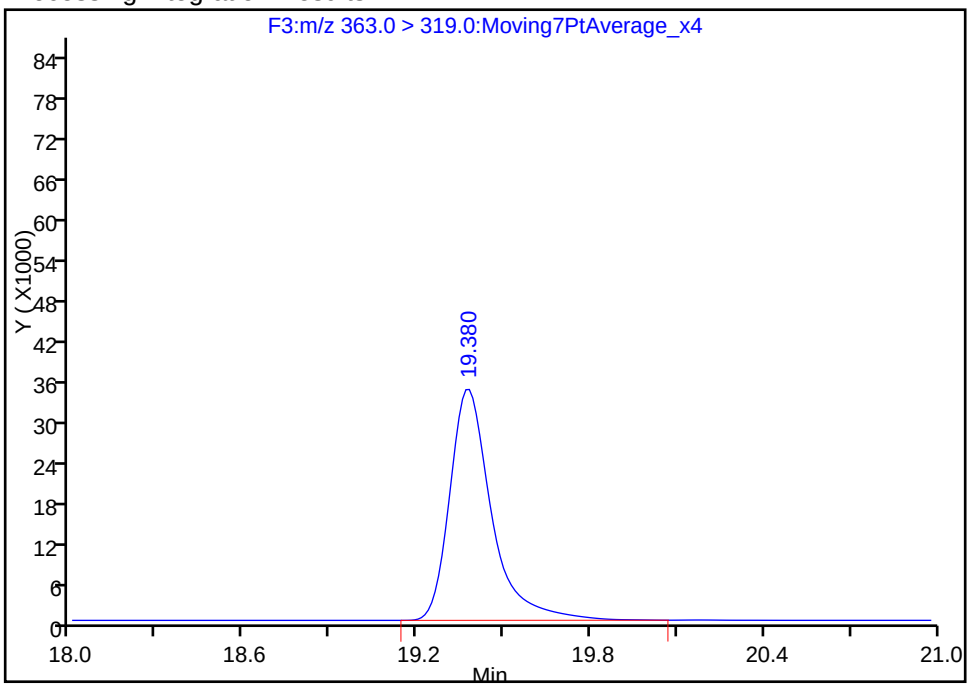
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_005.d
Injection Date: 05-Dec-2016 17:55:38 Instrument ID: A6
Lims ID: STD L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F3:MRM

4 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

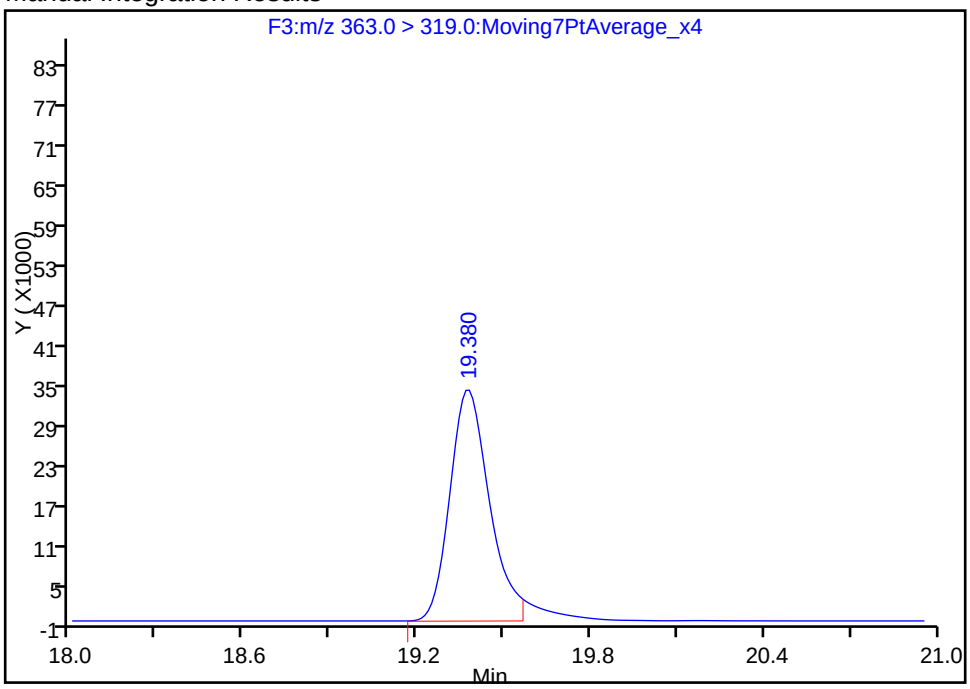
Processing Integration Results

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

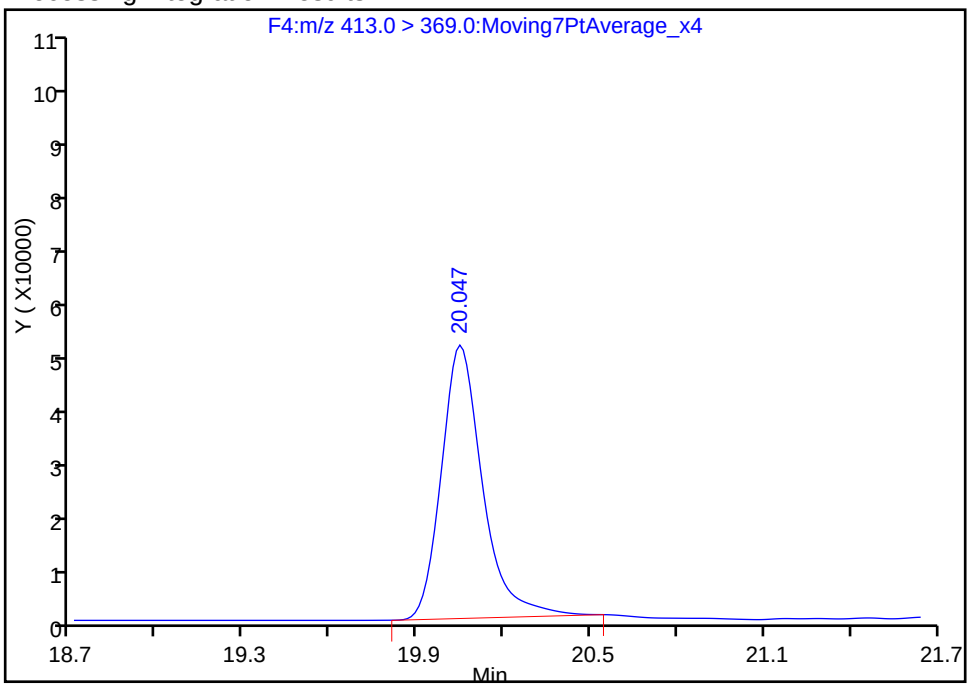
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_005.d
Injection Date: 05-Dec-2016 17:55:38 Instrument ID: A6
Lims ID: STD L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 3
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

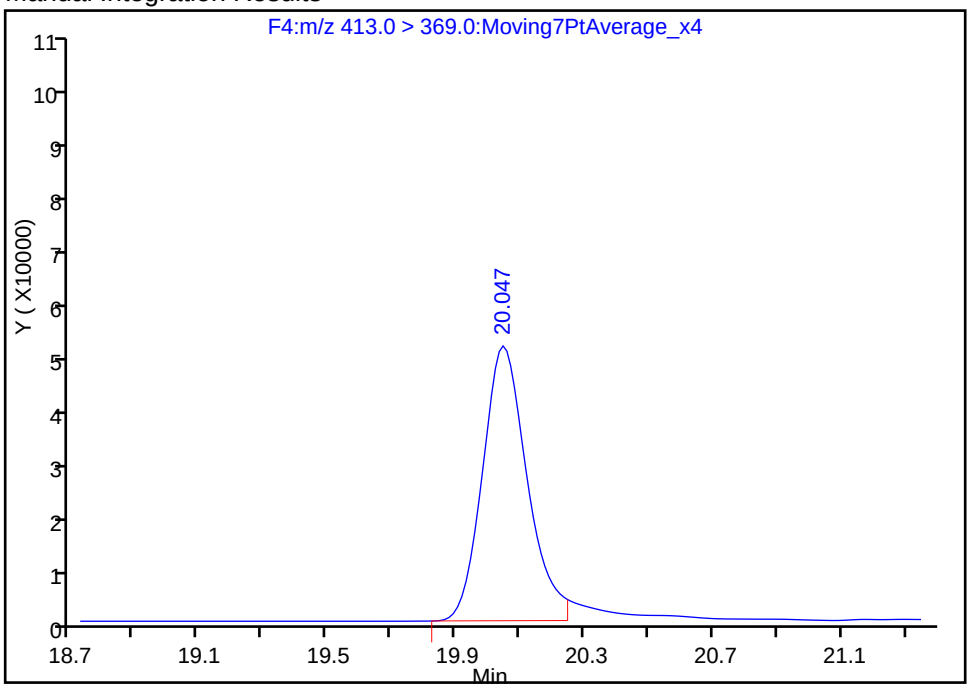
Processing Integration Results

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

Report Date: 06-Dec-2016 16:35:37 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

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

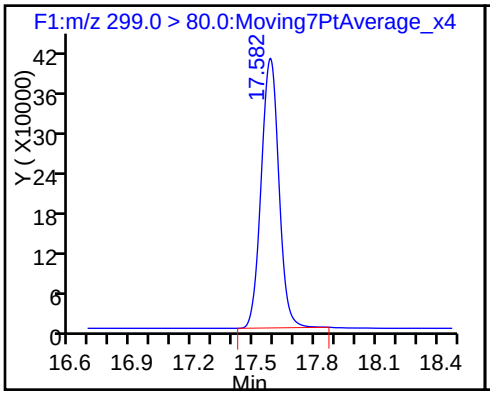
Client ID:

Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 4

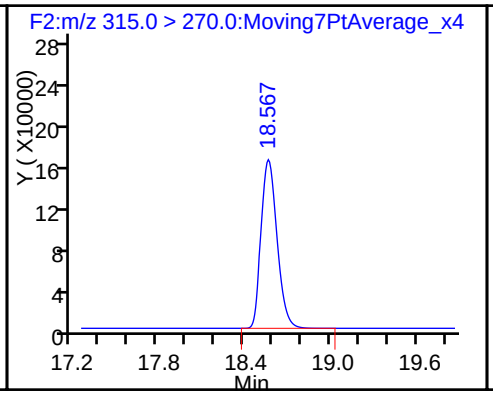
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

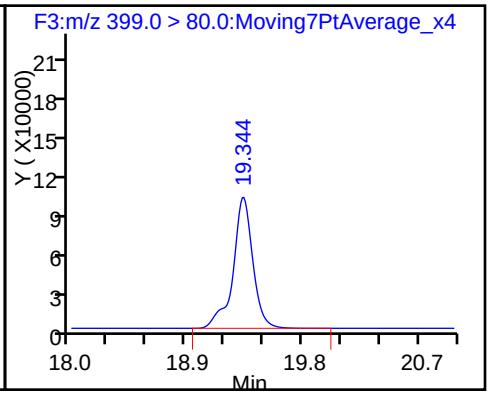
1 Perfluorobutanesulfonic acid



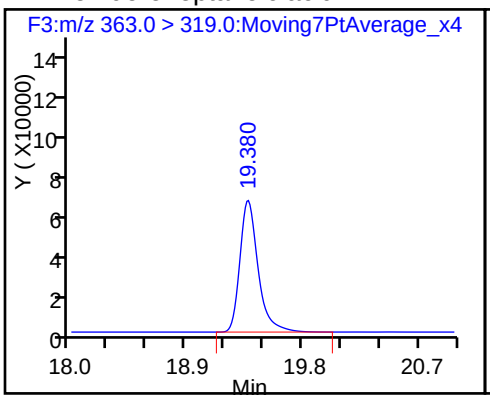
$ 2 13C2 PFHxA



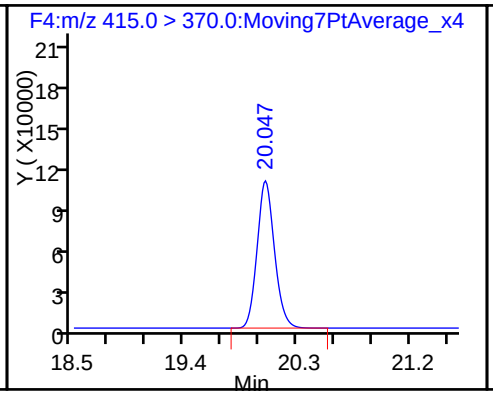
3 Perfluorohexanesulfonic acid



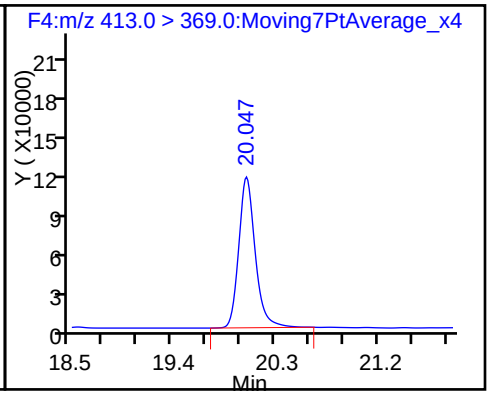
4 Perfluoroheptanoic acid



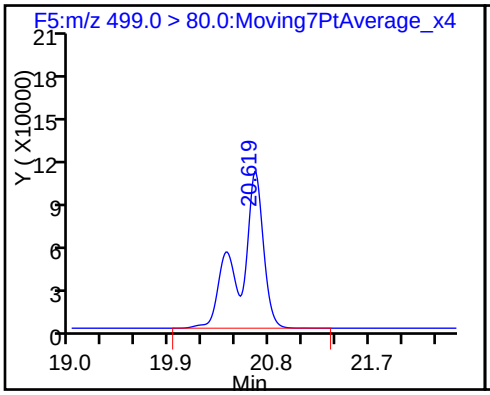
* 5 13C2-PFOA



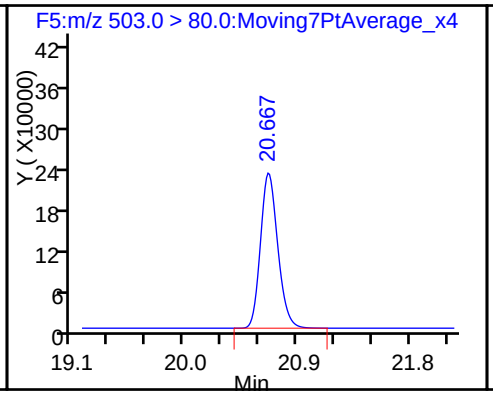
6 Perfluorooctanoic acid



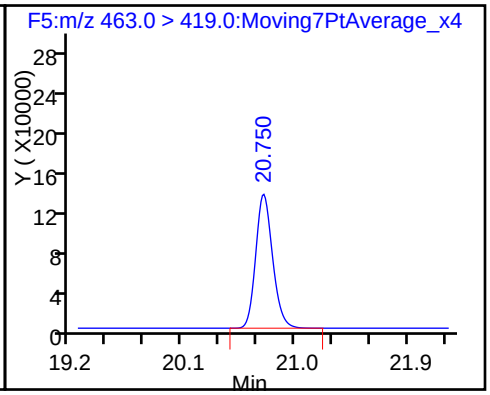
7 Perfluorooctane sulfonic acid



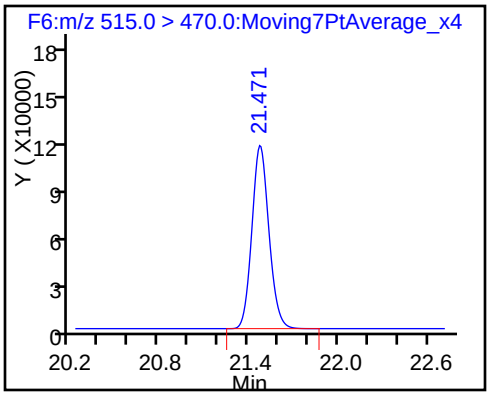
* 8 13C4 PFOS



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

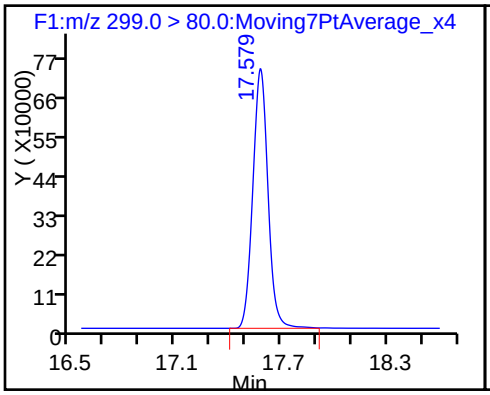
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.579	17.581	-0.002	1.000	4401661	94.0	2768	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1117585	10.5	28676	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	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:

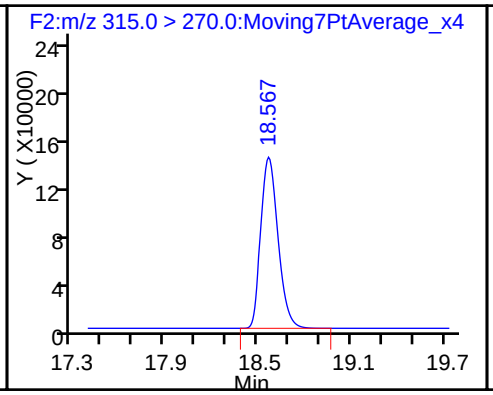
LC537-L4_00015 Amount Added: 1.00 Units: mL

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

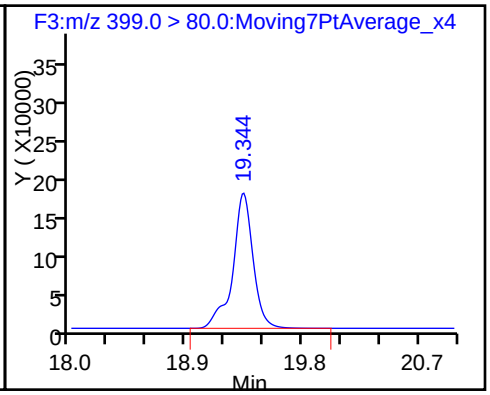
1 Perfluorobutanesulfonic acid



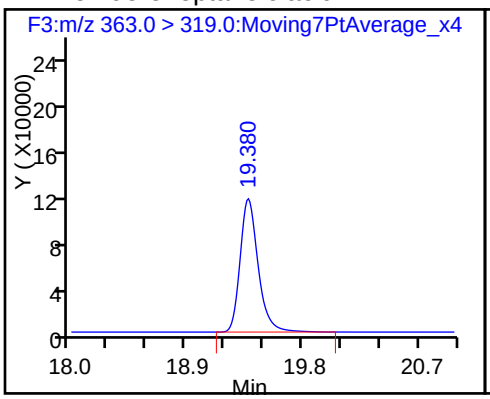
$ 2 13C2 PFHxA



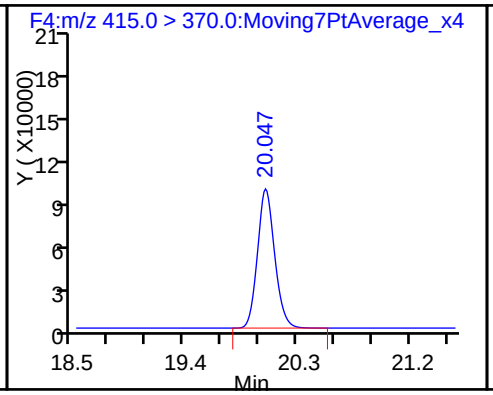
3 Perfluorohexanesulfonic acid



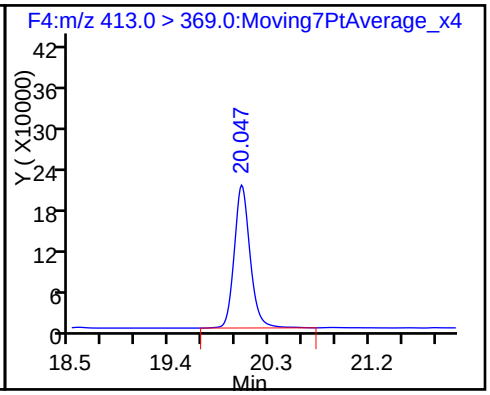
4 Perfluoroheptanoic acid



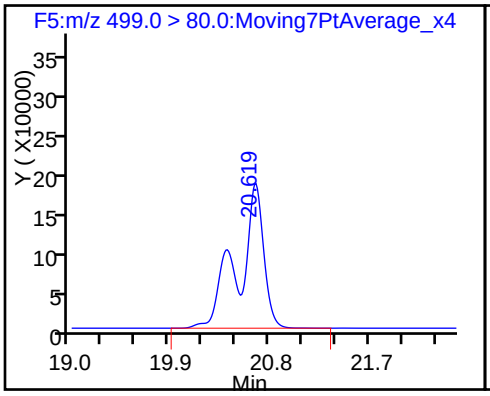
* 5 13C2-PFOA



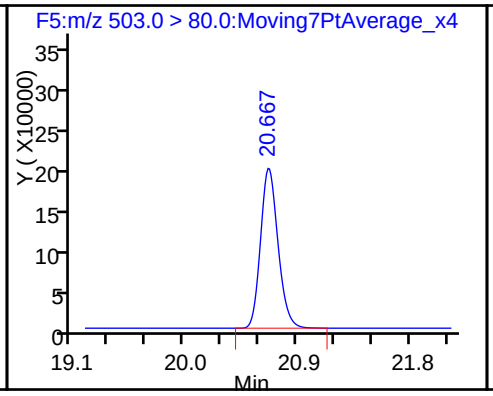
6 Perfluorooctanoic acid



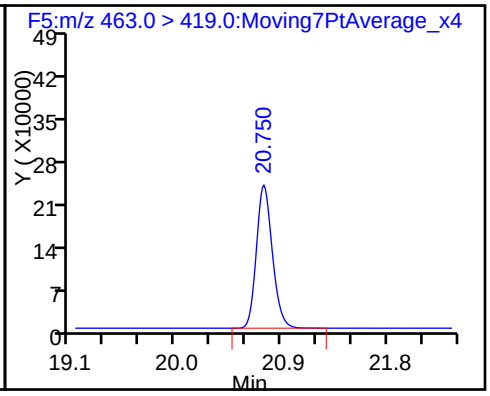
7 Perfluorooctane sulfonic acid



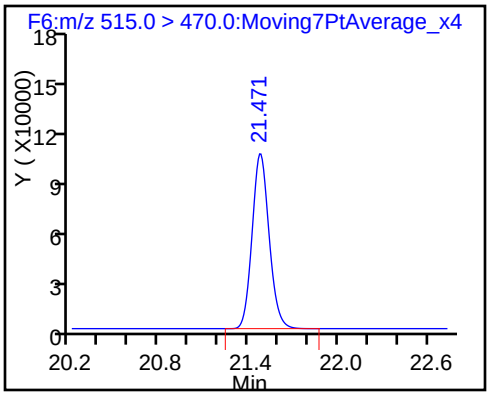
* 8 13C4 PFOS



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

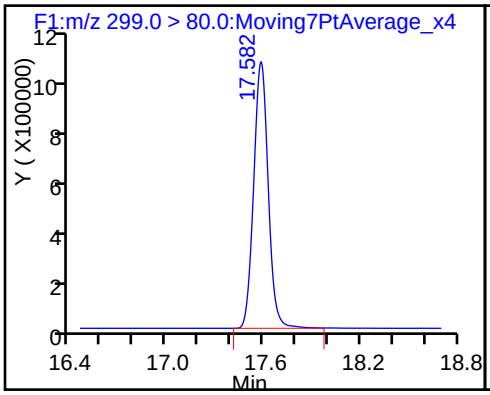
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	6630132	140.5	3208	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1240474	11.0	39454	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	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:

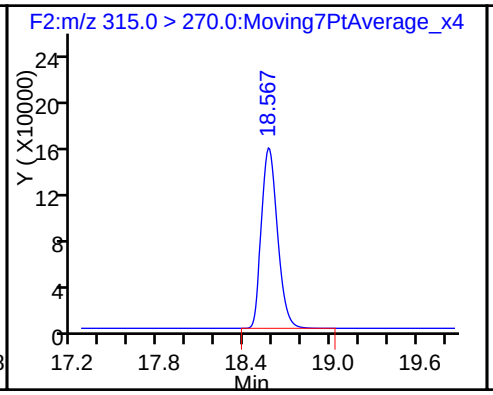
LC537-L5_00017 Amount Added: 1.00 Units: mL

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

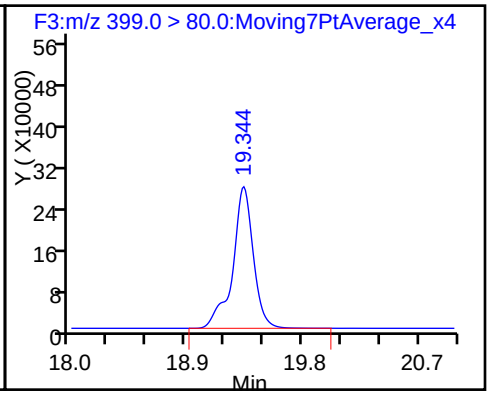
1 Perfluorobutanesulfonic acid



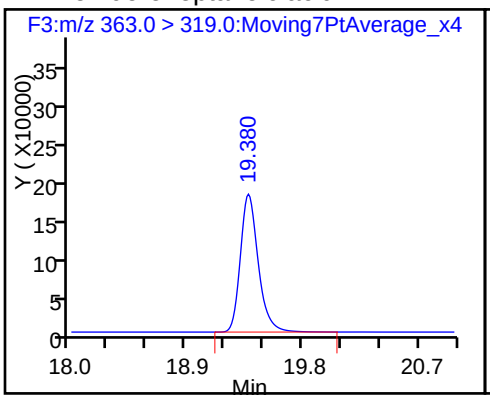
$ 2 13C2 PFHxA



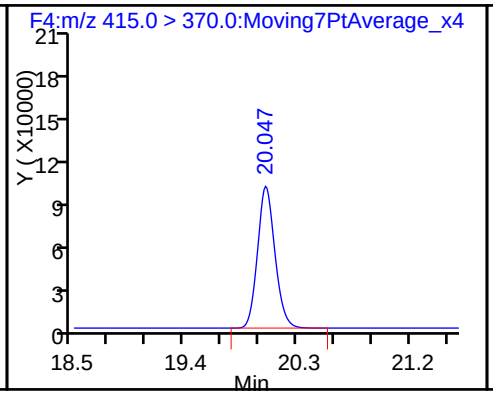
3 Perfluorohexanesulfonic acid



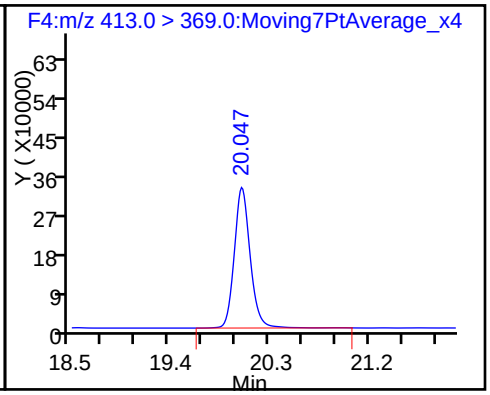
4 Perfluoroheptanoic acid



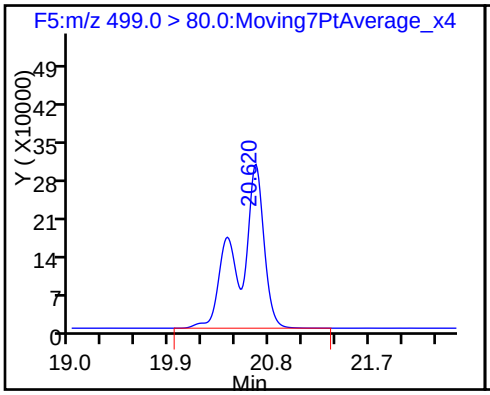
* 5 13C2-PFOA



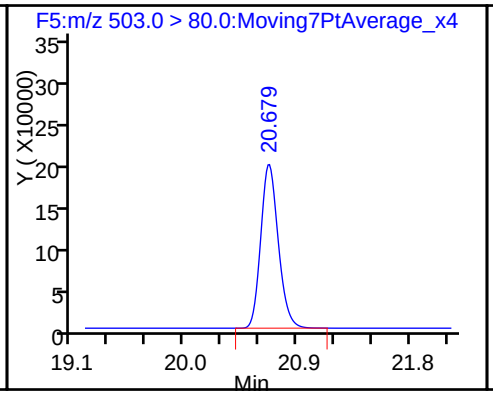
6 Perfluorooctanoic acid



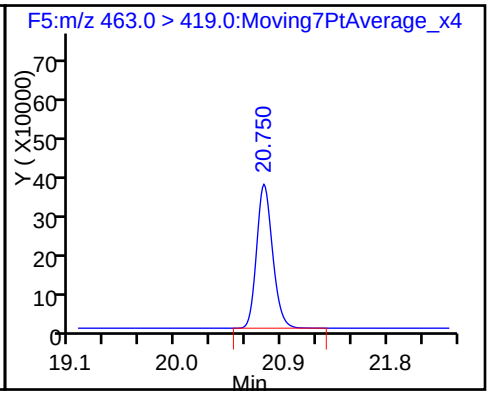
7 Perfluorooctane sulfonic acid



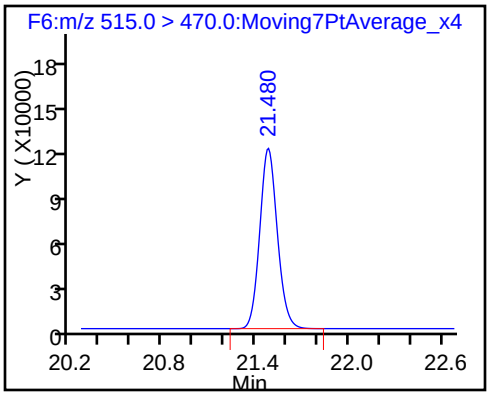
* 8 13C4 PFOS



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

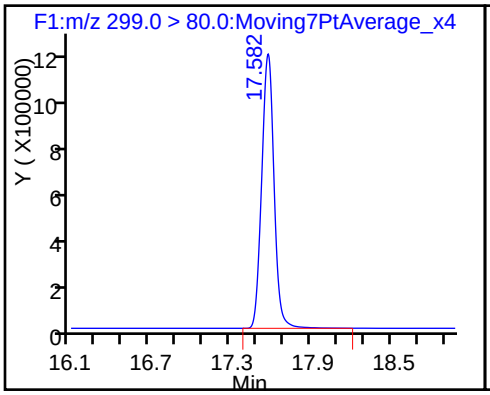
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	7753569	166.9	8570	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	1095977	10.4	34796	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	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:

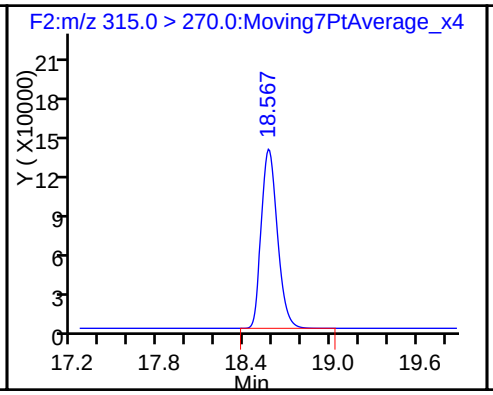
LC537-L6_00014 Amount Added: 1.00 Units: mL

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

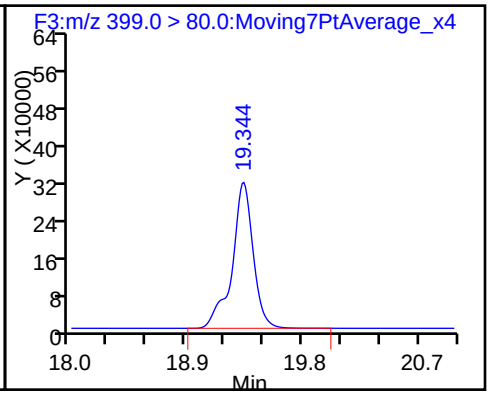
1 Perfluorobutanesulfonic acid



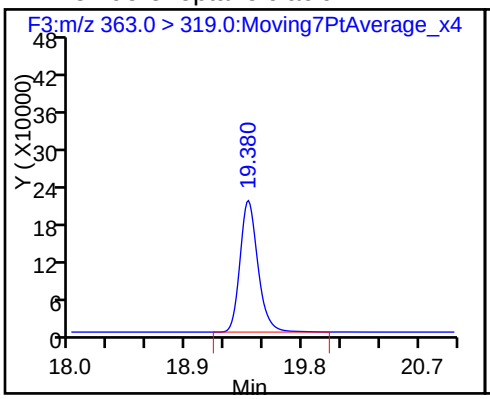
$ 2 13C2 PFHxA



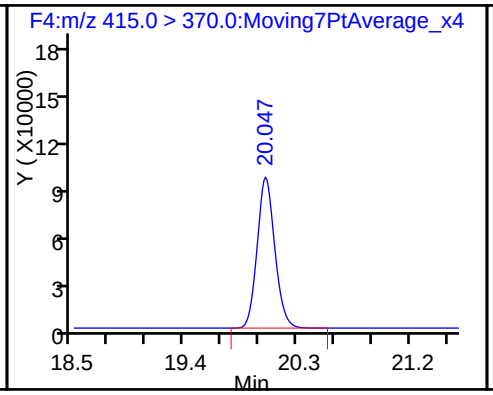
3 Perfluorohexanesulfonic acid



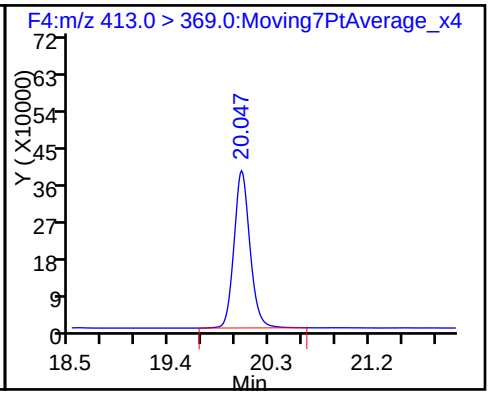
4 Perfluoroheptanoic acid



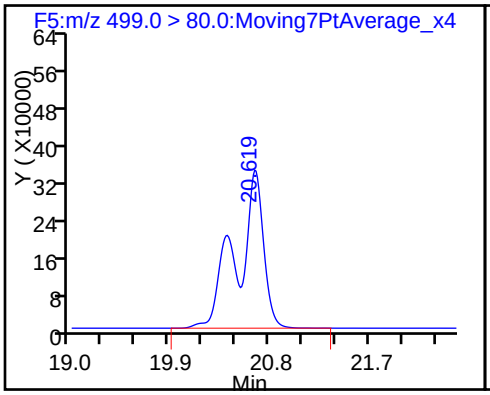
* 5 13C2-PFOA



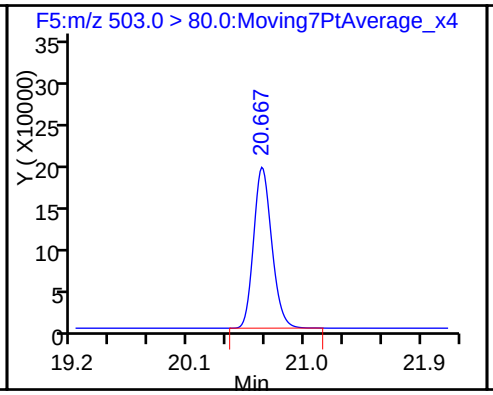
6 Perfluorooctanoic acid



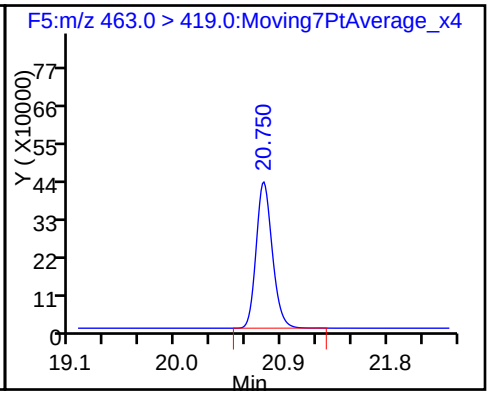
7 Perfluorooctane sulfonic acid



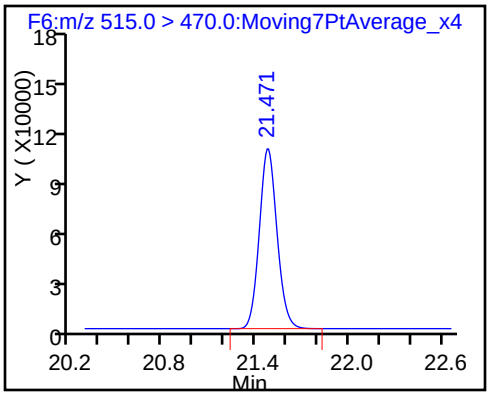
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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

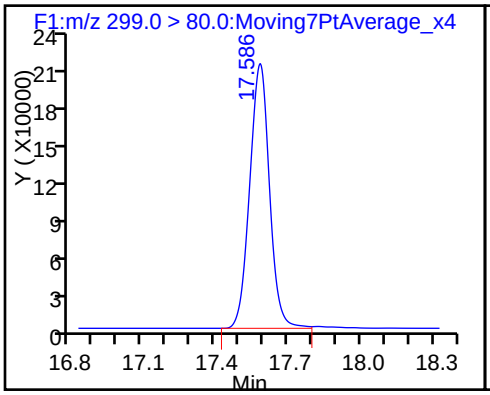
Reagents:

LC537-L2_00014 Amount Added: 1.00 Units: mL

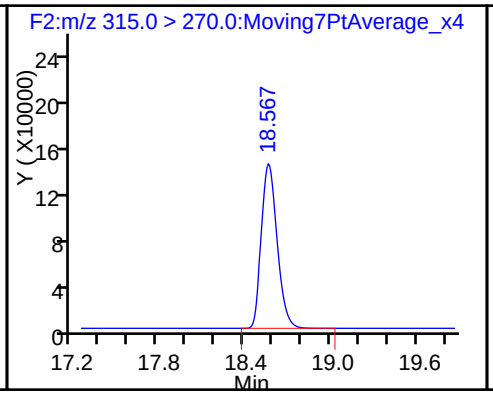
TestAmerica Sacramento

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

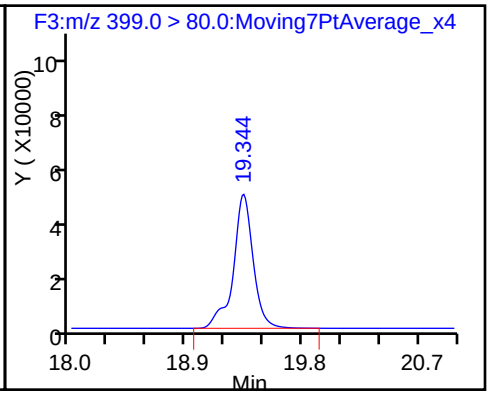
1 Perfluorobutanesulfonic acid



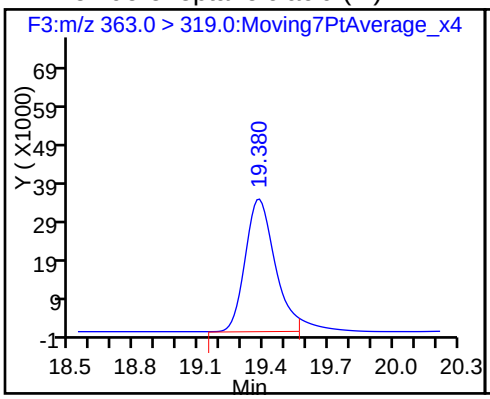
$ 2 13C2 PFHxA



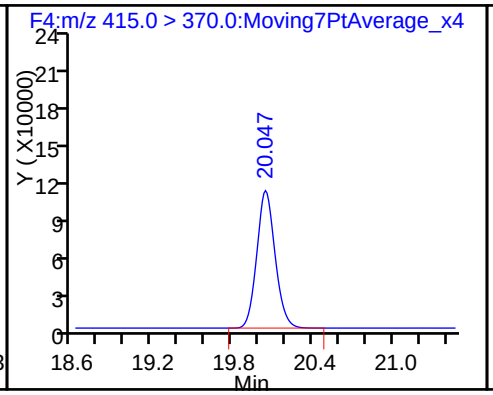
3 Perfluorohexanesulfonic acid



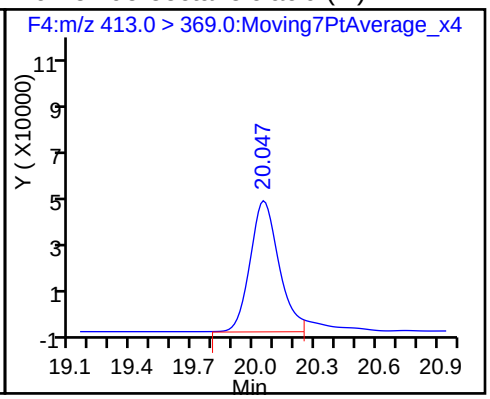
4 Perfluoroheptanoic acid (M)



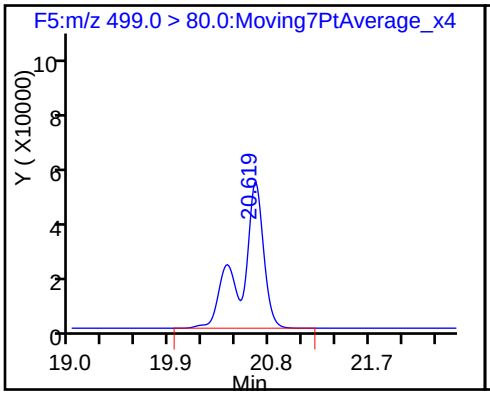
* 5 13C2-PFOA



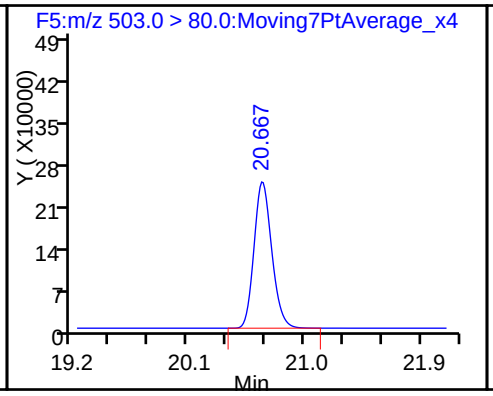
6 Perfluorooctanoic acid (M)



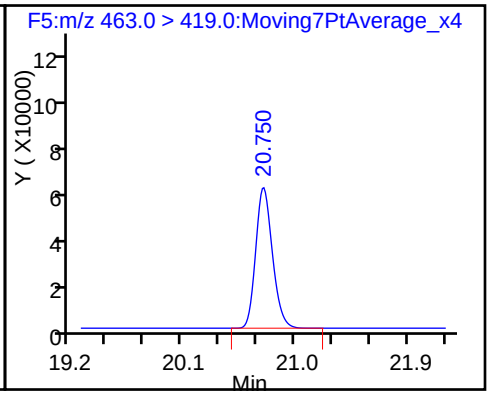
7 Perfluorooctane sulfonic acid



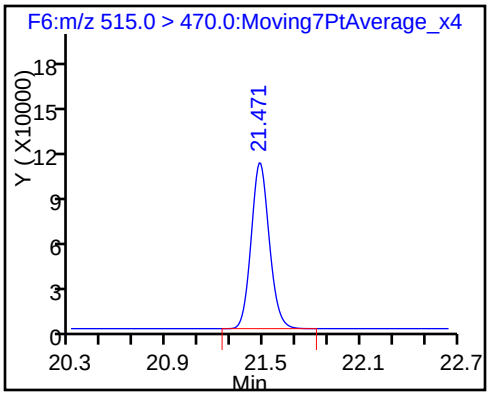
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



Manual Integration/User Assign Peak Report

TestAmerica Sacramento

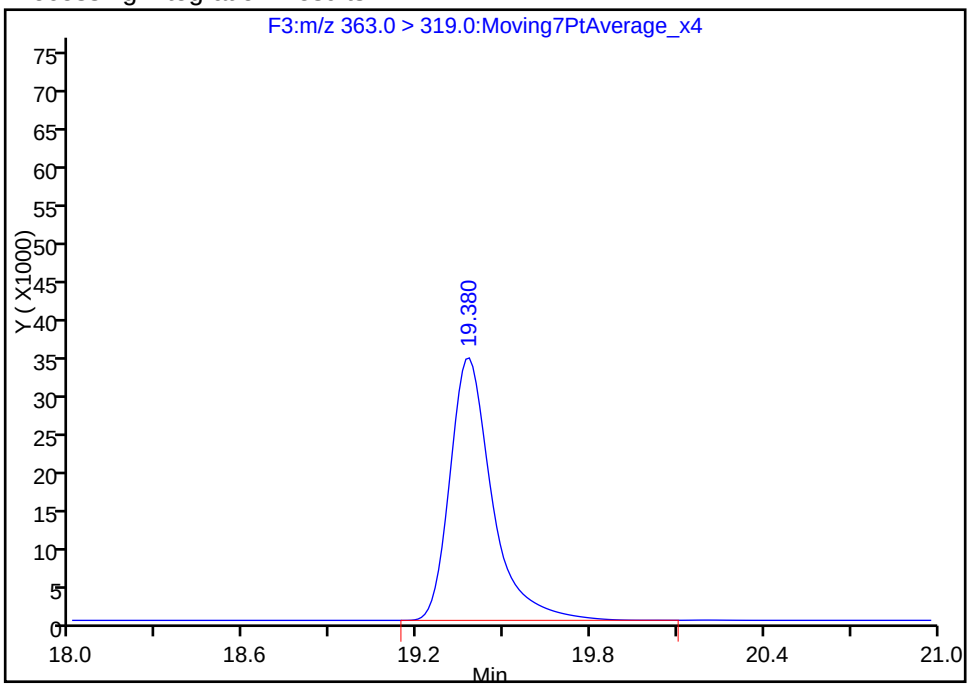
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_011.d
Injection Date: 05-Dec-2016 20:53:12 Instrument ID: A6
Lims ID: CCV L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F3:MRM

4 Perfluoroheptanoic acid, CAS: 375-85-9

Signal: 1

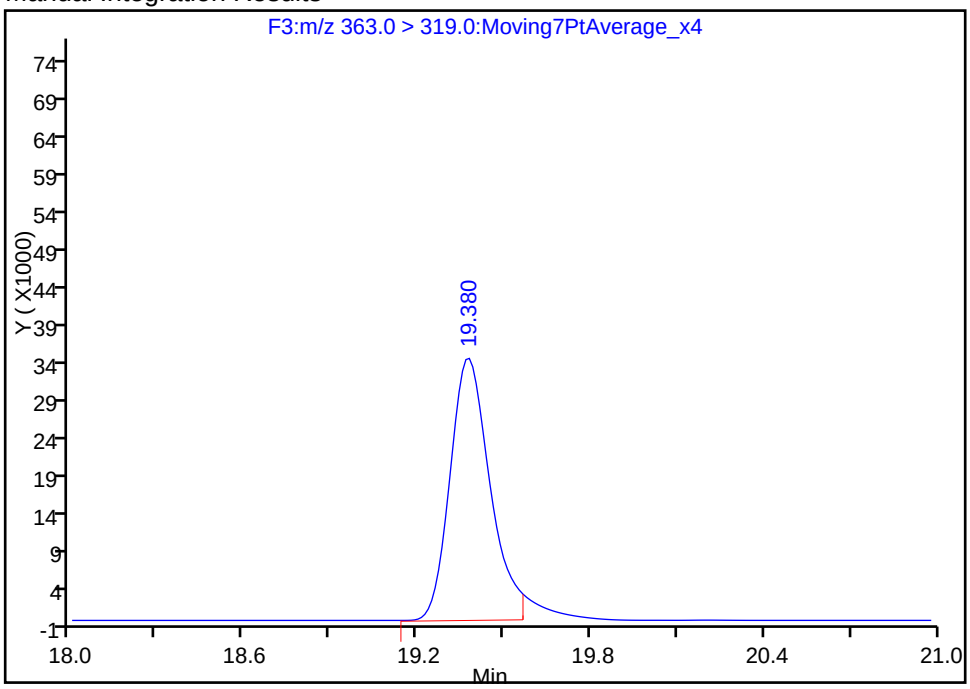
Processing Integration Results

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

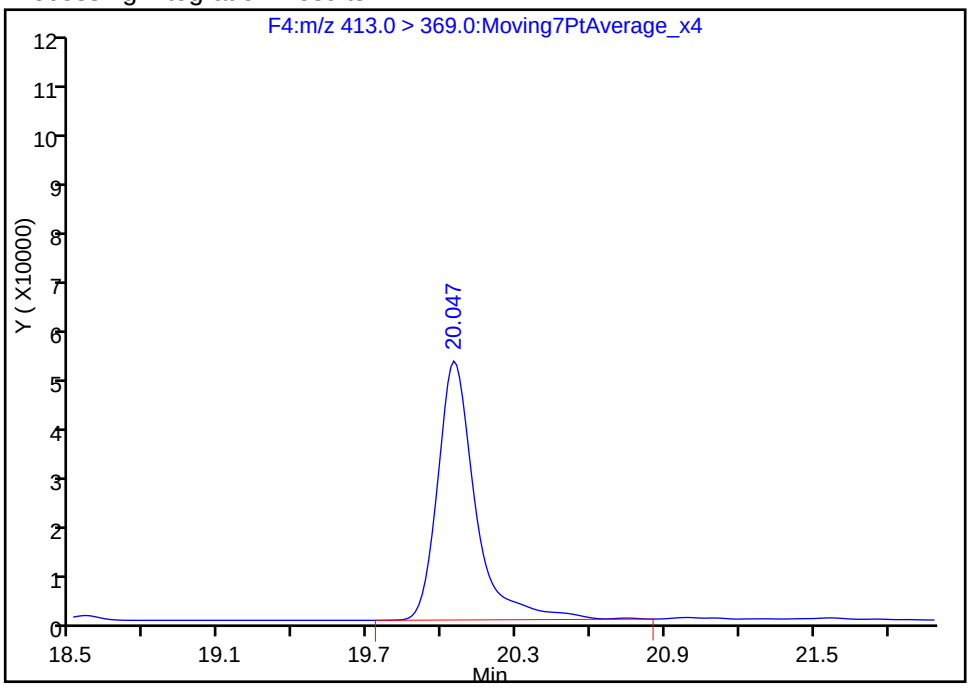
Data File: \\ChromNA\Sacramento\ChromData\A6\20161205-37524.b\05DEC2016A6A_011.d
Injection Date: 05-Dec-2016 20:53:12 Instrument ID: A6
Lims ID: CCV L2
Client ID:
Operator ID: CBW ALS Bottle#: 2 Worklist Smp#: 9
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

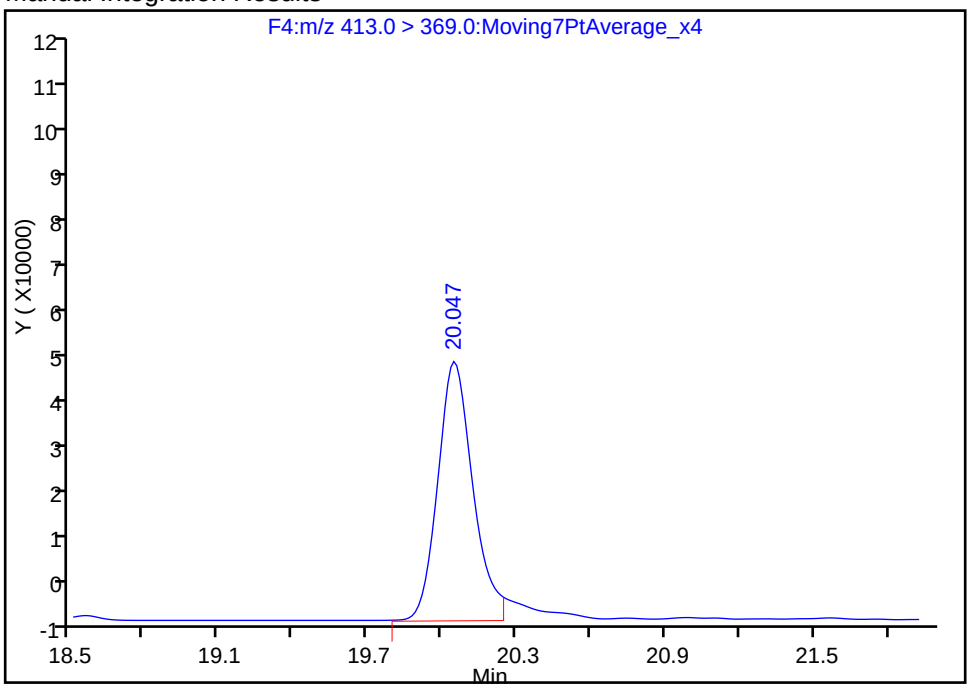
Processing Integration Results

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.: 320-23928-1

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

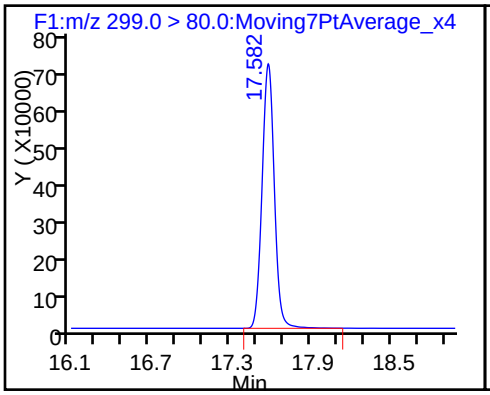
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.582	17.581	0.001	1.000	4641388	94.2	8629	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.567	0.0	1.000	946677	9.25	29673	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.342	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:

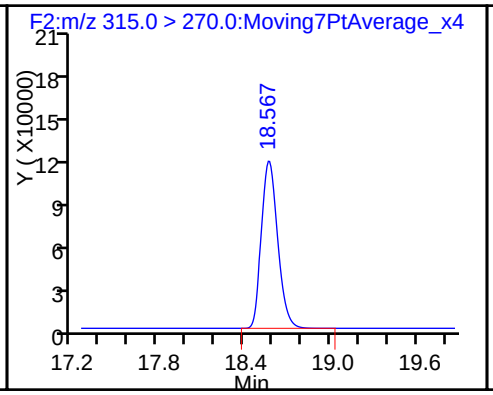
LC537-ICV_00017 Amount Added: 1.00 Units: mL

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

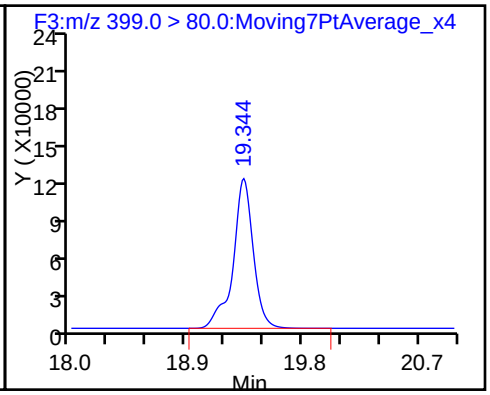
1 Perfluorobutanesulfonic acid



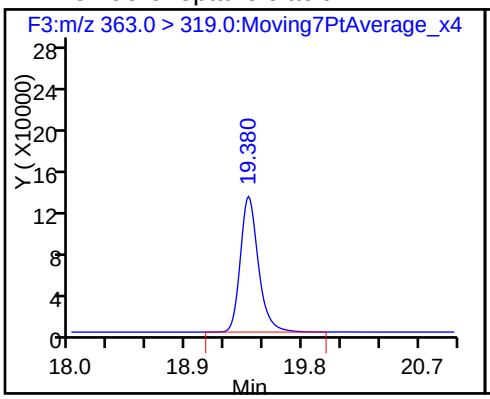
$ 2 13C2 PFHxA



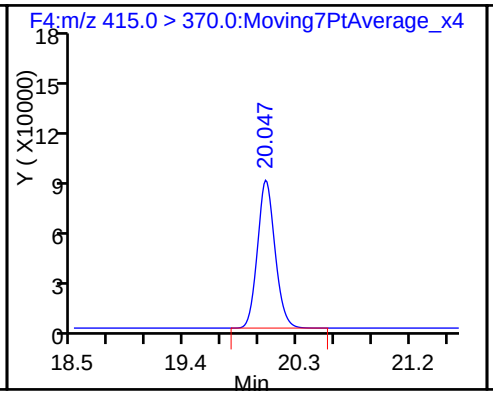
3 Perfluorohexanesulfonic acid



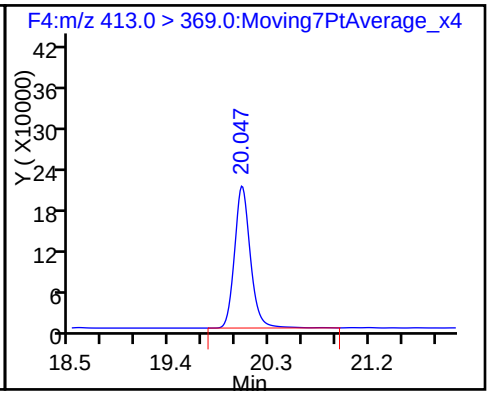
4 Perfluoroheptanoic acid



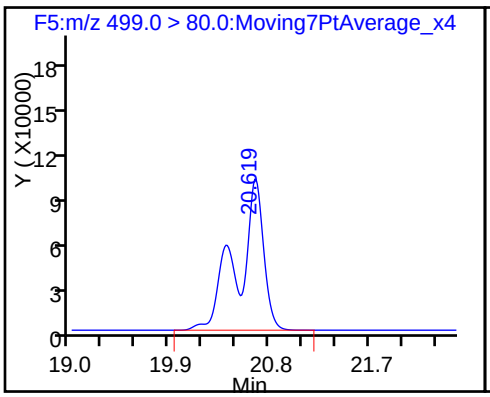
* 5 13C2-PFOA



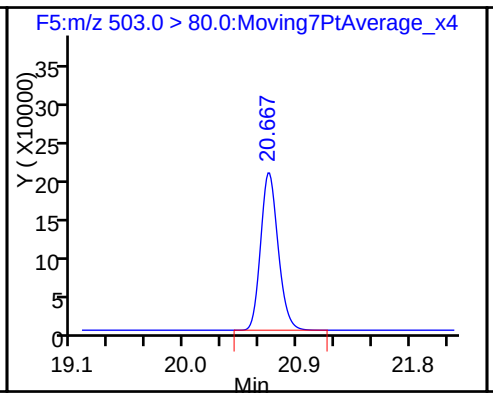
6 Perfluorooctanoic acid



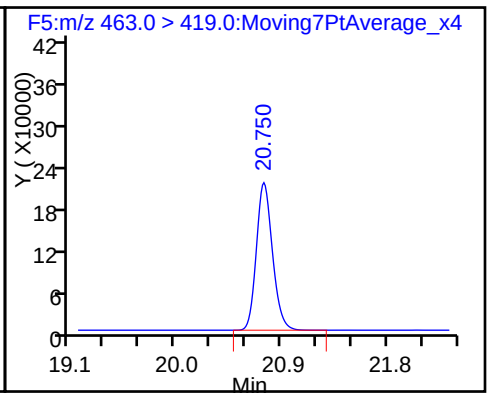
7 Perfluorooctane sulfonic acid



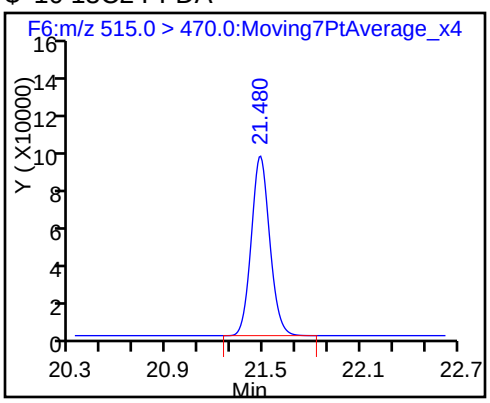
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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

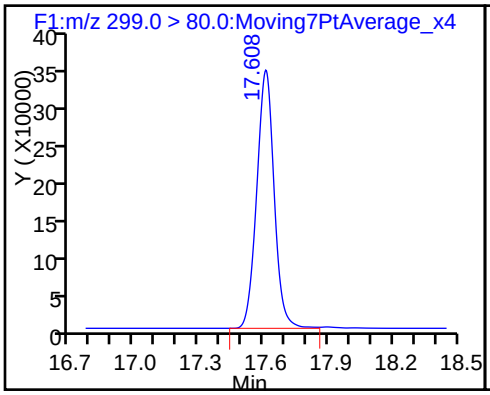
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.608	0.0	1.000	1927256	47.4	1049	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	928189	10.0	29771	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	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:

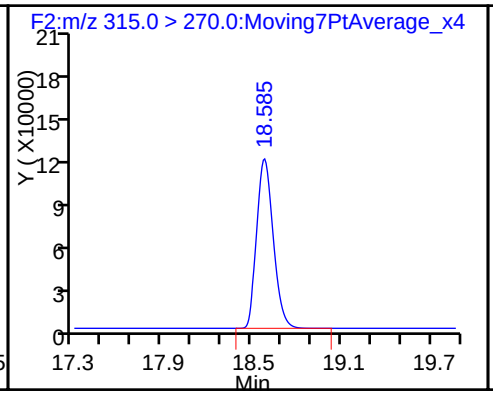
LC537-L3_00016 Amount Added: 1.00 Units: mL

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

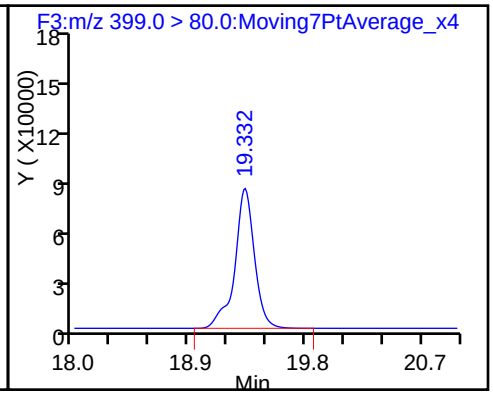
1 Perfluorobutanesulfonic acid



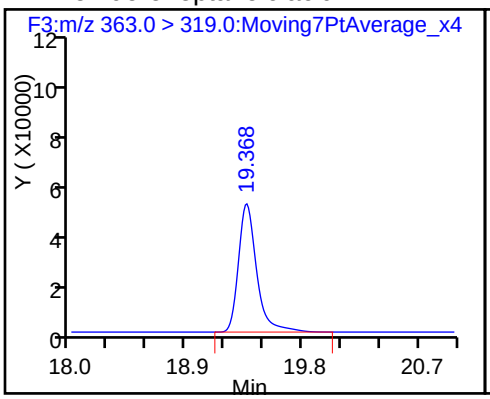
$ 2 13C2 PFHxA



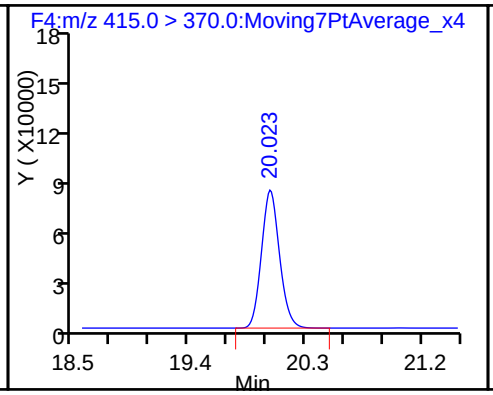
3 Perfluorohexanesulfonic acid



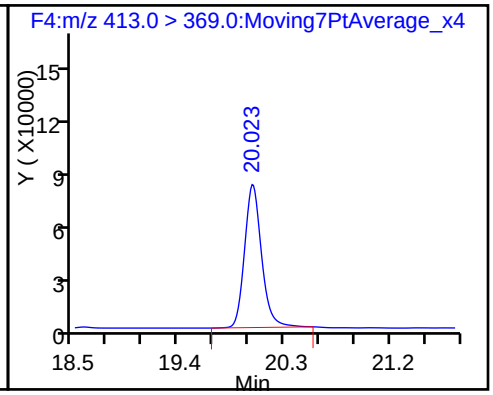
4 Perfluoroheptanoic acid



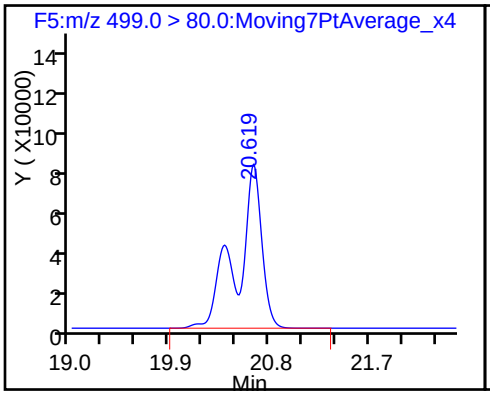
* 5 13C2-PFOA



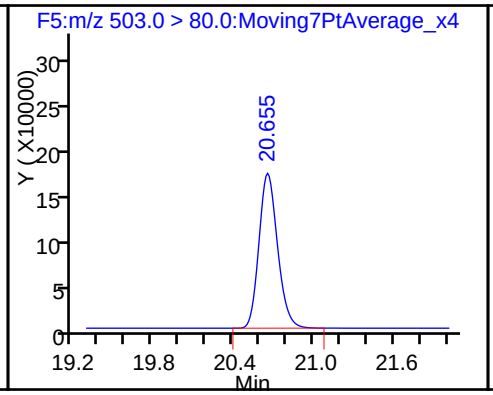
6 Perfluorooctanoic acid



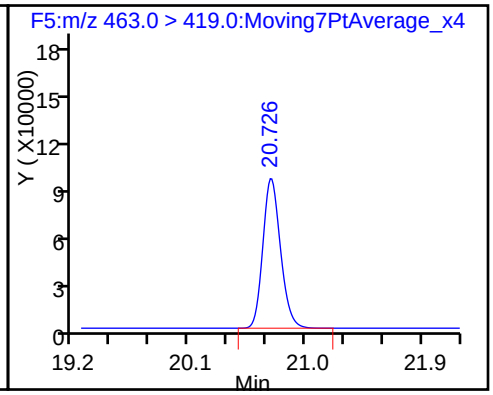
7 Perfluorooctane sulfonic acid



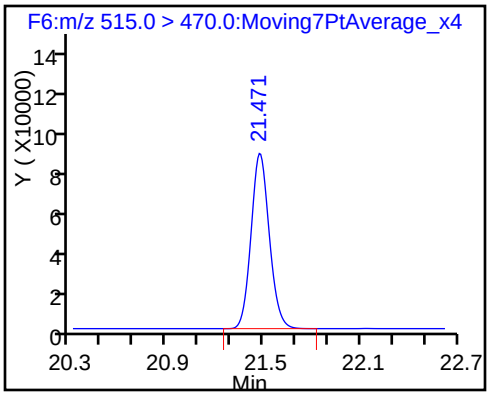
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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.: 320-23928-1

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

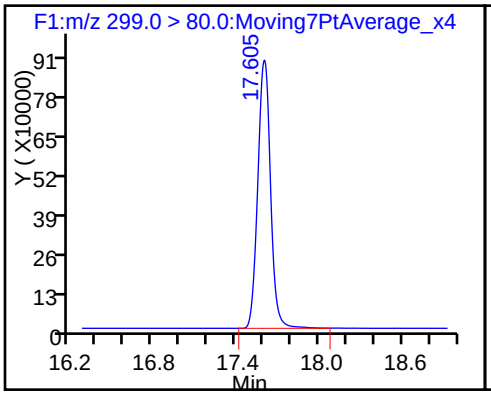
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.605	17.605	0.0	1.000	5769351	140.1	5239	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	985463	10.7	31081	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	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:

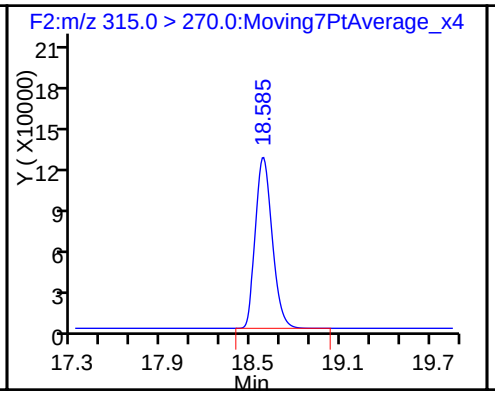
LC537-L5_00017 Amount Added: 1.00 Units: mL

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

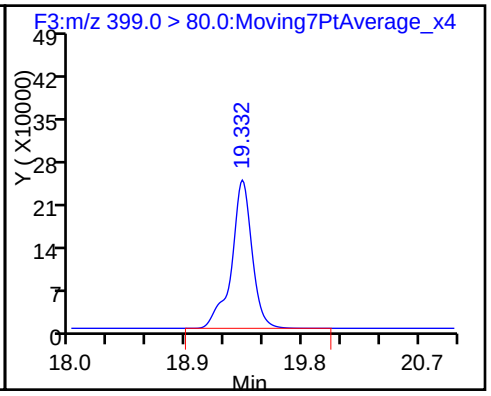
1 Perfluorobutanesulfonic acid



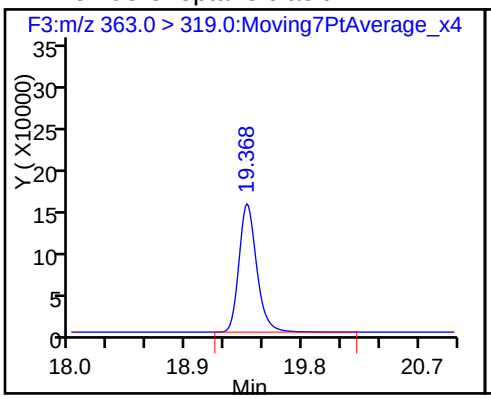
$ 2 13C2 PFHxA



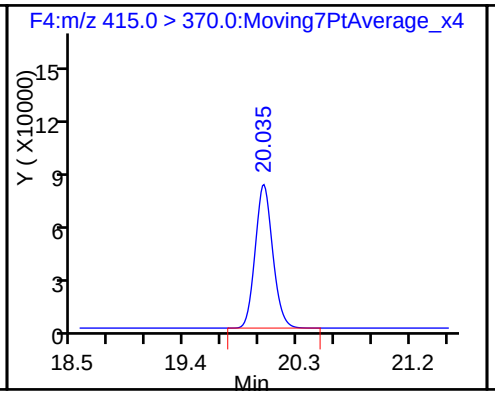
3 Perfluorohexanesulfonic acid



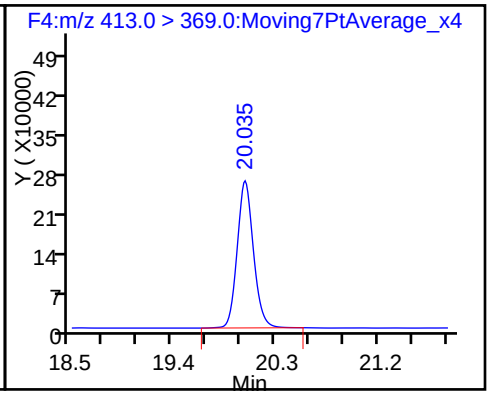
4 Perfluoroheptanoic acid



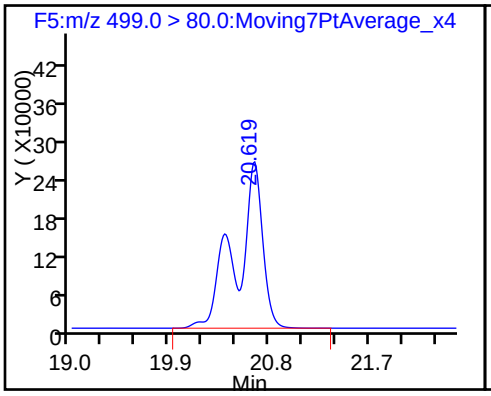
* 5 13C2-PFOA



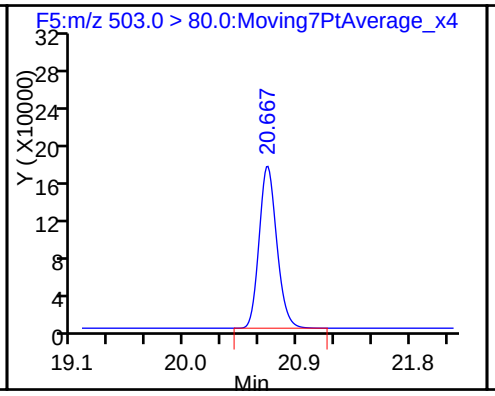
6 Perfluorooctanoic acid



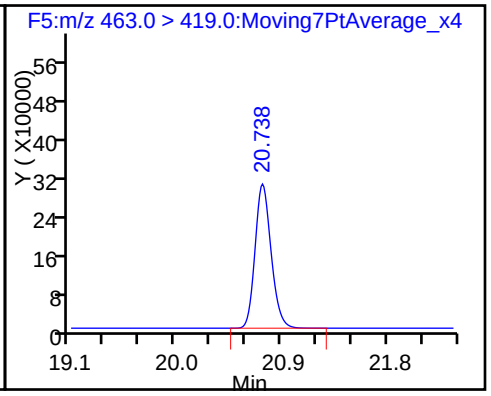
7 Perfluorooctane sulfonic acid



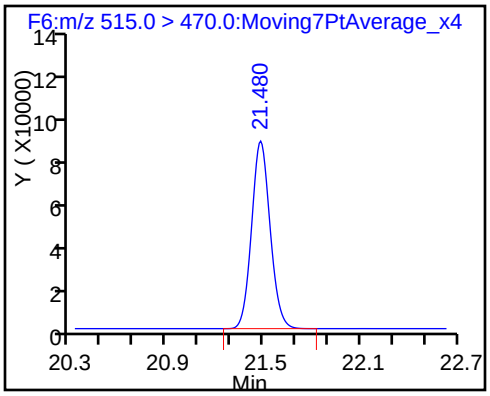
* 8 13C4 PFOS



9 Perfluorononanoic acid

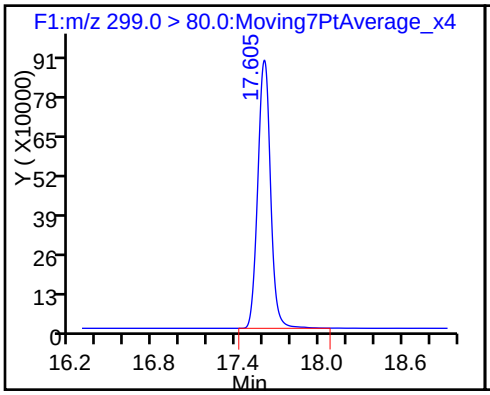


$ 10 13C2 PFDA

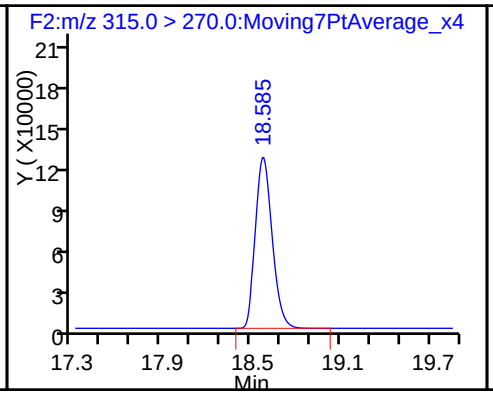


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_203.d
Injection Date: 09-Dec-2016 20:58:38 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 28
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

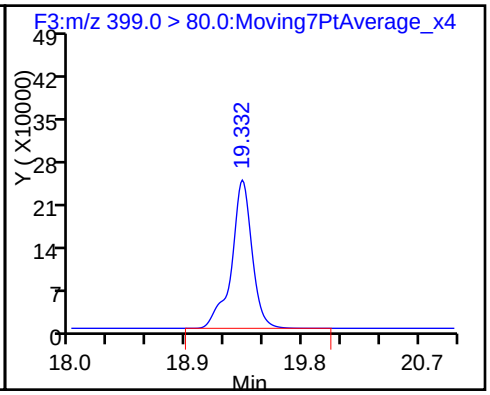
1 Perfluorobutanesulfonic acid



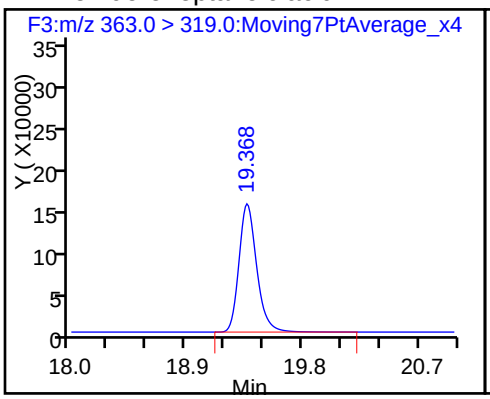
$ 2 13C2 PFHxA



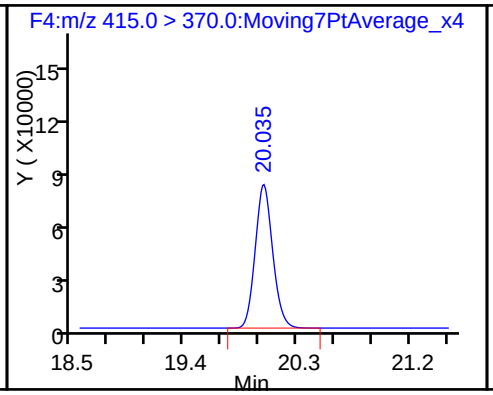
3 Perfluorohexanesulfonic acid



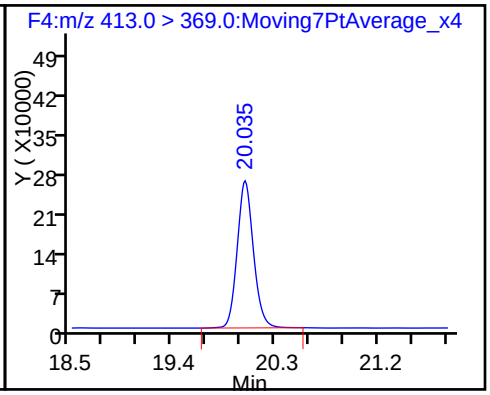
4 Perfluoroheptanoic acid



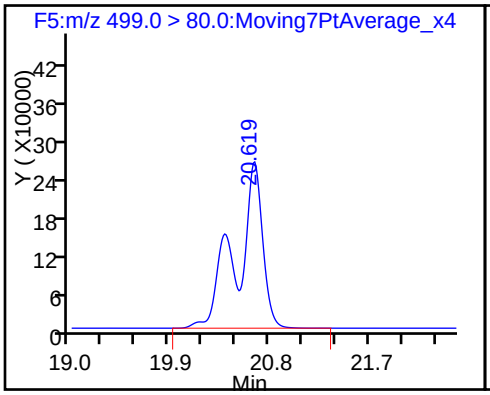
* 5 13C2-PFOA



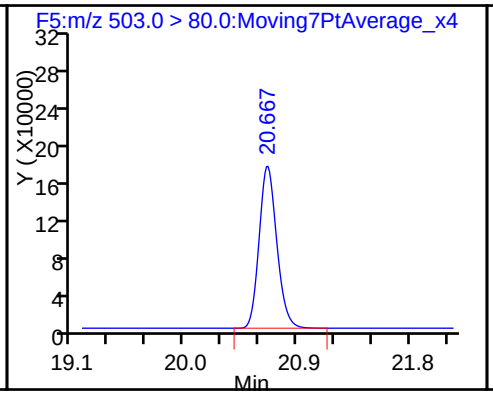
6 Perfluorooctanoic acid



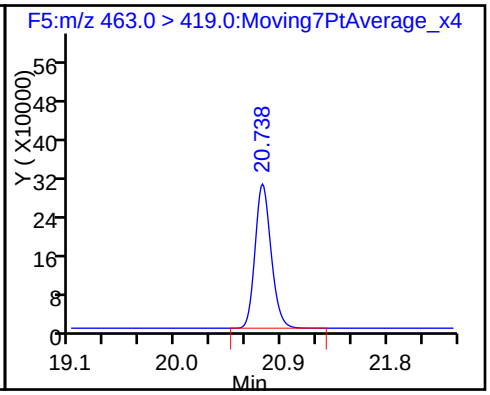
7 Perfluorooctane sulfonic acid



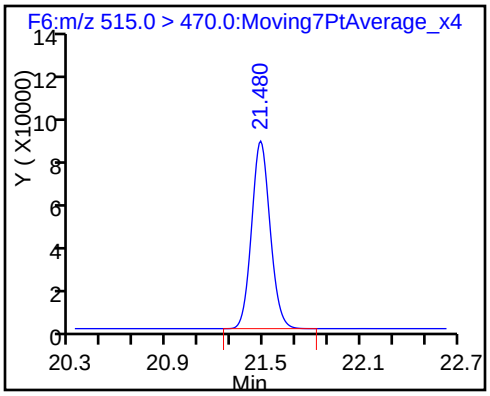
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141293/41 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

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

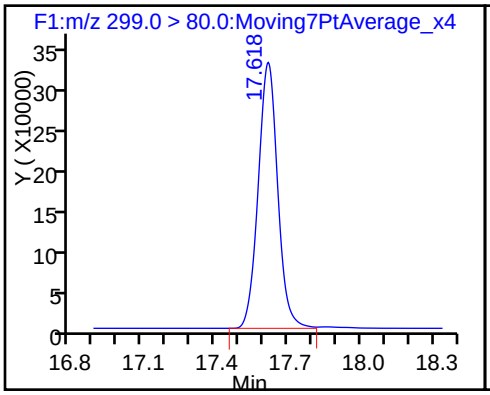
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.618	0.0	1.000	1864051	47.4	851	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	919907	11.0	29629	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	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:

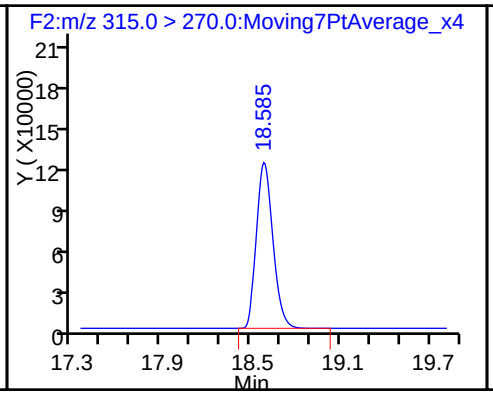
LC537-L3_00016 Amount Added: 1.00 Units: mL

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

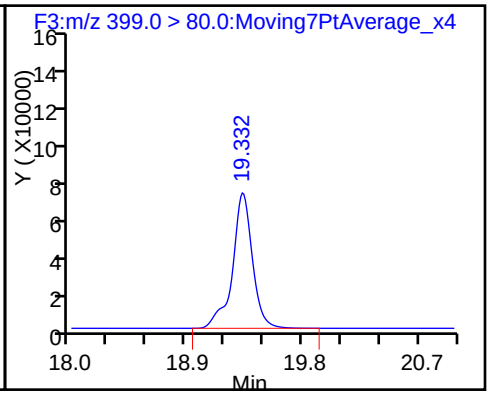
1 Perfluorobutanesulfonic acid



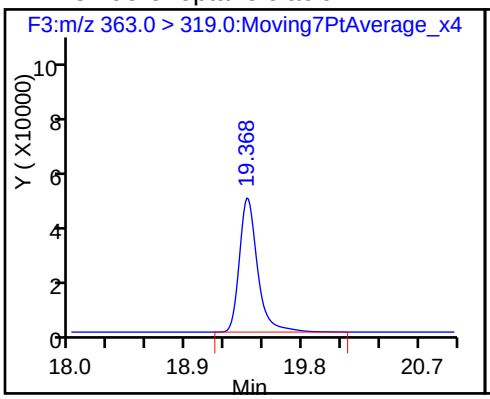
$ 2 13C2 PFHxA



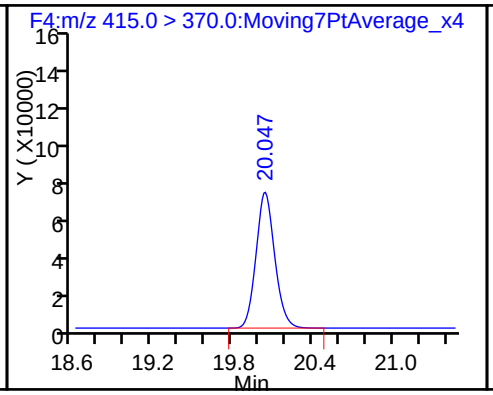
3 Perfluorohexanesulfonic acid



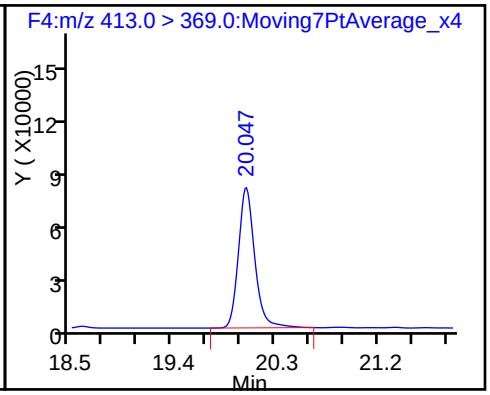
4 Perfluoroheptanoic acid



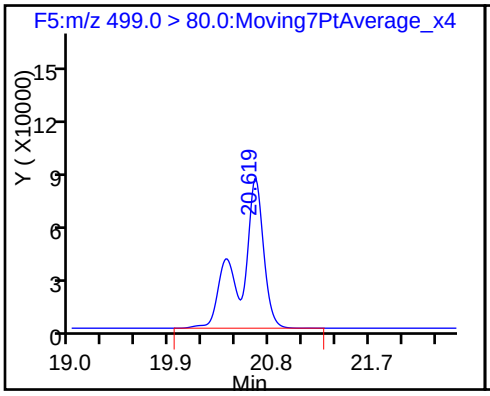
* 5 13C2-PFOA



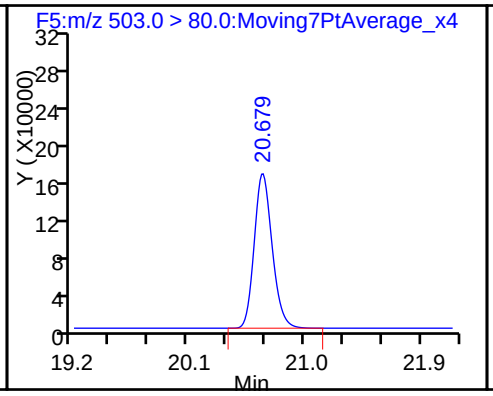
6 Perfluorooctanoic acid



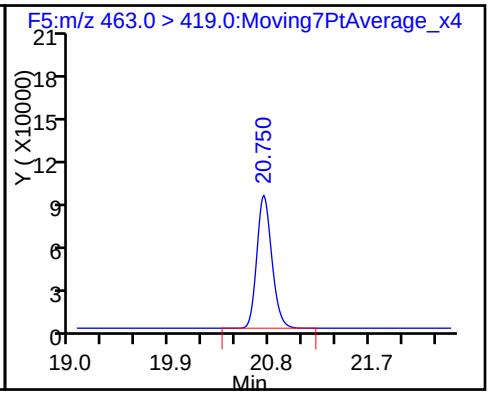
7 Perfluorooctane sulfonic acid



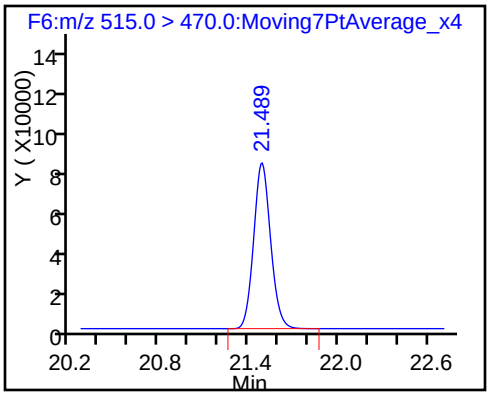
* 8 13C4 PFOS



9 Perfluorononanoic acid

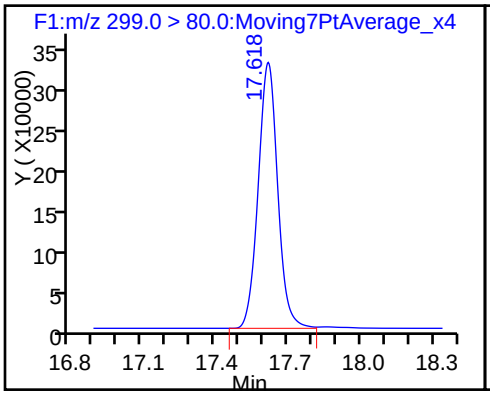


$ 10 13C2 PFDA

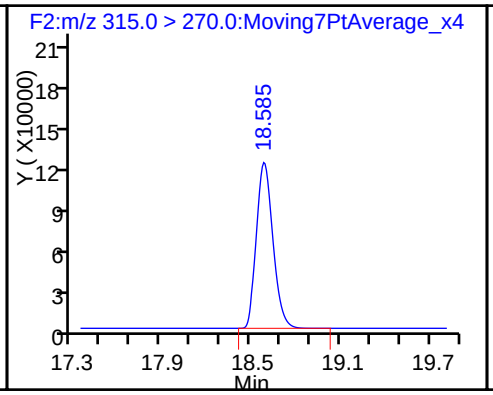


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_216.d
Injection Date: 10-Dec-2016 03:23:27 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 41
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

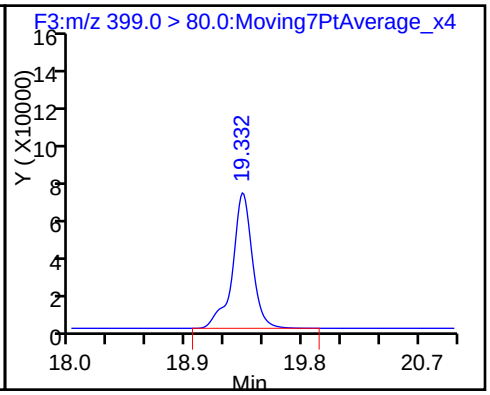
1 Perfluorobutanesulfonic acid



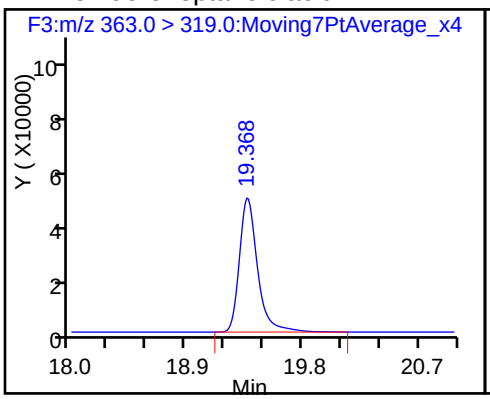
$ 2 13C2 PFHxA



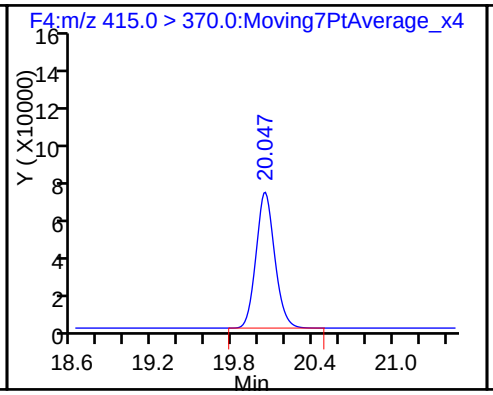
3 Perfluorohexanesulfonic acid



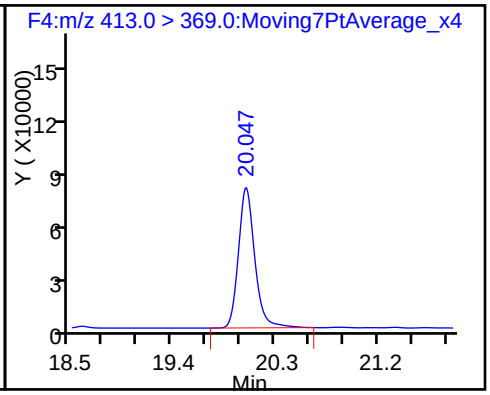
4 Perfluoroheptanoic acid



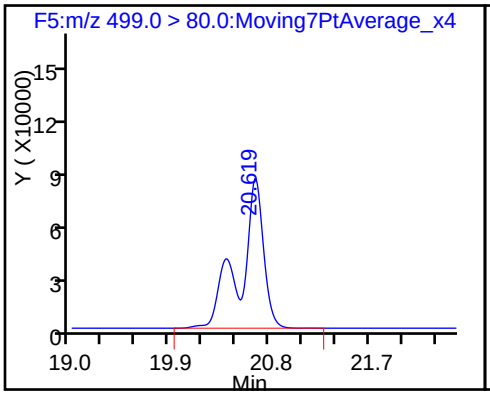
* 5 13C2-PFOA



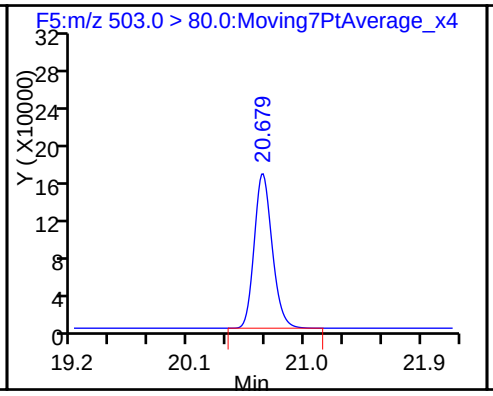
6 Perfluorooctanoic acid



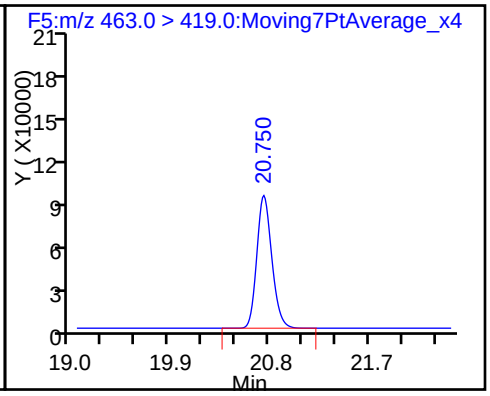
7 Perfluorooctane sulfonic acid



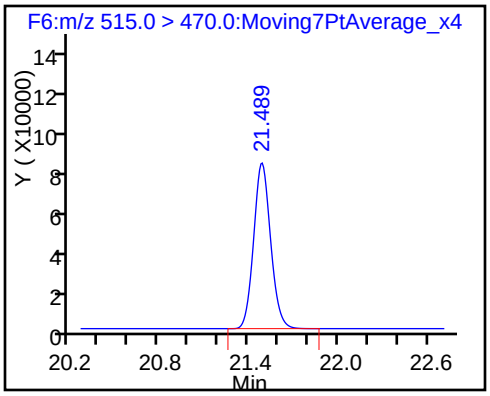
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141293/54 Calibration Date: 12/10/2016 09:48

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_229.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	0.7130		137	135	1.6	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9835		49.7	45.4	9.5	30.0
Perfluoroheptanoic acid	Ave	1.215	1.278		16.1	15.3	5.2	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.108		32.4	30.4	6.5	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.222		70.3	60.1	17.0	30.0
Perfluorononanoic acid	Ave	1.134	1.215		31.6	29.5	7.1	30.0
13C2 PFHxA	Ave	1.167	1.342		11.5	10.0	15.0	30.0
13C2 PFDA	Ave	0.8763	0.9252		10.6	10.0	5.6	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141294/54 Calibration Date: 12/10/2016 09:48

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_229.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	0.7130		137	135	1.6	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9835		49.7	45.4	9.5	30.0
Perfluoroheptanoic acid	Ave	1.215	1.278		16.1	15.3	5.2	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.108		32.4	30.4	6.5	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.222		70.3	60.1	17.0	30.0
Perfluorononanoic acid	Ave	1.134	1.215		31.6	29.5	7.1	30.0
13C2 PFHxA	Ave	1.167	1.342		11.5	10.0	15.0	30.0
13C2 PFDA	Ave	0.8763	0.9252		10.6	10.0	5.6	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_229.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 09:48:17 ALS Bottle#: 5 Worklist Smp#: 54
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 11:41:34 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: 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	5218164	136.9	7780	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	988811	11.5	31522	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	2426419	49.7	36810	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	1438324	16.1	14939	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		736856	10.0	18763	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	2482640	32.4	1257	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	3990970	70.3	12162	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1558901	28.7	39879	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	2638373	31.6	54974	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	681741	10.6	21491	

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_229.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 09:48:17 ALS Bottle#: 5 Worklist Smp#: 54
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 11:41:34 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: XAWRK018

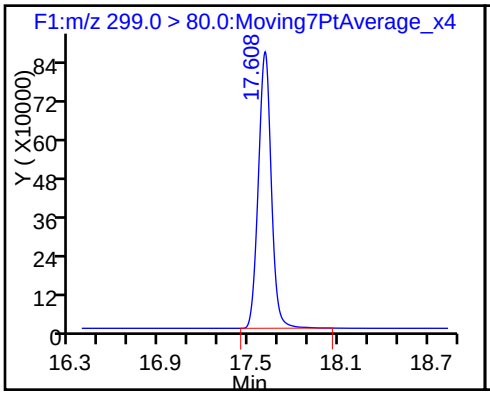
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.608	0.0	1.000	5218164	136.9	7780	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	988811	11.5	31522	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	2426419	49.7	36810	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	1438324	16.1	14939	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		736856	10.0	18763	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	2482640	32.4	1257	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	3990970	70.3	12162	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1558901	28.7	39879	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	2638373	31.6	54974	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	681741	10.6	21491	

Reagents:

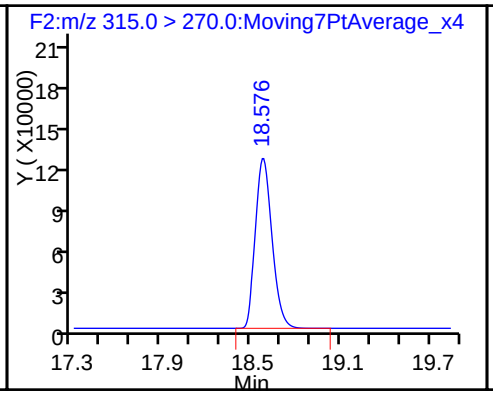
LC537-L5_00017 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_229.d
Injection Date: 10-Dec-2016 09:48:17 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 54
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

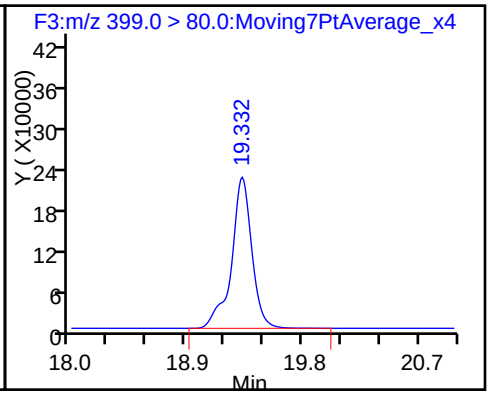
1 Perfluorobutanesulfonic acid



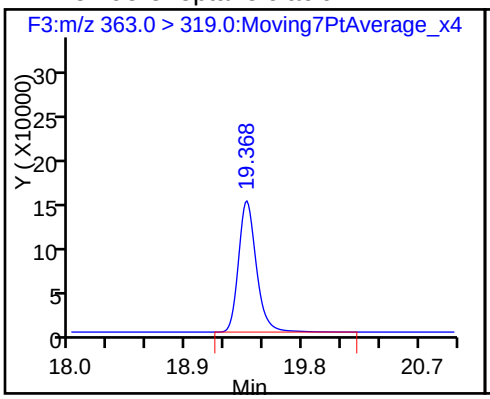
$ 2 13C2 PFHxA



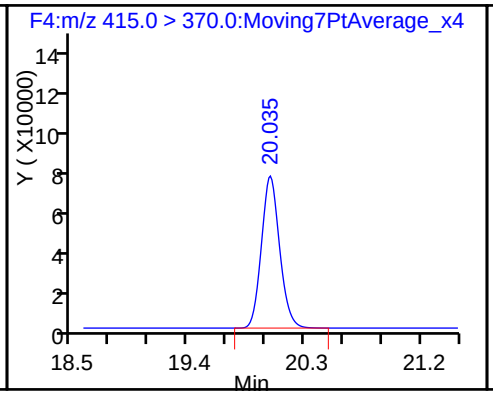
3 Perfluorohexanesulfonic acid



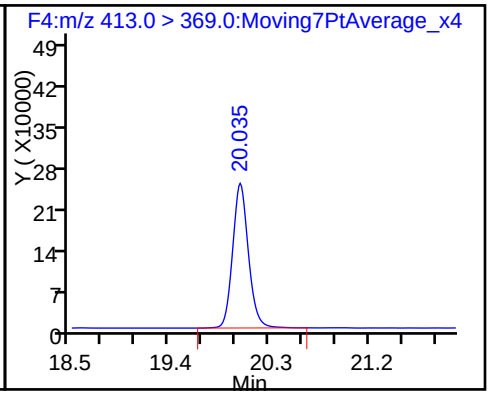
4 Perfluoroheptanoic acid



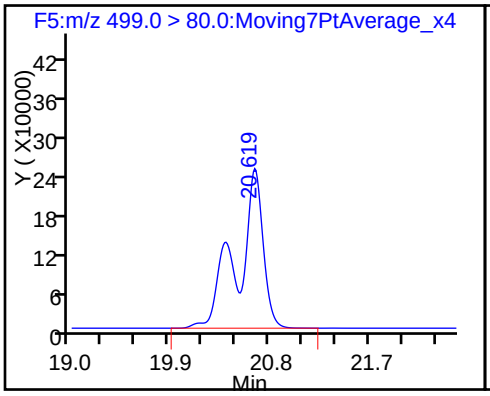
* 5 13C2-PFOA



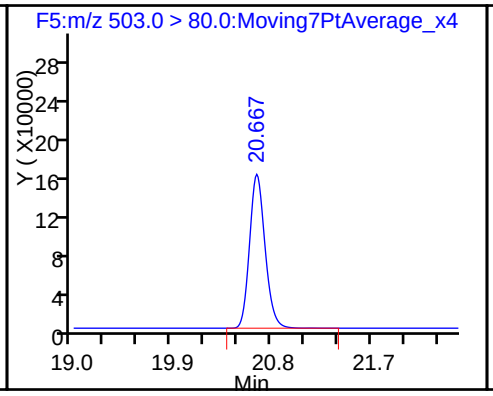
6 Perfluorooctanoic acid



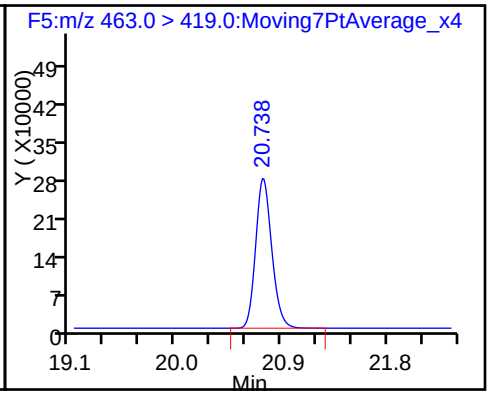
7 Perfluorooctane sulfonic acid



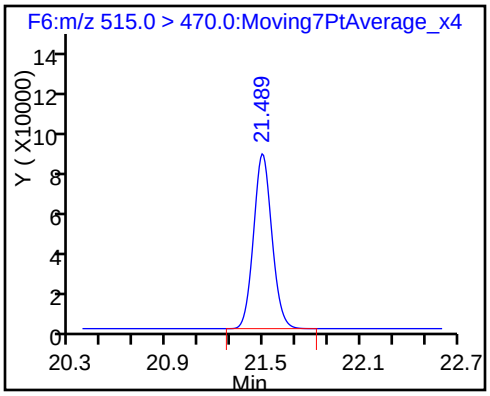
* 8 13C4 PFOS



9 Perfluorononanoic acid

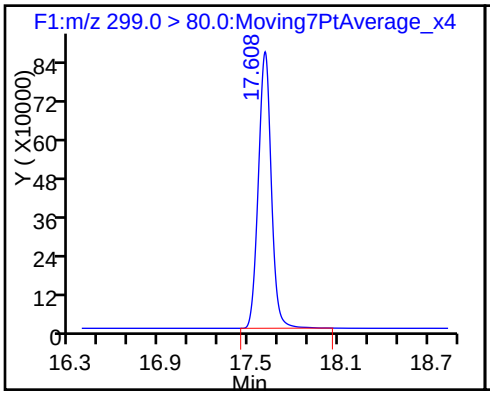


$ 10 13C2 PFDA

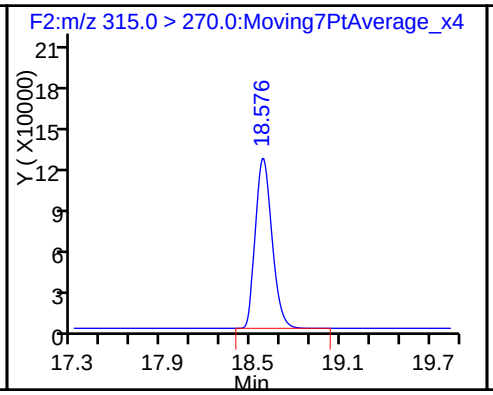


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_229.d
Injection Date: 10-Dec-2016 09:48:17 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 54
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

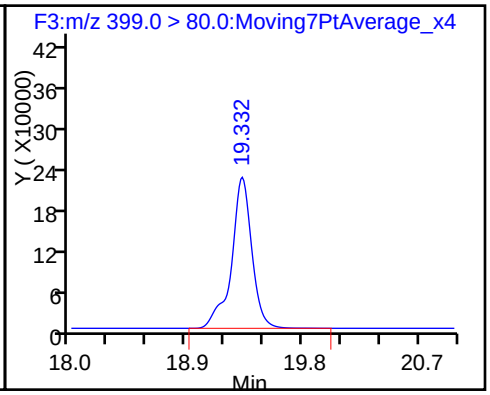
1 Perfluorobutanesulfonic acid



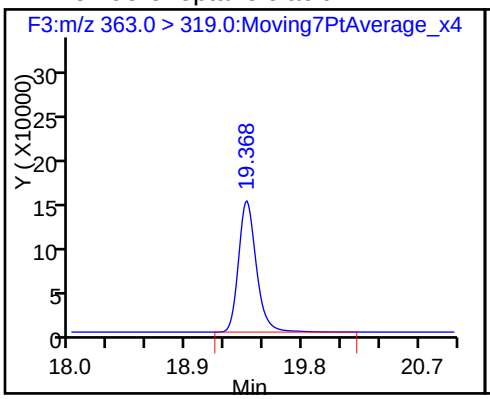
$ 2 13C2 PFHxA



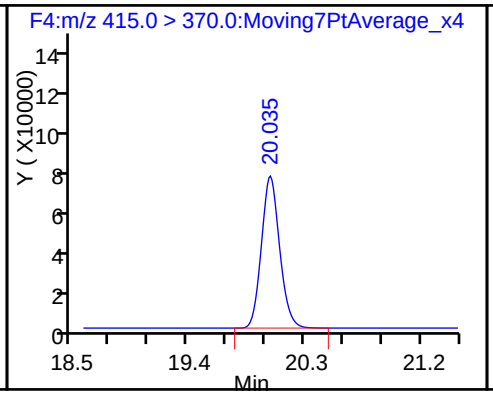
3 Perfluorohexanesulfonic acid



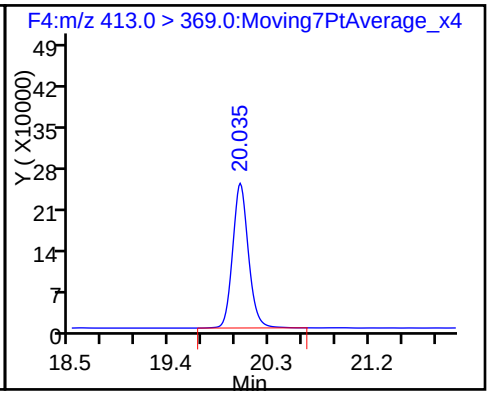
4 Perfluoroheptanoic acid



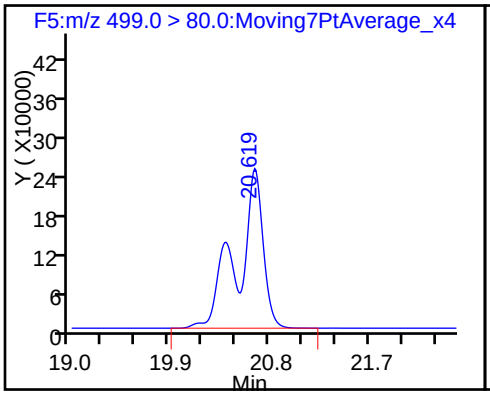
* 5 13C2-PFOA



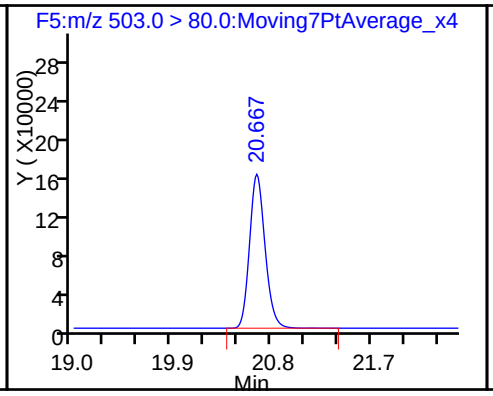
6 Perfluorooctanoic acid



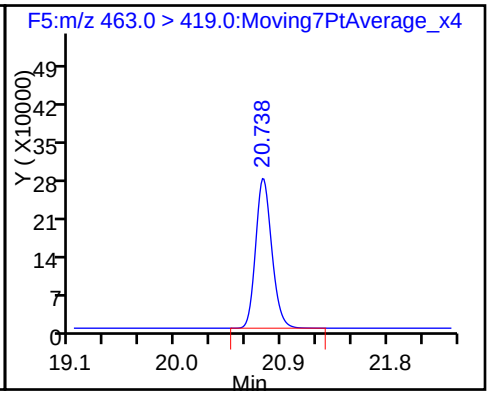
7 Perfluorooctane sulfonic acid



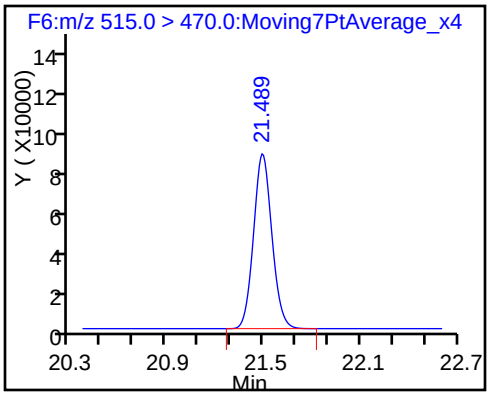
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141294/67 Calibration Date: 12/10/2016 16:13

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_242.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	0.7541		48.5	45.1	7.5	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9485		16.1	15.2	5.6	30.0
Perfluoroheptanoic acid	Ave	1.215	1.397		5.88	5.12	14.9	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.077		10.5	10.2	3.5	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.134		21.9	20.1	8.6	30.0
Perfluorononanoic acid	Ave	1.134	1.186		10.3	9.87	4.6	30.0
13C2 PFHxA	Ave	1.167	1.265		10.8	10.0	8.5	30.0
13C2 PFDA	Ave	0.8763	0.9446		10.8	10.0	7.8	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141295/67 Calibration Date: 12/10/2016 16:13

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_242.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	0.7541		48.5	45.1	7.5	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9485		16.1	15.2	5.6	30.0
Perfluoroheptanoic acid	Ave	1.215	1.397		5.88	5.12	14.9	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.077		10.5	10.2	3.5	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.134		21.9	20.1	8.6	30.0
Perfluorononanoic acid	Ave	1.134	1.186		10.3	9.87	4.6	30.0
13C2 PFHxA	Ave	1.167	1.265		10.8	10.0	8.5	30.0
13C2 PFDA	Ave	0.8763	0.9446		10.8	10.0	7.8	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_242.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 16:13:11 ALS Bottle#: 3 Worklist Smp#: 67
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 10:35:33 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	17.602	17.602	0.0	1.000	1819466	48.5	1210	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	843306	10.8	27136	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	771459	16.1	18103	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	476314	5.88	12081	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		666434	10.0	17109	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	731223	10.5	740	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1221027	21.9	14270	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1534139	28.7	31721	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	780482	10.3	20722	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	629531	10.8	19736	

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_242.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 16:13:11 ALS Bottle#: 3 Worklist Smp#: 67
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 10:35:33 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

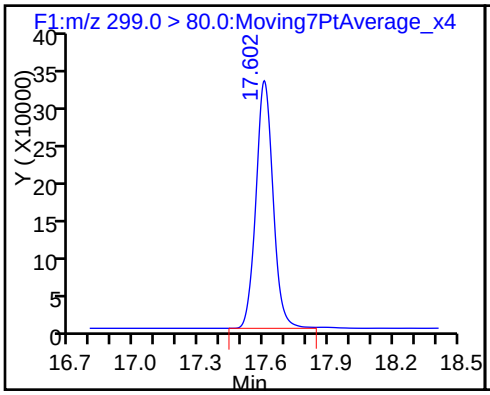
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.602	17.602	0.0	1.000	1819466	48.5	1210	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	843306	10.8	27136	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	771459	16.1	18103	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	476314	5.88	12081	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.035	0.0		666434	10.0	17109	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.035	0.0	1.000	731223	10.5	740	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1221027	21.9	14270	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1534139	28.7	31721	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.738	0.0	1.000	780482	10.3	20722	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	629531	10.8	19736	

Reagents:

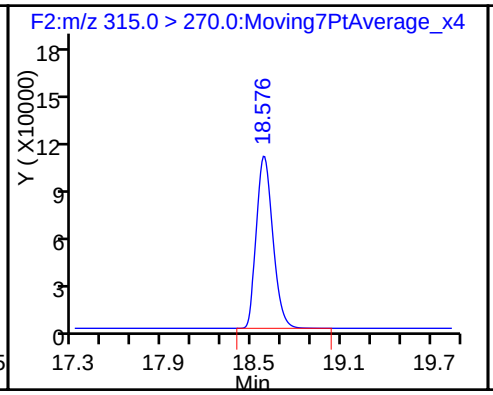
LC537-L3_00016 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_242.d
Injection Date: 10-Dec-2016 16:13:11 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 67
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

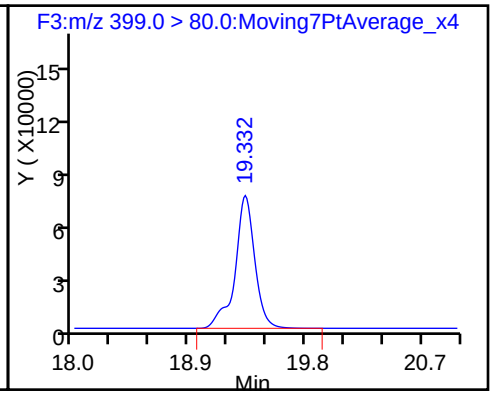
1 Perfluorobutanesulfonic acid



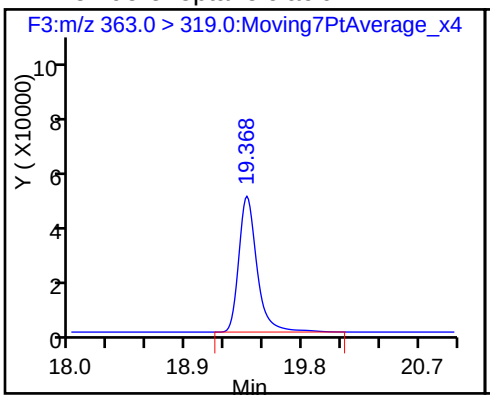
$ 2 13C2 PFHxA



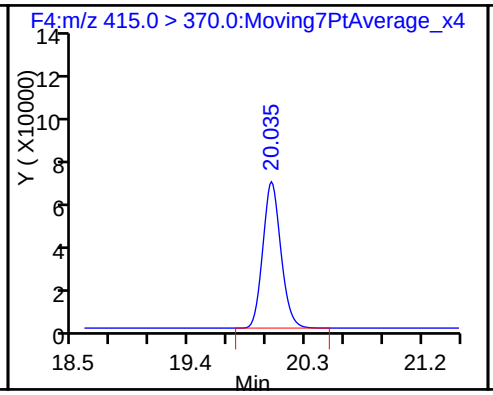
3 Perfluorohexanesulfonic acid



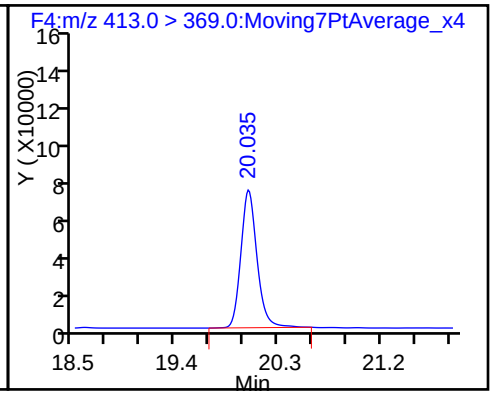
4 Perfluoroheptanoic acid



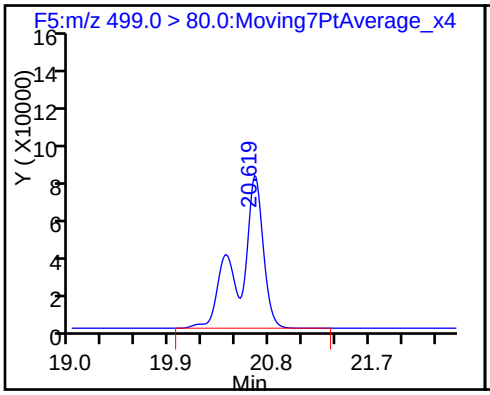
* 5 13C2-PFOA



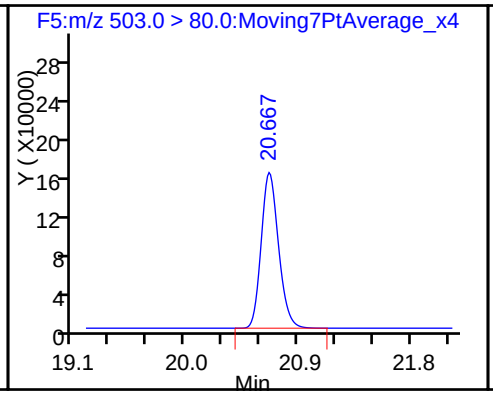
6 Perfluorooctanoic acid



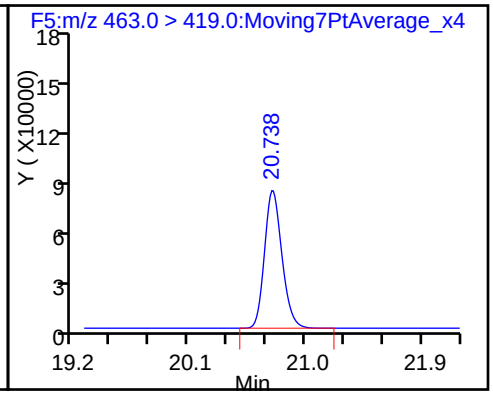
7 Perfluorooctane sulfonic acid



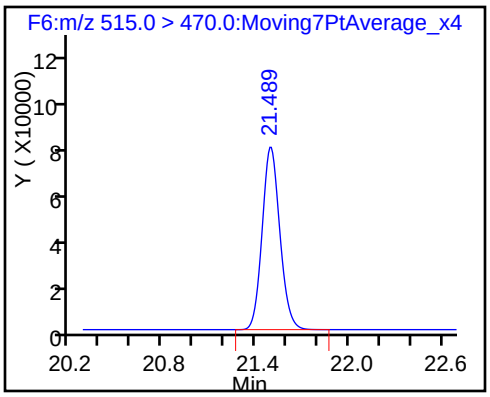
* 8 13C4 PFOS



9 Perfluorononanoic acid

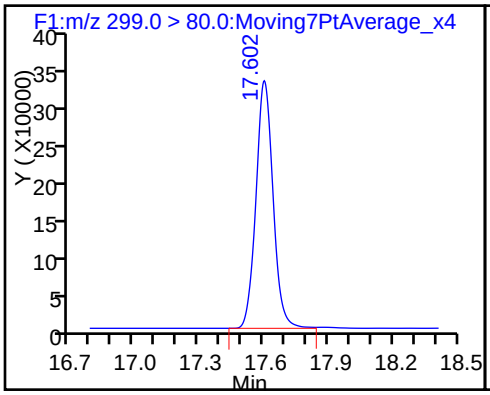


$ 10 13C2 PFDA

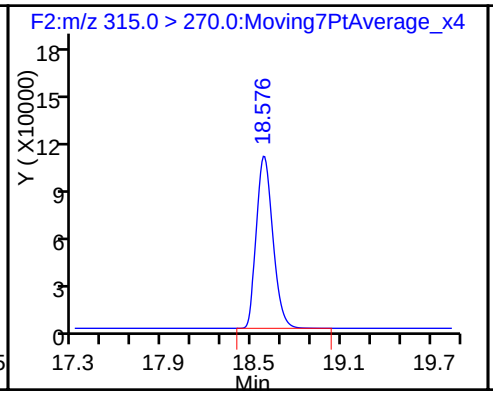


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_242.d
Injection Date: 10-Dec-2016 16:13:11 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 67
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

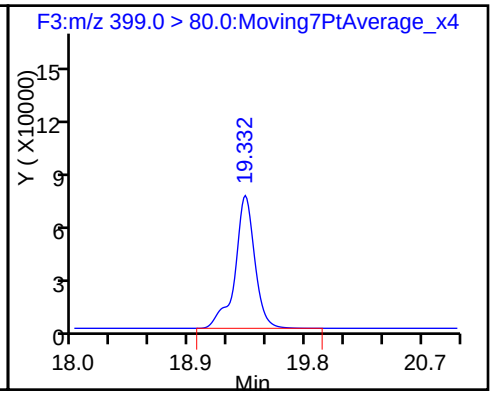
1 Perfluorobutanesulfonic acid



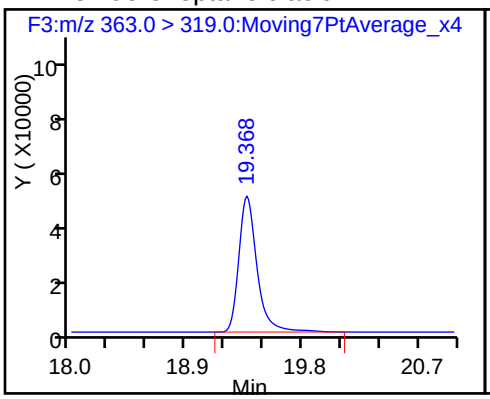
$ 2 13C2 PFHxA



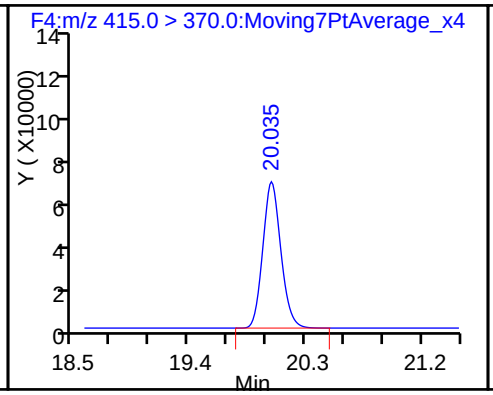
3 Perfluorohexanesulfonic acid



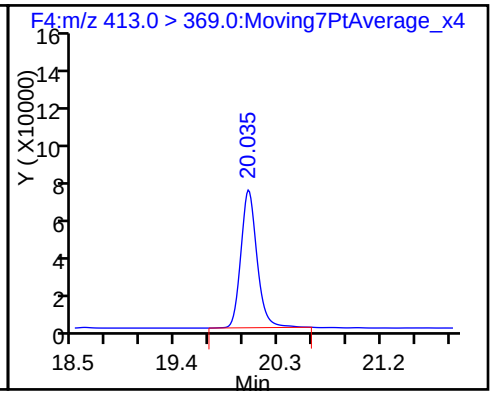
4 Perfluoroheptanoic acid



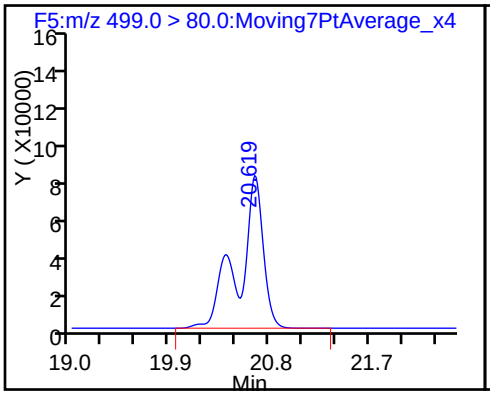
* 5 13C2-PFOA



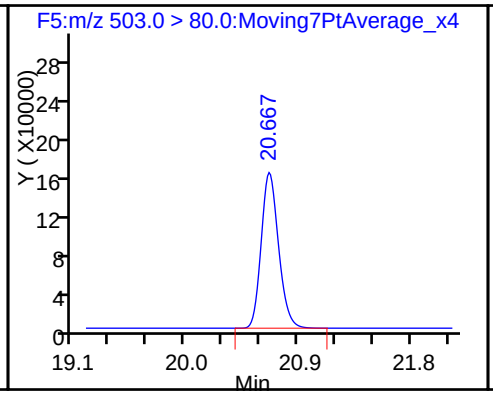
6 Perfluorooctanoic acid



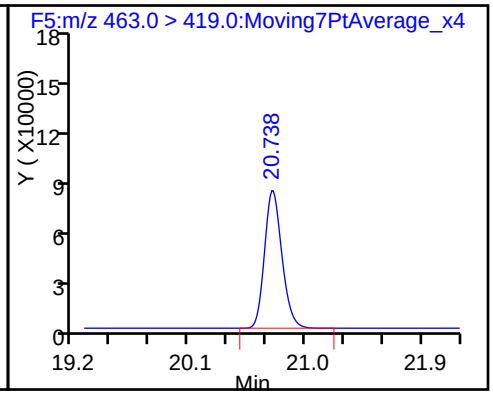
7 Perfluorooctane sulfonic acid



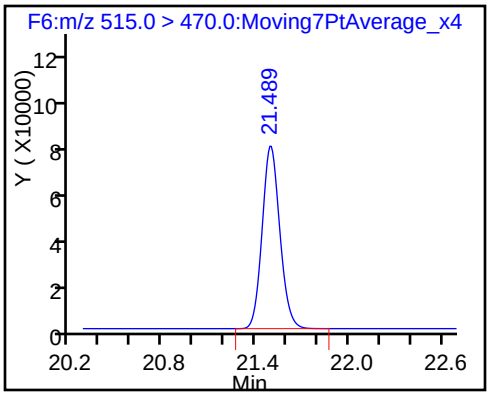
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141295/79 Calibration Date: 12/10/2016 22:08

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_254.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	0.7773		149	135	10.8	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.064		53.8	45.4	18.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.332		16.7	15.3	9.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.165		34.1	30.4	11.9	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.227		70.6	60.1	17.6	30.0
Perfluorononanoic acid	Ave	1.134	1.317		34.2	29.5	16.1	30.0
13C2 PFHxA	Ave	1.167	1.366		11.7	10.0	17.1	30.0
13C2 PFDA	Ave	0.8763	0.9842		11.2	10.0	12.3	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141475/79 Calibration Date: 12/10/2016 22:08

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_254.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	0.7773		149	135	10.8	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.064		53.8	45.4	18.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.332		16.7	15.3	9.6	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.165		34.1	30.4	11.9	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.227		70.6	60.1	17.6	30.0
Perfluorononanoic acid	Ave	1.134	1.317		34.2	29.5	16.1	30.0
13C2 PFHxA	Ave	1.167	1.366		11.7	10.0	17.1	30.0
13C2 PFDA	Ave	0.8763	0.9842		11.2	10.0	12.3	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_254.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 22:08:27 ALS Bottle#: 5 Worklist Smp#: 79
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 10:36:02 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: XAWRK002

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	5741956	149.2	7617	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	970669	11.7	41451	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	2648542	53.8	29971	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	1444808	16.7	18687	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		710350	10.0	18300	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	2516720	34.1	859	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.430	20.430	0.0	1.000	4046833	70.6	5394	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.690	0.0		1573578	28.7	17910	
9 Perfluorononanoic acid								
463.0 > 419.0	20.773	20.773	0.0	1.000	2757479	34.2	15209	
$ 10 13C2 PFDA								
515.0 > 470.0	21.506	21.506	0.0	1.000	699105	11.2	22021	

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_254.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 10-Dec-2016 22:08:27 ALS Bottle#: 5 Worklist Smp#: 79
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 10:36:02 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: XAWRK002

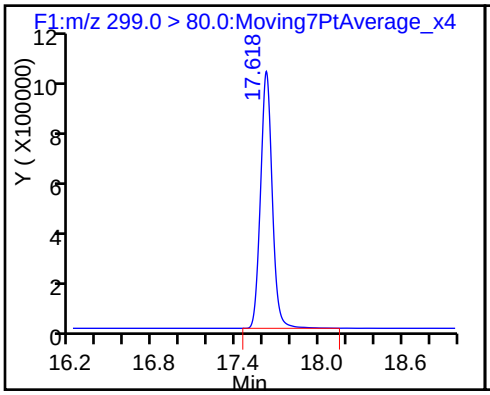
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.618	0.0	1.000	5741956	149.2	7617	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	970669	11.7	41451	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	2648542	53.8	29971	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.380	0.0	1.000	1444808	16.7	18687	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		710350	10.0	18300	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	2516720	34.1	859	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.430	20.430	0.0	1.000	4046833	70.6	5394	
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.690	0.0		1573578	28.7	17910	
9 Perfluorononanoic acid								
463.0 > 419.0	20.773	20.773	0.0	1.000	2757479	34.2	15209	
$ 10 13C2 PFDA								
515.0 > 470.0	21.506	21.506	0.0	1.000	699105	11.2	22021	

Reagents:

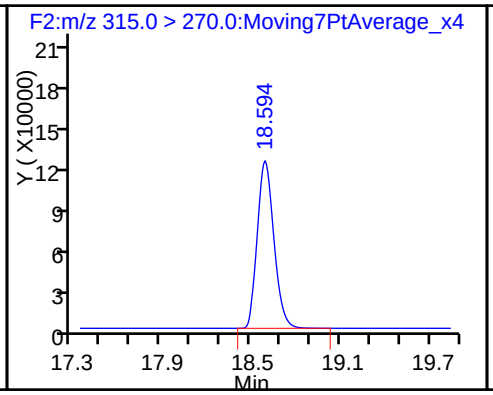
LC537-L5_00017 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_254.d
Injection Date: 10-Dec-2016 22:08:27 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 79
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

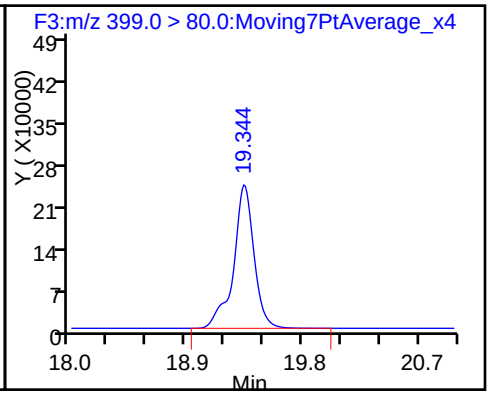
1 Perfluorobutanesulfonic acid



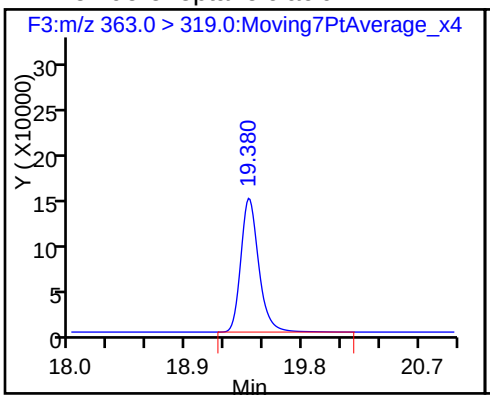
$ 2 13C2 PFHxA



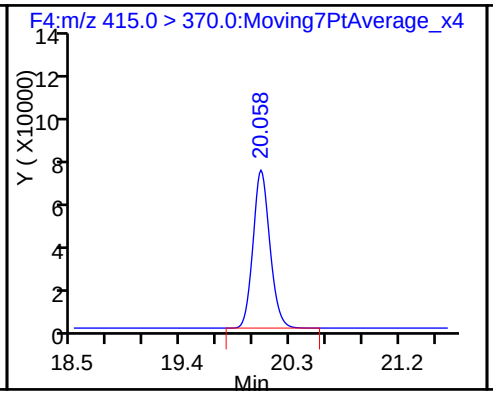
3 Perfluorohexanesulfonic acid



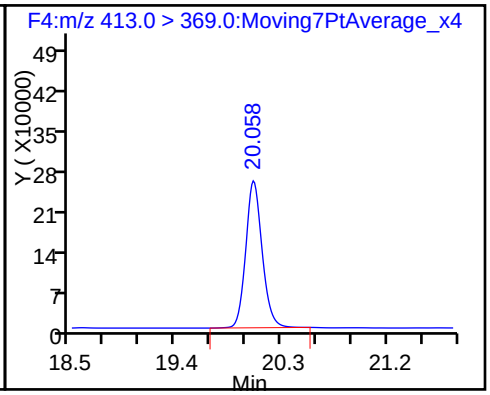
4 Perfluoroheptanoic acid



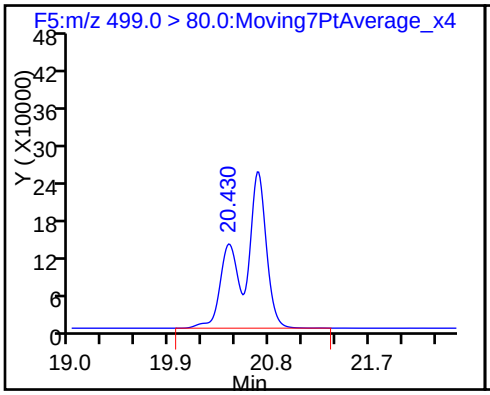
* 5 13C2-PFOA



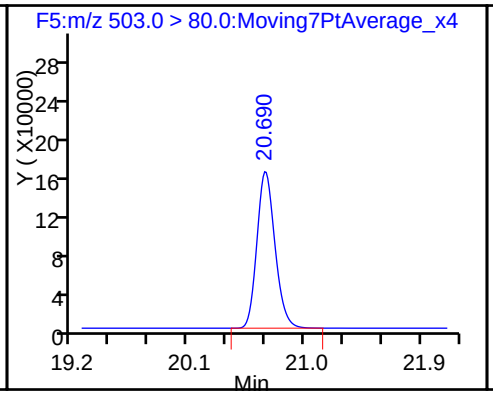
6 Perfluorooctanoic acid



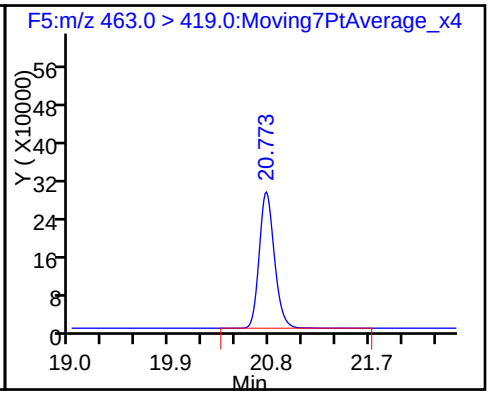
7 Perfluorooctane sulfonic acid



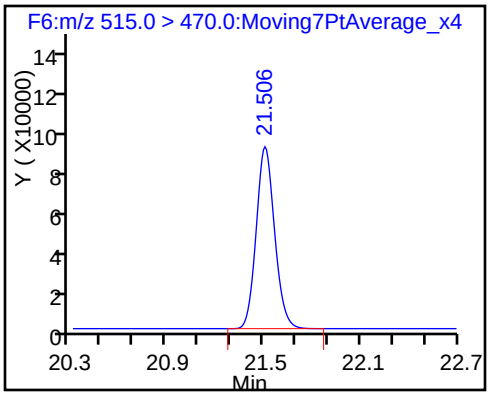
* 8 13C4 PFOS



9 Perfluorononanoic acid

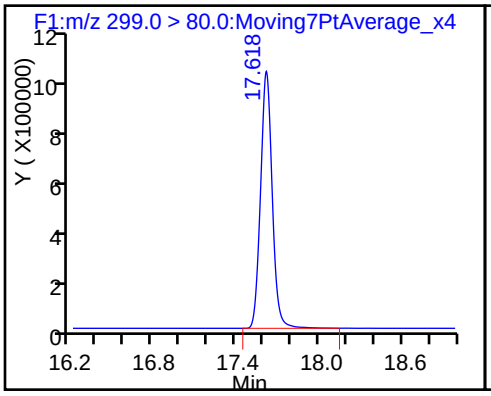


$ 10 13C2 PFDA

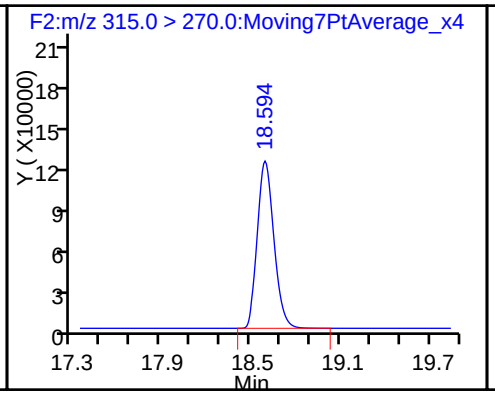


Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_254.d
Injection Date: 10-Dec-2016 22:08:27 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 79
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

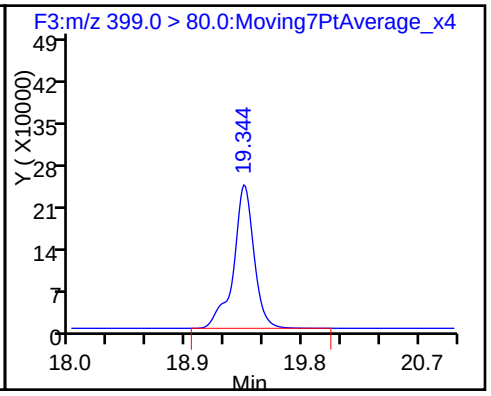
1 Perfluorobutanesulfonic acid



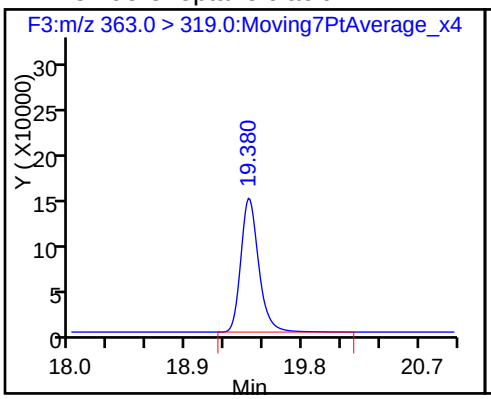
$ 2 13C2 PFHxA



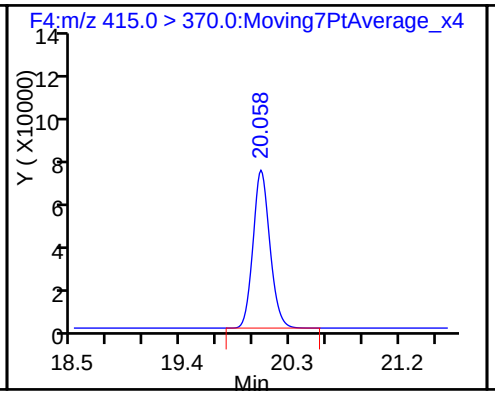
3 Perfluorohexanesulfonic acid



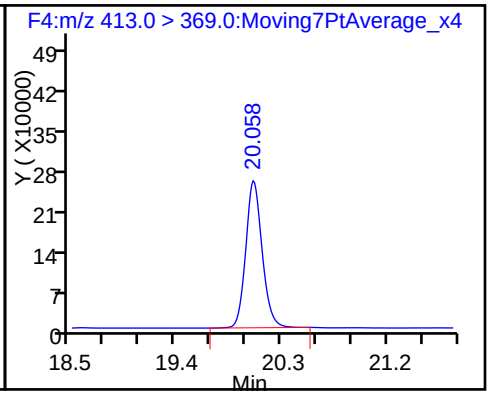
4 Perfluoroheptanoic acid



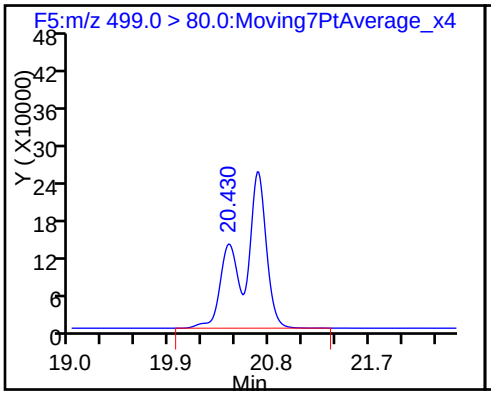
* 5 13C2-PFOA



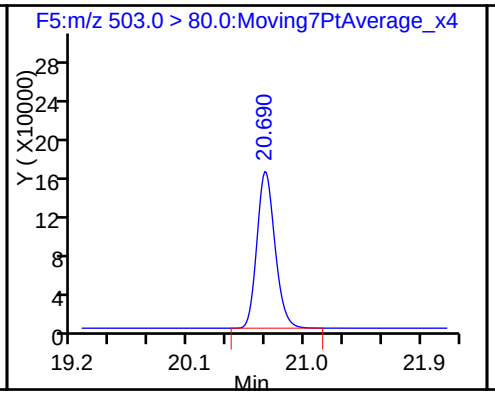
6 Perfluorooctanoic acid



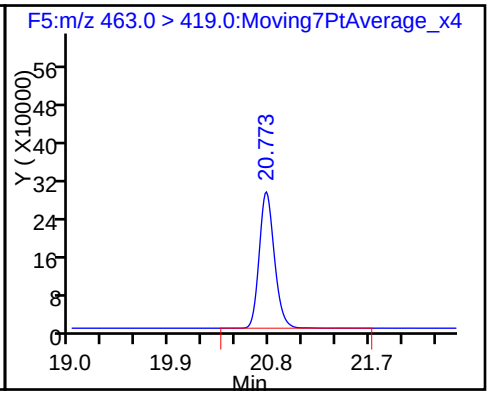
7 Perfluorooctane sulfonic acid



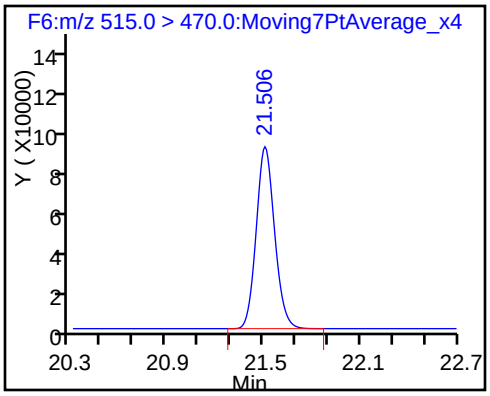
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141475/88 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

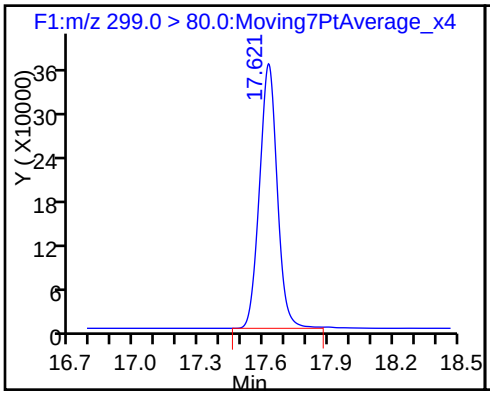
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.621	0.0	1.000	2102949	49.1	1266	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	982310	10.5	31145	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.356	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:

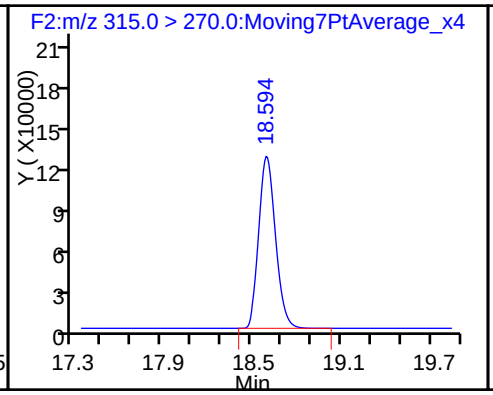
LC537-L3_00016 Amount Added: 1.00 Units: mL

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

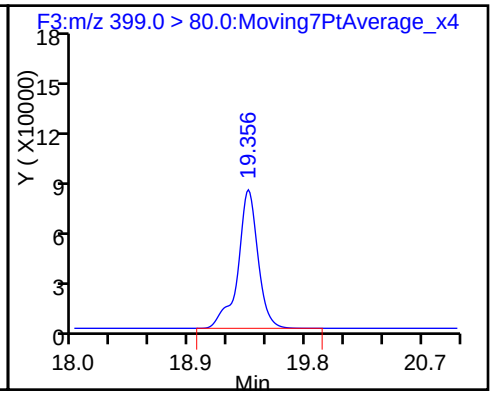
1 Perfluorobutanesulfonic acid



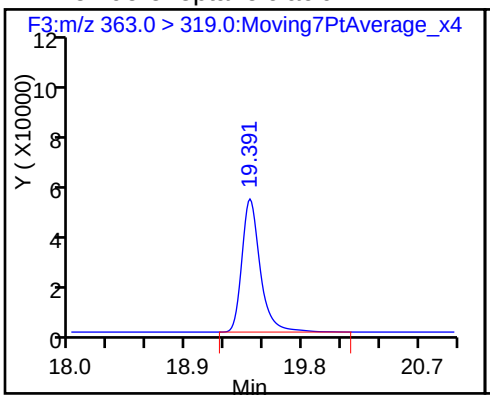
$ 2 13C2 PFHxA



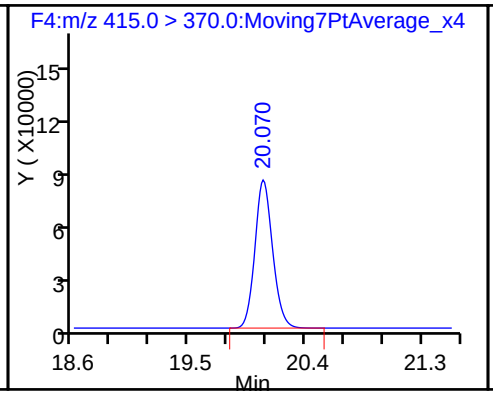
3 Perfluorohexanesulfonic acid



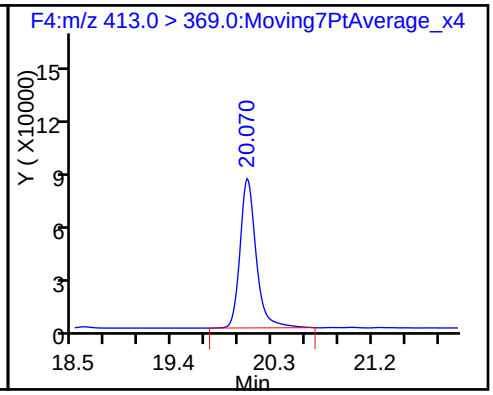
4 Perfluoroheptanoic acid



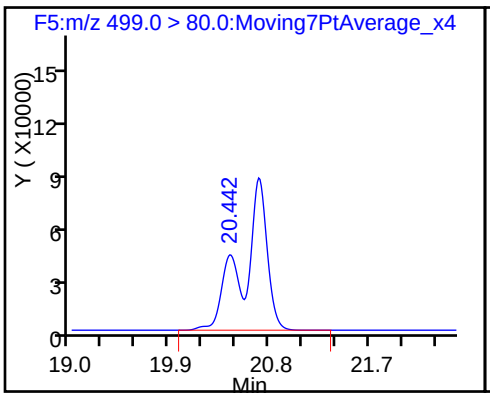
* 5 13C2-PFOA



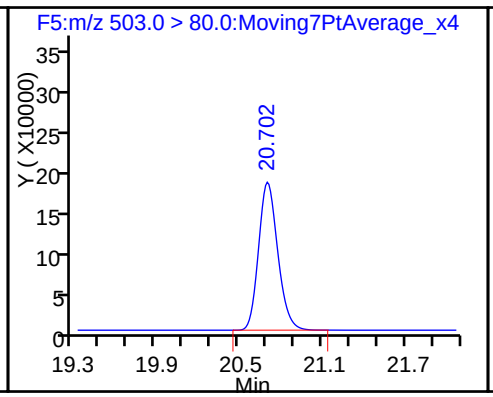
6 Perfluorooctanoic acid



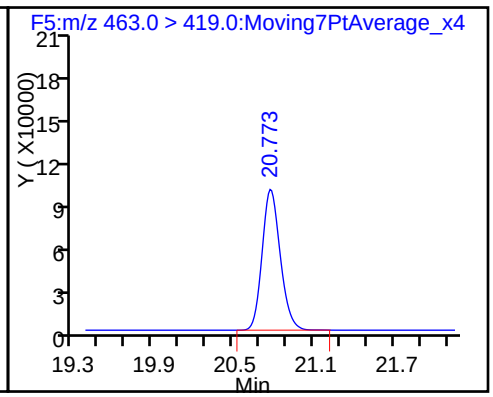
7 Perfluorooctane sulfonic acid



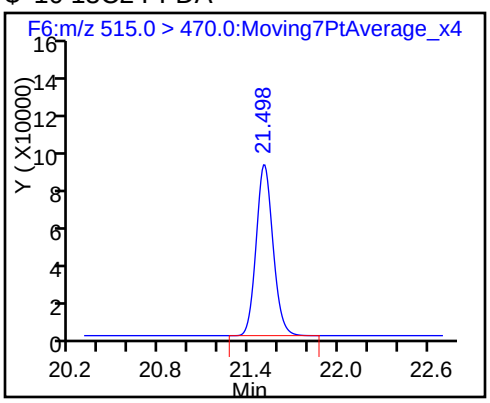
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141573/3 Calibration Date: 12/11/2016 12:02

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: 11DEC2016A6A_003.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	0.6477		21.1	22.9	-7.7	50.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.7642		6.57	7.72	-14.9	50.0
Perfluoroheptanoic acid	Ave	1.215	1.413		3.02	2.60	16.3	50.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.044		5.19	5.17	0.3	50.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	0.8884		8.69	10.2	-14.9	50.0
Perfluorononanoic acid	Ave	1.134	1.098		4.85	5.01	-3.2	50.0
13C2 PFHxA	Ave	1.167	1.108		9.50	10.0	-5.0	30.0
13C2 PFDA	Ave	0.8763	0.7903		9.02	10.0	-9.8	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_003.d
Lims ID: CCV L2
Client ID:
Sample Type: CCVL
Inject. Date: 11-Dec-2016 12:02:56 ALS Bottle#: 2 Worklist Smp#: 3
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\20161211-37708.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 12-Dec-2016 15:39:28 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: westendorfc Date: 11-Dec-2016 12:36:03

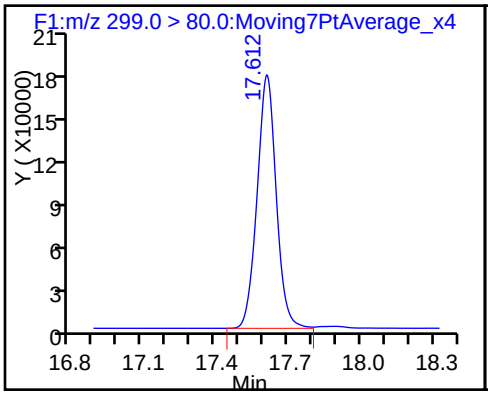
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.612	17.612	0.0	1.000	949190	21.1	569	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	889175	9.50	27996	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.356	0.0	1.000	377563	6.57	8685	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.391	19.391	0.0	1.000	294373	3.02	4026	
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		802153	10.0	20748	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.058	20.058	0.0	1.000	432862	5.19	181	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	581183	8.69	5853	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1836390	28.7	27361	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.750	0.0	1.000	441361	4.85	3888	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	633909	9.02	19884	

Reagents:

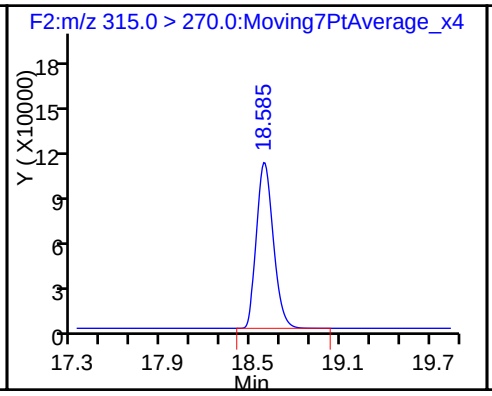
LC537-L2_00014 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_003.d
Injection Date: 11-Dec-2016 12:02:56 Instrument ID: A6
Lims ID: CCV 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

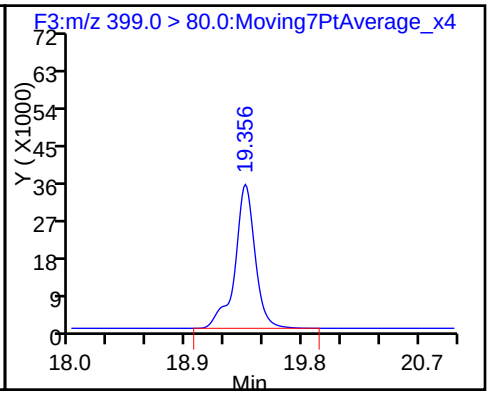
1 Perfluorobutanesulfonic acid



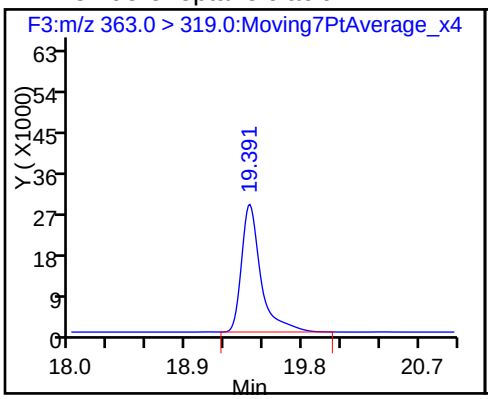
$ 2 13C2 PFHxA



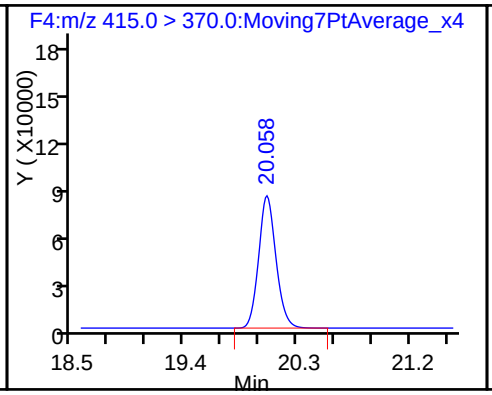
3 Perfluorohexanesulfonic acid



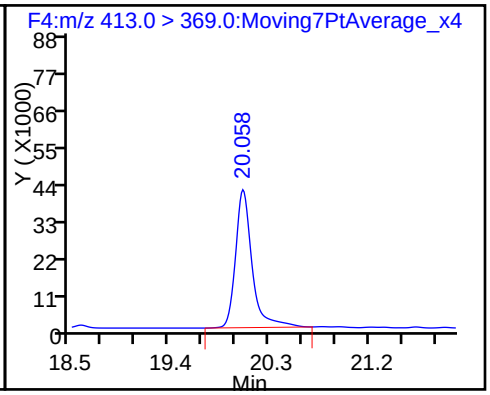
4 Perfluoroheptanoic acid



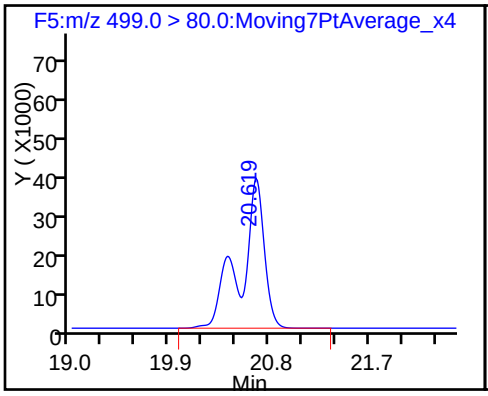
* 5 13C2-PFOA



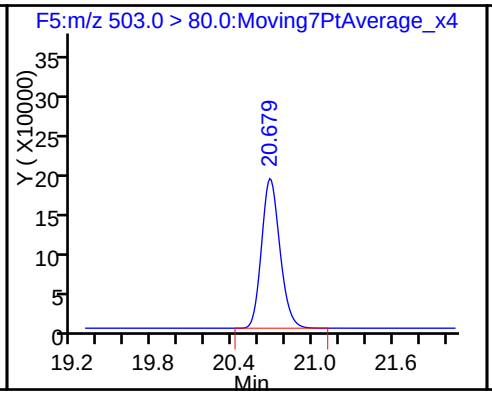
6 Perfluorooctanoic acid



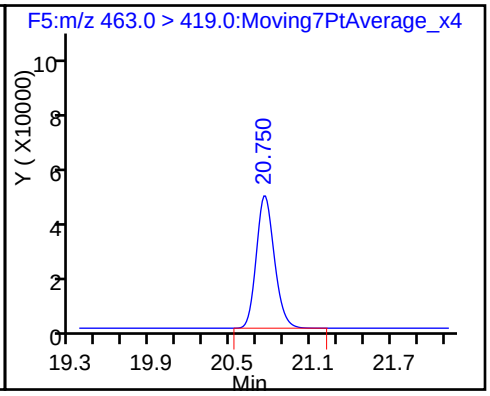
7 Perfluorooctane sulfonic acid



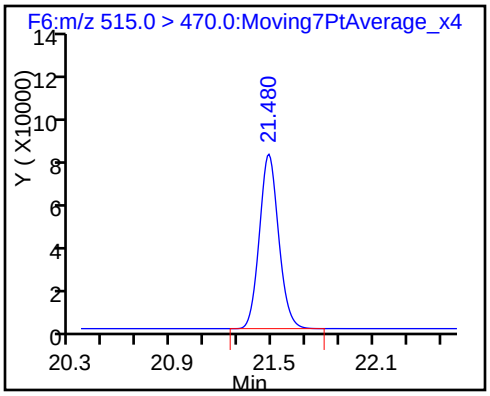
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141758/61 Calibration Date: 12/12/2016 16:39

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: 11DEC2016A6A_061.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	0.7349		47.3	45.1	4.8	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	0.9640		16.3	15.2	7.4	30.0
Perfluoroheptanoic acid	Ave	1.215	1.300		5.47	5.12	7.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.044		10.2	10.2	0.4	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.113		21.5	20.1	6.6	30.0
Perfluorononanoic acid	Ave	1.134	1.132		9.85	9.87	-0.2	30.0
13C2 PFHxA	Ave	1.167	1.210		10.4	10.0	3.7	30.0
13C2 PFDA	Ave	0.8763	0.8866		10.1	10.0	1.2	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_061.d
Lims ID: CCV L3
Client ID:
Sample Type: CCVIS
Inject. Date: 12-Dec-2016 16:39:20 ALS Bottle#: 3 Worklist Smp#: 61
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\20161211-37708.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 13-Dec-2016 09:58:46 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: XAWRK022

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	1965140	47.3	1740	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	975801	10.4	31122	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.356	0.0	1.000	868987	16.3	20013	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.391	19.391	0.0	1.000	536457	5.47	13775	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.047	0.0		806424	10.0	20998	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.047	0.0	1.000	858188	10.2	940	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	1328120	21.5	15223	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1700311	28.7	43854	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.750	0.0	1.000	901230	9.85	10595	
$ 10 13C2 PFDA								
515.0 > 470.0	21.471	21.471	0.0	1.000	714959	10.1	22939	

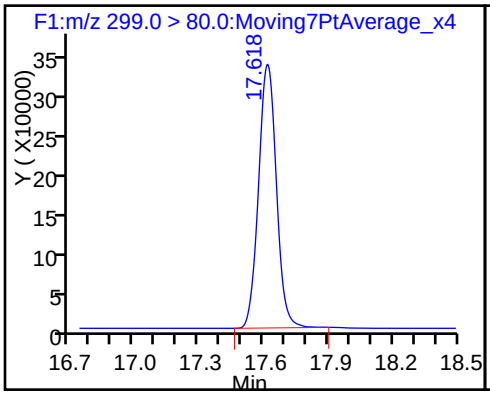
Reagents:

LC537-L3_00016 Amount Added: 1.00 Units: mL

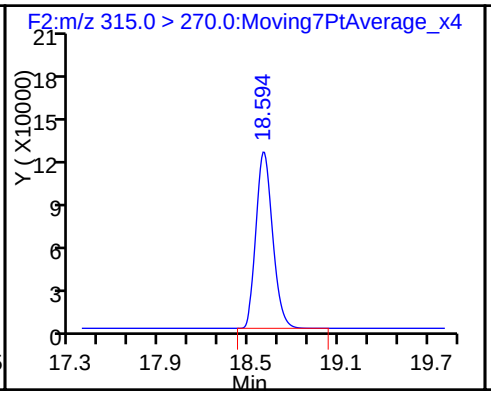
TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_061.d
Injection Date: 12-Dec-2016 16:39:20 Instrument ID: A6
Lims ID: CCV L3
Client ID:
Operator ID: CBW ALS Bottle#: 3 Worklist Smp#: 61
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

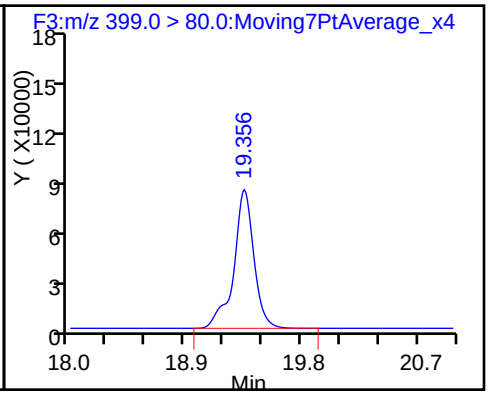
1 Perfluorobutanesulfonic acid



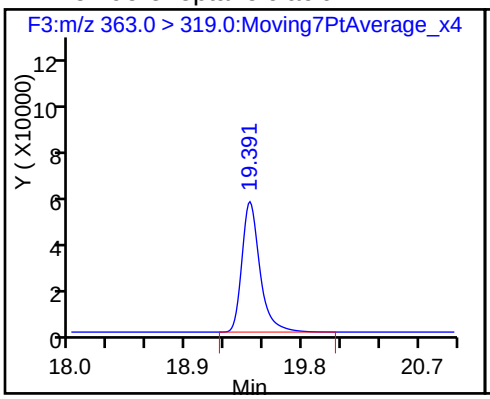
$ 2 13C2 PFHxA



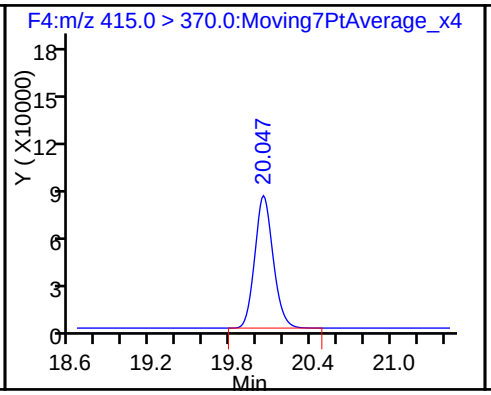
3 Perfluorohexanesulfonic acid



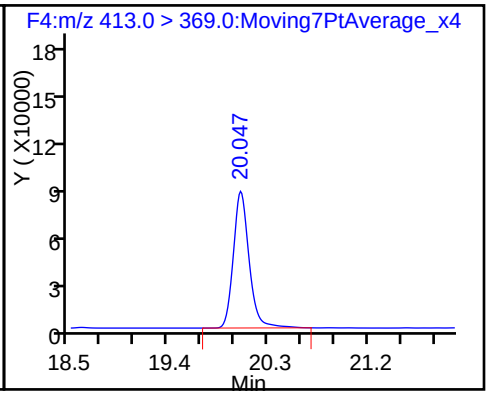
4 Perfluoroheptanoic acid



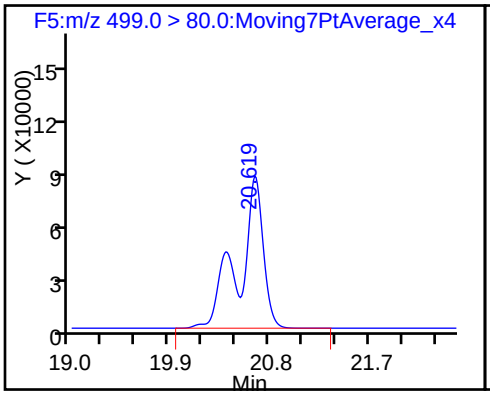
* 5 13C2-PFOA



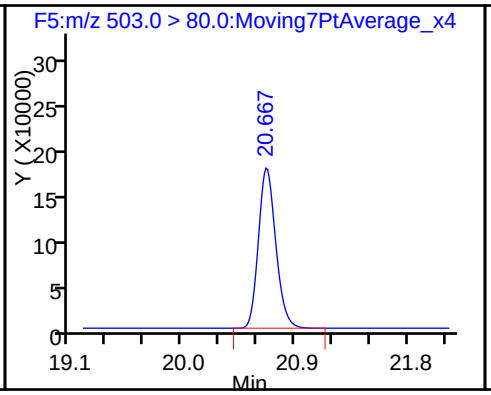
6 Perfluorooctanoic acid



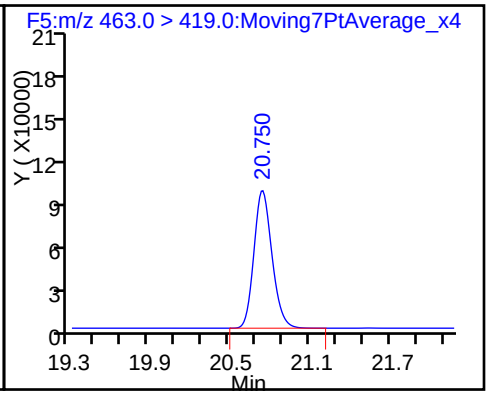
7 Perfluorooctane sulfonic acid



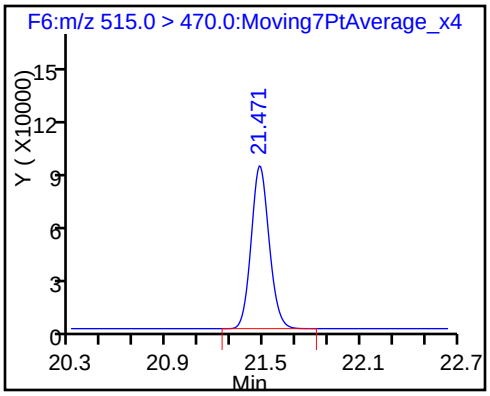
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Lab Sample ID: CCV 320-141758/71 Calibration Date: 12/12/2016 22:05

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: 11DEC2016A6A_072.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	0.7488		144	135	6.8	30.0
Perfluorohexanesulfonic acid	Ave	0.8980	1.038		52.5	45.4	15.6	30.0
Perfluoroheptanoic acid	Ave	1.215	1.179		14.8	15.3	-3.0	30.0
Perfluorooctanoic acid (PFOA)	Ave	1.040	1.078		31.5	30.4	3.6	30.0
Perfluorooctanesulfonic acid (PFOS)	Ave	1.044	1.260		72.5	60.1	20.7	30.0
Perfluorononanoic acid	Ave	1.134	1.194		31.0	29.5	5.2	30.0
13C2 PFHxA	Ave	1.167	1.310		11.2	10.0	12.3	30.0
13C2 PFDA	Ave	0.8763	0.9459		10.8	10.0	7.9	30.0

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_072.d
Lims ID: CCV L5
Client ID:
Sample Type: CCVIS
Inject. Date: 12-Dec-2016 22:05:01 ALS Bottle#: 5 Worklist Smp#: 71
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\20161211-37708.b\537__A6.m
Limit Group: LC 537 ICAL
Last Update: 13-Dec-2016 10:30:21 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: XAWRK022

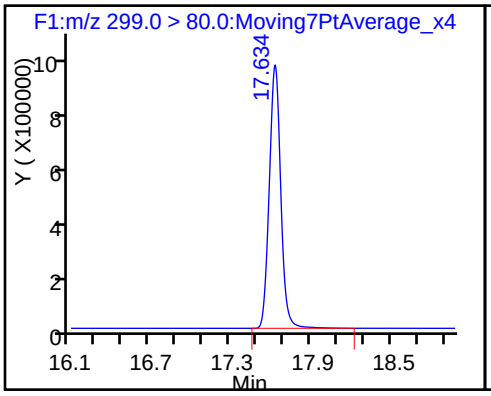
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.634	17.634	0.0	1.000	5871686	143.7	10866	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.613	18.613	0.0	1.000	1111172	11.2	35706	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.368	19.368	0.0	1.000	2744608	52.5	11243	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.403	19.403	0.0	1.000	1527016	14.8	26149	
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.059	0.0		848262	10.0	21831	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.059	20.059	0.0	1.000	2781822	31.5	1270	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	4410497	72.5	8919	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.679	0.0		1670248	28.7	34315	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.762	0.0	1.000	2983619	31.0	39053	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.480	0.0	1.000	802397	10.8	25297	

Reagents:

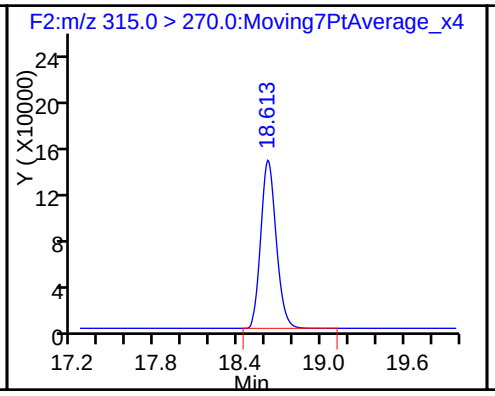
LC537-L5_00017 Amount Added: 1.00 Units: mL

Data File: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b\11DEC2016A6A_072.d
Injection Date: 12-Dec-2016 22:05:01 Instrument ID: A6
Lims ID: CCV L5
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 71
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

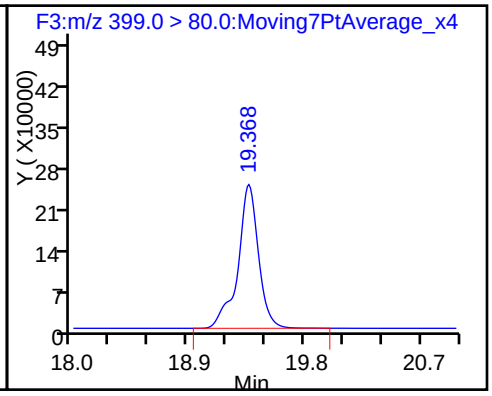
1 Perfluorobutanesulfonic acid



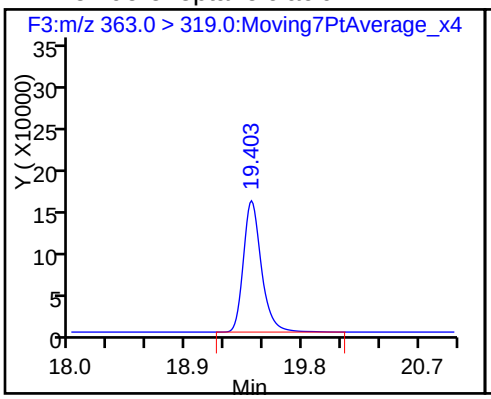
$ 2 13C2 PFHxA



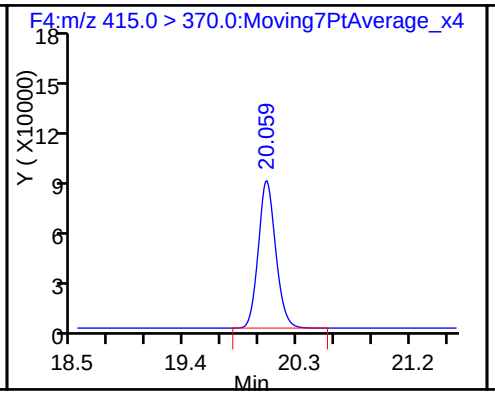
3 Perfluorohexanesulfonic acid



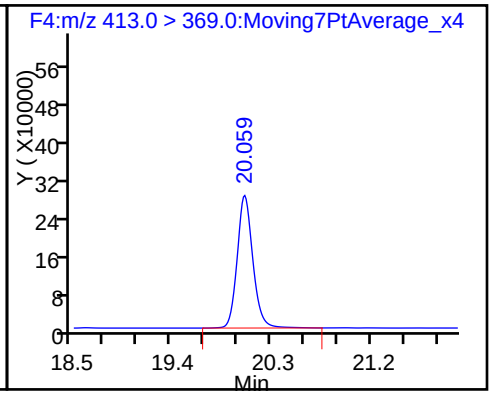
4 Perfluoroheptanoic acid



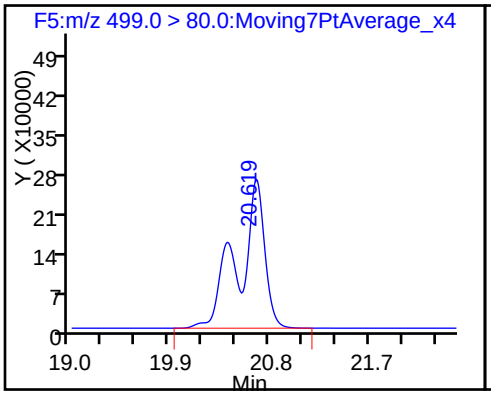
* 5 13C2-PFOA



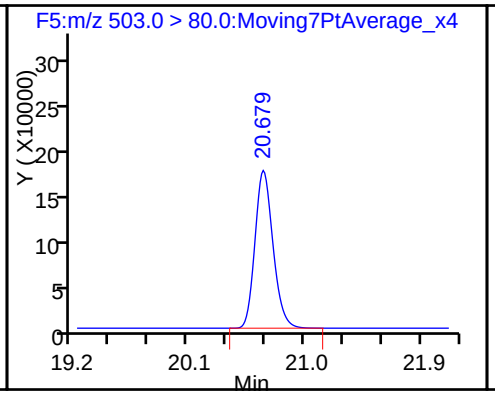
6 Perfluorooctanoic acid



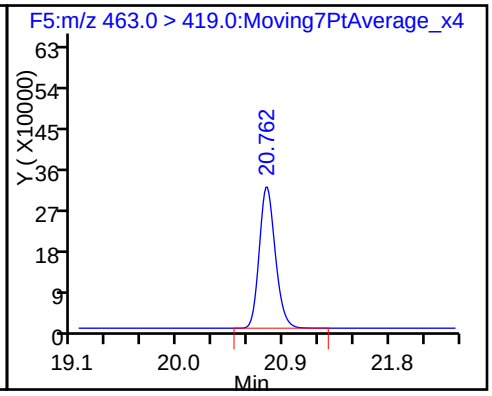
7 Perfluorooctane sulfonic acid



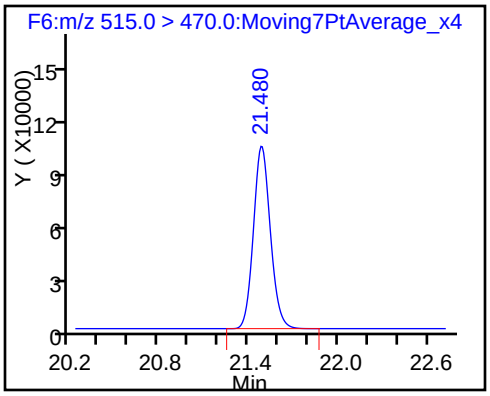
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

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

Report Date: 10-Dec-2016 11:30:54 Chrom Revision: 2.2 05-Dec-2016 12:37:22

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

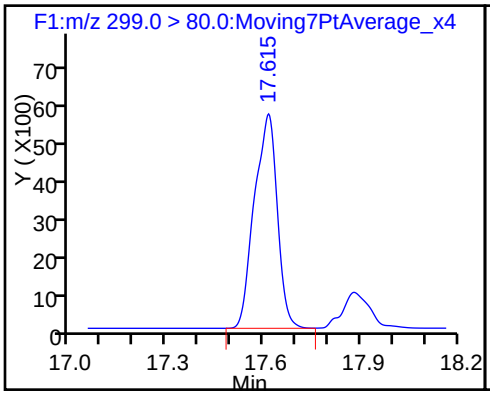
Client ID:

Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 21

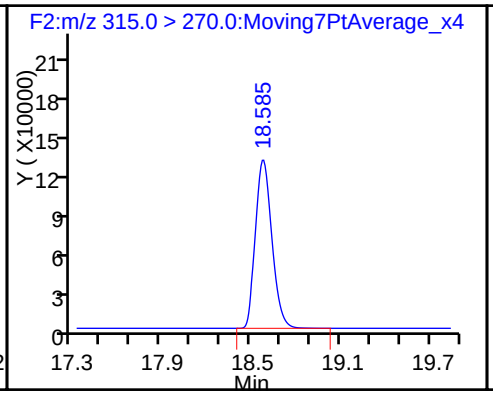
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

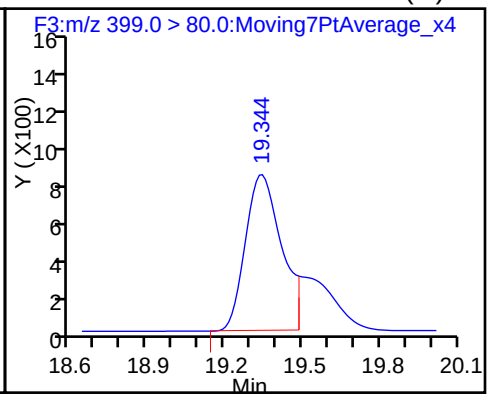
1 Perfluorobutanesulfonic acid



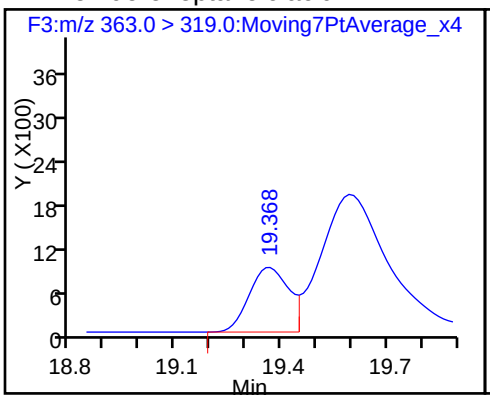
$ 2 13C2 PFHxA



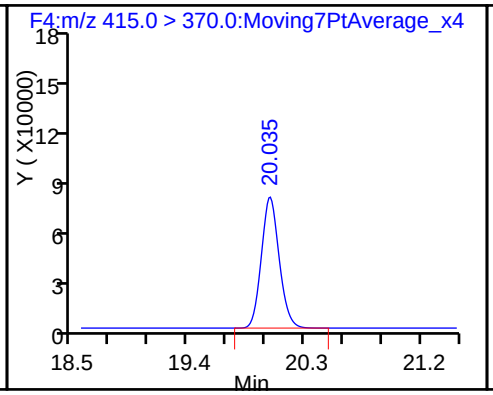
3 Perfluorohexanesulfonic acid (M)



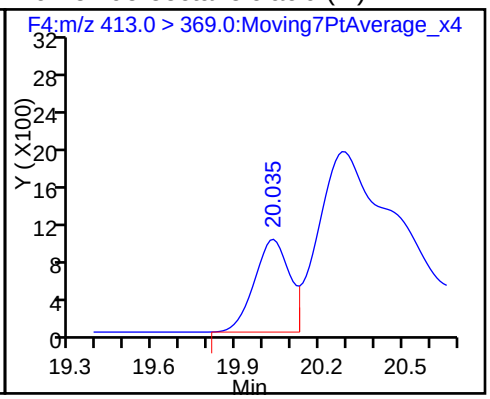
4 Perfluoroheptanoic acid



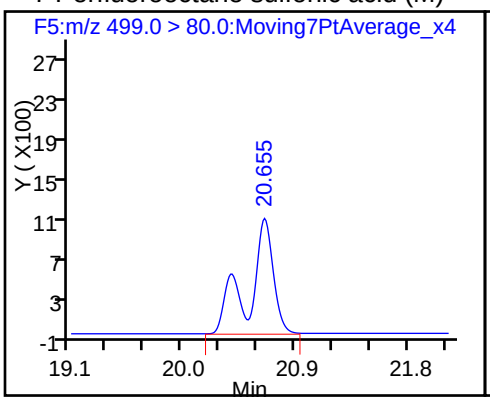
* 5 13C2-PFOA



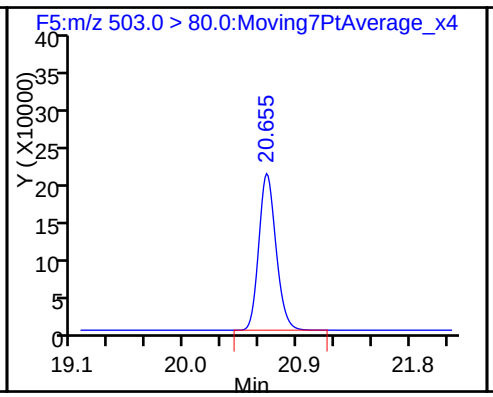
6 Perfluorooctanoic acid (M)



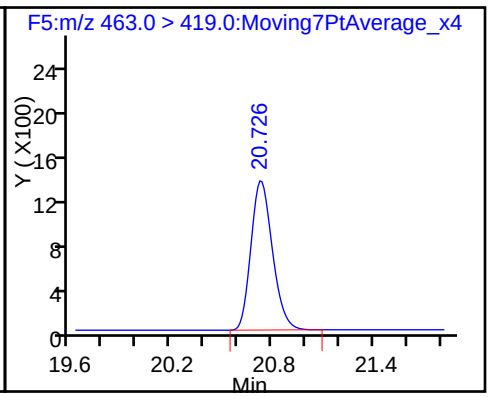
7 Perfluorooctane sulfonic acid (M)



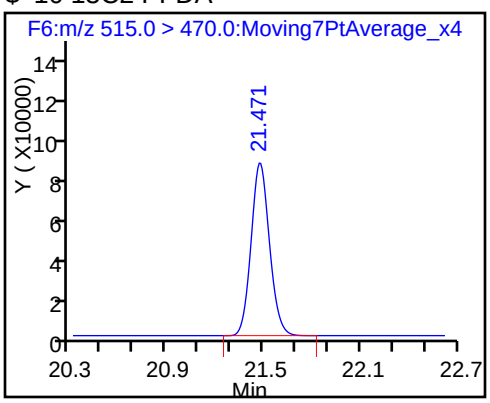
* 8 13C4 PFOS



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

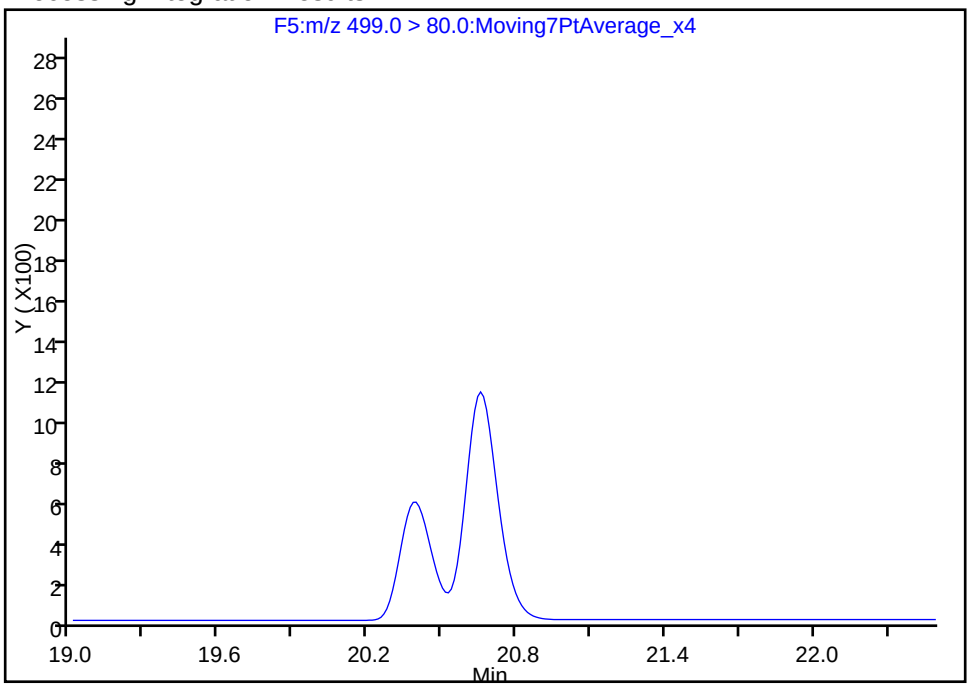
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Injection Date: 09-Dec-2016 17:31:23 Instrument ID: A6
Lims ID: MB 320-140442/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F5:MRM

7 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

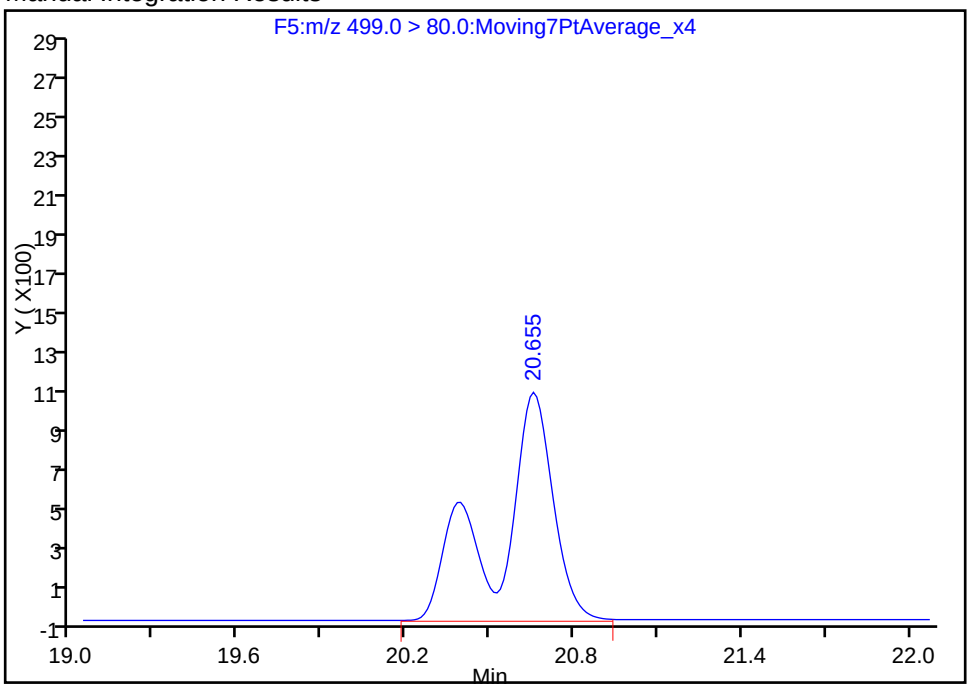
Not Detected
Expected RT: 20.62

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

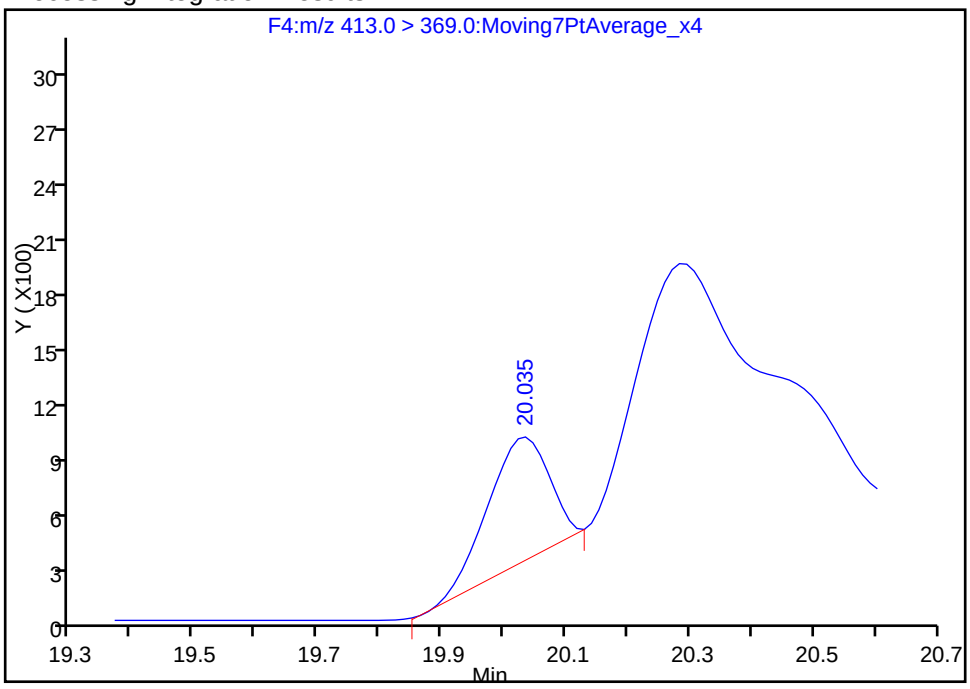
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_196.d
Injection Date: 09-Dec-2016 17:31:23 Instrument ID: A6
Lims ID: MB 320-140442/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 27 Worklist Smp#: 21
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

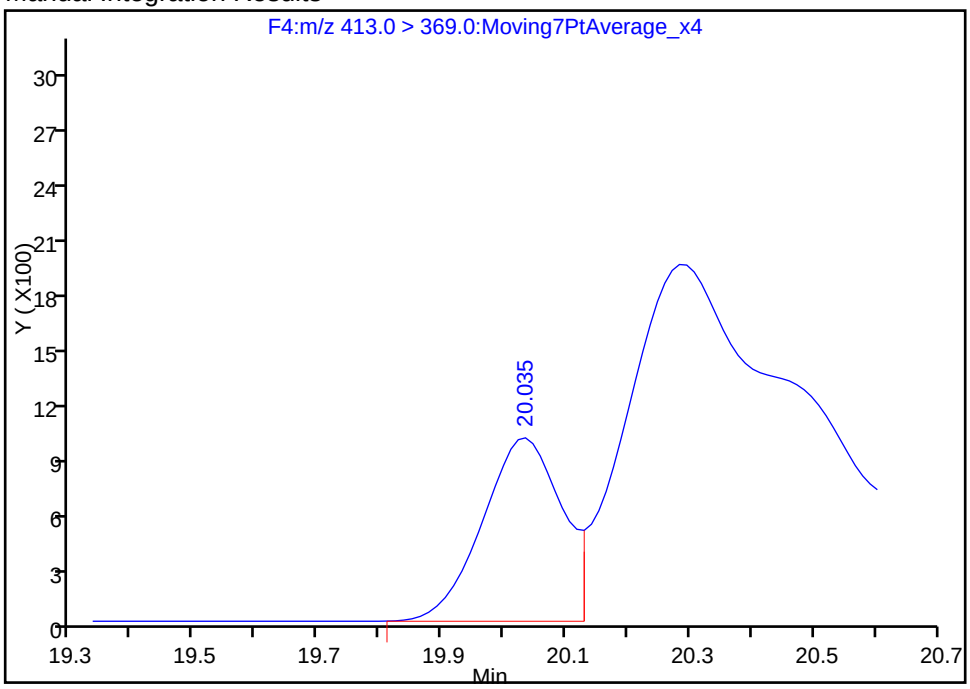
Processing Integration Results

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.: 320-23928-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 320-140478/1-A

Matrix: Water Lab File ID: 05DEC2016A6A_227.d

Analysis Method: 537 Date Collected:

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 250.00(mL) Date Analyzed: 12/10/2016 08:49

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.: 141293 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	111		70-130
STL00996	13C2 PFDA	103		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_227.d
Lims ID: MB 320-140478/1-A
Client ID:
Sample Type: MB
Inject. Date: 10-Dec-2016 08:49:06 ALS Bottle#: 4 Worklist Smp#: 52
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-140478/1-A BOX 15
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 11:41:34 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

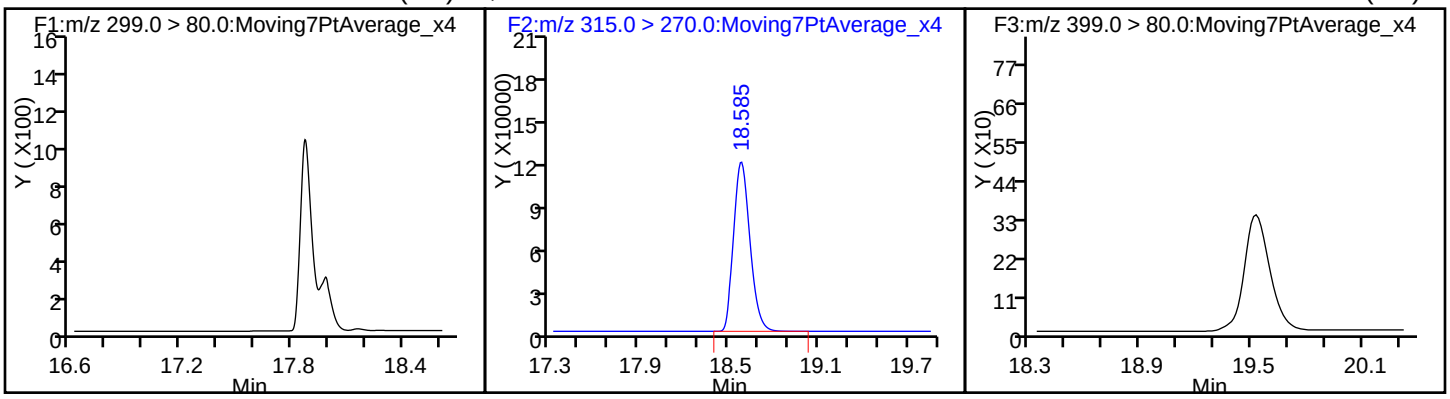
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:30:04

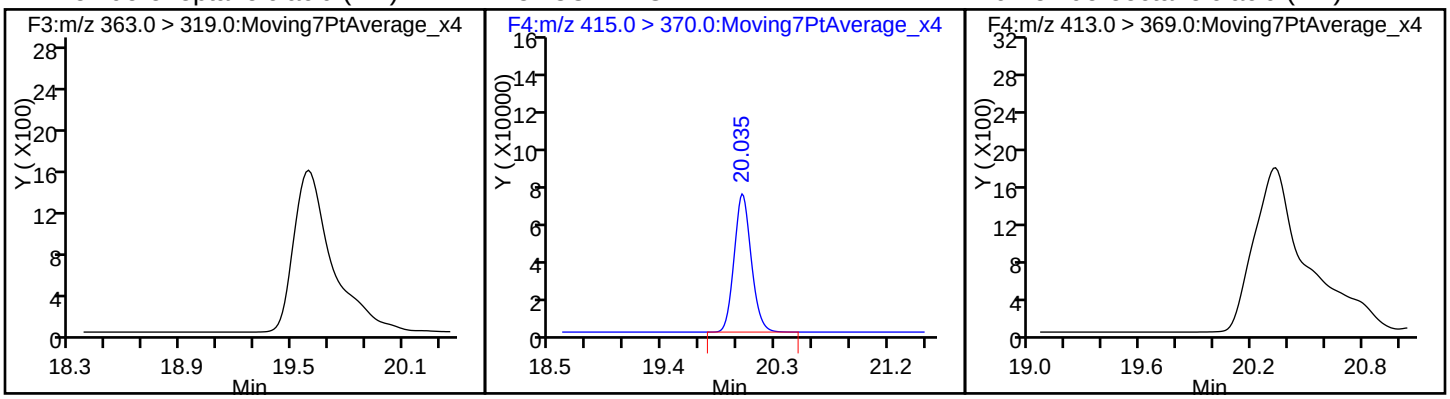
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.585	0.0	1.000	906774	11.1	29371	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		701544	10.0	18379	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		1812551	28.7	37976	
$ 10 13C2 PFDA								
515.0 > 470.0	21.489	21.489	0.0	1.000	631004	10.3	19718	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_227.d
Injection Date: 10-Dec-2016 08:49:06 Instrument ID: A6
Lims ID: MB 320-140478/1-A
Client ID:
Operator ID: CBW ALS Bottle#: 4 Worklist Smp#: 52
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

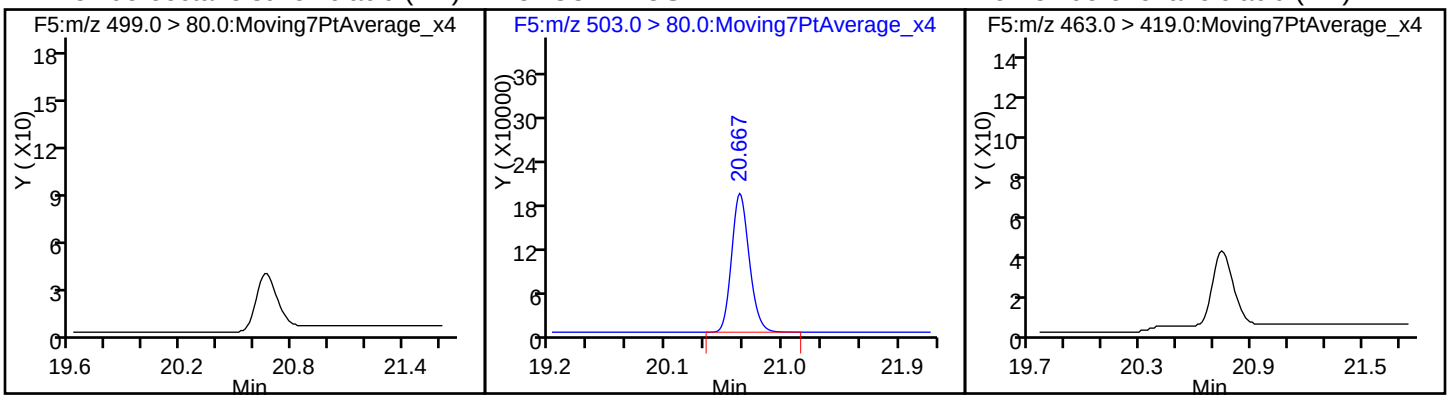
1 Perfluorobutanesulfonic acid (ND) $ 2 13C2 PFHxA 3 Perfluorohexanesulfonic acid (ND)



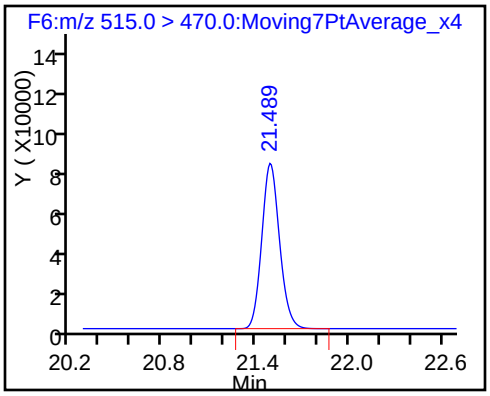
4 Perfluoroheptanoic acid (ND) * 5 13C2-PFOA 6 Perfluorooctanoic acid (ND)



7 Perfluorooctane sulfonic acid (ND) * 8 13C4 PFOS 9 Perfluorononanoic acid (ND)



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_227.d
Lims ID: MB 320-140478/1-A
Client ID:
Sample Type: MB
Inject. Date: 10-Dec-2016 08:49:06 ALS Bottle#: 4 Worklist Smp#: 52
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: MB 320-140478/1-A BOX 15
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 11:41:34 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:30:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.1	110.80
$ 10 13C2 PFDA	10.0	10.3	102.64

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

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

Report Date: 10-Dec-2016 11:31:03 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

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

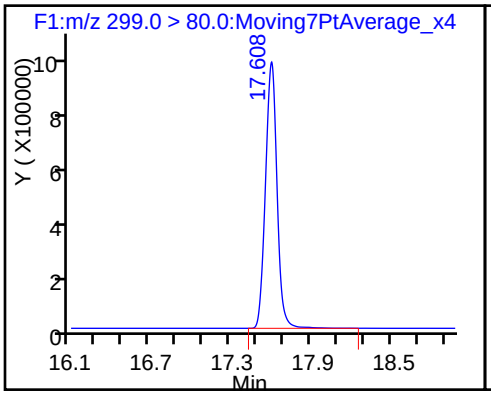
Client ID:

Operator ID: CBW ALS Bottle#: 28 Worklist Smp#: 22

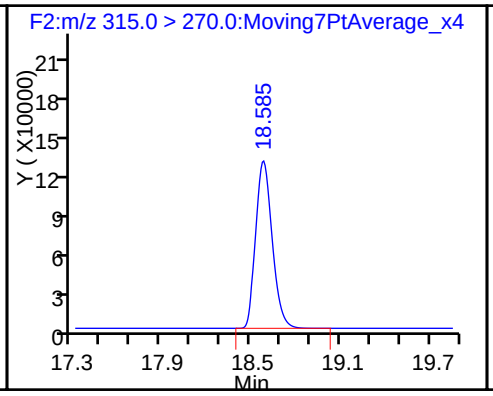
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

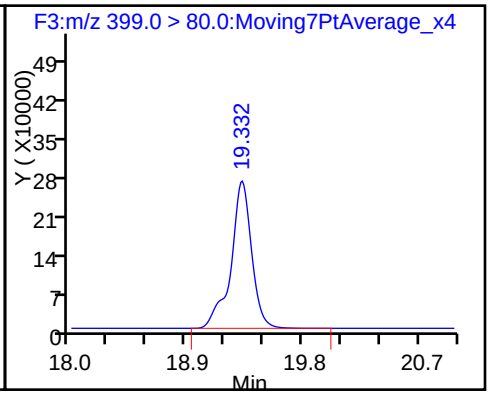
1 Perfluorobutanesulfonic acid



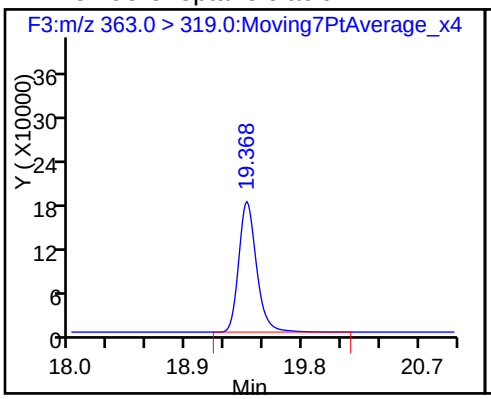
$ 2 13C2 PFHxA



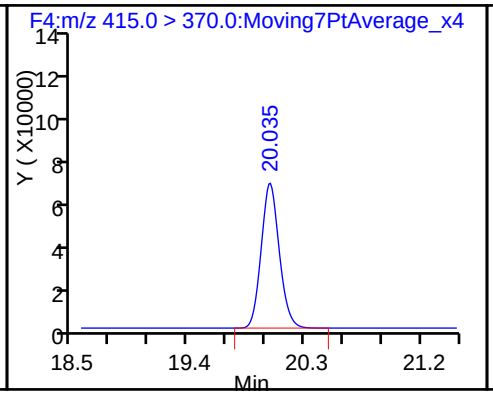
3 Perfluorohexanesulfonic acid



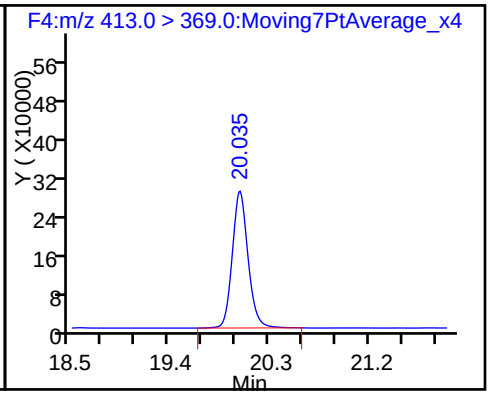
4 Perfluoroheptanoic acid



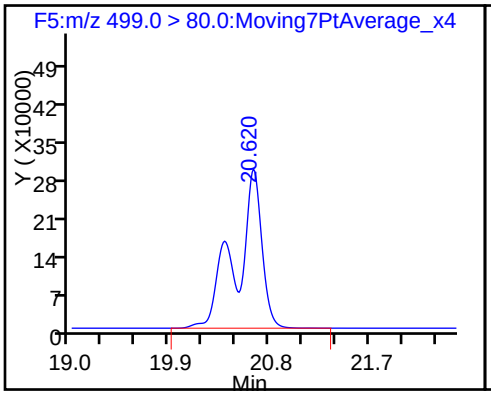
* 5 13C2-PFOA



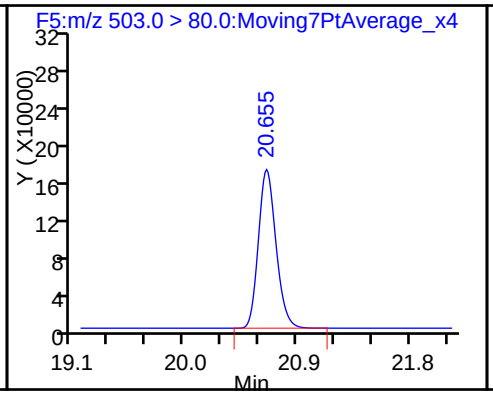
6 Perfluorooctanoic acid



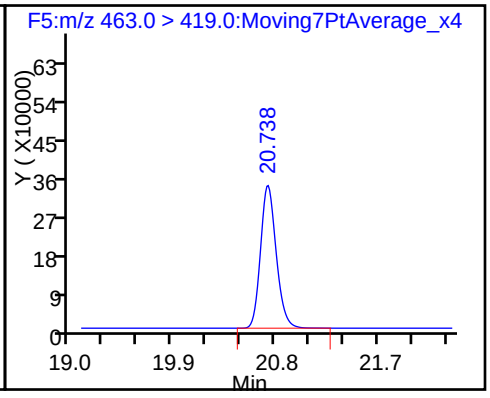
7 Perfluorooctane sulfonic acid



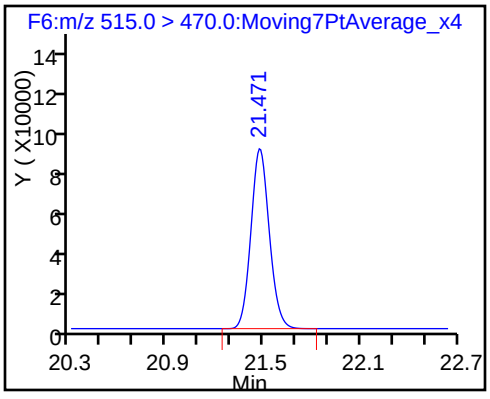
* 8 13C4 PFOS



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.: 320-23928-1

SDG No.:

Client Sample ID: | Lab Sample ID: LLCS 320-140478/2-A

Matrix: Water | Lab File ID: 05DEC2016A6A_231.d

Analysis Method: 537 | Date Collected:

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 250.00(mL) | Date Analyzed: 12/10/2016 10:47

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0358	J	0.060	0.048	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.0191	J M	0.030	0.024	0.0094
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.0862	J	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	106		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_231.d
Lims ID: LLCS 320-140478/2-A
Client ID:
Sample Type: LLCS
Inject. Date: 10-Dec-2016 10:47:31 ALS Bottle#: 5 Worklist Smp#: 56
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: LLCS 320-140478/2-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: 12-Dec-2016 10:34:28 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 09:43:57

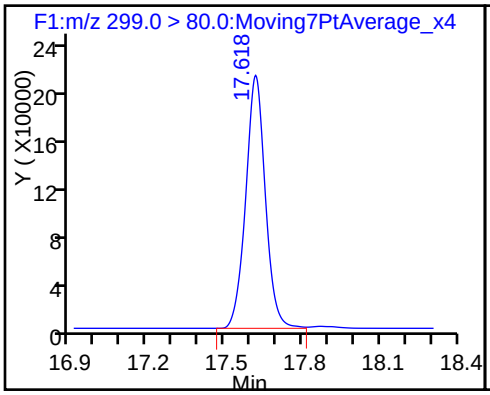
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.618	17.608	0.010	1.000	1095501	21.5	674	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	986654	10.9	31836	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.332	0.012	1.000	427210	6.56	10059	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.380	19.368	0.012	1.000	252368	2.69	98.4	M
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		772518	10.0	20204	
6 Perfluorooctanoic acid								M
413.0 > 369.0	20.047	20.035	0.012	1.000	383698	4.77	148	M
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	677448	8.95	6658	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.667	0.012		2079540	28.7	53866	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.738	0.024	1.000	467620	5.34	5532	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	714992	10.6	22504	

QC Flag Legend

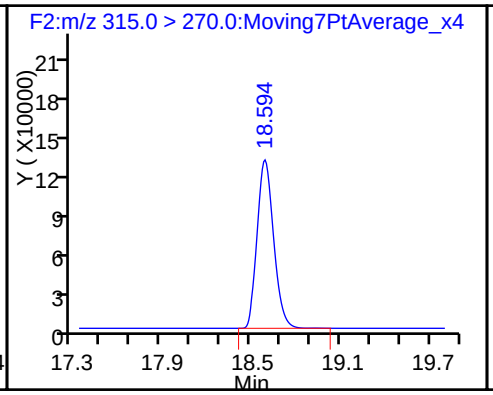
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_231.d
Injection Date: 10-Dec-2016 10:47:31 Instrument ID: A6
Lims ID: LLCS 320-140478/2-A
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 56
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

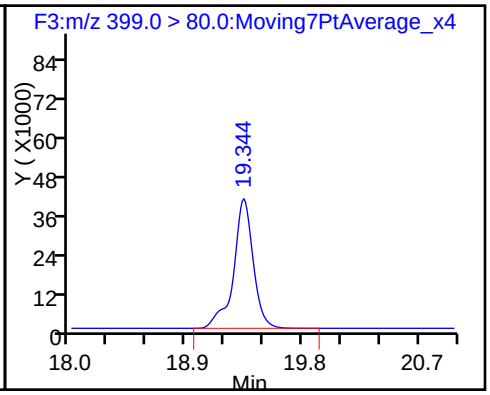
1 Perfluorobutanesulfonic acid



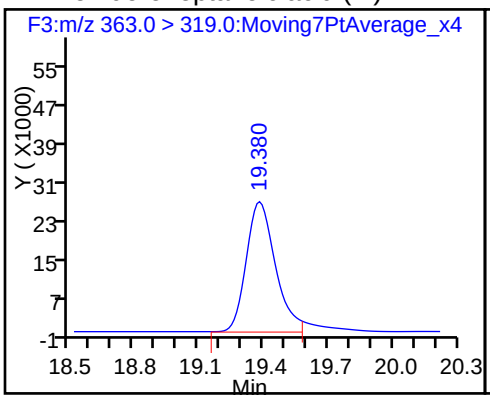
$ 2 13C2 PFHxA



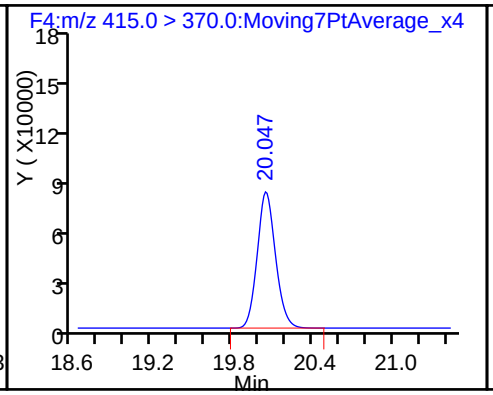
3 Perfluorohexanesulfonic acid



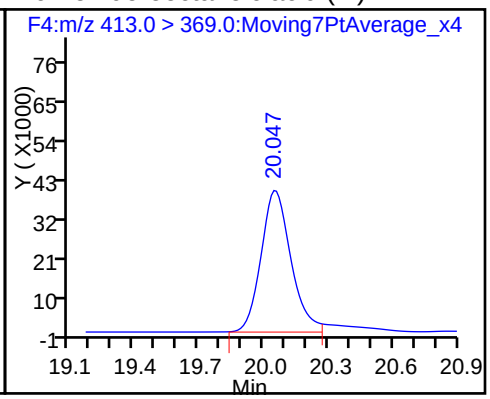
4 Perfluoroheptanoic acid (M)



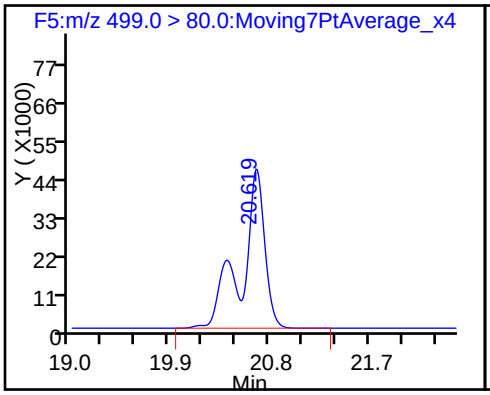
* 5 13C2-PFOA



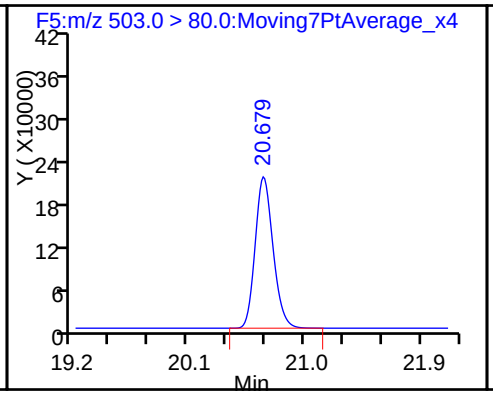
6 Perfluorooctanoic acid (M)



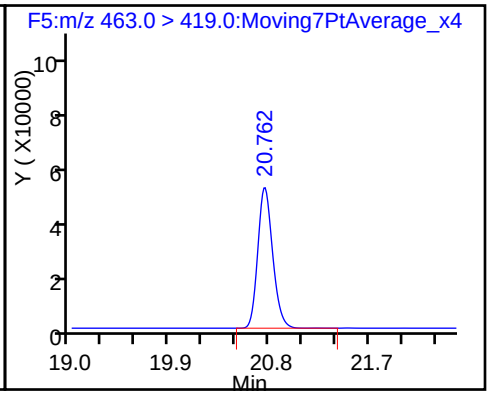
7 Perfluorooctane sulfonic acid



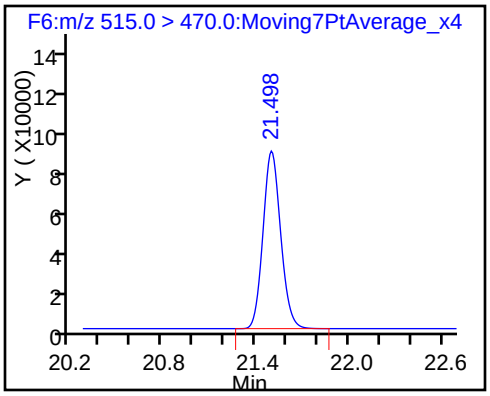
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_231.d
Lims ID: LLCS 320-140478/2-A
Client ID:
Sample Type: LLCS
Inject. Date: 10-Dec-2016 10:47:31 ALS Bottle#: 5 Worklist Smp#: 56
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: LLCS 320-140478/2-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: 12-Dec-2016 10:34:28 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 09:43:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.9	109.49
$ 10 13C2 PFDA	10.0	10.6	105.62

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

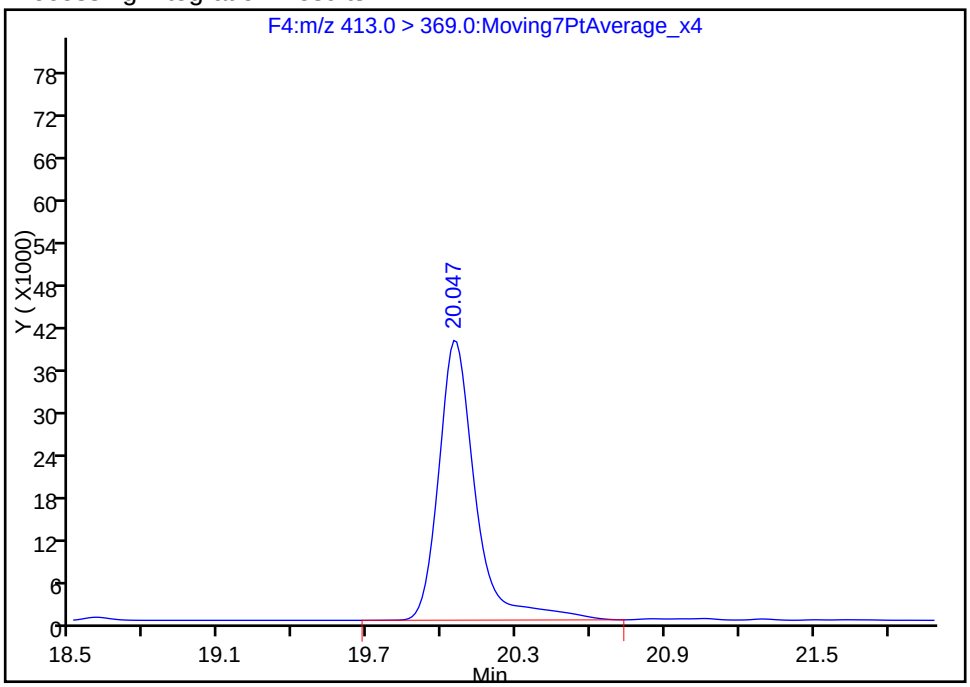
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_231.d
Injection Date: 10-Dec-2016 10:47:31 Instrument ID: A6
Lims ID: LLCS 320-140478/2-A
Client ID:
Operator ID: CBW ALS Bottle#: 5 Worklist Smp#: 56
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL
Column: Acquity BEH C18 (2.10 mm) Detector F4:MRM

6 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

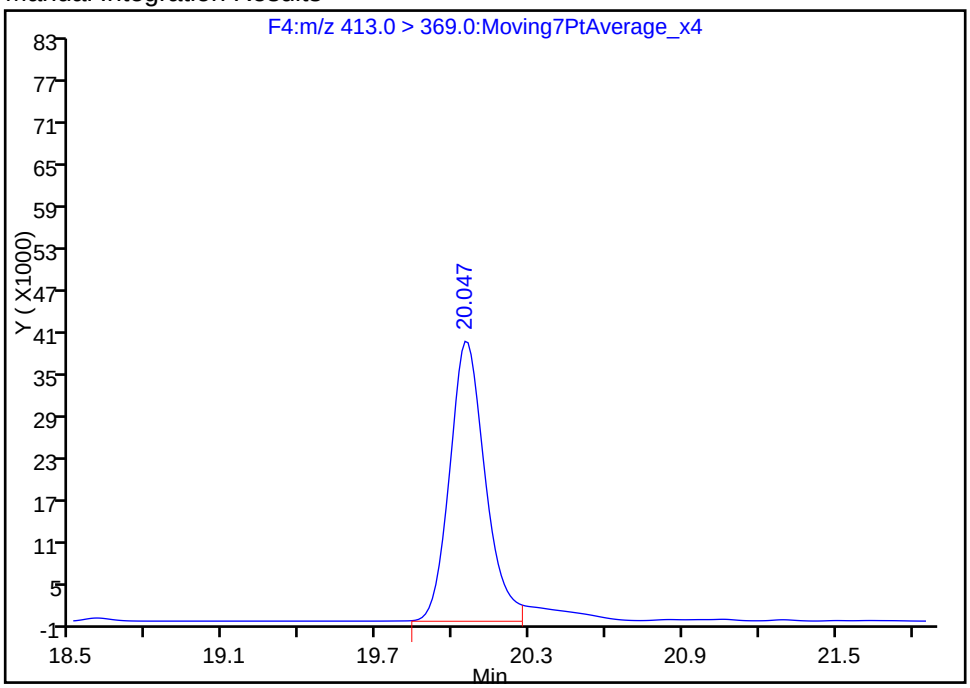
Processing Integration Results

RT: 20.05
Area: 409898
Amount: 5.099839
Amount Units: ng/ml



Manual Integration Results

RT: 20.05
Area: 383698
Amount: 4.773865
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 09:43:57
Audit Action: Manually Integrated Audit Reason: Split Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW10-1116 MS | Lab Sample ID: 320-23928-9 MS

Matrix: Water | Lab File ID: 05DEC2016A6A_222.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:29

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 272.2(mL) | Date Analyzed: 12/10/2016 06:21

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.122		0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.0603		0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.264		0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	119		70-130
STL00996	13C2 PFDA	117		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_222.d
Lims ID: 320-23928-A-9-B MS
Client ID: WI-CV-1RW10-1116
Sample Type: MS
Inject. Date: 10-Dec-2016 06:21:02 ALS Bottle#: 47 Worklist Smp#: 47
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-9-B MS
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 11:41:06 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

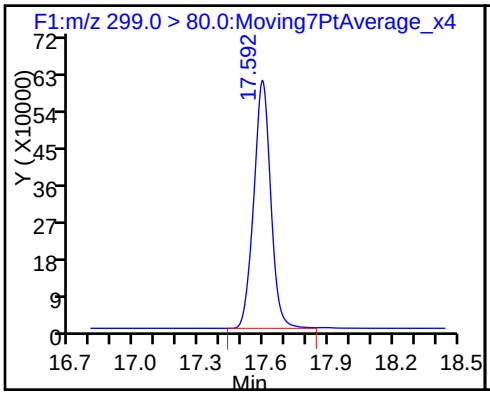
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:25:59

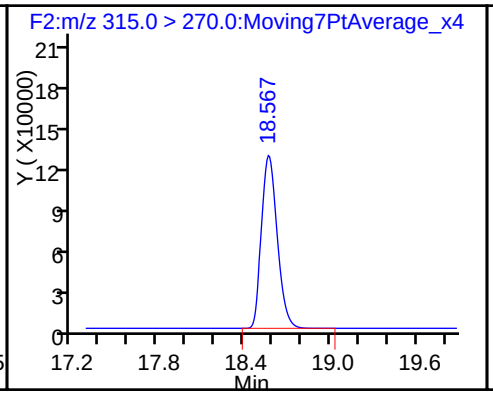
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.592	17.618	-0.026	1.000	3354246	72.0	1963	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.567	18.585	-0.018	1.000	988081	11.9	32075	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.320	19.332	-0.012	1.000	1511967	25.3	17545	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.356	19.368	-0.012	1.000	798244	9.20	1569	
* 5 13C2-PFOA								
415.0 > 370.0	20.023	20.047	-0.024		713927	10.0	18395	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.023	20.047	-0.024	1.000	1219602	16.4	1095	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	2308381	33.3	25435	
* 8 13C4 PFOS								
503.0 > 80.0	20.655	20.679	-0.024		1905246	28.7	19856	
9 Perfluorononanoic acid								
463.0 > 419.0	20.726	20.750	-0.024	1.000	1394951	17.2	21051	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.489	-0.009	1.000	730277	11.7	23196	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_222.d
Injection Date: 10-Dec-2016 06:21:02 Instrument ID: A6
Lims ID: 320-23928-A-9-B MS
Client ID: WI-CV-1RW10-1116
Operator ID: CBW ALS Bottle#: 47 Worklist Smp#: 47
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

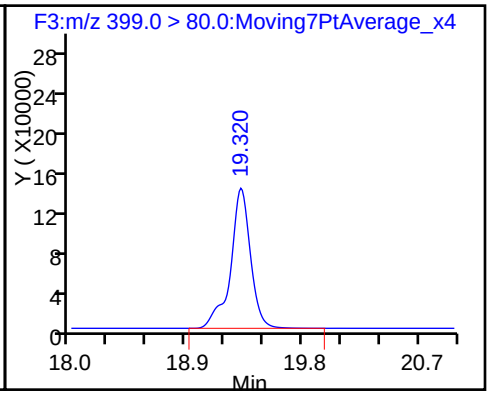
1 Perfluorobutanesulfonic acid



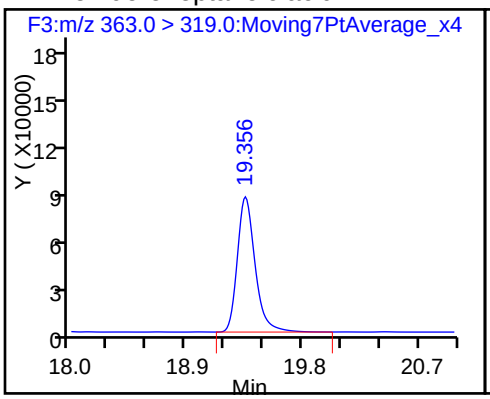
$ 2 13C2 PFHxA



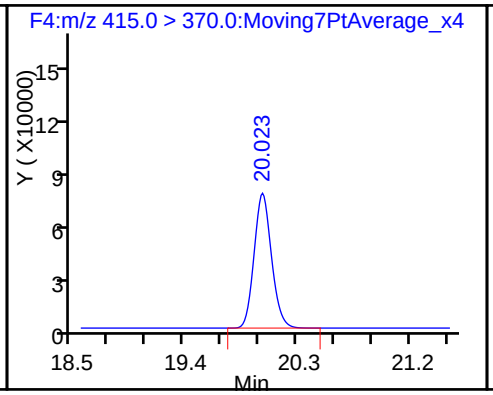
3 Perfluorohexanesulfonic acid



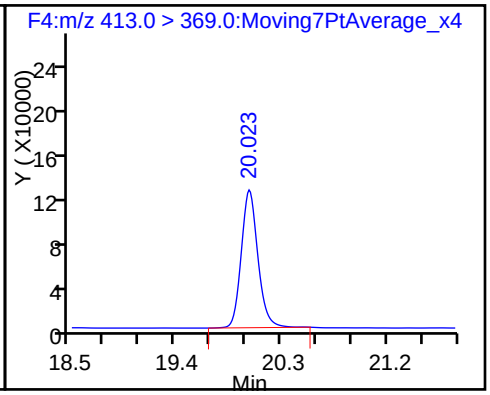
4 Perfluoroheptanoic acid



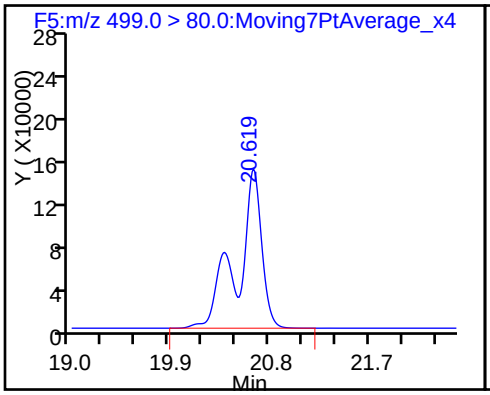
* 5 13C2-PFOA



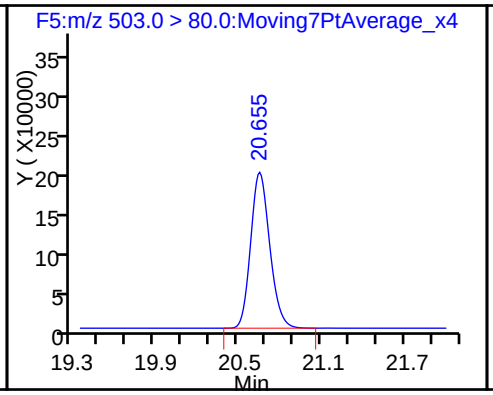
6 Perfluorooctanoic acid



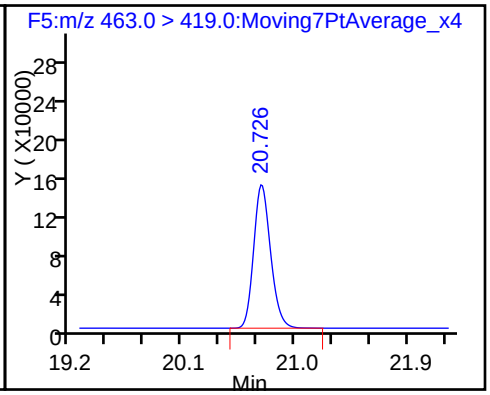
7 Perfluorooctane sulfonic acid



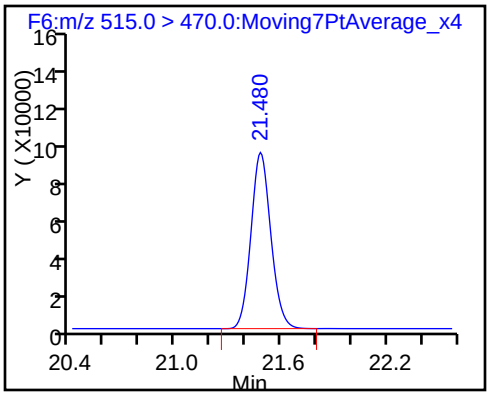
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_222.d
Lims ID: 320-23928-A-9-B MS
Client ID: WI-CV-1RW10-1116
Sample Type: MS
Inject. Date: 10-Dec-2016 06:21:02 ALS Bottle#: 47 Worklist Smp#: 47
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-9-B MS
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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:25:59

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.9	118.64
$ 10 13C2 PFDA	10.0	11.7	116.73

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW10-1116 MS | Lab Sample ID: 320-23928-25 MS

Matrix: Water | Lab File ID: 05DEC2016A6A_249.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:10

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 285.3(mL) | Date Analyzed: 12/10/2016 19:40

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0328	J	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.152	E 4	0.026	0.021	0.0083
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.136		0.12	0.096	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	116		70-130
STL00996	13C2 PFDA	120		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_249.d
Lims ID: 320-23928-A-25-D MS
Client ID: WI-CV-3RW10-1116
Sample Type: MS
Inject. Date: 10-Dec-2016 19:40:21 ALS Bottle#: 20 Worklist Smp#: 74
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-25-D MS
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 10:35:47 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 09:57:17

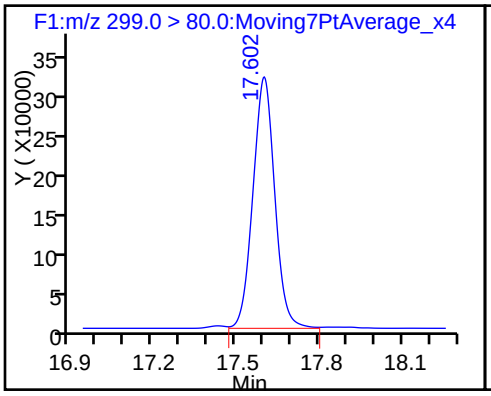
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.602	17.602	0.0	1.000	1751937	38.7	553	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.576	0.0	1.000	799351	11.6	25461	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	1441773	24.9	30057	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	601207	8.38	8299	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		590543	10.0	15354	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.047	20.035	0.012	1.000	2667537	43.4	1075	E
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.620	20.619	0.001	1.000	630114	9.35	6499	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.667	0.0		1851623	28.7	27560	
9 Perfluorononanoic acid								
463.0 > 419.0	20.750	20.738	0.012	1.000	374463	5.59	6595	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	621539	12.0	19688	

QC Flag Legend

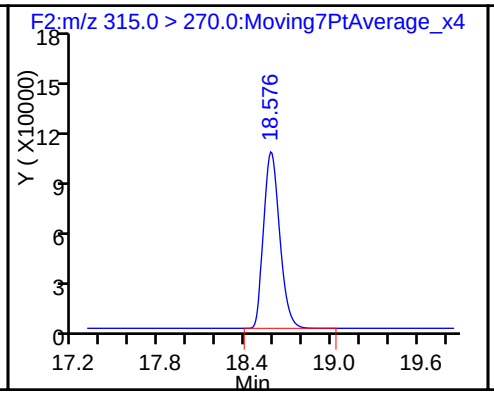
Processing Flags
E - Exceeded Maximum Amount

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_249.d
Injection Date: 10-Dec-2016 19:40:21 Instrument ID: A6
Lims ID: 320-23928-A-25-D MS
Client ID: WI-CV-3RW10-1116
Operator ID: CBW ALS Bottle#: 20 Worklist Smp#: 74
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

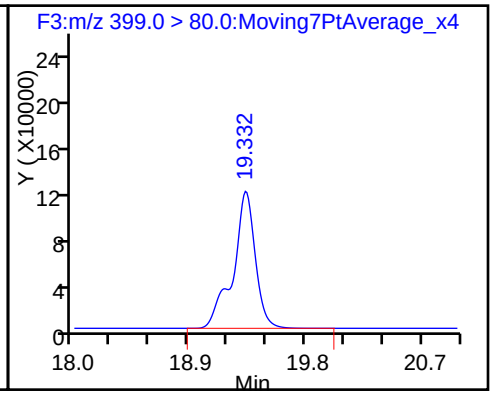
1 Perfluorobutanesulfonic acid



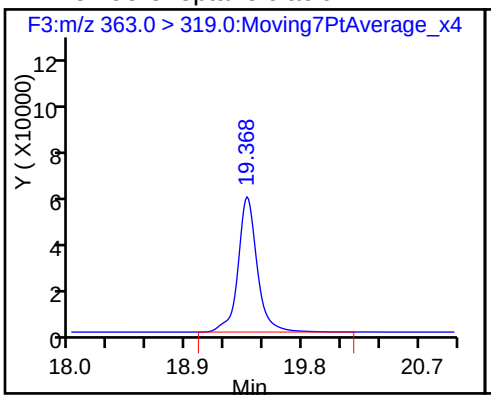
$ 2 13C2 PFHxA



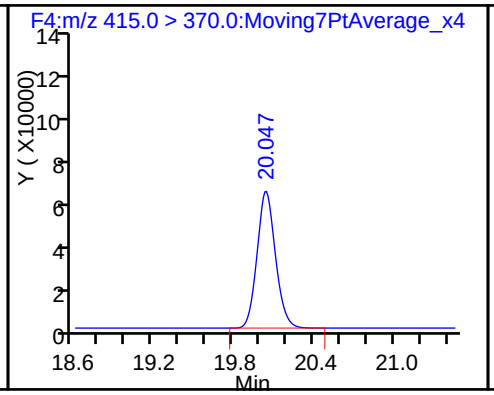
3 Perfluorohexanesulfonic acid



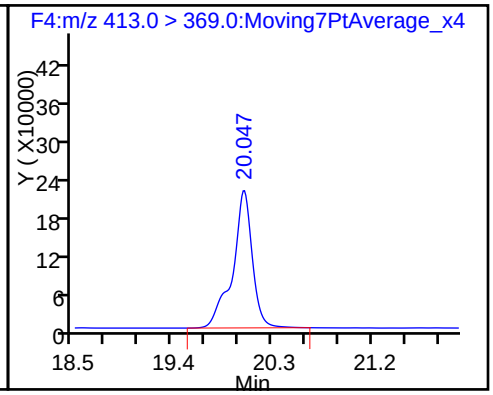
4 Perfluoroheptanoic acid



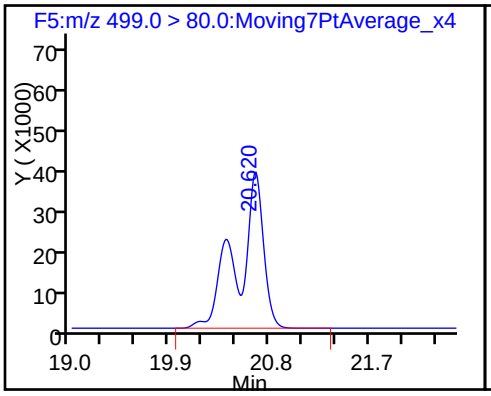
* 5 13C2-PFOA



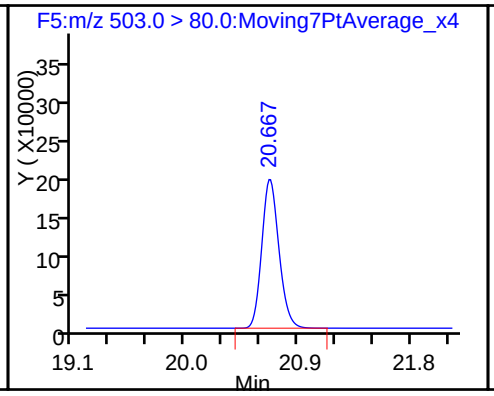
6 Perfluorooctanoic acid



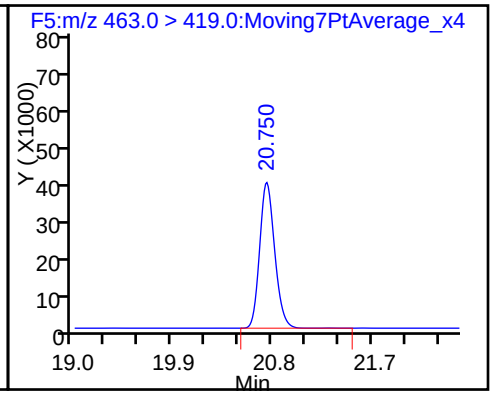
7 Perfluorooctane sulfonic acid



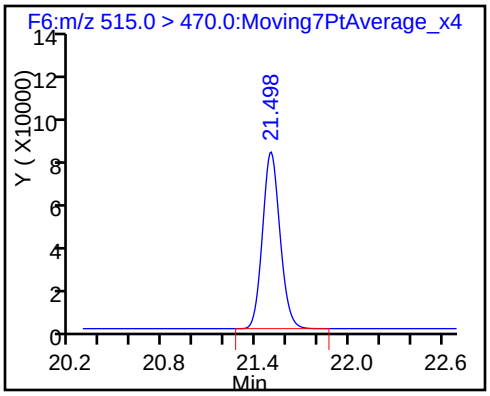
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_249.d
Lims ID: 320-23928-A-25-D MS
Client ID: WI-CV-3RW10-1116
Sample Type: MS
Inject. Date: 10-Dec-2016 19:40:21 ALS Bottle#: 20 Worklist Smp#: 74
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-25-D MS
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 10:35:47 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 09:57:17

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	11.6	116.04
$ 10 13C2 PFDA	10.0	12.0	120.11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 MS | Lab Sample ID: 320-23928-27 MS

Matrix: Water | Lab File ID: 05DEC2016A6A_260.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:35

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 292.3(mL) | Date Analyzed: 12/11/2016 01:06

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.: 141475 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0330	J	0.051	0.041	0.013
335-67-1	*Perfluorooctanoic acid (PFOA)*	*0.674*	*E 4*	*0.026*	0.021	*0.0081*
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.121		0.12	0.094	0.041

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	124		70-130
STL00996	13C2 PFDA	135	Q	70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_260.d
Lims ID: 320-23928-A-27-D MS
Client ID: WI-CV-3RW11-1116
Sample Type: MS
Inject. Date: 11-Dec-2016 01:06:04 ALS Bottle#: 28 Worklist Smp#: 85
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-27-D MS
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 10:36:14 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 10:25:52

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.618	0.003	1.000	1870511	35.3	590	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	910938	12.4	28519	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.344	0.012	1.000	2046527	30.2	41453	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.392	19.380	0.012	1.000	1156395	15.1	356	M
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.058	0.012		632297	10.0	16441	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.070	20.058	0.012	1.000	12956834	197.0	2532	E
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.442	20.430	0.012	1.000	759080	9.64	6097	
* 8 13C4 PFOS								
503.0 > 80.0	20.703	20.690	0.013		2163581	28.7	20539	
9 Perfluorononanoic acid								
463.0 > 419.0	20.774	20.773	0.001	1.000	433331	6.04	4135	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.506	-0.008	1.000	749590	13.5	23726	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 12-Dec-2016 10:36:23 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_260.d

Injection Date: 11-Dec-2016 01:06:04 Instrument ID: A6

Lims ID: 320-23928-A-27-D MS

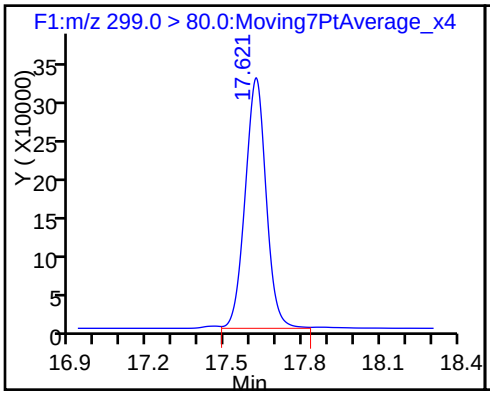
Client ID: WI-CV-3RW11-1116

Operator ID: CBW ALS Bottle#: 28 Worklist Smp#: 85

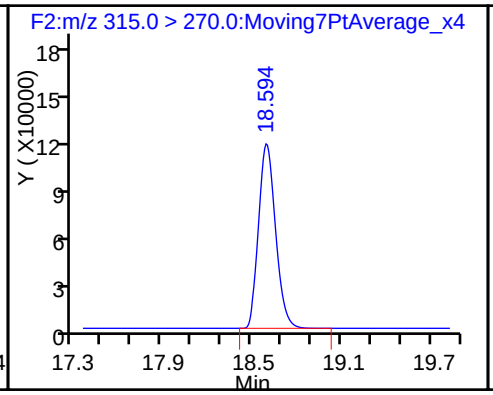
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

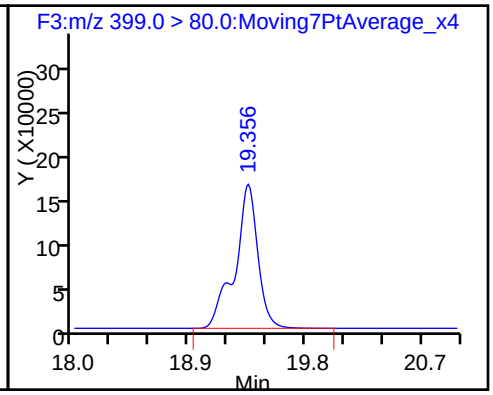
1 Perfluorobutanesulfonic acid



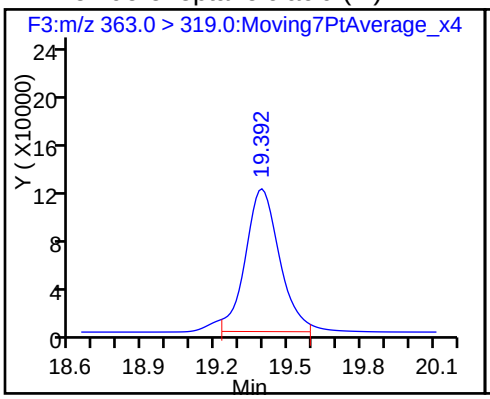
$ 2 13C2 PFHxA



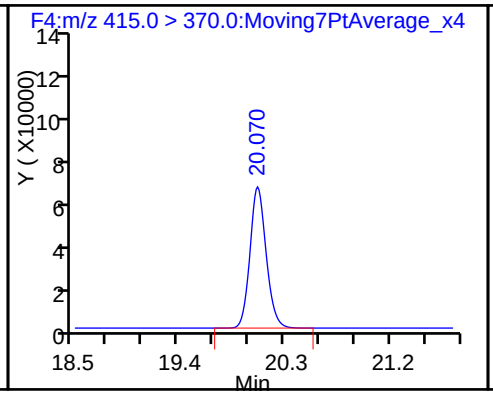
3 Perfluorohexanesulfonic acid



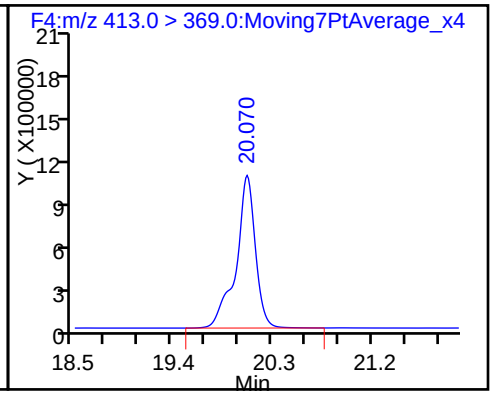
4 Perfluoroheptanoic acid (M)



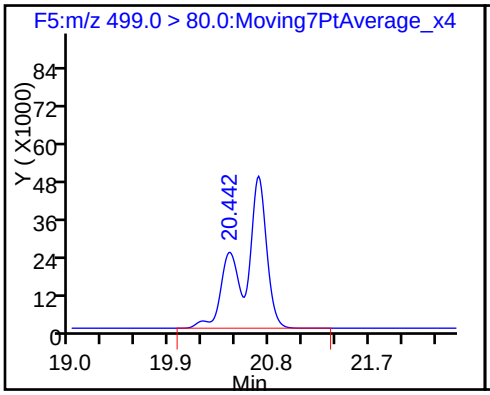
* 5 13C2-PFOA



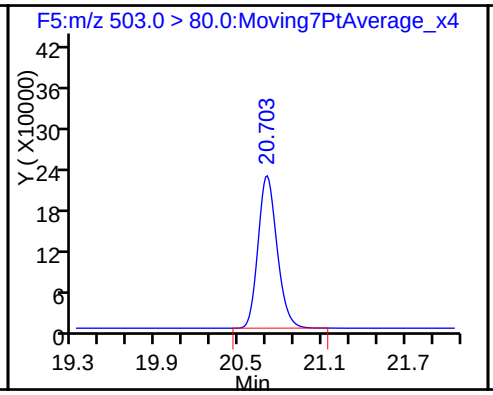
6 Perfluorooctanoic acid



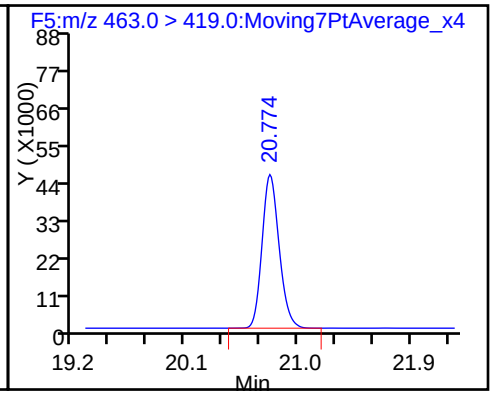
7 Perfluorooctane sulfonic acid



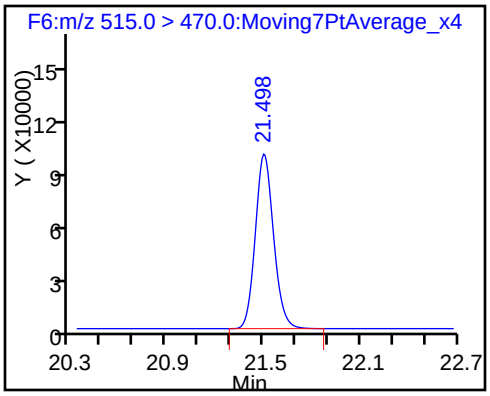
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_260.d
Lims ID: 320-23928-A-27-D MS
Client ID: WI-CV-3RW11-1116
Sample Type: MS
Inject. Date: 11-Dec-2016 01:06:04 ALS Bottle#: 28 Worklist Smp#: 85
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-27-D MS
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 10:36:14 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 10:25:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.4	123.50
$ 10 13C2 PFDA	10.0	13.5	135.29

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 MS DL Lab Sample ID: 320-23928-27 MS DL

Matrix: Water Lab File ID: 05DEC2016A6A_257.d

Analysis Method: 537 Date Collected: 11/29/2016 16:35

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 292.3(mL) Date Analyzed: 12/10/2016 23:37

Con. Extract Vol.: 1.00(mL) Dilution Factor: 10

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141475 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.41*	*U M*	*0.51*	0.41	*0.13*
335-67-1	Perfluorooctanoic acid (PFOA)	0.705	4 D	0.26	0.21	0.081
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.94*	*U*	*1.2*	0.94	*0.41*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	115		70-130
STL00996	13C2 PFDA	102		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_257.d
Lims ID: 320-23928-A-27-D MS
Client ID: WI-CV-3RW11-1116
Sample Type: MS
Inject. Date: 10-Dec-2016 23:37:17 ALS Bottle#: 25 Worklist Smp#: 82
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 320-23928-A-27-D MS 10X
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 10:36:14 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 10:22:12

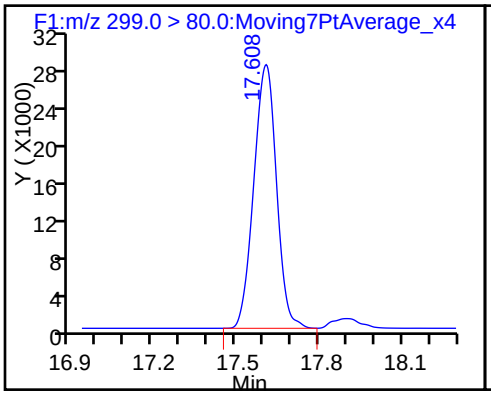
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.608	17.618	-0.010	1.000	162008	3.42	151	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.585	18.594	-0.009	1.000	90852	1.15	2990	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.344	0.0	1.000	180061	2.97	3748	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.380	19.380	0.0	1.000	123598	1.50	69.8	M
* 5 13C2-PFOA								
415.0 > 370.0	20.059	20.058	0.001		67603	1.00	1772	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.059	20.058	0.001	1.000	1450165	20.6	958	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.691	20.430	0.261	1.000	55177	0.7826	1343	M
* 8 13C4 PFOS								
503.0 > 80.0	20.691	20.690	0.001		193695	2.87	5179	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.773	-0.011	1.000	45517	0.5936	1258	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.506	-0.008	1.000	60156	1.02	2000	

QC Flag Legend

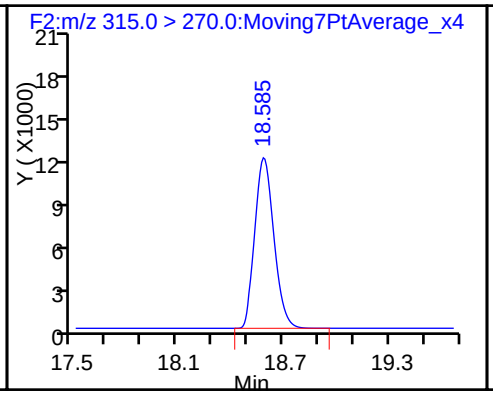
Review Flags
M - Manually Integrated

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_257.d
Injection Date: 10-Dec-2016 23:37:17 Instrument ID: A6
Lims ID: 320-23928-A-27-D MS
Client ID: WI-CV-3RW11-1116
Operator ID: CBW ALS Bottle#: 25 Worklist Smp#: 82
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Method: 537__A6 Limit Group: LC 537 ICAL

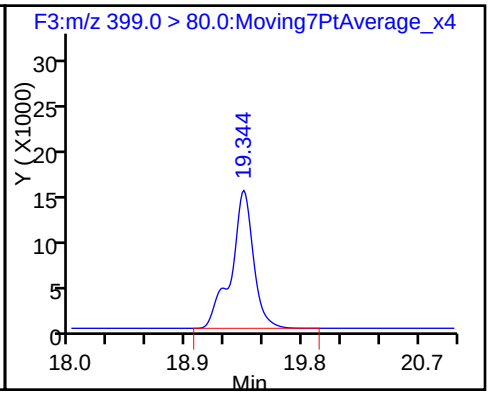
1 Perfluorobutanesulfonic acid



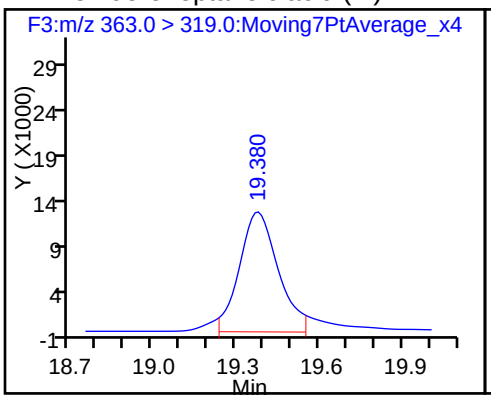
$ 2 13C2 PFHxA



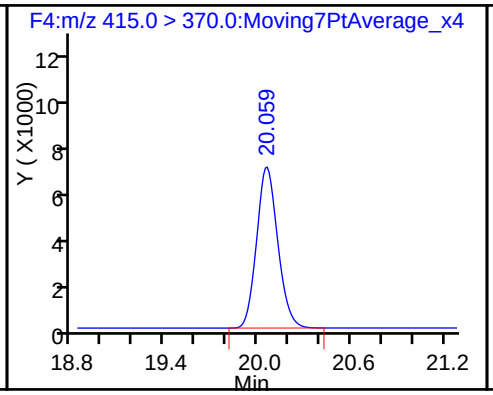
3 Perfluorohexanesulfonic acid



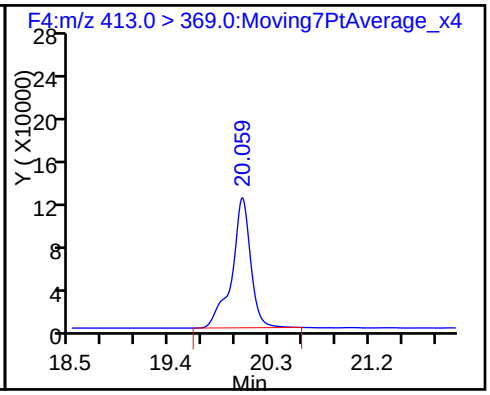
4 Perfluoroheptanoic acid (M)



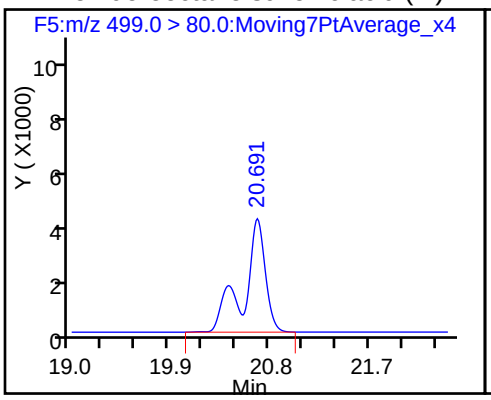
* 5 13C2-PFOA



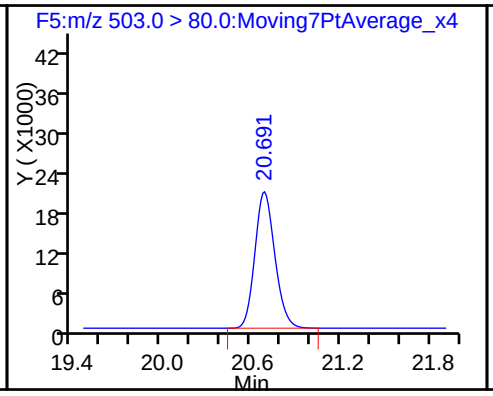
6 Perfluorooctanoic acid



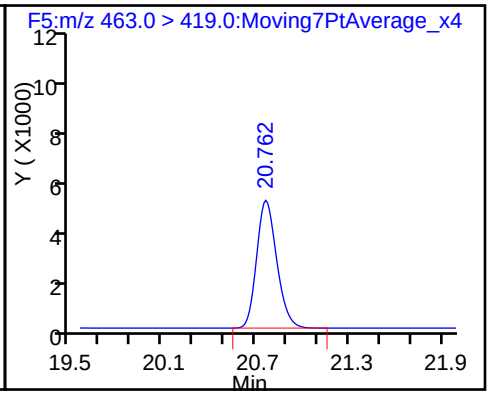
7 Perfluorooctane sulfonic acid (M)



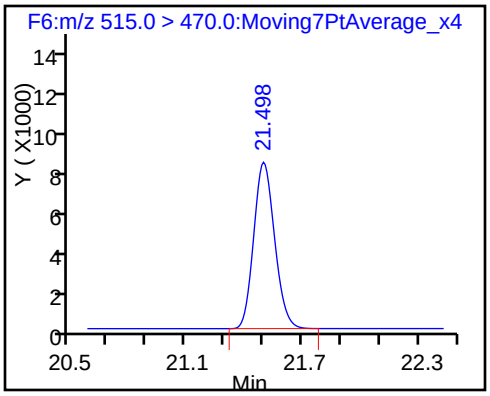
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_257.d
Lims ID: 320-23928-A-27-D MS
Client ID: WI-CV-3RW11-1116
Sample Type: MS
Inject. Date: 10-Dec-2016 23:37:17 ALS Bottle#: 25 Worklist Smp#: 82
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 320-23928-A-27-D MS 10X
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 10:36:14 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 10:22:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	1.15	115.21
$ 10 13C2 PFDA	10.0	1.02	101.55

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

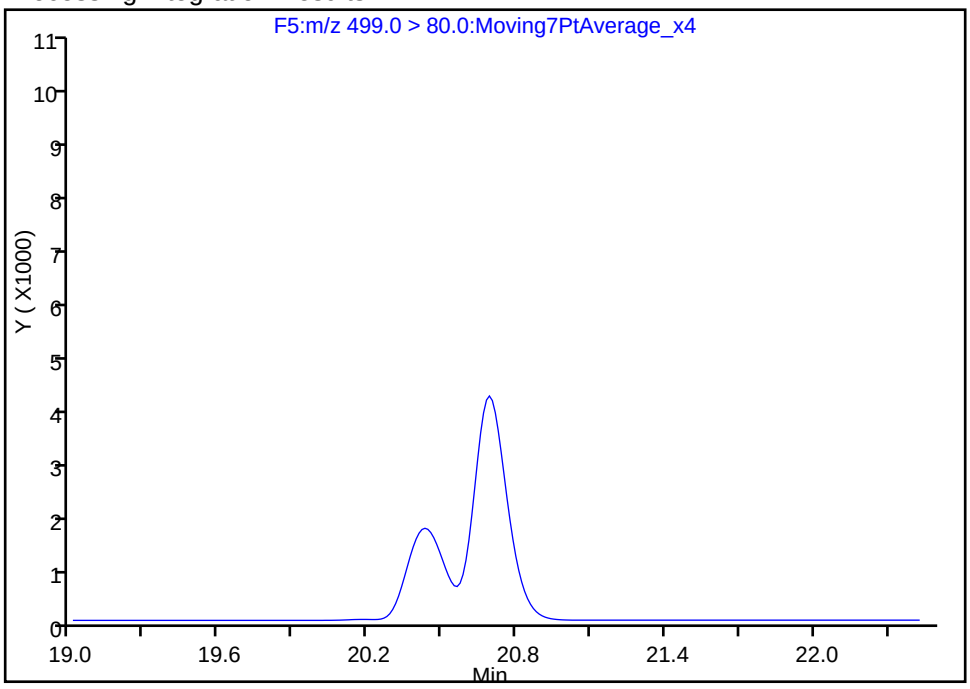
Data File:	\\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_257.d				
Injection Date:	10-Dec-2016 23:37:17	Instrument ID:	A6		
Lims ID:	320-23928-A-27-D MS				
Client ID:	WI-CV-3RW11-1116				
Operator ID:	CBW	ALS Bottle#:	25	Worklist Smp#:	82
Injection Vol:	10.0 ul	Dil. Factor:	10.0000		
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

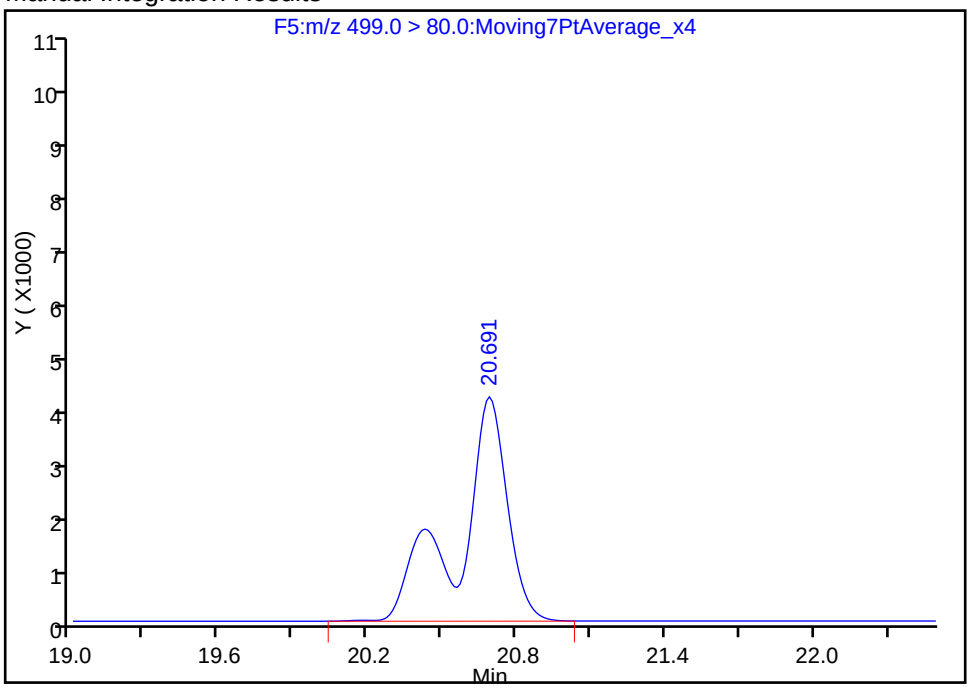
Processing Integration Results

Not Detected
Expected RT: 20.43



Manual Integration Results

RT: 20.69
Area: 55177
Amount: 0.782570
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 10:22:12
Audit Action: Manually Integrated Audit Reason: Missed Peak

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW10-1116 MSD | Lab Sample ID: 320-23928-9 MSD

Matrix: Water | Lab File ID: 05DEC2016A6A_223.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:29

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 267.5(mL) | Date Analyzed: 12/10/2016 06:50

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.124		0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.0642		0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.279		0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	120		70-130
STL00996	13C2 PFDA	117		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_223.d
Lims ID: 320-23928-A-9-C MSD
Client ID: WI-CV-1RW10-1116
Sample Type: MSD
Inject. Date: 10-Dec-2016 06:50:39 ALS Bottle#: 48 Worklist Smp#: 48
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-9-C MSD
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 11:41:06 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

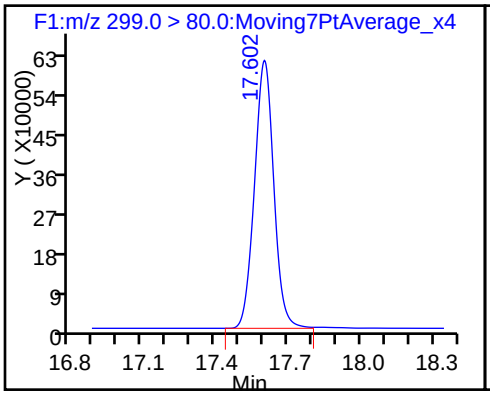
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:26:36

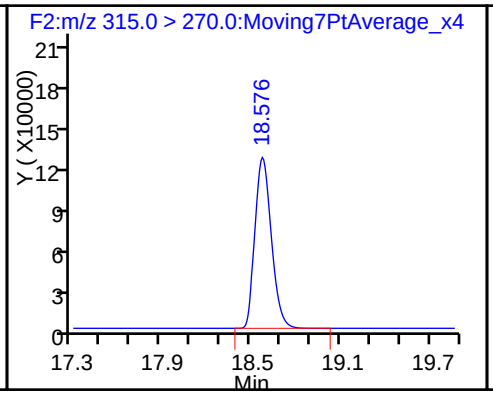
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.602	17.618	-0.016	1.000	3402216	74.7	5057	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.576	18.585	-0.009	1.000	959578	12.0	31127	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.332	19.332	0.0	1.000	1489800	25.5	34491	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.368	19.368	0.0	1.000	796719	9.56	2347	
* 5 13C2-PFOA								
415.0 > 370.0	20.035	20.047	-0.012		685571	10.0	17734	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.035	20.047	-0.012	1.000	1224436	17.2	914	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	2254430	33.2	28829	
* 8 13C4 PFOS								
503.0 > 80.0	20.667	20.679	-0.012		1862826	28.7	48070	
9 Perfluorononanoic acid								
463.0 > 419.0	20.738	20.750	-0.012	1.000	1440125	18.5	9511	
$ 10 13C2 PFDA								
515.0 > 470.0	21.480	21.489	-0.009	1.000	700470	11.7	22041	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_223.d
Injection Date: 10-Dec-2016 06:50:39 Instrument ID: A6
Lims ID: 320-23928-A-9-C MSD
Client ID: WI-CV-1RW10-1116
Operator ID: CBW ALS Bottle#: 48 Worklist Smp#: 48
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

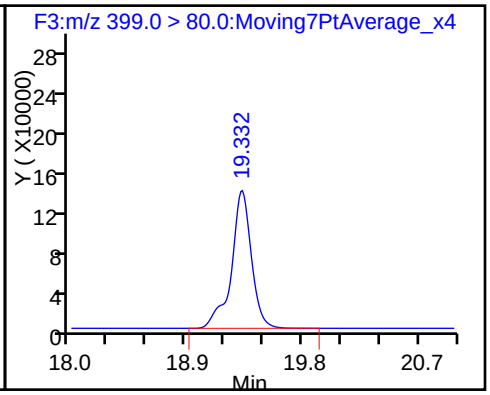
1 Perfluorobutanesulfonic acid



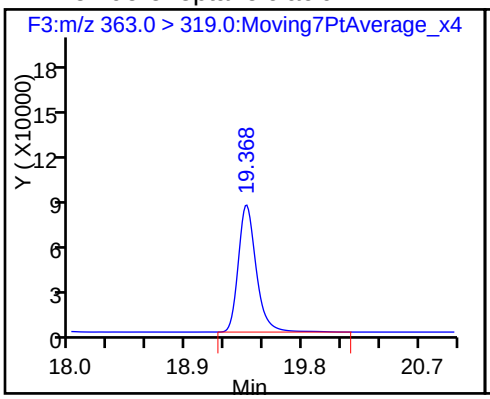
$ 2 13C2 PFHxA



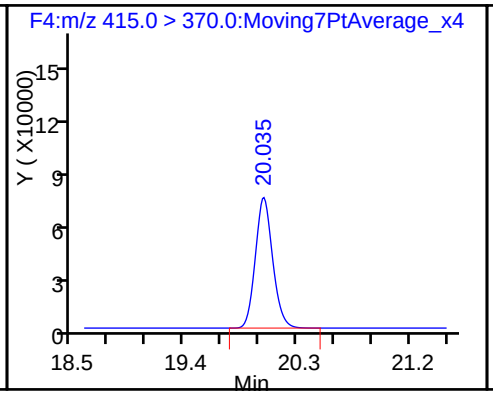
3 Perfluorohexanesulfonic acid



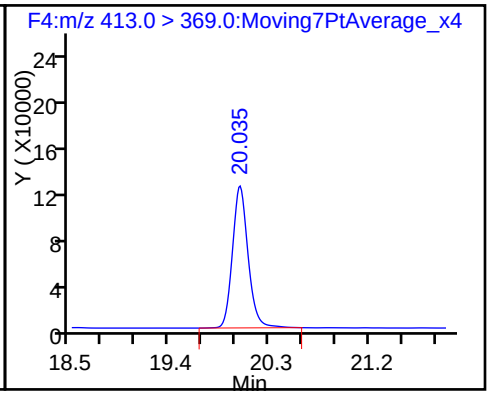
4 Perfluoroheptanoic acid



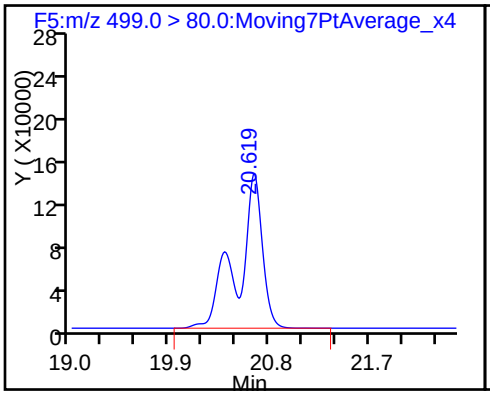
* 5 13C2-PFOA



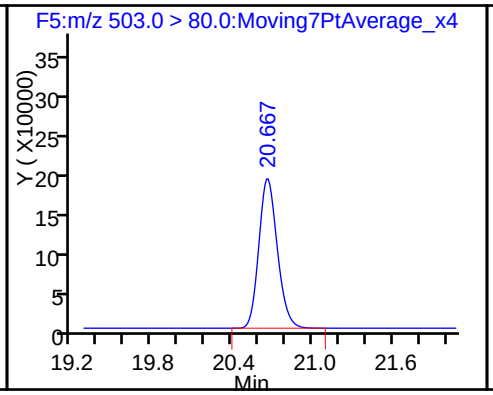
6 Perfluorooctanoic acid



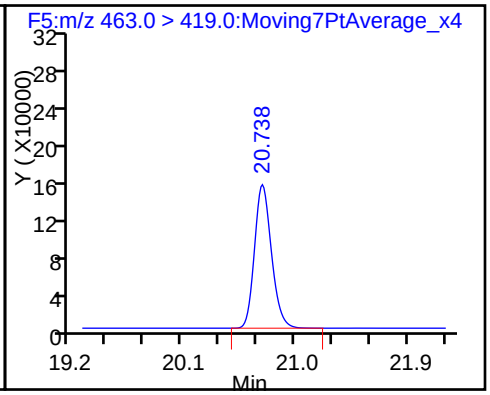
7 Perfluorooctane sulfonic acid



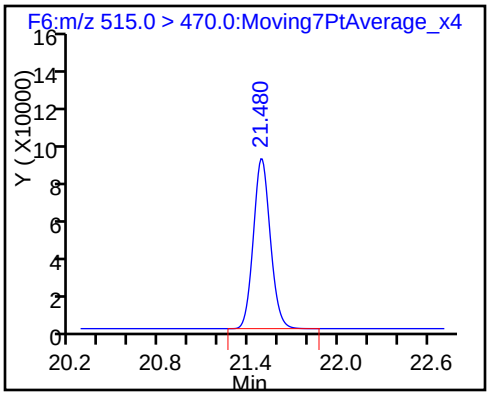
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_223.d
Lims ID: 320-23928-A-9-C MSD
Client ID: WI-CV-1RW10-1116
Sample Type: MSD
Inject. Date: 10-Dec-2016 06:50:39 ALS Bottle#: 48 Worklist Smp#: 48
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-9-C MSD
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 11:41:06 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: XAWRK018

First Level Reviewer: barnettj Date: 10-Dec-2016 11:26:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.0	119.99
$ 10 13C2 PFDA	10.0	11.7	116.60

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW10-1116 MSD Lab Sample ID: 320-23928-25 MSD

Matrix: Water Lab File ID: 05DEC2016A6A_250.d

Analysis Method: 537 Date Collected: 11/29/2016 16:10

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 277.6(mL) Date Analyzed: 12/10/2016 20:09

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.: 141295 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0315	J	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.144	4	0.027	0.022	0.0085
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.135		0.13	0.099	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	111		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_250.d
Lims ID: 320-23928-A-25-E MSD
Client ID: WI-CV-3RW10-1116
Sample Type: MSD
Inject. Date: 10-Dec-2016 20:09:57 ALS Bottle#: 21 Worklist Smp#: 75
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-25-E MSD
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 10:35:47 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

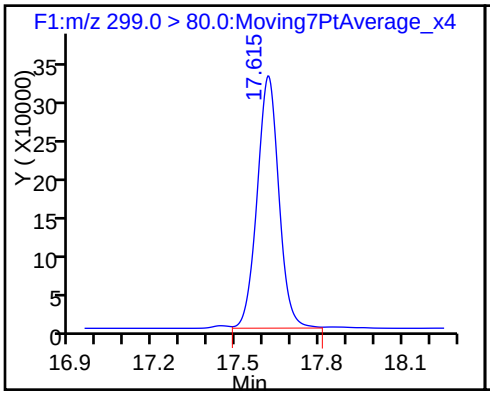
Column 1 : Acquity BEH C18 (2.10 mm) Det: F1:MRM
Process Host: XAWRK002

First Level Reviewer: barnettj Date: 12-Dec-2016 09:57:38

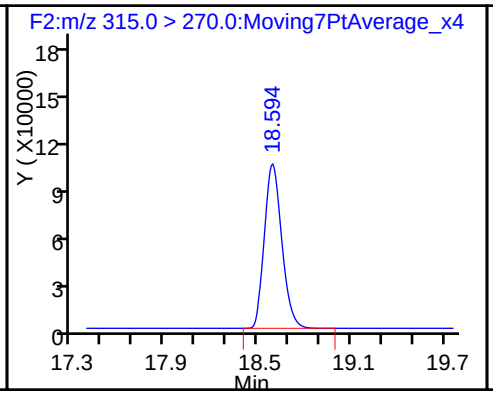
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.615	17.602	0.013	1.000	1780533	37.4	549	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.576	0.018	1.000	821371	10.9	26101	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.344	19.332	0.012	1.000	1419050	23.3	29821	
4 Perfluoroheptanoic acid								
363.0 > 319.0	19.380	19.368	0.012	1.000	611568	7.76	14900	
* 5 13C2-PFOA								
415.0 > 370.0	20.047	20.035	0.012		648215	10.0	16890	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.047	20.035	0.012	1.000	2688691	39.9	1116	
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.619	20.619	0.0	1.000	619031	8.75	5585	
* 8 13C4 PFOS								
503.0 > 80.0	20.679	20.667	0.012		1944459	28.7	40596	
9 Perfluorononanoic acid								
463.0 > 419.0	20.762	20.738	0.024	1.000	422309	5.74	1534	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.489	0.009	1.000	629442	11.1	19790	

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_250.d
Injection Date: 10-Dec-2016 20:09:57 Instrument ID: A6
Lims ID: 320-23928-A-25-E MSD
Client ID: WI-CV-3RW10-1116
Operator ID: CBW ALS Bottle#: 21 Worklist Smp#: 75
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Method: 537__A6 Limit Group: LC 537 ICAL

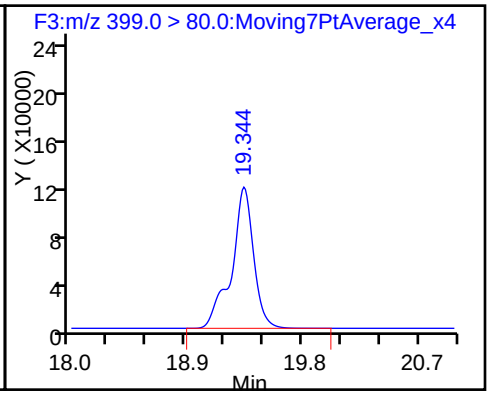
1 Perfluorobutanesulfonic acid



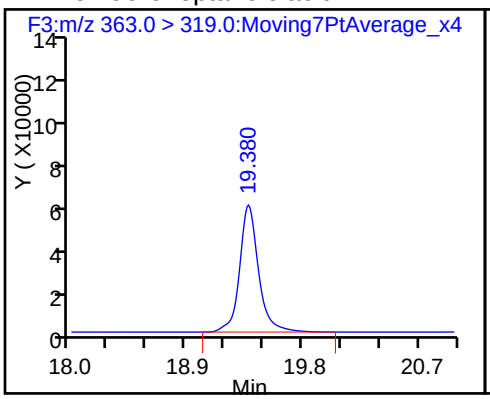
$ 2 13C2 PFHxA



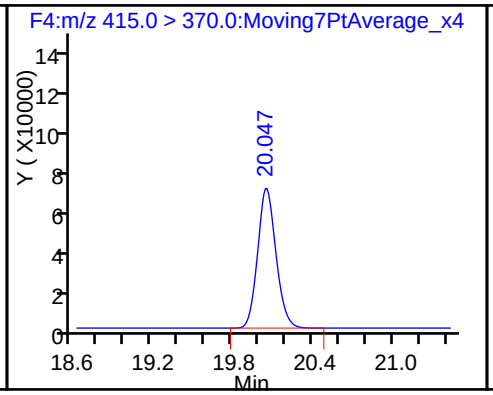
3 Perfluorohexanesulfonic acid



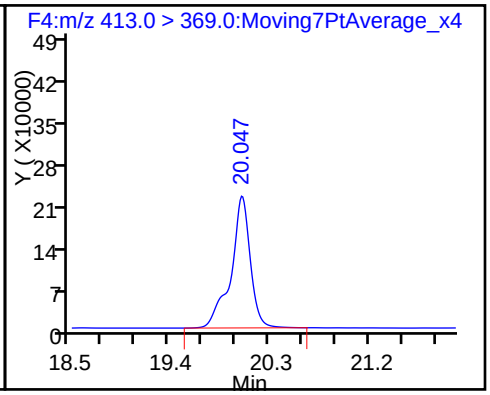
4 Perfluoroheptanoic acid



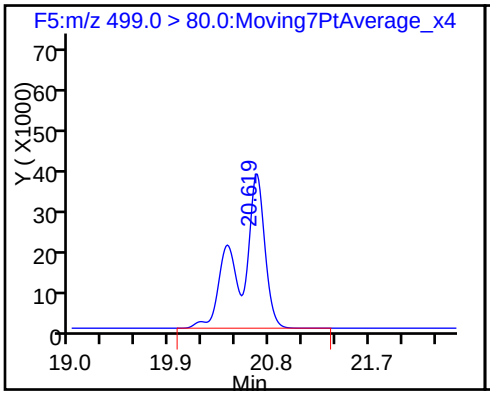
* 5 13C2-PFOA



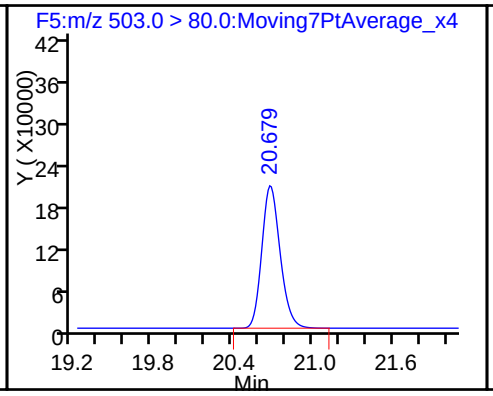
6 Perfluorooctanoic acid



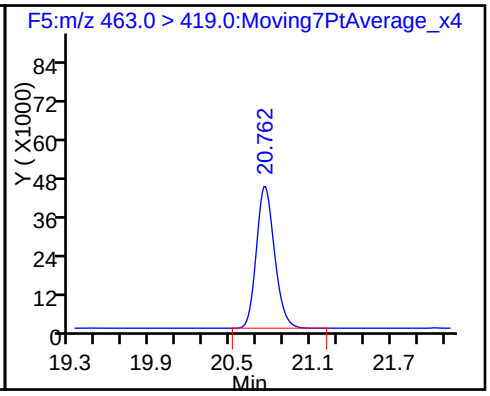
7 Perfluorooctane sulfonic acid



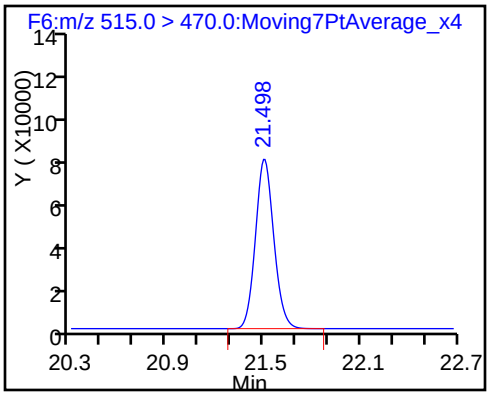
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_250.d
Lims ID: 320-23928-A-25-E MSD
Client ID: WI-CV-3RW10-1116
Sample Type: MSD
Inject. Date: 10-Dec-2016 20:09:57 ALS Bottle#: 21 Worklist Smp#: 75
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-25-E MSD
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 10:35:47 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 09:57:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	10.9	108.62
$ 10 13C2 PFDA	10.0	11.1	110.81

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 MSD | Lab Sample ID: 320-23928-27 MSD

Matrix: Water | Lab File ID: 05DEC2016A6A_261.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:35

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 279.8(mL) | Date Analyzed: 12/11/2016 01:35

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.: 141475 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.0319	J	0.054	0.043	0.014
335-67-1	*Perfluorooctanoic acid (PFOA)*	*0.650*	*E 4*	*0.027*	0.021	*0.0084*
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.123	J	0.13	0.098	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	127		70-130
STL00996	13C2 PFDA	129		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_261.d
Lims ID: 320-23928-A-27-E MSD
Client ID: WI-CV-3RW11-1116
Sample Type: MSD
Inject. Date: 11-Dec-2016 01:35:41 ALS Bottle#: 29 Worklist Smp#: 86
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-27-E MSD
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 10:36:14 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 10:26:31

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.621	17.618	0.003	1.000	1748528	34.5	569	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	938341	12.7	29613	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.344	0.012	1.000	1882411	29.0	25533	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.392	19.380	0.012	1.000	1051244	13.7	200	M
* 5 13C2-PFOA								
415.0 > 370.0	20.070	20.058	0.012		632976	10.0	16559	
6 Perfluorooctanoic acid								E
413.0 > 369.0	20.070	20.058	0.012	1.000	11984905	182.0	3098	E
7 Perfluorooctane sulfonic acid								
499.0 > 80.0	20.442	20.430	0.012	1.000	672433	8.91	5651	
* 8 13C4 PFOS								
503.0 > 80.0	20.702	20.690	0.012		2072278	28.7	54254	
9 Perfluorononanoic acid								
463.0 > 419.0	20.773	20.773	0.0	1.000	474786	6.61	10043	
$ 10 13C2 PFDA								
515.0 > 470.0	21.498	21.506	-0.008	1.000	716000	12.9	22610	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 12-Dec-2016 10:36:24 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_261.d

Injection Date: 11-Dec-2016 01:35:41 Instrument ID: A6

Lims ID: 320-23928-A-27-E MSD

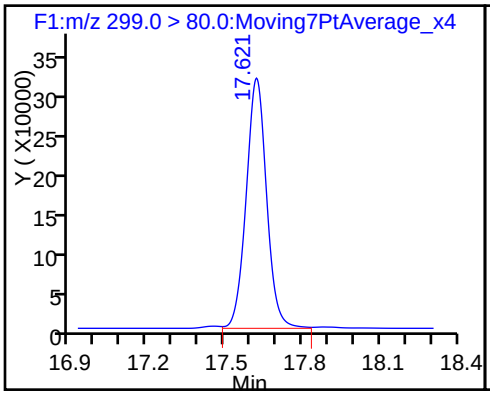
Client ID: WI-CV-3RW11-1116

Operator ID: CBW ALS Bottle#: 29 Worklist Smp#: 86

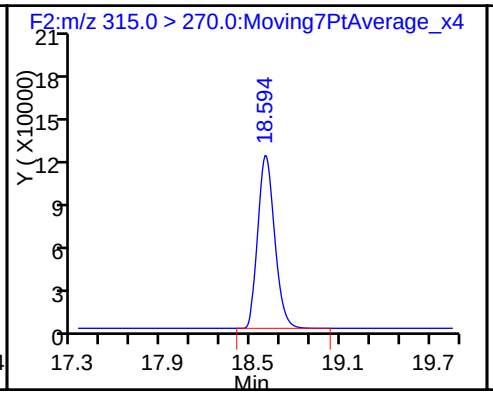
Injection Vol: 10.0 ul Dil. Factor: 1.0000

Method: 537__A6 Limit Group: LC 537 ICAL

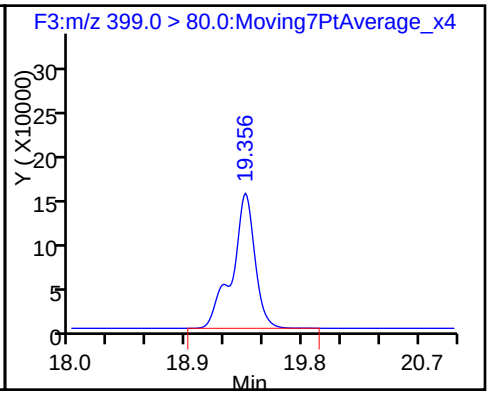
1 Perfluorobutanesulfonic acid



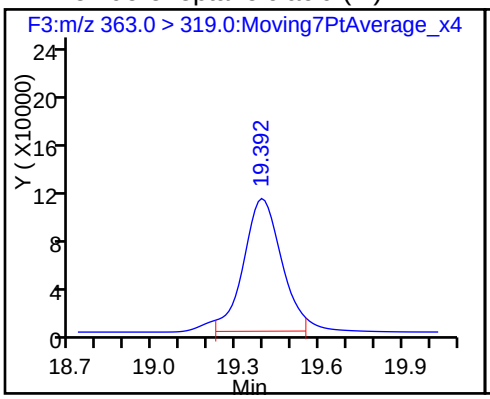
$ 2 13C2 PFHxA



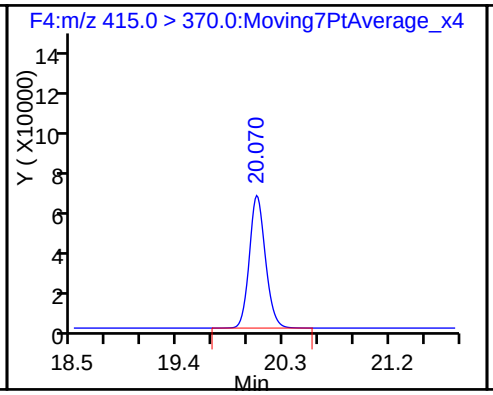
3 Perfluorohexanesulfonic acid



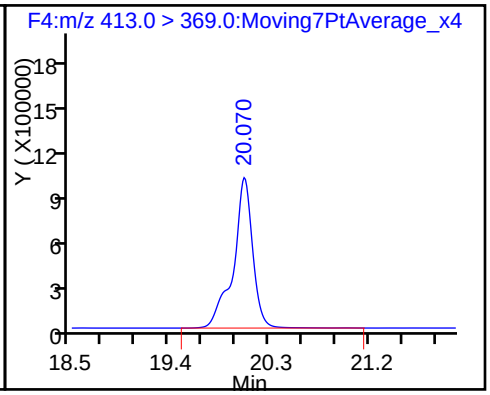
4 Perfluoroheptanoic acid (M)



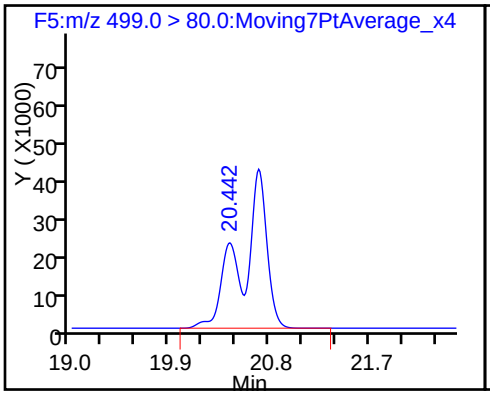
* 5 13C2-PFOA



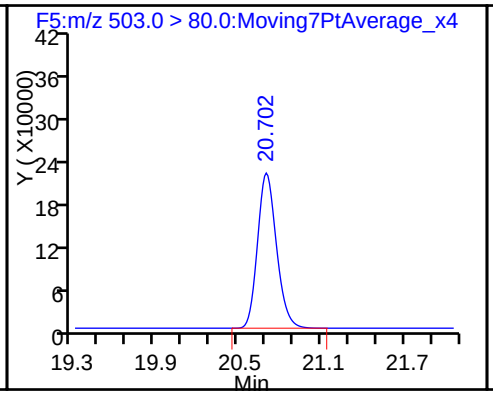
6 Perfluorooctanoic acid



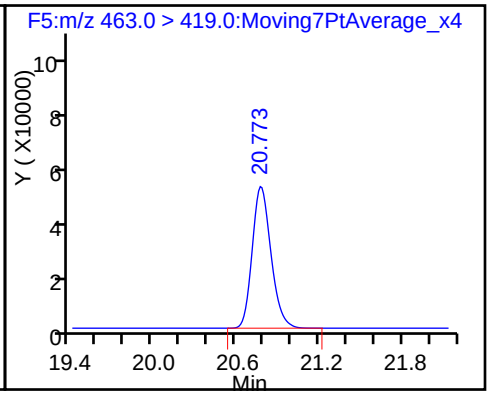
7 Perfluorooctane sulfonic acid



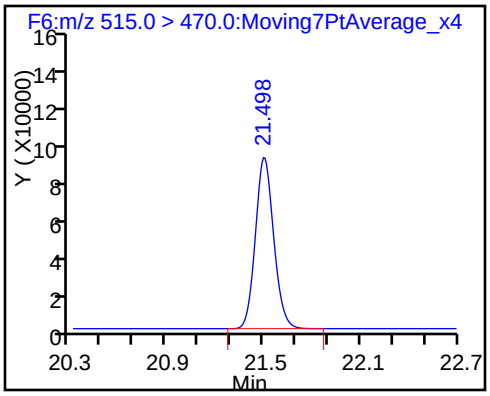
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_261.d
Lims ID: 320-23928-A-27-E MSD
Client ID: WI-CV-3RW11-1116
Sample Type: MSD
Inject. Date: 11-Dec-2016 01:35:41 ALS Bottle#: 29 Worklist Smp#: 86
Injection Vol: 10.0 ul Dil. Factor: 1.0000
Sample Info: 320-23928-A-27-E MSD
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 10:36:14 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 10:26:31

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	12.7	127.08
$ 10 13C2 PFDA	10.0	12.9	129.09

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 MSD DL Lab Sample ID: 320-23928-27 MSD DL

Matrix: Water Lab File ID: 05DEC2016A6A_258.d

Analysis Method: 537 Date Collected: 11/29/2016 16:35

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 279.8(mL) Date Analyzed: 12/11/2016 00:06

Con. Extract Vol.: 1.00(mL) Dilution Factor: 10

Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 141475 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.43*	*U M*	*0.54*	0.43	*0.14*
335-67-1	Perfluorooctanoic acid (PFOA)	0.672	D 4	0.27	0.21	0.084
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.98*	*U*	*1.3*	0.98	*0.43*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	103		70-130

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_258.d
Lims ID: 320-23928-A-27-E MSD
Client ID: WI-CV-3RW11-1116
Sample Type: MSD
Inject. Date: 11-Dec-2016 00:06:52 ALS Bottle#: 26 Worklist Smp#: 83
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 320-23928-A-27-E MSD 10X
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 10:36:14 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 10:23:04

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	S/N	Flags
1 Perfluorobutanesulfonic acid								
299.0 > 80.0	17.615	17.618	-0.003	1.000	161645	3.26	185	
$ 2 13C2 PFHxA								
315.0 > 270.0	18.594	18.594	0.0	1.000	94363	1.11	3046	
3 Perfluorohexanesulfonic acid								
399.0 > 80.0	19.356	19.344	0.012	1.000	180407	2.85	3895	
4 Perfluoroheptanoic acid								M
363.0 > 319.0	19.380	19.380	0.0	1.000	122848	1.39	67.7	M
* 5 13C2-PFOA								
415.0 > 370.0	20.058	20.058	0.0		72588	1.00	1966	
6 Perfluorooctanoic acid								
413.0 > 369.0	20.070	20.058	0.012	1.000	1419982	18.8	906	
7 Perfluorooctane sulfonic acid								M
499.0 > 80.0	20.702	20.430	0.272	1.000	56692	0.7693	1048	M
* 8 13C4 PFOS								
503.0 > 80.0	20.690	20.690	0.0		202454	2.87	5449	
9 Perfluorononanoic acid								
463.0 > 419.0	20.773	20.773	0.0	1.000	45795	0.5562	1286	
$ 10 13C2 PFDA								
515.0 > 470.0	21.506	21.506	0.0	1.000	65683	1.03	2172	

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 12-Dec-2016 10:36:20 Chrom Revision: 2.2 05-Dec-2016 12:37:22

TestAmerica Sacramento

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_258.d

Injection Date: 11-Dec-2016 00:06:52 Instrument ID: A6

Lims ID: 320-23928-A-27-E MSD

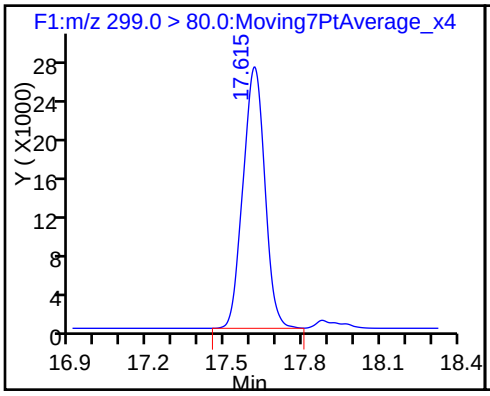
Client ID: WI-CV-3RW11-1116

Operator ID: CBW ALS Bottle#: 26 Worklist Smp#: 83

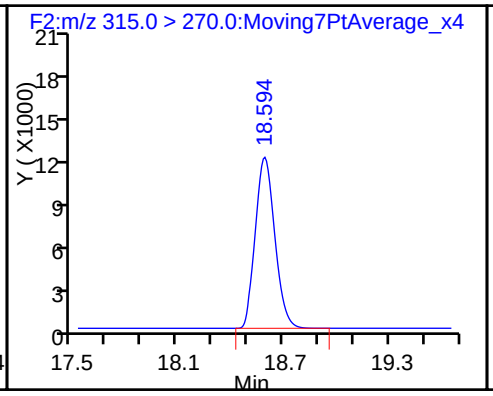
Injection Vol: 10.0 ul Dil. Factor: 10.0000

Method: 537__A6 Limit Group: LC 537 ICAL

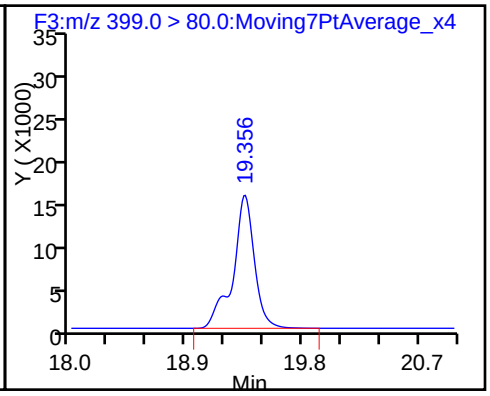
1 Perfluorobutanesulfonic acid



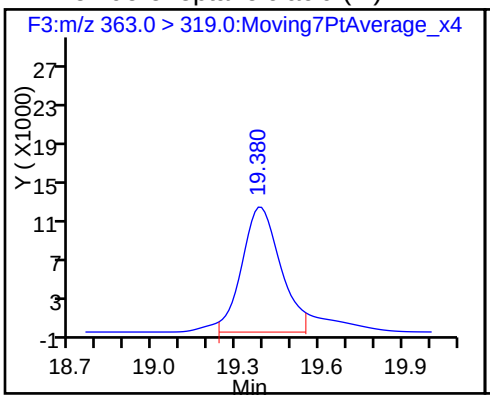
$ 2 13C2 PFHxA



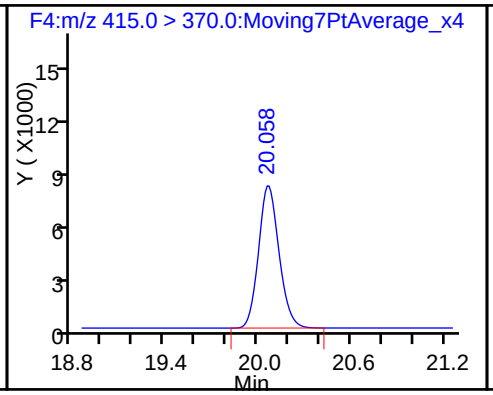
3 Perfluorohexanesulfonic acid



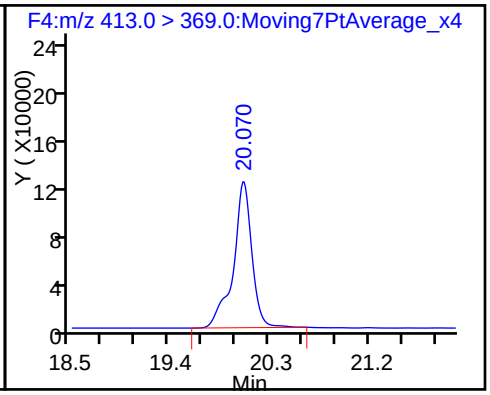
4 Perfluoroheptanoic acid (M)



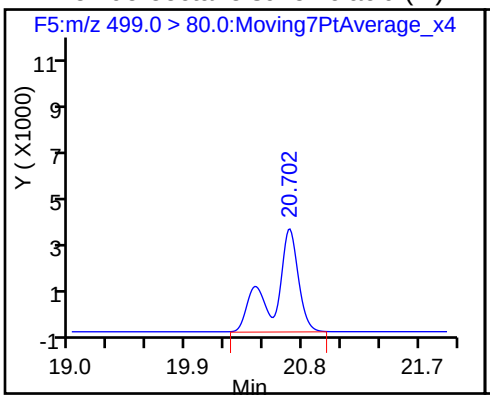
* 5 13C2-PFOA



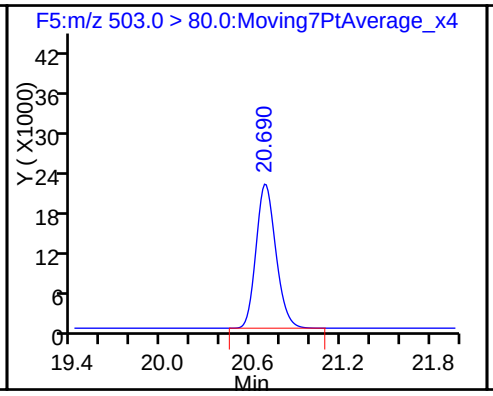
6 Perfluorooctanoic acid



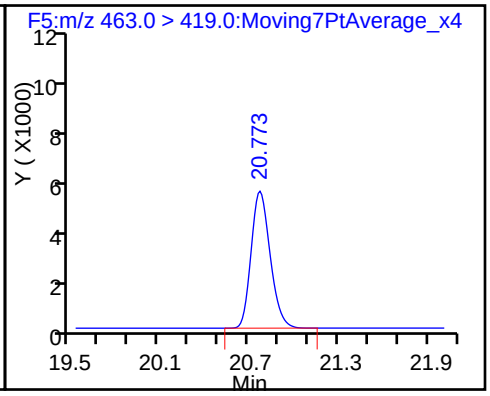
7 Perfluorooctane sulfonic acid (M)



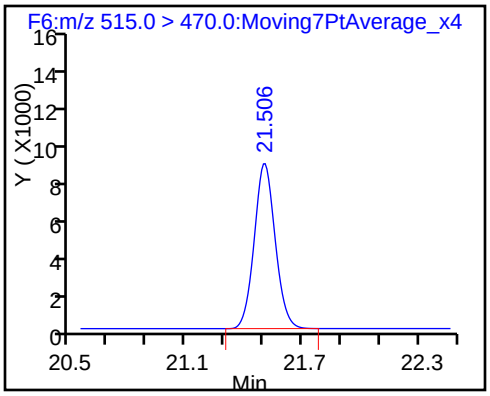
* 8 13C4 PFOS



9 Perfluorononanoic acid



$ 10 13C2 PFDA



TestAmerica Sacramento
Recovery Report

Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_258.d
Lims ID: 320-23928-A-27-E MSD
Client ID: WI-CV-3RW11-1116
Sample Type: MSD
Inject. Date: 11-Dec-2016 00:06:52 ALS Bottle#: 26 Worklist Smp#: 83
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Sample Info: 320-23928-A-27-E MSD 10X
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 10:36:14 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 10:23:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 2 13C2 PFHxA	10.0	1.11	111.44
$ 10 13C2 PFDA	10.0	1.03	103.26

Manual Integration/User Assign Peak Report

TestAmerica Sacramento

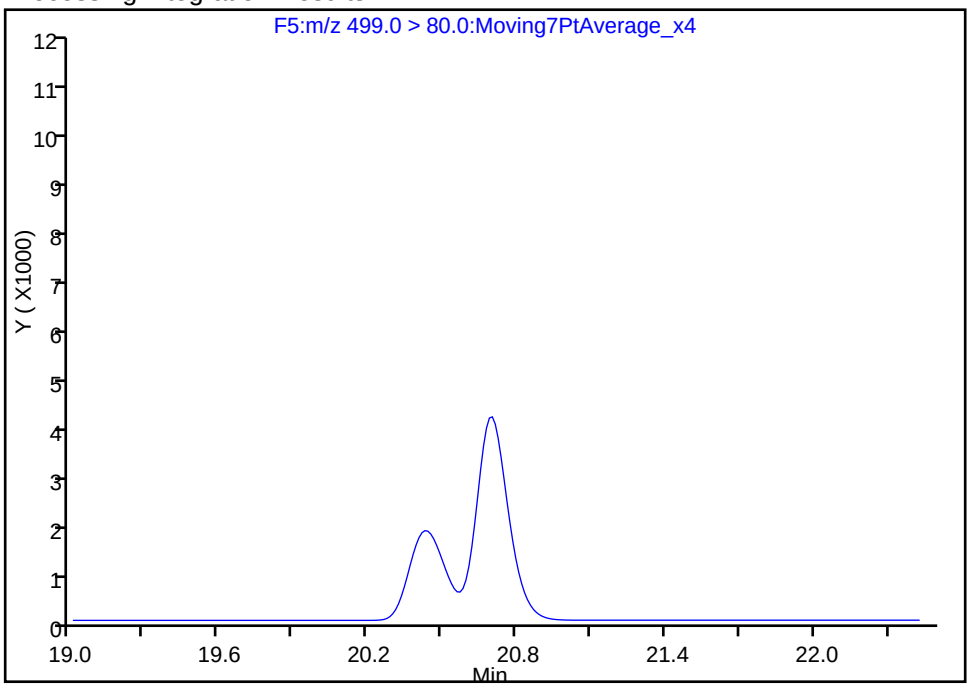
Data File: \\ChromNA\Sacramento\ChromData\A6\20161208-37652.b\05DEC2016A6A_258.d
Injection Date: 11-Dec-2016 00:06:52 Instrument ID: A6
Lims ID: 320-23928-A-27-E MSD
Client ID: WI-CV-3RW11-1116
Operator ID: CBW ALS Bottle#: 26 Worklist Smp#: 83
Injection Vol: 10.0 ul Dil. Factor: 10.0000
Method: 537__A6 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

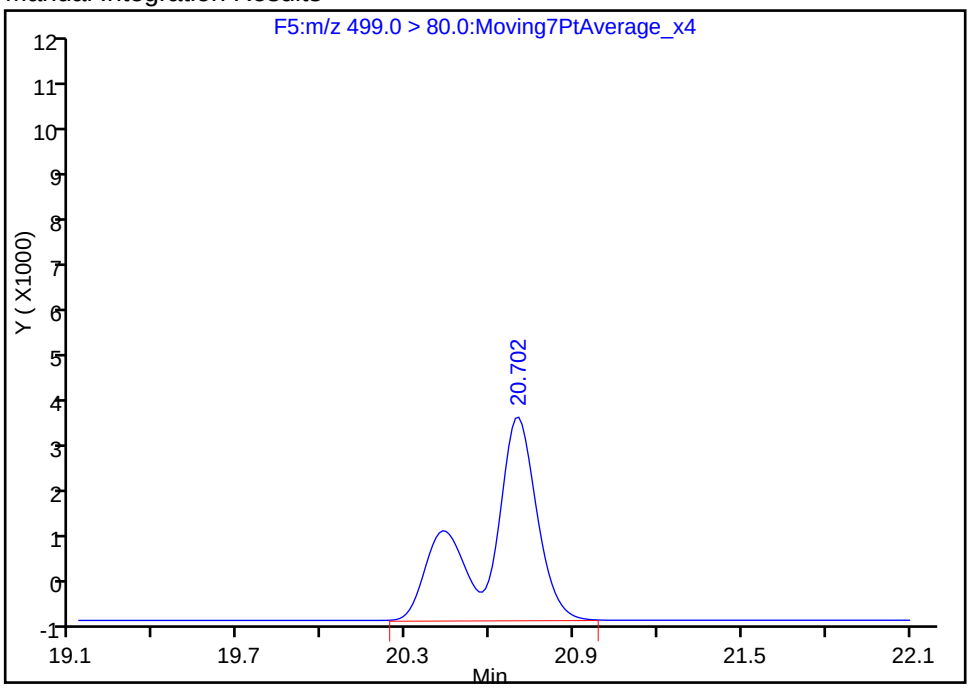
Not Detected
Expected RT: 20.43

Processing Integration Results



Manual Integration Results

RT: 20.70
Area: 56692
Amount: 0.769270
Amount Units: ng/ml



Reviewer: barnettj, 12-Dec-2016 10:23:04
Audit Action: Manually Integrated Audit Reason: Missed Peak

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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.: 320-23928-1

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)
ZZZZZ		12/09/2016 18:30	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 19:00	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 19:29	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 19:59	1		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.: 320-23928-1

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)
ZZZZZ		12/09/2016 21:57	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 22:27	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 22:57	1		Acquity 2.1(mm)
ZZZZZ		12/09/2016 23:26	1		Acquity 2.1(mm)
320-23928-1		12/09/2016 23:56	1	05DEC2016A6A_209.d	Acquity 2.1(mm)
320-23928-2		12/10/2016 00:25	1	05DEC2016A6A_210.d	Acquity 2.1(mm)
320-23928-3 DL		12/10/2016 00:55	4	05DEC2016A6A_211.d	Acquity 2.1(mm)
320-23928-4		12/10/2016 01:25	1	05DEC2016A6A_212.d	Acquity 2.1(mm)
320-23928-5		12/10/2016 01:54	1	05DEC2016A6A_213.d	Acquity 2.1(mm)
320-23928-6		12/10/2016 02:24	1	05DEC2016A6A_214.d	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.: 320-23928-1

SDG No.:

Instrument ID: A6 Start Date: 12/10/2016 03:23

Analysis Batch Number: 141293 End Date: 12/10/2016 09:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141293/41 CCVIS		12/10/2016 03:23	1	05DEC2016A6A_216.d	Acquity 2.1(mm)
ZZZZZ		12/10/2016 03:53	1		Acquity 2.1(mm)
320-23928-7		12/10/2016 04:22	1	05DEC2016A6A_218.d	Acquity 2.1(mm)
320-23928-3		12/10/2016 04:52	1	05DEC2016A6A_219.d	Acquity 2.1(mm)
320-23928-8		12/10/2016 05:21	1	05DEC2016A6A_220.d	Acquity 2.1(mm)
320-23928-9		12/10/2016 05:51	1	05DEC2016A6A_221.d	Acquity 2.1(mm)
320-23928-9 MS		12/10/2016 06:21	1	05DEC2016A6A_222.d	Acquity 2.1(mm)
320-23928-9 MSD		12/10/2016 06:50	1	05DEC2016A6A_223.d	Acquity 2.1(mm)
320-23928-10		12/10/2016 07:20	1	05DEC2016A6A_224.d	Acquity 2.1(mm)
320-23928-11		12/10/2016 07:49	1	05DEC2016A6A_225.d	Acquity 2.1(mm)
320-23928-12		12/10/2016 08:19	1	05DEC2016A6A_226.d	Acquity 2.1(mm)
MB 320-140478/1-A		12/10/2016 08:49	1	05DEC2016A6A_227.d	Acquity 2.1(mm)
CCV 320-141293/54 CCVIS		12/10/2016 09:48	1	05DEC2016A6A_229.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Start Date: 12/10/2016 09:48

Analysis Batch Number: 141294 End Date: 12/10/2016 16:13

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141294/54 CCVIS		12/10/2016 09:48	1	05DEC2016A6A_229.d	Acquity 2.1(mm)
ZZZZZ		12/10/2016 10:17	1		Acquity 2.1(mm)
LLCS 320-140478/2-A		12/10/2016 10:47	1	05DEC2016A6A_231.d	Acquity 2.1(mm)
320-23928-13		12/10/2016 11:17	1	05DEC2016A6A_232.d	Acquity 2.1(mm)
320-23928-13 DL		12/10/2016 11:46	2	05DEC2016A6A_233.d	Acquity 2.1(mm)
320-23928-14		12/10/2016 12:16	1	05DEC2016A6A_234.d	Acquity 2.1(mm)
320-23928-15		12/10/2016 12:45	1	05DEC2016A6A_235.d	Acquity 2.1(mm)
320-23928-16		12/10/2016 13:15	1	05DEC2016A6A_236.d	Acquity 2.1(mm)
320-23928-17		12/10/2016 13:45	1	05DEC2016A6A_237.d	Acquity 2.1(mm)
320-23928-18		12/10/2016 14:14	1	05DEC2016A6A_238.d	Acquity 2.1(mm)
320-23928-19		12/10/2016 14:44	1	05DEC2016A6A_239.d	Acquity 2.1(mm)
320-23928-20		12/10/2016 15:13	1	05DEC2016A6A_240.d	Acquity 2.1(mm)
CCV 320-141294/67 CCVIS		12/10/2016 16:13	1	05DEC2016A6A_242.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Start Date: 12/10/2016 16:13

Analysis Batch Number: 141295 End Date: 12/10/2016 22:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141295/67 CCVIS		12/10/2016 16:13	1	05DEC2016A6A_242.d	Acquity 2.1(mm)
ZZZZZ		12/10/2016 16:42	1		Acquity 2.1(mm)
320-23928-21		12/10/2016 17:12	1	05DEC2016A6A_244.d	Acquity 2.1(mm)
320-23928-22		12/10/2016 17:41	1	05DEC2016A6A_245.d	Acquity 2.1(mm)
320-23928-23		12/10/2016 18:11	1	05DEC2016A6A_246.d	Acquity 2.1(mm)
320-23928-24		12/10/2016 18:41	1	05DEC2016A6A_247.d	Acquity 2.1(mm)
320-23928-25		12/10/2016 19:10	1	05DEC2016A6A_248.d	Acquity 2.1(mm)
320-23928-25 MS		12/10/2016 19:40	1	05DEC2016A6A_249.d	Acquity 2.1(mm)
320-23928-25 MSD		12/10/2016 20:09	1	05DEC2016A6A_250.d	Acquity 2.1(mm)
320-23928-26		12/10/2016 20:39	1	05DEC2016A6A_251.d	Acquity 2.1(mm)
ZZZZZ		12/10/2016 21:09	1		Acquity 2.1(mm)
CCV 320-141295/79 CCVIS		12/10/2016 22:08	1	05DEC2016A6A_254.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Start Date: 12/10/2016 22:08

Analysis Batch Number: 141475 End Date: 12/11/2016 02:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141475/79 CCVIS		12/10/2016 22:08	1	05DEC2016A6A_254.d	Acquity 2.1(mm)
ZZZZZ		12/10/2016 22:38	1		Acquity 2.1(mm)
320-23928-27 DL		12/10/2016 23:07	10	05DEC2016A6A_256.d	Acquity 2.1(mm)
320-23928-27 MS DL		12/10/2016 23:37	10	05DEC2016A6A_257.d	Acquity 2.1(mm)
320-23928-27 MSD DL		12/11/2016 00:06	10	05DEC2016A6A_258.d	Acquity 2.1(mm)
320-23928-27		12/11/2016 00:36	1	05DEC2016A6A_259.d	Acquity 2.1(mm)
320-23928-27 MS		12/11/2016 01:06	1	05DEC2016A6A_260.d	Acquity 2.1(mm)
320-23928-27 MSD		12/11/2016 01:35	1	05DEC2016A6A_261.d	Acquity 2.1(mm)
CCV 320-141475/88 CCVIS		12/11/2016 02:34	1	05DEC2016A6A_263.d	Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Start Date: 12/11/2016 12:02

Analysis Batch Number: 141573 End Date: 12/11/2016 18:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141573/3 CCVL		12/11/2016 12:02	1	11DEC2016A6A_003.d	Acquity 2.1(mm)
CCV 320-141573/4 CCVIS		12/11/2016 12:32	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 13:02	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 13:31	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 14:01	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 14:30	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 15:00	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 15:30	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 15:59	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 16:29	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 16:58	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 17:28	1		Acquity 2.1(mm)
ZZZZZ		12/11/2016 17:58	1		Acquity 2.1(mm)
CCV 320-141573/17 CCVIS		12/11/2016 18:57	1		Acquity 2.1(mm)

LCMS ANALYSIS RUN LOG

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Instrument ID: A6 Start Date: 12/12/2016 16:39

Analysis Batch Number: 141758 End Date: 12/12/2016 22:05

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-141758/61 CCVIS		12/12/2016 16:39	1	11DEC2016A6A_061.d	Acquity 2.1(mm)
ZZZZZ		12/12/2016 17:08	1		Acquity 2.1(mm)
ZZZZZ		12/12/2016 17:38	1		Acquity 2.1(mm)
320-23928-28		12/12/2016 18:08	1	11DEC2016A6A_064.d	Acquity 2.1(mm)
ZZZZZ		12/12/2016 18:37	1		Acquity 2.1(mm)
ZZZZZ		12/12/2016 19:07	2		Acquity 2.1(mm)
ZZZZZ		12/12/2016 19:36	10		Acquity 2.1(mm)
ZZZZZ		12/12/2016 20:06	1		Acquity 2.1(mm)
ZZZZZ		12/12/2016 20:36	1		Acquity 2.1(mm)
ZZZZZ		12/12/2016 21:05	1		Acquity 2.1(mm)
CCV 320-141758/71 CCVIS		12/12/2016 22:05	1	11DEC2016A6A_072.d	Acquity 2.1(mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

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
320-23928-A-1	WI-CV-1RW06-1116	537, 537	T	295.75 g	26.92 g	268.8 mL	1.00 mL	9 SU	
320-23928-A-2	WI-CV-1FB06-1116	537, 537	T	297.11 g	26.81 g	270.3 mL	1.00 mL	9 SU	
320-23928-A-3	WI-CV-1RW07-1116	537, 537	T	302.04 g	27.72 g	274.3 mL	1.00 mL	9 SU	
320-23928-A-4	WI-CV-1FB07-1116	537, 537	T	307.48 g	27.39 g	280.1 mL	1.00 mL	9 SU	
320-23928-A-5	WI-CV-1RW08-1116	537, 537	T	304.63 g	27.32 g	277.3 mL	1.00 mL	9 SU	
320-23928-A-6	WI-CV-1FB08-1116	537, 537	T	299.07 g	27.09 g	272 mL	1.00 mL	9 SU	
320-23928-A-7	WI-CV-1RW09-1116	537, 537	T	301.61 g	27.75 g	273.9 mL	1.00 mL	9 SU	
320-23928-A-8	WI-CV-1FB09-1116	537, 537	T	303.21 g	26.51 g	276.7 mL	1.00 mL	9 SU	
320-23928-A-9	WI-CV-1RW10-1116	537, 537	T	305.04 g	27.94 g	277.1 mL	1.00 mL	9 SU	
320-23928-A-9 MS	WI-CV-1RW10-1116	537, 537	T	300.15 g	27.94 g	272.2 mL	1.00 mL	9 SU	
320-23928-A-9 MSD	WI-CV-1RW10-1116	537, 537	T	294.72 g	27.21 g	267.5 mL	1.00 mL	9 SU	
320-23928-A-10	WI-CV-1FB10-1116	537, 537	T	296.48 g	26.61 g	269.9 mL	1.00 mL	9 SU	
320-23928-A-11	WI-CV-2RW05-1116	537, 537	T	280.36 g	27.29 g	253.1 mL	1.00 mL	9 SU	
320-23928-A-12	WI-CV-2FB05-1116	537, 537	T	299.54 g	26.52 g	273 mL	1.00 mL	9 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-IS 00025	LC537-MSP 00014	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		
320-23928-A-1	WI-CV-1RW06-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-2	WI-CV-1FB06-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-3	WI-CV-1RW07-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-4	WI-CV-1FB07-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-5	WI-CV-1RW08-1116	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.: 320-23928-1

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	LC537-IS 00025	LC537-MSP 00014	LC537-SU 00022	AnalysisComment		
320-23928-A-6	WI-CV-1FB08-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-7	WI-CV-1RW09-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-8	WI-CV-1FB09-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-9	WI-CV-1RW10-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-9 MS	WI-CV-1RW10-1116	537, 537	T	20 uL	50 uL	50 uL	Free Chlorine: ND		
320-23928-A-9 MSD	WI-CV-1RW10-1116	537, 537	T	20 uL	50 uL	50 uL	Free Chlorine: ND		
320-23928-A-10	WI-CV-1FB10-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-11	WI-CV-2RW05-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		
320-23928-A-12	WI-CV-2FB05-1116	537, 537	T	20 uL		50 uL	Free Chlorine: ND		

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.

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Batch Number: 140478 Batch Start Date: 12/03/16 12:19 Batch Analyst: Reed, Jonathan E

Batch Method: 537 Batch End Date: 12/05/16 12:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	ReceivedpH	LC537-IS 00025
MB 320-140478/1		537, 537				250.00 mL	1.00 mL	7 SU	20 uL
LLCS 320-140478/2		537, 537				250.00 mL	1.00 mL	7 SU	20 uL
320-23928-A-13	WI-CV-2RW06-1116	537, 537	T	298.23 g	27.85 g	270.4 mL	1.00 mL	9 SU	20 uL
320-23928-A-14	WI-CV-2FB06-1116	537, 537	T	290.69 g	27.15 g	263.5 mL	1.00 mL	9 SU	20 uL
320-23928-A-15	WI-CV-2RW07-1116	537, 537	T	296.88 g	27.38 g	269.5 mL	1.00 mL	9 SU	20 uL
320-23928-A-16	WI-CV-2FB07-1116	537, 537	T	304.67 g	27.78 g	276.9 mL	1.00 mL	9 SU	20 uL
320-23928-A-17	WI-CV-3RW06-1116	537, 537	T	312.00 g	27.77 g	284.2 mL	1.00 mL	9 SU	20 uL
320-23928-A-18	WI-CV-3FB06-1116	537, 537	T	310.53 g	26.33 g	284.2 mL	1.00 mL	9 SU	20 uL
320-23928-A-19	WI-CV-3RW07-1116	537, 537	T	298.36 g	27.33 g	271 mL	1.00 mL	9 SU	20 uL
320-23928-A-20	WI-CV-3FB07-1116	537, 537	T	310.92 g	26.35 g	284.6 mL	1.00 mL	9 SU	20 uL
320-23928-A-21	WI-CV-3RW08-1116	537, 537	T	298.65 g	26.90 g	271.8 mL	1.00 mL	9 SU	20 uL
320-23928-A-22	WI-CV-3FB08-1116	537, 537	T	312.65 g	27.02 g	285.6 mL	1.00 mL	9 SU	20 uL
320-23928-A-23	WI-CV-3RW09-1116	537, 537	T	311.08 g	27.59 g	283.5 mL	1.00 mL	9 SU	20 uL
320-23928-A-24	WI-CV-FB09-1116	537, 537	T	308.16 g	26.61 g	281.6 mL	1.00 mL	9 SU	20 uL
320-23928-A-25	WI-CV-3RW10-1116	537, 537	T	307.65 g	27.28 g	280.4 mL	1.00 mL	9 SU	20 uL
320-23928-A-25 MS	WI-CV-3RW10-1116	537, 537	T	312.46 g	27.21 g	285.3 mL	1.00 mL	9 SU	20 uL
320-23928-A-25 MSD	WI-CV-3RW10-1116	537, 537	T	305.09 g	27.50 g	277.6 mL	1.00 mL	9 SU	20 uL
320-23928-A-26	WI-CV-3FB10-1116	537, 537	T	309.71 g	27.50 g	282.2 mL	1.00 mL	9 SU	20 uL
320-23928-A-27	WI-CV-3RW11-1116	537, 537	T	306.82 g	27.50 g	279.3 mL	1.00 mL	9 SU	20 uL
320-23928-A-27 MS	WI-CV-3RW11-1116	537, 537	T	320.27 g	28.01 g	292.3 mL	1.00 mL	9 SU	20 uL
320-23928-A-27 MSD	WI-CV-3RW11-1116	537, 537	T	307.26 g	27.42 g	279.8 mL	1.00 mL	9 SU	20 uL
320-23928-A-28	WI-CV-3FB11-1116	537, 537	T	300.38 g	26.67 g	273.7 mL	1.00 mL	9 SU	20 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-LSP 00010	LC537-SU 00022	AnalysisComment			
MB 320-140478/1		537, 537			50 uL	Free Chlorine: ND			
LLCS 320-140478/2		537, 537		50 uL	50 uL	Free Chlorine: ND			
320-23928-A-13	WI-CV-2RW06-1116	537, 537	T		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.: 320-23928-1

SDG No.:

Batch Number: 140478 Batch Start Date: 12/03/16 12:19 Batch Analyst: Reed, Jonathan E

Batch Method: 537 Batch End Date: 12/05/16 12:05

Lab Sample ID	Client Sample ID	Method Chain	Basis	LC537-LSP 00010	LC537-SU 00022	AnalysisComment			
320-23928-A-14	WI-CV-2FB06-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-15	WI-CV-2RW07-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-16	WI-CV-2FB07-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-17	WI-CV-3RW06-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-18	WI-CV-3FB06-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-19	WI-CV-3RW07-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-20	WI-CV-3FB07-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-21	WI-CV-3RW08-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-22	WI-CV-3FB08-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-23	WI-CV-3RW09-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-24	WI-CV-FB09-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-25	WI-CV-3RW10-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-25 MS	WI-CV-3RW10-1116	537, 537	T	50 uL	50 uL	Free Chlorine: ND			
320-23928-A-25 MSD	WI-CV-3RW10-1116	537, 537	T	50 uL	50 uL	Free Chlorine: ND			
320-23928-A-26	WI-CV-3FB10-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-27	WI-CV-3RW11-1116	537, 537	T		50 uL	Free Chlorine: ND			
320-23928-A-27 MS	WI-CV-3RW11-1116	537, 537	T	50 uL	50 uL	Free Chlorine: ND			
320-23928-A-27 MSD	WI-CV-3RW11-1116	537, 537	T	50 uL	50 uL	Free Chlorine: ND			
320-23928-A-28	WI-CV-3FB11-1116	537, 537	T		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.: 320-23928-1

SDG No.:

Batch Number: 140478 Batch Start Date: 12/03/16 12:19 Batch Analyst: Reed, Jonathan E

Batch Method: 537 Batch End Date: 12/05/16 12:05

Batch Notes	
Manifold ID	5,6
Methanol ID	789820
Pipette ID	MD05306
Analyst ID - IS Reagent Drop	ERW
Analyst ID - IS Reagent Drop Witness	CCB
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

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: [illegible] 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

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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	

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	320-23928-A-11-A
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	320-23928-A-12-A

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 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 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
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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:

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sacramento

Method 537 CCV/Data Review Checklist

Job No: 23928 Instrument ID & Date: AG 12-10-16 ICAL Batch: 140688

Extraction Batch: 140478 Worklist #: 37652, 37708 TALS Batch: 141293, 141294, 141295, 141475, 141758

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? 4 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 12-13-16 2nd Level Reviewer / Date: MWW 12/13/2016

NCM # and Comments: 72613, 72614, 72732, 72733, 72734

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 $R^2 \geq 0.990$ for Linear $R^2 \geq 0.990$ 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: 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 — E flag
#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 — IS out
#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 — IS out
#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 — Sur out
#85 320-23928-A-27-D MS	#85 320-23928-A-27-D MS — Sur out
#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

TestAmerica Laboratories
Worklist QC Batch Report

Worklist Name: 11DEC2016A_A6 537 Worklist Number: 37708
Instrument Name: A6 Chrom Method: 537__A6
Data Directory: \\ChromNA\Sacramento\ChromData\A6\20161211-37708.b
QC Batching: Enabled Limit Group Batching: Enabled

QC Batch: 1	LC 537 ICAL Raw Batch: 141573
# 1 RB	# 1 RB
# 2 RB	# 2 RB
# 3 CCV L2	# 3 CCV L2
# 4 CCV L5	# 4 CCV L5
# 5 RB	# 5 RB
# 6 MB 320-140632/1-A	# 6 MB 320-140632/1-A
# 7 LCS 320-140632/2-A	# 7 LCS 320-140632/2-A
# 8 LCSD 320-140632/3-A	# 8 LCSD 320-140632/3-A
# 9 320-23971-A-1-A	# 9 320-23971-A-1-A
#10 320-23971-A-2-A	#10 320-23971-A-2-A
#11 320-23971-A-3-A	#11 320-23971-A-3-A
#12 320-23971-A-4-A	#12 320-23971-A-4-A
#13 320-23971-A-5-A	#13 320-23971-A-5-A
#14 320-23971-B-6-A	#14 320-23971-B-6-A
#15 320-23971-A-7-A	#15 320-23971-A-7-A
#16 RB	#16 RB
#17 CCV L3	#17 CCV L3

QC Batch: 2	LC 537 ICAL Raw Batch: 141574
#17 CCV L3	#17 CCV L3
#18 RB	#18 RB
#19 320-23971-A-8-A	#19 320-23971-A-8-A
#20 320-23971-A-9-A	#20 320-23971-A-9-A
#21 320-23971-A-10-A	#21 320-23971-A-10-A
#22 320-23970-A-1-A	#22 320-23970-A-1-A
#23 320-23970-A-2-A	#23 320-23970-A-2-A
#24 320-23970-A-3-A	#24 320-23970-A-3-A
#25 320-23970-A-4-A	#25 320-23970-A-4-A
#26 320-23970-A-5-A	#26 320-23970-A-5-A
#27 320-23970-A-6-A	#27 320-23970-A-6-A
#28 RB	#28 RB
#29 CCV L5	#29 CCV L5

QC Batch: 3	LC 537 ICAL Raw Batch: 141575
#29 CCV L5	#29 CCV L5
#30 RB	#30 RB
#31 MB 320-140697/1-A	#31 MB 320-140697/1-A
#32 LCS 320-140697/2-A	#32 LCS 320-140697/2-A
#33 LCSD 320-140697/3-A	#33 LCSD 320-140697/3-A
#34 320-24005-A-1-A	#34 320-24005-A-1-A
#35 320-24005-A-2-A	#35 320-24005-A-2-A
#36 320-24005-A-3-A	#36 320-24005-A-3-A
#37 320-24005-A-4-A	#37 320-24005-A-4-A
#38 320-24005-A-5-A	#38 320-24005-A-5-A
#39 320-24005-A-6-A	#39 320-24005-A-6-A
#40 320-24005-A-7-A	#40 320-24005-A-7-A
#41 RB	#41 RB
#42 CCV L3	#42 CCV L3

QC Batch: 4	LC 537 ICAL Raw Batch: 141576
#42 CCV L3	#42 CCV L3
#43 RB	#43 RB
#44 320-24005-A-8-A	#44 320-24005-A-8-A
#45 320-24007-A-1-A	#45 320-24007-A-1-A
#46 320-24007-A-2-A	#46 320-24007-A-2-A
#47 RB	#47 RB
#48 CCV L5	#48 CCV L5

QC Batch: 5	LC 537 ICAL Raw Batch: 141577
#48 CCV L5	#48 CCV L5
#49 RB	#49 RB
#50 320-23719-A-4-A	#50 320-23719-A-4-A
#51 320-23719-A-5-A	#51 320-23719-A-5-A
#52 320-23719-A-6-A	#52 320-23719-A-6-A
#53 320-23719-A-7-A	#53 320-23719-A-7-A
#54 320-23719-A-8-A	#54 320-23719-A-8-A
#55 320-23719-A-9-A	#55 320-23719-A-9-A
#56 320-23720-A-1-A	#56 320-23720-A-1-A
#57 320-23720-A-2-A	#57 320-23720-A-2-A
#58 320-23721-A-1-A	#58 320-23721-A-1-A
#59 320-23722-A-1-A	#59 320-23722-A-1-A
#60 RB	#60 RB
#61 CCV L3	#61 CCV L3

QC Batch: 6	LC 537 ICAL Raw Batch: 141758
#61 CCV L3	#61 CCV L3
#79 RB	#79 RB
#62 320-23928-A-15-A	#62 320-23928-A-15-A
#63 320-23928-A-28-A	#63 320-23928-A-28-A
#64 320-23928-A-25-D MS	#64 320-23928-A-25-D MS
#65 320-23928-A-25-D MS	#65 320-23928-A-25-D MS
#66 320-23928-A-27-D MS	#66 320-23928-A-27-D MS
#67 320-23928-A-27-A	#67 320-23928-A-27-A
#68 320-23928-A-27-D MS	#68 320-23928-A-27-D MS
#69 320-23970-A-1-A	#69 320-23970-A-1-A
#70 RB	#70 RB
#71 CCV L5	#71 CCV L5

QC Batch: 7	LC 537 ICAL Raw Batch: 141759
#71 CCV L5	#71 CCV L5
#72 RB	#72 RB
#73 320-24005-A-1-A	#73 320-24005-A-1-A
#74 320-24005-A-3-A	#74 320-24005-A-3-A
#75 320-24005-A-8-A	#75 320-24005-A-8-A
#76 320-24007-A-1-A	#76 320-24007-A-1-A
#77 RB	#77 RB
#78 CCV L3	#78 CCV L3
#80 RB	#80 RB

15

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140478

Method Code: 320-537_Prep-320

Analyst: Reed, Jonathan E

Batch Open: 12/3/2016 12:19:00PM

Batch End: 12/5/2016 12:05:00PM

needs screening RA 12/4/16

Extraction of Perfluorinated Alkyl Acids

	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-320-140478/1 N/A	N/A		250.00 mL 1.00 mL	7			N/A	N/A	N/A	Free Chlorine: ND	MB 320-140478/1-A
2	LLCS-320-140478/2 N/A	N/A		250.00 mL 1.00 mL	7			N/A	N/A	N/A	Free Chlorine: ND	LLCS 320-140478/2-A
3	320-23928-A-13 (537_DOD5)	N/A (320-23928-1)	298.23 g 27.85 g	270.4 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND 2X	320-23928-A-13-A
4	320-23928-A-14 (537_DOD5)	N/A (320-23928-1)	290.69 g 27.15 g	263.5 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-14-A
5	320-23928-A-15 (537_DOD5)	N/A (320-23928-1)	296.88 g 27.38 g	269.5 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-15-A
6	320-23928-A-16 (537_DOD5)	N/A (320-23928-1)	304.67 g 27.78 g	276.9 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-16-A
7	320-23928-A-17 (537_DOD5)	N/A (320-23928-1)	312.00 g 27.77 g	284.2 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-17-A
8	320-23928-A-18 (537_DOD5)	N/A (320-23928-1)	310.53 g 26.33 g	284.2 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-18-A
9	320-23928-A-19 (537_DOD5)	N/A (320-23928-1)	298.36 g 27.33 g	271 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-19-A
10	320-23928-A-20 (537_DOD5)	N/A (320-23928-1)	310.92 g 26.35 g	284.6 mL 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-20-A

12/14/2016

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140478 Analyst: Reed, Jonathan E Batch Open: 12/3/2016 12:19:00PM

Method Code: 320-537_Prep-320 Batch End:

11	320-23928-A-21 (537_DOD5)	N/A (320-23928-1)	298.65 g / 26.90 g	271.8 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-21-A
12	320-23928-A-22 (537_DOD5)	N/A (320-23928-1)	312.65 g / 27.02 g	285.6 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-22-A
13	320-23928-A-23 (537_DOD5)	N/A (320-23928-1)	311.08 g / 27.59 g	283.5 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-23-A
14	320-23928-A-24 (537_DOD5)	N/A (320-23928-1)	308.16 g / 26.61 g	281.6 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-24-A
15	320-23928-A-25 (537_DOD5)	N/A (320-23928-1)	307.65 g / 27.28 g	280.4 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-25-A
16	320-23928-A-25~MS (537_DOD5)	N/A (320-23928-1)	312.46 g / 27.21 g	285.3 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-25-D MS
17	320-23928-A-25~MSD (537_DOD5)	N/A (320-23928-1)	305.09 g / 27.50 g	277.6 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-25-E MSD
18	320-23928-A-26 (537_DOD5)	N/A (320-23928-1)	309.71 g / 27.50 g	282.2 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-26-A
19	320-23928-A-27 (537_DOD5) See Screen	N/A (320-23928-1)	306.82 g / 27.50 g	279.3 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ~~5X~~ ND JRB 12-7-16 10X	320-23928-A-27-A
20	320-23928-A-27~MS (537_DOD5) See Screen	N/A (320-23928-1)	320.27 g / 28.01 g	292.3 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ~~5X~~ ND 10X	320-23928-A-27-D MS
21	320-23928-A-27~MSD (537_DOD5) See Screen	N/A (320-23928-1)	307.26 g / 27.42 g	279.8 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ~~5X~~ ND 10X	320-23928-A-27-E MSD
22	320-23928-A-28 (537_DOD5)	N/A (320-23928-1)	300.38 g / 26.67 g	273.7 mL / 1.00 mL	9			12/5/16	5_Days	4	Free Chlorine: ND	320-23928-A-28-A

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140478

Method Code: 320-537_Prep-320

Analyst: Reed, Jonathan E

Batch Open: 12/3/2016 12:19:00PM

Batch End:

Batch Notes

Manifold ID	5,6
Trizma ID	SLBN2122V
SPE Cartridge ID	6332578-03
Methanol ID	789820
Reagent Water ID	11/29/16
Pipette ID	MD05306
Analyst ID - TA Reagent Drop	JER
Analyst ID - TA Reagent Drop Witness	VPM
Analyst ID - SU Reagent Drop	JER
Analyst ID - SU Reagent Drop Witness	VPM
Analyst ID - IS Reagent Drop	ERW ~~12/3/16~~ 12/5/16 EDW 12/5/16
Analyst ID - IS Reagent Drop Witness	OOR 12/5/16
Batch Comment	

Comments

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140478

Method Code: 320-537_Prep-320

Analyst: Reed, Jonathan E

Batch Open: 12/3/2016 12:19:00PM

Batch End:

Reagent Additions Worksheet

Lab ID	Reagent Code	Amount Added	Final Amount	By	Witness
MB 320-140478/1	LC537-SU_00022	50 uL	1.00 mL	12/03/16	VPM 12/03/16
LLCS 320-140478/2	LC537-LSP_00010	50 uL	1.00 mL		
LLCS 320-140478/2	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-13	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-14	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-15	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-16	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-17	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-18	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-19	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-20	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-21	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-22	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-23	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-24	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-25	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-25 LMS	LC537-LSP_00010	50 uL	1.00 mL		
320-23928-A-25 LMS	LC537-SU_00022	50 uL	1.00 mL		

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 320-140478

Analyst: Reed, Jonathan E

Batch Open: 12/3/2016 12:19:00PM

Method Code: 320-537_Prep-320

Batch End:

320-23928-A-25 LMSD	LC537-LSP_00010	50 uL	1.00 mL	12/03/16	VPM 12/03/16
320-23928-A-25 LMSD	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-26	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-27	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-27 LMS	LC537-LSP_00010	50 uL	1.00 mL		
320-23928-A-27 LMS	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-27 LMSD	LC537-LSP_00010	50 uL	1.00 mL		
320-23928-A-27 LMSD	LC537-SU_00022	50 uL	1.00 mL		
320-23928-A-28	LC537-SU_00022	50 uL	1.00 mL		

Other Reagents:

Reagent	Amount/Units	Lot#:
LC537-IS_00025	20 µL	
exp. 3/19/17		
0.5-1.434 µg/mL		

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Sacramento
Preparation Data Review Checklist

Preparation Batch Number(s): 140478 Test: 537-DOD5 CRush

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: [signature] VPM Date: 12/05/16

2nd Level Reviewer: [signature] Date: 12/05/16

Comments: _____

TestAmerica
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Test America – Sacramento

Sample Dilution Record

Method ID 537 **Job #** 23928

Analyst (Print Name) John Barnett **Analyst Initials** JRB

Date 12-7-16

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
23928-13	—	90	180	2X
23928-27	—	20	200	10X
23928-27 MS	—	20	200	10X
23928-27 MSD	—	20	200	10X

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

Test America – Sacramento

Sample Dilution Record

Method ID 537 **Job #** 23928

Analyst (Print Name) John Barnett **Analyst Initials** JRB

Date 12-12-16

Sample#	Original F.V. (uL)	Aliquot (uL)	Dilution F.V. (uL)	Dilution Factor
23928-25 MS	—	100	200	2X

Comments:

C:\Users\phomsophat\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLK708B\QA-747_SampleDilutionRecord.doc
10/20/16 RBH

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

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	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: OLF Coupeville	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.09.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-CV-1RW06-1116	11/29/16	0907	G	DW	2	N	N	X	
WI-CV-1FB06-1116	11/29/16	0906	G	DW	2	N	N	X	
WI-CV-1RW07-1116	11/29/16	1005	G	DW	2	N	N	X	
WI-CV-1FB07-1116	11/29/16	1004	G	DW	2	N	N	X	
WI-CV-1RW08-1116	11/29/16	1212	G	DW	2	N	N	X	
WI-CV-1FB08-1116	11/29/16	1211	G	DW	2	N	N	X	
WI-CV-1RW09-1116	11/29/16	1617	G	DW	2	N	N	X	
WI-CV-1FB09-1116	11/29/16	1616	G	DW	2	N	N	X	
WI-CV-1RW10-1116	11/29/16	1629	G	DW	2	N	N	X	
WI-CV-1RW10-1116-MS	11/29/16	1629	G	DW	2	N	N	X	
WI-CV-1RW10-1116-SD	11/29/16	1629	G	DW	2	N	N	X	
WI-CV-1FB10-1116	11/29/16	1628	G	DW	2	N	N	X	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _Trizma_								6	

320-23928 Chain of Custody

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:

4.9 4.8

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: 1.6 Corr'd: 0.7		Therm ID No.: 12 tee
Relinquished by: Eric Epple	Company: CH2M	Date/Time: 11-29-16/1600	Received by: Tony GoTurpen	Company: TAS	Date/Time: 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:

12/14/2016

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: 1
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: OLF Coupeville	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.09.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-CV-2RW05-1116	11/29/16	0929	G	DW	2	N	N	X	
WI-CV-2FB05-1116	11/29/16	0930	G	DW	2	N	N	X	
WI-CV-2RW06-1116	11/29/16	1008	G	DW	2	N	N	X	
WI-CV-2FB06-1116	11/29/16	1009	G	DW	2	N	N	X	
WI-CV-2RW07-1116	11/29/16	1059	G	DW	2	N	N	X	
WI-CV-2FB07-1116	11/29/16	1100	G	DW	2	N	N	X	
WI-CV-3RW06-1116	11/29/16	0915	G	DW	2	N	N	X	
WI-CV-3FB06-1116	11/29/16	0916	G	DW	2	N	N	X	
WI-CV-3RW07-1116	11/29/16	1005	G	DW	2	N	N	X	
WI-CV-3FB07-1116	11/29/16	1006	G	DW	2	N	N	X	
WI-CV-3RW08-1116	11/29/16	1111	G	DW	2	N	N	X	
WI-CV-3FB08-1116	11/29/16	1112	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: 0.6 Corr'd: 0.7		Therm ID No.: 12
Relinquished by: Eric Epple	Company: CH2M	Date/Time: 11-29-16/1600	Received by: Troy G Turpen	Company: TAS	Date/Time: 12/1/16 09:50
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: 1
Tiffany Hill	Tel/Fax: (757) 671-6258	Lab Contact: Laura Turpen	Carrier: FedEx	_____ of _____ 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: OLF Coupeville	☐ 2 days			Job / SDG No.:
P O #: 100067106050 - 679580.09.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-CV-3RW09-1116	11/29/16	1305	G	DW	2	N	N	X	
WI-CV-3RW09-1116	11/29/16	1306	G	DW	2	N	N	X	
WI-CV-3RW10-1116	11/29/16	1610	G	DW	2	N	N	X	
WI-CV-3RW10-1116-MS	11/29/16	1610	G	DW	2	N	N	X	
WI-CV-3RW10-1116-SD	11/29/16	1610	G	DW	2	N	N	X	
WI-CV-3FB10-1116	11/29/16	1612	G	DW	2	N	N	X	
WI-CV-3RW11-1116	11/29/16	1635	G	DW	2	N	N	X	
WI-CV-3RW11-1116-MS	11/29/16	1635	G	DW	2	N	N	X	
WI-CV-3RW11-1116-SD	11/29/16	1635	G	DW	2	N	N	X	
WI-CV-3FB11-1116	11/29/16	1636	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: 1.6 Corr'd: 4.7 | Therm ID No.: 02 rec

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Eric Epple	CH2M	11-29-16/1600	Tracy A. Turpen	TAS	12/1/16 09:50
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: 320-23928-1

Login Number: 23928
List Number: 1
Creator: Hytrek, Cheryl

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	QCU_TTO_Number	Phase	Investigation_ID	Sample_Name	Probe_Code	Analysis_Group	Analyte-at_Method	RAU_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	Rum_Number	Percent_Moisture	Percent_Lipid	Chem_Name	Analyte_ID	Analyte_Value	Original_Analyte_Value	Result_Units	Lab_Qualifier	Validator_Qualifier	QC_Lineage_Type	Analyte_Result_Type	Result_Narrative	QC_Current_Limit_Code	QC_Accuracy_Upper	QC_Accuracy_Lower	Control_Limit_Date	AC_Narrative	MDL	Detection_Limit	LOQ	Validator_Name	File_Date
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorooctanesulfonic acid (PFOA)	335-67-1	0.0123		UG/L			PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					1-Octanesulfonic acid, perfluoro-	45298-90-6	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.0123		UG/L	U	M	PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorotetradecanoic acid (PFTeA)	376-06-7	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluoroundecanoic acid (PFUnA)	2058-94-8	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorododecanoic acid (PFDoA)	307-55-1	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorotetradecanoic acid (PFTeA)	376-06-7	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorooctanesulfonamide (FOSA)	754-91-6	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluoroundecanoic acid (PFUnA)	2058-94-8	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorododecanoic acid (PFDoA)	307-55-1	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorooctanesulfonamide (FOSA)	754-91-6	0.0123		UG/L	U		PR	TRG													
REACH-16O60000	0008		BAHD9EBC-28LAND_NAM	BHCh-WW05-1116	NONE		EST	ENG	TAMER	Test America	BCINE	NA	METHOD	EEK	PEEC	W	N	11/26/2016 13:25	2/01/2016			2/01/2016	07:42:00	02/07/2017	01:24:00	320-23617-1					Perfluorotetradecanoic acid (PFTeA)	376-06-7

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	WI-CV-2RW06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	REG	W	4	11/29/2016 10:08	12/01/2016			20161203	12:19:00	20161210	11:46:00	320-23928-13	2	2			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:09	12/01/2016			20161203	12:19:00	20161210	12:16:00	320-23928-14	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:09	12/01/2016			20161203	12:19:00	20161210	12:16:00	320-23928-14	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0089	0.023	0.028	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:09	12/01/2016			20161203	12:19:00	20161210	12:16:00	320-23928-14	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:09	12/01/2016			20161203	12:19:00	20161210	12:16:00	320-23928-14	1	1			13C2 PFHXA	13C2 PFHXA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:09	12/01/2016			20161203	12:19:00	20161210	12:16:00	320-23928-14	1	1			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:59	12/01/2016			20161203	12:19:00	20161210	12:45:00	320-23928-15	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U		PR	TRG					00000000				5.0	0.014	0.045	0.056	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:59	12/01/2016			20161203	12:19:00	20161210	12:45:00	320-23928-15	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U M		PR	TRG					00000000				5.0	0.0087	0.022	0.028	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:59	12/01/2016			20161203	12:19:00	20161210	12:45:00	320-23928-15	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:59	12/01/2016			20161203	12:19:00	20161210	12:45:00	320-23928-15	1	1			13C2 PFHXA	13C2 PFHXA		115	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:59	12/01/2016			20161203	12:19:00	20161210	12:45:00	320-23928-15	1	1			13C2 PFDA	13C2 PFDA		143	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:00	12/01/2016			20161203	12:19:00	20161210	13:15:00	320-23928-16	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.043	UG_L	U		PR	TRG					00000000				5.0	0.014	0.043	0.054	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:00	12/01/2016			20161203	12:19:00	20161210	13:15:00	320-23928-16	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U		PR	TRG					00000000				5.0	0.0085	0.022	0.027	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:00	12/01/2016			20161203	12:19:00	20161210	13:15:00	320-23928-16	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.099	UG_L	U		PR	TRG					00000000				5.0	0.043	0.099	0.13	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:00	12/01/2016			20161203	12:19:00	20161210	13:15:00	320-23928-16	1	1			13C2 PFHXA	13C2 PFHXA		119	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-2FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:00	12/01/2016			20161203	12:19:00	20161210	13:15:00	320-23928-16	1	1			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:15	12/01/2016			20161203	12:19:00	20161210	13:45:00	320-23928-17	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.042	UG_L	U		PR	TRG					00000000				5.0	0.014	0.042	0.053	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:15	12/01/2016			20161203	12:19:00	20161210	13:45:00	320-23928-17	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U M		PR	TRG					00000000				5.0	0.0083	0.021	0.026	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:15	12/01/2016			20161203	12:19:00	20161210	13:45:00	320-23928-17	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.097	UG_L	U		PR	TRG					00000000				5.0	0.042	0.097	0.12	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:15	12/01/2016			20161203	12:19:00	20161210	13:45:00	320-23928-17	1	1			13C2 PFHXA	13C2 PFHXA		112	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:15	12/01/2016			20161203	12:19:00	20161210	13:45:00	320-23928-17	1	1			13C2 PFDA	13C2 PFDA		107	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:16	12/01/2016			20161203	12:19:00	20161210	14:14:00	320-23928-18	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.042	UG_L	U		PR	TRG					00000000				5.0	0.014	0.042	0.053	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:16	12/01/2016			20161203	12:19:00	20161210	14:14:00	320-23928-18	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U M		PR	TRG					00000000				5.0	0.0083	0.021	0.026	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:16	12/01/2016			20161203	12:19:00	20161210	14:14:00	320-23928-18	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.097	UG_L	U		PR	TRG					00000000				5.0	0.042	0.097	0.12	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:16	12/01/2016			20161203	12:19:00	20161210	14:14:00	320-23928-18	1	1			13C2 PFHXA	13C2 PFHXA		103	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB06-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 09:16	12/01/2016			20161203	12:19:00	20161210	14:14:00	320-23928-18	1	1			13C2 PFDA	13C2 PFDA		104	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:05	12/01/2016			20161203	12:19:00	20161210	14:44:00	320-23928-19	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.044	UG_L	U		PR	TRG					00000000				5.0	0.014	0.044	0.055	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:05	12/01/2016			20161203	12:19:00	20161210	14:44:00	320-23928-19	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U M		PR	TRG					00000000				5.0	0.0087	0.022	0.028	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:05	12/01/2016			20161203	12:19:00	20161210	14:44:00	320-23928-19	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:05	12/01/2016			20161203	12:19:00	20161210	14:44:00	320-23928-19	1	1			13C2 PFHXA	13C2 PFHXA		114	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:05	12/01/2016			20161203	12:19:00	20161210	14:44:00	320-23928-19	1	1			13C2 PFDA	13C2 PFDA		102	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:06	12/01/2016			20161203	12:19:00	20161210	15:13:00	320-23928-20	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.042	UG_L	U		PR	TRG					00000000				5.0	0.014	0.042	0.053	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:06	12/01/2016			20161203	12:19:00	20161210	15:13:00	320-23928-20	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U M		PR	TRG					00000000				5.0	0.0083	0.021	0.026	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:06	12/01/2016			20161203	12:19:00	20161210	15:13:00	320-23928-20	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.097	UG_L	U		PR	TRG					00000000				5.0	0.042	0.097	0.12	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:06	12/01/2016			20161203	12:19:00	20161210	15:13:00	320-23928-20	1	1			13C2 PFHXA	13C2 PFHXA		104	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB07-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 10:06	12/01/2016			20161203	12:19:00	20161210	15:13:00	320-23928-20	1	1			13C2 PFDA	13C2 PFDA		107	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:11	12/01/2016			20161203	12:19:00	20161210	17:12:00	320-23928-21	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.044	UG_L	U		PR	TRG					00000000				5.0	0.014	0.044	0.055	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:11	12/01/2016			20161203	12:19:00	20161210	17:12:00	320-23928-21	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U M		PR	TRG					00000000				5.0	0.0087	0.022	0.028	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:11	12/01/2016			20161203	12:19:00	20161210	17:12:00	320-23928-21	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:11	12/01/2016			20161203	12:19:00	20161210	17:12:00	320-23928-21	1	1			13C2 PFHXA	13C2 PFHXA		114	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:11	12/01/2016			20161203	12:19:00	20161210	17:12:00	320-23928-21	1	1			13C2 PFDA	13C2 PFDA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:12	12/01/2016			20161203	12:19:00	20161210	17:41:00	320-23928-22	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.042	UG_L	U		PR	TRG					00000000				5.0	0.014	0.042	0.053	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:12	12/01/2016			20161203	12:19:00	20161210	17:41:00	320-23928-22	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U		PR	TRG					00000000				5.0	0.0082	0.021	0.026	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:12	12/01/2016			20161203	12:19:00	20161210	17:41:00	320-23928-22	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.096	UG_L	U		PR	TRG					00000000				5.0	0.042	0.096	0.12	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:12	12/01/2016			20161203	12:19:00	20161210	17:41:00	320-23928-22	1	1			13C2 PFHXA	13C2 PFHXA		98	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB08-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 11:12	12/01/2016			20161203	12:19:00	20161210	17:41:00	320-23928-22	1	1			13C2 PFDA	13C2 PFDA		104	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:05	12/01/2016			20161203	12:19:00	20161210	18:11:00	320-23928-23	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.042	UG_L	U		PR	TRG					00000000				5.0	0.014	0.042	0.053	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:05	12/01/2016			20161203	12:19:00	20161210	18:11:00	320-23928-23	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U		PR	TRG					00000000				5.0	0.0083	0.021	0.026	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:05	12/01/2016			20161203	12:19:00	20161210	18:11:00	320-23928-23	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.097	UG_L	U		PR	TRG					00000000				5.0	0.042	0.097	0.12	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:05	12/01/2016			20161203	12:19:00	20161210	18:11:00	320-23928-23	1	1			13C2 PFHXA	13C2 PFHXA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:05	12/01/2016			20161203	12:19:00	20161210	18:11:00	320-23928-23	1	1			13C2 PFDA	13C2 PFDA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:06	12/01/2016			20161203	12:19:00	20161210	18:41:00	320-23928-24	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.043	UG_L	U		PR	TRG					00000000				5.0	0.014	0.043	0.053	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:06	12/01/2016			20161203	12:19:00	20161210	18:41:00	320-23928-24	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U		PR	TRG					00000000				5.0	0.0084	0.021	0.027	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:06	12/01/2016			20161203	12:19:00	20161210	18:41:00	320-23928-24	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.098	UG_L	U		PR	TRG					00000000				5.0	0.042	0.098	0.12	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:06	12/01/2016			20161203	12:19:00	20161210	18:41:00	320-23928-24	1	1			13C2 PFHXA	13C2 PFHXA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-FB09-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 13:06	12/01/2016			20161203	12:19:00	20161210	18:41:00	320-23928-24	1	1			13C2 PFDA	13C2 PFDA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:10:00	320-23928-25	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.043	UG_L	U M		PR	TRG					00000000				5.0	0.014	0.043	0.053	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:10:00	320-23928-25	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.13	UG_L	J		PR	TRG					00000000				5.0	0.0084	0.021	0.027	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:10:00	320-23928-25	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.076	UG_L	J		PR	TRG					00000000				5.0	0.042	0.098	0.12	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:10:00	320-23928-25	1	1			13C2 PFHXA	13C2 PFHXA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:10:00	320-23928-25	1	1			13C2 PFDA	13C2 PFDA		114	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:40:00	320-23928-25	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		93	PCT_REC	J		PR	TRG		MSA	130	70	00000000				5.0	0.014	0.042	0.053	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:40:00	320-23928-25	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		103	PCT_REC	E 4		PR	TRG		MSA	130	70	00000000				5.0	0.0083	0.021	0.026	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:40:00	320-23928-25	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		76	PCT_REC			PR	TRG		MSA	130	70	00000000				5.0	0.042	0.096	0.12	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:40:00	320-23928-25	1	1			13C2 PFHXA	13C2 PFHXA		116	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	19:40:00	320-23928-25	1	1			13C2 PFDA	13C2 PFDA		120	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	20:09:00	320-23928-25	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		87	PCT_REC	J		PR	TRG		MSP	130	70	00000000				5.0	0.014	0.043	0.054	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	20:09:00	320-23928-25	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		53	PCT_REC	4		PR	TRG		MSP	130	70	00000000				5.0	0.0085	0.022	0.027	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	20:09:00	320-23928-25	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		73	PCT_REC			PR	TRG		MSP	130	70	00000000				5.0	0.043	0.099	0.13	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	20:09:00	320-23928-25	1	1			13C2 PFHXA	13C2 PFHXA		109	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:10	12/01/2016			20161203	12:19:00	20161210	20:09:00	320-23928-25	1	1			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:12	12/01/2016			20161203	12:19:00	20161210	20:39:00	320-23928-26	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.043	UG_L	U		PR	TRG					00000000				5.0	0.014	0.043	0.053	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:12	12/01/2016			20161203	12:19:00	20161210	20:39:00	320-23928-26	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.021	UG_L	U M		PR	TRG					00000000				5.0	0.0083	0.021	0.027	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:12	12/01/2016			20161203	12:19:00	20161210	20:39:00	320-23928-26	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.097	UG_L	U		PR	TRG					00000000				5.0	0.042	0.097	0.12	320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:12	12/01/2016			20161203	12:19:00	20161210	20:39:00	320-23928-26	1	1			13C2 PFHXA	13C2 PFHXA		113	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB10-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:12	12/01/2016			20161203	12:19:00	20161210	20:39:00	320-23928-26	1	1			13C2 PFDA	13C2 PFDA		107	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141295		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:07:00	320-23928-27	10	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.43	UG_L	U M		PR	TRG					00000000				5.0	0.14	0.43	0.54	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:07:00	320-23928-27	10	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.59	UG_L	J D		PR	TRG					00000000				5.0	0.084	0.21	0.27	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:07:00	320-23928-27	10	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.98	UG_L	U		PR	TRG					00000000				5.0	0.43	0.98	1.3	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:07:00	320-23928-27	10	1			13C2 PFHXA	13C2 PFHXA		103	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:07:00	320-23928-27	10	1			13C2 PFDA	13C2 PFDA		89	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:37:00	320-23928-27	10	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		NC	PCT_REC	U M		PR	TRG		MSA	130	70	00000000				5.0	0.13	0.41	0.51	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:37:00	320-23928-27	10	1			Perfluorooctanoic acid (PFOA)	335-67-1		675	PCT_REC	4 D		PR	TRG		MSA	130	70	00000000				5.0	0.081	0.21	0.26	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:37:00	320-23928-27	10	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		NC	PCT_REC	U		PR	TRG		MSA	130	70	00000000				5.0	0.41	0.94	1.2	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:37:00	320-23928-27	10	1			13C2 PFHXA	13C2 PFHXA		115	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161210	23:37:00	320-23928-27	10	1			13C2 PFDA	13C2 PFDA		102	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:06:00	320-23928-27	10	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		NC	PCT_REC	U M		PR	TRG		MSP	130	70	00000000				5.0	0.14	0.43	0.54	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:06:00	320-23928-27	10	1			Perfluorooctanoic acid (PFOA)	335-67-1		462	PCT_REC	D 4		PR	TRG		MSP	130	70	00000000				5.0	0.084	0.21	0.27	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:06:00	320-23928-27	10	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		NC	PCT_REC	U		PR	TRG		MSP	130	70	00000000				5.0	0.43	0.98	1.3	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:06:00	320-23928-27	10	1			13C2 PFHXA	13C2 PFHXA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	DL1	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:06:00	320-23928-27	10	1			13C2 PFDA	13C2 PFDA		103	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:36:00	320-23928-27	1	2			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.043	UG_L	U M		PR	TRG					00000000				5.0	0.014	0.043	0.054	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:36:00	320-23928-27	1	2			Perfluorooctanoic acid (PFOA)	335-67-1		0.62	UG_L	J E		PR	TRG					00000000				5.0	0.0084	0.021	0.027	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:36:00	320-23928-27	1	2			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.052	UG_L	J		PR	TRG					00000000				5.0	0.043	0.098	0.13	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:36:00	320-23928-27	1	2			13C2 PFHXA	13C2 PFHXA		123	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	00:36:00	320-23928-27	1	2			13C2 PFDA	13C2 PFDA		131	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:06:00	320-23928-27	1	2			Perfluorooctane Sulfonate (PFOS)	1763-23-1		96	PCT_REC	J		PR	TRG		MSA	130	70	00000000				5.0	0.013	0.041	0.051	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:06:00	320-23928-27	1	2			Perfluorooctanoic acid (PFOA)	335-67-1		291	PCT_REC	E 4		PR	TRG		MSA	130	70	00000000				5.0	0.0081	0.021	0.026	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:06:00	320-23928-27	1	2			Perfluorobutanesulfonic acid (PFBS)	375-73-5		89	PCT_REC			PR	TRG		MSA	130	70	00000000				5.0	0.041	0.094	0.12	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:06:00	320-23928-27	1	2			13C2 PFHXA	13C2 PFHXA		124	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MS	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:06:00	320-23928-27	1	2			13C2 PFDA	13C2 PFDA		135	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:35:00	320-23928-27	1	2			Perfluorooctane Sulfonate (PFOS)	1763-23-1		89	PCT_REC	J		PR	TRG		MSP	130	70	00000000				5.0	0.014	0.043	0.054	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:35:00	320-23928-27	1	2			Perfluorooctanoic acid (PFOA)	335-67-1		150	PCT_REC	E 4		PR	TRG		MSP	130	70	00000000				5.0	0.0084	0.021	0.027	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:35:00	320-23928-27	1	2			Perfluorobutanesulfonic acid (PFBS)	375-73-5		88	PCT_REC			PR	TRG		MSP	130	70	00000000				5.0	0.043	0.098	0.13	320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:35:00	320-23928-27	1	2			13C2 PFHXA	13C2 PFHXA		127	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	MSD	W	4	11/29/2016 16:35	12/01/2016			20161203	12:19:00	20161211	01:35:00	320-23928-27	1	2			13C2 PFDA	13C2 PFDA		129	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141475		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:36	12/01/2016			20161203	12:19:00	20161212	18:08:00	320-23928-28	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.044	UG_L	U		PR	TRG					00000000				5.0	0.014	0.044	0.055	320-23928-1	320-141758		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:36	12/01/2016			20161203	12:19:00	20161212	18:08:00	320-23928-28	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U		PR	TRG					00000000				5.0	0.0086	0.022	0.027	320-23928-1	320-141758		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:36	12/01/2016			20161203	12:19:00	20161212	18:08:00	320-23928-28	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.043	0.10	0.13	320-23928-1	320-141758		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:36	12/01/2016			20161203	12:19:00	20161212	18:08:00	320-23928-28	1	1			13C2 PFHXA	13C2 PFHXA		115	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141758		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/29/2016 16:36	12/01/2016			20161203	12:19:00	20161212	18:08:00	320-23928-28	1	1			13C2 PFDA	13C2 PFDA		123	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141758		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140442/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	18:00:00	LCS 320-140442/2-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		105	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.016	0.048	0.060	320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140442/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	18:00:00	LCS 320-140442/2-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		109	PCT_REC	E		PR	TRG		LSA	130	70	00000000				5.0	0.0094	0.024	0.030	320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140442/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	18:00:00	LCS 320-140442/2-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		87	PCT_REC			PR	TRG		LSA	130	70	00000000				5.0	0.048	0.11	0.14	320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140442/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	18:00:00	LCS 320-140442/2-A	1	1			13C2 PFHXA	13C2 PFHXA		129	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LCS 320-140442/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	18:00:00	LCS 320-140442/2-A	1	1			13C2 PFDA	13C2 PFDA		122	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LLCS 320-140478/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	10:47:00	LLCS 320-140478/2-A	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		89	PCT_REC	J		PR	TRG		LSA	150	50	00000000				5.0	0.016	0.048	0.060	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LLCS 320-140478/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	10:47:00	LLCS 320-140478/2-A	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		94	PCT_REC	J M		PR	TRG		LSA	150	50	00000000				5.0	0.0094	0.024	0.030	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LLCS 320-140478/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	10:47:00	LLCS 320-140478/2-A	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		96	PCT_REC	J		PR	TRG		LSA	150	50	00000000				5.0	0.048	0.11	0.14	320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LLCS 320-140478/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	10:47:00	LLCS 320-140478/2-A	1	1			13C2 PFHXA	13C2 PFHXA		109	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	LLCS 320-140478/2-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	BS	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	10:47:00	LLCS 320-140478/2-A	1	1			13C2 PFDA	13C2 PFDA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141294		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140442/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	17:31:00	MB 320-140442/1-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	320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140442/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	17:31:00	MB 320-140442/1-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	320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140442/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	17:31:00	MB 320-140442/1-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	320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140442/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	17:31:00	MB 320-140442/1-A	1	1			13C2 PFHXA	13C2 PFHXA		118	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140442/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/02/2016 20:12	12/02/2016			20161202	20:12:00	20161209	17:31:00	MB 320-140442/1-A	1	1			13C2 PFDA	13C2 PFDA		108	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141291		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140478/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	08:49:00	MB 320-140478/1-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	320-23928-1	320-141293		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140478/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	08:49:00	MB 320-140478/1-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	320-23928-1	320-141293		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140478/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	08:49:00	MB 320-140478/1-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	320-23928-1	320-141293		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140478/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	08:49:00	MB 320-140478/1-A	1	1			13C2 PFHXA	13C2 PFHXA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141293		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	MB 320-140478/1-A	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	LB1	W	4	12/03/2016 12:19	12/03/2016			20161203	12:19:00	20161210	08:49:00	MB 320-140478/1-A	1	1			13C2 PFDA	13C2 PFDA		103	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23928-1	320-141293		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:51	12/02/2016			20161205	11:42:00	20161211	21:25:00	320-23970-1	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.047	UG_L	U M		PR	TRG					00000000				5.0	0.015	0.047	0.059	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:51	12/02/2016			20161205	11:42:00	20161211	21:25:00	320-23970-1	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U M		PR	TRG					00000000				5.0	0.0092	0.023	0.029	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:51	12/02/2016			20161205	11:42:00	20161211	21:25:00	320-23970-1	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.047	0.11	0.14	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:51	12/02/2016			20161205	11:42:00	20161211	21:25:00	320-23970-1	1	1			13C2 PFHXA	13C2 PFHXA		134	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:51	12/02/2016			20161205	11:42:00	20161211	21:25:00	320-23970-1	1	1			13C2 PFDA	13C2 PFDA		134	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:50	12/02/2016			20161205	11:42:00	20161211	21:54:00	320-23970-2	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.045	UG_L	U		PR	TRG					00000000				5.0	0.014	0.045	0.056	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:50	12/02/2016			20161205	11:42:00	20161211	21:54:00	320-23970-2	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.022	UG_L	U		PR	TRG					00000000				5.0	0.0087	0.022	0.028	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:50	12/02/2016			20161205	11:42:00	20161211	21:54:00	320-23970-2	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.044	0.10	0.13	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:50	12/02/2016			20161205	11:42:00	20161211	21:54:00	320-23970-2	1	1			13C2 PFHXA	13C2 PFHXA		115	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB11-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:50	12/02/2016			20161205	11:42:00	20161211	21:54:00	320-23970-2	1	1			13C2 PFDA	13C2 PFDA		112	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:08	12/02/2016			20161205	11:42:00	20161211	22:24:00	320-23970-3	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.048	UG_L	U		PR	TRG					00000000				5.0	0.015	0.048	0.060	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:08	12/02/2016			20161205	11:42:00	20161211	22:24:00	320-23970-3	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.025	UG_L	J M		PR	TRG					00000000				5.0	0.0094	0.024	0.030	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:08	12/02/2016			20161205	11:42:00	20161211	22:24:00	320-23970-3	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	J		PR	TRG					00000000				5.0	0.047	0.11	0.14	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:08	12/02/2016			20161205	11:42:00	20161211	22:24:00	320-23970-3	1	1			13C2 PFHXA	13C2 PFHXA		103	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1RW12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:08	12/02/2016			20161205	11:42:00	20161211	22:24:00	320-23970-3	1	1			13C2 PFDA	13C2 PFDA		126	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:07	12/02/2016			20161205	11:42:00	20161211	22:54:00	320-23970-4	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:07	12/02/2016			20161205	11:42:00	20161211	22:54:00	320-23970-4	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0090	0.023	0.029	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:07	12/02/2016			20161205	11:42:00	20161211	22:54:00	320-23970-4	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.10	UG_L	U		PR	TRG					00000000				5.0	0.045	0.10	0.13	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:07	12/02/2016			20161205	11:42:00	20161211	22:54:00	320-23970-4	1	1			13C2 PFHXA	13C2 PFHXA		106	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-1FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 10:07	12/02/2016			20161205	11:42:00	20161211	22:54:00	320-23970-4	1	1			13C2 PFDA	13C2 PFDA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW12-1116	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	23:23:00	320-23970-5	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW12-1116	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	23:23:00	320-23970-5	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	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW12-1116	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	23:23:00	320-23970-5	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.045	0.11	0.13	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW12-1116	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	23:23:00	320-23970-5	1	1			13C2 PFHXA	13C2 PFHXA		101	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW12-1116	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	23:23:00	320-23970-5	1	1			13C2 PFDA	13C2 PFDA		110	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:13	12/02/2016			20161205	11:42:00	20161211	23:53:00	320-23970-6	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:13	12/02/2016			20161205	11:42:00	20161211	23:53:00	320-23970-6	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0090	0.023	0.029	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:13	12/02/2016			20161205	11:42:00	20161211	23:53:00	320-23970-6	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.045	0.11	0.13	320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:13	12/02/2016			20161205	11:42:00	20161211	23:53:00	320-23970-6	1	1			13C2 PFHXA	13C2 PFHXA		118	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	320-141574		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB12-1116	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	11/30/2016 09:13	12/02/2016			20161205	11:42:00	20161211	23:53:00	320-23970-6	1	1			13C2 PFDA	13C2 PFDA		111	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-23970-1	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	320-23970-1	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	320-23970-1	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	320-23970-1	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				320-23970-1	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				320-23970-1	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	320-23970-1	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	320-23970-1	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	320-23970-1	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				320-23970-1	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				320-23970-1	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	320-23970-1	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	320-23970-1	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	320-23970-1	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				320-23970-1	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				320-23970-1	320-141573		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:12	12/03/2016			20161205	19:07:00	20161212	08:45:00	320-24007-1	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.046	UG_L	U		PR	TRG					00000000				5.0	0.015	0.046	0.057	320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:12	12/03/2016			20161205	19:07:00	20161212	08:45:00	320-24007-1	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0090	0.023	0.029	320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:12	12/03/2016			20161205	19:07:00	20161212	08:45:00	320-24007-1	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.046	0.11	0.13	320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:12	12/03/2016			20161205	19:07:00	20161212	08:45:00	320-24007-1	1	1			13C2 PFHXA	13C2 PFHXA		131	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3RW13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:12	12/03/2016			20161205	19:07:00	20161212	08:45:00	320-24007-1	1	1			13C2 PFDA	13C2 PFDA		136	PCT_REC	Q		PR	SURR		SLSA	130	70	00000000				5.0				320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:13	12/03/2016			20161205	19:07:00	20161212	09:15:00	320-24007-2	1	1			Perfluorooctane Sulfonate (PFOS)	1763-23-1		0.047	UG_L	U		PR	TRG					00000000				5.0	0.015	0.047	0.059	320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:13	12/03/2016			20161205	19:07:00	20161212	09:15:00	320-24007-2	1	1			Perfluorooctanoic acid (PFOA)	335-67-1		0.023	UG_L	U		PR	TRG					00000000				5.0	0.0092	0.023	0.029	320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:13	12/03/2016			20161205	19:07:00	20161212	09:15:00	320-24007-2	1	1			Perfluorobutanesulfonic acid (PFBS)	375-73-5		0.11	UG_L	U		PR	TRG					00000000				5.0	0.047	0.11	0.14	320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:13	12/03/2016			20161205	19:07:00	20161212	09:15:00	320-24007-2	1	1			13C2 PFHXA	13C2 PFHXA		118	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24007-1	320-141576		
N6247016D9000	0008		WHIDBEY_ISLAND_NAS	WI-CV-3FB13-1216	NONE		537	ORG	TAMER	Test America	NONE	NA	METHOD	000	REG	W	4	12/01/2016 09:13	12/03/2016			20161205	19:07:00	20161212	09:15:00	320-24007-2	1	1			13C2 PFDA	13C2 PFDA		117	PCT_REC			PR	SURR		SLSA	130	70	00000000				5.0				320-24007-1	320-141576		
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	320-24007-1	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	320-24007-1	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	320-24007-1	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				320-24007-1	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				320-24007-1	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	320-24007-1	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	320-24007-1	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	320-24007-1	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				320-24007-1	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				320-24007-1	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	320-24007-1	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	320-24007-1	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	320-24007-1	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				320-24007-1	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				320-24007-1	320-141575		

ENVIRONMENTAL
Data Services, Inc.

DATA VALIDATION SUMMARY REPORT
WHIDBEY ISLAND, WASHINGTON

Client: CH2M HILL, Inc., Corvallis, Oregon
SDG: 320-23928
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-CV-1RW06-1116	320-23928-1	Water
2	WI-CV-1FB06-1116	320-23928-2	Water
3	WI-CV-1RW07-1116	320-23928-3	Water
3DL	WI-CV-1RW07-1116DL	320-23928-3DL	Water
4	WI-CV-1FB07-1116	320-23928-4	Water
5	WI-CV-1RW08-1116	320-23928-5	Water
6	WI-CV-1FB08-1116	320-23928-6	Water
7	WI-CV-1RW09-1116	320-23928-7	Water
8	WI-CV-1FB09-1116	320-23928-8	Water
9	WI-CV-1RW10-1116	320-23928-9	Water
9MS	WI-CV-1RW10-1116MS	320-23928-9MS	Water
9MSD	WI-CV-1RW10-1116MSD	320-23928-9MSD	Water
10	WI-CV-1FB10-1116	320-23928-10	Water
11	WI-CV-2RW05-1116	320-23928-11	Water
12	WI-CV-2FB05-1116	320-23928-12	Water
13	WI-CV-2RW06-1116	320-23928-13	Water
13DL	WI-CV-2RW06-1116DL	320-23928-13DL	Water
14	WI-CV-2FB06-1116	320-23928-14	Water
15	WI-CV-2RW07-1116	320-23928-15	Water
16	WI-CV-2FB07-1116	320-23928-16	Water
17	WI-CV-3RW06-1116	320-23928-17	Water
18	WI-CV-3FB06-1116	320-23928-18	Water
19	WI-CV-3RW07-1116	320-23928-19	Water
20	WI-CV-3FB07-1116	320-23928-20	Water
21	WI-CV-3RW08-1116	320-23928-21	Water
22	WI-CV-3FB08-1116	320-23928-22	Water
23	WI-CV-3RW09-1116	320-23928-23	Water
24	WI-CV-FB09-1116	320-23928-24	Water
25	WI-CV-3FB10-1116	320-23928-25	Water
25MS	WI-CV-3FB10-1116MS	320-23928-25MS	Water
25MSD	WI-CV-3FB10-1116MSD	320-23928-25MSD	Water
26	WI-CV-3FB10-1116	320-23928-26	Water
27	WI-CV-3RW11-1116	320-23928-27	Water
27MS	WI-CV-3RW11-1116MS	320-23928-27MS	Water
27MSD	WI-CV-3RW11-1116MSD	320-23928-27MSD	Water

PFCs			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
27DL	WI-CV-3RW11-1116DL	320-23928-27DL	Water
27DLMS	WI-CV-3RW11-1116DLMS	320-23928-27DLMS	Water
27DLMSD	WI-CV-3RW11-1116DLMSD	320-23928-27DLMSD	Water
28	WI-CV-3FB11-1116	320-23928-28	Water

A full data validation was performed on the analytical data for fourteen water samples and fourteen aqueous field blanks 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.
- The container label did not match the Chain-of-Custody for EDS Sample ID #24. The laboratory resolved the issue with the client and no action was required by the reviewer.

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 except for the following.

Sample ID	Surrogate	%R	Qualifier
15	13C2-PFDA	143%	None - Sample ND
27	13C2-PFDA	131%	J - Positive Result

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable %R and RPD values except for the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
25	PFOA	OK/53%/OK	None - 4X Rule Applies
27	PFOA	291%/150%/OK	None - 4X Rule Applies
27DL	PFOA	675%/462%/OK	None - 4X Rule Applies

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
3DL	13C2-PFOA	Severely Low	J - Associated Compound
	13C4-PFOS	Low	UJ - Associated Compound
13DL	13C2-PFOA	Low	J - Associated Compound
27DL	13C2-PFOA	Severely Low	J - Associated Compound
	13C4-PFOS	Severely Low	R - Associated Compound

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- Several samples were analyzed at a dilution due to high concentrations of target compounds. The reporting limits were adjusted accordingly. No action was required.
- EDS Sample ID #s 3, 13, and 27 exhibited high concentrations of PFOA over the calibration range of the instrument and were flagged (E) by the laboratory. The samples were diluted and reanalyzed and the dilution results for PFOA 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.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW06-1116 | Lab Sample ID: 320-23928-1

Matrix: Water | Lab File ID: 05DEC2016A6A_209.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:07

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 268.8(mL) | Date Analyzed: 12/09/2016 23:56

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)	0.045	U	0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	125		70-130
STL00996	13C2 PFDA	114		70-130

NW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

2

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB06-1116 Lab Sample ID: 320-23928-2

Matrix: Water Lab File ID: 05DEC2016A6A_210.d

Analysis Method: 537 Date Collected: 11/29/2016 09:06

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 270.3(mL) Date Analyzed: 12/10/2016 00:25

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	0.055	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	107		70-130
STL00996	13C2 PFDA	104		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

3

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW07-1116 Lab Sample ID: 320-23928-3

Matrix: Water Lab File ID: 05DEC2016A6A_219.d

Analysis Method: 537 Date Collected: 11/29/2016 10:05

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 274.3(mL) Date Analyzed: 12/10/2016 04:52

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.: 141293 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U N	0.055	0.044	0.014
335-67-1	*Perfluorooctanoic acid (PFOA)*	0.26 ~~0.26~~	~~E~~ J	0.11 ~~0.027~~	0.087 ~~0.022~~	0.034 ~~0.0086~~ ISL
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	119		70-130
STL00996	13C2 PFDA	118		70-130

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LCMS ORGANICS ANALYSIS DATA SHEET

30L

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW07-1116 DL | Lab Sample ID: 320-23928-3 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_211.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:05

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 274.3(mL) | Date Analyzed: 12/10/2016 00:55

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 4

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141292 | Units: ug/L

use original results

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.17*	~~U~~ ~~M~~ UJ	*0.22*	0.17	*0.057*
335-67-1	Perfluorooctanoic acid (PFOA)	0.26	~~D~~ J	0.11	0.087	0.034
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.40*	*U*	*0.51*	0.40	*0.17*

ISL

ISL

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	109		70-130
STL00996	13C2 PFDA	105		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1
SDG No.:
Client Sample ID: WI-CV-1FB07-1116 | Lab Sample ID: 320-23928-4
Matrix: Water | Lab File ID: 05DEC2016A6A_212.d
Analysis Method: 537 | Date Collected: 11/29/2016 10:04
Extraction Method: 537 | Date Extracted: 12/02/2016 20:12
Sample wt/vol: 280.1(mL) | Date Analyzed: 12/10/2016 01:25
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	0.054	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	0.027	0.021	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.098	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	106		70-130

12.21.2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

5

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW08-1116 Lab Sample ID: 320-23928-5

Matrix: Water Lab File ID: 05DEC2016A6A_213.d

Analysis Method: 537 Date Collected: 11/29/2016 12:12

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 277.3(mL) Date Analyzed: 12/10/2016 01:54

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 M	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	115		70-130
STL00996	13C2 PFDA	120		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

6

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB08-1116 | Lab Sample ID: 320-23928-6

Matrix: Water | Lab File ID: 05DEC2016A6A_214.d

Analysis Method: 537 | Date Collected: 11/29/2016 12:11

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 272(mL) | Date Analyzed: 12/10/2016 02:24

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	0.055	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	114		70-130
STL00996	13C2 PFDA	107		70-130

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

7

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW09-1116 Lab Sample ID: 320-23928-7

Matrix: Water Lab File ID: 05DEC2016A6A_218.d

Analysis Method: 537 Date Collected: 11/29/2016 16:17

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 273.9(mL) Date Analyzed: 12/10/2016 04:22

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.: 141293 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	0.027	0.022	0.0086
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	126		70-130
STL00996	13C2 PFDA	116		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

8

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB09-1116 | Lab Sample ID: 320-23928-8

Matrix: Water | Lab File ID: 05DEC2016A6A_220.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:16

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 276.7(mL) | Date Analyzed: 12/10/2016 05:21

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.: 141293 | 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 M	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	107		70-130
STL00996	13C2 PFDA	105		70-130

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

9

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1RW10-1116 Lab Sample ID: 320-23928-9

Matrix: Water Lab File ID: 05DEC2016A6A_221.d

Analysis Method: 537 Date Collected: 11/29/2016 16:29

Extraction Method: 537 Date Extracted: 12/02/2016 20:12

Sample wt/vol: 277.1(mL) Date Analyzed: 12/10/2016 05:51

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.: 141293 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)	0.022	U M	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	111		70-130
STL00996	13C2 PFDA	108		70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-1FB10-1116 | Lab Sample ID: 320-23928-10

Matrix: Water | Lab File ID: 05DEC2016A6A_224.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:28

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 269.9(mL) | Date Analyzed: 12/10/2016 07:20

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.056	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	127		70-130
STL00996	13C2 PFDA	117		70-130

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11

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW05-1116 | Lab Sample ID: 320-23928-11

Matrix: Water | Lab File ID: 05DEC2016A6A_225.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:29

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 253.1(mL) | Date Analyzed: 12/10/2016 07:49

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.: 141293 | 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	0.030	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	111		70-130
STL00996	13C2 PFDA	107		70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2FB05-1116 | Lab Sample ID: 320-23928-12

Matrix: Water | Lab File ID: 05DEC2016A6A_226.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:30

Extraction Method: 537 | Date Extracted: 12/02/2016 20:12

Sample wt/vol: 273(mL) | Date Analyzed: 12/10/2016 08:19

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.: 141293 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.022	0.0086
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	110		70-130

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13

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW06-1116 | Lab Sample ID: 320-23928-13

Matrix: Water | Lab File ID: 05DEC2016A6A_232.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:08

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 270.4(mL) | Date Analyzed: 12/10/2016 11:17

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	*Perfluorooctanoic acid (PFOA)*	0.23 ~~0.22~~	~~E~~ J	0.055 ~~0.026~~	0.044 ~~0.022~~	0.017 ~~0.0087~~
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

ISL

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	105		70-130
STL00996	13C2 PFDA	115		70-130

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13DL

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW06-1116 DL | Lab Sample ID: 320-23928-13 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_233.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:08

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 270.4(mL) | Date Analyzed: 12/10/2016 11:46

Use orig. val results

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 2

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.089*	*U*	*0.11*	0.089	*0.029*
335-67-1	Perfluorooctanoic acid (PFOA)	0.23	~~P~~ J	0.055	0.044	0.017
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.20*	*U*	*0.26*	0.20	*0.088*

ISL

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	111		70-130

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14

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2FB06-1116 | Lab Sample ID: 320-23928-14

Matrix: Water | Lab File ID: 05DEC2016A6A_234.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:09

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 263.5(mL) | Date Analyzed: 12/10/2016 12:16

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.046	U	0.057	0.046	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	111		70-130
STL00996	13C2 PFDA	111		70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1
SDG No.:
Client Sample ID: WI-CV-2RW07-1116 | Lab Sample ID: 320-23928-15
Matrix: Water | Lab File ID: 05DEC2016A6A_235.d
Analysis Method: 537 | Date Collected: 11/29/2016 10:59
Extraction Method: 537 | Date Extracted: 12/03/2016 12:19
Sample wt/vol: 269.5(mL) | Date Analyzed: 12/10/2016 12:45
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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.045	U	0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	115		70-130
STL00996	13C2 PFDA	143	Q	70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1
SDG No.:
Client Sample ID: WI-CV-2FB07-1116 | Lab Sample ID: 320-23928-16
Matrix: Water | Lab File ID: 05DEC2016A6A_236.d
Analysis Method: 537 | Date Collected: 11/29/2016 11:00
Extraction Method: 537 | Date Extracted: 12/03/2016 12:19
Sample wt/vol: 276.9(mL) | Date Analyzed: 12/10/2016 13:15
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.: 141294 | 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	119		70-130
STL00996	13C2 PFDA	111		70-130

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17

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW06-1116 Lab Sample ID: 320-23928-17

Matrix: Water Lab File ID: 05DEC2016A6A_237.d

Analysis Method: 537 Date Collected: 11/29/2016 09:15

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 284.2(mL) Date Analyzed: 12/10/2016 13:45

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.: 141294 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	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	107		70-130

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18

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB06-1116 | Lab Sample ID: 320-23928-18

Matrix: Water | Lab File ID: 05DEC2016A6A_238.d

Analysis Method: 537 | Date Collected: 11/29/2016 09:16

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 284.2(mL) | Date Analyzed: 12/10/2016 14:14

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U F1	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	103		70-130
STL00996	13C2 PFDA	104		70-130

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19

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW07-1116 | Lab Sample ID: 320-23928-19

Matrix: Water | Lab File ID: 05DEC2016A6A_239.d

Analysis Method: 537 | Date Collected: 11/29/2016 10:05

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 271(mL) | Date Analyzed: 12/10/2016 14:44

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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	114		70-130
STL00996	13C2 PFDA	102		70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1
SDG No.:
Client Sample ID: WI-CV-3FB07-1116 | Lab Sample ID: 320-23928-20
Matrix: Water | Lab File ID: 05DEC2016A6A_240.d
Analysis Method: 537 | Date Collected: 11/29/2016 10:06
Extraction Method: 537 | Date Extracted: 12/03/2016 12:19
Sample wt/vol: 284.6(mL) | Date Analyzed: 12/10/2016 15:13
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.: 141294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	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	104		70-130
STL00996	13C2 PFDA	107		70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW08-1116 | Lab Sample ID: 320-23928-21

Matrix: Water | Lab File ID: 05DEC2016A6A_244.d

Analysis Method: 537 | Date Collected: 11/29/2016 11:11

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 271.8(mL) | Date Analyzed: 12/10/2016 17:12

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U M	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	114		70-130
STL00996	13C2 PFDA	108		70-130

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22

Lab Name: TestAmerica Sacramento Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB08-1116 Lab Sample ID: 320-23928-22

Matrix: Water Lab File ID: 05DEC2016A6A_245.d

Analysis Method: 537 Date Collected: 11/29/2016 11:12

Extraction Method: 537 Date Extracted: 12/03/2016 12:19

Sample wt/vol: 285.6(mL) Date Analyzed: 12/10/2016 17:41

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.: 141295 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	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	98		70-130
STL00996	13C2 PFDA	104		70-130

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23

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW09-1116 | Lab Sample ID: 320-23928-23

Matrix: Water | Lab File ID: 05DEC2016A6A_246.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:05

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 283.5(mL) | Date Analyzed: 12/10/2016 18:11

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.042	U	0.053	0.042	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.021	U	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	111		70-130
STL00996	13C2 PFDA	106		70-130

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24

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-FB09-1116 | Lab Sample ID: 320-23928-24

Matrix: Water | Lab File ID: 05DEC2016A6A_247.d

Analysis Method: 537 | Date Collected: 11/29/2016 13:06

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 281.6(mL) | Date Analyzed: 12/10/2016 18:41

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.: 141295 | 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	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.098	U	0.12	0.098	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	108		70-130
STL00996	13C2 PFDA	106		70-130

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25

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW10-1116 | Lab Sample ID: 320-23928-25

Matrix: Water | Lab File ID: 05DEC2016A6A_248.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:10

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 280.4(mL) | Date Analyzed: 12/10/2016 19:10

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.: 141295 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.043	U M	0.053	0.043	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.13	J	0.027	0.021	0.0084
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.076	J	0.12	0.098	0.042

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	111		70-130
STL00996	13C2 PFDA	114		70-130

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Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB10-1116 | Lab Sample ID: 320-23928-26

Matrix: Water | Lab File ID: 05DEC2016A6A_251.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:12

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 282.2(mL) | Date Analyzed: 12/10/2016 20:39

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.: 141295 | 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	113		70-130
STL00996	13C2 PFDA	107		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

27

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 | Lab Sample ID: 320-23928-27

Matrix: Water | Lab File ID: 05DEC2016A6A_259.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:35

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 279.3(mL) | Date Analyzed: 12/11/2016 00:36

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.: 141475 | 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)*	0.59 ~~0.62~~	~~J B~~ J	0.27 ~~0.027~~	0.21 ~~0.021~~	0.084 ~~0.0084~~ ISL
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.052	~~J~~ J	0.13	0.098	0.043 SSH

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	123		70-130
STL00996	13C2 PFDA	131	Q	70-130

12/12/2016

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

27DL

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3RW11-1116 DL | Lab Sample ID: 320-23928-27 DL

Matrix: Water | Lab File ID: 05DEC2016A6A_256.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:35

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Use original results

Sample wt/vol: 279.3(mL) | Date Analyzed: 12/10/2016 23:07

Con. Extract Vol.: 1.00(mL) | Dilution Factor: 10

Injection Volume: 10(uL) | GC Column: Acquity ID: 2.1(mm)

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 141475 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	*Perfluorooctanesulfonic acid (PFOS)*	*0.43*	~~U M~~ R	*0.54*	0.43	*0.14* ISL
335-67-1	Perfluorooctanoic acid (PFOA)	0.59	~~J B~~ J	0.27	0.21	0.084 ISL
375-73-5	*Perfluorobutanesulfonic acid (PFBS)*	*0.98*	*U*	*1.3*	0.98	*0.43*

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	103		70-130
STL00996	13C2 PFDA	89		70-130

MW 12/20/16

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento | Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-3FB11-1116 | Lab Sample ID: 320-23928-28

Matrix: Water | Lab File ID: 11DEC2016A6A_064.d

Analysis Method: 537 | Date Collected: 11/29/2016 16:36

Extraction Method: 537 | Date Extracted: 12/03/2016 12:19

Sample wt/vol: 273.7(mL) | Date Analyzed: 12/12/2016 18:08

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.: 141758 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.027	0.022	0.0086
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.043

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	115		70-130
STL00996	13C2 PFDA	123		70-130

NW 12/20/16

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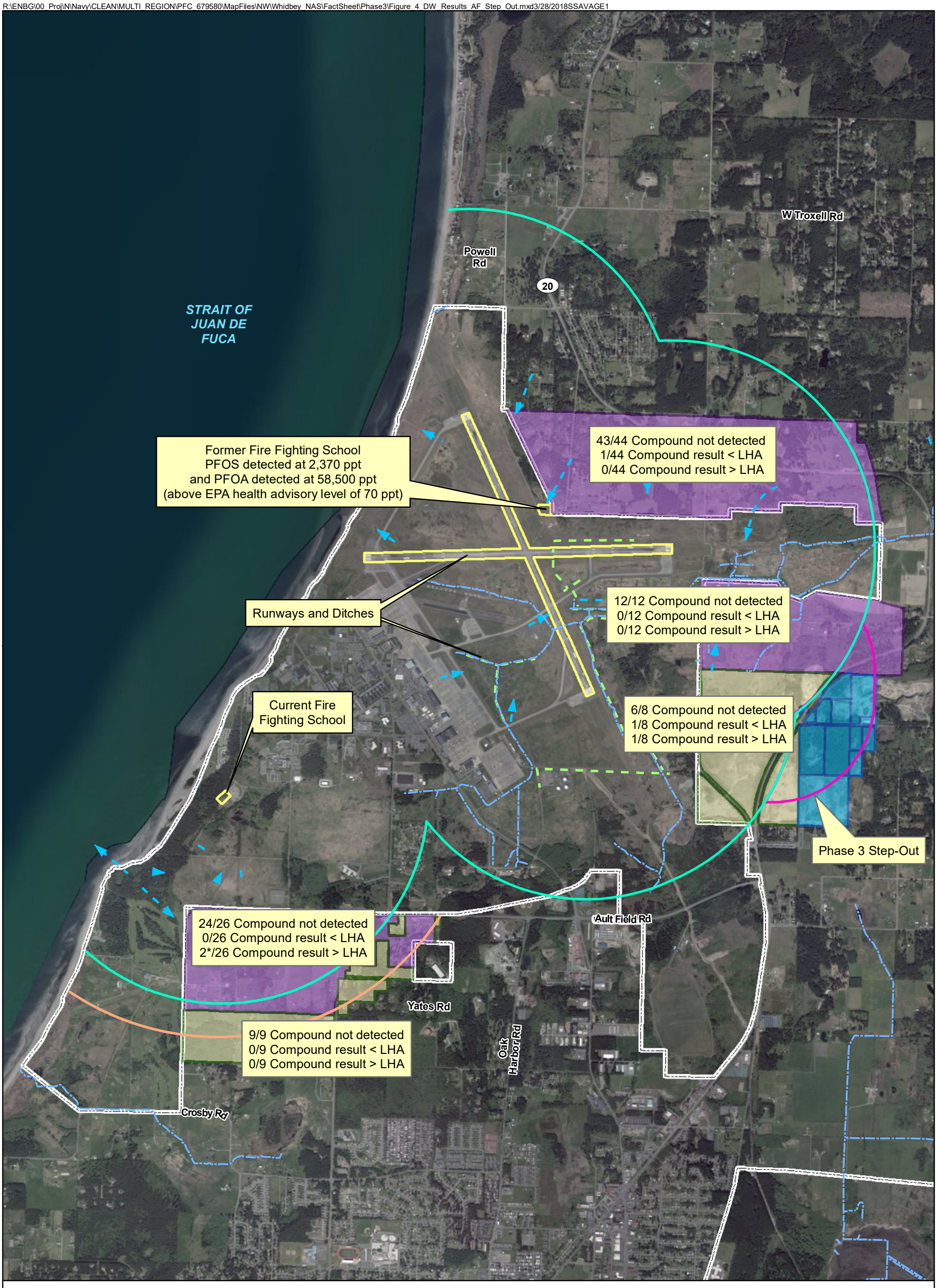

Legend

- 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