

Groundwater Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG J26263-1

Naval Air Station Meridian Meridian, Mississippi

July 2019



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605

Tel: (916)373-5600

TestAmerica Job ID: 320-26263-1

Client Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Revision: 1

For:

CH2M Hill, Inc. 2411 Dulles Corner Park Suite 500 Herndon, Virginia 20171

Attn: Mr. Michael Zamboni

Jui Kellmann

Authorized for release by: 3/27/2017 5:11:55 PM

Jill Kellmann, Manager of Project Management (916)374-4402

jill.kellmann@testamericainc.com

·····LINKS ·······

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

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

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

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

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Detection Summary	6
Client Sample Results	7
sotope Dilution Summary	9
QC Sample Results	10
QC Association Summary	11
Lab Chronicle	12
Certification Summary	13
Method Summary	14
Sample Summary	15
Chain of Custody	16
Receint Checklists	17

Definitions/Glossary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

TestAmerica Job ID: 320-26263-1

3

Qualifiers

LCMS

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

Glossary

RPD

TEF

TEQ

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)

Relative Percent Difference, a measure of the relative difference between two points

TestAmerica Sacramento

Page 3 of 17

3/27/2017

Case Narrative

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Job ID: 320-26263-1

Laboratory: TestAmerica Sacramento

Narrative

CASE NARRATIVE

Client: CH2M Hill, Inc.

Project: Meridian 10006-7-105420 JM01 Navy Clean

Report Number: 320-26263-1

Revision - March 27, 2017

Revision created to include PFBS in the method 537 Mod analyte list.

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 West 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 West 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 03/02/2017; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.7 C.

PFAS

The first level standard from the initial calibration curve is used to evaluate the tune criteria. The instrument mass windows are set at +/-0.5amu; therefore, detection of the analyte serves as verification that the assigned mass is within +/- 0.5amu of the true value, which meets the DoD/DOE QSM tune criterion.

The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: MEAFF-WWTP-MW01-0317 (320-26263-1) and MEAFF-PWMA-MW01-0317 (320-26263-2). These analytes have been qualified; however,

2

TestAmerica Job ID: 320-26263-1

3

4

5

6

8

10

13

14

15

Case Narrative

Client: CH2M Hill, Inc.

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Job ID: 320-26263-1 (Continued)

Laboratory: TestAmerica Sacramento (Continued)

the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Samples MEAFF-WWTP-MW01-0317 (320-26263-1)[5X], MEAFF-PWMA-MW01-0317 (320-26263-2)[10X] and MEAFF-PWMA-MW01-0317 (320-26263-2)[25X] required dilution prior to analysis due to matrix and/or elevated analyte levels. The reporting limits have been adjusted accordingly.

The concentration of Perfluorooctanoic acid (PFOA) exceeded the instrument calibration range in the following sample: MEAFF-PWMA-MW01-0317 (320-26263-2). This analyte has been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 320-153501.

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

2

4

5

6

10

11

12

14

15

Detection Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Client Sample ID: MEAFF-WWTP-MW01-0317

TestAmerica Job ID: 320-26263-1

Lab Sample ID: 320-26263-1

Lab Sample ID: 320-26263-3

Lab Sample ID: 320-26263-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac [Method	Prep Type
Perfluorooctanoic acid (PFOA)	260	M	2.4	0.72	ng/L		537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	370	ΜE	3.8	1.2	ng/L	1	537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	25	M	2.4	0.88	ng/L	1	537 (Modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	270	DM	12	3.6	ng/L	5	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	380	D M	19	6.1	ng/L	5	537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	18	D M	12	4.4	ng/L	5	537 (Modified)	Total/NA

C

Client Sample ID: MEAFF-PWMA-MW01-0317	Lab Sample ID: 320-26263-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	2500	ME	2.3	0.69	ng/L		537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1300	ME	3.7	1.2	ng/L	1	537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	650	ME	2.3	0.84	ng/L	1	537 (Modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	4400	DME	23	6.9	ng/L	10	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1600	D M	37	12	ng/L	10	537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	830	D	23	8.4	ng/L	10	537 (Modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL2	4500	DM	57	17	ng/L	25	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	1500	D M	92	29	ng/L	25	537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL2	730	D	57	21	ng/L	25	537 (Modified)	Total/NA

Client Sample ID: MEAFF-Unknown22-MW01-0317

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	9.0	M	2.3	0.69	ng/L	1	_	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0	J M	3.7	1.2	ng/L	1		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.7		2.3	0.85	ng/L	1		537 (Modified)	Total/NA

Client Sample ID: MEAFF-FD04-030117

_					
Analyte	Result Qualifier	LOQ	DL Unit	Dil Fac D Method	Prep Type
Perfluorooctanoic acid (PFOA)	8.1 M	2.3	0.69 ng/L	1 537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2 J M	3.7	1.2 ng/L	1 537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6	2.3	0.85 ng/L	1 537 (Modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Client Sample ID: MEAFF-WWTP-MW01-0317

TestAmerica Job ID: 320-26263-1

Lab Sample ID: 320-26263-1

Matrix: Water

Date Collected: 03/01/17 12:40 Date Received: 03/02/17 10:15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	260	M	2.4	0.72	ng/L		03/06/17 16:19	03/10/17 22:52	1
Perfluorooctanesulfonic acid (PFOS)	370	ME	3.8	1.2	ng/L		03/06/17 16:19	03/10/17 22:52	1
Perfluorobutanesulfonic acid (PFBS)	25	M	2.4	0.88	ng/L		03/06/17 16:19	03/10/17 22:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	85		25 - 150				03/06/17 16:19	03/10/17 22:52	1
13C4 PFOS	107		25 - 150				03/06/17 16:19	03/10/17 22:52	1
1802 PFHxS	110		25 - 150				03/06/17 16:19	03/10/17 22:52	1

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	270	D M	12	3.6	ng/L		03/06/17 16:19	03/13/17 17:16	- 5
Perfluorooctanesulfonic acid (PFOS)	380	D M	19	6.1	ng/L		03/06/17 16:19	03/13/17 17:16	5
Perfluorobutanesulfonic acid (PFBS)	18	D M	12	4.4	ng/L		03/06/17 16:19	03/13/17 17:16	5
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	81		25 - 150				03/06/17 16:19	03/13/17 17:16	5
13C4 PFOS	98		25 - 150				03/06/17 16:19	03/13/17 17:16	5
18O2 PFHxS	116		25 - 150				03/06/17 16:19	03/13/17 17:16	5

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2 Matrix: Water

Date Collected: 03/01/17 14:00 Date Received: 03/02/17 10:15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2500	ME	2.3	0.69	ng/L		03/06/17 16:19	03/10/17 23:00	1
Perfluorooctanesulfonic acid (PFOS)	1300	ME	3.7	1.2	ng/L		03/06/17 16:19	03/10/17 23:00	1
Perfluorobutanesulfonic acid (PFBS)	650	ME	2.3	0.84	ng/L		03/06/17 16:19	03/10/17 23:00	1

(PFB3)						
Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	48		25 - 150	03/06/17 16:19	03/10/17 23:00	1
13C4 PFOS	99		25 - 150	03/06/17 16:19	03/10/17 23:00	1
18O2 PFHxS	46		25 - 150	03/06/17 16:19	03/10/17 23:00	1

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	4400	DME	23	6.9	ng/L		03/06/17 16:19	03/13/17 17:23	10
Perfluorooctanesulfonic acid (PFOS)	1600	D M	37	12	ng/L		03/06/17 16:19	03/13/17 17:23	10
Perfluorobutanesulfonic acid (PFBS)	830	D	23	8.4	ng/L		03/06/17 16:19	03/13/17 17:23	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	DII Fac
13C4 PFOA	83		25 - 150	03/06/17 16:19	03/13/17 17:23	10
13C4 PFOS	112		25 - 150	03/06/17 16:19	03/13/17 17:23	10
1802 PFHxS	97		25 - 150	03/06/17 16:19	03/13/17 17:23	10

TestAmerica Sacramento

Client Sample Results

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2

Date Collected: 03/01/17 14:00 Date Received: 03/02/17 10:15

Lab Sample ID: 320-26263-4

Matrix: Water

TestAmerica Job ID: 320-26263-1

Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	4500	D M	57	17	ng/L		03/06/17 16:19	03/14/17 15:13	25
Perfluorooctanesulfonic acid (PFOS)	1500	D M	92	29	ng/L		03/06/17 16:19	03/14/17 15:13	25
Perfluorobutanesulfonic acid (PFBS)	730	D	57	21	ng/L		03/06/17 16:19	03/14/17 15:13	25
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	108	· 	25 - 150				03/06/17 16:19	03/14/17 15:13	25
13C4 PFOS	112		25 - 150				03/06/17 16:19	03/14/17 15:13	25
18O2 PFHxS	108		25 - 150				03/06/17 16:19	03/14/17 15:13	25

Client Sample ID: MEAFF-Unknown22-MW01-0317 Lab Sample ID: 320-26263-3 **Matrix: Water**

Date Collected: 03/01/17 15:05

Date Received: 03/02/17 10:15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	9.0	M	2.3	0.69	ng/L		03/06/17 16:19	03/10/17 23:07	1
Perfluorooctanesulfonic acid (PFOS)	2.0	J M	3.7	1.2	ng/L		03/06/17 16:19	03/10/17 23:07	1
Perfluorobutanesulfonic acid (PFBS)	3.7		2.3	0.85	ng/L		03/06/17 16:19	03/10/17 23:07	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	87		25 - 150				03/06/17 16:19	03/10/17 23:07	1
13C4 PFOS	118		25 - 150				03/06/17 16:19	03/10/17 23:07	1
1802 PFHxS	125		25 - 150				03/06/17 16:19	03/10/17 23:07	1

Client Sample ID: MEAFF-FD04-030117

Date Collected: 03/01/17 00:00

Date Received: 03/02/17 10:15

	•							
Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
8.1	M	2.3	0.69	ng/L		03/06/17 16:19	03/10/17 23:15	1
1.2	J M	3.7	1.2	ng/L		03/06/17 16:19	03/10/17 23:15	1
3.6		2.3	0.85	ng/L		03/06/17 16:19	03/10/17 23:15	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
83		25 - 150				03/06/17 16:19	03/10/17 23:15	1
134		25 - 150				03/06/17 16:19	03/10/17 23:15	1
137		25 - 150				03/06/17 16:19	03/10/17 23:15	1
	8.1 1.2 3.6 %Recovery 83 134	Result Qualifier 8.1 M 1.2 J M 3.6 **Recovery Qualifier 83 134	8.1 M 2.3 1.2 J M 3.7 3.6 2.3 **Recovery Qualifier Limits 83 25-150 134 25-150	Result Qualifier LOQ DL 8.1 M 2.3 0.69 1.2 J M 3.7 1.2 3.6 2.3 0.85 %Recovery Qualifier Limits 83 25 - 150 134 25 - 150	Result 8.1 M LOQ 2.3 DL 100 ng/L ng/L 1.2 J M 3.7 1.2 ng/L 3.6 2.3 0.85 ng/L %Recovery 83 Qualifier Limits 25 - 150 134 25 - 150	Result 8.1 M Qualifier 2.3 LOQ 0.69 ng/L ng/L DL ng/L Unit ng/L D ng/L 1.2 J M 3.7 1.2 ng/L 1.2 ng/L 3.6 2.3 0.85 ng/L 2.3 ng/L %Recovery 83 25-150 134 25-150 25-150	Result Qualifier LOQ DL unit D qualifier Prepared 8.1 M 2.3 0.69 ng/L 03/06/17 16:19 1.2 J M 3.7 1.2 ng/L 03/06/17 16:19 3.6 2.3 0.85 ng/L 03/06/17 16:19 %Recovery Qualifier Limits Prepared 83 25-150 03/06/17 16:19 134 25-150 03/06/17 16:19	Result Qualifier LOQ DL Figure 1 Unit Description Prepared D3/06/17 16:19 Analyzed D3/10/17 23:15 8.1 M 2.3 0.69 ng/L 03/06/17 16:19 03/10/17 23:15 1.2 J M 3.7 1.2 ng/L 03/06/17 16:19 03/10/17 23:15 3.6 2.3 0.85 ng/L 03/06/17 16:19 03/10/17 23:15 %Recovery Qualifier Limits Prepared D3/06/17 16:19 Analyzed D3/10/17 23:15 134 25 - 150 03/06/17 16:19 03/10/17 23:15

Isotope Dilution Summary

Client: CH2M Hill, Inc.

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Method: 537 (Modified) - Perfluorinated Hydrocarbons

Matrix: Water Prep Type: Total/NA

			Perce	ent Isotope Dilutio	n Recovery (Acceptance Limits)
		3C4 PFO	3C4 PFOS	3O2 PFHx	
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	
320-26263-1	MEAFF-WWTP-MW01-0317	85	107	110	
320-26263-1 - DL	MEAFF-WWTP-MW01-0317	81	98	116	
320-26263-2	MEAFF-PWMA-MW01-0317	48	99	46	
320-26263-2 - DL	MEAFF-PWMA-MW01-0317	83	112	97	
320-26263-2 - DL2	MEAFF-PWMA-MW01-0317	108	112	108	
320-26263-3	MEAFF-Unknown22-MW01-031	87	118	125	
320-26263-4	MEAFF-FD04-030117	83	134	137	
LCS 320-153501/2-A	Lab Control Sample	148	132	137	
LCSD 320-153501/3-A	Lab Control Sample Dup	140	123	128	
MB 320-153501/1-A	Method Blank	130	116	124	

Surrogate Legend

13C4 PFOA = 13C4 PFOA 13C4 PFOS = 13C4 PFOS 18O2 PFHxS = 18O2 PFHxS

4

1

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Method: 537 (Modified) - Perfluorinated Hydrocarbons

Lab Sample ID: MB 320-153501/1-A

Matrix: Water

Client: CH2M Hill, Inc.

Analysis Batch: 154459

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

Prep Batch: 153501

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2.0	UM	2.5	0.75	ng/L		03/06/17 16:19	03/10/17 22:30	1
Perfluorooctanesulfonic acid (PFOS)	3.0	UM	4.0	1.3	ng/L		03/06/17 16:19	03/10/17 22:30	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.5	0.92	ng/L		03/06/17 16:19	03/10/17 22:30	1
	MD	MD							

MB MB

MB MB

Isotope Dilution	%Recovery Qualifie	r Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	130	25 - 150	03/06/17 16:19	03/10/17 22:30	1
13C4 PFOS	116	25 - 150	03/06/17 16:19	03/10/17 22:30	1
1802 PFHxS	124	25 - 150	03/06/17 16:19	03/10/17 22:30	1

Lab Sample ID: LCS 320-153501/2-A

Matrix: Water

Analysis Batch: 154459

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

Prep Batch: 153501

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Perfluorooctanoic acid (PFOA)	40.0	39.9		ng/L		100	60 - 140	
Perfluorooctanesulfonic acid (PFOS)	37.1	37.8	M	ng/L		102	60 - 140	
Perfluorobutanesulfonic acid (PFBS)	35.4	40.0		ng/L		113	50 - 150	

LCS LCS

Isotope Dilution	%Recovery Q	ualifier	Limits
13C4 PFOA	148		25 - 150
13C4 PFOS	132		25 - 150
1802 PFHxS	137		25 - 150

Lab Sample ID: LCSD 320-153501/3-A

Matrix: Water

Analysis Batch: 154459

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

Prep Batch: 153501

7 that you battern 10 1 100							Op De		,000.
•	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Perfluorooctanoic acid (PFOA)	40.0	39.6		ng/L		99	60 - 140	1	30
Perfluorooctanesulfonic acid (PFOS)	37.1	39.4	M	ng/L		106	60 - 140	4	30
Perfluorobutanesulfonic acid (PFBS)	35.4	41.6		ng/L		118	50 - 150	4	30

LCSD	LCSD

Isotope Dilution	%Recovery Qualifier	Limits
13C4 PFOA	140	25 - 150
13C4 PFOS	123	25 - 150
18O2 PEHyS	128	25 150

TestAmerica Sacramento

2

5

7

ŏ

10

12

11

QC Association Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

TestAmerica Job ID: 320-26263-1

LCMS

Prep Batch: 153501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-1	MEAFF-WWTP-MW01-0317	Total/NA	Water	3535	
320-26263-1 - DL	MEAFF-WWTP-MW01-0317	Total/NA	Water	3535	
320-26263-2 - DL2	MEAFF-PWMA-MW01-0317	Total/NA	Water	3535	
320-26263-2 - DL	MEAFF-PWMA-MW01-0317	Total/NA	Water	3535	
320-26263-2	MEAFF-PWMA-MW01-0317	Total/NA	Water	3535	
320-26263-3	MEAFF-Unknown22-MW01-0317	Total/NA	Water	3535	
320-26263-4	MEAFF-FD04-030117	Total/NA	Water	3535	
MB 320-153501/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-153501/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-153501/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 154459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-1	MEAFF-WWTP-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-2	MEAFF-PWMA-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-3	MEAFF-Unknown22-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-4	MEAFF-FD04-030117	Total/NA	Water	537 (Modified)	153501
MB 320-153501/1-A	Method Blank	Total/NA	Water	537 (Modified)	153501
LCS 320-153501/2-A	Lab Control Sample	Total/NA	Water	537 (Modified)	153501
LCSD 320-153501/3-A	Lab Control Sample Dup	Total/NA	Water	537 (Modified)	153501

Analysis Batch: 154808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-1 - DL	MEAFF-WWTP-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-2 - DL	MEAFF-PWMA-MW01-0317	Total/NA	Water	537 (Modified)	153501

Analysis Batch: 155009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-2 - DL2	MEAFF-PWMA-MW01-0317	Total/NA	Water	537 (Modified)	153501

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Client Sample ID: MEAFF-WWTP-MW01-0317

Lab Sample ID: 320-26263-1

Date Collected: 03/01/17 12:40 Date Received: 03/02/17 10:15

Matrix: Water

Batch Dil Initial Batch Batch Final Prepared Method **Prep Type** Type Run **Factor** Amount **Amount** Number or Analyzed Analyst Lab Total/NA Prep 3535 261.2 mL 0.5 mL 153501 03/06/17 16:19 JER TAL SAC Total/NA 537 (Modified) 154459 03/10/17 22:52 TC1 TAL SAC Analysis 1 Total/NA Prep DL 261.2 mL 0.5 mL 153501 03/06/17 16:19 JER TAL SAC 03/13/17 17:16 CBW TAL SAC Total/NA Analysis 537 (Modified) DL 5 154808

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2

Date Collected: 03/01/17 14:00 **Matrix: Water** Date Received: 03/02/17 10:15

Prep Type Total/NA Total/NA	Batch Type Prep Analysis	Batch Method 3535 537 (Modified)	Run	Factor 1	Amount 272.2 mL	Final Amount 0.5 mL	Number 153501 154459	Prepared or Analyzed 03/06/17 16:19 03/10/17 23:00		Lab TAL SAC TAL SAC
Total/NA Total/NA Total/NA Total/NA	Prep Analysis Prep Analysis	3535 537 (Modified) 3535 537 (Modified)	DL DL DL2 DL2	10 25	272.2 mL 272.2 mL	0.5 mL	153501 154808 153501 155009	03/06/17 16:19 03/13/17 17:23 03/06/17 16:19 03/14/17 15:13	CBW JER	TAL SAC TAL SAC TAL SAC TAL SAC

Client Sample ID: MEAFF-Unknown22-MW01-0317 Lab Sample ID: 320-26263-3

Date Collected: 03/01/17 15:05

Date Received: 03/02/17 10:15

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			269.1 mL	0.5 mL	153501	03/06/17 16:19	JER	TAL SAC
Total/NA	Analysis	537 (Modified)		1			154459	03/10/17 23:07	TC1	TAL SAC

Client Sample ID: MEAFF-FD04-030117 Lab Sample ID: 320-26263-4

Date Collected: 03/01/17 00:00 Date Received: 03/02/17 10:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			270.9 mL	0.5 mL	153501	03/06/17 16:19	JER	TAL SAC
Total/NA	Analysis	537 (Modified)		1			154459	03/10/17 23:15	TC1	TAL SAC

Laboratory References:

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

TestAmerica Sacramento

10

Matrix: Water

Matrix: Water

Certification Summary

Client: CH2M Hill, Inc. Project/Site: Meridian 10006-7-105420 JM01 Navy Clean TestAmerica Job ID: 320-26263-1

Laboratory: TestAmerica Sacramento

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-055	12-18-17
Arizona	State Program	9	AZ0708	08-11-17
Arkansas DEQ	State Program	6	88-0691	06-17-17
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-17
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-17
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	10-31-17
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-17
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-17
New Jersey	NELAP	2	CA005	06-30-17
New York	NELAP	2	11666	04-01-17 *
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-17 *
Texas	NELAP	6	T104704399	07-31-17
US Fish & Wildlife	Federal		LE148388-0	10-31-17
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-17
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-29-17 *

^{*} Certification renewal pending - certification considered valid.

Method Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

TestAmerica Job ID: 320-26263-1

Method	Method Description	Protocol	Laboratory
537 (Modified)	Perfluorinated Hydrocarbons	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

J

4

5

6

8

10

11

13

14

15

Sample Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

TestAmerica Job ID: 320-26263-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-26263-1	MEAFF-WWTP-MW01-0317	Water	03/01/17 12:40	03/02/17 10:15
320-26263-2	MEAFF-PWMA-MW01-0317	Water	03/01/17 14:00	03/02/17 10:15
320-26263-3	MEAFF-Unknown22-MW01-0317	Water	03/01/17 15:05	03/02/17 10:15
320-26263-4	MEAFF-FD04-030117	Water	03/01/17 00:00	03/02/17 10:15

2

4

6

0

9

a a

12

1 A

4 5

TestAmerica Sacramento	***************************************			င်	Chain of		Custody Record	p.	2	TectAmerica	Orio
880 Riverside Parkway		***************************************								200	5
		*************								THE LEADER IN ENVIRONMENTAL TESTING	WHENTAL TESTING
West Sacramento, CA 95605-1500	c			The L	Daylow L	Varat					
phone 916.373.560U fax 303.467.7248	Keguli	Regulatory Program:	gram:	MACE	JAPLES	Lincia	Toma:			ωı	pratories, inc.
Client Contact	Project Manager: Bryan Burkingstock	anager: B	ryan Burk	ingstoc		Site Contact: Ryan Brown	Ryan Brown	Date: 3/1/17	11/17	COC No. 5	
Company Name CH2M	Tel/Fax: 603-736-4111	03-736-41	11			Lab Contact: Jill Kellmann	Jill Kellmann	Carrier	Carrier: FedEx	1 of 1	COCs
6600 Peachtree Dunwoody Road, 400 Embassy Row, Suite 600	A	nalysis T	Analysis Turnaround Time	d Time						Sampler: J. McCann	
Atlanta GA 30328	☑ CALENDAR DAYS	DAR DAYS	M ET	RKING DA	NS.	_				For Lab Use Only:	
(678) 530-4060 Phone	TATIF	ferent from	TAT if different from Below 21 Days	Days		(N				Walk-in Client:	
(770) 604-9153 Fax			2 weeks							Lab Sampling:	
Aeridian 10006-7-1			1 week								
Site: NAS Meridian		-	2 days		-					Job / SDG No	
P O # 10006-7-105420		***************************************	1 day								
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Fillered Sa Perform M PFC				Sample Specific Notes:	ic Notes:
MEAFF-WWTP-MW01-0317	3/1/2017	1240	9	GW	2	×					
MEAFF-PVVMA-MVV01-0317	3/1/2017	1400	S	GW	2	×					
MEAFF-Unknown22-MW01-0317	3/1/2017	1505	0	GW	2	×					
FD-04	3/1/2017	;	0	GW	2	×				Freid Duplicate	cate
								320-	320-26263 Chain of Custody		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6=	=NaOH; 6=	Other							A STATE OF THE STA		
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Serion if the last is to dispose of the sample.	List any EP,	4 Waste C	codes for t	he samp	e in the	Sample Disposal	sposal (A fee ma	y be asses	sed if samples are reta	(A fee may be assessed if samples are retained longer than 1 month)	th)
Non-Hazard Section II and Section II See II and See III	Poison	8	J Unknown	nwon		☐ Return to	to Client	Diemeal hy tah	1 ah	r Months	
ctions/QC Requirements &	esults to Mi	ке Zатbo	ıni - addre	ss on file							
Intact	Custody S	seal No.:					Cooler Temp. (°C)	(°C): Obs'd: 2	Corrd 2	Therm ID No.:	15-1
Relinquished by: AVTING MISE B. M.M.	Company:	CH2M HILL	-	Date/Time:	me: 12	Theceived by	11.11	10	Company	Date/Time:	101
	Company:			Date/T	ime:	Received by:	1 11/12	0	Company:	Date/Time:	
Relinquished by:	Company:			Date/Time:	ime:	Received in	Received in Laboratory by:		Company:	Date/Time:	
									Form No. C/	Form No. CA-C-WI-002, Rev. 4.8, dated 11/04/2015	ited 11/04/2015

Client: CH2M Hill, Inc.

List Source: TestAmerica Sacramento

Job Number: 320-26263-1

Login Number: 26263 List Number: 1

Creator: Nelson, Kym D

Creator: Neison, Kym D		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	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?	True	
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	

TestAmerica Sacramento



ANALYTICAL REPORT

Job Number: 320-26263-1

Job Description: Meridian 10006-7-105420 JM01 Navy Clean

For: CH2M Hill, Inc. 2411 Dulles Corner Park Suite 500 Herndon, VA 20171

Attention: Mr. Michael Zamboni

Approved for release. Jill Kellmann Manager of Project Management 3/27/2017 5:13 PM

Jill Kellmann, Manager of Project Management 880 Riverside Parkway, West Sacramento, CA, 95605 (916)374-4402 jill.kellmann@testamericainc.com

Jui Kellmann

03/27/2017 Revision: 1

Table of Contents

\mathbb{C}^{c}	over Title Page	1
Da	ata Summaries	4
	Definitions	4
	Case Narrative	5
	Detection Summary	7
	Client Sample Results	8
	Default Detection Limits	10
	Isotope Dilution Summary	11
	QC Sample Results	12
	QC Association	13
	Chronicle	14
	Certification Summary	15
	Method Summary	16
	Sample Summary	17
	Manual Integration Summary	18
	Reagent Traceability	27
	COAs	53
Or	ganic Sample Data	278
	LCMS	278
	Method PFC DOD	278
	Method PFC DOD QC Summary	279
	Method PFC DOD Sample Data	283
	Standards Data	333
	Method PFC DOD ICAL Data	333
	Method PFC DOD CCAL Data	404
	Raw QC Data	511

Table of Contents

Method PFC DOD Blank Data	511
Method PFC DOD LCS/LCSD Data	523
Method PFC DOD Run Logs	543
Method PFC DOD Prep Data	549
Shipping and Receiving Documents	573
Client Chain of Custody	574
Sample Receipt Checklist	577

Definitions/Glossary

Client: CH2M Hill, Inc.

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Qualifiers

LCMS

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

Glossarv

Giossary	
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, Inc.

Project: Meridian 10006-7-105420 JM01 Navy Clean

Report Number: 320-26263-1

Revision - March 27, 2017

Revision created to include PFBS in the method 537 Mod analyte list.

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 West 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 West 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 03/02/2017; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 2.7 C.

PFAS

The first level standard from the initial calibration curve is used to evaluate the tune criteria. The instrument mass windows are set at +/-0.5amu; therefore, detection of the analyte serves as verification that the assigned mass is within +/-0.5amu of the true value, which meets the DoD/DOE QSM tune criterion.

The concentration of one or more analytes associated with the following samples exceeded the instrument calibration range: MEAFF-WWTP-MW01-0317 (320-26263-1) and MEAFF-PWMA-MW01-0317 (320-26263-2). These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Samples MEAFF-WWTP-MW01-0317 (320-26263-1)[5X], MEAFF-PWMA-MW01-0317 (320-26263-2)[10X] and MEAFF-PWMA-MW01-0317 (320-26263-2)[25X] required dilution prior to analysis due to matrix and/or elevated analyte levels. The reporting limits have been adjusted accordingly.

The concentration of Perfluorooctanoic acid (PFOA) exceeded the instrument calibration range in the following sample: MEAFF-PWMA-MW01-0317 (320-26263-2). This analyte has been qualified; however, the peak did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 320-153501.

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

Detection Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

TestAmerica Job ID: 320-26263-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	260	M	2.4	0.72	ng/L	1	_	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	370	ME	3.8	1.2	ng/L	1		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	25	M	2.4	0.88	ng/L	1		537 (Modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	270	DM	12	3.6	ng/L	5		537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	380	D M	19	6.1	ng/L	5		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	18	D M	12	4.4	ng/L	5		537 (Modified)	Total/NA

Client Sample ID: MEAFF-PWMA-MW01-0317

Lab Sample ID: 320-26263-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	2500	ME	2.3	0.69	ng/L		_	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1300	ME	3.7	1.2	ng/L	1		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	650	ME	2.3	0.84	ng/L	1		537 (Modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL	4400	DME	23	6.9	ng/L	10		537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1600	D M	37	12	ng/L	10		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL	830	D	23	8.4	ng/L	10		537 (Modified)	Total/NA
Perfluorooctanoic acid (PFOA) - DL2	4500	DM	57	17	ng/L	25		537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL2	1500	D M	92	29	ng/L	25		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS) - DL2	730	D	57	21	ng/L	25		537 (Modified)	Total/NA

Client Sample ID: MEAFF-Unknown22-MW01-0317

Lab Sample ID: 320-26263-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	9.0	M	2.3	0.69	ng/L	1	_	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.0	J M	3.7	1.2	ng/L	1		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.7		2.3	0.85	ng/L	1		537 (Modified)	Total/NA

Client Sample ID: MEAFF-FD04-030117

Lab Sample ID: 320-26263-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	8.1	M	2.3	0.69	ng/L	1	_	537 (Modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.2	J M	3.7	1.2	ng/L	1		537 (Modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	3.6		2.3	0.85	ng/L	1		537 (Modified)	Total/NA

Client Sample Results

Client: CH2M Hill, Inc.

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Date Collected: 03/01/17 12:40 Matrix: Water Date Received: 03/02/17 10:15

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	260	M	2.4	0.72	ng/L		03/06/17 16:19	03/10/17 22:52	1
Perfluorooctanesulfonic acid (PFOS)	370	ME	3.8	1.2	ng/L		03/06/17 16:19	03/10/17 22:52	1
Perfluorobutanesulfonic acid (PFBS)	25	M	2.4	0.88	ng/L		03/06/17 16:19	03/10/17 22:52	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	85		25 - 150				03/06/17 16:19	03/10/17 22:52	1
13C4 PFOS	107		25 - 150				03/06/17 16:19	03/10/17 22:52	1
			05 450				02/06/17 16:10	02/40/47 22:52	1
1802 PFHxS : Method: 537 (Modified) - Per	110 fluorinated H	lydrocarbo	25 - 150 ons - DL				03/06/17 16.19	03/10/17 22:52	,
- -	fluorinated H	lydrocarbo Qualifier		DL	Unit	D	Prepared	Analyzed	
Method: 537 (Modified) - Per Analyte	fluorinated H Result	Qualifier	ons - DL			<u>D</u>		Analyzed	Dil Fac
Method: 537 (Modified) - Per Analyte Perfluorooctanoic acid (PFOA) Perfluorooctanesulfonic acid	fluorinated H Result 270	Qualifier	ons - DL LOQ	DL 3.6 6.1		<u>D</u>	Prepared	Analyzed 03/13/17 17:16	Dil Fac
Method: 537 (Modified) - Per Analyte Perfluorooctanoic acid (PFOA)	fluorinated H Result 270	Qualifier D M D M	ons - DL LOQ 12	3.6 6.1	ng/L	<u>D</u>	Prepared 03/06/17 16:19	Analyzed 03/13/17 17:16 03/13/17 17:16	Dil Fac
Method: 537 (Modified) - Per Analyte Perfluorooctanoic acid (PFOA) Perfluorooctanesulfonic acid (PFOS) Perfluorobutanesulfonic acid	fluorinated H Result 270 380	Qualifier D M D M	DNS - DL LOQ 12 19	3.6 6.1	ng/L ng/L	<u>D</u>	Prepared 03/06/17 16:19 03/06/17 16:19	Analyzed 03/13/17 17:16 03/13/17 17:16	Dil Fac 5
Method: 537 (Modified) - Per Analyte Perfluorooctanoic acid (PFOA) Perfluorooctanesulfonic acid (PFOS) Perfluorobutanesulfonic acid (PFBS)	fluorinated H Result 270 380	Qualifier D M D M	DNS - DL LOQ 12 19	3.6 6.1	ng/L ng/L	<u>D</u> _	Prepared 03/06/17 16:19 03/06/17 16:19 03/06/17 16:19	Analyzed 03/13/17 17:16 03/13/17 17:16 03/13/17 17:16 Analyzed	Dil Fac 5 5
Method: 537 (Modified) - Per Analyte Perfluorooctanoic acid (PFOA) Perfluorooctanesulfonic acid (PFOS) Perfluorobutanesulfonic acid (PFBS) Isotope Dilution	fluorinated H Result 270 380 18 %Recovery	Qualifier D M D M	DNS - DL LOQ 12 19 12 Limits	3.6 6.1	ng/L ng/L	<u>D</u>	Prepared 03/06/17 16:19 03/06/17 16:19 03/06/17 16:19 Prepared	Analyzed 03/13/17 17:16 03/13/17 17:16 03/13/17 17:16 Analyzed 03/13/17 17:16	Dil Fac

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2

Date Collected: 03/01/17 14:00 Matrix: Water Date Received: 03/02/17 10:15

Method: 537 (Modified) - Perf	luorinated H	lydrocarbo	ons						
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2500	ME	2.3	0.69	ng/L		03/06/17 16:19	03/10/17 23:00	1
Perfluorooctanesulfonic acid (PFOS)	1300	ME	3.7	1.2	ng/L		03/06/17 16:19	03/10/17 23:00	1
Perfluorobutanesulfonic acid (PFBS)	650	ME	2.3	0.84	ng/L		03/06/17 16:19	03/10/17 23:00	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	48		25 - 150				03/06/17 16:19	03/10/17 23:00	1
13C4 PFOS	99		25 - 150				03/06/17 16:19	03/10/17 23:00	1
1802 PFHxS	46		25 - 150				03/06/17 16:19	03/10/17 23:00	1

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	4400	DME	23	6.9	ng/L		03/06/17 16:19	03/13/17 17:23	10
Perfluorooctanesulfonic acid (PFOS)	1600	D M	37	12	ng/L		03/06/17 16:19	03/13/17 17:23	10
Perfluorobutanesulfonic acid (PFBS)	830	D	23	8.4	ng/L		03/06/17 16:19	03/13/17 17:23	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	83		25 - 150				03/06/17 16:19	03/13/17 17:23	10
13C4 PFOS	112		25 - 150				03/06/17 16:19	03/13/17 17:23	10
18O2 PFHxS	97		25 - 150				03/06/17 16:19	03/13/17 17:23	10

Client Sample Results

Client: CH2M Hill, Inc. TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2

Date Collected: 03/01/17 14:00 Matrix: Water

Date Received: 03/02/17 10:15

Method: 537 (Modified) - Peri	fluorinated H	lydrocarbo	ons - DL2						
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	4500	D M	57	17	ng/L		03/06/17 16:19	03/14/17 15:13	25
Perfluorooctanesulfonic acid (PFOS)	1500	D M	92	29	ng/L		03/06/17 16:19	03/14/17 15:13	25
Perfluorobutanesulfonic acid (PFBS)	730	D	57	21	ng/L		03/06/17 16:19	03/14/17 15:13	25
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	108		25 - 150				03/06/17 16:19	03/14/17 15:13	25
13C4 PFOS	112		25 - 150				03/06/17 16:19	03/14/17 15:13	25
1802 PFHxS	108		25 - 150				03/06/17 16:19	03/14/17 15:13	25

Client Sample ID: MEAFF-Unknown22-MW01-0317 Lab Sample ID: 320-26263-3

Date Collected: 03/01/17 15:05 Matrix: Water Date Received: 03/02/17 10:15

Method: 537 (Modified) - Perfluorinated Hydrocarbons Result Qualifier LOQ DL Unit Prepared Analyzed Dil Fac Perfluorooctanoic acid (PFOA) 9.0 M 2.3 0.69 ng/L 03/06/17 16:19 03/10/17 23:07 Perfluorooctanesulfonic acid 2.0 J M 3.7 1.2 ng/L 03/06/17 16:19 03/10/17 23:07 (PFOS) Perfluorobutanesulfonic acid 2.3 0.85 ng/L 03/06/17 16:19 03/10/17 23:07 3.7 (PFBS) Isotope Dilution %Recovery Qualifier Limits Prepared Analyzed Dil Fac 13C4 PFOA 87 25 - 150 03/06/17 16:19 03/10/17 23:07 1 13C4 PFOS 118 25 - 150 03/06/17 16:19 03/10/17 23:07 1 1802 PFHxS 25 - 150 03/06/17 16:19 03/10/17 23:07 125 1

Client Sample ID: MEAFF-FD04-030117 Lab Sample ID: 320-26263-4

Date Collected: 03/01/17 00:00 Matrix: Water Date Received: 03/02/17 10:15

Method: 537 (Modified) - Perfluorinated Hydrocarbons									
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	8.1	M	2.3	0.69	ng/L		03/06/17 16:19	03/10/17 23:15	1
Perfluorooctanesulfonic acid (PFOS)	1.2	J M	3.7	1.2	ng/L		03/06/17 16:19	03/10/17 23:15	1
Perfluorobutanesulfonic acid (PFBS)	3.6		2.3	0.85	ng/L		03/06/17 16:19	03/10/17 23:15	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFOA	83		25 - 150				03/06/17 16:19	03/10/17 23:15	1
13C4 PFOS	134		25 - 150				03/06/17 16:19	03/10/17 23:15	1
1802 PFHxS	137		25 - 150				03/06/17 16:19	03/10/17 23:15	1

Default Detection Limits

Client: CH2M Hill, Inc. TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Method: 537 (Modified) - Perfluorinated Hydrocarbons

Prep: 3535

Analyte	LOQ	DL	Units	Method
Perfluorobutanesulfonic acid (PFBS)	2.5	0.92	ng/L	537 (Modified)
Perfluorooctanesulfonic acid (PFOS)	4.0	1.3	ng/L	537 (Modified)
Perfluorooctanoic acid (PFOA)	2.5	0.75	ng/L	537 (Modified)

Isotope Dilution Summary

Client: CH2M Hill, Inc.

TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Method: 537 (Modified) - Perfluorinated Hydrocarbons

Matrix: Water Prep Type: Total/NA

_			Perc	ent Isotope
		3C4 PFO	3C4 PFOS	3O2 PFHx
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)
320-26263-1	MEAFF-WWTP-MW01-0317	85	107	110
320-26263-1 - DL	MEAFF-WWTP-MW01-0317	81	98	116
320-26263-2	MEAFF-PWMA-MW01-0317	48	99	46
320-26263-2 - DL	MEAFF-PWMA-MW01-0317	83	112	97
320-26263-2 - DL2	MEAFF-PWMA-MW01-0317	108	112	108
320-26263-3	MEAFF-Unknown22-MW01-031	87	118	125
320-26263-4	MEAFF-FD04-030117	83	134	137
LCS 320-153501/2-A	Lab Control Sample	148	132	137
LCSD 320-153501/3-A	Lab Control Sample Dup	140	123	128
MB 320-153501/1-A	Method Blank	130	116	124

Surrogate Legend

13C4 PFOA = 13C4 PFOA 13C4 PFOS = 13C4 PFOS 18O2 PFHxS = 18O2 PFHxS

QC Sample Results

Client: CH2M Hill, Inc. TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Method: 537 (Modified) - Perfluorinated Hydrocarbons

Lab Sample ID: MB 320-153501/1-A

Matrix: Water

Analysis Batch: 154459

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

Prep Batch: 153501

, , , , , , , , , , , , , , , , , , , ,	МВ	МВ							
Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	2.0	UM	2.5	0.75	ng/L		03/06/17 16:19	03/10/17 22:30	1
Perfluorooctanesulfonic acid (PFOS)	3.0	U M	4.0	1.3	ng/L		03/06/17 16:19	03/10/17 22:30	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.5	0.92	ng/L		03/06/17 16:19	03/10/17 22:30	1
	MD	MD							

MB MB

Isotope Dilution	%Recovery Qualifier	Limits	Prepared Analyzed	Dil Fac
13C4 PFOA	130	25 - 150	03/06/17 16:19 03/10/17 22	30 1
13C4 PFOS	116	25 - 150	03/06/17 16:19 03/10/17 22	30 1
1802 PFHxS	124	25 - 150	03/06/17 16:19 03/10/17 22	30 1

Lab Sample ID: LCS 320-153501/2-A

Matrix: Water

Analysis Batch: 154459

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 153501

Analysis Baton. 104400	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Perfluorooctanoic acid (PFOA)	40.0	39.9		ng/L		100	60 - 140
Perfluorooctanesulfonic acid (PFOS)	37.1	37.8	M	ng/L		102	60 - 140
Perfluorobutanesulfonic acid (PFBS)	35.4	40.0		ng/L		113	50 - 150

LCS LCS

Isotope Dilution	%Recovery	Qualifier	Limits
13C4 PFOA	148	-	25 - 150
13C4 PFOS	132		25 - 150
18O2 PFHxS	137		25 - 150

Lab Sample ID: LCSD 320-153501/3-A

Matrix: Water

Analysis Batch: 154459

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 153501

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Perfluorooctanoic acid (PFOA)	40.0	39.6		ng/L		99	60 - 140	1	30
Perfluorooctanesulfonic acid (PFOS)	37.1	39.4	M	ng/L		106	60 - 140	4	30
Perfluorobutanesulfonic acid (PFBS)	35.4	41.6		ng/L		118	50 - 150	4	30

LCSD LCSD

Isotope Dilution	%Recovery	Qualifier	Limits
13C4 PFOA	140		25 - 150
13C4 PFOS	123		25 - 150
1802 PFHxS	128		25 - 150

QC Association Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

LCMS

Prep Batch: 153501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-1 - DL	MEAFF-WWTP-MW01-0317	Total/NA	Water	3535	_
320-26263-1	MEAFF-WWTP-MW01-0317	Total/NA	Water	3535	
320-26263-2	MEAFF-PWMA-MW01-0317	Total/NA	Water	3535	
320-26263-2 - DL	MEAFF-PWMA-MW01-0317	Total/NA	Water	3535	
320-26263-2 - DL2	MEAFF-PWMA-MW01-0317	Total/NA	Water	3535	
320-26263-3	MEAFF-Unknown22-MW01-0317	Total/NA	Water	3535	
320-26263-4	MEAFF-FD04-030117	Total/NA	Water	3535	
MB 320-153501/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-153501/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-153501/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 154459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-1	MEAFF-WWTP-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-2	MEAFF-PWMA-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-3	MEAFF-Unknown22-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-4	MEAFF-FD04-030117	Total/NA	Water	537 (Modified)	153501
MB 320-153501/1-A	Method Blank	Total/NA	Water	537 (Modified)	153501
LCS 320-153501/2-A	Lab Control Sample	Total/NA	Water	537 (Modified)	153501
LCSD 320-153501/3-A	Lab Control Sample Dup	Total/NA	Water	537 (Modified)	153501

Analysis Batch: 154808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method P	rep Batch
320-26263-1 - DL	MEAFF-WWTP-MW01-0317	Total/NA	Water	537 (Modified)	153501
320-26263-2 - DL	MEAFF-PWMA-MW01-0317	Total/NA	Water	537 (Modified)	153501

Analysis Batch: 155009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-26263-2 - DL2	MEAFF-PWMA-MW01-0317	Total/NA	Water	537 (Modified)	153501

TestAmerica Job ID: 320-26263-1

Lab Chronicle

Client: CH2M Hill, Inc. TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Client Sample ID: MEAFF-WWTP-MW01-0317

Lab Sample ID: 320-26263-1 Date Collected: 03/01/17 12:40 **Matrix: Water**

Date Received: 03/02/17 10:15

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			153501	03/06/17 16:19	JER	TAL SAC
Total/NA	Analysis	537 (Modified)		1	154459	03/10/17 22:52	TC1	TAL SAC
Total/NA	Prep	3535	DL		153501	03/06/17 16:19	JER	TAL SAC
Total/NA	Analysis	537 (Modified)	DL	5	154808	03/13/17 17:16	CBW	TAL SAC

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2

Date Collected: 03/01/17 14:00 **Matrix: Water**

Date Received: 03/02/17 10:15

		Batch	Batch		Dilution	Batch	Prepared		
Prep	Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total	/NA	Prep	3535			153501	03/06/17 16:19	JER	TAL SAC
Total	/NA	Analysis	537 (Modified)		1	154459	03/10/17 23:00	TC1	TAL SAC
Total	/NA	Prep	3535	DL		153501	03/06/17 16:19	JER	TAL SAC
Total	/NA	Analysis	537 (Modified)	DL	10	154808	03/13/17 17:23	CBW	TAL SAC
Total	/NA	Prep	3535	DL2		153501	03/06/17 16:19	JER	TAL SAC
Total	/NA	Analysis	537 (Modified)	DL2	25	155009	03/14/17 15:13	CBW	TAL SAC

Client Sample ID: MEAFF-Unknown22-MW01-0317 Lab Sample ID: 320-26263-3

Date Collected: 03/01/17 15:05 **Matrix: Water**

Date Received: 03/02/17 10:15

<u> </u>	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3535			153501	03/06/17 16:19	JER	TAL SAC
Total/NA	Analysis	537 (Modified)		1	154459	03/10/17 23:07	TC1	TAL SAC

Client Sample ID: MEAFF-FD04-030117 Lab Sample ID: 320-26263-4

Date Collected: 03/01/17 00:00

Date Received: 03/02/17 10:15

_		Batch	Batch		Dilution	Batch	Prepared		
_D	ron Tuno		Method	Dun	Factor		or Analyzed	Analyst	Lab
1 -	гер Туре	Туре	Method	Run	ractor	Number	or Analyzeu	Analyst	Lab
T	otal/NA	Prep	3535			153501	03/06/17 16:19	JER	TAL SAC
T	otal/NA	Analysis	537 (Modified)		1	154459	03/10/17 23:15	TC1	TAL SAC

Laboratory References:

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

Matrix: Water

Certification Summary

Client: CH2M Hill, Inc. TestAmerica Job ID: 320-26263-1

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

Laboratory: TestAmerica SacramentoAll certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-055	12-18-17
Arizona	State Program	9	AZ0708	08-11-17
Arkansas DEQ	State Program	6	88-0691	06-17-17
California	State Program	9	2897	01-31-18
Colorado	State Program	8	CA00044	08-31-17
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-17
Hawaii	State Program	9	N/A	01-29-18
Illinois	NELAP	5	200060	03-17-18
Kansas	NELAP	7	E-10375	10-31-17
L-A-B	DoD ELAP		L2468	01-20-18
Louisiana	NELAP	6	30612	06-30-17
Maine	State Program	1	CA0004	04-18-18
Michigan	State Program	5	9947	01-31-18
Nevada	State Program	9	CA00044	07-31-17
New Jersey	NELAP	2	CA005	06-30-17
New York	NELAP	2	11666	04-01-17 *
Oregon	NELAP	10	4040	01-28-18
Pennsylvania	NELAP	3	68-01272	03-31-17 *
Texas	NELAP	6	T104704399	07-31-17
US Fish & Wildlife	Federal		LE148388-0	10-31-17
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-18
Utah	NELAP	8	CA00044	02-28-18
Virginia	NELAP	3	460278	03-14-18
Washington	State Program	10	C581	05-05-17
West Virginia (DW)	State Program	3	9930C	12-31-17
Wyoming	State Program	8	8TMS-L	01-29-17 *

^{*} Certification renewal pending - certification considered valid.

Method Summary

Client: CH2M Hill, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

TestAmerica Job ID: 320-26263-1

Method	Method Description	Protocol	Laboratory
537 (Modified)	Perfluorinated Hydrocarbons	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, Inc.

Project/Site: Meridian 10006-7-105420 JM01 Navy Clean

TestAmerica Job ID: 320-26263-1

Lab Sample ID	Client Sample ID	Matrix	Collected Received
320-26263-1	MEAFF-WWTP-MW01-0317	Water	03/01/17 12:40 03/02/17 10:15
320-26263-2	MEAFF-PWMA-MW01-0317	Water	03/01/17 14:00 03/02/17 10:15
320-26263-3	MEAFF-Unknown22-MW01-0317	Water	03/01/17 15:05 03/02/17 10:15
320-26263-4	MEAFF-FD04-030117	Water	03/01/17 00:00 03/02/17 10:15

LCMS MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8 N Analysis Batch Number: 152681

Lab Sample ID: IC 320-152681/2 Client Sample ID:

Date Analyzed: 03/01/17 11:08 Lab File ID: 2017.03.01CURVE 003.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	2.51	Isomers	chandrase nas	03/01/17 15:43
Perfluorooctanoic acid (PFOA)	2.86	Incomplete Integration	chandrase nas	03/01/17 15:43
Perfluorooctanesulfonic acid (PFOS)	3.23	Isomers	chandrase nas	03/01/17 15:43

Lab Sample ID: IC 320-152681/4 Client Sample ID:

Date Analyzed: 03/01/17 11:23 Lab File ID: 2017.03.01CURVE 005.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.83	Baseline	chandrase nas	03/01/17 15:43
Perfluorooctanesulfonic acid (PFOS)	3.17	Baseline	chandrase nas	03/01/17 15:43

Lab Sample ID: IC 320-152681/5 Client Sample ID:

Date Analyzed: 03/01/17 11:31 Lab File ID: 2017.03.01CURVE 006.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorohexanesulfonic acid	2.49	Isomers	chandrase	03/01/17 15:43
(PFHxS)			nas	

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8_N Analysis Batch Number: 152681

Lab Sample ID: IC 320-152681/6 Client Sample ID:

Date Analyzed: 03/01/17 11:38 Lab File ID: 2017.03.01CURVE 007.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	2.48	Isomers	chandrase nas	03/01/17 15:43
13C2 PFUnA	3.87	Incomplete Integration	chandrase	03/01/17 15:43
			nas	

Lab Sample ID: <u>IC 320-15268</u>1/7 Client Sample ID:

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanesulfonic acid	3.19	Baseline	chandrase	03/01/17 15:43
(PFOS)			nas	
M2-8:2FTS	3.52	Incomplete Integration	chandrase	03/01/17 15:43
			nas	
13C2 PFDoA	4.15	Incomplete Integration	chandrase	03/01/17 15:43
			nas	

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8_N Analysis Batch Number: 154455

Lab Sample ID: CCV 320-154455/2 CCVL Client Sample ID:

Date Analyzed: 03/10/17 17:37 Lab File ID: 2017.03.10B_002.d GC Column: GeminiC18 3x1 ID: 3(mm)

Page 20 of 577

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	1.54	Incomplete Integration	phomsopha t	03/13/17 09:40
Perfluorohexanesulfonic acid (PFHxS)	2.48	Incomplete Integration	phomsopha t	03/13/17 09:40
Perfluorooctanesulfonic acid (PFOS)	3.20	Incomplete Integration	phomsopha t	03/13/17 09:40
Perfluorotridecanoic Acid (PFTriA)	4.44	Incomplete Integration	phomsopha t	03/13/17 09:40

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8 N Analysis Batch Number: 154459

Lab Sample ID: CCV 320-154459/19 Client Sample ID:

Date Analyzed: 03/10/17 22:22 Lab File ID: 2017.03.10B 040.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	2.47	Isomers	changnoit	03/13/17 11:33
Perfluorooctanesulfonic acid (PFOS)	3.20	Isomers	changnoit	03/13/17 11:33

Lab Sample ID: MB 320-153501/1-A Client Sample ID:

Date Analyzed: 03/10/17 22:30 Lab File ID: 2017.03.10B 041.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.81	Isomers	changnoit	03/13/17 11:21
Perfluorooctanesulfonic acid (PFOS)	3.17	Isomers	changnoit	03/13/17 11:22

Lab Sample ID: LCS 320-153501/2-A Client Sample ID:

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.18	Isomers	changnoit	03/13/17 11:25

Lab Sample ID: LCSD 320-153501/3-A Client Sample ID:

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.18	Isomers	changnoit	03/13/17 11:26

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8 N Analysis Batch Number: 154459

Lab Sample ID: 320-26263-1 Client Sample ID: MEAFF-WWTP-MW01-0317

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorobutanesulfonic acid	1.84	Baseline	chandrase	03/27/17 12:07
(PFBS)			nas	
Perfluorooctanoic acid (PFOA)	2.81	Isomers	changnoit	03/27/17 12:06
Perfluorooctanesulfonic acid	3.18	Isomers	changnoit	03/27/17 12:06
(PFOS)				

Lab Sample ID: 320-26263-2 Client Sample ID: MEAFF-PWMA-MW01-0317

Date Analyzed: 03/10/17 23:00 Lab File ID: 2017.03.10B 045.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorobutanesulfonic acid (PFBS)	1.86	Baseline	chandrase nas	03/27/17 12:07
Perfluorooctanoic acid (PFOA)	2.79	Isomers	chandrase nas	03/27/17 12:07
Perfluorooctanesulfonic acid (PFOS)	3.05	Isomers	chandrase nas	03/27/17 12:07

Lab Sample ID: 320-26263-3 Client Sample ID: MEAFF-Unknown22-MW01-0317

Date Analyzed: 03/10/17 23:07 Lab File ID: 2017.03.10B 046.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.80	Isomers	changnoit	03/27/17 12:07
Perfluorooctanesulfonic acid (PFOS)	3.17	Isomers	changnoit	03/27/17 12:07

Page 22 of 577 03/27/2017

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Analysis Batch Number: 154459 Instrument ID: A8 N

Lab Sample ID: 320-26263-4

Client Sample ID: MEAFF-FD04-030117

Date Analyzed: 03/10/17 23:15 Lab File ID: 2017.03.10B 047.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.82	Isomers	changnoit	03/27/17 12:08
Perfluorooctanesulfonic acid	3.07	Baseline	chandrase	03/27/17 12:08
(PFOS)			nas	

Lab Sample ID: CCV 320-154459/30 Client Sample ID:

Date Analyzed: 03/10/17 23:45

Lab File ID: 2017.03.10B 051.d

GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorohexanesulfonic acid (PFHxS)	2.46	Isomers	changnoit	03/13/17 11:31
Perfluorooctanesulfonic acid (PFOS)	3.18	Isomers	changnoit	03/13/17 11:31

Page 23 of 577 03/27/2017

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Analysis Batch Number: 154721 Instrument ID: A8 N

Lab Sample ID: CCV 320-154721/1 CCVL Client Sample ID:

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorobutanoic acid (PFBA)	1.55	Baseline	changnoit	03/14/17 11:30

Page 24 of 577 03/27/2017

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8 N Analysis Batch Number: 154808

Lab Sample ID: CCV 320-154808/11 Client Sample ID:

Date Analyzed: 03/13/17 17:08 Lab File ID: 2017.03.13A 047.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION			
	TIME	REASON	ANALYST	DATE	
Perfluorooctanesulfonic acid (PFOS)	3.20	Isomers	westendor fc	03/14/17 13:30	

Lab Sample ID: 320-26263-1 DL Client Sample ID: MEAFF-WWTP-MW01-0317 DL

COMPOUND NAME	RETENTION	MANUAL INTE	GRATION	
	TIME	REASON	ANALYST	DATE
Perfluorobutanesulfonic acid (PFBS)	1.85	Baseline	chandrase nas	03/27/17 12:22
Perfluorooctanoic acid (PFOA)	2.81	Isomers	westendor	03/27/17 12:22
Perfluorooctanesulfonic acid	3.19	Isomers	fc westendor	03/27/17 12:22
(PFOS)			fc	

Lab Sample ID: 320-26263-2 DL Client Sample ID: MEAFF-PWMA-MW01-0317 DL

Date Analyzed: 03/13/17 17:23 Lab File ID: 2017.03.13A 049.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTE		
	TIME	REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.83	Isomers	westendor fc	03/27/17 12:25
Perfluorooctanesulfonic acid (PFOS)	3.07	Isomers	westendor fc	03/27/17 12:25

Lab Sample ID: CCV 320-154808/17 Client Sample ID:

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.19	Isomers	westendor fc	03/14/17 13:30

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Instrument ID: A8_N Analysis Batch Number: 155009

Lab Sample ID: 320-26263-2 DL2 Client Sample ID: MEAFF-PWMA-MW01-0317 DL2

Date Analyzed: 03/14/17 15:13 Lab File ID: 2017.03.14A 020.d GC Column: GeminiC18 3x1 ID: 3(mm)

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanoic acid (PFOA)	2.86	Isomers	westendor fc	03/27/17 12:34
Perfluorooctanesulfonic acid (PFOS)	3.11	Isomers	westendor fc	03/27/17 12:34

Lab Sample ID: CCV 320-155009/7 Client Sample ID:

COMPOUND NAME	RETENTION	MANUAL INTEGRATION		
	TIME	REASON	ANALYST	DATE
Perfluorooctanesulfonic acid (PFOS)	3.22	Isomers	westendor fc	03/15/17 11:36

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
----------------------------------	----------------------

				D	Parent Reage	ent		
	B	D	D-1	Reagent		17.0 1		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
Reagent 1D	Date	Date	Useu				_	Concentration
LCMPFCSU_00047	06/14/17	12/14/16	Methanol, Lot Baker 144541	50000 uL	LCM2PFHxDA_00008	1000 uL	13C2-PFHxDA	1 ug/mL
			111011		LCM2PFTeDA 00007	1000 11T	13C2-PFTeDA	1 ug/mL
					LCM4PFHPA 00007		13C4-PFHpA	1 ug/mL
					LCM5PFPEA 00008		13C5-PFPeA	1 ug/mL
					LCM8FOSA 00011		13C8 FOSA	1 ug/mL
					LCMPFBA 00008		13C4 PFBA	1 ug/mL
					LCMPFDA 00011		13C2 PFDA	1 ug/mL
					LCMPFDoA 00008		13C2 PFDoA	1 ug/mL
					LCMPFHxA 00012		13C2 PFHxA	1 ug/mL
					LCMPFHxS 00008		1802 PFHxS	0.946 ug/mL
					LCMPFNA 00008		13C5 PFNA	1 ug/mL
					LCMPFOA 00012		13C4 PFOA	1 ug/mL
					LCMPFOS 00017		13C4 PFOS	0.956 ug/mL
					LCMPFUdA 00009		13C2 PFUnA	1 ug/mL
.LCM2PFHxDA 00008	01/07/21	Wellingt	on Laboratories, Lot M2P	FHxDA1112	(Purchased Rea		13C2-PFHxDA	50 ug/mL
.LCM2PFTeDA 00007	12/07/20		on Laboratories, Lot M2P		(Purchased Rea	agent)	13C2-PFTeDA	50 ug/mL
.LCM4PFHPA 00007	05/27/21		on Laboratories, Lot M41		(Purchased Rea	agent)	13C4-PFHpA	50 ug/mL
.LCM5PFPEA 00008	05/22/20		on Laboratories, Lot M51		(Purchased Rea	agent)	13C5-PFPeA	50 ug/mL
.LCM8FOSA 00011	12/22/17	Wellingt	on Laboratories, Lot M81	FOSA1215I	(Purchased Rea	agent)	13C8 FOSA	50 ug/mL
.LCMPFBA 00008	05/24/21	Welling	ton Laboratories, Lot M	PFBA0516	(Purchased Rea	agent)	13C4 PFBA	50 ug/mL
.LCMPFDA 00011	08/19/20	Welling	ton Laboratories, Lot M	PFDA0815	(Purchased Rea	agent)	13C2 PFDA	50 ug/mL
.LCMPFDoA 00008	04/08/21	Welling	ton Laboratories, Lot MP	FDoA0416	(Purchased Rea		13C2 PFDoA	50 ug/mL
.LCMPFHxA 00012	04/08/21	Welling	ton Laboratories, Lot MP	FHxA0416	(Purchased Rea	igent)	13C2 PFHxA	50 ug/mL
.LCMPFHxS 00008	10/23/20	Welling	ton Laboratories, Lot MP	FHxS1015	(Purchased Rea		1802 PFHxS	47.3 ug/mL
.LCMPFNA 00008	04/13/19		gton Laboratories, Lot MI	PFNA0414	(Purchased Rea		13C5 PFNA	50 ug/mL
.LCMPFOA_00012	01/22/21		gton Laboratories, Lot MI		(Purchased Rea		13C4 PFOA	50 ug/mL
.LCMPFOS_00017	08/03/21		gton Laboratories, Lot MI		(Purchased Rea		13C4 PFOS	47.8 ug/mL
.LCMPFUdA_00009	02/12/21	Welling	ton Laboratories, Lot MP	FUdA0216	(Purchased Rea	agent)	13C2 PFUnA	50 ug/mL
LCPFC FULL-L1 00001	06/14/17	02/16/17	MeOH/H2O, Lot 90285	5 mL	LCMPFC2SU 00014	250 uL	d-N-EtFOSA-M	50 ng/mL
			,		_		d-N-MeFOSA-M	50 ng/mL
							d3-NMeFOSAA	50 ng/mL
							d5-NEtFOSAA	50 ng/mL
							M2-6:2FTS	47.5 ng/mL
							M2-8:2FTS	47.9 ng/mL
					LCMPFCSU 00047	250 uL	13C2-PFHxDA	50 ng/mL
					_		13C2-PFTeDA	50 ng/mL
							13C4-PFHpA	50 ng/mL
							13C5-PFPeA	50 ng/mL
							13C8 FOSA	50 ng/mL
							13C4 PFBA	50 ng/mL
							13C2 PFDA	50 ng/mL
							13C2 PFDoA	50 ng/mL
							13C2 PFHxA	50 ng/mL
							1802 PFHxS	47.3 ng/mL
							13C5 PFNA	50 ng/mL
							13C4 PFOA	50 ng/mL

Lab	Name:	TestAmerica	Sacramento	Job No.: 320-26263-1	

				Reagent	Parent Reager	nt		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
							13C4 PFOS	47.8 ng/mL
							13C2 PFUnA	50 ng/mL
					LCPFC2SP_00025	25 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.474 ng/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.479 ng/mL
							N-ethylperfluoro-1-octanesulfo namide	0.5 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ng/mL
							MeFOSA	0.5 ng/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ng/mL
					LCPFCSP 00078	25 uL	Perfluorobutyric acid	0.5 ng/mL
					_		Perfluorobutanesulfonic acid (PFBS)	0.442 ng/mL
							Perfluorodecanoic acid	0.5 ng/mL
							Perfluorododecanoic acid	0.5 ng/mL
							Perfluorodecane Sulfonic acid	0.482 ng/mL
							Perfluoroheptanoic acid	0.5 ng/mL
							Perfluoroheptanesulfonic Acid	0.476 ng/mL
							Perfluorohexanoic acid	0.5 ng/mL
							Perfluorohexadecanoic acid	0.5 ng/mL
							Perfluorohexanesulfonic acid	0.455 ng/mL
							Perfluorononanoic acid	0.5 ng/mL
							Perfluorooctanoic acid (PFOA)	0.5 ng/mL
							Perfluorooctadecanoic acid	0.5 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	0.464 ng/mL
							Perfluorooctane Sulfonamide	0.5 ng/mL
							Perfluoropentanoic acid	0.5 ng/mL
							Perfluorotetradecanoic acid	0.5 ng/mL
							Perfluorotridecanoic acid	0.5 ng/mL
							Perfluoroundecanoic acid	0.5 ng/mL
.LCMPFC2SU_00014	08/13/17	02/13/17	Methanol, Lot 104453	50000 uL	LCd-NEtFOSA-M_00004		d-N-EtFOSA-M	1 ug/mL
					LCd-NMeFOSA-M_00003		d-N-MeFOSA-M	1 ug/mL
					LCd3-NMeFOSAA_00003		d3-NMeFOSAA	1 ug/mL
					LCd5-NEtFOSAA 00003		d5-NEtFOSAA	1 ug/mL
					LCM2-6:FTS_00003 LCM2-8:2FTS 00003		M2-6:2FTS M2-8:2FTS	0.95 ug/mL
LCd-NEtFOSA-M 00004	06/10/21	1417	LLINGTON, Lot dNEtFOSA06	1 6M	(Purchased Reag		d-N-EtFOSA-M	0.958 ug/mL
LCd-NMeFOSA-M 00003	06/10/21		LLINGTON, Lot dNMeFOSA06		(Purchased Reag		d-N-Etrosa-M d-N-MeFosa-M	50 ug/mL 50 ug/mL
LCd-NMeFOSA-M_00003	05/31/21		LLINGTON, LOT GNMEROSAUS		(Purchased Reag		d3-NMeFOSAA	50 ug/mL
LCd5-NMEFOSAA 00003	08/02/21		LLINGTON, LOT GSNMEFOSAAC LLINGTON, LOT GSNETFOSAAC		(Purchased Reag		d5-NEtFOSAA	50 ug/mL
LCM2-6:FTS 00003	01/08/21						M2-6:2FTS	47.5 ug/mL
1	101/00/21	WELLINGTON, Lot M262FTS0116 WELLINGTON, Lot M282FTS0116		(Purchased Reagent) (Purchased Reagent)		1.10	I I I UY/III	

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
----------------------------------	----------------------

					Parent Reag	ent		
				Reagent	Tarono noug			
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
.LCMPFCSU_00047	06/14/17	12/14/16	Methanol, Lot Baker 144541	50000 uL	LCM2PFHxDA_00008	1000 uL	13C2-PFHxDA	1 ug/mL
			111011		LCM2PFTeDA 00007	1000 uL	13C2-PFTeDA	1 ug/mL
					LCM4PFHPA 00007	1000 uL	13C4-PFHpA	1 ug/mL
					LCM5PFPEA 00008		13C5-PFPeA	1 ug/mL
					LCM8FOSA 00011	1000 uL	13C8 FOSA	1 ug/mL
					LCMPFBA 00008	1000 uL	13C4 PFBA	1 ug/mL
					LCMPFDA 00011	1000 uL	13C2 PFDA	1 ug/mL
					LCMPFDoA 00008	1000 uL	13C2 PFDoA	1 ug/mL
					LCMPFHxA 00012		13C2 PFHxA	1 ug/mL
					LCMPFHxS 00008	1000 uL	1802 PFHxS	0.946 ug/mL
					LCMPFNA 00008	1000 uL	13C5 PFNA	1 ug/mL
					LCMPFOA 00012	1000 uL	13C4 PFOA	1 ug/mL
					LCMPFOS 00017		13C4 PFOS	0.956 ug/mL
					LCMPFUdA 00009	1000 uL	13C2 PFUnA	1 ug/mL
LCM2PFHxDA 00008	01/07/21	Wellingt	on Laboratories, Lot M2P	FHxDA1112	(Purchased Rea		13C2-PFHxDA	50 ug/mL
LCM2PFTeDA 00007			on Laboratories, Lot M2P		(Purchased Rea	agent)	13C2-PFTeDA	50 ug/mL
LCM4PFHPA 00007	05/27/21		on Laboratories, Lot M4F		(Purchased Rea		13C4-PFHpA	50 ug/mL
LCM5PFPEA 00008	05/22/20		on Laboratories, Lot M5F		(Purchased Rea		13C5-PFPeA	50 ug/mL
LCM8FOSA 00011	12/22/17		on Laboratories, Lot M8E		(Purchased Rea	,	13C8 FOSA	50 ug/mL
LCMPFBA 00008	05/24/21	Wellington Laboratories, Lot MPFBA0516			(Purchased Rea		13C4 PFBA	50 ug/mL
LCMPFDA 00011	08/19/20		gton Laboratories, Lot ME		(Purchased Rea		13C2 PFDA	50 ug/mL
LCMPFDoA 00008	04/08/21	_	ton Laboratories, Lot MP		(Purchased Rea	,	13C2 PFDoA	50 ug/mL
LCMPFHxA 00012	04/08/21		ton Laboratories, Lot MP		(Purchased Rea		13C2 PFHxA	50 ug/mL
LCMPFHxS 00008	10/23/20		ton Laboratories, Lot MP		(Purchased Rea	,	1802 PFHxS	47.3 ug/mL
LCMPFNA 00008	04/13/19		gton Laboratories, Lot ME		(Purchased Rea		13C5 PFNA	50 ug/mL
LCMPFOA 00012	01/22/21		gton Laboratories, Lot ME		(Purchased Rea		13C4 PFOA	50 ug/mL
LCMPFOS 00017	08/03/21		gton Laboratories, Lot ME		(Purchased Rea	,	13C4 PFOS	47.8 ug/mL
LCMPFUdA 00009	02/12/21		ton Laboratories, Lot MP		(Purchased Rea	,	13C2 PFUnA	50 ug/mL
.LCPFC2SP 00025			Methanol, Lot 104453	10000 uL	LCPFC2SP 00020	2000 uL	Sodium	0.0948 ug/mL
		, , , ,					1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	
							Sodium	0.0958 ug/mL
							1H,1H,2H,2H-perfluorooctane	
							sulfonate (8:2)	
							N-ethylperfluoro-1-octanesulfo	0.1 ug/mL
							namide	
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							MeFOSA	0.1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
LCPFC2SP_00020	06/28/17	12/28/16	Methanol, Lot 104453	10000 uL	LC6:2FTS_00002	100 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00002	100 uL		0.479 ug/mL

 Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

				Reagent	Parent Reage	nt		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
					LCN-EtFOSA-M_00003		N-ethylperfluoro-1-octanesulfo namide	0.5 ug/mL
					LCN-EtFOSAA_00002		N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCN-MeFOSA-M_00002		MeFOSA	0.5 ug/mL
					LCN-MeFOSAA_00003		N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
LC6:2FTS_00002	06/25/21		WELLINGTON, Lot 62FTS(0616	(Purchased Read	gent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
LC8:2FTS_00002	10/23/20		WELLINGTON, Lot 82FTS1	L015	(Purchased Reac	gent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	47.9 ug/mL
LCN-EtFOSA-M_00003	05/24/21	WE	ELLINGTON, Lot NETFOSA	0516M	(Purchased Read	gent)	N-ethylperfluoro-1-octanesulfo namide	50 ug/mL
LCN-EtFOSAA_00002	01/20/21		ELLINGTON, Lot NETFOSA		(Purchased Read	gent)	N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
LCN-MeFOSA-M_00002	05/24/21		ELLINGTON, Lot NMeFOSA		(Purchased Read		MeFOSA	50 ug/mL
LCN-MeFOSAA_00003	01/20/21		ELLINGTON, Lot NMeFOSA		(Purchased Read		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCPFCSP_00078	06/14/17	01/16/17	Methanol, Lot 090285	10000 uL	LCPFCSP_00075	2000 uL	Perfluorobutyric acid	0.1 ug/mI
							Perfluorobutanesulfonic acid (PFBS)	0.0884 ug/mL
							Perfluorodecanoic acid	0.1 ug/mL
							Perfluorododecanoic acid	0.1 ug/mL
							Perfluorodecane Sulfonic acid	0.0964 ug/mL
							Perfluoroheptanoic acid	0.1 ug/mL
							Perfluoroheptanesulfonic Acid	0.0952 ug/mL
							Perfluorohexanoic acid	0.1 ug/mI
							Perfluorohexadecanoic acid	0.1 ug/mL
							Perfluorohexanesulfonic acid	0.091 ug/mL
							Perfluorononanoic acid	0.1 ug/mL
							Perfluorooctanoic acid (PFOA)	0.1 ug/mL
							Perfluorooctadecanoic acid	0.1 ug/mL
							Perfluorooctanesulfonic acid	0.0928 ug/mL
							(PFOS)	
							Perfluorooctane Sulfonamide	0.1 ug/mL
							Perfluoropentanoic acid	0.1 ug/mL
							Perfluorotetradecanoic acid	0.1 ug/mL
							Perfluorotridecanoic acid	0.1 ug/mL
							Perfluoroundecanoic acid	0.1 ug/mL
LCPFCSP 00075	06/14/17	12/14/16	Methanol, Lot 090285	10000 11T	LCPFCSP 00074	5000 11T.	Perfluorobutyric acid	0.5 ug/mL
		, , , = -	,				Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
							Perfluorodecanoic acid	0.5 ug/mL
							Perfluorododecanoic acid	0.5 ug/mL
							Perfluorodecane Sulfonic acid	0.482 ug/mL
							Perfluoroheptanoic acid	0.5 ug/mL
							Perfluoroheptanesulfonic Acid	0.476 ug/mL

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
----------------------------------	----------------------

				Reagent	Parent Reage	ent		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
							Perfluorohexanoic acid	0.5 ug/mL
							Perfluorohexadecanoic acid	0.5 ug/mL
							Perfluorohexanesulfonic acid	0.455 ug/mL
							Perfluorononanoic acid	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5 ug/mL
							Perfluorooctadecanoic acid	0.5 ug/mL
							Perfluorooctanesulfonic acid	0.464 ug/mL
							(PFOS)	
							Perfluorooctane Sulfonamide	0.5 ug/mL
							Perfluoropentanoic acid	0.5 ug/mL
							Perfluorotetradecanoic acid	0.5 ug/mL
							Perfluorotridecanoic acid	0.5 ug/mL
							Perfluoroundecanoic acid	0.5 ug/mL
LCPFCSP_00074	06/14/17	12/14/16	Methanol, Lot 090285	10000 uL	LCPFBA_00005		Perfluorobutyric acid	1 ug/mL
					LCPFBS_00005	200 uL	Perfluorobutanesulfonic acid	0.884 ug/mL
					T. G.D. T. D. O. O. O. F.	000 -	(PFBS)	1 / -
					LCPFDA 00005		Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00005		Perfluorododecanoic acid	1 ug/mL
					LCPFDS_00006		Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00006		Perfluoroheptanoic acid	1 ug/mL
					LCPFHpS 00009		Perfluoroheptanesulfonic Acid	0.952 ug/mL
					LCPFHxA 00005		Perfluorohexanoic acid	1 ug/mL
					LCPFHxDA 00006		Perfluorohexadecanoic acid Perfluorohexanesulfonic acid	1 ug/mL
					LCPFHxS-br_00002		Perfluoronexanesuiionic acid	0.91 ug/mL
					LCPFNA_00006 LCPFOA 00006		Perfluoronomanoic acid (PFOA)	1 ug/mL 1 ug/mL
					LCPFODA 00006		Perfluorooctadecanoic acid	1 ug/mL 1 ug/mL
					LCPFOS-br 00002		Perfluorooctanesulfonic acid	0.928 ug/mL
					LCFF05-DI_00002		(PFOS)	
					LCPFOSA_00008		Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA_00005	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFTeDA_00005		Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00005		Perfluorotridecanoic acid	1 ug/mL
					LCPFUdA_00005		Perfluoroundecanoic acid	1 ug/mL
LCPFBA_00005	05/27/21	Welling	gton Laboratories, Lot P	FBA0516	(Purchased Rea		Perfluorobutyric acid	50 ug/mL
LCPFBS_00005	03/15/21	Welling	ton Laboratories, Lot LF	FBS0316	(Purchased Rea	igent)	Perfluorobutanesulfonic acid	44.2 ug/mL
T 00000	07/00/00				(D)	1 \	(PFBS)	F
LCPFDA_00005	07/02/20		gton Laboratories, Lot P		(Purchased Rea	-	Perfluorodecanoic acid	50 ug/mL
LCPFDoA 00005	01/30/20		ton Laboratories, Lot PF		(Purchased Rea		Perfluorododecanoic acid	50 ug/mL
LCPFDS 00006	05/24/21		ton Laboratories, Lot LF		(Purchased Rea	-	Perfluorodecane Sulfonic acid	48.2 ug/mL
LCPFHpA_00006	01/22/21		ton Laboratories, Lot PE		(Purchased Rea	-	Perfluoroheptanoic acid	50 ug/mL
LCPFHpS 00009	11/06/20		ton Laboratories, Lot LP		(Purchased Rea	-	Perfluoroheptanesulfonic Acid	47.6 ug/mL
LCPFHxA 00005	12/22/20		ton Laboratories, Lot PE		(Purchased Rea		Perfluorohexanoic acid	50 ug/mL
LCPFHxDA 00006	05/25/21		ton Laboratories, Lot PF		(Purchased Rea	-	Perfluorohexadecanoic acid	50 ug/mL
LCPFHxS-br_00002	07/03/20		on Laboratories, Lot brP		(Purchased Rea	-	Perfluorohexanesulfonic acid	45.5 ug/mL
LCPFNA_00006	10/23/20		gton Laboratories, Lot P		(Purchased Rea	-	Perfluorononanoic acid	50 ug/mL
LCPFOA 00006	11/06/20		gton Laboratories, Lot P		(Purchased Rea		Perfluorooctanoic acid (PFOA)	50 ug/mL
LCPFODA_00006	04/29/21	Merring	ton Laboratories, Lot PF	UDAU416	(Purchased Rea	igent)	Perfluorooctadecanoic acid	50 ug/mL

				Reagent	Parent Read	gent		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
LCPFOS-br_00002	10/14/20	Wellingt	on Laboratories, Lot br	(Purchased Re	agent)	Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mI	
LCPFOSA 00008	09/02/17	Welling	ton Laboratories, Lot F0	DSA0815I	(Purchased Re	agent)	Perfluorooctane Sulfonamide	50 ug/mI
LCPFPeA 00005	01/30/20		ton Laboratories, Lot Pl		(Purchased Re	agent)	Perfluoropentanoic acid	50 ug/mI
LCPFTeDA 00005	12/09/20	Wellingt	ton Laboratories, Lot PF	TeDA1215	(Purchased Re	agent)	Perfluorotetradecanoic acid	50 ug/mI
LCPFTrDA 00005	02/12/21		ton Laboratories, Lot PF	TrDA0216	(Purchased Re	agent)	Perfluorotridecanoic acid	50 ug/mI
LCPFUdA 00005	08/19/20	Welling	ton Laboratories, Lot PI	FUdA0815	(Purchased Re	agent)	Perfluoroundecanoic acid	50 ug/mI
LCPFC FULL-L2 00001	06/14/17	02/16/17	MeOH/H2O, Lot 090285	5 mL	LCMPFC2SU 00014	250 uT.	d-N-EtFOSA-M	50 ng/mI
	00/11/1/	02/10/1/	110011, 1120, 1200 030200	0		200 42	d-N-MeFOSA-M	50 ng/mI
							d3-NMeFOSAA	50 ng/mI
							d5-NEtFOSAA	50 ng/mI
							M2-6:2FTS	47.5 ng/mI
							M2-8:2FTS	47.9 ng/mI
					LCMPFCSU 00047	250 uL	13C2-PFHxDA	50 ng/mI
					_		13C2-PFTeDA	50 ng/mI
							13C4-PFHpA	50 ng/mI
							13C5-PFPeA	50 ng/mI
							13C8 FOSA	50 ng/mI
							13C4 PFBA	50 ng/mI
							13C2 PFDA	50 ng/mI
							13C2 PFDoA	50 ng/mI
							13C2 PFHxA	50 ng/mI
							1802 PFHxS	47.3 ng/mI
							13C5 PFNA	50 ng/mI
							13C4 PFOA	50 ng/mI
							13C4 PFOS	47.8 ng/mI
							13C2 PFUnA	50 ng/mI
					LCPFC2SP_00025	50 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.948 ng/mI
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.958 ng/mI
							N-ethylperfluoro-1-octanesulfo namide	1 ng/mI
							N-ethyl perfluorooctane sulfonamidoacetic acid	1 ng/mI
							MeFOSA	1 ng/mI
							N-methyl perfluorooctane sulfonamidoacetic acid	1 ng/mI
					LCPFCSP_00078	50 uL		1 ng/mI
							Perfluorobutanesulfonic acid (PFBS)	0.884 ng/mI
							Perfluorodecanoic acid	1 ng/mI
							Perfluorododecanoic acid	1 ng/mI
							Perfluorodecane Sulfonic acid	0.964 ng/mI
							Perfluoroheptanoic acid	1 ng/mI 0.952 ng/mI

Lab Name: Tes	stAmerica Sacramento	Job No.: 320-26263-1	
---------------	----------------------	----------------------	--

				Reagent	Parent Reagen	it		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
							Perfluorohexanoic acid	1 ng/mL
							Perfluorohexadecanoic acid	1 ng/mL
							Perfluorohexanesulfonic acid	0.91 ng/mL
							Perfluorononanoic acid	1 ng/mL
							Perfluorooctanoic acid (PFOA)	1 ng/mL
							Perfluorooctadecanoic acid	1 ng/mL
							Perfluorooctanesulfonic acid	0.928 ng/mL
							(PFOS)	
							Perfluorooctane Sulfonamide	1 ng/mL
							Perfluoropentanoic acid	1 ng/mL
							Perfluorotetradecanoic acid	1 ng/mL
							Perfluorotridecanoic acid	1 ng/mL
							Perfluoroundecanoic acid	1 ng/mL
.LCMPFC2SU 00014	08/13/17	02/13/17	Methanol, Lot 104453	50000 uL	LCd-NEtFOSA-M 00004	1000 uL	d-N-EtFOSA-M	1 ug/mL
_					LCd-NMeFOSA-M 00003	1000 uL	d-N-MeFOSA-M	1 ug/mL
					LCd3-NMeFOSAA 00003	1000 uL	d3-NMeFOSAA	1 ug/mL
					LCd5-NEtFOSAA 00003	1000 uL	d5-NEtFOSAA	1 ug/mL
					LCM2-6:FTS 00003	1000 uL	M2-6:2FTS	0.95 ug/mL
					LCM2-8:2FTS 00003	1000 uL	M2-8:2FTS	0.958 ug/mL
LCd-NEtFOSA-M 00004	06/10/21	WE	LLINGTON, Lot dNEtFOSA061	6M	(Purchased Reage	ent)	d-N-EtFOSA-M	50 ug/mL
LCd-NMeFOSA-M 00003	06/10/21		LLINGTON, Lot dNMeFOSA061		(Purchased Reage	ent)	d-N-MeFOSA-M	50 ug/mL
LCd3-NMeFOSAA 00003	05/31/21	WEI	LINGTON, Lot d3NMeFOSAA0	516	(Purchased Reage	ent)	d3-NMeFOSAA	50 ug/mL
LCd5-NEtFOSAA 00003	08/02/21	WEI	LINGTON, Lot d5NEtFOSAA0	716	(Purchased Reage	ent)	d5-NEtFOSAA	50 ug/mL
LCM2-6:FTS 00003	01/08/21	W]	ELLINGTON, Lot M262FTS011	. 6	(Purchased Reage	ent)	M2-6:2FTS	47.5 ug/mL
LCM2-8:2FTS 00003	01/08/21	W]	ELLINGTON, Lot M282FTS011	. 6	(Purchased Reage	ent)	M2-8:2FTS	47.9 ug/mL
.LCMPFCSU_00047	06/14/17		Methanol, Lot Baker 144541	50000 uL	LCM2PFHxDA_00008	1000 uL	13C2-PFHxDA	1 ug/mL
					LCM2PFTeDA 00007	1000 uL	13C2-PFTeDA	1 ug/mL
					LCM4PFHPA 00007	1000 uL	13C4-PFHpA	1 ug/mL
					LCM5PFPEA 00008	1000 uL	13C5-PFPeA	1 ug/mL
					LCM8FOSA 00011	1000 uL	13C8 FOSA	1 ug/mL
					LCMPFBA 00008	1000 uL	13C4 PFBA	1 ug/mL
					LCMPFDA 00011	1000 uL	13C2 PFDA	1 ug/mL
					LCMPFDoA 00008		13C2 PFDoA	1 ug/mL
					LCMPFHxA 00012	1000 uL	13C2 PFHxA	1 ug/mL
					LCMPFHxS 00008	1000 uL	1802 PFHxS	0.946 ug/mL
					LCMPFNA 00008	1000 uL	13C5 PFNA	1 ug/mL
					LCMPFOA 00012	1000 uL	13C4 PFOA	1 ug/mL
					LCMPFOS 00017	1000 uL	13C4 PFOS	0.956 ug/mL
					LCMPFUdA 00009	1000 uL	13C2 PFUnA	1 ug/mL
LCM2PFHxDA 00008	01/07/21	Wellingto	on Laboratories, Lot M2PA	HxDA1112	(Purchased Reage	ent)	13C2-PFHxDA	50 ug/mL
LCM2PFTeDA 00007			on Laboratories, Lot M2PA		(Purchased Reage	ent)	13C2-PFTeDA	50 ug/mL
LCM4PFHPA 00007	05/27/21		on Laboratories, Lot M4P		(Purchased Reage		13C4-PFHpA	50 ug/mL
LCM5PFPEA 00008	05/22/20		on Laboratories, Lot M5P		(Purchased Reage		13C5-PFPeA	50 ug/mL
LCM8FOSA 00011	12/22/17		on Laboratories, Lot M8F		(Purchased Reage		13C8 FOSA	50 ug/mL
LCMPFBA 00008	05/24/21		ton Laboratories, Lot MP		(Purchased Reage		13C4 PFBA	50 ug/mL
LCMPFDA 00011	08/19/20		ton Laboratories, Lot MP		(Purchased Reage		13C2 PFDA	50 ug/mL
LCMPFDoA 00008	04/08/21		ton Laboratories, Lot MPH		(Purchased Reage		13C2 PFDoA	50 ug/mL

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
----------------------------------	----------------------

				Poagont	Parent Reager	nt		
	Exp Pr	ep	Dilutant	Reagent Final		Volume		
Reagent ID	-	ite	Used	Volume	Reagent ID	Added	Analyte	Concentration
LCMPFHxA 00012	04/08/21 We	llingt	on Laboratories, Lot MP	FHxA0416	(Purchased Reag	ent)	13C2 PFHxA	50 ug/mL
LCMPFHxS 00008	10/23/20 Wei	llingt	on Laboratories, Lot MP	FHxS1015	(Purchased Reag	ent)	1802 PFHxS	47.3 ug/mL
LCMPFNA 00008	04/13/19 We	lling	ton Laboratories, Lot M	PFNA0414	(Purchased Reag		13C5 PFNA	50 ug/mL
LCMPFOA 00012	01/22/21 We	lling	ton Laboratories, Lot M	PFOA0116	(Purchased Reag	ent)	13C4 PFOA	50 ug/mL
LCMPFOS 00017	08/03/21 We	lling	ton Laboratories, Lot M	PFOS0816	(Purchased Reag	ent)	13C4 PFOS	47.8 ug/mL
LCMPFUdA 00009	02/12/21 Wei	llingt	on Laboratories, Lot MP	FUdA0216	(Purchased Reag	ent)	13C2 PFUnA	50 ug/mL
.LCPFC2SP_00025	06/28/17 01/3	30/17	Methanol, Lot 104453	10000 uL	LCPFC2SP_00020	2000 uL	1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.0948 ug/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.0958 ug/mL
							N-ethylperfluoro-1-octanesulfo namide	_
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							MeFOSA	0.1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
LCPFC2SP_00020	06/28/17 12/2	8/16	Methanol, Lot 104453	10000 uL	LC6:2FTS_00002	100 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00002		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.479 ug/mL
					LCN-EtFOSA-M_00003		N-ethylperfluoro-1-octanesulfo namide	
					LCN-EtFOSAA_00002		N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCN-MeFOSA-M_00002		MeFOSA	0.5 ug/mL
					LCN-MeFOSAA_00003		N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
LC6:2FTS_00002		06/25/21 WELLINGTON, Lot 62FTS0616			(Purchased Reag		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
LC8:2FTS_00002		10/23/20 WELLINGTON, Lot 82FTS1015				ent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	47.9 ug/mL
LCN-EtFOSA-M_00003	05/24/21	WE	LLINGTON, Lot NETFOSA05	16M	(Purchased Reag	ent)	N-ethylperfluoro-1-octanesulfo namide	50 ug/mL
LCN-EtFOSAA_00002	01/20/21	01/20/21 WELLINGTON, Lot NETFOSAA0116				ent)	N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
LCN-MeFOSA-M_00002	05/24/21		LLINGTON, Lot NMeFOSA07		(Purchased Reag		MeFOSA	50 ug/mL
LCN-MeFOSAA_00003	01/20/21		LLINGTON, Lot NMeFOSAA0		(Purchased Reag	ent)	N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCPFCSP_00078	06/14/17 01/1	6/17	Methanol, Lot 090285	10000 uL	LCPFCSP_00075	2000 uL	Perfluorobutyric acid	0.1 ug/mL
_					_		Perfluorobutanesulfonic acid (PFBS)	0.0884 ug/mL
							Perfluorodecanoic acid	0.1 ug/mL
							Perfluorododecanoic acid	0.1 ug/mL

Lab	Name:	TestAmerica	Sacramento	Job No.: 320-26263-1

				Reagent	Parent Reag	ent		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
							Perfluorodecane Sulfonic acid	0.0964 ug/mL
							Perfluoroheptanoic acid	0.1 ug/mL
							Perfluoroheptanesulfonic Acid	0.0952 ug/mL
							Perfluorohexanoic acid	0.1 ug/mL
							Perfluorohexadecanoic acid	0.1 ug/mL
							Perfluorohexanesulfonic acid	0.091 ug/mL
							Perfluorononanoic acid	0.1 ug/mL
							Perfluorooctanoic acid (PFOA)	0.1 ug/mL
							Perfluorooctadecanoic acid	0.1 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0928 ug/mL
							Perfluorooctane Sulfonamide	0.1 ug/mL
							Perfluoropentanoic acid	0.1 ug/mL
							Perfluorotetradecanoic acid	0.1 ug/mL
							Perfluorotridecanoic acid	0.1 ug/mL
							Perfluoroundecanoic acid	0.1 ug/mL
LCPFCSP 00075	06/14/17	12/14/16	Methanol, Lot 090285	10000 uL	LCPFCSP 00074	5000 uL	Perfluorobutyric acid	0.5 ug/mL
_					_		Perfluorobutanesulfonic acid	0.442 ug/mL
							(PFBS)	
							Perfluorodecanoic acid	0.5 ug/mL
							Perfluorododecanoic acid	0.5 ug/mL
							Perfluorodecane Sulfonic acid	0.482 ug/mL
							Perfluoroheptanoic acid	0.5 ug/mL
							Perfluoroheptanesulfonic Acid	0.476 ug/mL
							Perfluorohexanoic acid	0.5 ug/mL
							Perfluorohexadecanoic acid	0.5 ug/mL
							Perfluorohexanesulfonic acid	0.455 ug/mL
							Perfluorononanoic acid	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5 ug/mL
							Perfluorooctadecanoic acid	0.5 ug/mL
							Perfluorooctanesulfonic acid	0.464 ug/mL
							(PFOS)	0.5./
							Perfluorooctane Sulfonamide	0.5 ug/mL
							Perfluoropentanoic acid Perfluorotetradecanoic acid	0.5 ug/mL
							Perfluorotetradecanoic acid	0.5 ug/mL
								0.5 ug/mL
LCPFCSP 00074	06/14/17	12/11/16	Methanol, Lot 090285	10000 ***	LCPFBA 00005	200 117	Perfluoroundecanoic acid Perfluorobutyric acid	0.5 ug/mL 1 ug/mL
LCPFCSP_000/4	06/14/1/	12/14/16	Methanol, Lot 090285	10000 uL			Perfluorobutyric acid Perfluorobutanesulfonic acid	
					LCPFBS_00005		(PFBS)	0.884 ug/mL
					LCPFDA_00005		Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00005		Perfluorododecanoic acid	1 ug/mL
					LCPFDS_00006		Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00006		Perfluoroheptanoic acid	1 ug/mL
					LCPFHpS_00009		Perfluoroheptanesulfonic Acid	0.952 ug/mL
					LCPFHxA_00005		Perfluorohexanoic acid	1 ug/mL
					LCPFHxDA 00006		Perfluorohexadecanoic acid	1 ug/mL
					LCPFHxS-br_00002	200 uL	Perfluorohexanesulfonic acid	0.91 ug/mL

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

				Reagent	Parent Reager	nt		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
					LCPFNA_00006		Perfluorononanoic acid	1 ug/mL
					LCPFOA_00006		Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFODA_00006		Perfluorooctadecanoic acid	1 ug/mL
					LCPFOS-br_00002		Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA 00008		Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA 00005	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFTeDA_00005		Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA 00005	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUdA 00005	200 uL	Perfluoroundecanoic acid	1 ug/mL
LCPFBA 00005	05/27/21	Wellin	gton Laboratories, Lo	t PFBA0516	(Purchased Reag	ent)	Perfluorobutyric acid	50 ug/mL
LCPFBS_00005	03/15/21	Welling	gton Laboratories, Lot	t LPFBS0316	(Purchased Reag	ent)	Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
LCPFDA 00005	07/02/20	Wellin	gton Laboratories, Lo	t PFDA0615	(Purchased Reag	ent)	Perfluorodecanoic acid	50 ug/mL
LCPFDoA 00005	01/30/20	Welling	gton Laboratories, Lot	t PFDoA0115	(Purchased Reag	ent)	Perfluorododecanoic acid	50 ug/mL
LCPFDS 00006	05/24/21	Welling	gton Laboratories, Lot	t LPFDS0516	(Purchased Reag	ent)	Perfluorodecane Sulfonic acid	48.2 ug/mL
LCPFHpA 00006	01/22/21		gton Laboratories, Lot		(Purchased Reag	ent)	Perfluoroheptanoic acid	50 ug/mL
LCPFHpS 00009	11/06/20	Welling	ton Laboratories, Lot	: LPFHpS1115	(Purchased Reag	ent)	Perfluoroheptanesulfonic Acid	47.6 ug/mL
LCPFHxA 00005	12/22/20		gton Laboratories, Lot		(Purchased Reag	ent)	Perfluorohexanoic acid	50 ug/mL
LCPFHxDA 00006	05/25/21	Welling	ton Laboratories, Lot	: PFHxDA0516	(Purchased Reag	ent)	Perfluorohexadecanoic acid	50 ug/mL
LCPFHxS-br 00002	07/03/20	Wellingt	on Laboratories, Lot	brPFHxSK0615	(Purchased Reag	ent)	Perfluorohexanesulfonic acid	45.5 ug/mL
LCPFNA 00006	10/23/20	Wellin	gton Laboratories, Lo	t PFNA1015	(Purchased Reag	ent)	Perfluorononanoic acid	50 ug/mL
LCPFOA 00006	11/06/20		gton Laboratories, Lo		(Purchased Reag	ent)	Perfluorooctanoic acid (PFOA)	50 ug/mL
LCPFODA 00006	04/29/21	Welling	gton Laboratories, Lot	t PFODA0416	(Purchased Reag	ent)	Perfluorooctadecanoic acid	50 ug/mL
LCPFOS-br_00002	10/14/20		ton Laboratories, Lot		(Purchased Reag	ent)	Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
LCPFOSA 00008	09/02/17	Welling	gton Laboratories, Lot	t FOSA0815I	(Purchased Reag	ent)	Perfluorooctane Sulfonamide	50 ug/mL
LCPFPeA 00005	01/30/20		gton Laboratories, Lot		(Purchased Reag	ent)	Perfluoropentanoic acid	50 ug/mL
LCPFTeDA 00005	12/09/20		ton Laboratories, Lot		(Purchased Reag		Perfluorotetradecanoic acid	50 ug/mL
LCPFTrDA 00005	02/12/21	Welling	ton Laboratories, Lot	: PFTrDA0216	(Purchased Reag	ent)	Perfluorotridecanoic acid	50 ug/mL
LCPFUdA 00005	08/19/20	Welling	gton Laboratories, Lot	t PFUdA0815	(Purchased Reag	ent)	Perfluoroundecanoic acid	50 ug/mL
LCPFC_FULL-L3_00001	06/14/17	02/16/17	MeOH/H2O, Lot 090285	5 mT.	LCMPFC2SU 00014	250 111.	d-N-EtFOSA-M	50 ng/mL
Lerre_roll is_cocor	00/11/1/	02/10/1/	1100117 11207 200 030203	3 1112		230 41	d-N-MeFOSA-M	50 ng/mL
							d3-NMeFOSAA	50 ng/mL
							d5-NETFOSAA	50 ng/mL
							M2-6:2FTS	47.5 ng/mL
							M2-8:2FTS	47.9 ng/mL
					LCMPFCSU 00047	250 117	13C2-PFHxDA	50 ng/mL
					Lemi reso_ood /	250 41	13C2-PFTeDA	50 ng/mL
							13C4-PFHpA	50 ng/mL
							13C5-PFPeA	50 ng/mL
							13C8 FOSA	50 ng/mL
							13C4 PFBA	50 ng/mL
							13C2 PFDA	50 ng/mL
							13C2 PFDOA	50 ng/mL
							13C2 PFHXA	50 ng/mL
							1802 PFHXS	47.3 ng/mL
I							13C5 PFNA	50 ng/mL
l		l	I		I	I	1000 111411	1 20 119/11111

Lab	Name:	TestAmerica	Sacramento	Job No.: 320-26263-1
-----	-------	-------------	------------	----------------------

				Reagent	Parent Reager	ıt		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
							13C4 PFOA	50 ng/mL
							13C4 PFOS	47.8 ng/mL
							13C2 PFUnA	50 ng/mL
					LCPFC2SP 00025	250 uL	Sodium	4.74 ng/mL
						200 41	1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	1.,1 119,1111
							Sodium 1H,1H,2H,2H-perfluorooctane	4.79 ng/mL
							sulfonate (8:2)	
							N-ethylperfluoro-1-octanesulfo namide	5 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	5 ng/mL
							MeFOSA	5 ng/mL
							N-methyl perfluorooctane	5 ng/mL
							sulfonamidoacetic acid	_
					LCPFCSP_00078	250 uL	Perfluorobutyric acid	5 ng/mL
							Perfluorobutanesulfonic acid	4.42 ng/mL
							(PFBS)	
I							Perfluorodecanoic acid	5 ng/mL
I							Perfluorododecanoic acid	5 ng/mL
							Perfluorodecane Sulfonic acid	4.82 ng/mL
							Perfluoroheptanoic acid	5 ng/mL
							Perfluoroheptanesulfonic Acid	4.76 ng/mL
							Perfluorohexanoic acid	5 ng/mL
							Perfluorohexadecanoic acid	5 ng/mL
							Perfluorohexanesulfonic acid	4.55 ng/mL
							Perfluorononanoic acid	5 ng/mL
							Perfluorooctanoic acid (PFOA)	5 ng/mL
							Perfluorooctadecanoic acid	5 ng/mL
							Perfluorooctanesulfonic acid (PFOS)	4.64 ng/mL
							Perfluorooctane Sulfonamide	5 ng/mL
							Perfluoropentanoic acid	5 ng/mL
							Perfluorotetradecanoic acid	5 ng/mL
							Perfluorotridecanoic acid	5 ng/mL
							Perfluoroundecanoic acid	5 ng/mL
.LCMPFC2SU 00014	08/13/17	02/13/17	Methanol, Lot 104453	50000 117.	LCd-NEtFOSA-M 00004	1000 117.	d-N-EtFOSA-M	1 ug/mL
. 20111 1 0200_0011	00,10,1	32,13,1	110011011, 100 101100	30000 41	LCd-NMeFOSA-M 00003		d-N-MeFOSA-M	1 ug/mL
					LCd3-NMeFOSAA 00003		d3-NMeFOSAA	1 ug/mL
					LCd5-NEtFOSAA 00003		d5-NEtFOSAA	1 ug/mL
					LCM2-6:FTS 00003		M2-6:2FTS	0.95 ug/mL
					LCM2-8:2FTS 00003		M2-8:2FTS	0.958 ug/mL
LCd-NEtFOSA-M 00004	06/10/21	[aTE7	LLINGTON, Lot dNEtFOSA06	1 6M	(Purchased Reag		d-N-EtFOSA-M	50 ug/mL
LCd-NMeFOSA-M 00003	06/10/21		LLINGTON, Lot dNMeFOSA06		(Purchased Reag		d-N-MeFOSA-M	50 ug/mL
LCd3-NMeFOSAA 00003	05/31/21		LLINGTON, LOT GNMEROSAUS		(Purchased Reag		d3-NMeFOSAA	50 ug/mL 50 ug/mL
LCd3-NMeFOSAA_00003								
	08/02/21		LLINGTON, Lot d5NEtFOSAAC		(Purchased Reag		d5-NEtFOSAA	50 ug/mL
LCM2-6:FTS_00003	01/08/21		ELLINGTON, Lot M262FTS01		(Purchased Reag		M2-6:2FTS	47.5 ug/mL
LCM2-8:2FTS_00003	01/08/21	W	ELLINGTON, Lot M282FTS01	Τρ	(Purchased Reag	ent)	M2-8:2FTS	47.9 ug/mL

Lab Name: TestA	merica Sacramento	Job No.: 320-26263-1	
-----------------	-------------------	----------------------	--

				Reagent	Parent Reag	rent		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
.LCMPFCSU_00047	06/14/17	12/14/16	Methanol, Lot Baker 144541	50000 uL	LCM2PFHxDA_00008	1000 uL	13C2-PFHxDA	1 ug/mL
					LCM2PFTeDA 00007	1000 uL	13C2-PFTeDA	1 ug/mL
					LCM4PFHPA 00007	1000 uL	13C4-PFHpA	1 ug/mL
					LCM5PFPEA 00008	1000 uL	13C5-PFPeA	1 ug/mL
					LCM8FOSA 00011	1000 uL	13C8 FOSA	1 ug/mL
					LCMPFBA 00008		13C4 PFBA	1 ug/mL
					LCMPFDA 00011	1000 uL	13C2 PFDA	1 ug/mL
					LCMPFDoA_00008	1000 uL	13C2 PFDoA	1 ug/mL
					LCMPFHxA_00012	1000 uL	13C2 PFHxA	1 ug/mL
					LCMPFHxS 00008	1000 uL	1802 PFHxS	0.946 ug/mL
					LCMPFNA 00008	1000 uL	13C5 PFNA	1 ug/mL
					LCMPFOA 00012		13C4 PFOA	1 ug/mL
					LCMPFOS 00017		13C4 PFOS	0.956 ug/mL
					LCMPFUdA 00009	1000 uL	13C2 PFUnA	1 ug/mL
LCM2PFHxDA 00008	01/07/21	Wellingt	on Laboratories, Lot M2P	FHxDA1112	(Purchased Rea	agent)	13C2-PFHxDA	50 ug/mL
LCM2PFTeDA 00007	12/07/20		on Laboratories, Lot M2P		(Purchased Rea	agent)	13C2-PFTeDA	50 ug/mL
LCM4PFHPA 00007	05/27/21	Wellingt	on Laboratories, Lot M4E	PFHpA0516	(Purchased Rea	agent)	13C4-PFHpA	50 ug/mL
LCM5PFPEA 00008	05/22/20	Wellingt	on Laboratories, Lot M5E	PFPeA0515	(Purchased Rea	agent)	13C5-PFPeA	50 ug/mL
LCM8FOSA 00011	12/22/17		on Laboratories, Lot M8E		(Purchased Rea		13C8 FOSA	50 ug/mL
LCMPFBA_00008	05/24/21		ton Laboratories, Lot ME		(Purchased Rea		13C4 PFBA	50 ug/mL
LCMPFDA_00011	08/19/20	Welling	ton Laboratories, Lot ME	PFDA0815	(Purchased Rea	agent)	13C2 PFDA	50 ug/mL
LCMPFDoA_00008	04/08/21	Welling	ton Laboratories, Lot MP	FDoA0416	(Purchased Rea		13C2 PFDoA	50 ug/mL
LCMPFHxA 00012	04/08/21		ton Laboratories, Lot MP		(Purchased Rea		13C2 PFHxA	50 ug/mL
LCMPFHxS_00008	10/23/20		ton Laboratories, Lot MP		(Purchased Rea		1802 PFHxS	47.3 ug/mL
LCMPFNA_00008	04/13/19	Welling	ton Laboratories, Lot ME	PFNA0414	(Purchased Rea		13C5 PFNA	50 ug/mL
LCMPFOA_00012	01/22/21	Welling	ton Laboratories, Lot ME	PF0A0116	(Purchased Rea		13C4 PFOA	50 ug/mL
LCMPFOS_00017	08/03/21	Welling	ton Laboratories, Lot ME	PFOS0816	(Purchased Rea		13C4 PFOS	47.8 ug/mL
LCMPFUdA_00009	02/12/21		ton Laboratories, Lot MP		(Purchased Rea		13C2 PFUnA	50 ug/mL
.LCPFC2SP_00025	06/28/17	01/30/17	Methanol, Lot 104453	10000 uL	LCPFC2SP_00020	2000 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.0948 ug/mL
							Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.0958 ug/mL
							N-ethylperfluoro-1-octanesulfo namide	_
							N-ethyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
							MeFOSA	0.1 ug/mL
							N-methyl perfluorooctane sulfonamidoacetic acid	0.1 ug/mL
LCPFC2SP_00020	06/28/17	12/28/16	Methanol, Lot 104453	10000 uL	LC6:2FTS_00002	100 uL	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00002	100 uL		0.479 ug/mL

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
Lab Name: TestAmerica Sacramento	JOD NO.: 320-26263-1

				Reagent	Parent Reagen	ıt		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
					LCN-EtFOSA-M_00003	100 uL	N-ethylperfluoro-1-octanesulfo namide	0.5 ug/mL
					LCN-EtFOSAA_00002	100 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCN-MeFOSA-M 00002		MeFOSA	0.5 ug/mL
					LCN-MeFOSAA_00003	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
LC6:2FTS_00002	06/25/21		WELLINGTON, Lot 62FTS061	6	(Purchased Reage	ent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL
LC8:2FTS_00002	10/23/20		WELLINGTON, Lot 82FTS101	5	(Purchased Reage	ent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	47.9 ug/mL
LCN-EtFOSA-M_00003	05/24/21	WI	ELLINGTON, Lot NETFOSA051	16M	(Purchased Reage	ent)	N-ethylperfluoro-1-octanesulfo namide	50 ug/mL
LCN-EtFOSAA_00002	01/20/21		ELLINGTON, Lot NETFOSAA01	16	(Purchased Reage	ent)	N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
LCN-MeFOSA-M_00002	05/24/21	W	ELLINGTON, Lot NMeFOSA071	.4M	(Purchased Reage	ent)	MeFOSA	50 ug/mL
LCN-MeFOSAA_00003	01/20/21	W	ELLINGTON, Lot NMeFOSAA01		(Purchased Reage		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCPFCSP 00078	06/14/17	01/16/17	Methanol, Lot 090285	10000 uL	LCPFCSP 00075	2000 uL	Perfluorobutyric acid	0.1 ug/mL
_					_		Perfluorobutanesulfonic acid (PFBS)	0.0884 ug/mL
							Perfluorodecanoic acid	0.1 ug/mL
							Perfluorododecanoic acid	0.1 ug/mL
							Perfluorodecane Sulfonic acid	0.0964 ug/mL
							Perfluoroheptanoic acid	0.1 ug/mL
							Perfluoroheptanesulfonic Acid	0.0952 ug/mL
							Perfluorohexanoic acid	0.1 ug/mL
							Perfluorohexadecanoic acid	0.1 ug/mL
							Perfluorohexanesulfonic acid	0.091 ug/mL
							Perfluorononanoic acid	0.1 ug/mL
							Perfluorooctanoic acid (PFOA)	0.1 ug/mL
							Perfluorooctadecanoic acid	0.1 ug/mL
							Perfluorooctanesulfonic acid (PFOS)	0.0928 ug/mL
							Perfluorooctane Sulfonamide	0.1 ug/mL
							Perfluoropentanoic acid	0.1 ug/mL
							Perfluorotetradecanoic acid	0.1 ug/mL
							Perfluorotridecanoic acid	0.1 ug/mL
							Perfluoroundecanoic acid	0.1 ug/mL
LCPFCSP 00075	06/14/17	12/14/16	Methanol, Lot 090285	10000 117	LCPFCSP 00074	5000 117	Perfluorobutyric acid	0.5 ug/mL
	00/14/1/	12/14/10	10010101, 100 030203	10000 41		3000 41	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
							Perfluorodecanoic acid	0.5 ug/mL
							Perfluorododecanoic acid	0.5 ug/mL
							Perfluorodecane Sulfonic acid	0.482 ug/mL
							Perfluoroheptanoic acid	0.482 ug/mL
							Perfluoroheptanesulfonic Acid	0.476 ug/mL

Lab	Name:	TestAmerica	Sacramento	Job No.:	320-26263-1
-----	-------	-------------	------------	----------	-------------

				Reagent	Parent Reage	ent		
Reagent ID	Exp Prep Date Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration	
							Perfluorohexanoic acid	0.5 ug/mL
							Perfluorohexadecanoic acid	0.5 ug/mL
							Perfluorohexanesulfonic acid	0.455 ug/mL
							Perfluorononanoic acid	0.5 ug/mL
							Perfluorooctanoic acid (PFOA)	0.5 ug/mL
							Perfluorooctadecanoic acid	0.5 ug/mL
							Perfluorooctanesulfonic acid	0.464 ug/mL
							(PFOS)	
							Perfluorooctane Sulfonamide	0.5 ug/mL
							Perfluoropentanoic acid	0.5 ug/mL
							Perfluorotetradecanoic acid	0.5 ug/mL
							Perfluorotridecanoic acid	0.5 ug/mL
							Perfluoroundecanoic acid	0.5 ug/mL
LCPFCSP_00074	06/14/17	12/14/16	Methanol, Lot 090285	10000 uL	LCPFBA_00005		Perfluorobutyric acid	1 ug/mL
					LCPFBS_00005		Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mL
					LCPFDA_00005		Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00005	200 uL	Perfluorododecanoic acid	1 ug/mL
					LCPFDS_00006	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA 00006		Perfluoroheptanoic acid	1 ug/mL
					LCPFHpS 00009		Perfluoroheptanesulfonic Acid	0.952 ug/mL
					LCPFHxA 00005		Perfluorohexanoic acid	1 ug/mL
					LCPFHxDA_00006	200 uL	Perfluorohexadecanoic acid	1 ug/mL
					LCPFHxS-br_00002	200 uL	Perfluorohexanesulfonic acid	0.91 ug/mL
					LCPFNA_00006		Perfluorononanoic acid	1 ug/mL
					LCPFOA_00006		Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFODA_00006	200 uL	Perfluorooctadecanoic acid	1 ug/mL
					LCPFOS-br_00002	200 uL	Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA 00008		Perfluorooctane Sulfonamide	1 ug/mL
					LCPFPeA 00005	200 uL	Perfluoropentanoic acid	1 ug/mL
					LCPFTeDA 00005		Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA 00005	200 uL	Perfluorotridecanoic acid	1 ug/mL
					LCPFUdA 00005	200 uL	Perfluoroundecanoic acid	1 ug/mL
LCPFBA_00005	05/27/21		gton Laboratories, Lot F		(Purchased Rea	gent)	Perfluorobutyric acid	50 ug/mL
LCPFBS_00005	03/15/21	Welling	ton Laboratories, Lot L	PFBS0316	(Purchased Rea	gent)	Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
LCPFDA 00005	07/02/20	Wellin	gton Laboratories, Lot F	FDA0615	(Purchased Rea	gent)	Perfluorodecanoic acid	50 ug/mL
LCPFDoA 00005	01/30/20	Welling	gton Laboratories, Lot P	FDoA0115	(Purchased Rea	gent)	Perfluorododecanoic acid	50 ug/mL
LCPFDS 00006	05/24/21		ton Laboratories, Lot L		(Purchased Rea		Perfluorodecane Sulfonic acid	48.2 ug/mL
LCPFHpA 00006	01/22/21		gton Laboratories, Lot Pi		(Purchased Rea	gent)	Perfluoroheptanoic acid	50 ug/mL
LCPFHpS 00009	11/06/20	Welling	ton Laboratories, Lot LF	FHpS1115	(Purchased Rea	gent)	Perfluoroheptanesulfonic Acid	47.6 ug/mL
LCPFHxA 00005	12/22/20	Welling	gton Laboratories, Lot P	FHxA1215	(Purchased Rea	gent)	Perfluorohexanoic acid	50 ug/mL
LCPFHxDA 00006	05/25/21	Welling	ton Laboratories, Lot PF	HxDA0516	(Purchased Rea		Perfluorohexadecanoic acid	50 ug/mL
LCPFHxS-br 00002	07/03/20		on Laboratories, Lot brF		(Purchased Rea		Perfluorohexanesulfonic acid	45.5 ug/mL
LCPFNA 00006	10/23/20		gton Laboratories, Lot F		(Purchased Rea		Perfluorononanoic acid	50 ug/mL
LCPFOA 00006	11/06/20		gton Laboratories, Lot F		(Purchased Rea		Perfluorooctanoic acid (PFOA)	50 ug/mL
LCPFODA 00006	04/29/21	Welling	gton Laboratories, Lot P	FODA0416	(Purchased Rea	gent)	Perfluorooctadecanoic acid	50 ug/mL

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
Lab Name: TestAmerica Sacramento	JOD NO.: 320-26263-1

				Reagent	Parent Reage	ent		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	- Analyte	Concentration
=					_		_	
LCPFOS-br_00002			on Laboratories, Lot b		(Purchased Rea		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
LCPFOSA_00008	09/02/17		on Laboratories, Lot		(Purchased Rea		Perfluorooctane Sulfonamide	50 ug/mL
LCPFPeA 00005	01/30/20	Wellingt	on Laboratories, Lot	PFPeA0115	(Purchased Rea	gent)	Perfluoropentanoic acid	50 ug/mL
LCPFTeDA 00005	12/09/20	Wellingt	on Laboratories, Lot F	FTeDA1215	(Purchased Rea	gent)	Perfluorotetradecanoic acid	50 ug/mL
LCPFTrDA 00005	02/12/21		on Laboratories, Lot F		(Purchased Rea	gent)	Perfluorotridecanoic acid	50 ug/mL
LCPFUdA_00005	08/19/20	Wellingt	on Laboratories, Lot	PFUdA0815	(Purchased Rea	gent)	Perfluoroundecanoic acid	50 ug/mL
LCPFC FULL-L4 00001	06/14/17 0	2/16/17	MeOH/H2O, Lot 090285	5 mL	LCMPFC2SU 00014	250 uL	d-N-EtFOSA-M	50 ng/mL
			•		_		d-N-MeFOSA-M	50 ng/mL
							d3-NMeFOSAA	50 ng/mL
							d5-NEtFOSAA	50 ng/mL
							M2-6:2FTS	47.5 ng/mL
							M2-8:2FTS	47.9 ng/mL
					LCMPFCSU 00047	250 11T.	13C2-PFHxDA	50 ng/mL
						200 42	13C2-PFTeDA	50 ng/mL
							13C4-PFHpA	50 ng/mL
							13C5-PFPeA	50 ng/mL
							13C8 FOSA	50 ng/mL
							13C4 PFBA	50 ng/mL
							13C2 PFDA	50 ng/mL
							13C2 PFDoA	50 ng/mL
							13C2 PFHXA	50 ng/mL
							1802 PFHxS	47.3 ng/mL
							13C5 PFNA	50 ng/mL
							13C4 PFOA	50 ng/mL
							13C4 PFOS	47.8 ng/mL
							13C2 PFUnA	50 ng/mL
					LCPFC2SP 00026	200 11T.	Sodium	18.96 ng/mL
						200 41	1H, 1H, 2H, 2H-perfluorooctane	10.50 119/1112
							sulfonate (6:2)	
							Sodium	19.16 ng/mL
							1H, 1H, 2H, 2H-perfluorooctane]
							sulfonate (8:2)	
							N-ethylperfluoro-1-octanesulfo	20 ng/mL
							N-ethyl perfluorooctane sulfonamidoacetic acid	20 ng/mL
							MeFOSA	20 ng/mL
							N-methyl perfluorooctane	20 ng/mL
							sulfonamidoacetic acid	
					LCPFCSP 00074	100 uL	Perfluorobutyric acid	20 ng/mL
					_		Perfluorobutanesulfonic acid (PFBS)	17.68 ng/mL
							Perfluorodecanoic acid	20 ng/mL
							Perfluorododecanoic acid	20 ng/mL
							Perfluorodecane Sulfonic acid	19.28 ng/mL
							Perfluoroheptanoic acid	20 ng/mL
							Perfluoroheptanesulfonic Acid	19.04 ng/mL

Lab	Name:	TestAmerica	Sacramento	Job No.:	320-26263-1	
-----	-------	-------------	------------	----------	-------------	--

				Reagent	Parent Reager	nt		
Reagent ID		Prep Date		Final Volume	Reagent ID	Volume Added	ed Analyte	Concentration
							Perfluorohexanoic acid	20 ng/mL
							Perfluorohexadecanoic acid	20 ng/mL
							Perfluorohexanesulfonic acid	18.2 ng/mL
							Perfluorononanoic acid	20 ng/mL
							Perfluorooctanoic acid (PFOA)	20 ng/mL
							Perfluorooctadecanoic acid	20 ng/mL
							Perfluorooctanesulfonic acid	18.56 ng/mL
							(PFOS)	
							Perfluorooctane Sulfonamide	20 ng/mL
							Perfluoropentanoic acid	20 ng/mL
							Perfluorotetradecanoic acid	20 ng/mL
							Perfluorotridecanoic acid	20 ng/mL
							Perfluoroundecanoic acid	20 ng/mL
.LCMPFC2SU 00014	08/13/17	02/13/17	Methanol, Lot 104453	50000 uL	LCd-NEtFOSA-M 00004	1000 uL	d-N-EtFOSA-M	1 ug/mL
					LCd-NMeFOSA-M 00003	1000 uL	d-N-MeFOSA-M	1 ug/mL
					LCd3-NMeFOSAA 00003	1000 uL	d3-NMeFOSAA	1 ug/mL
					LCd5-NEtFOSAA 00003	1000 uL	d5-NEtFOSAA	1 ug/mL
					LCM2-6:FTS 00003	1000 uL	M2-6:2FTS	0.95 ug/mL
					LCM2-8:2FTS 00003	1000 uL	M2-8:2FTS	0.958 ug/mL
LCd-NEtFOSA-M 00004	06/10/21	WE	LLINGTON, Lot dNEtFOSA06	16M	(Purchased Reag	ent)	d-N-EtFOSA-M	50 ug/mL
LCd-NMeFOSA-M 00003	06/10/21	WE	LLINGTON, Lot dNMeFOSA06	16M	(Purchased Reag	ent)	d-N-MeFOSA-M	50 ug/mL
LCd3-NMeFOSAA 00003	05/31/21	WEI	LINGTON, Lot d3NMeFOSAA	0516	(Purchased Reag	ent)	d3-NMeFOSAA	50 ug/mL
LCd5-NEtFOSAA 00003	08/02/21		LLINGTON, Lot d5NEtFOSAA		(Purchased Reag		d5-NEtFOSAA	50 ug/mL
LCM2-6:FTS_00003	01/08/21	W	ELLINGTON, Lot M262FTS01	16	(Purchased Reag	ent)	M2-6:2FTS	47.5 ug/mL
LCM2-8:2FTS_00003	01/08/21		ELLINGTON, Lot M282FTS01		(Purchased Reag		M2-8:2FTS	47.9 ug/mL
.LCMPFCSU_00047	06/14/17	12/14/16	Methanol, Lot Baker 144541	50000 uL	LCM2PFHxDA_00008		13C2-PFHxDA	1 ug/mL
					LCM2PFTeDA_00007		13C2-PFTeDA	1 ug/mL
					LCM4PFHPA_00007		13C4-PFHpA	1 ug/mL
					LCM5PFPEA_00008		13C5-PFPeA	1 ug/mL
					LCM8FOSA_00011		13C8 FOSA	1 ug/mL
					LCMPFBA_00008		13C4 PFBA	1 ug/mL
					LCMPFDA_00011		13C2 PFDA	1 ug/mL
					LCMPFDoA_00008		13C2 PFDoA	1 ug/mL
					LCMPFHxA 00012		13C2 PFHxA	1 ug/mL
					LCMPFHxS 00008		1802 PFHxS	0.946 ug/mL
					LCMPFNA_00008		13C5 PFNA	1 ug/mL
					LCMPFOA_00012		13C4 PFOA	1 ug/mL
					LCMPFOS_00017		13C4 PFOS	0.956 ug/mL
					LCMPFUdA_00009		13C2 PFUnA	1 ug/mL
LCM2PFHxDA_00008			on Laboratories, Lot M2P		(Purchased Reag	ent)	13C2-PFHxDA	50 ug/mL
LCM2PFTeDA_00007	12/07/20		on Laboratories, Lot M2F		(Purchased Reag		13C2-PFTeDA	50 ug/mL
LCM4PFHPA_00007	05/27/21		ton Laboratories, Lot M41		(Purchased Reag		13C4-PFHpA	50 ug/mL
LCM5PFPEA_00008	05/22/20		ton Laboratories, Lot M51		(Purchased Reag		13C5-PFPeA	50 ug/mL
LCM8FOSA_00011	12/22/17		ton Laboratories, Lot M81		(Purchased Reag		13C8 FOSA	50 ug/mL
LCMPFBA_00008	05/24/21		gton Laboratories, Lot M		(Purchased Reag		13C4 PFBA	50 ug/mL
LCMPFDA 00011	08/19/20		gton Laboratories, Lot M		(Purchased Reag		13C2 PFDA	50 ug/mL
LCMPFDoA_00008	04/08/21	Welling	ton Laboratories, Lot MP	'r'DoAU416	(Purchased Reag	ent)	13C2 PFDoA	50 ug/mL

Lab	Name:	TestAmerica	Sacrament	to Job No.: 320-26263-1

				Reagent	Parent Reag	ent		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
LCMPFHxA 00012	04/08/21	Welling	ton Laboratories, Lot M	PFHxA0416	(Purchased Rea	agent)	13C2 PFHxA	50 ug/mL
LCMPFHxS 00008	10/23/20		ton Laboratories, Lot M		(Purchased Rea	agent)	1802 PFHxS	47.3 ug/mL
LCMPFNA 00008	04/13/19	Welling	ton Laboratories, Lot M	IPFNA0414	(Purchased Rea	agent)	13C5 PFNA	50 ug/mL
LCMPFOA 00012	01/22/21	Welling	ston Laboratories, Lot M	IPFOA0116	(Purchased Rea	agent)	13C4 PFOA	50 ug/mL
LCMPFOS 00017	08/03/21	Welling	ton Laboratories, Lot M	IPFOS0816	(Purchased Rea		13C4 PFOS	47.8 ug/mL
LCMPFUdA 00009	02/12/21	Welling	ton Laboratories, Lot M		(Purchased Rea	agent)	13C2 PFUnA	50 ug/mL
.LCPFC2SP_00026	07/30/17	01/30/17	Methanol, Lot 104453	10000 uL	LC6:2FTS_00002	100 uL	1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.474 ug/mL
					LC8:2FTS_00002		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.479 ug/mL
					LCN-EtFOSA-M_00003		N-ethylperfluoro-1-octanesulfo namide	_
					LCN-EtFOSAA_00002		N-ethyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
					LCN-MeFOSA-M_00002	100 uL		0.5 ug/mL
					LCN-MeFOSAA_00003		N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
LC6:2FTS_00002	06/25/21	WELLINGTON, Lot 62FTS0616		(Purchased Rea	agent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	47.4 ug/mL	
LC8:2FTS_00002	10/23/20	1	WELLINGTON, Lot 82FTS1015		(Purchased Rea	agent)	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	47.9 ug/mL
LCN-EtFOSA-M_00003	05/24/21	WE	ELLINGTON, Lot NETFOSA05	16M	(Purchased Rea	agent)	N-ethylperfluoro-1-octanesulfo namide	50 ug/mL
LCN-EtFOSAA_00002	01/20/21	WE	LLINGTON, Lot NETFOSAAC	116	_		N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
LCN-MeFOSA-M 00002	05/24/21	WE	LLINGTON, Lot NMeFOSA07	14M	(Purchased Rea	agent)	MeFOSA	50 ug/mL
LCN-MeFOSAA_00003	01/20/21		CLLINGTON, Lot NMeFOSAAC		(Purchased Rea		N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
.LCPFCSP_00074	06/14/17	12/14/16	Methanol, Lot 090285	10000 uL	LCPFBA_00005 LCPFBS_00005		Perfluorobutyric acid Perfluorobutanesulfonic acid (PFBS)	1 ug/mL 0.884 ug/mL
					LCPFDA 00005	200 uL	Perfluorodecanoic acid	1 ug/mL
					LCPFDoA_00005		Perfluorododecanoic acid	1 ug/mL
					LCPFDS_00006		Perfluorodecane Sulfonic acid	0.964 ug/mL
					LCPFHpA_00006	200 uL	Perfluoroheptanoic acid	1 ug/mL
					LCPFHpS_00009		Perfluoroheptanesulfonic Acid	0.952 ug/mL
					LCPFHxA_00005		Perfluorohexanoic acid	1 ug/mL
					LCPFHxDA_00006		Perfluorohexadecanoic acid	1 ug/mL
					LCPFHxS-br_00002		Perfluorohexanesulfonic acid	0.91 ug/mL
					LCPFNA_00006		Perfluorononanoic acid	1 ug/mL
					LCPFOA_00006		Perfluorooctanoic acid (PFOA)	1 ug/mL
					LCPFODA_00006		Perfluorooctadecanoic acid	1 ug/mL
					LCPFOS-br_00002		Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mL
					LCPFOSA_00008	200 uL	Perfluorooctane Sulfonamide	1 ug/mL

Lab	Name:	TestAmerica	Sacramento	Job No.: 320-26263-1
-----	-------	-------------	------------	----------------------

				Reagent	Parent Reage	nt		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
					LCPFPeA_00005		Perfluoropentanoic acid	1 ug/mL
					LCPFTeDA_00005		Perfluorotetradecanoic acid	1 ug/mL
					LCPFTrDA_00005		Perfluorotridecanoic acid	1 ug/mL
					LCPFUdA_00005		Perfluoroundecanoic acid	1 ug/mL
LCPFBA_00005	05/27/21		gton Laboratories, Lot		(Purchased Read		Perfluorobutyric acid	50 ug/mL
LCPFBS_00005	03/15/21	Welling	ton Laboratories, Lot I	LPFBS0316	(Purchased Read		Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
LCPFDA 00005	07/02/20		gton Laboratories, Lot		(Purchased Read		Perfluorodecanoic acid	50 ug/mL
LCPFDoA 00005	01/30/20		gton Laboratories, Lot E		(Purchased Read	gent)	Perfluorododecanoic acid	50 ug/mL
LCPFDS 00006	05/24/21		gton Laboratories, Lot I		(Purchased Read		Perfluorodecane Sulfonic acid	48.2 ug/mL
LCPFHpA 00006	01/22/21		gton Laboratories, Lot E		(Purchased Read	gent)	Perfluoroheptanoic acid	50 ug/mL
LCPFHpS_00009	11/06/20		ton Laboratories, Lot L		(Purchased Read		Perfluoroheptanesulfonic Acid	47.6 ug/mL
LCPFHxA_00005	12/22/20		gton Laboratories, Lot E		(Purchased Read		Perfluorohexanoic acid	50 ug/mL
LCPFHxDA_00006	05/25/21		ton Laboratories, Lot P		(Purchased Read	gent)	Perfluorohexadecanoic acid	50 ug/mL
LCPFHxS-br_00002	07/03/20		on Laboratories, Lot br		(Purchased Read		Perfluorohexanesulfonic acid	45.5 ug/mL
LCPFNA_00006	10/23/20		gton Laboratories, Lot		(Purchased Read		Perfluorononanoic acid	50 ug/mL
LCPFOA_00006	11/06/20		gton Laboratories, Lot		(Purchased Read		Perfluorooctanoic acid (PFOA)	50 ug/mL
LCPFODA_00006	04/29/21		ston Laboratories, Lot E		(Purchased Read		Perfluorooctadecanoic acid	50 ug/mL
LCPFOS-br_00002	10/14/20		on Laboratories, Lot b		(Purchased Read		Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
LCPFOSA_00008	09/02/17		gton Laboratories, Lot E		(Purchased Read	gent)	Perfluorooctane Sulfonamide	50 ug/mL
LCPFPeA_00005	01/30/20		gton Laboratories, Lot E		(Purchased Read	gent)	Perfluoropentanoic acid	50 ug/mL
LCPFTeDA_00005	12/09/20		ton Laboratories, Lot P		(Purchased Read		Perfluorotetradecanoic acid	50 ug/mL
LCPFTrDA_00005	02/12/21		ton Laboratories, Lot P		(Purchased Read		Perfluorotridecanoic acid	50 ug/mL
LCPFUdA_00005	08/19/20	Welling	gton Laboratories, Lot E	PFUdA0815	(Purchased Read	gent)	Perfluoroundecanoic acid	50 ug/mL
LCPFC FULL-L5 00001	06/14/17	02/16/17	MeOH/H2O, Lot 090285	5 mL	LCMPFC2SU 00014	250 uL	d-N-EtFOSA-M	50 ng/mL
					_		d-N-MeFOSA-M	50 ng/mL
							d3-NMeFOSAA	50 ng/mL
							d5-NEtFOSAA	50 ng/mL
							M2-6:2FTS	47.5 ng/mL
							M2-8:2FTS	47.9 ng/mL
					LCMPFCSU 00047	250 uL	13C2-PFHxDA	50 ng/mL
					_		13C2-PFTeDA	50 ng/mL
							13C4-PFHpA	50 ng/mL
							13C5-PFPeA	50 ng/mL
							13C8 FOSA	50 ng/mL
							13C4 PFBA	50 ng/mL
							13C2 PFDA	50 ng/mL
							13C2 PFDoA	50 ng/mL
							13C2 PFHxA	50 ng/mL
							1802 PFHxS	47.3 ng/mL
							13C5 PFNA	50 ng/mL
							13C4 PFOA	50 ng/mL
							13C4 PFOS	47.8 ng/mL
							13C2 PFUnA	50 ng/mL
					LCPFC2SP 00026	500 นา.	Sodium	47.4 ng/mL
							1H,1H,2H,2H-perfluorooctane	, ,,,
							sulfonate (6:2)	

	Lab	Name: TestAm	erica Sacrament	to Job No.: 320-26263-1	
--	-----	--------------	-----------------	-------------------------	--

				Reagent	Parent Reagen	it		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
							Sodium	47.9 ng/mI
							1H,1H,2H,2H-perfluorooctane	j.
							sulfonate (8:2)	
							N-ethylperfluoro-1-octanesulfo	50 ng/mI
							namide	
							N-ethyl perfluorooctane	50 ng/mI
							sulfonamidoacetic acid	
							MeFOSA	50 ng/mI
							N-methyl perfluorooctane	50 ng/mI
							sulfonamidoacetic acid	
					LCPFCSP_00074	250 uL		50 ng/mI
							Perfluorobutanesulfonic acid	44.2 ng/mI
							(PFBS)	
							Perfluorodecanoic acid	50 ng/mI
							Perfluorododecanoic acid	50 ng/mI
							Perfluorodecane Sulfonic acid	48.2 ng/mI
							Perfluoroheptanoic acid	50 ng/mI
							Perfluoroheptanesulfonic Acid	47.6 ng/mI
							Perfluorohexanoic acid	50 ng/mI
							Perfluorohexadecanoic acid	50 ng/mI
							Perfluorohexanesulfonic acid	45.5 ng/mI
							Perfluorononanoic acid	50 ng/mI
							Perfluorooctanoic acid (PFOA)	50 ng/mI
							Perfluorooctadecanoic acid	50 ng/mI
							Perfluorooctanesulfonic acid	46.4 ng/mI
							(PFOS)	
							Perfluorooctane Sulfonamide	50 ng/mI
							Perfluoropentanoic acid	50 ng/mI
							Perfluorotetradecanoic acid	50 ng/mI
							Perfluorotridecanoic acid	50 ng/mI
							Perfluoroundecanoic acid	50 ng/mI
.LCMPFC2SU 00014	08/13/17	02/13/17	Methanol, Lot 104453	50000 uL	LCd-NEtFOSA-M 00004	1000 uL	d-N-EtFOSA-M	1 ug/mI
_					LCd-NMeFOSA-M 00003	1000 uL	d-N-MeFOSA-M	1 ug/mI
					LCd3-NMeFOSAA 00003	1000 uL	d3-NMeFOSAA	1 ug/mI
					LCd5-NEtFOSAA 00003	1000 uL	d5-NEtFOSAA	1 ug/mI
					LCM2-6:FTS 00003	1000 uL	M2-6:2FTS	0.95 ug/mI
					LCM2-8:2FTS 00003	1000 uL	M2-8:2FTS	0.958 ug/mI
LCd-NEtFOSA-M 00004	06/10/21	WE:	LLINGTON, Lot dNEtFOSA061	6M	(Purchased Reage	ent)	d-N-EtFOSA-M	50 ug/mI
LCd-NMeFOSA-M 00003	06/10/21		LLINGTON, Lot dNMeFOSA061		(Purchased Reage		d-N-MeFOSA-M	50 ug/mI
LCd3-NMeFOSAA 00003	05/31/21		LINGTON, Lot d3NMeFOSAA0		(Purchased Reage		d3-NMeFOSAA	50 ug/mI
LCd5-NEtFOSAA 00003	08/02/21	WEL	LINGTON, Lot d5NEtFOSAA0	716	(Purchased Reage		d5-NEtFOSAA	50 ug/mI
LCM2-6:FTS 00003	01/08/21	W	ELLINGTON, Lot M262FTS011	L 6	(Purchased Reage		M2-6:2FTS	47.5 ug/mI
LCM2-8:2FTS 00003	01/08/21		ELLINGTON, Lot M282FTS011		(Purchased Reage		M2-8:2FTS	47.9 ug/mI
.LCMPFCSU_00047			Methanol, Lot Baker		LCM2PFHxDA_00008		13C2-PFHxDA	1 ug/mI
			144541		T 01/0 D T T 0 0 0 0 0 T	1000	1200 555 52	
					LCM2PFTeDA_00007		13C2-PFTeDA	1 ug/mI
					LCM4PFHPA_00007		13C4-PFHpA	1 ug/mI
					LCM5PFPEA_00008		13C5-PFPeA	1 ug/mI
					LCM8FOSA 00011	1000 uL	13C8 FOSA	1 ug/mI

Lab	Name: TestAmerica	Sacramento	Job No.: 320-26263-1

				Reagent	Parent Reage	nt		
	Erm	Dwan	Dilutant	Final		Volume		
Reagent ID	Exp Date	Prep Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
1.0490110 12	5400	2000			LCMPFBA 00008		13C4 PFBA	1 ug/mL
					LCMPFDA 00011		13C2 PFDA	1 ug/mL
					LCMPFDoA_00008		13C2 PFDoA	1 ug/mL
					LCMPFHxA_00012		13C2 PFHxA	1 ug/mL
					LCMPFHxS_00008		1802 PFHxS	0.946 ug/mL
					LCMPFNA_00008		13C5 PFNA	1 ug/mL
					LCMPFOA_00012		13C4 PFOA	1 ug/mL
					LCMPFOS_00017		13C4 PFOS	0.956 ug/mL
					LCMPFUdA_00009		13C2 PFUnA	1 ug/mL
LCM2PFHxDA_00008			on Laboratories, Lot M2P		(Purchased Read	gent)	13C2-PFHxDA	50 ug/mL
LCM2PFTeDA_00007	12/07/20	Wellingto	on Laboratories, Lot M2P	FTeDA1115	(Purchased Read		13C2-PFTeDA	50 ug/mL
LCM4PFHPA 00007	05/27/21	Wellingt	on Laboratories, Lot M4H	PFHpA0516	(Purchased Read	gent)	13C4-PFHpA	50 ug/mL
LCM5PFPEA 00008	05/22/20	Wellingt	on Laboratories, Lot M5H	PFPeA0515	(Purchased Read	gent)	13C5-PFPeA	50 ug/mL
LCM8FOSA 00011	12/22/17	Wellingt	on Laboratories, Lot M8H	FOSA1215I	(Purchased Read	gent)	13C8 FOSA	50 ug/mL
LCMPFBA 00008	05/24/21	Welling	ton Laboratories, Lot M	PFBA0516	(Purchased Read	gent)	13C4 PFBA	50 ug/mL
LCMPFDA 00011	08/19/20		ton Laboratories, Lot MI		(Purchased Read		13C2 PFDA	50 ug/mL
LCMPFDoA 00008	04/08/21		on Laboratories, Lot MP		(Purchased Read		13C2 PFDoA	50 ug/mL
LCMPFHxA 00012	04/08/21		on Laboratories, Lot MP		(Purchased Read		13C2 PFHxA	50 ug/mL
LCMPFHxS 00008	10/23/20		on Laboratories, Lot MP		(Purchased Read		1802 PFHxS	47.3 ug/mL
LCMPFNA 00008	04/13/19		ton Laboratories, Lot Mi		(Purchased Read		13C5 PFNA	50 ug/mL
LCMPFOA 00012	01/22/21		ton Laboratories, Lot Mi		(Purchased Read		13C4 PFOA	50 ug/mL
LCMPFOS 00017	08/03/21		ton Laboratories, Lot M		(Purchased Read		13C4 PFOS	47.8 ug/mL
LCMPFUdA 00009	02/12/21		ton Laboratories, Lot MP		(Purchased Read		13C2 PFUnA	50 ug/mL
.LCPFC2SP 00026			Methanol, Lot 104453	10000011	LC6:2FTS 00002	100 uL		0.474 ug/mL
.LCFFCZ3F_000Z0	07/30/17	01/30/1/	mechanor, Lot 104455	10000 uL	LC0.2F13_00002	100 ul	1H,1H,2H,2H-perfluorooctane	0.4/4 ug/III
							sulfonate (6:2)	
					LC8:2FTS_00002	100 uL	Sodium	0.479 ug/mL
							1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	
					LCN-EtFOSA-M 00003	100 uL	N-ethylperfluoro-1-octanesulfo	0.5 ug/mL
					_		namide	
					LCN-EtFOSAA 00002	100 uL	N-ethyl perfluorooctane	0.5 ug/mL
					_		sulfonamidoacetic acid	
					LCN-MeFOSA-M_00002		MeFOSA	0.5 ug/mL
					LCN-MeFOSAA_00003	100 uL	N-methyl perfluorooctane sulfonamidoacetic acid	0.5 ug/mL
LC6:2FTS 00002	06/25/21	V	WELLINGTON, Lot 62FTS061	6	(Purchased Read	gent)	Sodium	47.4 ug/mL
_			,		·	,	1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	
LC8:2FTS 00002	10/23/20	V	WELLINGTON, Lot 82FTS101	5	(Purchased Read	gent)	Sodium	47.9 ug/mL
			,		, , , , , , , , , , , , , , , , , , , ,	J /	1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	, , , , ,
LCN-EtFOSA-M_00003	05/24/21	WE	LLINGTON, Lot NETFOSA051	L 6M	(Purchased Read	gent)	N-ethylperfluoro-1-octanesulfo	50 ug/mL
							namide	
LCN-EtFOSAA_00002	01/20/21		LLINGTON, Lot NETFOSAA01		(Purchased Read	gent)	N-ethyl perfluorooctane sulfonamidoacetic acid	50 ug/mL
LCN-MeFOSA-M 00002	05/24/21		LLINGTON, Lot NMeFOSA071		(Purchased Read	gent)	MeFOSA	50 ug/mL
LCN-MeFOSAA_00003	01/20/21	WE	LLINGTON, Lot NMeFOSAA01	116	(Purchased Read	gent)	N-methyl perfluorooctane sulfonamidoacetic acid	50 ug/mL

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1	
----------------------------------	----------------------	--

			Used	Reagent	Parent Reagent			
Reagent ID	Exp Date	Prep Date		Final Volume	Reagent ID	Volume Added	Analyte	Concentration
.LCPFCSP_00074	06/14/17	12/14/16	Methanol, Lot 090285	10000 uL	_ : : : : : : : : : : : : : : : : : : :		Perfluorobutyric acid	1 ug/mI
					LCPFBS_00005	200 uL	Perfluorobutanesulfonic acid (PFBS)	0.884 ug/mI
					LCPFDA 00005	200 uL	Perfluorodecanoic acid	1 ug/mI
					LCPFDoA 00005	200 uL	Perfluorododecanoic acid	1 ug/mI
					LCPFDS 00006	200 uL	Perfluorodecane Sulfonic acid	0.964 ug/mI
					LCPFHpA 00006	200 uL	Perfluoroheptanoic acid	1 ug/mI
					LCPFHpS 00009	200 uL	Perfluoroheptanesulfonic Acid	0.952 ug/ml
					LCPFHxA 00005	200 uL	Perfluorohexanoic acid	1 ug/mI
					LCPFHxDA 00006		Perfluorohexadecanoic acid	1 ug/mI
					LCPFHxS-br 00002	200 uL	Perfluorohexanesulfonic acid	0.91 ug/mI
					LCPFNA 00006		Perfluorononanoic acid	1 ug/mI
					LCPFOA 00006	200 uL	Perfluorooctanoic acid (PFOA)	1 ug/mI
					LCPFODA 00006	200 uL	Perfluorooctadecanoic acid	1 ug/mI
					LCPFOS-br_00002		Perfluorooctanesulfonic acid (PFOS)	0.928 ug/mI
					LCPFOSA 00008	200 uL	Perfluorooctane Sulfonamide	1 ug/mI
					LCPFPeA 00005		Perfluoropentanoic acid	1 ug/mI
					LCPFTeDA 00005	200 uL	Perfluorotetradecanoic acid	1 ug/mI
					LCPFTrDA 00005		Perfluorotridecanoic acid	1 ug/mI
					LCPFUdA 00005	200 uL	Perfluoroundecanoic acid	1 ug/mI
LCPFBA 00005	05/27/21	Wellin	gton Laboratories, Lot F	FBA0516	(Purchased Read		Perfluorobutyric acid	50 ug/mI
LCPFBS_00005	03/15/21	Welling	ton Laboratories, Lot L	PFBS0316	(Purchased Read	gent)	Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mI
LCPFDA_00005	07/02/20	Wellin	gton Laboratories, Lot F	FDA0615	(Purchased Read	gent)	Perfluorodecanoic acid	50 ug/mI
LCPFDoA_00005	01/30/20		ton Laboratories, Lot Pi		(Purchased Read	gent)	Perfluorododecanoic acid	50 ug/mI
LCPFDS_00006	05/24/21		ton Laboratories, Lot L		(Purchased Read	gent)	Perfluorodecane Sulfonic acid	48.2 ug/mI
LCPFHpA_00006	01/22/21	Welling	ton Laboratories, Lot Pi	FHpA0116	(Purchased Read	gent)	Perfluoroheptanoic acid	50 ug/mI
LCPFHpS 00009	11/06/20	Welling	ton Laboratories, Lot LF	FHpS1115	(Purchased Read	gent)	Perfluoroheptanesulfonic Acid	47.6 ug/mI
LCPFHxA 00005	12/22/20		ton Laboratories, Lot P		(Purchased Read	gent)	Perfluorohexanoic acid	50 ug/mI
LCPFHxDA 00006	05/25/21	Welling	ton Laboratories, Lot PF	HxDA0516	(Purchased Read	gent)	Perfluorohexadecanoic acid	50 ug/mI
LCPFHxS-br_00002	07/03/20	Wellingt	on Laboratories, Lot brE	FHxSK0615	(Purchased Read	gent)	Perfluorohexanesulfonic acid	45.5 ug/mI
LCPFNA_00006	10/23/20	Wellin	gton Laboratories, Lot F	FNA1015	(Purchased Read	gent)	Perfluorononanoic acid	50 ug/mI
LCPFOA_00006	11/06/20		gton Laboratories, Lot F		(Purchased Read	gent)	Perfluorooctanoic acid (PFOA)	50 ug/mI
LCPFODA_00006	04/29/21		ton Laboratories, Lot P		(Purchased Read	gent)	Perfluorooctadecanoic acid	50 ug/mI
LCPFOS-br_00002	10/14/20		on Laboratories, Lot br		(Purchased Reag	gent)	Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mI
LCPFOSA_00008	09/02/17	Welling	ton Laboratories, Lot F	OSA0815I	(Purchased Read		Perfluorooctane Sulfonamide	50 ug/mI
LCPFPeA 00005	01/30/20	Welling	ton Laboratories, Lot P	FPeA0115	(Purchased Read	gent)	Perfluoropentanoic acid	50 ug/mI
LCPFTeDA 00005	12/09/20	Welling	ton Laboratories, Lot PF	TeDA1215	(Purchased Read	gent)	Perfluorotetradecanoic acid	50 ug/mI
LCPFTrDA 00005	02/12/21		ton Laboratories, Lot PF		(Purchased Read		Perfluorotridecanoic acid	50 ug/mI
LCPFUdA_00005	08/19/20	Welling	ton Laboratories, Lot P	FUdA0815	(Purchased Read	gent)	Perfluoroundecanoic acid	50 ug/mI
LCPFC_FULL-L6_00002	06/14/17	02/24/17	MeOH/H2O, Lot 090285	5 mL	LCMPFC2SU_00014	250 uL	d-N-EtFOSA-M	50 ng/mI
							d-N-MeFOSA-M	50 ng/mI
							d3-NMeFOSAA	50 ng/mI
							d5-NEtFOSAA	50 ng/mI
							M2-6:2FTS M2-8:2FTS	47.5 ng/mI 47.9 ng/mI

Lab Name	: TestAmerica	Sacramento	Job No.:	320-26263-1	-
----------	---------------	------------	----------	-------------	---

			Reagent	Parent Reagent					
	Exp	Prep	Dilutant	Final		Volume			
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration	
					LCMPFCSU_00047	250 uL	13C2-PFHxDA	50 ng/m	
							13C2-PFTeDA	50 ng/m	
							13C4-PFHpA	50 ng/m	
							13C5-PFPeA	50 ng/m	
							13C8 FOSA	50 ng/m	
							13C4 PFBA	50 ng/m	
							13C2 PFDA	50 ng/m	
							13C2 PFDoA	50 ng/m	
							13C2 PFHxA	50 ng/m	
							1802 PFHxS	47.3 ng/m	
								13C5 PFNA	50 ng/m
							13C4 PFOA	50 ng/m	
							13C4 PFOS	47.8 ng/m	
							13C2 PFUnA	50 ng/m	
					LCPFC2SP 00027	1000 uL	Sodium	189.6 ng/m	
					_		1H,1H,2H,2H-perfluorooctane		
							sulfonate (6:2)		
							Sodium	191.6 ng/m	
							1H, 1H, 2H, 2H-perfluorooctane		
							sulfonate (8:2)	000 /	
							N-ethylperfluoro-1-octanesulfo	200 ng/m	
							namide N-ethyl perfluorooctane	200 /	
							sulfonamidoacetic acid	200 ng/m	
							MeFOSA	200 ng/m	
							N-methyl perfluorooctane	200 ng/m	
							sulfonamidoacetic acid	_	
					LCPFCSP_00080	2000 uL	Perfluorobutyric acid	200 ng/m	
							Perfluorobutanesulfonic acid (PFBS)	176.8 ng/m	
							Perfluorodecanoic acid	200 ng/m	
							Perfluorododecanoic acid	200 ng/m	
							Perfluorodecane Sulfonic acid	192.8 ng/m	
							Perfluoroheptanoic acid	200 ng/m	
							Perfluoroheptanesulfonic Acid	190.4 ng/m	
							Perfluorohexanoic acid	200 ng/m	
							Perfluorohexadecanoic acid	200 ng/m	
							Perfluorohexanesulfonic acid	182 ng/m	
							Perfluorononanoic acid	200 ng/m	
							Perfluorooctanoic acid (PFOA)	200 ng/m	
							Perfluorooctadecanoic acid	200 ng/m	
							Perfluorooctanesulfonic acid (PFOS)	185.6 ng/m	
							Perfluorooctane Sulfonamide	200 ng/m	
							Perfluoropentanoic acid	200 ng/m	
							Perfluorotetradecanoic acid	200 ng/m	
							Perfluorotridecanoic acid	200 ng/m	
							Perfluoroundecanoic acid	200 ng/m	
CMPFC2SU 00014	00/12/17	00/10/17	Methanol, Lot 104453	F0000 +	LCd-NEtFOSA-M 00004	1000 +	d-N-EtFOSA-M	1 ug/m	

Lab	Name:	TestAmerica	Sacramento	Job No.:	: 320-26263-1	
-----	-------	-------------	------------	----------	---------------	--

				Reagent	Parent Reager	nt		
Reagent ID	Exp Date	Prep Date	Dilutant Used	Final Volume	Reagent ID	Volume Added	Analyte	Concentration
					LCd-NMeFOSA-M 00003	1000 uL	d-N-MeFOSA-M	1 ug/mI
					LCd3-NMeFOSAA 00003	1000 uL	d3-NMeFOSAA	1 ug/mI
					LCd5-NEtFOSAA 00003	1000 uL	d5-NEtFOSAA	1 ug/mI
					LCM2-6:FTS 00003	1000 uL	M2-6:2FTS	0.95 ug/mI
					LCM2-8:2FTS 00003	1000 uL	M2-8:2FTS	0.958 ug/mI
.LCd-NEtFOSA-M 00004	06/10/21	WE	LLINGTON, Lot dNEtFOSA06	16M	(Purchased Reag		d-N-EtFOSA-M	50 ug/mI
.LCd-NMeFOSA-M 00003	06/10/21	WE	LLINGTON, Lot dNMeFOSA06	16M	(Purchased Reag		d-N-MeFOSA-M	50 ug/mI
.LCd3-NMeFOSAA 00003	05/31/21	WEI	LINGTON, Lot d3NMeFOSAAC)516	(Purchased Reag		d3-NMeFOSAA	50 ug/mI
.LCd5-NEtFOSAA 00003	08/02/21		LINGTON, Lot d5NEtFOSAAC		(Purchased Reag		d5-NEtFOSAA	50 ug/mI
LCM2-6:FTS 00003	01/08/21		ELLINGTON, Lot M262FTS01		(Purchased Reag		M2-6:2FTS	47.5 ug/mI
.LCM2-8:2FTS 00003	01/08/21		ELLINGTON, Lot M282FTS01		(Purchased Reag		M2-8:2FTS	47.9 ug/mI
LCMPFCSU_00047			Methanol, Lot Baker 144541	50000 uL			13C2-PFHxDA	1 ug/mL
					LCM2PFTeDA 00007	1000 uL	13C2-PFTeDA	1 ug/mL
					LCM4PFHPA 00007		13C4-PFHpA	1 ug/mL
					LCM5PFPEA 00008		13C5-PFPeA	1 ug/mI
					LCM8FOSA 00011		13C8 FOSA	1 ug/mI
					LCMPFBA 00008		13C4 PFBA	1 ug/mI
					LCMPFDA 00011		13C2 PFDA	1 ug/mI
					LCMPFDoA 00008		13C2 PFDoA	1 ug/mI
					LCMPFHxA 00012		13C2 PFHxA	1 ug/mI
					LCMPFHxS 00008		1802 PFHXS	0.946 ug/mL
					LCMPFNA 00008		13C5 PFNA	1 ug/mL
					LCMPFOA 00012		13C4 PFOA	1 ug/mI
					LCMPFOS 00017		13C4 PFOS	0.956 ug/mL
					LCMPFUdA 00009		13C2 PFUnA	1 ug/mL
.LCM2PFHxDA 00008	01/07/21	Wollingt	l on Laboratories, Lot M2P:		(Purchased Reag		13C2-PFHxDA	50 ug/mI
LCM2PFTeDA 00007	12/07/20		on Laboratories, Lot M2P:		(Purchased Reag		13C2-PFTeDA	50 ug/mI
LCM2FF1eDA 00007	05/27/21		on Laboratories, Lot M4F		(Purchased Reag		13C4-PFHpA	50 ug/mi
LCM4PFHPA_00007	05/22/20		on Laboratories, Lot M4F		(Purchased Reag		13C5-PFPeA	50 ug/mi
			- -		3		13C8 FOSA	
LCM8FOSA 00011	12/22/17		on Laboratories, Lot M8F		(Purchased Reag		13C4 PFBA	50 ug/mL
LCMPFBA_00008 LCMPFDA_00011	05/24/21		gton Laboratories, Lot MF		(Purchased Reag		13C4 PFBA 13C2 PFDA	50 ug/mI
	08/19/20		ton Laboratories, Lot MF		(Purchased Reag			50 ug/mL
.LCMPFDoA_00008	04/08/21		ton Laboratories, Lot MP		(Purchased Reag		13C2 PFDoA	50 ug/mI
.LCMPFHxA 00012	04/08/21		ton Laboratories, Lot MP		(Purchased Reag		13C2 PFHxA	50 ug/mI
.LCMPFHxS 00008	10/23/20		ton Laboratories, Lot MP		(Purchased Reag		1802 PFHxS	47.3 ug/mI
LCMPFNA 00008	04/13/19		ton Laboratories, Lot MF		(Purchased Reag		13C5 PFNA	50 ug/mI
LCMPFOA 00012	01/22/21		ton Laboratories, Lot MF		(Purchased Reag		13C4 PFOA	50 ug/mL
LCMPFOS_00017	08/03/21		ton Laboratories, Lot MF		(Purchased Reag		13C4 PFOS	47.8 ug/mL
LCMPFUdA_00009	02/12/21		ton Laboratories, Lot MP		(Purchased Reag	 	13C2 PFUnA	50 ug/mL
LCPFC2SP_00027	08/24/17	02/24/17	Methanol, Lot 104453	10000 uL	_	200 uL	1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	0.948 ug/mL
					LC8:2FTS_00002		Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (8:2)	0.958 ug/mI
					LCN-EtFOSA-M_00003	200 uL	N-ethylperfluoro-1-octanesulfo namide	1 ug/mL

Lab	Name: TestAmerica	Sacramento	Job No.: 320-26263-1
-----	-------------------	------------	----------------------

					Parent Reager	nt		
				Reagent		1		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
					LCN-EtFOSAA_00002	200 uL	N-ethyl perfluorooctane sulfonamidoacetic acid	1 ug/mL
					LCN-MeFOSA-M 00002	200 uL	MeFOSA	1 ug/mL
					LCN-MeFOSAA 00003	200 uL	N-methyl perfluorooctane	1 ug/mL
					_		sulfonamidoacetic acid	
LC6:2FTS 00002	06/25/21		WELLINGTON, Lot 62FTS061	6	(Purchased Reag	ent)	Sodium	47.4 ug/mL
							1H,1H,2H,2H-perfluorooctane	
							sulfonate (6:2)	
LC8:2FTS_00002	10/23/20		WELLINGTON, Lot 82FTS101	5	(Purchased Reag	ent)	Sodium	47.9 ug/mL
							1H,1H,2H,2H-perfluorooctane	
	05/04/04						sulfonate (8:2)	50 / 5
LCN-EtFOSA-M_00003	05/24/21	WE	ELLINGTON, Lot NEtFOSA051	L 6M	(Purchased Reag	ent)	N-ethylperfluoro-1-octanesulfo	50 ug/mL
LCN-EtFOSAA 00002	01/20/21	1471	ELLINGTON, Lot NETFOSAA01	116	(Purchased Reag	-on+\	namide N-ethyl perfluorooctane	50 ug/mL
LCN-ECFOSAA_00002	01/20/21	VVE	LLLINGION, LOC NECTOSAAU.	LTO	(Furchased Reag	enc)	sulfonamidoacetic acid	JU ug/IIIL
LCN-MeFOSA-M 00002	05/24/21	TAT E	ELLINGTON, Lot NMeFOSA071	1 /IM	(Purchased Reag	ent)	MeFOSA	50 ug/mL
LCN-MeFOSAA 00003	01/20/21		ELLINGTON, Lot NMeFOSAA01		(Purchased Reag		N-methyl perfluorooctane	50 ug/mL
LCN Merosaa_00005	01/20/21	VVI	ELLINGION, LOC NMETOSAAO.	110	(raremasea neag	CIIC)	sulfonamidoacetic acid	JU ug/IIII
.LCPFCSP 00080	08/01/17	02/01/17	Methanol, Lot 090285	10000 111	LCPFBA 00005	100 uT.	Perfluorobutyric acid	0.5 ug/mL
	,,	,,			LCPFBS 00005		Perfluorobutanesulfonic acid	0.442 ug/mL
							(PFBS)	
					LCPFDA 00005	100 uL	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA 00005	100 uL	Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS 00006	100 uL	Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHpA 00006		Perfluoroheptanoic acid	0.5 ug/mL
					LCPFHpS 00009	100 uL	Perfluoroheptanesulfonic Acid	0.476 ug/mL
					LCPFHxA 00005	100 uL	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxDA 00006	100 uL	Perfluorohexadecanoic acid	0.5 ug/mL
					LCPFHxS-br_00002		Perfluorohexanesulfonic acid	0.455 ug/mL
					LCPFNA_00006		Perfluorononanoic acid	0.5 ug/mL
					LCPFOA_00006		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					LCPFODA_00006		Perfluorooctadecanoic acid	0.5 ug/mL
					LCPFOS-br_00002	100 uL	Perfluorooctanesulfonic acid (PFOS)	0.464 ug/mL
					LCPFOSA 00008	100 uL	Perfluorooctane Sulfonamide	0.5 ug/mL
					LCPFPeA 00005		Perfluoropentanoic acid	0.5 ug/mL
					LCPFTeDA 00005	100 uL	Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA 00005	100 uL	Perfluorotridecanoic acid	0.5 ug/mL
					LCPFUdA 00005	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
LCPFBA 00005	05/27/21	Wellin	gton Laboratories, Lot P	FBA0516	(Purchased Reag	ent)	Perfluorobutyric acid	50 ug/mL
LCPFBS_00005	03/15/21	Welling	gton Laboratories, Lot L	PFBS0316	(Purchased Reag	ent)	Perfluorobutanesulfonic acid (PFBS)	44.2 ug/mL
LCPFDA 00005	07/02/20	Wellin	gton Laboratories, Lot P	FDA0615	(Purchased Reag	ent)	Perfluorodecanoic acid	50 ug/mL
LCPFDoA 00005	01/30/20		ton Laboratories, Lot Pl		(Purchased Reag		Perfluorododecanoic acid	50 ug/mL
LCPFDS 00006	05/24/21	_	ton Laboratories, Lot Ll		(Purchased Reag		Perfluorodecane Sulfonic acid	48.2 ug/mL
LCPFHpA 00006	01/22/21		ton Laboratories, Lot Pl		(Purchased Reag	ent)	Perfluoroheptanoic acid	50 ug/mL
LCPFHpS 00009	11/06/20		ton Laboratories, Lot LP		(Purchased Reag		Perfluoroheptanesulfonic Acid	47.6 ug/mL
LCPFHxA 00005	12/22/20		gton Laboratories, Lot Pl		(Purchased Reag		Perfluorohexanoic acid	50 ug/mL
LCPFHxDA 00006	05/25/21		ton Laboratories, Lot PF		(Purchased Reag		Perfluorohexadecanoic acid	50 ug/mL

Lab	Name:	TestAmerica	Sacramento	Job No.:	320-26263-1	
-----	-------	-------------	------------	----------	-------------	--

				Reagent	Parent Reage	ent		
	Exp	Prep	Dilutant	Final		Volume	_	
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
LCPFHxS-br_00002		Wellingt	on Laboratories, Lot br	PFHxSK0615	(Purchased Rea		Perfluorohexanesulfonic acid	45.5 ug/mL
LCPFNA_00006	10/23/20		gton Laboratories, Lot		(Purchased Rea		Perfluorononanoic acid	50 ug/mL
LCPFOA_00006	11/06/20		gton Laboratories, Lot		(Purchased Rea	, ,	Perfluorooctanoic acid (PFOA)	50 ug/mL
LCPFODA_00006	04/29/21		gton Laboratories, Lot F		(Purchased Rea		Perfluorooctadecanoic acid	50 ug/mL
LCPFOS-br_00002	10/14/20	Wellingt	ton Laboratories, Lot br	PFOSK1015	(Purchased Rea	gent)	Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
LCPFOSA_00008	09/02/17		gton Laboratories, Lot E		(Purchased Rea		Perfluorooctane Sulfonamide	50 ug/mL
LCPFPeA 00005	01/30/20		gton Laboratories, Lot F		(Purchased Rea		Perfluoropentanoic acid	50 ug/mL
LCPFTeDA 00005	12/09/20	Welling	ton Laboratories, Lot P	FTeDA1215	(Purchased Rea		Perfluorotetradecanoic acid	50 ug/mL
LCPFTrDA 00005	02/12/21	Welling	ton Laboratories, Lot P	FTrDA0216	(Purchased Rea	gent)	Perfluorotridecanoic acid	50 ug/mL
LCPFUdA_00005	08/19/20	Welling	gton Laboratories, Lot E	FUdA0815	(Purchased Rea	gent)	Perfluoroundecanoic acid	50 ug/mL
LCPFCIC FULL 00001	06/01/17	02/16/17	MeOH/H2O, Lot 09285	5 mT ₁	LCMPFCSU 00047	250 uT	13C4 PFOA	50 ng/mL
	• • • • • • • • • • • • • • • • • • •	,,					13C4 PFOS	47.8 ng/mL
					LCPFACMXB 00007	125 uT	Perfluorooctanesulfonic acid	47.75 ng/mL
							(PFOS)	
							Perfluorooctanoic acid (PFOA)	50 ng/mL
.LCMPFCSU_00047	06/14/17	12/14/16	Methanol, Lot Baker 144541	50000 uL	LCMPFOA_00012	1000 uL	13C4 PFOA	1 ug/mL
					LCMPFOS 00017	1000 uL	13C4 PFOS	0.956 ug/mL
LCMPFOA 00012	01/22/21	Welling	ton Laboratories, Lot M	IPFOA0116	(Purchased Rea	gent)	13C4 PFOA	50 ug/mL
LCMPFOS 00017	08/03/21	Welling	gton Laboratories, Lot M	IPFOS0816	(Purchased Rea	gent)	13C4 PFOS	47.8 ug/mL
.LCPFACMXB 00007	11/06/20		ton Laboratories, Lot PF		(Purchased Rea	gent)	Perfluorooctanesulfonic acid	1.91 ug/mL
.LCFFACMAB_00007		3	•			,	(PFOS)	
							Perfluorooctanoic acid (PFOA)	2 ug/mL
LCPFCSP 00080	08/01/17 (02/01/17	Methanol, Lot 090285	10000 117.	LCPFBA 00005	100 117.	Perfluorobutyric acid	0.5 ug/mL
	00/01/1/	02/01/1/	The chance, Lot 030200	10000 GE	LCPFBS 00005		Perfluorobutane Sulfonate	0.442 ug/mL
						100 42	Perfluorobutanesulfonic acid (PFBS)	0.442 ug/mL
					LCPFDA 00005	100 117.	Perfluorodecanoic acid	0.5 ug/mL
					LCPFDoA 00005		Perfluorododecanoic acid	0.5 ug/mL
					LCPFDS 00006		Perfluorodecane Sulfonate	0.482 ug/mL
							Perfluorodecane Sulfonic acid	0.482 ug/mL
					LCPFHpA 00006	100 117.	Perfluoroheptanoic acid	0.5 ug/mL
					LCPFHpS 00009		Perfluoroheptane Sulfonate	0.476 ug/mL
							Perfluoroheptanesulfonic Acid	0.476 ug/mL
					LCPFHxA 00005	100 117.	Perfluorohexanoic acid	0.5 ug/mL
					LCPFHxDA 00006		Perfluorohexadecanoic acid	0.5 ug/mL
					LCPFHxS-br 00002		Perfluorohexane Sulfonate	0.455 ug/mL
							Perfluorohexanesulfonic acid	0.455 ug/mL
					LCPFNA 00006	100 117.	Perfluorononanoic acid	0.5 ug/mL
					LCPFOA 00006		Perfluorooctanoic acid (PFOA)	0.5 ug/mL
					LCPFODA 00006		Perfluorooctadecanoic acid	0.5 ug/mL
					LCPFOS-br_00002		Perfluorooctanesulfonic acid	0.464 ug/mL
							(PFOS)	
					LCPFOSA_00008		Perfluorooctane Sulfonamide	0.5 ug/mL
					LCPFPeA_00005		Perfluoropentanoic acid	0.5 ug/mL
					LCPFTeDA_00005		Perfluorotetradecanoic acid	0.5 ug/mL
					LCPFTrDA_00005	100 uL	Perfluorotridecanoic acid	0.5 ug/mL

Lab	Name:	TestAmerica	Sacramento	Job No.:	320-262	63-	L
-----	-------	-------------	------------	----------	---------	-----	---

				Reagent	Parent Rea	agent		
	Exp	Prep	Dilutant	Final		Volume		
Reagent ID	Date	Date	Used	Volume	Reagent ID	Added	Analyte	Concentration
					LCPFUdA 00005	100 uL	Perfluoroundecanoic acid	0.5 ug/mL
.LCPFBA_00005	05/27/21	Wellin	gton Laboratories, Lot PI	FBA0516	(Purchased R	eagent)	Perfluorobutyric acid	50 ug/mL
.LCPFBS_00005	03/15/21	Welling	ton Laboratories, Lot LP	FBS0316	(Purchased R	eagent)	Perfluorobutane Sulfonate	44.2 ug/mL
							Perfluorobutanesulfonic acid	44.2 ug/mL
							(PFBS)	
.LCPFDA_00005	07/02/20	Welling	gton Laboratories, Lot PI	FDA0615	(Purchased R		Perfluorodecanoic acid	50 ug/mL
.LCPFDoA_00005	01/30/20	Welling	ton Laboratories, Lot PF	DoA0115	(Purchased R	eagent)	Perfluorododecanoic acid	50 ug/mL
.LCPFDS_00006	05/24/21	Welling	ton Laboratories, Lot LP	FDS0516	(Purchased R	eagent)	Perfluorodecane Sulfonate	48.2 ug/mL
							Perfluorodecane Sulfonic acid	48.2 ug/mL
.LCPFHpA 00006	01/22/21	Welling	ton Laboratories, Lot PF	HpA0116	(Purchased R	eagent)	Perfluoroheptanoic acid	50 ug/mL
.LCPFHpS 00009	11/06/20	Welling	ton Laboratories, Lot LPI	FHpS1115	(Purchased R	eagent)	Perfluoroheptane Sulfonate	47.6 ug/mL
_							Perfluoroheptanesulfonic Acid	47.6 ug/mL
.LCPFHxA 00005	12/22/20	Welling	ton Laboratories, Lot PF	HxA1215	(Purchased R	eagent)	Perfluorohexanoic acid	50 ug/mL
.LCPFHxDA 00006	05/25/21	Welling	ton Laboratories, Lot PFF	HxDA0516	(Purchased R	eagent)	Perfluorohexadecanoic acid	50 ug/mL
.LCPFHxS-br 00002	07/03/20	Wellingto	on Laboratories, Lot brPA	FHxSK0615	(Purchased R	eagent)	Perfluorohexane Sulfonate	45.5 ug/mL
_							Perfluorohexanesulfonic acid	45.5 ug/mL
.LCPFNA 00006	10/23/20	Wellin	gton Laboratories, Lot PI	FNA1015	(Purchased R	eagent)	Perfluorononanoic acid	50 ug/mL
.LCPFOA 00006	11/06/20	Welling	gton Laboratories, Lot PA	FOA1115	(Purchased R		Perfluorooctanoic acid (PFOA)	50 ug/mL
.LCPFODA 00006	04/29/21	Welling	ton Laboratories, Lot PF	ODA0416	(Purchased R	eagent)	Perfluorooctadecanoic acid	50 ug/mL
.LCPFOS-br_00002	10/14/20	Wellingt	on Laboratories, Lot brP	FOSK1015	(Purchased R	eagent)	Perfluorooctanesulfonic acid (PFOS)	46.4 ug/mL
.LCPFOSA 00008	09/02/17	Welling	ton Laboratories, Lot FO	SA0815I	(Purchased R	eagent)	Perfluorooctane Sulfonamide	50 ug/mL
.LCPFPeA 00005	01/30/20	Welling	ton Laboratories, Lot PF	PeA0115	(Purchased R		Perfluoropentanoic acid	50 ug/mL
.LCPFTeDA 00005	12/09/20	Welling	ton Laboratories, Lot PF	ГеDA1215	(Purchased R	eagent)	Perfluorotetradecanoic acid	50 ug/mL
.LCPFTrDA 00005	02/12/21	Welling	ton Laboratories, Lot PF	rDA0216	(Purchased R	eagent)	Perfluorotridecanoic acid	50 ug/mL
.LCPFUdA 00005	08/19/20	Welling	ton Laboratories, Lot PF	'UdA0815	(Purchased R	eagent)	Perfluoroundecanoic acid	50 ug/mL

Reagent

LC6:2FTS_00002

R: 8/23/16 SEC



ID: LC6:2FTS_00002 Exp: 06/25/21 Prpd: SBC 6:2FTS



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

6:2FTS

LOT NUMBER:

62FTS0616

COMPOUND:

Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

C_aH₄F₁₃SO₃Na

MOLECULAR WEIGHT:

450.15

CONCENTRATION:

 $50.0 \pm 2.5 \,\mu g/ml$

47.4 ± 2.4 µg/ml

(Na salt)

(6:2FTS anion)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

06/25/2016

EXPIRY DATE: (mm/dd/yyyy)

06/25/2021

RECOMMENDED STORAGE:

Refrigerate ampoule

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 06/29/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

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.

<u>UNCERTAINTY:</u>

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 $\pm 5\%$ (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:

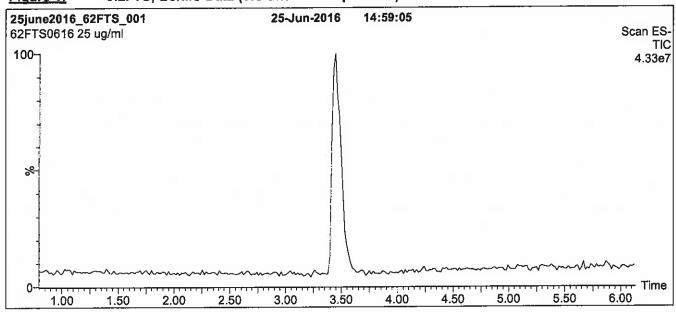
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

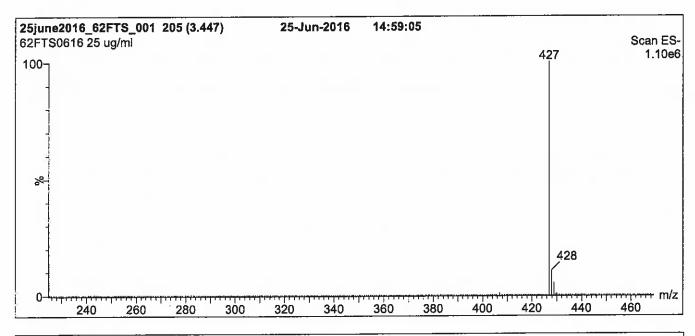


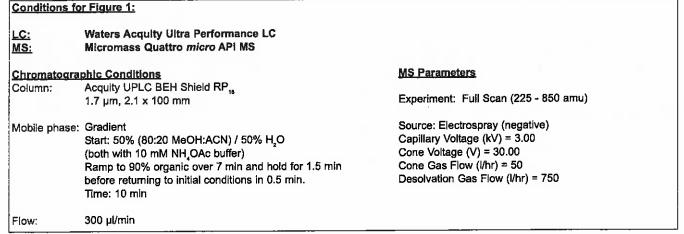


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

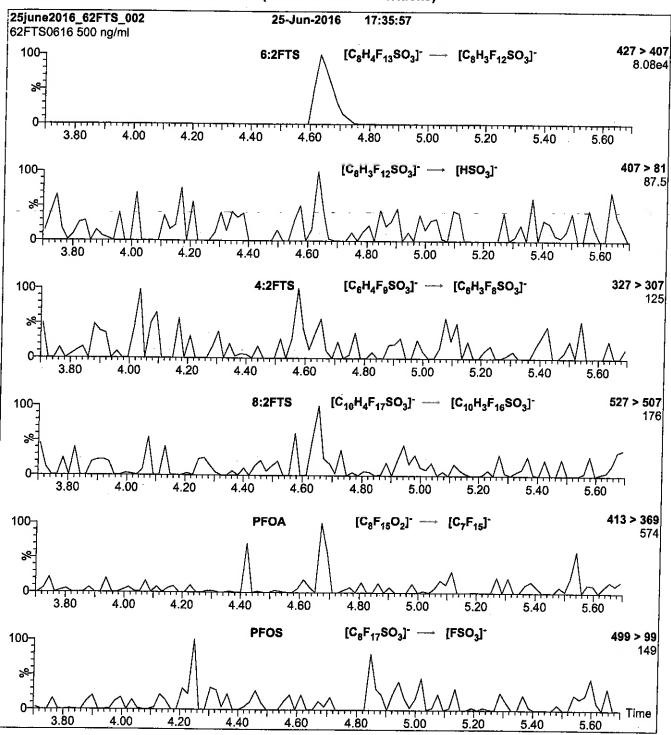


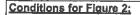






6:2FTS; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop Injection

10 µl (500 ng/ml 6:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH₄OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.46e-3 Collision Energy (eV) = 25

LC8:2FTS_00002

R: 8/23/16 880





CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

8:2FTS

LOT NUMBER:

82FTS1015

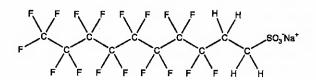
COMPOUND:

Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE:

CAS #:

Not available



MOLECULAR FORMULA:

C₁₀H₄F₁₇SO₃Na

MOLECULAR WEIGHT:

550.16

CONCENTRATION:

 $50.0 \pm 2.5 \,\mu g/ml$ 47.9 ± 2.4 µg/ml (Na salt) SOLVENT(S):

(8:2FTS anion)

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

10/23/2015

EXPIRY DATE: (mm/dd/yyyy)

10/23/2020

RECOMMENDED STORAGE:

Refrigerate ampoule

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ... X_n$ 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 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:

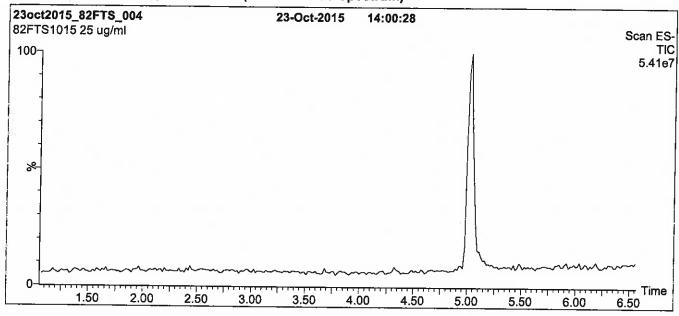
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

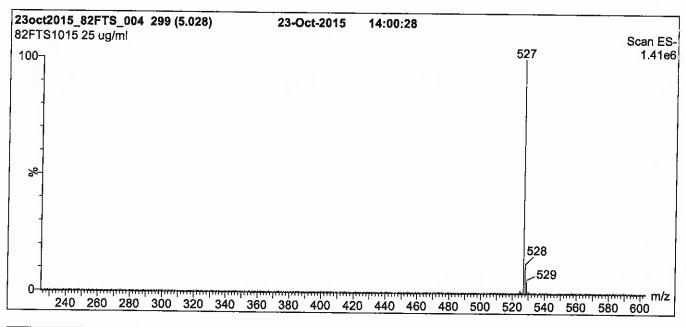


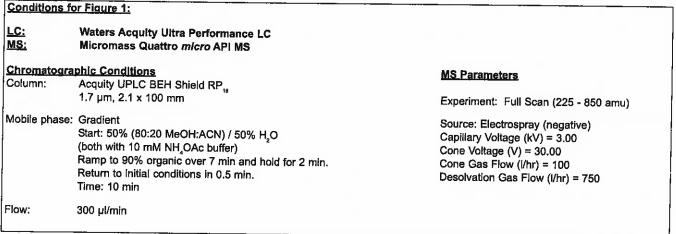


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

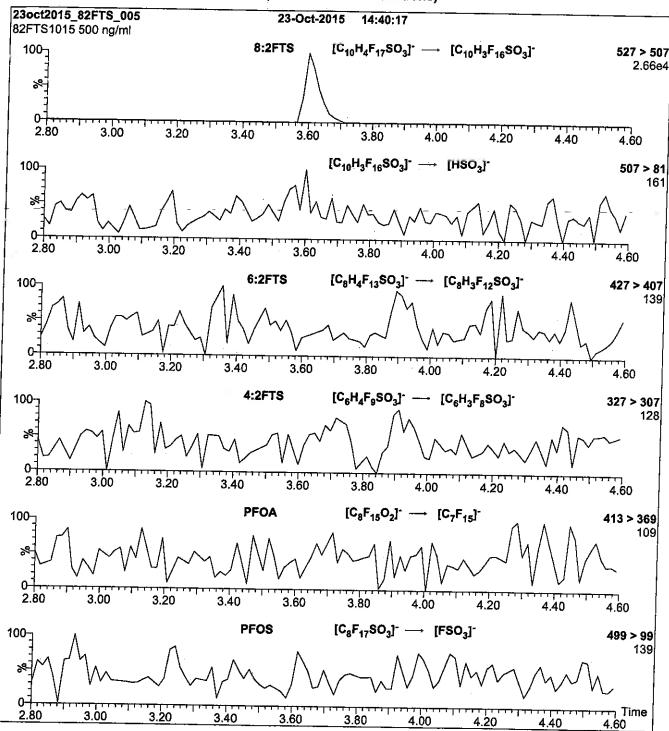
Figure 1: 8:2FTS; LC/MS Data (TIC and Mass Spectrum)

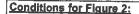






8:2FTS; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Flow:

Direct loop injection

10 µl (500 ng/ml 8:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O (both with 10 mM NH₄OAc buffer)

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3 Collision Energy (eV) = 30

LCd-NMeFOSA-M_00003

R: 9/9/16 SBC



Exp: 06/10/21 Prod: SBC



VELLINGTON ABORATORIES

CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

d-N-MeFOSA-M

LOT NUMBER:

MOLECULAR WEIGHT:

ISOTOPIC PURITY:

SOLVENT(S):

dNMeFOSA0616M

516.19

Methanoi

≥98% ²H₃

COMPOUND:

N-methyl-d,-perfluoro-1-octanesulfonamide

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

C₀D₃HF₁,NO₂S

CONCENTRATION:

 $50 \pm 2.5 \,\mu g/ml$

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

06/10/2016

EXPIRY DATE: (mm/dd/yyyy)

06/10/2021

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 06/16/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ..., X_n$ 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 $\pm 5\%$ (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:

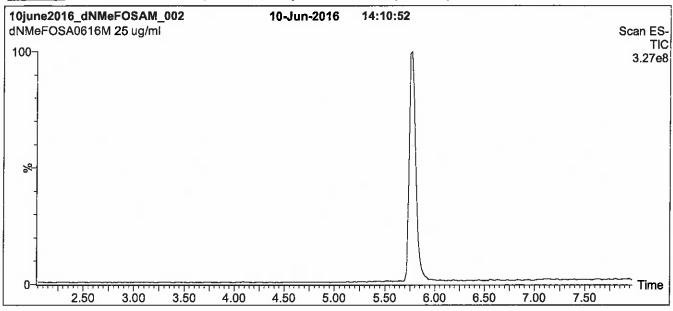
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

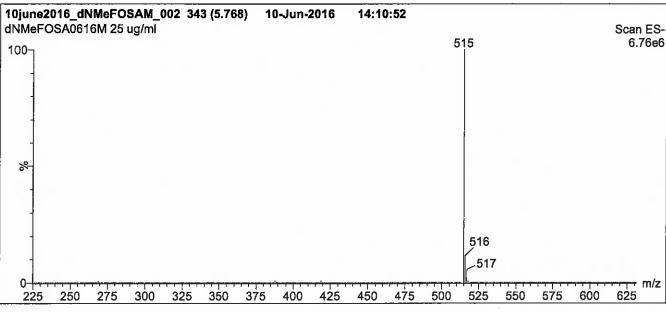




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: d-N-MeFOSA-M; LC/MS Data (TIC and Mass Spectrum)





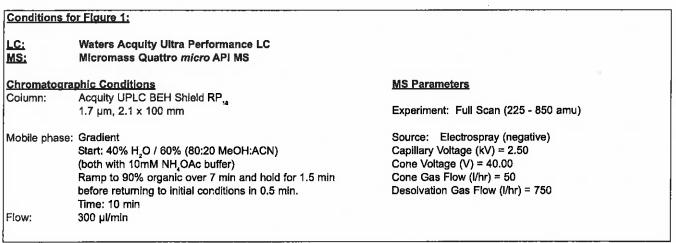
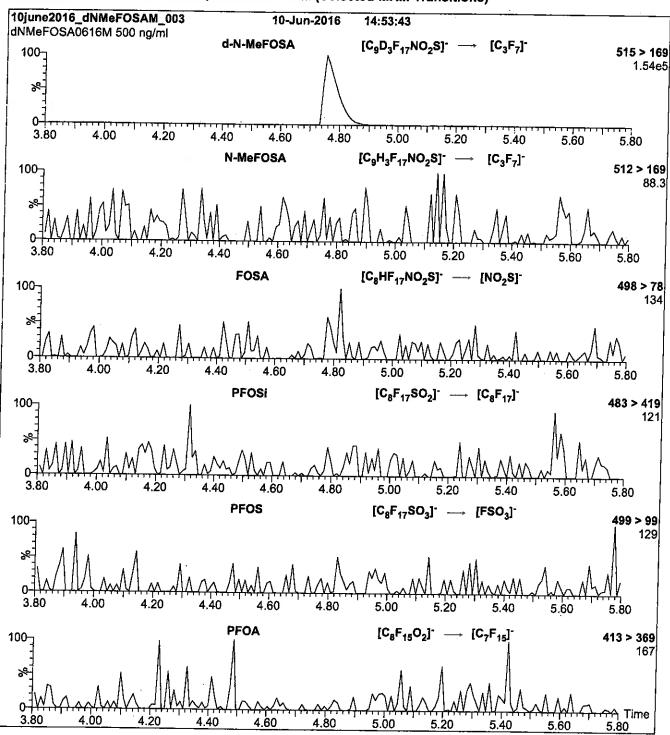
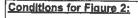


Figure 2: d-N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml d-N-MeFOSA-M)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H,O

(both with 10 mM NH OAc buffer)

MS Parameters

Collision Gas (mbar) = 3,39e-3 Collision Energy (eV) = 25

Flow:

300 µl/min

LCd3-NMeFOSAA_00003



Exp: 05/31/21 Prpd: SBC d3-N-MeFOSAA



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

d3-N-MeFOSAA

LOT NUMBER:

d3NMeFOSAA0516

COMPOUND:

N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:

<u>CAS #:</u>

Not available

MOLECULAR FORMULA:

C,D,H,F,,NO,S

MOLECULAR WEIGHT:

574.23

CONCENTRATION:

 $50 \pm 2.5 \,\mu g/ml$

SOLVENT(S):

Methanol Water (<1%)

ISOTOPIC PURITY:

≥98% ²H_a

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/31/2016

EXPIRY DATE: (mm/dd/yyyy)

05/31/2021

RECOMMENDED STORAGE:

Refrigerate ampoule

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 the conversion of the acetic acid moiety to the methyl ester.

Contains ~ 1% of branched isomer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 06/01/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2,...X_n$ 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 $\pm 5\%$ (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:

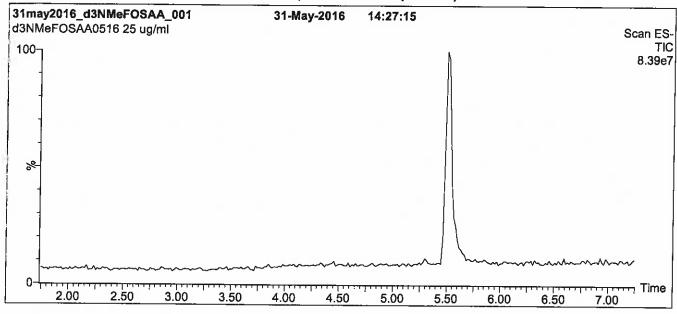
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

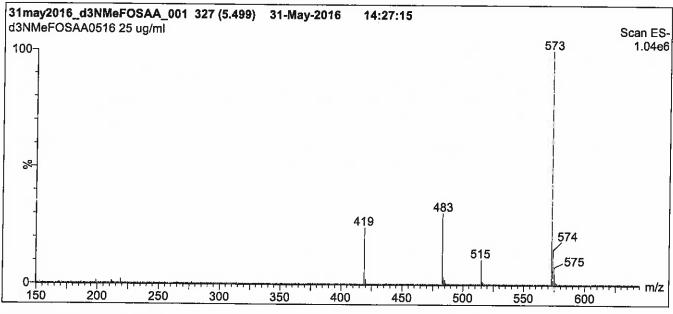




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: d3-N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)





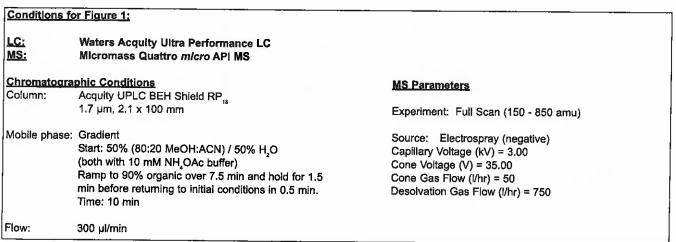
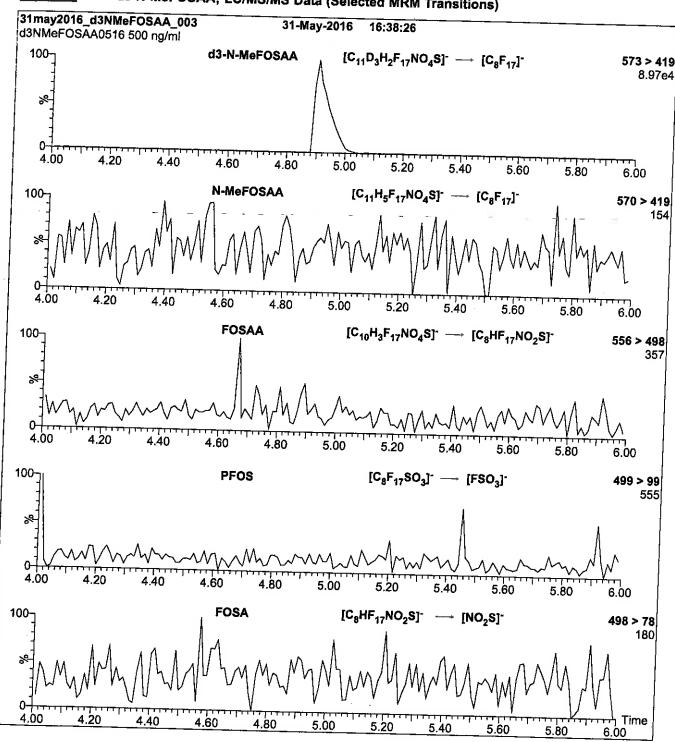
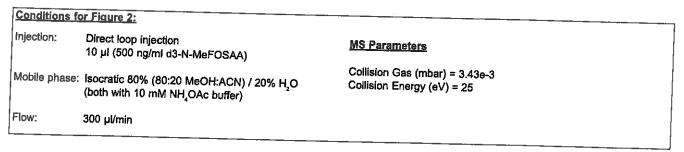


Figure 2: d3-N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)





LCd5-NEtFOSAA_00003



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

d5-N-EtFOSAA

LOT NUMBER:

d5NEtFOSAA0716

COMPOUND:

N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

C,D,H,F,,NO,S

MOLECULAR WEIGHT:

590.26

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S):

Methanol

≥98% ²H₄

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

Water (<1%)

LAST TESTED: (mm/dd/yyyy)

08/02/2016

EXPIRY DATE: (mm/dd/yyyy)

08/02/2021

RECOMMENDED STORAGE:

Refrigerate ampoule

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 the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 08/09/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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, $u_s(y)$, 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 $\pm 5\%$ (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:

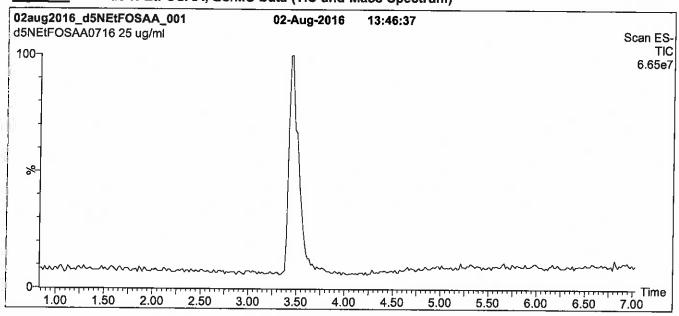
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

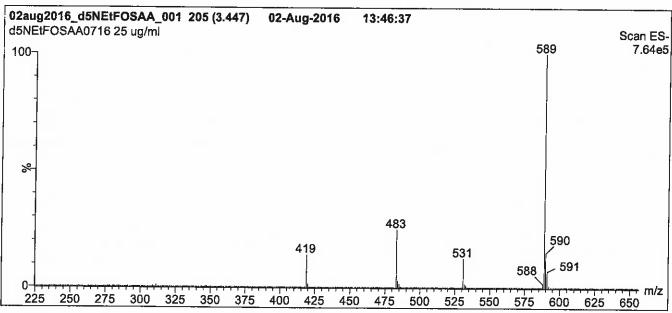


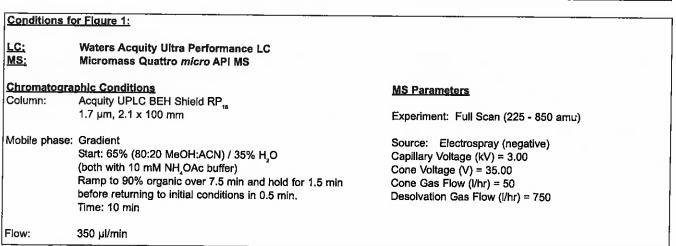


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

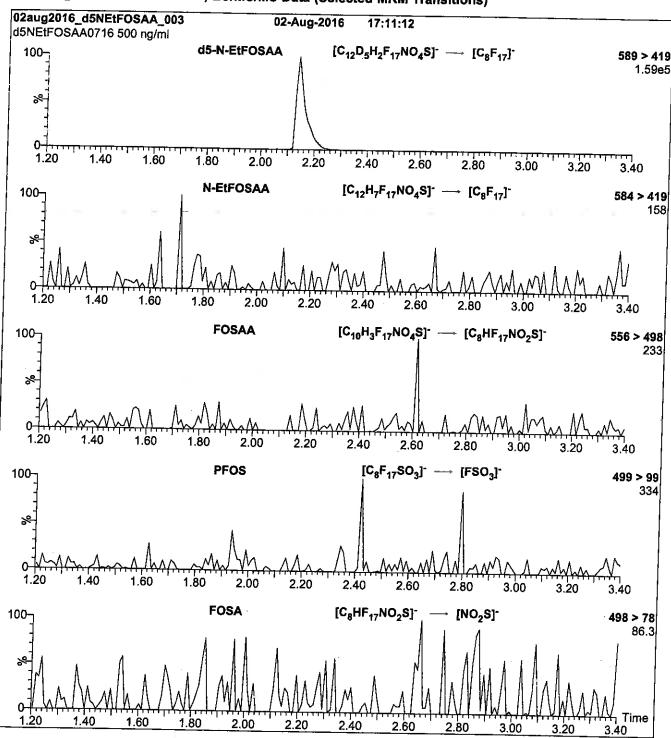
Figure 1: d5-N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)







d5-N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Flow:

Direct loop injection

10 μl (500 ng/ml d5-N-EtFOSAA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H,O

(both with 10 mM NH OAc buffer)

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3 Collision Energy (eV) = 25

LCM2-6:FTS_00003



VELLINGTON A B O R A T O R I E S

CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

M2-6:2FTS

LOT NUMBER:

M262FTS0116

COMPOUND:

Sodium 1H,1H,2H,2H-perfluoro-[1,2-13C,]octane sulfonate

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

¹³C₂¹²C₆H₂F₁₃SO₃Na

MOLECULAR WEIGHT:

452.13

CONCENTRATION:

50.0 ± 2.5 µg/ml (Na salt)

47.5 ± 2.4 µg/ml

SOLVENT(\$):

Methanol

CHEMICAL PURITY:

>98%

(M2-6:2FTS anion)

≥99% 13C

LAST TESTED: (mm/dd/yyyy)

01/08/2016

ISOTOPIC PURITY:

(1,2-13C₂)

EXPIRY DATE: (mm/dd/yyyy)

01/08/2021

RECOMMENDED STORAGE;

Refrigerate ampoule

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.

The native 6:2FTS contains 4.22% of ³⁴S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 01/11/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

The products prepared by Wellington Laboratorles 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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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:

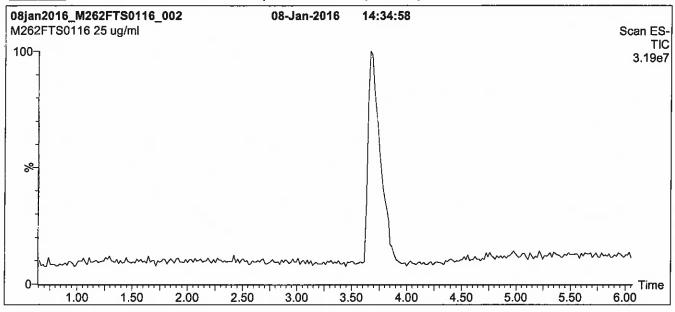
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

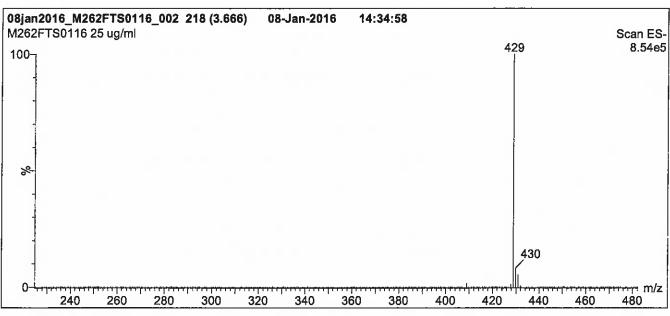




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: M2-6:2FTS; LC/MS Data (TIC and Mass Spectrum)





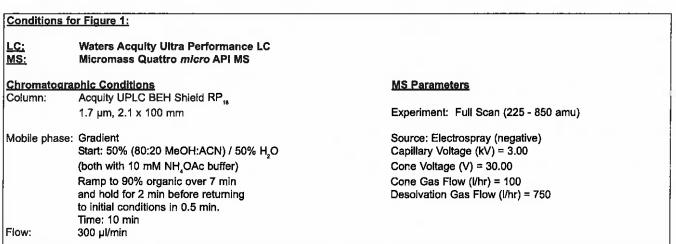
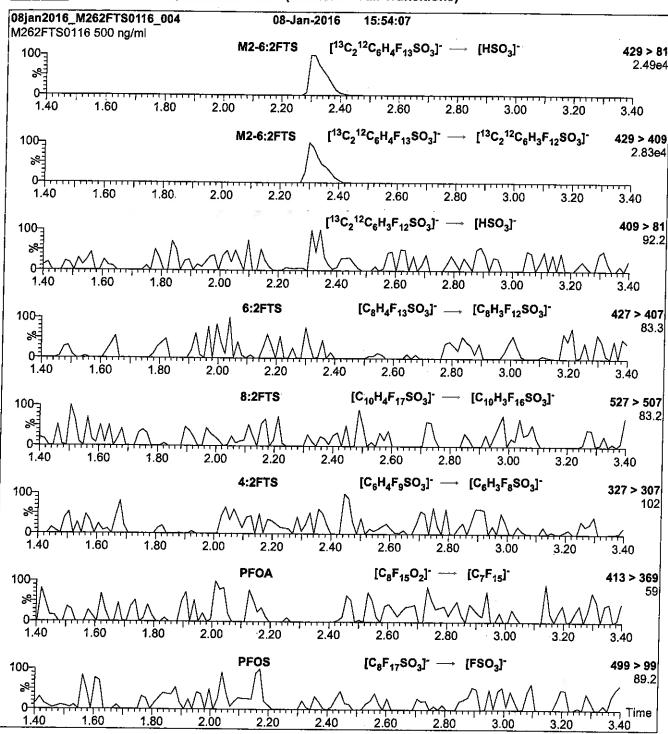


Figure 2: M2-6:2FTS; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml M2-6:2FTS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH OAc buffer)

MS Parameters

Collision Gas (mbar) = 3.28e-3 Collision Energy (eV) = 25

Flow:

300 µl/min

LCM2PFHxDA_00008

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

M2PFHxDA

LOT NUMBER:

M2PFHxDA1112

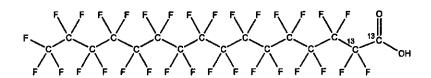
COMPOUND:

Perfluoro-n-[1,2-13C₂]hexadecanoic acid

STRUCTURE:

CAS#:

Not available



MOLECULAR FORMULA:

¹³C₂¹²C₁₄HF₃₁O₂

MOLECULAR WEIGHT:

816.11

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S):

Methanol Water (<1%)

≥99% 13C

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

(1,2-13C,)

LAST TESTED: (mm/dd/yyyy)

01/07/2016

EXPIRY DATE: (mm/dd/yyyy)

01/07/2021

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 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

Contains ~ 0.3% of native perfluoro-n-hexadecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

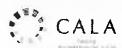
Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

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:

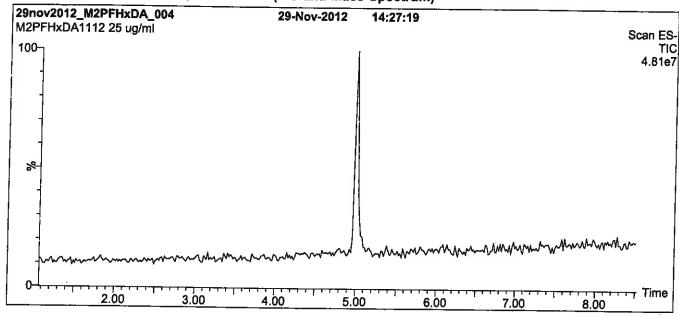
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

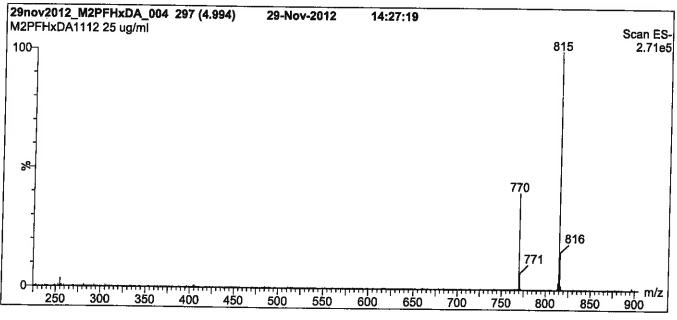




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: M2PFHxDA; LC/MS Data (TIC and Mass Spectrum)





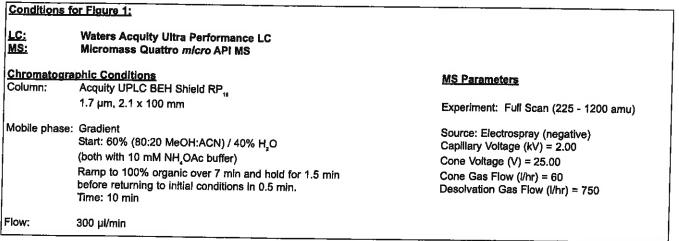
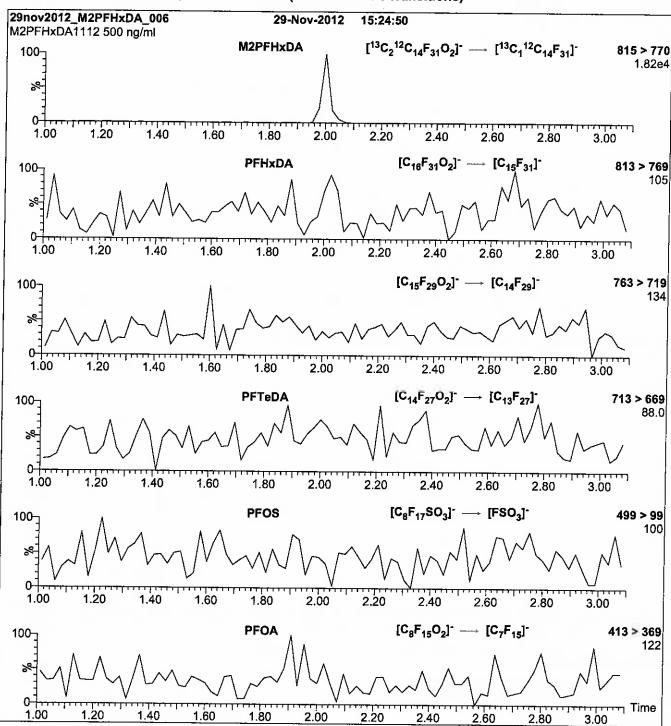


Figure 2: M2PFHxDA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml M2PFHxDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_aO

(both with 10 mM NH,OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3 Collision Energy (eV) = 15

LCM2PFTeDA_00007



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: **COMPOUND:**

M2PFTeDA

Perfluoro-n-[1,2-13C,]tetradecanoic acid

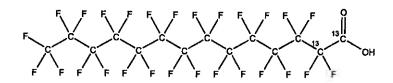
LOT NUMBER:

M2PFTeDA1115

STRUCTURE:

CAS #:

Not available



MOLECULAR FORMULA:

¹³C, ¹²C, HF, O,

 $50 \pm 2.5 \, \mu g/ml$

MOLECULAR WEIGHT:

716.10

CONCENTRATION:

SOLVENT(S):

ISOTOPIC PURITY:

Methanol Water (<1%)

>99% 13C

(1,2-13C_a)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

12/07/2015

EXPIRY DATE: (mm/dd/yyyy)

12/07/2020

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 12/08/2015

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

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

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

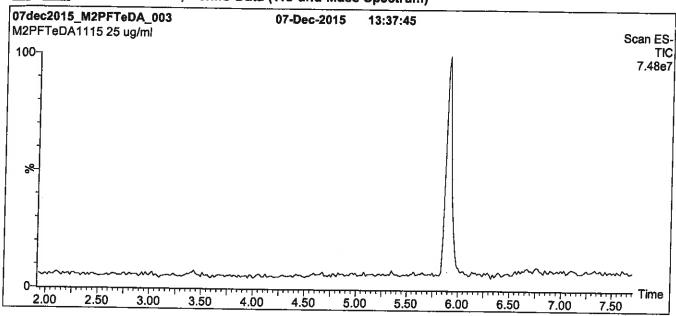
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

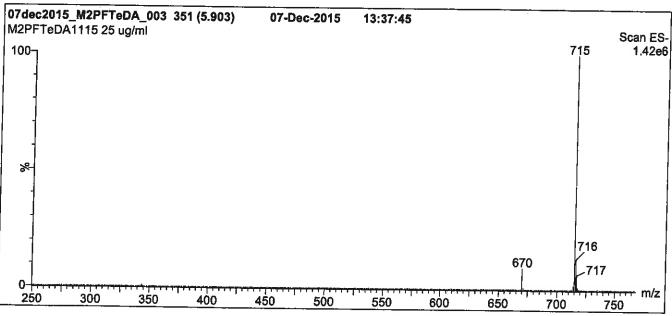




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: M2PFTeDA; LC/MS Data (TIC and Mass Spectrum)





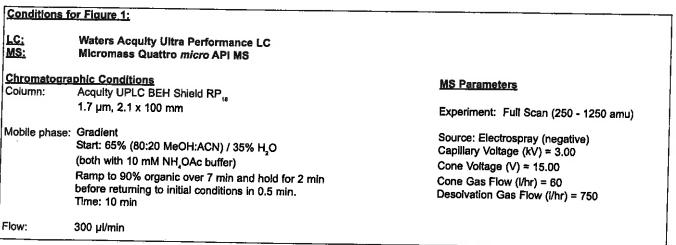
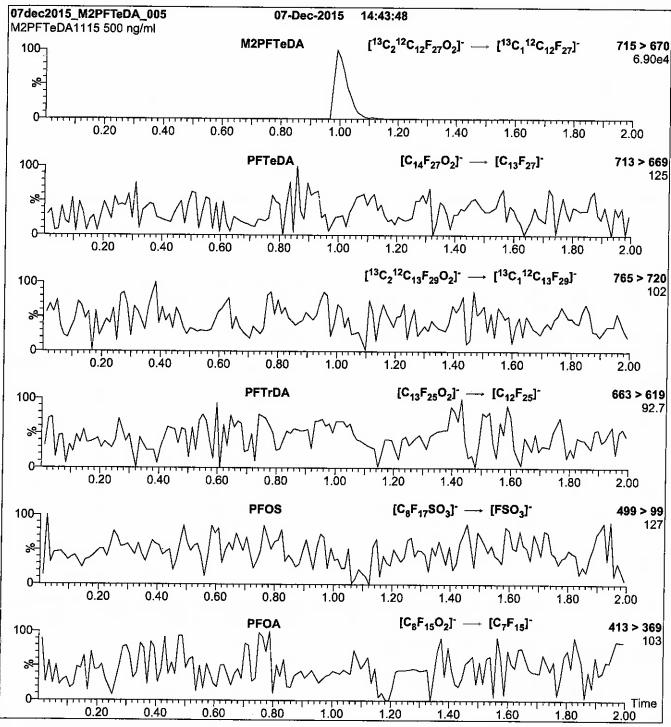


Figure 2: M2PFTeDA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml M2PFTeDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH,OAc buffer)

Flow:

300 µl/mln

MS Parameters

Collision Gas (mbar) = 3.28e-3 Collision Energy (eV) = 14

LCM4PFHPA_00007

P: 8BC 0/22/16



in: LCM4PFHPA 00007 Exp: 05/27/21 Prpd: SBC 13C4-Perfluoroheptanoic a



CERTIFICATE OF ANALYSIS

DOCUMENTATION

PRODUCT CODE:

M4PFHpA

LOT NUMBER:

M4PFHpA0516

COMPOUND:

Perfluoro-n-[1,2,3,4-13C]heptanoic acid

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

13C, 12C, HF, O,

MOLECULAR WEIGHT:

368.03

CONCENTRATION:

50 ± 2.5 µg/ml

SOLVENT(S):

Methanol

Water (<1%) ≥99%13C

CHEMICAL PURITY: LAST TESTED: (mm/dd/yyyy) >98%

ISOTOPIC PURITY:

 $(1,2,3,4-{}^{13}C_{\lambda})$

05/27/2016

EXPIRY DATE: (mm/dd/yyyy)

05/27/2021

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 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:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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, $u_{s}(y)$, of a value y and the uncertainty of the independent parameters

 $x_{i}, x_{j},...x_{n}$ 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 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:

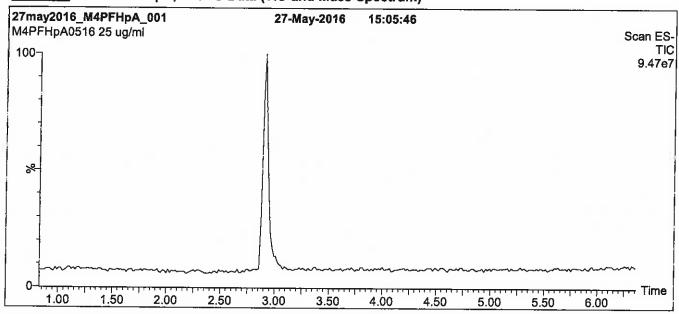
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

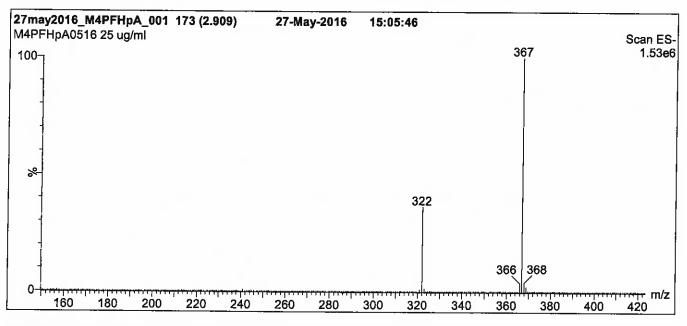




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: M4PFHpA; LC/MS Data (TIC and Mass Spectrum)





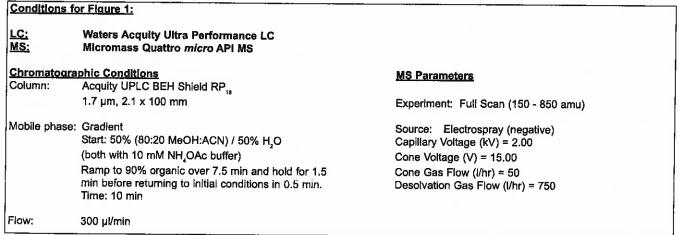
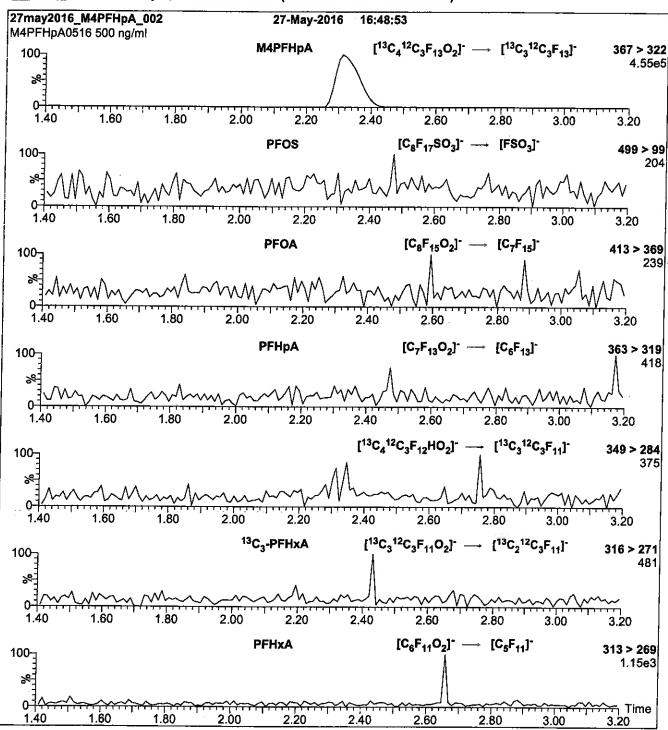
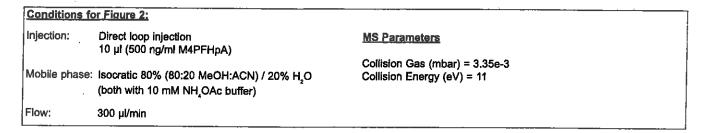


Figure 2: M4PFHpA; LC/MS/MS Data (Selected MRM Transitions)





LCM5PFPEA_00008



ID: LCM5PFPEA_00008 Exp: 05/22/20 Prpd: SBC 13C5-Perfluoropentanoic a



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

M5PFPeA

LOT NUMBER:

M5PFPeA0515

COMPOUND:

Perfluoro-n-[13C] pentanoic acid

CAS #:

Not available

STRUCTURE:

MOLECULAR FORMULA:

¹³C₅HF₉O₂

MOLECULAR WEIGHT:

269.01

CONCENTRATION:

 $50 \pm 2.5 \,\mu g/ml$

SOLVENT(S):

Methanol Water (<1%)

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

≥99% 13C

 $(^{13}C_{c})$

LAST TESTED: (mm/dd/yyyy)

05/22/2015

EXPIRY DATE: (mm/dd/yyyy)

05/22/2020

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-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: <u>05/25/2015</u>

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, $u_a(y)$, 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 $\pm 5\%$ (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:

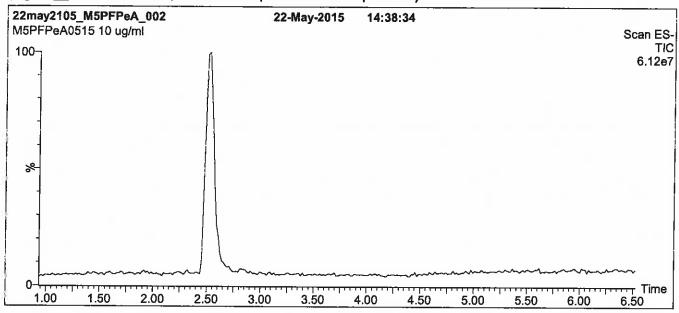
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

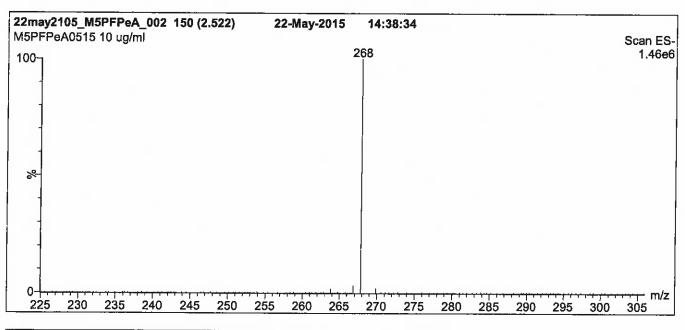




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: M5PFPeA; LC/MS Data (TIC and Mass Spectrum)





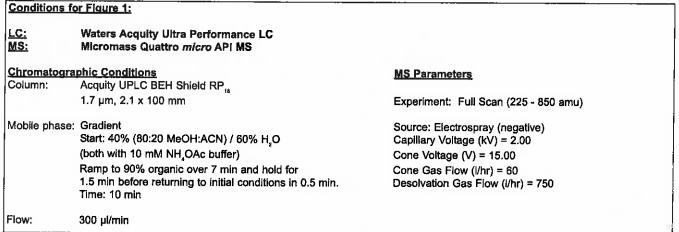
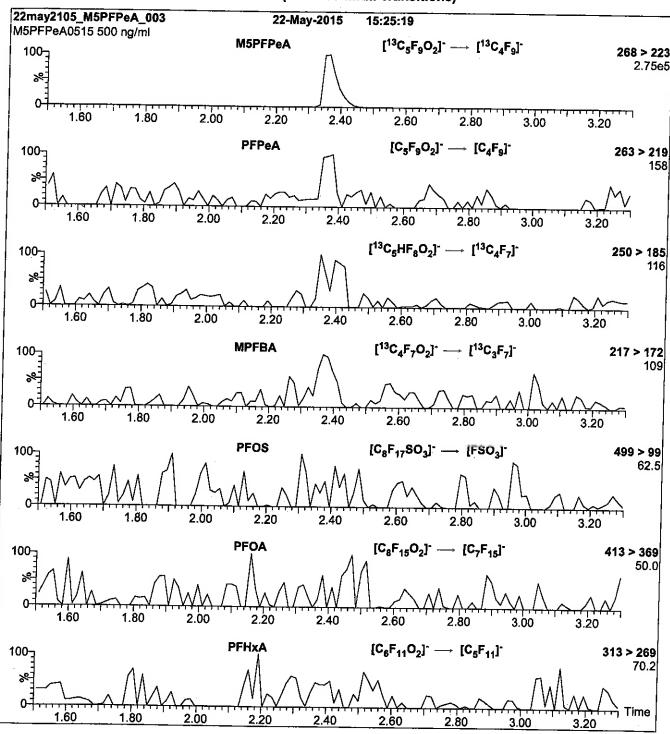
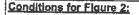


Figure 2: M5PFPeA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml M5PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

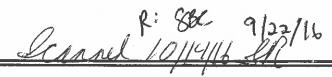
(both with 10 mM NH,OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3 Collision Energy (eV) = 9

LCM8FOSA_00011





ID: LCM8FOSA_00011 Exp: 12/22/17 Prod: SBC 13C8-Perfluorooctanesulfo



CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

M8FOSA-I

LOT NUMBER:

MOLECULAR WEIGHT:

ISOTOPIC PURITY:

SOLVENT(S):

M8FOSA1215I

COMPOUND:

Perfluoro-1-[13C_]octanesulfonamide

STRUCTURE:

CAS #:

Not available

507.09

(13C_a)

Isopropanol

≥99% ¹³C

MOLECULAR FORMULA:

¹³C₈H₂F₁₂NO₂S

CONCENTRATION:

50 ± 2.5 μg/ml

CHEMICAL PURITY:

>98%

LAST TESTED: (mrr/dd/yyyy)

12/22/2015

EXPIRY DATE: (mm/dd/yyyy)

12/22/2017

RECOMMENDED STORAGE:

Refrigerate ampoule

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 01/14/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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, $u_{o}(y)$, 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 $\pm 5\%$ (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:

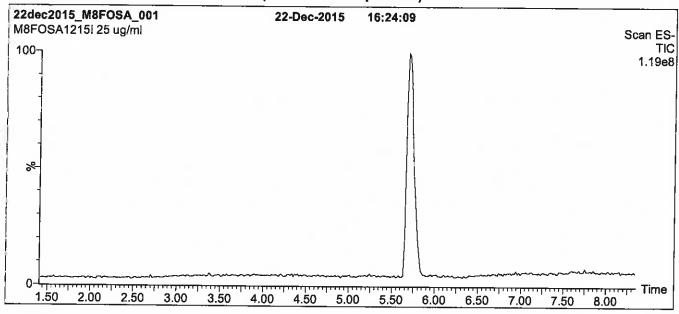
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

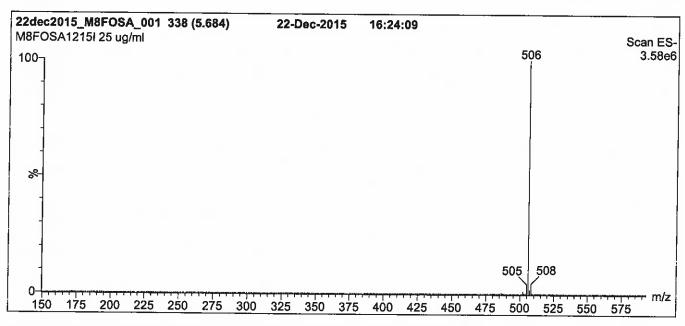




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-iabs.com or contact us directly at info@well-iabs.com

Figure 1: M8FOSA-I; LC/MS Data (TIC and Mass Spectrum)





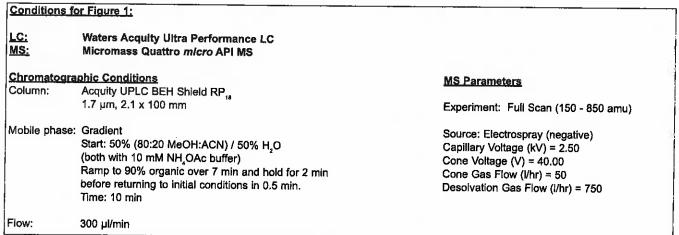
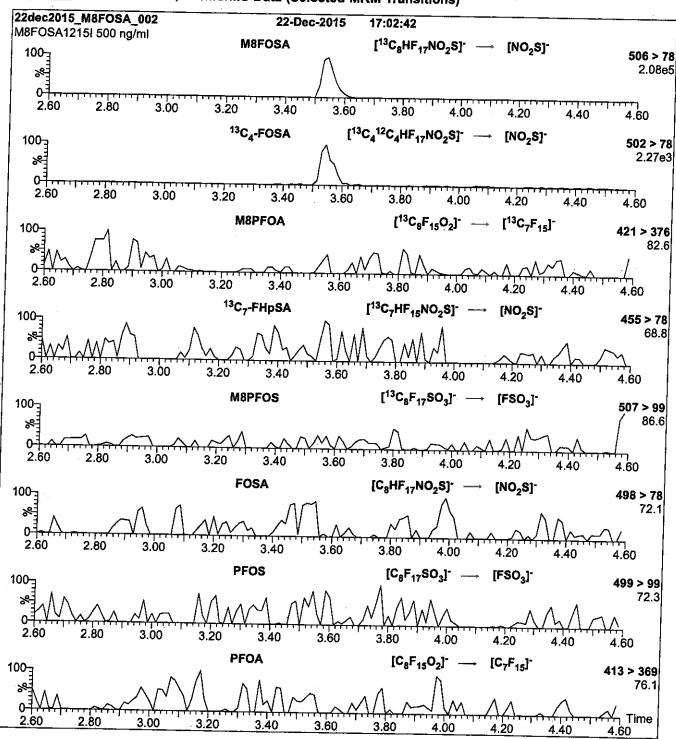
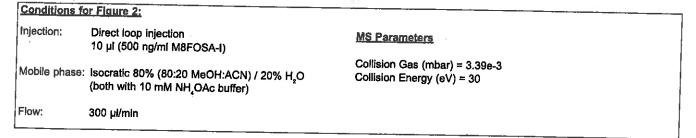


Figure 2: M8FOSA-I; LC/MS/MS Data (Selected MRM Transitions)





LCMPFBA_00008

R: 8BC 9/22/16



ID: LCMPFBA_00008 Exp: 05/24/21 Prpd: SBC 13C4-Perfluorobutanoic ac



CERTIFICATE OF ANALYSIS DOCUMENTATION

Scanner 10/14/16

PRODUCT CODE: MPFBA

Perfluoro-n-[1,2,3,4-13C] butanoic acid

LOT NUMBER:

MPFBA0516

STRUCTURE:

COMPOUND:

CAS #:

Not available

MOLECULAR FORMULA:

¹³C₄HF₇O₂

MOLECULAR WEIGHT:

218.01

50 ± 2.5 µg/ml

SOLVENT(S):

Methanol

ISOTOPIC PURITY:

Water (<1%) ≥99%¹³C

(1,2,3,4-13C₄)

CHEMICAL PURITY: LAST TESTED: (mm/dd/yyyy)

CONCENTRATION:

>98%

05/24/2016

EXPIRY DATE: (m:rv/dd/yyyy)

05/24/2021

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 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:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ..., X_n$ 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 $\pm 5\%$ (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:

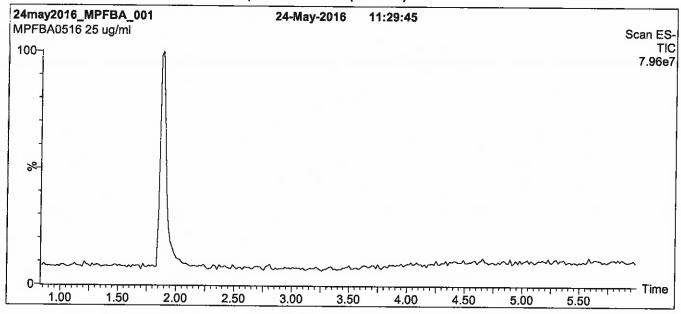
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

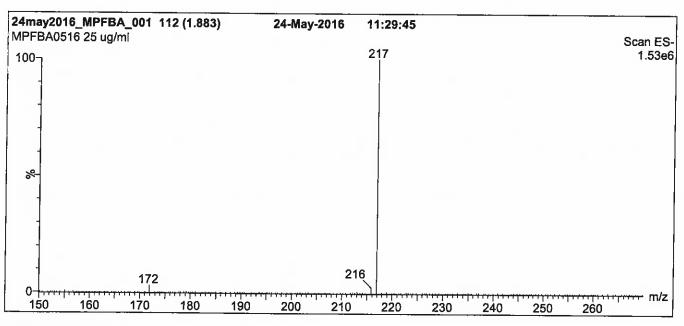




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





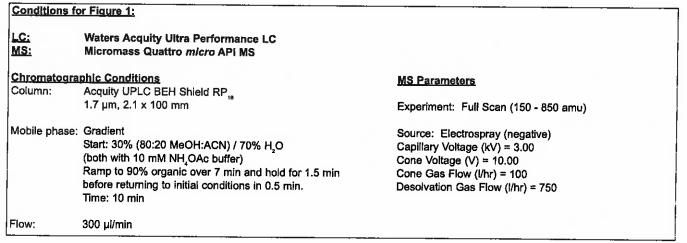
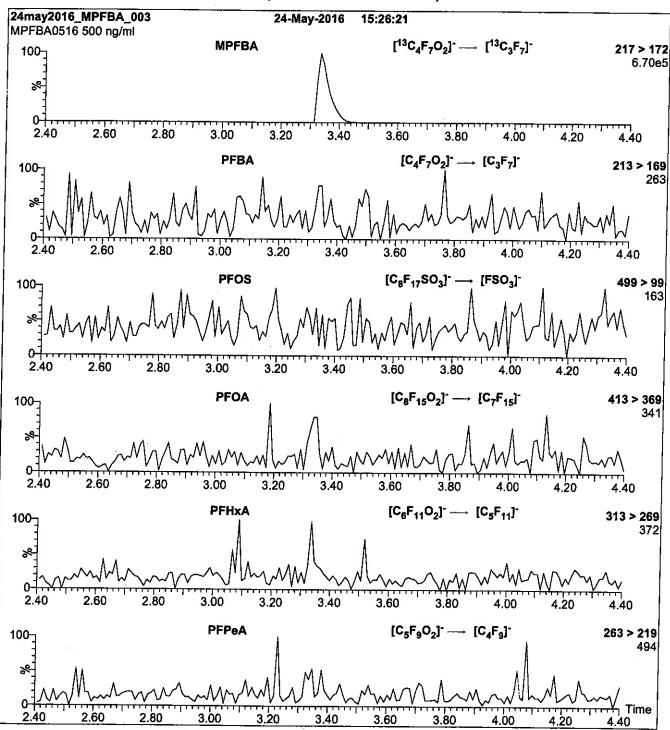
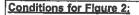


Figure 2: MPFBA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop Injection

10 μl (500 ng/ml MPFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH,OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3 Collision Energy (eV) = 10

LCMPFDA_00011



CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

MPFDA

LOT NUMBER:

MPFDA0815

COMPOUND:

Perfluoro-n-[1,2-13C] decanoic acid

CAS #:

Not available

STRUCTURE:

MOLECULAR FORMULA:

¹³C₂¹²C₈HF₁₉O₂

CONCENTRATION:

MOLECULAR WEIGHT:

516.07

50 ± 2.5 µg/ml

Methanol

ISOTOPIC PURITY:

SOLVENT(S):

Water (<1%) ≥99% 13C

 $(1,2^{-13}C_3)$

LAST TESTED: (mm/dd/yyyy)

08/19/2015

>98%

EXPIRY DATE: (mm/dd/yyyy)

CHEMICAL PURITY:

RECOMMENDED STORAGE:

08/19/2020

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 13C,-PFNA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

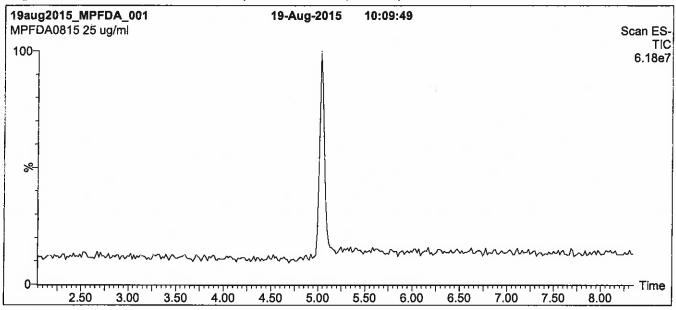
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

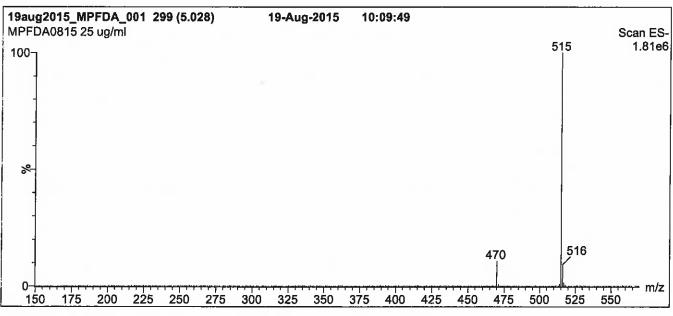


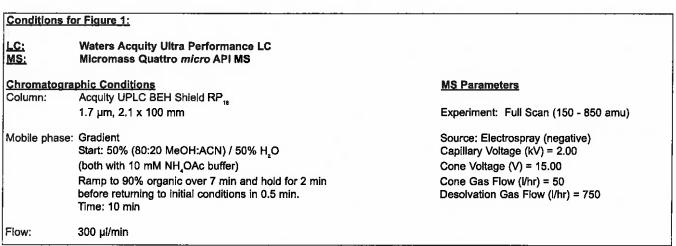


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

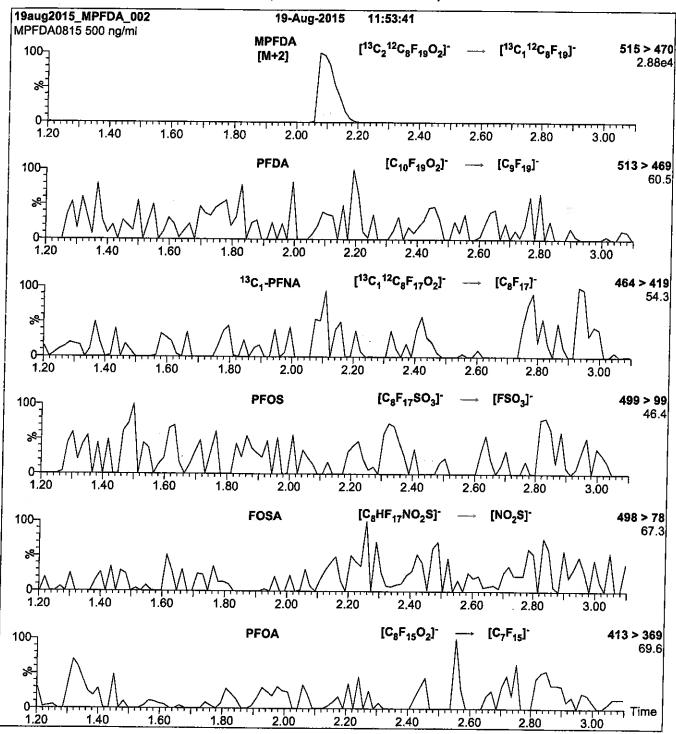
Figure 1: MPFDA; LC/MS Data (TIC and Mass Spectrum)

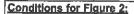






MPFDA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection: Direct loop injection

10 μl (500 ng/ml MPFDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH_OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3,35e-3 Collision Energy (eV) = 13

LCMPFDoA_00008



ID: LCMPFDoA_00008 Exp: 04/08/21 Prpd: SBC 13C2-Perfluornododecanoic



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

COMPOUND:

MPFDoA

Perfluoro-n-[1,2-13C] dodecanoic acid

LOT NUMBER:

MPFDoA0416

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

CONCENTRATION:

13C, 12C,0HF,3O,

 $50 \pm 2.5 \, \mu g/ml$

MOLECULAR WEIGHT:

616.08

SOLVENT(S):

Methanol Water (<1%)

ISOTOPIC PURITY:

≥99% 13C

 $(1,2^{-13}C_{2})$

EXPIRY DATE: (mm/dd/yyyy)

04/08/2016

>98%

CHEMICAL PURITY:

LAST TESTED: (mm/dd/yyyy)

04/08/2021

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 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:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

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

 $x_1, x_2, ..., x_n$ on which it depends is:

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

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 $\pm 5\%$ (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 explry 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:

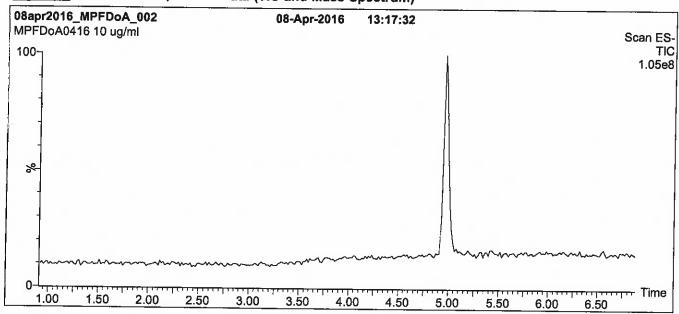
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

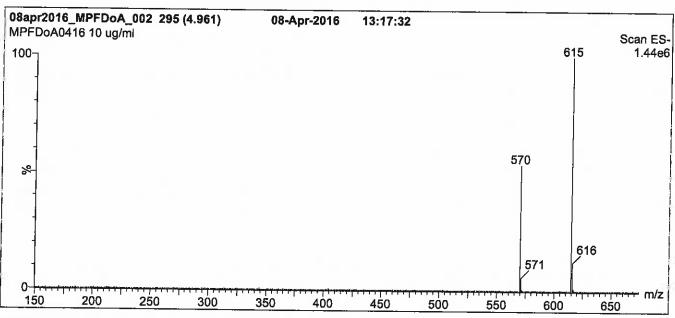


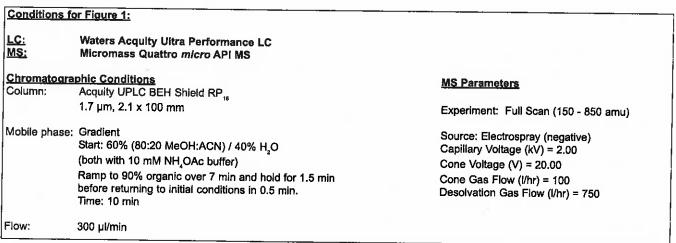


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

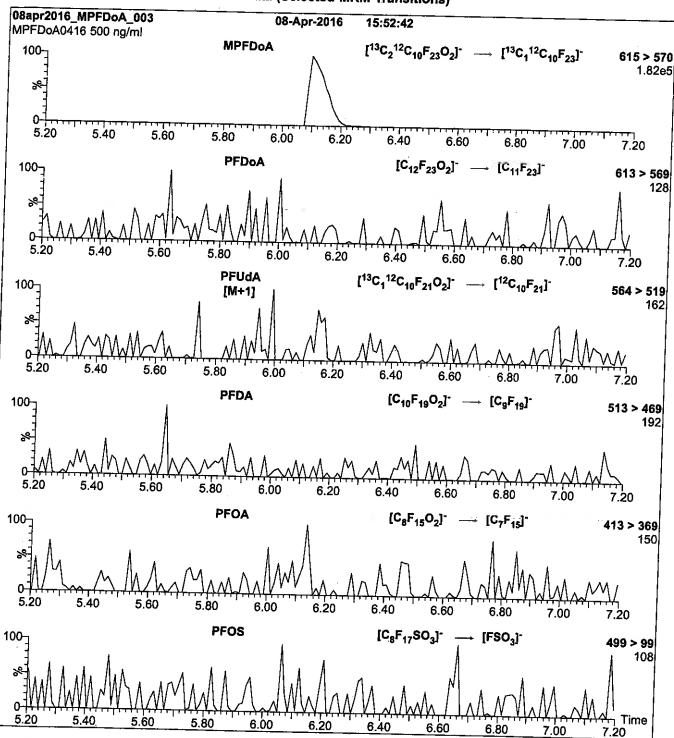
Figure 1: MPFDoA; LC/MS Data (TIC and Mass Spectrum)

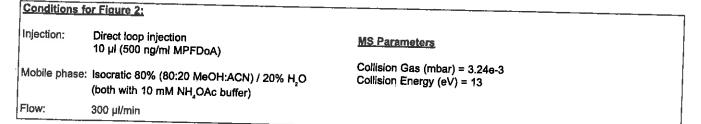






<u>Figure 2:</u> MPFDoA; LC/MS/MS Data (Selected MRM Transitions)





LCMPFHxA_00012





ID: LCMPFHxA_00012 Exp: 04/08/21 Prpd: SBC 13C2-Perfluorohexanoic ad



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

MPFHxA

LOT NUMBER:

MPFHxA0416

COMPOUND:

Perfluoro-n-[1,2-13C₂]hexanoic acid

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

¹³C₂¹²C₄HF₄O₂

MOLECULAR WEIGHT:

316.04

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

≥99%13C (1,2-13C₂)

LAST TESTED: (mm/dd/yyyy) EXPIRY DATE: (mm/dd/yyyy)

04/08/2016

04/08/2021

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 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:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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_4 , 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 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:

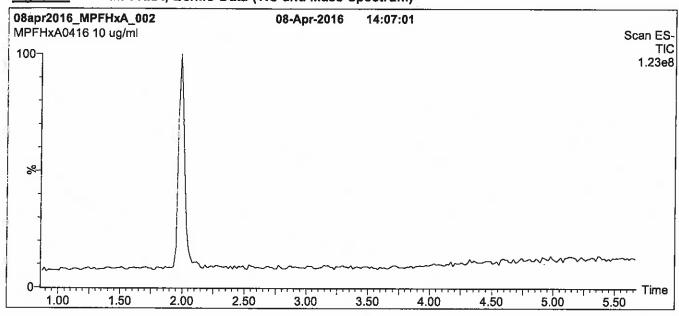
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

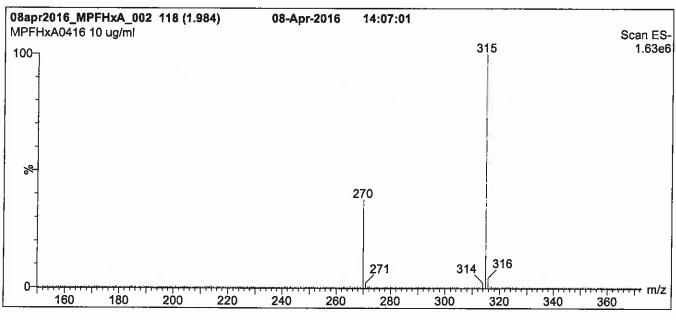




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





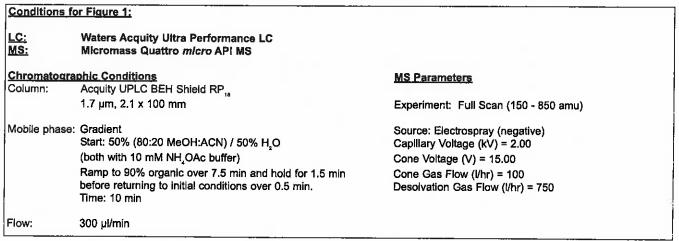
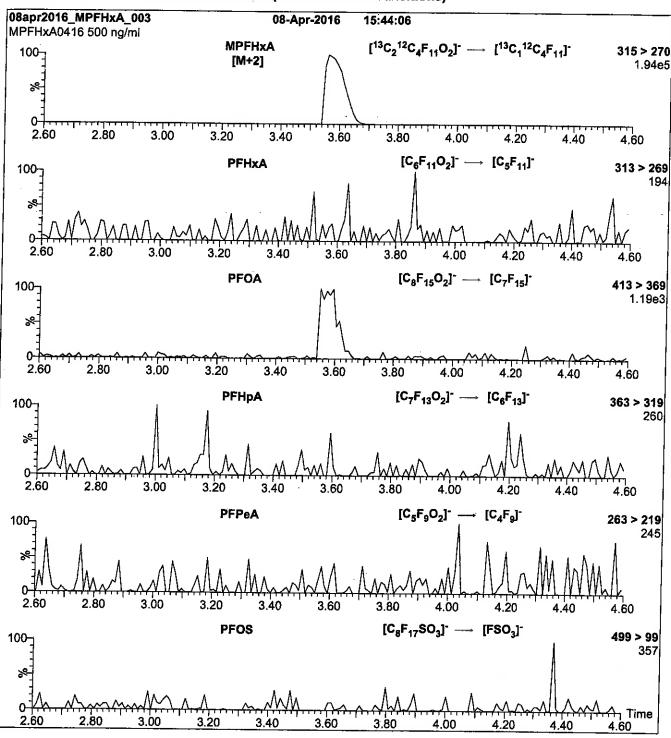
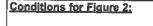


Figure 2: MPFHxA; LC/MS/MS Data (Selected MRM Transitions)





Injection: Direct loop injection

10 μł (500 ng/ml MPFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH,OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3 Collision Energy (eV) = 10

LCMPFHxS_00008

f: 8BC 9/22/16



ID: LCMPFHxS_00008 Exp: 10/23/20 Prpd: SBC 18O2-Perfluorohexanesulfo



VELLINGTC ABORATORI

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

MPFHxS

LOT NUMBER:

MPFHxS1015

COMPOUND:

Sodium perfluoro-1-hexane[18O2]sulfonate

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

C₆F₁₃S¹⁸O₂¹⁶ONa

MOLECULAR WEIGHT:

426.10

CONCENTRATION:

 $50.0 \pm 2.5 \mu g/ml$ (Na salt)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

>94% (18O₃)

LAST TESTED: (mm/dd/yyyy)

10/23/2015

EXPIRY DATE: (mm/dd/yyyy)

10/23/2020

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

 $47.3 \pm 2.4 \mu g/ml$ (MPFHxS anion)

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.

The response factor for MPFHxS (C₈F₁₃S¹⁸O₂) has been observed to be up to 10% lower than for PFHxS (C_sF₁₃S¹⁶O₃) when both compounds are injected together. This difference may vary between instruments.

Due to the isotopic purity of the starting material ($^{18}O_2 > 94\%$), MPFHxS contains ~ 0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 10/28/2015

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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, $u_{\underline{y}}(y)$, of a value y and the uncertainty of the independent parameters

 $x_i, x_2,...x_n$ 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 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.

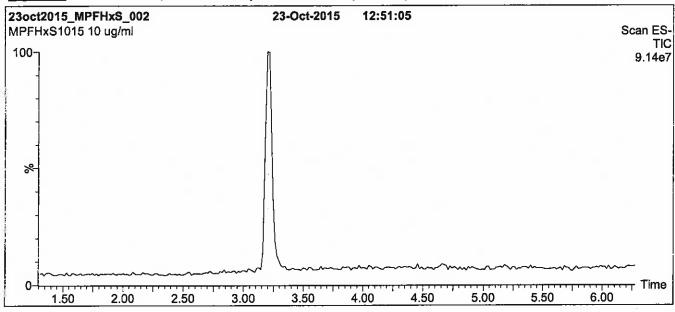
QUALITY MANAGEMENT:

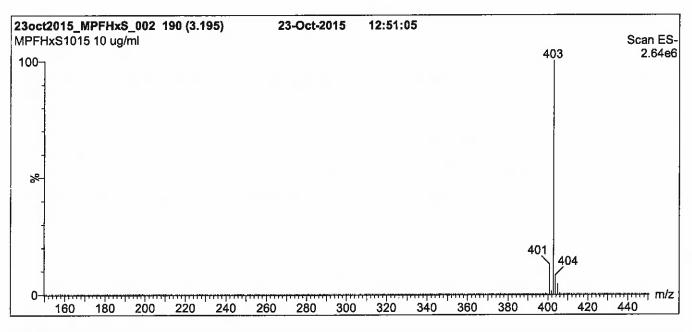
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).





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





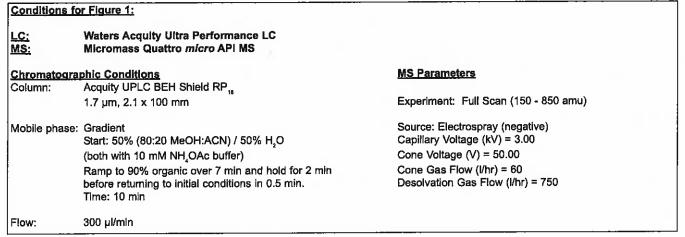
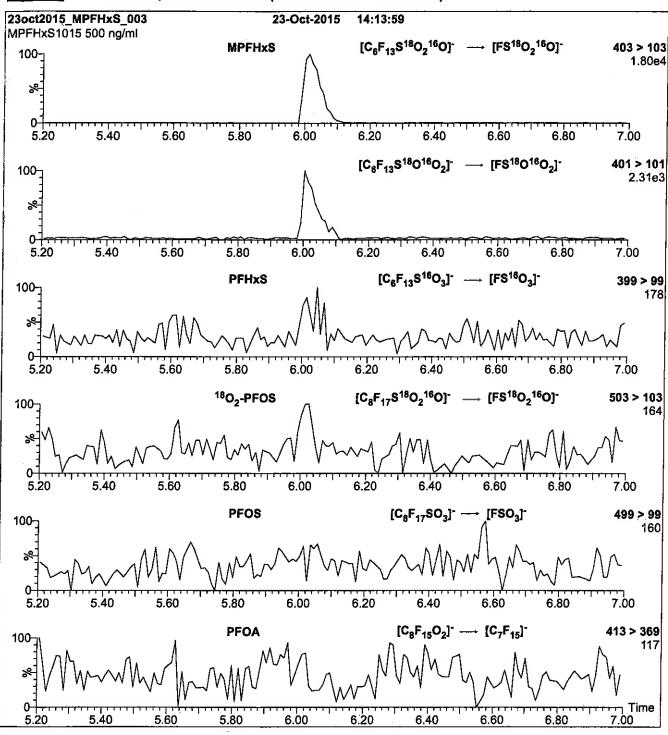
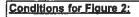


Figure 2: MPFHxS; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml MPFHxS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_O

(both with 10 mM NH,OAc buffer)

MS Parameters

Collision Gas (mbar) = 3.35e-3 Collision Energy (eV) = 30

Flow:

300 µl/min

LCMPFNA_00008



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

MPFNA

LOT NUMBER:

MPFNA0414

COMPOUND:

Perfluoro-n-[1,2,3,4,5-13C_s]nonanoic acid

CAS #:

Not available

STRUCTURE:

MOLECULAR FORMULA:

¹³C₅¹²C₄HF₁₇O₇

MOLECULAR WEIGHT:

469.04

CONCENTRATION:

50 ± 2.5 μg/ml

SOLVENT(S):

Methanoi

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

Water (<1%) >99%13C

 $(1,2,3,4,5^{-13}C_{5})$

LAST TESTED: (mm/dd/yyyy)

04/13/2014

EXPIRY DATE: (mm/dd/yyyy)

04/13/2019

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:

04/01/2015

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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.

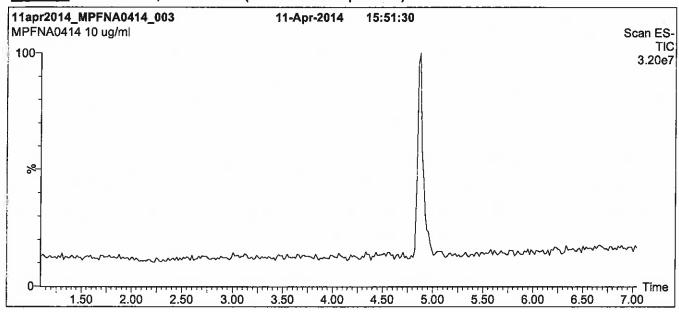
QUALITY MANAGEMENT:

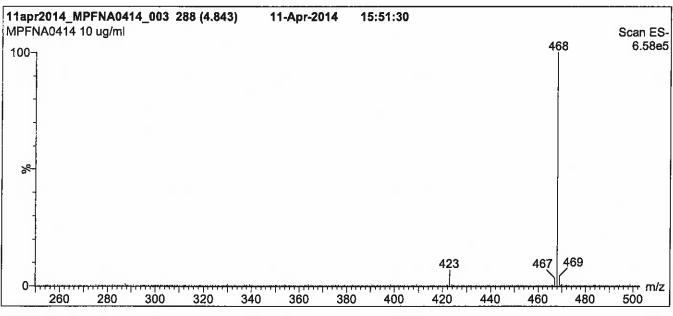
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

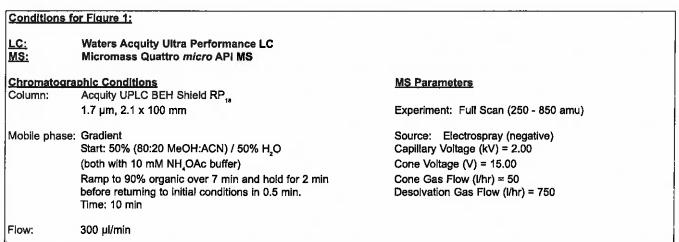




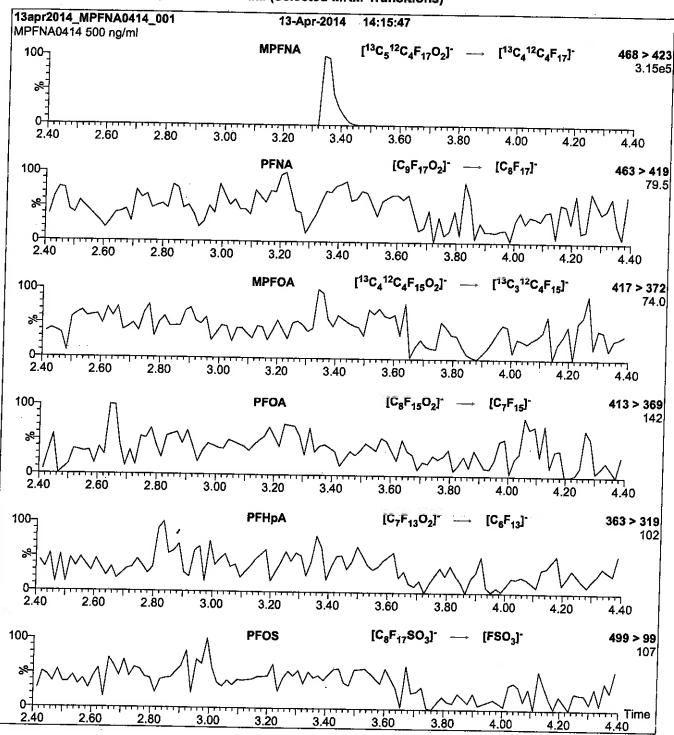
Figure 1: MPFNA; LC/MS Data (TIC and Mass Spectrum)

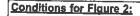






MPFNA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop injection

10 µl (500 ng/ml MPFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H,O

(both with 10 mM NH OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.28e-3 Collision Energy (eV) = 11

LCMPFOA_00012



ID: LCMPFOA_00012 Exp: 01/22/21 Prpd: SBC 13C4-Perfluorooctanoic ac



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

MPFOA

LOT NUMBER:

MPFOA0116

COMPOUND:

Perfluoro-n-[1,2,3,4-13C] octanoic acid

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

¹³C₄¹²C₄HF₁₅O₂

CONCENTRATION:

50 ± 2.5 µg/mi

MOLECULAR WEIGHT:

418.04

SOLVENT(S):

Methanol Water (<1%)

 $(1,2,3,4^{-13}C_{\lambda})$

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

≥99% ¹³C

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 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

Contains ~ 0.1% of native perfluoro-n-octanoic acid (PFOA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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.

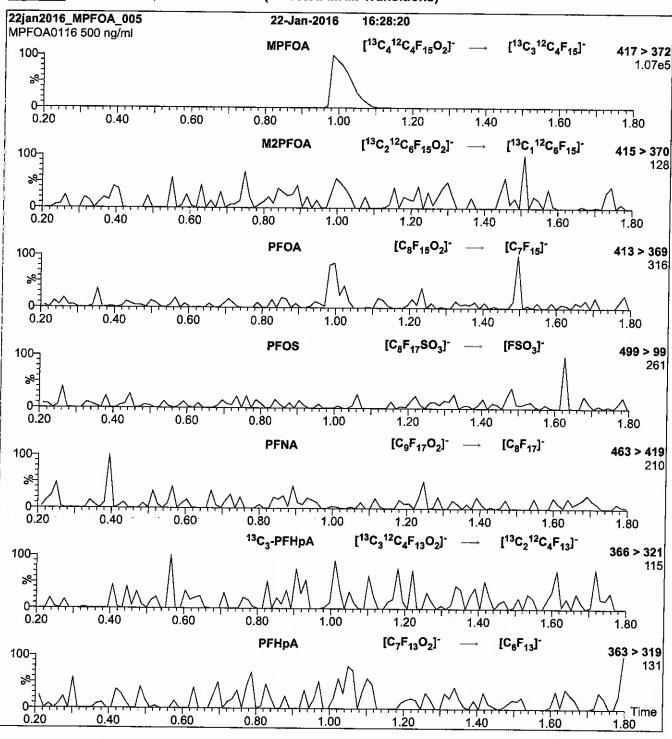
QUALITY MANAGEMENT:

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).





Figure 2: MPFOA; LC/MS/MS Data (Selected MRM Transitions)



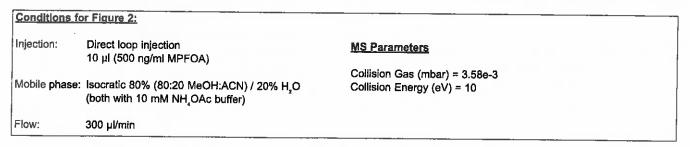
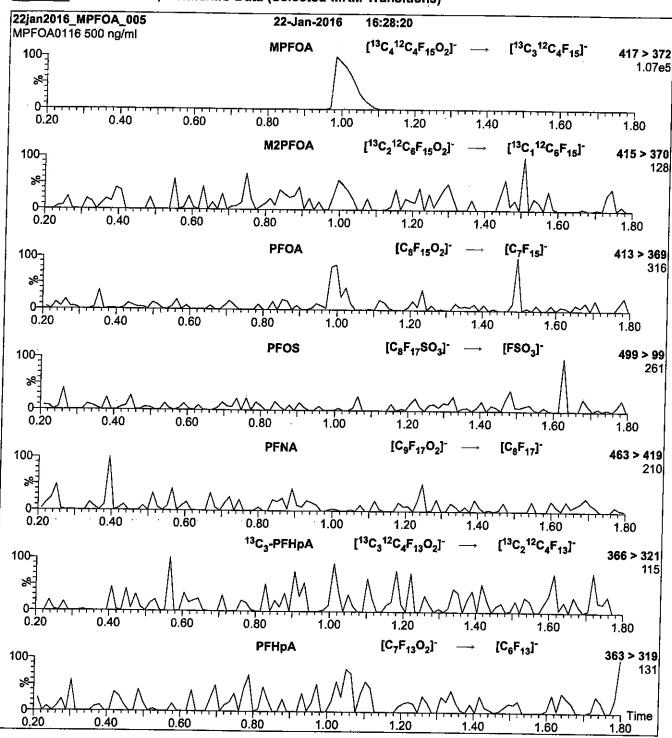
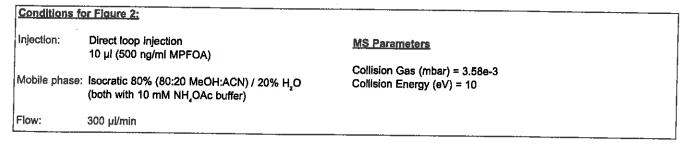


Figure 2: MPFOA; LC/MS/MS Data (Selected MRM Transitions)





LCMPFOS_00017

R: 9/9/16 8BC





VELLINGTON ABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

MPFOS

LOT NUMBER:

MPFOS0816

COMPOUND:

Sodium perfluoro-1-[1,2,3,4-13C] octanesulfonate

STRUCTURE:

CAS #:

Not available

MOLECULAR FORMULA:

¹³C₄¹²C₄F₁₇SO₃Na

MOLECULAR WEIGHT:

526.08

CONCENTRATION:

 $50.0 \pm 2.5 \,\mu\text{g/ml}$ (Na salt)

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

≥99% 13C

LAST TESTED: (mm/dd/yyyy)

(1,2,3,4-13C₄)

EXPIRY DATE: (mm/dd/yyyy)

08/03/2016

08/03/2021

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

 $47.8 \pm 2.4 \mu g/ml$ (MPFOS anion)

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-[1,2,3-13C]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 08/05/2016

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 ciothing 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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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.

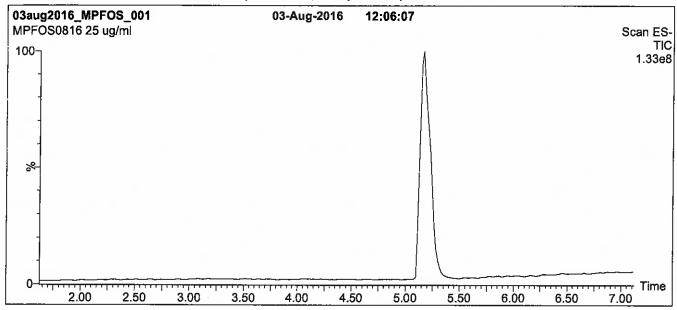
QUALITY MANAGEMENT:

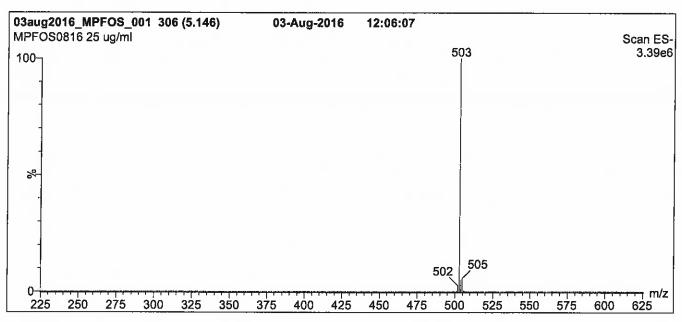
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).





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





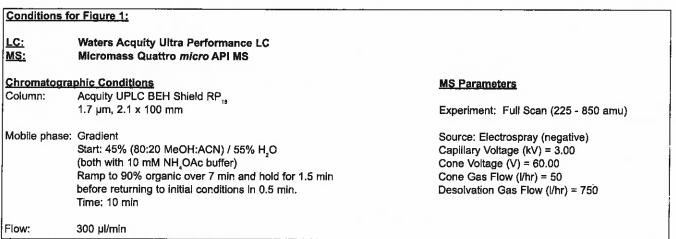
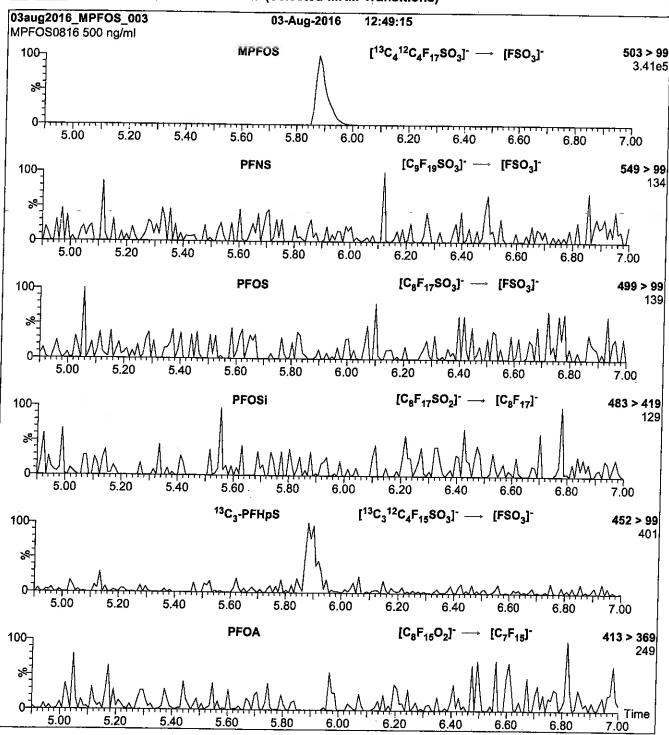
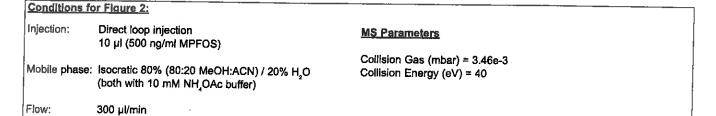


Figure 2: MPFOS; LC/MS/MS Data (Selected MRM Transitions)





LCMPFUdA_00009



WELLINGTON

CERTIFICATE OF ANALYSIS DOCUMENTATION

Scanned 10/14/16 &R

PRODUCT CODE:

MPFUdA

LOT NUMBER:

MPFUdA0216

COMPOUND:

Perfluoro-n-[1,2-13C,]undecanoic acid

STRUCTURE:

CAS#:

Not available

MOLECULAR FORMULA:

¹³C₂¹²C₉HF₂₁O₂

MOLECULAR WEIGHT:

566.08

CONCENTRATION:

50 ± 2.5 μg/ml

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

Water (<1%) >99% ¹³C

(1,2-13C_a)

LAST TESTED: (mm/dd/yyyy)

02/12/2016

EXPIRY DATE: (mm/dd/yyyy)

02/12/2021

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 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

• Presence of 1-13C,-PFUdA (~1%; see Figure 2), 2-13C,-PFUdA (~1%), and PFUdA (~0.2%; see Figure 2) are due to the isotopic purity of the 13C-precursor.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified Bv:

B.G. Chittim

Date: (

(mm/dd/vvvv)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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 ciothing 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

x1, x2,...x, 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 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.

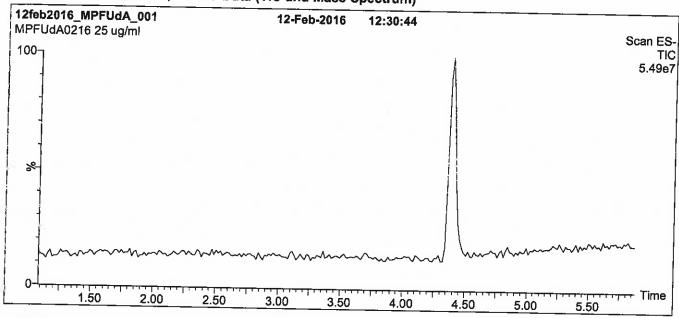
QUALITY MANAGEMENT:

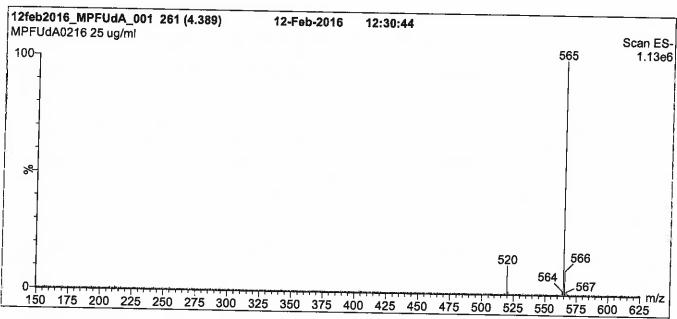
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).





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





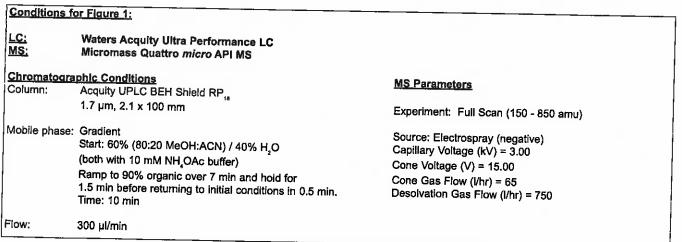
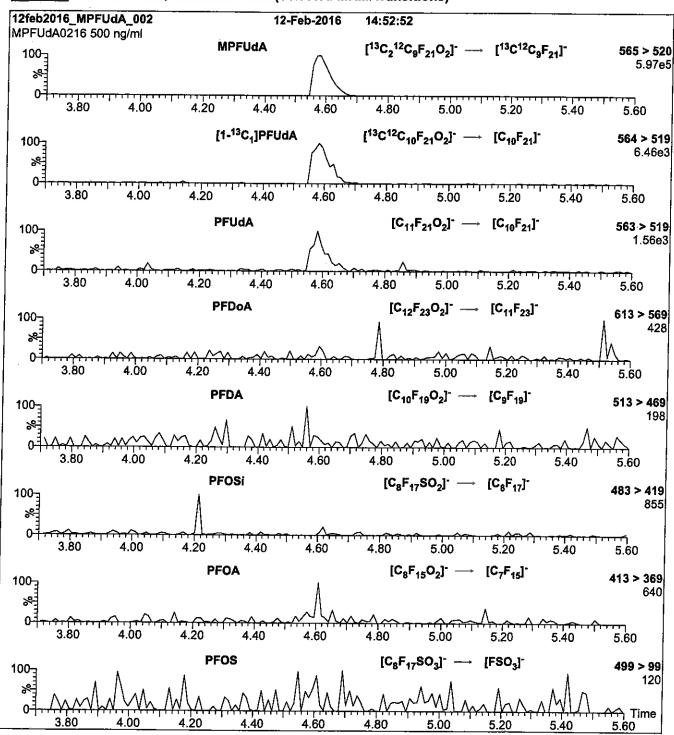
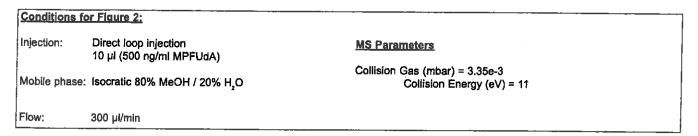


Figure 2: MPFUdA; LC/MS/MS Data (Selected MRM Transitions)





LCN-EtFOSA-M_00003

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-EtFOSA-M

LOT NUMBER:

MOLECULAR WEIGHT:

SOLVENT(S):

NEtFOSA0516M

527.20

Methanol

COMPOUND:

N-ethylperfluoro-1-octanesulfonamide

CAS #:

4151-50-2

STRUCTURE:

MOLECULAR FORMULA:

 $C_{10}H_8F_{17}NO_2S$

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/24/2016

EXPIRY DATE: (mm/dd/yyyy)

05/24/2021

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $x_i, x_2,...x_n$ 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 $\pm 5\%$ (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.

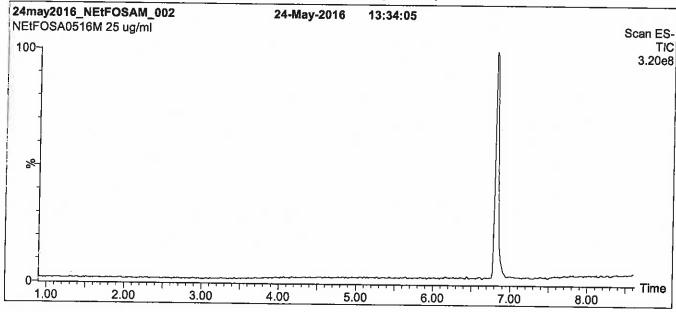
QUALITY MANAGEMENT:

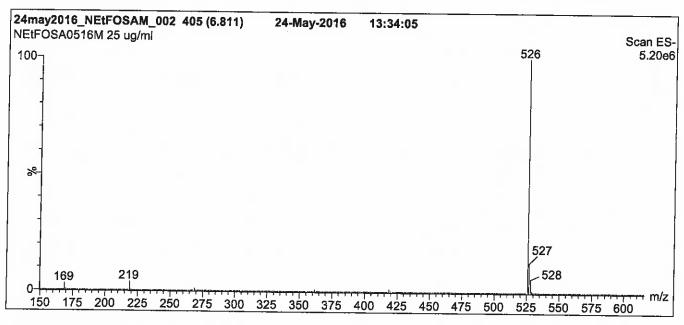
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).





Figure 1: N-EtFOSA-M; LC/MS Data (TIC and Mass Spectrum)





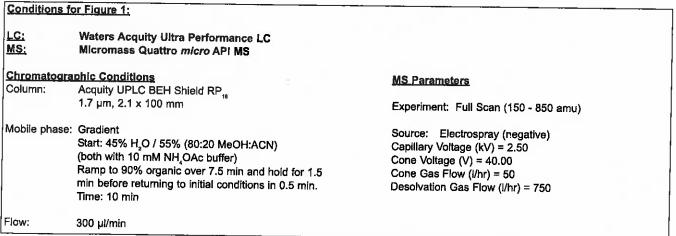
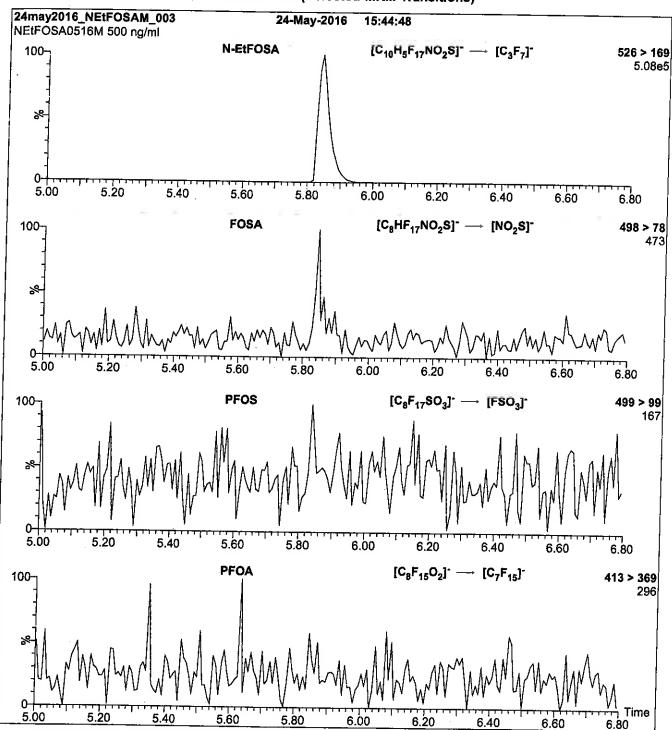
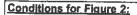


Figure 2: N-EtFOSA-M; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop Injection

10 μl (500 ng/ml N-EtFOSA-M)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.54e-3 Collision Energy (eV) = 30

LCN-EtFOSAA_00002





CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-EtFOSAA

LOT NUMBER:

NEtFOSAA0116

COMPOUND:

N-ethylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:

ÇAS #:

2991-50-6

F C C C C C C SO₂N CH₂CO₂H

MOLECULAR FORMULA:

C₁₂H₈F₁₇NO₄S

MOLECULAR WEIGHT:

585.23

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

01/20/2016

EXPIRY DATE: (mm/dd/yyyy)

01/20/2021

RECOMMENDED STORAGE:

Refrigerate ampoule

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 the conversion of the acetic acid molety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim

Date: _

<u>01/21/2016</u>

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

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

 $x_1, x_2, \dots x_n$ 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 $\pm 5\%$ (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.

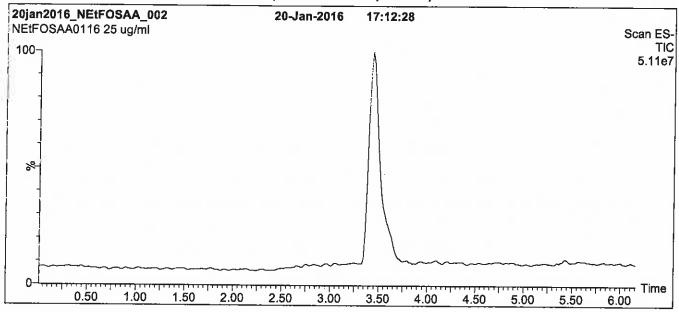
QUALITY MANAGEMENT:

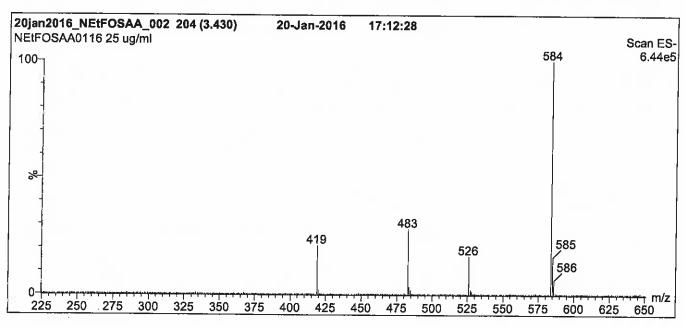
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).





Figure 1: N-EtFOSAA; LC/MS Data (TIC and Mass Spectrum)





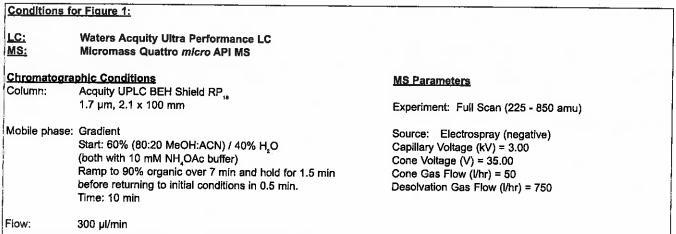
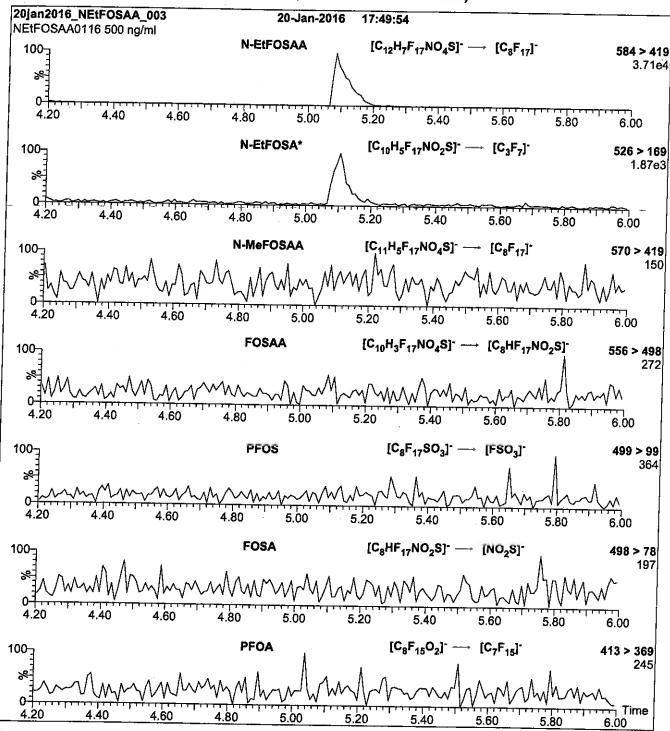
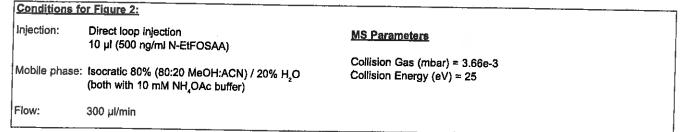


Figure 2: N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)



Note: N-EtFOSA is formed by fragmentation of N-EtFOSAA.



LCN-MeFOSA-M_00002



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSA-M

LOT NUMBER:

MOLECULAR WEIGHT:

SOLVENT(S):

NMeFOSA0516M

513.17

Methanol

COMPOUND:

N-methylperfluoro-1-octanesulfonamide

CAS #:

31506-32-8

STRUCTURE:

MOLECULAR FORMULA:

C₉H₄F₁₇NO₂S

CONCENTRATION:

 $50 \pm 2.5 \,\mu g/ml$

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/24/2016

EXPIRY DATE: (mm/dd/yyyy)

05/24/2021

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 05/26/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

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

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

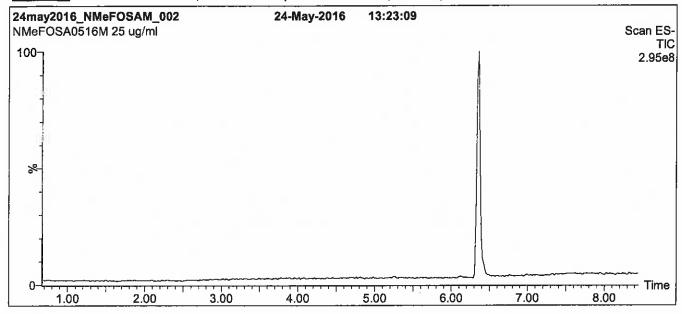
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

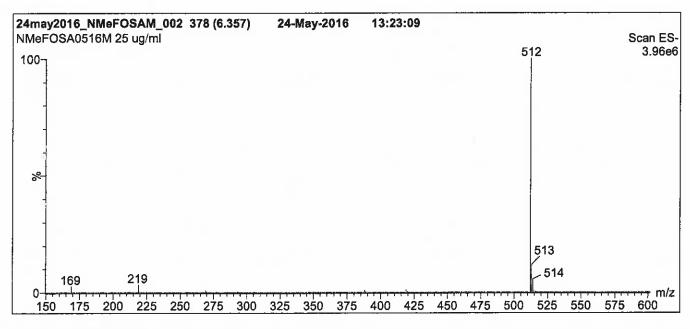




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.weil-labs.com or contact us directly at info@well-labs.com

Figure 1: N-MeFOSA-M; LC/MS Data (TIC and Mass Spectrum)





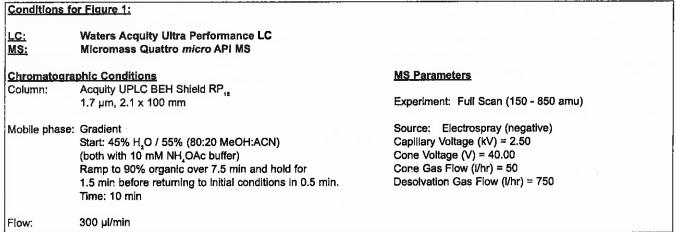
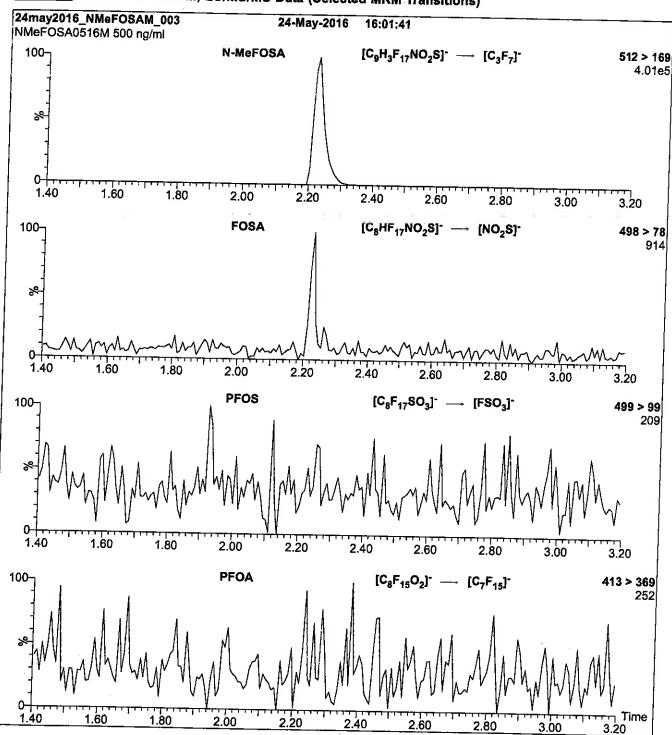
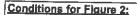


Figure 2: N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml N-MeFOSA-M)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H,O

(both with 10 mM NH OAc buffer)

MS Parameters

Collision Gas (mbar) = 3.54e-3 Collision Energy (eV) = 30

Flow:

300 µl/min

LCN-MeFOSAA_00003



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSAA

LOT NUMBER:

NMeFOSAA0116

COMPOUND:

N-methylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:

CAS #:

2355-31-9

MOLECULAR FORMULA:

C₁₁H₆F₁₇NO₄S

MOLECULAR WEIGHT:

571.21

CONCENTRATION:

50 ± 2.5 µg/ml

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/bd/yyyy)

01/20/2016

EXPIRY DATE: (mm/dd/yyyy)

01/20/2021

RECOMMENDED STORAGE:

Refrigerate ampoule

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 the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 01/21/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

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

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

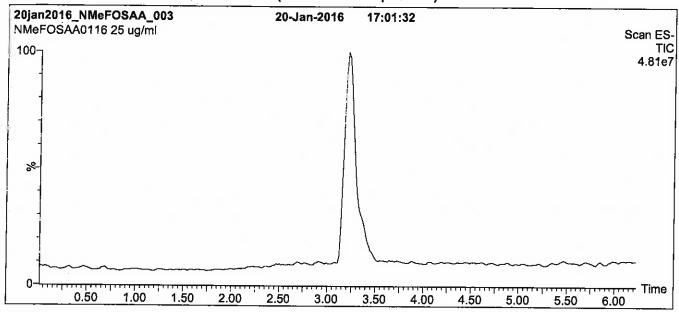
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

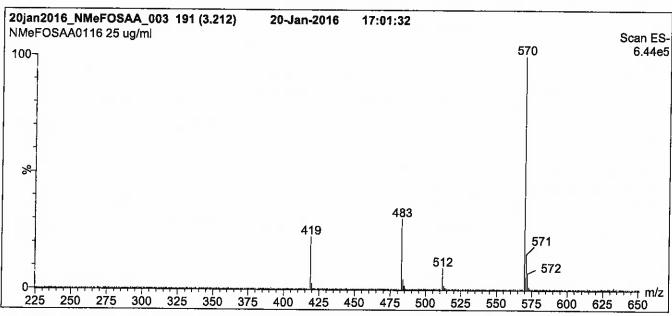




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.weil-labs.com or contact us directly at info@well-labs.com

Figure 1: N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)





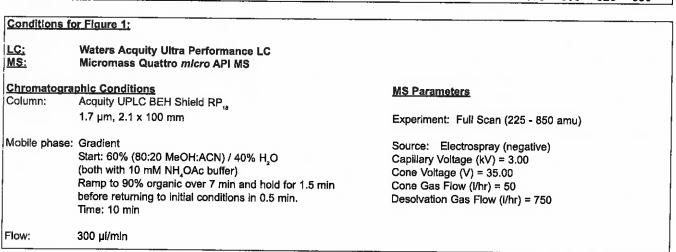
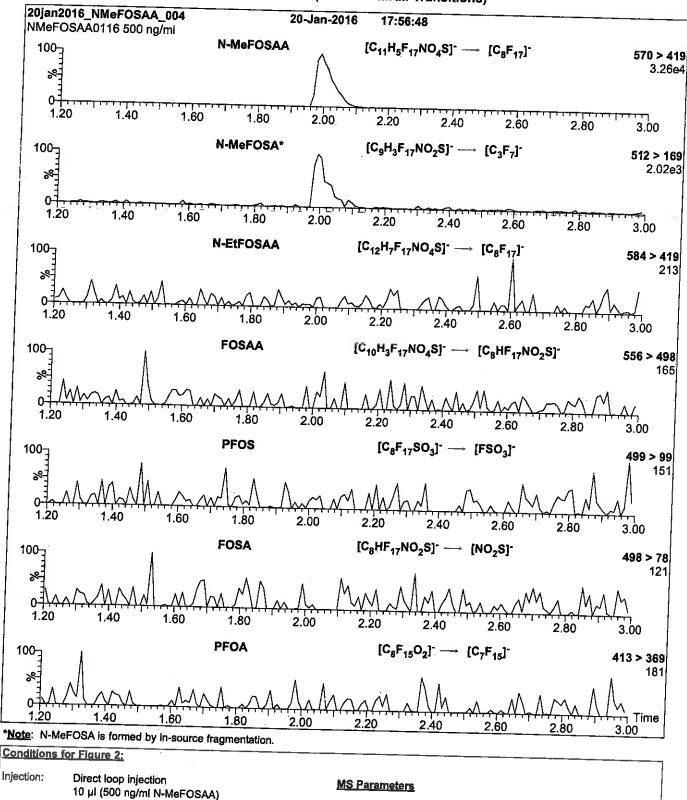
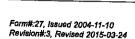


Figure 2: N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)





300 µi/min

Flow:

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H.O.

(both with 10 mM NH OAc buffer)

Collision Gas (mbar) = 3.66e-3

Collision Energy (eV) = 25

LCPFACMXB_00007



CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXB

Solution/Mixture of Native Perfluoroalkylcarboxylic Acids and Native Perfluoroalkylsulfonates

PRODUCT CODE:

PFAC-MXB

LOT NUMBER:

PFACMXB1115

SOLVENT(S):

Methanol / Water (<1%)

DATE PREPARED: (mm/dd/yyyy)

11/04/2015

LAST TESTED: (mm/dd/yyyy)

11/06/2015

EXPIRY DATE: (mm/dd/yyyy)

11/06/2020

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXB is a solution/mixture of thirteen native perfluoroalkylcarboxylic acids (C_4 - C_{14} , C_{16} , and C_{18}) and four native perfluoroalkylsulfonates (C_4 , C_8 , C_8 and C_{10}). The full name, abbreviation and concentration for each of the components are given in Table A.

The individual perfluoroalkylcarboxylic acids and perfluoroalkylsulfonates all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture

Figure 1: LC/MS Data (SIR)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)
Figure 3: 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 acids to their respective methyl esters.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com



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 compounds 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, $u_{x}(y)$, of a value y and the uncertainty of the independent parameters

 $x_{ij} x_{ij} ... x_{ij}$ 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 $\pm 5\%$ (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).





^{**}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**

Table A: PFAC-MXB; Components and Concentrations (ng/ml, ± 5% in Methanol / Water (<1%))

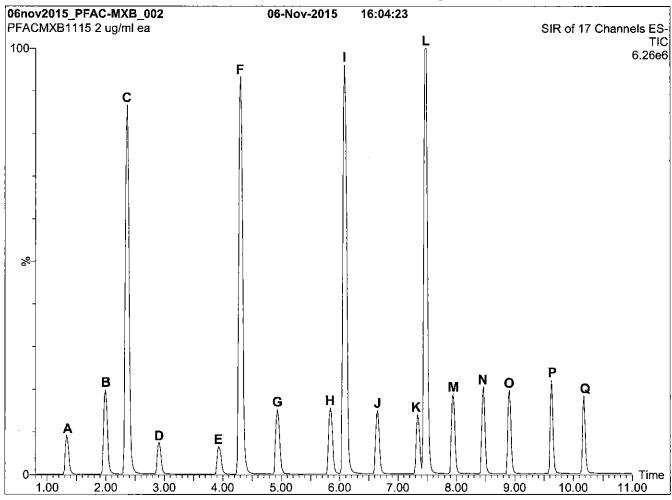
Name	Abbreviation	Concentration (ng/ml)		Peak Assignment In Figure 1
Perfluoro-n-butanoic acid	PFBA	2000		Α
Perfluoro-n-pentanoic acid	PFPeA	2000		В
Perfluoro-n-hexanoic acid	PFHxA	2000		D
Perfluoro-n-heptanoic acid	PFHpA	2000		E
Perfluoro-n-octanoic acid	PFOA	2000		G
Perfluoro-n-nonanoic acid	PFNA	2000		Н
Perfluoro-n-decanoic acid	PFDA	2000		J
Perfluoro-n-undecanoic acid	PFUdA	2000		K
Perfluoro-n-dodecanoic acid	PFDoA	2000		М
Perfluoro-n-tridecanoic acid	PFTrDA	2000		N
Perfluoro-n-tetradecanoic acid	PFTeDA	2000		0
Perfluoro-n-hexadecanoic acid	PFHxDA	2000		Р
Perfluoro-n-octadecanoic acid	PFODA	2000		Q
Name	Abbreviation	Concentration (ng/ml)		Peak
		as the salt	as the anion	Assignment in Figure 1
Potassium perfluoro-1-butanesulfonate	L-PFBS	2000	1770	С
Sodium perfluoro-1-hexanesulfonate	L-PFHxS	2000	1890	F
Sodium perfluoro-1-octanesulfonate	L-PFOS	2000	1910	- 1
Sodium perfluoro-1-decanesulfonate	L-PFDS	2000	1930	L

Certified By:

B.G. Chittim

Date: 11/11/2015

Figure 1: PFAC-MXB; LC/MS Data (Total Ion Current Chromatogram; SIR)



Conditions for Figure 1:

<u>LC:</u> Waters Acquity Ultra Performance LC MS: Micromass Quattro micro API MS

Chromatographic Conditions

Column:

Acquity UPLC BEH Shield RP,16

1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 55% H₂O / 45% (80:20 MeOH:ACN)

(both with 10 mM NH, OAc buffer)

Ramp to 95% organic over 10 min and hold for 1 min

before returning to initial conditions in 0.5 min.

Time: 12 min

Flow:

300 µl/min

MS Parameters

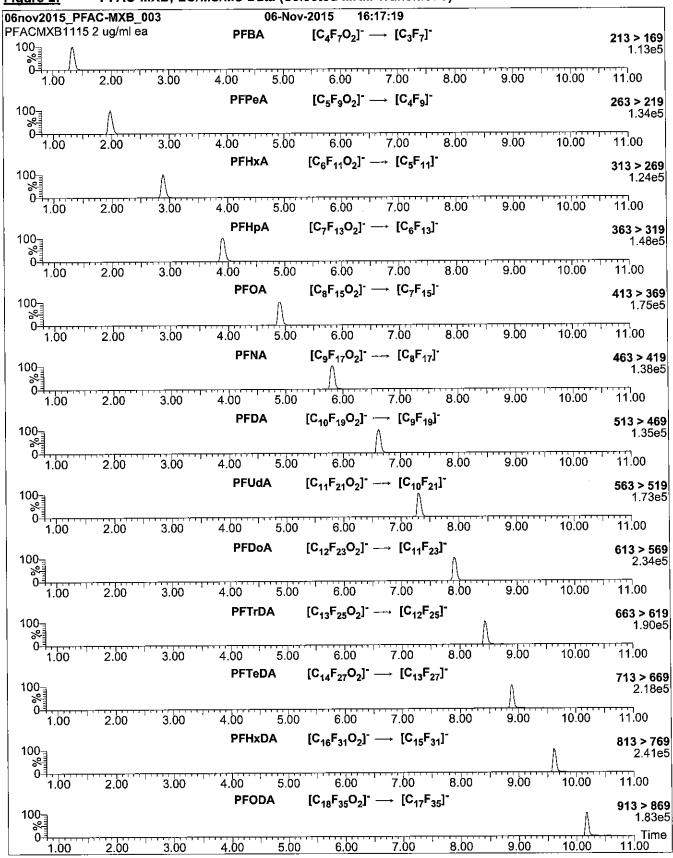
Experiment: SIR of 17 Channels

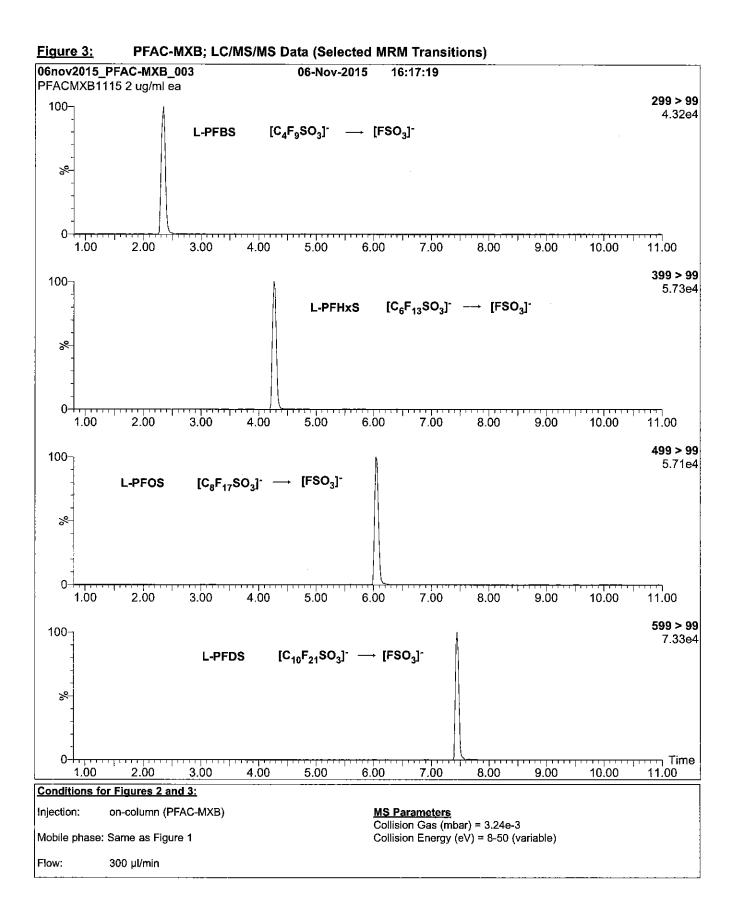
Source: Electrospray (negative) Capillary Voltage (kV) = 3.00 Cone Voltage (V) = variable (10-70)

Cone Gas Flow (I/hr) = 50

Desolvation Gas Flow (I/hr) = 750

Figure 2: PFAC-MXB; LC/MS/MS Data (Selected MRM Transitions)





LCPFBA_00005

P:8BC 9/13/16

ID: LCPFBA_00005 Exp: 05/27/21 Prpd: SBC

ID: LCPFBA_00006 Exp: 05/27/21 Prod: SBC PF-n-butanoic acid



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFBA

LOT NUMBER:

PFBA0516

COMPOUND:

Perfluoro-n-butanoic acid

STRUCTURE:

CAS #:

375-22-4

C₄HF₂O₂

MOLECULAR WEIGHT:

214.04

CONCENTRATION:

MOLECULAR FORMULA:

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S):

Methanol Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/27/2016

EXPIRY DATE: (mm/dd/yyyy)

05/27/2021

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 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:

Date: 05/31/2016

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, $u_{o}(y)$, 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 $\pm 5\%$ (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 explry 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

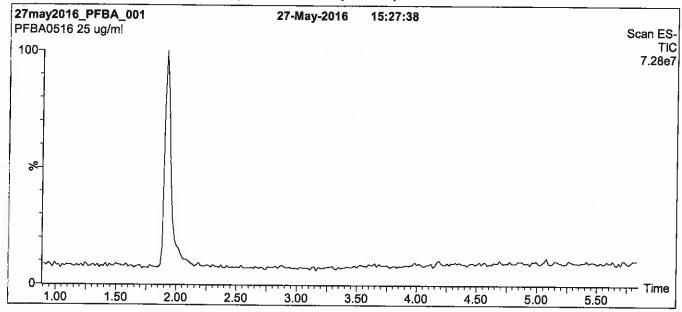
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

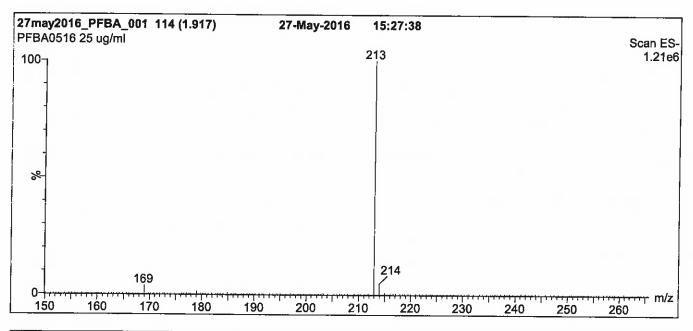


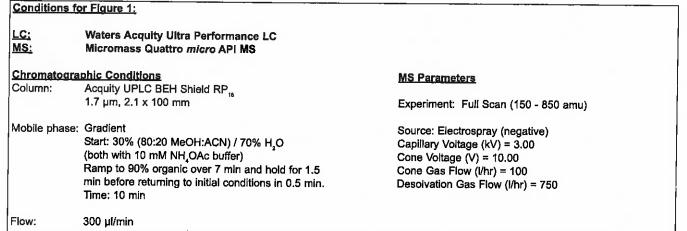


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

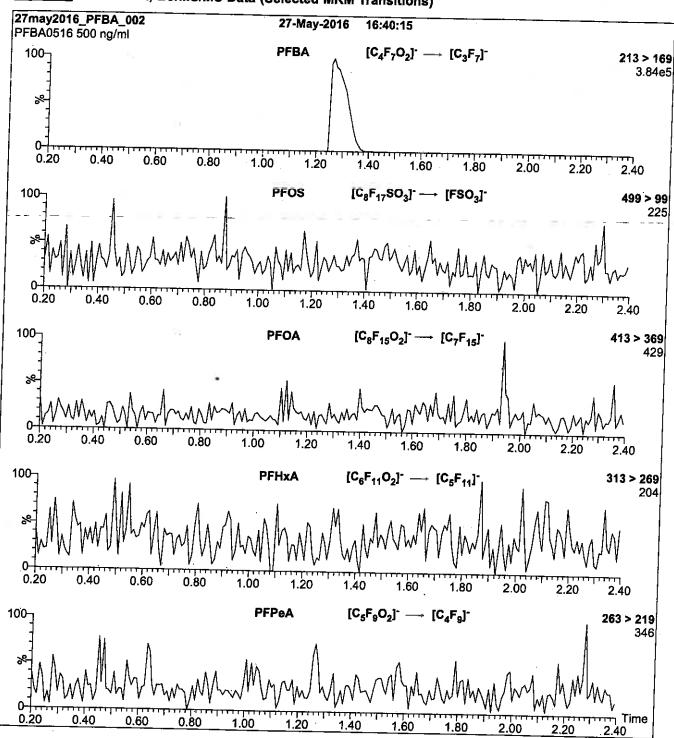
Figure 1: PFBA; LC/MS Data (TIC and Mass Spectrum)

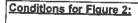






PFBA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop injection

10 µl (500 ng/ml PFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O (both with 10 mM NH₄OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.62e-3 Collision Energy (eV) = 10

LCPFBS_00005

R: 9/9/16 8BC





VELLINGTON ABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

M2-8:2FTS

LOT NUMBER:

M282FTS0116

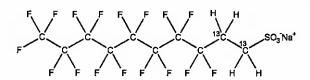
COMPOUND:

Sodium 1H,1H,2H,2H-perfluoro-[1,2-13C]decane sulfonate

STRUCTURE:

CAS #:

Not available



MOLECULAR FORMULA:

¹³C₂¹²C₈H₄F₁₇SO₃Na

MOLECULAR WEIGHT:

552.15

CONCENTRATION:

 $50.0 \pm 2.5 \,\mu g/ml$ (Na salt) SOLVENT(S):

Methanol

47.9 ± 2.4 µg/ml

(M2-8:2FTS anion)

CHEMICAL PURITY:

>98%

ISOTOPIC PURITY:

≥99% ¹³C

LAST TESTED: (mm/dd/yyyy)

01/08/2016

(1,2-13C_n)

EXPIRY DATE: (mm/dd/yyyy)

01/08/2021

RECOMMENDED STORAGE:

Refrigerate ampoule

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.

The native 8:2FTS contains 4.22% of 34S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 01/18/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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. Dupilcate 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

 $x_1, x_2, ... x_n$ 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 $\pm 5\%$ (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:

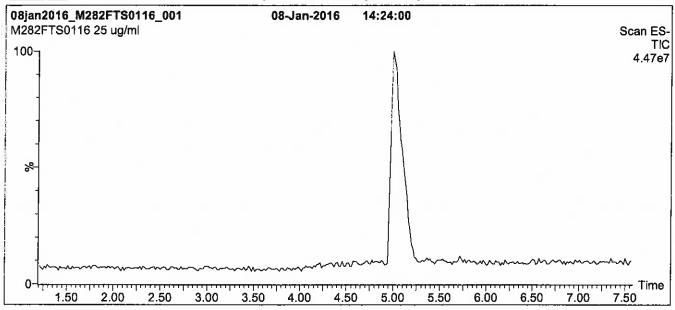
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc, (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

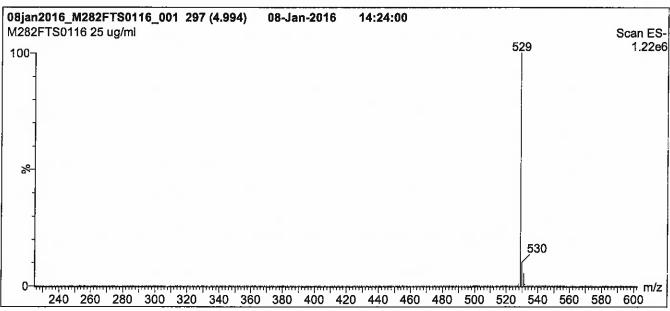




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: M2-8:2FTS; LC/MS Data (TIC and Mass Spectrum)





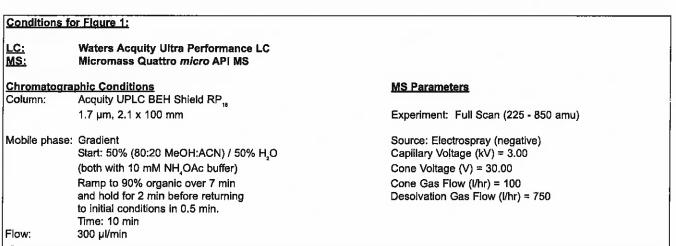
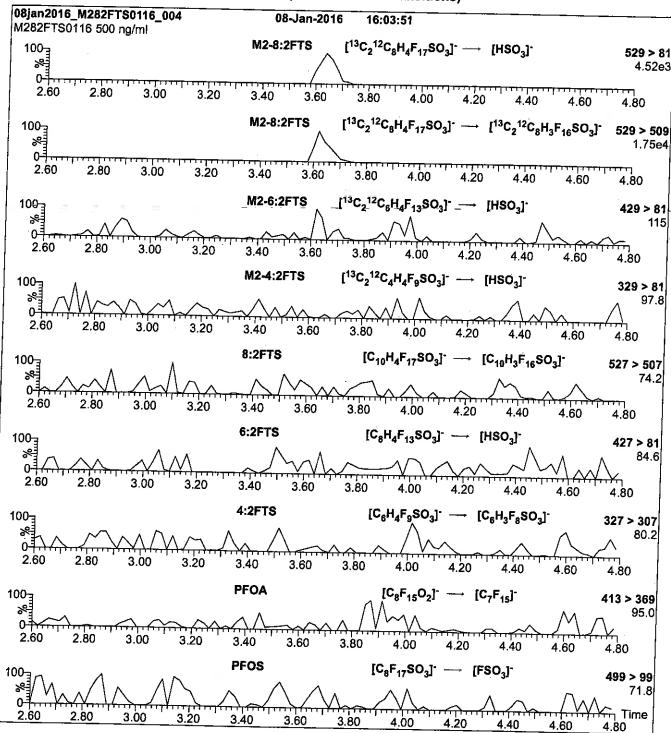
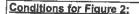


Figure 2: M2-8:2FTS; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml M2-8:2FTS)

MS Parameters

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

Collision Gas (mbar) = 3.20e-3 Collision Energy (eV) = 30

(both with 10 mM NH,OAc buffer)

Flow:

300 µl/min



ID: LCPFBS_00005 Exp: 03/15/21 Prpd: SBC PF-1-butanesulfonate K sa



ID: LCPFBS_00006 Exp: 03/15/21 Prpd: SBC PF-1-butanesulfonate K sa



VELLINGTON ABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

L-PFBS

LOT NUMBER:

LPFBS0316

COMPOUND:

Potassium perfluoro-1-butanesulfonate

CAS #:

29420-49-3

STRUCTURE:

MOLECULAR FORMULA:

C₄F₆SO₅K

MOLECULAR WEIGHT:

SOLVENT(S):

338.19

Methanol

CONCENTRATION:

50.0 ± 2.5 μg/ml (K salt)

 $44.2 \pm 2.2 \mu g/ml$ (PFBS anion)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

03/15/2016

EXPIRY DATE: (mm/dd/yyyy)

03/15/2021

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 03/21/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

The products prepared by Wellington Laboratorles 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 meiting 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

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

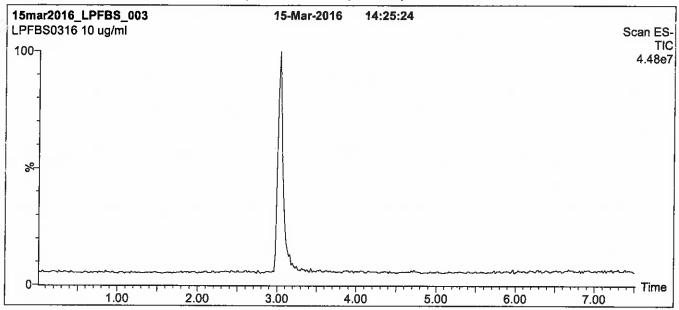
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

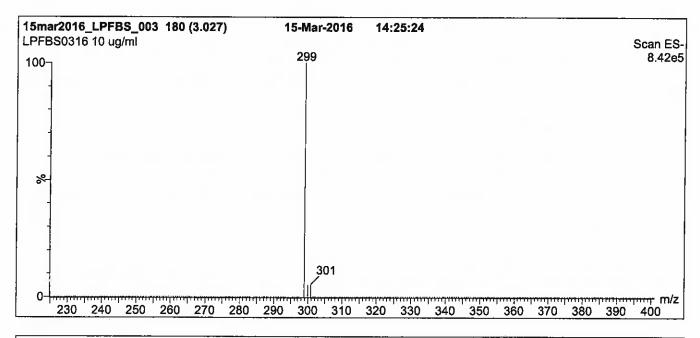


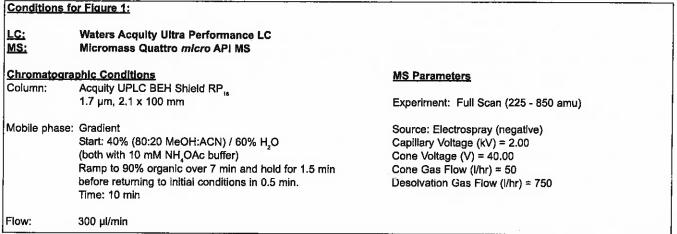


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

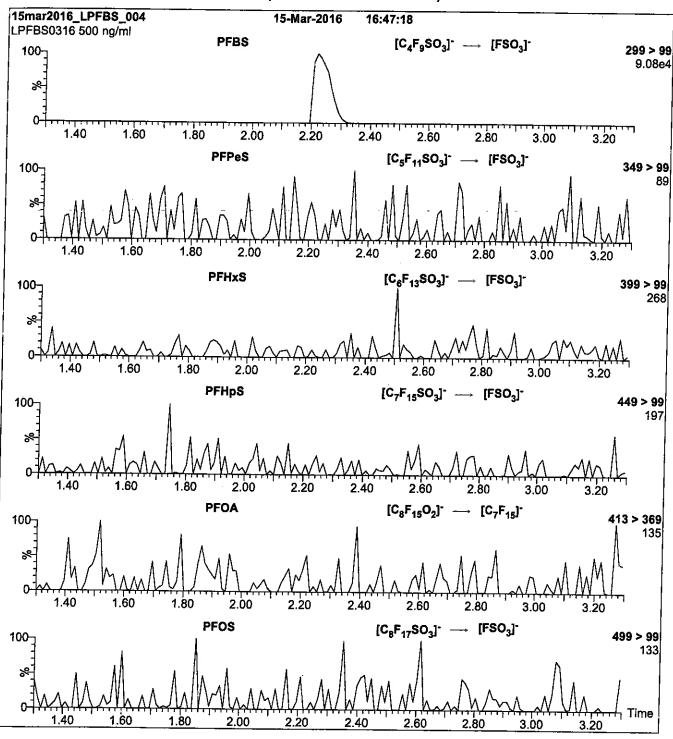
Figure 1: L-PFBS; LC/MS Data (TIC and Mass Spectrum)







L-PFBS; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Flow:

Direct loop injection

10 μl (500 ng/ml L-PFBS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H,O

(both with 10 mM NH₂OAc buffer)

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.20e-3 Collision Energy (eV) = 25

LCPFDA 00005



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFDA

COMPOUND:

Perfluoro-n-decanoic acid

STRUCTURE:

LOT NUMBER:

PFDA0615

CAS #:

335-76-2

MOLECULAR FORMULA:

CONCENTRATION:

C₁₀HF₁₉O₂

 $50 \pm 2.5 \,\mu g/ml$

MOLECULAR WEIGHT:

SOLVENT(S):

514.08

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

07/02/2015

EXPIRY DATE: (mm/dd/yyyy)

07/02/2020

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 ~ 0.6% PFNA and ~ 0.3% PFOA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ... X_n$ on which it depends is:

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

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 $\pm 5\%$ (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:

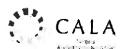
Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

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:

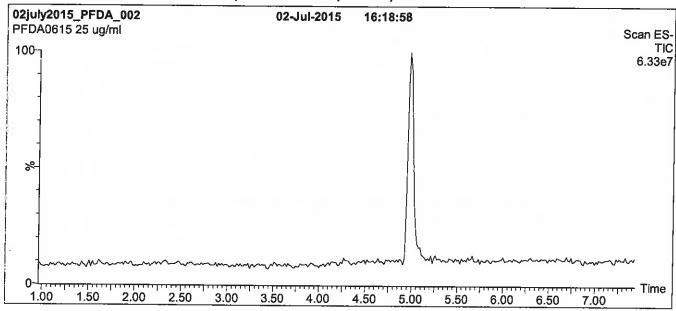
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

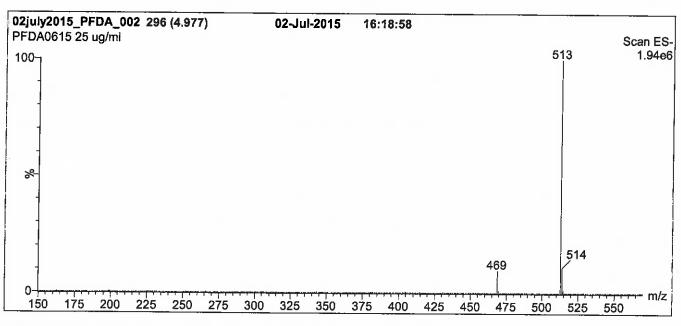




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





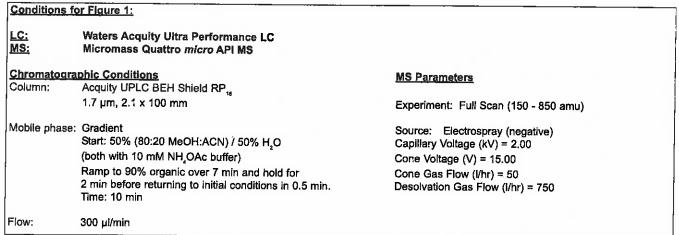
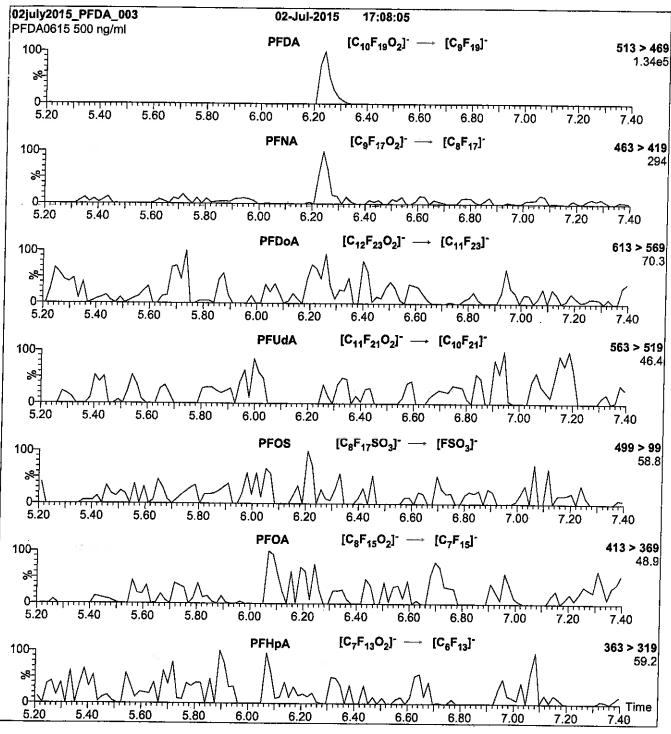


Figure 2: PFDA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml PFDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH₂OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.62e-3 Collision Energy (eV) = 13

LCPFDoA_00005

CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

PFDoA

LOT NUMBER:

PFDoA0115

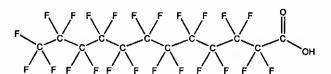
COMPOUND:

Perfluoro-n-dodecanoic acid

STRUCTURE:

CAS #:

307-55-1



MOLECULAR FORMULA:

C, HF, O,

MOLECULAR WEIGHT:

614.10

CONCENTRATION:

 $50 \pm 2.5 \,\mu g/ml$

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

01/30/2015

EXPIRY DATE: (mm/dd/yyyy)

01/30/2020

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

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, $u_{x}(y)$, of a value y and the uncertainty of the Independent parameters

$$x_i, x_j,...x_n$$
 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 $\pm 5\%$ (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:

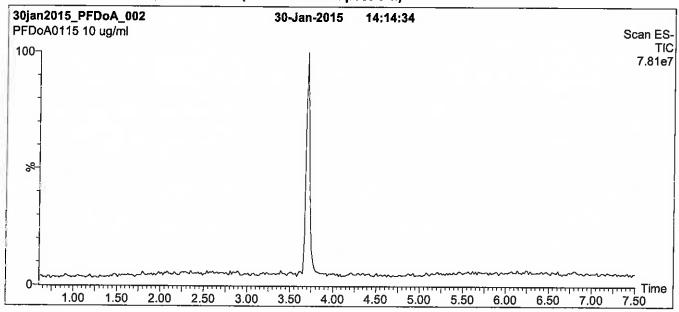
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

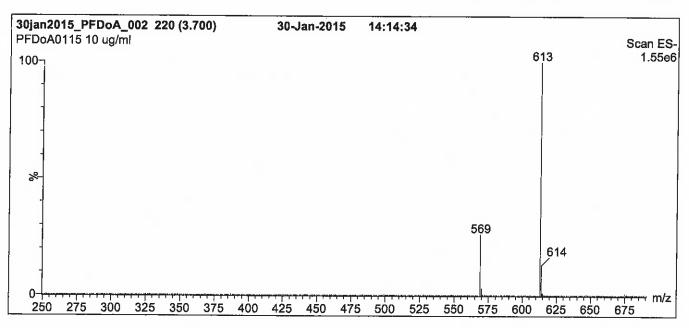




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





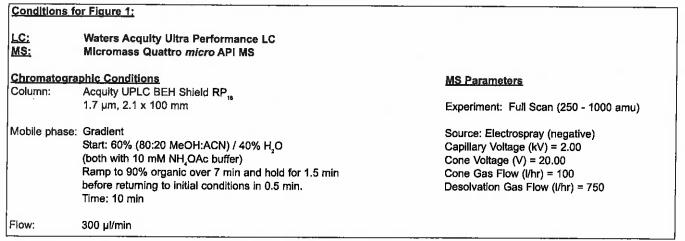
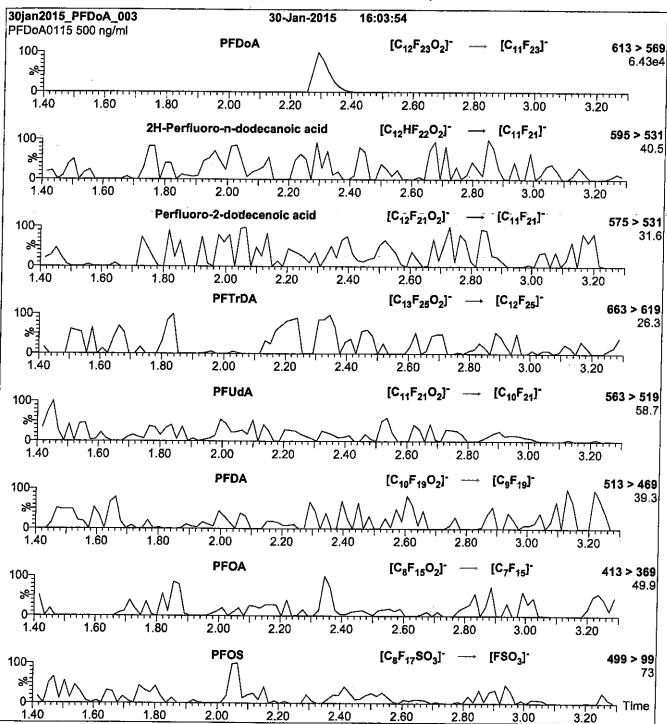
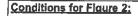


Figure 2: PFDoA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml PFDoA)

MS Parameters

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

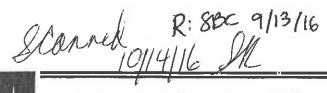
(both with 10 mM NH OAc buffer)

Collision Gas (mbar) = 3.28e-3 Collision Energy (eV) = 13

Flow:

300 µl/min

LCPFHpA_00006





ID: LCPFHpA_00006 Exp: 01/22/21 Prpd: SBC PF-n-heptanoic acid



ID: LCPFHpA_00007 Exp: 31/22/21 Prpd: SBC PF-n-heptanoic acid



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFHpA

LOT NUMBER:

PFHpA0116

COMPOUND:

Perfluoro-n-heptanoic acid

STRUCTURE:

CAS #:

375-85-9

MOLECULAR FORMULA:

C,HF,O,

CONCENTRATION:

50 ± 2.5 µg/ml

MOLECULAR WEIGHT:

364.06

SOLVENT(S):

Methanol Water (<1%)

CHEMICAL PURITY:

>98%

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 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:

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

 $X_1, X_2, ..., X_n$ 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 $\pm 5\%$ (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:

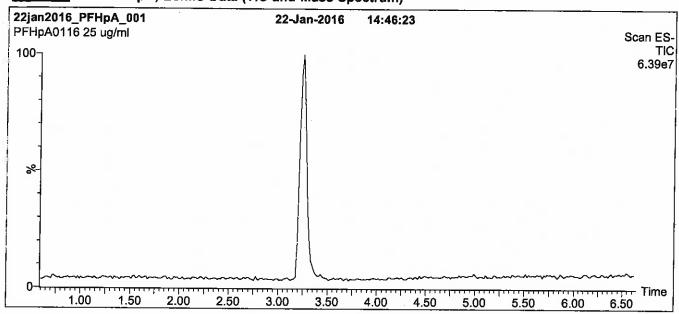
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

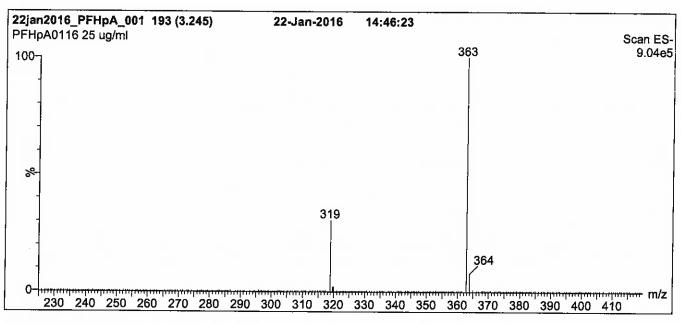


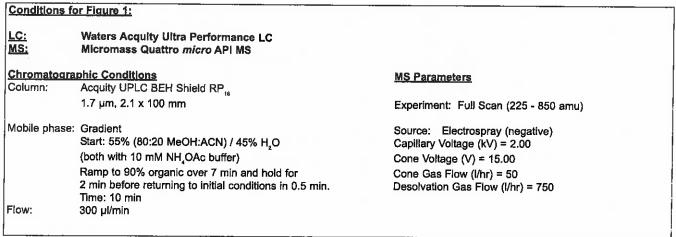


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

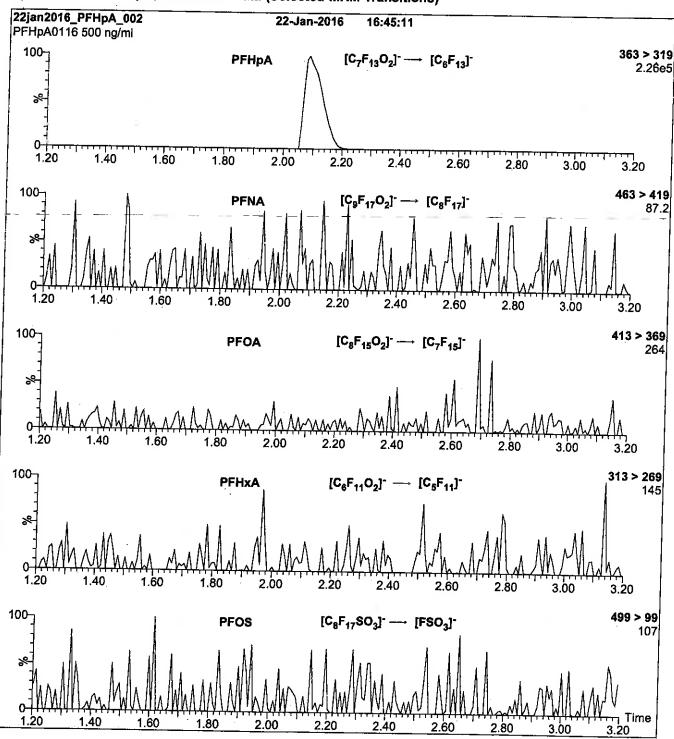
Figure 1: PFHpA; LC/MS Data (TIC and Mass Spectrum)

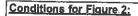






PFHpA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop injection

10 µl (500 ng/ml PFHpA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH₄OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.50e-3 Collision Energy (eV) = 11

LCPFHpS_00009







CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

L-PFHpS

LOT NUMBER:

LPFHpS1115

COMPOUND:

Sodium perfluoro-1-heptanesulfonate

STRUCTURE:

CAS #:

Not available

472.10

Methanol

MOLECULAR FORMULA:

C₇F₁₅SO₃Na

MOLECULAR WEIGHT: $50.0 \pm 2.5 \,\mu g/ml$ (Na salt) SOLVENT(S):

47.6 ± 2.4 µg/ml (PFHpS anion)

CHEMICAL PURITY:

CONCENTRATION:

>98%

LAST TESTED: (m:n/dd/yyyy)

11/06/2015

EXPIRY DATE: (mm/dd/yyyy)

11/06/2020

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 ~ 0.1% of L-PFHxS (C_sF₁₃SO₃Na) and ~ 0.2% of L-PFOS (C_sF₁₃SO₃Na).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

11/09/2015

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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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:

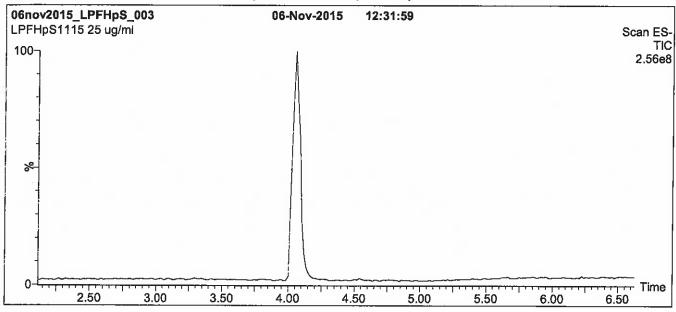
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

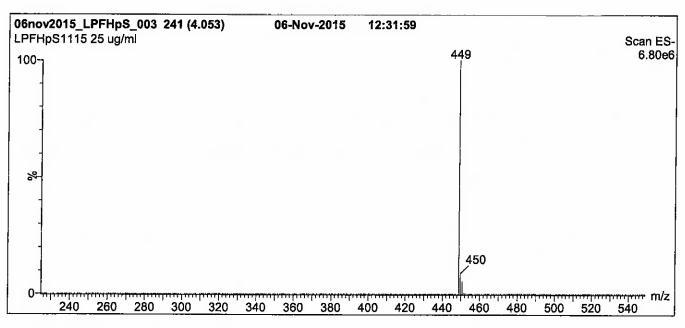




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.weil-labs.com or contact us directly at info@weil-labs.com

Figure 1: L-PFHpS; LC/MS Data (TIC and Mass Spectrum)





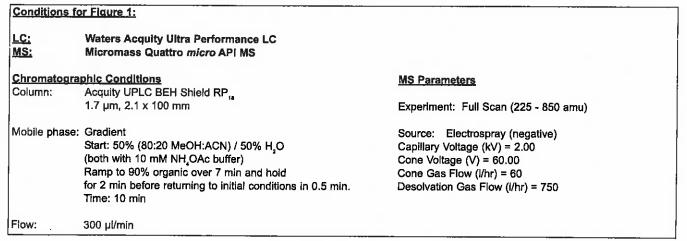
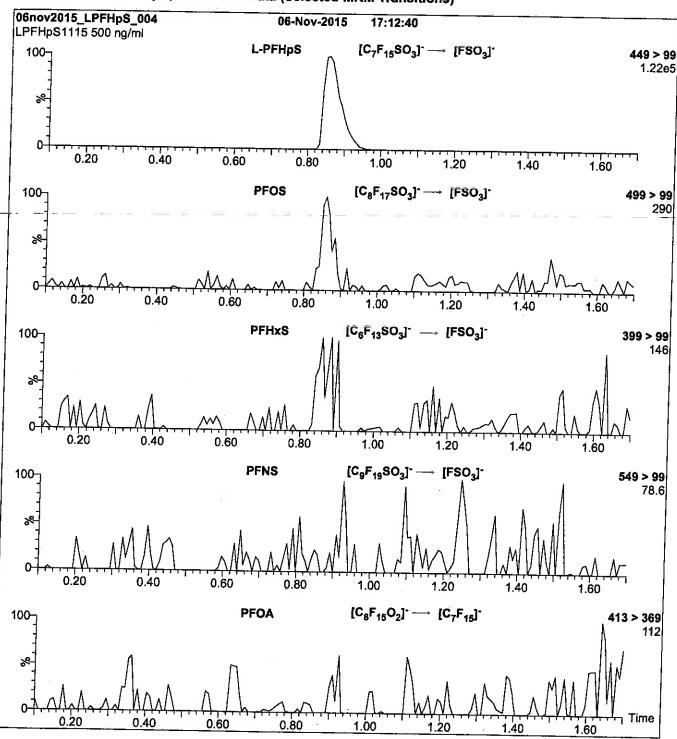
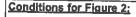


Figure 2: L-PFHpS; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml L-PFHpS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O (both with 10 mM NH₂OAc buffer)

Collision Gas (mbar) = 3.31e-3 Collision Energy (eV) = 35

MS Parameters

Flow:

300 µl/min

LCPFHxA 00005

R: 8Be 9/13/16



iD: LCPFHxA_00005 Exp: 12/22/20 Prpd; SBC PF-n-hexanoic acid



ID: LCPFHxA_00006 Exp: 12/22/20 Prpd: SBC PF-n-hexanoic acid



CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFHxA

LOT NUMBER:

PFHxA1215

COMPOUND:

Perfluoro-n-hexanoic acid

STRUCTURE:

CAS #:

307-24-4

MOLECULAR FORMULA:

C,HF,O,

CONCENTRATION:

MOLECULAR WEIGHT:

314.05

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S):

Methanol Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyr)

12/22/2015

EXPIRY DATE: (mm/dd/yyyy)

12/22/2020

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 ~ 0.2% of Perfluoro-n-pentanoic acid (PFPeA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 12/23/2015

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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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 explry 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:

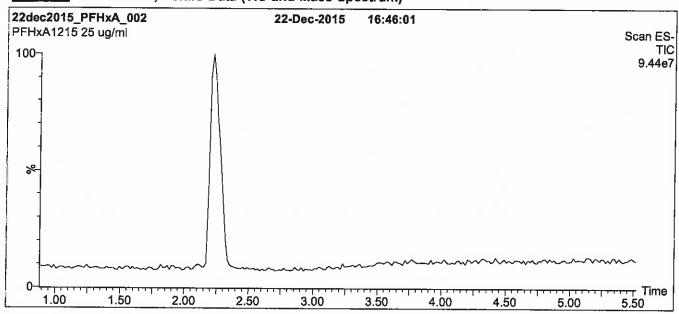
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

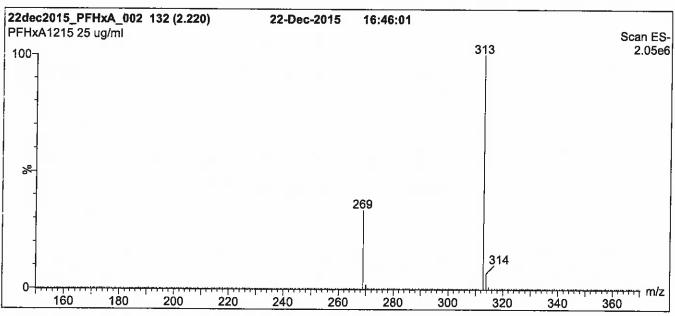




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





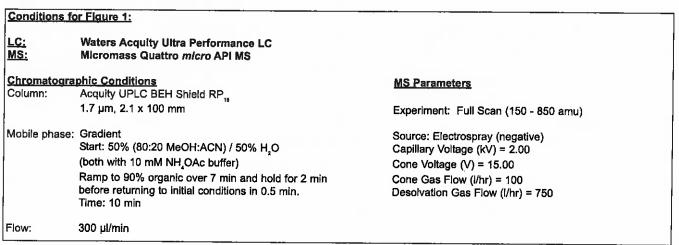
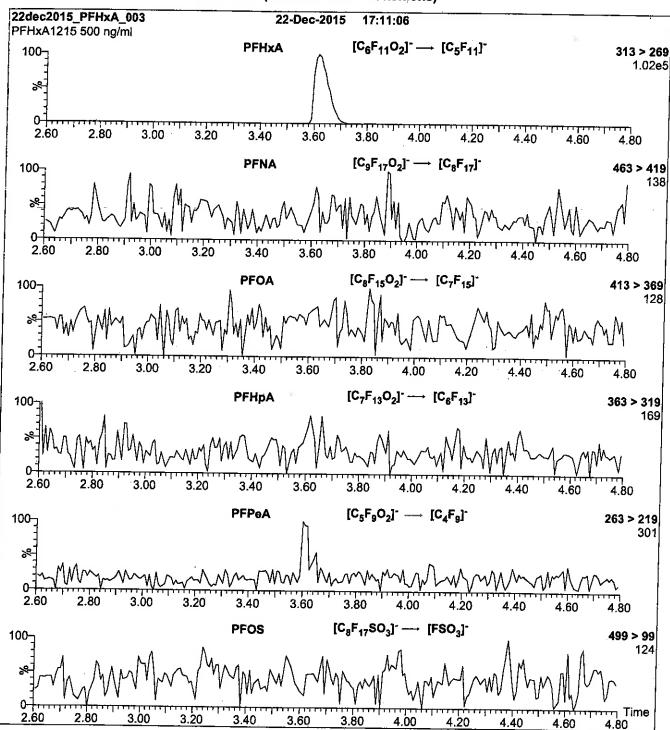
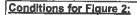


Figure 2: PFHxA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml PFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_aO

(both with 10 mM NH,OAc buffer)

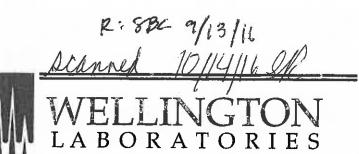
Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3 Collision Energy (eV) = 10

LCPFHxDA_00006



ID: LCPFHxDA_00006 Exp: 05/25/21 Prpd: SBC PFHxDA stock 50ug/mL

ID: LCPFHxDA_00007 Exp: 05/25/21 Prpd: SBC PFHxOA stock 50ug/ml.

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFHxDA

LOT NUMBER:

PFHxDA0516

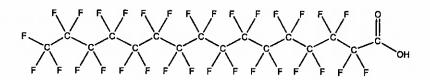
COMPOUND:

Perfluoro-n-hexadecanoic acid

STRUCTURE:

CAS #:

67905-19-5



MOLECULAR FORMULA:

C,HF,O,

MOLECULAR WEIGHT:

814.13

CONCENTRATION:

50 ± 2.5 µg/mi

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/25/2016

EXPIRY DATE: (mm/dd/yyyy)

05/25/2021

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 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

Contains ~ 0.4% of PFODA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 05/27/2016

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.</p>

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 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:

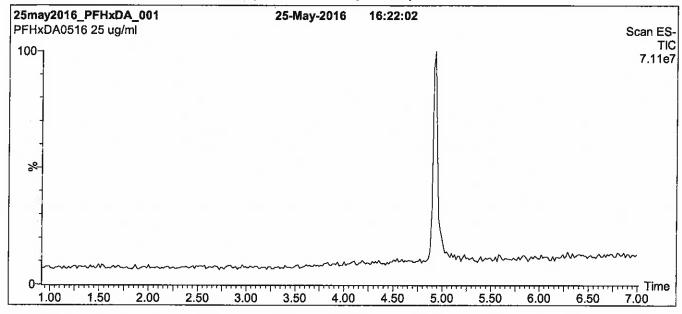
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

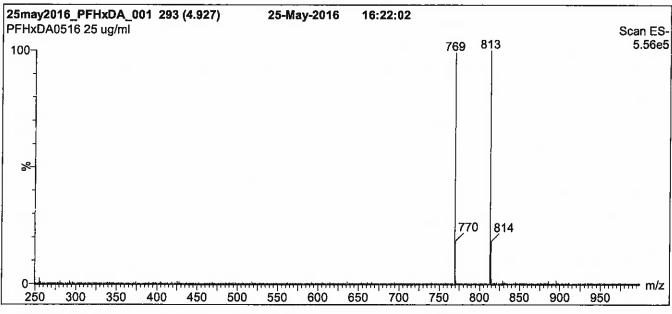




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





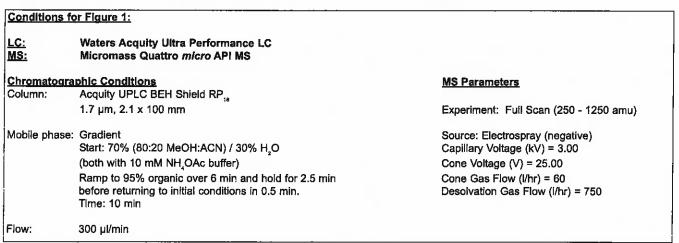
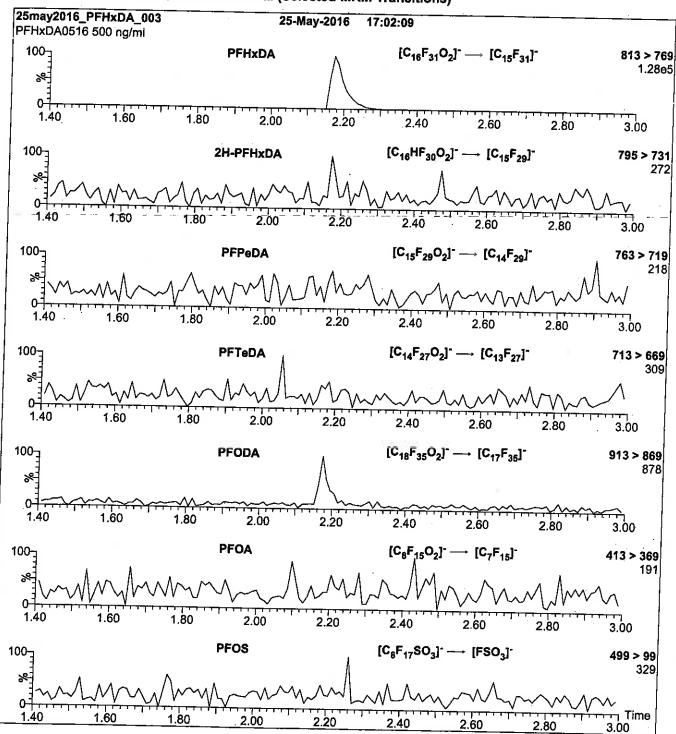
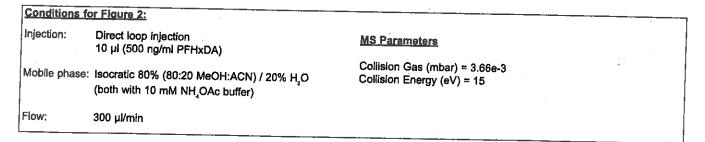


Figure 2: PFHxDA; LC/MS/MS Data (Selected MRM Transitions)





LCPFHxS-br_00002



ID: LCPFHxS-br_00002 Exp: 07/03/20 Prpd: SBC Potassium Perfluorchexane



ID: LCPFHx5-br 00003 Exp: 07/03/20 Prod: SBC Potassium Perfluorohexane



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:

br-PFHxSK

LOT NUMBER:

brPFHxSK0615

CONCENTRATION:

 $50.0 \pm 2.5 \,\mu\text{g/ml}$ (total potassium salt)

45.5 ± 2.3 μg/ml (total PFHxS anion)

SOLVENT(S):

Methanol

DATE PREPARED: (mm/dd/yyyy)

06/29/2015

LAST TESTED: (mrv/dd/yyyy)

07/03/2015

EXPIRY DATE: (mm/dd/yyyy)

07/03/2020

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by 19F-NMR

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

Figure 2: LC/MS Data

Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

See page 2 for further details.

Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.

CAS#: 3871-99-6 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG 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 compounds 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 meiting 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

 $X_1, X_2, ... X_n$ 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 $\pm 5\%$ (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 explry 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).





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

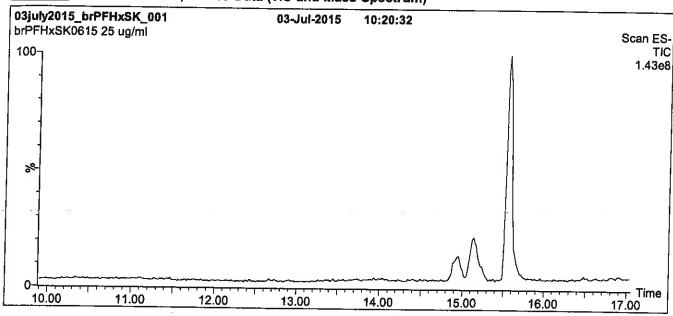
Table A: br-PFHxSK; Isomeric Components and Percent Composition (by 19F-NMR)*

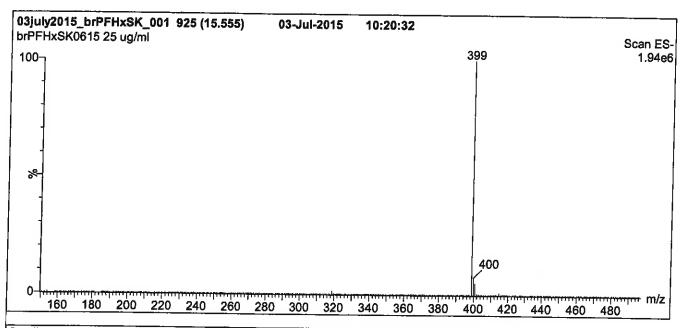
Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-hexanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ -K+	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ -K+ CF ₃	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ -K ⁺ CF ₃	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ -K+ CF ₃	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ -K+ CF ₃	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	CF ₃ CF ₃ CCF ₂ CF ₂ SO ₃ -K⁺ CF ₃	0.2
7	Other Unidentified Isomers		0.5

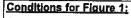
Percent of total perfluorohexanesulfonate isomers only.
 Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By: Date: 07/15/2015

Figure 1: br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)







LC: Waters Acquity Ultra Performance LC
MS: Micromass Quattro micro API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP14

1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient

Start: 20% (80:20 MeOH:ACN) / 80% H₂O (both with 10 mM NH₄OAc buffer) Ramp to 50% organic over 14 min. Ramp to 90% organic over 3 min and hold for 1.5 min before returning to initial conditions in 0.5 min.

Time: 20 min

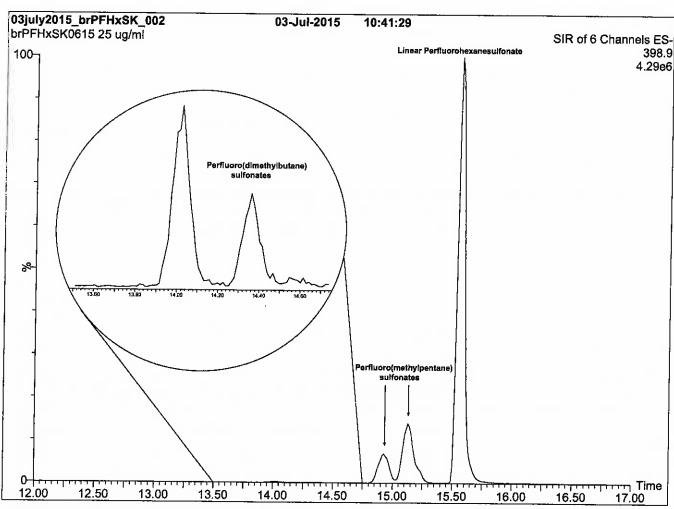
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 50.00
Cone Gas Flow (l/hr) = 60
Desolvation Gas Flow (l/hr) = 750

Figure 2: br-PFHxSK; LC/MS Data



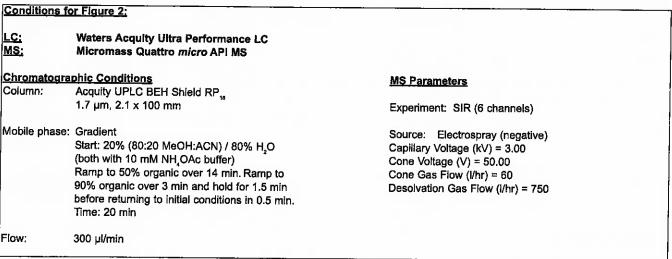
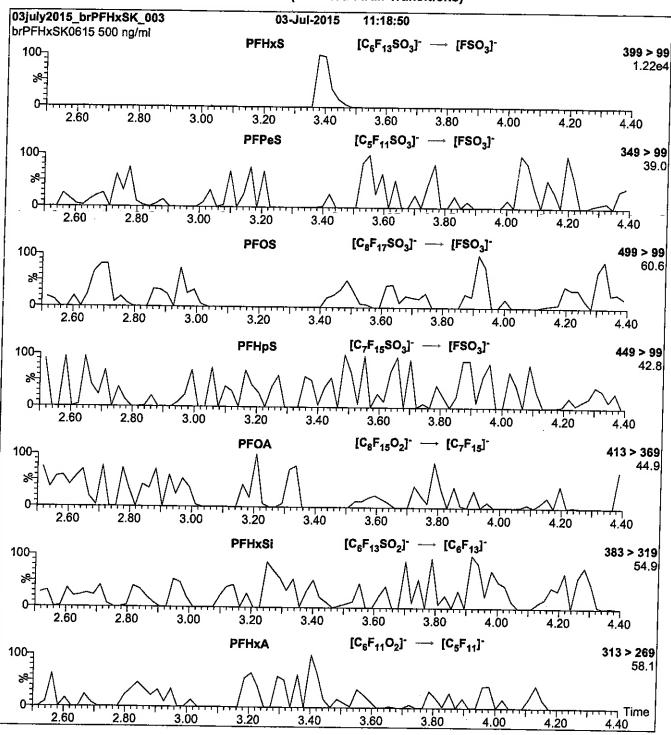
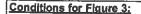


Figure 3: br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Flow:

Direct loop injection

10 µl (500 ng/ml br-PFHxSK)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

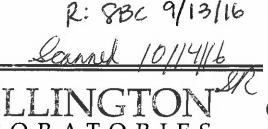
(both with 10 mM NH,OAc buffer)

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.54e-3 Collision Energy (eV) = 30

LCPFNA 00006





ID: LCPFNA_00006 Exp: 10/23/20 Prpd: SBC PF-n-nonanoic acid





CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFNA

LOT NUMBER:

PFNA1015

COMPOUND:

Perfluoro-n-nonanoic acid

CAS #:

375-95-1

STRUCTURE:

MOLECULAR FORMULA:

C,HF,O,

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

MOLECULAR WEIGHT:

464.08

SOLVENT(\$):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

10/23/2015

EXPIRY DATE: (mm/dd/yyyy)

10/23/2020

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-octanoic acid (PFOA) and < 0.1% of perfluoro-n-heptanoic acid (PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date:

10/30/2015

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, $u_i(y)$, 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 $\pm 5\%$ (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:

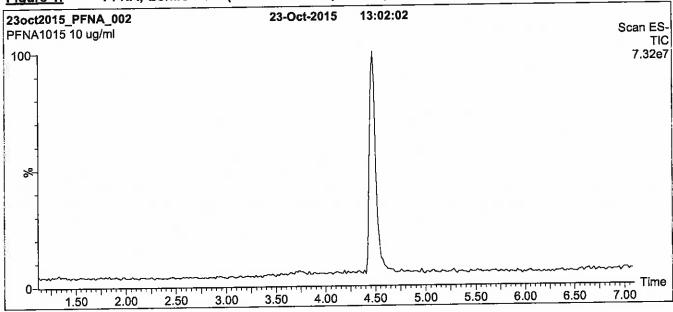
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

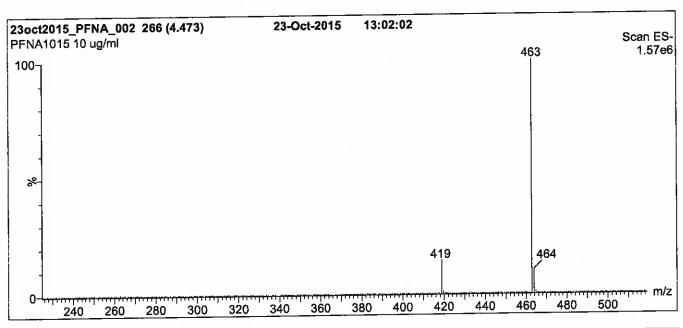


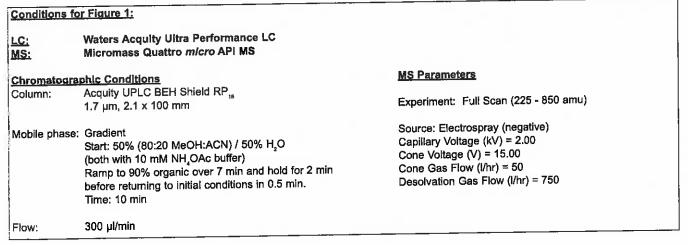


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

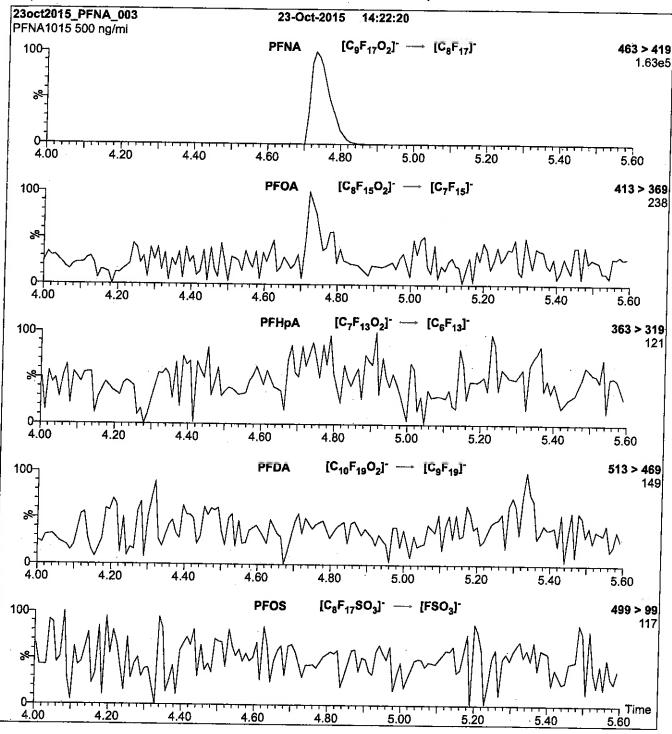








PFNA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop injection

10 µl (500 ng/ml PFNA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H,O

(both with 10 mM NH OAc buffer)

MS Parameters

Collision Gas (mbar) = 3.28e-3 Collision Energy (eV) = 11

Flow:

300 µl/min

LCPFOA 00006



WELLINGTON

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFOA

LOT NUMBER:

PFOA1115

COMPOUND:

Perfluoro-n-octanoic acid

STRUCTURE:

CAS #:

335-67-1

MOLECULAR FORMULA:

C₈HF₁₅O₂

CONCENTRATION:

50 ± 2.5 µg/ml

MOLECULAR WEIGHT:

414.07

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

11/06/2015

EXPIRY DATE: (mm/dd/yyyy)

11/06/2020

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B G Chiltim

Date:

<u> 11/11/201:</u>

(mm/dd/yyyy

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

 $x_1, x_2,...x_n$ on which it depends is:

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

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 $\pm 5\%$ (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:

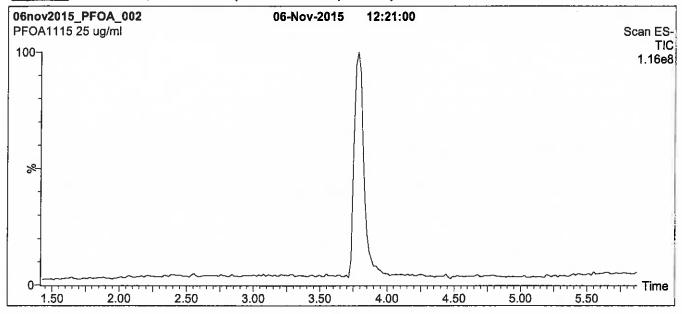
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

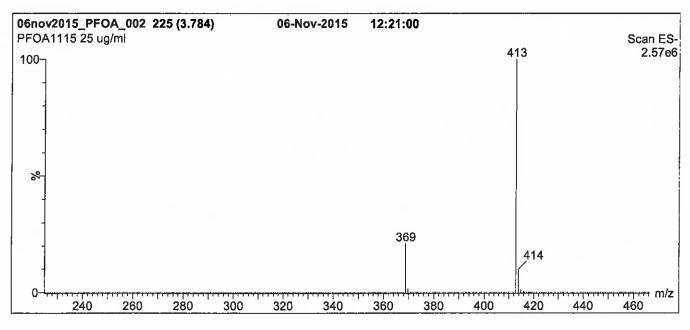




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at lnfo@well-labs.com

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





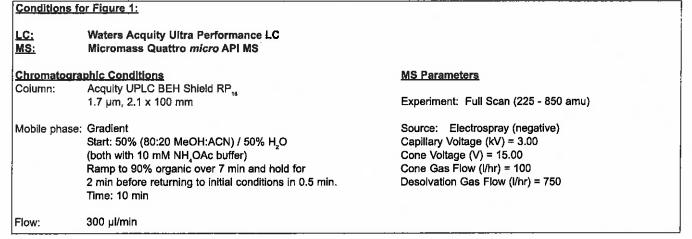
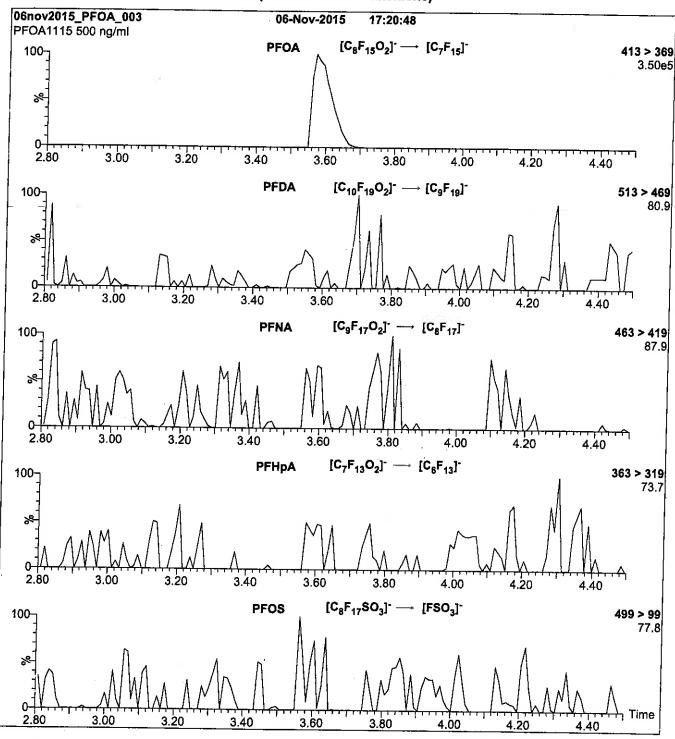


Figure 2: PFOA; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 μl (500 ng/ml PFOA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH,OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.17e-3 Collision Energy (eV) = 10

LCPFODA_00006





CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFODA

LOT NUMBER:

PFODA0416

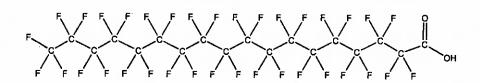
COMPOUND:

STRUCTURE:

Perfluoro-n-octadecanoic acid

CAS#:

16517-11-6



MOLECULAR FORMULA:

C₁₈HF₃₅O₂

MOLECULAR WEIGHT:

914.14

CONCENTRATION:

50 ± 2.5 µg/ml

SOLVENT(S):

Methanoi Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

04/29/2016

EXPIRY DATE: (mm/dd/yyyy)

04/29/2021

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 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:

<u> 15/20/2016</u>

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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, $u_{o}(y)$, 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 $\pm 5\%$ (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:

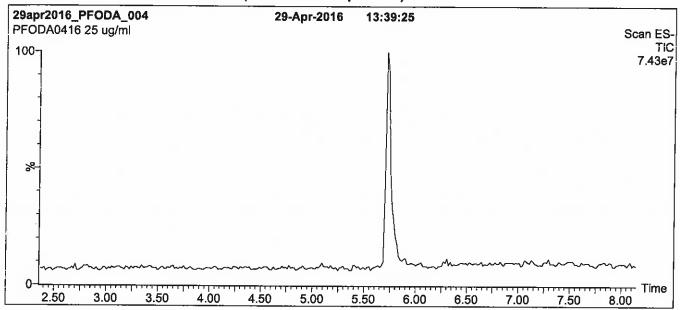
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

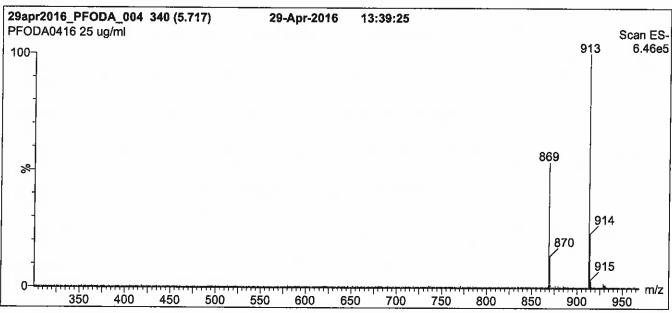




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





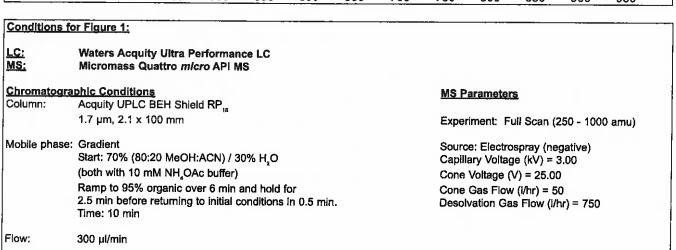
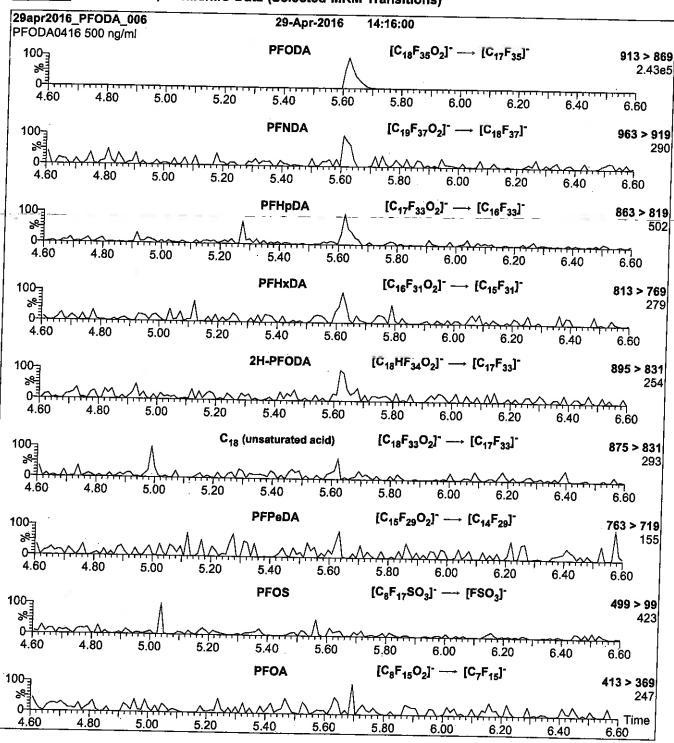
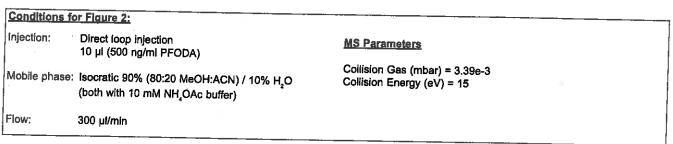
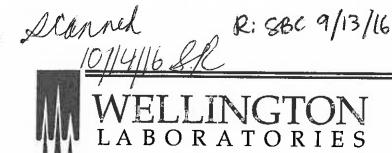


Figure 2: PFODA; LC/MS/MS Data (Selected MRM Transitions)





LCPFOS-br_00002





Potassium Perfluorooctane

ID: LCPFOS-br_00003 Exp: 10/14/20 Prpd: SBC
Potassium Perfluorooctane



CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and **Branched Isomers**

PRODUCT CODE:

br-PFOSK

LOT NUMBER:

brPFOSK1015

CONCENTRATION:

50 ± 2.5 μg/ml (total potassium salt)

46.4 ± 2.3 µg/ml (total PFOS anion)

SOLVENT(S):

Methanol

DATE PREPARED: (mm/dd/vvv)

10/13/2015

LAST TESTED: (mm/dd/yyyy)

10/14/2015

EXPIRY DATE: (mm/dd/yyyy)

10/14/2020

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by 19F-NMR

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

Figure 2: LC/MS Data (SIR)

Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

See page 2 for further details.

A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.

CAS#: 2795-39-3 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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 compounds 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 $x_a, x_a, ..., x_n$ 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 $\pm 5\%$ (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).





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

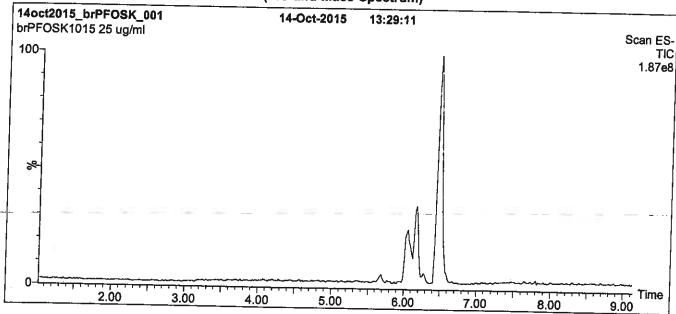
<u>Table A:</u> br-PFOSK; Isomeric Components and Percent Composition (by ¹⁶F-NMR)*

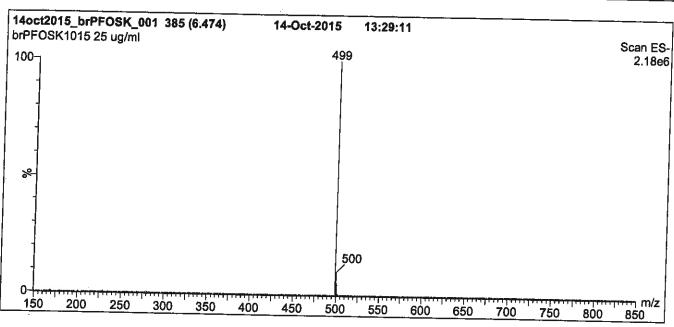
Isomer	Name	Structure	Percent Composition by ¹⁹ F-NMR
1	Potassium perfluoro-1-octanesulfonate	CF ₃ CF ₂ SO ₃ K*	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₃	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CFCF ₂ SO ₃ K ⁴ CF ₃	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ K ⁴ CF ₃	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ K ⁺ CF ₃	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₂ SO ₃ K ⁺ CF ₃	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	CF ₃ CFCF ₂ CF ₂ CF ₂ CF ₂ SO ₃ K* CF ₃	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ -CCF ₂ CF ₂ CF ₂ SO ₃ K ⁺ CF ₃	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ CF ₃ CF ₂ -C-CF ₂ CF ₂ CF ₂ SO ₃ K ⁺ CF ₃	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ —CF—CF—CF ₂ CF ₂ CF ₂ SO ₃ K [↑] CF ₃ CF ₃	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	CF ₃ —CF—CF—CF ₂ CF ₂ SO ₃ K [†] CF ₃ CF ₃	0.07

Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
 Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By: Date: 10/15/2015







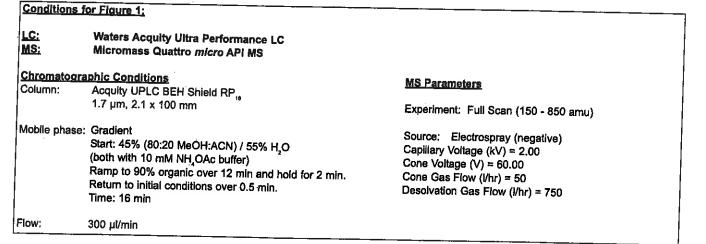
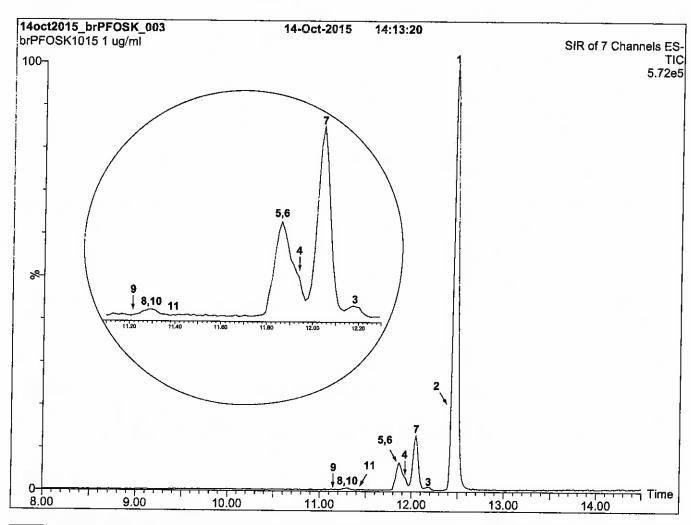


Figure 2: br-PFOSK; LC/MS Data (SIR)



Conditions for Figure 2:

LC: Waters Acquity Ultra Performance LC

MS: Micromass Quattro micro API MS

Chromatographic Conditions:

Column:

Acquity UPLC BEH Shield RP, (1.7 µm, 2.1 x 100 mm)

Injection:

1.0 µg/ml of br-PFOSK

Mobile Phase:

Gradient

45% (80:20 MeOH:ACN) / 55% $\rm{H_2O}$ (both with 10 mM NH₄OAc buffer)

Ramp to 90% organic over 15 min and hold for 3 min.

Return to initial conditions over 1 min.

Time: 20 min

Flow:

300 µl/min

MS Conditions:

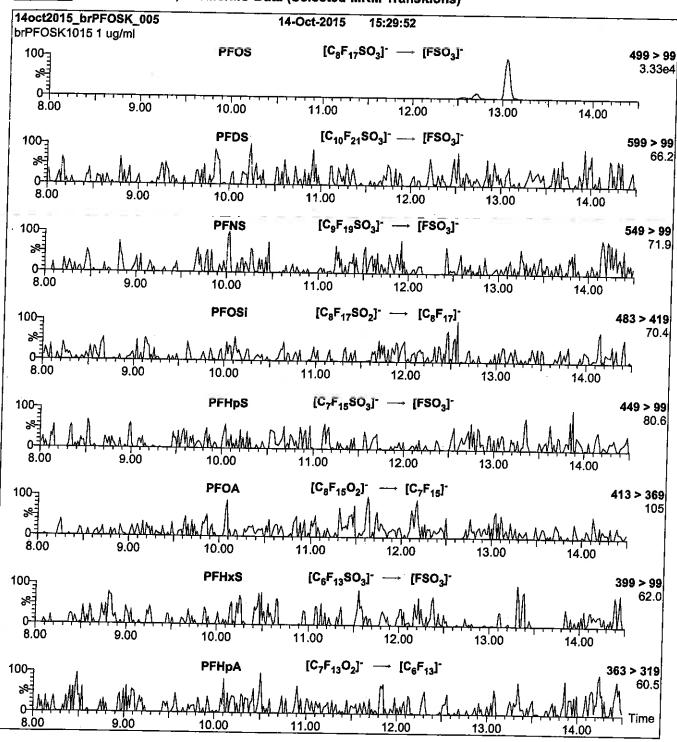
SIR (ES)

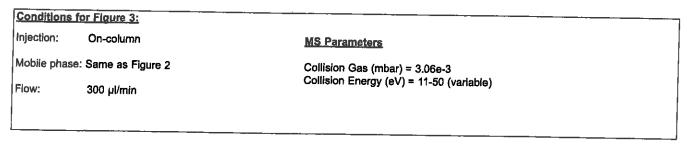
Source = 110 °C

Desolvation = 325 °C

Cone Voltage = 60V

Figure 3: br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)





LCPFOSA_00008

Monney

R: 8BC 9/13/16

ID: LCPFOSA_00009

Exp: 09/02/17 Prpd: SBC PF-1-octanesulfonamide

ID: LCPFOSA_00008 Exp: 89/02/17 Prpd: SBC PF-1-octanesulfonamide



CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

FOSA-I

LOT NUMBER:

MOLECULAR WEIGHT:

SOLVENT(S):

FOSA08151

COMPOUND:

Perfluoro-1-octanesulfonamide

CAS #:

754-91-6

499.14

isopropanol

STRUCTURE:

MOLECULAR FORMULA:

C,H,F,,NO,S

CONCENTRATION:

50 ± 2.5 µg/ml

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

09/02/2015

EXPIRY DATE: (mm/dd/yyyy)

09/02/2017

RECOMMENDED STORAGE:

Refrigerate ampoule

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 09/11/2015

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_1, X_2, ... X_n$ on which it depends is:

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

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 $\pm 5\%$ (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:

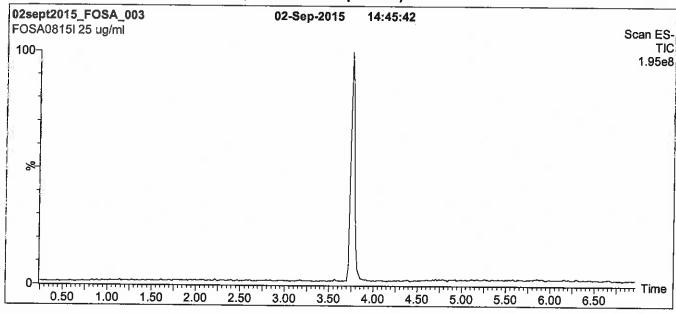
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

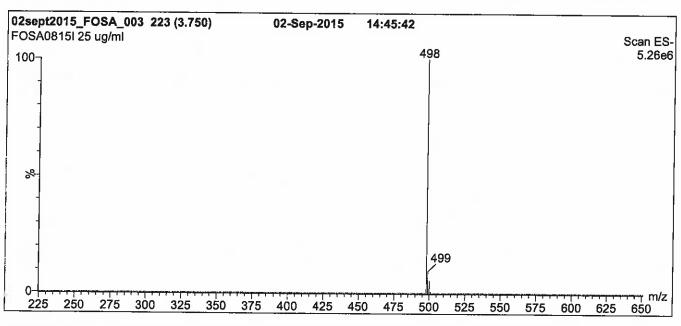




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: FOSA-I; LC/MS Data (TIC and Mass Spectrum)





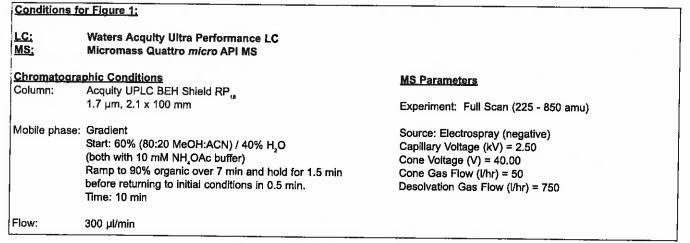
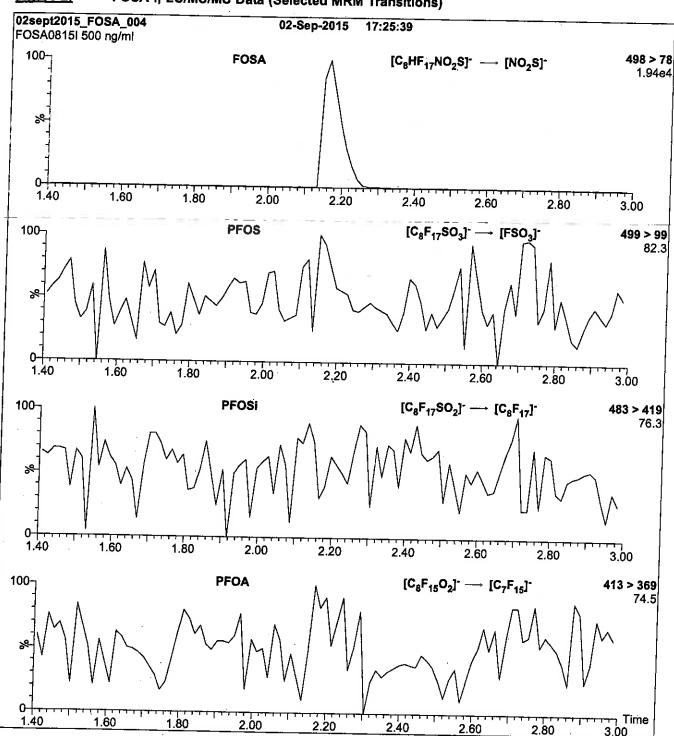
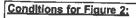


Figure 2: FOSA-I; LC/MS/MS Data (Selected MRM Transitions)





Injection:

Direct loop injection

10 µl (500 ng/ml FOSA-I)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH,OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.54e-3 Collision Energy (eV) = 30

LCPFPeA_00005



ID: LCPFPeA_00005 Exp: 01/30/20 Prpd: CBW PF-n-pentanoic acid



VELLINGTON ABORATORIES

CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

PFPeA

LOT NUMBER:

PFPeA0115

COMPOUND:

Perfluoro-n-pentanoic acid

2706-90-3

STRUCTURE:

CAS #:

MOLECULAR FORMULA:

C₅HF₉O₂

CONCENTRATION:

MOLECULAR WEIGHT:

SOLVENT(S):

264.05

 $50 \pm 2.5 \, \mu g/ml$

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

01/30/2015

EXPIRY DATE: (mm/dd/yyyy)

01/30/2020

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 ~ 0.3% of Perfluoro-n-heptanoic acid (PFHpA) and ~ 0.2% of C₅H₂F₅O₃ (hydrido - derivative) as measured by 19F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: 03/26/2015

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

 $X_i, X_2,...X_n$ on which it depends is:

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

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 $\pm 5\%$ (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:

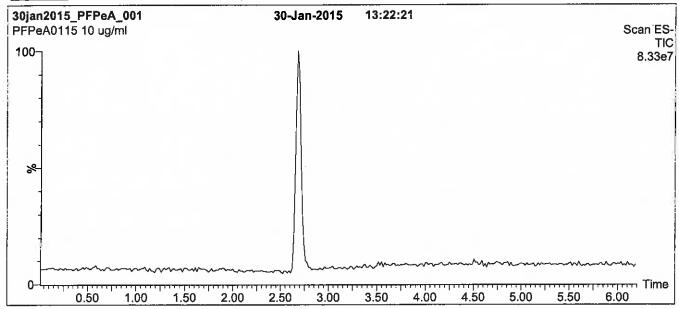
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

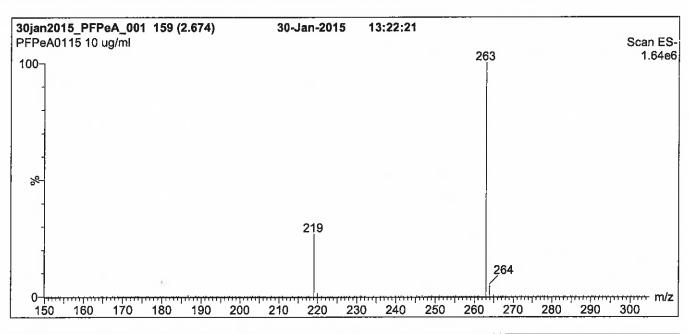


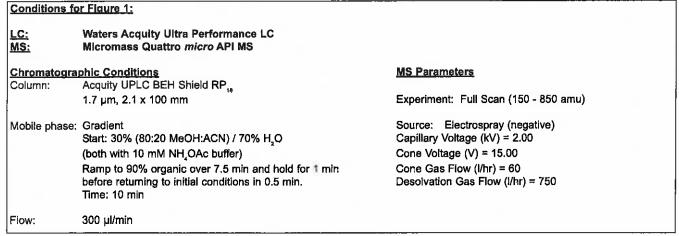


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@weil-labs.com

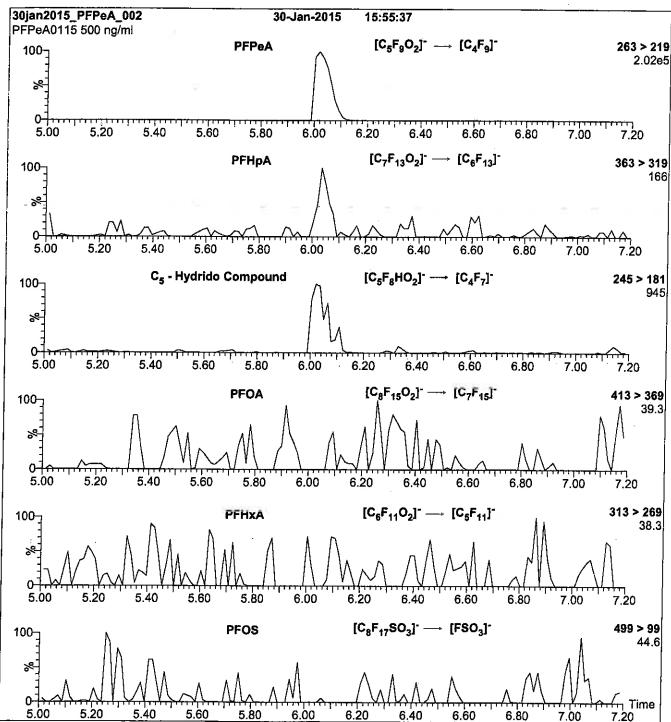
Figure 1: PFPeA; LC/MS Data (TIC and Mass Spectrum)

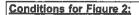






PFPeA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop injection

10 µl (500 ng/ml PFPeA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_O

(both with 10 mM NH,OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3 Collision Energy (eV) = 9

LCPFTeDA_00005



(D: LCPFTeDA_00005 Exp: 12/09/20 Prps: \$80 PF-n-tetradecanoic acid



730659





WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:

PFTeDA

LOT NUMBER:

PFTeDA1215

COMPOUND:

Perfluoro-n-tetradecanoic acid

CAS #:

376-06-7

STRUCTURE:

MOLECULAR FORMULA:

C14HF27O,

MOLECULAR WEIGHT:

714.11

CONCENTRATION:

 $50 \pm 2.5 \, \mu g/ml$

SOLVENT(S);

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

12/09/2015

EXPIRY DATE: (mm/dd/yyyy)

12/09/2020

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 ~ 0.2% of PFDoA (C₁₂HF₂₃O₂) and ~ 0.2% of PFPeDA (C₁₅HF₂₉O₂).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chillim

Date:

<u>12/09/2015</u>

(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

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, $u_{\epsilon}(y)$, 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 $\pm 5\%$ (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:

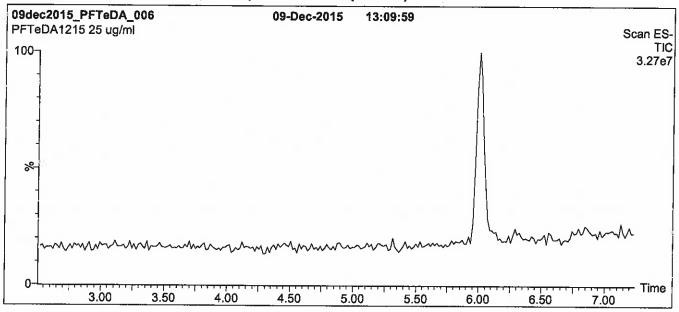
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

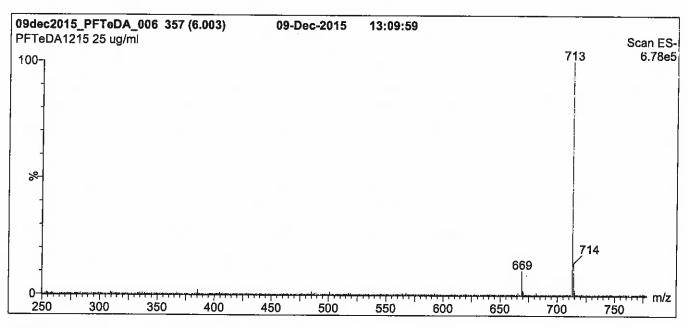




For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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





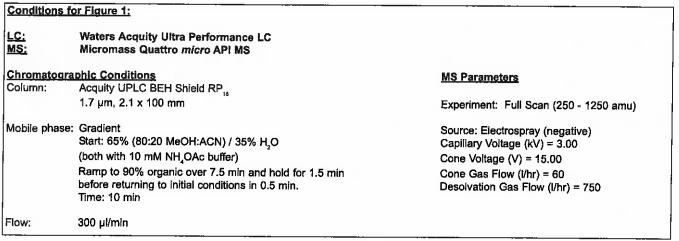
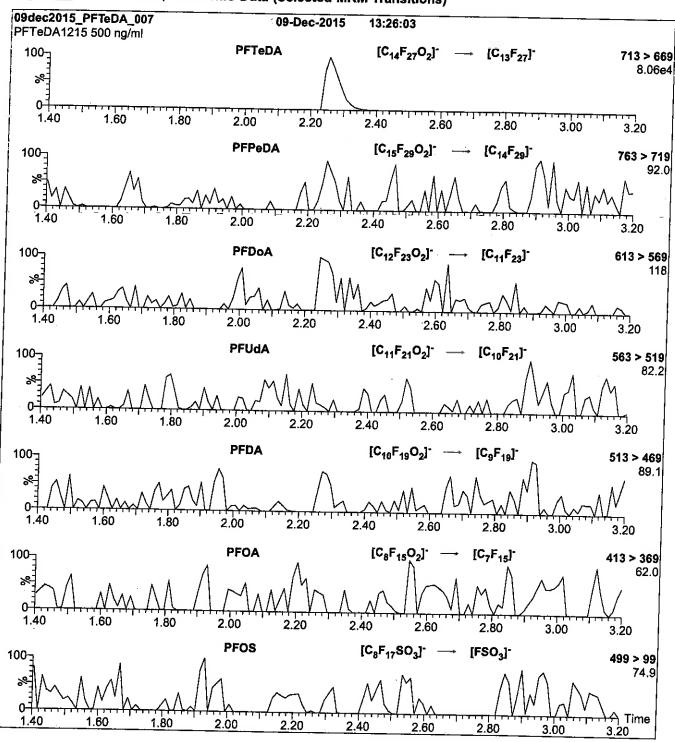
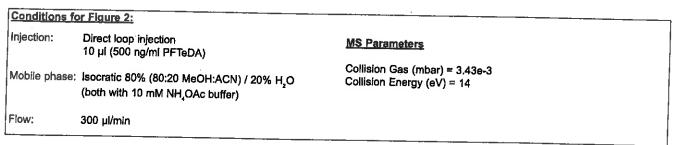


Figure 2: PFTeDA; LC/MS/MS Data (Selected MRM Transitions)





LCPFTrDA_00005



ID: LCPFTrDA_00005 Exp: 02/12/21 Prpd: SBC PF-n-tridecanoic acid



Exp: 02/12/21 Prpd: SBC

PF-n-tridecanoic acid



VELLINGTON ABORATORIES

CERTIFICATE OF ANALYSIS **DOCUMENTATION**

PRODUCT CODE:

PFTrDA

Perfluoro-n-tridecanoic acid

LOT NUMBER:

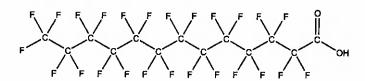
PFTrDA0216

STRUCTURE:

COMPOUND:

CAS #:

72629-94-8



MOLECULAR FORMULA:

CONCENTRATION:

C13HF25O2

 $50 \pm 2.5 \, \mu g/ml$

MOLECULAR WEIGHT:

SOLVENT(S):

664.11

Methanol Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/ddi/yyyy)

02/12/2016

EXPIRY DATE: (mm/dd/yyyy)

02/12/2021

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 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

Contains ~ 0.1% of PFUdA ($C_{11}HF_{21}O_2$), ~ 0.4% of PFDoA ($C_{12}HF_{23}O_2$), and ~ 0.1% of PFTeDA (C₁₄HF₂₇O₂).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

Date: <u>02/16/2016</u>

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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.

 $x_1, x_2,...x_n$ 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 $\pm 5\%$ (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:

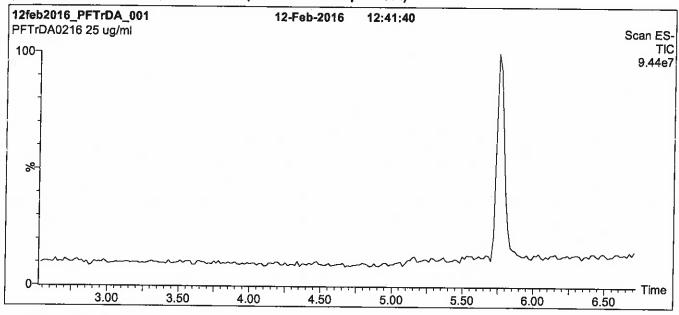
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

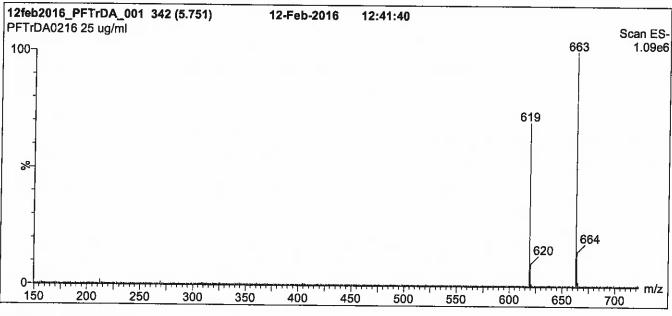


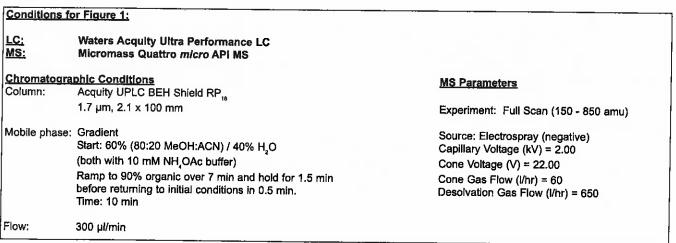


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

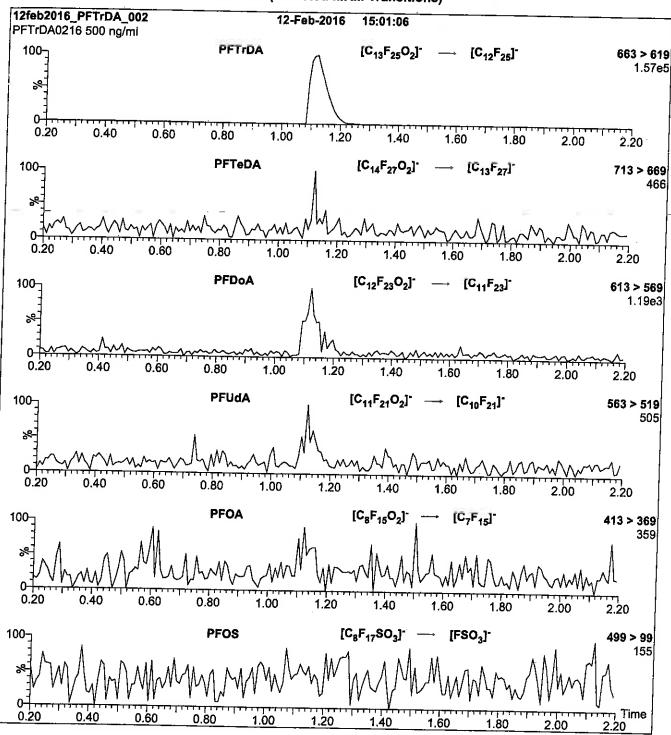
Figure 1: PFTrDA; LC/MS Data (TIC and Mass Spectrum)

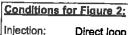






PFTrDA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Direct loop injection

10 μl (500 ng/ml PFTrDA)

Mobile phase: Isocratic 80% MeOH / 20% H₂O

Flow:

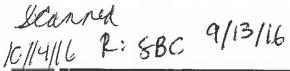
300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3 Collision Energy (eV) = 15

Reagent

LCPFUdA 00005





ID: LCPFUdA_00005

Exp: 08/19/20 Prpd: SBC

PF-ri-undecanoic acid







WELLINGTON

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFUdA

LOT NUMBER:

PFUdA0815

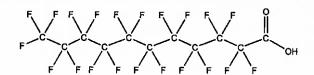
COMPOUND:

Perfluoro-n-undecanoic acid

STRUCTURE:

CAS #:

2058-94-8



MOLECULAR FORMULA:

C, HF, O,

MOLECULAR WEIGHT:

564.09

CONCENTRATION:

50 ± 2.5 µg/ml

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim

Date:

<u> 18/21/2015</u>

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 solutility 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

 $x_1, x_2, ... x_n$ 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 $\pm 5\%$ (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:

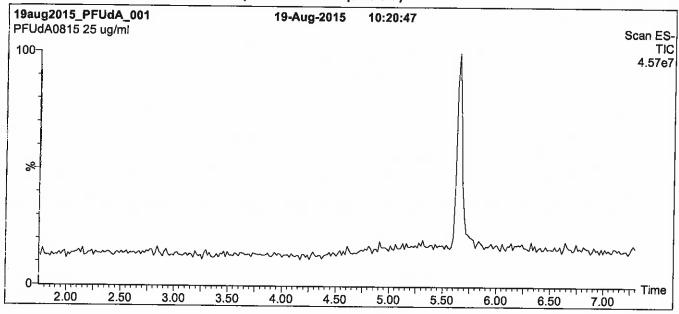
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

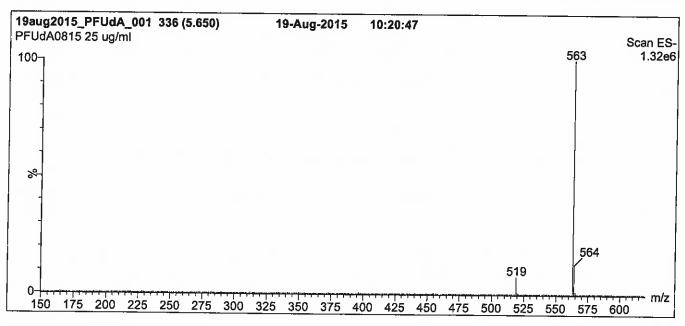


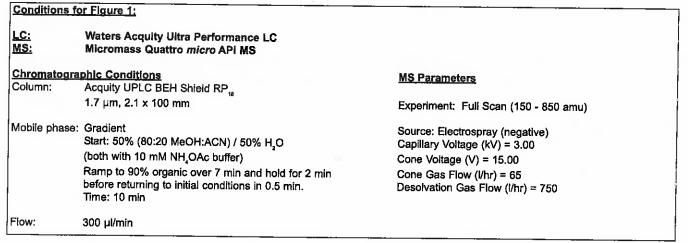


For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

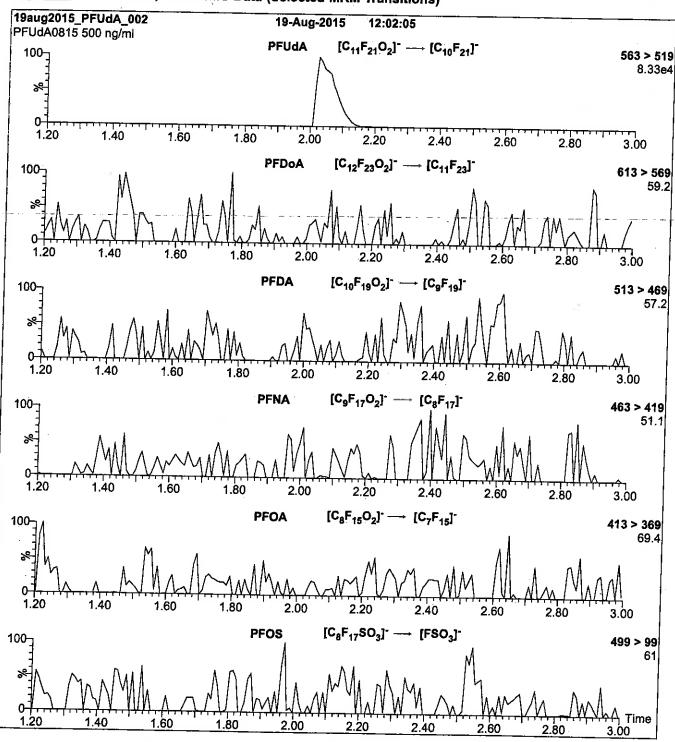
Figure 1: PFUdA; LC/MS Data (TIC and Mass Spectrum)

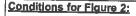






PFUdA; LC/MS/MS Data (Selected MRM Transitions) Figure 2:





Injection:

Direct loop injection

10 µl (500 ng/ml PFUdA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H₂O

(both with 10 mM NH,OAc buffer)

Flow:

300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3 Collision Energy (eV) = 11

Method PFC DOD

Perfluronated Hydrocarbons (LC/MS) by Method PFC_DOD

FORM II LCMS SURROGATE RECOVERY

Lab Name: TestAmerica Sacramento Job No.: 320-26	263-1
--	-------

SDG No.:

Matrix: Water Level: Low

GC Column (1): GeminiC18 3 ID: 3 (mm)

Client Sample ID	Lab Sample ID	PFHxS #	PFOA #	PFOS #
MEAFF-WWTP-MW01-03	320-26263-1	110	85	107
MEAFF-WWTP-MW01-03 17 DL	320-26263-1 DL	116	81	98
MEAFF-PWMA-MW01-03	320-26263-2	46	48	99
MEAFF-PWMA-MW01-03 17 DL	320-26263-2 DL	97	83	112
MEAFF-PWMA-MW01-03 17 DL2	320-26263-2 DL2	108	108	112
MEAFF-Unknown22-MW 01-0317	320-26263-3	125	87	118
MEAFF-FD04-030117	320-26263-4	137	83	134
	MB 320-153501/1-A	124	130	116
	LCS 320-153501/2-A	137	148	132
	LCSD 320-153501/3-A	128	140	123

 $\begin{array}{c} \text{QC LIMITS} \\ \text{PFHxS} = 1802 \text{ PFHxS} & 25-150 \\ \text{PFOA} = 13\text{C4 PFOA} & 25-150 \\ \text{PFOS} = 13\text{C4 PFOS} & 25-150 \\ \end{array}$

 $\ensuremath{\text{\#}}$ Column to be used to flag recovery values

FORM II 537 (Modified)

FORM III LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name	e: TestAmerica Sacra	amento	Job No.: 32	0-26263-1
SDG No.	: <u> </u>			
Matrix:	Water	Level: Low	Lab File ID	e: 2017.03.10B_042.d
Lab ID:	LCS 320-153501/2-A		Client ID:	

COMPOUND	SPIKE ADDED (ng/L)	LCS CONCENTRATION (ng/L)	LCS % REC	QC LIMITS REC	#
Perfluorooctanoic acid (PFOA)	40.0	39.9	100	60-140	
Perfluorooctanesulfonic acid (PFOS)	37.1	37.8	102	60-140	М
13C4 PFOA	100	148	148	25-150	
13C4 PFOS	95.6	126	132	25-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	40.0	113	50-150	
1802 PFHxS	94.6	129	137	25-150	

[#] Column to be used to flag recovery and RPD values FORM III 537 (Modified)

FORM III LCMS LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name	e: TestAmerica Sac	ramento	Job No.: 320	-26263-1
SDG No.:	:			
Matrix:	Water	Level: Low	Lab File ID:	2017.03.10B_043.d
Lab ID:	LCSD 320-153501/3	-A	Client ID:	

	SPIKE ADDED	LCSD CONCENTRATION	LCSD	0/0	QC LIMITS		#
COMPOUND	(ng/L)	(ng/L)	REC	RPD	RPD	REC	π
Perfluorooctanoic acid (PFOA)	40.0	39.6	99	1	30	60-140	
Perfluorooctanesulfonic acid (PFOS)	37.1	39.4	106	4	30	60-140	М
13C4 PFOA	100	140	140			25-150	
13C4 PFOS	95.6	117	123			25-150	
Perfluorobutanesulfonic acid (PFBS)	35.4	41.6	118	4	30	50-150	
1802 PFHxS	94.6	121	128			25-150	

[#] Column to be used to flag recovery and RPD values FORM III 537 (Modified)

FORM IV LCMS METHOD BLANK SUMMARY

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
SDG No.:	
Lab File ID: 2017.03.10B_041.d	Lab Sample ID: MB 320-153501/1-A
Matrix: Water	Date Extracted: 03/06/2017 16:19
Instrument ID: A8_N	Date Analyzed: 03/10/2017 22:30
Level: (Low/Med) Low	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

		LAB	
CLIENT SAMPLE ID	LAB SAMPLE ID	FILE ID	DATE ANALYZED
	LCS 320-153501/2-A	2017.03.10B 042.d	03/10/2017 22:37
	LCSD 320-153501/3-A	2017.03.10B 043.d	03/10/2017 22:45
MEAFF-WWTP-MW01-0317	320-26263-1	2017.03.10B 044.d	03/10/2017 22:52
MEAFF-PWMA-MW01-0317	320-26263-2	2017.03.10B 045.d	03/10/2017 23:00
MEAFF-Unknown22-MW01-0317	320-26263-3	2017.03.10B 046.d	03/10/2017 23:07
MEAFF-FD04-030117	320-26263-4	2017.03.10B 047.d	03/10/2017 23:15
MEAFF-WWTP-MW01-0317 DL	320-26263-1 DL	2017.03.13A 048.d	03/13/2017 17:16
MEAFF-PWMA-MW01-0317 DL	320-26263-2 DL	2017.03.13A _049.d	03/13/2017 17:23
MEAFF-PWMA-MW01-0317 DL2	320-26263-2 DL2	2017.03.14A 020.d	03/14/2017 15:13

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-WWTP-MW01-0317 Lab Sample ID: 320-26263-1

Matrix: Water Lab File ID: 2017.03.10B_044.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 12:40

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 261.2(mL) Date Analyzed: 03/10/2017 22:52

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	260	М	2.4	1.9	0.72
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	370	M E	3.8	2.9	1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	25	М	2.4	1.9	0.88

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	85		25-150
STL00991	13C4 PFOS	107		25-150
STL00994	1802 PFHxS	110		25-150

Report Date: 27-Mar-2017 12:07:23 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Lims ID: 320-26263-A-1-A

Client ID: MEAFF-WWTP-MW01-0317

Sample Type: Client

Inject. Date: 10-Mar-2017 22:52:31 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: 320-26263-a-1-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 27-Mar-2017 12:07:22 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: chandrasenas Date: 27-Mar-2017 12:07:22

							=			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
5 Perfluorobuta	anesulfo	nic acid								М
298.90 > 80.00	1.842	1.861	-0.019	1.000	5969498	13.0				
298.90 > 99.00	1.842	1.861	-0.019	1.000	1604503		3.72(0.00-0.00)			M
D 11 1802 PFH	xS									
403.00 > 84.00	2.460	2.464	-0.004		15144536	52.1		110	413686	
D 14 13C4 PFO	А									
417.00 > 372.00	2.802	2.814	-0.012		8661573	42.3		84.5	356482	
15 Perfluorooct	anoic ac	cid								M
413.00 > 369.00	2.810	2.814	-0.004	1.000	23671342	133.7			132427	M
413.00 > 169.00	2.802	2.814	-0.012	0.997	14940350		1.58(0.90-1.10)		214233	M
D 18 13C4 PFO	S									
503.00 > 80.00	3.176	3.188	-0.012		12304224	50.9		107	142571	
17 Perfluorooct	ane sulf	onic acid	t							EM
499.00 > 80.00	3.176	3.197	-0.021	1.000	48798791	192.8			96193	EM
499.00 > 99.00	3.184	3.197	-0.013	1.003	10335852		4.72(0.90-1.10)		146343	M

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:07:23 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

Data File:

Injection Date: 10-Mar-2017 22:52:31 Instrument ID: A8_N

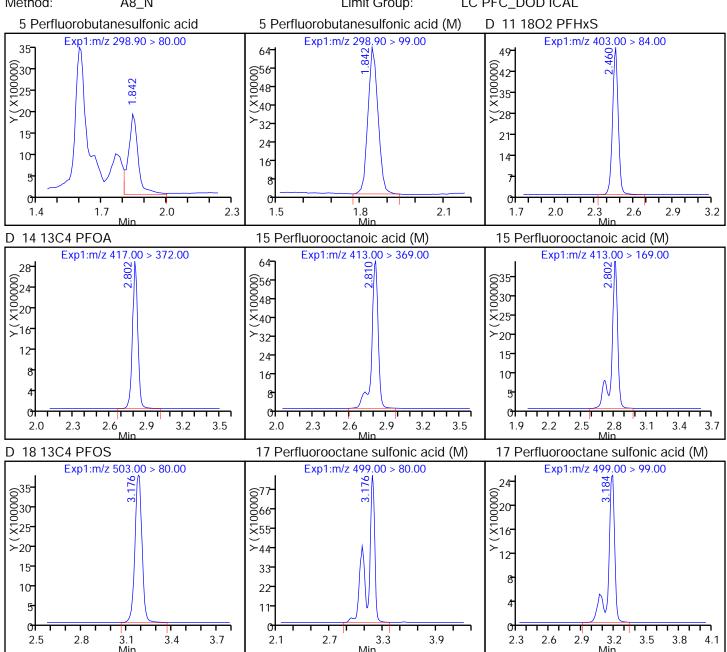
Lims ID: 320-26263-A-1-A Lab Sample ID: 320-26263-1

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: Dil. Factor: 1.0000 2.0 ul

Method: LC PFC_DOD ICAL $A8_N$ Limit Group:



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_044.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

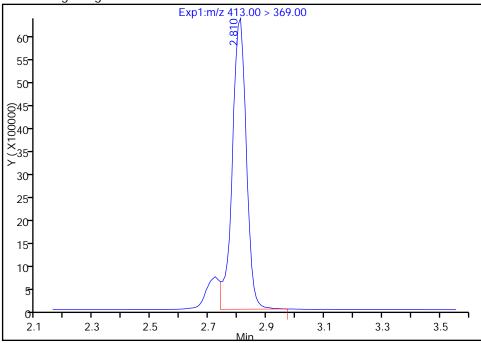
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

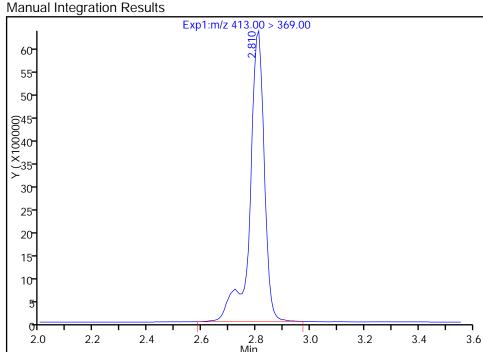
Signal: 1

RT: 2.81
Area: 21431970
Amount: 121.0959
Amount Units: ng/ml

Processing Integration Results



RT: 2.81 Area: 23671342 Amount: 133.7490 Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:06:49

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 286 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\\2017.03.10B_044.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: 2.0 ul Dil. Factor: 1.0000

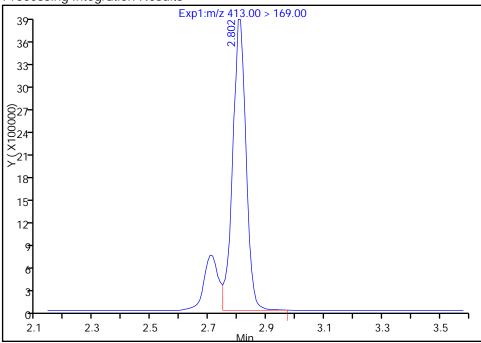
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

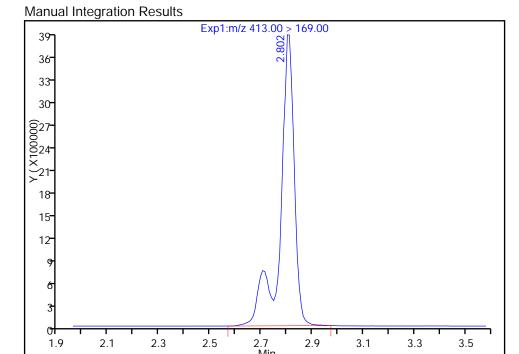
15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

RT: 2.80 Area: 12357060 Amount: 121.0959 Amount Units: ng/ml **Processing Integration Results**



RT: 2.80
Area: 14940350
Amount: 133.7490
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:06:49

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 287 of 577 03/27/2017

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_044.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

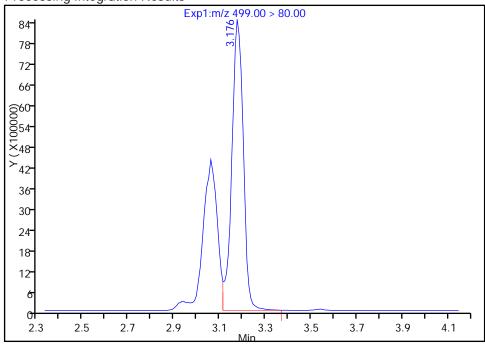
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

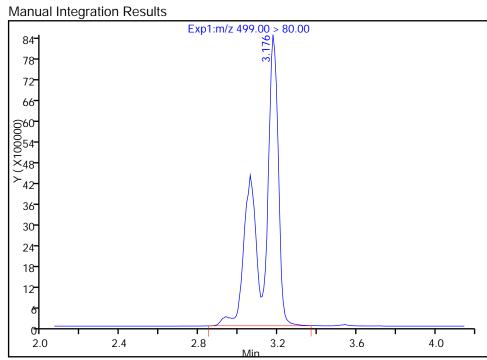
Signal: 1

RT: 3.18
Area: 29559762
Amount: 116.7638
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 48798791
Amount: 192.7597
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:06:49

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 288 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\\2017.03.10B_044.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

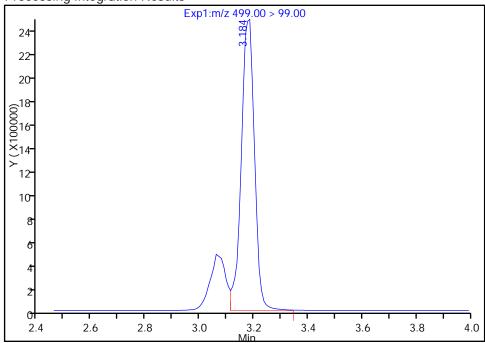
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

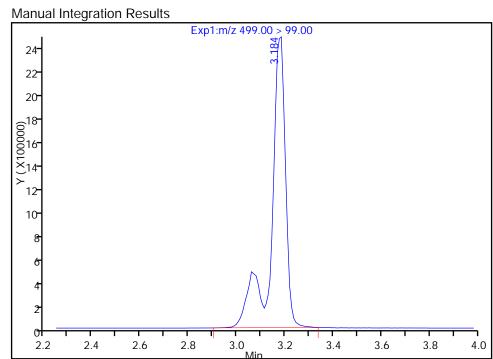
Signal: 2

RT: 3.18
Area: 8469366
Amount: 116.7638
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 10335852
Amount: 192.7597
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:06:49

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 289 of 577 03/27/2017

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_044.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 34 Worklist Smp#: 23

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

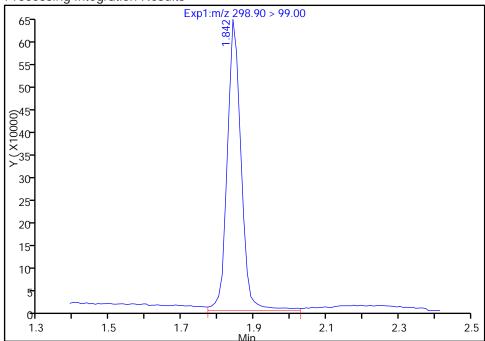
Column: Detector EXP1

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

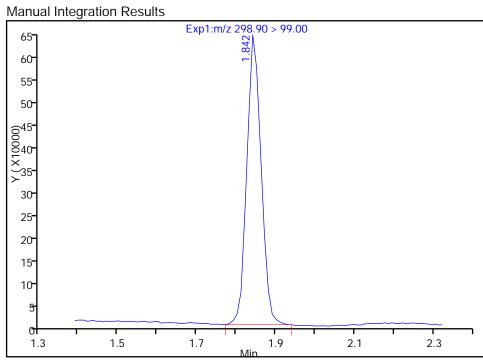
Signal: 2

RT: 1.84
Area: 1714365
Amount: 13.015070
Amount Units: ng/ml

Processing Integration Results



RT: 1.84
Area: 1604503
Amount: 13.015070
Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:07:17

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 290 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-WWTP-MW01-0317 DL Lab Sample ID: 320-26263-1 DL

Matrix: Water Lab File ID: 2017.03.13A_048.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 12:40

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 261.2(mL) Date Analyzed: 03/13/2017 17:16

Con. Extract Vol.: 0.5(mL) Dilution Factor: 5

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 154808 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	270	D M	12	9.6	3.6
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	380	D M	19	14	6.1
375-73-5	Perfluorobutanesulfonic acid (PFBS)	18	D M	12	9.6	4.4

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	81		25-150
STL00991	13C4 PFOS	98		25-150
STL00994	1802 PFHxS	116		25-150

Report Date: 27-Mar-2017 12:22:38 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Lims ID: 320-26263-A-1-A

Client ID: MEAFF-WWTP-MW01-0317

Sample Type: Client

Inject. Date: 13-Mar-2017 17:16:06 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000

Sample Info: 320-26263-a-1-a 5X

Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 27-Mar-2017 12:22:38 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: westendorfc Date: 14-Mar-2017 13:26:28

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
5 Perfluorobutanesulfonic acid M										М
298.90 > 80.00	1.853	1.863	-0.010	1.000	916877	1.89				М
298.90 > 99.00	1.853	1.863	-0.010	1.000	314683		2.91(0.00-0.00)			
D 11 1802 PFH	xS									
403.00 > 84.00	2.471	2.480	-0.009		3202799	11.0		23.3	158754	
D 14 13C4 PFO	Α									
417.00 > 372.00	2.822	2.822	0.0		1670249	8.15		16.3	95107	
15 Perfluorooc	tanoic ac	cid								М
413.00 > 369.00	2.814	2.822	-0.008	1.000	4814315	28.2			96563	M
413.00 > 169.00	2.814	2.822	-0.008	1.000	3009665		1.60(0.90-1.10)		119144	M
D 18 13C4 PFOS										
503.00 > 80.00	3.188	3.188	0.0		2257240	9.34		19.5	53630	
17 Perfluorooc	tane sulf	onic acid	d							M
499.00 > 80.00	3.188	3.197	-0.009	1.000	9168857	39.5			67852	M
499.00 > 99.00	3.188	3.197	-0.009	1.000	1835566		5.00(0.90-1.10)		99283	M

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:22:38 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_048.d

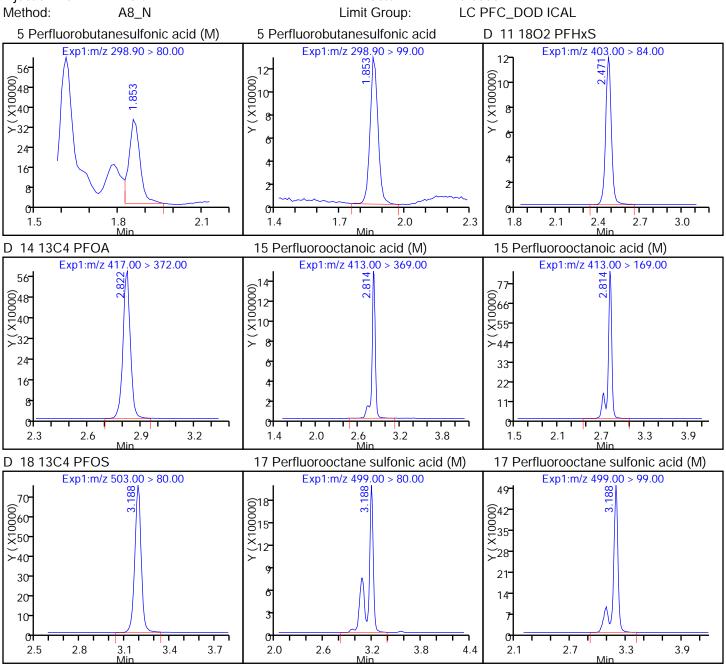
Injection Date: 13-Mar-2017 17:16:06 Instrument ID: A8_N

Lims ID: 320-26263-A-1-A Lab Sample ID: 320-26263-1

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_048.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

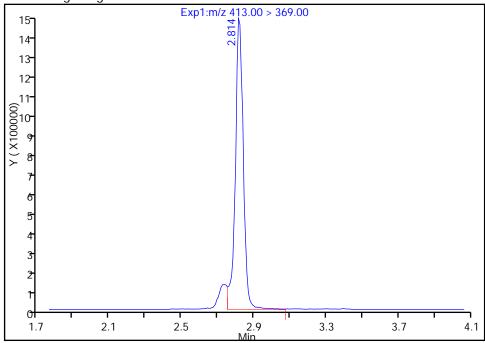
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

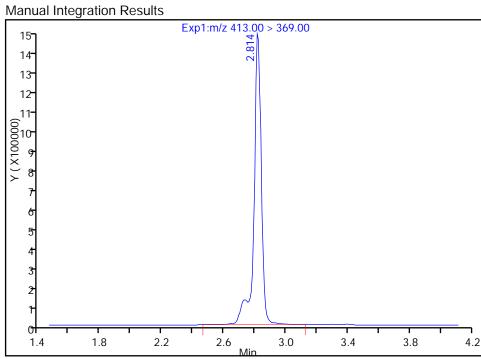
Signal: 1

RT: 2.81
Area: 4480121
Amount: 26.254443
Amount Units: ng/ml

Processing Integration Results



RT: 2.81
Area: 4814315
Amount: 28.212889
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:22:03

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 294 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\\2017.03.13A_048.d

Injection Date: 13-Mar-2017 17:16:06 Instrument ID: A8_N

Lims ID: 320-26263-A-1-A Lab Sample ID: 320-26263-1

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000

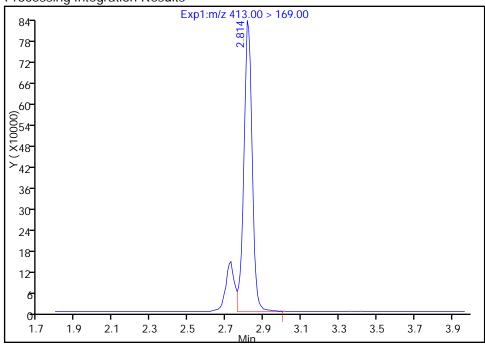
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

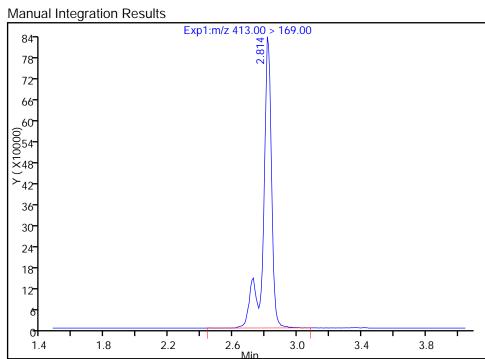
15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

RT: 2.81 Area: 2551450 Amount: 26.254443 Amount Units: ng/ml **Processing Integration Results**



RT: 2.81
Area: 3009665
Amount: 28.212889
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:22:03

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 295 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_048.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

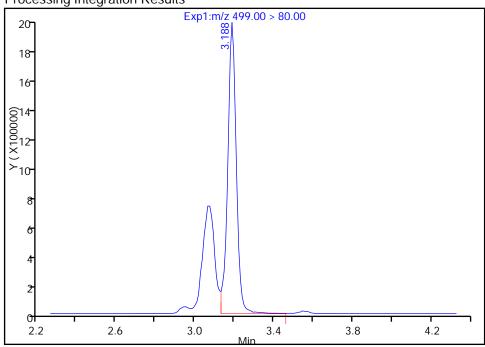
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

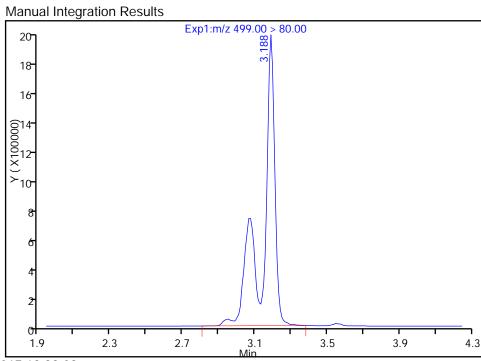
Signal: 1

RT: 3.19
Area: 5939089
Amount: 25.576048
Amount Units: ng/ml

Processing Integration Results



RT: 3.19
Area: 9168857
Amount: 39.484697
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:22:03

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 296 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_048.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

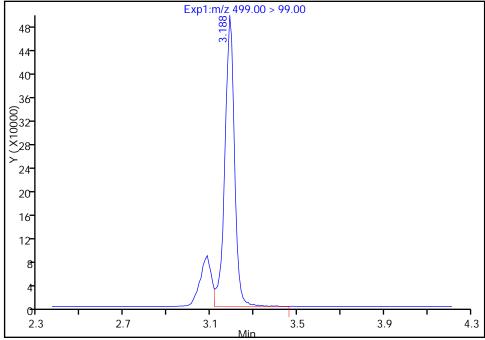
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

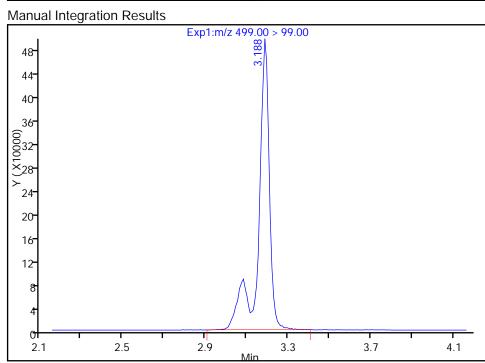
Signal: 2

RT: 3.19
Area: 1539678
Amount: 25.576048
Amount Units: ng/ml

Processing Integration Results



RT: 3.19
Area: 1835566
Amount: 39.484697
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:22:03

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 297 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_048.d

Client ID: MEAFF-WWTP-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 12

Injection Vol: 2.0 ul Dil. Factor: 5.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

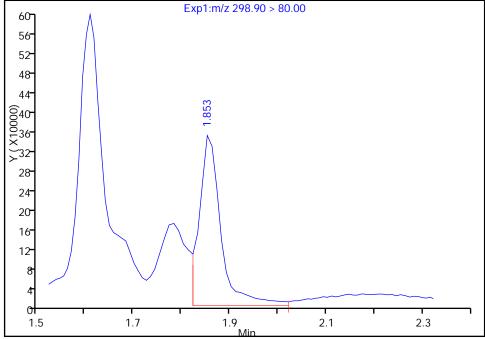
Column: Detector EXP1

5 Perfluorobutanesulfonic acid, CAS: 375-73-5

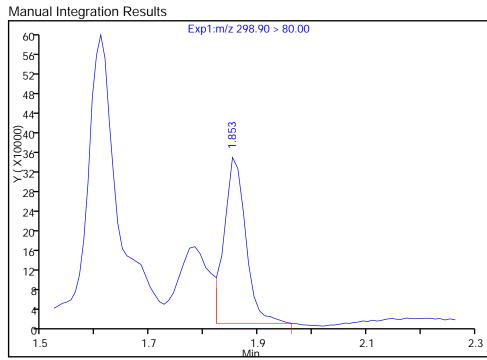
Signal: 1

RT: 1.85
Area: 1060934
Amount: 2.187527
Amount Units: ng/ml

Processing Integration Results



RT: 1.85
Area: 916877
Amount: 1.890497
Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:22:26

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 298 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-PWMA-MW01-0317 Lab Sample ID: 320-26263-2

Matrix: Water Lab File ID: 2017.03.10B_045.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 14:00

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 272.2(mL) Date Analyzed: 03/10/2017 23:00

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	2500	M E	2.3	1.8	0.69
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1300	M E	3.7	2.8	1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	650	M E	2.3	1.8	0.84

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	48		25-150
STL00991	13C4 PFOS	99		25-150
STL00994	1802 PFHxS	46		25-150

Report Date: 27-Mar-2017 12:07:44 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_045.d

Lims ID: 320-26263-A-2-A

Client ID: MEAFF-PWMA-MW01-0317

Sample Type: Client

Inject. Date: 10-Mar-2017 23:00:01 ALS Bottle#: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: 320-26263-a-2-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 27-Mar-2017 12:07:44 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1 : Det: EXP1

Process Host: XAWRK006

First Level Reviewer: changnoit Date: 13-Mar-2017 11:27:47

i iist zover teviewen enanghen						Date: 10 Mai 2017 11.27117					
	Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
5	Perfluorobut	anesulfo	nic acid								EM
	8.90 > 80.00	1.863	1.861	0.002	1.000	67675340	352.7				EM
29	8.90 > 99.00	1.853	1.861	-0.008	0.995	41659135		1.62(0.00-0.00)			
_	11 18O2 PFH:										
40	3.00 > 84.00	2.470	2.464	0.006		6336194	21.8		46.0	170401	
_	14 13C4 PFO	=									
41	7.00 > 372.00	2.810	2.814	-0.004		4951673	24.2		48.3	111777	
-	5 Perfluorooct										EM
	3.00 > 369.00		2.814	-0.020	1.000	136978846	1353.8			140383	
	3.00 > 169.00		2.814	-0.012	1.003	123359546		1.11(0.90-1.10)		255035	M
_	18 13C4 PFO	_									
50	3.00 > 80.00	3.176	3.188	-0.012		11447006	47.4		99.1	94720	
	7 Perfluorooct										EM
	9.00 > 80.00	3.051	3.197	-0.146	1.000	164210894	697.2	2 (4(0 00 1 10)		247812	
49	9.00 > 99.00	3.176	3.197	-0.021	1.041	45170669		3.64(0.90-1.10)		359397	IVI

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:07:44 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

Data File:

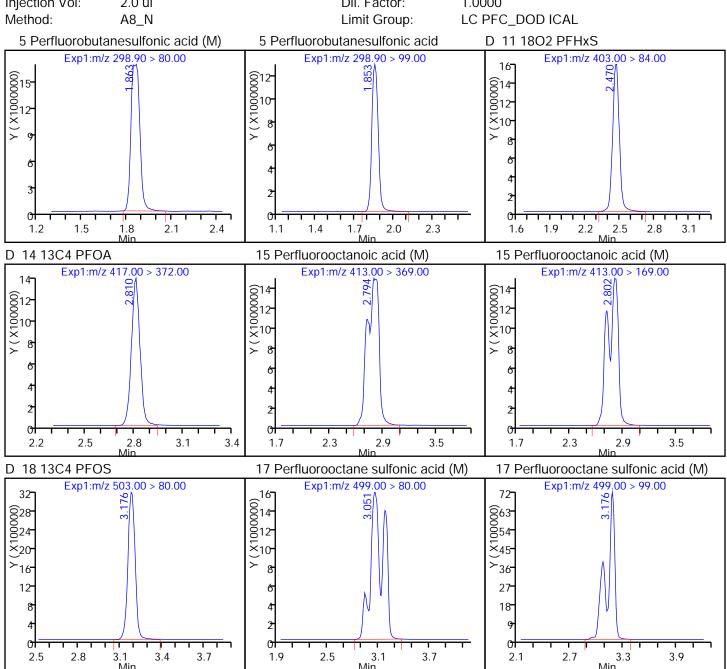
Injection Date: 10-Mar-2017 23:00:01 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000



Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report Report Date: 27-Mar-2017 12:07:44

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_045.d

Injection Date: 10-Mar-2017 23:00:01 Instrument ID: $A8_N$

Lims ID: Lab Sample ID: 320-26263-A-2-A 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

A8-PC\A8 ALS Bottle#: Operator ID: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000

LC PFC_DOD ICAL Method: A8_N Limit Group:

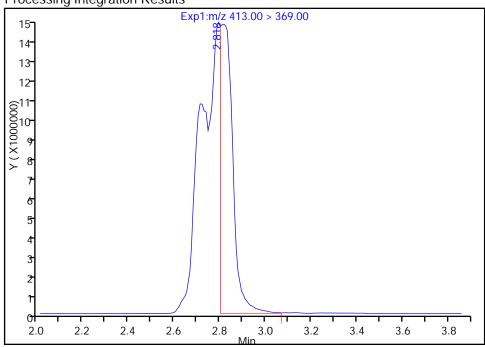
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

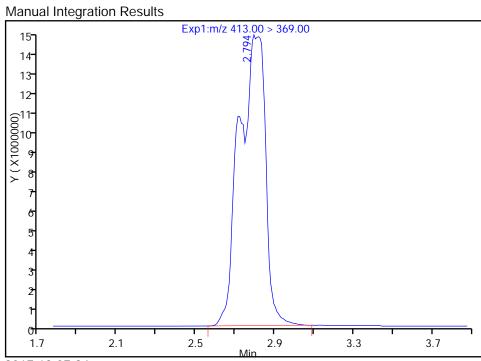
Signal: 1

RT: 2.82 Area: 54220323 Amount: 535.8885 Amount Units: ng/ml

Processing Integration Results



RT: 2.79 Area: 136978846 Amount: 1353.8353 Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:07:24

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 302 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_045.d

Injection Date: 10-Mar-2017 23:00:01 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

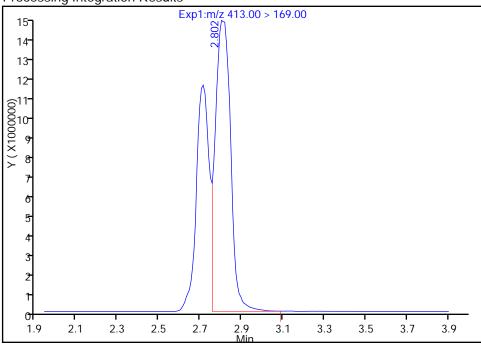
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

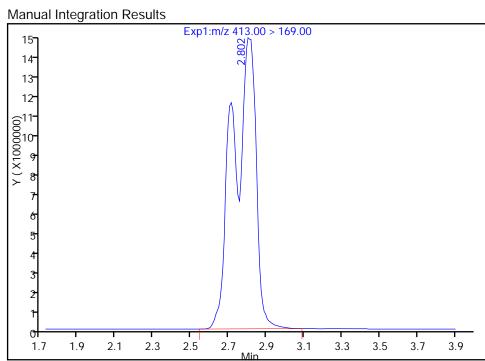
Signal: 2

RT: 2.80
Area: 74207569
Amount: 535.8885
Amount Units: ng/ml

Processing Integration Results



RT: 2.80 Area: 123359546 Amount: 1353.8353 Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:07:24

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 303 of 577 03/27/2017

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_045.d

Injection Date: 10-Mar-2017 23:00:01 Instrument ID: $A8_N$

Lims ID: Lab Sample ID: 320-26263-2 320-26263-A-2-A

Client ID: MEAFF-PWMA-MW01-0317

A8-PC\A8 ALS Bottle#: Operator ID: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000

LC PFC_DOD ICAL Method: A8_N Limit Group:

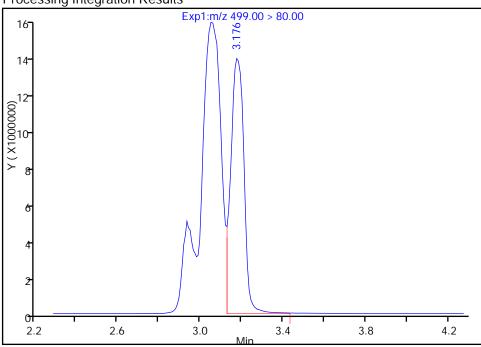
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

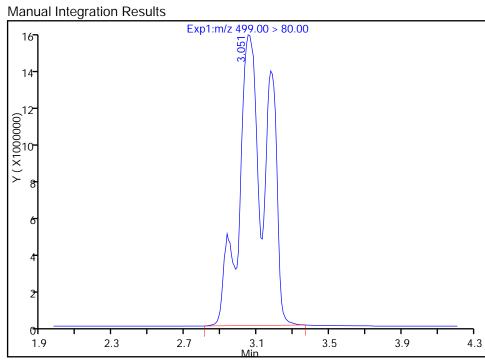
Signal: 1

RT: 3.18 Area: 58517563 Amount: 248.4595 Amount Units: ng/ml

Processing Integration Results



RT: 3.05 Area: 164210894 697.2225 Amount: Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:07:24

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 304 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_045.d

Injection Date: 10-Mar-2017 23:00:01 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

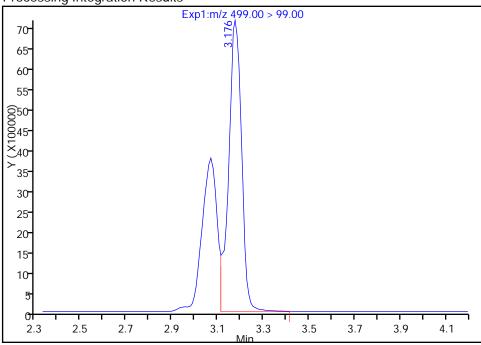
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

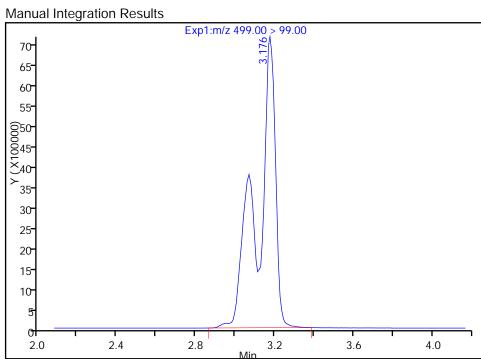
Signal: 2

RT: 3.18
Area: 28184159
Amount: 248.4595
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 45170669
Amount: 697.2225
Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:07:24

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 305 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_045.d

Injection Date: 10-Mar-2017 23:00:01 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 35 Worklist Smp#: 24

Injection Vol: 2.0 ul Dil. Factor: 1.0000

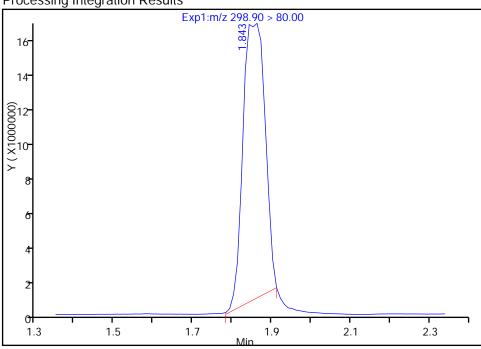
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

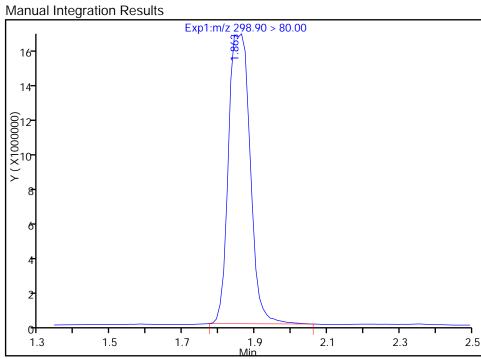
5 Perfluorobutanesulfonic acid, CAS: 375-73-5

Signal: 1

RT: 1.84 Area: 60184317 Amount: 313.6314 Amount Units: ng/ml **Processing Integration Results**



RT: 1.86 Area: 67675340 Amount: 352.6685 Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:07:35

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 306 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-PWMA-MW01-0317 DL Lab Sample ID: 320-26263-2 DL

Matrix: Water Lab File ID: 2017.03.13A_049.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 14:00

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 272.2(mL) Date Analyzed: 03/13/2017 17:23

Con. Extract Vol.: 0.5 (mL) Dilution Factor: 10

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 154808 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	4400	DME	23	18	6.9
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1600	D M	37	28	12
375-73-5	Perfluorobutanesulfonic acid (PFBS)	830	D	23	18	8.4

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	83		25-150
STL00991	13C4 PFOS	112		25-150
STL00994	1802 PFHxS	97		25-150

Report Date: 27-Mar-2017 12:25:34 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_049.d

Lims ID: 320-26263-A-2-A

Client ID: MEAFF-PWMA-MW01-0317

Sample Type: Client

Inject. Date: 13-Mar-2017 17:23:36 ALS Bottle#: 32 Worklist Smp#: 13

Injection Vol: 2.0 ul Dil. Factor: 10.0000

Sample Info: 320-26263-a-2-a 10X

Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 27-Mar-2017 12:24:16 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: westendorfc Date: 15-Mar-2017 11:40:35

						<u> </u>				
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
5 Perfluorobut	anesulfo	nic acid								
298.90 > 80.00	1.853	1.863	-0.010	1.000	18383437	45.3				
298.90 > 99.00	1.853	1.863	-0.010	1.000	7852029		2.34(0.00-0.00)			
D 11 1802 PFH	xS									
403.00 > 84.00	2.468	2.480	-0.012		1339174	4.60		9.7	80507	
D 14 13C4 PFO	A									
417.00 > 372.00	2.818	2.822	-0.004		849095	4.14		8.3	52904	
15 Perfluorooc	tanoic ac	cid								EM
413.00 > 369.00		2.822	0.004	1.000	41596963	239.8			362352	
413.00 > 169.00	2.826	2.822	0.004	1.000	30305831		1.37(0.90-1.10)		103282	9M
D 18 13C4 PFO	S									
503.00 > 80.00	3.184	3.188	-0.004		1288466	5.33		11.2	36010	
17 Perfluorooc	tane sulf	onic acid	t							M
499.00 > 80.00	3.070	3.197	-0.127	1.000	23752722	89.6			1804	M
499.00 > 99.00	3.079	3.197	-0.118	1.003	4864660		4.88(0.90-1.10)		59081	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:25:34 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_049.d

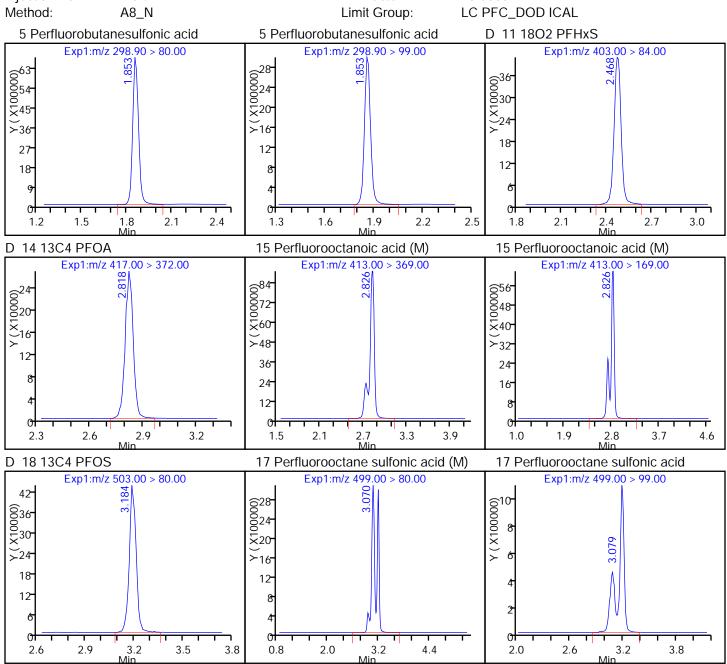
Injection Date: 13-Mar-2017 17:23:36 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 13

Injection Vol: 2.0 ul Dil. Factor: 10.0000



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_049.d

Injection Date: 13-Mar-2017 17:23:36 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 13

Injection Vol: 2.0 ul Dil. Factor: 10.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

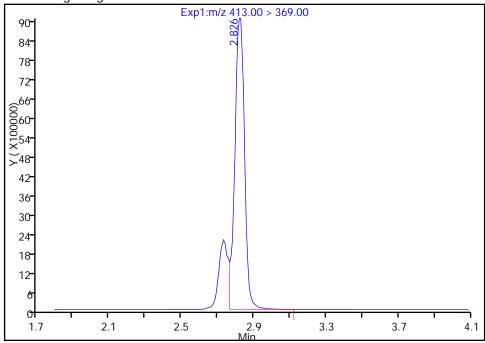
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

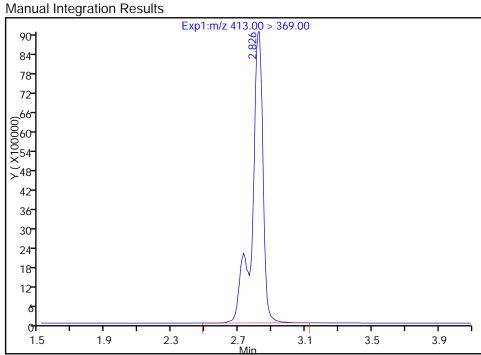
Signal: 1

RT: 2.83
Area: 33826231
Amount: 194.9672
Amount Units: ng/ml

Processing Integration Results



RT: 2.83 Area: 41596963 Amount: 239.7561 Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:25:33

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 310 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_049.d

Injection Date: 13-Mar-2017 17:23:36 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 13

Injection Vol: 2.0 ul Dil. Factor: 10.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

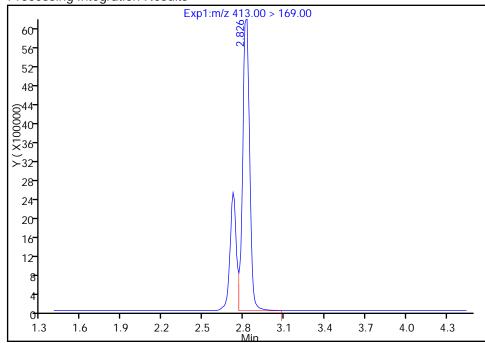
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

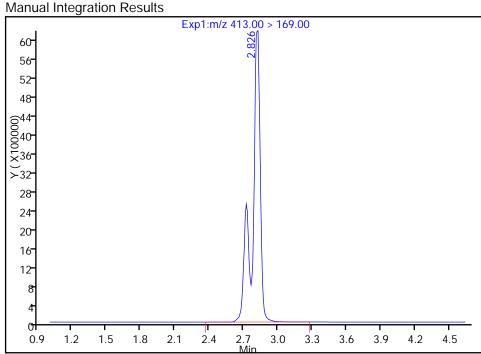
Signal: 2

RT: 2.83 Area: 22188832 Amount: 194.9672 Amount Units: ng/ml

Processing Integration Results



RT: 2.83
Area: 30305831
Amount: 239.7561
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:25:33

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 311 of 577 03/27/2017

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_049.d

Injection Date: 13-Mar-2017 17:23:36 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 13

Injection Vol: 2.0 ul Dil. Factor: 10.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

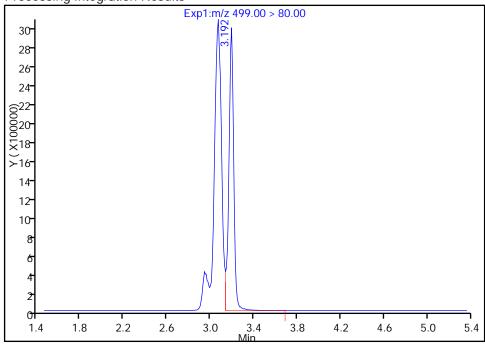
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

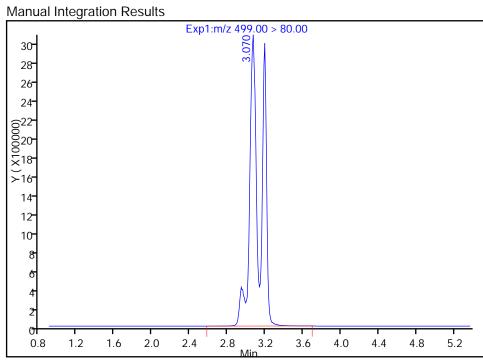
Signal: 1

RT: 3.19
Area: 9048033
Amount: 34.130493
Amount Units: ng/ml

Processing Integration Results



RT: 3.07
Area: 23752722
Amount: 89.598713
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:25:33

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 312 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-PWMA-MW01-0317 DL2 Lab Sample ID: 320-26263-2 DL2

Matrix: Water Lab File ID: 2017.03.14A_020.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 14:00

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 272.2(mL) Date Analyzed: 03/14/2017 15:13

Con. Extract Vol.: 0.5(mL) Dilution Factor: 25

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 155009 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	4500	D M	57	46	17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1500	D M	92	69	29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	730	D	57	46	21

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	108		25-150
STL00991	13C4 PFOS	112		25-150
STL00994	1802 PFHxS	108		25-150

Report Date: 27-Mar-2017 12:35:00 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Lims ID: 320-26263-A-2-A

Client ID: MEAFF-PWMA-MW01-0317

Sample Type: Client

Inject. Date: 14-Mar-2017 15:13:34 ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 25.0000

Sample Info: 320-26263-a-2-a 25X

Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Limit Group: LC PFC_DOD ICAL

Last Update: 15-Mar-2017 11:46:53 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: chandrasenas Date: 27-Mar-2017 12:34:59

							=			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
5 Perfluorobuta	anesulfo	nic acid								
298.90 > 80.00	1.872	1.883	-0.011	1.000	7194642	16.0				
298.90 > 99.00	1.872	1.883	-0.011	1.000	2965843		2.43(0.00-0.00)			
D 11 1802 PFH:	xS									
403.00 > 84.00	2.500	2.517	-0.017		595485	2.05		4.3	49015	
D 14 13C4 PFO	A									
417.00 > 372.00	2.858	2.868	-0.010		442924	2.16		4.3	49119	
15 Perfluorooct	anoic ac	id								M
413.00 > 369.00	2.858	2.876	-0.018	1.000	22236619	98.3			589667	M
413.00 > 169.00	2.858	2.876	-0.018	1.000	14877837		1.49(0.90-1.10)		180894	4M
17 Perfluorooct	ane sulf	onic acid	b							M
499.00 > 80.00	3.114	3.222	-0.108	1.000	8941828	33.7			0.0	M
499.00 > 99.00	3.122	3.222	-0.100	1.003	1850104		4.83(0.90-1.10)		29191	
D 18 13C4 PFO	S									
503.00 > 80.00	3.237	3.248	-0.011		516296	2.14		4.5	24124	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:35:00 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

 $\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_020.d$ Data File:

Injection Date: 14-Mar-2017 15:13:34 Instrument ID: A8_N

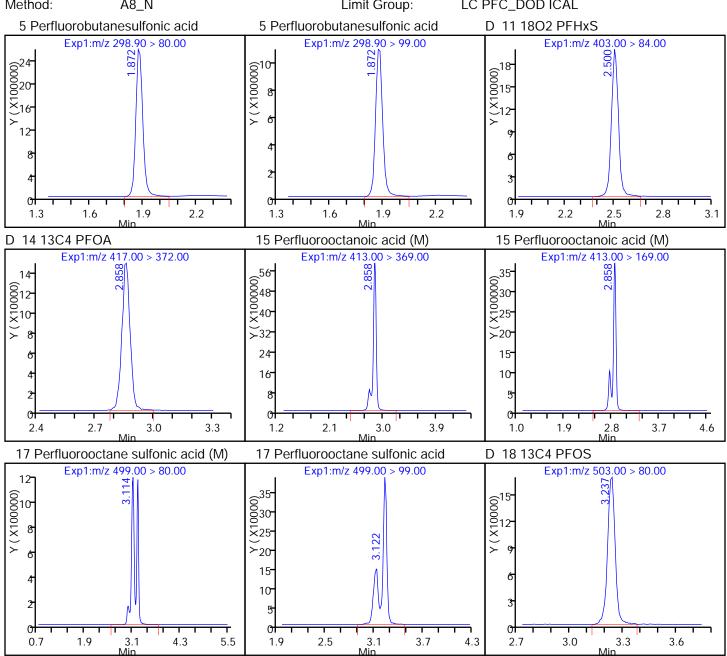
Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 25.0000

Method: Limit Group: LC PFC_DOD ICAL $A8_N$



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_020.d

Injection Date: 14-Mar-2017 15:13:34 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 25.0000

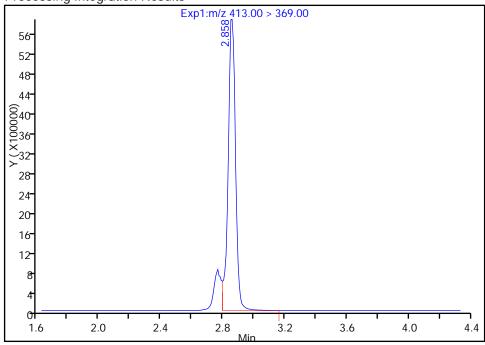
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

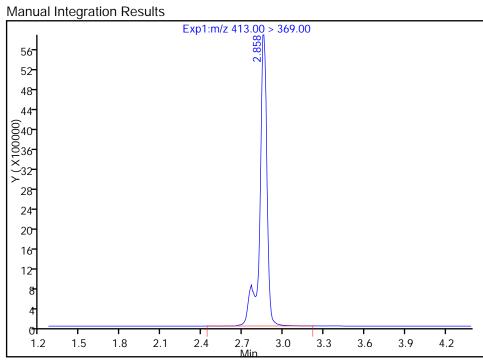
15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

RT: 2.86 Area: 19542421 Amount: 86.372090 Amount Units: ng/ml **Processing Integration Results**



RT: 2.86
Area: 22236619
Amount: 98.279699
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:34:48

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 316 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_020.d

Injection Date: 14-Mar-2017 15:13:34 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 25.0000

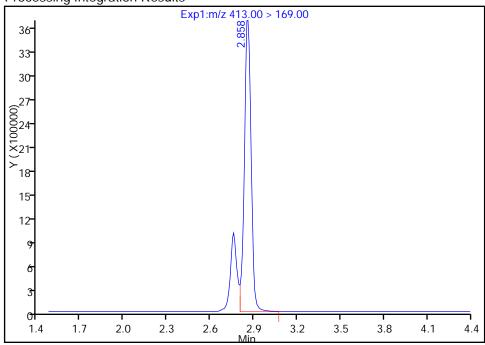
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

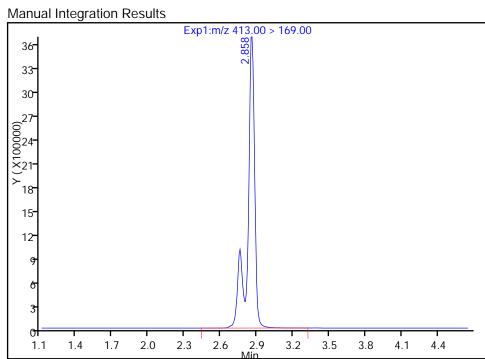
15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

RT: 2.86 Area: 11740110 Amount: 86.372090 Amount Units: ng/ml **Processing Integration Results**



RT: 2.86
Area: 14877837
Amount: 98.279699
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:34:48

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 317 of 577 03/27/2017

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_020.d

Injection Date: 14-Mar-2017 15:13:34 Instrument ID: A8_N

Lims ID: 320-26263-A-2-A Lab Sample ID: 320-26263-2

Client ID: MEAFF-PWMA-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 25.0000

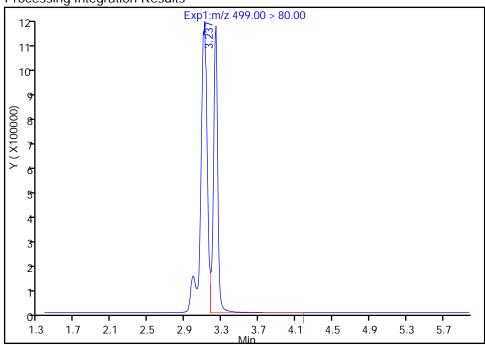
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

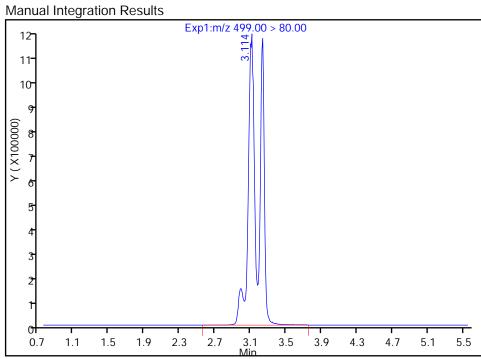
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

RT: 3.24 Area: 3497699 Amount: 13.170583 Amount Units: ng/ml **Processing Integration Results**



RT: 3.11
Area: 8941828
Amount: 33.670448
Amount Units: ng/ml



Reviewer: westendorfc, 27-Mar-2017 12:34:48

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 318 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-Unknown22-MW01-0317 Lab Sample ID: 320-26263-3

Matrix: Water Lab File ID: 2017.03.10B_046.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 15:05

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 269.1(mL) Date Analyzed: 03/10/2017 23:07

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid	9.0	M	2.3	1.9	0.69
	(PFOA)					
1763-23-1	Perfluorooctanesulfonic	2.0	JМ	3.7	2.8	1.2
	acid (PFOS)					
375-73-5	Perfluorobutanesulfonic	3.7		2.3	1.9	0.85
	acid (PFBS)					

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	87		25-150
STL00991	13C4 PFOS	118		25-150
STL00994	1802 PFHxS	125		25-150

Report Date: 27-Mar-2017 12:08:06 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Lims ID: 320-26263-A-3-A

Client ID: MEAFF-Unknown22-MW01-0317

Sample Type: Client

Inject. Date: 10-Mar-2017 23:07:32 ALS Bottle#: 36 Worklist Smp#: 25

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: 320-26263-a-3-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 27-Mar-2017 12:07:44 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: changnoit Date: 13-Mar-2017 11:28:46

I II St Level Nevie	wci. ciid	rigiloit			Date.	<u>'</u>	3 Mai 2017 11.20.			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
5 Perfluorobuta	anesulfo	nic acid								
298.90 > 80.00	1.841	1.861	-0.020	1.000	1052020	2.01				
298.90 > 99.00	1.841	1.861	-0.020	1.000	406177		2.59(0.00-0.00)			
D 11 18O2 PFH	κS									
403.00 > 84.00	2.445	2.464	-0.019		17262235	59.3		125	526530	
D 14 13C4 PFO	4									
417.00 > 372.00	2.795	2.814	-0.019		8943614	43.6		87.3	395238	
15 Perfluorooct	anoic ac	id								M
413.00 > 369.00	2.795	2.814	-0.019	1.000	887760	4.86			5563	M
413.00 > 169.00	2.795	2.814	-0.019	1.000	644935		1.38(0.90-1.10)		12494	M
D 18 13C4 PFO	S									
503.00 > 80.00	3.167	3.188	-0.021		13607968	56.3		118	283018	
17 Perfluorooct	ane sulf	onic acio	d							M
499.00 > 80.00	3.167	3.197	-0.030	1.000	299116	1.07			3437	М
499.00 > 99.00	3.167	3.197	-0.030	1.000	62761		4.77(0.90-1.10)		2153	M
							•			

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:08:06 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

Data File:

Injection Date: 10-Mar-2017 23:07:32 Instrument ID: A8_N

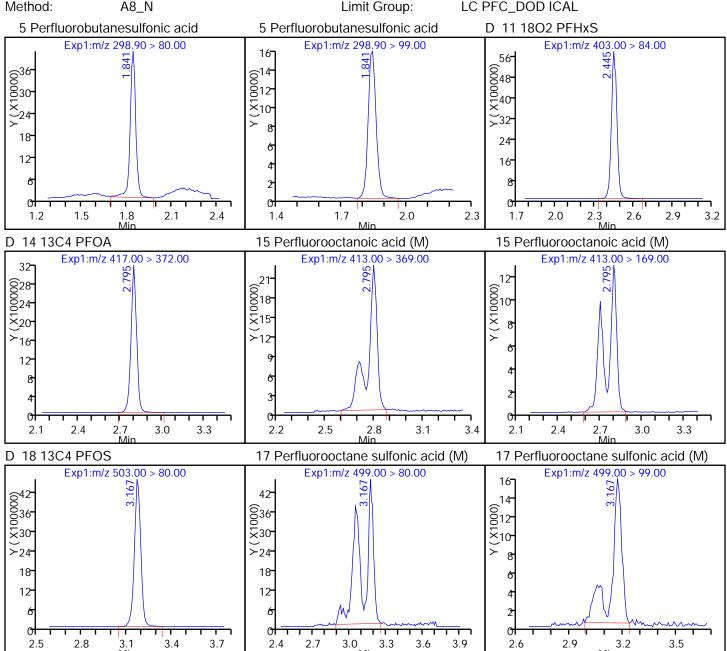
Lims ID: 320-26263-A-3-A Lab Sample ID: 320-26263-3

Client ID: MEAFF-Unknown22-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 36 Worklist Smp#: 25

Injection Vol: Dil. Factor: 1.0000 2.0 ul

Method: LC PFC_DOD ICAL $A8_N$ Limit Group:



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_046.d

Injection Date: 10-Mar-2017 23:07:32 Instrument ID: A8_N

Lims ID: 320-26263-A-3-A Lab Sample ID: 320-26263-3

Client ID: MEAFF-Unknown22-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 36 Worklist Smp#: 25

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

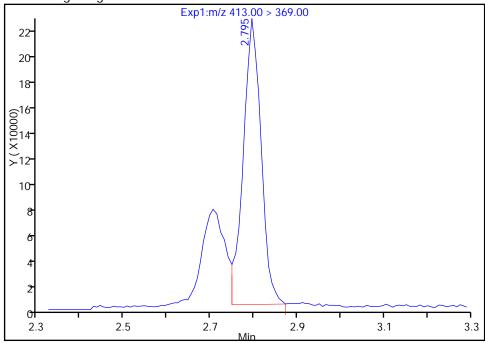
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

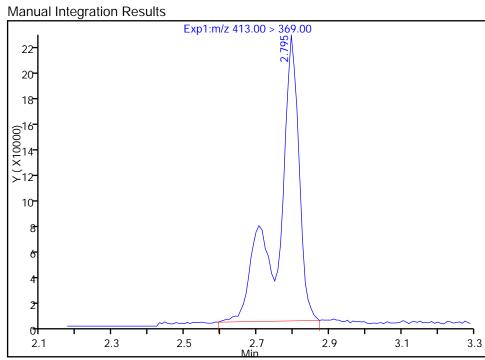
Signal: 1

RT: 2.79
Area: 616118
Amount: 3.371438
Amount Units: ng/ml

Processing Integration Results



RT: 2.79
Area: 887760
Amount: 4.857880
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:07:45

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 322 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\\2017.03.10B_046.d

Injection Date: 10-Mar-2017 23:07:32 Instrument ID: A8_N

Lims ID: 320-26263-A-3-A Lab Sample ID: 320-26263-3

Client ID: MEAFF-Unknown22-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 36 Worklist Smp#: 25

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

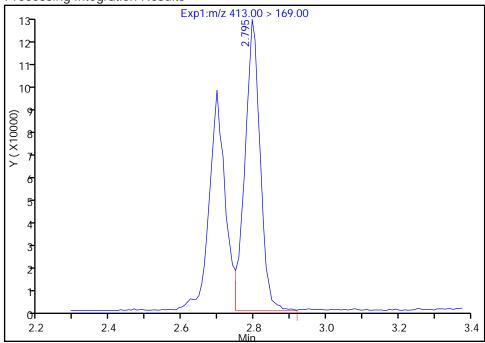
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

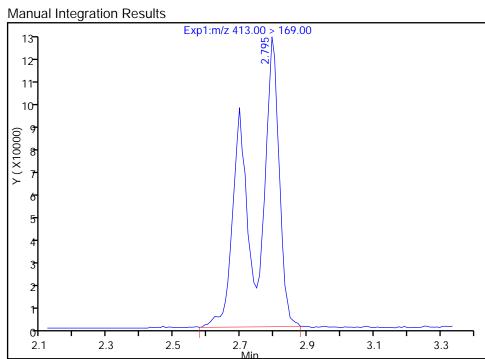
Signal: 2

RT: 2.79
Area: 363707
Amount: 3.371438
Amount Units: ng/ml

Processing Integration Results



RT: 2.79
Area: 644935
Amount: 4.857880
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:07:45

Audit Action: Manually Integrated

Audit Reason: Isomers Page 323 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_046.d

Injection Date: 10-Mar-2017 23:07:32 Instrument ID: A8_N

Lims ID: 320-26263-A-3-A Lab Sample ID: 320-26263-3

Client ID: MEAFF-Unknown22-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 36 Worklist Smp#: 25

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

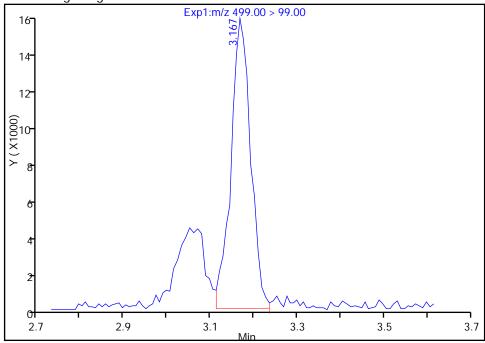
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

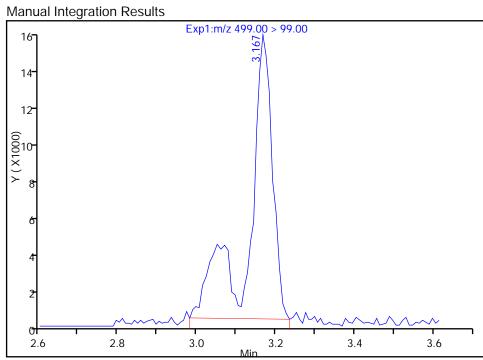
Signal: 2

RT: 3.17
Area: 48332
Amount: 0.494262
Amount Units: ng/ml

Processing Integration Results



RT: 3.17
Area: 62761
Amount: 1.068336
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:07:45

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 324 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\\2017.03.10B_046.d

Injection Date: 10-Mar-2017 23:07:32 Instrument ID: A8_N

Lims ID: 320-26263-A-3-A Lab Sample ID: 320-26263-3

Client ID: MEAFF-Unknown22-MW01-0317

Operator ID: A8-PC\A8 ALS Bottle#: 36 Worklist Smp#: 25

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

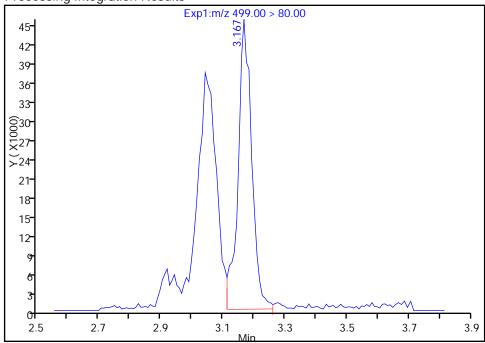
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

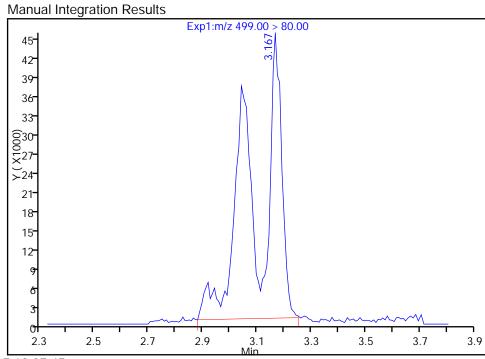
Signal: 1

RT: 3.17
Area: 138385
Amount: 0.494262
Amount Units: ng/ml

Processing Integration Results



RT: 3.17
Area: 299116
Amount: 1.068336
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:07:45

Audit Action: Manually Integrated/Assigned Compound IDAudit Reason: Isomers

Page 325 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-FD04-030117 Lab Sample ID: 320-26263-4

Matrix: Water Lab File ID: 2017.03.10B_047.d

Analysis Method: 537 (Modified) Date Collected: 03/01/2017 00:00

Extraction Method: 3535 Date Extracted: 03/06/2017 16:19

Sample wt/vol: 270.9(mL) Date Analyzed: 03/10/2017 23:15

Con. Extract Vol.: 0.5(mL) Dilution Factor: 1

Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	8.1	М	2.3	1.8	0.69
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.2	JМ	3.7	2.8	1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.6		2.3	1.8	0.85

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	83		25-150
STL00991	13C4 PFOS	134		25-150
STL00994	1802 PFHxS	137		25-150

Report Date: 27-Mar-2017 12:08:40 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_047.d

Lims ID: 320-26263-A-4-A Client ID: MEAFF-FD04-030117

Sample Type: Client

Inject. Date: 10-Mar-2017 23:15:01 ALS Bottle#: 37 Worklist Smp#: 26

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: 320-26263-a-4-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Limit Group: LC PFC_DOD ICAL

Last Update: 27-Mar-2017 12:08:39 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: changnoit Date: 13-Mar-2017 11:29:22

RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
anesulfo	nic acid								
1.853	1.861	-0.008	1.000	1106574	1.94				
1.853	1.861	-0.008	1.000	403460		2.74(0.00-0.00)			
xS									
2.470	2.464	0.006		18851094	64.8		137	625684	
A									
2.820	2.814	0.006		8482043	41.4		82.8	244462	
tanoic ac	id								M
2.820	2.814	0.006	1.000	761206	4.39			4269	M
2.820	2.814	0.006	1.000	553184		1.38(0.90-1.10)		11676	M
S									
3.195	3.188	0.007		15420880	63.8		134	313258	
tane sulf	onic acio	t							M
3.074	3.197	-0.123	1.000	197745	0.6232			2635	M
3.186	3.197	-0.011	1.037	39028		5.07(0.90-1.10)		979	M
	anesulfo 1.853 1.853 xS 2.470 A 2.820 tanoic ac 2.820 2.820 S 3.195 tane sulf 3.074	anesulfonic acid 1.853	anesulfonic acid 1.853	anesulfonic acid 1.853	anesulfonic acid 1.853	RT RT RT RT RT REsponse ng/ml anesulfonic acid 1.853	RT RT RT RT RT RT REsponse ng/ml Ratio(Limits) anesulfonic acid 1.853	RT RT RT RT RT RT RT Response ng/ml Ratio(Limits) %Rec anesulfonic acid 1.853	RT RT RT RT RT REsponse ng/ml Ratio(Limits) %Rec S/N anesulfonic acid 1.853 1.861 -0.008 1.000 1106574 1.94 1.853 1.861 -0.008 1.000 403460 2.74(0.00-0.00) xS 2.470 2.464 0.006 18851094 64.8 137 625684 A 2.820 2.814 0.006 8482043 41.4 82.8 244462 tanoic acid 2.820 2.814 0.006 1.000 761206 4.39 2.820 2.814 0.006 1.000 553184 1.38(0.90-1.10) 11676 S 3.195 3.188 0.007 15420880 63.8 134 313258 tane sulfonic acid 3.074 3.197 -0.123 1.000 197745 0.6232 2635

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 27-Mar-2017 12:08:40 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_047.d

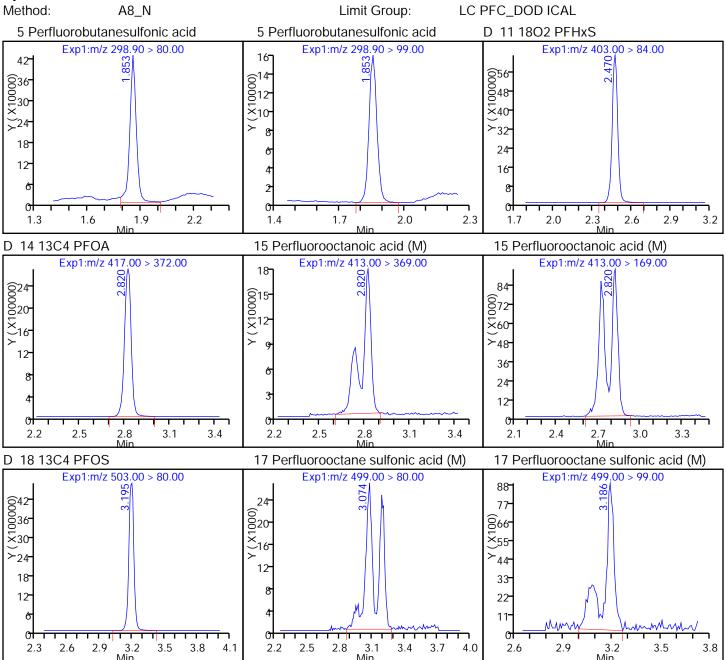
Injection Date: 10-Mar-2017 23:15:01 Instrument ID: A8_N

Lims ID: 320-26263-A-4-A Lab Sample ID: 320-26263-4

Client ID: MEAFF-FD04-030117

Operator ID: A8-PC\A8 ALS Bottle#: 37 Worklist Smp#: 26

Injection Vol: 2.0 ul Dil. Factor: 1.0000



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_047.d

Injection Date: 10-Mar-2017 23:15:01 Instrument ID: A8_N

Lims ID: 320-26263-A-4-A Lab Sample ID: 320-26263-4

Client ID: MEAFF-FD04-030117

Operator ID: A8-PC\A8 ALS Bottle#: 37 Worklist Smp#: 26

Injection Vol: 2.0 ul Dil. Factor: 1.0000

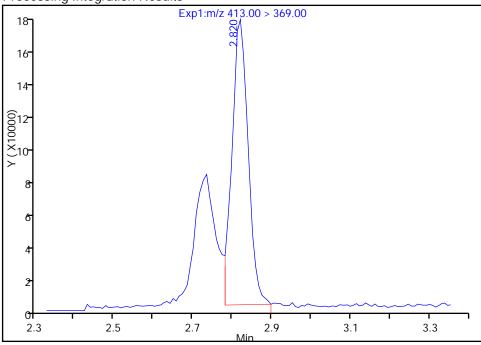
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

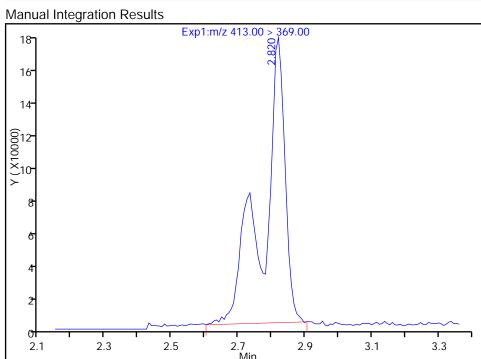
15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 1

RT: 2.82 Area: 470544 Amount: 2.714964 Amount Units: ng/ml **Processing Integration Results**



RT: 2.82
Area: 761206
Amount: 4.392037
Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:08:07

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 329 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_047.d

Injection Date: 10-Mar-2017 23:15:01 Instrument ID: A8_N

Lims ID: 320-26263-A-4-A Lab Sample ID: 320-26263-4

Client ID: MEAFF-FD04-030117

Operator ID: A8-PC\A8 ALS Bottle#: 37 Worklist Smp#: 26

Injection Vol: 2.0 ul Dil. Factor: 1.0000

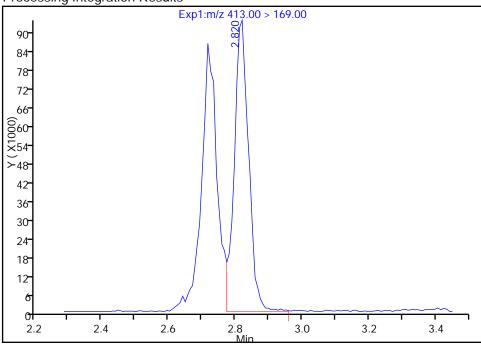
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

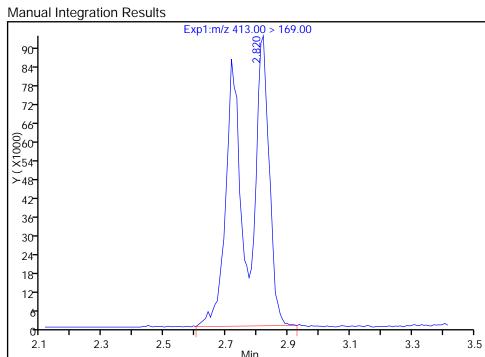
15 Perfluorooctanoic acid, CAS: 335-67-1

Signal: 2

RT: 2.82 Area: 279599 Amount: 2.714964 Amount Units: ng/ml **Processing Integration Results**



RT: 2.82 Area: 553184 Amount: 4.392037 Amount Units: ng/ml



Reviewer: changnoit, 27-Mar-2017 12:08:07

Audit Action: Manually Integrated

Audit Reason: Isomers Page 330 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_047.d

Injection Date: 10-Mar-2017 23:15:01 Instrument ID: A8_N

Lims ID: 320-26263-A-4-A Lab Sample ID: 320-26263-4

Client ID: MEAFF-FD04-030117

Operator ID: A8-PC\A8 ALS Bottle#: 37 Worklist Smp#: 26

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

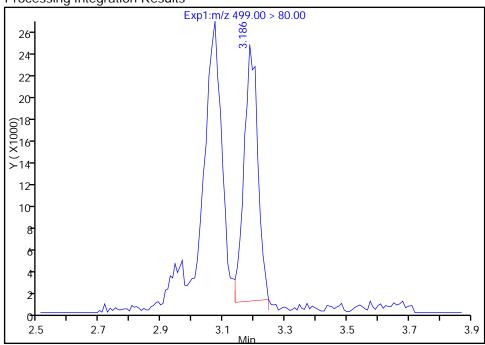
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

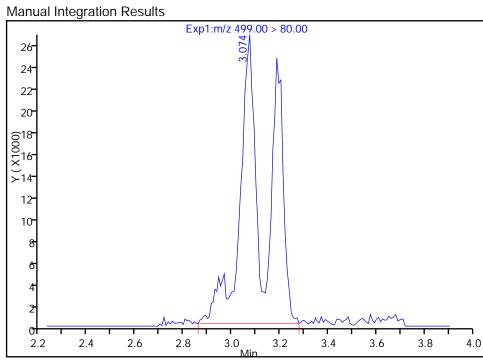
Signal: 1

RT: 3.19
Area: 72294
Amount: 0.227853
Amount Units: ng/ml

Processing Integration Results



RT: 3.07
Area: 197745
Amount: 0.623243
Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:08:07

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 331 of 577

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_047.d

Injection Date: 10-Mar-2017 23:15:01 Instrument ID: A8_N

Lims ID: 320-26263-A-4-A Lab Sample ID: 320-26263-4

Client ID: MEAFF-FD04-030117

Operator ID: A8-PC\A8 ALS Bottle#: 37 Worklist Smp#: 26

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

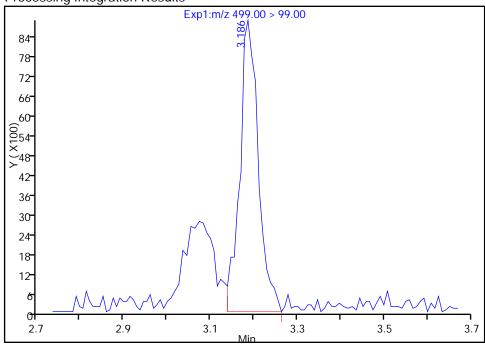
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

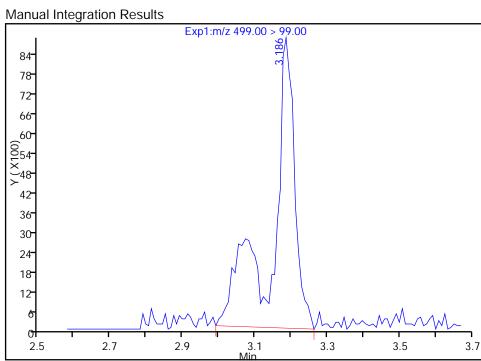
Signal: 2

RT: 3.19
Area: 26198
Amount: 0.227853
Amount Units: ng/ml

Processing Integration Results



RT: 3.19
Area: 39028
Amount: 0.623243
Amount Units: ng/ml



Reviewer: chandrasenas, 27-Mar-2017 12:08:07

Audit Action: Manually Integrated

Audit Reason: Baseline Page 332 of 577

LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

Calibration Start Date: 03/01/2017 11:08

GD No.: 320-26263-1

Analy Batch No.: 152681

Analy Batch No.: 152681

Beated Purge: (Y/N) N

Calibration End Date: 03/01/2017 11:46

Calibration ID: 28659

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-152681/2	2017.03.01CURVE 003.d
Level 2	IC 320-152681/3	2017.03.01CURVE 004.d
Level 3	IC 320-152681/4	2017.03.01CURVE 005.d
Level 4	IC 320-152681/5	2017.03.01CURVE 006.d
Level 5	IC 320-152681/6	2017.03.01CURVE 007.d
Level 6	IC 320-152681/7	2017.03.01CURVE_008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT WINDOW	AVG RT
Perfluorobutanoic acid (PFBA)	1.563	1.562	1.555	1.562	1.554	1.554	1.308 - 1.808	1.558
Perfluoropentanoic acid (PFPeA)	1.843	1.842	1.833	1.841	1.831	1.822	1.585 - 2.085	1.835
Perfluorobutanesulfonic acid (PFBS)	1.883	1.872	1.873	1.871	1.871	1.861	1.692 - 2.052	1.872
Perfluorohexanoic acid (PFHxA)	2.139	2.145	2.129	2.134	2.127	2.122	1.883 - 2.383	2.133
Perfluoroheptanoic acid (PFHpA)	2.491	2.484	2.471	2.471	2.466	2.461	2.224 - 2.724	2.474
Perfluorohexanesulfonic acid (PFHxS)	+++++	2.500	2.456	2.487	2.481	2.478	2.235 - 2.735	2.480
6:2FTS	2.833	2.818	2.798	2.806	2.793	2.797	2.557 - 3.057	2.808
Perfluorooctanoic acid (PFOA)	+++++	2.841	2.829	2.837	2.824	2.820	2.585 - 3.085	2.830
Perfluoroheptanesulfonic Acid (PFHpS)	2.856	2.857	2.845	2.837	2.831	2.828	2.592 - 3.092	2.842
Perfluorooctanesulfonic acid (PFOS)	3.227	3.105	3.171	3.093	3.087	3.186	2.895 - 3.395	3.145
Perfluorononanoic acid (PFNA)	3.218	3.209	3.205	3.205	3.191	3.186	2.952 - 3.452	3.202
8:2FTS	3.569	3.561	3.539	3.539	3.543	3.523	3.296 - 3.796	3.546
Perfluorodecanoic acid (PFDA)	3.578	3.569	3.556	3.556	3.552	3.548	3.310 - 3.810	3.560
Perfluorooctane Sulfonamide (FOSA)	3.569	3.561	3.556	3.565	3.560	3.557	3.311 - 3.811	3.561
N-methyl perfluorooctane sulfonamidoacetic	3.723	3.723	3.707	3.717	3.702	3.707	3.463 - 3.963	3.713
acid (NMeFOSAA)								
Perfluorodecanesulfonic acid (PFDS)	3.886	3.876	3.861	3.862	3.859	3.853	3.616 - 4.116	3.866
Perfluoroundecanoic acid (PFUnA)	3.894	3.885	3.878	3.879	3.867	3.862	3.628 - 4.128	3.878
N-ethyl perfluorooctane sulfonamidoacetic	3.903	3.885	3.878	3.888	3.876	3.871	3.633 - 4.133	3.884
acid (NEtFOSAA)								
MeFOSA	4.055	4.064	4.056	4.059	4.058	4.051	3.807 - 4.307	4.057
Perfluorododecanoic acid (PFDoA)	4.176	4.175	4.161	4.165	4.157	4.138	3.912 - 4.412	4.162
N-EtFOSA-M	4.247	4.246	4.237	4.249	4.241	4.236	3.992 - 4.492	4.243
Perfluorotridecanoic Acid (PFTriA)	4.447	4.430	4.421	4.418	4.418	4.407	4.174 - 4.674	4.424
Perfluorotetradecanoic acid (PFTeA)	4.679	4.667	4.655	4.652	4.651	4.635	4.407 - 4.907	4.657
Perfluoro-n-hexadecanoic acid (PFHxDA)	+++++	5.070	5.057	5.057	5.049	5.046	4.809 - 5.309	5.056
Perfluoro-n-octadecanoic acid (PFODA)	5.428	5.414	5.398	5.398	5.383	5.375	5.149 - 5.649	5.399
13C4 PFBA	1.563	1.554	1.555	1.554	1.546	1.546	1.303 - 1.803	1.553
13C5-PFPeA	1.843	1.842	1.833	1.832	1.821	1.822	1.582 - 2.082	1.832
13C2 PFHxA	2.147	2.136	2.138	2.134	2.127	2.122	1.884 - 2.384	2.134
13C4-PFHpA	2.491	2.484	2.471	2.479	2.466	2.461	2.225 - 2.725	2.475
1802 PFHxS	2.498	2.500	2.487	2.487	2.481	2.478	2.239 - 2.739	2.489
M2-6:2FTS	2.817	2.810	2.806	2.814	2.793	2.789	2.555 - 3.055	2.805
13C4 PFOA	2.848	2.849	2.829	2.837	2.824	2.820	2.585 - 3.085	2.835
13C4 PFOS	3.218	3.218	3.196	3.205	3.199	3.186	2.954 - 3.454	3.204

LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA RETENTION TIME SUMMARY

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

GC Column: GeminiC18 3 ID: 3(mm)

Calibration Start Date: 03/01/2017 11:08

Calibration End Date: 03/01/2017 11:46

Calibration ID: 28659

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	RT WINDOW	AVG RT
13C5 PFNA	3.218	3.218	3.205	3.214	3.199	3.195	2.958 - 3.458	3.208
M2-8:2FTS	3.569	3.553	3.548	3.539	3.535	3.523	3.295 - 3.795	3.545
13C8 FOSA	3.561	3.561	3.556	3.565	3.560	3.548	3.309 - 3.809	3.559
13C2 PFDA	3.569	3.569	3.556	3.565	3.552	3.548	3.310 - 3.810	3.560
d3-NMeFOSAA	3.723	3.723	3.707	3.707	3.702	3.696	3.460 - 3.960	3.710
d5-NEtFOSAA	3.894	3.885	3.869	3.870	3.867	3.862	3.625 - 4.125	3.875
13C2 PFUnA	3.894	3.885	3.869	3.879	3.867	3.862	3.626 - 4.126	3.876
d-N-MeFOSA-M	4.055	4.055	4.047	4.050	4.048	4.042	3.800 - 4.300	4.050
13C2 PFDoA	4.176	4.175	4.161	4.165	4.157	4.152	3.914 - 4.414	4.164
d-N-EtFOSA-M	4.238	4.237	4.228	4.240	4.241	4.227	3.985 - 4.485	4.235
13C2-PFTeDA	4.679	4.667	4.655	4.652	4.641	4.635	4.405 - 4.905	4.655
13C2-PFHxDA	5.077	5.070	5.057	5.057	5.049	5.035	4.807 - 5.307	5.058

LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1	Analy Batch No.: 152681
SDG No.:		
Instrument ID: A8 N	GC Column: GeminiC18 3 ID: 3(mm)	Heated Purge: (Y/N) N

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:	
Level 1	IC 320-152681/2	2017.03.01CURVE 003.d	
Level 2	IC 320-152681/3	2017.03.01CURVE 004.d	
Level 3	IC 320-152681/4	2017.03.01CURVE 005.d	
Level 4	IC 320-152681/5	2017.03.01CURVE 006.d	
Level 5	IC 320-152681/6	2017.03.01CURVE 007.d	
Level 6	IC 320-152681/7	2017.03.01CURVE 008.d	

ANALYTE		CF	1		CURVE		COEFFICIENT	#	MIN CF	%RSD			# MIN R^2
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4	TYPE	В	M1	M2			%RS	OR COD	OR COD
13C4 PFBA	295570 298823	282103 245371	289131	342453	Ave		292241.860			10.7	50.	0	
13C5-PFPeA	243840 228800	230536 186413	230743	272822	Ave		232192.393			12.0	50.	0	
13C2 PFHxA	216513 214399	203387 180899	205221	244884	Ave		210883.903			9.9	50.	0	
13C4-PFHpA	196625 198881	194053 153158	196340	218699	Ave		192959.403			11.1	50.	0	
1802 PFHxS	303886 295000	286708 235682	287749	336370	Ave		290899.232			11.2	50.	0	
M2-6:2FTS	77170 76852	74128 71775	76996	86146	Ave		77177.6947			6.3	50.	0	
13C4 PFOA	218643 200396	211258 153770	209474	236176	Ave		204953.003			13.6	50.	0	
13C4 PFOS	248546 248262	230373 208908	237852	275881	Ave		241637.026			9.2	50.	0	
13C5 PFNA	187340 178740	181023 139672	176430	203992	Ave		177866.177			11.9	50.	0	
M2-8:2FTS	96352 91038	94980 76400	95104	101739	Ave		92601.9868			9.3	50.	0	
13C8 FOSA	389836 371174	361792 303762	377175	397768	Ave		366917.947			9.1	50.	0	
13C2 PFDA	175335 161485	171862 124531	173776	193236	Ave		166704.327			13.8	50.	0	
d3-NMeFOSAA	80206 88198	79979 82300	85034	95399	Ave		85185.7867			6.9	50.	0	
d5-NEtFOSAA	85322 82165	81954 62458	86013	90318	Ave		81371.4600			12.0	50.	0	
13C2 PFUnA	144662 128397	134819 95431	134602	146921	Ave		130805.323			14.3	50.	0	

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

GC Column: GeminiC18 3 ID: 3 (mm)

Calibration Start Date: 03/01/2017 11:08

Calibration End Date: 03/01/2017 11:46

Calibration ID: 28659

ANALYTE		CF			CURVE		COEFFICIENT		#	MIN CF	%RSD	#	MAX	R^2	#	MIN R^2
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4	TYPE	В	M1	M2					%RSD	OR COD		OR COD
d-N-MeFOSA-M	86833 90989	81090 88671	88728	91589	Ave		87983.4500				4.3		50.0			
13C2 PFDoA	134509 123176		126789	132125	Ave		123944.073				8.1		50.0			
d-N-EtFOSA-M	83930 87690		85474	87472	Ave		85248.5033				4.4		50.0			
13C2-PFTeDA	274175 265148	246188 227078	269935	272468	Ave		259165.203				7.2		50.0			
13C2-PFHxDA	131614 132135	114843 117588	127568	126617	Ave		125060.687				5.8		50.0			

LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

GC Column: GeminiC18 3 ID: 3(mm)

Heated Purge: (Y/N) N

ANALYTE			RRF			CURVE		COEFFICIE	NT	# 1	MIN RRF	%RSD	#	MAX	R^2	#	MIN R^2
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	TYPE	В	M1	M2					%RSD	OR COD		OR COD
Perfluorobutanoic acid (PFBA)	0.8141	0.8385	0.8902	0.8682	0.9030	AveID		0.8473				5.9		35.0			
Perfluoropentanoic acid (PFPeA)	1.0168 0.8556							0.9785				6.4		35.0			
Perfluorobutanesulfonic acid (PFBS)	1.4512 1.1477	1.4372	1.5643	1.5194				1.4325				10.3		50.0			
Perfluorohexanoic acid (PFHxA)	0.8937 0.8394							0.8895				4.1		35.0			
Perfluoroheptanoic acid (PFHpA)	1.0535 0.9266	0.9536	0.9588	0.9499	0.9613	AveID		0.9673				4.5		35.0			
Perfluorohexanesulfonic acid (PFHxS)	++++ 0.9823	1.1299	1.0303	0.9734	1.0264	AveID		1.0284				6.0		35.0			
6:2FTS	1.1310 0.8276	1.0222	0.9530	0.9038	0.8939	L2ID	0.1204	0.8859							0.9980		0.9900
Perfluorooctanoic acid (PFOA)	++++ 0.9671	1.0714	1.0527	0.9847	1.0323	AveID		1.0217				4.3		35.0			
Perfluoroheptanesulfonic Acid (PFHpS)	0.9372 0.9122	1.0436	1.1203	1.0793	1.0932	AveID		1.0310				8.4		50.0			
Perfluorooctanesulfonic acid (PFOS)	0.9378 1.0254	0.9696	0.9901	0.9549	1.0231	AveID		0.9835				3.7		35.0			
Perfluorononanoic acid (PFNA)	0.8479	0.8440	0.9730	0.8905	0.9356	AveID		0.9040				5.8		35.0			
8:2FTS	1.0958	0.9785	0.9767	0.9909	0.9344	L2ID	0.0783	0.9239							0.9960		0.9900
Perfluorodecanoic acid (PFDA)	0.8578	0.8868	0.9034	0.8481	0.9635	AveID		0.9057				5.8		35.0			
Perfluorooctane Sulfonamide (FOSA)	0.8943 0.7850	0.9384	0.9267	0.9035	0.9430	AveID		0.8985				6.5		35.0			
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	1.0472	0.9816	0.9980	0.8887	0.9213	AveID		0.9711				5.9		35.0			
Perfluorodecanesulfonic acid (PFDS)	0.5889 0.6126	0.5647	0.6260	0.5646	0.6173	AveID		0.5957				4.5		50.0			
Perfluoroundecanoic acid (PFUnA)	1.1887	1.0233	1.0049	0.8914	0.9951	AveID		1.0136				9.6		35.0			
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.9144	0.9405	0.8966	0.8892	0.8680	AveID		0.9103				3.5		35.0			
MeFOSA	1.0035	0.9265	0.9122	0.9123	0.8877	AveID		0.9355				4.6		35.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA CURVE EVALUATION

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

GC Column: GeminiC18 3 ID: 3 (mm)

Calibration Start Date: 03/01/2017 11:08

Calibration End Date: 03/01/2017 11:46

Calibration ID: 28659

ANALYTE			RRF			CURVE	COEFFICIENT #			#	MIN RRF	%RSD		XAM	R^2	# MIN F	
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	TYPE	В	M1	M2				1 8	RSD	OR COD	OR C	COC
	LVL 6							D PII PIZ									
Perfluorododecanoic acid (PFDoA)	0.8688	0.9386	0.9128	0.8906	0.9644	AveID		0.9145				3.7		35.0			
N-EtFOSA-M	1.0272	1.0085	0.9951	0.9583	0.9298	AveID		0.9837				3.6		35.0			
Perfluorotridecanoic Acid (PFTriA)	0.8807 0.8636	0.8542	0.8873	0.8354	0.9194	AveID		0.8734				3.3		50.0			
Perfluorotetradecanoic acid (PFTeA)	1.9494 1.8544	1.9776	2.0893	1.8773	2.0509	AveID		1.9665				4.7		50.0			
Perfluoro-n-hexadecanoic acid (PFHxDA)	+++++ 0.9462	1.4217	1.0035	0.7837	0.9248	L1ID	0.3491	0.9270							0.9970	0.99	900
Perfluoro-n-octadecanoic acid (PFODA)	0.6950 0.8378	0.6764	0.7116	0.6387	0.7456	AveID		0.7175				9.6		50.0			

LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

Calibration Start Date: 03/01/2017 11:08

Job No.: 320-26263-1

Analy Batch No.: 152681

Below No.: 152681

Analy Batch No.: 152681

Analy Batch No.: 152681

Below No.: 152681

Calibration ID: 28659

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 320-152681/2	2017.03.01CURVE 003.d
Level 2	IC 320-152681/3	2017.03.01CURVE 004.d
Level 3	IC 320-152681/4	2017.03.01CURVE 005.d
Level 4	IC 320-152681/5	2017.03.01CURVE 006.d
Level 5	IC 320-152681/6	2017.03.01CURVE 007.d
Level 6	IC 320-152681/7	2017.03.01CURVE_008.d

ANALYTE	CURVE			RESPONSE				CONCEN	TRATION (N	G/ML)	
	TYPE	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
13C4 PFBA	Ave	14778495 12268568	14105138	14456536	17122661	14941160	50.0 50.0	50.0	50.0	50.0	50.0
13C5-PFPeA	Ave	12192014 9320645	11526786	11537165	13641103	11440005	50.0 50.0	50.0	50.0	50.0	50.0
13C2 PFHxA	Ave	10825655 9044966	10169363	10261028	12244217	10719942	50.0 50.0	50.0	50.0	50.0	50.0
13C4-PFHpA	Ave	9831264 7657909	9702633	9817002	10934944	9944069	50.0 50.0	50.0	50.0	50.0	50.0
1802 PFHxS	Ave	14373798 11147782	13561303	13610529	15910284	13953506	47.3 47.3	47.3	47.3	47.3	47.3
M2-6:2FTS	Ave	3665572 3409307	3521088	3657293	4091935	3650448	47.5 47.5	47.5	47.5	47.5	47.5
13C4 PFOA	Ave	10932126 7688496	10562914	10473721	11808824	10019820	50.0 50.0	50.0	50.0	50.0	50.0
13C4 PFOS	Ave	11880498 9985826	11011810	11369327	13187105	11866933	47.8 47.8	47.8	47.8	47.8	47.8
13C5 PFNA	Ave	9367003 6983620	9051156	8821496	10199601	8936977	50.0 50.0	50.0	50.0	50.0	50.0
M2-8:2FTS	Ave	4615245 3659550	4549526	4555474	4873285	4360731	47.9 47.9	47.9	47.9	47.9	47.9
13C8 FOSA	Ave	19491823 15188110	18089578	18858766	19888389	18558718	50.0 50.0	50.0	50.0	50.0	50.0
13C2 PFDA	Ave	8766735 6226569	8593124	8688810	9661817	8074243	50.0 50.0	50.0	50.0	50.0	50.0
d3-NMeFOSAA	Ave	4010288 4115011	3998931	4251681	4769931	4409894	50.0 50.0	50.0	50.0	50.0	50.0
d5-NEtFOSAA	Ave	4266080 3122900	4097675	4300641	4515915	4108227	50.0 50.0	50.0	50.0	50.0	50.0
13C2 PFUnA	Ave	7233118 4771549	6740958	6730080	7346047	6419845	50.0 50.0	50.0	50.0	50.0	50.0
d-N-MeFOSA-M	Ave	4341649 4433562	4054503	4436424	4579449	4549448	50.0 50.0	50.0	50.0	50.0	50.0

LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

Calibration Start Date: 03/01/2017 11:08

Calibration End Date: 03/01/2017 11:46

Analy Batch No.: 152681

Analy Batch No.: 152681

Heated Purge: (Y/N) N

Calibration ID: 28659

ANALYTE								CONCENTRATION (NG/ML)						
	TYPE	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5			
13C2 PFDoA	Ave	6725474 5320903	6032319	6339474	6606261	6158791	50.0 50.0	50.0	50.0	50.0	50.0			
d-N-EtFOSA-M	Ave	4196476 4425922	3920378	4273681	4373613	4384481	50.0 50.0	50.0	50.0	50.0	50.0			
13C2-PFTeDA	Ave	13708730 11353892	12309406	13496732	13623388	13257413	50.0 50.0	50.0	50.0	50.0	50.0			
13C2-PFHxDA	Ave	6580685 5879424	5742128	6378393	6330845	6606731	50.0 50.0	50.0	50.0	50.0	50.0			

Curve Type Legend:

Ave = Average

LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1 Analy Batch No.: 152681

SDG No.:

Instrument ID: $A8_N$ GC Column: GeminiC18 3 ID: 3 (mm) Heated Purge: $(Y/N)_N$

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:	
Level 1	IC 320-152681/2	2017.03.01CURVE 003.d	
Level 2	IC 320-152681/3	2017.03.01CURVE 004.d	
Level 3	IC 320-152681/4	2017.03.01CURVE 005.d	
Level 4	IC 320-152681/5	2017.03.01CURVE 006.d	
Level 5	IC 320-152681/6	2017.03.01CURVE 007.d	
Level 6	IC 320-152681/7	2017.03.01CURVE_008.d	

ANALYTE	IS	CURVE		CONCENTRATION (NG/ML)								
	REF	TYPE	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Perfluorobutanoic acid (PFBA)		AveID	120309 37767596	236552	1286888	5946494	13491384	0.500 200	1.00	5.00	20.0	50.0
Perfluoropentanoic acid (PFPeA)		AveID	123967 31900088	233761	1164625	5283919	11520213	0.500 200	1.00	5.00	20.0	50.0
Perfluorobutanesulfonic acid (PFBS)		AveID	194922 47824719	364249	1989498	9035699	19236596	0.442 177	0.884	4.42	17.7	44.2
Perfluorohexanoic acid (PFHxA)		AveID	96748 30367858	183108	966638	4191655	9710439	0.500 200	1.00	5.00	20.0	50.0
Perfluoroheptanoic acid (PFHpA)		AveID	103569 28382869	185040	941301	4154809	9559143	0.500 200	1.00	5.00	20.0	50.0
Perfluorohexanesulfonic acid (PFHxS)		AveID	+++++ 42133990	294799	1348890	5958886	13776740	+++++ 182	0.910	4.55	18.2	45.5
6:2FTS		L2ID	41369 11262289	71833	347809	1476276	3256270	0.474 190	0.948	4.74	19.0	47.4
Perfluorooctanoic acid (PFOA)		AveID	+++++ 29743583	226350	1102619	4651144	10343315	+++++ 200	1.00	5.00	20.0	50.0
Perfluoroheptanesulfonic Acid (PFHpS)		AveID	110873 36282267	228885	1268398	5669268	12919018	0.476 190	0.952	4.76	19.0	47.6
Perfluorooctanesulfonic acid (PFOS)		AveID	108156 39756569	207277	1092724	4889351	11786011	0.464 186	0.928	4.64	18.6	46.4
Perfluorononanoic acid (PFNA)		AveID	79419 26057481	152789	858327	3633207	8361339	0.500 200	1.00	5.00	20.0	50.0
8:2FTS		L2ID	50574 12220206	89032	444929	1931499	4074481	0.479 192	0.958	4.79	19.2	47.9
Perfluorodecanoic acid (PFDA)		AveID	75200 24265114	152408	784974	3277760	7779706	0.500 200	1.00	5.00	20.0	50.0
Perfluorooctane Sulfonamide (FOSA)		AveID	174325 47690261	339522	1747629	7187955	17500489	0.500 200	1.00	5.00	20.0	50.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)		AveID	41996 16290792	78506	424299	1695690	4062831	0.500 200	1.00	5.00	20.0	50.0
Perfluorodecanesulfonic acid (PFDS)		AveID	70554 24675284	125403	717648	3002868	7386234	0.482 193	0.964	4.82	19.3	48.2

LCMS BY ISOTOPIC DILUTION - INITIAL CALIBRATION DATA RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Sacramento

SDG No.:

Instrument ID: A8_N

GC Column: GeminiC18 3 ID: 3 (mm)

Calibration Start Date: 03/01/2017 11:08

Calibration End Date: 03/01/2017 11:46

Calibration ID: 28659

ANALYTE	IS REF	CURVE	RESPONSE						CONCENTRATION (NG/ML)					
		TYPE	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		
Perfluoroundecanoic acid (PFUnA)		AveID	85977 18672321	137967	676308	2619295	6388091	0.500 200	1.00	5.00	20.0	50.0		
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)		AveID	39009 11906031	77078	385576	1606146	3565748	0.500 200	1.00	5.00	20.0	50.0		
MeFOSA		AveID	43568 17219029	75129	404698	1671133	4038740	0.500 200	1.00	5.00	20.0	50.0		
Perfluorododecanoic acid (PFDoA)		AveID	58428 19408225	113238	578671	2353395	5939325	0.500 200	1.00	5.00	20.0	50.0		
N-EtFOSA-M		AveID	43107 17404238	79073	425282	1676481	4076562	0.500 200	1.00	5.00	20.0	50.0		
Perfluorotridecanoic Acid (PFTriA)		AveID	59233 18379771	103052	562473	2207561	5662375	0.500 200	1.00	5.00	20.0	50.0		
Perfluorotetradecanoic acid (PFTeA)		AveID	131104 39468467	238596	1324493	4960846	12631200	0.500 200	1.00	5.00	20.0	50.0		
Perfluoro-n-hexadecanoic acid (PFHxDA)		L1ID	+++++ 20137749	171523	636153	2071027	5695645	+++++ 200	1.00	5.00	20.0	50.0		
Perfluoro-n-octadecanoic acid (PFODA)		AveID	46744 17831844	81601	451116	1687895	4591929	0.500 200	1.00	5.00	20.0	50.0		

Curve Type Legend:

AveID = Average isotope dilution L1ID = Linear 1/conc IsoDil L2ID = Linear 1/conc^2 IsoDil Report Date: 01-Mar-2017 15:43:05 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_003.d

Lims ID: IC L1 Full

Client ID:

Sample Type: IC Calib Level: 1

Inject. Date: 01-Mar-2017 11:08:52 ALS Bottle#: 28 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: L1-FULL

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub15

Method: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:05 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 12:00:05

First Level Revie	wer: cha	ındrasen	as		Date:	C)1-Mar-2017 12:00:0)5		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 1 13C4 PFBA	\									
217.00 > 172.00		1.553	0.010		14778495	50.6		101	654817	
2 Perfluorobut	yric acid									
212.90 > 169.00	1.563	1.558	0.005	1.000	120309	0.4804		96.1	1068	
D 3 13C5-PFPe		1 000	0.011		10100011	50.5		105	505740	
267.90 > 223.00		1.832	0.011		12192014	52.5		105	525740	
4 Perfluoroper 262.90 > 219.00		cid 1.835	0.008	1.000	123967	0.5195		104	1065	
5 Perfluorobut			0.000	1.000	123707	0.5175		104	1005	
298.90 > 80.00		1.872	0.011	1.000	194922	0.4478		101		
	1.883	1.872	0.011	1.000	77860		2.50(0.00-0.00)	101		
6 Perfluorohex	anoic ac	cid								
313.00 > 269.00	2.139	2.133	0.006	1.000	96748	0.5024		100	3614	
D 7 13C2 PFHx										
315.00 > 270.00		2.134	0.013		10825655	51.3		103	238427	
10 Perfluorohe 363.00 > 319.00	•	acid 2.474	0.017	1.000	103569	0.5446		109	891	
D 9 13C4-PFHp		2.474	0.017	1.000	103309	0.3440		109	071	
367.00 > 322.00		2.475	0.016		9831264	50.9		102	345749	
8 Perfluorohex										M
399.00 > 80.00		2.485	0.021	1.000	182218	0.5830		128		M
D 11 1802 PFH:	xS									
403.00 > 84.00	2.498	2.489	0.009		14373798	49.4		104	411887	
D 12 M2-6:2FTS										
429.00 > 409.00		2.805	0.012		3665572	47.5		100.0		
13 Sodium 1H,		-			44270	0.4/00		00.0		
427.00 > 407.00	2.833	2.807	0.026	1.000	41369	0.4692		99.0		
					Page 343 of	577			03/27	7/2017

Page 343 of 577

03/27/2017

Report Date: 01-Mar-2017 15:43:05 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_003.d

2444	,,,,,,,	1	1		2 4(4 ; 101,20 .	7000. 1000				
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooct	tanoic ac	id								М
413.00 > 369.00		2.835	0.021	1.000	120388	0.5389		108	1162	
413.00 > 169.00	2.848	2.835	0.013	0.997	71985		1.67(0.90-1.10)	108	2853	M
D 14 13C4 PFO		0.005	0.010		10000107	F0.0		407	00/005	
417.00 > 372.00		2.835	0.013		10932126	53.3		107	336385	
16 Perfluorohe ₁ 449.00 > 80.00	•		0.014	1.000	110873	0.4327		90.9		
17 Perfluorooct				1.000	110075	0.4327		70.7		M
499.00 > 80.00		3.145	0.082	1.000	108156	0.4425		95.4	8683	M
499.00 > 99.00	3.218	3.145	0.073	0.997	27348		3.95(0.90-1.10)	95.4	2308	
20 Perfluorono	nanoic a	cid								
463.00 > 419.00	3.218	3.202	0.016	1.000	79419	0.4690		93.8	1607	
D 18 13C4 PFO		0.004			11000100	40.0		400	005.475	
503.00 > 80.00		3.204	0.014		11880498	49.2		103	335475	
D 19 13C5 PFN/ 468.00 > 423.00		3.208	0.010		9367003	52.7		105	245715	
D 26 M2-8:2FTS		3.200	0.010		7307003	32.7		103	243713	
529.00 > 509.00		3.545	0.024		4615245	49.8		104		
25 Sodium 1H,				e						
527.00 > 507.00		3.546		1.000	50574	0.4834		101		
D 21 13C8 FOS	A									
506.00 > 78.00	3.561	3.559	0.002		19491823	53.1		106	285934	
24 Perfluorode										
513.00 > 469.00		3.560	0.018	1.000	75200	0.4736		94.7	2610	
D 23 13C2 PFD/ 515.00 > 470.00		3.560	0.009		8766735	52.6		105	186190	
22 Perfluorooct					6700733	52.0		105	100190	
498.00 > 78.00		3.561	0.008	1.000	174325	0.4977		99.5	18811	
D 27 d3-NMeFO		0.00.	0.000		.,,,,,,	0		, , , ,		
573.00 > 419.00		3.710	0.013		4010288	47.1		94.2		
28 N-methyl pe	erfluoroo	ctane sul	lfonami							
570.00 > 419.00	3.723	3.713	0.010	1.000	41996	0.5392		108		
29 Perfluorode			d							
599.00 > 80.00	3.886	3.866	0.020	1.000	70554	0.4765		98.9		
D 32 d5-NEtFOS		0.075	0.010		10//000	50 4		405		
589.00 > 419.00		3.875	0.019		4266080	52.4		105		
D 30 13C2 PFU ₁ 565.00 > 520.00		2 074	0.010		7222110	55.3		111	181410	
31 Perfluoround		3.876	0.018		7233118	55.5		111	101410	
563.00 > 519.00		3.878	0.016	1.000	85977	0.5863		117	2231	
33 N-ethyl perfl				1.000	33777	0.0000			220.	
584.00 > 419.00		3.883	0.020	1.002	39009	0.5023		100		
D 34 d-N-MeFO	SA-M									
515.00 > 169.00	4.055	4.050	0.005		4341649	49.3		98.7		
35 MeFOSA										
512.00 > 169.00	4.055	4.057	-0.002	1.000	43568	0.5363		107		
37 Perfluorodo					_	_		_		
613.00 > 569.00	4.176	4.162	0.014	1.000	Page 344 of	577 ^{0.4750}		95.0	473/27	7/2017

Report Date: 01-Mar-2017 15:43:05 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File:

Data File.	1101110	iiii va ioa	Clamen	0101110111	Data / 10_111201	70301 4033	0.0/2017.03.01001	V L_000	. u	
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFDc	ρΑ									
615.00 > 570.00	4.176	4.164	0.012		6725474	54.3		109	175924	
D 38 d-N-EtFOS										
531.00 > 169.00	4.238	4.235	0.003		4196476	49.2		98.5		
39 N-ethylperflu										
526.00 > 169.00	4.247	4.242	0.005	1.000	43107	0.5221		104		
41 Perfluorotrid										
663.00 > 619.00	4.447	4.424	0.023	1.000	59233	0.5042		101	1171	
D 43 13C2-PFTe										
715.00 > 670.00	4.679	4.655	0.024		13708730	52.9		106	527093	
42 Perfluorotetr				4 000	101101	0.4057		00.4	070	
712.50 > 668.90		4.657	0.022	1.000	131104	0.4956	(00(0 00 0 00)	99.1	372	
713.00 > 169.00		4.657	0.013	0.998	21850		6.00(0.00-0.00)	99.1	7867	
D 44 13C2-PFH> 815.00 > 770.00		5.057	0.020		6580685	52.6		105	118608	
			0.020		0300003	32.0		103	110000	
45 Perfluorohex 813.00 > 769.00		5.059	0.018	1.000	146592	0.7991		160	190	
			0.010	1.000	140372	0.7771		100	170	
46 Perfluorooct 913.00 > 869.00		5.399	0.029	1.000	46744	0.4843		96.9	91.5	
713.00 > 004.00	5.420	5.577	0.027	1.000	40744	0.4043		70.7	71.5	

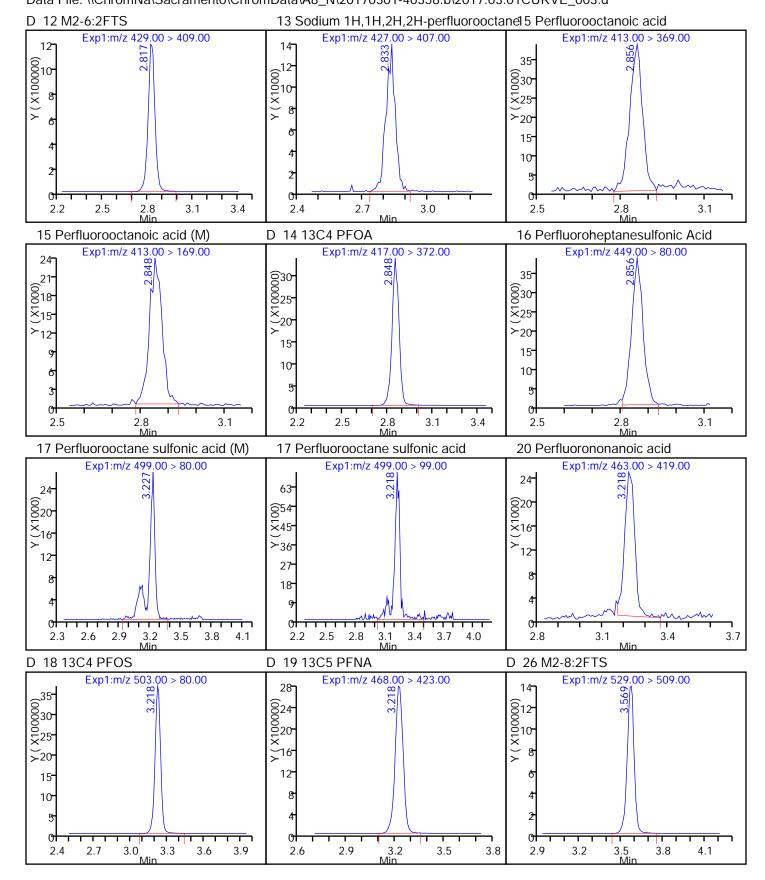
QC Flag Legend Review Flags

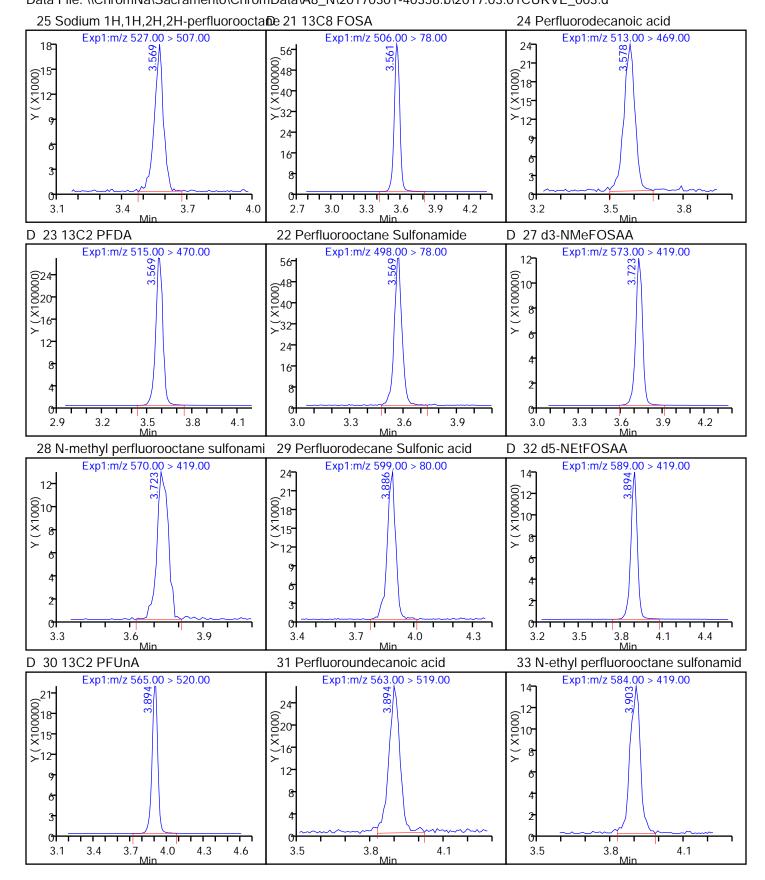
M - Manually Integrated

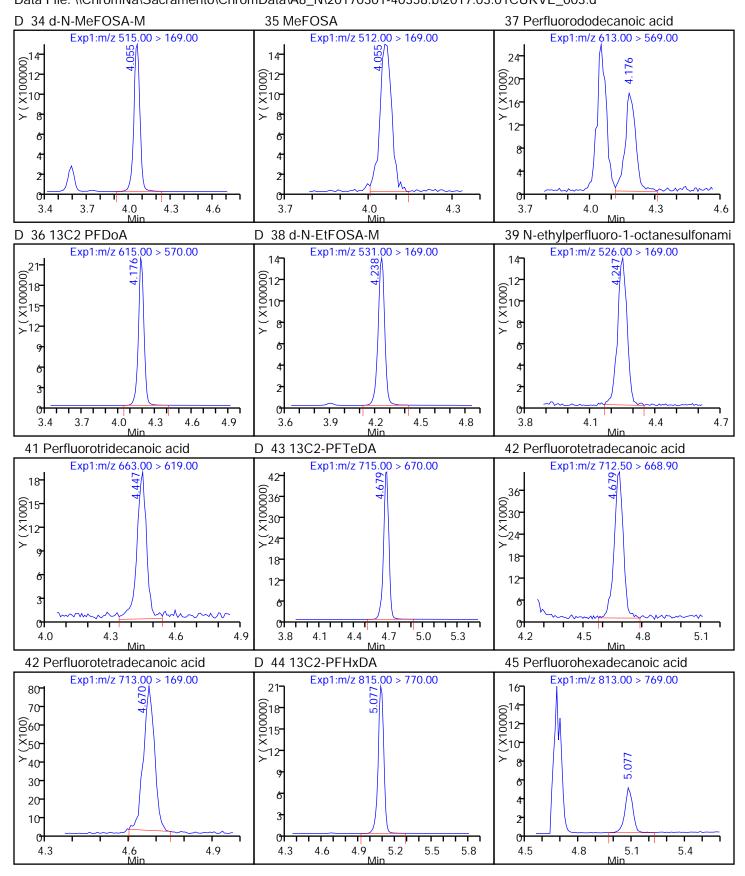
Reagents:

LCPFC_FULL-L1_00001 Amount Added: 1.00 Units: mL

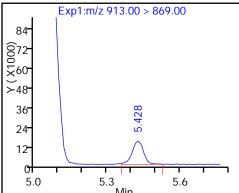
Report Date: 01-Mar-2017 15:43:05 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_003.d Data File: 01-Mar-2017 11:08:52 **Injection Date:** Instrument ID: A8_N Lims ID: IC L1 Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 28 Worklist Smp#: 2 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 42 (000036 X30 (00000 30 30 36-00030-1× 24-18 18 18 12 12 12 1.2 1.8 1.7 1.2 1.5 1.8 2.1 1.4 2.0 2.1 2.4 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 72 45 28 63 ©24- ×20-×₄₅ -16 36 21 27 15 18 1.8 1.7 2.0 2.3 1.7 2.1 2.0 2.3 1.4 1.5 1.4 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 Exp1:m/z 363.00 > 319.00 35 30 30 <u>8</u>30 6 25**-**©25 0 25 × $\stackrel{\cdot}{\succeq}_{20}$ Ç₂₀ 15- 15 15 10 10 10 2.0 2.3 1.8 2.4 2.7 2.4 2.7 2 1 2.1 1.7 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid (M) D 11 1802 PFHxS Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 32 49 642 0036 ×30 ©28-0024-0042 0035 ∑₂₈ ≻₁₆-**≻**24 21 18 12 14 12 0 0 2.1 2.4 2.7 3.0 1.9 2.8 3.1 1.8 2.1 2.4 ^{2.7}03/27/201 1.8 2.2 Page 34/6 of 577







46 Perfluorooctadecanoic acid



Report Date: 01-Mar-2017 15:43:06 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_003.d

Injection Date: 01-Mar-2017 11:08:52 Instrument ID: A8_N

Lims ID: IC L1 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 28 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

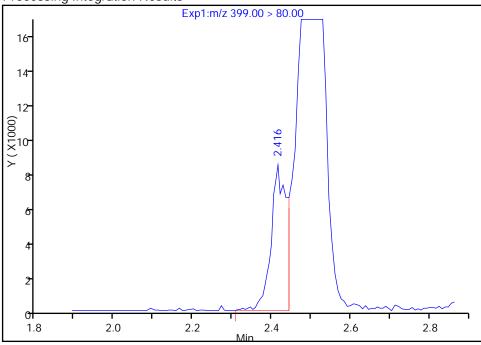
Column: Detector EXP1

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

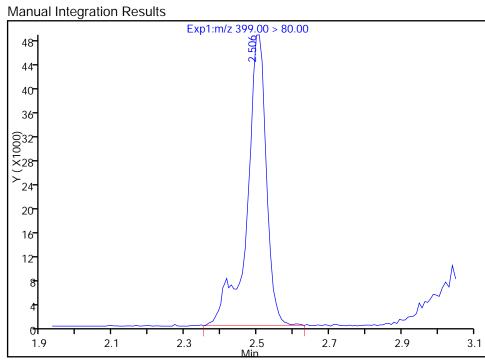
Signal: 1

RT: 2.42
Area: 21187
Amount: 0.082505
Amount Units: ng/ml

Processing Integration Results



RT: 2.51
Area: 182218
Amount: 0.583043
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:05

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 351 of 577

Report Date: 01-Mar-2017 15:43:06 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_003.d

Injection Date: 01-Mar-2017 11:08:52 Instrument ID: A8_N

Lims ID: IC L1 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 28 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

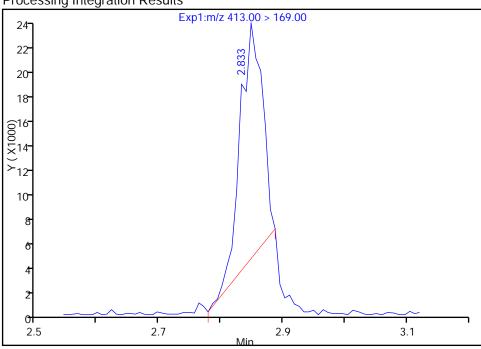
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

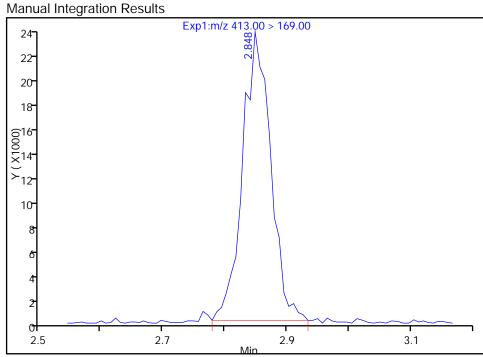
Signal: 2

RT: 2.83
Area: 46440
Amount: 0.535520
Amount Units: ng/ml

Processing Integration Results



RT: 2.85
Area: 71985
Amount: 0.538943
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:05

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 352 of 577

Report Date: 01-Mar-2017 15:43:06 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_003.d

Injection Date: 01-Mar-2017 11:08:52 Instrument ID: A8_N

Lims ID: IC L1 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 28 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

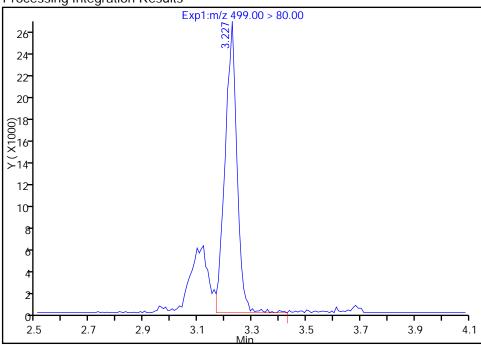
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

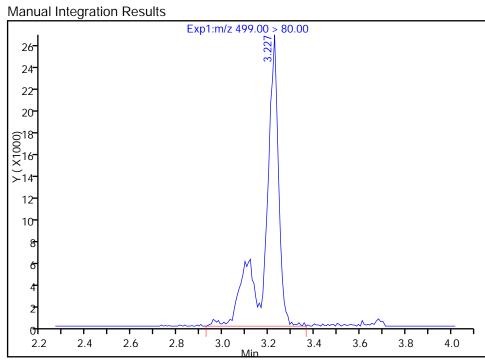
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

RT: 3.23 Area: 79141 Amount: 0.356104 Amount Units: ng/ml **Processing Integration Results**



RT: 3.23
Area: 108156
Amount: 0.442463
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:05

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 353 of 577

Report Date: 01-Mar-2017 15:43:08 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_004.d

Lims ID: IC L2 Full

Client ID:

Sample Type: IC Calib Level: 2

Inject. Date: 01-Mar-2017 11:16:22 ALS Bottle#: 29 Worklist Smp#: 3

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: L2-FULL

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub15

Method: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:08 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 12:00:43

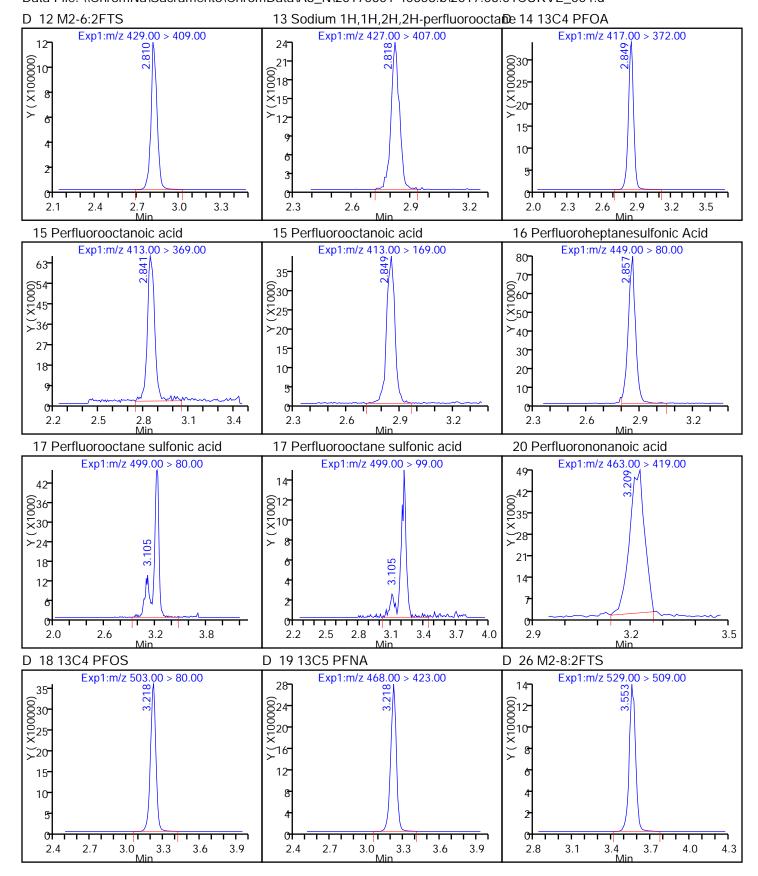
FIRST Level Revie	wer: cna	muraser	ias		Date:		01-Mar-2017 12:00:4	ا ح		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA	١									
217.00 > 172.00		1.553	0.001		14105138	48.3		96.5	750485	
2 Perfluorobuty 212.90 > 169.00	,	1.558	0.004	1.000	236552	0.9897		99.0	2199	
D 3 13C5-PFPe		1.000	0.001	1.000	200002	0.7077		77.0	21//	
267.90 > 223.00		1.832	0.010		11526786	49.6		99.3	662915	
4 Perfluoropen				4.000	0007/4	4.04		101	0.1.0./	
262.90 > 219.00			0.007	1.000	233761	1.04		104	2126	
5 Perfluorobuta 298.90 > 80.00		1.872	0.0	1.000	364249	0.8869		100		
298.90 > 99.00	1.881	1.872	0.009	1.005	152095		2.39(0.00-0.00)	100		
6 Perfluorohex			0.010	1 000	102100	1.01		101	/ F 2 7	
313.00 > 269.00 D 7 13C2 PFHx		2.133	0.012	1.000	183108	1.01		101	6537	
315.00 > 270.00		2.134	0.002		10169363	48.2		96.4	286031	
10 Perfluorohe	ptanoic a	acid								
363.00 > 319.00		2.474	0.010	1.000	185040	0.9858		98.6	1690	
D 9 13C4-PFHp 367.00 > 322.00		2.475	0.009		9702633	50.3		101	436206	
8 Perfluorohex					7702033	30.3		101	430200	
399.00 > 80.00		2.485	0.015	1.000	294799	1.00		110		
D 11 18O2 PFH										
403.00 > 84.00		2.489	0.011		13561303	46.6		98.6	442791	
D 12 M2-6:2FTS 429.00 > 409.00		2.805	0.005		3521088	45.6		96.0		
13 Sodium 1H,				ie	332.333			,		
427.00 > 407.00		2.807	0.011	1.000	71833	0.9579		101		
					Page 354 of	577			03/27	7/2017

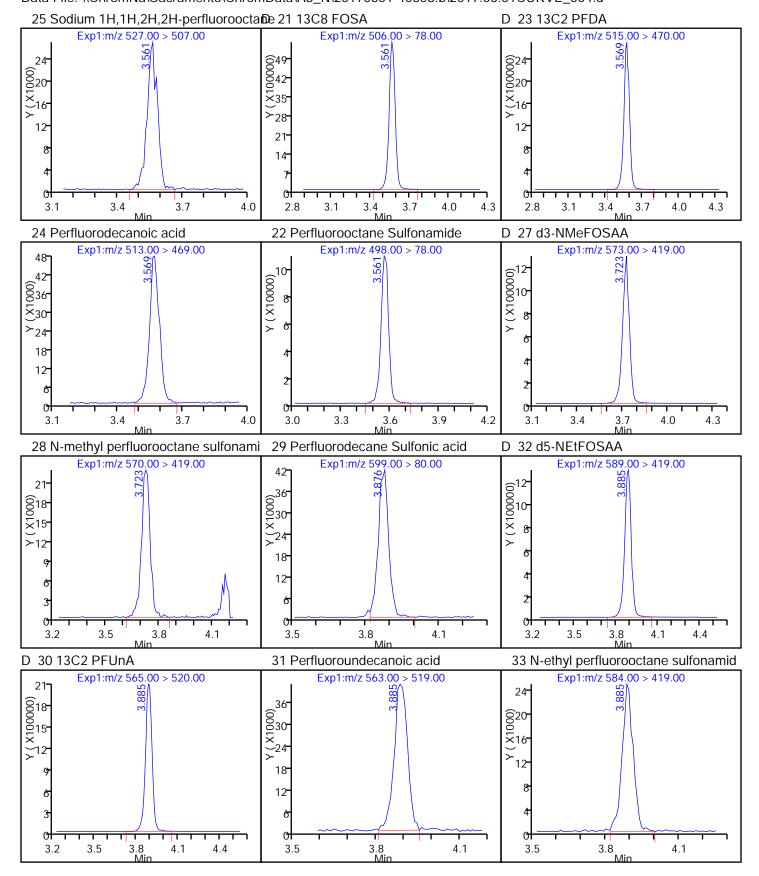
Page 354 of 577

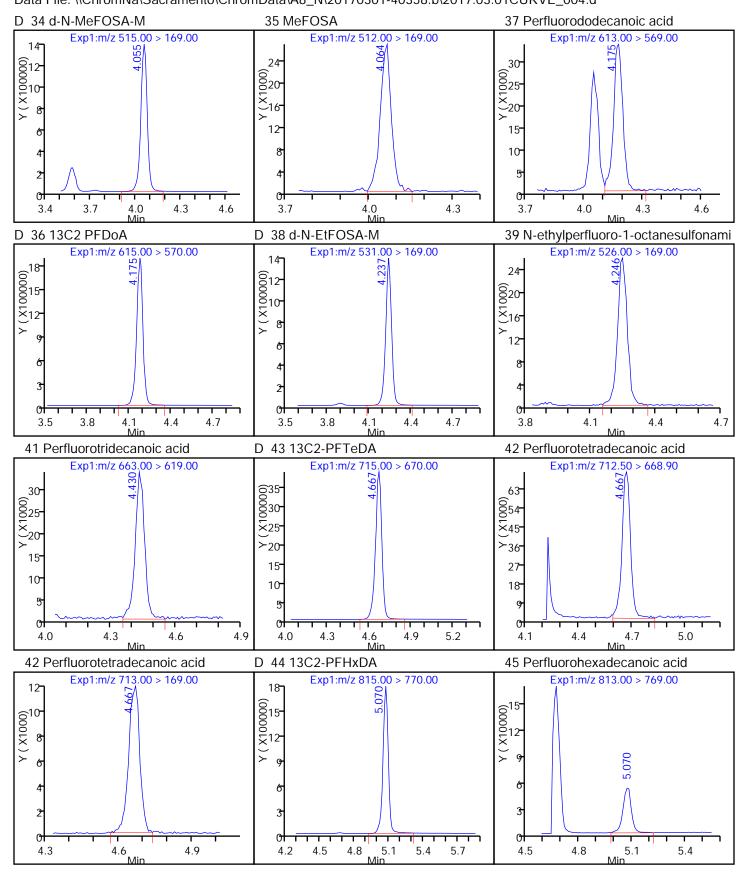
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFO 417.00 > 372.00		2.835	0.014		10562914	51.5		103	412762	
15 Perfluorooct 413.00 > 369.00	2.841	2.835	0.006	1.000	226350	1.05		105	2696	
413.00 > 169.00		2.835	0.014	1.003	125043		1.81(0.90-1.10)	105	5452	
16 Perfluorohe 449.00 > 80.00	2.857	2.842	0.015	1.000	228885	0.9637		101		
17 Perfluorooct 499.00 > 80.00 499.00 > 99.00	3.105 3.105	3.145 3.145	d -0.040 -0.040	1.000 1.000	207277 49944	0.9149	4.15(0.90-1.10)	98.6 98.6	3256 444	
20 Perfluoronoi 463.00 > 419.00	3.209	3.202	0.007	1.000	152789	0.9337		93.4	2607	
D 18 13C4 PFOS 503.00 > 80.00	3.218	3.204	0.014		11011810	45.6		95.3	389996	
D 19 13C5 PFN/ 468.00 > 423.00	3.218	3.208	0.010		9051156	50.9		102	347551	
D 26 M2-8:2FTS 529.00 > 509.00		3.545	0.008		4549526	49.1		103		
25 Sodium 1H, 527.00 > 507.00		H-perfluo 3.546	orooctan 0.015	e 1.002	89032	0.9299		97.1		
D 21 13C8 FOS		3.559	0.002		18089578	49.3		98.6	237400	
D 23 13C2 PFD 515.00 > 470.00		3.560	0.009		8593124	51.5		103	177955	
24 Perfluorodeo 513.00 > 469.00			0.009	1.000	152408	0.9792		97.9	5902	
22 Perfluorooct 498.00 > 78.00		onamide 3.561		1.000	339522	1.04		104	20364	
D 27 d3-NMeFO 573.00 > 419.00		3.710	0.013		3998931	46.9		93.9		
28 N-methyl pe 570.00 > 419.00				1.000	78506	1.01		101		
29 Perfluorodeo 599.00 > 80.00		fonic ac	id 0.010	1.000	125403	0.9138		94.8		
D 32 d5-NEtFOS 589.00 > 419.00	SAA	3.875	0.010		4097675	50.4		101		
D 30 13C2 PFU	nA								252042	
565.00 > 520.00 31 Perfluoround	decanoio		0.009		6740958	51.5		103	252062	
563.00 > 519.00 33 N-ethyl perfl		3.878 ane sulfo	0.007 onamid	1.000	137967	1.01		101	3114	
584.00 > 419.00 D 34 d-N-MeFO	3.885	3.883	0.002	1.000	77078	1.03		103		
515.00 > 169.00		4.050	0.005		4054503	46.1		92.2		
35 MeFOSA 512.00 > 169.00		4.057	0.007	1.000	75129	0.99		99.0		
37 Perfluorodo 613.00 > 569.00		acid 4.162	0.013	1.000	Page 355 of 5	77 1.03		103	1051/27	/2017

Data File:	\\Cnr	JiiiNa\5a	icrameni	OCHIOM	Data\A8_N\201	70301-4035	8.D\2017.03.01CUF	(VE_004	.a	
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFD	οA									
615.00 > 570.00		4.164	0.011		6032319	48.7		97.3	172379	
D 38 d-N-EtFOS	A-M									
531.00 > 169.00	4.237	4.235	0.002		3920378	46.0		92.0		
39 N-ethylperflu	uoro-1-o	ctanesul	fonami							
526.00 > 169.00	4.246	4.242	0.004	1.000	79073	1.03		103		
41 Perfluorotric	lecanoic	acid								
663.00 > 619.00	4.430	4.424	0.006	1.000	103052	0.9780		97.8	2577	
D 43 13C2-PFT	eDA									
715.00 > 670.00	4.667	4.655	0.012		12309406	47.5		95.0	383508	
42 Perfluorotet	radecan	oic acid								
712.50 > 668.90		4.657	0.010	1.000	238596	1.01		101	1077	
713.00 > 169.00		4.657	0.010	1.000	36141		6.60(0.00-0.00)	101	11217	
D 44 13C2-PFH										
815.00 > 770.00		5.057	0.013		5742128	45.9		91.8	84169	
45 Perfluorohe										
813.00 > 769.00	5.070	5.059	0.011	1.000	171523	1.16		116	217	
46 Perfluorooct										
913.00 > 869.00	5.414	5.399	0.015	1.000	81601	0.9426		94.3	179	
Reagents:										
LCPFC_FULL-L2	2_00001		А	mount A	dded: 1.00	Units	:: mL			

Report Date: 01-Mar-2017 15:43:08 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_004.d Data File: **Injection Date:** 01-Mar-2017 11:16:22 Instrument ID: A8_N Lims ID: IC L2 Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 3 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 (000036 X30 70 635 630 <u>6</u>60 ×50 $\stackrel{\smile}{\times}_{25}$ ≻₄₀-18 30 15 20 10 10 2.0 1.7 1.5 1.8 1.1 1.4 1.7 1.4 2.0 1.2 2.1 2.4 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 Exp1:m/z 262.90 > 219.0056 80 648 001 40 × 669 69 ×58 <u></u> 32 ≻₄₇ 24 36 16 25 2.1 1.9 1.7 2.0 1.3 1.6 2.2 2.3 1.8 1.4 1.5 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 Exp1:m/z 363.00 > 319.0035 56 56- 048 ×40 0648- ×40• <u>8</u>25- $\stackrel{\cdot}{\simeq}_{20}$ >32 15- 24 24 10 16 16 1.9 2.2 2.5 1.8 2.4 2.7 2.3 2.6 2 1 2.0 2.9 1.6 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid D 11 1802 PFHxS Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 (42⁻ (0036⁻ (30⁻ 628 0024 70 860 ∑20 ×50 ≻16- ≻40 18 30 12 12 20 10 0 0 02.1 2.4 2.7 3.0 1.5 3.3 2.1 2.4 2.7 1.8 Page 357 of 577 1.8

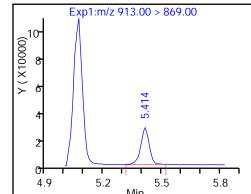






Report Date: 01-Mar-2017 15:43:08 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_004.d

46 Perfluorooctadecanoic acid



Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_005.d

Lims ID: IC L3 Full

Client ID:

Sample Type: IC Calib Level: 3

Inject. Date: 01-Mar-2017 11:23:51 ALS Bottle#: 30 Worklist Smp#: 4

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: L3-FULL

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub15

Method: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:10 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 12:01:48

First Level Revie	wer: cha	ındraser	nas		Date:	C)1-Mar-2017 12:01:4	18		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA	١									
217.00 > 172.00	1.555	1.553	0.002		14456536	49.5		98.9	922551	
2 Perfluorobut	,									
212.90 > 169.00		1.558	-0.003	1.000	1286888	5.25		105	14254	
D 3 13C5-PFPe 267.90 > 223.00		1.832	0.001		11537165	49.7		99.4	809835	
4 Perfluoroper			0.001		11337103	47.7		77.4	007033	
262.90 > 219.00		1.835	-0.002	1.000	1164625	5.16		103	11285	
5 Perfluorobut	anesulfo	nic acid								
298.90 > 80.00		1.872	0.001	1.000	1989498	4.83		109		
298.90 > 99.00		1.872	0.001	1.000	781702		2.55(0.00-0.00)	109		
6 Perfluorohex 313.00 > 269.00		2.133	-0.004	1.000	966638	5.30		106	49503	
D 7 13C2 PFHx		2.133	-0.004	1.000	900038	5.30		106	49503	
315.00 > 270.00		2.134	0.004		10261028	48.7		97.3	342136	
10 Perfluorohe										
363.00 > 319.00	•	2.474	-0.003	1.000	941301	4.96		99.1	8016	
D 9 13C4-PFHp										
367.00 > 322.00		2.475	-0.004		9817002	50.9		102	288379	
8 Perfluorohex				1 000	1240000	4.57		100		
399.00 > 80.00		2.485	-0.029	1.000	1348890	4.56		100		
D 11 1802 PFH 403.00 > 84.00		2.489	-0.002		13610529	46.8		98.9	351937	
D 12 M2-6:2FTS		2.107	0.002		10010027	10.0		70.7	001707	
429.00 > 409.00		2.805	0.001		3657293	47.4		99.8		
13 Sodium 1H,	1H,2H,2	H-perflu	orooctan	е						
427.00 > 407.00	2.798	2.807	-0.009	1.000	347809	4.96		105		
					Page 362 of 5	577			03/27	7/2017

Page 362 of 577

03/27/2017

Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_005.d

Data File.	,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1			3001 4000	0.5/2017.03.01001	<u> </u>	
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N Flags
15 Perfluorooct	tanoic ac	id							M
413.00 > 369.00		2.835	-0.006	1.000	1102619	5.15	. == /=	103	10643 M
413.00 > 169.00		2.835	-0.006	1.000	620161		1.78(0.90-1.10)	103	22054 M
D 14 13C4 PFO 417.00 > 372.00		2.835	-0.006		10473721	51.1		102	311740
16 Perfluorohe					10170721	0111		102	011710
449.00 > 80.00				1.000	1268398	5.17		109	
17 Perfluorooct									M
499.00 > 80.00		3.145	0.026	1.000	1092724	4.67	4 20(0 00 1 10)	101	18758
499.00 > 99.00 20 Perfluoronoi		3.145	0.051	1.008	254615		4.29(0.90-1.10)	101	16421 M
463.00 > 419.00		3.202	0.003	1.000	858327	5.38		108	23748
D 18 13C4 PFO									
503.00 > 80.00		3.204	-0.008		11369327	47.1		98.4	321748
D 19 13C5 PFN									
468.00 > 423.00		3.208	-0.003		8821496	49.6		99.2	242559
D 26 M2-8:2FTS		2 5 4 5	0.002		4555474	40.2		100	
529.00 > 509.00		3.545	0.003		4555474	49.2		103	
25 Sodium 1H, 527.00 > 507.00		•			444929	4.98		104	
D 21 13C8 FOS		0.0.0	0.007	0.770	111727	11.70		101	
506.00 > 78.00		3.559	-0.003		18858766	51.4		103	371997
24 Perfluorodeo	canoic a	cid							
513.00 > 469.00	3.556	3.560	-0.004	1.000	784974	4.99		99.8	29400
D 23 13C2 PFD/		0.5/0			0.400040	F0.4		404	04/445
515.00 > 470.00		3.560			8688810	52.1		104	216415
22 Perfluorooct 498.00 > 78.00		onamide 3.561		1.000	1747629	5.16		103	92835
D 27 d3-NMeFO		3.301	-0.003	1.000	1747027	5.10		103	72033
573.00 > 419.00		3.710	-0.003		4251681	49.9		99.8	
28 N-methyl pe	rfluorood	ctane su	lfonami						
570.00 > 419.00	3.707	3.713	-0.006	1.000	424299	5.14		103	
29 Perfluorode									
599.00 > 80.00		3.866	-0.005	1.000	717648	5.07		105	
D 32 d5-NEtFOS 589.00 > 419.00		3.875	-0.006		4300641	52.9		106	
D 30 13C2 PFUr		3.073	-0.006		4300041	32.9		100	
565.00 > 520.00		3.876	-0.007		6730080	51.5		103	147236
31 Perfluoround									
563.00 > 519.00		3.878	0.0	1.000	676308	4.96		99.1	20230
33 N-ethyl perfl	luoroocta	ane sulfo	onamid						
584.00 > 419.00	3.878	3.883	-0.005	1.002	385576	4.92		98.5	
D 34 d-N-MeFOS									
515.00 > 169.00	4.047	4.050	-0.003		4436424	50.4		101	
35 MeFOSA 512.00 > 169.00	1 N54	4.057	-0.001	1.000	404698	4.88		97.5	
37 Perfluorodo			-0.001	1.000	404070	4.00		71.U	
613.00 > 569.00			-0.001	1.000	P578671 Page 363 of 57	4.99		99.8	^{47,05} /27/2017
					Page 363 of 57	7			03/27/2017

Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File:

Data File.	1101110	i	T	.0101110111	Data / 10_11/201	10001 4000	0.5/2017.03.01001	V L_000	·u	
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFD	ρA									
615.00 > 570.00	4.161	4.164	-0.003		6339474	51.1		102	145230	
D 38 d-N-EtFOS										
531.00 > 169.00	4.228	4.235	-0.007		4273681	50.1		100		
39 N-ethylperflu										
526.00 > 169.00	4.237	4.242	-0.005	1.000	425282	5.06		101		
41 Perfluorotrid				1 000	5/0/70	5.00		100	44000	
663.00 > 619.00		4.424	-0.003	1.000	562473	5.08		102	11889	
D 43 13C2-PFT6		4 / 55	0.0		1240/722	FO 1		104	222700	
715.00 > 670.00		4.655	0.0		13496732	52.1		104	332789	
42 Perfluoroteti 712.50 > 668.90		4.657	-0.002	1.000	1324493	5.31		106	11007	
713.00 > 169.00		4.657		0.998	177791	3.31	7.45(0.00-0.00)	106	28707	
D 44 13C2-PFH	хDА						,			
815.00 > 770.00		5.057	0.0		6378393	51.0		102	93636	
45 Perfluorohe	xadecan	oic acid								
813.00 > 769.00	5.057	5.059	-0.002	1.000	636153	5.04		101	676	
46 Perfluorooct	tadecand	oic acid								
913.00 > 869.00	5.398	5.399	-0.001	1.000	451116	4.96		99.2	634	

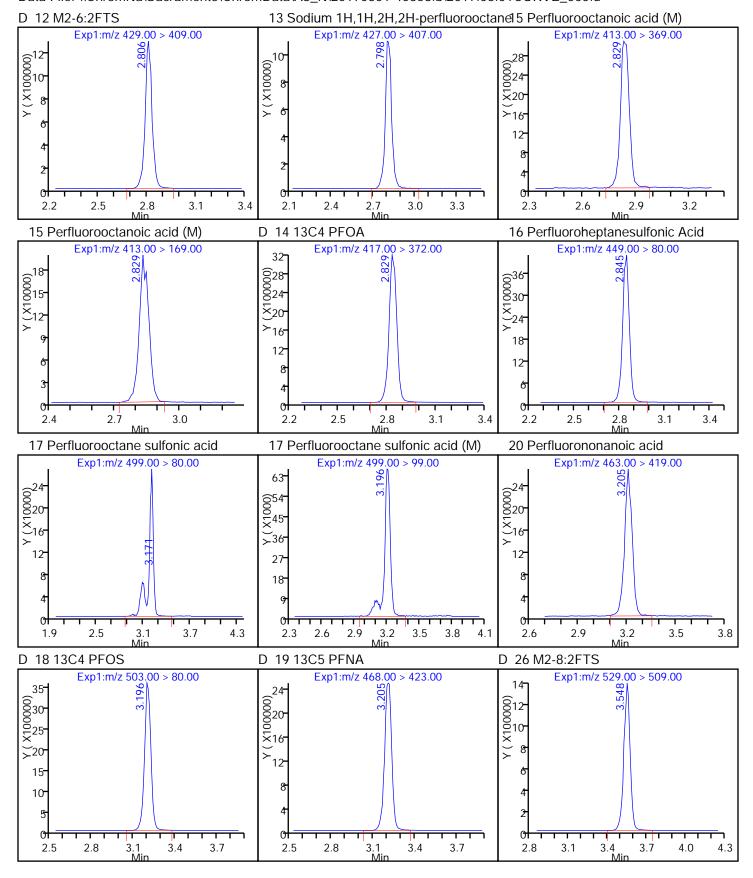
QC Flag Legend Review Flags

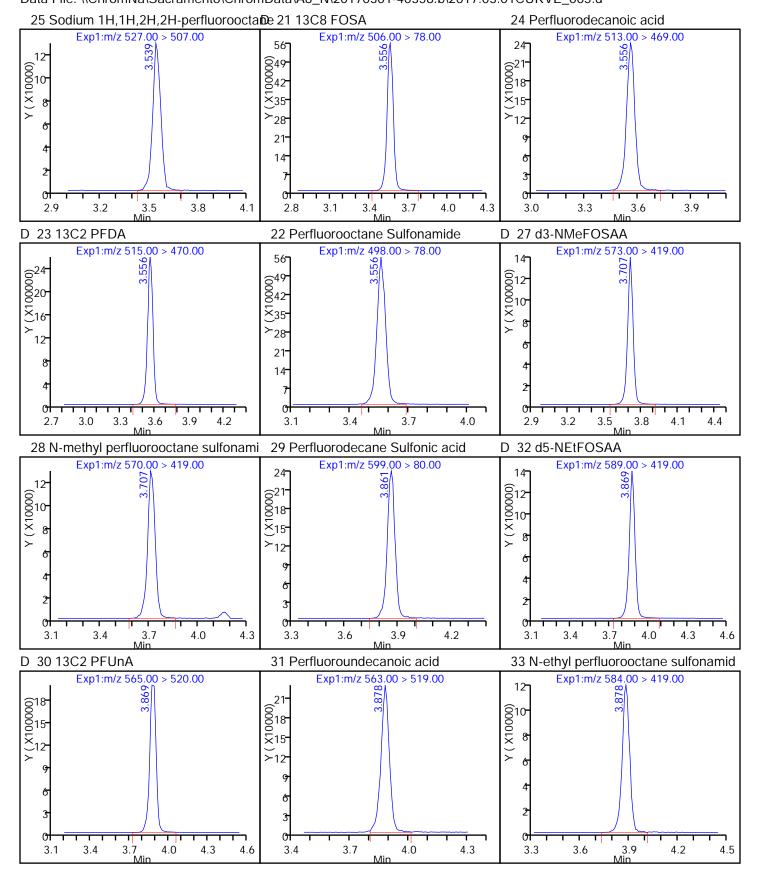
M - Manually Integrated

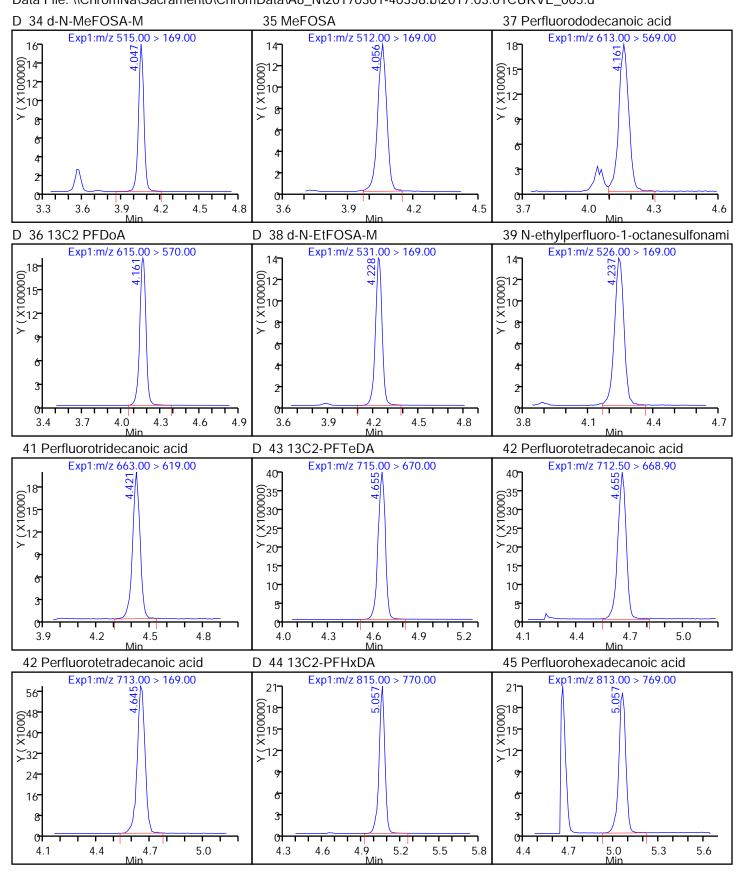
Reagents:

LCPFC_FULL-L3_00001 Amount Added: 1.00 Units: mL

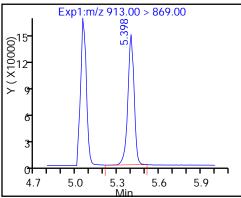
Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_005.d Data File: **Injection Date:** 01-Mar-2017 11:23:51 Instrument ID: A8_N Lims ID: IC L3 Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 30 Worklist Smp#: 4 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 313C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 42 042 0036 ©36 0 0 30 × 30 ×30 <u></u> ∠24 ≻₂₄-18 18 18 12 12 2.0 1.9 1.9 1.1 1.4 1.7 1.0 1.3 1.6 1.3 1.6 2.2 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 28 70 ©36-0024 200 ×20 ≻40- ∑16 18 30 20 10 1.9 1.9 1.9 2.2 2.2 2.5 2.2 1.3 1.6 1.3 1.6 1.3 1.6 2.5 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 363.00 > 319.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 35 35- 28 0024 ×20 **630** 0025-× >20-<u>8</u>25- $\stackrel{\textstyle \smile}{\underset{\scriptstyle \sim}{\smile}}_{20}$ 15 15- 12 10 10 1.8 2.1 2.4 2.0 1.9 2.2 2.5 2.7 1.7 2.3 2.6 2.8 1.5 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid D 11 1802 PFHxS Exp1:m/z 367.00 > 322.00 Exp1:m/z 399.00 > 80.00 Exp1:m/z 403,00 > 84.00 32 35- 42 028 024 X 200030 30-30-<u>§30</u> <u>25</u>-≻₁₆-15 18 10 12 0 0 2.0 2.3 2.6 2.9 3.2 1.9 2.2 2.5 Page 3665 of 5 1.9 2.2 2.5 1.7 1.6







46 Perfluorooctadecanoic acid



Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_005.d

Injection Date: 01-Mar-2017 11:23:51 Instrument ID: A8_N

Lims ID: IC L3 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 30 Worklist Smp#: 4

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

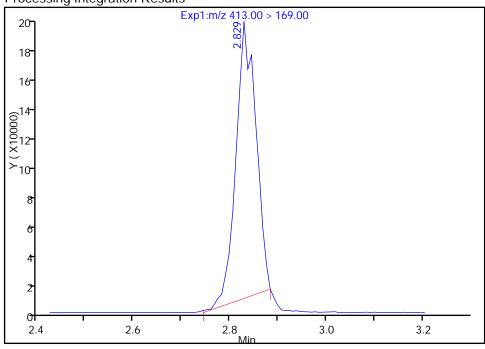
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

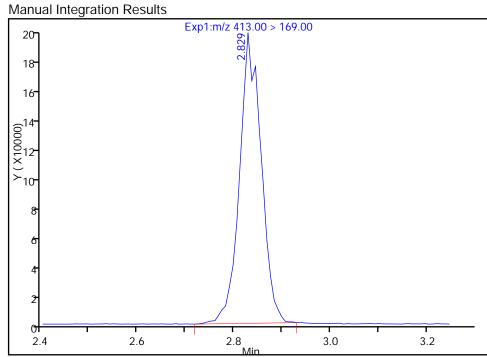
Signal: 2

RT: 2.83
Area: 545337
Amount: 5.278222
Amount Units: ng/ml

Processing Integration Results



RT: 2.83
Area: 620161
Amount: 5.152153
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:10

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 370 of 577

Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_005.d

Injection Date: 01-Mar-2017 11:23:51 Instrument ID: A8_N

Lims ID: IC L3 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 30 Worklist Smp#: 4

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

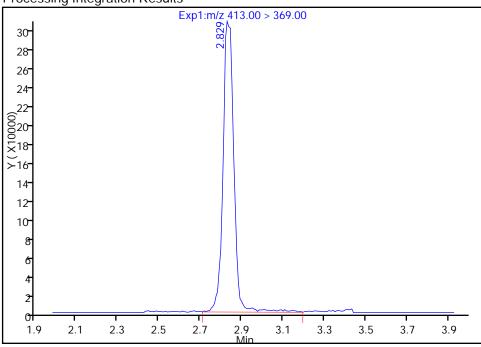
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

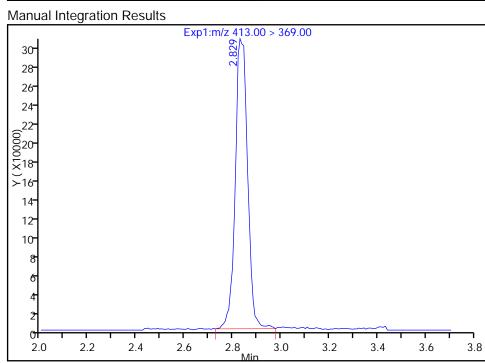
Signal: 1

RT: 2.83
Area: 1136820
Amount: 5.278222
Amount Units: ng/ml

Processing Integration Results



RT: 2.83
Area: 1102619
Amount: 5.152153
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:10

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 371 of 577

Report Date: 01-Mar-2017 15:43:11 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_005.d

Injection Date: 01-Mar-2017 11:23:51 Instrument ID: A8_N

Lims ID: IC L3 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 30 Worklist Smp#: 4

Injection Vol: 2.0 ul Dil. Factor: 1.0000

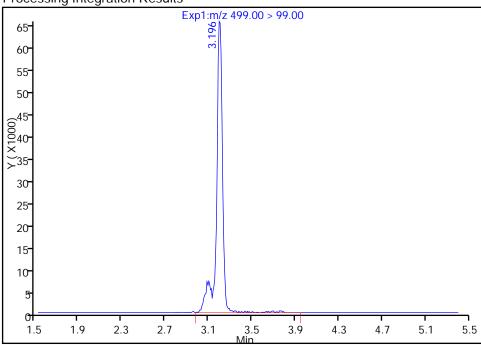
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

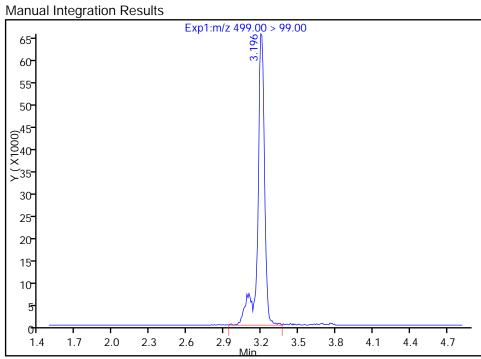
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

RT: 3.20 Area: 258504 Amount: 4.907745 Amount Units: ng/ml **Processing Integration Results**



RT: 3.20
Area: 254615
Amount: 4.671293
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:10

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 372 of 577

Report Date: 01-Mar-2017 15:43:14 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_006.d

Lims ID: IC L4 Full

Client ID:

Sample Type: IC Calib Level: 4

Inject. Date: 01-Mar-2017 11:31:20 ALS Bottle#: 31 Worklist Smp#: 5

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: L4-FULL

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub15

Method: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:13 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 11:58:53

First Level Revie	<u>indraser</u>	nas		Date:	C)1-Mar-2017 11:58:	53			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA	\									
217.00 > 172.00	1.554	1.553	0.001		17122661	58.6		117	107427	2
2 Perfluorobuty	•									
212.90 > 169.00		1.558	0.004	1.000	5946494	20.5		102	65761	
D 3 13C5-PFPe 267.90 > 223.00		1.832	0.0		13641103	58.7		117	917353	
4 Perfluoropen			0.0		13041103	30.7		117	717333	
262.90 > 219.00		1.835	0.006	1.000	5283919	19.8		99.0	51812	
5 Perfluorobuta	anesulfo	nic acid								
298.90 > 80.00		1.872	-0.001	1.000	9035699	18.8		106		
298.90 > 99.00		1.872	-0.001	1.000	3688779		2.45(0.00-0.00)	106		
6 Perfluorohex 313.00 > 269.00		2.133	0.001	1.000	4191655	19.2		96.2	152557	
D 7 13C2 PFHx		2.133	0.001	1.000	4191055	19.2		90.2	132337	
315.00 > 270.00		2.134	0.0		12244217	58.1		116	400533	
10 Perfluorohe	ptanoic a	acid								
363.00 > 319.00	2.471	2.474	-0.003	1.000	4154809	19.6		98.2	36084	
D 913C4-PFHp										
367.00 > 322.00		2.475	0.004		10934944	56.7		113	304443	
8 Perfluorohex				1 000	F0F000/	17.0		04.6		M M
399.00 > 80.00 D 11 1802 PFH:		2.485	0.002	1.000	5958886	17.2		94.6		IVI
403.00 > 84.00		2.489	-0.002		15910284	54.7		116	422002	
D 12 M2-6:2FTS										
429.00 > 409.00	2.814	2.805	0.009		4091935	53.0		112		
13 Sodium 1H,	1H,2H,2	-		е						
427.00 > 407.00	2.806	2.807	-0.001	1.000	1476276	19.2		101		
					Page 373 of 5	577			03/27	7/2017

Page 373 of 577

03/27/2017

Report Date: 01-Mar-2017 15:43:14 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_006.d

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFO 417.00 > 372.00		2.835	0.002		11808824	57.6		115	419758	
15 Perfluorooct 413.00 > 369.00	2.837	2.835	0.002	1.000	4651144	19.3		96.4	85963	
413.00 > 169.00		2.835	0.002	1.000	2647754		1.76(0.90-1.10)	96.4	107757	
16 Perfluorohe 449.00 > 80.00	2.837	2.842	-0.005	1.000	5669268	19.9		105		
17 Perfluorooct 499.00 > 80.00 499.00 > 99.00	3.093 3.163	3.145 3.145	0.052 -0.018	1.000 1.023	4889351 1125132	18.0	4.35(0.90-1.10)	97.1 97.1	37486 16340	
20 Perfluoronoi 463.00 > 419.00	3.205	3.202	0.003	1.000	3633207	19.7		98.5	58134	
D 18 13C4 PFOS 503.00 > 80.00	3.205	3.204	0.001		13187105	54.6		114	308342	
D 19 13C5 PFN/ 468.00 > 423.00		3.208	0.006		10199601	57.3		115	340360	
D 26 M2-8:2FTS 529.00 > 509.00		3.545	-0.006		4873285	52.6		110		
25 Sodium 1H, 527.00 > 507.00		•			1931499	20.5		107		
D 21 13C8 FOS		3.559	0.006		19888389	54.2		108	344996	
D 23 13C2 PFD/ 515.00 > 470.00		3.560	0.005		9661817	58.0		116	234911	
24 Perfluorodeo 513.00 > 469.00			-0.004	1.000	3277760	18.7		93.6	124974	
22 Perfluorooct 498.00 > 78.00		onamide 3.561	e 0.004	1.000	7187955	20.1		101	199090	
D 27 d3-NMeFO 573.00 > 419.00	SAA		-0.003		4769931	56.0		112		
28 N-methyl pe 570.00 > 419.00				1.003	1695690	18.3		91.5		
29 Perfluorodeo 599.00 > 80.00	cane Sul		id	1.000	3002868	18.3		94.8		
D 32 d5-NEtFOS	SAA		-0.005	1.000				111		
589.00 > 419.00 D 30 13C2 PFUr	nA	3.875			4515915	55.5			477474	
565.00 > 520.00 31 Perfluoround	decanoio		0.003		7346047	56.2		112	177174	
563.00 > 519.00 33 N-ethyl perfl			0.001 namid	1.000	2619295	17.6		87.9	88246	
584.00 > 419.00 D 34 d-N-MeFO	3.888	3.883	0.005	1.004	1606146	19.5		97.7		
515.00 > 169.00		4.050	0.0		4579449	52.0		104		
35 MeFOSA 512.00 > 169.00		4.057	0.002	1.000	1671133	19.5		97.5		
37 Perfluorodo 613.00 > 569.00			0.003	1.000	Page 374 of 57	7 19.5		97.4	²⁹⁷³² 27	/2017

Report Date: 01-Mar-2017 15:43:14 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File:

Data File.	WOTIF	Jiliva	acrament	OCHION	Data (A0_11/201	70301-4033	0.012017.03.01001	. V L_000.	.u	
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFD	οΑ									
615.00 > 570.00	4.165	4.164	0.001		6606261	53.3		107	130372	
D 38 d-N-EtFOS										
531.00 > 169.00	4.240	4.235	0.005		4373613	51.3		103		
39 N-ethylperflu										
526.00 > 169.00	4.249	4.242	0.007	1.000	1676481	19.5		97.4		
41 Perfluorotrio										
663.00 > 619.00	4.418	4.424	-0.006	1.000	2207561	19.1		95.6	38950	
D 43 13C2-PFT		4 / 55	0.000		40/00000	FO /		405	000770	
715.00 > 670.00			-0.003		13623388	52.6		105	303779	
42 Perfluorotet			0.005	1 000	40/004/	10.1		05.5	201/0	
712.50 > 668.90 713.00 > 169.00		4.657 4.657	-0.005 -0.005	1.000 1.000	4960846 658342	19.1	7.54(0.00-0.00)	95.5 95.5	38169 69558	
D 44 13C2-PFH		4.037	-0.003	1.000	030342		7.54(0.00-0.00)	75.5	07550	
815.00 > 770.00		5.057	0.0		6330845	50.6		101	91907	
45 Perfluorohe			0.0		00000.0	00.0			, , , , ,	
813.00 > 769.00			-0.002	1.000	2071027	16.5		82.7	2327	
46 Perfluorooct										
913.00 > 869.00		5.399	-0.001	1.000	1687895	17.8		89.0	2245	

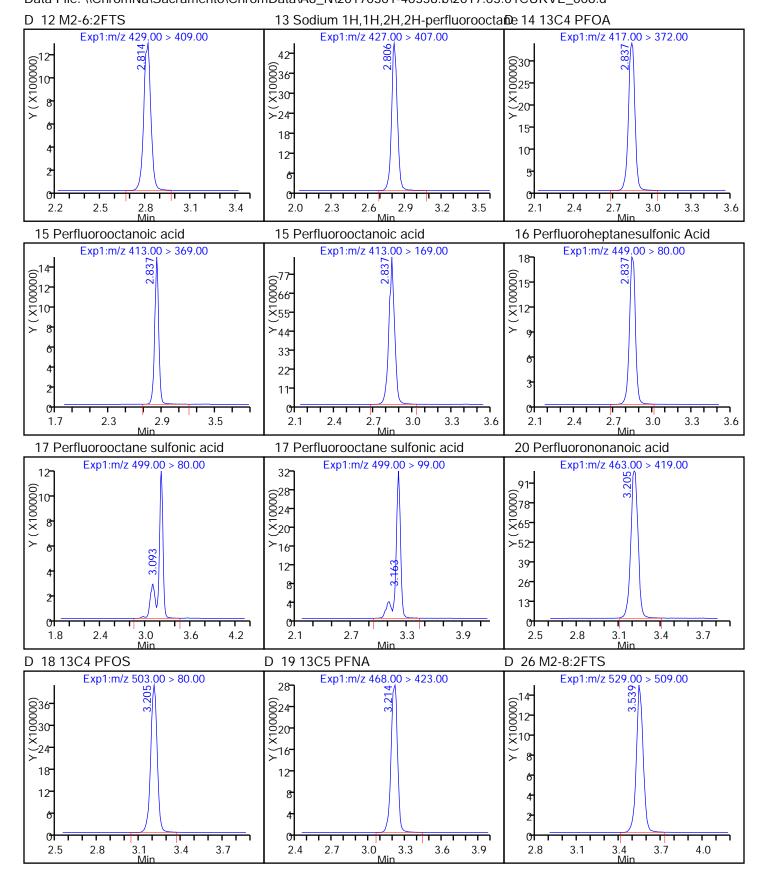
QC Flag Legend Review Flags

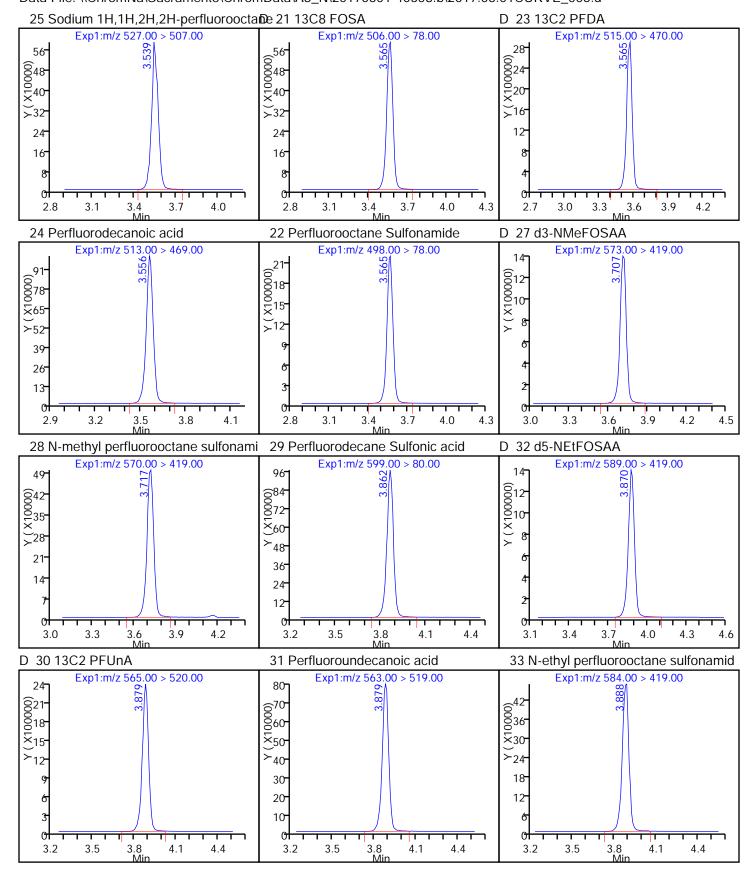
M - Manually Integrated

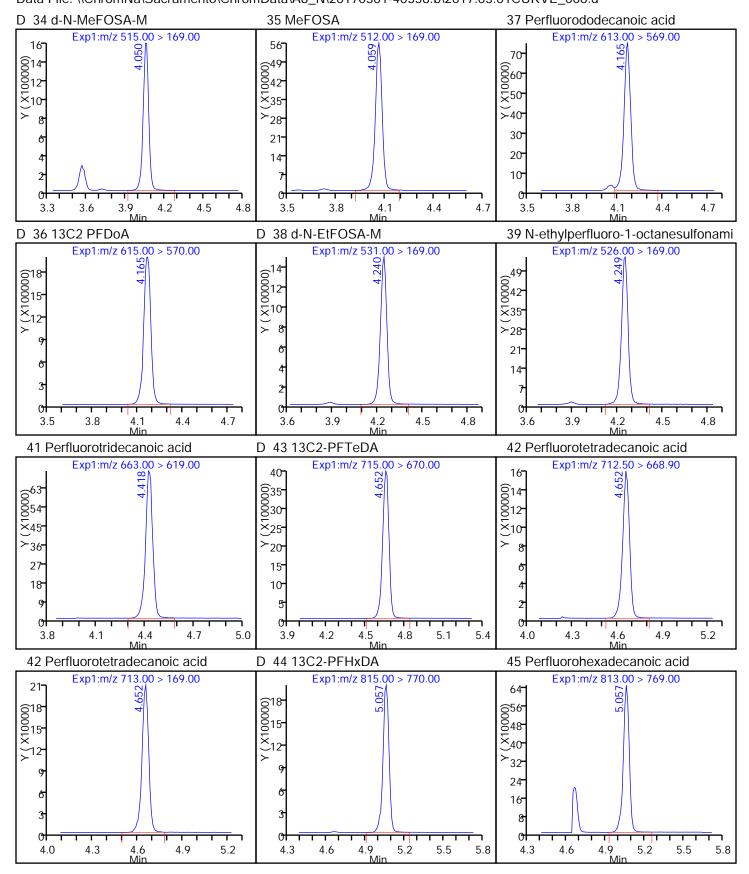
Reagents:

LCPFC_FULL-L4_00001 Amount Added: 1.00 Units: mL

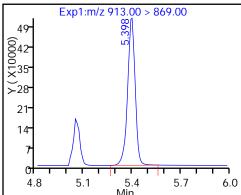
Report Date: 01-Mar-2017 15:43:14 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_006.d Data File: **Injection Date:** 01-Mar-2017 11:31:20 Instrument ID: A8_N Lims ID: IC L4 Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 5 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 313C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 (042 00036 X30 ∑35 ≻28 18 21 12 1.5 1.8 1.8 2.0 0.9 2.1 0.9 1.4 1.7 2.3 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 (X100000) (X1200000) 871 030 0025 15 10 1.9 1.5 2.1 2.4 2.2 2.5 1.2 1.5 1.8 1.2 1.8 1.3 1.6 2.1 2.4 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 363.00 > 319.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 14 14 (X100000) X (X100000) X (X100000) X (000012-X), 8 036 030 18 12 1.7 2.0 2.3 2.9 1.9 2.2 1.8 2.7 3.0 2.6 1.3 1.6 2.5 2.8 2.1 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid (M) D 11 1802 PFHxS Exp1:m/z 367.00 > 322.00 Exp1:m/z 399.00 > 80.00 Exp1:m/z 403.00 > 84.00 16- 49 0014 00012 030 0025 00042 0005 00042 ×₂₀ _28 21 10 0 0 0 2.1 2.4 2.7 3.0 1.5 3.3 2.1 2.4 1.8 1.8 2.1 Page 3**7/6**₁of 577







46 Perfluorooctadecanoic acid



TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_006.d

Injection Date: 01-Mar-2017 11:31:20 Instrument ID: A8_N

Lims ID: IC L4 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 5

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

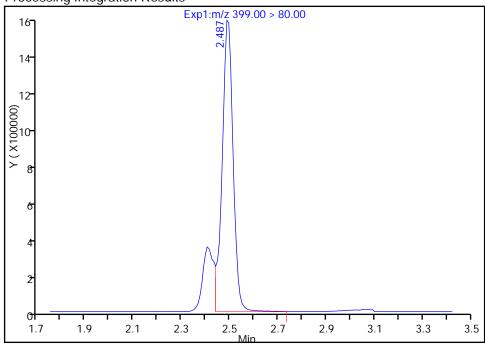
Column: Detector EXP1

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

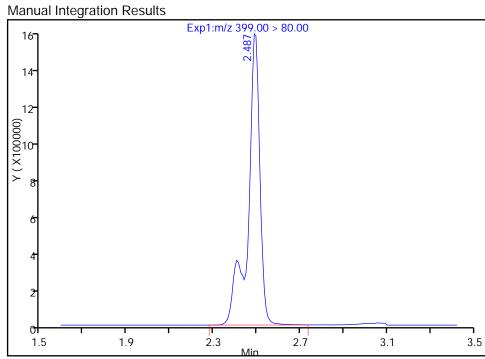
Signal: 1

RT: 2.49
Area: 4875110
Amount: 17.771425
Amount Units: ng/ml

Processing Integration Results



RT: 2.49
Area: 5958886
Amount: 17.225343
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:13

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 381 of 577

Report Date: 01-Mar-2017 15:43:16 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_007.d

Lims ID: IC L5 Full

Client ID:

Sample Type: IC Calib Level: 5

Inject. Date: 01-Mar-2017 11:38:49 ALS Bottle#: 32 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: L5-FULL

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub15

Method: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:16 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 12:02:47

First Level Revie	First Level Reviewer: chandrasenas					Date: 01-Mar-2017 12:02			2:47		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags	
D 113C4 PFBA	1										
217.00 > 172.00		1.553	-0.007		14941160	51.1		102	667479		
2 Perfluorobut	yric acid										
212.90 > 169.00	1.554	1.558	-0.004	1.000	13491384	53.3		107	127406		
D 3 13C5-PFPe	eΑ										
267.90 > 223.00	1.821	1.832	-0.011		11440005	49.3		98.5	626699		
4 Perfluoroper											
262.90 > 219.00		1.835	-0.004	1.000	11520213	51.5		103	120087		
5 Perfluorobut			0.004	1 000	1000/50/	45.5		100			
298.90 > 80.00 298.90 > 99.00		1.872 1.872	-0.001 -0.001	1.000 1.000	19236596 8170789	45.5	2.35(0.00-0.00)	103 103			
6 Perfluorohex			-0.001	1.000	6170769		2.33(0.00-0.00)	103			
313.00 > 269.00			-0.006	1.000	9710439	50.9		102	233505		
D 7 13C2 PFHx			0.000		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	00.7					
315.00 > 270.00		2.134	-0.007		10719942	50.8		102	387004		
10 Perfluorohe	ptanoic a	acid									
363.00 > 319.00	•	2.474	-0.008	1.000	9559143	49.7		99.4	84389		
D 9 13C4-PFHp	ρA										
367.00 > 322.00	2.466	2.475	-0.009		9944069	51.5		103	332028		
8 Perfluorohex										M	
399.00 > 80.00	2.481	2.485	-0.004	1.000	13776740	45.4		99.8		M	
D 11 1802 PFH											
403.00 > 84.00		2.489	-0.008		13953506	48.0		101	272613		
D 12 M2-6:2FTS		0.005	0.010		2/50440	47.0		00.7			
429.00 > 409.00			-0.012		3650448	47.3		99.6			
13 Sodium 1H, 427.00 > 407.00		•	orooctan -0.014	e 1.000	3256270	47.7		101			
427.00 > 407.00	2.193	2.007	-0.014	1.000				101	a = 1c =		
					Page 382 of !	577			03/27	7/2017	

Page 382 of 577

03/27/2017

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooci 413.00 > 369.00 413.00 > 169.00	2.824	2.835	-0.011 -0.011	1.000 1.000	10343315 6136507	50.5	1.69(0.90-1.10)	101 101	113108 139975	
D 14 13C4 PFO	A			1.000		40.0	1.07(0.70 1110)			
417.00 > 372.00 16 Perfluorohe					10019820	48.9		97.8	414712	
449.00 > 80.00	2.831	2.842	-0.011	1.000	12919018	50.5		106		
499.00 > 99.00	3.087 3.199	3.145 3.145	-0.058 0.054	1.000 1.037	11786011 2666087	48.3	4.42(0.90-1.10)	104 104	66281 7715	
20 Perfluorono 463.00 > 419.00	3.191	cid 3.202	-0.011	1.000	8361339	51.7		103	164244	
D 18 13C4 PFO		3.204	-0.005		11866933	49.1		103	197438	
D 19 13C5 PFNA 468.00 > 423.00		3.208	-0.009		8936977	50.2		100	263744	
D 26 M2-8:2FTS 529.00 > 509.00		3.545	-0.010		4360731	47.1		98.3		
25 Sodium 1H, 527.00 > 507.00		-			4074481	48.4		101		
D 21 13C8 FOS. 506.00 > 78.00	A			1.002		50.6			247034	
24 Perfluorode		3.559 cid	0.001		18558718	50.6		101	24/034	
513.00 > 469.00 D 23 13C2 PFD		3.560	-0.008	1.000	7779706	53.2		106	168568	
515.00 > 470.00		3.560	-0.008		8074243	48.4		96.9	187283	
22 Perfluorooct 498.00 > 78.00				1.000	17500489	52.5		105	422956	
D 27 d3-NMeFO 573.00 > 419.00		3.710	-0.008		4409894	51.8		104		
28 N-methyl pe 570.00 > 419.00				1.000	4062831	47.4		94.9		
29 Perfluorode	cane Sul	lfonic aci	id							
599.00 > 80.00 D 32 d5-NEtFOS		3.866	-0.007	1.000	7386234	49.9		104		
589.00 > 419.00 D 30 13C2 PFUi		3.875	-0.008		4108227	50.5		101		M
565.00 > 520.00	3.867	3.876	-0.009		6419845	49.1		98.2	215302	
31 Perfluoroune 563.00 > 519.00			-0.011	1.000	6388091	49.1		98.2	145481	
33 N-ethyl perfl 584.00 > 419.00		ane sulfo 3.883		1.002	3565748	47.7		95.3		
D 34 d-N-MeFO		4.050	-0.002		4549448	51.7		103		
35 MeFOSA 512.00 > 169.00	4.058	4.057	0.001	1.000	4038740	47.4		94.9		
37 Perfluorodo 613.00 > 569.00			-0.005	1.000	Page 383 of 57	77 ^{52.7}		105	936 <u>10</u> 27	//2017

Report Date: 01-Mar-2017 15:43:16 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File:

Buta Tile. Notificial value all all all all all all all all all al											
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags	
D 36 13C2 PFD	οA										
615.00 > 570.00	4.157	4.164	-0.007		6158791	49.7		99.4	157158		
D 38 d-N-EtFOS											
531.00 > 169.00	4.241	4.235	0.006		4384481	51.4		103			
39 N-ethylperflu											
526.00 > 169.00	4.241	4.242	-0.001	1.000	4076562	47.3		94.5			
41 Perfluorotrio											
663.00 > 619.00		4.424	-0.006	1.000	5662375	52.6		105	111159		
D 43 13C2-PFT			0.044		10057440	E4.0		100			
715.00 > 670.00			-0.014		13257413	51.2		102	430727		
42 Perfluoroteti			0.007	1 000	10/01000	FO 4		101	110000		
712.50 > 668.90 713.00 > 169.00		4.657 4.657	-0.006 -0.006	1.000 1.000	12631200 1664503	52.1	7.59(0.00-0.00)	104 104	118223 123601		
D 44 13C2-PFH		4.037	-0.000	1.000	1004303		7.39(0.00-0.00)	104	123001		
815.00 > 770.00		5.057	-0.008		6606731	52.8		106	93567		
45 Perfluorohe			0.000		0000731	52.0		100	75507		
813.00 > 769.00		5.059	-0.010	1.000	5695645	49.5		99.0	5357		
46 Perfluorooct			0.010	1.000	0070010	17.0		77.0	0007		
913.00 > 869.00		5.399	-0.016	1.000	4591929	52.0		104	6139		
, 10.00 / 007.00	5.000	5.077	3.010		10,1,2,	02.0		101	3107		

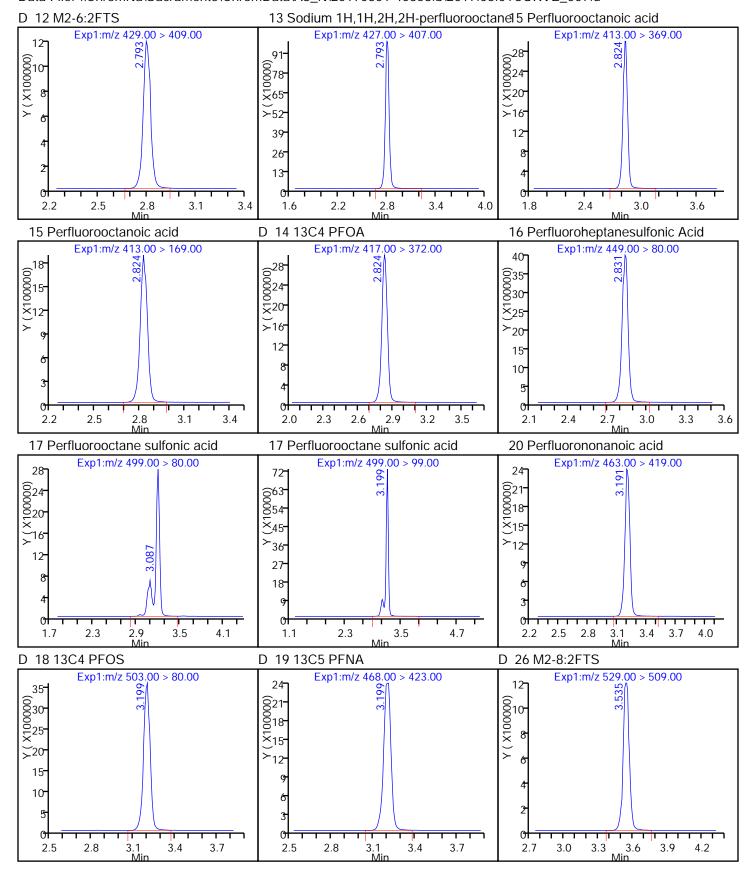
QC Flag Legend Review Flags

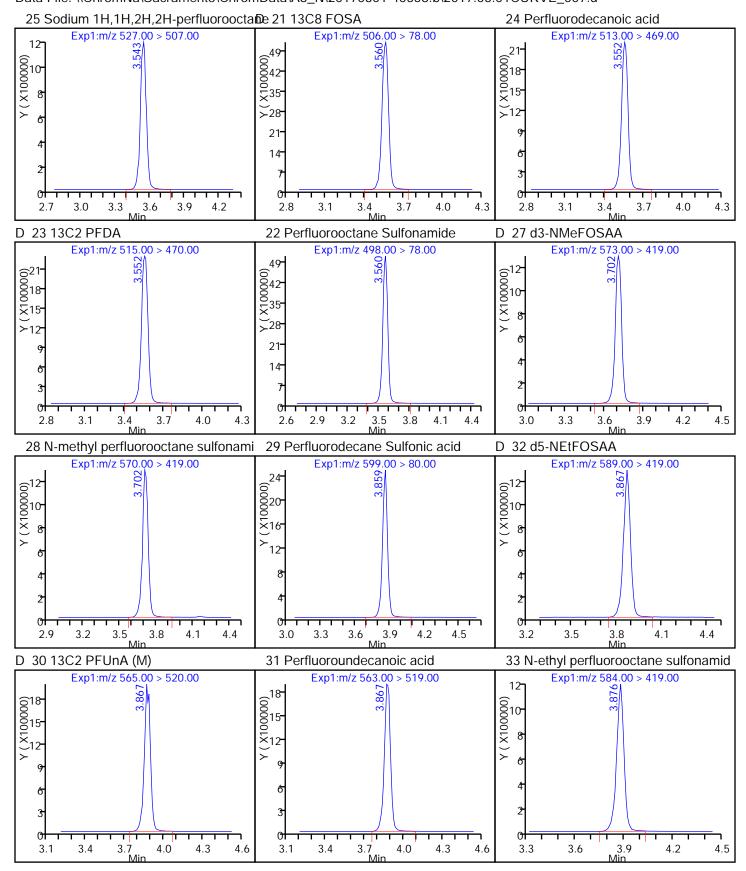
M - Manually Integrated

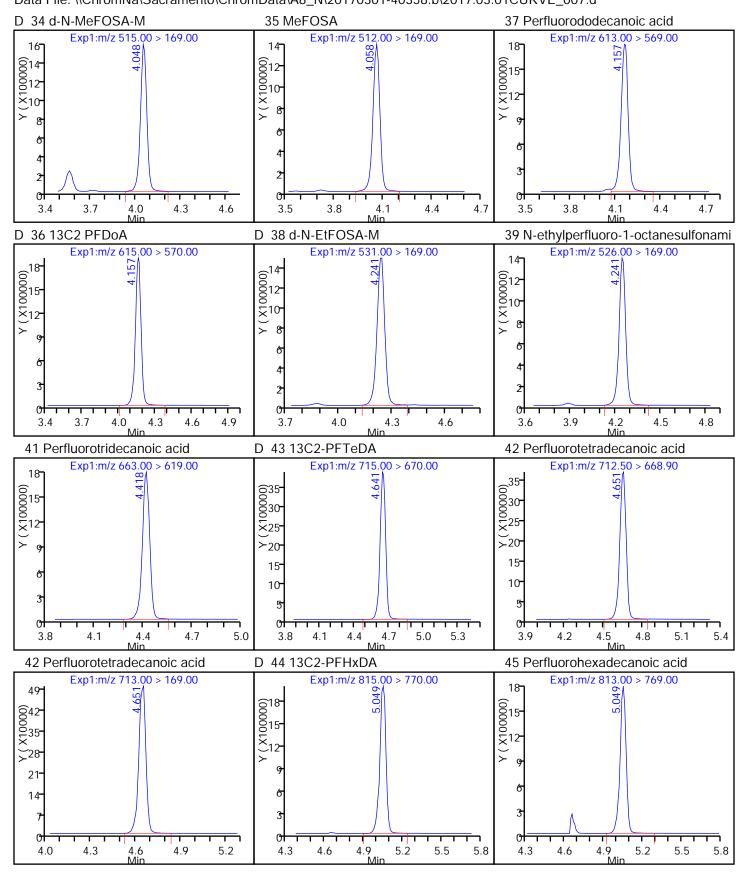
Reagents:

LCPFC_FULL-L5_00001 Amount Added: 1.00 Units: mL

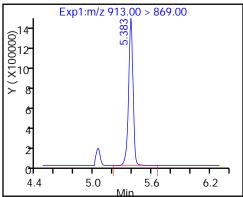
Report Date: 01-Mar-2017 15:43:16 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_007.d Data File: **Injection Date:** 01-Mar-2017 11:38:49 Instrument ID: A8_N Lims ID: IC L5 Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 313C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 (35 0030 ×25 042 0036 836- × 30-×30 ≻₂₄-≻20 18 15 18 12 10 12 1.7 2.0 1.9 1.0 1.3 1.6 1.3 1.6 1.9 2.2 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 Exp1:m/z 262.90 > 219.0028-00024-20-(35-00030-63⁶³ 0054 ×25 -45 >16**≻**36 ≻20 27 15 18 10 1.5 2.1 2.4 2.1 2.4 1.9 1.8 1.2 1.5 1.8 1.3 1.6 2.2 1.2 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00 Exp1:m/z 363.00 > 319.00 Exp1:m/z 315.00 > 270.00 35 628 0024 ×20 628 0024 ×20 <u>8</u>25- $\stackrel{\cdot}{>}_{20}$ 15- 12 12 10 1.9 2.2 1.8 2.1 2.7 2.0 1.6 2.5 2.8 2.4 1.4 2.6 3.2 1.3 1.5 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid (M) D 11 1802 PFHxS Exp1:m/z 399,00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 35- 28 0024 0024 ×20 <u>0</u>25 _20 ∑24- 15 18 12 10 12 0 0 2.1 2.4 2.7 3.0 2.0 2.3 2.6 Page 385 of 57 2.0 2.3 2.6 1.8 1.7







46 Perfluorooctadecanoic acid



TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_007.d

Injection Date: 01-Mar-2017 11:38:49 Instrument ID: A8_N

Lims ID: IC L5 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

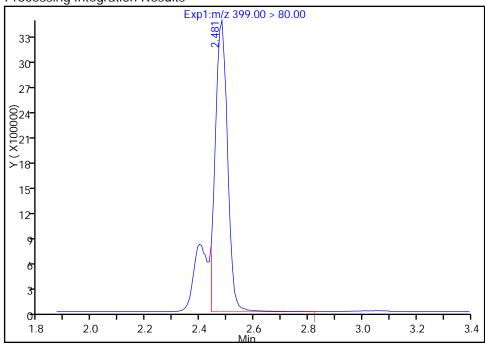
Column: Detector EXP1

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

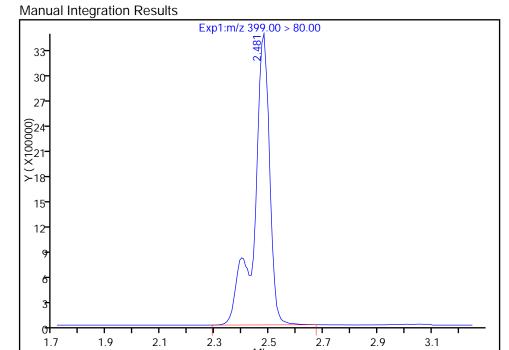
Signal: 1

RT: 2.48
Area: 10754320
Amount: 35.081839
Amount Units: ng/ml

Processing Integration Results



RT: 2.48
Area: 13776740
Amount: 45.409199
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:15

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 390 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_007.d

Injection Date: 01-Mar-2017 11:38:49 Instrument ID: A8_N

Lims ID: IC L5 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 6

Injection Vol: 2.0 ul Dil. Factor: 1.0000

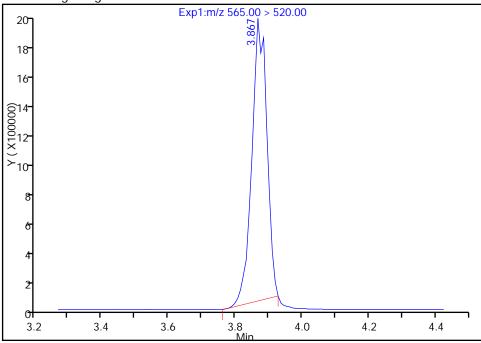
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

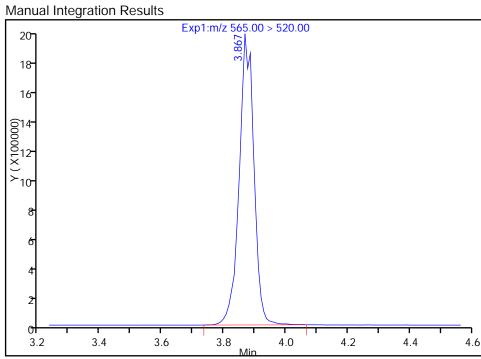
D 30 13C2 PFUnA, CAS: STL00997

Signal: 1

RT: 3.87 Area: 5863845 Amount: 45.473087 Amount Units: ng/ml **Processing Integration Results**



RT: 3.87
Area: 6419845
Amount: 49.079386
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:15

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 391 of 577

Report Date: 01-Mar-2017 15:43:19 Chrom Revision: 2.2 03-Feb-2017 15:35:04

> TestAmerica Sacramento **Target Compound Quantitation Report**

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_008.d

Lims ID: IC L6 Full

Client ID:

Sample Type: IC Calib Level: 6

Inject. Date: 01-Mar-2017 11:46:18 ALS Bottle#: 33 Worklist Smp#: 7

Injection Vol: Dil. Factor: 2.0 ul 1.0000

Sample Info: L6-FULL

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub15

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:18 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 12:04:21

First Level Revie	rirst Level Reviewer: chandrasenas					Date: 01-Mar-2017 12:04:2				
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA	1									
217.00 > 172.00		1.553	-0.007		12268568	42.0		84.0	717990	
2 Perfluorobut	,									
212.90 > 169.00	1.554	1.558	-0.004	1.000	37767596	181.7		90.8	312656	
D 3 13C5-PFPe										
267.90 > 223.00		1.832	-0.010		9320645	40.1		80.3	792870	
4 Perfluoroper			0.010	1 000	2100000	1740		07.4	0.4007.0	
262.90 > 219.00		1.835		1.000	31900088	174.9		87.4	249960	
5 Perfluorobuta 298.90 > 80.00			-0.011	1.000	47824719	141.7		80.1		
298.90 > 99.00		1.872	-0.011	1.000	24392241	141.7	1.96(0.00-0.00)	80.1		
6 Perfluorohex							, , ,			
313.00 > 269.00		2.133	-0.011	1.000	30367858	188.7		94.4	703737	
D 7 13C2 PFHx	κA									
315.00 > 270.00	2.122	2.134	-0.012		9044966	42.9		85.8	272049	
10 Perfluorohe	•									
363.00 > 319.00	2.461	2.474	-0.013	1.000	28382869	191.6		95.8	225664	
D 9 13C4-PFHp					_,					
367.00 > 322.00			-0.014		7657909	39.7		79.4	207490	
8 Perfluorohex				1 000	42122000	172.0		95.5		
399.00 > 80.00		2.485	-0.007	1.000	42133990	173.8		95.5		
D 11 18O2 PFH: 403.00 > 84.00		2 480	-0.011		11147782	38.3		81.0	329095	
D 12 M2-6:2FTS		2.407	-0.011		11147702	30.3		01.0	327073	
429.00 > 409.00		2.805	-0.016		3409307	44.2		93.0		
13 Sodium 1H,				e						
427.00 > 407.00		-		1.000	11262289	177.0		93.3		
					Page 392 of	577			03/27	/2017

Report Date: 01-Mar-2017 15:43:19 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_008.d

2 4 4 4 1 11 5 1	,,,,,,,,,						-		-	
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 14 13C4 PFO		2.025	0.015		7400404	27.5		75.0	100100	
417.00 > 372.00		2.835	-0.015		7688496	37.5		75.0	192123	
15 Perfluorooct 413.00 > 369.00		2.835	-0.015	1.000	29743583	189.3		94.7	342015	
413.00 > 169.00		2.835		0.997	18781119		1.58(0.90-1.10)	94.7	380819	
16 Perfluorohe	-									
449.00 > 80.00		2.842		1.000	36282267	168.5		88.5		
17 Perfluorooct 499.00 > 80.00		onic acid 3.145	d 0.041	1.000	39756569	193.5		104	230631	M
499.00 > 99.00		3.145	0.050	1.003	9596909	175.5	4.14(0.90-1.10)	104	294050	
20 Perfluorono	nanoic a	cid								
463.00 > 419.00	3.186	3.202	-0.016	1.000	26057481	206.4		103	338058	
D 18 13C4 PFO		0.004	0.040		0005007	44.0		0.4 5	100101	
503.00 > 80.00		3.204	-0.018		9985826	41.3		86.5	102426	
D 19 13C5 PFN/ 468.00 > 423.00		3.208	-0.013		6983620	39.3		78.5	207659	
D 26 M2-8:2FTS		0.200	0.0.0		0,00020	07.0		. 0.0		M
529.00 > 509.00		3.545	-0.022		3659550	39.5		82.5		М
25 Sodium 1H,		•								
527.00 > 507.00		3.546	-0.023	1.000	12220206	173.0		90.3		
D 21 13C8 FOS		2 550	0.011		15100110	41 4		02.0	201200	
506.00 > 78.00 D 23 13C2 PFD/		3.559	-0.011		15188110	41.4		82.8	281288	
515.00 > 470.00		3.560	-0.012		6226569	37.4		74.7	124238	
24 Perfluorode										
513.00 > 469.00	3.548	3.560	-0.012	1.000	24265114	215.2		108	364832	
22 Perfluorooct										
498.00 > 78.00		3.561	-0.004	1.000	47690261	174.7		87.4	485165	
D 27 d3-NMeFO 573.00 > 419.00	·	2 710	0.014		4115011	48.3		96.6		
28 N-methyl pe					4113011	40.3		70.0		
570.00 > 419.00				1.003	16290792	203.8		102		
29 Perfluorode	cane Sul	lfonic aci	d							
599.00 > 80.00	3.853	3.866	-0.013	1.000	24675284	198.3		103		
D 32 d5-NEtFOS										
589.00 > 419.00		3.875	-0.013		3122900	38.4		76.8		
D 30 13C2 PFU ₁ 565.00 > 520.00		3.876	-0.014		4771549	36.5		73.0	166160	
31 Perfluoround			-0.014		4771347	30.3		73.0	100100	
563.00 > 519.00			-0.016	1.000	18672321	193.0		96.5	304259	
33 N-ethyl perfl	luoroocta	ane sulfo	namid							
584.00 > 419.00	3.871	3.883	-0.012	1.002	11906031	209.4		105		
D 34 d-N-MeFO										
515.00 > 169.00	4.042	4.050	-0.008		4433562	50.4		101		
35 MeFOSA 512.00 > 169.00	/ O51	4.057	-0.006	1.000	17219029	207.6		104		
37 Perfluorodo			-0.000	1.000	11217027	207.0		104		
613.00 > 569.00			-0.024	1.000	19408225 Page 393 of 5	199.4		99.7	329427	7/2017
					raye sas of 5)			03/27	12011

Report Date: 01-Mar-2017 15:43:19 Chrom Revision: 2.2 03-Feb-2017 15:35:04

Data File:

But The. Monitorina de la mental de la menta										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFD	оА									М
615.00 > 570.00	4.152	4.164	-0.012		5320903	42.9		85.9	133785	M
D 38 d-N-EtFOS										
531.00 > 169.00	4.227	4.235	-0.008		4425922	51.9		104		
39 N-ethylperflu										
526.00 > 169.00	4.236	4.242	-0.006	1.000	17404238	199.9		99.9		
41 Perfluorotric										
663.00 > 619.00	4.407	4.424	-0.017	1.000	18379771	197.7		98.9	284610	
D 43 13C2-PFT										
715.00 > 670.00	4.635	4.655	-0.020		11353892	43.8		87.6	278458	
42 Perfluorotet										
712.50 > 668.90		4.657	-0.022	1.000	39468467	188.6	(50/0 00 0 00)	94.3	283243	
713.00 > 169.00		4.657	-0.022	1.000	6001611		6.58(0.00-0.00)	94.3	215597	
D 44 13C2-PFH		F 057	0.000		5070404	47.0		04.0	04005	
815.00 > 770.00		5.057	-0.022		5879424	47.0		94.0	81025	
45 Perfluorohe			0.010	1 000	00107740	202.0		100	00050	
813.00 > 769.00		5.059	-0.013	1.000	20137749	203.8		102	23053	
46 Perfluorooct			0.004	1 000	17001011	000 5		447	00405	
913.00 > 869.00	5.3/5	5.399	-0.024	1.000	17831844	233.5		117	22435	

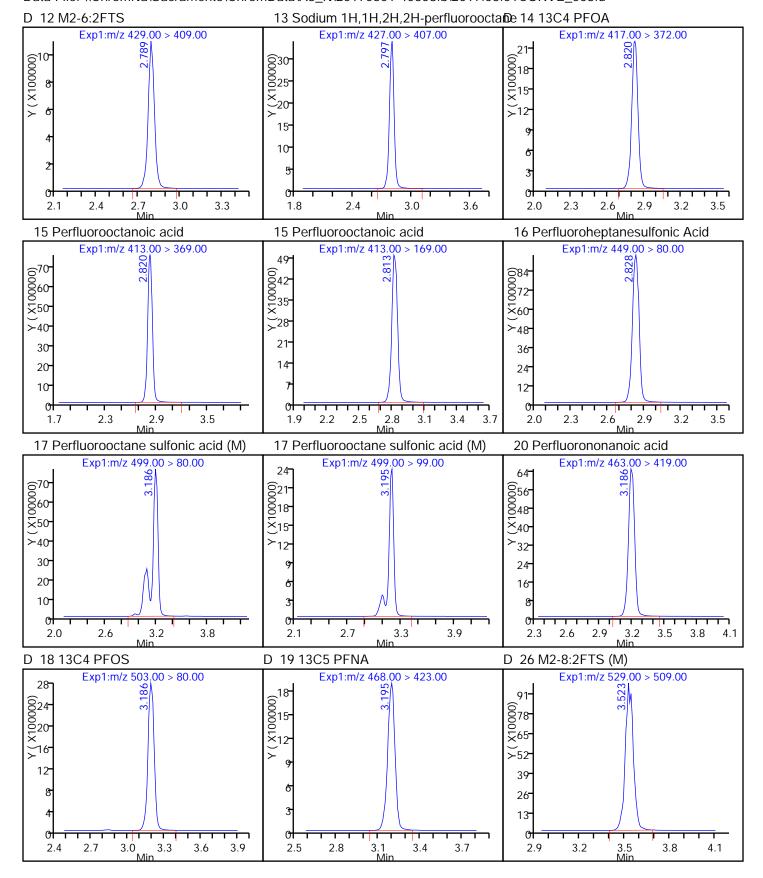
QC Flag Legend Review Flags

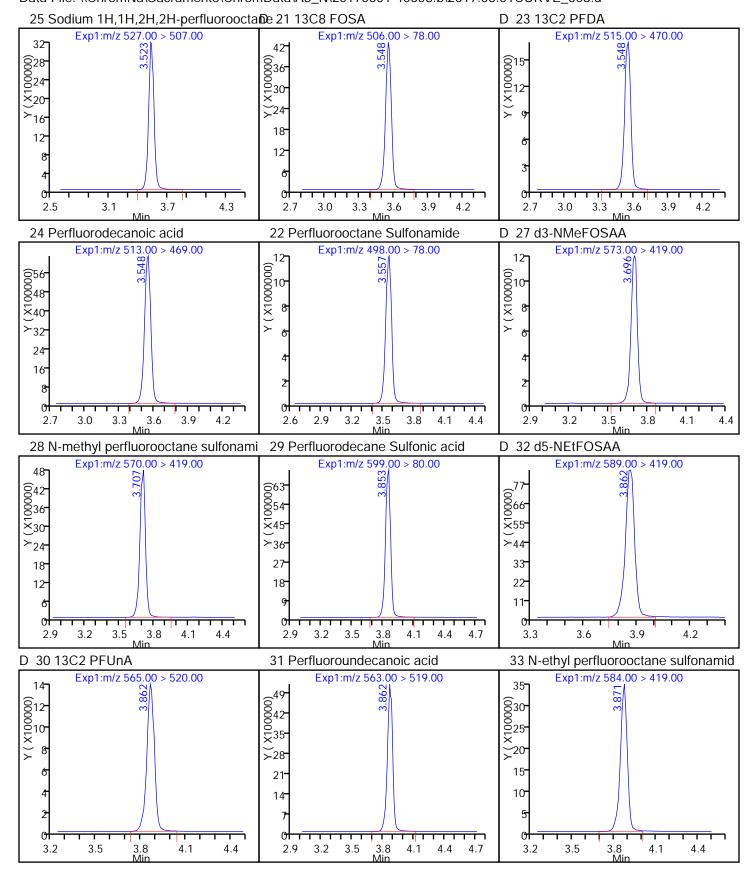
M - Manually Integrated

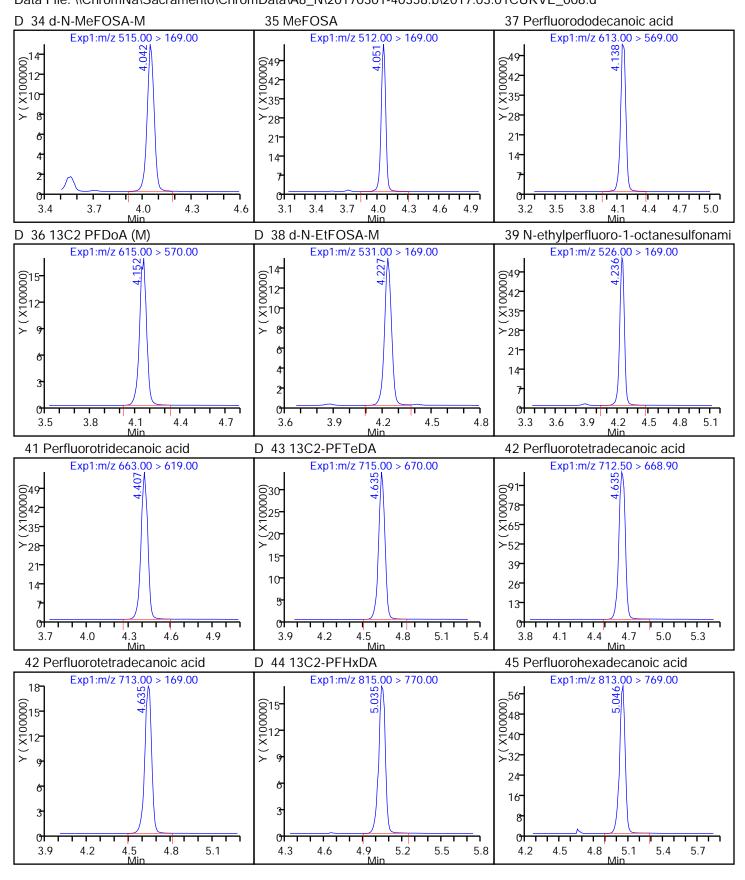
Reagents:

LCPFC_FULL-L6_00002 Amount Added: 1.00 Units: mL

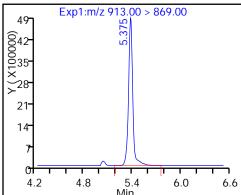
Report Date: 01-Mar-2017 15:43:19 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento Data File: **Injection Date:** 01-Mar-2017 11:46:18 Instrument ID: A8_N Lims ID: IC L6 Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 7 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 96 35 546 000001 25-884ĕ24[:] Š72 ×60 ×20 ≻₄₈-15 36 10 24 12 1.9 0.9 1.0 1.3 1.6 0.3 1.5 2.1 2.7 1.1 2.0 2.3 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 96 (X) X (X) (0000000) X (X) X 670 6060 084 072 ×60 ×50 ≻₄₈ ≻₄₀ 30 36 20 24 12 10 1.9 2.2 2.5 2.0 2.3 2.0 1.3 1.6 1.1 1.4 1.7 1.4 1.7 2.3 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 Exp1:m/z 363.00 > 319.00 28 (670 (60 (60 60066 ×55 824- <u>8</u>20-∑₁₆-∑50 ≻40 12 30 33 22 20 10 2.1 1.9 2.2 1.9 2.5 1.8 2.4 2.7 1.6 2.5 2.8 3.1 1.5 1.3 1.3 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid D 11 1802 PFHxS Exp1:m/z 367.00 > 322.00 Exp1:m/z 399,00 > 80.00 Exp1:m/z 403.00 > 84.00 88 (21-000018-15-630 00 025 077- ×55-≻₄₄-15 33 10 22 0 0 2.1 2.4 2.7 3.0 1.9 Page 395 of 577 3.7 2.0 2.3 2.6 1.8 1.3 3.1 1.7







46 Perfluorooctadecanoic acid



TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_008.d

Injection Date: 01-Mar-2017 11:46:18 Instrument ID: A8_N

Lims ID: IC L6 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

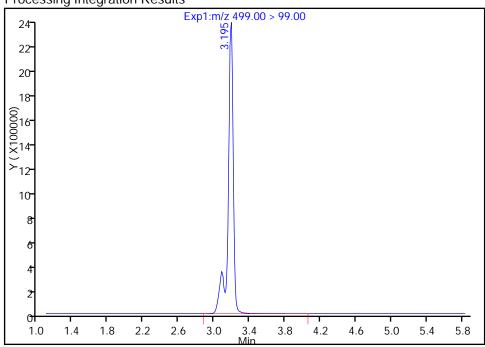
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

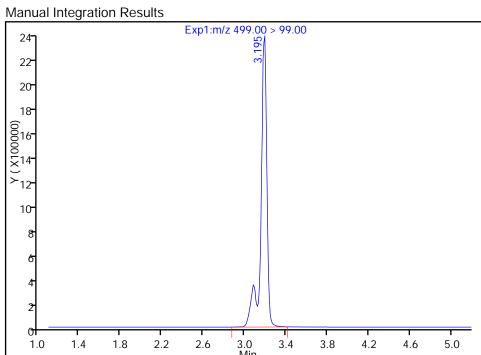
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

RT: 3.19 Area: 9641533 Amount: 146.9287 Amount Units: ng/ml **Processing Integration Results**



RT: 3.19
Area: 9596909
Amount: 193.5024
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:18

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 400 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_008.d

Injection Date: 01-Mar-2017 11:46:18 Instrument ID: A8_N

Lims ID: IC L6 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

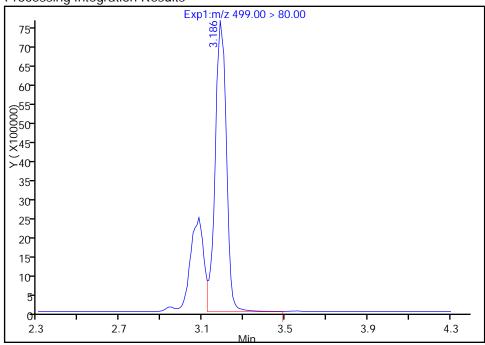
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

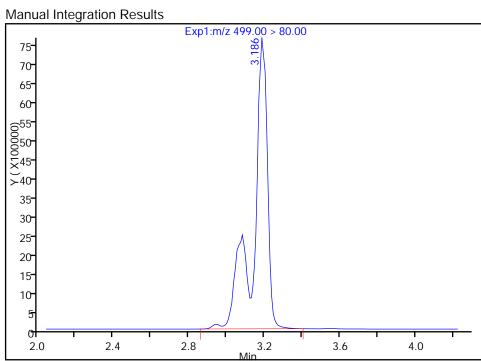
Signal: 1

RT: 3.19
Area: 28733218
Amount: 146.9287
Amount Units: ng/ml

Processing Integration Results



RT: 3.19 Area: 39756569 Amount: 193.5024 Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:18

Audit Action: Manually Integrated

Audit Reason: Baseline Page 401 of 577

03/27/2017

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_008.d

Injection Date: 01-Mar-2017 11:46:18 Instrument ID: A8_N

Lims ID: IC L6 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

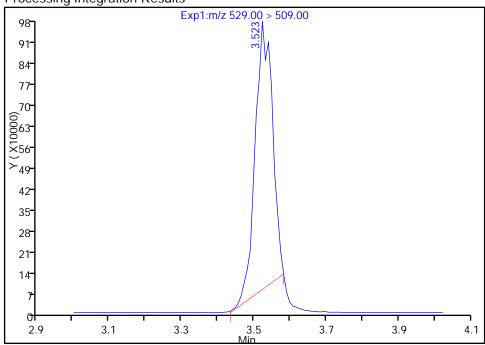
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

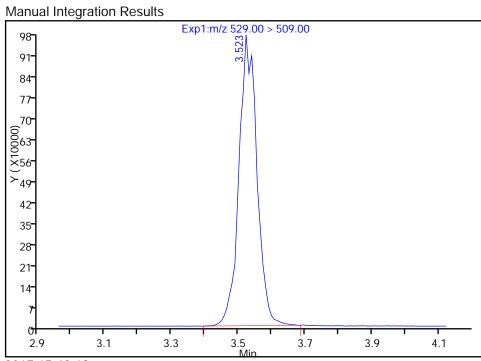
D 26 M2-8:2FTS, CAS: STL02280

Signal: 1

RT: 3.52 Area: 2972144 Amount: 32.946881 Amount Units: ng/ml **Processing Integration Results**



RT: 3.52
Area: 3659550
Amount: 39.519130
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:18

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 402 of 577

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_008.d

Injection Date: 01-Mar-2017 11:46:18 Instrument ID: A8_N

Lims ID: IC L6 Full

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

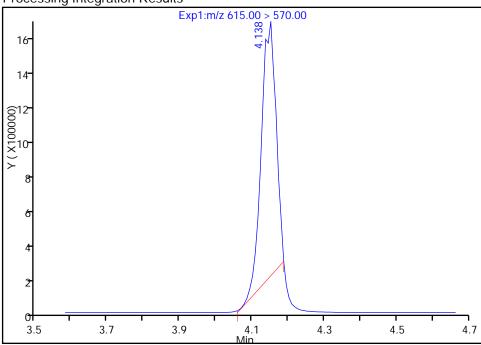
Column: Detector EXP1

D 36 13C2 PFDoA, CAS: STL00998

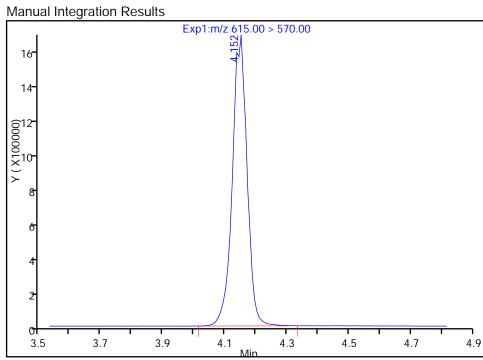
Signal: 1

RT: 4.14
Area: 3992056
Amount: 33.402250
Amount Units: ng/ml

Processing Integration Results



RT: 4.15
Area: 5320903
Amount: 42.929870
Amount Units: ng/ml



Reviewer: chandrasenas, 01-Mar-2017 15:43:18

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 403 of 577

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>ICV 320-152681/13</u> Calibration Date: <u>03/01/2017 12:31</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.01CURVE_014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.9133		53.9	50.0	7.8	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	1.035		52.9	50.0	5.7	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.526		47.1	44.3	6.5	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.9703		54.5	50.0	9.1	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	1.045		54.0	50.0	8.0	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	1.022		47.0	47.3	-0.6	25.0
6:2FTS	L2ID		0.9688		51.7	47.4	9.1	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.089		50.3	47.6	5.6	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	1.032		50.5	50.0	1.0	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	1.016		56.2	50.0	12.4	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	0.9166		44.5	47.8	-6.8	25.0
8:2FTS	L2ID		0.9785		50.6	47.9	5.7	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.9538		52.7	50.0	5.3	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9140		50.9	50.0	1.7	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	1.014		52.2	50.0	4.4	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.6364		51.6	48.3	6.8	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.9789		48.3	50.0	-3.4	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.998		54.8	50.0	9.7	25.0
MeFOSA	AveID	0.9355	0.9755		52.1	50.0	4.3	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.9493		51.9	50.0	3.8	25.0
N-EtFOSA-M	AveID	0.9837	1.027		52.2	50.0	4.4	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.9439		54.0	50.0	8.1	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	2.200		55.9	50.0	11.9	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.9762		52.3	50.0	4.6	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.8478		59.1	50.0	18.2	25.0
13C4 PFBA	Ave	292242	262151		44.9	50.0	-10.3	50.0
13C5-PFPeA	Ave	232192	201954		43.5	50.0	-13.0	50.0
13C2 PFHxA	Ave	210884	190101		45.1	50.0	-9.9	50.0
13C4-PFHpA	Ave	192959	172560		44.7	50.0	-10.6	50.0
1802 PFHxS	Ave	290899	261134		42.5	47.3	-10.2	50.0
M2-6:2FTS	Ave	77178	67962		41.8	47.5	-11.9	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>ICV 320-152681/13</u> Calibration Date: <u>03/01/2017 12:31</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.01CURVE_014.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	183068		44.7	50.0	-10.7	50.0
13C4 PFOS	Ave	241637	218953		43.3	47.8	-9.4	50.0
13C5 PFNA	Ave	177866	156812		44.1	50.0	-11.8	50.0
M2-8:2FTS	Ave	92602	84040		43.5	47.9	-9.2	50.0
13C2 PFDA	Ave	166704	144616		43.4	50.0	-13.3	50.0
13C8 FOSA	Ave	366918	337473		46.0	50.0	-8.0	50.0
d3-NMeFOSAA	Ave	85186	77141		45.3	50.0	-9.4	50.0
d5-NEtFOSAA	Ave	81371	71203		43.8	50.0	-12.5	50.0
13C2 PFUnA	Ave	130805	114237		43.7	50.0	-12.7	50.0
d-N-MeFOSA-M	Ave	87983	80006		45.5	50.0	-9.1	50.0
13C2 PFDoA	Ave	123944	108741		43.9	50.0	-12.3	50.0
d-N-EtFOSA-M	Ave	85249	76986		45.2	50.0	-9.7	50.0
13C2-PFTeDA	Ave	259165	236701		45.7	50.0	-8.7	50.0
13C2-PFHxDA	Ave	125061	112974		45.2	50.0	-9.7	50.0

Report Date: 01-Mar-2017 15:43:03 Chrom Revision: 2.2 03-Feb-2017 15:35:04

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_014.d

Lims ID: ICV Full

Client ID:

Sample Type: ICV

Inject. Date: 01-Mar-2017 12:31:14 ALS Bottle#: 36 Worklist Smp#: 13

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: ICV

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist:

Method: \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 01-Mar-2017 15:43:02 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK012

First Level Reviewer: chandrasenas Date: 01-Mar-2017 14:14:09

First Level Revie	First Level Reviewer: chandrasenas					Date: 01-Mar-2017 14:14:09				
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA										
217.00 > 172.00		1.553	0.002		13107554	44.9		89.7	571827	
2 Perfluorobut	yric acid									
212.90 > 169.00	1.555	1.558	-0.003	1.000	11971584	53.9			121786	
D 3 13C5-PFPe	eΑ									
267.90 > 223.00	1.833	1.832	0.001		10097715	43.5		87.0	496223	
4 Perfluoroper										
262.90 > 219.00		1.835	-0.002	1.000	10448730	52.9			87028	
5 Perfluorobut			0.001	1 000	17/00155	47.4				
298.90 > 80.00 298.90 > 99.00	1.873 1.873	1.872 1.872	0.001 0.001	1.000 1.000	17632155 7534911	47.1	2.34(0.00-0.00)			
6 Perfluorohex			0.001	1.000	7334711		2.34(0.00-0.00)			
313.00 > 269.00			-0.002	1.000	9222580	54.5			268407	
D 7 13C2 PFHx										
315.00 > 270.00		2.134	-0.003		9505049	45.1		90.1	530814	
10 Perfluorohe	ptanoic a	acid								
363.00 > 319.00	•	2.474	-0.002	1.000	9017371	54.0			66655	
D 913C4-PFHp	ρA									
367.00 > 322.00	2.472	2.475	-0.003		8627993	44.7		89.4	271737	
8 Perfluorohex										
399.00 > 80.00	2.487	2.485	0.002	1.000	12611730	47.0				
D 11 1802 PFH:										
403.00 > 84.00		2.489	-0.002		12351647	42.5		89.8	385748	
D 12 M2-6:2FTS		0.005	0.004		0000017	44.0		00.4		
429.00 > 409.00		2.805	0.001		3228217	41.8		88.1		
13 Sodium 1H,					2120010	E1 7				
427.00 > 407.00	2.814	2.807	0.007	1.000	3120919	51.7				
					Page 406 of 9	577			03/27	7/2017

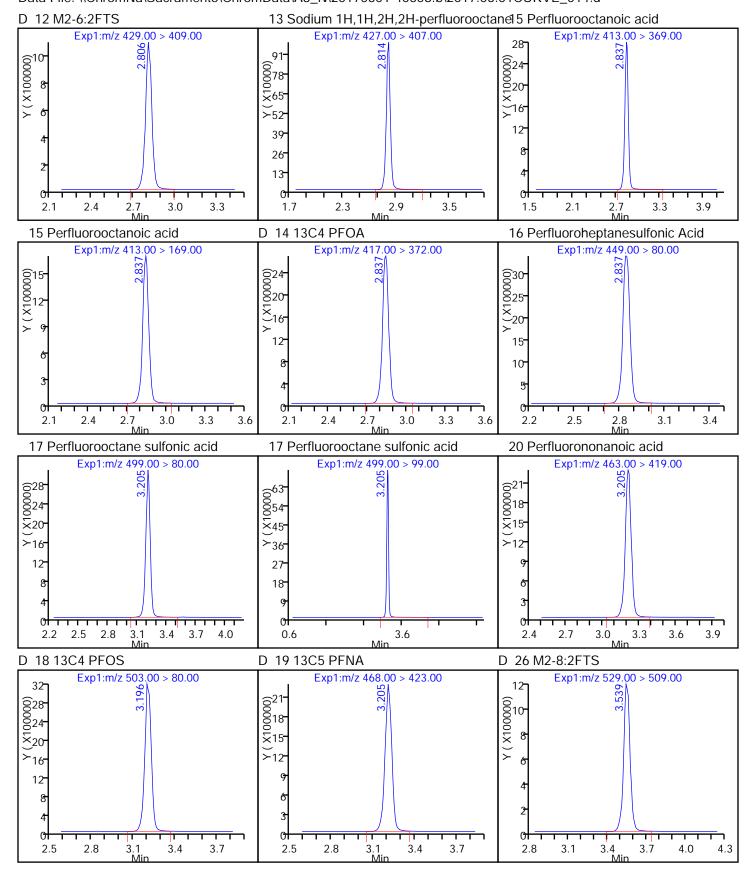
Page 406 of 577

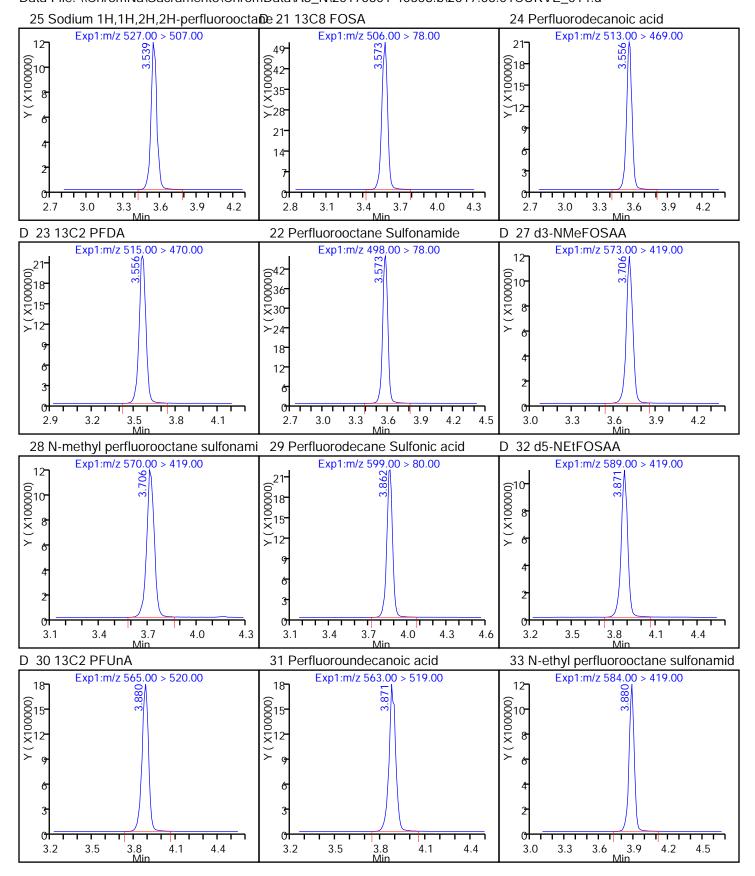
03/27/2017

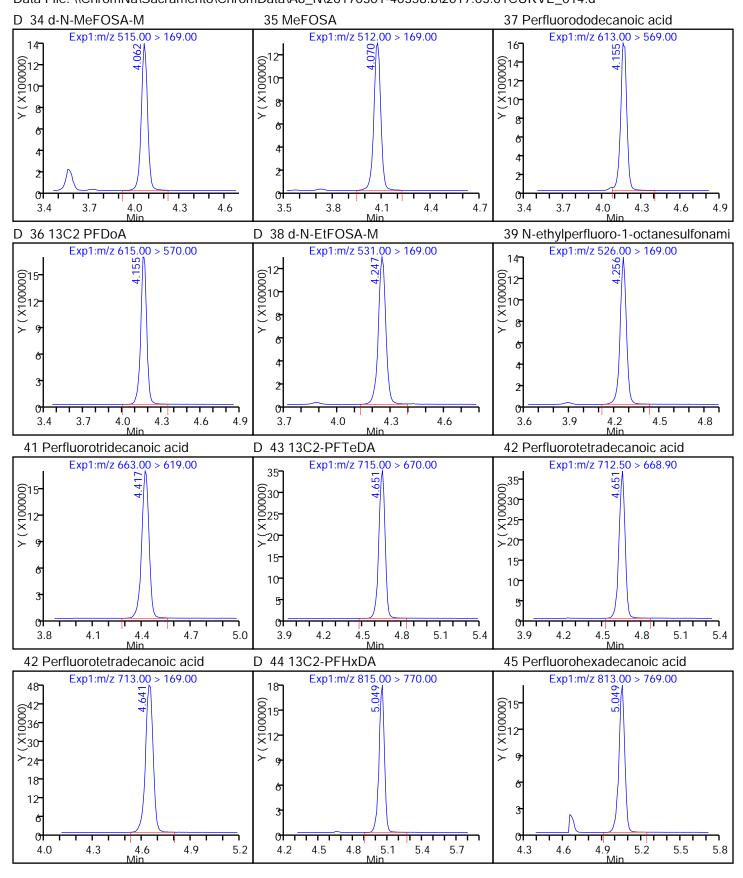
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooct	tanoic ac	id								
413.00 > 369.00		2.835	0.002	1.000	9449558	50.5	4 (0/0 00 7 55)		213564	
413.00 > 169.00		2.835	0.002	1.000	5623231		1.68(0.90-1.10)		140434	
D 14 13C4 PFO 417.00 > 372.00		2.835	0.002		9153420	44.7		89.3	333609	
16 Perfluorohe										
449.00 > 80.00	2.837	2.842	-0.005	1.000	11351727	50.3				
17 Perfluorooct				1 000	0502012	44 =			224224	
499.00 > 80.00 499.00 > 99.00		3.145 3.145	0.060 0.060	1.000 1.000	9582813 2425871	44.5	3.95(0.90-1.10)		334324 705291	
20 Perfluorono					_,,		,			
463.00 > 419.00	3.205	3.202	0.003	1.000	7968593	56.2			153203	
D 18 13C4 PFO					101/5007	40.0		00.4	107571	
503.00 > 80.00		3.204	-0.008		10465937	43.3		90.6	197571	
D 19 13C5 PFN/ 468.00 > 423.00		3.208	-0.003		7840582	44.1		88.2	207818	
D 26 M2-8:2FTS										
529.00 > 509.00	3.539	3.545	-0.006		4025496	43.5		90.8		
25 Sodium 1H,		•			0000700	F0 /				
527.00 > 507.00		3.546	-0.007	1.000	3938788	50.6				
D 21 13C8 FOSA 506.00 > 78.00		3.559	0.014		16873653	46.0		92.0	313140	
24 Perfluorode										
513.00 > 469.00	3.556	3.560	-0.004	1.000	6896912	52.7			187300	
D 23 13C2 PFD/		0.5/0	0.004		700000	40.4		0/0	475077	
515.00 > 470.00		3.560			7230800	43.4		86.8	175077	
22 Perfluorooct 498.00 > 78.00			e 0.012	1.000	15422698	50.9			322048	
D 27 d3-NMeFO										
573.00 > 419.00	3.706	3.710	-0.004		3857056	45.3		90.6		
28 N-methyl pe										
570.00 > 419.00				1.000	3910569	52.2				
29 Perfluorodeo 599.00 > 80.00		ionic aci 3.866		1.000	6723491	51.6				
D 32 d5-NEtFOS		0.000	0.00		0,20.,.	00				
589.00 > 419.00	3.871	3.875	-0.004		3560139	43.8		87.5		
D 30 13C2 PFU										
565.00 > 520.00		3.876	0.004		5711825	43.7		87.3	216355	
31 Perfluorouno 563.00 > 519.00		acid 3.878	-0 007	1.000	5591035	48.3			127404	
33 N-ethyl perfl				1.000	3371033	40.5			127404	
584.00 > 419.00		3.883		1.002	3554390	54.8				
D 34 d-N-MeFO										
515.00 > 169.00	4.062	4.050	0.012		4000304	45.5		90.9		
35 MeFOSA	4.070	4 OE 7	0.012	1 000	2002002	EO 1				
512.00 > 169.00 37 Perfluorodo		4.057	0.013	1.000	3902092	52.1				
613.00 > 569.00			-0.007	1.000	Page 407 of 57	51.9			9563727	/2047
					Page 407 of 57	1			03727	/201/

Data File: \\Cnrom\va\Sacramento\Cnrom\Data\A8_\N\20170301-40358.b\2017.03.01CURVE_014.0											
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags	
D 36 13C2 PFD	οA										
615.00 > 570.00	4.155	4.164	-0.009		5437061	43.9		87.7	128920		
D 38 d-N-EtFOS											
531.00 > 169.00	4.247	4.235	0.012		3849308	45.2		90.3			
39 N-ethylperflu											
526.00 > 169.00			0.014	1.000	3953838	52.2					
41 Perfluorotrio											
663.00 > 619.00		4.424	-0.007	1.000	5131863	54.0			76799		
D 43 13C2-PFT		4 / 55	0.004		110050/0	45.7		01.0	0/7007		
715.00 > 670.00		4.655	-0.004		11835060	45.7		91.3	267097		
42 Perfluorotet			0.007	1 000	110/1720	FF 0			110255		
712.50 > 668.90 713.00 > 169.00		4.657 4.657	-0.006 -0.016	1.000 0.998	11961738 1569975	55.9	7.62(0.00-0.00)		110355 118035		
D 44 13C2-PFH		4.007	0.010	0.770	1307773		7.02(0.00 0.00)		110000		
815.00 > 770.00		5.057	-0.008		5648694	45.2		90.3	81356		
45 Perfluorohe			0.000		0010071			70.0	0.000		
813.00 > 769.00			-0.010	1.000	5307447	52.3			5849		
46 Perfluorooct	adecano	oic acid									
913.00 > 869.00			-0.015	1.000	4609565	59.1			5082		
Reagents:											
LCPFCIC_FULL	_00001		А	mount A	dded: 1.00	Units	: mL				

Report Date: 01-Mar-2017 15:43:03 Chrom Revision: 2.2 03-Feb-2017 15:35:04 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_014.d Data File: **Injection Date:** 01-Mar-2017 12:31:14 Instrument ID: A8_N Lims ID: ICV Full Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 36 Worklist Smp#: 13 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 35 35- 0030-30-25-036 030 ∑20⁻ 18 15 15- 10 10 1.9 2.0 1.0 1.3 1.6 1.9 1.0 1.3 1.6 1.4 1.7 2.3 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 64 28 0056**-**×40 ∑16' 32 15 24 10 16 1.5 1.8 2.1 2.4 1.5 2.1 2.4 1.5 1.8 1.2 1.8 1.2 2.1 2.4 1.2 6 Perfluorohexanoic acid D 7 13C2 PFHxA 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00 Exp1:m/z 363.00 > 319.00 Exp1:m/z 315.00 > 270.00 32 131 28 (30⁻ (000025 <u>28</u> 00024- 00001 20-824**-**×20 ∑16⁻ ≻₁₆-15 12 2.0 2.3 2.9 1.9 2.2 1.9 2.2 2.5 1.7 2.6 1.6 2.5 2.8 2.8 3.1 1.3 1.6 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid D 11 1802 PFHxS Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 28 (000001×) 16 635- 635<u>-</u> ×25 ×25 ≻20 ≻20 12 15- 15 10 10 0 0 2.0 2.3 2.6 2.9 3.2 Page 409 of 577 3.2 2.1 2.4 1.7 1.4 1.8 2.7

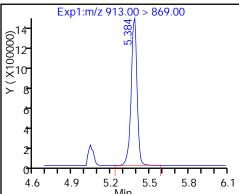






Report Date: 01-Mar-2017 15:43:03 Chrom Revision: 2.2 03-Feb-2017 15:35:04 Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_014.d

46 Perfluorooctadecanoic acid



FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: CCV 320-154455/2 Calibration Date: 03/10/2017 17:37

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.10B_002.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8584		1.01	1.00	1.3	50.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	1.018		1.04	1.00	4.1	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.536		0.948	0.884	7.2	50.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.8985		1.01	1.00	1.0	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9495		0.982	1.00	-1.8	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	1.173		1.04	0.910	14.1	50.0
6:2FTS	L2ID		1.115		1.06	0.948	11.5	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.033		0.954	0.952	0.2	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	1.051		1.03	1.00	2.9	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9479		1.05	1.00	4.9	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	0.9400		0.887	0.928	-4.4	50.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9300		1.04	1.00	3.5	50.0
8:2FTS	L2ID		0.9889		0.941	0.958	-1.8	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.9023		0.996	1.00	-0.4	50.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	1.002		1.03	1.00	3.1	50.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.5394		0.873	0.964	-9.5	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8996		0.988	1.00	-1.2	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	1.030		1.02	1.00	1.6	50.0
MeFOSA	AveID	0.9355	0.9407		1.01	1.00	0.6	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.9091		0.994	1.00	-0.6	50.0
N-EtFOSA-M	AveID	0.9837	0.9906		1.01	1.00	0.7	50.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.8382		0.960	1.00	-4.0	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.623		0.826	1.00	-17.4	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		1.275		0.999	1.00	-0.1	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.5946		0.829	1.00	-17.1	50.0
13C4 PFBA	Ave	292242	322304		55.1	50.0	10.3	50.0
13C5-PFPeA	Ave	232192	258163		55.6	50.0	11.2	50.0
13C2 PFHxA	Ave	210884	253153		60.0	50.0	20.0	50.0
13C4-PFHpA	Ave	192959	233174		60.4	50.0	20.8	50.0
1802 PFHxS	Ave	290899	329023		53.5	47.3	13.1	50.0
M2-6:2FTS	Ave	77178	107645		66.3	47.5	39.5	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154455/2</u> Calibration Date: <u>03/10/2017 17:37</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.10B_002.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	237405		57.9	50.0	15.8	50.0
13C4 PFOS	Ave	241637	261643		51.8	47.8	8.3	50.0
13C5 PFNA	Ave	177866	188940		53.1	50.0	6.2	50.0
13C8 FOSA	Ave	366918	387830		52.8	50.0	5.7	50.0
M2-8:2FTS	Ave	92602	95000		49.1	47.9	2.6	50.0
13C2 PFDA	Ave	166704	164898		49.5	50.0	-1.1	50.0
d3-NMeFOSAA	Ave	85186	65589		38.5	50.0	-23.0	50.0
d5-NEtFOSAA	Ave	81371	66553		40.9	50.0	-18.2	50.0
13C2 PFUnA	Ave	130805	124265		47.5	50.0	-5.0	50.0
d-N-MeFOSA-M	Ave	87983	83139		47.2	50.0	-5.5	50.0
13C2 PFDoA	Ave	123944	114637		46.2	50.0	-7.5	50.0
d-N-EtFOSA-M	Ave	85249	79250		46.5	50.0	-7.0	50.0
13C2-PFTeDA	Ave	259165	211444		40.8	50.0	-18.4	50.0
13C2-PFHxDA	Ave	125061	90982		36.4	50.0	-27.3	50.0

Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00

> TestAmerica Sacramento **Target Compound Quantitation Report**

Data File:

Lims ID: CCV L2

Client ID:

Sample Type: CCVL

Inject. Date: 10-Mar-2017 17:37:24 ALS Bottle#: 29 Worklist Smp#: 2

Injection Vol: Dil. Factor: 2.0 ul 1.0000

Sample Info: CCV L2

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 13-Mar-2017 09:41:06 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK006

First Level Reviewer: changnoit Date: 13-Mar-2017 09:41:06

First Level Revie	wei. Ciia	rigitoti			Date.		13-141a1-2017 09.41.0			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
2 Perfluorobuty	yric acid									М
212.90 > 169.00	1.538	1.538	0.0	1.000	276661	1.01		101	2936	M
D 113C4 PFBA										
217.00 > 172.00		1.538	0.0		16115223	55.1		110	752285	
4 Perfluoropen			0.0	1 000	0/0000	1.04		104	2005	
262.90 > 219.00		1.821	0.0	1.000	262883	1.04		104	2895	
D 3 13C5-PFPe 267.90 > 223.00		1.821	0.0		12908151	55.6		111	802409	
D 47 13C3-PFBS		1.021	0.0		12700131	33.0			002407	
301.90 > 83.00		1.851	0.0		331764	NC				
5 Perfluorobuta										
298.90 > 80.00		1.861	0.0	1.000	446642	0.9476		107		
298.90 > 99.00	1.861	1.861	0.0	1.000	182371		2.45(0.00-0.00)			
6 Perfluorohex										
313.00 > 269.00		2.117	0.0	1.000	227445	1.01		101	7307	
D 7 13C2 PFHx		0 117	0.0		10/57/50	/0.0		100	440100	
315.00 > 270.00		2.117	0.0		12657658	60.0		120	449120	
D 9 13C4-PFHp 367.00 > 322.00		2.459	0.0		11658702	60.4		121	490256	
10 Perfluorohe			0.0		11030702	00.4		121	+70230	
363.00 > 319.00		2.459	0.0	1.000	221404	0.9816		98.2	2063	
D 11 18O2 PFH)	κS									
403.00 > 84.00	2.475	2.475	0.0		15562777	53.5		113	324144	
8 Perfluorohex	anesulfo	onic acid	l							M
399.00 > 80.00	2.475	2.475	0.0	1.000	351343	1.04		114		M
13 Sodium 1H,		•								
427.00 > 407.00	2.802	2.802	0.0	1.000	113790	1.06		112		
					Page 416 of	577			03/27	7/2017

Page 416 of 5/1

Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Signal
A29.00 > 409.00 2.802 2.802 0.0 5113160 66.3 139
449.00 > 80.00
413.00 > 369.00 2.825 2.825 0.0 1.000 249537 1.03 1914 413.00 > 169.00 2.825 2.825 0.0 1.000 145668 1.71(0.90-1.10) 4404 D 14 13C4 PFOA 417.00 > 372.00 2.825 2.825 0.0 11870229 57.9 116 346626 20 Perfluoronomanoic acid 463.00 > 419.00 3.201 3.201 0.0 1.000 179097 1.05 105 3545 17 Perfluorooctane sulfonic acid
417.00 > 372.00 2.825 2.825 0.0 11870229 57.9 116 346626 20 Perfluoronomanoic acid 463.00 > 419.00 3.201 3.201 0.0 1.000 179097 1.05 105 3545 17 Perfluorooctane sulfonic acid 499.00 > 80.00 3.201 3.201 0.0 1.000 228229 0.8869 95.6 14261 M 499.00 > 99.00 3.192 3.201 -0.009 0.997 55113 4.14(0.90-1.10) 3110 M D 18 13C4 PFOS 503.00 > 80.00 3.192 3.192 0.0 12506517 51.8 108 363341 D 19 13C5 PFNA
463.00 > 419.00 3.201 3.201 0.0 1.000 179097 1.05 105 3545 17 Perfluorooctane sulfonic acid 499.00 > 80.00 3.201 3.201 0.0 1.000 228229 0.8869 95.6 14261 M 499.00 > 99.00 3.192 3.201 -0.009 0.997 55113 4.14(0.90-1.10) 3110 M D 18 13C4 PFOS 503.00 > 80.00 3.192 3.192 0.0 12506517 51.8 108 363341 D 19 13C5 PFNA
499.00 > 80.00 3.201 3.201 0.0 1.000 228229 0.8869 95.6 14261 M 499.00 > 99.00 3.192 3.201 -0.009 0.997 55113 4.14(0.90-1.10) 3110 M D 18 13C4 PFOS 503.00 > 80.00 3.192 3.192 0.0 12506517 51.8 108 363341 D 19 13C5 PFNA
503.00 > 80.00 3.192 3.192 0.0 12506517 51.8 108 363341 D 19 13C5 PFNA
468.00 > 423.00 3.201 3.201 0.0 9446975 53.1 106 384248 22 Perfluorooctane Sulfonamide
498.00 > 78.00 3.527 3.527 0.0 1.000 360679 1.04 104 40978 D 21 13C8 FOSA
506.00 > 78.00 3.527 3.527 0.0 19391523 52.8 106 387688 25 Sodium 1H,1H,2H,2H-perfluorooctane
527.00 > 507.00 3.544 3.544 0.0 1.002 90001 0.9407 98.2 D 26 M2-8:2FTS
529.00 > 509.00 3.536 3.536 0.0 4550513 49.1 103 24 Perfluorodecanoic acid
513.00 > 469.00 3.552 3.552 0.0 1.000 148780 1.00 99.6 5590 D 23 13C2 PFDA
515.00 > 470.00 3.552 3.552 0.0 8244903 49.5 98.9 228946 28 N-methyl perfluorooctane sulfonami 570.00 > 419.00 3.713 3.713 0.0 1.003 65694 1.03 103
570.00 > 419.00 3.713 3.713 0.0 1.003 65694 1.03 103 D 27 d3-NMeFOSAA 573.00 > 419.00 3.703 3.703 0.0 3279445 38.5 77.0
29 Perfluorodecane Sulfonic acid 599.00 > 80.00
33 N-ethyl perfluorooctane sulfonamid 584.00 > 419.00 3.875 3.875 0.0 1.000 59871 0.9883 98.8
31 Perfluoroundecanoic acid 563.00 > 519.00 3.875 3.875 0.0 1.000 128009 1.02 102 3414
D 30 13C2 PFUnA 565.00 > 520.00 3.883 3.883 0.0 6213249 47.5 95.0 252513
D 32 d5-NEtFOSAA 589.00 > 419.00 3.875 3.875 0.0 3327673 40.9 81.8
35 MeFOSA 512.00 > 169.00 4.027 4.027 0.0 1.000 78207 1.01 101
D 34 d-N-MeFOSA-M 515.00 > 169.00 4.018 4.018 0.0 Page 417 of 577 47.2 94.5 03/27/2017

Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Data File: \\ChromNa\Sacramento\ChromData\A8 N\20170310-40719.b\2017.03.10B 002.d

Data File:	\\Chr	omivass	acrament	.o\Cnrom	Data\A8_N\201	70310-4071	9.b\2017.03.10B_00)2.a		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluor	ododecanoi	c acid								
613.00 > 569		4.164	0.0	1.000	104220	0.99		99.4	767	
D 36 13C2 F	PFDoA									
615.00 > 570	0.00 4.171	4.171	0.0		5731830	46.2		92.5	155388	
D 38 d-N-Et	FOSA-M									
531.00 > 169	9.00 4.206	4.206	0.0		3962524	46.5		93.0		
	perfluoro-1-o		lfonami							
526.00 > 169	9.00 4.206	4.206	0.0	1.000	78509	1.01		101		
	otridecanoic									M
663.00 > 619		4.437	0.0	1.000	96093	0.9597		96.0	2222	M
D 43 13C2-F					10570100	40.0		04 (0004/0	
715.00 > 670		4.663	0.0		10572183	40.8		81.6	389168	
	otetradecan		0.0	1 000	10/110	0.0057		00.7	1070	
712.50 > 668 713.00 > 169		4.673 4.673	0.0 -0.010	1.000 0.998	186110 29432	0.8256	6.32(0.00-0.00)	82.6	1370 10202	
D 44 13C2-F		4.073	-0.010	0.770	27432		0.32(0.00-0.00)		10202	
815.00 > 77(5.087	-0.015		4549080	36.4		72.7	79936	
	ohexadecar				4347000	30.4		12.1	77730	
813.00 > 769		5.072	0.0	1.000	146161	1.00		99.9	128	
	ooctadecan		5.0		110101	1.00		, , , ,	120	
913.00 > 869		5.431	0.0	1.000	68160	0.8286		82.9	101	

OC Flag Legend Processing Flags

NC - Not Calibrated

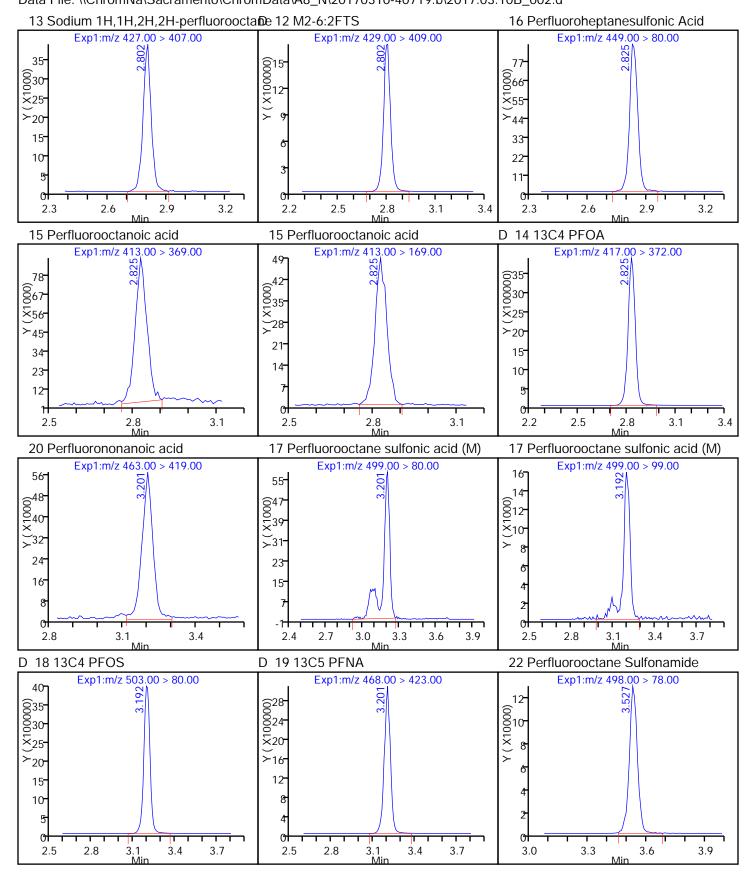
Review Flags

M - Manually Integrated

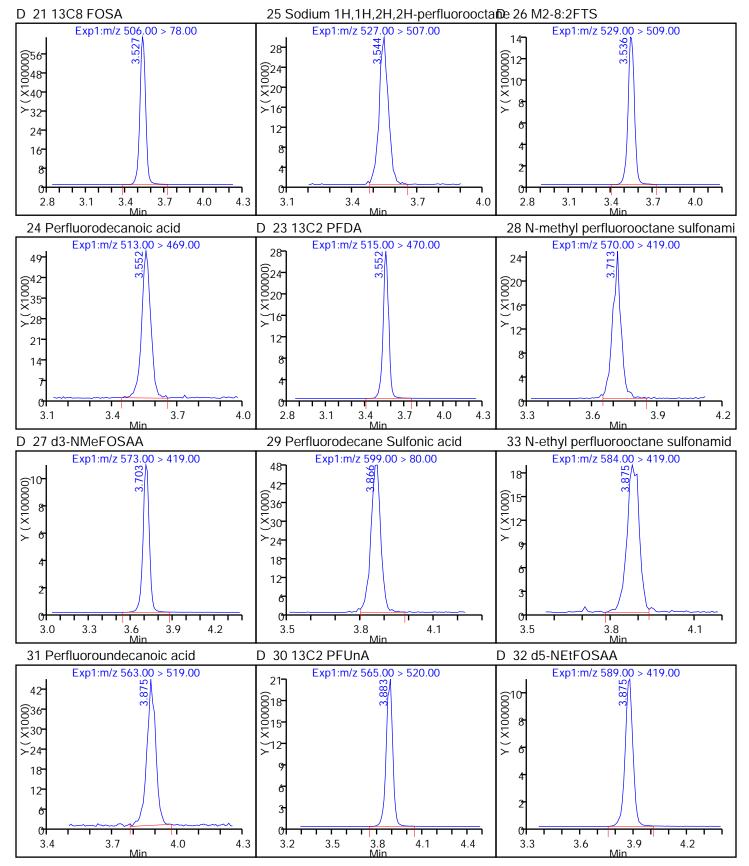
Reagents:

LCPFC_FULL-L2_00001 Amount Added: 1.00 Units: mL

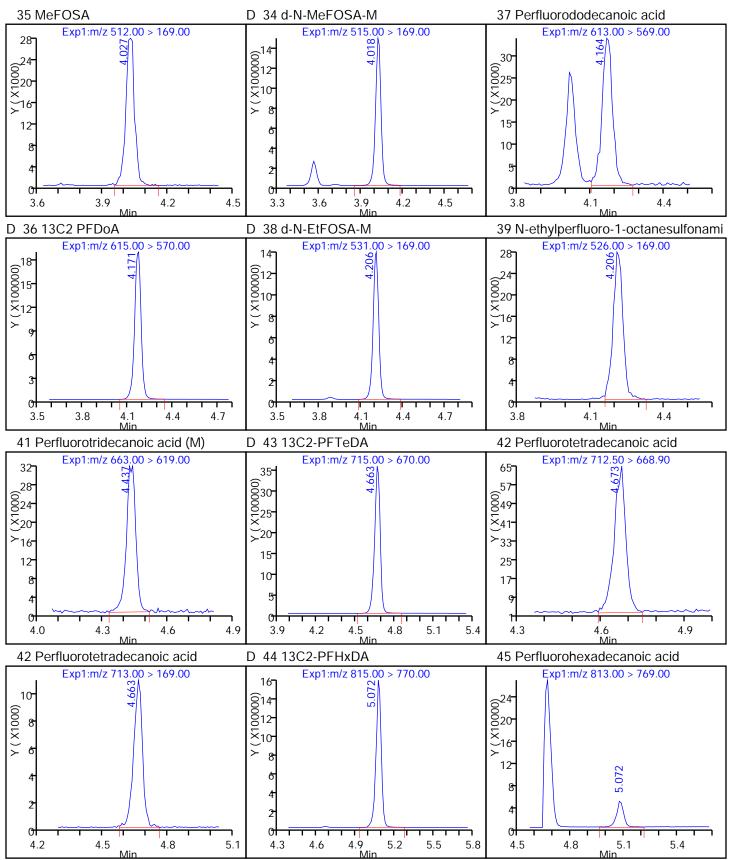
Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d Data File: **Injection Date:** 10-Mar-2017 17:37:24 Instrument ID: A8_N Lims ID: CCV L2 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 2 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ 2 Perfluorobutyric acid (M) D 113C4 PFBA 4 Perfluoropentanoic acid Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 262.90 > 219.00 V (X10000) (49⁻ 00042⁻ ×35⁻ 84 672 ×60 -28 21 36 14 24 1.7 1.7 1.7 1.4 2.0 8.0 1.1 1.4 2.0 1.4 2.0 3 13C5-PFPeA 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid D Exp1:m/z 298.90 > 99.00 Exp1:m/z 267.90 > 223.00Exp1:m/z 298.90 > 80.00 49 18 70 0000 000 35 (00015 X) > 9 660 ×50 ∑₂₈ <u>></u>40 21 30 20 10 1.7 2.0 1.3 1.9 2.2 2.5 2.3 1.9 2.2 1.0 1.6 1.4 1.3 1.6 6 Perfluorohexanoic acid D 7 13C2 PFHxA D 9 13C4-PFHpA Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 Exp1:m/z 367.00 > 322.00 40 88 (00000 36-1 30-©35- 77- 266-**∑**55 \times 25 **≻24** >₄₄-≻₂₀ 18 33 15 12 22 10 2.0 2.3 1.7 2.0 2.3 2.7 2.6 2.1 3.0 1.4 10 Perfluoroheptanoic acid D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid (M) Exp1:m/z 363.00 > 319.00 Exp1:m/z 403.00 > 84.00 Exp1:m/z 399.00 > 80.00 (X10000) (000042 (00001×35 77-666 ×55 >44 -28 33 21 22 14 0 0 2.0 2.3 2.6 2.9 1.9 2.2 Page 4M9 of 577 2.8 3.1 1.8 2.1 2.4 ^{2.7}03/27/20 Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d



Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d



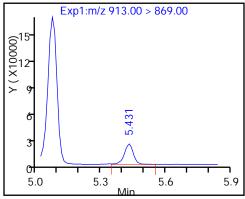
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d



Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d

46 Perfluorooctadecanoic acid



Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d

Injection Date: 10-Mar-2017 17:37:24 Instrument ID: A8_N

Lims ID: CCV L2

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

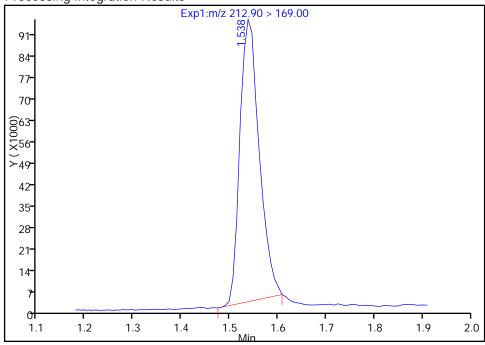
Column: Detector EXP1

2 Perfluorobutyric acid, CAS: 375-22-4

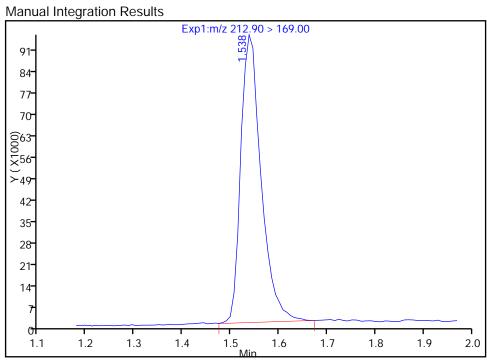
Signal: 1

RT: 1.54
Area: 256959
Amount: 0.940978
Amount Units: ng/ml

Processing Integration Results



RT: 1.54
Area: 276661
Amount: 1.013126
Amount Units: ng/ml



Reviewer: phomsophat, 13-Mar-2017 09:40:14

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 424 of 577

Report Date: 13-Mar-2017 09:41:07 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d

Injection Date: 10-Mar-2017 17:37:24 Instrument ID: A8_N

Lims ID: CCV L2

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

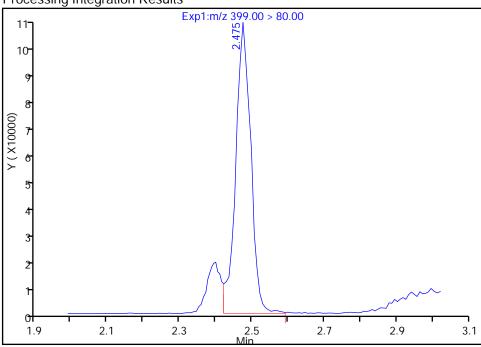
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

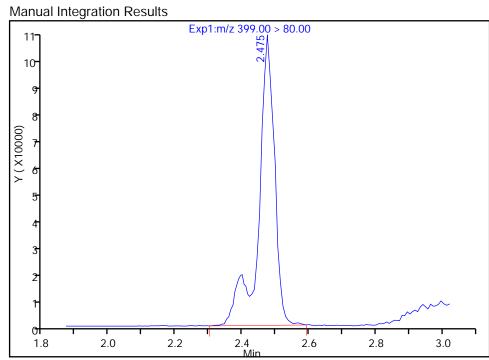
8 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

RT: 2.47 Area: 303419 Amount: 0.896678 Amount Units: ng/ml **Processing Integration Results**



RT: 2.47
Area: 351343
Amount: 1.038305
Amount Units: ng/ml



Reviewer: phomsophat, 13-Mar-2017 09:40:14

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 425 of 577

Report Date: 13-Mar-2017 09:41:08 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d

Injection Date: 10-Mar-2017 17:37:24 Instrument ID: A8_N

Lims ID: CCV L2

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

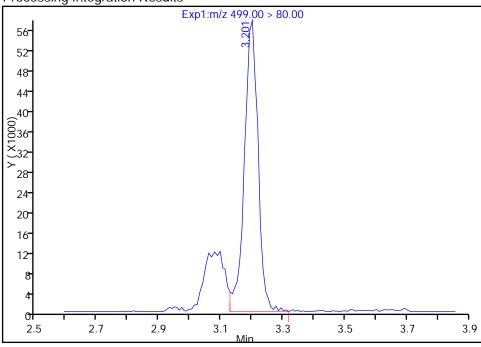
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

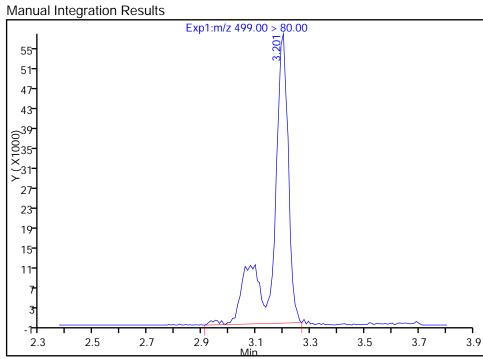
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

RT: 3.20 Area: 176686 Amount: 0.686637 Amount Units: ng/ml **Processing Integration Results**



RT: 3.20
Area: 228229
Amount: 0.886943
Amount Units: ng/ml



Reviewer: phomsophat, 13-Mar-2017 09:40:14

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 426 of 577

Report Date: 13-Mar-2017 09:41:08 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d

Injection Date: 10-Mar-2017 17:37:24 Instrument ID: A8_N

Lims ID: CCV L2

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

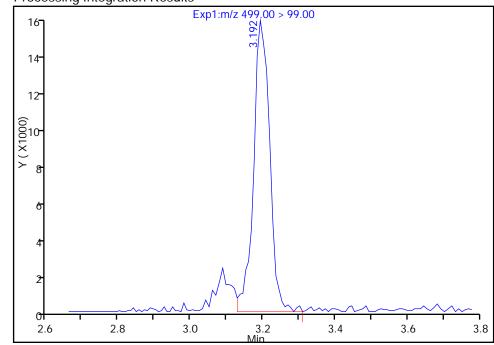
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

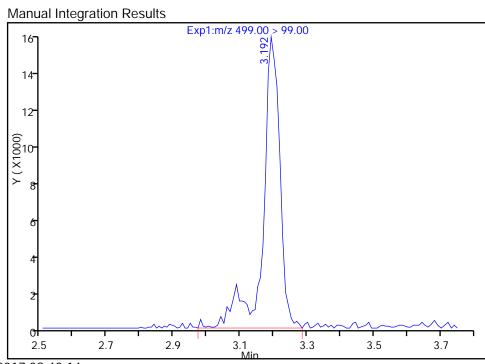
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

RT: 3.19 Area: 48327 Amount: 0.686637 Amount Units: ng/ml **Processing Integration Results**



RT: 3.19
Area: 55113
Amount: 0.886943
Amount Units: ng/ml



Reviewer: phomsophat, 13-Mar-2017 09:40:14

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 427 of 577

Report Date: 13-Mar-2017 09:41:08 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40719.b\2017.03.10B_002.d

Injection Date: 10-Mar-2017 17:37:24 Instrument ID: A8_N

Lims ID: CCV L2

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 2

Injection Vol: 2.0 ul Dil. Factor: 1.0000

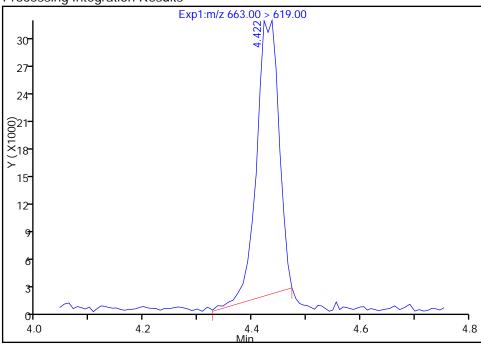
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

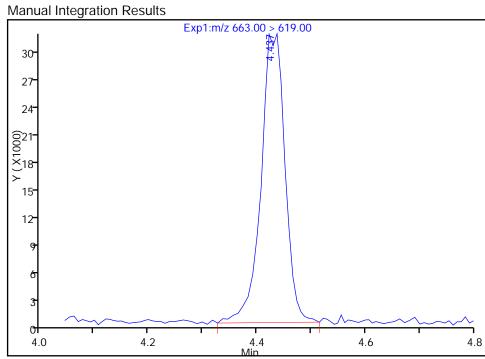
41 Perfluorotridecanoic acid, CAS: 72629-94-8

Signal: 1

RT: 4.42 Area: 84884 Amount: 0.847774 Amount Units: ng/ml **Processing Integration Results**



RT: 4.44
Area: 96093
Amount: 0.959723
Amount Units: ng/ml



Reviewer: phomsophat, 13-Mar-2017 09:40:14

Audit Action: Manually Integrated

Audit Reason: Incomplete Integration

Page 428 of 577

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: CCV 320-154459/19 Calibration Date: 03/10/2017 22:22

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.10B_040.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8983		53.0	50.0	6.0	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	1.010		51.6	50.0	3.2	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.472		45.4	44.2	2.7	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.9178		51.6	50.0	3.2	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9760		50.5	50.0	0.9	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	1.074		47.5	45.5	4.4	25.0
6:2FTS	L2ID		0.9031		48.2	47.4	1.7	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	1.011		49.5	50.0	-1.0	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.121		51.7	47.6	8.7	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9596		53.1	50.0	6.2	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	1.102		52.0	46.4	12.1	25.0
8:2FTS	L2ID		0.9365		48.5	47.9	1.2	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9316		51.8	50.0	3.7	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.9284		51.3	50.0	2.5	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9403		48.4	50.0	-3.2	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.6335		51.3	48.2	6.3	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8739		48.0	50.0	-4.0	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.9232		45.5	50.0	-8.9	25.0
MeFOSA	AveID	0.9355	0.9221		49.3	50.0	-1.4	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.9005		49.2	50.0	-1.5	25.0
N-EtFOSA-M	AveID	0.9837	0.9439		48.0	50.0	-4.0	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.9638		55.2	50.0	10.3	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.753		44.6	50.0	-10.9	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.9937		53.2	50.0	6.4	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.7244		50.5	50.0	1.0	25.0
13C4 PFBA	Ave	292242	348232		59.6	50.0	19.2	50.0
13C5-PFPeA	Ave	232192	267197		57.5	50.0	15.1	50.0
13C2 PFHxA	Ave	210884	264386		62.7	50.0	25.4	50.0
13C4-PFHpA	Ave	192959	234738		60.8	50.0	21.7	50.0
1802 PFHxS	Ave	290899	350049		56.9	47.3	20.3	50.0
M2-6:2FTS	Ave	77178	112453		69.2	47.5	45.7	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154459/19</u> Calibration Date: <u>03/10/2017 22:22</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.10B_040.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	239135		58.3	50.0	16.7	50.0
13C4 PFOS	Ave	241637	283738		56.1	47.8	17.4	50.0
13C5 PFNA	Ave	177866	196310		55.2	50.0	10.4	50.0
13C8 FOSA	Ave	366918	409204		55.8	50.0	11.5	50.0
M2-8:2FTS	Ave	92602	99959		51.7	47.9	7.9	50.0
13C2 PFDA	Ave	166704	177495		53.2	50.0	6.5	50.0
d3-NMeFOSAA	Ave	85186	84423		49.6	50.0	-0.9	50.0
d5-NEtFOSAA	Ave	81371	78075		48.0	50.0	-4.1	50.0
13C2 PFUnA	Ave	130805	140376		53.7	50.0	7.3	50.0
d-N-MeFOSA-M	Ave	87983	96655		54.9	50.0	9.9	50.0
13C2 PFDoA	Ave	123944	134262		54.2	50.0	8.3	50.0
d-N-EtFOSA-M	Ave	85249	89222		52.3	50.0	4.7	50.0
13C2-PFTeDA	Ave	259165	273556		52.8	50.0	5.6	50.0
13C2-PFHxDA	Ave	125061	151434		60.5	50.0	21.1	50.0

Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00

> TestAmerica Sacramento **Target Compound Quantitation Report**

\\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d Data File:

Lims ID: CCV L5

Client ID:

Sample Type: CCV

Inject. Date: 10-Mar-2017 22:22:30 ALS Bottle#: 32 Worklist Smp#: 19

Injection Vol: Dil. Factor: 1.0000 2.0 ul

Sample Info: CCV L5

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 13-Mar-2017 12:29:55 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK007

First Level Reviewer: westendorfc Date: 13-Mar-2017 12:29:55

Signal
217.00 > 172.00 1.539 1.539 0.0 17411578 59.6 119 765732 2 Perfluorobutyric acid 212.90 > 169.00 1.546 1.546 0.0 1.000 15640249 53.0 106 101535 D 3 13C5-PFPeA 267.90 > 223.00 1.822 1.822 0.0 13359829 57.5 115 767265 4 Perfluoropentanoic acid 262.90 > 219.00 1.822 1.822 0.0 1.000 13496186 51.6 103 145634 D 47 13C3-PFBS 301.90 > 83.00 1.852 1.852 0.0 353195 NC 5 Perfluorobutanesulfonic acid 298.90 > 80.00 1.861 1.861 0.0 1.000 22770330 45.4 2.31(0.00-0.00) D 7 13C2 PFHxA 315.00 > 270.00 2.111 2.111 0.0 13219316 62.7 125 445768 6 Perfluorobexanoic acid 313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
2 Perfluorobutyric acid 212.90 > 169.00
212.90 > 169.00 1.546 1.546 0.0 1.000 15640249 53.0 106 101535 D 3 13C5-PFPeA 267.90 > 223.00 1.822 1.822 0.0 13359829 57.5 115 767265 4 Perfluoropentanoic acid 262.90 > 219.00 1.822 1.822 0.0 1.000 13496186 51.6 103 145634 D 47 13C3-PFBS 301.90 > 83.00 1.852 1.852 0.0 353195 NC 5 Perfluorobutanesulfonic acid 298.90 > 80.00 1.861 1.861 0.0 1.000 22770330 45.4 298.90 > 99.00 1.852 1.861 -0.009 0.995 9846252 2.31(0.00-0.00) D 7 13C2 PFHxA 315.00 > 270.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
D 3 13C5-PFPeA 267.90 > 223.00 1.822 1.822 0.0 13359829 57.5 115 767265 4 Perfluoropentanoic acid 262.90 > 219.00 1.822 1.822 0.0 1.000 13496186 51.6 103 145634 D 47 13C3-PFBS 301.90 > 83.00 1.852 1.852 0.0 353195 NC 5 Perfluorobutanesulfonic acid 298.90 > 80.00 1.861 1.861 0.0 1.000 22770330 45.4 103 298.90 > 99.00 1.852 1.861 -0.009 0.995 9846252 2.31(0.00-0.00) D 7 13C2 PFHxA 315.00 > 270.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
267.90 > 223.00 1.822 1.822 0.0 13359829 57.5 115 767265 4 Perfluoropentanoic acid 262.90 > 219.00 1.822 1.822 0.0 1.000 13496186 51.6 103 145634 D 47 13C3-PFBS 301.90 > 83.00 1.852 1.852 0.0 353195 NC 5 Perfluorobutanesulfonic acid 298.90 > 80.00 1.861 1.861 0.0 1.000 22770330 45.4 2.31(0.00-0.00) D 7 13C2 PFHxA 315.00 > 270.00 2.111 2.111 0.0 1.000 13219316 62.7 125 445768 6 Perfluorohexanoic acid 313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
4 Perfluoropentanoic acid 262.90 > 219.00 1.822 1.822 0.0 1.000 13496186 51.6 103 145634 D 47 13C3-PFBS 301.90 > 83.00 1.852 1.852 0.0 353195 NC 5 Perfluorobutanesulfonic acid 298.90 > 80.00 1.861 1.861 0.0 1.000 22770330 45.4 2.31(0.00-0.00) D 7 13C2 PFHxA 315.00 > 270.00 2.111 2.111 0.0 1.3219316 62.7 125 445768 6 Perfluorobexanoic acid 313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
262.90 > 219.00
301.90 > 83.00
5 Perfluorobutanesulfonic acid 298.90 > 80.00
298.90 > 80.00
298.90 > 99.00
D 713C2 PFHxA 315.00 > 270.00 2.111 2.111 0.0 13219316 62.7 125 445768 6 Perfluorohexanoic acid 313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
315.00 > 270.00 2.111 2.111 0.0 13219316 62.7 125 445768 6 Perfluorohexanoic acid 313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
6 Perfluorohexanoic acid 313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
313.00 > 269.00 2.111 2.111 0.0 1.000 12132105 51.6 103 207636
10 Perfluerabentancia acid
10 Perfluoroheptanoic acid
363.00 > 319.00 2.449 2.449 0.0 1.000 11454944 50.5 101 139427
D 913C4-PFHpA
367.00 > 322.00 2.457 2.457 0.0 11736877 60.8 122 452217
D 11 1802 PFHxS
403.00 > 84.00
8 Perfluorohexanesulfonic acid M 399.00 > 80.00 2.472 2.472 0.0 1.000 17104614 47.5 104 M
13 Sodium 1H,1H,2H,2H-perfluorooctane
427.00 > 407.00 2.783 2.783 0.0 1.000 4813936 48.2 102
Page 431 of 577 03/27/2017

Page 431 of 5/1

Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File:				o\Chrom[1.b\2017.03.10B_04			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 12 M2-6:2FTS 429.00 > 409.00		2.791	0.0		5341509	69.2		146		
15 Perfluorooci 413.00 > 369.00 413.00 > 169.00	2.814	2.814 2.814		1.000 1.000	12088751 7097148	49.5	1.70(0.90-1.10)	99.0	122974 159113	
D 14 13C4 PFO 417.00 > 372.00		2.814	0.0		11956733	58.3		117	390622	
16 Perfluorohe 449.00 > 80.00	•	fonic Ac 2.822		1.000	15137445	51.7		109		
D 18 13C4 PFO 503.00 > 80.00		3.188	0.0		13562688	56.1		117	244942	
20 Perfluorono 463.00 > 419.00			0.0	1.000	9418695	53.1		106	152305	
17 Perfluorooc										M
499.00 > 80.00 499.00 > 99.00	3.197	3.197		1.000 0.997	14512518 3214272	52.0	4.52(0.90-1.10)	112	221096 74177	М
D 19 13C5 PFN. 468.00 > 423.00	3.197	3.197	0.0		9815495	55.2		110	323452	
D 21 13C8 FOS 506.00 > 78.00		3.533	0.0		20460190	55.8		112	339243	
22 Perfluorooci 498.00 > 78.00		onamido 3.533		1.000	19060731	51.8		104	446920	
25 Sodium 1H, 527.00 > 507.00		H-perflu 3.533		e 0.998	4483816	48.5		101		
D 26 M2-8:2FTS 529.00 > 509.00		3.542	0.0		4788041	51.7		108		
24 Perfluorode	canoic a	cid								
513.00 > 469.00 D 23 13C2 PFD	3.550		0.0	1.000	8238850	51.3		103	289036	
515.00 > 470.00	3.558	3.558	0.0		8874749	53.2		106	223630	
D 27 d3-NMeFC 573.00 > 419.00	3.699	3.699			4221161	49.6		99.1		
28 N-methyl pe 570.00 > 419.00		ctane su 3.710		1.003	3969121	48.4		96.8		
29 Perfluorode 599.00 > 80.00		fonic ac 3.856		1.000	8663770	51.3		106		
D 32 d5-NEtFOS 589.00 > 419.00		3.865	0.0		3903733	48.0		95.9		
D 30 13C2 PFU 565.00 > 520.00		3.873	0.0		7018797	53.7		107	367998	
31 Perfluoroun 563.00 > 519.00	decanoio			1.000	6479705	45.5		91.1	107826	
33 N-ethyl perf	luoroocta	ane sulfo	onamid						107020	
584.00 > 419.00 D 34 d-N-MeFO		3.873	0.0	1.002	3411483	48.0		96.0		
515.00 > 169.00 35 MeFOSA	4.026	4.026	0.0		4832725	54.9		110		
512.00 > 169.00	4.026	4.026	0.0	1.000	Page 432 of 577	49.3		98.6	03/27	7/2017

Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Data File:

Data File.	NOTIFE	Jiliya\3	acramen	UCHION	Data Ao_N 201	10310-4012	1.0/2017.03.100_0	+U.U		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFD	ρA									
615.00 > 570.00	4.165	4.165	0.0		6713098	54.2		108	162003	
37 Perfluorodo		c acid								
613.00 > 569.00	4.165	4.165	0.0	1.000	6045307	49.2		98.5	59817	
D 38 d-N-EtFOS										
531.00 > 169.00		4.209			4461078	52.3		105		
39 N-ethylperflu				1 000	1010//7	40.0		04.0		
526.00 > 169.00			0.0	1.000	4210667	48.0		96.0		
41 Perfluorotrio			0.0	1 000	4.440707	EE O		110	117000	
663.00 > 619.00		4.428	0.0	1.000	6469787	55.2		110	117902	
D 43 13C2-PFT6 715.00 > 670.00		4.668	0.0		13677786	52.8		106	307048	
42 Perfluoroteti			0.0		13077700	32.0		100	307040	
712.50 > 668.90		4.668	0.0	1.000	11766268	44.6		89.1	104976	
713.00 > 169.00			-0.010	0.998	1713899	11.0	6.87(0.00-0.00)	07.1	181585	
D 44 13C2-PFH	xDA						,			
815.00 > 770.00	5.077	5.077	0.0		7571700	60.5		121	109517	
45 Perfluorohe	xadecan	oic acid								
813.00 > 769.00	5.077	5.077	0.0	1.000	6670453	53.2		106	5718	
46 Perfluorooct	tadecand	oic acid								
913.00 > 869.00	5.428	5.428	0.0	1.000	4862725	50.5		101	5266	

OC Flag Legend Processing Flags

NC - Not Calibrated

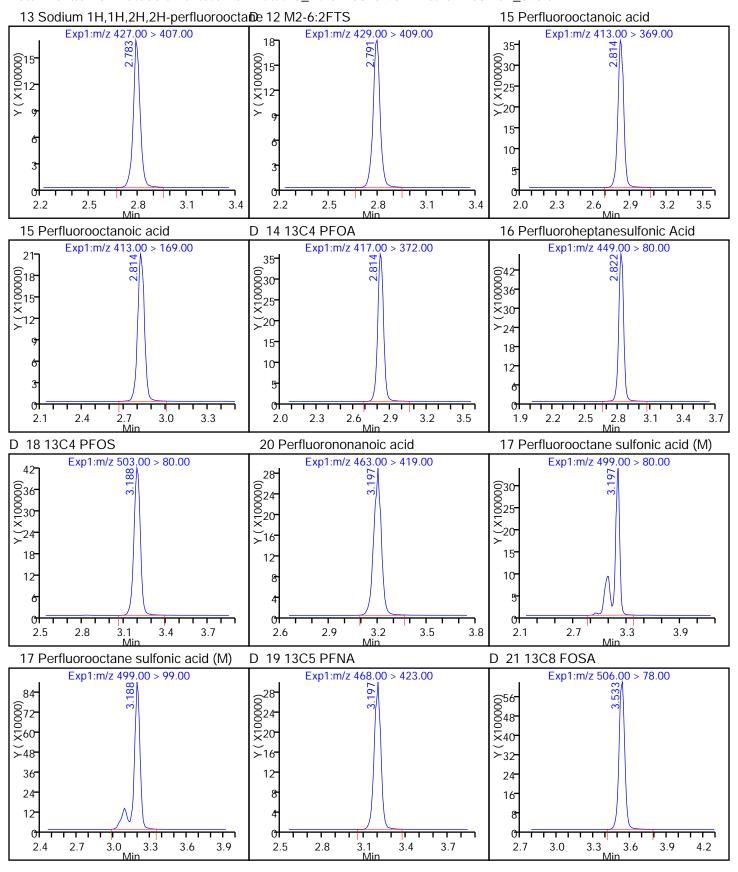
Review Flags

M - Manually Integrated

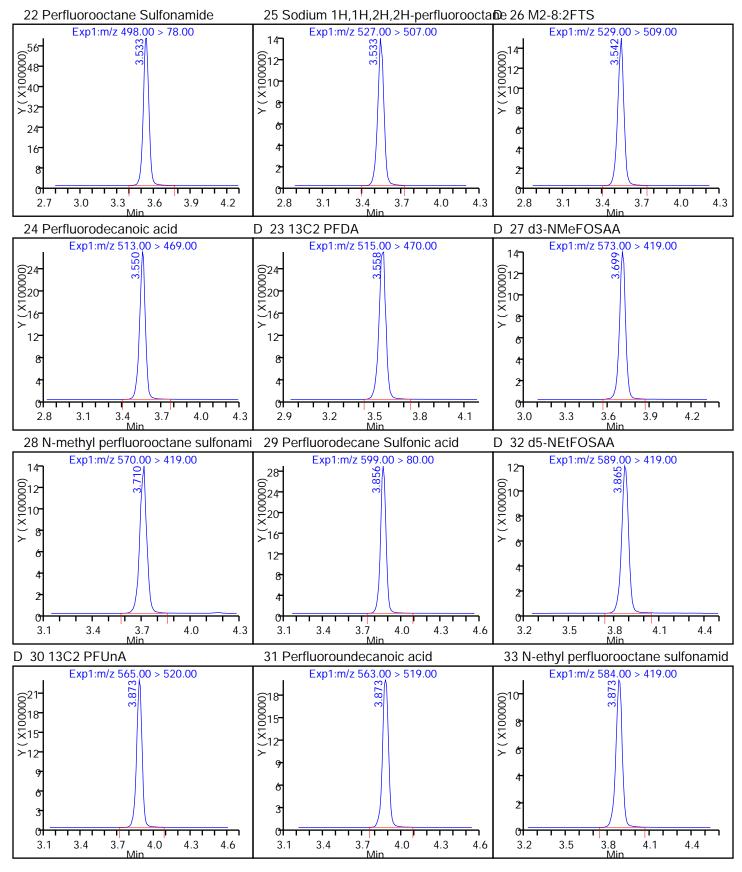
Reagents:

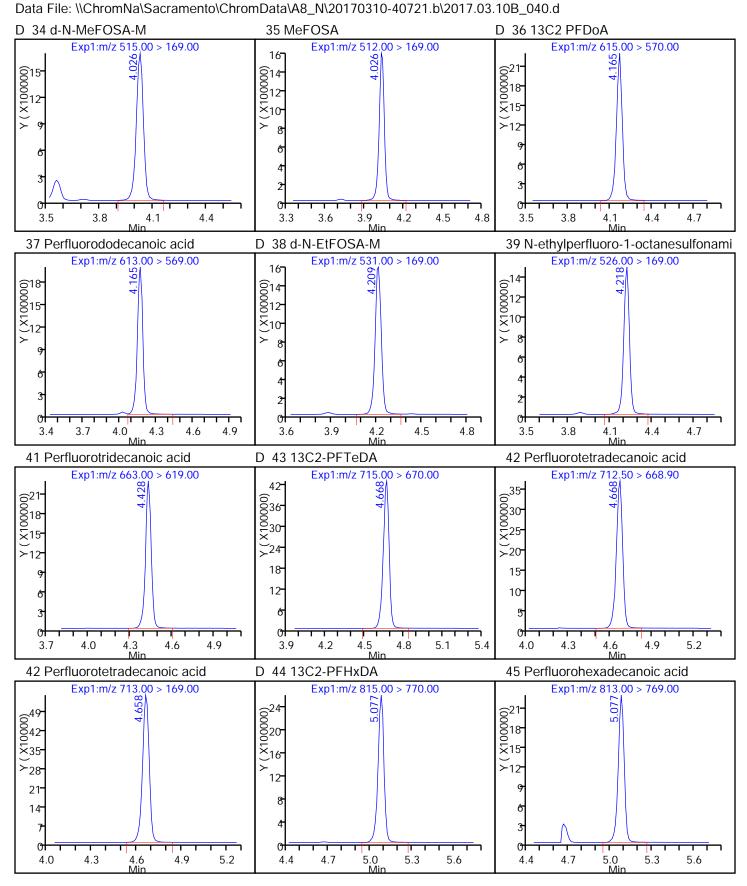
LCPFC_FULL-L5_00001 Units: mL Amount Added: 1.00

Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d Data File: **Injection Date:** 10-Mar-2017 22:22:30 Instrument ID: A8_N Lims ID: CCV L5 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 19 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 313C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 48 0049 00042 042 0036 836 ∑35 \approx 30 \times 30-≻28 ≻₂₄-21 18 18 12 12 1.9 1.7 1.0 1.3 1.6 2.2 1.1 1.4 2.0 1.4 1.7 2.0 2.3 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 35- 35-30-35-35-670 6060 042 000 035 ∑₂₈ ∑50 **≻**40 21 15 30 10 20 10 2.2 2.5 1.5 1.8 2.1 2.4 1.9 1.0 1.3 1.6 1.9 1.2 1.3 1.6 2.2 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 10 Perfluoroheptanoic acid Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 363.00 > 319.00 42 (35⁻ (00030⁻ (25⁻ (00036⁻) 30⁻ <u>8</u>36 <u>8</u>30-\. \. 24 <u></u>20⁻ 18 15 18 12 12 10 2.0 2.0 2.3 1.9 2.2 2.5 1.7 2.3 2.6 1.7 2.6 2.8 1.4 D 9 13C4-PFHpA D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid (M) Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 Exp1:m/z 399.00 > 80.00 (00000 30⁻ 25⁻ (42⁻ (0036⁻ (30⁻ 049 0042 ×35 _20 ≻28- 15 18 21 10 12 0 0 02.0 2.3 2.6 2.9 3.2 2.0 2.3 2.6 Page 48%hof 57 2.9 1.9 2.2 2.5 1.7 1.7 1.6



Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d

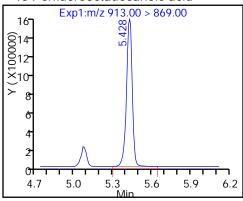




Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d

46 Perfluorooctadecanoic acid



Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d

Injection Date: 10-Mar-2017 22:22:30 Instrument ID: A8_N

Lims ID: CCV L5

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 19

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

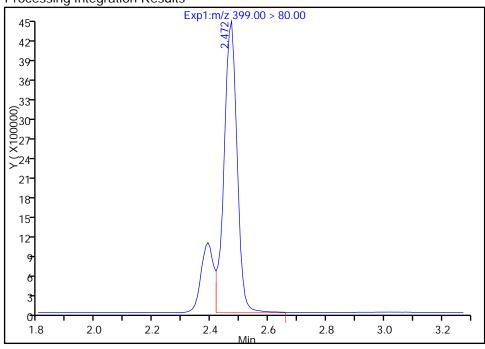
Column: Detector EXP1

8 Perfluorohexanesulfonic acid, CAS: 355-46-4

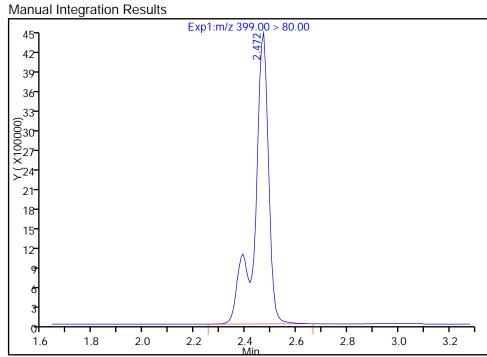
Signal: 1

RT: 2.47 Area: 13940391 Amount: 38.722680 Amount Units: ng/ml





RT: 2.47 Area: 17104614 Amount: 47.512045 Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:33:48

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 439 of 577

Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d

Injection Date: 10-Mar-2017 22:22:30 Instrument ID: A8_N

Lims ID: CCV L5

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 19

Injection Vol: 2.0 ul Dil. Factor: 1.0000

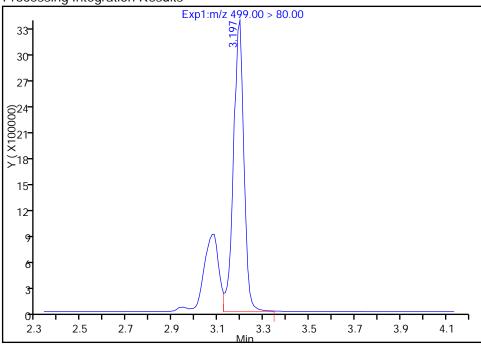
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

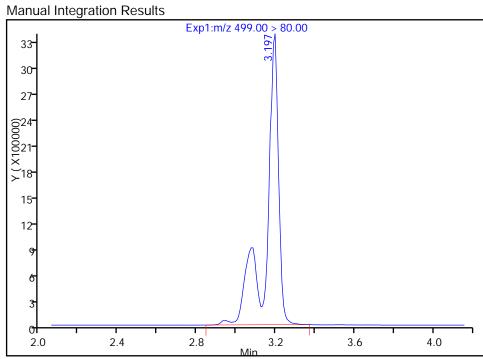
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

RT: 3.20 Area: 10564713 Amount: 37.859361 Amount Units: ng/ml **Processing Integration Results**



RT: 3.20 Area: 14512518 Amount: 52.006587 Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:33:48

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 440 of 577

Report Date: 13-Mar-2017 12:29:57 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_040.d

Injection Date: 10-Mar-2017 22:22:30 Instrument ID: A8_N

Lims ID: CCV L5

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 19

Injection Vol: 2.0 ul Dil. Factor: 1.0000

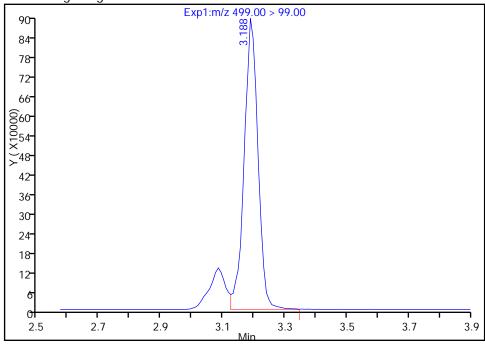
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

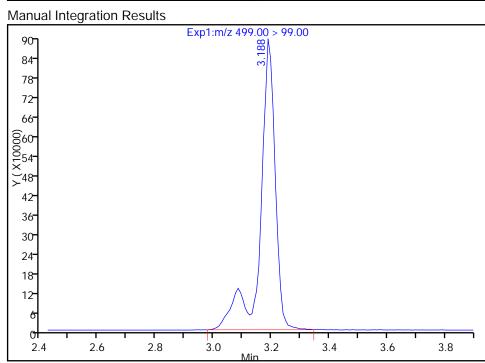
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

RT: 3.19 Area: 2767992 Amount: 37.859361 Amount Units: ng/ml **Processing Integration Results**



RT: 3.19
Area: 3214272
Amount: 52.006587
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:33:48

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 441 of 577 03/27/2017

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: CCV 320-154459/30 Calibration Date: 03/10/2017 23:45

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.10B_051.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8553		20.2	20.0	0.9	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	0.9588		19.6	20.0	-2.0	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.459		18.0	17.7	1.8	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.8826		19.8	20.0	-0.8	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9203		19.0	20.0	-4.9	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	0.9564		16.9	18.2	-7.0	25.0
6:2FTS	L2ID		0.9254		19.7	19.0	3.7	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.047		19.3	19.0	1.5	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	0.9894		19.4	20.0	-3.2	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.8971		19.8	20.0	-0.8	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	0.9634		18.2	18.6	-2.0	25.0
8:2FTS	L2ID		0.995		20.6	19.2	7.3	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.8818		19.6	20.0	-1.9	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.8808		19.5	20.0	-2.7	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9563		19.7	20.0	-1.5	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.5741		18.6	19.3	-3.6	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8927		19.6	20.0	-1.9	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.9037		17.8	20.0	-10.8	25.0
MeFOSA	AveID	0.9355	0.9154		19.6	20.0	-2.2	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.8574		18.8	20.0	-6.2	25.0
N-EtFOSA-M	AveID	0.9837	0.9682		19.7	20.0	-1.6	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.8579		19.6	20.0	-1.8	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.648		16.8	20.0	-16.2	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.7748		16.3	20.0	-18.3	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.6003		16.7	20.0	-16.3	25.0
13C4 PFBA	Ave	292242	327531		56.0	50.0	12.1	50.0
13C5-PFPeA	Ave	232192	260905		56.2	50.0	12.4	50.0
13C2 PFHxA	Ave	210884	242739		57.6	50.0	15.1	50.0
13C4-PFHpA	Ave	192959	229229		59.4	50.0	18.8	50.0
1802 PFHxS	Ave	290899	340395		55.3	47.3	17.0	50.0
M2-6:2FTS	Ave	77178	100756		62.0	47.5	30.6	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154459/30</u> Calibration Date: <u>03/10/2017 23:45</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.10B_051.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	229741		56.0	50.0	12.1	50.0
13C4 PFOS	Ave	241637	268326		53.1	47.8	11.0	50.0
13C5 PFNA	Ave	177866	193601		54.4	50.0	8.8	50.0
13C8 FOSA	Ave	366918	386340		52.6	50.0	5.3	50.0
M2-8:2FTS	Ave	92602	102511		53.0	47.9	10.7	50.0
13C2 PFDA	Ave	166704	172111		51.6	50.0	3.2	50.0
d3-NMeFOSAA	Ave	85186	80696		47.4	50.0	-5.3	50.0
d5-NEtFOSAA	Ave	81371	80694		49.6	50.0	-0.8	50.0
13C2 PFUnA	Ave	130805	136799		52.3	50.0	4.6	50.0
d-N-MeFOSA-M	Ave	87983	86800		49.3	50.0	-1.3	50.0
13C2 PFDoA	Ave	123944	126008		50.8	50.0	1.7	50.0
d-N-EtFOSA-M	Ave	85249	79997		46.9	50.0	-6.2	50.0
13C2-PFTeDA	Ave	259165	248838		48.0	50.0	-4.0	50.0
13C2-PFHxDA	Ave	125061	115977		46.4	50.0	-7.3	50.0

Report Date: 13-Mar-2017 11:32:38 Chrom Revision: 2.2 05-Mar-2017 11:38:00

> TestAmerica Sacramento **Target Compound Quantitation Report**

\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d Data File:

Lims ID: CCV L4

Client ID:

Sample Type: CCV

Inject. Date: 10-Mar-2017 23:45:03 ALS Bottle#: 31 Worklist Smp#: 30

Injection Vol: Dil. Factor: 1.0000 2.0 ul

Sample Info: CCV L4

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 13-Mar-2017 11:32:37 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK033

First Level Reviewer: changnoit Date: 13-Mar-2017 11:32:37

	First Level Revie	wei. cha	rigitoti			Date.		13-1VId1-2017 11.32.3			
	Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
	D 113C4 PFBA										
	217.00 > 172.00	1.539	1.539	0.0		16376543	56.0		112	104315	4
	2 Perfluorobuty	,									
	212.90 > 169.00	1.539	1.539	0.0	1.000	5602569	20.2		101	41611	
	D 3 13C5-PFPe										
	267.90 > 223.00	1.812	1.812	0.0		13045257	56.2		112	798367	
	4 Perfluoropen	itanoic a	cid								
	262.90 > 219.00	1.812	1.812	0.0	1.000	5002896	19.6		98.0	72674	
ı	D 47 13C3-PFB	S									
	301.90 > 83.00	1.852	1.852	0.0		332066	NC				
	5 Perfluorobuta	anesulfo	nic acid								
	298.90 > 80.00	1.852	1.852	0.0	1.000	8778573	18.0		102		
	298.90 > 99.00	1.852	1.852	0.0	1.000	3498191		2.51(0.00-0.00)			
ı	D 7 13C2 PFHx	Α									
	315.00 > 270.00	2.105	2.105	0.0		12136959	57.6		115	385440	
	6 Perfluorohex	anoic ac	id								
	313.00 > 269.00	2.105	2.105	0.0	1.000	4284891	19.8		99.2	89364	
	10 Perfluorohe	ptanoic a	acid								
	363.00 > 319.00	2.443	2.443	0.0	1.000	4218992	19.0		95.1	44865	
I	D 913C4-PFHp	Α									
	367.00 > 322.00	2.443	2.443	0.0		11461461	59.4		119	283134	
١	D 11 18O2 PFH	xS									
	403.00 > 84.00	2.459	2.459	0.0		16100702	55.3		117	456460	
	8 Perfluorohex	anesulfo	nic acid								М
	399.00 > 80.00	2.459	2.459	0.0	1.000	5925062	16.9		93.0		М
	13 Sodium 1H,	1H,2H.2l	H-perflu	orooctan	e						
	427.00 > 407.00		•		1.000	1767842	19.7		104		
						Page 444 of	577			03/27	//2017

Page 444 of 5/1

Report Date: 13-Mar-2017 11:32:38 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Report Date: 13- Data File:				o\ChromI	Chrom Revision: 2.2 05-Mar-2017 11:38:00 \\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d					
Data File.	\\CIIIC	EXP	DLT	REL		Amount	1.6/2017.03.106_03	1.u		
Signal	RT	RT	RT	RT	Response	ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 12 M2-6:2FTS										
429.00 > 409.00	2.779	2.779	0.0		4785923	62.0		131		
15 Perfluorooc										
413.00 > 369.00		2.809	0.0	1.000	4546254	19.4	1 70/0 00 1 10)	96.8	32115	
413.00 > 169.00		2.809	0.0	1.000	2541180		1.79(0.90-1.10)		82273	
D 14 13C4 PFO 417.00 > 372.00		2.801	0.0		11487032	56.0		112	317923	
			0.0		1148/032	56.0		112	31/923	
16 Perfluorohe 449.00 > 80.00	•	2.809		1.000	5348582	19.3		102		
D 18 13C4 PFO		2.007	0.0	1.000	3340302	17.5		102		
503.00 > 80.00		3.167	0.0		12826003	53.1		111	225403	
20 Perfluorono			0.0		12020000	00.1			220 100	
463.00 > 419.00		3.175	0.0	1.000	3473609	19.8		99.2	61794	
17 Perfluorooc										М
499.00 > 80.00		3.175	0.0	1.000	4797996	18.2		98.0	115748	
499.00 > 99.00	3.175	3.175	0.0	1.000	1055752		4.54(0.90-1.10)		37983	M
D 19 13C5 PFN	Α									
468.00 > 423.00	3.175	3.175	0.0		9680049	54.4		109	373159	
D 21 13C8 FOS	Α									
506.00 > 78.00	3.516	3.516	0.0		19316999	52.6		105	393957	
22 Perfluorooc	tane Sulf	onamide	Э							
498.00 > 78.00	3.516	3.516	0.0	1.000	6813734	19.6		98.1	172557	
25 Sodium 1H,		•								
527.00 > 507.00	3.516	3.516	0.0	1.000	1954517	20.6		107		
D 26 M2-8:2FTS										
529.00 > 509.00		3.516	0.0		4910267	53.0		111		
24 Perfluorode										
513.00 > 469.00		3.533	0.0	1.000	3032007	19.5		97.3	109502	
D 23 13C2 PFD		0.500			0.4055.45	/		100	044445	
515.00 > 470.00		3.533	0.0		8605545	51.6		103	211615	
D 27 d3-NMeFC		2 (00	0.0		4004704	47.4		047		
573.00 > 419.00		3.689			4034791	47.4		94.7		
28 N-methyl pe				1 000	15 42 407	10.7		00.5		
570.00 > 419.00				1.000	1543407	19.7		98.5		
29 Perfluorode 599.00 > 80.00				1 000	2040904	18.6		96.4		
		3.844	0.0	1.000	2969804	18.0		90.4		
D 32 d5-NEtFOS 589.00 > 419.00		3.853	0.0		4034720	49.6		99.2		
		3.003	0.0		4034720	49.0		99.2		
D 30 13C2 PFU 565.00 > 520.00		3.862	0.0		6839948	52.3		105	219742	
			0.0		0037740	32.3		103	217742	
31 Perfluoroun 563.00 > 519.00		3.862	0.0	1.000	2472447	17.8		89.2	52678	
				1.000	2472447	17.0		07.2	32070	
33 N-ethyl perf 584.00 > 419.00		3.862		1.002	1440686	19.6		98.1		
D 34 d-N-MeFO		0.002	0.0	1.002	1110000	17.0		,0,1		
515.00 > 169.00		4.013	0.0		4339978	49.3		98.7		
35 MeFOSA			0.0		.557776	. 7.0		,0.1		
512.00 > 169.00	4.013	4.013	0.0	1.000	1589081 Page 445 of 57	- 19.6		97.8	00/0-	7/004 7
1.1.20					Page 445 of 57	1			03/27	7/2017

Report Date: 13-Mar-2017 11:32:38 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Data File:

Data File. NCHIOHIValSacramentoiChioHiData/Ao_N/20170510-40721.b/2017.03.10b_031.d										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFDoA										
615.00 > 570.00	4.145	4.145	0.0		6300402	50.8		102	176421	
37 Perfluorodo		acid								
613.00 > 569.00	4.145	4.145	0.0	1.000	2160668	18.8		93.8	22534	
D 38 d-N-EtFOS										
531.00 > 169.00	4.195	4.195	0.0		3999857	46.9		93.8		
39 N-ethylperflu										
526.00 > 169.00	4.202	4.202	0.0	1.000	1549094	19.7		98.4		
41 Perfluorotrid										
663.00 > 619.00		4.418	0.0	1.000	2162023	19.6		98.2	74283	
D 43 13C2-PFT6		4 / 5 7	0.0		10441017	40.0		04.0	440700	
715.00 > 670.00		4.657	0.0		12441917	48.0		96.0	410608	
42 Perfluoroteti 712.50 > 668.90			0.0	1 000	4152701	16.8		02.0	E 4 4 O 4	
712.50 > 668.90		4.657 4.657	0.0 -0.010	1.000 0.998	4153701 591652	10.8	7.02(0.00-0.00)	83.8	54424 94578	
D 44 13C2-PFH		4.007	0.010	0.770	371032		7.02(0.00 0.00)		74370	
815.00 > 770.00		5.068	0.0		5798873	46.4		92.7	110005	
45 Perfluorohex			0.0		0770070	10.1		72.7	110000	
813.00 > 769.00			0.0	1.000	1952700	16.3		81.7	2033	
46 Perfluorooct								.		
913.00 > 869.00		5.421	0.0	1.000	1512729	16.7		83.7	2595	

OC Flag Legend Processing Flags

NC - Not Calibrated

Review Flags

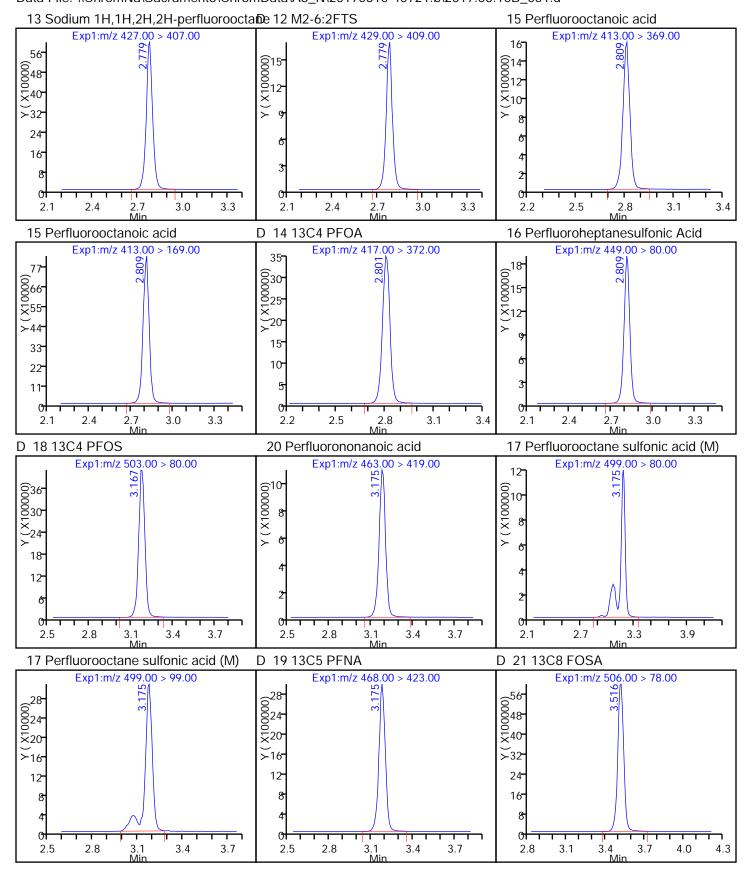
M - Manually Integrated

Reagents:

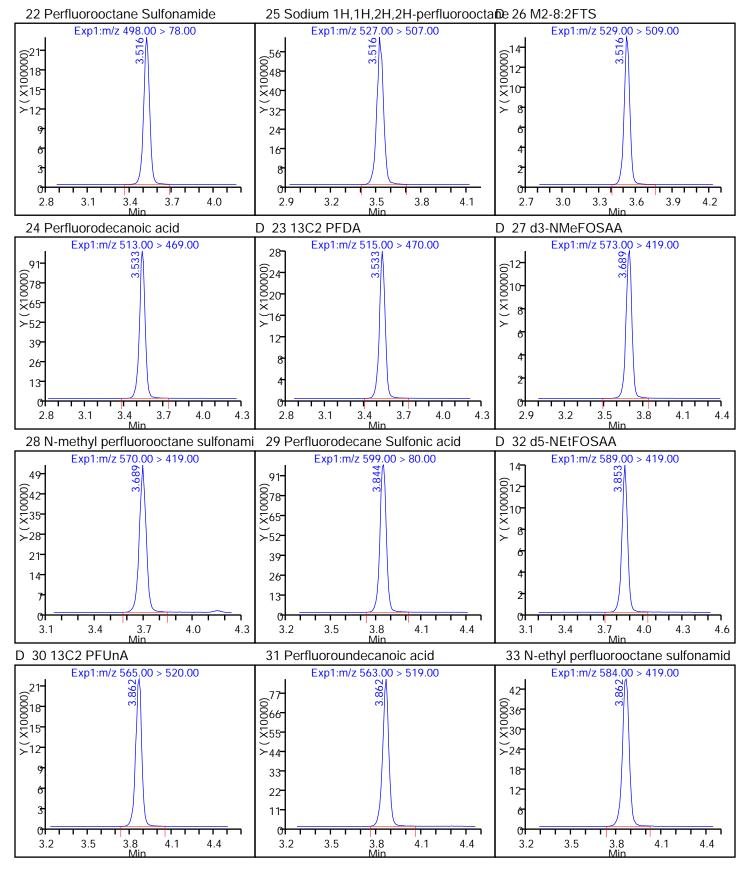
LCPFC_FULL-L4_00001 Units: mL Amount Added: 1.00

Report Date: 13-Mar-2017 11:32:39 Chrom Revision: 2.2 05-Mar-2017 11:38:00 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d Data File: **Injection Date:** 10-Mar-2017 23:45:03 Instrument ID: A8_N Lims ID: CCV L4 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 30 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 642 636 \simeq_{30} ≻28 21 18 1.2 1.5 1.8 1.4 1.7 1.5 1.8 2.1 1.1 2.0 2.1 2.4 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 14 (X100000) (X1200000) 030-025-(00012 X) 8 15 10 2.4 1.7 2.0 2.3 1.5 2.1 1.6 1.9 2.2 1.4 1.2 1.8 1.3 1.1 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00Exp1:m/z 315.00 > 270.00 Exp1:m/z 363.00 > 319.00 14 42 (0000012-(X) X 8 (000012-X), 8 836 18 01 2.0 2.3 1.8 2.1 Min 2.7 2.2 2.5 2.8 1.7 2.6 1.5 2.4 D 9 13C4-PFHpA D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid (M) Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 (00000 30⁻ 25⁻ (000012 X) 049 0042 ×35 _20 ≻28- 15 21 10 0 0 01.9 2.2 2.5 Page 44/7 of 57 2.0 2.3 2.6 2.9 3.2 3.1 1.8 2.1 2.4 2.7 1.7 1.6

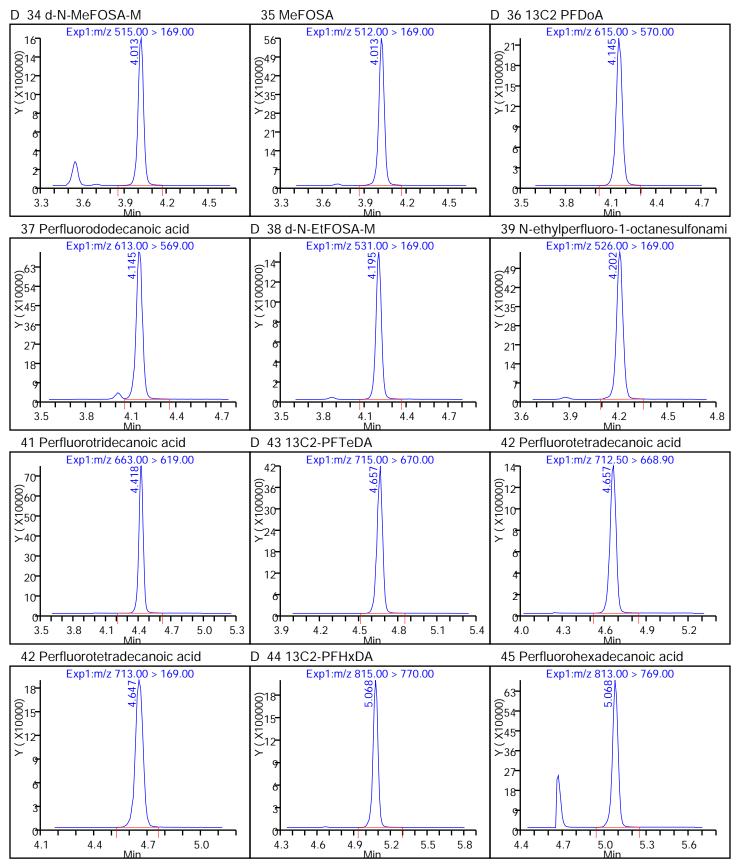
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d



Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d



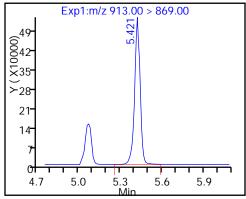
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d



Report Date: 13-Mar-2017 11:32:39 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d

46 Perfluorooctadecanoic acid



Report Date: 13-Mar-2017 11:32:39 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d

Injection Date: 10-Mar-2017 23:45:03 Instrument ID: A8_N

Lims ID: CCV L4

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 30

Injection Vol: 2.0 ul Dil. Factor: 1.0000

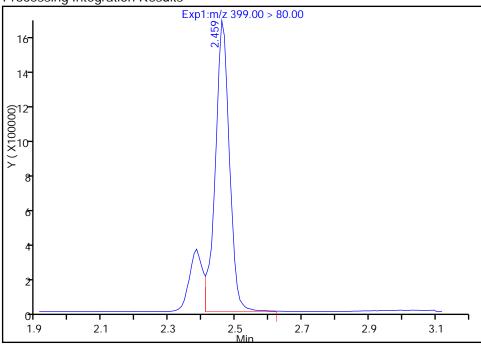
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

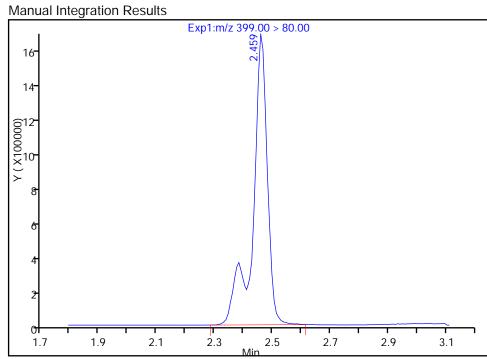
8 Perfluorohexanesulfonic acid, CAS: 355-46-4

Signal: 1

RT: 2.46 Area: 4958916 Amount: 14.165199 Amount Units: ng/ml **Processing Integration Results**



RT: 2.46
Area: 5925062
Amount: 16.925005
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:31:45

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 452 of 577

Report Date: 13-Mar-2017 11:32:39 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d

Injection Date: 10-Mar-2017 23:45:03 Instrument ID: A8_N

Lims ID: CCV L4

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 30

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

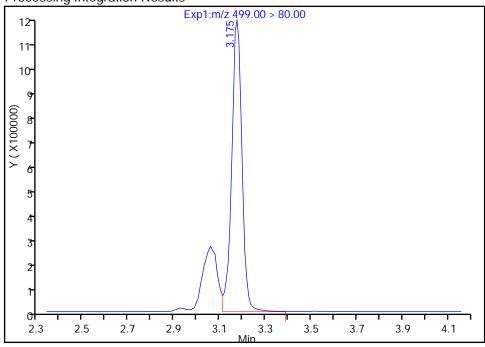
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

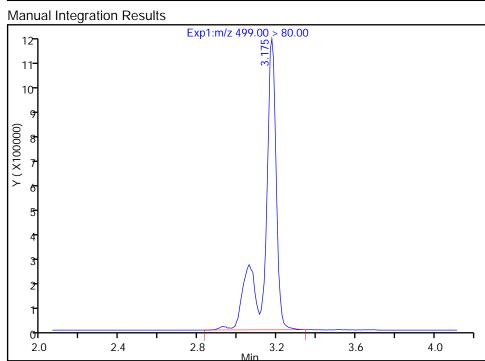
Signal: 1

RT: 3.18
Area: 3618993
Amount: 13.713798
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 4797996
Amount: 18.181508
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:31:57

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 453 of 577

Report Date: 13-Mar-2017 11:32:39 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_051.d

Injection Date: 10-Mar-2017 23:45:03 Instrument ID: A8_N

Lims ID: CCV L4

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 30

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

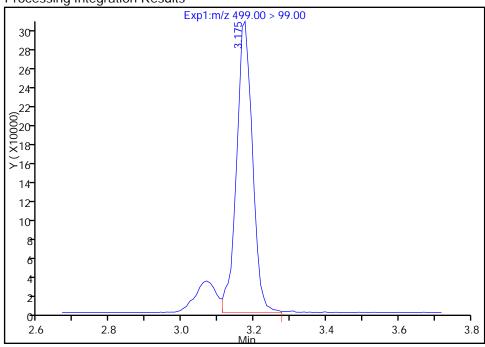
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

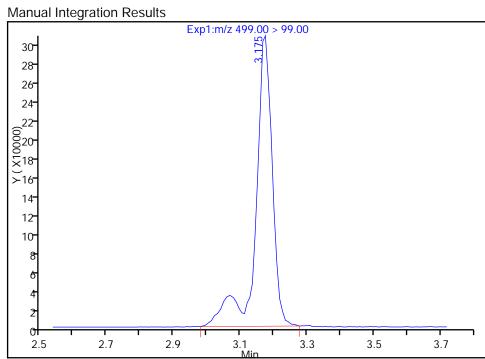
Signal: 2

RT: 3.18
Area: 934141
Amount: 13.713798
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 1055752
Amount: 18.181508
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:32:03

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 454 of 577

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: CCV 320-154721/1 Calibration Date: 03/13/2017 11:39

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.13A_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8548		1.01	1.00	0.9	50.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	0.9878		1.01	1.00	0.9	50.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.428		0.881	0.884	-0.3	50.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.8835		0.993	1.00	-0.7	50.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	1.139		1.01	0.910	10.8	50.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9326		0.964	1.00	-3.6	50.0
6:2FTS	L2ID		1.110		1.05	0.948	10.9	50.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.080		0.997	0.952	4.7	50.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	1.060		1.04	1.00	3.8	50.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	0.9680		0.913	0.928	-1.6	50.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9701		1.07	1.00	7.3	50.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9296		1.03	1.00	3.5	50.0
8:2FTS	L2ID		0.995		0.947	0.958	-1.1	50.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.8631		0.953	1.00	-4.7	50.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9686		0.997	1.00	-0.3	50.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.5616		0.909	0.964	-5.7	50.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8721		0.958	1.00	-4.2	50.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	1.013		0.999	1.00	-0.0	50.0
MeFOSA	AveID	0.9355	0.9062		0.969	1.00	-3.1	50.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.9118		0.997	1.00	-0.3	50.0
N-EtFOSA-M	AveID	0.9837	1.007		1.02	1.00	2.4	50.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.8365		0.958	1.00	-4.2	50.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.570		0.799	1.00	-20.1	50.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		1.210		0.929	1.00	-7.1	50.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.5659		0.789	1.00	-21.1	50.0
13C4 PFBA	Ave	292242	326619		55.9	50.0	11.8	50.0
13C5-PFPeA	Ave	232192	251482		54.2	50.0	8.3	50.0
13C2 PFHxA	Ave	210884	231453		54.9	50.0	9.8	50.0
13C4-PFHpA	Ave	192959	218978		56.7	50.0	13.5	50.0
1802 PFHxS	Ave	290899	323162		52.5	47.3	11.1	50.0
1002 1111110			l.					

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154721/1</u> Calibration Date: <u>03/13/2017 11:39</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.13A_004.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	226607		55.3	50.0	10.6	50.0
13C4 PFOS	Ave	241637	255512		50.5	47.8	5.7	50.0
13C5 PFNA	Ave	177866	189926		53.4	50.0	6.8	50.0
13C8 FOSA	Ave	366918	394670		53.8	50.0	7.6	50.0
M2-8:2FTS	Ave	92602	98350		50.9	47.9	6.2	50.0
13C2 PFDA	Ave	166704	181034		54.3	50.0	8.6	50.0
d3-NMeFOSAA	Ave	85186	83564		49.0	50.0	-1.9	50.0
13C2 PFUnA	Ave	130805	135858		51.9	50.0	3.9	50.0
d5-NEtFOSAA	Ave	81371	89142		54.8	50.0	9.5	50.0
d-N-MeFOSA-M	Ave	87983	80229		45.6	50.0	-8.8	50.0
13C2 PFDoA	Ave	123944	123129		49.7	50.0	-0.7	50.0
d-N-EtFOSA-M	Ave	85249	77508		45.5	50.0	-9.1	50.0
13C2-PFTeDA	Ave	259165	218064		42.1	50.0	-15.9	50.0
13C2-PFHxDA	Ave	125061	99184		39.7	50.0	-20.7	50.0

Report Date: 14-Mar-2017 11:32:01 Chrom Revision: 2.2 13-Mar-2017 15:50:30

> TestAmerica Sacramento **Target Compound Quantitation Report**

 $\ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d$ Data File:

Lims ID: CCV L2

Client ID:

Sample Type: CCVL

Inject. Date: 13-Mar-2017 11:39:35 ALS Bottle#: 29 Worklist Smp#: 1

Dil. Factor: Injection Vol: 2.0 ul 1.0000

Sample Info: CCV L2

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 14-Mar-2017 11:32:00 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK022

First Level Reviewer: changnoit Date: 14-Mar-2017 11:31:59

First Level Revie	wei. Ciia	rigitoti			Date.		4-Mai-2017 11.31.3	7 11.31.39			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags	
2 Perfluorobuty	•									М	
212.90 > 169.00	1.547	1.547	0.0	1.000	279192	1.01		101	2099	M	
D 113C4 PFBA											
217.00 > 172.00	1.547	1.547	0.0		16330941	55.9		112	108279	0	
D 3 13C5-PFPe	Α										
267.90 > 223.00	1.832	1.832	0.0		12574084	54.2		108	657450		
4 Perfluoropen	tanoic a	cid									
262.90 > 219.00		1.832	0.0	1.000	248420	1.01		101	2075		
D 47 13C3-PFBS											
301.90 > 83.00		1.862	0.0		305623	NC					
			0.0		303023	140					
5 Perfluorobuta 298.90 > 80.00		1.872	0.0	1.000	407930	0.8812		99.7			
	1.872	1.872	0.0	1.000	407930 162983	0.8812	2.50(0.00-0.00)	99.1			
		1.072	0.0	1.000	102703		2.30(0.00-0.00)				
D 7 13C2 PFHx. 315.00 > 270.00		2.130	0.0		11570///	F4.0		110	405575		
			0.0		11572666	54.9		110	425565		
6 Perfluorohex				1 000	004400			00.0			
313.00 > 269.00				1.000	204483	0.99		99.3	6524		
8 Perfluorohex											
399.00 > 80.00	2.459	2.459	0.0	1.000	335008	1.01		111			
10 Perfluorohe	otanoic a	acid									
363.00 > 319.00	2.475	2.475	0.0	1.000	204210	0.9641		96.4	2318		
D 9 13C4-PFHp	Α										
367.00 > 322.00		2.475	0.0		10948919	56.7		113	415467		
D 11 18O2 PFH)	κS										
403.00 > 84.00		2.491	0.0		15285545	52.5		111	389699		
D 12 M2-6:2FTS											
429.00 > 409.00		2.809	0.0		3848509	49.9		105			
.27.00 > 407.00	2.007	2.007	5.0					100	a = 1 c=		
					Page 457 of \$	577			03/27	7/2017	

Page 457 of 577

Data File:	\\Chr	omNa\S	acramen	to\Chrom	Data\A8_N\201	70313-4078	6.b\2017.03.13A_0)4.d		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,	1山 2山 2	H norflu	ıorooctan	0						
427.00 > 407.00	2.817	•		1.000	85220	1.05		111		
D 14 13C4 PFO. 417.00 > 372.00	2.833	2.833	0.0		11330340	55.3		111	357830	
15 Perfluorooct										
413.00 > 369.00 413.00 > 169.00		2.848 2.848	0.0 -0.007	1.000 0.997	240252 137909	1.04	1.74(0.90-1.10)	104	2533 5302	
16 Perfluorohe	-									
449.00 > 80.00		2.848		1.000	262614	1.00		105		
17 Perfluorooct				1 000	000504	0.0404		00.4	4070	
499.00 > 80.00	3.097	3.097		1.000	229521	0.9134	4 20/0 00 1 10)	98.4	4073	
499.00 > 99.00		3.097	0.078	1.025	52265		4.39(0.90-1.10)		724	
D 18 13C4 PFO		2 210	0.0		100104//	F0 F		10/	FF2011	
503.00 > 80.00		3.218	0.0		12213466	50.5		106	552911	
20 Perfluorono			0.0	4 000	404045	4.07		407	0040	
463.00 > 419.00		3.218	0.0	1.000	184245	1.07		107	3213	
D 19 13C5 PFN										
468.00 > 423.00		3.218	0.0		9496306	53.4		107	314093	
D 21 13C8 FOS 506.00 > 78.00		3.536	0.0		19733497	53.8		108	495915	
22 Perfluorooct					.,,,,,,,,	55.5			.,,,,	
498.00 > 78.00		3.536		1.000	366901	1.03		103	32339	
D 26 M2-8:2FTS	5									
529.00 > 509.00	3.570	3.570	0.0		4710980	50.9		106		
25 Sodium 1H,		•								
527.00 > 507.00		3.561	0.0	0.998	93765	0.9472		98.9		
D 23 13C2 PFD										
515.00 > 470.00		3.578	0.0		9051703	54.3		109	178590	
24 Perfluorode										
513.00 > 469.00		3.570	0.0	1.000	156257	0.9531		95.3	4666	
D 27 d3-NMeFO		0.704			4470405	40.0		00.4		
573.00 > 419.00		3.734			4178185	49.0		98.1		
28 N-methyl pe				1 000	00040	4.00		00.7		
570.00 > 419.00		3.734		1.000	80943	1.00		99.7		
29 Perfluorode				1 000	100017			0.4.0		
599.00 > 80.00		3.886	0.0	1.000	138317	0.9088		94.3		
D 32 d5-NEtFOS										
589.00 > 419.00		3.903	0.0		4457105	54.8		110		
31 Perfluoroun										
563.00 > 519.00	3.903	3.903	0.0	1.000	137580	1.00		99.9	4518	
D 30 13C2 PFU	nA									
565.00 > 520.00	3.903	3.903	0.0		6792880	51.9		104	173802	
D 34 d-N-MeFO	SA-M									
515.00 > 169.00	4.020	4.020	0.0		4011460	45.6		91.2		
35 MeFOSA	4.000	4.000	0.0	4 000	70701	0.0404		04.0		
512.00 > 169.00		4.029		1.000	72701	0.9686		96.9		
33 N-ethyl perfl				4 000	77700	0.0500		05.0		
584.00 > 419.00	3.903	3.903	0.0	1.000	Page 458 of	577 ^{U.9580}		95.8	03/27	7/2017

Report Date: 14-Mar-2017 11:32:01 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File:

Data File. //Cilioninal/Saciamento/CilioniData/Ao_in/2017/03/13-40700.b/2017/03/13A_004.d										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 36 13C2 PFD	ρA									
615.00 > 570.00	4.197	4.197	0.0		6156425	49.7		99.3	149202	
37 Perfluorodoo										
613.00 > 569.00	4.197	4.197	0.0	1.000	112273	1.00		99.7	679	
D 38 d-N-EtFOS										
531.00 > 169.00		4.203			3875386	45.5		90.9		
39 N-ethylperflu				1 000	70075	1.00		100		
526.00 > 169.00			0.0	1.000	78075	1.02		102		
41 Perfluorotrid 663.00 > 619.00		acid 4.469	0.0	1.000	103001	0.9578		95.8	1595	
		4.409	0.0	1.000	103001	0.9376		93.0	1393	
D 43 13C2-PFT6 715.00 > 670.00		4.713	0.0		10903199	42.1		84.1	268289	
42 Perfluorotetr			0.0		10703177	72.1		04.1	200207	
712.50 > 668.90		4.713	0.0	1.000	193351	0.7985		79.9	134	
713.00 > 169.00		4.713	-0.008	0.998	31882		6.06(0.00-0.00)		10983	
D 44 13C2-PFH)	хDА									
815.00 > 770.00	5.134	5.134	0.0		4959213	39.7		79.3	83565	
45 Perfluorohex	xadecan	oic acid								
813.00 > 769.00	5.134	5.134	0.0	1.000	149004	0.9289		92.9	152	
46 Perfluorooct	adecano	oic acid								
913.00 > 869.00	5.500	5.500	0.0	1.000	69680	0.7887		78.9	80.0	

OC Flag Legend Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

Reagents:

LCPFC_FULL-L2_00001 Amount Added: 1.00 Units: mL

Report Date: 14-Mar-2017 11:32:01 Chrom Revision: 2.2 13-Mar-2017 15:50:30 TestAmerica Sacramento Data File: \ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d **Injection Date:** 13-Mar-2017 11:39:35 Instrument ID: A8_N Lims ID: CCV L2 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ 2 Perfluorobutyric acid (M) D 113C4 PFBA D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 042 0036 ⁶78− ∑65 ×35 ≻52 ≻₂₈-≻₂₄-39 21 18 26 14 12 13 1.7 1.9 1.9 1.4 2.0 1.0 1.3 1.6 1.3 1.6 2.2 2.5 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 16 64 6014 0012 87 675 56- 6 8 8 ×40• ≻₃₂ 39 16 27 2.1 1.7 2.0 2.0 1.8 Mir 2.3 1.7 2.3 1.5 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 8 Perfluorohexanesulfonic acid Exp1:m/z 315.00 > 270.00 Exp1:m/z 313,00 > 269.00 Exp1:m/z 399.00 > 80.00 96 42 70 836 84 860 6 872 ≥30 × × ×24 ×50 ×60 ≻₄₀-≻₄₈-18 30 36 20 24 10 12 1.8 2.7 2.0 2.3 2.9 2.4 2.3 2.0 2.6 3.2 1.7 1.7 10 Perfluoroheptanoic acid D 913C4-PFHpA D 11 1802 PFHxS Exp1:m/z 363.00 > 319.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 49 (35- 00042 0005 00042 654F -25 ×45 _28 ⁻20 ≻₃₆-21 15 27 10 0 0 2.0 2.3 2.6 2.9 3.0 2.0 2.3 2.6 1.8 2.1 Page 4600hof 577 1.7

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d D 12 M2-6:2FTS 13 Sodium 1H,1H,2H,2H-perfluorooctabe 14 13C4 PFOA Exp1:m/z 429.00 > 409.00 Exp1:m/z 427.00 > 407.00 Exp1:m/z 417.00 > 372.00 28 (012 X) X 8 0030 0025 X ©24 ×20 ≻16- 15 12 10 2.2 2.5 2.8 3.1 3.4 2.2 2.5 2.8 3.1 3.4 2.0 2.3 2.6 2.9 3.2 3.5 15 Perfluorooctanoic acid 15 Perfluorooctanoic acid 16 Perfluoroheptanesulfonic Acid Exp1:m/z 413.00 > 369.00 Exp1:m/z 413.00, > 169.00 Exp1:m/z 449.00 > 80.00 48 80 84 70⁻ 42 ©36 872- ×60 Σ_{50} \times_{30} ≻48 \succ_{40} ≻₂₄-36 30 18 24 12 20 10 12 2.9 2.7 3.0 2.7 3.0 3.2 2.6 17 Perfluorooctane sulfonic acid 17 Perfluorooctane sulfonic acid D 18 13C4 PFOS Exp1:m/z 499.00 > 80.00 Exp1:m/z 499.00 > 99.00 Exp1:m/z 503.00 > 80.00 56**-**14 0030 035 49 0012-10-10-(E)42 ×25 ≥35 ≻₂₈ ≻20 3.097 15 21 10 14 3.7 2.9 2.5 3.1 3.7 2.2 2.5 2.8 3.4 2.6 3.5 3.8 1.9 4.3 3.1 4.0 2.3 3.2 4.1 D 19 13C5 PFNA D 21 13C8 FOSA 20 Perfluorononanoic acid Exp1:m/z 468.00 > 423.00 Exp1:m/z 463.00 > 419.00 Exp1:m/z 506.00 > 78.00 64 56 28 00024 00024 X 056-0648-(048 000 × 40 × 32 ×₄₀ _ ≻16- 24 12 24

3.1

3.4

3.7

4.0

16

3.0

3.3

3.6

3.9

16

2.7

3.0

3.3

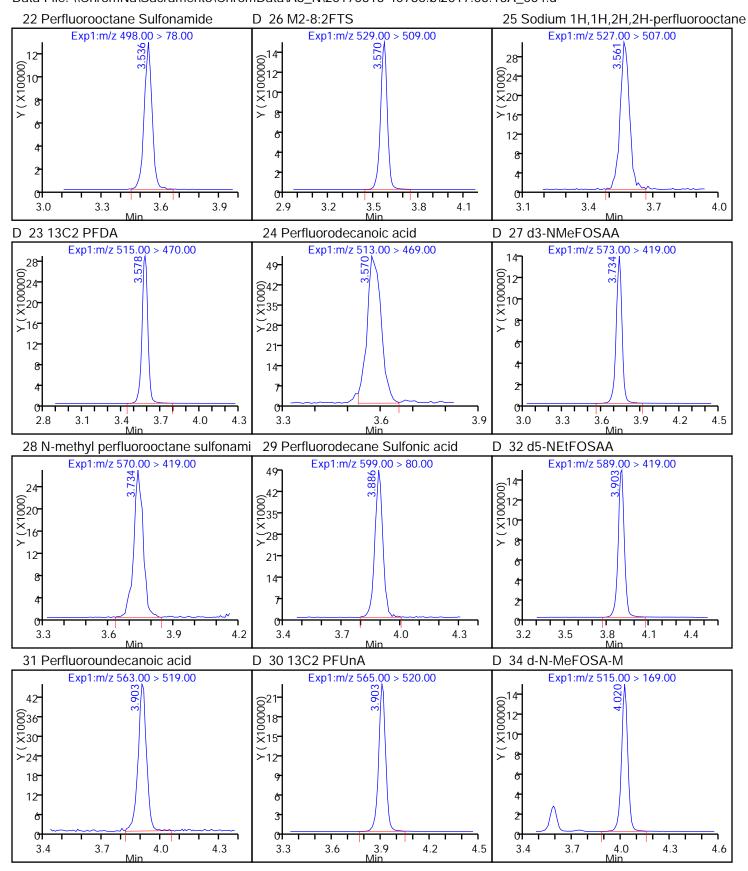
3.6

2.5

2.8

4.2

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d



Report Date: 14-Mar-2017 11:32:01 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File: \ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d 33 N-ethyl perfluorooctane sulfonamid D 36 13C2 PFDoA Exp1:m/z 615.00 > 570.00 Exp1:m/z 512.00 > 169.00 Exp1:m/z 584.00 > 419.00 24 24 ∑₁₆-∑₁₆-3.9 4.1 4.2 3.5 3.8 3.5 3.8 4.4 4.7 3.6 37 Perfluorododecanoic acid D 38 d-N-EtFOSA-M 39 N-ethylperfluoro-1-octanesulfonami Exp1:m/z 613.00 > 569.00 Exp1:m/z 531.00 > 169.00 Exp1:m/z 526.00 > 169.00 28 (012 10 10 X (X (30° (00025 * (20° 15 10 3.9 4.2 4.0 4.3 4.5 3.7 4.0 4.3 4.6 4.6 41 Perfluorotridecanoic acid D 43 13C2-PFTeDA 42 Perfluorotetradecanoic acid Exp1:m/z 663.00 > 619.00 Exp1:m/z 715.00 > 670.00 Exp1:m/z 712.50 > 668.90 (35-0030-1×25-63 35 ©30-×25-054- ×45-<u>~</u>36 ≻20 ≻20 15 15 18 10 10 4.4 Mir 4.7 5.0 5.3 4.5 4.4 4.2 4.8 5.1 4.1 4.1 42 Perfluorotetradecanoic acid D 44 13C2-PFHxDA 45 Perfluorohexadecanoic acid Exp1:m/z 713.00 > 169.00 Exp1:m/z 813.00 > 769.00Exp1:m/z 815.00 > 770.00 18 (X100000) (X100000) (X100000) (X100000) 10 0 20 0 Y (X1000) ×16•

5.0

5.3

5.6

5.9

4.4

4.1

4.7

5.0

5.3

4.4

4.7

12-

4.6

4.9

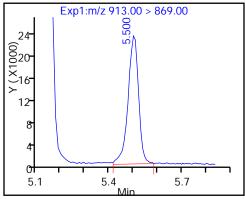
5.2

5.5

Report Date: 14-Mar-2017 11:32:01 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d

46 Perfluorooctadecanoic acid



Report Date: 14-Mar-2017 11:32:01 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170313-40786.b\2017.03.13A_004.d

Injection Date: 13-Mar-2017 11:39:35 Instrument ID: A8_N

Lims ID: CCV L2

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 29 Worklist Smp#: 1

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

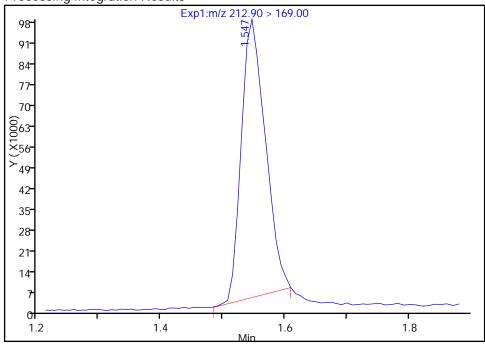
Column: Detector EXP1

2 Perfluorobutyric acid, CAS: 375-22-4

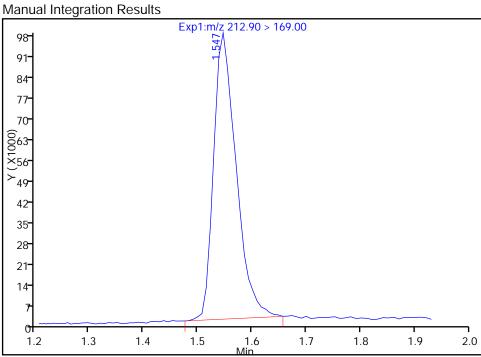
Signal: 1

RT: 1.55
Area: 252857
Amount: 0.913725
Amount Units: ng/ml

Processing Integration Results



RT: 1.55
Area: 279192
Amount: 1.008889
Amount Units: ng/ml



Reviewer: changnoit, 14-Mar-2017 11:30:33

Audit Action: Manually Integrated

Audit Reason: Baseline

Page 465 of 577

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154808/11</u> Calibration Date: <u>03/13/2017 17:08</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.13A_047.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8967		52.9	50.0	5.8	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	0.998		51.0	50.0	2.0	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.489		45.9	44.2	3.9	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.9279		52.2	50.0	4.3	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9870		51.0	50.0	2.0	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	1.028		45.5	45.5	-0.0	25.0
6:2FTS	L2ID		0.8949		47.7	47.4	0.7	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	1.029		50.4	50.0	0.7	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.115		51.5	47.6	8.1	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9486		52.5	50.0	4.9	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	1.027		48.4	46.4	4.4	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9415		52.4	50.0	4.8	25.0
8:2FTS	L2ID		0.9577		49.6	47.9	3.5	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.9479		52.3	50.0	4.7	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9228		47.5	50.0	-5.0	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.6391		51.7	48.2	7.3	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8738		48.0	50.0	-4.0	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.9661		47.7	50.0	-4.7	25.0
MeFOSA	AveID	0.9355	0.8926		47.7	50.0	-4.6	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.9321		51.0	50.0	1.9	25.0
N-EtFOSA-M	AveID	0.9837	0.9417		47.9	50.0	-4.3	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.9371		53.6	50.0	7.3	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.723		43.8	50.0	-12.4	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.9678		51.8	50.0	3.7	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.7574		52.8	50.0	5.6	25.0
13C4 PFBA	Ave	292242	309050		52.9	50.0	5.8	50.0
13C5-PFPeA	Ave	232192	242148		52.1	50.0	4.3	50.0
13C2 PFHxA	Ave	210884	228784		54.2	50.0	8.5	50.0
13C4-PFHpA	Ave	192959	203194		52.7	50.0	5.3	50.0
1802 PFHxS	Ave	290899	314947		51.2	47.3	8.3	50.0
M2-6:2FTS	Ave	77178	104880		64.5	47.5	35.9	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154808/11</u> Calibration Date: <u>03/13/2017 17:08</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.13A_047.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	202929		49.5	50.0	-1.0	50.0
13C4 PFOS	Ave	241637	246892		48.8	47.8	2.2	50.0
13C5 PFNA	Ave	177866	169387		47.6	50.0	-4.8	50.0
13C8 FOSA	Ave	366918	366578		50.0	50.0	-0.0	50.0
M2-8:2FTS	Ave	92602	91736		47.5	47.9	-0.9	50.0
13C2 PFDA	Ave	166704	150691		45.2	50.0	-9.6	50.0
d3-NMeFOSAA	Ave	85186	69595		40.8	50.0	-18.3	50.0
13C2 PFUnA	Ave	130805	113904		43.5	50.0	-12.9	50.0
d5-NEtFOSAA	Ave	81371	63787		39.2	50.0	-21.6	50.0
d-N-MeFOSA-M	Ave	87983	88104		50.1	50.0	0.1	50.0
13C2 PFDoA	Ave	123944	108874		43.9	50.0	-12.2	50.0
d-N-EtFOSA-M	Ave	85249	79850		46.8	50.0	-6.3	50.0
13C2-PFTeDA	Ave	259165	218344		42.1	50.0	-15.8	50.0
13C2-PFHxDA	Ave	125061	122229		48.9	50.0	-2.3	50.0

Report Date: 14-Mar-2017 13:30:28 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_047.d

Lims ID: CCV L5

Client ID:

Sample Type: CCV

Inject. Date: 13-Mar-2017 17:08:37 ALS Bottle#: 32 Worklist Smp#: 11

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: CCV L5

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 14-Mar-2017 13:30:27 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK019

First Level Reviewer: westendorfc Date: 14-Mar-2017 13:25:50

First Level Reviewer: westendorfc					Date:	Date: 14-Mar-2017 13:25:5				
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA										
217.00 > 172.00		1.540	0.0		15452482	52.9		106	997450	
2 Perfluorobuty	yric acid									
212.90 > 169.00	1.548	1.548	0.0	1.000	13856752	52.9		106	97933	
D 3 13C5-PFPe	eΑ									
267.90 > 223.00	1.824	1.824	0.0		12107401	52.1		104	726281	
4 Perfluoropen										
262.90 > 219.00		1.824	0.0	1.000	12083263	51.0		102	116539	
D 47 13C3-PFB		4.050			0.1.0.0.0	NO				
301.90 > 83.00		1.853	0.0		318338	NC				
5 Perfluorobuta			0.0	1 000	20722/2/	45.0		104		
298.90 > 80.00 298.90 > 99.00	1.863	1.863 1.863	0.0	1.000 1.000	20722636 8992401	45.9	2.30(0.00-0.00)	104		
D 7 13C2 PFHx		1.000	0.0	1.000	0772401		2.30(0.00 0.00)			
315.00 > 270.00		2.114	0.0		11439211	54.2		108	542139	
6 Perfluorohex										
313.00 > 269.00		2.123	0.0	1.000	10614390	52.2		104	271358	
D 9 13C4-PFHp	А									
367.00 > 322.00		2.464	0.0		10159685	52.7		105	395765	
10 Perfluorohe	ptanoic a	acid								
363.00 > 319.00	2.456	2.456	0.0	1.000	10027949	51.0		102	98011	
8 Perfluorohex	anesulfo	nic acid								
399.00 > 80.00	2.480	2.480	0.0	1.000	14735744	45.5		100.0		
D 11 1802 PFH										
403.00 > 84.00		2.480	0.0		14896982	51.2		108	480567	
D 12 M2-6:2FTS										
429.00 > 409.00	2.799	2.799	0.0		4981801	64.5		136		
					Page 468 of	577			03/27	7/2017

Data File:	\\Cnro	miva\Sa	acrament	:o\Cnrom	Data\A8_N\2017	0314-40808	8.D\2017.03.13A_04	· / .a		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1	111 211 21	H_norflu	orooctan	Δ						
427.00 > 407.00		•		1.000	4449007	47.7		101		
D 14 13C4 PFOA		,,,	0.0							
417.00 > 372.00		2.822	0.0		10146464	49.5		99.0	304384	
15 Perfluoroocta										
413.00 > 369.00		2.822	0.0	1.000	10443097	50.4		101	153416	
413.00 > 169.00	2.822	2.822	0.0	1.000	6214376		1.68(0.90-1.10)		147333	
16 Perfluorohep	otanesuli	fonic Ac	id							
449.00 > 80.00	2.830	2.830	0.0	1.000	13102121	51.5		108		
D 18 13C4 PFOS	5									
503.00 > 80.00	3.188	3.188	0.0		11801442	48.8		102	188222	
20 Perfluoronor	nanoic a	cid								
463.00 > 419.00	3.197	3.197	0.0	1.000	8034156	52.5		105	129920	
17 Perfluoroocta	ane sulfo	onic acio	t							M
499.00 > 80.00	3.197	3.197	0.0	1.000	11759508	48.4		104	276686	9M
499.00 > 99.00	3.197	3.197	0.0	1.000	2575871		4.57(0.90-1.10)		234407	M
D 19 13C5 PFNA	4									
468.00 > 423.00	3.197	3.197	0.0		8469352	47.6		95.2	359482	
D 21 13C8 FOSA	Ą									
506.00 > 78.00	3.534	3.534	0.0		18328903	50.0		99.9	366408	
22 Perfluoroocta	ane Sulf	onamide	Э							
498.00 > 78.00	3.534	3.534	0.0	1.000	17256464	52.4		105	386932	
25 Sodium 1H,1	IH,2H,2I	H-perflu	orooctan	е						
527.00 > 507.00	3.551	3.551	0.0	1.000	4208415	49.6		103		
D 26 M2-8:2FTS										
529.00 > 509.00	3.551	3.551	0.0		4394164	47.5		99.1		
24 Perfluorodeo	anoic a	cid								
513.00 > 469.00	3.559	3.559	0.0	1.000	7141579	52.3		105	258645	
D 23 13C2 PFDA	٨									
515.00 > 470.00	3.559	3.559	0.0		7534536	45.2		90.4	190131	
D 27 d3-NMeFO	SAA									
573.00 > 419.00	3.711	3.711	0.0		3479759	40.8		81.7		
28 N-methyl per	rfluorooc	ctane su	lfonami							
570.00 > 419.00	3.711	3.711	0.0	1.000	3211030	47.5		95.0		
29 Perfluorodeo	ane Sul	fonic ac	id							
599.00 > 80.00	3.865	3.865	0.0	1.000	7605801	51.7		107		
D 32 d5-NEtFOS	AA									
589.00 > 419.00	3.883	3.883	0.0		3189343	39.2		78.4		
31 Perfluoround	decanoic	acid								
563.00 > 519.00	3.883	3.883	0.0	1.000	5502307	47.7		95.3	97815	
33 N-ethyl perflu	uoroocta	ane sulfo	namid							
584.00 > 419.00		3.883		1.000	2786799	48.0		96.0		
D 30 13C2 PFUn	ıΑ									
565.00 > 520.00		3.883	0.0		5695179	43.5		87.1	205085	
D 34 d-N-MeFOS										
515.00 > 169.00		4.027	0.0		4405207	50.1		100		
35 MeFOSA										
512.00 > 169.00	4.037	4.037	0.0	1.000	Page 469 of 5	77 47.7		95.4	02/2-	7/2047
					Faye 409 01 5	1 1			03/2/	7/2017

Report Date: 14-Mar-2017 13:30:28 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File:

Data Tile. (ICHIOHINA/SacialifeHoteHioHiData/Ao_N/2017/0514-40000.0/2017/05.15A_047/d										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorodoo	decanoio	acid								
613.00 > 569.00	4.175	4.175	0.0	1.000	5074326	51.0		102	54573	
D 36 13C2 PFD	ρA									
615.00 > 570.00	4.175	4.175	0.0		5443717	43.9		87.8	136300	
D 38 d-N-EtFOS										
531.00 > 169.00	4.212	4.212	0.0		3992480	46.8		93.7		
39 N-ethylperflu										
526.00 > 169.00			0.0	1.000	3759742	47.9		95.7		
41 Perfluorotrid										
663.00 > 619.00			0.0	1.000	5101140	53.6		107	114258	
42 Perfluorotetr				1 000	0004504	40.0		07.4	44005	
712.50 > 668.90 713.00 > 169.00		4.670	0.0	1.000 1.000	9381591	43.8	4 22(0 00 0 00)	87.6	41395	
		4.670	0.0	1.000	1483069		6.33(0.00-0.00)		163624	
D 43 13C2-PFT6 715.00 > 670.00		4.670	0.0		10917206	42.1		84.2	354469	
		4.070	0.0		10917200	4∠. I		04.2	334409	
D 44 13C2-PFH; 815.00 > 770.00		5.079	0.0		6111460	48.9		97.7	107800	
45 Perfluorohe			0.0		0111400	40.7		71.1	107000	
813.00 > 769.00		5.090	0.0	1.000	5268497	51.8		104	5197	
46 Perfluorooct			0.0	1.000	3200477	31.0		104	3177	
913.00 > 869.00		5.444	0.0	1.000	4123073	52.8		106	5520	
710.00 / 007.00	0.144	0. 177	0.0	1.000	1120070	02.0		100	0020	

OC Flag Legend Processing Flags

NC - Not Calibrated

Review Flags

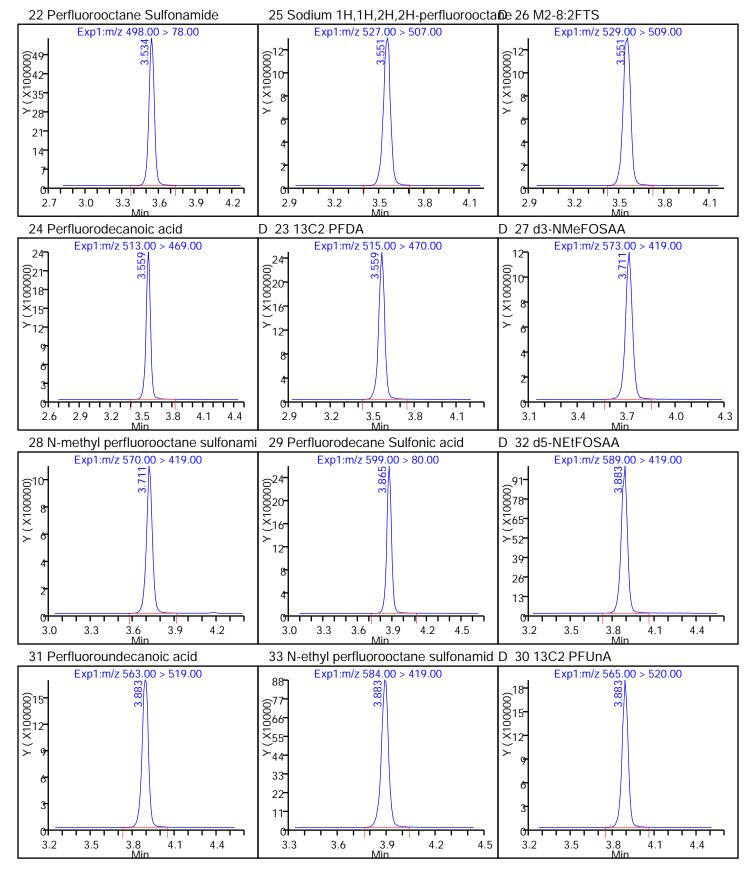
M - Manually Integrated

Reagents:

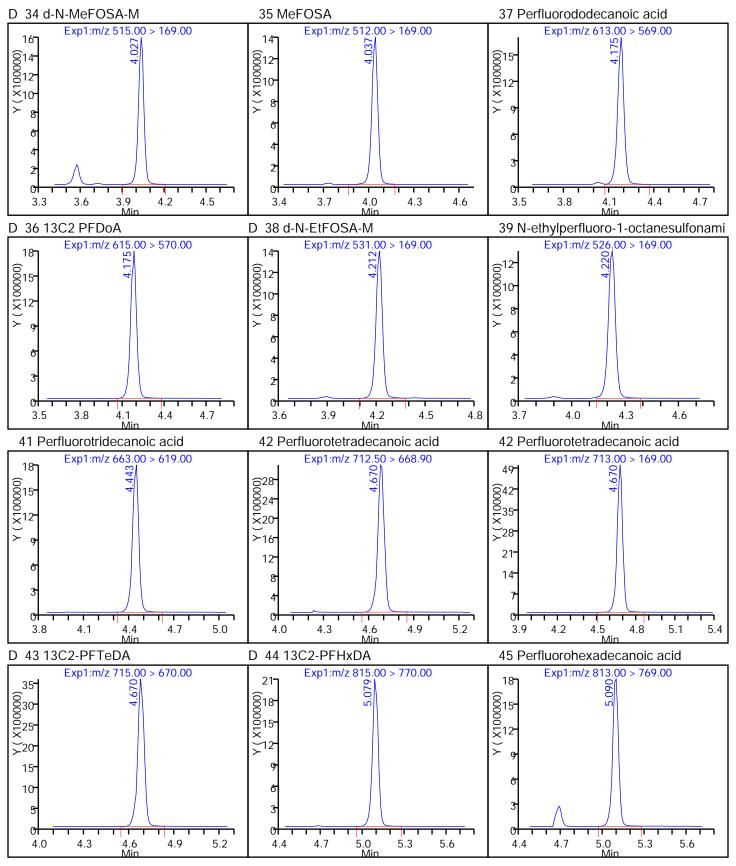
LCPFC_FULL-L5_00001 Amount Added: 1.00 Units: mL

Report Date: 14-Mar-2017 13:30:28 Chrom Revision: 2.2 13-Mar-2017 15:50:30 TestAmerica Sacramento Data File: **Injection Date:** 13-Mar-2017 17:08:37 Instrument ID: A8_N Lims ID: CCV L5 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 11 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 54 00042 X X 30 30-30-∑30 <u></u> ≥28-21 18 18 12 12 1.9 1.9 1.9 1.0 1.3 1.6 1.0 1.3 1.6 1.3 1.6 2.2 2.5 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 35 42 ()70⁻ 030 025 ∑50 **-20** ≻40 15 18 30 10 12 20 10 2.0 2.0 2.3 2.3 2.0 2.3 1.4 1.7 1.4 1.7 1.4 1.7 2.6 1.1 1.1 D 7 13C2 PFHxA 6 Perfluorohexanoic acid D 9 13C4-PFHpA Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00Exp1:m/z 367.00 > 322.00 32 35 (35-00030-×25-©28-©24-<u>8</u>30 0 25-× \times 20 Ç₂₀ ≻20 ≻₁₆ 15 15 10 10 1.9 2.0 2.0 2.6 2.9 2.2 2.5 2.8 1.7 2.3 2.6 2.3 3.2 1.6 1.4 1.7 D 11 1802 PFHxS 10 Perfluoroheptanoic acid 8 Perfluorohexanesulfonic acid Exp1:m/z 363.00 > 319.00 Exp1:m/z 399.00 > 80.00 Exp1:m/z 403.00 > 84.00 32 49 ©28-0024-635- ×25 28 ≻₁₆-≻20 21 15- 10 0 0 2.0 2.3 2.6 2.9 3.2 1.3 1.9 2.2 2.5 1.7 3.1 1.6

D 12 M2-6:2FTS 13 Sodium 1H,1H,2H,2H-perfluorooctabe 14 13C4 PFOA Exp1:m/z 429.00 > 409.00 Exp1:m/z 427.00 > 407.00 Exp1:m/z 417.00 > 372.00 (0000012 (X) (0000012 ×) > 9 628 624 ×20 ≻16- 2.9 2.0 2.3 2.6 3.2 3.5 2.2 2.5 2.8 3.1 3.4 2.1 2.4 2.7 3.0 3.3 16 Perfluoroheptanesulfonic Acid 15 Perfluorooctanoic acid 15 Perfluorooctanoic acid Exp1:m/z 413.00 > 369.00 Exp1:m/z 413.00 > 169.00 Exp1:m/z 449.00 > 80.00 628 0024 (018 00015 (X100000) 30-×20 **≻**16 18 12 2.8 2.2 3.4 2.4 3.0 3.0 3.3 2.4 17 Perfluorooctane sulfonic acid (M) D 18 13C4 PFOS 20 Perfluorononanoic acid Exp1:m/z 499.00 > 80.00 Exp1:m/z 503.00 > 80.00 Exp1:m/z 463.00 > 419.00 24 28 35 000001 25-021- 0024 00020 ∑15- 16 15- 10 2.7 3.0 3.3 3.9 2.9 3.2 3.5 3.8 2.2 3.1 4.0 4.9 3.6 2.6 1.3 17 Perfluorooctane sulfonic acid (M) D 19 13C5 PFNA D 21 13C8 FOSA Exp1:m/z 499.00 > 99.00Exp1:m/z 468.00 > 423.00 Exp1:m/z 506.00 > 78.00 56- (24⁻ 00020 (0048-0048-0040-0048-63-00054-∑₁₆-×45 ≻₃₆-12 24 27 16 18 1.5 2.4 3.3 4.2 2.5 2.8 3.1 3.4 3.7 2.8 3.1 3.4 3.7 4.0 4.3 Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_047.d



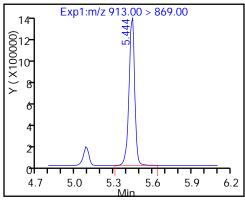
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_047.d



Report Date: 14-Mar-2017 13:30:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_047.d

46 Perfluorooctadecanoic acid



Report Date: 14-Mar-2017 13:30:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_047.d

Injection Date: 13-Mar-2017 17:08:37 Instrument ID: A8_N

Lims ID: CCV L5

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 11

Injection Vol: 2.0 ul Dil. Factor: 1.0000

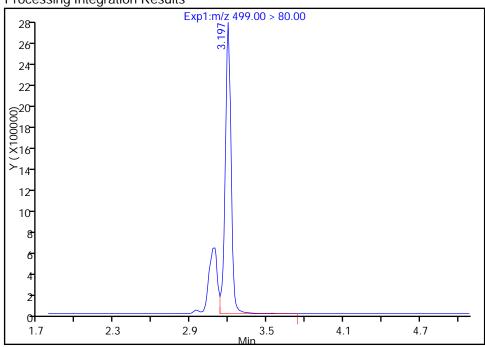
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

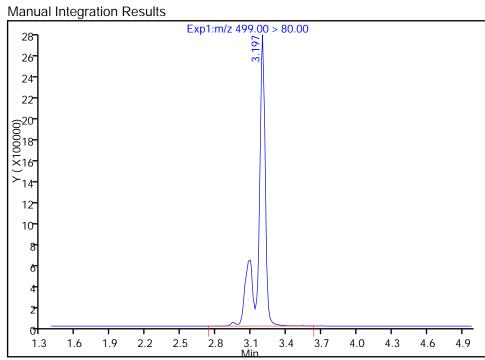
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

RT: 3.20 Area: 8825465 Amount: 36.346607 Amount Units: ng/ml **Processing Integration Results**



RT: 3.20 Area: 11759508 Amount: 48.430107 Amount Units: ng/ml



Reviewer: westendorfc, 14-Mar-2017 13:30:26

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 476 of 577

Report Date: 14-Mar-2017 13:30:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_047.d

Injection Date: 13-Mar-2017 17:08:37 Instrument ID: A8_N

Lims ID: CCV L5

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 11

Injection Vol: 2.0 ul Dil. Factor: 1.0000

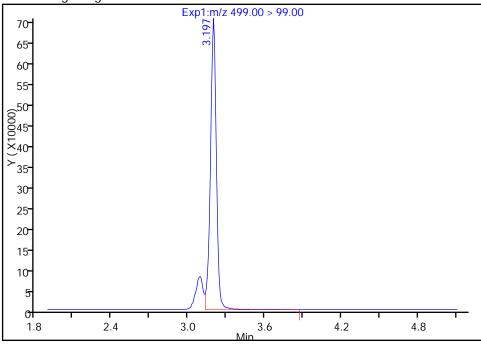
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

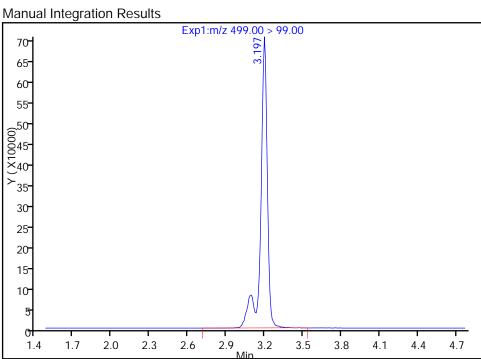
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

RT: 3.20 Area: 2266426 Amount: 36.346607 Amount Units: ng/ml **Processing Integration Results**



RT: 3.20 Area: 2575871 Amount: 48.430107 Amount Units: ng/ml



Reviewer: westendorfc, 14-Mar-2017 13:30:26

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 477 of 577 03/27/2017

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: CCV 320-154808/17 Calibration Date: 03/13/2017 17:53

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.13A_053.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8364		19.7	20.0	-1.3	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	0.9596		19.6	20.0	-1.9	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.521		18.8	17.7	6.2	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.8755		19.7	20.0	-1.6	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9179		19.0	20.0	-5.1	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	0.9790		17.3	18.2	-4.8	25.0
6:2FTS	L2ID		0.9455		20.1	19.0	6.0	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.043		19.3	19.0	1.2	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	0.9739		19.1	20.0	-4.7	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9032		20.0	20.0	-0.0	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	0.9486		17.9	18.6	-3.6	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.8972		20.0	20.0	-0.1	25.0
8:2FTS	L2ID		0.9836		20.3	19.2	6.0	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.8571		18.9	20.0	-5.4	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9282		19.1	20.0	-4.4	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.5775		18.7	19.3	-3.0	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8984		19.7	20.0	-1.3	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.8862		17.5	20.0	-12.6	25.0
MeFOSA	AveID	0.9355	0.9328		19.9	20.0	-0.3	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.8588		18.8	20.0	-6.1	25.0
N-EtFOSA-M	AveID	0.9837	0.9610		19.5	20.0	-2.3	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.8455		19.4	20.0	-3.2	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.510		15.4	20.0	-23.2	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.8200		17.3	20.0	-13.4	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.7185		20.0	20.0	0.1	25.0
13C4 PFBA	Ave	292242	308072	·	52.7	50.0	5.4	50.0
13C5-PFPeA	Ave	232192	245036		52.8	50.0	5.5	50.0
13C2 PFHxA	Ave	210884	232177		55.0	50.0	10.1	50.0
13C4-PFHpA	Ave	192959	215930		56.0	50.0	11.9	50.0
1802 PFHxS	Ave	290899	313365		51.0	47.3	7.7	50.0
M2-6:2FTS	Ave	77178	99752		61.4	47.5	29.2	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-154808/17</u> Calibration Date: <u>03/13/2017 17:53</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.13A_053.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	213771		52.2	50.0	4.3	50.0
13C4 PFOS	Ave	241637	248332		49.1	47.8	2.8	50.0
13C5 PFNA	Ave	177866	171427		48.2	50.0	-3.6	50.0
13C8 FOSA	Ave	366918	369067		50.3	50.0	0.6	50.0
M2-8:2FTS	Ave	92602	93945		48.6	47.9	1.5	50.0
13C2 PFDA	Ave	166704	155661		46.7	50.0	-6.6	50.0
d3-NMeFOSAA	Ave	85186	67053		39.4	50.0	-21.3	50.0
d5-NEtFOSAA	Ave	81371	66868		41.1	50.0	-17.8	50.0
13C2 PFUnA	Ave	130805	119160		45.5	50.0	-8.9	50.0
d-N-MeFOSA-M	Ave	87983	85065		48.3	50.0	-3.3	50.0
13C2 PFDoA	Ave	123944	108311		43.7	50.0	-12.6	50.0
d-N-EtFOSA-M	Ave	85249	82170		48.2	50.0	-3.6	50.0
13C2-PFTeDA	Ave	259165	207091		40.0	50.0	-20.1	50.0
13C2-PFHxDA	Ave	125061	107416		42.9	50.0	-14.1	50.0

Report Date: 14-Mar-2017 13:30:56 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d

Lims ID: CCV L4

Client ID:

Sample Type: CCV

Inject. Date: 13-Mar-2017 17:53:36 ALS Bottle#: 31 Worklist Smp#: 17

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: CCV L4

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 14-Mar-2017 13:30:56 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK019

First Level Reviewer: westendorfc Date: 14-Mar-2017 13:29:15

First Level Revie	stendorfo			Date: 14-Mar-2017 13:29:15						
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA										
217.00 > 172.00	1.538	1.538	0.0		15403599	52.7		105	125237	1
2 Perfluorobuty	,									
212.90 > 169.00		1.538	0.0	1.000	5153489	19.7		98.7	37196	
D 3 13C5-PFPe 267.90 > 223.00		1.811	0.0		12251776	52.8		106	856339	
4 Perfluoropen			0.0		12231770	52.0		100	030337	
262.90 > 219.00		1.821	0.0	1.000	4702585	19.6		98.1	35966	
D 47 13C3-PFB	S									
301.90 > 83.00	1.851	1.851	0.0		314349	NC				
5 Perfluorobuta										
	1.851 1.851	1.851 1.851	0.0	1.000 1.000	8427837	18.8	2 52/0 00 0 00)	106		
298.90 > 99.00 D 7 13C2 PFHx		1.651	0.0	1.000	3330357		2.53(0.00-0.00)			
315.00 > 270.00		2.112	0.0		11608842	55.0		110	422584	
6 Perfluorohex										
313.00 > 269.00			0.0	1.000	4065186	19.7		98.4	131162	
10 Perfluorohe	ptanoic a	acid								
363.00 > 319.00	2.452	2.452	0.0	1.000	3963985	19.0		94.9	50462	
D 9 13C4-PFHp										
367.00 > 322.00		2.452			10796501	56.0		112	275400	
8 Perfluorohex 399.00 > 80.00		nic acid 2.467		1.000	5583520	17.3		95.2		
D 11 1802 PFH		2.407	0.0	1.000	3303320	17.3		73.2		
403.00 > 84.00		2.467	0.0		14822182	51.0		108	372166	
D 12 M2-6:2FTS	5									
429.00 > 409.00	2.786	2.786	0.0		4738218	61.4		129		
Page 480 of 577								03/27	7/2017	

Report Date: 14-Mar-2017 13:30:56 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H, 427.00 > 407.00		•		e 1.000	1788297	20.1		106		
D 14 13C4 PFO. 417.00 > 372.00		2.810	0.0		10688574	52.2		104	293479	
15 Perfluorooci 413.00 > 369.00 413.00 > 169.00	2.825	2.825	0.0	1.000 0.997	4163632 2359593	19.1	1.76(0.90-1.10)	95.3	43315 80900	
16 Perfluorohe 449.00 > 80.00	•	fonic Ac 2.817		1.000	4933896	19.3		101		
D 18 13C4 PFO		3.193	0.0		11870290	49.1		103	249349	
20 Perfluorono 463.00 > 419.00			0.0	1.000	3096576	20.0		99.9	59553	
17 Perfluorooct 499.00 > 80.00 499.00 > 99.00	3.193	onic aci 3.193 3.193	0.0	1.000 1.000	4371980 978888	17.9	4.47(0.90-1.10)	96.4	1649 130770	M M M
D 19 13C5 PFN, 468.00 > 423.00	3.201	3.201	0.0		8571334	48.2		96.4	320558	
D 21 13C8 FOS. 506.00 > 78.00	3.527				18453339	50.3		101	364578	
22 Perfluorooct 498.00 > 78.00	3.535	3.535	0.0	1.000	6622850	20.0		99.9	223232	
25 Sodium 1H, 527.00 > 507.00		•		e 1.000	1770407	20.3		106		
D 26 M2-8:2FTS 529.00 > 509.00		3.544	0.0		4499967	48.6		101		
24 Perfluorode 513.00 > 469.00			0.0	1.000	2668327	18.9		94.6	79320	
D 23 13C2 PFD. 515.00 > 470.00		3.552	0.0		7783067	46.7		93.4	181496	
D 27 d3-NMeFO 573.00 > 419.00		3.703	0.0		3352645	39.4		78.7		
28 N-methyl pe 570.00 > 419.00				1.003	1244804	19.1		95.6		
29 Perfluorode 599.00 > 80.00		fonic ac 3.865		1.000	2765141	18.7		97.0		
D 32 d5-NEtFOS 589.00 > 419.00		3.874	0.0		3343407	41.1		82.2		
31 Perfluoroun 563.00 > 519.00		acid 3.882	0.0	1.000	2111916	17.5		87.4	40173	
33 N-ethyl perfl 584.00 > 419.00		ane sulfo 3.882		1.002	1201435	19.7		98.7		
D 30 13C2 PFUi 565.00 > 520.00	nA	3.882		1.002	5958017	45.5		91.1	242966	
D 34 d-N-MeFO: 515.00 > 169.00	SA-M	4.027			4253271	48.3		96.7	272 /00	
35 MeFOSA 512.00 > 169.00		4.027		1.000				99.7		
312.00 > 109.00	4.030	4.030	0.0	1.000	Page 481 of 577	17.7		77.1	03/27	7/2017

Report Date: 14-Mar-2017 13:30:56 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File:

Data File. //Ciliomiva/Saciamento/Ciliombata/Ao_iv/2017/0314-40000.b/2017/03.13A_033.d										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
37 Perfluorodoo	decanoio	acid								
613.00 > 569.00	4.172	4.172	0.0	1.000	1860378	18.8		93.9	23205	
D 36 13C2 PFD	ρA									
615.00 > 570.00	4.172	4.172	0.0		5415554	43.7		87.4	166680	
D 38 d-N-EtFOS										
531.00 > 169.00	4.215	4.215	0.0		4108486	48.2		96.4		
39 N-ethylperfluoro-1-octanesulfonami										
526.00 > 169.00			0.0	1.000	1579328	19.5		97.7		
41 Perfluorotrid										
663.00 > 619.00			0.0	1.000	1831626	19.4		96.8	37429	
42 Perfluorotetr				4 000	0070004	45.4		7	04500	
712.50 > 668.90		4.676	0.0	1.000	3270294	15.4	4 27(0 00 0 00)	76.8	21508	
713.00 > 169.00		4.676	-0.009	0.998	521264		6.27(0.00-0.00)		59346	
D 43 13C2-PFT6 715.00 > 670.00		4.676	0.0		10354560	40.0		79.9	408602	
		4.070	0.0		10354500	40.0		19.9	400002	
D 44 13C2-PFH; 815.00 > 770.00		5.079	0.0		5370781	42.9		85.9	88003	
45 Perfluorohe			0.0		3370701	42.7		03.9	00003	
			0.0	1.000	1776320	17.3		86.6	1864	
813.00 > 769.00 5.079 5.079 0.0 1.000 1776320 17.3 86.6 1864 46 Perfluorooctadecanoic acid										
913.00 > 869.00		5.437	0.0	1.000	1556326	20.0		100	2050	
710.00 / 007.00	0.107	0.707	0.0	1.000	1000020	20.0		100	2000	

OC Flag Legend Processing Flags

NC - Not Calibrated

Review Flags

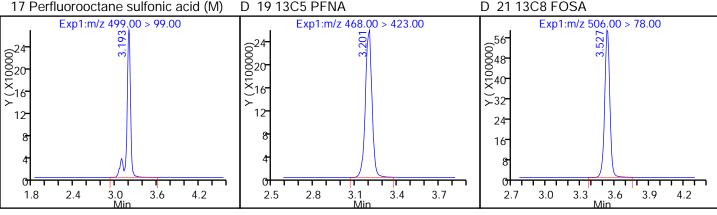
M - Manually Integrated

Reagents:

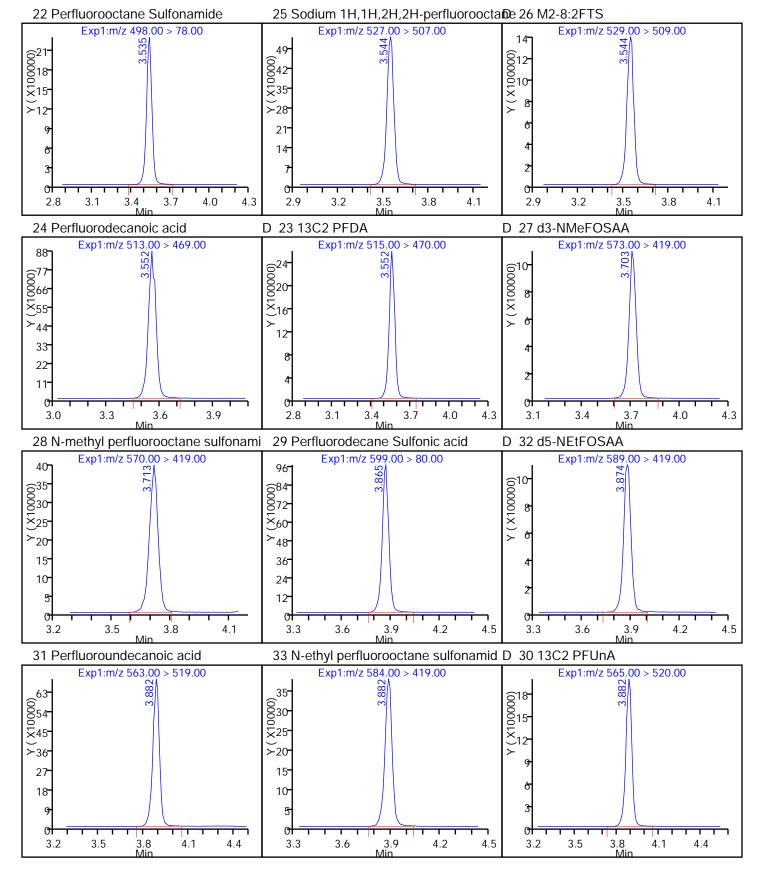
LCPFC_FULL-L4_00001 Amount Added: 1.00 Units: mL

Report Date: 14-Mar-2017 13:30:57 Chrom Revision: 2.2 13-Mar-2017 15:50:30 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d Data File: **Injection Date:** 13-Mar-2017 17:53:36 Instrument ID: A8_N Lims ID: CCV L4 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 17 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 18 00042 35 0000015 X) () 30-30-30-18 21 12 1.9 1.7 1.9 1.0 1.3 1.6 1.1 1.4 2.0 1.0 1.3 1.6 2.2 2.5 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 32 851 (015⁻ (0000012⁻) × 9 ©28**-**×20 16 12 1.8 2.1 2.4 1.5 2.1 2.4 1.9 1.2 1.5 1.2 1.8 1.3 1.6 2.2 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 10 Perfluoroheptanoic acid Exp1:m/z 363.00 > 319.00 Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00 14 (0000012 (X) 635 635 630 (000012-X), 8 ×25 **≻**20 15 10 01 2.0 1.8 2.1 2.7 1.8 2.1 2.4 1.7 2.3 2.6 1.5 2.4 2.7 3.0 1.5 D 9 13C4-PFHpA 8 Perfluorohexanesulfonic acid D 11 1802 PFHxS Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 16 49 35 00012 00012 00000 25-X 28 21 15 10 0 0 2.1 2.4 2.7 3.0 Page 486 of 577 3.2 2.0 2.3 2.6 1.8 1.4 1.7

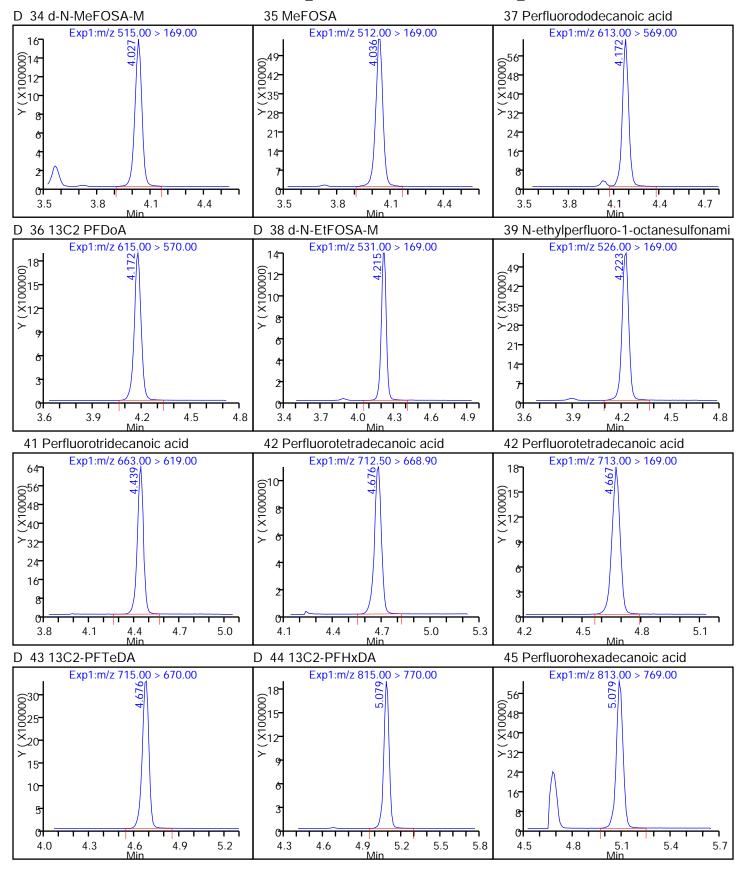
Report Date: 14-Mar-2017 13:30:57 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d D 12 M2-6:2FTS 13 Sodium 1H,1H,2H,2H-perfluorooctabe 14 13C4 PFOA Exp1:m/z 429.00 > 409.00 Exp1:m/z 427.00 > 407.00 Exp1:m/z 417.00 > 372.00 (0000012 (0000012) > 8 656 648 ×40 ≻₃₂-15 10 16 2.8 2.0 2.3 2.6 2.9 3.2 3.5 2.2 2.5 3.1 3.4 2.1 2.4 2.7 3.0 3.3 16 Perfluoroheptanesulfonic Acid 15 Perfluorooctanoic acid 15 Perfluorooctanoic acid Exp1:m/z 413.00 > 369.00 Exp1:m/z 413.00 > 169.00 Exp1:m/z 449.00 > 80.00 72 (12 (X100000) X 2.81 0014- 0012-63-654-≻₃₆-27 18 3.0 2.8 3.0 2.5 2.4 3.6 2.4 3.3 3.1 3.4 Min D 18 13C4 PFOS 20 Perfluorononanoic acid 17 Perfluorooctane sulfonic acid (M) Exp1:m/z 499.00 > 80.00 Exp1:m/z 503,00 > 80.00 Exp1:m/z 463.00 > 419.00 (X100000) % (35-(00030-(25-84 00072 X60 _48- ≻20 15 36 24 12 0 2.8 3.1 3.4 3.7 2.8 3.1 3.7 2.1 3.0 3.9 4.8 2.5 2.5 3.4 1.2 17 Perfluorooctane sulfonic acid (M) D 19 13C5 PFNA D 21 13C8 FOSA Exp1:m/z 499.00 > 99.00Exp1:m/z 468.00 > 423.00 Exp1:m/z 506.00 > 78.00



Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d



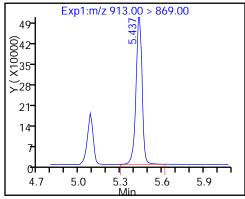
Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d



Report Date: 14-Mar-2017 13:30:57 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d

46 Perfluorooctadecanoic acid



Report Date: 14-Mar-2017 13:30:57 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d

Injection Date: 13-Mar-2017 17:53:36 Instrument ID: A8_N

Lims ID: CCV L4

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 17

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

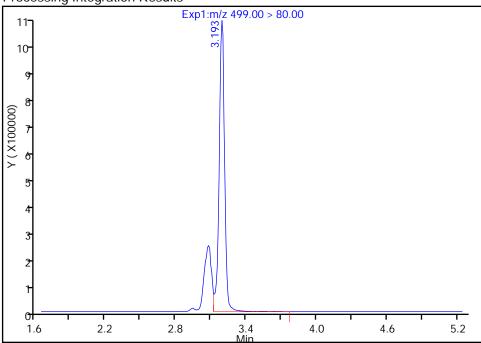
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

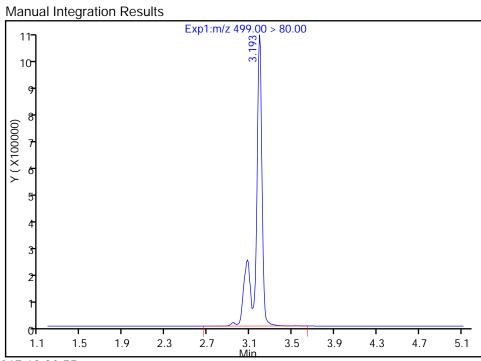
Signal: 1

RT: 3.19
Area: 3347821
Amount: 13.707626
Amount Units: ng/ml

Processing Integration Results



RT: 3.19
Area: 4371980
Amount: 17.901037
Amount Units: ng/ml



Reviewer: westendorfc, 14-Mar-2017 13:30:55

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 488 of 577

Report Date: 14-Mar-2017 13:30:57 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170314-40808.b\2017.03.13A_053.d

Injection Date: 13-Mar-2017 17:53:36 Instrument ID: A8_N

Lims ID: CCV L4

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 17

Injection Vol: 2.0 ul Dil. Factor: 1.0000

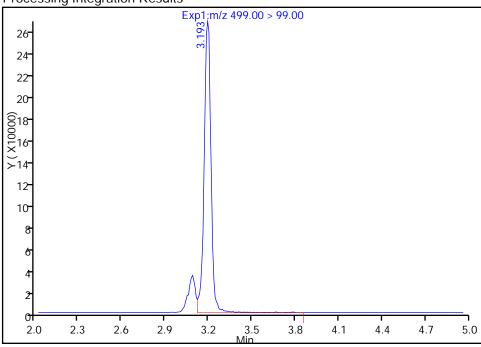
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

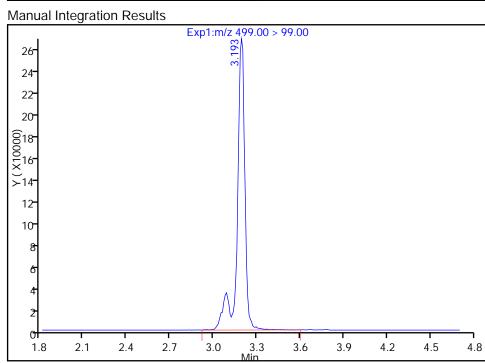
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 2

RT: 3.19 Area: 867581 Amount: 13.707626 Amount Units: ng/ml **Processing Integration Results**



RT: 3.19
Area: 978888
Amount: 17.901037
Amount Units: ng/ml



Reviewer: westendorfc, 14-Mar-2017 13:30:55

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 489 of 577 03/27/2017

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-155009/3</u> Calibration Date: <u>03/14/2017 14:51</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.14A_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8741		51.6	50.0	3.2	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	0.9901		50.6	50.0	1.2	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.487		45.9	44.2	3.8	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.8965		50.4	50.0	0.8	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9902		51.2	50.0	2.4	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	1.021		45.2	45.5	-0.7	25.0
6:2FTS	L2ID		0.8792		46.9	47.4	-1.0	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.107		51.1	47.6	7.3	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	1.031		50.5	50.0	1.0	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	1.005		47.4	46.4	2.2	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9210		50.9	50.0	1.9	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9316		51.8	50.0	3.7	25.0
8:2FTS	L2ID		0.9156		47.4	47.9	-1.1	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.9268		51.2	50.0	2.3	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9491		48.9	50.0	-2.3	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.6295		50.9	48.2	5.7	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8432		46.3	50.0	-7.4	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.9532		47.0	50.0	-6.0	25.0
MeFOSA	AveID	0.9355	0.9022		48.2	50.0	-3.6	25.0
N-EtFOSA-M	AveID	0.9837	0.9407		47.8	50.0	-4.4	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.9110		49.8	50.0	-0.4	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.8685		49.7	50.0	-0.6	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.684		42.8	50.0	-14.4	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.9377		50.2	50.0	0.4	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.7441		51.9	50.0	3.7	25.0
13C4 PFBA	Ave	292242	308461		52.8	50.0	5.5	50.0
13C5-PFPeA	Ave	232192	236510		50.9	50.0	1.9	50.0
13C2 PFHxA	Ave	210884	220220		52.2	50.0	4.4	50.0
13C4-PFHpA	Ave	192959	195528		50.7	50.0	1.3	50.0
1802 PFHxS	Ave	290899	299743		48.7	47.3	3.0	50.0
M2-6:2FTS	Ave	77178	84240		51.8	47.5	9.2	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-155009/3</u> Calibration Date: <u>03/14/2017 14:51</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.14A_017.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	205057		50.0	50.0	0.0	50.0
13C4 PFOS	Ave	241637	241198		47.7	47.8	-0.2	50.0
13C5 PFNA	Ave	177866	179466		50.4	50.0	0.9	50.0
13C8 FOSA	Ave	366918	384001		52.3	50.0	4.7	50.0
M2-8:2FTS	Ave	92602	103092		53.3	47.9	11.3	50.0
13C2 PFDA	Ave	166704	173398		52.0	50.0	4.0	50.0
d3-NMeFOSAA	Ave	85186	77971		45.8	50.0	-8.5	50.0
d5-NEtFOSAA	Ave	81371	80885		49.7	50.0	-0.6	50.0
13C2 PFUnA	Ave	130805	125857		48.1	50.0	-3.8	50.0
d-N-MeFOSA-M	Ave	87983	84821		48.2	50.0	-3.6	50.0
d-N-EtFOSA-M	Ave	85249	79656		46.7	50.0	-6.6	50.0
13C2 PFDoA	Ave	123944	122973		49.6	50.0	-0.8	50.0
13C2-PFTeDA	Ave	259165	239374		46.2	50.0	-7.6	50.0
13C2-PFHxDA	Ave	125061	136288		54.5	50.0	9.0	50.0

Report Date: 15-Mar-2017 11:36:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30

> TestAmerica Sacramento **Target Compound Quantitation Report**

\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_017.d Data File:

Lims ID: CCV L5

Client ID:

Sample Type: CCV

Inject. Date: 14-Mar-2017 14:51:03 ALS Bottle#: 32 Worklist Smp#: 3

Dil. Factor: Injection Vol: 1.0000 2.0 ul

Sample Info: CCV L5

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 15-Mar-2017 11:36:28 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK027

First Level Reviewer: phomsophat Date: 15-Mar-2017 10:35:08

First Level Revie	wei. piic	лизорна	11		Date.		15-10141-2017 10.35.0	,,,		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA	A									
217.00 > 172.00	1.547	1.547	0.0		15423036	52.8		106	806077	
2 Perfluorobut	,									
212.90 > 169.00		1.555	0.0	1.000	13480610	51.6		103	70844	
D 3 13C5-PFP6										
267.90 > 223.00		1.833	0.0		11825520	50.9		102	578695	
4 Perfluoroper			0.0	1 000	11700705	FO /		101	110045	
262.90 > 219.00		1.843	0.0	1.000	11708735	50.6		101	113245	
D 47 13C3-PFB 301.90 > 83.00		1.873	0.0		303802	NC				
5 Perfluorobut			0.0		303002	NC				
	.anesuno 1.883	1.883	0.0	1.000	19697042	45.9		104		
	1.883	1.883	0.0	1.000	8447608	10.7	2.33(0.00-0.00)	101		
D 7 13C2 PFHx	κA									
315.00 > 270.00	2.149	2.149	0.0		11011019	52.2		104	626535	
6 Perfluorohex	kanoic ac	cid								
313.00 > 269.00	2.149	2.149	0.0	1.000	9871777	50.4		101	295294	
D 9 13C4-PFH _k										
367.00 > 322.00	2.494	2.494	0.0		9776411	50.7		101	274093	
10 Perfluorohe	•									
363.00 > 319.00	2.494	2.494	0.0	1.000	9680217	51.2		102	130738	
D 11 1802 PFH										
403.00 > 84.00		2.517			14177833	48.7		103	373343	
8 Perfluorohex				1 000	12024547	45.0		00.0		
399.00 > 80.00		2.517	0.0	1.000	13921547	45.2		99.3		
D 12 M2-6:2FTS		2 0 4 E	0.0		4001200	E1 0		109		
429.00 > 409.00	2.845	2.845	0.0		4001398	51.8		109		
					Page 492 of	577			03/27	7/2017

Page 492 of 577

Data File:	\\Chrc	mNa\Sa	acrament	o\Chrom[Data\A8_N\20170	315-4085	2.b\2017.03.14A_01	7.d		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,	1 2 2	U porflu	orooctan	0						
427.00 > 407.00	2.845	•		1.000	3510795	46.9		99.0		
D 14 13C4 PFO 417.00 > 372.00		2.868	0.0		10252866	50.0		100	304067	
15 Perfluorooct										
413.00 > 369.00 413.00 > 169.00		2.876 2.876	0.0	1.000 1.000	10575726 6185949	50.5	1.71(0.90-1.10)	101	167546 203541	
16 Perfluoroher	otanesul	fonic Ac	id							
449.00 > 80.00 17 Perfluorooct		2.876		1.000	12703692	51.1		107		
499.00 > 80.00		3.222		1.000	11252285	47.4		102	192103	
499.00 > 99.00	3.248	3.222	0.026	1.008	2449929	17.1	4.59(0.90-1.10)	102	6476	
D 18 13C4 PFOS										
503.00 > 80.00 D 19 13C5 PFNA		3.248	0.0		11529258	47.7		99.8	211875	
468.00 > 423.00	3.257	3.257	0.0		8973297	50.4		101	296277	
20 Perfluoronor 463.00 > 419.00		cid 3.257	0.0	1.000	8264507	50.9		102	132404	
D 21 13C8 FOS										
506.00 > 78.00 22 Perfluorooct		3.548			19200070	52.3		105	465184	
498.00 > 78.00		3.548		1.000	17885927	51.8		104	354996	
D 26 M2-8:2FTS	;									
529.00 > 509.00		3.598			4938112	53.3		111		
25 Sodium 1H, 527.00 > 507.00		H-perflu 3.598		e 1.000	4521245	47.4		98.9		
D 23 13C2 PFD										
515.00 > 470.00		3.615	0.0		8669922	52.0		104	160233	
24 Perfluorodeo 513.00 > 469.00		cia 3.615	0.0	1.000	8034891	51.2		102	203614	
D 27 d3-NMeFO 573.00 > 419.00		3.771	0.0		3898554	45.8		91.5		
28 N-methyl pe					3070334	43.0		71.5		
570.00 > 419.00				1.003	3700028	48.9		97.7		
29 Perfluorodeo 599.00 > 80.00		fonic ac 3.931		1.000	7318557	50.9		106		
D 32 d5-NEtFOS										
589.00 > 419.00		3.939	0.0		4044260	49.7		99.4		
D 30 13C2 PFUr 565.00 > 520.00		3.948	0.0		6292871	48.1		96.2	224590	
33 N-ethyl perfl	uoroocta									
584.00 > 419.00		3.948	0.0	1.002	3409979	46.3		92.6		
31 Perfluoround 563.00 > 519.00		3.948	0.0	1.000	5998451	47.0		94.0	111564	
D 34 d-N-MeFOS 515.00 > 169.00		4.022	0.0		4241048	48.2		96.4		
35 MeFOSA	7.022	7.022	0.0		7471040	70.∠		70.4		
512.00 > 169.00	4.022	4.022	0.0	1.000	Page 493 of 577	, 48.2		96.4	03/27	7/2017

Report Date: 15-Mar-2017 11:36:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File:

Data File.	WOI II C	iiiiva	acramen		Data AO_N 201	70313-4003.	2.D(2017.03.14A_01	7.u		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 38 d-N-EtFOS	A-M									
531.00 > 169.00	4.205	4.205	0.0		3982808	46.7		93.4		
39 N-ethylperflu		ctanesu	lfonami							
526.00 > 169.00	4.213	4.213	0.0	1.000	3746797	47.8		95.6		
D 36 13C2 PFD										
615.00 > 570.00	4.241	4.241	0.0		6148628	49.6		99.2	166491	
37 Perfluorodoo		acid								
613.00 > 569.00		4.241	0.0	1.000	5601365	49.8		99.6	33290	
41 Perfluorotrid										
663.00 > 619.00	4.514	4.514	0.0	1.000	5340193	49.7		99.4	20362	
D 43 13C2-PFT6										
715.00 > 670.00		4.757	0.0		11968681	46.2		92.4	389085	
42 Perfluorotetr				4 000	10050/04	40.0		o= /	1000	
712.50 > 668.90		4.757	0.0	1.000	10352634	42.8	((((0 0 0 0 0 0 0)	85.6	4828	
713.00 > 169.00		4.757	-0.008	0.998	1554213		6.66(0.00-0.00)		168419	
D 44 13C2-PFH		E 102	0.0		4014204	E 1 E		100	104450	
815.00 > 770.00		5.183			6814386	54.5		109	126458	
45 Perfluorohex 813.00 > 769.00				1.000	E74E224	50.2		100	E114	
			0.0	1.000	5765236	30.2		100	5146	
46 Perfluorooct 913.00 > 869.00		5.567	0.0	1.000	4575218	51.9		104	4172	
713.00 > 809.00	5.567	5.567	0.0	1.000	43/3218	51.9		104	41/2	

OC Flag Legend Processing Flags

NC - Not Calibrated

Reagents:

LCPFC_FULL-L5_00001 Amount Added: 1.00 Units: mL

Report Date: 15-Mar-2017 11:36:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_017.d Data File: **Injection Date:** 14-Mar-2017 14:51:03 Instrument ID: A8_N Lims ID: CCV L5 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 3 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 313C5-PFPeA Exp1:m/z 217.00 > 172.00 Exp1:m/z 212.90 > 169.00 Exp1:m/z 267.90 > 223.00 547 42 (000001X) 30-30-©36 0 0 30 0035<u>-</u> ×)28<u>-</u> × 18 21 18 12 1.9 1.8 1.0 1.3 1.6 2.2 1.1 1.4 1.7 2.0 1.5 2.1 2.4 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298,90 > 80.00 Exp1:m/z 298.90 > 99.00 42 63⁶³ 0054 0000030 628 624 624 -45 ∑20 **≻**36 ≻16 18 27 12 18 1.5 2.4 1.8 2.1 2.4 1.7 2.0 1.2 1.8 2.1 1.2 1.5 1.1 1.4 2.3 D 7 13C2 PFHxA 6 Perfluorohexanoic acid D 9 13C4-PFHpA Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 367.00 > 322.00 (35-00030-X25-630 60 60 625 628 0024 ×20 ≻20 15 15 12 10 10 2.0 2.3 2.9 1.7 2.0 2.3 2.9 2.2 2.5 1.7 2.6 1.4 2.6 2.8 3.1 10 Perfluoroheptanoic acid D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid Exp1:m/z 363.00 > 319.00 Exp1:m/z 403.00 > 84.00 Exp1:m/z 399.00 > 80.00 (000001X 30-(35⁻ (0030⁻ (25⁻ 628 0024 ∑20 ≻16- -20 15 18 12 12 10 0 0 1.9 2.2 2.5 2.8 3.1 1.8 2.4 1.6 1.2

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_017.d 13 Sodium 1H,1H,2H,2H-perfluoroocta De 14 13C4 PFOA Exp1:m/z 417.00 > 372.00 Exp1:m/z 429.00 > 409.00 Exp1:m/z 427.00 > 407.00 (12 (0000010 (X) X Y (X100000) 628 624 ×20 ≻16- 2.9 2.1 2.4 2.7 3.0 3.3 3.6 2.3 2.6 3.2 2.2 2.5 2.8 3.1 3.4 15 Perfluorooctanoic acid 15 Perfluorooctanoic acid 16 Perfluoroheptanesulfonic Acid Exp1:m/z 413.00 > 369.00 Exp1:m/z 413.00 > 169.00 Exp1:m/z 449.00 > 80.00 (0000015-X12-©28-0024-000030 X 24 Σ_{20} 18 12 2.8 3.0 3.3 2.9 3.2 2.2 2.5 3.1 2.4 2.7 2.3 2.6 3.5 17 Perfluorooctane sulfonic acid 17 Perfluorooctane sulfonic acid D 18 13C4 PFOS Exp1:m/z 499.00 > 80.00 Exp1:m/z 499.00 > 99.00 Exp1:m/z 503.00 > 80.00 28 35-35-30-35-25-63-0054-×45-00024 00020 ∑20 ≻36- 27 10 18 2.5 3.7 3.5 2.7 3.0 3.3 3.6 3.9 1.9 3.1 4.3 0.5 D 19 13C5 PFNA D 21 13C8 FOSA 20 Perfluorononanoic acid Exp1:m/z 463.00 > 419.00 Exp1:m/z 468.00 > 423.00 Exp1:m/z 506.00 > 78.0024 (056⁻ (00048-(×40⁻ 0024 000020 ×)16 021- ∑₁₅-≻32 24 16

3.3 //in

3.6

3.9

3.0

3.3

3.6

3.9

3.0

2.5

2.8

3.1

3.4

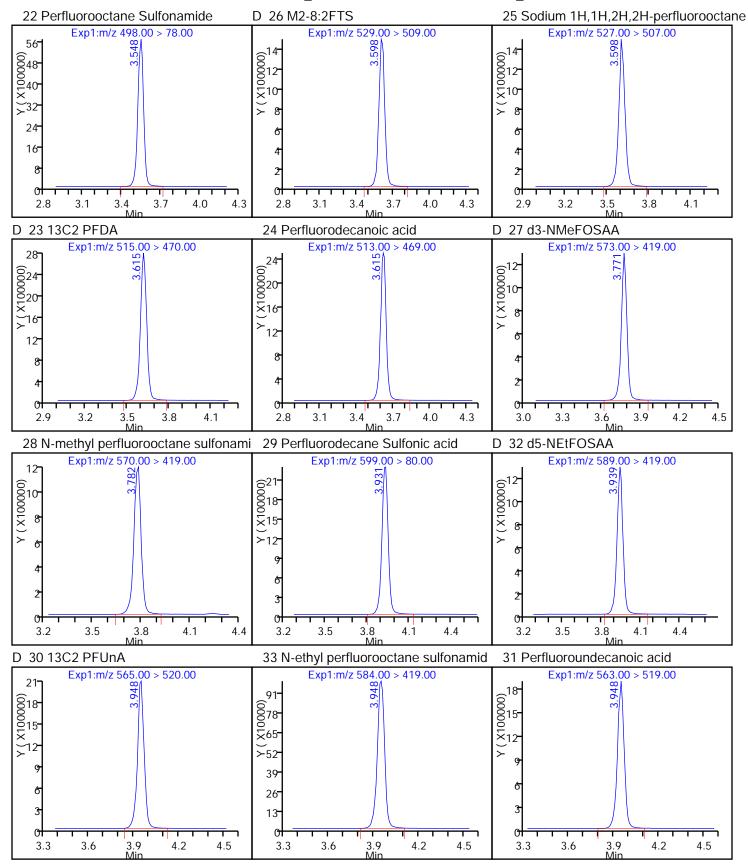
3.7

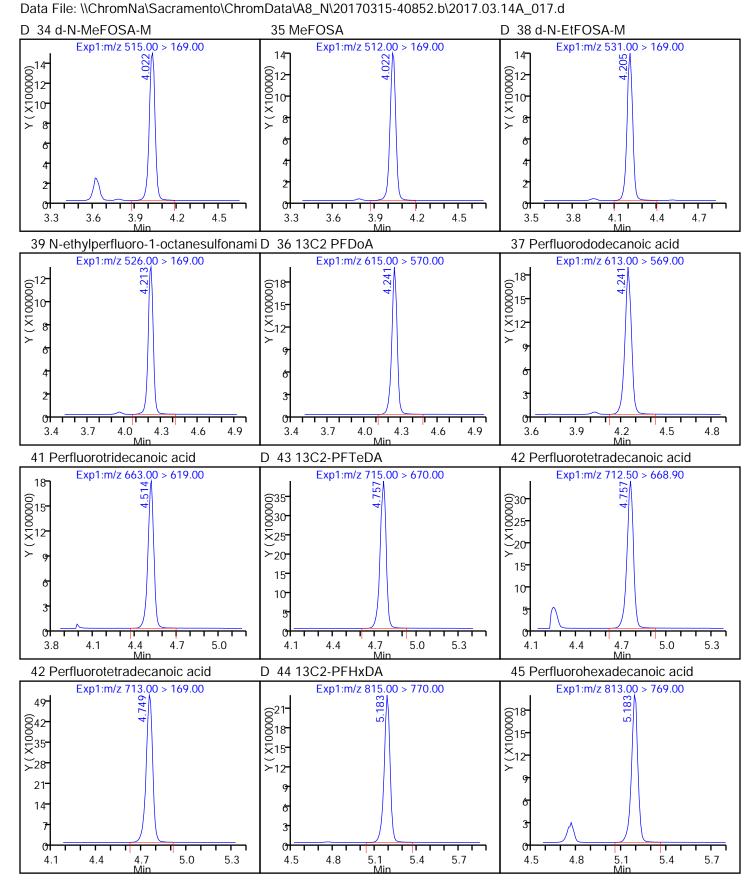
4.0

2.7

4.2

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_017.d

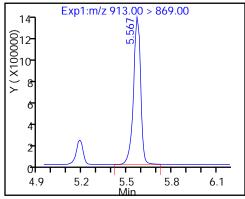




Report Date: 15-Mar-2017 11:36:29 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_017.d

46 Perfluorooctadecanoic acid



FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: CCV 320-155009/7 Calibration Date: 03/14/2017 15:21

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.14A_021.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Perfluorobutanoic acid (PFBA)	AveID	0.8473	0.8548		20.2	20.0	0.9	25.0
Perfluoropentanoic acid (PFPeA)	AveID	0.9785	0.9469		19.4	20.0	-3.2	25.0
Perfluorobutanesulfonic acid (PFBS)	AveID	1.433	1.414		17.4	17.7	-1.3	25.0
Perfluorohexanoic acid (PFHxA)	AveID	0.8895	0.8555		19.2	20.0	-3.8	25.0
Perfluoroheptanoic acid (PFHpA)	AveID	0.9673	0.9186		19.0	20.0	-5.0	25.0
Perfluorohexanesulfonic acid (PFHxS)	AveID	1.028	0.9731		17.2	18.2	-5.4	25.0
6:2FTS	L2ID		0.9174		19.5	19.0	2.8	25.0
Perfluorooctanoic acid (PFOA)	AveID	1.022	0.9779		19.1	20.0	-4.3	25.0
Perfluoroheptanesulfonic Acid (PFHpS)	AveID	1.031	1.051		19.4	19.0	2.0	25.0
Perfluorooctanesulfonic acid (PFOS)	AveID	0.9835	0.9280		17.5	18.6	-5.6	25.0
Perfluorononanoic acid (PFNA)	AveID	0.9040	0.9016		19.9	20.0	-0.3	25.0
Perfluorooctane Sulfonamide (FOSA)	AveID	0.8985	0.9074		20.2	20.0	1.0	25.0
8:2FTS	L2ID		0.9944		20.5	19.2	7.2	25.0
Perfluorodecanoic acid (PFDA)	AveID	0.9057	0.8701		19.2	20.0	-3.9	25.0
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	AveID	0.9711	0.9535		19.6	20.0	-1.8	25.0
Perfluorodecanesulfonic acid (PFDS)	AveID	0.5957	0.5900		19.1	19.3	-1.0	25.0
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	AveID	0.9103	0.8730		19.2	20.0	-4.1	25.0
Perfluoroundecanoic acid (PFUnA)	AveID	1.014	0.8668		17.1	20.0	-14.5	25.0
MeFOSA	AveID	0.9355	0.9142		19.5	20.0	-2.3	25.0
N-EtFOSA-M	AveID	0.9837	0.9731		19.8	20.0	-1.1	25.0
Perfluorododecanoic acid (PFDoA)	AveID	0.9145	0.8823		19.3	20.0	-3.5	25.0
Perfluorotridecanoic Acid (PFTriA)	AveID	0.8734	0.8239		18.9	20.0	-5.7	25.0
Perfluorotetradecanoic acid (PFTeA)	AveID	1.966	1.631		16.6	20.0	-17.1	25.0
Perfluoro-n-hexadecanoic acid (PFHxDA)	L1ID		0.8681		18.4	20.0	-8.2	25.0
Perfluoro-n-octadecanoic acid (PFODA)	AveID	0.7175	0.7167		20.0	20.0	-0.1	25.0
13C4 PFBA	Ave	292242	320977		54.9	50.0	9.8	50.0
13C5-PFPeA	Ave	232192	243609		52.5	50.0	4.9	50.0
13C2 PFHxA	Ave	210884	229980		54.5	50.0	9.1	50.0
13C4-PFHpA	Ave	192959	206974		53.6	50.0	7.3	50.0
1802 PFHxS	Ave	290899	317681		51.7	47.3	9.2	50.0
M2-6:2FTS	Ave	77178	91083		56.1	47.5	18.0	50.0

FORM VII LCMS CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Lab Sample ID: <u>CCV 320-155009/7</u> Calibration Date: <u>03/14/2017 15:21</u>

Instrument ID: A8_N Calib Start Date: 03/01/2017 11:08

GC Column: GeminiC18 3×100 ID: 3.00 (mm) Calib End Date: 03/01/2017 11:46

Lab File ID: 2017.03.14A_021.d Conc. Units: ng/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
13C4 PFOA	Ave	204953	217798		53.1	50.0	6.3	50.0
13C4 PFOS	Ave	241637	255728		50.6	47.8	5.8	50.0
13C5 PFNA	Ave	177866	184562		51.9	50.0	3.8	50.0
13C8 FOSA	Ave	366918	399428		54.4	50.0	8.9	50.0
M2-8:2FTS	Ave	92602	102822		53.2	47.9	11.0	50.0
13C2 PFDA	Ave	166704	175771		52.7	50.0	5.4	50.0
d3-NMeFOSAA	Ave	85186	80071		47.0	50.0	-6.0	50.0
d5-NEtFOSAA	Ave	81371	84383		51.9	50.0	3.7	50.0
13C2 PFUnA	Ave	130805	132483		50.6	50.0	1.3	50.0
d-N-MeFOSA-M	Ave	87983	87617		49.8	50.0	-0.4	50.0
d-N-EtFOSA-M	Ave	85249	81147		47.6	50.0	-4.8	50.0
13C2 PFDoA	Ave	123944	123061		49.6	50.0	-0.7	50.0
13C2-PFTeDA	Ave	259165	240315		46.4	50.0	-7.3	50.0
13C2-PFHxDA	Ave	125061	127747		51.1	50.0	2.1	50.0

Report Date: 15-Mar-2017 11:36:37 Chrom Revision: 2.2 13-Mar-2017 15:50:30

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_021.d

Lims ID: CCV L4

Client ID:

Sample Type: CCV

Inject. Date: 14-Mar-2017 15:21:04 ALS Bottle#: 31 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: CCV L4

Misc. Info.: Plate: 1 Rack: 1

Operator ID: A8-PC\A8 Instrument ID: A8_N

Sublist: chrom-A8_N*sub14

Method: \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 15-Mar-2017 11:36:37 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK027

First Level Reviewer: westendorfc Date: 15-Mar-2017 11:36:21

First Level Revie	wer: wes	stendorfo			Date:	1	5-Mar-2017 11:36:2	1		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA	4									
217.00 > 172.00		1.539	0.0		16048865	54.9		110	839739	
2 Perfluorobut	yric acid									
212.90 > 169.00	1.547	1.547	0.0	1.000	5487328	20.2		101	26697	
D 3 13C5-PFP6										
267.90 > 223.00		1.832	0.0		12180432	52.5		105	613977	
4 Perfluoroper			0.0	4 000	4/40400	40.4		04.0	47540	
262.90 > 219.00		1.832	0.0	1.000	4613498	19.4		96.8	47510	
D 47 13C3-PFB3 301.90 > 83.00		1.872	0.0		299619	NC				
5 Perfluorobut			0.0		299019	NC				
	1.872	1.872	0.0	1.000	7939419	17.4		98.7		
298.90 > 99.00			0.0	1.000	3208239	17.1	2.47(0.00-0.00)	70.7		
D 7 13C2 PFHx	κA									
315.00 > 270.00	2.133	2.133	0.0		11498984	54.5		109	444900	
6 Perfluorohex	kanoic ac	cid								
313.00 > 269.00	2.133	2.133	0.0	1.000	3935053	19.2		96.2	95252	
D 9 13C4-PFHp										
367.00 > 322.00			0.0		10348698	53.6		107	557443	
10 Perfluorohe	•		0.0	4 000	000000	40.0		05.0	47770	
363.00 > 319.00		2.479	0.0	1.000	3802303	19.0		95.0	47769	
D 11 1802 PFH 403.00 > 84.00		2.494	0.0		15026329	51.7		109	321272	
					15020329	31.7		109	321212	
8 Perfluorohex 399.00 > 80.00		2.494		1.000	5626066	17.2		94.6		
D 12 M2-6:2FTS		Z. 17 T	0.0		302000	17.2		, 1.0		
429.00 > 409.00		2.814	0.0		4326450	56.1		118		
					Page 502 of 5	577			03/27	7/2017

Page 502 of 577

Report Date: 15-Mar-2017 11:36:37 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File:		/ 11:36: mNa\Sa		o\Chrom[13-Mar-2017 15:50: 2.b\2017.03.14A_02			
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
13 Sodium 1H,1 427.00 > 407.00		•		e 1.000	1584339	19.5		103		
D 14 13C4 PFOA 417.00 > 372.00	2.845	2.845	0.0		10889913	53.1		106	251974	
15 Perfluoroocta 413.00 > 369.00 413.00 > 169.00	2.845 2.853	2.845 2.845	0.0	1.000 1.003	4259682 2463034	19.1	1.73(0.90-1.10)	95.7	51042 68319	
16 Perfluorohep 449.00 > 80.00	2.853	2.853	0.0	1.000	5118512	19.4		102		
17 Perfluoroocta 499.00 > 80.00 499.00 > 99.00	3.222 3.222	3.222 3.222 3.222	0.0	1.000 1.000	4404572 969207	17.5	4.54(0.90-1.10)	94.4	519300 132338	M M
D 18 13C4 PFOS 503.00 > 80.00	3.222	3.222	0.0		12223820	50.6		106	254385	
D 19 13C5 PFNA 468.00 > 423.00	3.222	3.222	0.0		9228078	51.9		104	276695	
20 Perfluoronon 463.00 > 419.00	3.231	cid 3.231	0.0	1.000	3328047	19.9		99.7	62651	
D 21 13C8 FOSA 506.00 > 78.00	3.532	3.532			19971415	54.4		109	391525	
22 Perfluoroocta 498.00 > 78.00		onamide 3.532		1.000	7248737	20.2		101	316487	
D 26 M2-8:2FTS 529.00 > 509.00	3.574	3.574	0.0		4925178	53.2		111		
25 Sodium 1H,1 527.00 > 507.00	3.574	H-perflu 3.574		e 1.000	1958997	20.5		107		
D 23 13C2 PFDA 515.00 > 470.00		3.590	0.0		8788556	52.7		105	170145	
24 Perfluorodec 513.00 > 469.00			0.0	1.000	3058630	19.2		96.1	111475	
D 27 d3-NMeFOS 573.00 > 419.00		3.740	0.0		4003573	47.0		94.0		
28 N-methyl per 570.00 > 419.00		tane su 3.750		1.003	1526968	19.6		98.2		
29 Perfluorodec 599.00 > 80.00		fonic ac 3.891		1.000	2908954	19.1		99.0		
D 32 d5-NEtFOS 589.00 > 419.00		3.908	0.0		4219127	51.9		104		
D 30 13C2 PFUn. 565.00 > 520.00		3.917	0.0		6624140	50.6		101	274587	
33 N-ethyl perflu 584.00 > 419.00		ane sulfo 3.917		1.002	1473362	19.2		95.9		
31 Perfluoround 563.00 > 519.00		acid 3.917	0.0	1.000	2296653	17.1		85.5	80252	
D 34 d-N-MeFOS 515.00 > 169.00		4.016	0.0		4380830	49.8		99.6		
35 MeFOSA 512.00 > 169.00	4.026	4.026	0.0	1.000	Page 503 of 57	7 19.5		97.7	03/27	7/2017

Report Date: 15-Mar-2017 11:36:37 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Data File: \\ChromNa\Sacramento\ChromData\A8 N\20170315-40852.b\2017.03.14A 021.d

Data File:	NChr	ภาเพลเวล	acrament	.o\Cnrom	Data\A8_N\201	70315-4085	2.b\2017.03.14A_02	2 1. a		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 38 d-N-EtFOS	A-M									
531.00 > 169.00	4.197	4.197	0.0		4057352	47.6		95.2		
39 N-ethylperflu										
526.00 > 169.00	4.204	4.204	0.0	1.000	1579278	19.8		98.9		
37 Perfluorodo										
613.00 > 569.00		4.212	0.0	1.000	2171410	19.3		96.5	14722	
D 36 13C2 PFD					(450055	40.4		00.0	440/5/	
615.00 > 570.00			0.0		6153055	49.6		99.3	149656	
41 Perfluorotrio			0.0	1 000	2027744	10.0		04.0	20205	
663.00 > 619.00		4.479	0.0	1.000	2027711	18.9		94.3	28395	
D 43 13C2-PFT		4 74 /	0.0		10015740	47.4		00.7	442077	
715.00 > 670.00		4.716	0.0		12015743	46.4		92.7	413066	
42 Perfluoroteti 712.50 > 668.90		4.724	0.0	1.000	4013199	16.6		82.9	2008	
712.50 > 666.90		4.724		0.998	604611	10.0	6.64(0.00-0.00)	02.9	102681	
D 44 13C2-PFH		7.727	0.000	0.770	004011		0.04(0.00 0.00)		102001	
815.00 > 770.00		5.137	0.0		6387350	51.1		102	113899	
45 Perfluorohe			0.0		0007000	01.1		.02	110077	
813.00 > 769.00		5.137	0.0	1.000	2136611	18.4		91.8	1910	
46 Perfluorooct			0					,		
913.00 > 869.00		5.520	0.0	1.000	1764056	20.0		99.9	1653	

OC Flag Legend Processing Flags

NC - Not Calibrated

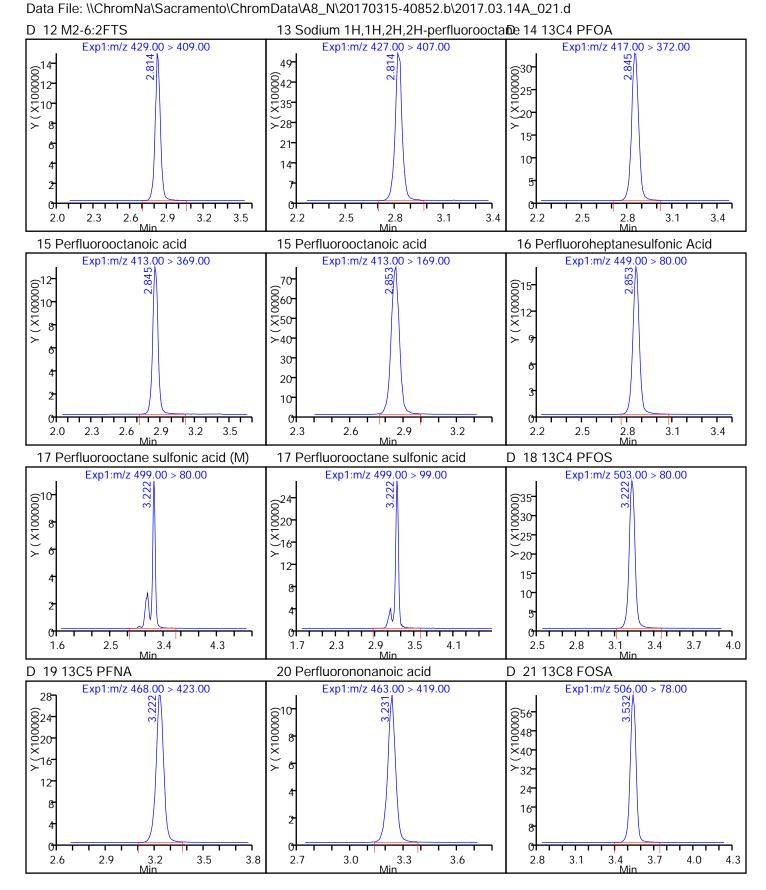
Review Flags

M - Manually Integrated

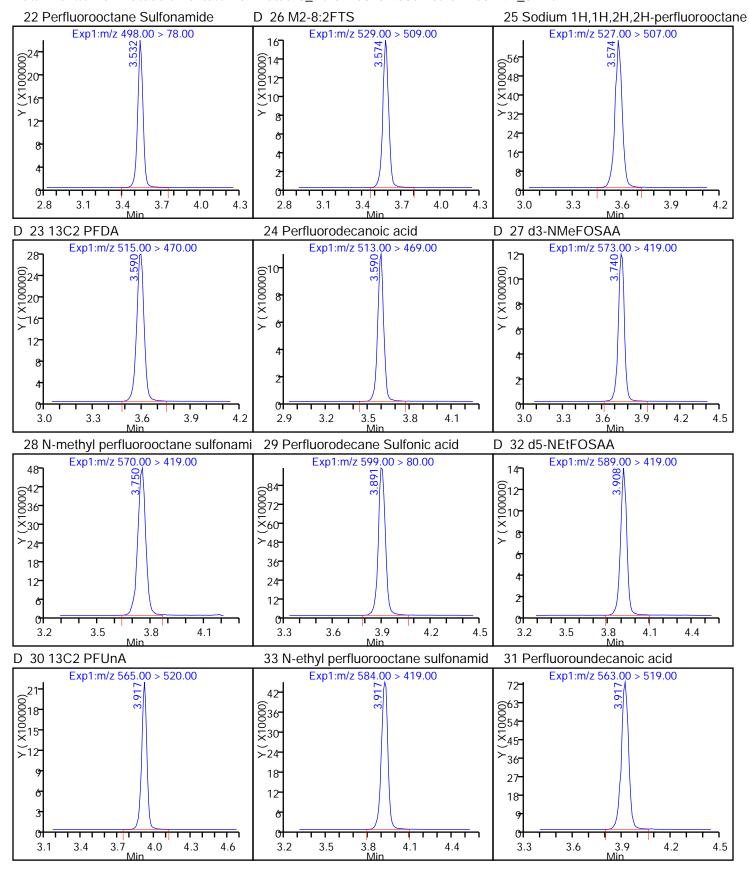
Reagents:

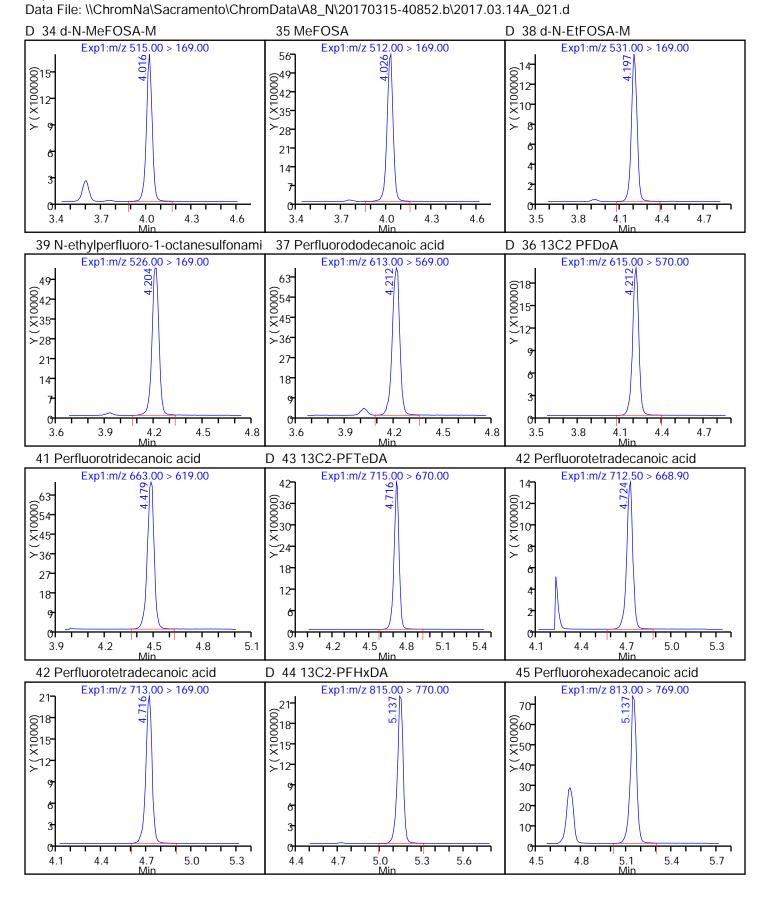
LCPFC_FULL-L4_00001 Amount Added: 1.00 Units: mL

Report Date: 15-Mar-2017 11:36:37 Chrom Revision: 2.2 13-Mar-2017 15:50:30 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_021.d Data File: **Injection Date:** 14-Mar-2017 15:21:04 Instrument ID: A8_N Lims ID: CCV L4 Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 7 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 (0000015 12 00042 35 ×30-18 21 12 1.0 1.9 1.7 2.0 1.3 1.6 1.1 1.4 2.0 2.3 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 28 (000012 X) > 9 0024-0024-×20-∑16- 12 2.4 1.9 1.5 1.8 2.1 2.4 1.2 1.5 1.8 2.2 1.2 2.1 1.3 1.6 2.5 D 7 13C2 PFHxA 6 Perfluorohexanoic acid D 9 13C4-PFHpA Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 367.00 > 322.00 14 ©30 0 0 25 <u>8</u>36 830 $\stackrel{\cdot}{\succeq}_{20}$ 15 18 10 12 1.7 2.0 2.3 2.9 1.8 2.1 2.4 2.7 2.0 2.3 2.6 2.9 2.6 1.5 1.7 3.2 10 Perfluoroheptanoic acid D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid Exp1:m/z 363.00 > 319.00 Exp1:m/z 403.00 > 84.00 Exp1:m/z 399.00 > 80.00 49 16 (X100000) (X100000) 0014 0012 _28 21 14 0 0 2.0 1.8 2.1 2.4 2.7 3.0 3.0 1.4 2.6 1.8 ^{2,1} Page 505 of 577



Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_021.d

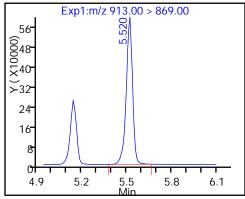




Report Date: 15-Mar-2017 11:36:37 Chrom Revision: 2.2 13-Mar-2017 15:50:30

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_021.d

46 Perfluorooctadecanoic acid



Report Date: 15-Mar-2017 11:36:37 Chrom Revision: 2.2 13-Mar-2017 15:50:30 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170315-40852.b\2017.03.14A_021.d

Injection Date: 14-Mar-2017 15:21:04 Instrument ID: A8_N

Lims ID: CCV L4

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 7

Injection Vol: 2.0 ul Dil. Factor: 1.0000

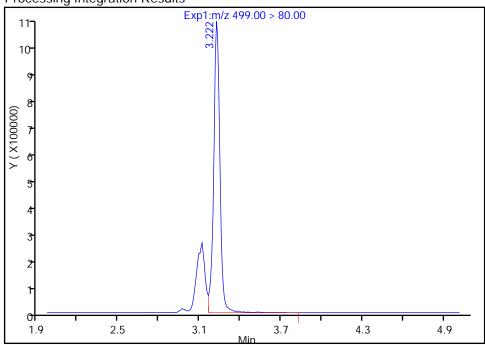
Method: A8_N Limit Group: LC PFC_DOD ICAL

Column: Detector EXP1

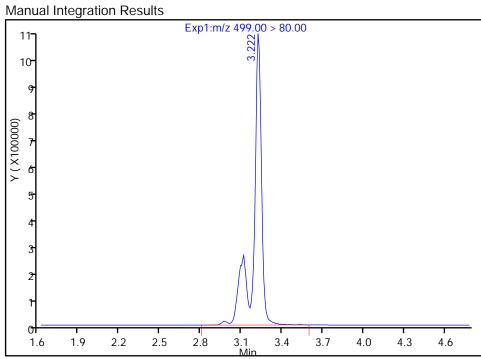
17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

Signal: 1

RT: 3.22 Area: 3307929 Amount: 13.152569 Amount Units: ng/ml **Processing Integration Results**



RT: 3.22
Area: 4404572
Amount: 17.512902
Amount Units: ng/ml



Reviewer: westendorfc, 15-Mar-2017 11:36:37

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 510 of 577

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1 SDG No.: Client Sample ID: _____ Lab Sample ID: MB 320-153501/1-A Matrix: Water Lab File ID: 2017.03.10B 041.d Date Collected: Analysis Method: 537 (Modified) Extraction Method: 3535 Date Extracted: 03/06/2017 16:19 Sample wt/vol: 250.00(mL) Date Analyzed: 03/10/2017 22:30 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1 Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm) % Moisture: GPC Cleanup:(Y/N) N Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	2.0	U M	2.5	2.0	0.75
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	3.0	U M	4.0	3.0	1.3
375-73-5	Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.5	2.0	0.92

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	130		25-150
STL00991	13C4 PFOS	116		25-150
STL00994	1802 PFHxS	124		25-150

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00

TestAmerica Sacramento
Target Compound Quantitation Report

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d

Lims ID: MB 320-153501/1-A

Client ID:

Sample Type: MB

Inject. Date: 10-Mar-2017 22:30:01 ALS Bottle#: 31 Worklist Smp#: 20

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Sample Info: mb 320-153501/1-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\A8_N.m

Limit Group: LC PFC_DOD ICAL

Last Update: 13-Mar-2017 11:24:24 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: Initial Calibration

Last ICal File: \\ChromNA\Sacramento\ChromData\A8_N\20170301-40358.b\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK033

First Level Reviewer: changnoit Date: 13-Mar-2017 11:24:24

First Level Reviewer: changnoit					Date:	13-Mar-2017 11:24:24				
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA										
217.00 > 172.00		1.539	-0.007		16574285	56.7		113	901409	
2 Perfluorobutyric acid									M	
212.90 > 169.00	,		-0.015	1.000	41418	0.1475			215	M
D 3 13C5-PFPeA										
267.90 > 223.00	1.812	1.822	-0.010		13748553	59.2		118	700810	
4 Perfluoropentanoic acid										
262.90 > 219.00	1.812	1.822	-0.010	1.000	30258	0.1125			196	
D 47 13C3-PFB	S									
301.90 > 83.00	1.852	1.852	0.0		477	NC				
5 Perfluorobut	5 Perfluorobutanesulfonic acid									
	1.852	1.861	-0.009	1.000	35354	0.0684				
298.90 > 99.00	1.852	1.861	-0.009	1.000	15744		2.25(0.00-0.00)			
D 7 13C2 PFHx										
315.00 > 270.00	2.106	2.111	-0.005		12449264	59.0		118	355508	
6 Perfluorohex										
313.00 > 269.00	2.106	2.111	-0.005	1.000	32858	0.1484			501	
	10 Perfluoroheptanoic acid									
363.00 > 319.00		2.449	-0.009	1.000	11778	0.0462			135	
D 9 13C4-PFHp										
367.00 > 322.00		2.457	-0.017		13178007	68.3		137	283960	
D 11 1802 PFH										
403.00 > 84.00		2.464			17057825	58.6		124	367907	
8 Perfluorohex										M
399.00 > 80.00		2.472		1.000	162666	0.4386				M
13 Sodium 1H,1H,2H,2H-perfluorooctane										
427.00 > 407.00		2.783	-0.009	1.000	72439	NR				
D 12 M2-6:2FTS		0.704	0.047		E 440	0.0700		0.0		
429.00 > 409.00	2.774	2.791	-0.017		Pag el 592 of 5	5770.0702		0.0	03/27	7/2017

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d										
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
15 Perfluorooctanoic acid										М
413.00 > 369.00		2.814		1.000	44142	0.1621	1 70/0 00 1 10)		307	
413.00 > 169.00		2.814	-0.025	0.994	25696		1.72(0.90-1.10)		630	M
D 14 13C4 PFO 417.00 > 372.00		2 81/	-0.017		13323767	65.0		130	265301	
16 Perfluorohe					13323707	00.0		100	200001	
449.00 > 80.00	•		-0.033	1.000	7825	0.0270				
D 18 13C4 PFO	S									
503.00 > 80.00					13444059	55.6		116	329785	
17 Perfluorooctane sulfonic acid M										
499.00 > 80.00 499.00 > 99.00			-0.027 -0.027	1.000 1.000	172878 43055	0.6250	4.02(0.90-1.10)		3576 1338	M M
D 19 13C5 PFN		3.177	0.027	1.000	43033		4.02(0.70 1.10)		1550	101
468.00 > 423.00		3.197	-0.027		10766667	60.5		121	276787	
D 21 13C8 FOS	A									
506.00 > 78.00	3.508	3.533	-0.025		630643	1.72		3.4	29869	
22 Perfluorooc										
498.00 > 78.00				1.000	7358	0.6493			283	
25 Sodium 1H, 527.00 > 507.00		•			2775	NR				
D 26 M2-8:2FT		3.333	-0.033	0.770	2773	IVIX				
529.00 > 509.00		3.542	-0.034		1428	0.0154		0.0		
D 23 13C2 PFD										
515.00 > 470.00	3.525	3.558	-0.033		10062575	60.4		121	277273	
D 27 d3-NMeFC										
573.00 > 419.00			-0.019		8811	0.1034		0.0		
28 N-methyl pe				1 002	4027	ND				
570.00 > 419.00 D 32 d5-NEtFO		3.710	-0.020	1.003	4937	NR				
589.00 > 419.00		3.865	-0.012		14342	0.1763		0.0		
D 30 13C2 PFU		0.000	0.0.2			011700		0.0		
565.00 > 520.00		3.873	-0.020		7820941	59.8		120	362056	
31 Perfluoroun	decanoi	c acid								
563.00 > 519.00	3.853	3.873	-0.020	1.000	23135	0.1459			667	
33 N-ethyl perf										
584.00 > 419.00		3.873	-0.011	1.002	7693	NR				
D 34 d-N-MeFO 515.00 > 169.00		4.024	-0.022		1191	0.0135		0.0		
35 MeFOSA	4.004	4.020	-0.022		1191	0.0133		0.0		
512.00 > 169.00	4.054	4.026	0.028	1.000	337	NR				
D 36 13C2 PFD			0.020		337					
615.00 > 570.00		4.165	-0.016		7003801	56.5		113	168254	
D 38 d-N-EtFOS	SA-M									
531.00 > 169.00	4.185	4.209	-0.024		3206	0.0376		0.0		
39 N-ethylperfl										
526.00 > 169.00		4.218	-0.026	1.000	2354	NR				
D 43 13C2-PFT		1 440	0.014		1771/1157	40 1		107	EUEUEU	
715.00 > 670.00	4.004	4.008	-0.014		Page 5136 of	577 ^{00.4}		137	30 8372	7/2017

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Data File:

Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
42 Perfluo 712.50 > 66 713.00 > 16		noic acid 4.668 4.668	0.004 -0.024	1.000 0.994	95536 9484	0.3468	10.07(0.00-0.00)		832 3539	M M
D 44 13C2- 815.00 > 77		5.077	-0.018		7368790	58.9		118	164263	
45 Perfluo 813.00 > 76	rohexadecar 9.00 5.059	noic acid 5.077	-0.018	1.000	103679	0.4219			156	
46 Perfluo 913.00 > 86	rooctadecan 9.00 5.413	oic acid 5.428	-0.015	1.000	18645	0.1855			23.3	

QC Flag Legend Processing Flags

NR - Missing Quant Standard

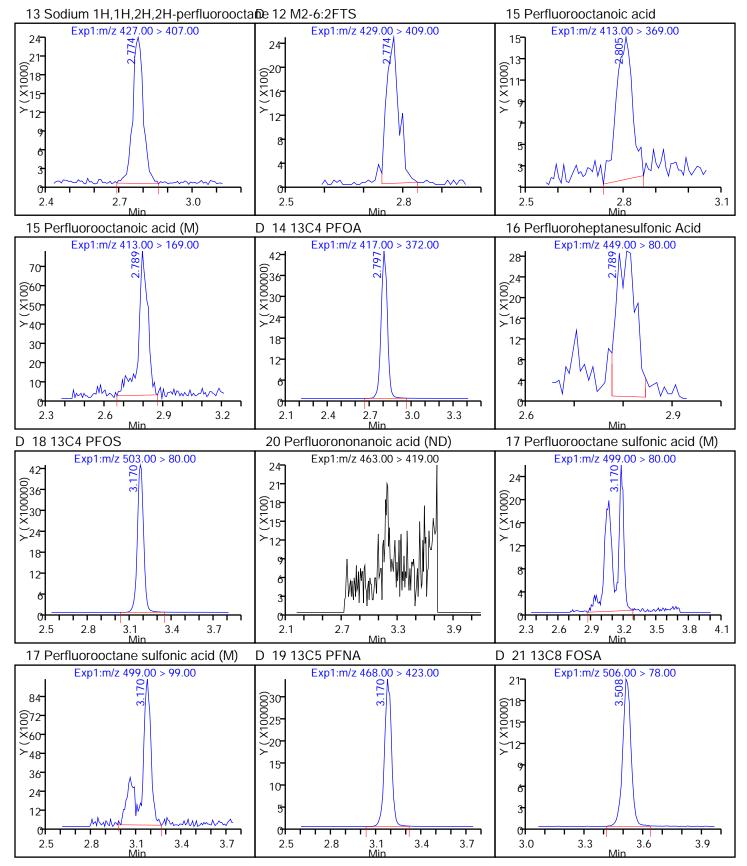
NC - Not Calibrated

Review Flags

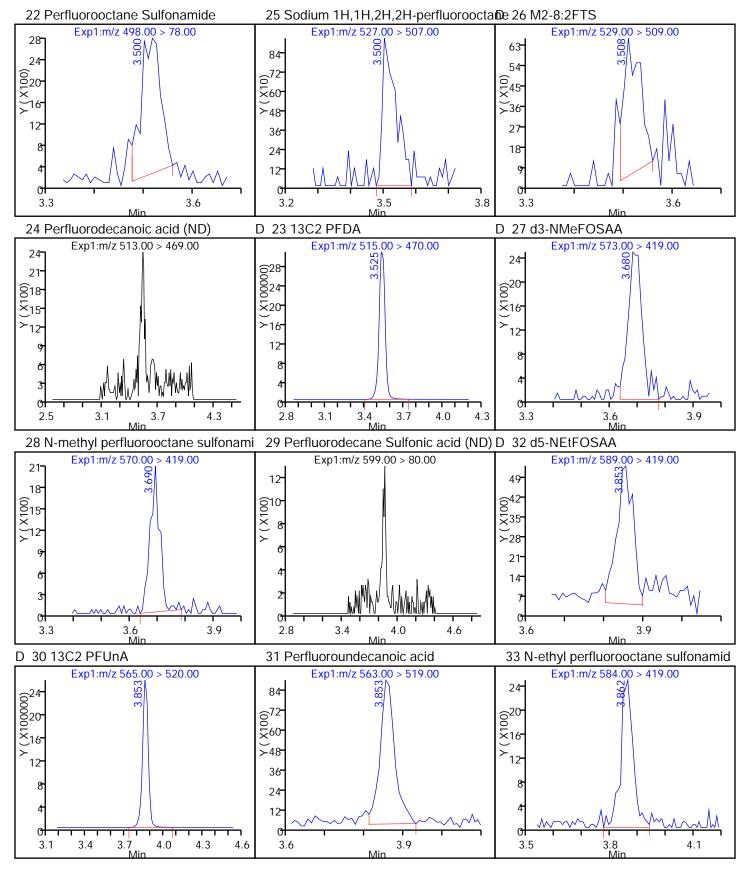
M - Manually Integrated

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00 TestAmerica Sacramento \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d Data File: **Injection Date:** 10-Mar-2017 22:30:01 Instrument ID: A8_N Lims ID: MB 320-153501/1-A Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 20 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid (M) D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267,90 > 223.00 16 049 0042 ×35 ≻₂₈-21 21 14 1.0 1.9 1.3 1.6 1.3 1.6 1.4 1.7 2.0 2.3 5 Perfluorobutanesulfonic acid 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 Exp1:m/z 262.90 > 219.0015 10 24 0013 X11 Y (X1000) ∑₁₆-12 1.7 2.0 2.3 1.8 2.1 2.0 1.5 1.4 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 10 Perfluoroheptanoic acid Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 363.00 > 319.00 12 42 Y (X1000) 52 836 **6**45 ×38 ×31· 18 24 17 10 01 1.8 2.1 2.4 2.7 2.1 Min 2.5 1.8 2.2 1.5 D 9 13C4-PFHpA D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid (M) Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 56 48 (000001X) × 24 049 042 42 <u>6</u>36 ×35-≥30 ≻28-≻₂₄· 18 21 18 12 14 12 0 0 2.1 2.4 2.7 3.0 3.0 1.9 2.2 2.5 1.8 1.8

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d



Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d



Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d D 34 d-N-MeFOSA-M 35 MeFOSA D 36 13C2 PFDoA Exp1:m/z 515.00 > 169.00 Exp1:m/z 512.00 > 169.00 Exp1:m/z 615.Q0 > 570.00 63 56- <u>6</u>48 ×45 ×40-~36- ≻₃₂ 27 24 18 16 3.9 3.8 4.1 4.0 3.6 4.2 4.5 37 Perfluorododecanoic acid (ND) D 38 d-N-EtFOSA-M 39 N-ethylperfluoro-1-octanesulfonami Exp1:m/z 531.00 > 169.00 Exp1:m/z 613.00 > 569.00 Exp1:m/z 526.00 > 169.00 24 12 ©²⁰ ×16 Y (X100) 0 4.9 3.9 4.2 4.0 4.3 42 Perfluorotetradecanoic acid (M) 41 Perfluorotridecanoic acid (ND) D 43 13C2-PFTeDA Exp1:m/z 663.00 > 619.00 Exp1:m/z 715.00 > 670.00 Exp1:m/z 712.50 > 668.90 56- 28 24 049- <u>@</u>20-©20 × × 16 <u>`</u>≥16• ×35-≻₂₈-12 21 14 3.4 4.0 5.2 3.9 4.2 4.5 4.8 5.4 4.3 4.9 4.6 5.1 4.6 42 Perfluorotetradecanoic acid D 44 13C2-PFHxDA 45 Perfluorohexadecanoic acid Exp1:m/z 713.00 > 169.00 Exp1:m/z 813.00 > 769.00 Exp1:m/z 815.00 > 770.0035 14 (000020-X16-(000012 X) X X 8 15 10

0

4.6

4.9

5.2

0

4.2

4.5

4.8

4.2

4.5

4.8

5.1

5.4

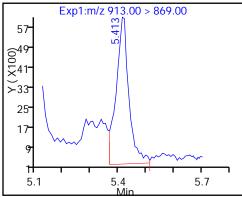
5.7

5.5

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d

46 Perfluorooctadecanoic acid



Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d

Injection Date: 10-Mar-2017 22:30:01 Instrument ID: A8_N

Lims ID: MB 320-153501/1-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 20

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

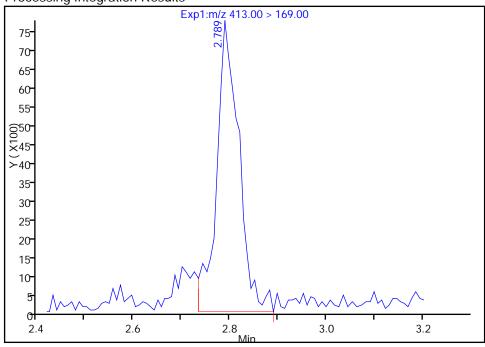
Column: Detector EXP1

15 Perfluorooctanoic acid, CAS: 335-67-1

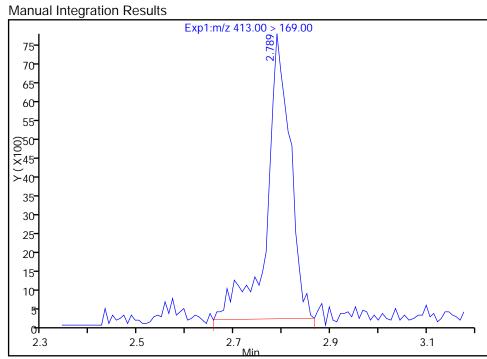
Signal: 2

RT: 2.79
Area: 24715
Amount: 0.162140
Amount Units: ng/ml

Processing Integration Results



RT: 2.79
Area: 25696
Amount: 0.162140
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:21:52

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 520 of 577

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d

Injection Date: 10-Mar-2017 22:30:01 Instrument ID: A8_N

Lims ID: MB 320-153501/1-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 20

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

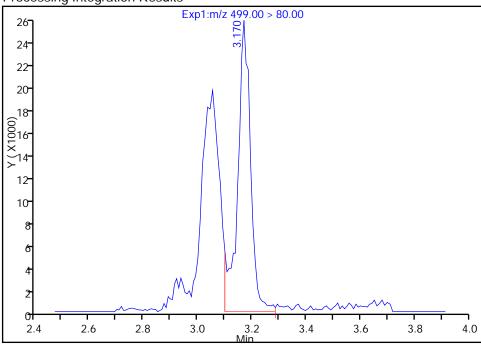
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

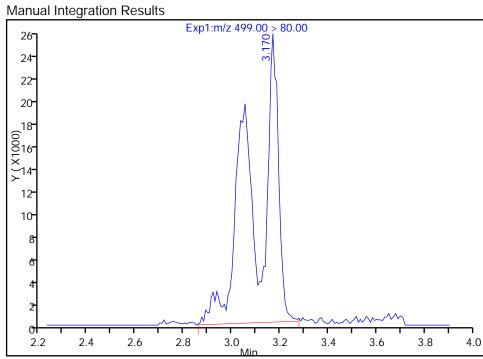
Signal: 1

RT: 3.17
Area: 83243
Amount: 0.300939
Amount Units: ng/ml

Processing Integration Results



RT: 3.17
Area: 172878
Amount: 0.624987
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:22:00

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 521 of 577

Report Date: 13-Mar-2017 11:24:25 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_041.d

Injection Date: 10-Mar-2017 22:30:01 Instrument ID: A8_N

Lims ID: MB 320-153501/1-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 31 Worklist Smp#: 20

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

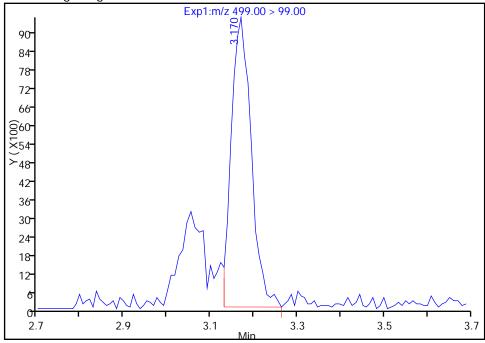
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

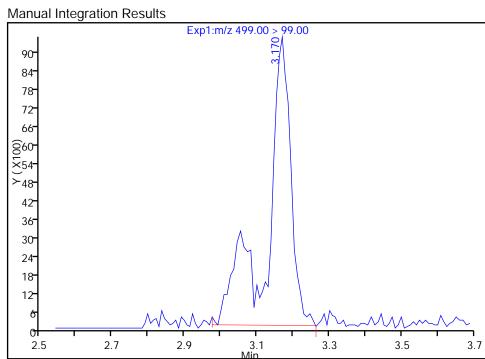
Signal: 2

RT: 3.17
Area: 29888
Amount: 0.300939
Amount Units: ng/ml

Processing Integration Results



RT: 3.17
Area: 43055
Amount: 0.624987
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:22:03

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 522 of 577 03/27/2017

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1 SDG No.: Client Sample ID: _____ Lab Sample ID: <u>LCS 320-15</u>3501/2-A Lab File ID: 2017.03.10B 042.d Matrix: Water Date Collected: Analysis Method: 537 (Modified) Extraction Method: 3535 Date Extracted: 03/06/2017 16:19 Sample wt/vol: 250.00(mL) Date Analyzed: 03/10/2017 22:37 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1 Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm) % Moisture: GPC Cleanup:(Y/N) N Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	39.9		2.5	2.0	0.75
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	37.8	М	4.0	3.0	1.3
375-73-5	Perfluorobutanesulfonic acid (PFBS)	40.0		2.5	2.0	0.92

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	148		25-150
STL00991	13C4 PFOS	132		25-150
STL00994	1802 PFHxS	137		25-150

Report Date: 13-Mar-2017 11:25:29 Chrom Revision: 2.2 05-Mar-2017 11:38:00

> TestAmerica Sacramento **Target Compound Quantitation Report**

 $\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_042.d$ Data File:

Lims ID: LCS 320-153501/2-A

Client ID:

LCS Sample Type:

Inject. Date: 10-Mar-2017 22:37:31 ALS Bottle#: 32 Worklist Smp#: 21

Injection Vol: Dil. Factor: 1.0000 2.0 ul

Sample Info: lcs 320-153501/2-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method:

Limit Group: LC PFC_DOD ICAL

Last Update: 13-Mar-2017 11:25:29 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \\ChromNA\\Sacramento\\ChromData\\A8_N\\20170301-40358.b\\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK033

First Laval Daviawa 12 Mar 2017 11,25,20

First Level Revie	wer: cha	ngnoit			Date:	1	13-Mar-2017 11:25:2	28		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA										
217.00 > 172.00		1.539	-0.007		19900437	68.1		136	905635	
2 Perfluorobut										
212.90 > 169.00	•	1.546	-0.007	1.000	7131917	21.1		106	54330	
D 3 13C5-PFPe	eΑ									
267.90 > 223.00	1.813	1.822	-0.009		15985096	68.8		138	113233	4
4 Perfluoroper	ntanoic a	cid								
262.90 > 219.00	1.813	1.822	-0.009	1.000	6491152	20.7		104	54682	
5 Perfluorobut	anesulfo	nic acid								
	1.853	1.861	-0.008	1.000	11393446	20.0		113		
298.90 > 99.00	1.853	1.861	-0.008	1.000	4622739		2.46(0.00-0.00)			
D 7 13C2 PFHx										
315.00 > 270.00	2.108	2.111	-0.003		14745059	69.9		140	451023	
6 Perfluorohex	anoic ac	cid								
313.00 > 269.00	2.108	2.111	-0.003	1.000	5345202	20.4		102	93946	
10 Perfluorohe	•	acid								
363.00 > 319.00	2.438	2.449	-0.011	1.000	5770625	19.7		98.6	64077	
D 913C4-PFHp										
367.00 > 322.00	2.438	2.457	-0.019		15122540	78.4		157	372670	
D 11 1802 PFH	xS									
403.00 > 84.00	2.461	2.464	-0.003		18828844	64.7		137	542147	
8 Perfluorohex	anesulfo	onic acid								M
399.00 > 80.00	2.461	2.472	-0.011	1.000	7446538	18.2		99.9		M
15 Perfluorooc	tanoic ac	cid								
413.00 > 369.00	2.811	2.814	-0.003	1.000	6180714	20.0		99.8	54042	
413.00 > 169.00	2.803	2.814	-0.011	0.997	3585595		1.72(0.90-1.10)		98810	
D 14 13C4 PFO										
417.00 > 372.00	2.803	2.814	-0.011		15161275	74.0		148	423452	
					Page 524 of 5	577			03/27	7/2017

Page 524 of 577

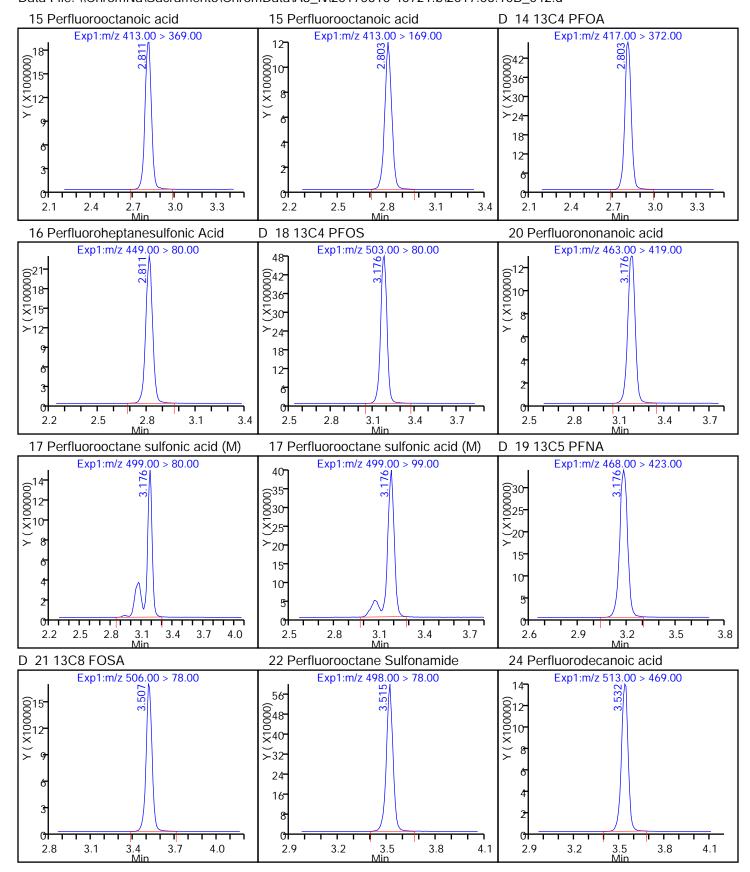
Data File:	\\Chr	omiva\S	acrament	io\Chrom	Data\A8_N\201	/0310-40/2	1.b\2017.03.10B_0	42.d		
C. I	БТ	EXP	DLT	REL	D	Amount	Della (L. III.)	045	0/1	EL.
Signal	RT	RT	RT	RT	Response	ng/ml	Ratio(Limits)	%Rec	S/N	Flags
16 Perfluorohe										
449.00 > 80.00		2.822	-0.011	1.000	6677079	20.3		107		
D 18 13C4 PFO		2.100	0.010		15000551	(2.0		122	205152	
503.00 > 80.00			-0.012		15232551	63.0		132	295152	
20 Perfluoronoi 463.00 > 419.00			-0.021	1.000	4415250	20.9		105	62480	
17 Perfluorooct				1.000	4413230	20.7		103	02400	M
499.00 > 80.00			-0.021	1.000	5926572	18.9		102	110283	
499.00 > 99.00			-0.021	1.000	1331810		4.45(0.90-1.10)		43298	
D 19 13C5 PFN	Д									
468.00 > 423.00	3.176	3.197	-0.021		11661837	65.6		131	240576	
D 21 13C8 FOS										
506.00 > 78.00					4825669	13.2		26.3	177975	
22 Perfluorooct				4 000	4705750	40.7		00.4		
498.00 > 78.00			-0.018	1.000	1705753	19.7		98.4	66267	
24 Perfluorodeo 513.00 > 469.00			0.010	1.000	4364264	21.3		106	137919	
D 23 13C2 PFD		3.550	-0.016	1.000	4304204	21.3		100	13/919	
515.00 > 470.00		3.558	-0.026		11326740	67.9		136	253263	
29 Perfluorode					11020710	07.7		100	200200	
599.00 > 80.00			-0.013	1.000	3424279	18.0		93.6		
D 30 13C2 PFUr	٦A									
565.00 > 520.00	3.852	3.873	-0.021		8372101	64.0		128	293634	
31 Perfluoround	decanoi	c acid								
563.00 > 519.00	3.852	3.873	-0.021	1.000	3057929	18.0		90.1	89309	
D 36 13C2 PFD										
615.00 > 570.00			-0.024		7348211	59.3		119	178242	
37 Perfluorodo			0.004	4 000	0/0/507	40.4		07.0	0.4000	
613.00 > 569.00			-0.024	1.000	2606587	19.4		97.0	84308	
41 Perfluorotrid 663.00 > 619.00			-0.024	1.000	2592197	20.2		101	51266	
D 43 13C2-PFT		4.420	-0.024	1.000	2392197	20.2		101	51200	
715.00 > 670.00		4 668	-0.025		17967131	69.3		139	396561	
42 Perfluoroteti			0.020		1,70,101	07.0		107	0,000.	
712.50 > 668.90		4.668	-0.025	1.000	6103127	21.1		106	56157	
713.00 > 169.00	4.643	4.668	-0.025	1.000	862352		7.08(0.00-0.00)		99560	
D 44 13C2-PFH	xDA									
815.00 > 770.00	5.058	5.077	-0.019		7452179	59.6		119	128595	
45 Perfluorohe										
813.00 > 769.00	5.058	5.077	-0.019	1.000	2536556	18.2		91.2	4150	
46 Perfluorooct										
913.00 > 869.00	5.413	5.428	-0.015	1.000	2389872	22.7		113	2681	

Report Date: 13-Mar-2017 11:25:29 Chrom Revision: 2.2 05-Mar-2017 11:38:00

QC Flag Legend Review Flags

M - Manually Integrated

Report Date: 13-Mar-2017 11:25:29 Chrom Revision: 2.2 05-Mar-2017 11:38:00 TestAmerica Sacramento Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_042.d **Injection Date:** 10-Mar-2017 22:37:31 Instrument ID: A8_N Lims ID: LCS 320-153501/2-A Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 21 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 56- 24 (00020 ×16 056 048 00 × × ×40 24 16 1.0 1.9 1.7 1.3 1.6 1.1 1.4 1.2 1.5 1.8 2.1 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 Exp1:m/z 262.90 > 219.0024 (18 (0000015 (X12 42 (0000 30-30-©21- ×15 18 12 1.8 2.1 2.4 1.5 2.1 2.4 2.1 1.2 1.5 1.8 1.2 1.5 2.4 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 10 Perfluoroheptanoic acid Exp1:m/z 315.00 > 270.00 Exp1:m/z 313.00 > 269.00 Exp1:m/z 363.00 > 319.00 49 (000015 X12 (6) 842 ∑35<u>-</u> × × × 1.9 2.2 2.5 1.7 2.0 2.3 2.1 3.0 1.6 2.8 2.6 2.7 1.4 9 13C4-PFHpA D D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid (M) Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 Exp1:m/z 399.00 > 80.00 21 (000001X (000001X (0042-0000135-×)28-00018 15-15-24 16 0 0 2.0 2.3 2.6 2.9 2.9 2.0 2.3 2.6 1.7 1.7

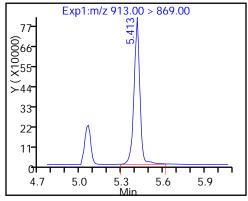


Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_042.d D 23 13C2 PFDA 29 Perfluorodecane Sulfonic acid D 30 13C2 PFUnA Exp1:m/z 565.00 > 520.00 Exp1:m/z 515.00 > 470.00 Exp1:m/z 599.00 > 80.00 12 35 (X100000) Y 00030 × × × 20 ∑₁₆ 15 10 3.8 4.4 2.7 3.0 3.3 3.6 3.9 4.2 3.2 3.5 4.1 3.1 3.4 3.7 4.0 4.3 4.6 31 Perfluoroundecanoic acid D 36 13C2 PFDoA 37 Perfluorododecanoic acid Exp1:m/z 563.00 > 519.00 Exp1:m/z 615.00 > 570.00 Exp1:m/z 613.00 > 569.00 24 77- ©21- 0018-©78 -65 ×55- ×₁₅-**≻**44 39 33 26 22 13 11 3.9 4.3 4.2 3.4 3.7 4.0 3.7 4.0 4.6 4.5 42 Perfluorotetradecanoic acid 41 Perfluorotridecanoic acid D 43 13C2-PFTeDA Exp1:m/z 663.00 > 619.00 Exp1:m/z 715.00 > 670.00 Exp1:m/z 712.50 > 668.90 56- (0000015⁻ (84⁻ 0072⁻ ×60⁻ 049- ≥35 ≻48 ≻₂₈-36 21 24 14 12 4.2 4.7 4.5 4.8 4.3 4.9 5.2 4.4 5.0 3.9 4.0 4.1 D 44 13C2-PFHxDA 42 Perfluorotetradecanoic acid 45 Perfluorohexadecanoic acid Exp1:m/z 713.00 > 169.00 Exp1:m/z 815.00 > 770.00Exp1:m/z 813.00 > 769.00 28 77-(000020-×16-666<u>-</u> 55<u>-</u> 0024 ×20 <u>≻</u>16 **≻**44 12 33 22 11 4.4 4.7 5.0 4.3 4.6 4.9 5.2 5.5 5.8 4.7 5.3 5.6 4.1

Report Date: 13-Mar-2017 11:25:29 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_042.d

46 Perfluorooctadecanoic acid



Report Date: 13-Mar-2017 11:25:29 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_042.d

Injection Date: 10-Mar-2017 22:37:31 Instrument ID: $A8_N$

Lims ID: LCS 320-153501/2-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: Worklist Smp#: 32 21

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

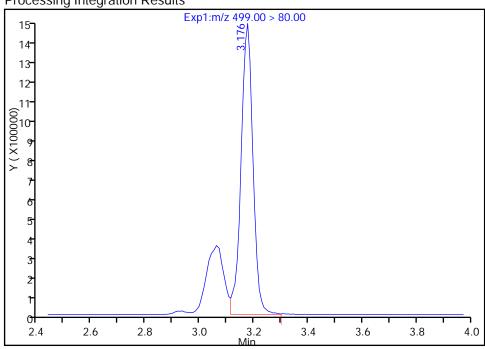
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

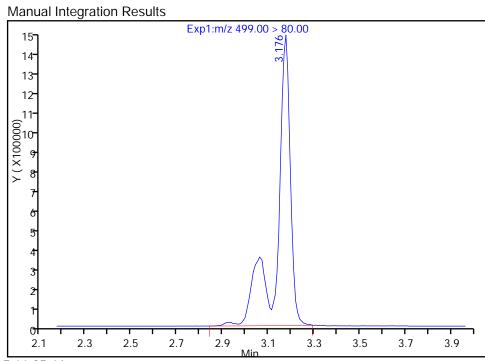
Signal: 1

RT: 3.18 Area: 4379310 Amount: 13.973152 Amount Units: ng/ml

Processing Integration Results



RT: 3.18 Area: 5926572 18.910032 Amount: Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:25:16

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 531 of 577

Report Date: 13-Mar-2017 11:25:29 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_042.d

Injection Date: 10-Mar-2017 22:37:31 Instrument ID: A8_N

Lims ID: LCS 320-153501/2-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 32 Worklist Smp#: 21

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

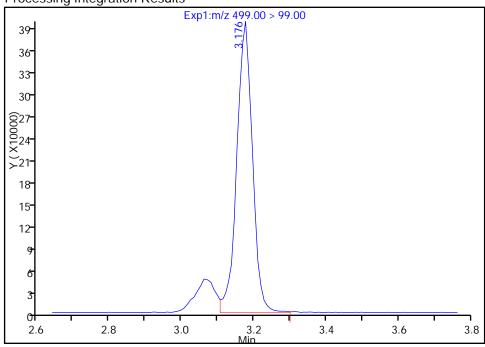
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

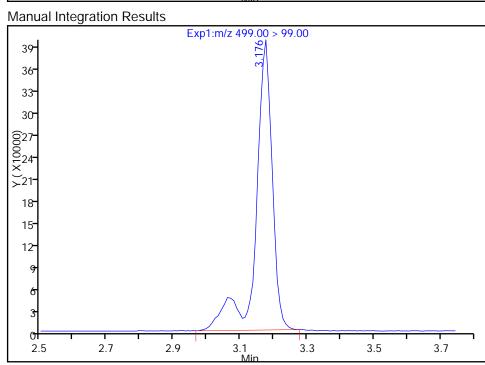
Signal: 2

RT: 3.18
Area: 1180996
Amount: 13.973152
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 1331810
Amount: 18.910032
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:25:23

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 532 of 577 03/27/2017

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1 SDG No.: Lab Sample ID: LCSD 320-153501/3-A Client Sample ID: _____ Lab File ID: 2017.03.10B 043.d Matrix: Water Analysis Method: 537 (Modified) Date Collected: Extraction Method: 3535 Date Extracted: 03/06/2017 16:19 Sample wt/vol: 250.00(mL) Date Analyzed: 03/10/2017 22:45 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1 Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm) % Moisture: GPC Cleanup:(Y/N) N Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	39.6		2.5	2.0	0.75
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	39.4	М	4.0	3.0	1.3
375-73-5	Perfluorobutanesulfonic acid (PFBS)	41.6		2.5	2.0	0.92

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	140		25-150
STL00991	13C4 PFOS	123		25-150
STL00994	1802 PFHxS	128		25-150

Report Date: 13-Mar-2017 11:26:26 Chrom Revision: 2.2 05-Mar-2017 11:38:00

> TestAmerica Sacramento **Target Compound Quantitation Report**

 $\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d$ Data File:

Lims ID: LCSD 320-153501/3-A

Client ID:

LCSD Sample Type:

Inject. Date: 10-Mar-2017 22:45:01 ALS Bottle#: 33 Worklist Smp#: 22

Injection Vol: Dil. Factor: 1.0000 2.0 ul

Sample Info: lcsd 320-153501/3-a Misc. Info.: Plate: 1 Rack: 3

Operator ID: A8-PC\A8 Instrument ID: A8_N

Method:

LC PFC_DOD ICAL Limit Group:

Last Update: 13-Mar-2017 11:26:26 Calib Date: 01-Mar-2017 11:53:47

Integrator: Picker

Quant Method: Isotopic Dilution Quant By: **Initial Calibration**

Last ICal File: \\ChromNA\\Sacramento\\ChromData\\A8_N\\20170301-40358.b\\2017.03.01CURVE_009.d

Column 1: Det: EXP1

Process Host: XAWRK033

First Laval Daviawa 12 Mar 2017 11,24,25

First Level Revie	wer: cha	ngnoit			Date:	1	13-Mar-2017 11:26:2	25		
Signal	RT	EXP RT	DLT RT	REL RT	Response	Amount ng/ml	Ratio(Limits)	%Rec	S/N	Flags
D 113C4 PFBA										
217.00 > 172.00		1.539	-0.007		17598766	60.2		120	820576	
2 Perfluorobut	vric acid									
212.90 > 169.00	•		-0.015	1.000	6323957	21.2		106	44822	
D 3 13C5-PFPe	eΑ									
267.90 > 223.00	1.812	1.822	-0.010		15903393	68.5		137	818558	
4 Perfluoroper	ntanoic a	cid								
262.90 > 219.00	1.812	1.822	-0.010	1.000	6332019	20.3		102	55984	
5 Perfluorobut	anesulfo									
298.90 > 80.00		1.861	-0.009	1.000	11124260	20.8		118		
298.90 > 99.00		1.861	-0.019	0.995	4584738		2.43(0.00-0.00)			
D 7 13C2 PFHx		0.444	0.007		4.4044770	(7.0		407	505/40	
315.00 > 270.00		2.111	-0.006		14311779	67.9		136	525619	
6 Perfluorohex			0.007	1 000	E220E42	20.7		102	105505	
313.00 > 269.00		2.111	-0.006	1.000	5238543	20.6		103	105505	
10 Perfluorohe 363.00 > 319.00	•		-0.005	1.000	5444478	20.7		103	56080	
		2.447	-0.003	1.000	3444470	20.7		103	30000	
D 9 13C4-PFHp 367.00 > 322.00		2.457	-0.013		13614218	70.6		141	359537	
D 11 1802 PFH:		2.437	-0.013		13014210	70.0		141	337337	
403.00 > 84.00		2.464	-0 004		17666899	60.7		128	521292	
8 Perfluorohex					1,0000,7	00.7		.20	021272	M
399.00 > 80.00		2.472		1.000	6983927	18.2		99.9		M
15 Perfluorooct										
413.00 > 369.00		2.814	-0.012	1.000	5787873	19.8		98.9	48875	
413.00 > 169.00	2.802	2.814	-0.012	1.000	3428634		1.69(0.90-1.10)		93447	
D 14 13C4 PFO	Α									
417.00 > 372.00		2.814	-0.012		14318893	69.9		140	453460	
					Page 534 of \$	577			03/27	7/2017

Page 534 of 577

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d **FXP REL** DLT **Amount** Signal **RT** RT RT **RT** Response ng/ml Ratio(Limits) %Rec S/N Flags 16 Perfluoroheptanesulfonic Acid 449.00 > 80.00 2.810 2.822 -0.012 1.000 6458337 21.1 111 D 18 13C4 PFOS 299110 503.00 > 80.00 3.176 3.188 -0.012 14190126 58.7 123 20 Perfluorononanoic acid 463.00 > 419.00 3.184 3.197 -0.013 1.000 4372238 20.9 105 65659 17 Perfluorooctane sulfonic acid M 106 499.00 > 80.00 3.176 3.197 -0.021 19.7 138439 M 1.000 5758713 499.00 > 99.00 3.184 3.197 -0.0131.003 1264244 4.56(0.90-1.10) 44500 M D 19 13C5 PFNA 468.00 > 423.00 3.176 3.197 -0.021 65.0 130 378616 11568439 D 21 13C8 FOSA 506.00 > 78.00 3.523 49.7 99.4 3.533 -0.010 18243306 343399 22 Perfluorooctane Sulfonamide 498.00 > 78.00 3.523 21.0 193663 3.533 -0.010 1.000 6895430 105 24 Perfluorodecanoic acid 513.00 > 469.00 3.540 3.550 -0.010 21.5 129002 1.000 4033151 107 D 23 13C2 PFDA 515.00 > 470.00 3.540 3.558 -0.018 10379472 62.3 125 249723 29 Perfluorodecane Sulfonic acid 98.8 599.00 > 80.00 3.842 3.856 -0.014 1.000 3368274 19.0 D 30 13C2 PFUnA 565.00 > 520.00 3.868 3.873 -0.005 8124775 62.1 124 327081 31 Perfluoroundecanoic acid 563.00 > 519.00 3.868 3.873 -0.005 90.3 1.000 2974567 18.1 61427 D 36 13C2 PFDoA 615.00 > 570.00 4.157 4.165 -0.008 7120319 57.4 115 181475 37 Perfluorododecanoic acid 613.00 > 569.00 4.15780422 4.165 -0.008 1.000 2649197 20.3 102 41 Perfluorotridecanoic acid 663.00 > 619.00 4.422 108 4.428 -0.006 1.000 2679135 21.5 48237 D 43 13C2-PFTeDA 715.00 > 670.00 4.657 4.668 -0.011 15590451 60.2 120 553042 42 Perfluorotetradecanoic acid 712.50 > 668.90 4.657 4.668 -0.0111.000 5357942 19.1 95.7 36580 713.00 > 169.00 4.647 -0.021 0.998 787797 6.80(0.00-0.00) 90764 4.668 D 44 13C2-PFHxDA 815.00 > 770.00 5.060 5.077 -0.017 6468150 51.7 103 105988

2221099

1897179

16.4

18.6

45 Perfluorohexadecanoic acid

46 Perfluorooctadecanoic acid

5.077

5.428

-0.017

-0.005

1.000

1.000

813.00 > 769.00 5.060

913.00 > 869.00 5.423

82.2

92.8

2385

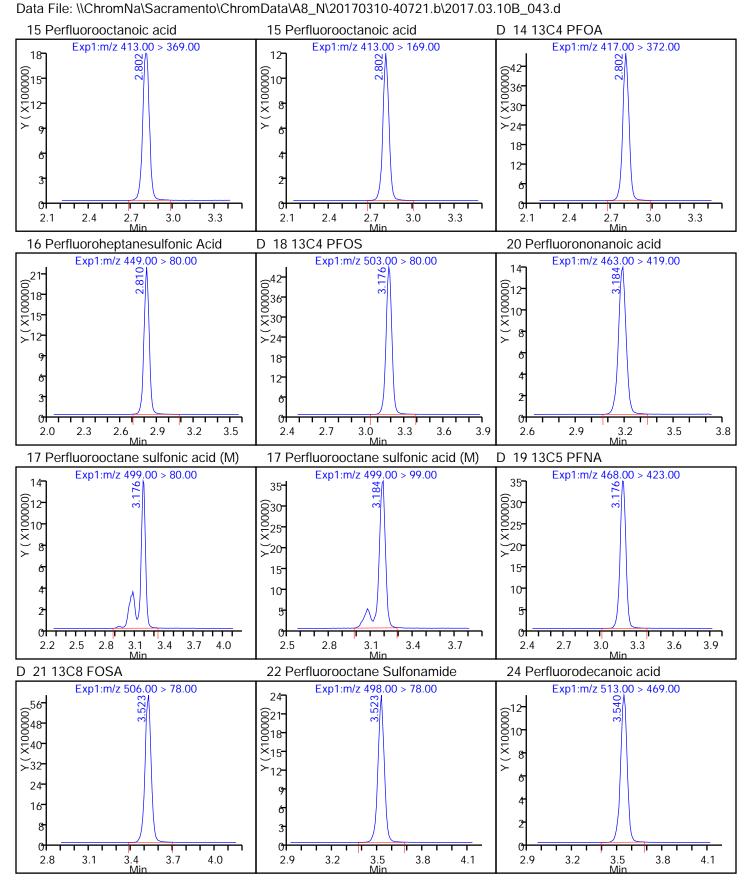
1793

Report Date: 13-Mar-2017 11:26:26 Chrom Revision: 2.2 05-Mar-2017 11:38:00

QC Flag Legend Review Flags

M - Manually Integrated

Report Date: 13-Mar-2017 11:26:26 Chrom Revision: 2.2 05-Mar-2017 11:38:00 TestAmerica Sacramento Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d **Injection Date:** 10-Mar-2017 22:45:01 Instrument ID: A8_N Lims ID: LCSD 320-153501/3-A Client ID: Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 22 Injection Vol: 2.0 ul Dil. Factor: 1.0000 Method: Limit Group: LC PFC_DOD ICAL $A8_N$ D 113C4 PFBA 2 Perfluorobutyric acid D 3 13C5-PFPeA Exp1:m/z 212.90 > 169.00 Exp1:m/z 217.00 > 172.00 Exp1:m/z 267.90 > 223.00 56 56 000048 40 40 00048 40 X 24 24 16 16 1.0 1.9 1.3 1.6 1.1 1.4 1.7 2.0 2.0 2.3 5 Perfluorobutanesulfonic acid 4 Perfluoropentanoic acid 5 Perfluorobutanesulfonic acid Exp1:m/z 262.90 > 219.00 Exp1:m/z 298.90 > 80.00 Exp1:m/z 298.90 > 99.00 18 42 24 (000001 X16 X100000 30-<u>~</u>24 18 12 2.0 2.3 1.3 1.6 1.9 2.2 1.6 1.9 2.2 1.4 1.7 1.3 1.1 D 7 13C2 PFHxA 6 Perfluorohexanoic acid 10 Perfluoroheptanoic acid Exp1:m/z 313.00 > 269.00 Exp1:m/z 315.00 > 270.00 Exp1:m/z 363.00 > 319.00 18 48 (0000012 (0000012) × 9 042 036 00015 X 12 \times 30 >₂₄ 18 12 1.9 2.2 1.7 2.0 2.3 2.9 2.2 2.5 2.8 1.6 2.5 2.8 2.6 1.4 D 9 13C4-PFHpA D 11 1802 PFHxS 8 Perfluorohexanesulfonic acid (M) Exp1:m/z 399.00 > 80.00 Exp1:m/z 367.00 > 322.00 Exp1:m/z 403.00 > 84.00 56 (018 000015 X 12 (000001X (000001 30-_32− 18 24 16- 12 0 0 2.0 2.3 2.6 2.9 3.2 2.9 2.0 2.3 2.6 1.7 1.7 1.7



Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d 29 Perfluorodecane Sulfonic acid D 30 13C2 PFUnA Exp1:m/z 515.00 > 470.00 Exp1:m/z 599.00 > 80.00 Exp1:m/z 565.00 > 520.00 12 (30 00 00 25 (X100000) Y ∑₁₆ 15 10 4.4 2.7 3.0 3.3 3.6 3.9 4.2 3.2 3.5 3.8 4.1 3.2 3.5 3.8 4.1 4.4 31 Perfluoroundecanoic acid D 36 13C2 PFDoA 37 Perfluorododecanoic acid Exp1:m/z 563.00 > 519.00 Exp1:m/z 615.00 > 570.00 Exp1:m/z 613.00 > 569.00 24 88 084**-**0872-©21- 0018-677 666 ×60 ×₁₅-≻48 >₄₄ 36 33 24 22 12 11-4.7 3.5 4.7 4.1 4.4 3.8 4.4 3.8 4.4 41 Perfluorotridecanoic acid D 43 13C2-PFTeDA 42 Perfluorotetradecanoic acid Exp1:m/z 663.00 > 619.00 Exp1:m/z 715.00 > 670.00 Exp1:m/z 712.50 > 668.90 18 49 84 000015⁻ X12⁻ 000042 0000 35 0072 ×60 ∑28-≻48 21 36 14 24 12 3.8 4.4 4.7 5.0 3.9 4.2 4.5 4.8 5.4 4.4 4.7 5.0 4.1 5.1 4.1 D 44 13C2-PFHxDA 42 Perfluorotetradecanoic acid 45 Perfluorohexadecanoic acid Exp1:m/z 713.00 > 169.00 Exp1:m/z 815.00 > 770.00 Exp1:m/z 813.00 > 769.0028 72 21-(000018-)×15-×12-(00020-X) 16-×45 ≻₃₆-27 18

5.0

5.3

5.6

4.4

4.7

5.0

5.3

4.1

4.4

4.7

5.0

4.4

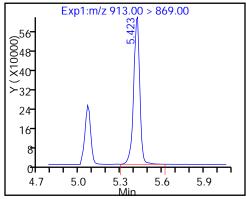
4.7

5.6

Report Date: 13-Mar-2017 11:26:26 Chrom Revision: 2.2 05-Mar-2017 11:38:00

Data File: \\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d

46 Perfluorooctadecanoic acid



Report Date: 13-Mar-2017 11:26:27 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d

Injection Date: 10-Mar-2017 22:45:01 Instrument ID: A8_N

Lims ID: LCSD 320-153501/3-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 22

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

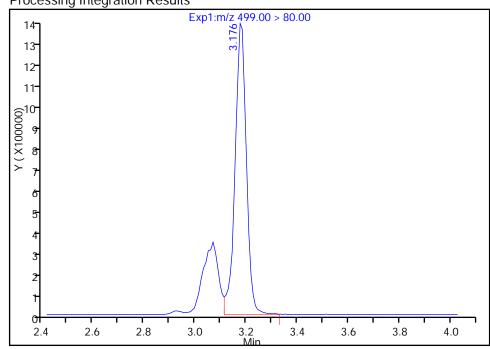
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

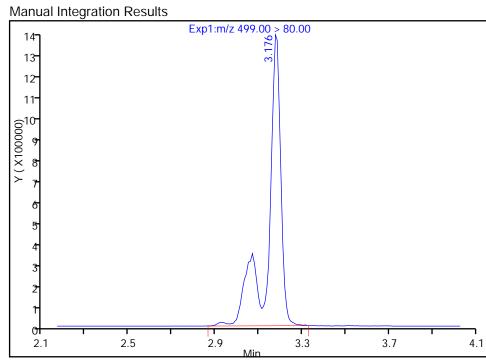
Signal: 1

RT: 3.18
Area: 4272631
Amount: 14.634251
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 5758713
Amount: 19.724252
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:26:02

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 541 of 577

Report Date: 13-Mar-2017 11:26:27 Chrom Revision: 2.2 05-Mar-2017 11:38:00 Manual Integration/User Assign Peak Report

TestAmerica Sacramento

Data File: \ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b\2017.03.10B_043.d

Injection Date: 10-Mar-2017 22:45:01 Instrument ID: A8_N

Lims ID: LCSD 320-153501/3-A

Client ID:

Operator ID: A8-PC\A8 ALS Bottle#: 33 Worklist Smp#: 22

Injection Vol: 2.0 ul Dil. Factor: 1.0000

Method: A8_N Limit Group: LC PFC_DOD ICAL

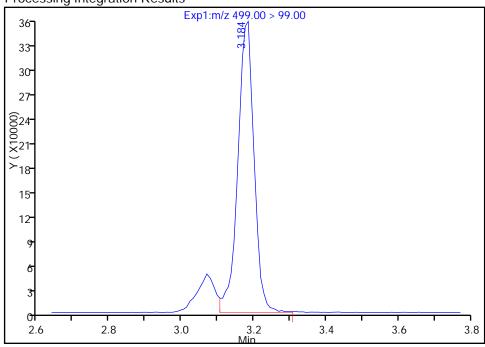
Column: Detector EXP1

17 Perfluorooctane sulfonic acid, CAS: 1763-23-1

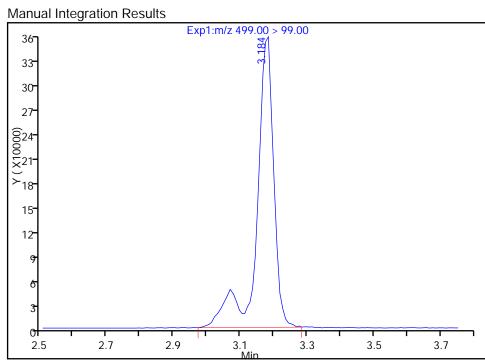
Signal: 2

RT: 3.18
Area: 1118078
Amount: 14.634251
Amount Units: ng/ml

Processing Integration Results



RT: 3.18
Area: 1264244
Amount: 19.724252
Amount Units: ng/ml



Reviewer: changnoit, 13-Mar-2017 11:26:07

Audit Action: Manually Integrated

Audit Reason: Isomers

Page 542 of 577 03/27/2017

Lab Name: TestAmerica Sacramento	Job No.: <u>320-26263-1</u>
SDG No.:	
Instrument ID: A8_N	Start Date: 03/01/2017 11:08
Analysis Batch Number: 152681	End Date: 03/01/2017 12:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 320-152681/2		03/01/2017 11:08	1	2017.03.01CURVE 003.d	GeminiC18 3x100 3(mm)
IC 320-152681/3		03/01/2017 11:16	1	2017.03.01CURVE 004.d	GeminiC18 3x100 3(mm)
IC 320-152681/4		03/01/2017 11:23	1	2017.03.01CURVE 005.d	GeminiC18 3x100 3(mm)
IC 320-152681/5		03/01/2017 11:31	1	2017.03.01CURVE 006.d	GeminiC18 3x100 3(mm)
IC 320-152681/6		03/01/2017 11:38	1	2017.03.01CURVE 007.d	GeminiC18 3x100 3(mm)
IC 320-152681/7		03/01/2017 11:46	1	2017.03.01CURVE 008.d	GeminiC18 3x100 3(mm)
ICB 320-152681/12		03/01/2017 12:23	1		GeminiC18 3x100 3(mm)
ICV 320-152681/13		03/01/2017 12:31	1	2017.03.01CURVE 014.d	GeminiC18 3x100 3 (mm)

Lab Name: TestAmerica Sacramento	Job No.: <u>320-26263-1</u>	
SDG No.:		
Instrument ID: A8_N	Start Date: 03/10/2017 17:29	
Analysis Batch Number: 154455	End Date: 03/10/2017 20:00	

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		03/10/2017 17:29	1		GeminiC18 3x100 3(mm)
CCV 320-154455/2 CCVL		03/10/2017 17:37	1	2017.03.10B_002	GeminiC18 3x100 3(mm)
CCV 320-154455/3		03/10/2017 17:44	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 17:52	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 17:59	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:07	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:14	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:22	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:29	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:37	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:44	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 18:52	1		GeminiC18 3x100 3(mm)
CCV 320-154455/13		03/10/2017 18:59	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:07	100		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:14	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:22	50		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:29	50		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:37	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:45	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 19:52	1		GeminiC18 3x100 3(mm)
CCV 320-154455/21		03/10/2017 20:00	1		GeminiC18 3x100 3(mm)

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
SDG No.:	
Instrument ID: A8_N	Start Date: 03/10/2017 20:07
Analysis Batch Number: 154459	End Date: 03/11/2017 00:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 320-154459/1		03/10/2017 20:07	1		GeminiC18 3x100 3(mm)
CCV 320-154459/10		03/10/2017 21:14	1		GeminiC18 3x100 3(mm)
CCV 320-154459/19		03/10/2017 22:22	1	2017.03.10B_040 .d	GeminiC18 3x100 3(mm)
MB 320-153501/1-A		03/10/2017 22:30	1	.d 2017.03.10B_041 .d	GeminiC18 3x100 3(mm)
LCS 320-153501/2-A		03/10/2017 22:37	1	2017.03.10B_042 .d	GeminiC18 3x100 3(mm)
LCSD 320-153501/3-A		03/10/2017 22:45	1	2017.03.10B_043 .d	GeminiC18 3x100 3(mm)
320-26263-1		03/10/2017 22:52	1	2017.03.10B_044 .d	GeminiC18 3x100 3(mm)
320-26263-2		03/10/2017 23:00	1	2017.03.10B_045 .d	GeminiC18 3x100 3(mm)
320-26263-3		03/10/2017 23:07	1	2017.03.10B_046 .d	GeminiC18 3x100 3(mm)
320-26263-4		03/10/2017 23:15	1	2017.03.10B_047 .d	GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 23:22	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 23:30	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 23:37	1		GeminiC18 3x100 3(mm)
CCV 320-154459/30		03/10/2017 23:45	1	2017.03.10B_051 .d	GeminiC18 3x100 3(mm)
ZZZZZ		03/10/2017 23:52	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/11/2017 00:00	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/11/2017 00:07	1		GeminiC18 3x100 3(mm)
CCV 320-154459/34		03/11/2017 00:15	1		GeminiC18 3x100 3(mm)

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
SDG No.:	
Instrument ID: A8_N	Start Date: 03/13/2017 11:39
Analysis Batch Number: 154721	End Date: 03/13/2017 13:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION	LAB FILE ID	COLUMN ID
			FACTOR		
CCV 320-154721/1		03/13/2017 11:39	1	2017.03.13A_004	GeminiC18 3x100 3(mm)
CCVL				.d	
CCV 320-154721/2		03/13/2017 11:47	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:02	100		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:09	100		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:17	20		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:24	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:32	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:39	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:47	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 12:54	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 13:02	10		GeminiC18 3x100 3(mm)
CCV 320-154721/12		03/13/2017 13:09	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 13:17	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 13:24	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 13:32	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 13:39	10		GeminiC18 3x100 3(mm)
CCV 320-154721/17		03/13/2017 13:47	1		GeminiC18 3x100 3(mm)

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
SDG No.:	
Instrument ID: A8_N	Start Date: 03/13/2017 15:52
Analysis Batch Number: 154808	End Date: 03/13/2017 17:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION	LAB FILE ID	COLUMN ID
			FACTOR		
CCV 320-154808/1		03/13/2017 15:52	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:01	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:08	10		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:16	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:23	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:31	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:38	20		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:46	100		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 16:53	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 17:01	10		GeminiC18 3x100 3(mm)
CCV 320-154808/11		03/13/2017 17:08	1	2017.03.13A_047 .d	GeminiC18 3x100 3 (mm)
320-26263-1 DL		03/13/2017 17:16	5	2017.03.13A_048 .d	GeminiC18 3x100 3 (mm)
320-26263-2 DL		03/13/2017 17:23	10	2017.03.13A_049 .d	GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 17:31	1		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 17:38	5		GeminiC18 3x100 3(mm)
ZZZZZ		03/13/2017 17:46	1		GeminiC18 3x100 3(mm)
CCV 320-154808/17		03/13/2017 17:53	1	2017.03.13A_053 .d	GeminiC18 3x100 3 (mm)

Lab Name: TestAmerica Sacramento	Job No.: 320-26263-1
SDG No.:	
Instrument ID: A8_N	Start Date: 03/14/2017 14:51
Analysis Batch Number: 155009	End Date: 03/14/2017 15:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION	LAB FILE ID	COLUMN ID
			FACTOR		
CCV 320-155009/3		03/14/2017 14:51	1	2017.03.14A_017 .d	GeminiC18 3x100 3(mm)
ZZZZZ		03/14/2017 14:58	1		GeminiC18 3x100 3(mm)
320-26263-2 DL2		03/14/2017 15:13	25	2017.03.14A_020 .d	GeminiC18 3x100 3(mm)
CCV 320-155009/7		03/14/2017 15:21	1	2017.03.14A_021 .d	GeminiC18 3x100 3(mm)

LCMS BATCH WORKSHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Batch Number: 153501 Batch Start Date: 03/06/17 16:19 Batch Analyst: Reed, Jonathan E

Batch Method: 3535 Batch End Date: 03/07/17 14:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount	LCMPFCSU 00047	LCPFCSP 00080
MB 320-153501/1		3535, 537				250.00 mL	0.5 mL	25 uL	
		(Modified)							
LCS		3535 , 537				250.00 mL	0.5 mL	25 uL	20 uL
320-153501/2		(Modified)							
LCSD		3535 , 537				250.00 mL	0.5 mL	25 uL	20 uL
320-153501/3		(Modified)							
320-26263-A-1	MEAFF-WWTP-MW01-	3535 , 537	Т	289.50 g	28.35 g	261.2 mL	0.5 mL	25 uL	
	0317	(Modified)							
320-26263-A-2	MEAFF-PWMA-MW01-	3535 , 537	Т	298.71 g	26.55 g	272.2 mL	0.5 mL	25 uL	
	0317	(Modified)		_	_				
320-26263-A-3	MEAFF-Unknown22-	3535, 537	T	296.09 q	27.04 q	269.1 mL	0.5 mL	25 uL	
	MW01-0317	(Modified)		, and the second]				
320-26263-A-4	MEAFF-FD04-03011	3535 , 537	Т	297.95 g	27.10 g	270.9 mL	0.5 mL	25 uL	
	7	(Modified)							

Batch Notes					
Balance ID	QA-070				
Batch Comment	0.1N NaOH/H2O: 858158				
H2O ID	3/06/17				
Hexane ID	863965				
Manifold ID	10, 2				
Methanol ID	865700				
Pipette ID	MD05306				
Analyst ID - Reagent Drop	JER 5/5 SURR Reg				
Analyst ID - SU Reagent Drop	JER				
Analyst ID - SU Reagent Drop Witness	VPM				
Solvent Lot #	864283				
Solvent Name	0.3% NH4OH/MeOH				
SOP Number	WS-LC-0025				
SPE Cartridge Type	WAX 500mg				
Solid Phase Extraction Disk ID	002836112A				

Basis	Basis Description
Т	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.

537 (Modified) Page 1 of 1



West Sacramento

HPLC/LCMS Data Review Checklist

Job Number(s): _	330-26263, 330-26373	Work List ID(s):	10721		
Extraction Batch:	100501	Analysis Batch(es):	104169		
Delivery Rank	<u> </u>	Due Date: 3/6/	17,3/1/	17	
A. Calibration/Ins			1 st Level	2 nd Level	N/A
 ICAL locked in 	Chrom and TALS? ICAL Batch#	GL681,	1		
	equency & Criteria met.		1		
RF _{average} (criteria appropriate for the method.			V	
 Linear Re 	gression criteria appropriate if require	ed (r > 0.995).	V	./	
Quadratic	fit criteria appropriate if required (r2 >	0.990).		V	
 For Linea 	r Regression and Quadratic fit – Does orting limit as described in CA-Q-S-00	the v-intercept support	/		
All curve	points show calculated concentrations	.	1	./	
3. Peaks correctly	/ ID'd by data system.			./	
5. Tune check fre	quency & criteria met and Tune checl	k report attached			
B. QA/QC					
1. Are all QC sam	ples properly linked in TALS?			1/	
2. Method blank,	LCS/LCSD and MS/SD frequencies m	net.	7	./	
3. LCS/LCSD and	MB data are within control limits. If r	not, NCM is present.	1		
4. Are MS/MSD re	ecoveries and RPD within control limit	ts?			
5. Holding Times	were met for prep and analytical.				
IS/Surrogate re	coveries meet criteria or properly note	ed.	V		
C. Sample Analys	is				
1. Was correct an	alysis performed and were project ins	tructions followed?	V		
2. If required, are	compounds within RT windows?		V		
If required, are	positive hits confirmed and >40% RP	D flagged?			
Manual Integral	tions reviewed and appropriate.		1		
All analytes cor	rectly reported. (Primary, secondary,	acceptable status)	1		
Correct reporting dilutions)	g limits used. (based on client reque	st, prep factors, and	1	/	
D Documentation					
1. Are all non-con	formances documented/attached? No	CM#	V	1	
Do results mak	e sense (e.g. dilutions, etc.)?				
Have all flags b	een reviewed for appropriateness?		V		
For level 3 and	4 reports, have forms and raw data b	een reviewed?			
5. Was QC Check	er run for this job?		1		
*Upon completion o	of this checklist, the reviewer must sca		st to the TALS		
	- Manay	Date:	3/16/20	17	
wew # 8090 ₹	7 1049.				

Page: 1

TestAmerica Laboratories Worklist QC Batch Report

Worklist Name:

10MAR2017C_PFC

Worklist Number: 4

8_N Chrom Method:

40721 A8_N

Instrument Name: A8_N
Data Directory: \\Chro

\\ChromNa\Sacramento\ChromData\A8_N\20170310-40721.b

QC Batching:

Disabled

Limit Group Batching: Enabled

QC Batch 1	LC PFC_DOD ICAL	I C DEC ICAL	I C DEAC ICAL	LODEO PRECIONI
30 2010	Raw Batch: 154459		Raw Ratch 154/61	LC PFC_PREC ICAL Raw Batch 154462
# 1 CCV L5	#1 CCV L5	#1 CCV L5	# 1 CCV L5	#1 CCV L5
		# 2 MB 320-154209/1-A	# 2 MR 320-154209/1-A	# I CCV LS
# 2 MB 320-154209/1-A # 3 LCS 320-154209/2-A # 4 LCSD 320-154209/3-A # 5 320-26418-A-1-A # 6 320-26418-A-2-A # 7 320-26418-A-3-A # 8 320-26418-A-4-A # 9 320-26418-A-13-A # 10 CCV L4	į.	#3 LCS 320-154209/2-A	# 3 I CS 320-154209/2-A	j
#4 LCSD		# 4 LCSD	# 4 LCSD	1
320-154209/3-A	j	320-154209/3-A	320-154209/3-A	ł
# 5 320-26418-A-1-A		# 5 320-26418-A-1-A	# 5 320-26418-A-1-A	1
# 6 320-26418 - A-2-A		# 6 320-26418-A-2-A	# 6 320-26418-A-2-A	}
# 7 320-26418-A-3-A		# 7 320-26418-A-3-A		
# 8 320-26418-A-4-A		# 8 320-26418-A-4-A	# 8 320-26418-A-4-A]
# 9 320-26418-A-13-A	#10 CCV L4	# 8 320-26418-A-4-A # 9 320-26418-A-13-A	# 9 320-26418-A-13-A	#10 CCV14
,		#10 CCV L4	#10 CCV L4	" 10 00 124
#11 MB 320-153962/1-A		#11 MB 320-153962/1-A		
#12 LCS		#12 LCS	#12 LCS	
320-153962/2-A			320-153962/2-A	l J
#13 LCSD		#13 LCSD	#13 LCSD	
320-153962/3-A		320-153962/3-A	320-153962/3-A	
#14 320-26041-A-1-B		#14 320-26041-A-1-B	#14 320-26041-A-1-B	1
#15 320-26041-A-2-B		#15 320-26041-A-2-B #16 320-26041-A-3-B	#15 320-26041-A-2-B	1
#16 320-26041-A-3-B	#19 CCV L5	#16 320-26041-A-3-B	#16 320-26041-A-3-B	#19 CCV L5
#17 320-26041-A-4-B	#20 MB 320-153501/1-A	#17 320-26041-A-4-B	#17 320-26041-A-4-B	
	#21 LCS	#18 320-26041-A-5-A	#18 320-26041 - A-5-A	
#19 CCV L5	320-153501/2-A	#19 CCV L5	#19 CCV L5	ł
#20 NID 320-133301/1-A	#22 LUSD			
#21 LCS	320-153501/3-A			
	#23 320-26263 - A-1-A			
	#24 320-26263-A-2 - A			
320-153501/3-A	#25 320-26263-A-3-A			ł
#23 320-26263-A-1-A				
	#27 320-26273-C-1-A			
	#28 320-26273-C-2 - A		ŀ	#30 CCV L4
#26 320-26263-A-4-A	#29 320-26273-C-3-A			
	#30 CCV L4			İ
		#30 CCV L4	#30 CCV L4	
	#32 320-26273-C-5-A		į;	#34 CCV L5
#30 CCV L4	#33 320-26273-C-6-A			
#31 320-26273-C-4-A				
#32 320-26273-C-5-A		#34 CCV L5	#34 CCV L5	ĺ
#33 320-26273-C-6-A				
#34 CCV L5			j	

COULZ 154453

Method Code: 320-3535_IVWT-320

Batch Number: 320-153501

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Reed, Jonathan E

AB 31:0117

Batch Open: 3/6/2017 4:19:00PM Batch End: ミイイ(い たく, い

Solid-Phase Extraction (SPE)

	4																					
Du 3/20	Outfull Samuel of the						2 2 9 1 5 3 5 9 1 3 - A												3 2 6 - 2 6 2 3 - C - 2 - A			
	Comments							V	ř		10×	4	1 ×			3	K			20	<u>}</u>	
	≥ 0	¥ §		¥ N		\ Ž		4		4		4		4		4		4		4		_
id-Pnase Extraction (SPE)	Analytical	S S		N/A		N/A		23_Days		23_Days		23_Days		23_Days		23_Days		23_Days	•	23_Days		_
e Extract	Due Date	ΝΑ		N/A		NA		3/6/17		3/6/17		3/6/17	-	3/6/17		3/7/17		3/7/17		3/7/17		_
-Fnas	Adiz	_								L												_ ¿
	PHs A	_						_								_						_
	it Rcvd		7				1		т		_	_	_				_		_			_
	InitAmnt FinAmnt	250.00 mL	0.5 mL	250.00 mL	0.5 mL	250.00 mL	0.5 mL	261.2 mL	0.5 mL	272.2 mL	0.5 mL	269.1 mL	0.5 mL	270.9 mL	0.5 mL	273 mL	0.5 mL	257.5 mL	0.5 mL	272.4 mL	0.5 mL	
	GrossWt InitAmnt TareWt FinAmnt							289.50 g	28.35 g	298.71 g	26.55 g	296.09 g	27.04 g	297.95 g	27.10 g	300.49 g	27.49 g	286.29 g	28.76 g	300.59 g	28.17 g	-
	SDG (yop #)	N/A	V/N	5	¥/14	¥ Ž		N/A (320-26263-1)		N/A (320-26263-1)		N/A (320-26263-1)		N/A (320-26263-1)		N/A (320-26273-1)		N/A (320-26273-1)		N/A (320-26273-1)		
	Input Sample Lab ID (Analytical Method)	MB~320-153501/1 N/A	LCS~320-153501/2	N/A	LCSD~320-153504/2	N/A	320,26263 A.4	(PFC_IDA_DOD5)	300 000	(PFC_IDA_DOD5)	220 26268 A 2	(PFC_IDA_DOD5)	300 06969 & 4	(PFC_IDA_DOD5)	300 06073 C 4	(PFC_IDA_DOD5)	300.36373.7.5	(PFC_IDA_DODS)	300 06070 6 3	(PFC_IDA_DODS)		Printed : 3/6/2017
_		-		N	-	ო	' F	age :	552	of 5	77	9						6			03/27/2	2017

20

TestAmerica Sacramento

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Reed, Jonathan E

Method Code: 320-3535_IVWT-320

7

5

<u>რ</u>

Batch Number: 320-153501

Batch Open: 3/6/2017 4:19:00PM

Batch End:

		3 2 8 - 2 6 2 7 3 - C - 4 - A10		III 3 2 6 - 2 6 2 7 3 - C - 5 - A I		MB 3 2 8 - 2 6 2 7 3 - C - 6 - AIIII
	4		4		4	
	23_Days		23_Days		23_Days	
	3/7/17		37/17		3/7/17	
		-				·
			<u> </u>			
	301.57 g 275.1 mL	0.5 mL	298.17 g 271.4 mL	0.5 mL	275.8 mL	0.5 mL
	301.57 g	26.44 g	298.17 g	26.73 g	302.03 g	26.22 g
	(320-26273-1)		N/A (320-26273-1)		N/A (320-26273-1)	
220, 26272 6.4	(PFC_IDA_DOD5)		320-26273-C-5 (PFC_IDA_DOD5)		320-26273-C-6 (PFC_IDA_DOD5)	

Page 2 of 6

Printed: 3/6/2017

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Reed, Jonathan E

Method Code: 320-3535_IVWT-320

Batch Number: 320-153501

Batch Open: 3/6/2017 4:19:00PM

Batch End:

Batch Notes	Manifold iD 10, 2	Methanol ID 865700	Hexane ID 863965	Sodium Hypochlorite ID NA	First Start time NA	First End time NA	Balance ID QA-070	SPE Cartridge Type WAX 500mg	Solid Phase Extraction Disk ID 002836112A	H2O ID 3/06/17	Pipette ID MD05306	Solvent Name 0.3% NH4OH/MeOH	Solvent Lot # 864283	Alialysi ID - Keagent Drop JEK (2/5) SURP Drog.	Analyst ID - SU Reagent Drop JER	Analyst ID - SU Reagent Drop VPM	Acid Name NA	Acid ID NA	Reagent ID NA	Reagent Lot Number NA	NaCliD NA		
								Page	554	of t	577								-		03/2	7/20)17

Printed: 3/6/2017

TestAmerica Sacramento

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Reed, Jonathan E

Batch Open: 3/6/2017 4:19:00PM

Batch End:

Batch Comment 0.1N NaOH/H2O: 858158

SOP Number WS-LC-0025

Method Code: 320-3535_IVWT-320

Batch Number: 320-153501

Comments											
		DOD site, Screen-caution									
		Method Comments:									
	320-26263-A-1	320-26263-A-2	320-26263-A-3	320-26263-A-4	320-26273-C-1	320-26273-C-2	320-26273-C-3	320-26273-C-4	320-26273-C-5	320-26273-C-6	
					-Pag	e 555	of 5	77-			

Page 4 of 6

Printed: 3/6/2017

TestAmerica Sacramento

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments) Analyst: Reed, Jonathan E

Method Code: 320-3535_IVWT-320

Batch Number: 320-153501

Batch Open: 3/6/2017 4:19:00PM

Batch End:

Reagent Additions Worksheet

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Reed, Jonathan E

Method Code: 320-3535_IVWT-320

Batch Number: 320-153501

Batch Open: 3/6/2017 4:19:00PM

Lot#: Batch End: Other Reagents: Amount/Units Reagent



Sacramento Preparation Data Review Checklist

Preparation Batch Number(s): 300-15250 Test:	-1-17 3535	
Earliest Holding Time: 3/08/17	<u> </u>	
Sample List Tab	1 st Leve	-
Samples identified to the correct method	Reviewe	r Reviewe
All necessary NCMs filed (including holding time)	+	- V
Method/sample/login/QAS checked and correct	+-	-
		+-/
Worksheet Tab	1 st Level	
All samples properly preserved	Reviewer	Reviewe
Weights in anticipated range and not targeted	MA	NA
All additional test requirements performed down to the second description		
I TO A TO SECURE AND		
The ph is transcribed correctly in TALS	NA	
All additional information transcribed into TALS is correct and raw data is	100	<u> </u>
Comments are transcribed correctly in TALS		V
and admissibled confectly in TALS		/
	1 st Level	2 nd Level
All necessary reagents not expired and entered into TALS	Reviewer	Reviewer
All spike amounts correct and added to necessary samples and QC		V
and QC		(i
	1 st Level	2 nd Level
Date and time accurate and entered into TALS correctly	Reviewer	Reviewer
All necessary 'batch information' complete and entered into TALS correctly		V,
TALS correctly		
Level Reviewer: Date:	7-17	
d Level Reviewer:		
Date: 3- Date:	7//6	



Sacramento

Method 537 CCV/Data Review Checklist

Review Items nitial Calibration 1. Is ICAL verified and locked in Chrom & TALS? 2. Is ICV properly linked in TALS? Contipuing Calibration	Yes	No	N/A	Level 2
Is ICAL verified and locked in Chrom & TALS? Is ICV properly linked in TALS? Continuing Calibration			~	
2. Is ICV properly linked in TALS? Continuing Calibration		\mathcal{T}		
Continuing Calibration				V
	·			7
A second	1 4			
 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? 	/			/
If sequence was not after an ICAL was a low and mid range CCV injected at the start of the analytical run?	1			/
 Native compounds and surrogates in control? Low-range within ±50% of true value Mid and High-range within ±30% of true value 	1			/
4. Internal Standard areas in control?			- 	
Areas ≥ 50% of average area of the ICal and 70-140% of the most recent CCV.			1	1
lient Samples & QC Sample Results	. 11/			
Were preparation and analysis done within holding times?				./
2. Are Chromatograms reviewed and spectra verified?	1/			
3. Are positive results within calibration range?	1/			/
. Dilutions due to target cpds? Dilutions due to non-targets?	+		$\overline{}$	
. All target compounds in MB < 1/3 RL ? (Requires NCM if "no.")	1./	-+		
Are target constituents in LCS/LCSD within method control limits?	1/	$\overline{}$		/
7. Internal Standard areas in control for all samples and QC reported?	+	\rightarrow		
±50% from the average area of the ICAL and 70-140% of the most recent CCV		ŀ	- 1	
8. Do results (e.g., dilutions/trip blanks) make sense?	1.//	$\overline{}$		
Are MS/MSD recoveries and RPDs within method control limits?	1			
10. Are all QC samples properly linked in TALS?		-		//-
11. All manual integrations appropriate and completely documented?		-		√/ -
12. Are nonconformances documented as NCMs?	1./			-/,
13. Are all Chrom graphics uploaded?	 "/ 	 +	-	/_



Sacramento

Method 537 ICAL Checklist

AB

Instrument ID & Date: 3-6-17 Worklist#: 40511

.ICAL Batch: 153407, 153408 Calibration ID number: 28784,28785

Review Items		Level 1	***	
Initial Calibration	Yes	No	N/A	Level 2
A		. ,		
quantitation are within 0.3 m/z of true mass?	1			V
Responses increase with increasing concentration? Fit used (circle): Average Linear (4/2) increase (2/2):	1			
Titled (1/X2)Linear (U)anratic in nointe minimum)	4,577	9 30		
4. Meets III chiena?				<u> </u>
Intercept ≤ ½ RL	1 1			
RSD ≤ 30% for Average R² ≥ 0.990 for Linear	1 1	ĺ	- 1	
R ² ≥ 0.990 for Quadratic				
NOTE: "Eprop through Zore" mount	16/	[
NOTE: "Force through Zero" must be used and weighted if needed 5. If quadratic fit used the curve does not "bend over"		ſ		
The second of th				
Are points >MRL within ±30% of true value? 7. Any carryover from the high calibration point must be < 1/3 Bt	1			
- The called a light the called a light light the called a light light the called a light light called a light lig				V
10. Is ICV (2 nd source) ± 30% of true value? 11. Is ICV (2 nd source) internal standards ±50% of average area of the ICALP.	1			
Y E. J. Brill R. Kelik Bukibyk in O. OCT Epilopiloto (bironii (bolico)	1			
12. ICal locked in Chrom and uploaded to TALS?			Ĉ.	
13. ICal locked in TALS and scanned?	S. M. T	2	(A) (B)	
Level Reviewer / Date: JRB 3-6-17 2nd Level Reviewer / Date: 1		<u> </u>		
Level Reviewer / Date:	MM	<u>ч</u>	_32	2/2017
		D		
CM # and Comments:				
		_		

Page: 1

TestAmerica Laboratories Worklist QC Batch Report

Worklist Name: 14MAR2017A_537

Worklist Number: 40849

Instrument Name: A8_N

Chrom Method: 537_A8_N

Data Directory:

\\ChromNa\Sacramento\ChromData\A8_N\20170315-40849.b

QC Batching:

Enabled

Limit Group Batching: Enabled

QC Batch: 1	LC 537 CS ICAL Raw Batch: 155003	LC 537 ICAL Raw Batch: 155004
#14 320-26319-A-7-A #15 320-26319-A-8-A	#1 RINSE #2 RINSE #3 CCVL #4 CCV L5 #5 RB #6 MB 320-154682/1-A #7 LCS 320-154682/2-A #8 320-26319-A-1-A #9 320-26319-A-2-A #10 320-26319-A-3-A #11 320-26319-A-5-A #12 320-26319-A-5-A #13 320-26319-A-6-A #14 320-26319-A-6-A #15 320-26319-A-8-A #16 CCV L3	#3 CCVL

QC Batch: 2	LC 537 CS ICAL
	Raw Batch: 155025
#16 CCV L3	#16 CCV L3
#17 RB	#17 RB
#18 320-26319-A-9-A	#18 320-26319-A-9-A
#19 320-26319-A-10-A	#19 320-26319-A-10-A
#20 320-26319-A-11-A	#20 320-26319-A-11-A
#21 320-26319-A-12-A	#21 320-26319-A-12-A
#22 320-26319-A-12-D LMS	#22 320-26319-A-12-D LMS
#23 320-26319-A-12-E LMSD	#23 320-26319-A-12-E LMSD
#24 320-26320-A-1-A	#24 320-26320-A-1-A
#25 320-26320-A-1-D LMS	#25 320-26320-A-1-D LMS
#26 320-26320-A-1-E LMSD	#26 320-26320-A-1-E LMSD
#27 320-26320-A-2-A	#27 320-26320-A-2-A
#28 CCV L5	#28 CCV L5

QC Batch: 3	LC 537 CS ICAL Raw Batch: 155026
#31 320-26320-A-4-A #32 320-26321-A-1-A #33 320-26321-A-1-D LMS #34 320-26321-A-1-E LMSD #35 320-26321-A-2-A #36 320-26321-A-3-A #37 320-26321-A-4-A	#28 CCV L5 #29 RB #30 320-26320-A-3-A #31 320-26320-A-4-A #32 320-26321-A-1-D LMS #34 320-26321-A-1-E LMSD #35 320-26321-A-2-A #36 320-26321-A-3-A #37 320-26321-A-4-A #38 CCV L3 #39 RB

Report Date: 15-Mar-2017 13:09:10

Chrom Revision: 2.2 13-Mar-2017 15:50:28

Page: 1

TestAmerica Laboratories Worklist QC Batch Report

Worklist Name:

15MAR2017A_537

Worklist Number:

40851

Instrument Name: A8_N Data Directory:

Chrom Method: 537_A8_N

\\ChromNa\Sacramento\ChromData\A8_N\20170315-40851.b

QC Batching:

Enabled

Limit Group Batching: Enabled

00.5	Batching	: Enabled
QC Batch: 1 # 1 RINSE # 2 RINSE # 3 CCVL # 4 CCV L5 # 5 RB # 6 QC LC537-SU_00033 # 7 CCV L3	LC 537 CS ICAL Raw Batch: 155007 # 1 RINSE # 2 RINSE # 3 CCVL # 4 CCV L5 # 5 RB # 6 QC LC537-SU_00033 # 7 CCV L3	LC 537 ICAL Raw Batch: 155008

QC Batch: 2	LC 537 CS ICAL
# 7 CCV L3 # 8 RB # 9 RINSE #10 CCV L5 #11 320-26319-A-1-A #12 320-26320-A-3-A #13 CCV L3 #14 RB	Raw Batch: 155057 # 7 CCV L3 # 8 RB # 9 RINSE #10 CCV L5 #11 320-26319-A-1-A #12 320-26320-A-3-A #13 CCV L3 #14 RB

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

Batch Number: 320-154682

(ate M

| 100 3/13/2017 2:41:00PM Batch Open: 3/13/2017 2:41:00PM Batch End: ちんけん (3) いっちん

Extraction of Perfluorinated Alkyl Acids

]					_		_		_		_		_				_		_		
	Output Sample Lab ID		MMB 328 - 154682 11-A		154682 / 2 - A				3 2 6 3 1 9 4 A 1 2 4 A 1		3 2 8 - 2 6 3 1 9 . A - 3 . A		111 3 2 6 3 4 9 2 A 4 4 A 4 A 4		3 2 6 2 6 3 1 9 A . 5 - A		3 2 6 - 2 6 3 1 9 - A . 6 - A				3 2 4 - 2 6 3 1 9 - A . 8 - A		
	Comments	chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND			
2	Rank	₹		¥ Z		4		4		4		4		4		4		4		4		•	
Analydical	TAT	N/A		A/N		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days			
	Due Date	N/A		N/A		3/10/17		3/10/17		3/10/17	_	3/10/17		3/10/17		3/10/17		3/10/17		3/10/17			
	Adj2																						ı
PH.	Adj1										_												
	Rcvd	_		7		7		^		2		7		7		7		7		7			
GrossWt InitAmnt	FinAmnt	250 mL	1.0 mL	250 mL	1.0 mL	251.5 mL	1.0 mL	250.3 mL	1.0 mL	254.7 mL	1.0 mL	251.5 mL	1.0 mL	253.6 mL	1.0 mL	256.5 шL	1.0 mL	253.7 mL	1.0 mL	251.7 mL	1.0 mL		
GrossWt	TareWt	:				278.68 g	27.21 g	277.30 g	27.05 g	281.82 g	27.14 g	278.40 g	26.92 g	281.07g	27.51 g	283.56 g	27.08 g	281.17g	27.50 g	278.72 g	26.99 g		
SDG	(# qof)	N/A		N/A		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)			_
Input Sample Lab ID	(Analytical Method)	MB~320-154682/1 N/A		LCS~320-154682/2 N/A		320-26319-A-1 (537_DuPont)		320-26319-A-2 (537_DuPont)		320-26319-A-3 (537_DuPont)		320-26319-A-4 (537_DuPont)	0000	320-26319-A-5 (537_DuPont)	67,800,000	320-26319-A-6 (537_DuPont)		320-26319-A-7 (537_DuPont)		320-26319-A-8 (537_DuPont)			Printed · 3/13/2017
		·		7		က		age 5	63	ល្អី 57	7	9		۲		®		တ		9	03/2	7/2 01	7

Printed: 3/13/2017

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM

Batch End:

Baich End:				188 5 7 6 7 6 7 6 7 6 7 6 8 9 188		IIII 3 2 0 - 2 6 3 1 9 - A - 1 1 - A IIII		3 2 6 - 2 6 3 4 9 - A . 1 2 - A		1 3 2 6 . 2 6 3 1 9 . A . 1 2 . D S. IIII		ING S B . Z 6 3 1 9 . A . 1 2 . E L M S D.III								MMI 3 2 6 3 2 6 . A . 2 . A .					
	chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine≂ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		chlorine=ND		
	4		4		4		4		4		4		4		4		4	_	4		4		4		
	8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		
	3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		
																					<u> </u>				_
					7		7		7		7		7		7		7		7		2				
	250.3 mL	1.0 mL	251.6 mL	1.0 mL	252.6 mL	1.0 mL	253.7 mL	1.0 mL	254.4 mL	1.0 mL	257.9 mL	1.0 mL	250.1 mL	1.0 mL	254.2 mL	1.0 mL	254.5 mL	1.0 mL	249.2 mL	1.0 mL	246.9 mL	1.0 mL	252.4 mL	1.0 mL	_
	277.96 g	27.63 g	278.68 g 2	27.06 g	280.12 g 2	27.53 g	280.60 g 2	26.87 g	281.42 g 2	27.04 g	284.71 g 2	26.77 g	277.04 g	86.98 g	281.00 g	26.81 g	281.66 g 2	27.15 g	276.29 g	27.12 g	274.01 g 2.	27.15 g	279.79 g	27.36 g	<u>-</u>
	N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26319-1)		N/A (320-26320-1)		N/A (320-26320-1)		N/A (320-26320-1)		N/A (320-26320-1)		N/A (320-26320-1)		N/A (320-26320-1)		
200 00240 4 0	520-26319-A-9 (537_DuPont)		320-26319-A-10 (537_DuPont)		320-26319-A-11 (537_DuPont)		320-26319-A-12 (537_DuPont)		320-26319-A-12~LMS (537_DuPont)	- 1	320-26319-A-12~LMSD (537_DuPont)		320-26320-A-1 (537_DuPont)		320-26320-A-1~LMS (537_DuPont)		320-26320-A-1~LMSD (537_DuPont)		320-26320-A-2 (537_DuPont)		320-26320-A-3 (537_DuPont)		320-26320-A-4 (537_DuPont)		_
	±		5		13		4		15	Pi	age 5	64 [']	of 57	7	8		6		70		72		8	3/27/2	2017

(To Accompany Samples to Instruments)

Batch Open: 3/13/2017 2:41:00PM Batch End

Analyst: Kolstad, Kate M

Batch Number: 320-154682

Batch End:			IIII 3 2 6 - 2 6 3 2 1 - A - 1 - A III		III 3 2 6 3 2 7 A 1 D L M S		118 2 6 - 2 6 3 2 7 - 7 - 1 - E L M S D 11		3 2 0 - 2 6 3 2 1 - A - 2 - A		3.2.8.3.2.1. A. 3. A.		III.3 2 8 - 2 6 3 2 1 - A - 4 - A III	
		chlorine=ND		chlorine=ND		chlorine=ND		chlorine≐ND		chlorine=ND		chlorine=ND		
		4		4		4	_	4		4		4		
		8_Days		8_Days		8_Days		8_Days		8_Days		8_Days		
	-	3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		3/10/17		
	-													-
	ľ	_	•	7		~	•	_		_		_		- i
		248.1 mL	1.0 mĹ	246.1 mL	1.0 mL	249.5 mL	1.0 mL	255.4 mL	1.0 mL	251.5 mL	1.0 mL	255.7 mL	1.0 mL	
		275.25 g	27.14 g	273.50 g	27.45 g	276.37 g	26.86 g	282.88 g	27.52 g	278.34 g	26.80 g	282.99 g	27.33 g	
_Prep-320	ΑN	(320-26321-1)		N/A (320-26321-1)		N/A (320-26321-1)		N/A (320-26321-1)		N/A (320-26321-1)		N/A (320-26321-1)		
Method Code: 320-537_Prep-320	320-26321-A-1	(537_DuPont)		320-26321-A-1~LMS (537_DuPont)		320-26321-A-1~LMSD (537_DuPont)		320-26321-A-2 (537_DuPont)		320-26321-A-3 (537_DuPont)	4	320-26321-A-4 (537_DuPont)		
<u> </u>		3		24		55		8		27	þ	age 5	65	of 577

Page 3 of 9

Page 4 of 9

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM

Batch End:

Manifold ID 1, 3, 4 Trizma ID SIBR4303V SPE Cartridge ID 6341059-06 Methanol ID 865699 Reagent Water ID 3/13/17 Pipette ID MD05306 Analyst ID - TA Reagent Drop CAB Witness Analyst ID - SU Reagent Drop CAB Analyst ID - IS Reagent D
--

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments) Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

320-26319-A-1

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM

Batch End:

Comments

	No MS/MSD per JOB																	
	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB	DuPont QAS_LCSD req if No MS/MSD per JOB
M-46-4	Method Comments:																	
- 22 22 22 2	320-26319-A-2	320-26319-A-3	320-26319-A-4	320-26319-A-5	320-26319-A-6	320-26319-A-7	, 320-26319-A-8	320-26319-A-9	320-26319-A-10	320-26319-A-11	320-26319-A-12	320-26319-A-12~MS	320-26319-A-12~MSD	320-26320-A-1	320-26320-A-1~MS	320-26320-A-1~MSD	320-26320-A-2	5 320- <u>26320-A-3</u>

Page 567 of 577

Printed: 3/13/2017

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

320-26320-A-4

320-26321-A-1

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM Batch End: Method Comments: DuPont QAS_LCSD req if No MS/MSD per JOB Method Comments: DuPont QAS_LCSD req if No MS/MSD per JOB Method Comments: DuPont QAS_LCSD req if No MS/MSD per JOB

DuPont QAS_LCSD req if No MS/MSD per JOB

DuPont QAS_LCSD req if No MS/MSD per JOB

Method Comments:

Method Comments:

320-26321-A-1~MSD

320-26321-A-2

320-26321-A-3

320-26321-A-4

320-26321-A-1~MS

Method Comments: DuPont QAS_LCSD req if No MS/MSD per JOB

Method Comments: DuPont QAS_LCSD req if No MS/MSD per JOB

DuPont QAS_LCSD req if No MS/MSD per JOB

Method Comments:

Page 6 of 9

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM

Batch End:

Reagent Additions Worksheet

Printed: 3/13/2017

TestAmerica Sacramento

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM

Method Code: 320-537_Prep-320				Batch	Batch End:
320-26319-A-12 LMSD	LC537-SU_00032	50 uL	1.0 mL	Kmk 3-13-17	MS 3-13-17
320-26320-A-1	LC537-SU_00032	20 nF	1.0 mL		
320-26320-A-1 LMS	LC537-LSP_00017	50 uL	1.0 mL		
320-26320-A-1 LMS	LC537-SU_00032	50 uL	1.0 mL		
320-26320-A-1 LMSD	LC537-LSP_00017	50 uL	1.0 mL		
320-26320-A-1 LMSD	LC537-SU_00032	50 uL	1.0 mL		
320-26320-A-2	LC537-SU_00032	50 uL	1.0 mL		
320-26320-A-3	LC537-SU_00032	50 uL	1.0 mL		
320-26320-A-4	LC537-SU_00032	50 uL	1.0 mL		
320-26321-A-1	LC537-SU_00032	50 uL	1.0 mL		
320-26321-A-1 LMS	LC537-LSP_00017	50 uL	1.0 mL		
320-26321-A-1 LMS	LC537-SU_00032	50 uL	1.0 mL		
320-26321-A-1 LMSD	LC537-LSP_00017	50 uL	1.0 mL		
320-26321-A-1 LMSD	LC537-SU_00032	50 uL	1.0 mL		
320-26321-A-2	LC537-SU_00032	50 uL	1.0 mL		
320-26321-A-3	LC537-SU_00032	50 uL	1.0 mL		,
320-26321-A-4	LC537-SU_00032	50 uL	1.0 mL	7	

Page 8 of 9

Aqueous Extraction Analysis Sheet

(To Accompany Samples to Instruments)

Analyst: Kolstad, Kate M

Method Code: 320-537_Prep-320

Batch Number: 320-154682

Batch Open: 3/13/2017 2:41:00PM

Batch End:

	Lot#:				
Other Reagents:	Amount/Units				
	Reagent		56		

Page 571 of 577



Sacramento Preparation Data Review Checklist

	Preparation Batch Number(s): 154682 Test: 53/_ Pre-	P	
	Earliest Holding Time: 3-14-17		
	Sample List Tab	1 st Level	2 nd Level
	Samples identified to the correct method	Reviewer	Reyiewer
	All necessary NCMs filed (including holding time)		//
	Method/sample/login/QAS checked and correct		//
	The Same of the Children and Confect		
	Worksheet Tab	1 st Level Reviewer	2 nd Level Reviewer
	All samples properly preserved		1.01,01101
	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 row data is		/
ŀ	atteoried		/.
L	Comments are transcribed correctly in TALS		//
	Reagents Tab	1 st Level	2 nd Level
	All necessary reagents not expired and entered into TALS	Reviewer	Reviewer
Г	All spike amounts correct and added to necessary samples and QC		//
	and detect to necessary samples and QC		
l	D-4-1-1-4	1 st Level	2 nd Level
h	Date and time accurate and entered into TALS correctly	Reviewer	Reviewer
Е	All necessary thatch information and Into TALS correctly		7,
Ľ	All necessary 'batch information' complete and entered into TALS correctly		
18	Level Reviewer: Date:		
ეN	Level Reviewer: Date: 3-	19-11	
		<u>ろー14ー1</u>	7
C	omments:		

Shipping and Receiving Documents

Kellmann, Jill

From: Michael.Zamboni@CH2M.com

Sent: Wednesday, March 08, 2017 11:34 AM

To: Kellmann, Jill

Cc: Michael.Zamboni@CH2M.com

Subject: RE: TestAmerica sample confirmation files from 320-26263-1 Meridian 10006-7-105420

JM01 Navy Clean

Hey Jill,

Would you please update sample ID "FD-04" (320-26263-4) to "MEAFF-FD04-030117"? The sample ID on the CoC is not acceptable.

Thanks,

Mike Z.

Upcoming 000:

3/13-3/24: PTO

<u>Confidentiality Notice:</u> This e-mail and any files transmitted with it are confidential and intended for the sole use of the individual(s) to whom they are addressed. If you receive this e-mail in error, please delete the original message from your system, destroy any copies and notify me at one of the above contact numbers.

From: Kellmann, Jill [mailto:jill.kellmann@testamericainc.com]

Sent: Monday, March 06, 2017 3:31 PM

To: Zamboni, Michael/WDC < Michael.Zamboni@CH2M.com>

Subject: TestAmerica sample confirmation files from 320-26263-1 Meridian 10006-7-105420 JM01 Navy Clean

[EXTERNAL]

Hello,

Attached please find the sample confirmation files for job 320-26263-1; Meridian 10006-7-105420 JM01 Navy Clean.

Receipt

The samples were received on 3/2/2017 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

Please feel free to contact me if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

JILL KELLMANN

Manager of Project Management

TestAmerica Sacramento

THE LEADER IN ENVIRONMENTAL TESTING

Tel: 916.374.4402 www.testamericainc.com

Reference: [086917] Attachments: 3

880 Riverside Parkway West Sacramento, CA 95605-1500 phone 916.373-5600 fax 303-467.7248 Company Name CH2M G600 Peachtree Dunwoody Road 400 Embassy Row, Suite 600 Atlanta GA 30328 (678) 530-4060 Phone (770) 604-9153 Fax										5
mbassy Row, Suite 600		-							A STATE OF THE PARTY OF THE PAR	
embassy Row, Suite 600	Same line			1	****		-		THE LEADER IN ENVIRON	WALL TESTING
Client Contact unwoody Road. 400 Embassy Row. Suite 600 Phone Fax	regulatory	Regulatory Program:	n: 🗇 DW	N □ NPDES		☐RCRSA ☐ Other:			TestAmerica Laboratories, Inc.	oratories, Inc.
H2M unwoody Road 400 Embassy Row, Suite 600 Embassy Row Fav.	Project Manager: Bryan Burkingstock	r: Bryan	Burking	stock	Site (Site Contact: Ryan Brown	Date: 3/1/17		COC No: 5	
unwoody Road 400 Embassy Row, Suite 600	Tel/Fax: 603-73	36-4111			Lab (Lab Contact: Jill Kellmann	Carrier: FedEx		1 of 1	COCs
Phone Fax	Analys	Analysis Turnaround Time	round Ti	те					Sampler, J. McCann	
Phone	CALENDAR DAYS	NS N	WORKE	VG DAYS	7		-		For Lab Use Only:	
	TAT if different from Below 21 Days	from Below	21 Days	-CAMPAGNAMANA	N			_	Walk-in Client:	
		2 weeks	ks		_				Lab Sampling:	
Project Name: Meridian 10006-7-105420 JM01 Navy CLEAN		1 week	*	***************************************	_					
Site: NAS Meridian		2 days	10						Job / SDG No :	
P O # 16006-7-105420		1 day			-					
Sample Identification Dx	Sample Sam Date Tim	Sar mple (C=c ime G=c	Sample Type (C=Comp. G=Grab) Ma	# of # of Matrix Cont	Filtered Sa Pertorm M	bEC			Sample Specific Notes:	fic Notes:
MEAFF-WW7P-MW91-0317	3/1/2017 124	240	9	GW 2	z	×				
MEAFF-PVVMA-MW01-0317	3/1/2017 1400		9	GW 2	Z	×				
17	3/1/2017 1505		9	GW 2	z	_				
			0	C CKV 2	2				C Marie	
				-						
		_								
		-		-	-					
	-	-		-			320-26263 (320-26263 Chain of Custody	dy	
		-		-					-	
	-			+						
		-								
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	JH; 6= Othe				0					Service Servic
	COA Mar	the Codes	Section of			Sample Disposal (A tee may be	assessed II	samples are reta	are retained longer than 1 month)	ıth)
Are any samples from a listed Erra Hazardous Waste? Prease List any Erra waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.	iny EPA wa	ste Code	s for the s	ample in	eu					
□ Non-Hazard □ Flammable □ Skin Irritant □	☐ Poison B	9	J Unknown			Return to Client	Disposal by Lab	☐ Archive fo	ar Months	
ctions/QC Requirements & Comments: Send resu	s to Mike Za	amboni - address on file	ddress o	n file						
act:	Custody Seal No	2.5				Cooler Temp. (°C):	(°C): Obs'd: 2.4	Corr'd 2	Therm ID No.:	1-7
Relinquished by: Charling Office of Ann Com	Company: CH2M HILL	M HILL	014	Date/Time:	J. A.	Received by: 1 1 H	You Company	Ma. J. F.	Date/Time:	101
	Company:		۵	ate/Time:	N N	Received by: UM (Company:	ny:	Date/Time:	(1012
Relinquished by:	Company:		Ö	Date/Time:		Received in Laboratory by:	Company:	IV:	Date/Time:	
And the second s										

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 320-26263-1

Login Number: 26263 List Source: TestAmerica Sacramento

List Number: 1

Creator: Nelson, Kym D

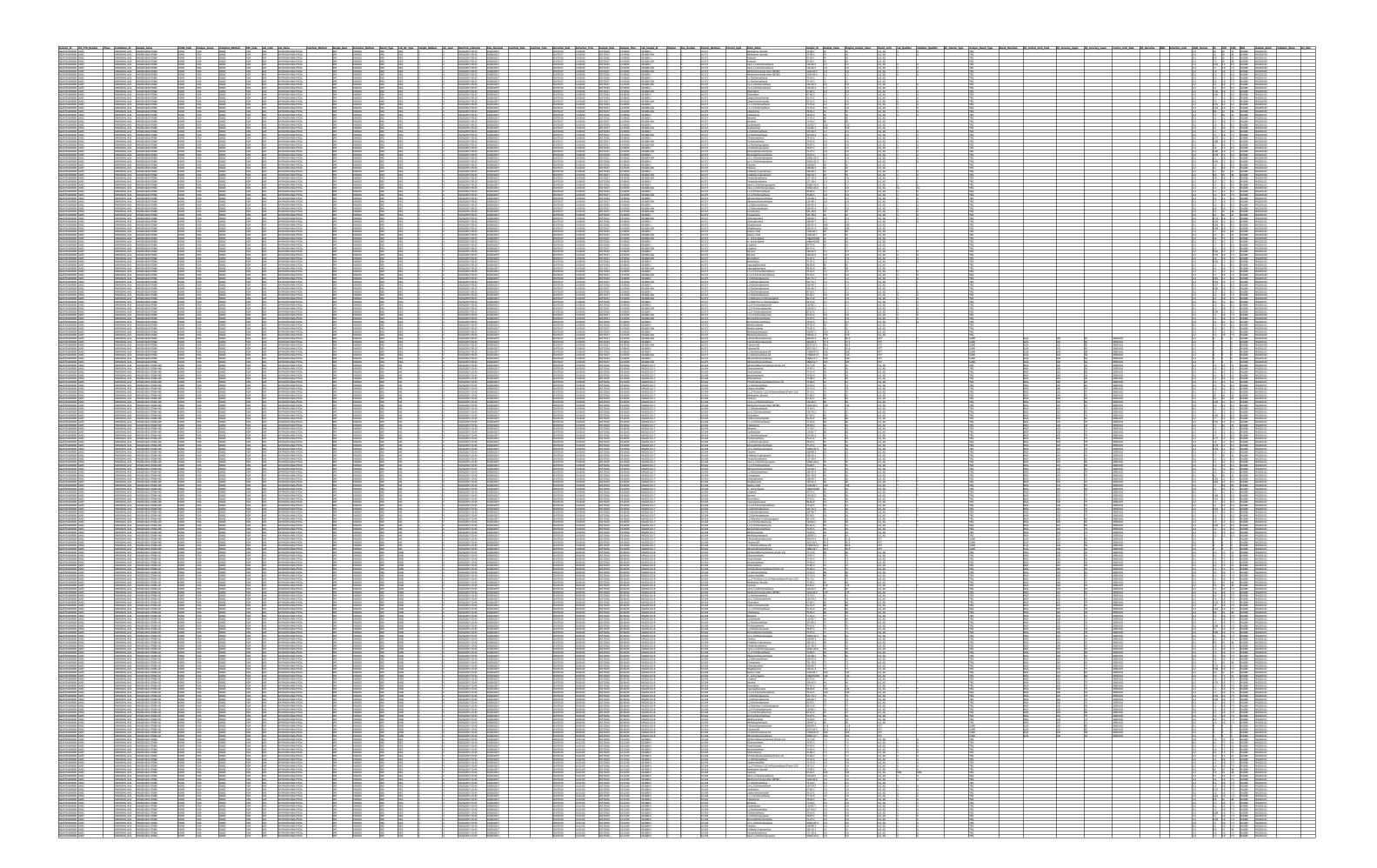
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised 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?	True	
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, D. OC CTO Number Phase Installation, D. Remple Name COSM, Code Acadysis, Group Headystad, Method	PRC Code Lish Code Lish Namo Hanchain Method Europia Basis Entraction Method Hesuit Type Lish QC Type	Sample Medium QC Level DateTime Collected Date Received Leachase Date Leachase	a-Time Katraction Cette (Satraction Time Associate Costs Manalysis Cette Manalysis Time (sub Sample D) (Stitution Bus Number Percent Molet	on Percent Lipid Chem. Rome Analyte © Analyte Value Grigonal An	radyte, Value Street, Livits Lab, Qualifler Validator Qualifler SC, Column, Type Analysis, Result, Type Street,	errelive QC Control Limit Code QC Anturnor Upper QC Anturnor Lower Control Limit Date QC Narrative	MGC Selection_limit SSM_Version St. ISO ISO ISO ISO Manipul Satch Validator_Name but Selection_Limit Iso
MESTANDEGENOS JANG MESEGAN, NAS. MARTH-MIN-1-MO1-02177 NONS DVGA. 1275, SM MESTANDEGENOS JANG MESEGAN, NAS. MARTH-MIN-1-MO1-02177 NONS DVGA. 1275, SM MESTANDEGENOS JANG MESEGAN, NAS. MARTH-MIN-1-MO1-02177 NONS DVGA. 1275, SM MESTANDEGENOS JANG MESEGAN, NAS. MARTH-MIN-1-MO1-02177 NONS DVGA. 1275, SM MESTANDEGENOS JANG MESEGAN, NAS. MARTH-MIN-1-MO1-02177 NONS DVGA. 1275, SM	\$40.04 MARKE Yest America MONE NA 509/\$10C 500 80G \$00.04 \$10.04 \$10.05	W 6 50/21/901715-55 60/22/2017 W 6 50/21/901715-55 60/22/2017 W 6 50/21/901715-55 60/22/2017 W 6 50/21/901715-55 60/22/2017	D0170224 1564 00 20170066 1612 00 1200 5960-1 1 1 1 1 1 1 1 1 1	1,4 Giosara 123 91-1 0.48 0.48 0.48 Nrobenzere-G 485-50-0 63 61 1.4 Giosara 127 91-1 0.48 0.48 0.48 1.44 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0	UG L U U 90 TRG FTT_REC PR SURR UG L U U PR TRG UT L U U PR TRG STT_REC PR SURR	00000000 15.54 91 42 00000000 15.54 91 42 00000000 15.54 91 42 00000000 15.54 91 42 000000000 15.54 91 42 000000000 15.54 91 42 000000000 15.54	5.0 0.19 0.48 0.97 320-25962-1 320-153398
MISTONISCORDOR IMM01	506G TAMER Test America NOME NA 50V2025 500 REG 506G SAMER Test America NOME NA 50V2025 500 REG 506G SAMER Test America NOME NA 50V2025 500 REG 506G SAMER Test America NOME NA 50V2025 500 REG 506G SAMER Test America NOME NA 50V2025 500 REG	W 6 50/21/2017125 50/22/2017 W 6 50/21/20171255 50/22/2017 W 6 50/21/20171255 50/22/2017 W 8 50/21/20171255 50/22/2017	D3170228 1642.00 20170002 11:12.00 320-2000-3 1	Ferfuncacitansis acid (FFCA) 335-67-1 0.0018 Ferfuncacitansis acid (FFCA) 335-67-1 0.0018 Ferfuncacitansis (FFCG) 376-22-1 0.0022 3362 FFCA 326 FFCA 326 FFCA 326 FFCA 327 3364 FFCA 3364 FFCA 3364 FFCA 3364 FFCA 3365 FFCA	0.0018 UC_L UM UM PR TRG 0.0027 UC_L U U 998 TRG 0.0027 UC_L U U 998 TRG FCT_RGC Q Q 988 SUBR FCT_RGC PR SUBR	00000000 12.5A 150 25 00000000 24.5A 150 25 00000000	1.0 100 (100 (100 (100 (100 (100 (100 (1
MERIFORDIO MODI	2006	W 4 (3/21/20171325 (9/22/2017) W 4 (9/21/20171325 (9/22/2017) 5 4 (9/21/20171325 (9/22/2017) 6 (9/21/20171335 (9/22/2017)	00170228 1642.00 20170022 111200 202.5562-3 1	Perfluorobetanesuffonic acid (PFBS) 1757-72-5 0.00018 1802 PFHKS 1802 PFHKS 141 141 Perfluorooctanoic acid (PFOA) 225-67-1 27 27	G0058 UG_L U	0,000,000 0 0,000 0 0,000	1
NEXT/050000000 (M00) METEROAR NAS MERFF-PRIMA-6829 0001 NORS 970A 177 M00 NEXT/050000000 (M01) METEROAR NAS MERFF-PRIMA-6829 0001 NORS 970A 177 M00 NEXT/050000000 (M01) METEROAR NAS MERFF-PRIMA-6829 0001 NORS 970A 177 M00 NEXT/050000000 (M01) METEROAR NAS MERFF-PRIMA-6829 0001 NORS 970A 177 M00 METEROAR NAS METEROAR NAS METEROAR 0001 NORS 970A 177 M00	SMC MARER Test America SONE SWY METHOD SSD SEG SMC SMARER Test America SONE SWY METHOD SSD SEG SMC SMARER Test America SONE SWY METHOD SSD SEG SMC SMARER Test America SONE SWY METHOD SSD SEG SWI SWE SWY METHOD SWO SEG SWY SWE SWY	6 4 0271/00171325 02/22/2017 6 4 0271/00171325 02/22/2017 6 4 0271/00171325 02/22/2017 6 4 0271/00171325 02/22/2017	01/17223 1722.00 20/17001 1945.00 20/15024 1 1 11.3 01/17223 1722.00 20/17001 1945.00 20/15024 1 1 11.3 01/17223 1722.00 20/17001 1945.00 20/15024 1 1 11.3 01/17223 1722.00 01/17002 1945.00 20/15024 1 1 11.3	Performancescrame Sufficiente (PECG) 1783-33-1 220 230 118-24 PECA 118-34-1 220 230 118-24 PECA 118 111 111 111 118-24 PECA 11	FCT.REC PR SUBR FCT.REC PR SUBR U.S. KG M M PR TRG FCT.REC PR SUBR	15.54 150 15 00000000 15.54 150 15 00000000 15.54 150 15 00000000 15.54 150 15 00000000	10 100-5983-1 100-5983-1 100-5983-1
MAILYPEOGEONOD MIND METEROAR_NAS MEATF-PRIMA-REDG-0001 NORS NORA 137_MGO NASTRONOOD MIND METEROAR_NAS MEATF-PRIMA-REDG-0001 NORS NORS NORA 137_MGO NASTRONOOD NASTRO	905	\$ 8 0272/0017.1325 00/72/2017 \$ 8 02/72/0017.1325 00/72/2017 \$ 02/72/0017.1325 00/72/2017	00170223 172200 00170603 951500 00-5562-4 95 1 13.3 00170223 172200 00170603 951500 00-5562-4 95 2 13.3 00170223 172200 00170603 951500 120-5562-4 95 2 13.3	Perfluoreschanoic avid (PFON) 135-67-1 58 28	UC_NC OM OM PR TEG UC_NC O O PR TEG WCT_RC D O PR EUR		10 10 10 10 10 10 10 10
	505	1	01100221 172200 20170001 2013001 2005001 4 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Tack PVCb	PCT NAC. DM 250M PR 350M PR 350M PR 150M PR 15	MASA 150 ds 10000000 10.5A 150 25 10000000 10.5A 150 25 10000000 10.0000000	1.0 12 2.4 4.6 20.0.0000.1 20.
MART-01000-0000 IROS MART-01000-000 MART-0-1000-000 MART	MIG	1	001/02/23 1722/20 20/17/00/1 20/00/00 20/07/00/1 1 1 47.7 001/02/23 1722/20 20/07/00/1 20/07/00/1 20/07/00/1 20/07/00/1 1 1 47.7 001/02/23 1722/20 20/07/00/1 20/07/00/1 20/07/00/1 20/07/00/1 1 1 47.7 001/02/23 1722/20 20/07/00/1 20/07/00/1 20/07/00/1 20/07/00/1 1 47.7 001/02/23 1722/20 20/07/00/1 20/07/00/1 20/07/00/1 20/07/00/1 1 47.7	PRINCESSCENE SAROURSE PHOLO: 178-22-1 40 AU 1110-8 PEO. 178-22-1 40 AU 1110-8 PEO. 178-22-1 50 AU 1110-8 PEO. 178-22-1 50 AU 1110-8 PEO. 178-22-1 50 AU PER-RESONALISES CHIEFES 120-7-7-5 50 AU PER-RESONALISES CHIEFES 120-7-7-7-5 50 AU PER-RESONALISES CHIEFES 120-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7	UU_, No. 10 NY PK 1856 PCT_REC M M M PR 1856 PCT_REC M M M M M M PR 1856 PCT_REC M M M M M P	93.5A 150 25 10000000 19.5A 150 25 10000000 19.5A 150 25 00000000 100000000	100 8.15 8.00 8.00 400-2006-1 (30-15025) 100 100-2006-1 (30-15025) 100 100-2006-1 (30-15025) 100 100-2006-1 (30-15025) 100 100-2006-1 (30-15025) 100 100-2006-1 (30-15025) 100 100-2006-1 (30-15025)
### HEEDENA, MAS MEETENAN, MAS MARFF-PRANA-SEED 2004 10055 200A 517, MAD 187, MAS 127, MAD 187, MAS 127, MAD 187, MAS 127, MAS 12	DRG	\$ 6 50/21/0027 21:40 50/22/2017 5 6 5 70/22/2017 5 6 6 50/22/2017 17:23 50/22/2017 5 6 6 50/22/2017 17:23 50/22/2017 5 6 50/22/2017 17:22 50/22/2017 5 6 50/22/2017 17:22 50/22/2017 5 6 50/22017 5 6 50/	00170223 1722.00 20170001 00.0000 330.7560.5 1 14.7	1802 PPICES 1802 PPICES 1802 PPICES 1804	PCT_REC M M M PR SLARR PCT_REC PR PR TRG PCT_REC PR TRG PCT_REC PR SLARR	15.5A 15.50 15.5 000000000 15.5A 1000000000 15.5A 14.00 15.00 000000000 15.5A 14.00 15.00 000000000 15.5A 15.50 15.50 15.50 00000000 15.5A 15.50	10 10 10 10 10 10 10 10
HELTOSEGODO (2012) MERIDANA HAS. INCES DES 152015/2-A. NONE 1904A 127 MOD MERIDANA HAS. INCES DE 152015/2-A. NONE 1904A 127 MOD MERIDANA HAS INCES DE 152015/2-A. NONE 1904A 127 MOD MERIDANA H	2005 2045E Text America 2006 2017 2017000 200 15	5 6 502/2/0017 1722 502/2/2017 5 6 502/2/0017 1722 502/2/2017 5 6 502/2/0017 1722 502/2/2017 6 502/2/0017 1724 502/2/2017 W 6 502/2/0017 17544 502/2/2017	DOT/T0223 1722.00 DOT/T0009 P9.3700 E5.3204520545(2-A 1 1 1 1 1 1 1 1 1	11C0 PFCS 91 91 92	FCT REC PR SUBS FCT_REC PR TRG FCT_REC PR SUBS FCT_REC M M PR TRG	91.5A 150 35 00000000 1.5A 150 30 00000000 15.5A 150 25 00000000 15.5A 15 00000000 15.6A 12 12 20 15.6A 10 10 10	5.0 0.10 0.30 0.40 120-25962-1 120-159220 5.0 120-25962-1 120-159220 5.0 0.20 0.50 1.0 120-25962-1 120-159220
Description	ORG TAMER Test America NONE NA SW2535 200 R5	W 6 52/34/001715:44 60/24/2017 W 6 52/34/00171642 60/24/2017 W 6 52/34/20171642 60/24/2017 W 6 52/34/20171642 60/24/2017	DOIT9024 1544.00 DOIT9066 114600 165.330.652172/2-A 1	Nizrobesser-05 465-60 0 72 73 74 74 74 74 74 74 74 74 74 74 74 74 74	PCT_MEC 90. 31388 PCT_MEC 90. 150. PCT_MEC 90. TRG PCT_MEC 90. TRG PCT_MEC 90. S1338 PCT_MEC 90. S1338 PCT_MEC 90. S1338 PCT_MEC 90. S1338 PCT_MEC 90. P	\$1.5A 91 42 00000000 1.5A 140 60 00000000 1.5A 140 60 000000000 1.5A 140 60 000000000 2.5A 150 150 55 00000000	10
HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTORISCONO AND WITERAWA, NAS. (S. 220-153277-A 100% 90-A 137, MOD HACTOR	Maria	W 8 3024/2017 642 92/26/2017 W 8 5024/2017 1642 9076/2017 W 8 5024/2017 1642 9076/2017 W 8 5024/2017 1642 9076/2017 W 8 5024/2017 1644 9076/2017	DITACES 664.00 DITACES D64.00 C5.306.5126177-A 1	164 FF05 122 123 124 125	FCT.SEC PR SUBB FCT.SEC PR SUBB FCT.SEC PR SUBB FCT.SEC PR SUBB	9.5A 150 25 0000000	50 120-25962-1 120-15286
NEXTRIBUTION AND MATERIAL PROPERTY AND	2005 2006 2007	W 8 9274/2027 1644 03/24/2027 W 8 9274/2027 W 9 9 9274/2027 W 9 9 9274/2027 1642 03/24/2027 W 9 9 9274/2027 1643 03/24/2027 W 9 9 9274/2027 1643 03/24/2027	SULTROZA	Noticessee-CG 455 600 61 51 51 Ferhammen CG 455 600 61 51 51 51 Ferhamsocianois and (PFCA) 235 67-1 56 56 56 Ferhamsocianois Salfonate (PFCG) 1781-25-1 56 56 12C4 FFCA 12C4 FFC	PCT_MCC PR SUMR ECT_MCC PR TMG ECT_MCC PR TMG ECT_MCC M M M PR TMG ECT_MCC M M PR	\$1.5 2 42 00000000 CFF 440 460 00000000 CFF 440 460 00000000 CFF 440 460 000000000 CFF 440 460 000000000 CFF 440 460 000000000 CFF 440 000000000 CFF 440 0000000000	10
	200 2003 100	W 6. 02/24/001 1664 00/24/2017 W 6. 02/24/001 1664 00/24/2017 W 7. 02/24/001 1664 00/24/2017 W 8. 02/24/2011 1664 00/24/2017 W 9. 02/24/2011 1664 00/24/2017		100 1700 100	CT_MC	E.SA 150 25 10000000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5.0 0.92 2.0 2.5 120-25962-1 120-152836
NULTI-0000000 (ME) MERIDAN ALS MA 2013/01/14 A NOR MA MA MA 2013/01/14 A NOR MA	MAGE MARIER Test America MONE MOTT METHOD MOT METHOD MOT M	1	00170223 172200 20170001 82700 M8 2304555(7-4 1 1 1 1 1 1 1 1 1	Perfluoroccurant Salton pro.09 (155-2) (1.20 (1.30) Perfluoroccurant Salton pro.09 (155-2) (1.20 (1.30) Perfluoroccurant Salton pro.09 (155-2) (1.30) Perfluoroccur	100	10000000 100000000 100000000 100000000 100000000 10000000000	0
MARAFORDORODO INDICE MEDICONA, NAS. MR 200-52-0012/2-H MONTO MONTO MONTO MARAFORDORODO MODE MEDICONA, NAS. MR 200-52-0012/2-H MONTO	Mole	1	00170224 174400 2017006 112400 40210517777-4 1 1 1 1 1 1 1 1 1	Permittende (1975) 1975 19	UU_NA U U PR 1866 RET_REC DR 2488 UU_L U U PR 2566 UU_L U U PR 2766 RET_REC DR 24888 UU_L U U PR 2766 RET_REC DR 24888	9MSA 150 25 0000000 9MSA 150 25 0000000 0000000 25.5A 91 42 0000000	1.0
MISTONISCONOD MADI	ORG TAMER Test America NOME NA SW2525 DO 183 ORG DAMER Test America NOME NA SW2525 DO 83 ORG DAMER Test America NOME NA SW2525 DO 83 ORG DAMER Test America NOME NA SW2525 DO 83 ORG DAMER Test America NOME NA SW2525 DO 83	W 6 50/24/201716-42 50/24/2017 W 6 50/24/201716-42 50/24/2017 W 6 50/24/201716-42 50/24/2017 W 6 50/24/201716-42 50/24/2017 W 6 50/24/201716-42 50/24/2017	DOTTOZES 1642.00 DOTTOXO 10.03500 May 20.04526977-4 1 1 1 1 1 1 1 1 1	Perfusionectanois acid (PFOA) 315-G7-1 0.0022 Perfusionectanois acid (PFOA) 315-G7-1 0.0022 Perfusionectanois actionates (PFOS) 124-22-3 0.0021 PERFUSIONECTANOS 120-22-3 0.0021 PERFUSIONECTANOS 120-22-3 120-22-	0.002 UC, L UM UM PR 176G 0.003 UC, L U U PR 176G FCT, SCC Q Q PR 5138R FCT, SCC PR 5138R	00000000 000000000 00000000 000000 000000 0000000 0000000 0000000	15
NEXT-PRISECUTION AND MEDICAL PRISECUTION AND MEDICAL P	505 35468	W 4 52/28/2017 16:42 50/28/2017 W 4 52/28/2013 16:42 50/28/2017 5 4 52/22/2013 16:49 50/28/2017 5 4 52/22/2017 16:49 50/22/2017	DETRUZE 164.00 DETRUZE DETRU	Perfluoristatement/Sens set/0 (PRE) 127-73-5 0.002 150.279763 150.279763 155.279763	0.003 U.S. U J PR TRG PR PR PR PR PR PR PR	00000000 00000000 00000000 000000	\$0.0 60-00 0.002 0.0025120-25482-1 (20-15288) 5.0 120-25592-1 (20-15288) 5.0 5.11 8-00 566 (20-25061-1 (20-15556) 5.0 1.17 8-00 1.666 (20-25061-1 (20-15556)
MEST/000000000 IMD1	ORG TAMER Test America NONE ORY METHOD SSO REG ORG TAMER Test America NONE DRY METHOD SSO REG	\$ 4 32/22/2017 10:40 02/22/2017 \$ 4 32/22/2007 10:40 02/22/2017 \$ 4 32/22/2017 10:40 02/22/2017 \$ 4 32/22/2017 10:40 02/22/2017 \$ 4 32/22/2017 10:40 02/22/2017	00170302 162300 9027031 1227200 100-0003-1 1 1 14.6 1 1 1 1 1 1 1 1 1	13C4 PFGA 13C4 PFGA 14C	FCT_REC	15.5A	1.0 130 2008-1 130-12084 1
NEAR-MUSEUMON (NRC) NRC) NRC) NRC) NRC) NRC) NRC) NRC)	2006 2008 2008 2008 2008 2009 2007 2009	5 4 02/22/00116/40 02/22/0017 5 4 02/22/0017 00:00 02/22/0017 5 4 02/22/0017 00:00 02/22/0017 5 4 02/22/0017 00:00 02/22/0017 5 4 02/22/0017 00:00 02/22/0017	DELTYMEN 162100 1007701 125500 125 007701 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Performanciancia and (PFOA) Section France Performancianciancianciancianciancianciancianci	C S C M		5.0 0.13 0.39 0.66 120-26011-1 120-154516 5.0 0.17 0.39 0.66 120-26011-1 120-154516
NATA/NEGOCKO (MET) MINESON, PAS. MINESON, PA	Dec	\$ 4 02/22/0017 00:00 102/22/0017 15 4 02/22/0017 00:00 102/22/0017 15 4 02/22/0017 00:00 02/22/0017 15 4 02/22/0017 00:55 02/	1 10 10 10 10 10 10 10	14 14 15 15 15 15 15 15	C	1 0 0 0 0 0 0 0 0 0	5.0 0.14 0.39 0.53 320-26011-1 320-154516
NEATONISSONOO (MICE) MINISTANA, NAS. MAMETERAS, SEGO (MICE) NOME (NOME) DOAR (127 MOD MICE) MINISTANA (NOME) DOAR (127 MOD MICE) MINISTANA (NOME) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (127 MOD MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MONE) DOAR (MICE) MINISTANA (NAS. MAMETERAS, SEGO (MICE) MINISTAN		\$ 4 32/22/0017 09:55 402/22/0017 \$ 4 32/22/0017 09:55 402/22/2017 \$ 4 32/22/0017 09:55 402/22/2017 \$ 4 32/22/0017 09:55 402/22/2017		TRANSPORT 1782-22-1 1.28 0.28 0.28 1.164 FIGA 18 0.28 1.164 FIGA 1.164	PM	500000000 51.54 150 25 500000000 51.54 150 25 500000000 51.54 150 25 500000000 51.54 51.54 51.55 500000000 51.55	100 100
March Marc	AMERIK 1988 AMERIK 1988 AMERIKA MODEL DIRY MOTHOD 200 85 G	1	percental (2014)	1832 FFRGS 12 22 22 23 24 24 25 25 25 26 26 26 26 27 27 27 27	PL 1, ML PR 10, M PR 10, M PR 11, M PR	100 25	1.0 2.0 200.001.1 200.001.1 200.15156 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
THE ACTION AND ADDRESS AND ADD	DAMER TEM AMERICA MONE DRY METTIOD 200 65 G	\$ 4 10/22/0017 12:47 40/23/2017 \$ 4 03/23/001 12:47 40/23/2017 \$ 4 03/22/0017 12:47 40/23/2017 \$ 4 03/22/0017 00:00 103/23/017	BOLIVARIA 102.200 20170011 125.5000 200-20011-4 1 15.7	1126 PFG 12	FCT_RCC 98 \$43.88 \$	PASA 150 25 00000000	0.3 0.3 0.37 0.27 0.00 0.
HS42795050000 0401 MERIDAN JALS MARFF003 022217 NONE 976A 127 MOD HS42795160000 0401 MERIDAN JALS MARFF003 022217 NONE 976A 127 MOD HS42795160000 0401 MERIDAN JALS MARFF003 022217 NONE 976A 127 MOD HS42795160000 0400 MERIDAN JALS MARFF003 022217 NONE 976A 127 MOD HS42796160000 0400 MERIDAN JALS MARFF003 022217 NONE 976A 127 MOD 127 MOD HS42796160000 0400 MERIDAN JALS MARFF003 022217 NONE 976A 127 MOD 12	2006 24A88 Tra America 2004 50° 0871000 200 050	\$ 4 \$2/22/2017 00:00 \$02/21/2017 \$ 4 \$2/22/2017 00:00 \$02/21/2017 \$ 4 \$2/22/2017 00:00 \$02/21/2017 \$ 4 \$2/22/2017 00:00 \$02/21/2017 \$ 4 \$2/22/2017 00:00 \$02/21/2017	DELTONICO 16.22.00 1007/0011 12.57.00 1207/0011.5 1.7.0 17	Perfluoroscitane Sulfonale (PFOS) 1783-22-1 23 22 313C4 PFOA 113 113 113 13C4 PFOS 113 113 113 13C4 PFOS 124 PFOS 12 17 71 71 71 71 71 71 71 71 71 71 71 71	U.C., M.S. M. M. PR TR.C. FCT_REC PR SURP. FCT_REC PR SURP. FCT_REC PR SURP. U.C., M.S. U.M. U.M. PR TR.C.	00000000 01.54 150 25 00000000 01.54 150 25 00000000 01.54 150 25 00000000 000000000 000000000	1
##3131500000 MH1 MH500A A45 MH5F 500 00377 NG MH MH5 A33 MH5 A33 MH5 A34 MH5F 500 00377 NG MH5 A33 MH5 A34 MH5F 500 00377 NG MH5 A34 MH5 A34 MH5F 500 00377 NG MH5 A34 MH5 A34 MH5F 500 00370 NG MH5 A34 MH5 A34 MH5F 500 00370 NG MH5 A34 MH5 A34 MH5F 500 00370 NG MH5 A34 MH5F 500 MH5 800 00370 NG MH5F 500 MH5F 800 00370 NG MH	2005	\$ 4 32/22/0017 00:00 32/23/2017 \$ 4 32/22/0017 12:54 42/23/2017 \$ 4 32/22/0017 12:54 52/23/2017 \$ 4 32/22/0017 12:54 52/23/2017	DELTHARD 0.2.140 DELTHARD 22.5.70 DELTHARD 2.5.70 DELTHARD 0.2.140 DELTHARD 22.5.70 DELTHARD 0.2.140 DELTHARD 23.5.70 DELTHARD 0.2.140 DELTHARD	1802 FFIES 100	FCT REC	\$1.5A \$100 \$5 \$20000000 \$10000000 \$10000000 \$10000000 \$100000000	1.0 0 30.000 10.
	200 2003 100	602220012 25-54 002220017 5 0 02222001 25-54 002220017 5 0 02222001 25-54 002220017 5 0 02222001 25-54 002220017 5 0 02222001 25-54 002220017		100 1705 100	CT_MAC	\$2.5A \$50 25 00000005 \$2.5A \$50 25 00000005 \$2.5A \$50 25 00000005 \$2.5A \$50 25 00000005	10
HEATERSECOND (MAC) METEROAN, NAS (METEROAN), NAS (METEROAN) (MAC)	505 TAMER Text America NOME SIV METHOD 100 1	E 4 5072/3051 21:50 5072/2017 E 4 5072/3051 21:50 5072/2017 E 4 5072/3051 21:50 5072/2017 E 5 5072/3051 21:50 5072/2017 E 6 5072/3051 21:50 5072/2017 E 7 5072/3051 21:50 5072/2017	DETROISE 16.23 0.0 DETROISE	Perfusoscatavia side (PEQ) 335-52-1 0.59 0.10 0.	UC. NC IAM 9M 90 196. UG. NC UM UM 90 196. NC TRC UM UM 90 1486. NC TRC NC NO 14488	9.5A 150 25 0000000	5.0 0.15 0.35 0.58 120-26011-1 120-154516 5.0 120-26011-1 120-154516
NESTNOSCOROD MAN MERSONA, NAS MERFECULA (SIGE) (2001 NONE SYCIA 137, MAD NESTNOSCOROD MAN MERSONA, NAS MERFECULA (SIGE) (2001 NONE SYCIA 137, MAD NESTNOSCOROD MAN MERSONA, NAS MERFECULA (SIGE) (2002 NONE SYCIA 137, MAD NESTNOSCOROD MAN MERSONA, NAS MERFECULA (SIGE) (2002 NONE SYCIA 137, MAD NESTNOSCOROD MAN MERSONA, NAS MERFECULA (SIGE) (2002 NONE SYCIA 137, MAD NESTNOSCOROD MAN NESTNOSCOROD NONE SYCIA 137, MAD NONE SYCI	505	\$ 4 02/2/2017 11:50 02/2/2017 \$ 4 02/2/2017 11:50 02/2/2017 \$ 5 4 02/2/2017 11:50 02/2/2017 \$ 5 4 02/2/2017 0000 02/2/2017 \$ 4 02/2/2017 0000 02/2/2017	DOLYDWOOD 16/23 00 DOLYDWOOD DOLYDWOOD DOLYDWOOD 1 13.8	Perfluorobataneulibris sci (PPB) 375-72-6 0.35 0.35 0.35 130-795-70 0.35 0.35 0.35 0.35 0.35 0.35 0.35 0.3	UG_NG UM UM PR 196G PCT_REC P PR 196G UG_NG UM M PR 196G UG_NG UM M PR 196G UG_NG UM M PR 196G UG_NG UM UM PR 196G	74.5A 150 25 10000000 10000000 100000000 100000000	5.0 0.12 0.35 0.58 120.26011-1 120-154516 5.0 0.15 0.35 0.58 120-26011-1 120-154516
HESPANISADENDO MAD	2006 TSAREE Tee Annets NORE 2007 METHOD 200 86.5	5	DOITHUNG	112C4 FFGA 12C4 FFGA 112 113 113 114 115 116 116 117	PCT_MCC PR SUMR PCT_MCC PR PCT_MC	\$1.5A \$150 \$15 \$00000000 \$1.5A \$150 \$15 \$00000000 \$1.5A \$150 \$15 \$00000000 \$1.5A \$150 \$15 \$15 \$00000000	15.0 1205-26013-1 (205-545156 15.0 1205-26013-1 (205-545156 15.0 1205-26013-1 (205-545156 15.0 15.1 1205-26013-1 (205-545156 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26013-1 (205-54516 15.0 1205-26
HERDAN MAS MERSON MAS STEEDAN MAS MAFFECAND SIGN SIDM NORS 200A 517 MOD NEWSFERD MAS MASS AND	DRG DAMER Test Anneces MONE DRY METHOD DD REG	6 4 07/2/09/1145 09/2/2/017 6 4 07/2/09/1145 09/2/2/017 6 4 07/2/09/1145 09/2/2/017 6 4 07/2/09/1145 09/2/2/017	DITENSE 1622 00 2075912 00500 203 16011-9 1 1 1-9 1 1 1-9 1 1 1-9 1 1 1-9 1 1 1-9 1 1 1-9 1 1 1 1-9 1 1 1-9 1 1 1 1 1 1 1 1 1	Perflammentancia acid (PEGA) 335-67-1 0.33 0.33 (Architecture) (PEGA) 335-67-1 0.33 (Architecture) (PEGA) 335-67-67-68 (Architecture) (PEGA) 335-67-68 (Architecture) (PEGA) (PEGA) (PEGA) (PEGA) (UC_RCG UM 0M PR TRG UC_RCG UM 0M PR TRG FCT_RCC PR SUMR P SUMR	00000000 15.5A 150 25 00000000 15.5A 150 25 00000000	10
HESPORA_HAS MERECAN_HAS MERFECAND-GROS-DOM NORS SYCA \$17,000 WARRENGE MERFECAND-GROS-DOM NORS SYCA \$17,000 WARRENGE MERCAN-HAS MERFECAND-GROS-DOM SYCA \$17,000 WARRENGE MERCAN-HAS WARRENGE	ORG DAMER Text Annetica MONE DRY MCTHOD DO REG GRE MARE Text Annetica MONE DRY MCTHODO DO REG GRE DAMER Text Annetica MONE NA DAYSES DO REG GRE DAMER Text Annetica MONE NA DAYSES DO REG	5 4 02/2/001711-52 02/2/2/0017 5 4 02/2/00171-52 02/2/2/0017 W 4 02/2/2/0171-505 02/2/2/0017 W 4 02/2/2/0171-505 02/2/2/0017	DOTTORICE 1622.00 DOTTORIE DOTSON DOTSON DOTSON 1 1 1 1 1 1 1 1 1	Perfusorshutanear/line act (PFR) 325-73-5 0.33 0.33 0.33 130 PFR5 130 PFR5 130 PFR5 140 PFR 130 PFR5 140 PFR 130	OC_NC	00000000 00000000 00000000 00000000 0000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
NOTIFISCONDO (MAS) MERSONA, MAS MARFERS 202277-00 NOSS 200A ST7, MAO NOS 200A ST7, M	2006 TAMER Test America McOrd MA 2007235 2000 2015 201	W 4 02/2/20115.05 02/23/2017 W 4 02/2/20115.05 02/23/2017 W 4 02/2/20115.05 02/23/2017 W 4 02/2/20115.05 02/23/2017	01/17/22# 664.200 2017/802 11.2000 20.3601.10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DLC FFGA DLC FFGA 159 159 150	FCT_SEC Q Q 90 SUBBR FCT_SEC Q 90 SUBBR FCT_SEC 90 SUBBR G00588 U.S. L U U 90 90 SUBBR G00588 U.S. L U U 90 90 SUBBR	15.54	1.0 0.001 0.0021 0.0021 0.0021 1.0021 1.102 1.13246 1.0 102 0.001 1.0021 1.002 1.102 1.0021 1.102 1.13246 1.0 102 0.001 1.0021 1.0021 1.002 1.13246 1.0 102 1.0021 1.0021 1.0021 1.002 1.102 1.13246 1.0 102 1.0021 1.0021 1.0021 1.002 1.102 1.102 1.13246
METERANSCHOOL GARD METERAN AND	505 504/68 Teal America 505/65 507 507/100 505 615 506 506 504/65 507 507/100 505 615 506 506/65 506/6	\$ 8 9272/2001 15:28 03/72/2017 \$ 8 52/22/2011 15:28 03/72/2017 \$ 8 52/22/2011 15:28 03/72/2017 \$ 8 52/22/2011 15:28 03/72/2017	917002 (2100 957012 98.400 95.540111 1 1.5 917002 (2200 957012 98.400 95.540111 1 1.5 917002 (2210 957012 98.400 95.540111 1 1.5 917002 (2210 957012 98.400 95.540111 1 1.5	Perfusorectament and FORM 131-673 0.31 0.31 0.31 Perfusorectament and FORM 131-673 0.31 0.31 0.31 0.31 0.31 0.31 0.31 0.3	US_KS M M PR TIG US_KS M M PR TING FC_KSC PR SURFR	10000000 100000000 100000000 100000000 100000000	0
NEAT-FORESCOOD MING MERSEUAN NAS MEAFF-SAM-A-SEG COD1 NONS SVDA 327 MIOD NEAT-FORESCOOD NO NOS SVDA 327 MIOD NO NOS	ORG TAMER Test America NONE DRY MCTHOD DBO BEC ORG TAMER Test America NONE DRY MCTHOD DBO SEG ORG TAMER Test America NONE DRY METHOD DDO SEG	00/22/2001 18-26	02170002	SECURIO SECU	C	### 100000000 ### 100000000 ### 150 25 00000000 ### 10000000000000000000000000	10 0.12 3.24 2.66 12.00011-1 120-145156
HEATENEEDOOD (MAC) METEROAN, NAS METEROAN, NAS METEROAN (MAC) (MAC	2005 TAMER Feet America SCMC 2007 MicThDO 2007 4005	5 4 5072/0017533 0072/0017 5 4 5072/0017533 0072/0017 5 4 5072/0017533 0072/0017 5 4 5072/0017533 0072/0017 5 5 5 5072/0017533 0072/0017 6 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	DITTOWN 16.21.00 20170312 20.5000 330.3401.12 3 4.3	Perfusionature Sultonate (PCO) 158-12-1 0.35 0.35 0.35	UC_KC UM UM PR 175G PCT_SEC PR 200 UM PR 200 U	93.5A 150 25 10000000 93.5A 150 25 10000000 93.5A 150 25 10000000 90000000	1.0 1.5 0.5 0.5 0.50 1020-20011-1 102-14416 10.1 10.1 10.1 10.1 10.1 10.1 10.1 10
NESTROSCORODO JANGI MESEROAN, NAS MESEROAN, NAS OLIVERTE CANA 2002 2009 NONES SYCIA 137, MOD NESTROSCORODO JANGI MESEROAN, NAS MESEROAN, NAS OLIVERTE CANA 2002 2009 NONES SYCIA 137, MOD NESTROSCORODO JANGI MESEROAN, NAS MESEROAN, NAS OLIVERTE CANA 2002 2000 NONES SYCIA 137, MOD NESTROSCORODO JANGI MESEROAN, NAS OLIVERTE CANA 2002 2000 NONES SYCIA 137, MOD NESTROSCORODO JANGI NESTROSCOR, NAS OLIVERTE CANA 2002 2000 NONES SYCIA 137, MOD	506	\$ 4 02/2/2007 \$5:33 02/22/2017 \$ 4 03/22/2007 \$1:39 02/22/2017 \$ 5 4 03/22/2007 \$1:399 02/22/2017 \$ 5 4 03/22/2007 \$1:399 02/22/2017 \$ 5 4 03/22/2007 \$1:399 02/22/2017	DOITHONG 16/23/00 2017/0312 20.5000 330-34011-12 1 14.3 15/2	1802 PP4KS 1802 PP4KS 1802 PP4KS 180 1	PCT_SEC PR SUBR UC_KE PR SUBR UC_KE PR SUBR UC_KE PR SUBR PR SUBR UC_KE PR SUBR PR SUBR SUBR PR SUBB SU	\$2.5A 150 25 10000000 100000000 22.5A 150 25 10000000 23.5A 150 25 10000000	2
MISTONISCONCO IMACI	DOG TAMOR Test America NOME DRY MCTHOD DDO REG DOG DAGR Test America NOME DRY MCTHOD DDO REG DOG TAMOR Test America NOME DRY MCTHOD DDO REG DOG MARR Test America NOME DRY MCTHOD DDO REG	\$ 6 \$0272/007715:39 \$0272/2017 \$ \$ 6 \$0272/2017 \$ \$ 6 \$0272/2017 \$ 5 \$ 6 \$0272/2017 \$ 5 \$ 6 \$0272/2017 \$ 5 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$0272/2017 \$ 5 \$ 7 \$ 6 \$	DOLTOTOXIC 16/23/00 DOLTOTOXIZ DOLTOTOXIZ DOLTOTOXIC 1 1 19/2	13C4 PFOS 74 74 74 74 74 74 74 7	PCT_RCC PR SLARR UG_RCC LLM UM PR TRGG PCT_RCC PR SLARR UG_RCC PR SLARR UG_RCC PR SLARR	91.5A 150 25 00000000 91.5A 150 25 00000000 91.5A 150 25 00000000 000000000	\$0.0 \$1.3 \$2.7 \$3.60 \$1.0 \$2.0 \$1.0 \$
HEATINGCORDO (MAS) MERDANA NAS MARFECANA SEC 2004 NORS 200A 137 MOD HEATINGCORDO (MAS) MERDANA NAS MARFECANA SEC 2004 NORS 200A 137 MOD HEATINGCORDO (MAS) MERDANA (MAS 2004 NORS 200A 137 MOD HEATINGCORDO (MAS) MERDANA (MAS 2004 NORS 200A 137 MOD	DOS	6 4 02/2/2001 15:43 02/2/2017 6 4 02/2/2001 15:43 02/2/2017 6 4 02/2/2001 15:43 02/2/2017 6 0 02/2/2001 15:43 02/2/2017	01170002 62200 2077012 116500 103-0401-14 1 14-9 0170002 62200 2077012 116500 103-0401-14 1 14-9 0170002 62200 2077012 116500 103-0401-14 1 14-9 0170002 62200 2077012 116500 103-0401-14 1 14-9	Perfusionations (afforate (PEG) 1983-22-1 21 21 21 21 21 21 21	UC. KG M M PR. TRG FCT. REC PR. MUSE FCT. REC PR	9.5A 150 15 00000000 00000000 00000000 00000000	5
NEARWOODCOMO (AND) METRICARA NAS MEAFF-COM-A CROS-CODES NORS SVGA 573 MGO (METRICARA NAS METRICARA NAS METRICARA (METRICARA NAS METRICARA (METRICARA NAS METRICARA (METRICARA NAS METRICARA NAS METRIC	ORG CAMER Text America MONE DRY METHOD DDD EGG ORG SAMER Text America MONE DRY METHOD DDD EGG ORG SAMER Text America MONE DRY METHOD DDD EGG ORG SAMER Text America MONE DRY METHOD DDD EGG	\$ 4 9272/0911541 9072/2017 \$ 1 92/20011125 9072/2017 \$ 8 92/20011125 9072/2017	DITENSE \$22.00 \$107.0012 \$15.500 \$20.5001.14 \$1 \$4.9 \$1.000.000.000.000.000.000.000.000.000.0	1502 PFHSS 1802 PFHSS 91 91 91	FCT RC 98 55388 UG_RC UM 0M PR TRG UG_RG M M PR TRG	5.5A 150 25 00000000 000000000 000000000000000	5.0 120-2605-1 120-15416 5.0 5.12 2.36 5.0 120-2605-1 120-15416 5.0 5.15 2.36 5.0 120-2605-1 120-15416 5.0 5.15 2.36 5.0 120-26051-1 120-154156
NELTRISCONO MACI	ORG OAMER Text America OOM OFF ORTHOOD OO OOD	\$ 8 30/2/2007 11.25 50/2/2/2017	DOTENDE 02200 DOTENDE 11100 DO-500115 1 175 DOTENDE DOTENDE 02200 DOTENDE 11100 DO-500115 1 175 DOTENDE 02200 DOTENDE 11100 DO-500115 1 175 DOTENDE 02200 DOTENDE 11100 DO-500115 1 175 DOTENDE 02200 DO	13C4 PFOS 13C4 PFOS 15 15 15 15 15 15 15 1	FCT_RCC PR SUBB US_RCC U U PR TEG FCT_RCC PR SUBB	8.5A 550 25 00000000 8.5A 150 25 00000000 8.5A 150 25 00000000	5.0 20 20 20 20 20 20 20 20 20 20 20 20 20
	2005 20,000 100 2005	\$ 4 02/22/00/718-5 02/22/00/7 \$ 4 02/22/00/718-5 02/22/20/7 \$ 4 02/22/00/718-5 02/22/20/7 \$ 4 02/22/00/718-5 02/22/20/7 \$ 4 02/22/00/718-5 02/22/20/7	0.170362	Permanentamon acciprio (A)			1-2
#624703609000 [MI01 MERICAN NAS MEAFF-WWTP-5803-0008 NONS SVGA 527_MOD #624703609000 [MI01 MERICAN NAS MEAFF-WWTP-5803-0102 NONS SVGA 527_MOD #624703609000 [MI01 MERICAN NAS MEAFF-WWTP-5803-0102 NONS SVGA 527_MOD #6247036090000 [MI01 MERICAN NAS MEAFF-WWTP-5803-0102 NONS SVGA 527_MOD #6247036090000 [MI01 MI01 MERICAN NAS MEAFF-WWTP-5803-0100 NONS SVGA 527_MOD #62470360900000 [MI01 MI01 MI01 MI01 MI01 MI01 MI01 MI01		*** **********************************	1 1 1 1 1 1 1 1 1 1	Perfluoroscitanoic acid (PFOA) 135-67-1 0.42 0.42	Val	00000000 15.54 150 25 00000000 15.54 150 25 00000000 15.54 150	2004 2004 2004 2005
\$25,750,000 Med. \$10,000 Med. \$	DSG TAMER Fred America ACME SNY ARCHOOD 200 MG SMG TAMER Fred America ACME SNY MCHOOD 200 MG SMG TAMER Fred America ACME SNY MCHOOD 200 MG SMG TAMER Fred America ACME SNY MCHOOD 200 MG SMG TAMER Fred America ACME SNY MCHOOD 200 MG SMG TAMER Fred America ACME SNY MCHOOD 200 MG	\$ 4 32/22/0017 14:30 02/23/2017 \$ 4 32/22/0017 14:30 02/23/2017 \$ 4 32/22/0017 14:30 02/23/2017 \$ 4 32/22/0017 14:30 02/23/2017	DECEMBER	Perflammentane (saffonate (PFGS) 1793-23-1 (2.30 0.20 0.20 11C4 (PFGA 11C4 (P	1, 2, 254. POI 1, 1, 1, 2, 2, 3, 4, 4, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	150 25 00000000	1-0 125-2601-1 120-151616 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
NG 2755050000 (360) MRSDAM, MAX. MMST-WWT-R020-1012-MS NDKS SYDA ST23, MOD MRSDAM, MAX. MMST-WWT-R020-1012-MS NDKS SYDA ST23 MOD MRSDAM, MAX. MMST-WWT-R020-1012-MS NDKS SYDA SYDA SYDA SYDA SYDA SYDA SYDA SYD	DMG TAMER Ther America MONE SNY McTHOO 300 MrS DMG TAMER The America MONE SNY McTHOO 300 MrS DMG TAMER The America MONE SNY McTHOO 300 MrS DMG TAMER The America MONE SNY McTHOO 300 MrS DMG TAMER The America MONE SNY McTHOO 300 MrS	\$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ 5 \$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ \$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ \$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ \$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ \$ 4 \$02,22,0017 14.00 \$02,02,0017 \$ \$ \$ \$ 4 \$02,02,0017 14.00 \$02,02,0017 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	00.1700/20 16.22.00 20.7700/22 18.14.00 120.24001.37 1 28.3 15.7700/20 16.22.00 20.7700/20 18.14.00 120.24001.37 1 28.3 15.7700/20 16.22.00 20.7700/20 18.14.00 120.24001.37 1 28.3 15.7700/20 120.2400.37 1 28.3 15.7700/20 120.2400.37 18.14.00 120.2400.37 1 28.3 15.7700/20 120.2400.37	Perfusionsciannic (incl princip) 150 1	PR TRG FCT_REC MR M PR TRG FCT_REC MR M PR TRG FCT_REC FR TRG FCT_		1
\$42575000000 MIDS \$10000000 MIDS \$10000000 MIDS \$1000000 MIDS \$1000000 MIDS \$100000 MIDS \$1000000 MIDS \$1000000 MIDS \$1000000 MIDS \$1000000 MIDS \$10000000 MIDS \$100000000 MIDS \$1000000000 MIDS \$1000000000 MIDS \$1000000000 MIDS \$10000000000 MIDS \$10000000000 MIDS \$100000000000 MIDS \$100000000000 MIDS \$100000000000 MIDS \$100000000000000000 MIDS \$1000000000000000000000000000000000000	Dec	5 4 32/22/0017 4:80 02/23/2017 5 4 32/22/0017 14:30 02/23/2017 5 4 32/22/0017 14:30 02/23/2017 5 4 32/22/0017 14:30 02/23/2017	рол чама 5623-00 20070812 R3-48-00 20-0-0-0-17 1 3-23-3 0017000 5623-00 00170812 R3-48-00 20-0-0-0-17 1 3-23-3 0017000 5623-00 00170812 R3-48-00 20-0-0-0-17 1 3-23-3 0017000 5623-00 00170812 R3-600 20-0-0-0-17 1 3-23-3 0017000 5623-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	1802 PRIOS 1802 PRIOS 91 91	PL_SEC 90 18G	MSA 150 00 00000000	1
Teach Teac	DSG	\$ 4 12/22/2017 14:30 62/23/2017 \$ 4 22/22/2017 14:30 62/23/2017 \$ 4 22/22/2017 14:30 62/23/2017 \$ 4 22/22/2017 14:30 62/23/2017	DRI FARM 1622-00 10070912 10.5000 120-20011-17 1 12-3 1 12-3 1 1 1 1 1 1 1 1 1	Perfusionationis and (PECA) 124-67-1 023 103 103 104 104 104 104 104 104 104 104 104 104	FCT. RGC 90 143R8 90 143R8 97 185C 97 186C 90 143R8 97 186C 98 143R8 97 186C 98 186C 98 186C 98 186C 98 143R8 9	DEAP 150 25 00000000	0.0 0.0
\$\text{Control (100 cm)} \text{ (0.00 cm)} \text		\$ 4 \$2/22/2017 15:45 \$02/23/2017 \$ 5 4 \$02/22/2001 15:45 \$02/23/2017 \$ 5 4 \$12/22/2017 15:45 \$02/23/2017 \$ 5 4 \$12/22/2017 15:45 \$02/23/2017 \$ 5 4 \$22/22/2017 15:45 \$02/23/2017	DOTATION 1622-00 DOTATION 1616-00 DOTATION 1 154.6 DOTATION 1622-00 DOTATION 1616-00 DOTATION 1 154.6 DOTATION 1622-00 DOTATION 1616-00 DOTATION 1 154.6 DOTATION 1622-00 DOTATION 1616-00 DOTATION 1622-00 DOTATION 1616-00 DOTATION 1622-00 DOTATION 1616-00 DOTATION 1 154.6 DOTATION 1622-00 DOTATION 1616-00 DOTATION 1616-00 DOTATION 1616-00 DOTATION 1 154.6 DOTATION 1622-00 DOTATION 1616-00		UG NE U J PRE TREE U J PREE U J PRE TREE U J		1
\$257,050,0000 (ME) \$MEDICAL_MASS_MEM_FEM_FEM_FEM_FEM_FEM_FEM_FEM_FEM_FEM	Oct	\$ 4 32/22/2017 15:45 02/22/2017 5 4 32/22/2017 15:45 02/22/2017 5 4 32/22/2017 15:50 02/22/2017 5 4 32/22/2017 15:50 02/22/2017	DOI:10.0022	Performance and PROM 1 18 18 18 18 18 18 18 18 18 18 18 18 1	UC_SEC	00000000 00000000 00000000 000000	1.0 8.12 8.36 8.47 1282-56614 1282-55658 10.0 12.0 1282-56614 1282-55658 10.0 12.0 1282-56614 1282-55658 10.0 12.1 8.35 10.0 12.2 8.35 10.0 1282-56614 1282-55658 10.0 12.1 8.35 10.0 1282-56614 1282-55658 10.0 1282-56614 1282-55658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-56658 10.0 1282-56614 1282-
Companies Comp	2005 TAMER Text America MORE SW METHOD 200 16'G	\$ 4 32/22/2017 15:50 02/23/2017 \$ 4 32/22/2017 15:50 02/23/2017 \$ 4 32/22/2017 15:50 02/23/2017 \$ 4 32/22/2017 15:50 02/23/2017	DESTRUCTION	1124 MOA 124 MOA 12 11 12 12 13 13 14 14 14 14 14 14	FCT REC 90 GURB FCT REC 90 GURB FCT REC 90 GURB FCT REC 90 GURB FCT REC 90 GURB	15.5A	1.0 220-2001-1-1 202-55558 1.0 122-2001-1-1 202-55558 5.0 1.12 0.35 0.47 120-5601-1 120-15656 5.0 1.12 0.35 0.47 120-5601-1 120-15656 5.0 120-2001-1 202-5601-1 202-5601-1
\$124701600000 AMC	ONE CAMES Test America CAMES MA CAMES Test America Test A	W 4 02/22/001708:35 02/22/2017 W 4 02/22/201708:35 02/22/2017 W 6 02/22/201708:35 02/22/2017	DETECTION DETE	SECTION SECT			10
NEST/NEGOZOD JANOS MERIDANA NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA, NAS. MICHARFER MANG 202227 NORME 1959A 127 MOD NEST/NEGOZOD JANOS MERIDANA 1959A 1	2005 TAMER Trial America NCMC NA 0005255 200 605	W 4 52/2/2001043 50/2/2017 W 4 52/2/2001043 50/2/2017 W 4 52/2/2001043 50/2/2017 W 4 52/2/2001043 50/2/2017 W 4 52/2/2001093 50/2/2017 W 4 52/2/2001093 50/2/2017 W 4 52/2/2001093 50/2/2017	0010229 (4.4.10) 0010200 (4.7.70) (5.5.00) (5.5.00) (5.5.00) (5.5.00) (6.5.	1124 PCS 1224 PCS	DOSE DOSE DOSE	100,000,000	1.0 8E-04 0.0010 0.0022 302-0.0011 100-11388 1.0 E-04 0.0010 0.0022 302-0.0011 100-11388 1.0 E-04 0.0011 0.0012 100-0.0011 100-11388 1.0 E-04 0.0011 0.0012 100-0.0011 100-11388
NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022377 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022377 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MIDD NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIST/RISES/0000 (MID1 MESICAN, NAS SIZICUTTANE ELANIK-022317 NONS 59/GA 517, MID NIS	ONG DAMER HEEATHERS NOTE NA SWISS DOD HIS	W 4 32/22/001 06:20 02/22/0017 W 4 32/22/001 06:20 02/22/2017 W 4 32/22/001 06:20 02/22/2017 W 4 32/22/001 06:20 02/22/2017	DOTUDE 564.00 DOTUDE 11.55.00 120.5601.21 1	Perfusocotanois acid (PFA) 315-C7-1 0.000771 Perfusocotanois acid (PFA) 315-C7-1 0.000771 Perfusocotanois acid (PFA) 124-22-1 0.00081 1314-PFA 131-131-131-131-131-131-131-131-131-131	0.00016 U.G.	\$50,000,000 \$50,000,000 \$1.5.4 \$150 \$25 \$100,000,000 \$1.5.4 \$150 \$25 \$00,000,000 \$1.5.4 \$150 \$25 \$00,000,000 \$1.5.4 \$150 \$15	
\$13500000000 MRG \$10000000 MRG \$100000000000 MRG \$10000000000 MRG \$1000000000000000000000000000000000000	2006 200400 2007	W 4 02/28/2017 16:42 02/28/2017	DOMESTICATE DOMESTIC DOMEST	Perfuguostatementosis acid (PPS) 277-75 0.0027 IBO 199435 IBO 19945 IBO 19945 IBO 19945 IBO 19945 IBO 19945 Perfuguostatoris kill (PICN) 237-67-1 157 157 Perfuguostatoris killinasis (PICO) 138-23-1 16 16 IBC 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBC 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBC 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBO 1975 IBC 1975 IBO	PR SURR FOLK PR SURR FOLK FOLK FOLK FOLK FOLK FOLK FOLK FOLK	Person 1546 55 1500000000	1
	DGG TAMES Text America MOME NA 2007/255 DD 65 DGG TAMER Text America MOME NA 5007/255 DD 65 DGG TAMER Text America MOME NA 5007/255 DD 65 DGG TAMER Text America MOME NA 7007/255 DD 65 DGG TAMER Text America MOME MOT AMETHOD DD 65	W 4 32/28/2017 16/42 62/28/2017 W 6 22/28/2017 16/42 62/28/2017 W 4 22/28/2017 16/42 62/28/2017 5 4 33/03/2017 16/23 63/02/2017	001/02/28 644.00 001/02/29 004.00 013/02/20 014.00 013/02/24/27 A	1802 PRKS 1862 PRKS 186 136	FCT_REC 90 15378 100 15478	PEAPS 150 25 00000000	1.0 120-56011-1 120-12188
NAST-0000000 Mart	265 TAMER Text America MOME MET METHOD 200 65	\$ 4 33/02/2017 16:23 03/02/2017 \$ 4 33/02/2017 16:23 03/02/2017 \$ 4 33/02/2017 16:23 03/02/2017 \$ 4 33/02/2017 16:23 03/02/2017 \$ 5 4 33/02/2017 16:23 03/02/2017	03170002 102.700 2017011 23.2000 C.3.20.0788424 1	Perfusementaria and IPPGA) 1256-71 22 252 Perfusementaria Enforce IPPGA 1256-71 22 252 Perfusementaria Enforce IPPGA 1256-71 222 252 PERFUSEMENTARIA ENFORCE PERFUSEMENTARIA P	FCT REC NA M PR TRC PCT REC PC	1.54	1.0 9.1.3 9.30 9.50 292-3661-1 292-56516 9.50 9.50 9.50 9.50 9.50 9.50 9.50 9.50
Companies Comp	OSC MARIE Osc - OSC OS	5 4 23/02/2017 16:23 23/02/2017 W 4 32/28/2017 16:42 22/28/2017 W 4 32/28/2017 16:42 22/28/2017 W 4 32/28/2017 16:42 23/28/2017 W 4 22/28/2017 16:42 23/28/2017	DECEMBED	### 1970 1970	FCT REC	15.64 150 15	0
NEADNESCOROD (MOS) MATERIAN, NAS COS 320-5267/3A NOWS 575, MOS 127,	NNC CAMEE Text America NONE NA SENSOR NO ECO	W 4 02/28/2017 16:42 02/28/2017	2017/0228 16-02-00 2017/0202 10-0200	Performance on Principal (1992) 1446-6-1 (6 16 17) 1446-6-1 (7 16 18) 1446-6-1 (8 16 18)	PCT_REC	2.5.4 120 25 00000000 15.5 00000000 15.5 15.5 00000000 15.5 15.5	10 10 10 10 10 10 10 10 10 10 10 10 10 1
	DSG TAMER Treat Annets MOME NA 500/255 300 550 DSG TAMER Treat Annets MOME NA 500/255 300 331 DSG TAMER Treat Annets MOME NA 500/255 300 381 DSG TAMER Treat Annets MOME NA 500/255 300 381 DSG TAMER Treat Annets MOME NA 500/255 300 381	W 4 12/28/2017 16:42 02/28/2017 W 4 12/28/2017 16:42 02/28/2017 W 4 12/28/2017 16:42 02/28/2017	DOTUDE 164.0 D DOTUDE INCHOO	MIST PRISS MIST PRISS LES MIST PRISS MIST PRISS LES MIST PRISS MIS		00000000 000000000 00000000 000000 000000 0000000 00000000	100 100
\$2575(\$50000) ARCS	ORG TAMER Test America NONE NA SW2535 000 181	W 6 12/28/2017 10:12 102/28/2017					
\$\\ \text{historicommon}\ historicommo	2005	W 4 12/28/2011/064 10/28/2017 W 4 12/28/2011/064 20/28/2017 W 4 12/28/2011/642 20/28/2017 S 4 12/28/2011/642 20/28/2017 S 4 12/28/2011/642 20/28/2017 S 5 4 12/28/2011/6423 20/28/2017 S 5 4 12/28/2011/6423 20/28/2017 S 5 5 5 6 12/28/2011/6423 20/28/2017 S 6 12/28/2011/6423 20/28/2017 S 7 12/28/2011/6423 20/28/2017 S 7 12/28/2011/6423 S 8/28/2011/6423	2017/22 164.20 2079/22 0.916.0 40.2515/27 7.4 1	Perfluorocctane Sulfonate (PFOS) 1763-23-1 0.30 0.30	0.000 U.G. L U U PR TRG FET REC PR SURR U.G. SG U U PR TRG U.G. SG U U PR TRG		
MATERIANS MEDIS MATERIA AND MATERIA A	SAME STANDARD STANDARD SAME	W 10/24/2017 14-52 50/24/2017 W 4 50/24/2017 14-52 50/24/2017 1 5 6 50/24/2017 14-52 50/24/2017 1 6 10/24/2017 14-52 50/24/2017 1 7 10/24/2017 14-52 50/24/2017 1 8 10/24/2017 14-52 50/24/2017 1 9 10/24/2017 14-52 50/24/2017 1 10/24/2017 14-52 50/24/2017 1 10/24/2017 14-52 50/24/2017	2017/00/2	Perfluonostane Salfonste (PTCS)	0.000 0.00		5.0 5.10 5.20 5.50 250-2001-1-1 200-14488
	2005 2006 2007	R	0315000 022100 032501 221200 030501 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 221200 0312001 231200 0312001 231200 0312001 231200 0312001 2312001	Perfluorocctane Sulfonate (PFOS) 1763-23-1 0.30 0.30	0000 1		1

Contract D 50,CTD Number Phase Installation Comple Name CHIM Code Manipoli Comp Maniptical Method	PRC Code Lab Code Lab Name beachite Method Bangle Sails Catrocion Method Nesatt Typo Lab QC Typo	Sample Medium QC Level StateTime_Collected Costs_Received Leachuse_Cube Leach	s Time Katzacian Cute (struction Time (Analysis Date (Analysis Time (Ask Sample D) (Station Han Number (Percent Main	u Fercont Ligid (Chem Name Analyte D Analyte Value (Original Analyte	ise Value Senull Units Isiah Qualifer Unlidition Qualifer EC Column, Type Analysis, Result, Type Result, Named U.S. EG UM Unit Disk Tic.	Eve OC Control Limit Code OC Accuracy Upper OC Accuracy Lower Control Limit Code OC Nurretive MOD	E. Detection Limit (IGM Version IGL IGO IGO IGG Jenslyth Satch Validater Name Inst. In
NEST-000-0000 AND MERSON NA. MEST-004-000-000 NOM DOWN 177 MOD	2005	\$ 6 82/23/2017 69:00 107/47/2017 \$ 4 82/23/2017 69:00 107/47/2017 \$ 6 82/23/2017 09:08 107/47/2017 \$ 6 82/23/2017 09:08 107/47/2017 \$ 4 82/23/2017 09:08 107/47/2017	DETROIS TORKE DETROIS DETROI	Perfusion/destament/flows and PPGS 175-73-5 0.35 0.35 0.35 1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.0	U.S. R.G. U.M. U.M. PR. TEG. PR. SUARA. U.S. R.G. U.S. L.G. R.G. L.G. R.G. L.G. R.G. L.G. R.G. L.G. R.G. R	25A 150 25 0000000 0.55A 150 25 0000000 0.00000000 0.55A 150 25 0000000	5.0 8.12 8.5% (4.7 100-08020-1 103-54693) 5.0 10.2 10.3 10.3 10.3 10.3 10.3 10.3 10.3 10.3
\$1437036000000 MoD \$\text{MERDANA_NAS}\$\$ MERPS_MAS_SERVE_SER	DGG TAMER Test America NOM. SP MITTHOD DD IEG MGG TAMER Test America NOM. SP MITTHOD DD IEG DGG TAMER Test America NOM. SP MITTHOD DD IEG DGG TAMER Test America NOM. SP MITTHOD DD IEG DGG TAMER Test America NOM. SP MITTHOD DD IEG DGG TAMER Test America NOM. SP MITTHOD DD IEG DGG TAMER Test America NOM. SP MITTHOD DD IEG	\$ 4 32/23/2017 OR.08 402/4/2017 \$ 6 52/23/2017 OR.08 02/4/2017 \$ 4 32/23/2017 OR.08 02/4/2017 \$ 4 32/23/2017 OR.21 502/4/2017	00170302 1704.00 10270311 1055.00 1024603-2 1 16.1 16.1 10270312 1704.00 12270311 1055.00 10224603-2 1 16.1 16.1 10270312 1704.00 12270311 1055.00 10224603-2 1 16.1 16.1 10270312 1704.00 10270311 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1 16.1 10224603-1 1 16.1	1124 PFG	PCT_MCC	5.5.4 150 55 00000000 5.5.4 150 25 00000000 5.5.4 150 25 00000000 0000000000000000000000000000	\$1.0
943793450000 2002 3001 MERICANA, NAS MARF SOAMS 5800 2003 NONS 920A 127 MOD 147 MOD 14	DGG TAMBE Text America NOME 28° METHOD 000 82G 00G FMARE Text America NOME 28° METHOD 000 82G 00G FMARE Text America NOME 28° METHOD 000 82G 00G FMARE Text America NOME 28° METHOD 000 82G 00G FMARE Text America NOME 28° METHOD 000 82G	6 4 02/2/2001/0921 02/24/2017 5 4 02/2/2001/0921 02/24/2017 6 4 02/2/2001/0921 02/24/2017 6 4 02/2/2001/0921 02/24/2017	DITTMEND 1794-00 DISTMENT 1612-00 DO SARRA-3 1 15.7	Ferficontectane Sufference (FCOS)	UG_8G M M R R TEG FCT_REG R UURR FCT_REG R SR SURR UG_8G U U R SR SURR	\$2.5A \$150 \$5 00000000 \$2.5A \$150 \$5 00000000 \$2.5A \$2.5A \$2.5D \$2	5.0 120-26003-1 120-154503 5.0 0.12 0.36 0.48 130-36003-1 120-154503
9437934500000 (MO) MERSONA, NAS (MARF-CRAKC-SEG) 00001 (NONS 900A 137, MOO 1497750000000 (MO) (MARF-CRAKC-SEG) 00001-65 (NONS 900A 137, MOO 14977500000 (MO) (MARF-CRAKC-SEG) 0001-65 (NONS 900A 137, MOO 149775000000 (MO) (MARF-CRAKC-SEG) 0001-65 (NONS 900A 137, MOO 149775000000 (MO) (MARF-CRAKC-SEG) 0001-65 (NONS 900A 137, MOO 1497750000 (MO) (MARF-CRAKC-SEG) 0001-65 (NONS 900A 137, MOO 14977500000 (MO) (MO) (MO) (MO) (MO) (MO) (MO) (MO)	2005	5 4 32/23/2017 09:21 50/24/2017 5 4 32/23/2017 09:21 50/24/2017 5 4 32/23/2017 09:21 50/24/2017 5 4 32/23/2017 09:21 50/24/2017	DOITHURG 1704-00 DOITHUR 16:12:00 120-3450-1 1 15.7	1802 PRICES 1802 PRICES 1802 PRICES 1804	PCT_SEC PR SURR	\$25A \$50 \$5 00000000 \$ 455 \$ 00000000 \$ 455 \$ 460 \$ 50 00000000 \$ 455 \$ 460 \$ 50 00000000 \$ 455 \$ 50 00000000 \$ 455 \$ 50 00000000 \$ 55 \$ 50 00000000 \$ 55 \$ 50 00000000	10
9437934500000 (340) MREDNAN, NAS (MARF-CRAK-SEG) 00015-MS (NONS 900A 127, MOD 14377-MOD 14377-MO	MARCE	5 4 32/23/2057 09:21 50/24/2017 5 4 32/23/2057 09:31 50/24/2017 5 4 32/23/2057 09:31 50/24/2017 5 4 32/23/2057 09:31 50/24/2017 5 4 32/23/2057 09:31 50/24/2017	DITURNICO 1704 00 DITURNI 16,0200 120 44504-1 1 15.7 15.	13C6 PFGS 48 48	PCT_SEC PR SURR PCT_SEC PR TSC PCT_SEC PR TSC PCT_SEC PR PR TSC PCT_SEC PR PR TSC PCT_SEC PR PR TSC PCT_SEC PR PR PR PR PR PR PR P	\$155A \$150 \$5 00000000 \$155A \$150 \$150 \$150 \$150 \$150 \$150 \$150 \$150	1-0
HEFFERDAM, RAS MARTE STANKES S	DRG MARER 1984 America NORE 289* METHOD XXX MSD 0.06 TAMER 1984 America NORE 369* METHOD XXX XXX 0.06 TAMER 1984 America NORE 369* METHOD XXX XXX 0.06 TAMER 1984 America NORE 369* METHOD XXX XXX	6 4 0/23/2003 09:21 03/24/2017 6 4 03/23/2003 09:21 03/24/2017 6 4 03/23/2003 09:21 03/24/2017 6 4 03/23/2003 09:21 03/24/2017	DITUNES 1794-00 DITUNES 1627-200 DO 5488-3-3 1 15.7	Fernance Carlos (afforces (FCO) 1782-22-1 114	FCT_SEC	MSP 140 00 00000000 155A 150 35 00000000 155A 150 35 00000000 145P 150 00000000	5.0 5.2 520-5600-1 520-154000 5.0 6.12 6.35 6.47 520-5600-1 520-154000
NEST/03/05/0000 (AMO) METERMA NAS (MARF-SOME-SIGN 0009-50 (NONS 900A 177, MOO NEST/03/05/000 (AMO) METERMA NAS (MARF-SOME-SIGN 0009-50 (NONS 900A 177, MOO NEST/03/05/000 (AMO) METERMA NAS (MARF-SOME-SIGN 0009-50 (NONS 900A 177, MOO NEST/03/05/0000 (AMO) METERMA NAS (MARF-SOME-SIGN 0009-50) (NONS 900A 177, MOO NEST/03/05/0000 (AMO) METERMA NAS (MARF-SOME-SIGN 0009-50) (NONS 900A 177, MOO NEST/03/05/05/05/05/05/05/05/05/05/05/05/05/05/	DSG TAMER Text America MONE 28Y METHOD 500 MSD DSG TAMER Text America MONE 28Y METHOD 500 MSG DSG TAMER Text America MONE 28Y METHOD 500 MSG DSG MAMER Text America MONE 28Y METHOD 500 MSG	5 4 02/23/0057 09:21 00/24/2017 5 4 02/23/0057 09:31 02/24/2017 5 4 02/23/0057 09:31 02/24/2017 5 4 02/23/0057 09:31 02/24/2017	001703022 1794-00 10270011 16:27:200 1203-0480-3 1 15:7 15:7 102703022 1794-00 10270311 16:35:00 1203-0480-3 1 17:5 17:5 102703022 1794-00 10270311 16:35:00 1203-0480-4 1 17:5 17:5 102703022 1794-00 10270311 16:35:00 1203-0480-4 1 17:5 17:	1802 PRINES 1802 PRINES 94 94	RCT_REC	\$1.5A \$150 \$5 00000000 000000000 \$1.5A \$150 \$5 00000000	5.0 0.12 0.36 0.60 120-05103-1 120-154503 5.0 0.15 0.36 0.60 120-05103-1 120-154503
9437934500000 (MO) MERICANA, NAS (MARF-CAMAC-SEG) 02094 (NONS 9)00A (37, MO) (NONS 9)0A (37, MO) (NONS 9)0	DSG DAMER Text America MONE SEY METHOD 500 85G 05G DAMER Text America MONE 289 METHOD 500 85G 05G TAMER Text America MONE 289 METHOD 500 85G 05G TAMER Text America MONE 289 METHOD 500 85G	5 4 32/23/2007 0933 10/24/2017 5 4 32/23/2007 0933 10/24/2017 5 4 32/23/2007 0933 10/24/2017 5 4 32/23/2007 1200 10/24/2017 5 4 32/23/2007 1200 10/24/2017	DOITHURG 1704-00 DOITHURG 1505-00 120-04503-4 1 17.6 17.	13C6 PFGS 13C6 PFGS 45 45	PET_REC	\$15A \$150 \$5 00000000 \$15A \$150 \$5 00000000 \$15A \$150 \$5 00000000 000000000	12 30 30 30 30 30 30 30 30 30 30 30 30 30
WEST/RESESSORED AND METERS AND METERS AND METERS ASSESSORED NORS WITH A 177 MICE WEST/RESESSORED AND METERS AND METERS ASSESSORED NORS WITH A 177 MICE WEST/RESESSORED AND METERS AND METERS AND METERS ASSESSORED NORS WITH A 177 MICE WEST/RESESSORED METERS AND METERS AND METERS AND METERS ASSESSORED NORS WITH A 177 MICE WEST/RESESSORED METERS AND METERS AND METERS AND METERS ASSESSORED NORS WITH A 177 MICE WEST/RESESSORED METERS AND METER	MARKE CAR AMMERIA MONE	5 4 0/2/200971200 00/24/2017 6 4 0/2/200971200 00/24/2017 5 4 0/2/200971200 00/24/2017 6 4 0/2/200971200 00/24/2017	DITTRIKE 1794-00 DITTRIKE 1642-00 DO-54894-5 1 154.1	Ferficontectane Sufference (FFGS) 1783-274 0.41 0.41 1764 17	UG_865 U U 9R TREC PET_REC 9R GURR PET_REC 9R GURR UG_865 UM VM 9R TREC	00000000 51.5A 150 35 00000000 51.5A 150 35 00000000 000000000	0
### METERAL NAT MERITATION AND METERAL NAT MEMBER 73,5400,0000 MONE OF DAY MONE 127 MON 127 MO	1000	5	DITTERED 1704 00 DITTERED 100 4000-5 1 26 1 20 1	HIGG PRINES HIGG PRINES HIGG PRINES HIGG	FCT MSC	\$1.5A \$150 \$5 00000000 000000000 00000000 \$1.5A \$1 \$2 00000000 000000000	1.0 1.0
NESTRISSENSON AND MATERIAL PLANT MAT	ORG TAMER Test America NONE NA SWISIS 000 REG	W 4 02/21/0931600 02/24/2017 W 4 02/21/0931600 02/24/2017 W 4 02/21/0931600 02/24/2017 W 4 02/21/0931600 02/24/2017	00170302 1845.00 10070314 1055.00 100.4669-7 1 1 0170223 1645.00 10070314 1055.00 100.4669-7 1 1 0170223 1645.00 10070602 1145.00 100.4669-7 1 1 0170223 1645.00 10070602 1145.00 100.4669-7 1 1 0170223 1645.00 10070602 1145.00 100.4669-7 1 1	Nitrobassene GS	PCT SEC 90 SURE 5.4 GG 1 ME 90 TSG G. G. G. E 90 TSG D. FCT SEC 90 SURE	9.5A 91 42 0000000	5.0 120-2603-1 120-15405
NEATHORNOON ANCI: MINISTAN, N. MARK-MIN-CALL-DITTY NONE DOWN 127 MOD NEATHORNOON MINISTANCE MINISTANCE NEATHORNOON NEATHORNOON MINISTANCE MINISTANCE NEATHORNOON NEATHORNOON MINISTANCE MINISTANCE NEATHORNOON NEATHOR	DAMER Test America MONE MA SSE/235 300 165	W 4 3/22/20071600 50/24/2017 W 4 03/22/20071600 50/24/2017 W 4 03/22/20071600 50/24/2017 W 4 03/22/20071600 50/24/2017	0017028 16-02:00 0077000 114-200 320-3469-7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	**Trialdichame Animary (Prica) **Trial En's	PCT SEC 98 SURE 0.0.00 (0.0 t) ME 98 SURE 0.0.00 (0.0 t) ME 98 TEG 0.00 (0.0 t) ME 98 SURE 110 (0.1 t) ME 98 TEG	\$15A \$150 \$5 00000000 \$15A \$150 \$5 00000000 \$15A \$150 \$5 00000000 \$150 \$150 \$150 \$150 \$150 \$150 \$150 \$150	0.0 0.00 0.000
\$127735500000 (2012) MERICARA NAS (MART-MER-GS2) (2027 NORS (SVAA 127 MOD NAS-CONSTRUCTION (1974 MOD N	DRG SAMER 1944 America NORE 94 SW2535 35.1 BEG DRG SAMER 1944 America NORE 94 SW2535 35.1 BEG DRG SAMER 1944 America NORE 94 SW2535 35.1 BEG DRG SAMER 1944 America NORE 94 SW2535 35.1 BEG DRG SAMER 1944 America NORE 94 SW2535 35.1 BEG	W 4 3/22/20071600 50/24/2017 W 4 3/22/20071600 50/24/2017 W 4 3/22/20071600 50/24/2017 W 4 3/22/20071600 50/24/2017	0017028 6-6-00 0077000 90-6-00 120-3460-7 60 1 00170238 6-6-00 0077000 90-6-00 120-3460-7 50 1 0017028 6-6-00 0077000 90-6-00 120-3460-7 60 1 0017028 6-6-00 0077000 90-6-00 120-3460-7 60 1	Perfluencecture Sufference (PCOS)	0.41 UG L 0 0 98 TMC 10 UMB 15.5A 15.0 25 00000000 15.5A 15.0 25 00000000 15.5A 15.0 00000000	1.0 0.054 0.13 0.37 120-24103-1 120-151300 1.0 120-24103-1 120-151300 120-151300 1.0 120-24103-1 120-151300 1.0 0.031 0.040 0.31 120-24103-1 120-151300 1.0 0.031 0.040 0.31 120-24103-1 120-151300	
NEXTRIBEDIZZO AND AND MERCHAN NESS MART AND COLOT 27 MOD NESS WIGH. 127 MOD NEXTRIBUTION AND MERCHAN NESS MART AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND AND COLOT 27 MOD NEXTRIBUTION AND MERCHAN NESS MART AND	DRG TAMME Tet America NOME 94 NWXSSS 54.1 86.6 SMG TAMME Tet America NOME 28° MSTHDO 300 86.6 SMG TAMME Tet America NOME 28° MSTHDO 300 86.6 SMG TAMME Tet America NOME 28° MSTHDO 300 86.6 SMG TAMME Tet America NOME 28° MSTHDO 300 86.6	W 4 3222200314500 02242017 5 4 322220031350 02242017 5 4 322220031350 02242017 6 4 322220031350 02242017 6 4 32222031350 02242017	00170228 164200 10070000 996500 100.040037 90 1 00170202 1796400 10070001 1665700 100.040034 91 1 120.0 00170202 1796400 10070011 1665700 100.040034 91 1 120.0 00170202 1796400 10070011 1665700 100.040034 91 1 120.0	1802 PROSESS 1802 PROSESS 1803 PROSESS 1804 PROSESS 1804 PROSESS 1805 PROSESS 1804	PCT REC 90 SURR UG BC UG	15.54 15.0 15 00000000 000000000 000000000 0.554 15.0 15 00000000	1
NET POTRES DE COMO DE CONTRE DE COMPANIO D	DRG DAMER Test America NORE 289 METHOD DDD BEG DRG DAMER Test America NORE 289 METHOD DDD BEG DRG DAMER Test America NORE 289 METHOD DDD BEG DRG DAMER Test America NORE 289 METHOD DDD BEG DRG DAMER Test America NORE 289 METHOD DDD BEG	5 4 02/2/200971250 02/24/2017 5 4 02/2/200971250 02/24/2017 6 4 02/2/200971150 02/24/2017 6 4 02/2/200971425 02/24/2017	00170302 1794-00 10070011 1657-00 100-5480-8 1 12.0 10170302 1794-00 10070011 1657-00 100-5480-8 1 12.0 10170302 1794-00 10070011 1657-00 100-5480-8 1 12.0 10170302 1794-00 10070011 1657-00 100-5480-8 1 12.0 10170302 1794-00 10070011 1795-00 100-5480-8 1 12.0 10170302 1794-00 10070011 1795-00 100-5480-8 1 12.0 10070011 1795-00 100-5480-8 1 12.0 10070011 1795-00 100-5480-8 1 12.0 10070011 1795-00 1795-00 179	1124 PIGS 1024 PIGS 1024 PIGS 1034	PCT SEC 98 SURR U.G. 96 M M M 98 TSC PCT SEC 98 SURR U.G. 96 M 98 TSC U.G. 96 M M 98 TSC	\$1.5A \$150 \$5 00000000 000000000 \$1.5A \$150 \$5 00000000 000000000	1.5
NEX-00060-0000 IMIC MIRESON, MA. MARTERAN, MA. MARTERAN, GOOD 600 STOR STAND AND STAND STA	SAGE SAME Tel America OOK SEY METHOD TO SEG	\$ 4 32/23/2017 14:35 502/4/2017 \$ 4 52/23/2017 14:35 502/4/2017 \$ 4 32/23/2017 14:35 502/4/2017 \$ 4 32/23/2017 14:35 502/4/2017	DEXTYDED TOTAL OF DEXTYDES TOTAL OF DEXTYDES TOTAL OF DEXTYDES		U.C., KG SAM SR TRG SR ST SR SR	SECONDO SECO	1
\$2,2705(2000) (MR) (WESTOWN ALS MART PER A 2005 (MR) (WESTOWN ALS MART PER A 2005 (MR) (MR) (MR) (MR) (MR) (MR) (MR) (MR)	SALES Test America NOME SET METTIGO NO NEG	\$ 6 52/23/0017 84:05 502/4/2017 \$ 4 52/23/0017 14:05 502/4/2017 \$ 4 52/23/0017 14:05 502/4/2017 \$ 5 4 52/23/0017 14:05 502/4/2017 \$ 5 5 6 52/23/0017 14:05 502/4/2017	DELTWING	100.0 PRESS 100.00 PRESS 100.00 PRESS 16.		2.5A 550 55 00000000	0 0 120 MINORA 1 120 120 120 120 120 120 120 120 120 1
\$1,000,000,000,000 (Mod)	MARIE MARIE MARIE MORE MR MR MR MR MR MR MR	\$ 6 \$11/24/0017 \$4:55 \$00/24/0017 \$ 5 6 50/23/0017 \$4:25 \$00/24/0017 \$ 5 6 12/23/0017 \$4:25 \$02/24/0017 \$ 5 6 12/23/0017 \$4:25 \$02/24/0017 \$ 5 6 50/23/0017 \$4:25 \$02/24/0017 \$ 6 7 7 8 7 8 7 8 8 8 7 8 8 8 7 8	DESTRUCTOR TOTAL OF DESTRUCTOR DESTR	10.5 (PDS) 10.	NCT NOC	\$4.5A 150 25 000000000 150	10. 10. 10.0003914 (10.0004984 10.0004988 10.0004988 10.0004988 10.0004988 10.000498 1
H434705020000 JAMS HERBOUN NAS H45477742-2485-2688 NOW 100A 177 MOD 1244705020000 JAMS H H45504N NAS H45477742-2485-2688 NOW 100A 177 MOD 124470502000 JAMS H H45504N NAS H45477742-2485-2688 NOW 100A 177 MOD 124470502000 JAMS H H45504N NAS H4547743-2485-2688 NOW 100A 177 MOD 124470502000 JAMS H H45504N NAS H4547743-2485-2688 NOW 100A 177 MOD 124470502000 JAMS H H45504N NAS H4547743-2485-2688 NOW 100A 177 MOD 124470502000 JAMS H H45504N NAS H4547743-2485-2688	505 TAMES Tel Annotes VOME 507 METHOD 300 MES	\$ 4 02/23/0017 4555 002/42/017 \$ 4 02/23/0017 455 002/42/017 \$ 5 4 02/23/0017 455 002/4/2017 \$ 5 4 02/23/0017 455 002/4/2017 \$ 5 4 02/23/0017 455 002/4/2017	175400 1	1976-0-7 1934 1945 195	100 100		1
NEAT STREET, AND S	MARIE MARI	5 4 52/23/2017 14:55 502/4/2017 W 4 52/23/2017 14:35 502/4/2017 W 4 52/23/2017 14:35 502/4/2017 W 4 52/23/2017 14:35 502/4/2017 W 4 52/23/2017 14:35 502/4/2017	241	1607 PWKS 1607	CT SC SC SC SC SC SC SC	2.5A 150 25 00000000 2.5A 150 25 00000000 2.5A 21 12 000000000 2.5A 21 12 00000000000000000000000000000000	5.0 0.19 0.49 0.97 130-3603-1 120-15475
	COA	W 6 52/23/200716:05 502/4/2017 W 6 52/23/200716:05 502/4/2017 W 6 52/23/200716:05 502/4/2017 W 6 52/23/200716:05 502/4/2017	2017/02/2 (46.00) (477/02/2 (45.70) (477/02) (47	Althousane GS	PCT SEC 100	2-5A 91 42 3-0000000 	
\$25,000,000 AND \$100,000 AND \$1	SMARE	W 6 32/23/200716:05 02/24/2017 W 6 12/23/200716:05 02/24/2017 W 8 12/23/200716:05 02/24/2017 W 8 12/23/200716:05 02/24/2017 W 6 32/23/200716:05 02/24/2017	DIT NUMBER NEL OR OF SERVICE NEL OR OF S	126.49 FGA 123.41 FGA 123	FCT NEC		0
	0.000 0.0000 0.0	W 6 52/28/2017 16/42 50/28/2017 W 4 12/28/2017 16/42 50/28/2017 W 6 32/28/2017 16/42 50/28/2017 W 6 52/28/2017 16/42 50/28/2017	DIXTACAS 16.6.0 00 SEXTRACT 06.4.00 16.5 SEXTRACT	Performance and provided 1534-72-1 FG	FCT_MEC	SA	1
\$2375000000 (Act \$150000 Act \$25000 Act \$250	SECTION SAME Text America SONE Mr. SECTION SO SECTION SONE Mr. SECTION SONE Mr. SECTION SONE Mr. SECTION SONE SECTION SONE SECTION SONE SECTION SECT	W 6 92/28/701716-92 90/28/7017 W 6 93/92/201712-85 93/92/2017 W 8 93/92/201712-85 93/92/2017 5 6 93/92/201717-96 93/92/2017	DELTANDA	100.0 PMS\$ 100.0 PMS\$ 136 13	HCT MCC	0.54	10 10 10 10 10 10 10 10
\$\\ \text{Number(000000} \text{100000} \text{100000} \text{100000} \text{1000000} \text{10000000} \text{1000000000} 1000000000000000000000000000000000000	MARIE Harder MORE MILE MILE MILE MILE MILE	\$ 4 PANGUZORIZ TATON 001002/0017 \$ 6 5 9 7002/0017 1794 001002/0017 \$ 1 0002/0017 1794 001002/0017 \$ 4 00102/0017 1794 00102/0017 \$ 5 4 00102/0017 1794 00102/0017	ATTRICO 175400 (ATTRIC) 155000		NCT MCC	A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-A-	10
MENTANDESCOON MENTANDESCOO		W 1 20/24/2617 16-6 20/26/2617 W 1 20/26/2617 W 1 20/26/2617 W 2 2		1800 1800	CT_DEC 98 USE CT_DEC 98 USE CT_DEC 98 TSC CT_DEC 98 TSC CT_DEC M M 98 TSC	1524 150 151 000000000000000000000000000000	12 12 12 12 12 12 12 12
\$15073150000 9401 \$177.500 \$102.5152577.A \$1056 \$105A \$77.500 \$105 \$105 \$105 \$105 \$105 \$105 \$105 \$	505 SAMER For America MONE 95 00/255 00 550 500 500 500 500 500 500 500 5	W 6 3/2/6/00/1642 50/26/00/17	0317028 664.00 2507002 05600 (C) 232351577.4 1 0317028 664.00 2507002 05600 (C) 232351577.4 1 0317028 664.00 2507002 05600 (C) 23251577.4 1 0317028 664.00 2507002 (C) 23251577.4 1 0317028 564.00 2507002 (C) 23251577.4 1 0317029 1564.00 2507002 (C) 23251577.4 1 0317029 15	1324 PIGS 155 PIGS 156 PIGS	CT 85C 98 CUBR	\$54 \$50 \$5 \$00000000 \$29 \$50 \$50 \$5 \$00000000 \$454 \$50 \$5 \$00000000 \$455 \$5000000000 \$455 \$5000000000000000000000000000000000	5.0 120 1200 1200 1200 1200 1200 1200 120
\$24.000,000.000 (Miles Missione Miles Missione Miles Mil	ACAS	W 4 03/02/2017 12-85 00/02/2017 W 4 03/02/2017 12-85 00/02/2017 W 4 03/28/2017 16-82 03/28/2017 W 6 03/28/2017 16-82 03/28/2017 W 4 03/28/2017 16-82 03/28/2017	2170000 150500 1	1.74 1.74	1-1 1-1	25 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1
NEXT/03600000 (MMG) MESISONA, NAS MESISONA,	DRIG	W 6 327A/2007 1642 50/2W/2017 W 6 327A/2007 1642 50/2W/2017 W 6 327A/2007 1642 50/2W/2017 W 6 327A/2007 1642 50/2W/2017 W 7 4 327A/2007 1642 50/2W/2017	00170238 664 00 1207002 105500 00 20 155277.4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfusorocane Salbonare (PICS) 1393-25-1 0.0031 131CA PICA 131CA (PICA 131CA PICA 131CA	PCT PSC	MSA 150 15 00000000 000000000 000000000 00000000 0000	1.0 10.0 10.0 10.0 10.0 10.0 11.0 11.0
\$MASS_MEMORY_MASS_MEMORY	MARKE Test America MONE Nr. (MOTING) 200 24	W 4 33/02/2017 12:45 03/02/2017 5 6 53/02/2017 17:04 03/02/2017 5 4 33/02/2017 17:04 03/02/2017 5 4 33/02/2017 17:04 03/02/2017	00170302 1645.00 20170314 155.0400 108.20.52330074.4 1 1 1 1 1 1 1 1 1	Nirrobusser-GG 455-GG 68 69 69	PCT_MCC DE SUBSEC DE	0.5A 91 42 00000000 1 1 1 1 1 1 1	1
9427054050000 (3401) MERICANA, NAS 198 320 51598427-A 50,005 (910.A 527, MOD 1842705405000) (3401) MERICANA, NAS 198 320 51598427-A 50,005 (910.A 527, MOD 1942705405000) (3401) MERICANA, NAS 198 320 51598427-A 50,005 (910.A 527, MOD 1842705405000) (3401) MERICANA, NAS 19827054050000 (3401) SONG 1972, MOD 1972, SM 198 320 51598427-A 50,005 (910.A 527, MOD 1972, SM 1972,	DSG DAMER Test America MONE NET METHOD 500 (83 006 DAMER Test America MONE MET METHODO 500 (83 DAG TAMER Test America MONE MET METHODO 500 (83 DAG TAMER Test America MONE MA 7007500C 500 46G	5 4 33/20/2057 17:04 03/02/2017 5 4 33/20/2057 17:04 03/02/2017 5 4 33/20/2057 17:04 03/02/2017 W 4 33/24/2057 17:05 03/02/2017 W 5 4 33/24/2057 17:05 03/02/2017	DOTTNICC 1704 00 DOTTNICC 1504 00 DOTTNICC D	13C6 PFGS 190 50 50 50 50 50 50 50	PCT_REC	DASSA 150 25 0.00000000	
942-705600000 JANO MERICARA JANS MEATF-CRIMMODO-0217 NORIS 90-0A 1279-584 942-701600000 JANO MERICARA JANS MEATF-CRIMMODO-0217 NORIS 90-0A 127, MOD 942-701600000 JANO MERICARA JANS MEATF-CRIMMODO-0217 NORIS 90-0A 127, MOD 942-701600000 JANO MERICARA JANS MEATF-CRIMMODO-0217 NORIS 90-0A 127, MOD 942-701600000 JANO MERICARA JANS MEATF-CRIMMODO-0217 NORIS 90-0A 127, MOD	DAOA DAMER Text America MONE NA SW2510C DDO REG DGG SAMER Text America MONE NA 50975355 DDO REG DGG SAMER Text America MONE NA 50975355 DDO REG DGG SAMER Text America MONE NA 50975355 DDO REG DGG SAMER Text America MONE NA 50975355 DDO REG	W 4 322A/202112:55 02/2K/2017 W 4 32/2A/202112:55 02/2K/2017 W 4 32/2A/202112:55 02/2K/2017 W 4 32/2A/202112:55 02/2K/2017	DOTTORIOS 1.845.00 DOTTORIA 1742.00 1200.4406-5 1 1	Nitroducere-GG 4555-GG 455 455 450 45 Perfusoraciones and (PFAS) 233-G-T 20059 Perfusoraciones (and (PFAS) 133-G-T 20059 Perfusoraciones (antinues (PFAS) 133-23-T 20029 CLA (PFAS 132-47-G 132-17-G 132-17-G CLA (PFAS 132-47-G 132-47-G 132-47-G 132-47-G CLA (PFAS 132-47-G 132-47-G 132-47-G 132-47-G Companying (PFAS 132-47-G 132-47-G 132-47-G 132-47-G 132-47-G Companying (PFAS 132-47-G 132-47	FCT_REC	\$1.5A 91 42 00000000 000000000 000000000 00000000	1.0 10-000005-1 2005-14005-1 2005-1 2005-1 2005-1 2005-1 2005-1 2005-1 2005-1 2005-1 2005-1 2005
	DSG TAMER A Per America CONE 64 500/325 500 81G DSG TAMER Test America ACDME 64 500/325 500 81G DSG TAMER Test America ACDME 64 500/325 500 81G DSGA TAMER Test America ACDME 64 500/325 500 81G DSGA TAMER Test America ACDME 64 500/325 500 81G DSGA TAMER Test America ACDME 64 500/325 500 81G DSGA TAMER Test America ACDME 64 500/325 500 81G	W 4 322A/30371235 50/25/2017 W 4 32/2A/30371235 50/25/2017 W 4 32/2A/30371235 50/25/2017 W 4 32/2A/30371230 50/25/2017	DOITHUNG 1624 00 DOITHUNG 1221 1100 1203 44564-1 1	13C6 PFGS 125	FCT_REC	\$1.5A \$150 \$5 00000000 \$1.5A \$150 \$5 00000000 \$1.5A \$150 \$5 00000000 000000000	5.0 0.32 0.80 1.6 130,3605,1 230,154875
MATERIAN MATERIAN MATERIAN AND MATERIAN PROPERTY MATERIAN DOCUMENT TO ADDITION TO ADDI	DOMES DOMES DESCRIPTION DOMES W 4 322A/20211200 50278/2017 W 4 302A/20211200 50278/2017 W 4 302A/20211200 50278/2017 W 4 302A/20211200 50278/2017	DOITHUNG 1845-00 DOITHUNG 1855-00 120-3456-7 1	Nitrobassure-GG 1455-G0 0 59 59 7 7 7 7 7 7 7 7 7	FCT_SEC 98 SURR	\$1.5A 91 42 00000000 00000000 1 00000000 51.5A 150 25 00000000	5.0 10.00400751 [20.014075] 5.0 17.04 0.002 0.00271 [20.010071 [20.010075] 5.0 0.001 0.000 0.00031 [20.010071 [20.010075] 5.0 10.001 0.000 0.00031 [20.010075] 5.0 10.001 0.000 0.00031 [20.010075]	
NEATONICODO MAS NETON NE	MARIE MARI	W 4 3/2/4/20211200 50/25/2017 W 4 3/2/4/20211200 50/25/2017 W 4 3/2/4/20211200 50/25/2017 W 4 3/2/4/20211200 50/25/2017	DOITNING 82-84 00 DOITNING 82-95 00 1200 44506-7 2 1 1 DOITNING 82-95 00 1200 44506-7 2 1 1 DOITNING 82-84 00 DOITNING 82-85 00 1200 44506-7 2 1 1 DOITNING 82-84 00 D	13C6 PFGS 13C7	FCT_REC	\$15A \$150 \$5 00000000 \$15A \$150 \$5 00000000 \$15A \$150 \$25 00000000 000000000	1.5 (1.5 (1.5 (1.5 (1.5 (1.5 (1.5 (1.5 (
NEAT-POLICOCOCO (2002) MOST MATERICARA, JANS MALFAT-COMMONDO CEZET NORMS (2004) 527, MODO (2014) MOST MATERICAR JANS MALFAT-COMMONDO CEZET NORMS (2014) 500A 527, MODO (2014) MOST MATERICARA, JANS MALFAT-COMMONDO CEZET NORMS (2014) 500A 527, MODO (2014) MOST MATERICARA, JANS MALFAT-COMMONDO CEZET NORMS (2014) 500A 527, MODO (2014	DMG TAMARR Text America MONE NA 50075255 SL1 BEG DMG TAMARR Text America MONE NA 50075255 SL1 BEG DMG TAMARR Text America MONE NA 50075255 SL1 BEG DMG TAMARR Text America MONE NA 50075255 SL1 BEG	W 4 31/24/202112-00 50/25/2017 W 4 31/24/202112-00 50/25/2017 W 4 31/24/202112-00 50/25/2017 W 4 31/24/202112-00 50/25/2017	DOLTONICO 26-24-00 DOLTONICO 20-17-00 DOLTONICO 20-17-00 DOLTONICO 26-24-00 DOLTONICO 26-	Perfluorocture Sulfonate (PFOS) 1793-29-1 0.27 1764-PFOS 1305-PFOS 1305-PFOS 1305 1305 1305 1310-PFOS 1305-PFOS 1305-PFOS 180 180 Perfluorobatement/lonic acid (PFES) 275-72-5 0.000	0.27 U.C., 1 DM DM PR TRC FFT_FSC PR SURR FFT_FSC PR SURR FFT_FSC PR SURR FFT_FSC PR SURR OLD U.C. 1 DM DM PR TRC	\$1.5A \$150 25 \$00000000 \$1.5A \$150 25 \$00000000 \$1.5A \$150 25 \$00000000	5.0 0.006 0.015 0.0212-0-24025-1 (20-154066 1.0 120-24025-1 (20-154066 1.0 120-24025-1 (20-154066 1.0 0.005 0.0099 0.0212 (20-254066 1.0 0.005 0.0099 0.0212 (20-254066
	2005 TAMER Test Anners VOME NA 509/255 D.1.1 REG	W 4 31/24/202112-00 50/255/2017 W 4 31/24/202115-00 50/255/2017 W 4 31/24/202115-00 50/255/2017 W 4 31/24/202115-00 50/255/2017 W 4 31/24/202115-00 50/255/2017	DOLTONICO 2007 DE 2007 DOLTONICO 2007 DOLTONICO 2007 DE 2007 D	1802 PFIGES 1802 PFIGES 104 104 104 14.4 Closure 22.2 01.1 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4		\$1.5A \$150 25 \$00000000 \$1.55A \$150 25 \$00000000 \$1.55A \$1 42 \$00000000 \$1.55A \$1 42 \$00000000 \$1.55A \$1 2 \$1 2 \$00000000 \$1.55A \$1 2 \$1 2 \$100000000 \$1.55A \$1 2 \$1 2 \$1 2 \$1.55A \$1 2 \$1 2 \$1 2 \$1 2 \$1 2 \$1 2 \$1 2 \$1	\$1.0 \$10.0000 120-154005 120-154006 15.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1.0 \$1
NESTROLOGO (2012) METICARA, NAS SIMATF-NES-LALA CITZAMS NORM (100A 1272, SM NESTROLOGO (2014) NESTROLOGO (2014) NESTROLAGO (2014) NORM (20	\$10.00 TAMER Ted America MONE 94 009250C 500 MSS \$10.00 TAMER Ted America MONE 94 009255 500 MSS \$10.00 TAMER Ted America MONE 94 009255 500 85C	W 4 31/24/2021 15:00 50/274/2027 W 4 31/24/2021 15:00 50/274/2027 W 4 31/24/2021 15:00 50/274/2027 W 4 31/24/2021 15:00 50/274/2027 W 4 31/24/2021 15:00 50/274/2027	DOTTORICO 1045 00 10070014 185000 1300 4010-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Nitrobustane 05 4055 60 0 75 75	SCT_REC	25.5A 91 42 0000000 M59 12 12 12 0000000 15.5A 91 42 0000000 15.5A 91 42 0000000 00000000 00000000	5.0 0.19 0.47 0.95 120-26105-1 120-154875
	2005 AAMER Ted America NOME A4 SWITZES 200 165	W 4 12/24/2007 15:00 102/55/2017 W 4 12/24/2007 15:00 102/55/2017 W 4 12/24/2007 15:00 102/55/2017 W 4 12/24/2007 15:00 102/55/2017 W 4 12/24/2007 15:00 102/55/2017	DEC	Perfusoroscinaria and (PROA) 135-GF-1 0.48 Perfusoroscinaria and (PROA) 1753-23-1 0.49 ILCA (PROA) 1354-FROA 1554-FROA 165-FROA 1	DR TES DR TES DR TES DR TES DR TES DR TES DR DR DR DR DR DR DR D	155A 150 25 00000000	10 100-00005-1 (200-10005-1 (20
HACTORISON AND MATERIAL PROPERTY AND ALL OF THE ACCOUNTY AND ALL OF THE ACCOUN	2005 MARIAN Per America MONE MA MONE	W 4 12/24/2021 25:00 102/25/2017		1982 1995 142 132 132 133 134 134 135 13	T	#5A HO 10 100000000 1 1 1 1 1	10
N524705509000 IM01 MERIDAN NAS MEAFF-MRD-1A16-0217-MS NONS 5VOA 527_MOD	100 100	W 4 52/24/20715:00 50/25/2017	2017/00/2 (424.00) 10/17/00/2 (244.00) 10/17/00/2	Perfundationalities and (PTES) 127.25.5 125.5	T		100 1286 1.8 2.2 120-3360-5 120-5540-5 1 100 1286 1.8 2.3 120-3360-5 120-5540-5 1 100 1286 1.8 2.3 120-3360-5 120-5540-5 1 100 128 1.8 2.3 120-3360-5 120-5540-5 1 100 128 1.8 2.3 120-3360-5 120-5540-5 1
HASTORISKONE JOHN STANDARD AND HASTORIAN HASTORIAN AND HAS	March	W 6 32/24/201715:50 02/25/2017 W 6 12/24/201715:00 02/25/2017 W 8 12/24/201715:00 02/25/2017 W 6 32/24/201715:00 102/25/2017	DESTRUCTOR MASS AGE MASS AG	Ordermore Monte Order Or	PCT_MEC	25.5 150 25 100000000 10.5 100000000 10.5	1
NACTORISON AND ADMINISTRATION ADMINISTRATION ADMINISTRATION AND ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRATION ADMINISTRAT	DAG	W 4 \$124,02511500 \$207,0011 W 4 \$124,02511500 \$207,0011 W 4 \$124,07511500 \$207,0011	2017/0002 14.9.0 20 2017/0000 20.4.100 2025/0000 15.0.100 2025/0000 1 2025/0000 2025/0	3602 PRINSS 3602 PRINSS 322 322 322 325 324 325	0.1 U.C.1 DMI DMAI R TEG DOWN D DMI R TEG D D DMI DMI R TEG D D DMI DMI R TEG D DMI DMI R TEG D DMI DMI R DMIR DMI R DMIR DMI R DMIR DMI	00000000 0554 150 25 00000000 4554 150 25 00000000	1.0 0.004 0.0091 0.011/15/3405/4 (120-1406/6) 1.0 0.004 0.014 0.091 120-1406/4 (120-1406/6) 1.0 0.004 0.014 0.091 120-1406/4 (120-1406/6) 1.0 0.004 0.014
MISSENDERSON MICE MISSENDERS, NAS MISSENDERSON MICE M	SME	W 4 92/24/2017 15:00 92/25/2017 W 4 92/24/2017 15:00 92/25/2017 W 4 92/24/2017 15:00 92/25/2017 W 4 92/24/2017 15:00 92/25/2017	90170020 46.40.00 56170068 503400 180-34605 1 50-34605	Perfusemental and PEPAI 200 ct 1 0.0	0.009 U.C.1 U.M 0.M 98 TEG 1	SECOND SECOND	14
NEXT-000000000 (Min S		W 4 82/24/201715:00 60/25/2017 W 6 52/24/201715:00 60/25/2017 W 4 62/24/201715:00 60/25/2017 W 4 82/24/201715:00 60/25/2017	03170002 443400 56170068 503200 12004065-3 2	13C6 PPGA 12C FPGA 71 72 73 73 74 75 75 75 75 75 75 75	ECT ECC	\$5.54 \$100 \$5 \$000000000000000000000000000000	1.0 130-34805-1 (20-14808) 1.0 120-34805-1 (20-14808) 1.0 1.0 120-34805-1 (20-14808) 1.0 1.2 1.1 120-34805-1 (20-14808) 1.0 1.0
NEAT-PRODUCTION (INC.) 1 NEAT-PRODUCTION (INC.	DAME	W 4 02/24/2027 15:00 02/25/2017 W 4 02/24/2007 15:00 02/25/2017 W 4 02/24/2027 15:00 02/25/2017 W 4 02/24/2027 15:00 02/25/2017	BIXTONIO 14.0 A.0.0	Performance and EPFOA 126 - 126 - 127 - 12	MCT, MCC	M459	\$0 1.5 8.2 12 120-24695-1 120-14696-8 1
NEATH-000000000 JAMOS	DRG TAMER Text Annexes NONE NA NW2555 54.1 MRD DRG TAMER Text Annexes NONE NA NW2555 54.1 MRD DRG TAMER Text Annexes NONE NA NW2555 54.1 MRD DRG TAMER Text Annexes NONE 287 METHOD 300 86.G DRG TAMER Text Annexes NONE 287 METHOD 300 86.G	W 4 \$2724/2027 15:00 \$02/55/2017 W 6 \$2224/2007 15:00 \$02/55/2017 5 4 \$1224/2017 99:00 \$1025/2017 5 4 \$1224/2017 09:00 \$102/55/2017 5 4 \$1224/2017 09:00 \$102/55/2017	00170302 464.00 50170308 503800 120-54505-1 2	Performing team of PERS 175-72-5 125	PCT_REC D D RR TRG	M45P 150 50 00000000 15.5A 150 55 00000000 15.5A 150 55 00000000 15.5A 150 000000000 15.5A 150 0000000000 15.5A 150 0000000000 15.5A 150 0000000000 15.5A 150 0000000000	\$0 H2 \$2 22 202-2005-1 [20-150056] \$0 12 20-2005-1 [20-150056] \$0 \$12 437 \$641 202-2005-1 [20-150056] \$0 \$15 527 \$641 202-2005-1 [20-150059]
CATTORNOON CAT	20	\$ 4 \$2724/2027 09:00 \$02/25/2017 \$ 4 \$12/24/2027 09:00 \$02/25/2017 \$ 4 \$02/24/2027 09:00 \$02/25/2017 \$ 4 \$02/24/2027 09:00 \$02/25/2017	BITTORIO 1704-00 BITTORIO 1270-000 1280-24506-4 1 17.5 1	Performance and 1970 1 26 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	MCT_REC	E.S.A. 150 25 00000000 154 155	1
WEST-RESIDENCE ARCS	DGG TAMER Fed America LONE DIF METHOD 300 BEG DGG TAMER Fed America MONE DIF METHOD 300 BEG DGG TAMER Fed America MONE DIF METHOD 300 BEG DGG TAMER Fed America MONE DIF METHOD 300 BEG DGG TAMER Fed America MONE DIF METHOD 300 BEG DGG TAMER Fed America MONE DIF METHOD 300 BEG	\$ 4 1024/2017.09.05 103/25/2017 \$ 4 5024/2017.09.05 103/25/2017 \$ 4 5024/2017.09.05 103/25/2017 \$ 4 5024/2017.09.05 1025/2017 \$ 4 5024/2017.09.05 1025/2017 \$ 4 5024/2017.09.05 1025/2017	017/03/20 77-64:00 2017/03/11 17-27:00 120-2466/5 10.1 10.	Perfusioned acid (FICA) 135-07-1 0.25 0.25 (PA) Perfusioned English (FICA) 135-07-1 0.25 0.25 (PA) Perfusioned English (FICA) 136-32-1 19 19 19 136-470-0 136-470-0 136-470-0 130-130-130-130-130-130-130-130-130-130-	UC_85 A4 A4 N N TEG UC_85 A4 A4 N N TEG UC_85 A4 N N N TEG PCT_REC N N N N N N N N N N N N N N N N N N N		\$0 8.11 9.33 9.55 120-24005-1 120-154003 150
\$\\ \text{Section(0.00)} \text{ And } \\ \text{Section(0.00)} \\ \text{Section(0.00)} \\ \text{ And } \\ \text{Section(0.00)} \\ \text{ And } \\ \text{Section(0.00)} \\ \text{Section(0.00)} \\ \text{Section(0.00)} \\ \text{ And } \\ \text{Section(0.00)} \\ Se	SALES Test America SOME SHE ARTITICO SO SEC	\$ 4 13/24/2017 09:05 102/55/2017 \$ 4 13/24/2017 09:05 102/55/2017 \$ 4 20/24/2017 09:15 102/55/2017 \$ 1 20/24/2017 09:15 102/55/2017	para sus 20 1704:00 para 1704:00 1207:001 127:2700 1200-2605:5 1 10.1 10.1 10.1 10.1 10.1 10.1 10.1 1	Perfusional assemblinis xxid (PTRS) 197-73-5 0,23 0.33 10.29 RHOS 10.20 RHOS 1800 PROS 18 0.30 PROS 18 0.30 Perfusionational xxid (PTOM 125-74 4.3 4.3 Perfusionational Xxid (PTOM 125-74 4.3 4.3 Perfusionational Xxid (PTOM 125-74 4.3 125-74 XX 125	DUS_SEC_ DUM DUM PIR TRG		1
199-04-7/2395/4000 (MIND) MERICIAN HAS MEAFF-9L0022-5802-0001 HONS OVDA 537_MOD	ORG TAMER Test America NONE DRY METHOD DDD REG ORG TAMER Test America NONE DRY METHOD DDD REG	\$ 4 13/24/2017 OR 15 102/5/2017 \$ 4 13/24/2017 OR 15 102/5/2017 \$ 5 4 22/24/2017 OR 15 102/5/2017 \$ 1 13/24/2017 OR 15 102/5/2017	para suscil 1764-00 (2017031) 127-500 (2007056-1 1.2.8. 20170302 1764-00 (2017031) 127-500 (2007056-1 1.2.8. 20170302 1764-00 (2017031) 1754-00 (2017031) 1755-00 (2007056-1 1.2.8. 20170302 1764-00 (2017031) 1755-00 (2007056-1 1.2.8. 20170302 1754-00 (2017031) 1755-00 (2017031) 1755-00 (2007056-1 1.2.8.	11C4 PFCS 12C4 PFCS 61 61	PN_T_REC	pish 150 25 00000000	\$0. 120-54505-1 120-54503 15.0 120-54503 15.0 15
N624701609000 IM01 MERIDAN_NAS MEAFF-BLD002-5802-0001 NONS SVOA 537_MOD	ORG TAMER Test America NONE DRY METHOD 000 REG	\$ 4 02/24(0017 09:20 02/25/2017 \$ 4 02/24(0017 09:20 02/25/2017 \$ 02/24(0017 09:20 02/25/2017 \$ 4 02/24(0017 09:20 02/25/2017 \$ 4 02/24(0017 09:20 02/25/2017)	DOUTNAME 179-04-00 2007-003-1 17-4-2-00 200-245-5-7 1 13.7	Perfluencement and IPPGN 135 C-1-1 0.55 0.55 Perfluencement and IPPGN 135 C-1-1 0.55 0.55 0.55 Perfluencement and Impute IPPGQ 135 C-1-1 0.55 0.55 0.55 134 C-1-1 0.55 0.55 0.55 0.55 0.55 0.55 0.55 0.5	U.S. 85 AM M 98 TEG. U.S. 85 AM M 98 TEG. U.S. 85 AM M 98 TEG. F.C. 185 AM M 98 TANKE F.C. 185 AM M 1008 TANKE F.C. 185 AM TANKE		1.0 132 516 55 10 2016/15 120 516/00 10 10 10 12 10 10 10 10 10 10 10 10 10 10 10 10 10
HASTISSEROOD MISS METERON AND	2006	5 4 02/24/2017 09-20 02/25/2017	20170302 17:04:00 20170311 17:42:00 320-26105-7 1 1 13.7	Perfluorobutanesulfonic acid (PFRS) 175-73-5 0.35 0.35 0.35	UG_MG U U PR TRG	2.5A (50 25 0000000	
HASTISSEROOD MISS METERON AND	1962 1964 1964 ARRIVES 1975	\$ 4 \$22/34(0317.09-20 802/52/0317 \$ 4 \$12/34(0317.09-20 802/52/0317 \$ 4 \$12/34(0317.09-20 802/52/0317 \$ 4 \$12/34(0317.09-20 902/52/0317 \$ 4 \$12/34(0317.11.00 802/52/0317 \$ 4 \$12/34(0317.11.00 802/52/0317	D0170302 1794:00 10070011 17:42:00 120:54567-7 1 1 12.7 120:170302 17:94:00 20070011 17:50:00 120:5456-8 1 1 16.7 120:170302 17:94:00 20070011 17:50:00 120:5456-8 1 1 16.7 120:170302 17:94:00 120:170311 17:50:00 120:17036-8 1 1 16.7 1 1 16.7 1 1 1 1 1 1 1 1 1	Perfluoroscianoic acid (PFOA) 235-67-1 5.1 5.1	UG_RG M M M 98 TRG UG_RG M M M 98 TRG	0000000	20 20 20 20 20 20 20 20 20 20 20 20 20 2
HASTISSEROOD MISS METERON AND	1	1		Performance and SPCAV 35-C-3 L S S S Performance and Performance (PCAV 35-C-3 L SC SPCAV 35-C S S S S S S S S S S S S S S S S S S S	C MC	000000000	
\$\text{Section 5.00}\$ \tag{1.00}\$ 1.0	25 100	1	December 1940 December De	Head	C C C C C C C C C C	2.5. 22 2	
\$\(\begin{array}{cccccccccccccccccccccccccccccccccccc	10 10 10 10 10 10 10 10	0.00000000000000000000000000000000000	December 1 December 2 December 3 Dec	### commonwess and PROS \$1.51.1 \$1.50.1	C C C C C C C C C C		2
March Marc	502 SAME Text American SOME SEP METHOD SO SEC		December	Head	0, 0		2
Column	SMG		Decorate Colonia Col	Committee Marie (190)	C		14

Contract, ID GO_CTO_Number (Phase Installation, ID Sample, Name GIGM_Code Analysis, Group Analytical, Method PR	C. Code Lish, Code Lish, Name Leachais, Method Sample, Basis Extraction, Method Result, Type Lish, QC, Type Sample	s_Medium QC_Level DateTime_Collected Date_Received Leachate_Date Leachate_	Time Satraction Oute (Satraction Time Assalysis Oute Assalysis Time Lab Sample CO (Silution Han Number Percent Molishure	Percent Ligid Osen, Name Analyte ID Analyte Value Original Analy	to Value Result, Units Lab, Qualifier Validator Qualifier SC, Column, Type Analysis, Result, Type Result, Norrative	QC Control Limit Code QC Accuracy Lipper QC Accuracy Lower Control Limit Date QC Narrative MDL G	etection Limit QGM Version DL LOO LOQ SDG Analysis Batch Validater Name Val Date
METORAL NAS MATERIANO (METORAL NAS MATERIANA NAS MATERIANA NAS MATERIANA NAS MATERIANA (METORAL NAS MATERIANA NAS MATERI	15	4 82/34(2021 21.46 02/25/2017 4 82/24(2021 21.46 02/25/2017	DETENDED 179-0400 DETENDED B. B. B. B. DE DE DE DE DE DE DE DE DE DE DE DE DE DE	Perfusosolamoic acid (PPGN) 135-67-1 8.3 8.3 Perfusosolamoic acid (PPGN) 135-67-1 8.3 8.3 Perfusosociamoic acid (PPGN) 175-23-11 8.3 8.3 Perfusosociamo (PPGN) 175-23-11 8.3 8.3 8.3 Perfusosociamo (PPGN) 175-23-11 8.3 8.3 8.3 Perfusosolamoic acid (PPGN) 175-27-5 8.3 8.3 Perfusosolamoic acid (PPGN) 175-27-5 8.3 8.3 Perfusosola	18. Uses Send Units Gold Conflex Uniform Qualifier SC Colores, Type Antique, Xende Type Send Xender School Colores Send Color	0000000 0000000 1.54 1.55 1	1.0 8.12 8.25 8.50 10.00.00.00.00.00.00.00.00.00.00.00.00.0
\$12-07082000000 M001 \$10000000000 M001 \$10000000000	65 SAMER Feet Annexes NONE 98°F METHOD 000 865 5 OA SAMER Test Annexes NONE 98°F METHOD 000 865 5 OA SAMER Test Annexes NONE 94 METHOD 000 865 W OA STAMER Feet Annexes NONE 94 3W3535C 000 865 W OF STAMER Feet Annexes NONE 94 3W3535 000 865 W	4 32/24/2017 11:40 02/25/2017 4 32/24/2017 11:30 02/25/2017 4 32/24/2017 11:30 02/25/2017 4 32/24/2017 11:30 02/25/2017	00710002 170400 10070014 1007000 10070014 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	102 PERKS 1002 FFRKS 12 12 14 14 14 15 16 16 16 16 16 16 16	FCT_REC	5.5A 150 25 00000000 5.5A 99 42 00000000 00000000 0000000000000000000	9.0 120-3486-5 200-346623 200-346623 200-346623 200-346623 200-34662 200-346
\$22,000,000 Mol \$1,000	\$5 SAMER Yes America NOME NA 0007555 000 855 97 97 97 97 97 97 97 97 97 97 97 97 97	4 02/24/2017 11:30 02/25/2017 4 02/24/2017 11:30 02/25/2017 4 02/24/2017 11:30 02/25/2017 4 02/24/2017 11:30 02/25/2017	00170022 12-24-00 2017006 12:4900 120-3405-12 1 1 0 1077002 12-24-00 2017006 12:4900 120-3405-12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfusionate and finale (PFOS) 1783-22-1 0.0027 1016-8 PGOA 1785-178-1 0.0027 1016-8 PGOA 1785-178-1 0.0027 1016-8 PGOS 1785-178-1 1785-1785-1 1785-1	0.0027 G L	SA	1.0 0.001 0.0027 0.0034 120-3405 1 120-3451 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
\$\text{M\$107816500000}\$ \$1000\$ \$\text{M\$15500A\$}\$ \$\text{M\$15500A\$}\$ \$\text{M\$15500A\$}\$ \$\text{M\$15500}\$\$ \$\text{M\$15500A\$}\$ \$\	DS TAMER Test America NONE VA SWISSIS D00 BCG W AD SMARE Test America NONE VA SWISSIOC D00 BCG W OA SMARE Test America NONE VA SWISSIOC D00 BCG W OA SMARE Test America NONE VA SWISSIOC D00 BCG W E DAMER Test America NONE VA SWISSIS D00 BCG W	4 12/24/2017 11:30 10/25/2017 4 12/24/2017 12:55 02/55/2017 4 12/24/2017 12:55 02/55/2017 4 12/24/2017 12:55 02/55/2017	2017/0022 14/4-0.0 2017/0026 12/4-90.0 2007-0026-12 1 1	1802 9FMS 1802 9FMS 141 141 142 143 144	PCT_SEC 98 \$1348 \$104 \$10 \$1 \$10 \$1 \$10 \$1 \$10 \$1 \$1	25.5A 1550 25 00000000 0.55A 150 00000000 0.55A 11 42 00000000 000000000	5.0 120-24005-1 [202-5505-1 [202-55542] 5.0 5.19 5.48 5.06 1202-5405-1 [202-54075] 5.0 77-04 0.0010 0.0023 202-554075 5.0 77-04 0.0010 0.0023 202-554075
\$\text{N\$24750000000}\$ 2000\$ \$\text{M\$10500000}\$ \$\text{M\$25500000}\$ \$\text{M\$255000000}\$ \$\text{M\$255000000}\$ \$\text{M\$255000000}\$ \$\text{M\$255000000}\$ \$\text{M\$255000000}\$ \$\text{M\$255000000}\$ \$\text{M\$2550000000}\$ \$\text{M\$25500000000}\$ \$M\$25500000000000000000000000000000000000	\$6 SMARE THE APPRICE STATE OF STATE	4 12/24/2017 12:45 02/25/2017 4 32/24/2017 12:45 02/25/2017 4 32/24/2017 12:45 02/25/2017 4 32/24/2017 12:45 02/25/2017	00170022 14-34.00 20170066 12-5600 120-5405-11 1 1 1 1 1 1 1 1 1	Perfluoroscitane (Sallonarie (PFOS) 1783-22-1 0.0551 13C4 PFOA 18C4 PFOA 18C4 PFOS 19 13C4 PFOS 19C4 PFO	0.051-UG L 906 TRG	00000000 00000000 00000000 000000	Columb
NEATMAGEORODO (MOTE) MERICANA NAS (MARAF CHANADO 6217) NODA (377 MAO) NO (377 MAO)	5G FAMER Fort-ments NOME NA NAVSSS 00 BSG W. CALLER STANDARD NAVSSS NAV NAVSS NAVSS NAV NAVSSS NAV NAVSS NAVSS NAV NAVSS NAVSS NAV NAVSS NAV NAVSS	4 12/24/2017 13:15 02/25/2017 4 13/24/2017 0000 02/25/2017 4 13/24/2017 0000 02/25/2017 4 13/24/2017 0000 02/25/2017 4 13/24/2017 0000 02/25/2017	90170002 4-24-00 2017006 12-6-00 120-3-005-12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfluorotisates afforis cid (PFAS) 275-75 0.022 1802 PFHSS 1802 PFHSS 128 128 1,4-Clossate 123-91-1 1.4 1.4 Nitrobastate-055 (405-60-0 42 02 Perfluorocisates cid (PFAS) 1216-67-1 0.33	FCT RSC	2.5A 550 25 00000000 00000000000000000000000	10 120-120-120 120-120-120 120-120-120 120-120-120 120 120-120-120 120 120-120-120 120-120-120 120-120-120 120-120-120-120-120-120-120-120-120-120-
NESTRIBLEGOZIO (MOTE MERICANA NAS (MARAFFOZI-COLT) MOST STOCK 577 MOD SE STOCK	SC SAMER Performance MONE IA MASSES 200 IEC W 15 SAMER Performance MONE IA MASSES 200 IEC W 15 SAMER Performance MONE IA MASSES 200 IEC W 15 SAMER Performance MONE IA SAMESS 200 IEC W 15 SAMER Performance MONE IA SAMESS 200 IEC W	4 12/24/2017 00:00 02/25/2017 4 12/24/2017 00:00 02/25/2017 4 12/24/2017 00:00 02/25/2017 4 12/24/2017 00:00 02/25/2017	00170002 4-24-00 20170006 92:10:00 1203-0405-14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfluxoscature Softmate (PECS) 1263-25.1 0.054 1164 PECA 1264 PECA 1264 PECA 1646 PEC	0.054 O.C. 1 99 TMG FCT. RCC 99 MARK FCT. RCC	00000000 015A 15D 25 00000000 015A 15D 25 00000000 000000000	1
NEATH SECOND (MICE) MERICAN NAS (MARF FOR COLD T) NORS (MICA ST MA) (MICA ST MICE) (MICA ST MICE) (MICA ST MICE) (MICA ST MICE) (MICA ST MICA ST MICA ST MICE) (MICA ST MICA S	65 FAMER Fort America NOME NA NAVISTRA DO 855 W FAMER FAMER SEA NAVISTRA NOME NA NAVISTRA DO 855 W FAMER FAMER SEA NAVISTRA NOME NA NAVISTRA DO 855 W FAMER FAMER SEA NAVISTRA NOME NA NAVISTRA DO 855 W FAMER SEA NAVISTRA NAVISTRA NAVISTRA NA NA	4 13/24/2017/00/00 02/25/2017 4 13/24/2017/15/30 02/25/2017 4 13/24/2017/15/30 02/25/2017 4 13/24/2017/15/30 02/25/2017 4 13/24/2017/15/30 02/25/2017	001700022 44-0 00 00170006 101.10 0 100.00056-14 1 1 1 1 1 1 1 1 1	IECO PRINTS	CT RCC 90 SLUR 0.131G L 90 TEG 0.000 GC L 90 TEG 0.000 GC L MM MM 90 TEG 0.000 GC L MM MM 90 TEG 90 SLUR 0.1.5A 550 25 000000000 0000000000000000000000	1.0 120-3609-5 130-360	
HERDRISCHOOL MEI HERDRING, NES MEATH-MEIG-MEI GETTH. 100% 100% 127, MOD 127	G	4 32/24/2017 15:30 02/25/2017 4 32/24/2017 15:30 02/25/2017 4 32/24/2017 15:30 02/25/2017 4 32/24/2017 15:30 02/25/2017	1017/0002	1324 PROS	CT_PEC NR SUBS SU	\$\begin{array}{cccccccccccccccccccccccccccccccccccc	1.0 120 120 120 120 120 120 120 120 120 12
MASTORIO (MAST) MASTOR	10	4 12/24/2017 00:00 02/25/2017 4 12/24/2017 00:00 10/25/2017 4 12/24/2017 00:00 02/25/2017 4 12/24/2017 00:00 02/25/2017	1017/0002 4-24.00 2017/0006 122.000 120.3405-16 1	Perflusoscianoi acid (9FGA) 235-G7-1 0.12 Perflusoscianoi acid (9FGA) 124-22-1 0.003 13C4 FFGA 124-22-1 13C4 FFGA 13 12 13C4 FFGA 13C4 FFGA 132 133 Perflusosciatane authoric acid (PFES) 127-77-5 132 133 Perflusosciatane authoric acid (PFES) 127-77-5 0.0052	0.00 G 1 M M 98 TEG 17.5 C 98 SUR 17.5 C 98		5.0 0.001 0.0029 0.0029 1.0008150-0.102-153-07 5.0 1.0008150-0.102-153-0.112-153-07 5.0 1.0008150-0.102-153-07 5.0 1.0008150-0.102-153-07
MERITARISONO ANTI: MERICAN NAS CESTOS CONTROL NOS SONO EST. MON SER SONO EST. MON SE	OA TAMER Test America NONE NA SWISSOC DOD BS W	4 32/24/2017 00:00 02/25/2017 4 33/02/2017 12:45 03/02/2017 4 33/02/2017 12:45 03/02/2017 4 33/02/2017 12:45 03/02/2017	00170002 444.00 00170006 12.000 1200.000 120.000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	### 1000 PEPGE 1	CCT_REC 90 SURE	9.5A 150 25 0000000	5.0 8.20 5.50 1.0 120-34505-1 120-14475 1 120-14475 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Martine Mart	65 MARE Text America MOSE MA MOSTASS 200 ES VV 65 MARE Text America CONE MA MOSTASS 200 ES VV 65 MARE Text America CONE MA MOSTASS 200 ES VV 65 MARE Text America CONE MA MOSTASS 200 ES VV 66 MARE Text America CONE MA MOSTASS 200 ES VV 67 MARE Text America CONE MA MOSTASS 200 ES VV	4 33/02/2017 14:24 03/02/2017 4 33/02/2017 14:24 03/02/2017 4 33/02/2017 14:24 03/02/2017 4 33/02/2017 14:24 03/02/2017 4 33/02/2017 14:24 03/02/2017	90170002 44-0 00 90170006 11.56.00 16.23 90.123907.A 1 5 90170002 44-0 00 90170006 11.56.00 16.23 90.123907.A 1 5	Perfluorescare Sulforate (PFOS) 1763-2-1 104 004 105 105 105 105 105 105 105 105 105 105	PCT_MSC NR TRG PCT_MSC NR SAURR PCT_MSC NR SAURR PCT_MSC NR SAURR PCT_MSC NR SAURR PCT_MSC NR TRG PCT_MSC NR	22.A 50 42 20000000 5	50 55 50 50 50 50 50 50 50 50 50 50 50 5
MARTINESPAZZO AMERICANA NAS CE 20 0.152202/2-A MONT SOCA STZ MOD MARTINANA NAS CE 20 0.152202/2-A MONT SOCA STZ MOD STZ MO	15 FAMER For America SONE M. MASSES DO 55 S. W. MAS	4 33/02/2017 14:24 03/02/2017 4 33/02/2017 17:04 03/02/2017 4 33/02/2017 17:04 03/02/2017 4 33/02/2017 17:04 03/02/2017	90170002 4-24-00 20170006 11-56-00 45/3-20-547007-A 1- 10170002 17-56-00 20170011 15-56-00 45/3-30-147007-A 1-	PRINCESSEGMENTORS AND PASS 177-72-5 176 17	CCT RCC No. SALME CCT RCC No. SALME CCT RCC No. TRG CCT RCC No. No. TRG CCT RCC No. No. SALME CCT RCC RCC RCC RCC RCC CCT RCC RCC RCC RCC RCC CCT RCC RCC RCC RCC RCC RCC CCT RCC RCC RCC RCC RCC RCC CCT RCC RCC RCC RCC RCC RCC RCC CCT RCC RCC RCC RCC RCC RCC RCC CCT RCC RCC RCC RCC RCC RCC RCC RCC CCT RCC	2.5.4 550 25 000000000 .5.4 440 60 000000000 .5.4 440 60 000000000 .5.4 54 550 00 00000000 .5.4 550 00 00000000 .5.5 50 000000000 .5.5 50 00000000 .5.5 50 00000000 .5.5 50 00000000 .5.5 50 0000000 .5.5 50 0000000 .5.5 50 0000000 .5.5 50 00000000 .5.5 50 0000000 .5.5 50 0000000 .5.5 50 0000000 .5.5 50 000000 .5.5 50 000000 .5.5 50 000000 .5.5 50 000000 .5.5 50 000000 .5.5 50 000000 .5.5 50 00000 .5.5 50 000000 .5.5 50 00000 .5.5 50 00000 .5.5 50 00000 .5.5 50 0000000 .5.5 50 00000 .5.5 50 00000 .5.5 50 00000 .5.5 50 000000 .5.5 50 00000 .5.5 50 0000 .5.5 50 0000	10 120 N005-1
NEXT-00040000 AND METROMA, NEX C1.25 D125042/2-A NORS OWA 127, MOD ON NEXT-00040 AND NEXT-0040 AND NEXT-0040 AND NEXT-0040 AND NEXT-0040 AND NEXT-0040 AND N	15 TAMER TRAINERS WOME WIT MITTION 00 55 5 5 TAMER TRAINERS WOME WIT MITTION 00 65 5 5 TAMER TRAINERS WOME WIT MITTION 00 65 5 5 65 TAMER TRAINERS WOME WIT MITTION 00 65 5 5 65 TAMER TRAINERS WOME WIT MITTION 00 65 9 60 5 W	4 03/02/2017 17:04 03/02/2017 4 03/02/2017 17:04 03/02/2017 4 03/02/2017 17:04 03/02/2017 4 03/02/2017 11:045 03/02/2017	00170002 7764.00 20170311 15.000 1C.33.05129417.A 1 1 00170002 7764.00 10170311 15.000 1C.33.05129417.A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11C4 PFOS 100 100 100 100 100 100 100 100 100 10	PCT REC 99 SLURR PCT REC 99 BLURR	15.4 15.0 25 00000000 .5.4 15.0 15.0 10.00000000 .5.4 15.0 15.0 15.0 00000000 .5.5 15.4 15.0 25 00000000 .5.5 15.0 00000000 .5.5 15.0 00000000 .5.5 15.0 00000000 .5.5 15.0 00000000 .5.5 15.0 00000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 0000000000 .5.5 15.0 0000000000 .5.5 15.0 0000000000 .5.5 15.0 000000000000 .5.5 15.0 0000000000 .5.5 15.0 00000000000 .5.5 15.0 00000000000 .5.5 15.0 0000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 0000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 000000000 .5.5 15.0 00000000 .5.5 15.0 00000000 .5.5 15.0 000000000 .5.5 15.0 00000000 .5.5 15.0 0000000 .5.5 15.0 0000000 .5.5 15.0 0000000 .5.5 15.0 0000000 .5.5 15.0 000000 .5.5 15.0 0000000 .5.5 15.0 0000000 .5.5 15.0 0000000 .5.5 15.0 000000 .5.5 15.0 0000000 .5.5 15.0 000000 .5.5 15.0 000000 .5.5 15.0 000000 .5.5 15.0 000000 .5.5 15.0 000000 .5.5 15.0 000000 .5.5 15.0 00000 .5.5 15.0 0000 .5.5 15.0 0000 .5.5 15.0 00000 .5.5 15.	1.5
NEATRIBLEGOOD (MICE) MERICANA NAS (202 200-525901/2-A NOSE (00-04 1272; 58M NASA (10-04	OA FAMER For America NONE NA 00/555C 00 550 W OA FAMER For America NONE NA 00/555C 00 550 W OA FAMER For America NONE NA 00/555C 00 61 W OA 5AMER For America NONE NA 00/555C 00 61 W	4 33(02/2017 13:45 03(02/2017 4 33(02/2017 13:45 03(02/2017 4 33(02/2017 13:45 03(02/2017 4 33(02/2017 14:24 03(02/2017 4 33(02/2017 14:24 03(02/2017	00170002 144.00 00170044 15.900 12.052552007.4 1	Marchinester C 485-50 0 74 74 74 74 74 74 74	PCT_PSC	1	
\$150751500000 9615 M45500A, 346 M120 \$15250571 A 8055 FOSA \$17, MSD \$17, MSD \$15250571 A 8055 FOSA \$17, MSD \$17, M	SAME Tel-America OPE MA OPESS OS 0.1 W	4 33(92/201714:24 03(92/2017 4 33(92/201714:24 03(92/2017 4 33(92/201714:24 03(92/2017 4 33(92/201714:24 03(92/2017 4 33(92/201714:24 03(92/2017	NEW	Perfluorosciano Salfonate (PFOS) 2783-23-1 0.003 13C4-9FOA 12C4-9FOA 13C4-9FOA 13C6-9FOA 13C6-9F	0.000 (-C_1 U U NN TEG U NE CONTROL CO	00000000 00000000 0000000 0000000 00000000	10 0.001 0.001 0.001 0.004 120 N005-1 120 152411 10 0.001 0.001 0.001 120 N005-1 120 152411 10 0.001 0
MAINTENDERMORD ARCH. MITERAMA, NO. MIT. 2015/20074 M. PORS. 100A 137, 400D 500 MITERAMA, NO. MIT. 2015/20074 M. PORS. 100A 137, 400D 500 MITERAMA, NO. MITERAM	SS_SMER Find America MOME NA \$0072555 500 3.3 W GS_SMER Find America MOME NA \$0072555 500 3.3 W GS_SMER Find America MOME NAT AMERICA 3.0 3.4 3.5 GS_SMER Find America MOME NAT AMERICA 3.0 3.4 3.5 GS_SMER Find America MOME NAT AMERICA 3.0 3.4 3.5 GS_SMER Find America MOME NAT AMERICA 3.0 3.4 3.5	4 03/03/2021 14-24 03/03/2021 4 03/03/2021 17:04 03/03/2021 4 03/03/2021 17:04 03/03/2021 4 03/03/2021 17:04 03/03/2021	1,000 1,00	1802 PRISS 1802 PRISS 1802 PRISS 124 1	1 c	MASA	10
H35705000000 (MIS) MERDAN AM, MI 30510540/1-A NORE 900-A 137 MOD 90 NA 127 MOD 90 NA 1	G TAMER Ted America NONE NET METHOD 200 (81 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4 33(02)(2021 12:04 03(02)(2021 4 33(02)(2021 12:04 03(02)(2021	DETENDED 174-00 DETENDED 154-00 MG 205-1579417-A 1	13C4 PFCA 13C4 PFCA 1322 132	1	2045A 150 25 00000000 DASSA 1510 25 00000000 0005A 1510 25 00000000 0005A 1510 25 00000000 0005A 1510 25 00000000 00000000 00000000 00000000 000000	10 10 10 10 10 10 10 10 10 10 10 10 10 1
METRIAN INC. METRI	55 DAMER Test America NOME NA 509/25/5 200 81/5 W	4 03/01/2017 12:40 03/02/2017 4 03/01/2017 12:40 03/02/2017 4 03/01/2017 12:40 03/02/2017 4 03/01/2017 12:40 03/02/2017 4 03/01/2017 12:40 03/02/2017	00170006 1628500 20170026 252300 20270027 1	Perfusoscianois and (PASM) 135-67-1 0.35 Perfusoscianois and (PASM) 135-67-1 0.35 Perfusoscianois (PASM) 135-7-5 0.033	0.27 U.C. 1 ME ME ME M 1765 147. JCC 1 MC ME M 1765 147. JCC 1 MC M 1765 147. JCC 1 M	0000000 0000000 1.54 1.55 1	5.0 220-26281-1 220-254459 5.0 220-26281-1 220-254459
NEATORGOODO AND SECURITION OF	\$\ \text{DAMES} \text{ Tark America } \ \text{COSE} \ \ \text{ NA. } \ \text{ COSES } \ \ \text{ NA. } \ \text{ COSES } \ \ \text{ NA. } \ \text{ COSES } \ \t	4 03/01/202121:40 03/02/2017 4 03/01/202122:40 03/02/2017 4 03/01/20212:40 03/02/2017 4 03/01/20212:40 03/02/2017 4 03/01/20212:40 03/02/2017	00170206 161930 20170206 2270208 22.500 20.0002021 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PRINCESSEGMENTATIONS AND PASS 177-72-5 UU29 1001 PMMS	1-00 1-00	5.5A 5.50 25 00000000 0.55A 5.50 25 000000000 0.55A 5.50 5.50 000000000000000000000000	1-0 0.004 0.004 0.004 0.005 1.00 1.00 1.00 1.00 1.00 1.00 1.0
MATERIAN	March Marc	4 \$1,01,703712140 \$0,007,2037 4 \$1,01,70371240 \$0,007,2037 4 \$1,01,703712140 \$0,007,2037 4 \$1,01,703712140 \$0,007,2037 4 \$1,01,70371440 \$0,007,007		1264 PDG 4 1975 1 1975	17 162 7	5.5A 5.0 2 00000000 0 0 0 0 0 0 0 0 0 0 0 0 0	15
		4 03/01/2017 14:00 03/02/2017 4 03/01/2017 14:00 03/02/2017 4 03/01/2017 14:00 03/02/2017 4 03/01/2017 14:00 03/02/2017 4 03/01/2017 14:00 03/02/2017	2017/0006 1619/000 2017/0016 2017/0006 2017/	Perflazosociazoica del (PICA) 332-G71 2.5 Perflazosociazo Sulfonate (PICG) 1781-22-1 1.3 13C4 PICA 13C4 PICA 13C4 PICA 48 48 13C4 PICA 9PCA 99 99 99 Perflazosobizane sulfonic acid (PISG) 275-75 99 99 99	1.1 (1.2)	1	10
MARIOLAN, NA. (MARIOLAN, NA. MARIOLAN, NA. M	G OMDER 100 ZMC NUMB	4 00,001/20214:00 00,002/2017 4 03,001/202174:00 03,002/2017 4 03,001/20214:00 03,002/2017 4 03,001/20214:00 03,002/2017	00170206 1601900 20170210 20170207 1	PRINCESSEGMENTONIC ACO PANS) 177-72-5 U.S. 1002 PRINCESSEGMENTONIC ACO PANS) 1822 PRINCE SE	PCT_REC PR	2.5A 150 25 0000000	1.0
NEST-00020000 BMG MERCHAN, NAS MILET-PANA AMMOS 0117 NCNS BVGA 573, MOG 00 NAS- NEST-000200000 BMG MERCHAN, NAS MILET-PANA AMMOS 0117 NCNS BVGA 513 MGG 00 NAS- NEST-0002000000 BMG MERCHAN, NAS MILET-PANA AMMOS 0117 NCNS BVGA 513 MGG 00 NAS- NEST-0002000000 BMG MERCHAN, NAS MILET-PANA AMMOS 0117 NCNS BVGA 513 MGG 00 NCNS BV	March Marc	4 33(5/2017460) 33(6/2017 4 33(5/2017460) 33(6/2017 4 33(5/2017460) 33(6/2017 4 33(5/2017460) 33(6/2017 4 33(5/2017460) 33(6/2017	1011000	PETALORIPORA MARINER (PTALOR) 120° 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Tr DUSS	15.5A 110 25 10000000 1.5A 110 15 10000000 1.5A 110 15 100000000 1.5A 110	12
		4 33(01/2017 14:00 03(02/2017 4 33(01/2017 14:00 03(02/2017 4 33(01/2017 14:00 03(02/2017 4 33(01/2017 14:00 03(02/2017	MITCHAE MITC	Perfusancement Res (prick) 125-0-7-1 4-5 Perfusancement Res (prick) 125-0-7-1	A 10/G L OM OM PK 115G 1.10/G L OM OM PK 115G 1.10/G L OM OM PK 115G PKT, REC	0000000 0000000 0000000 0000000 0000000 0000000 00000000	1.0 00.77 0.004 00.77 120-25.21 120-110009 1.0 00.77 0.004 00.77 120-25.21 120-110009 1.0 00.77 0.004 00.77 120-25.21 120-110009 1.0 00.77 0.004 00.77 120-25.21 120-110009 1.0 00.77 0.004 00.77 120-25.21 120-110009 1.0 00.77 0.004 00.77 120-25.21 120-110009
NEST-005-00000 MART MATERIAN, NA. 6 MART PANALA MARTS 6117 NOTA 575 MOD 50 NA 125 MOD	GE TAMER Test America NOME NA 609/555 63.2 80.5 W GE TAMER Test America NOME NA 609/555 63.2 80.5 W GE TAMER Test America NOME NA 809/555 20.0 80.0 80.0 GE TAMER Test America NOME NA 809/555 20.0 80.0 80.0 GE TAMER Test America NOME NA 809/555 20.0 80.0 <td< td=""><td>4 33,03,7607 1460 03,007,0017 4 33,03,7607 1460 03,007,0017 4 33,03,7607 15.05 03,007,0017 4 33,03,7607 15.05 03,007,0017 4 33,03,7607 15.05 03,007,0017</td><td>00170006 1639-00 20170014 1513-00 205-0523-2 25 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>Perfusiosistanseufloria said (PRE) 155-73-5 0.72 1802 PRISS 1802 PRISS 1802 PRISS 180 180 Perfusiosistanse saffersta (PRE) 135-67-1 0.009 Perfusiosistanse saffersta (PRE) 135-67-1 0.009 Perfusiosistanse saffersta (PRE) 135-67-1 0.002 Perfusiosista (PRE) 135-67-1 0.002 P</td><td>0.710/5_L 0 0 98 179/2 PET, SEC 98 15448 0.000 U.S. 1 MM M 98 175/2 0.000 U.S. 1 MM M 98 175/2</td><td>\$2.5A 150 25 80000000 000000000 000000000 00000000</td><td>1.0 0.031 0.044 0.077 126 52515 126 515009 1.0 TLO BOOM 0.0001 0.0022 126 52515 1 126 515009 1.0 0.051 0.0001 0.0022 126 52515 1 126 514409 1.0 0.051 0.0021 0.0021 0.0021 126 52514 1 126 514449</td></td<>	4 33,03,7607 1460 03,007,0017 4 33,03,7607 1460 03,007,0017 4 33,03,7607 15.05 03,007,0017 4 33,03,7607 15.05 03,007,0017 4 33,03,7607 15.05 03,007,0017	00170006 1639-00 20170014 1513-00 205-0523-2 25 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Perfusiosistanseufloria said (PRE) 155-73-5 0.72 1802 PRISS 1802 PRISS 1802 PRISS 180 180 Perfusiosistanse saffersta (PRE) 135-67-1 0.009 Perfusiosistanse saffersta (PRE) 135-67-1 0.009 Perfusiosistanse saffersta (PRE) 135-67-1 0.002 Perfusiosista (PRE) 135-67-1 0.002 P	0.710/5_L 0 0 98 179/2 PET, SEC 98 15448 0.000 U.S. 1 MM M 98 175/2 0.000 U.S. 1 MM M 98 175/2	\$2.5A 150 25 80000000 000000000 000000000 00000000	1.0 0.031 0.044 0.077 126 52515 126 515009 1.0 TLO BOOM 0.0001 0.0022 126 52515 1 126 515009 1.0 0.051 0.0001 0.0022 126 52515 1 126 514409 1.0 0.051 0.0021 0.0021 0.0021 126 52514 1 126 514449
NEAR-ORDINGOLOGO (INICI) MINISTONI, ARXX BENEFICIAN/STONEZ-24/0006-0127 (NOVS. \$100.00. \$127, \$100.00.	GC JAMER 1 et al. America NOME NA 100 2552 AUX 105 C W GC JAMER Test America NOME NA 100 2552 AUX 105 C W GC JAMER Test America NOME NA 100 2555 AUX 105 C W GC JAMER Test America NOME NA 100 2555 AUX 100 C B C W C C C AUX A	4 13/01/2017 15:05 03/02/2017 4 33/01/2017 15:05 03/02/2017 4 33/01/2017 15:05 03/02/2017 4 33/01/2017 15:05 03/02/2017	0017006 10200 2017001 120700 1207001 120700 13070013 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13C4 PIGOR	PCT_SEC PG SAMP	155A 156 25 00000000 125A 156 25 000000000 125A 156 25 000000000 000 125A 156 25 00000000000 125A 156 25 0000000000 125A 156 25 0000000000 125A 156 25 000000000 125A 156 25 0000000000 125A 156 25 000000000 125A 156 25 0000000000000000000000000000000000	1.0 IDD-3028-1 (30-5-4449) 1.0 W G-4 0.0000 0.0022 (30-5-3449) 1.0 W G-4 0.0000 0.0022 (30-5-345-1 (30-5-4449) 1.0 S G-5 0.0000 0.0022 (30-5-345-1 (30-5-4449))
NEATORISACIONO (MINIS) RESISTAN, ANA SIMANFFFOR GREET P NOTA 12,7 MOO (MINIS) NEATORISACIONO (MINIS) N	Company Comp	4 13(01)2017 (0000 03(02)2017 4 33(01)2017 (0000 03(02)2017 4 33(01)2017 (0000 03(02)2017 4 33(01)2017 (0000 03(02)2017	0017006 102000 20170010 211500 211500 10300444 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfusoracione (act prode) 1856-5-1 0.0012 1876-5-1 0.0012 0.0012 1876-5-1 0.0012 0.001	0.0001 U.C. MY	00000000	1.0
MECHANISCO MICE MEDICAL AND MECHANISM MAN AND MECHANISM MECHANISM MAN AND MECHANISM MECHANISM MECHANISM MECHANISM MECHANISM MECHANISM MECHANISM MECHANISM ME	IS TAMARY Test America NONE NA \$907535 DOD RG W IS TAMARY Test America NONE IA \$907535 DOD 65 W IS TAMARY Test America NONE IA \$907535 DOD 65 W IS TAMARY Test America NONE IA \$907535 DOD 65 W IS Test America NONE IA \$907535 DOD 65 W	4 33(05/2017 16:19 03(06/2017 4 33(06/2017 16:19 03(06/2017)	00100000	PRODUCTION PRO	Uniform CT SC	LSA 140 60 0000000	5.0 1.3 3.0 4.0 320-35263-1 320-354659
		4 33,06/2017 16:19 03,06/2017 4 33,06/2017 16:19 03,06/2017 4 33,06/2017 16:19 03,06/2017 4 33,06/2017 16:19 03,06/2017	00170006 06-00 0017000 122-00 163 30-048047A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13C4 PIPOS 12C4 PIPOS	OCT_REC 90 SLARE	ACM	10 120 120 120 120 120 120 120 120 120 1
NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-A 327 MOO 85 NEXTROSCORDO AMEL MERICANA NAS CIO 200-535901.0-A 800% 00-	55 FAMER Set America SONE MA. 08/25/5 00 550 W. STATES SET SET SET SET SET SET SET SET SET	4 33,06/2017 16:19 03,06/2017 4 33,06/2017 16:19 03,66/2017 4 33,06/2017 16:19 03,06/2017 4 33,06/2017 16:19 03,06/2017	90170006 90-90 00170300 22-5500 1650-20-15500174-8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfluorosciares Sulfonate (PFOS) 1261-22-1 106 105- 1261-27-1 106 105- 1261-170-1 106-1 1	CCT REC	2.5A 150 25 0000000	10 0 10 10 10 10 10 10 10 10 10 10 10 10
NEXTRISEODODO JUNES MERICANA PARS ECO DESENSOLIZA-A MODE DODA 527 MOD DE SENSOLIZA-A MODE DE SENSOLIZA-A M	SG TAMARE THE AMERICA SOUND IN A SWASSES DO SGD WY STANDARD THE AMERICA SOUND IN A SWASSES DO SGD WY STANDARD THE AMERICA SOUND IN A SWASSES DO SGD WY STANDARD THE AMERICA SOUND IN A SWASSES DO SGD WY STANDARD THE AMERICA SOUND IN A SWASSES DO SGD WILL WY SWASSES DO SGD WAS SWASSES DO SGD WILL WY SWASSES DO SGD WY SWASSES DO SGD WY SWASSE DO	4 03/06/2017 16:19 03/06/2017 4 03/06/2017 16:19 03/06/2017 4 03/06/2017 16:19 03/06/2017 4 03/06/2017 16:19 03/06/2017	00170006 16-90:00 00170300 12-55:00 10:00.00.015/14/14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	SEC SPEAS SEC SPEAS 128	ECT SEC 98 \$1,128 \$1,000 \$1,0	130 20 0000000 1 10000000 1 10000000 1 1000000	10 020-3885-1 200-3885-1 200-3885-1 100-3885
NEST-REGISCROSS BACE MERCANA NES SAI 2015/200/1 A ROSE SOCA 527-8000 SO NEST-REGISCROSS BACE MERCANA NES SAI 2015/200/1 A ROSE SOCA 527-8000 SO NEST-REGISCROSS BACE MERCANA NES SAI 2015/200/1 A ROSE SOCA 527-8000 SOCI NEST-REGISCROSS BACE MERCANA NES SAI 2015/200/1 A ROSE SOCA 527-8000 SOCI NEST-REGISCROSS BACE MERCANA NES SAI 2015/200/1 A ROSE SOCA 527-8000 SOCI NEST-REGISCROSS BACE MERCANA NES SAI 2015/200/1 A ROSE SOCA 527-8000 SOCI NEST-REGISCROSS BACE SOCIAL SOC	MARIE MARI	4 33/06/2017 16:19 03/06/2017 4 33/05/2017 16:19 03/06/2017 4 33/05/2017 16:19 03/06/2017 4 33/05/2017 16:29 03/05/2017 4 33/05/2017 12:25 03/05/2017	00170006 06 00 00 0017000 12 2000 Mai 20 1840/1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11C4 PFCS 112C4 PFCS 112C4 PFCS 116 116 Perficuolystaneus/focic acid PFES) 12C-2 PFCS 136 116 1150 29 PFCS 13C0 PFCS 13C0 PFCS 12A	PCT_PSC	DMSA EGO 25 S0000000	5.0 0.19 0.48 0.95 120-26273-1 120-154875
MARTINESSEED ARTS	ON IMPAIR THE PRINCES NOTE IN SWISSE NO 1856 W SG DAMER THE America NOTE IN SWISSE NO 185G W SG TAMER THE America NOTE IN SWISSE NO 185G W	4 33(92/2017 12:25 03(93/2017 4 33(92/2017 12:25 03(93/2017 4 33(92/2017 12:25 03(93/2017 4 33(92/2017 12:25 03(93/2017 4 33(92/2017 12:25 03(93/2017	90170008	Northeasure 5	CCT_RSC	2.5A 91 42 00000000 000000000000000000000000000	1.0 120-327-4 [20-15475] 1.0 17-34 (-0.091-0.0023) [210-34273-1] [20-154875] 1.0 0.001 (-0.092) (-0.092) [20-34273-4] [20-154459 1.0 0.001 (-0.092) (-0.092) [20-34273-4] [20-154459 1.0 0.001 (-0.092) [20-34273-4] [20-154459
MARIONA, N. M. M. MARIONA, N. M. M. M. MARIONA, N. M. M. M. MARION	THE CONTROL OF THE AMERICAN CONTROL OF THE CONTROL	4 33/02/2017 12:25 03/03/2017 4 33/02/2017 12:25 03/03/2017 4 33/02/2017 12:25 03/03/2017 4 33/02/2017 12:25 03/03/2017	90170006 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11C4 PIPOS 12C4 PIPOS 12C4 PIPOS 10E 10C6 PIPOS 10C6 PIPOS 10C6 PIPOS 10C7 PI	ECT SEC 98 \$1,148 \$1,000 \$1	ALM 50 55 50000000 1	1.5
NETOTRISCOCCO (MOS) METERALA, NAS (MALFF-AMMEG) 6117 NOYS (OCA 137, MOS 00 NETOTRISCOCCO (MOS) METERALA, NAS (MALFF-AMMEG) 6117 NOYS (OCA 137, MOS 00 NETOTRISCOCCO (MOS) NETOTRISCOCCO (MOS) METERALA, NAS (MALFF-AMMEG) 6117 NOYS (OCA 137, MOS 00 NETOTRISCOCCO (MOS) METERALA, NAS (MALFF-AMMEG) 6117 NOYS (OCA 137, MOS 00 NETOTRISCOCCO (MOS) METERALA, NAS (MALFF-AMMEG) 6117 NOYS (OCA) 137, MOS 00 NOS (MOS) NOTATION (MOS) NOTAT	105 SAMER TRA-America (SOME MA 1992)55 311 855 W. 105 SAMER TRA-America (SOME MA 1992)55 311 855 W. 105 SAMER TRA-America (SOME MA 1992)55 31 855 W. 105 SAMER TRA-America (SOME MA 1992)55 31 855 W. 105 SAMER TRA-America (SOME MA 1992)55 31 855 W.	4 03/02/2017 12:25 03/03/2017 4 03/02/2017 12:25 03/03/2017 4 03/02/2017 12:25 03/03/2017 4 03/02/2017 12:25 03/03/2017	00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 16:9:00 2017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 00170006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 2 0017006 10017011 17:8800 120-0477-1 1 1 0017006 10017011 17:8800 120-0477-1 1 1 0017006 10017011 17:8800 120-0477-1 1 1 0017006 10017011 17:8800 120-0477-1 1 1 0017006 10017011 17:8800 120-0477-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfluoroscitane follonarie (PFOS) 1283-22-1 0.09 13C4 PFOA 12C4 PFOA 12C4 PFOA 78 78 13C4 PFOA 12C4 PFOS 12C4 PFOS 111 111 11C4 PFOS 12C4 PFOS 111 111 111 Perfluoroscitatenesillonic acid (PFSS) 12C5-72-5 0.064	0.00 G L 0M 50A 90 TRG FCT.RC 90 SLURR FCT.RC 90 SLURR FCT.RCC 90 SLURR FCT.RCC 90 SLURR FCT.RCC 90 TRG	00000000 00000000 01.5A 150 25 00000000 01.5A 150 25 00000000	1.0 0.005 0.004 0.008 120-54273-1 120-548080 1.0 0.005
\$\text{\$M\$1270\$(\$600000)}\$ \$\text{\$A001}\$\$ \$\text{\$M\$15000000}\$ \$\text{\$M\$15000000}\$ \$\text{\$M\$1500000}\$ \$\text{\$M\$1500000}\$ \$\text{\$M\$1500000}\$ \$\text{\$M\$15000000}\$ \$\text{\$M\$15000000}\$ \$\text{\$M\$150000000}\$ \$\text{\$M\$150000000}\$ \$\text{\$M\$150000000}\$ \$\text{\$M\$1500000000}\$ \$\text{\$M\$1500000000}\$ \$\text{\$M\$15000000000}\$ \$\text{\$M\$1500000000}\$ \$\text{\$M\$150000000}\$ \$\$M\$1500000000000000000000000000000000000	15 TAMER Fee America MONE NA SEPTES SL1 MES W	4 33/02/2017 12:25 03/03/2017 4 33/02/2017 10:49 03/03/2017 4 33/02/2017 10:40 03/03/2017 4 33/02/2017 10:40 03/03/2017	00170006 16:9:00 2017011 17:8800 120-04774-1 1 2 00170006 10:9:00 2017011 17:8800 120-04774-1 1 2 00170008 00:4:0 2017011 17:8800 120-04774-2 1 1 00170008 00:4:00 2017011 17:10 120-04774-2 1 1 00170008 00:4:00 2017011 17:10 17:1	1802 PFRGS 1802 PFRGS 112 112 114 114 114 114 114 114 114 114	PCT SEC 90 SUBS OG U M M 90 TEG PCT SEC 90 TUBE OCOLUG U M M 90 TEG	2.5A 550 25 00000000 000000000 2.5A 91 42 00000000 000000000	5.0 120-2427-1 202-544945 1.0 210 246 347 120-2427-1 202-54495 5.0 202-5427-1 202-5427-1 202-54475 5.0 77-04 00299 00284 120-3427-1 202-54495 5.0 0029 00298 10208 1202-3427-1 202-54499
\$\text{SEXPRESSED000}\$ and \$\text{MERICANA MAS}\$ MEAFF-MOS-GRES-0117 \$150%\$ \$70.04\$ \$137, MOD \$90 \$144, \$144	65 SAMDR Text America NOME 64 NWSSSS 00 855 W 65 SAMDR Text America NOME 64 NWSSSS 000 855 W 65 SAMDR Text America NOME 64 NWSSSS 000 855 W 65 SAMDR Text America NOME 64 NWSSSS 000 855 W 65 SAMDR Text America NOME 64 NWSSSS 000 855 W 65 SAMDR Text America NOME 64 NWSSSS 000 855 W	4 33/02/2017 10:40 03/03/2017 4 33/02/2017 10:40 03/03/2017 4 33/02/2017 10:40 03/03/2017 4 33/02/2017 10:40 03/03/2017	00170006 16:9:00 00170010 12:000 100-0277-2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfusionate and finale (PFOS) 1783-22-1 0.1 13C4 PFOA 12C4 PFOA 14C4 PFOS 1	0.1 G L	24.5A 150 25 00000000 24.5A 150 25 00000000 25.5A 150 25 00000000	5.0 320-26273-1 320-154459 5.0 320-26273-1 320-154459 5.0 96-04 0.0009 0.0034 330-3273-1 320-554459
\$15,775,00000 (40) \$15,750,000 (40) \$15,750,000 (40) (40) (40) (40) (40) (40) (40) (55 SAMEE THE AMERICA SOCIETY OF THE AMERICA S	4 33/02/2017 10:40 03/03/2017 4 33/02/2017 13:00 03/03/2017 4 33/02/2017 13:00 03/03/2017 4 33/02/2017 13:00 03/03/2017	00170306 16:98:00 30170303 12:30:00 320:4077-2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1802 PRIOS 1802 PRIOS 1802 PRIOS 1803 PRIOS 1804	PCT_RSC	2.5A 15D 25 00000000 00000000 00000000 0.5A 21 42 00000000 000000000000000000000000000	1-0
MARTINESCOND MISS MARTINESCOND MISS MARTINESCOND MISS	GE TAMMER Text America NOME NA SW3535 DOD BEG W GE TAMMER Text America NOME NA SW3535 DOD BEG W GE TAMMER Text America NOME NA SW2535 DOD BEG W GE TAMMER Text America NOME NA SW2535 DOD BEG W GE TAMMER Text America NOME NA SW2535 DOD BEG W GE TEXT AMERICA NOME NA SW2535 DOD BEG W	4 33,02/2017 1:1:00 03,03/2017 4 33,02/2017 1:1:00 03,03/2017 4 33,02/2017 1:1:00 03,03/2017 4 33,02/2017 1:1:00 03,03/2017	00173306 16:99:00 30170313 17:46:00 120-36277-3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perflamoschanic act (9FCA) 135-67-1 0.027	0.000 U.C. M	00000000 01.54	5.0 0.056 (0.024) 0.0377 (20-54273-1 (20-544008) 5.0 1 20-54273-1 (20-544008) 5.0 1 20-54273-1 (20-544008) 6.0 1 46-04 (0.0048) 0.0322 (20-5273-1 (20-544008) 6.0 36-04 (0.0048) 0.0322 (20-5273-1 (20-544008)
N624703609000 JM01 MERIDAN, NAS MEAFF-6CMW03-0317 NONS SVDA \$270, SM SV	10	4 \$3,037,263712:00 \$3,037,2017 4 \$3,037,201713:30 \$3,037,2017 4 \$3,037,201715:30 \$3,037,2017 4 \$3,037,201715:30 \$3,037,2017	DATI-LAMEN 16:39:00 20:29331 \$17:46:00 120:26277-3 1 1 1 1 1 1 1 1 1	Percurate analysis (1972) 1973 20	PK_1_20A. PR	1500 25 000000000 15.54 91 42 000000000 15.54 91 42 000000000	1.0 1.0
Hardwindows (Hert Australia (H	Ted America NOME NA 599255 200 855 W. G. DAMER NA 59925 W. G. DAMER NA 59925 200 855 W. G. DAMER NA 59925 W. G.	4 33,007,007 15:30 33,007,007 4 33,007,007 15:30 33,007,0017 4 33,007,007 15:30 33,007,007 4 33,007,007 15:30 33,007,007	ANT AND ASSESSMENT OF THE PROPERTY OF THE PROP	Perflazionicane Sulfonate (PEGS) 1743-23-1 0.044	U.SHEQUAL MA	\$1.5A 150 25 00000000 1.5A 150 25 00000000 1.5A 150 25 00000000 1.5A 150 25 00000000 1.5A 150 25 000000000 1.5A 150 25 0000000000 1.5A 150 25 000000000 1.5A 150 25 000000000 1.5A 150 25 000000000 1.5A 150 25 0000000000 1.5A 150 25 000000000 1.5A 150 25 000000000 1.5A	1.0 No-04 0.0039 (0.0022) (20.50275) (20.504875) (1.0 No-04 0.0039) (0.0022) (20.50275) (20.504875) (1.0 No-059) (0.0027) (0.0012) (20.50275) (20.504879) (
NEXT/05050000 IMM01 MMSRDAN, NAS MEAST-GON/05-0317 NONS 97GA 527, MGO 98 NEXT/050500000 IMM01 MMSRDAN, NAS MEAST-GON/03-0317 NONS 97GA 5279, SM 527 NEXT/050500000 IMM01 MMSRDAN, NAS MEAST-GON/03-0327 NONS 97GA 5270, SM 5270	DS DAMES Test America NOME NA SW2525 200 NEG W A.D. TAMES Test America NOME NA SW2515C 200 NEG W A.D. TAMES Test America NOME NA SW2515C 200 NEG W A.D. TAMES Test America NOME NA SW2515C 200 REG W C.D. TAMES Test America NOME NA SW2515C 200 REG W C.D. TAMES Test America NOME NA SW2515C 200 REG W	4 33,037,057 15:30 33,037,007 4 33,037,007 15:50 33,037,007	DOTINGO 16:00 D 2017/2010 72:02:00 120:24273-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1802 PRICES 1802 PRICES 126	PR	SAM 25 00000000	1.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0
SECTION SECT	G CAMURE Fred America NOME NA 1982/205 DO HGC W C CAMURE Fred America NOME NA 1982/205 DO HGC W C CAMURE NA 1982/205 DO HGC W C MARCH NA 1982/205 DO HGC W G MARCH NA 1982/205 DO HGC W	*** **********************************		Perfusionational and (PFGA) 335-G-1 0.064 Perfusionational Sufforms (PFGA) 335-G-1 0.0082 11CL PFGA 15-0082 11CL PFGA 15		100 100	10 10 10 10 10 10 10 10
NESH7016D90000 IM01 MERIDAN_NAS MEAFF-FD05-0217 NONS DVDA 1270_SIM DVI NESH7016D90000 IM01 MERIDAN_NAS MEAFF-FD05-0217 NONS DVDA 1270_SIM DVI		4 \$2,027,027 00:00 \$2,007,027 4 \$2,027,027 00:00 \$2,027,027 4 \$2,027,027 00:00 \$2,027 4 \$2,027,027 00:00	DOI:10.06 16:9:00 2007/2011 NOCOCOO 220:54277-6 1	1,4-Okozane 123-91-1 0.48 0.48 Nitrobersene-05 4165-60-0 63 63	PK	25 H0000000 H0000000 H0000000 H0000000 H000000	15
NEZO-001600000 (MOS) METEROAN, NAS (MAST-7005-0117 NONS (VICA 137, MOS) 500 NEZO-001600000 (MOS) METEROAN, NAS (MAST-7005-0117 NONS (VICA 137, MOS) 900A 137, MOS (VICA 137, MOS (VICA 137, MOS) 900A 137, MOS (VICA 137, MOS (VICA 137, MOS) 900A 137, MOS (VICA 13	20	4 34/42/2017 00:00 33/30/2017 4 33/32/2017 00:00 33/32/2017 4 33/32/2017 00:00 33/32/2017 4 33/32/2017 00:00 33/32/2017 4 33/32/2017 00:00 33/32/2017 4 33/32/2017 00:00 33/32/2017	DECEMBE DECE	Perfusionational and (PFGA) 135-G-T 0.16 Perfusionational (PFGA) 135-2-1 0.04 11CL6 PFGA 13CL6 PFGA 10CL6 PFGA	Maria Mari	\$1.5A 150 25 00000000 1.5A 150 25 00000000 1.5A 150 25 00000000 1.5A 150 25 00000000 1.5A 150 25 000000000 1.5A 150 25 0000000000 1.5A 150 25 000000000 1.5A 1	1-00 00001 000027 00006120-00277-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-00077-1 1200-154699 1-1.0 0 1000-0007-1 1200-0007-1
\$12-00000000 (ADD MERICANA (AND MERICANA (AND) MERICANA (4 03,06/2017 16:19 03,06/2017 4 03,06/2017 16:19 03,06/2017 4 03,06/2011 16:19 03,06/2017 4 03,06/2011 16:19 03,06/2017 4 03,06/2011 16:19 03,06/2017	DOTYDDOG 16:00 D 2017/0011 DOSCF000 1200-2027-6 1 1 DOTYDDOG 16:00 D 2017/0011 DOSCF000 1200-2027-6 1 1 DOTYDDOG 16:00 D 2017/0010 1202-2027-0 (ES 200-15050)2-7-8 1 1 DOTYDDOG 16:00 D 2017/0010 1202-2020 (ES 200-15050)2-7-8 1 1 DOTYDDOG 16:00 D 2017/0010 1202-2020 (ES 200-15050)2-7-8 1 1 DOTYDDOG 16:00 D 2017/0010 1202-2020 (ES 200-15050)2-7-8 1 1 DOTYDDOG 16:00 D 2017/0010 1202-2020 (ES 200-15050)2-7-8 1 1	INCO PRIOS 114 114	PG LUBB PG LUB		10 275 10 25 100 25409 10 175 10 25 10 25 15409 10 13 10 40 1054073 1055469 10 10 10 10 10 1054073 1055469 10 10 10 10 10 10 10 10 10 10 10 10 10 1
No. 279.050000 ARRS MERSON, NO. 52. TO 279.0500 ARRS MERSON, NO. 5		### ##################################	DETAILOR 16:9900 2617503 22:3700 15:3205.53502.0.A	Performancement and IPIGNI 135-01. 180 180 180 180 180 180 180 180 180 180	PK LURB PK LURB PK LURB PK PK PK PK PK PK PK P	- 1 10000000 1 100000000 1 1 1 1 1 1 1 1	10
Holystococcon Janes Mericana, Aud. Ext. 200 Statistics A NOSE POCA E273 28M Ext.	Add Marker Test Asserting McORE MA (0005100) Marker	4 03/08/2017 0641 03/08/2017 4 03/06/2017 16:19 03/06/2017 4 03/06/2017 16:19 03/06/2017 4 03/06/2017 16:19 03/06/2017 4 03/06/2017 16:19 03/06/2017	20170306 1619:00 20170310 22-45:00 1520:230-153501]-A 1 1 1 1 1 1 1 1 1	Nitrobesters-US 4655-60-0 75 75 Nitrobesters-US 4676-00 75 75 Nitrobesters-US 4676-00 735-27-1 99 Nitrobesters-Saffonse (PFGS) 278-23-1 106 106 ILLE PFGA 105 102-176-0 102 106 ILLE PFGA 105 102-176-0 102 Nitrobesters-Wilnis and PFSS 107-73-5 118 Nitrobesters-Wilnis and PFSS 107-73-5 Nitrobesters-Wilnis an	PK	M	100 100 100 100 100 100 100 100 100 100
\$257000000 Med \$100000 Art \$10000 Art \$10000 Art \$10000 Art \$10000 Art \$10000 Art \$10000 Art \$10000 Art \$100000 Art \$1000000 Art \$1000000 Art \$100	G TAMER Test America NONE NA SW2525 000 850 W	4 03,067,00711619 03,067,0017 4 03,067,0071619 03,067,0017 4 03,067,0073619 03,067,0017 4 03,067,0073619 03,067,0017 4 03,007,00730614 03,067,0017 4 03,007,00730614 03,067,0077	DETENDED 16/9-900 26/9-935 27-6-600 1/50 26/5-26/5/4 1	1802 PFIKES 1802 PFIKES 128 128	PK DUESE		
\$1,000,000,000,000,000,000,000,000,000,0	DA SANSER YALA AMERICA MONE MA MONESSER SEG DEG	4 03,06/2027 16:19 03/66/2017 4 03,06/2027 16:19 03/66/2017 4 03,06/2027 16:19 03/66/2017 4 03,06/2027 16:19 03/66/2017	10170006 161900 20170006 22170006	1,4 closure 1,124 1,1	0.000 (sc.1	1	1.0 EL-04 C.0.02 C.0.025 (D.0.024724) D.0.54659)
NEATRONOMO AND	E TAMES THE America NOW NA 197555 NO 121 W S TAMES THE America NOW NA 197555 NO 121 W S TAMES THE America NOW NA 197555 NO 121 W NA 197555 NO 121 W	4 33,06/2017 16:19 03,06/2017 4 23,06/2017 16:19 03,06/2017 4 23,06/2017 16:19 03,06/2017 4 33,06/2017 06:41 03,06/2017 4 33,06/2017 06:41 03,06/2017	DETENDED 16/9/00 DETENDED 22.06/00 MET20-SESSIQITA 1	11CL 9FGS 11C 11E	0.000 UC 1 U U M THE PT STATE PT S		1.0 86-04 0.002 0.0025 120-34779-1 120-144597 1.0 10-20-20-20-20-20-20-20-20-20-20-20-20-20
\$250,000,000 Med. \$100,000 Med	1	4 03(03/2017 10:00 03(04/2017 4 03(03/2017 10:00 03(04/2017 4 03(03/2017 10:00 03(04/2017 4 03(03/2017 10:00 03(04/2017 4 03(03/2017 10:00 03(04/2017	ORTHORN 0641-00 265-9514 20-44-00 067-265-266-0-1 1	Perfusionscience and (PECA) 1965-60-01 197 105 107	0.22 U.C. 1 Ms Ms PR 1965 0.23 U.C. 1 Ms Ms PR 1965 0.24 U.C. 1 Ms PR 1965 0.24 U.C.	1. 00000000 00000000 00000000 00000000 0000	10 77.04 0.002 0.0025 0.0025 0.0024 0.0025
April Apri	Columbia Peter America CONE MA CONE COLUMBia COLUMBi	4 33(93/2021 10:00 33(94/2017 4 33(93/2021 20:00 33(94/2017 4 33(93/2021 10:50 33(94/2017 4 33(93/2021 10:50 33(94/2017 4 33(93/2021 10:50 33(94/2017	1017000 101700 101700 1017001 1017000 101700	Perfusements and PDMS 195.01 1. 2.28 Find an analysis of the perfuse and perf	The	15.5	10 66-64 0.00 0.0075 (30-513-14 (30-514-15) (30-514-15
WATERSHOOD Male WATERS AND GATE - GATERS 17 WATER 17 W	\$\frac{1}{2}\$ \text{T-MARTE}\$ \text{T-MARTE}\$ \text{NOME}\$ \text{NOME}	4 33(91/2071 10550 33)64/2017 4 33(91/2071 10550 33)64/2017 4 33(91/2071 10550 33)64/2017 4 33(91/2071 10550 33)64/2017 4 33(91/2071 10550 33)64/2017	Del	Perflacenciares (Alfonate (PECS) 1783-25-1 1.1	Trans. T	\$5.64 \$150 \$25 \$000000000 \$1.554 \$1.50 \$2.50 \$1.	1.0 1.0
NESTROSEGODO AND MATERIAN, NES MARF-COMMOS 2017 NORS 500A 127, MOD 00 SERTROSEGODO AND METERIAN, NES MARF-COMMOS 2017 NORS 500A 127, MOD 00 NESTROSEGODO AND METERIAN, NES MARF-COMMOS 2017 NORS 500A 127, MOD 00 NESTROSEG	55	4 03/03/20171050 03/04/2017 4 03/03/20171050 03/04/2017 4 03/03/20171050 03/04/2017 4 03/03/20171050 03/04/2017 4 03/03/20171050 03/04/2017 4 03/03/20171050 03/04/2017	D017009 101:00 2007012 81:000 120:012-2 1 1	1010 PRICES 1020 PRICES 103 PRICES 1	PK	Ann	140 0.007 0.019 0.
MEDITORISECTION MINO MEDITORISECTION MED	15 TAMES Feet Annetics NONE NA SWISSS SL1 REG W	4 33(31/2021 1050 33(64/2017 4 33(31/2021 1050 33(64/2017		1802 PFIKES 1802 PFIKES 113 113	PK 1,148 PK 1,148 PK 1,148 PK PK PK PK PK PK PK P		160 0.000
MECHANISMO (MECHANISMO (MECHAN		4 \$3,93,70071235 \$3,004,7007 4 \$3,93,70071235 \$3,004,7007 4 \$3,03,70071255 \$3,004,7007 4 \$3,93,70071235 \$3,004,7007 4 \$3,93,70071235 \$3,004,7007	DEVINOS 101:00 2007011 PR 5000 120:0112 PR 5000 120:0120-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perflamonaturania and (PECA) 1336-9-1 0.00059 Perflamonaturania (and (PECA) 1336-9-1 0.00059 Perflamonaturania (and (PECA) 1336-3-1 0.00059 1342-8 PECA 1342-8 PEC	T	10 10 10 10 10 10 10 10	1.5
NEXT-0000000 NR01	GG TAMER First America NONE NA 0902535 000 M/S W GG TAMER First America NONE NA 5902535 000 M/S W	6 33/03/201713:05 03/04/2017 4 33/03/201713:05 03/04/2017	AUTURAM (107500 107500 107001)	1302 PPPRomotion (c) (FOCA) 1302 PPPROS 102 20	PCT_REC M M M PR 1996	MSA 140 60 50000000 MSA 140 60 50000000	5.0 6.70 1.0 2.3 320-5424-1 (300-58540) 5.0 6.70 1.0 2.3 320-5423-2 (300-58520) 5.0 1.2 2.8 3.7 320-5423-1 (200-58520)

NE247030200000 JMM1 MEDICAN, NAS MEATE-HBMW02-0317-MS NONS SVOA 537, MOD 98G TAMER Test America NONE NE24703020000 JMM1 MEDICAN, NAS MEATE-HBMW02-0317-MS NONS SVOA 537, MOD 98G TAMER Test America NONE NE24703000000 JMM1 MEDICAN, NAS MEATE-HBMW02-0317-MS NONS SVOA 537, MOD 98G TAMER Test America NONE NE24703000000000 JMM1 MEDICAN, NAS MEATE-HBMW02-0317-MS NONE SVOA 537, MOD 98G TAMER Test America NONE NE2470300000000000000000000000000000000000	Method Sample, Basis Extraction, Method Beauty, Type Lab, QC, Type Sample, Medium QC, Level DateTime, Collected Collected Date Blockless Baschate, Date Asachate, Time VA 500/2015 500 MS W 4 \$3,001,0011 1355 \$0,004,2017 Body,0017 VA 500/2015 500 MS W 4 \$3,001,0017 1355 \$0,004,2017		éture Percent, Lipid Chem, Name Analyte, ID Analyte, Value Original, Analyte, Value 3124 9FOA 3124 9FOA 400	Result, Units Lab, Qualifier Walidator, Qualifier SC, Column, Type Analysis, Result, Type Result, Narrative NCT, REC NR SURE NR SURE	QC_Control_Lilest_Code	Detection_Limit QSM_Vension D1 000 LOQ SDG Realpsis_Batch Validator_Name Val_Oate 5.0 2300-26124-2 (200-561230 5.0 5.0 2300-661230 2300-561230 5.0
NELTYPHISCORD AND SECURITY AND	NA SWESSS 300 M/S W 4 \$20,02,020173 (0,04,2017) NA SWESSS 300 M/S W 4 \$20,02,020173 (0,04,2017) NA SWESSS 300 M/S W 4 \$20,02,020173 (0,04,2017) NA SWESSS 300 M/S W 4 \$20,02,020173 (0,04,2017)	20170309 101500 20170312 046500 2023422-3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perhanostoctanesistinsis acid (PRE) 137-72-5 117 117 1802 PERLS 1800 PERLS 1800 PERS 100 100 Perhanoscianois acid (PEAA) 135-67-1 109 109	PCT_REC PR TRG PCT_REC PR SURR PCT_REC PR TRG	MSA 150 50 00000000 2.5A 150 25 00000000 MSP 40 60 00000000	1-0 3.86 1.9 2.3 20-242-1 (20-54520) 1-0 3.86 1.9 2.3 20-242-1 (20-54520) 1-0 12-25-25-25-25-25-25-25-25-25-25-25-25-25
Company Comp	94 (Windows St. Control of the Contr	0017009 1023500 20170012 0021800 203-0422-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Telephone	PCT_MSC Mr	20	1
NGS70000000 (MID) MEDIDAN, NAS MARF-RAMINGO 2017-50 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS70000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017-50 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS70000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS70000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS70000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS70000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS70000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS700000000 (MID) MEDIDAN, NAS MERF-RAMINGO 2017 NOVE 2010A 127, MOD DIG TAMER THE America NORE NGS7000000000000000000000000000000000000	94. SWISSS 300 MSD W 4 3042/2017 13-05 94. SWISSS 300 MSG W 4 3042/2017 13-05 94. SW	100.170009 100.15000 20070012 94.1500 20070022 9 20170009 100.1500 20070012 94.1500 20070022 9 20170009 100.1500 20070012 94.2500 200.5624-4 1 1 20170009 100.1500 20070012 94.2500 200.5624-4 1 1	Performance	PCT_MAC	25.5A 150 25 10000000 100000000 100000000	5.0 77-04 (0.022) (0.022) (2.02-262-4) (2.0-262-262-26) (2.0-262-26) (
NEG POSSOCIODO (MOS) MESSOUNI, NAS MEAST-488/MOS 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS) (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONS 910A 527, MOD 506 TAMER Test Annetes NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NEGOTIVOS (MOS MASSOCIA, NAS MEAST-488/MOS) 03127 NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NONE NOS 910A 527, MOD 506 TAMER TEST ANNETES NOS 910A 527, MOD 506 TAMER TEST NOS 910A 527, MOD 506 TAMER TEST NOS 910A	NA DWS55 300 8EG W 4 33/03/201715:15 03/04/2017 NA SWS55 300 8EG W 6 33/03/201715:15 03/04/2017 NA SWS55 300 8EG W 6 33/03/201715:15 03/04/2017	20170309 10.15.00 20170312 34.2000 220.26224-4 1 1 20170309 10.15.00 20170312 34.2000 220.36224-4 1 1 20170309 10.15.00 20170312 34.2000 220.36224-4 1 1 20170309 10.15.00 20170312 34.2000 220.36224-4 1 1 20170309 20170312 34.2000 220.36224-4 1 1 20170309 20170312 34.2000 220.36224-4 1 1 1 20170312 34.2000 220.36224-4 1 1 1 20170312 34.2000 220.36224-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13C4 PFOA 12C4 PFOA 27 27 27 13C4 PFOA 12 12C4 PFOA 12 12	PCT_REC SR SUBR	23.5A 150 25 00000000 23.5A 150 25 00000000 000000000	\$1.0 \$20-36124-1 \$20-154120 \$1.0 \$1.0 \$20-36124-1 \$20-154120 \$1.0 \$1.0 \$1.0 \$1.0 \$21
RESERVISIONOD DATE MEDICAN, BALS MEAST-REMANDED DELT NONE SPICA 537, MOD DRG TAMER THE America MONE MEDICAN PLANS MEAST-REMANDED DELT NONE SPICA 537, MOD DRG TAMER THE America MONE MEDICAN, BALS MEAST-REMOVED DELT NONE SPICA 500, MOD TAMER THE America MONE MEDICAN PLANS MEDICAN FOR MEDICAN TAMER THE America MONE MEDICAN PLANS MEDICAN FOR MEDICAN TAMER THE America MONE MEDICAN FOR THE MEDICAN FOR MED	WA SWISSC 300 BEG W 4 \$3353/200715-15 \$3064/2017 WA SWISSC 300 BEG W 4 \$3353/200715-10 \$0064/2017 WA SWISSC 300 BEG W 4 \$335/200717-10-00 \$0064/2017 WA SWISSC 300 BEG W 4 \$335/200717-10-00 \$0064/2017	10170309 10:25:00 20170312 94:26:00 220:26224-4 1 1 1 10170308 (08:45:00 20:70315 00:46:00 220:76225-5 1 1 1 10170308 (08:45:00 20:70315 00:46:00 220:76225-5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1802 PFHCS 1802 PFHCS 97 97 97 1,4-Closume 122-91-1 0.57 0.57 NYCOberase-05 4455-60 76 76 76	PCT_REC PR SURR UG_1 U U PR 196G PCT_REC PR SURR	23.5A 150 25 00000000 24.5A 01 42 00000000 25.5A 01 42 00000000	5.0 0.23 0.57 1.1 120-26324-1 120-154875
NEST/03/05/05/05 AMES MERICAN, N.G. MEGFF 610/05/05/05/17 ONCE 2004. 1279, SAM 2004. 1504.	WA SWISSS 300 BEG W 4 33/33/2017 14:00 03/04/2017 WA SWISSS 300 BEG W 4 33/33/2017 14:00 03/04/2017 WA SWISSS 300 BEG W 4 33/33/2017 14:00 03/04/2017	10170309 10:25:00 20170312 94:28:00 220:26234-5 1 1 20170309 10:25:00 20170312 94:28:00 220:26234-5 1 1 20170309 10:15:00 20170312 94:28:00 220:46234-5 1 1 20170309 10:15:00 20170312 94:28:00 220:46234-5 1 1 2 20170309 10:15:00 20170312 94:28:00 220:46234-5 1 1 2 20170312 94:28:00 220:46234-5 1 2 20170312 94:28:00 220:46234-5 1 2 20170312 94:28:00 220:46234-5 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Perfuserectance and PPOAI 134-67-1 0.0009 Perfuserectance Autority (1970) 134-67-1 0.0009 Perfuserectance Additionate (PFOS) 134-67-1 0.0009 1	0009 UG_L U U 9R TRG 0008 UG_L U U 9R 178G PCT_RCC PR UURR	90000000 90000000 92.5A 150 25 90000000	1.0 To 422.0 (1.00 1.00 1.00 1.00 1.00 1.00 1.00 1
NEXTORIZATION DATE MERCHANIC NAME MERCHANIC NAME MARTHER M	94 99/555 000 85 9 4 9 30/52/2017 #-000 00/64/2017 94 99/555 000 85 9 W 4 30/52/2017 #-000 00/64/2017 94 99/555 000 85 9 W 4 30/52/2017 #-000 00/64/2017 94 99/555 000 85 9 W 6 30/52/2017 #-000 00/64/2017	00170309 10:15:00 20170312 04:28:00 120:2623-5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12C4 PFGS 12C4 PFGS 90 90 90 90 90 90 90 90 90 90 90 90 90	PCT_BEC	2.5A 150 25 00000000 100000000 12.5A 150 25 00000000	5.0 120.5224-1 120-154520 5.0 96-04 0.0009 0.0024 (200-6524-1 120-154520 5.0 120-2524-1 120-154520
NG2703000000 MM01	94. \$99550C 900 86.5 W 4 \$3053206731535 \$03042017 94. \$99550C 300 86.6 W 4 \$3053206731535 \$03042017 94. \$99555 200 86.6 W 4 \$3053206731535 \$03042017 94. \$99555 200 86.6 W 6 \$3053206731535 \$03042017 95. \$99555 200 86.6 W 7. \$99555 200 86.0 W 7.	00170308	1,4 Olosane 2239.1 0.54 0.54 Nirobenzere 05 4055-60 74 78 Perfunocatancia acid (PFOA) 235-67-1 0.0009	U.G. L U U D PR TRG PR FURR PRODUCT U PR SURR PRODUCT U PR TRG PR SURR PRODUCT U PR TRG PR SURR P SU	ELIA 500 26 00000000 1 1 1 1 1 1 1	1.0 120-04234-1 (200-546235 1.0 0.21 0.54 1.1 (200-24234-1 (200-546235 1.0 120-04234-1 (200-546235 1.0 120-04234-1 (200-546235 1.0 176-04 (0.0028) (0.0024) (200-24324-1 (200-546230)
#\$2420360000 ARS	94 9W3555 200 86G W 4 33Q32/20171535 03Q4/2017 94 9W3555 200 86C W 4 33Q32/20171535 03Q4/2017 94 9W3555 200 86C W 4 33Q32/20171535 03Q4/2017 94 9W3555 200 86C W 6 33Q32/20171535 03Q4/2017	10170109 1015-00 10170312 34:15:00 220:34234-6 1 1 10170309 10:15:00 20170312 34:15:00 220:3424-6 1 1 1 1 1 1 1 1 1		0029 UC_L		1.0 76.0 2.0001 (2.000
MICHIOSOCIADO IMPO	94 9W3555 000 86G W 4 9AQ42702734.55 90364/2017 94 9W5555 000 8CC W 4 9AQ427017355 00364/2017 94 9W555C 000 8C W 6 9AQ427027041	10170309 1015-00 10170312 54:35:00 320-36324-6 1 1 10170309 1015-00 20170312 54:35:00 320-36324-6 1 1 1 1 1 1 1 1 1	Perfluorobetanesifonic acid (PRES) 275-73-5 0.0009	0000 UC_L U U PR TRG PCT_RSC M M M PR TRG PCT_RSC M M M PR TRG	10000000 25A 15O 25 10000000 15A 52 12 10000000	5.0 96-04 0.0009 0.0024 220-34234-1 120-154420 1.0 220-24234-1 120-15420 5.0 0.20 0.50 1.0 320-34234-1 120-154875
MATERIANGE MATERIAN MATERIA	94 SW353C 300 65 W 4 SA(62/2017 0841 93/62/2017 94 94 SA(62/2017 0841 93/62/2017 94 94 SA(62/2017 0841 94) 94/62/2017 94 94 SA(62/2017 085) 94/62/2017 94 94 SW353S 300 65 W 6 SA(62/2017 085) 94/62/2017 94/62/2	10170308	Ninobessare-05 4105-00-0 75 75	PCT_REC	12.5A 15. 12. 00,000,000 15. 1	1
NEXT-000-0000 AND INSTRUMENT SCA STAD SERVICE A NORS STORY A NORS STORY AND SERVICE AND SE	NA SWISSS 200 65 W 4 EXQUIPMENTS-01-5 GUIPMENTS NA SWISSS 200 65 W 4 EXQUIPMENTS GUIPMENTS NA SWISSS 200 65 W 4 EXQUIPMENTS GUIPMENTS NA SWISSS 200 65 W 4 EXQUIPMENTS (COMPANY)	20170309 10:55:00 20170312 32:35:00 LCS 320-546903/2-A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13C4 PFGA 13C4 PFGA 100 100 100 12C4 PFGA 100 100 12C4 PFGS 91 91 91 91 91 91 91 9	FCT_REC PR SUBR FCT_REC PR SUBR FCT_REC PR SUBR FCT_REC PR TRG	\$2.5A \$150 \$25 000000000 \$2.5A \$50 \$15 00000000 \$15A \$150 \$20 00000000	5.0 120-34234-1 120-154520 5.0 120-3424-1 120-154520 5.0 0.92 2.0 2.5 320-34234-1 120-154520
NECESTRACIONO AND METERONA, N.S. CS. 100 15076/2 A NOIS 20CA 517, MOD 2NG 2NATE TAX AMERICA NOIS NOIS 2NG 2NATE TAX AMERICA NOIS NOIS 2NG 2NATE TAX AMERICA NOIS NOIS NOIS NOIS NOIS NOIS NOIS NOIS	NA SWISSIS 200 65 W 4 EXQUIPMENTS-01:5 EXQUIPMENTS 000 65 W 4 EXQUIPMENTS-01:5 EXQUIPMENTS 000 650 W 4 EXQUIPMENTS 000 650 W 5 W 6 W 6 W 6 W 6 W 6 W 6 W 6 W 6 W 6	20170309 10:55:00 20170312 38:35:00 LCS 320-546903/2-A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1802 PPKS 1802 PPKS 55 55 1,4 Dissance 122-91.1 11 11 11 11 11 12 12	FCT_REC PR SURR FCT_REC M M PR TREC FCT_REC PR SURR PCT_REC PR SURR PCT_REC PR SURR PCT_REC PCT_REC PR SURR PCT_REC	2.5A 150 25 00000000 1.5P 52 12 00000000 2.5A 91 42 00000000	5.0 120-3423-4 120-154520 5.0 0.20 5.50 1.0 120-3424-1 120-15475 5.0 120-3424-1 120-154875
NEGROSSIGNOD IMPG	NA SWISSOC 000 LB1 W 4 BAQQAZOTORE41 GAZOTO NA SWISSOC 000 LB1 W 4 BAQQAZOTORE41 GAZOTO NA SWISSOS 000 LB1 W 4 BAQQAZOTORE41 GAZOTORE4 NA SWISSOS 000 LB1 W 4 BAQQAZOTORE5	20170308	1.4 Giocane 123-91-1 0.50 0.50 Rirobensene-OS 4055-GO 050 Perfluonoctanoic acid (PFOA) 1355-G7-1 0.002	UC_L U U PR TMG PCT_REC U PR SURR 0.000 UC_L UM PR TMG PR TMG	25A 21 42 00000000 100000000	5.0 5.20 5.50 1.0 120-24224-1 120-154875 5.0 120-24224-1 120-154875 5.0 8E-04 0.002 0.0025/230-24224-1 120-154520
MICHANDSCORDOX MARCE MICHANDOX MACE MICHANDOX MICHANDOX MACE MICHANDOX MICH	NA 5W/555 200 IA1 W 6 33/95/2017 5 50/96/2017 NA 5W/555 200 IA1 W 6 33/95/2017-01-5 50/96/2017 NA 5W/555 200 IA1 W 6 33/95/2017-01-5 50/96/2017 NA 5W/555 200 IA1 W 6 33/95/2017-01-5 50/95/2017	20170009 10:55:00 20170012 30:28:00 MB 320-149976/1-A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Perfluoroctane (PFOS) 1743-22-1 0.003 13C4 PFOA 12C4 PFOA 15 C4 PFOA 15 155 13C4 PFOS 12C4 PFOS 18 88	0.0001Uc_L U U PR TMG PCT_RSC PR SURR PCT_RSC PR SURR	00000000 0MSA 150 25 00000000 0MSA 150 25 00000000	5.0 0.001 0.003 0.004 (200-2120-1 120-154220 5.0 120-24224-1 120-154220 5.0 120-24224-1 120-154220
\$42000000000 JMES \$\text{MERIDAR, ARC \$100 \$20 \$14000074.} MCSC \$20CA \$137 MCD \$20C \$\text{MCSC \$137 MCD \$20C \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$1	94 (94) (94) (94) (94) (94) (94) (94) (9	0017009 1023500 20170012 022850 0012055000 1 1 00170000 101500 00170012 022850 0012055000000000000000000000000000000	PRITING/PRICES 100 107-74-5 1000 1	1000 100	5M5A 150 25 0000000	5.0 94-04 0.002 00025 205-0524-7 (20-1595.05 5.0 120-24224-4 (20-1545.25 4.2 9.24 1.0 2.0 51580 WC20142 1.2 9.5 1.0 1.0 1.0 51580
MART-970000000 2001	WELL WW 4 DAGGEORY 1 DEGREE TO THE PROPERTY OF	007/0244 139900 2007034 139900 31800-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Unorcesessale V447-4 1.0	00_1 0 0 1856 00_1 0 0 0 1866 00_1 0 0 0 1866	200 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4.2 9.56 1.0 2.0 955800 W0.07542 4.2 9.55 1.0 2.0 955800 W0.07342 4.2 9.69 1.0 2.0 955800 W0.07342 4.2 9.69 1.0 2.0 955800 W0.07342
\$4.000,000 pt \$1.000 pt \$1	WK1	00170314 1199500 20170314 1199500 31160-4 1 1 20170314 119950 20170314 119950 31160-4 1 1 20170314 119950 20170314 119950 31160-4 1 1	Unscreamate	UC_L U U U 1956 UC_L U U 1 1956 UC_L U U 1 1956		4.2 8.56 1.0 2.0 \$4.080 WL07342 4.2 5.24 1.0 2.0 \$4.080 WC07342 4.2 9.25 9.50 1.0 \$4.080 WC20342 4.2 9.25 9.50 1.0 \$4.080 WC20342 4.2 9.5 9.50 1.0 \$4.080 WC20342
	MET SMASSIGN SSO SEC W 4 SMASSIGN 110 SMASSIGN MET	01/0314 11:89:00 01/031	1,1.25 1,500 1,5	1 1 1 1 1 1 1 1 1 1		4.2 0.31 0.55 0.0 0.0000 WC00342 4.2 1.1 2.5 0.0 0.0000 WC00342 4.2 1.1 2.5 0.0 0.0000 WC00342 4.2 1.1 2.5 0.0 0.0000 WC00342 4.2 0.0 0.0000 WC00342
NEXTROSCORDO (MICE) NECESSARIO (MICE) NECESSARIO (MICE) NO (MICE)	MIT 190500 00 856 W 4 034(20211155 04(20217 1) 1974 (2011 1) 1975 (2011 1) 1974 (2011 1) 1974 (2011 1) 1975 (2011	20170314 11:99:00 20170314 11:99:00 31:380-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		UG_1 U U TRG UG_1 U U TRG UG_2 U U TRG		4.2 3.25 9.50 1.0 95489 WG505142 4.2 3.26 9.50 1.0 95489 WG505142 4.2 3.26 9.50 1.0 95480 WG505142 4.2 3.26 9.50 1.0 95480 WG505142 4.2 3.21 9.0 10 95480 WG505142
NEXTROSCORDO (MICE) NECESSARIO (MICE) NECESSARIO (MICE) NO (MICE)	MIT 190500 00 856 W 4 034(20211155 04(20217 1) 1974 (2011 1) 1975 (2011 1) 1974 (2011 1) 1974 (2011 1) 1975 (2011	20170314 11:99:00 20170314 11:99:00 31:380-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	125-59 15.59 15.59 15.59 15.59 15.50 15.	UG_1 U U TRG UG_1 U U TRG UG_2 U U TRG		4.2 3.21 5.50 1.0 55580 WG353142 4.2 3.22 5.50 1.0 55580 WG353142 4.2 3.22 5.50 1.0 55580 WG353142 4.2 3.20 5.0 1.0 55580 WG353142 4.2 3.20 5.0 1.0 55580 WG353142
MS24705000000 MS0	MIT \$100500 00 856 W 4 500000001155 500602017 000 WIT \$100500 000 856 W 4 50000001155 500602017 000 WIT \$100500 000 856 W 4 50000001155 500602017 000 WIT \$100500 000 856 W 4 500000001155 500602017	2017/0314 11:99:00 2017/0314 11:99:00 \$31380-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2-0	UG_1 U U TRG UG_2 U U TRG		4.2 1.3 2.5 1.0 \$51500 WG501342 4.2 3.31 9.50 1.0 \$51500 WG501342 4.2 3.31 9.50 1.0 \$51500 WG501342 4.2 0.22 9.0 1.0 \$51500 WG501342
NECTOSCOCCO MESS MESSANIA NAS MESSANIA NAS MESSANIA SOCIATIVA NORE NOA 1000C NOA 100 GO TATADORA ARRATTOCK MESTASSISSIONES MESSANIA NAS MESSANIA NORE NOA 1000C NOA 10	MIT \$100,000 000 856 W 4 500,000,001 1155 00,000,001 MIT \$100,000 000 856 W 4 500,000,001 1155 00,000,001 MIT \$100,000 000 856 W 4 500,000,001 1155 00,000,001 MIT \$100,000 000 856 W 4 500,000,000 MIT \$100,000 000 856 W 4 500,000 MIT \$100,000 000	2017/0314 11:99:00 2017/0314 11:99:00 \$31480-4 1 1 10:0017/0314 11:99:00 3017/0314 11:99:00 \$31480-4 1 1 10:0017/0314 11:99:00 3017/0314 11:99:00 \$31480-4 1 1 10:0017/0314 11:99:00 3017/0314 11:90:00 \$31480-4 1 1 10:0017/0314 11:90:00 3017/0		UG_1 U U TRG UG_2 U U TRG		4.2 2.26 2.50 1.0 551500 WG203142 4.2 2.20 9.50 1.0 551500 WG203142 4.2 2.20 9.50 1.0 551500 WG203142 4.2 2.20 9.50 1.0 551500 WG203142
MACROSCOPPO MACE MEDISAN MACE MEDISAN MACE MEDISAN MACE	MRT \$86500 500 46G W 4 BAQUEST1105 50062017 MRT \$86500 500 46G W 4 BAQUEST1105 5062017 MRT \$86500 500 46G W 4 BAQUEST1105 5062017 MRT \$86500 500 46G W 4 BAQUEST1105 5062017 MRT \$86500 500 46G W 4 BAQUEST1105 5062017	20170314 11:99:00 30170314 11:99:00 581880-4 1 1 20170314 11:99:00 581880-4 1 1 20170314 11:99:00 581880-4 1 1 20170314 11:99:00 581880-4 1 1 20170314 11:99:00 581880-4 1 1 20170314 11:99:00 581880-4 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1.2 Olichlorogopane 13475 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.	UG_L U U 1786 UG_L U U 1786 UG_L U U 1786		42 3.25 5.50 1.0 \$0.080 WG.00142 42 333 5.50 1.0 \$0.080 WG.00142 42 10 3.00 1.0 \$0.080 WG.00143 42 1.0 9.50 1.0 \$0.080 WG.00143
NEXT/00/2007/00 AMPS MISSIONA, NAS MISSION 600-00737A NORSE NOR DODGE NOR AND CONTROL NOR AND CONTROL NASAN/TOOL NEXT/00/2007/	MUT	20170314 11.49:00 20170314 11.49:00 55.160-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Toluene 150-88-3 15.50	UG_L U U 175G UG_L U U 175G UG_S U U 175G		4.2 5.27 8.50 1.0 845850 WG201842 4.2 1.3 2.5 1.0 845850 WG201842 4.2 2.0 5.0 1.0 845850 WG201842
MILE PRISECUCIO (MICE) MISTEGRAR, MASS. MESTRE RECE, GESTEX MONE CO.S. DOSC. CO.S. DAS. DASSESSES DASSESSE	WIT \$W0500 \$20 \$45 \$W \$4 \$3500,001711.05 Quipe/20217 WIT \$W0500 \$20 \$85 \$W \$4 \$300,00271.105 Quipe/20217 WIT \$W0500 \$20 \$85 \$W \$4 \$200,002711.355 Quipe/20217 WIT \$300500 \$20 \$85 \$W \$4 \$200,002711.355 Quipe/20217	00170114 11-80 00 00170114 11-80 0 033460-4 1 1 1 1 1 1 1 1 1	1,1,2-Techlorosethane	UC_L U U TRG UC_L U U TRG UC_L U U TRG UC_L U U TRG		42 9.33 8.50 1.0 \$4.560 MG20142 42 9.40 8.50 1.0 \$4.560 MG20142 42 9.30 8.50 1.0 \$4.560 MG20142
NULCENSSORODO JANOS MATERIORAN, NAS MEDICALEGO (2027)A NONE ODA DOSC NOA KE AFANDRA ANANTORI, NULCENSSORODO JANOS MATERIORAN, NAS MEDICALEGO (2027)A NONE ODA 2020C DOA UAS ALAS MEDICALEGO (2027)A NONE ODA 2020C DOA UAS ALA	MIT \$46500 200 86G W 4 \$100,000,777 0,000,777 W 1 \$100,000,777 W 1 \$100,000,777 W 1 \$100,000,777 W 1 \$100,000 200 86G W 4 \$100,000,000,771 (5 \$100,000 200 86G W 4 \$100,000,000,771 (5 \$100,000 200 86G W 4 \$100,000,000,771 (5 \$100,000 200 200 200 200 200 200 200 200 2	D0170114 114900 10170114 114900 533804 1 i 0170114 114900 10170114 114900 133804 i i 0170114 114900 50170114 114900 531804 i i	1.3 Obvionnethuse	UC_L UL UL TRG UC_L U U TRG UC_L U U TRG		142 1520 150 10 151580 MC5015142
THE ACCUSION AND STATE OF THE ACCUSION AND S	PRIA 198500 200 86G W 4 100(202171105 00)46C/2017 WTT 198500 200 86G W 4 100(202171105 00)46C/2017 WTT 198500 200 86G W 4 100(202171105 00)46C/2017 WTT 198500 200 86G W 4 100(202171105 00)46C/2017		Hthyleneane	UC_L U U TRG UC_L U U TRG UC_L U U TRG		H2
\$42-0505,00000 JMCI MINDOW, MS 100506 400 -0273A NOME OA 1500C NOA NO 104 NOME ANALYTICAL NOME OA 1500C NOA NO 104 NOME ANALYTICAL NOME NOME NOME NOME NOME NOME NOME NOME	PANSON P	1287030 1287030 12170314 124950 5213664 1	Happroposessere	VC_L U U TRG U U U TRG U U U U U U U U U		1
NEET TO SEED T	**************************************	1.0000000	1,4-occarocecaree 105-46-7 0.50 0.50 1,20 0.50	VII_3 U U TRG U U U TRG U U U U U U U U U		4.2 (2.6 (2.0 (2.0 (2.0 (2.0 (2.0 (2.0 (2.0 (2.0
NEATPOSECONDO JANUEL MESSEANA ANG MESSEA REGIO (2017) NO. 100. 10	WIT \$46000 200 85G W 4 \$240000175 \$00(42/037) WIT \$46000 200 85G W 4 \$24000017315 \$00(42/037) WIT \$46000 200 85G W 4 \$240000071315 \$00(42/037) WIT \$46000 200 85G W 4 \$24000007135 \$00(42/037)		1,3,4-Techinocherusere 130-92-1 0.59 0.59 Methyl actale 79-20-9 0.75 Methylcyclahexare 108-87-2 0.50 0.50	UC_L U U 1955 UC_L U U 1 1966 UC_L U U 1 1966		42 8.37 9.50 1.0 \$50.600 WC203342 42 9.53 9.75 1.0 \$50.600 WC203342 42 9.30 9.50 1.0 \$10.60 WC203342
HIGH PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS MESSA REGI COLTA NONE YOA 1906C YOA 105 AVANUMA AMARTICAL NAS PROSESSORIO (INVEL MERISANA NAS PROSESSORIO (INVE	MN1	00170246 1198700 20170246 1198700 41800-0 1 00170246 1198700 20170244 1198700 51800-0 1 1198700 20170244 1198700 51800-0 1 10170244 1198700 20170244 1198700 51800-0 1	### 1970 1970	UC_1 U U 1956 UC_1 U U 1956 UC_2 U U 1956		4.2 9.21 9.50 1.0 90990 WU.07442 4.2 9.25 9.50 1.0 90590 WU.071442 4.2 9.25 9.50 1.0 90590 WU.071442 4.2 9.59 1.0 2.0 90590 WU.071442 4.2 9.59 1.0 2.0 90590 WU.071442 4.2 9.59 1.0 90590 WU.071442 4.2 9.59 1.0 90590 WU.071442 4.2 90590 WU.071442 4
NEXT-000500000 (ARC) MESSEAN, AND MISSISSEGGE-02737 NONE VOGA 1930/C VOGA (ARC) ARC ARCHITECTURE NEXT-00050000 (ARC) MESSEAN, ARCHITECTURE NEXT-00050000 (ARC) MESSEAN, ARC ARCHITECTURE NEXT-0005000 (ARC) MESSEAN, ARC ARCHITECTURE NEXT-0005000 (ARC) MES	MN1	00170246 1198700 20170246 1198700 41800-0 1 00170246 1198700 20170244 1198700 51800-0 1 1198700 20170244 1198700 51800-0 1 10170244 1198700 20170244 1198700 51800-0 1	11,2,3-Teichlerobassere IF-61-6 0.59 0.59 0.59 Nylee, (stal 1135-0-7 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	U		4.2 9.27 9.50 1.0 90990 W0.07144 4.2 9.25 1.5 1.0 90990 W0.07144 4.2 9.5 9.5 9.5 9.0 90990 W0.07144 4.2 9.0 9.0 90000 W0.07144 4.2 9.0 9.0 90000 W0.07144
	NYT WORKER DO REG W 9 PARKEDOT 1 100 (2017) NYT WORKER DO REG W 4 PARKEDOT 1 100 (2017) NYT WORKER DO REG W 4 PARKEDOT 1 100 (2017) NYT WORKER DO REG W 6 PARKEDOT 1 100 (2017) NYT WORKER DO REG W 6 PARKEDOT 1 100 (2017) NYT WORKER DO REG W 6 PARKEDOT 1 100 (2017) NYT WORKER DO REG W 7 PARKEDOT 1 100 (2017) NYT W 7 PARKEDOT 1 100	00170314 1149.00 (2070014 1149.00 83180-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		PCT SURR PCT SURR PCT SURR PCT HIGH	2.5A 120 50 200-200 2.5A 120 70 200-200 2.5A 115 85 200-2101	4.2 9 9 9 14,0880 WG20342 4.2 9 9 9 5 55680 WG20342 4.2 9 9 9 55680 WG20342 4.2 9 9 9 55680 WG20342 4.2 14 2.5 15 54680 WG20342
MEGYORIZORIZO JACCE MEDIZIAN MEG MEZIZE FEDOLETTA NOME FOA BEJAZE CHA DE JATANOMA AMERITORI. MEGYORIZORIZORIZO JACCE MEDIZIAN MED	SRY \$46505 MAD REG \$ 6 33453,2017-00-00 03,662,2017 SRY \$46505 MAD 85G \$ 6 33453,2017-00-00 03,662,2017 SRY \$46505 000 86G \$ 4 803,003,007-00-00 03,662,0017	10170317 15:17:00 20170317 15:17:00 53:660-28A 1 2 18.465 20170317 15:17:00 20170317 15:17:00 53:660-28A 1 2 18.465 20170310 15:45:00 20170310 15:45:00 53:660-28 1 2 18.465	Dichlorodifuccomethane (Freo-12) 75-71-8	UG_RG U U TRG UG_RG U U TRG UG_RG U U TRG		42 1.1 6.0 12. \$61680 MG20539 42 1.7 6.0 12. \$61680 MG20539 42 2.1 7.5 15. \$61680 MG20539
NGC1930000000 JANS MEDISONA JAKS MEDISONA JAKS MEDISONA COLTA NONE YOU ELSOO JAKS ATAHON ANALYTICAL NGC19300000 JANS MEDISONA JAKS MEDISONA COLTA NONE YOU HOLD JAKS MEDISONA JAKS MEDISONA JAKS MEDISONA JAKS MEDISONA JAKS MEDISONA COLTA NONE YOU HOLD JAKS MEDISONA COLTA NONE YOU HOLD JAKS MEDISONA JA	SEP SW0055 200 REG 5 4 50(34)2017 00:00 0.064/2017	00170010 1545 00 20170310 5545 00 8X160-2 1 1 14.45 00170317 15-37.00 20170317 15-37.00 8X160-2 1 1 14.45 00170310 1565 00 20170310 15645 00 8X160-2 1 1 14.45 00170310 1565 00 20170310 15645 00 8X160-2 1 1 14.45	Veryl chloride 25-01-4 7.5 7.5 Veryl chloride 27-01-6 6.0 6.0 Reconcentrature 34-43-9 7.5 7.5	UG_KG U U U TRG UG_KG U U TRG UG_KG U U TRG		4.2 1.3 7.5 15. \$1580 WG20121 4.2 1.0 0.0 12. \$1580 WG20129 4.2 1.6 7.5 15. \$1580 WG20122
MATERIAN	SHY	10170117 15-17-00 20170117 15-17-00 31480-28A 1 2 14-445 10170117 15-17-00 20170117 15-17-00 31480-28A 1 2 31-445 10170110 15-45-00 20170110 15-45-00 31480-2 1 1 14-445 10170110 15-45-00 20170110 15-45-00 20170110 2	Bromomethane 3443-9 6.0	UC_MS U U TRG UC_MS U U TRG UC_MS U U TRG		42 1.3 6.0 12. Sc1680 WC20529 42 1.6 6.0 12. Sc1680 WC20529 42 2.0 7.5 15. Sc1680 WC201212
NESTORIZZONI AND MEDICINA, NEL MEZISE PEDE 2017A. NOME OA ESSEC DO A DE DATAMON AMERICA. NESTORIZZONI AND MEDICINA, NEL MEZISE PEDE 2017A. NOME OA ESSEC DO A DE DATAMON AMERICA. NESTORIZZONI AND MEZISONI AND MEZ	SHY SWG015 D00 REG 5 4 D3(Q2,0017 00:00 D3(R/2017	10170110 15-95-00 20170110 15-95-00 \$11480-2 1 1 14-45 10170117 15-17-00 20170117 15-17-00 \$11480-2 1 2 14-45 10170110 15-95-00 20170110 15-95-00 20170110 15-95-00 20170110 15-95-00 20170110 15-95-00 20170110	Trichforofluoromethane (Feso-11) 25-60-4 7.5 7.5 Trichforofluoromethane (Feso-11) 25-60-4 6.0 6.0 3,1-0ichforoethane 75-35-4 3.8 3.8	UC_MG U U TRG UC_MG U U TRG UC_MG U U TRG		4.2 1.4 7.5 15. \$4580 WC20122 4.2 1.1 6.0 12. \$4580 WC20123 4.2 1.4 1.8 7.5 \$4580 WC20122
NECESSAGE AND MATERIANA AND MESSAGE ACCOUNTS NOTE TO A 1995 FOR A 1995 AND	SHY	10170317 15-17:00 20170317 15-17:00 SIGEO-28A 1 2 14-45 10170317 15-17:00 SIGEO-28A 1 2 14-45 10170317 15-17:00 SIGEO-28A 1 2 14-45 10170310 15-45:00 20170310 15-45:00 SIGEO-2 1 1 13-445 10170310 SIGEO-2 1 1 1 1 1 1 1 1 1	1.1-Oichbonesthese 25-35-4 1.0 1.0 Cerbon disulfide 25-15-0 1.5 2.5 Cerbon disulfide 25-15-0 1.2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6	UC_MS U U U TMG UG_MS U I TMG UG_MS U I I TMG UG_MS U I I TMG UG_MS U I I TMG		42 11 10 60 50160 WC20529 42 294 10 60 51680 WC20529 42 12 18 7.5 50160 WC20121
NECTIFICATION DATE: MESTERIA, NAS. MESSERGON 0217A. NORE 1/OA 120.0C NOA 104.0 MATERIONA, NAS. MESSERGON 0217A. NORE 1/OA 120.0C NOA 104.0C NOA	SRY SW6035 000 REG 5 6 334(3,0,0)17-000 00,0(6/2017 SRY SW6035 9A-0 REG 5 4 83(3,0,0)17-00-0 00,0(6/2017 SRY SW6035 9A-0 REG 5 4 33(3,0,0)17-00-0 00,0(6/2017	20170310 1565:00 20170310 1565:00 31160-2 1 154:45 1 10170317 15:17:00 20170317 15:17:00 20170317 15:17:00 20170317 15:17:00 20170317 201703	11,3-Tichico-1,2-trillucresthare (Freo-111) 76-13-1 18 1.8 1.13-Tichico-1,2-trillucresthare (Freo-111) 76-13-1 10 10 10 10 10 10 10 10 10 10 10 10 10	UC_RG U U TRG UC_RG U U TRG UC_RG U U TRG		4.2 1.4 1.8 2.5 545880 WC20121 4.2 1.1 1.0 4.0 54580 WC20123 4.2 2.5 15. 30. 541680 WC201539
NEATYSSECONO 2004 (MESSOAN, N.K. MESSOAN, N.	089 SWK035 900 85G 5 4 \$20,00,000 00,00,000 00,00,000 00 589 SWK035 9A0 85G 5 4 \$20,00,000 00,00,000 00,00,000 00 589 SW035 900 85G 5 4 \$20,00,000 00,00,000 00,00,000 00,000,000	D0170310 \$546500 20170330 \$546500 \$31686-2 3 1 15445 1 10170317 1517500 20170317 5517500 \$31686-24 1 2 15445 10170310 154500 20170310 154500 30170310 154500 30170310 154500 30170310 154500 30170310	Methylene chloride 15 00-2 10 10 10 Acatone 15 00-1 13 13 13 Acatone 15 00-1 10 10 10 10 10 10 10 10 10 10 10 10 10	UC_KG U U 1965 UC_KG 1966 UG_KG 1966		1
NEXT-000500000 (ARC) MESSEANA, NAS MISSES-000-00127A NONE VOA 1930/C VOA NAS KATANINA ANALYTICH, NAS STATISTICA	NRT	00170117 1521730 20170117 1521730 15180520 1 2 85.495 00170110 1506500 20170110 1524500 51180520 1 1 1 154.495 10170110 1506500 20170110 1524500 5118052 1 1 1 154.495 10170110 154650 20170110 1524500 5118052 1 1 154.495	1787-1_4 Unitrodestees 156-60-5 1.0	UC, NS U U 1956 UC, NS U U 1976 UC, NS U U 1976 UC NS U U 1976 UC NS U U 1976		4.2 836 4.0 8.0 945980 W429539 4.2 1.1 18 7.5 94580 W429121 4.2 1.6 2.8 7.5 94480 W429121 4.2 1.6 2.8 7.5 94480 W429122
	Miles	00170317 153-700 16070037 153-700 16070037 153-700 16070037 1 153-700 16070037 153-700 16070037 153-700 16070037 1 153-700 1 15		00,85 UC,86 1156 UC 156		42 1.3 1.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2
WEST/000000000 MINDS	587 \$46035 MAD 85G \$ 4 33,63,0017,0030 03,642,017 5 577 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7	2017/0317 15:27:00 2017/0317 15:37:00 \$81680-28A 1 2 34:445 2017/0310 15:65:00 2017/0310 15:45:00 \$81680-2 1 1 34:445 2017/0310 15:45:00 2017/0317 15:45:00 \$81680-2 1 1 34:445	(0-1,2-Oichloroethese 156-59-2 1.0 1.0 1.0 Chloroform 157-66-3 1.8 1.8 Chloroform 157-66-3 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	UC_6G U U U TRG UC_6G U U U TRG		42 11 10 60 S1680 WG20539 42 552 18 7.5 S1580 WG20131 42 642 10 60 F060 WG20131
NEXPOSEDED IND	SHY	10170317 15:37:00 20170317 15:37:00 \$11680-29A 1 2 14.445	Carbon tetrachloride 56-23-5 1.0 1.0 1.0 Carbon tetrachloride 56-23-5 1.0 1.0 1.0 Labon tetrachloride 56-23-5 1.8 1.8 1.8 1.1.1 1.7 Exhibitorethrane 72-55-56 1.0 1.0 1.0	UC_RC U U TRC UC_RC U U TRC UC_RC U U TRC		42 1.6 1.0 6.0 \$1680 WG20139 4.2 2.0 1.8 7.5 \$1680 WG20132 4.2 5.0 0.0 6.0 \$1680 WG20132
NECESSARIO (MEDI MERIONA, ALS MESSARION COLOTA NON USA 1230C USA DE CATAMON AMPLITURA NON USA 1230C USA 1230C USA DE CATAMON AMPLITURA NON USA 1230C USA	SRY \$46505 500 REG \$ 4 33,53,5027,003 03,64(2017 5) SRY \$46035 500 84G 5 6 33,53,5027,003 03,64(2017 5) SRY \$46035 500 84G 5 6 33,53,5027,003 03,64(2017 5) SRY \$46035 500 84G 5 4 803,003,003,003,003 03,64(2017 5)	10170310 15:45:00 20170310 15:45:00 53:460-2 1 1 14:45 10170317 15:17:00 20170317 15:17:00 20170317 15:17:00 20170317 15:17:00 20170310 15:45:00 20170310 15:45:00 20170310 15:45:00 20170310 15:45:00 20170310 2017	1,1,1-Techloroschane 71-55-6 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8	UG_RG U U TRG UG_RG U U TRG UG_RG U U TRG		42 2.63 1.8 7.5 54580 MG20121 42 7.1 15 30 55580 MG205539 42 8.8 9. 88 55580 MG205539
NEATONSCORDER 1985 NESTENDAN ALS MESSEGORIETA NONE NONE 1992 NONE NONE 1993 NONE NONE 1994 NONE 1995 NONE NO	58Y 54K5015 300 8EG 5 4 33/33/2017 00:00 03/64/2017 38Y 54K5015 8AG 8EG 5 4 33/33/2017 00:00 03/64/2017 58Y 54K5015 300 8EG 5 4 33/33/2017 00:00 03/64/2017 58Y 54K5015 300 8EG 5 4 33/33/2017 00:00 03/64/2017	10170310 15:45:00 20170310 15:45:00 83:480-2 1 1 14:45 10170317 15:37:00 20170317 15:37:00 20170317 15:37:00 83:480-28A 1 2 14:445 10170310 15:45:00 83:480-2 1 1 14:45 14:4	Become 73.43-2 65 65 Become 73.43-2 19 59 Cyclobrasine 130.82.7 96 96 96 96 96 96	UG_RG TRG UG_RG TRG UG_RG TRG UG_RG TRG		42 1.4 1.8 7.5 51680 WG201121 4.2 1.1 1.0 6.0 \$61680 WG20122 4.2 1.1 8.7 5 \$61680 WG20122
NECESTRANSCENSION DARCE MERSONA, NAS MESSER-SCHOOLTERA NOINE HOA EXAC MATAGEM ANALYTICAL NECESTRANSCENSION DARCE MESSER-SCHOOLTERA NOINE HOA EXAC MATAGEM ANALYTICAL NECESTRANSCENSION DARCE MESSER-SCHOOLTERA NECESTRANSCENSION DARCE MESSER-SCHOOLTERA MESSER-SCHOOLTERA NOINE HOA EXAC MATAGEM ANALYTICAL NECESTRANSCENSION DARCE MESSER-SCHOOLTERA MESSER-SCHOOLTERA NOINE HOAD MESSER-SCHOOLTERA NOINE HORSE MESSER-SCHOOLTERA NOINE	SHY	10170317 15-17:00 20170317 15-17:00 SIGEO-28A 1 2 14-45 10170317 15-17:00 SIGEO-28A 1 2 14-45 10170317 15-17:00 SIGEO-28A 1 2 14-45 10170310 15-45:00 20170310 15-45:00 SIGEO-2 1 1 13-445 10170310 SIGEO-2 1 1 1 1 1 1 1 1 1	Cycloheane 110-82-7 120 130 1,2-Oichforcethase 107-06-2 1.0 1.0 1,2-Oichforcethase 107-06-2 1.8 3.8 1,3-Oichforcethase 107-06-2 1.8 3.8	UC_MS 1765 UC_MS U U 1765 UC_MS U U 1765		42 1.7 1.0 6.0 501600 WC20529 42 1.2 1.0 6.0 501600 WC20529 42 1.5 1.8 7.5 501600 WC20121
MASTRIGOTODI ANDI METRIANA N.G. METRIANO COLTEX DINE DA 100.C. U.S. U.S. U.S. U.S. U.S. U.S. U.S. U	DEY SMRSDES 00 85G \$ 4 SSSR200578000 0,046/2017 DEY SMRSDES A40 85G \$ </td <td>00170110 104500 00170110 14-650 0131802 1 1 14-45 00170117 151700 10010117 151700 0131802 1 1 14-45 00170117 151700 10010117 151700 0131802344 1 1 14-45 00170117 151700 10010117 151700 0131802344 1 14-45</td> <td> Trichbrosethese</td> <td>US_MG U U TRG US_MG I TRG US_MG U U TRG</td> <td></td> <td>42 188 18 7.5 \$1580 0001121 42 1.71 10 4.0 \$1580 0001121 42 1.71 10 4.0 \$1580 000129</td>	00170110 104500 00170110 14-650 0131802 1 1 14-45 00170117 151700 10010117 151700 0131802 1 1 14-45 00170117 151700 10010117 151700 0131802344 1 1 14-45 00170117 151700 10010117 151700 0131802344 1 14-45	Trichbrosethese	US_MG U U TRG US_MG I TRG US_MG U U TRG		42 188 18 7.5 \$1580 0001121 42 1.71 10 4.0 \$1580 0001121 42 1.71 10 4.0 \$1580 000129
	DBY SW6055 DDO 85G 5 4 D334220317 0500 D366/2017	10070310 10070300 010704010 155500 503400-2 1 104.45 10170311 1554500 30170310 154500 533400-2 1 104.45 10170317 151700 20170317 151700 20170317 151700 20170317 151700 20170317 151700 20170317 151700 20170317 151700 20170317 2	1_1 / Unichargespane	U U TRG		6.2 1.1 1.8 7.5 151580 WG201221 42 0.00 1.8 7.5 151580 WG201221 42 0.72 1.0 1.0 151580 WG201221 42 0.72 1.0 1.0 151580 WG201539
Description		15075030 00170031 1557500 1517000 1517000 1517000 151700 15	1004_1-0 incharcognospere 1006-01-5 1.8 1.8 (inch.) 1.0 incharcognospere 1006-01-5 1.0 1.0 incharcognospere 1006-01-5 1.0 1.0 incharcognospere 1006-01-2 1.0 1.0 incharcognospere 1006-01-3 1.0 2.0 incharcognospere 1006-01-3 1.0 incharcognospere 1006-01-3 1.0 incharcognospere 1006-01-3 1.0 incharcognospere 1006-01-3 1.0 incharcognospere 1006-01-5 1.0 incharcognospere 1006	U U TRG UC.RG U U TRG UC.RG TRG		4.2 1.1 1.8 7.5 151680 NFC201223 4.2 2.66 1.0 1.0 151680 NFC201239 4.2 1.7 1.0 4.0 51180 NFC201239
	1	00170310 MARRIAD 1 1 34.445 00170317 S54500 00170317 S54500 S13480-2 1 1 34.445 00170317 S54700 00170317 S54700 S13480-24 1 2 34.445 00170317 S54700 00170317 S54700 S1340-28A 1 2 34.445	Thurse 105 80 3 25 25 25 25 25 25 25 25 25 25 25 25 25	UC_KG U U TRG UC_KG U U TRG		4.2 8.8 19.3 Passage WG201212 4.2 1.8 19.5 Scided WG201212 4.2 2.1 15. 30. Scided WG201212 4.2 2.1 15. 30. Scided WG20123
NEZATORESPOZO INDE MESICAN, NAS MESOR-FOD-0217A NONE NOA 1250C NOA NAS NATAHEN ANALYTICAL	SP	00170117 15.27.00 20170117 15.27.00 161460-28A 1.44.45 1.00170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170110 15.45.00 20170117 201701		UG_NG U U TNG UG_NG U U TNG UG_NG U U TNG UG_NG U U TNG		42 1.8 1.8 2.5 50580 WG30121 42 1.3 1.8 2.5 50580 WG30121 42 1.3 1.8 2.5 50580 WG30121 42 1.0 1.0 4.0 50580 WG20193
NEAR-PRODUCTION OF THE PRODUCT OF TH	SW SW6035 SAO REG \$ 4 BAV(2/077 00:000 OD(4/072017 OD(4/	\$157502 13.27-00 \$157502 13.17-00 \$13165-304 14.445 15.17-00 15	1,1,2-Trichitorosthane 179.00 5 1.0 1.0 1.0 1.1,2-Trichitorosthane 179.00 5 1.8 1.8 1.8 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	UG_NG U U TRG UG_NG U U TRG UG_NG U U TRG		42 1.2 1.0 4.0 \$51680 WG30139 42 1.4 1.8 7.5 \$51680 WG30139 42 1.2 1.0 10 \$51680 WG301329
NEAT-0006-0000 (MID) NESTIGORY, NAS (MESSER-000-0217A NORT NOR 1200C (MA IAS INTRACION AMERICA). NEST-0006-0000 (MID) MESSEAR, NAS (MESSER-000-0217A NORT NOR 1200C (MA IAS INTRACION AMERICA). NEST-0006-0000 (MID) MESSEAR, NAS (MESSER-000-0217A NORT NOR 1200C (MA IAS INTRACION AMERICA).	05	20170310 15:45:00 20170310 15:45:00 581680-2 1 1 1 14:445	Ditromochizomethane 124-861 1.8 2.8 1.3 0.0	UG_RG U U TRG UG_RG U U TRG UG_RG U U TRG		1
NEXTROSCORDO (MIND) MEDISONA, NAS (MESSE FODA 0217A NONE 1/GA 1250C FOA IAS (KATARION ANALYTICAL). NEXTROSCORDO (MIND) MEDISONA, NAS (MESSE FODA 0217A NONE 1/GA 1250C FOA IAS (KATARION ANALYTICAL). NEXTROSCORDO (MIND) MEDISONA, NAS (MESSE FODA 0217A NONE 1/GA 1250C FOA IAS (KATARION ANALYTICAL). NEXTROSCORDO (MIND) MEDISONA, NAS (MESSE FODA 0217A NONE 1/GA 1250C FOA IAS (KATARION ANALYTICAL).	2697 3985035 300 48.G 5 4 332402377 200.00 03064/2017 2697 3986035 34.0 48.G 5 4 3984(2037 200.00 03064/2017 2697 3986035 34.0 86.G 5 4 3324(2037 200.00 03064/2017 2697 2598035 34.0 86.G 5 4 3324(2037 200.00 03064/2017 2697	20170110 15:45:00 20170110 15:45:00 89:580-2 1 1 34:445 10170117 15:27:00 20170117 15:27:00 89:580-28A 1 2 34:445 20170117 15:27:00 20170117 15:27:00 89:580-28A 1 2 34:445	3.2 Observations	UG_NG U U TNG UG_NG U U TNG UG_NG U U TNG		4.2 7.2 19. 38. \$41680 WG20121 4.2 18.8 15. 30. \$41680 WG20122 4.2 3.6 10. 0. \$41680 WG201239
	08Y 5M505 00 65G 5 4 33330017.000 0.046/2017 08Y 5M5055 MA0 65G 5 4 33340,0117.000 0.046/2017 08Y 5M5055 M00 65G 5 4 3340,01017.000 0.046/2017	MOTIVATION 15-05-00 2017/0310 55-05-00 814866-2 1 14-445 1 17-70-00	Ethylerose	UC.KG U U TRG UC.KG TRG UC.KG TRG		4.2 5.76 1.8 7.5 \$15600 MC201223 4.2 5.78 1.0 4.0 \$15600 MC201239 4.2 5.98 1.8 7.5 \$15600 MC201231
NESTROSEGODO JAMOS MESDUAN, NAS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NESTROSEGODO JAMOS MESDUAN, NAS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NESTROSEGODO JAMOS MESDUAN, NAS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDUAN, NAS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDUAN, NAS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 5200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 6AS KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA APRACTICAL NOS MESDEFODO 6227A NONE VOA 6200C NOA 645 KATANERIA NOS MESDEFODO 6227A NONE VO	DIEF SMADDES MAD SEG 5 4 MANUSCROT PROPER GREEN PROPERTY		\$\frac{1}{2}\text{dems}, total	UC_MG TRG UC_MG TRG UC_MG TRG		4.2 1.6 8.0 18 \$1.580 18_025129
Description	200 200	D0170317 1547.00 20170317 1547.00 531462.304 1 2 144.45 D0170317 1547.00 70170317 1547.00 531462.304 1 2 144.45 D0170310 1545.00 20170310 1545.00 531462.304 1 2 144.45	m-set of Julius degenition 2 2 2 2 2 2 3 1 2 2 2 2 3 1 2 2 2 2 3 3 4 2 <td>UC_KG TRG UC_KG TRG UC_KG TRG</td> <td>20 2 2 200000 2 2 2 2 2 2 2 2 2 2 2 2 2</td> <td> 1</td>	UC_KG TRG UC_KG TRG UC_KG TRG	20 2 2 200000 2 2 2 2 2 2 2 2 2 2 2 2 2	1
MARKENSHARAN MANU	1997	PARTAMARY 1527/00 3017/2017 15217/00 5X1465-28A 1 2 164.465 1017/2010 1548/500 3017/2010 1548/500 5X1465-2 1 1 164.465 1017/2010 1548/500 1017/2010 1548/500 5X1465-2 1 1 164.465	Signee	UC_NG U U TNG UC_KG U U TNG UC_KG U U TNG UC_KG U U TNG UC_KG U U U TNG UC_KG U U U U U U U U U U U U U U U U U U U		4.2 0.61 1.0 0.0 191600 WC200123 4.2 0.76 1.8 7.5 191600 WC200123 4.2 1.0 1.8 7.5 191600 WC200123
	Per	1000 1000	Bronzelores 75-25-2 1.0 1.0	UC, NG		4.2 1.1 10.0 50 50500 WG200239 42 1.1 10.0 50500 WG200239 42 1.1 10.0 50500 WG200239 42 1.4 18 2.5 50500 WG200231
MACHIOSIGNOSI JARCE MEDISANA MES MEDISEGUCITA NOME (OA 1830C MOA 105 JATANOMA AMERICA). MACHIOSIGNOSI JARCE MEDISANA MES MEDISEGUCITA NOME (OA 1830C MOA 105 JATANOMA AMERICA). MACHIOSIGNOSI JARCE MEDISANA, MES MEDISEGUCITA NOME (OA 1830C MOA 105 JATANOMA AMERICA). MACHIOSIGNOSI JARCE MEDISANA, MES MEDISEGUCITA NOME (OA 1830C MOA 105 JATANOMA AMERICA). MACHIOSIGNOSI JARCE MEDISANA, MES MEDISEGUCITA NOME (OA 1830C MOA 105 JATANOMA AMERICA).	1 1 1 1 1 1 1 1 1 1	20170317 15:27:20 20170317 15:27:20 15:27:20 15:27:20 15:26:23.4 1 1 14.45 30170310 15:54:50 20170310 15:55:50 15:26:23.4 1 1 14.45 30170317 15:27:20 20170310 15:55:50 15:26:23.4 1 1 14.45 30170317 15:27:20 20170317 15:27:20 15:26:23.4 1 1 14.45 30170317 15:27:20 20170317 15:27:20 15:26:23.4 1 1 14.45	Table Tabl	UC_NG U U TNG UC_NG U U TNG UC_NG U U TNG		+2 13 18 7.5 55569 WG501212 +2 13 18 7.5 55569 WG501212 +2 578 10 6.0 55560 WG501221 +2 578 10 7.5 55560 WG501239 +2 578 10 7.5 55560 WG501239
NECTORIZZONO DARIEL MEDIDANA NEL MEDIZE-FOR GESTA NONE FOR ESSEC FOR A DES MANDRA ANASTROLA. NECTORIZZONO DARIEL MEDIZANA NEL MEDIZE-FOR GESTA NONE FOR ESSEC FOR A DES MANDRA ANASTROLA. NECTORIZZONO DARIEL MEDIZANA NEL MEDIZANA NEL MEDIZANE FOR GESTA NONE FOR ESSEC FOR A DES MANDRA ANASTROLA. NEL POLIZZONO DARIEL MEDIZANA NEL MEDIZANE FOR GESTA NONE FOR ESSEC FOR A DES MANDRA ANASTROLA. NEL POLIZZONO DARIEL MEDIZANA NEL MEDIZANE FOR GESTA NONE FOR ESSEC FOR A DES MANDRA ANASTROLA. NEL POLIZZONO DARIEL MEDIZANE FOR MEDIZANE FOR MEDIZANE FOR ESSEC FOR ESSEC FOR A DES MANDRA ANASTROLA. NEL POLIZZONO DARIEL MEDIZANE FOR MEDIZANE FOR ESSEC FOR ESS	1876 1876/055 140 1856 5 4 1332(12073 1008) 1876/0717 1876/071	20170317 15:17:00 20170317 15:17:00 SK1680-28A 1 2 34.445 20170310 15:85:00 20170330 15:85:00 SK1680-2 1 1 34.445	1,4 Olchbrodeszere	UC_NG 1 1 170G 170G 170G 170G 170G 170G 170G		4.2 0.51 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
\$25000000000 BREE \$1000000000 BREE \$10000000000 BREE \$100000000000000000000000000000000000	MOT 10000005 MOU 0.0	00170317 15-27-00 20170317 15-37-00 10170317 15-37-00 1017060-33A 1 P 144.465 00170310 15-68-00 20170310 15-68-00 10170310 15-68-00 10170310 15-68-00 00170310 15-68-00 20170310 15-68-00 10170310 15-68-00 10170317 11-1700 10170317 15-58-00 1017031	1,20chsordesteren 15-0-1 1-0 1	UC, NC U U TNG U U U U U U U U U		4.2 1.2 1.8 7.5 901600 WG201212 4.2 2.2 1.8 7.5 901600 WG201212 4.2 1.8 1.0 1.0 901600 WG201213
	100	00170317 152730 20170317 1521730 351880-289 2 48.495 10170310 154500 20170310 154500 31580-2 1 1 34.495 20170317 152700 20170317 152700 31580-28A 1 2 34.495	2-2 debt debter vin conspringerer 1921 1.0	UU_NG		4.2 3.05 1.0 4.0 \$43680 WG20529 4.2 1.2 1.8 7.5 \$4360 WG20529 4.2 3.91 1.0 4.0 \$4360 WG20529
NESTROGOGO (MIG) MESICAN, NAS MESICA (2017A NONE 10A 1800C NOA 1800C NOA 10A 1A	287 \$45055 500 865 5 4 032(22):7.00.00 03/64/2017 287 \$450655 440 865 5 4 032(22):7.00.00 03/64/2017 287 \$45055 500 865 5 4 032(22):7.00.00 03/64/2017	00170310 15-65:00 20170310 15-65:00 83160-2 1 14-455 00170317 15:700 20170317 15:700 1018031 15:700 14:60-734 1 34-455 00170310 15:65:00 20170310 15:45:00 93160-2 1 34-455 15:45:00 93160-2 1 34-455	1,2,3-7s/chlorobenzene 27-61-6 1.8 1.8 1.8 8consocksonenthrane 73-67-5 1.0 2.0 8consocksonenthrane 73-67-5 1.8 1.8 1.8	US_RG U U TRG US_RG U U TRG US_RG U U TRG		4.2 4.1 18.8 7.5 541680 WG201221 4.2 1.1 1.0 4.0 541680 WG201221 4.2 1.4 1.8 7.5 541680 WG201221
1,000 1,00	DEV SMESSES 000 65G 5 4 \$383,00517,0000 0,0462,00217 DEV SMESSES AAB 65G 5 4 \$383,00517,0000 0,0462,00217 DEV SMESSES AAB 85G 5 4 \$384,00517,0000 0,0462,00217 DEV SMESSES AAB 85G 5 4 \$384,00517,0000 0,0462,00217	D0170110 104500 20170110 154500 513802 1 14.455 10170117 151700 20170117 2	Methyl acetate 79-20-9 14 14 Methyl acetate 79-20-9 14 14 Methyl acetate 79-20-9 8:8 8:8 8:8 Methyl-acetate 50-20-7 2130 130 130	UC_MG TRG UC_MG TRG UC_MG TRG		42 4.0 4.5 7.5 94580 WG30123 42 1.2 1.6 4.0 94580 WG30123 42 1.2 1.0 1.0 94580 WG30139 42 1.2 1.0 1.0 94580 WG30139
MICHANSONOO MAD MICHAN NAS MICHANOCATITA MONE COA DOSC COA DUS DESTRUCTURANTOR	DEN	00170110 1565.00 10170110 5-5500 93180-2 1 1 14.455 00170110 15-65.00 20170110 5-5500 93180-2 1 1 14.455 00170117 15:2700 20170117 15:1700 93180-28A 1 2 14.455	Method central 1,000 1,0	US_MG	2LSA 120 85 2009101 2LSA 120 85 2009101	42 1.4 1.8 7.5 \$51500 8630123 42 0 0 0 \$1550 8630 8630123 42 0 0 0 \$15500 8630123 42 0 0 0 \$15000 8630129
MICENSISSORIO BOSI MISTIGNA NAS MISSER FORMAZITÀ NONE CA DISCE CA US GESTANDIA AMANTICAL MICENSISSORIO BOSI MISTIGNA NAS MISSER FORMAZITÀ NONE CA DISCE CA US GESTANDIA AMANTICAL MICENSISSORIO BOSI DI MISTIGNA NAS MISSER FORMAZITÀ NONE CA LISCE CA US GESTANDIA AMANTICAL	98Y \$46055 A40 45G 5 4 539200517000 034620017 58Y \$46055 500 65G 5 4 539200517000 034620017 58Y \$46055 440 85G 5 4 5392005170000 034620017	SCYCHOLD 16:45:00 SEPSINE SE-600 SEESE SE-600 SEESE SE-600 SEESE S	Taluane OB 2017.56.5 15.2 15.	PCT SUBR PCT SUBR PCT SUBR	15.5A 15.5 25. 3009.3101 15.5A 11.5 25. 3009.3101 25.5A 13.54 36 2009.3101 25.5A 13.54 36 2009.3101	42 0 0 0 \$15160 MG301529 42 0 0 0 \$1660 MG301211 42 0 0 0 \$1660 MG301211
\$427-0000000 Jole \$1,000000 Jole \$1,0000000 Jole \$1,0000000 Jole \$1,0000000 Jole \$1,0000000 Jole \$1,0000000 Jole \$1,00000000 Jole \$1,000000000 Jole \$1,00000000 Jole \$1,00000000000000 Jole \$1,000000000000000000000000000000000000	Ber SW0015 MAD MEC 1 4	00170317	1.2 Orbitarembrase del 1996 - 1996 - 190. 100. 100. 100. 100. 100. 100. 100.	PCT	76.5A 134 50 2000100 2.5A 20 64 2000100 2.5A 130 64 2000100 2.5A 130 64 2000100	12 0 0 0 SEEGEO MCD01121
\$242700000000 ABD \$\text{METRICAR, ALC} \text{METRICAR, ALC} METRI	per 1996/055 200 85G 5 4 332(2)277:262.5 (2)6(2)277 2 287 595/055 4A 65G 5 4 332(2)277:262.5 (2)6(2)277 2 287 595/055 40 85G 5 4 332(2)277:762.5 (2)6(2)277 2	\$\$\text{\$\tex{\$\text{\$\tex{\$\text{\$\text{\$\text{\$\text{\$\texit{\text{\$\text{\$\text{\$\texitex{\$\text{\$\texit{\$\text{\$\text{\$\text{\$\text{\$\text{\$\texit{\$\te	Dicklorodifucorenthane (Frenc-12) 15-71-8 6.5 6.5 Dicklorodifucorenthane (Frenc-12) 15-71-8 15-5 15-5 Dickloromethane 15-71-8 15-71-8 15-71-8 15-71-8 Dickloromethane 15-71-8 15-71-8 15-71-8 Dicklorodifucorenthane 15-71-8 15-71-8 Dicklorodifucorenthane 15-71-8 15-71-8 Dicklorodifucorenthane 15-71-8 15-71-8 Dicklorodifucorenthane (French-12) 15-71-8 Dickl	UL. No. U U TRG UC. KG U U TRG UC. KG U U TRG		42 1.2 6.5 13. Scholle NCQ01221 42 4.2 1.4 7.5 15 Scholle NCQ01223 42 1.4 7.5 15 Scholle NCQ01233 42 1.8 6.5 13 Scholle NCQ01233
NEXASSEDEDUCOS JAMOS MERCONA, NAS MESCOS SEGO CISSA NONE NON BESCO POR NAS NATAHENN ANALYTICAL	\$87 \$49055 \$40 \$45 \$ 4 \$13,02,0317.00.25 \$0,062,0317 \$ \$87 \$49055 \$00 \$456 \$4 \$13,02,0317.00.25 \$0,062,0317 \$ \$87 \$49055 \$40 \$66 \$4 \$13,02,0317.00.25 \$0,062,0317 \$ \$87 \$49055 \$40 \$66 \$1 \$1,02,02,0317.00.25 \$0,062,0317 \$ \$88 \$40 \$40 \$40 \$40 \$40 \$40 \$40 \$40 \$40 \$40		Chloromethane 1447-3 7.5	UC_NG U U TNG UC_NG U U TNG UC_NG U U TNG	20 20 20 20 20 20 20 20	4.2 1.1 6.5 15. 15.58680 WG205139 4.2 1.1 6.5 1.3 54880 WG205121 4.2 1.3 7.5 15. 54180 WG205139
NCX201609000 MM1 MERDIAN NAS MESORSEZO, COMA N	DBY \$490055 DDD 85G 5	00170317 4-29:00 20170317 14:39:00 50120317 14:39:00 501206-134 1 P 14:371 01170310 10:000 50170317 14:39:00 50120317 14:39:00 501206-134 1 P 14:371 0170317 14:29:00 20170317 14:39:00 54120-13 1 14:371 0170317 14:29:00 20170317 14:39:00 54120-134 1 P 14:371 0170317 15:0000 50170317 14:39:00 54120-13 1 1 14:371	HANDAMENTAL 100 10	UC, NG U U TNG		1.6 P. Datester (Machine) 1.6 P. Datester (M
MESTROSCOCIO (MICE) MESTROSCOCIO (MICE) MESTROSCOCIO MEST	1	01/0017 16-29-00 20170117 16-29-00 511480-1874 1 1 16-277 00170110 15-08-00 30170110 15-08-00 511480-18 1 1 16-277 00170110 15-08-00 30170110 15-08-00 511480-1 1 16-277 00170110 15-08-00 30170110 15-08-00 511480-1 1 16-277	December	UC, NG U U TRG UC, NG U U TRG UC, NG U U TRG		1
\$25,000,000 MM \$1,000,000 MM \$	BE	DETERMINE 100 00 DETERMINE DETERMI	1.1.0 Contraventines	UG_NG U U TRG UG_NG 1 1 1 TRG UG_NG 1 1 1 TRG		42 1.4 1.8 7.5 501600 WC301579 42 1.0 12 4.5 501600 WC301279 42 1.2 1.8 7.5 501600 WC301279
NEXESTRATEGRAPHIC MARCH	SRY 196055 500 18GG 5 4 33,03,001 70.25 50,04,2017 1 58Y 596055 940 58G 5 4 33,03,0017 90.25 50,04,2017 1 58Y 596055 940 58G 5 4 33,03,0017 90.25 50,04,2017	20170310 15:08:00 20170310 15:08:00 \$31680-1 1 1 34.371 20170317 14:39:00 20170317 14:39:00 20170317 1 34.	1,1,2-Tochloro 1,2,2-trifluoroethare [Freo-113] 76-13-1 3,2 1,2 1,1,3-Tochloro-1,2,2-trifluoroethare [Freo-113] 76-13-1 3,8 1,8 1,8	UG_NG U U TRG UG_NG U U TRG		4.2 1.2 1.2 4.5 543680 WG20121 4.2 1.4 1.8 7.5 543680 WG20121



Contract_ID DO_CTO_Number Phase Installation_ID Sample_Name CH2M_Code Mnalysis_G	roup Analytical Method PRC Code Lab_Code Lab_Name Leachate_Method Sample_Basin	is Extractice, Method Result, Type Lab, QC, Type Sample, Medium QC, Level Date Time, Collected Date, Received Leachast	ate keachste Time Kstraction Date Estraction Time Analysis, Date Analysis, Time Lab Sample ID Citation Run, Number Percent	olstare Percent Upid Chem Name Haulyte ID Analyte Value Original Analyte Value	Result_Units Lab_Qualifier Validator_Qualifier SZ_Column_Type Analysis_Result_Type Result_Narrative QC_Control	üinik Code QC Accuracy, Upper QC Accuracy, Lower Control Limit, Date QC, Narrative MOL Detection Lin	Init [GGM_Venion OL COO LOQ SDG Analysis_Batch Validator_Name Yes_Ost
NEETSTANDOOD AND METERAN HAS METERAN HOUSE SELECTIONS NOW YOU	1000C	\$46005 \$00 \$15 \$ 4 \$13610293 1945 \$1056033 1 \$1056033 1 \$10600		1.1.2 September 95.0.5 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1	U.S. MG U U 1956 U.S. MG U U 1976 U.S. MG U U 1976 U.S. MG U U 1976		42 1.4 1.8 7.5 95180 WC201121 42 1.4 1.8 7.5 95180 WC201121 42 1.8 1.8 7.5 95180 WC201121
NE214/050000000 (MIND) MEDISONA NAS MESSIGNEZI ONDIA NONE VOA NE214/050000000 (MIND) MEDISONA NAS MESSIGNEZI ONDIA NONE VOA NE214/0500000 (MIND) MEDISONA, NAS MESSIGNEZI ONDIA NONE VOA NE214/0500000 (MIND) MEDISONA, NAS MESSIGNEZI ONDIA NONE VOA NE214/05000000 (MIND) MEDISONA MESSIGNEZI ONDIA NONE VOA NE214/0500000000000 (MIND) MESSIGNEZI ONDIA NESISONA ONDIA NESISONA NESISONA NESISONA NESISONA NONE VOA	2300C VOA RAS RATAFICINA ANALYTICAL SHY	19000055 000 88G 5 4 03/03/2007 10-05 03/04/2017 1905005 000 88G 5 5 03/04/2017 1905005 000 88G 5 5 03/04/2017 1905005 000 88G 5 0 03/04/2017 190500005 000 88G 5 0 03/04/2017 1905005 000 88G 5 0 03/04/2017 190500005 000 88G 5 0 03/04/2017 190500000000000000000000000000000000000	0.07/03/10 16/22/00 207/03/10 16/22/00 43.160-3 1 1 24.344	-7-1442/0040 917-79-6 17 17 17 17 17 17 17 17 17 17 17 17 17	00.65 U U UM 1956 U UM 1956 U UM 1956 U U UM 1956 U U UM 1956 U U UM 1956 U U U U U U U U U U U U U U U U U U U		4.2 7.2 19. 48. 55580 MCADISTS 4.2 5.70 18 7.5 55580 MCADISTS 4.2 5.90 18 7.5 55580 WCADISTS 4.2 5.90 18 7.5 55580 WCADISTS 4.2 2.0 11. 22. 55580 WCADISTS
NELETOTOLOGICOCO ANDO METERANA, NAS MESSA 923 0750A NONE VCA NELETOTOLOGICO ANDO METERANA, NAS MESSA 923 0750A NONE VCA NELETOTOLOGICO AND NELETOTOLOGICO AND NONE VCA NELETOTOLOGICO NONE NONE VCA NONE	1500C VOA EAS EATAHON ANALYTICAL DRY	\$96505 200 86G 5 4 \$10,02027.2045 00,662,2017 \$965055 200 86G 5 4 \$10,02,0217.2045 00,662,2017 \$965055 200 86G 5 4 \$10,02,0217.21645 00,662,2017 \$965055 200 86G 5 4 \$10,02,0217.21645 00,662,2017	0017010 162200 20170010 162200 31346-3 1 34344 20170010 162200 20170010 162200 31346-3 1 34344 20170010 162200 20170010 162200 31346-3 1 1 34344 20170010 162200 20170010 162200 31346-3 1 1 24344 20170010 2017001	# - and p-Nylene magnetiste 7.5	UC_RG UM UM TRG UC_RG UM UM TRG UC_RG UM UM TRG UC_RG UMM UMM TRG		4.2 2.6 7.5 15. SULGGO WG20122 4.2 2.0 1.8 7.5 SULGGO WG20122 4.2 9.76 1.8 7.5 SULGGO WG20121
NEST/00000000 (MOC) MEDICAN, NAS MESSIGARE 2010 AND NON NO NO NO NO NEST/0000000 (MOC) MESSIGARE NEST/0000 AND NO NEST/0000, NAS MESSIGARE 2010 AND NO	#250C YOA #AS #ATAHON ANALYTICAL DRY \$250C YOA #AS #ATAHON ANALYTICAL DRY	\$995055 000 8EG 5 4 03(8)(2017 31-65 03)(6)(2017	D017010 162200 20170310 162200 931869 1 1 14.344 1 1 1 14.344 1 1 1 1 1 1 1 1 1	Recording 75-5-2 3.8 3.8 1.8 1.8 1.9 1	UC, GG UM UM 195G UC, GG UM UM 195G UM 195G UM UM UM UM 195G UM		4.2 1.0 1.8 7.5 (91580 WG20112) 4.2 1.4 1.8 7.5 (91580 WG20112) 4.2 1.4 1.8 7.5 (91580 WG20112) 4.2 1.3 1.8 7.5 (91580 WG20112) 4.7 0.9 1.8 7.5 (91580 WG20112)
MASTORISECTORIS (MOST MASTERIA MAST MICROS \$422.07MA MOST (CA. 10.000 MICROS \$422.07MA MOST (CA. 10.000 MICROS MIC	1260C VCIA KAS KATAHON ANALYTICAL DRY	\$965035 000 8EG 5 4 33,032,2027 30:45 00,062/2017 5965035 000 8EG 5 4 33,032,2027 30:45 00,062/2017 5965035 000 8EG 5 4 33,03,2027 30:45 00,062/2017 5965035 000 8EG 5 4 33,03,2027 30:45 00,062/2017 5965035 000	00170310 1622:00 20170310 16:22:00 8x1680-3 1 1 2x.344 00170310 16:22:00 20170310 16:22:00 5x1680-3 1 1 2x.344 00170310 16:22:00 20170310 16:22:00 5x1680-3 1 1 2x.344 00170310 16:22:00 20170310 16:22:00 5x1680-3 1 1 1 2x.344	1,4 Olchlorobeszeres 106 46-7 1,8 1,8 1,3 1,3 1,3 1,3 1,3 1,3 1,3 1,3 1,3 1,3	UC_6G UM UM TRG UC_8G UM UM TRG UC_8G U U TRG UC_8G U U TRG		4.2 0.66 1.8 7.5 \$41680 WG20123 4.2 1.2 1.8 7.5 \$41680 WG20123 4.2 2.2 1.8 7.5 \$41680 WG20123
NG247016D9000 IM01 MERIDIAN_NAS MESOB-SB21-070BA NONE VOA	E350C YGA EAS EATAHON ANALYTICAL DRY	\$4,000.55 \$0.00 \$6.00 \$1.00		12,4-Trichlorobenszere 120-82-1 1.8 1.8 1.1 1.2,2-Trichlorobenszere 17-61-6 1.8 1.8 1.8 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9	UG. KG UMM UMM TRG UG. KG UMM TRG US UG. KG U U U TRG		4.2 1.2 1.8 7.5 SX1680 WG20121 4.2 1.1 1.8 7.5 SX1680 WG20122 4.2 1.4 1.8 7.5 SX1680 WG20123
MAST/03/2000000 AMD0	Mario	2006/0015 300 305.6 5 6 305/00/2017 20165 305/00/2017 30	007/03/10 102/23/0 207/03/10 102/23/0 343/05/4 1 1 24.94 007/03/10 162/23/0 207/03/10 162/23/0 343/05/3 1 2 3.34 007/03/10 162/23/0 207/03/10 162/23/0 343/05/3 1 24.344 007/03/10 162/23/0 207/03/10 162/23/0 343/05/3 1 24.344	Descript Science	00_05 U U U INN	120 85 20091101 115 85 20091101	4.2 4.0 4.5 7.5 DEEBED WAZDELTS 4.2 1.6 1.8 7.5 DEEBED WAZDELTS 4.2 9 9 9 SICHAD WAZDELTS 4.2 0 9 9 SICHAD WAZDELTS 4.2 0 9 9 SICHAD WAZDELTS
MESTATOSSOCOCO JANOS	2500C VOA EAS EATAHON ANALYTICAL DRY	\$\text{\$\subseteq\$5}\$ 900 8EG \$ 4 \$\$\text{\$\exititx{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{\$\text{		1,2 Glot for seemans 4 d 1700 0 7 o 122 122 0 Beromethusen 4 1866 6.3 7 106 106 106 106 106 106 106 106 106 106	FCT	134 56 2009101 130 64 2009101	4.2 0 0 0 0 951680 WG20121 4.2 0 0 0 0 551680 WG20121 4.2 0 0 0 551680 WG20121 4.2 5.92 5.0 10 551680 WG20121 4.2 5.92 5.0 10 551680 WG20122 WG20122 4.2 5.92 5.0 10 551680 WG20122 4.2 5.92 5.0 5.0 551680 WG20122 4.2 5.0 551680 WG2012
MESTROSCOCO (MICE) MESTROSA, NAS MESTRO-TROS-0317 HONE NOA MESTROSCOCO (MICE) MESTROSCOCO	#350C YOA RAS RATAHDRIANANTICAL DRY #350C YOA RAS RATAHDRIANANTICAL DRY #350C YOA RAS RATAHDRIANANTICAL DRY #350C YOA RAS RATAHDRIANANTICAL DRY	\$\text{SW5055} \tag{0.00} \text{ 8EG } \tag{5} \tag{4} \tag{0.00} \tag{0.0007 \text{ 8EG } \tex	D01701010 12:02:00 20:170310 12:07:00 \$11405 1 1	Olorcorethase 34.47-3 5.0 5.0 Very Chloride 35.01-4 5.0 5.0 South Chloride 35.01-4 5.0	UC, KG U U 1765 UC, KG U U 1765 UC, KG U U 1765		62 1.6 5.0 10. SS1580 WG201121 42 587 5.0 10. SS1580 WG201121 42 1.1 5.0 10. SS1580 WG201121 42 1.1 5.0 10. SS1580 WG201121
\$\text{CATAMORPORTS}\$ \text{\(\text{CATAMORPORTS} \) \(1260C VOA RAS RATAHON ANALYTICAL DRY	\$\text{50035}\$ 300 86G \$ 4 \$3,032,2027.06:00 \$0,062,2017 \$\text{5004035}\$ 300 86G \$ 5 4 \$3,032,2027.06:00 \$0,062,2017 \$\text{5004035}\$ 300 86G \$ 5 4 \$3,032,2027.06:00 \$0,062,2017 \$\text{5004035}\$ 300 66G \$ 5 4 \$3,032,2027.06:00 \$0,062,2017 \$\text{5004035}\$	20170310 12-02-00 20170310 12-02-00 8x1680-5 1	Trichlorofluoremethate [Feso-11] 75-69-4 1.0 5.0 1.1 5.0 5.0 1.1 5.0 5	UC 85 U U 1785 UC 85 U U 1785 UC 85 U U 1785		4.2 0.01 5.0 10. \$43680 NG200121 4.2 0.09 2.5 5.0 \$45680 NG200121 4.2 0.70 2.5 5.0 \$45680 NG200121 4.2 0.70 2.5 5.0 \$45680 NG200121
NEXT/00000000 IM01	1550C YGA EAG EATAHGIN ANALYTICAL DRY	\$\text{SMSGS}\$ 000 \$RG \$ 4 \$\text{SMSGMS}\$ 0000 \$RG \$ 6 \$ 4 \$\text{SMSGMS}\$ 0000 \$\text{SMSGMS}\$ 000 \$\text{RG}\$ 5 \$ 4 \$\text{SMSGMS}\$ 0000 \$\text{SMSGMS}\$ 000 \$\text{RG}\$ 5 \$ 4 \$\text{SMSGMS}\$ 0000 \$\text{SMSGMS}\$ 0000 \$\text{SMSGMS}\$ 0000 \$\text{RGG}\$ 5 \$ 4 \$\text{SMSGMSGMS}\$ 0000 \$SMSGMSGMSGMSGMSGMSGMSGMSGMSGMSGMSGMSGMSG		1,1,2-Tricklero-1,2-trifluoroethane Freon-11 34-13-1 2.5 2.5	06,65 U U 1765 U 0 17		4.2 9.00 2.5 5.0 SS1680 WG201121 4.2 7.9 12, 25, SS1680 WG201121 4.2 5.1 12, 25, SS1680 WG201121
NEXT-100000000 (MIDS) MEDISON NEXT-100-0017 NO. NEXT-100-0017 NO. NO. NO. NEXT-100-0017 NO.	1,550C	\$000005 000 85G 5 4 \$33(3)(2017) 6500 \$10(6)(2017) \$986055 000 85G 5 4 \$33(3)(2017) 6500 \$10(6)(2017)	00170310 120200 20170310 120200 931805 1	Orano 1,2-0/CINDOMENSIA SS-60-5 2-5	00.65 U U 1766 U U 17		4.2 0.71 2.5 1.0 SESSION PROCESSES 4.2 1.1 2.5 1.0 SESSION PROCESSES 4.2 1.7 2.5 1.0 SESSION PROCESSES 4.2 1.7 2.5 1.0 SESSION PROCESSES 4.2 0.91 2.5 1.0 SESSION PROCESSES 4.2 0.91 2.5 1.0 SESSION PROCESSES
WEST/05/05/00/00 AME	D300C POA PAS RATAHERN ANALYTICAL SHY	\$\text{\$W0035}\$ \$00 88G \$ 4 \$\text{\$M\$0035}\$ \$00 \$\text{\$DEG}\$ \$ 4 \$\text{\$M\$0035}\$ \$00 \$\text{\$DEG}\$ \$ 1 \$\text{\$M\$0035}\$ \$00 \$\text{\$DEG}\$ \$ 4 \$\text{\$M\$0035}\$ \$00 \$\text{\$DEG}\$ \$ 1 \$\text{\$M\$0035}\$ \$00 \$\text{\$M\$003}\$ \$ 1 \$\text{\$M\$0035}\$ \$00 \$\text{\$M\$003}\$ \$ 1 \$\text{\$M\$003037}\$ \$ 1 \$\$M	0017010 1202.00 20170310 1202.00 31340-5 1	Oblienthern 17:6-3 2.5 2.5 Carbon testeschloride 56:23-5 2.5 2.5 1,1,1-Packitorosethanie 71:6-6 2.5 2.5 2.5	00_85 U 0 1765 U 0 17		42 0.35 2.5 5.0 S1080 WC201121 4.2 1.3 2.5 5.0 S1080 WC20121 4.2 2.4.2 2.5 5.0 S1080 WC20121
\$14730500000 [Mi01] MERIDAN, NAS MESSATEDO-0317 NONE YOA \$14730500000 [Mi01] MERIDAN, NAS MESSATEDO-0317 NONE YOA \$14730500000 [Mi01] MERIDAN, NAS MESSATEDO-0317 NONE YOA \$14730500000 [Mi01] MERIDAN, NAS MESSATEDO-0317 NONE YOA	#390C YOA RAS RATAHISM ANALYTICAL SRY #390C YOA RAS RATAHISM ANALYTICAL SRY #390C YOA RAS RATAHISM ANALYTICAL SRY #390C YOA RAS RATAHISM ANALYTICAL SRY	\$995055 000 8EG 5 4 \$33(3)(2027) 768:00 50(4)(2017) 7895055 000 8EG 5 4 \$33(3)(2027) 768:00 50(4)(2017) 7895055 000 8EG 5 4 \$33(3)(2027) 768:00 50(4)(2027) 7895055 000 8EG 5 4 \$33(3)(2027) 768:00 50(4)(2027) 7895055 000 8EG 5 4 \$33(3)(2027) 768:00 50(4)(2027) 7895055 000 6EG 5 4 \$33(3)(2027) 76905 000 50(4)(2027) 789505	DOI 170110 12-02-00 201 170110 12-02-00 531 180-5 1	D-Retainmen 38-00-3 12 12 12 12 12 12 12 12 12 12 12 12 12	US, 65 U U 1955 UC, 65 U U 1955 US, 65 U U U 1955		4.2 5.9 12. 25. 59380 WC201121 4.2 5.92 2.5 5.0 SU380 WC201121 4.2 1.4 2.5 5.0 SU380 WC201121 4.2 1.4 2.5 5.0 SU380 WC201121 4.2 1.0 2.5 5.0 SU380 WC201121
H32-076460000 (MIG) MERIDAN, NAS MEDISATION 0017 NONE (NAS MIGHT NAS MIGHT N	1500C VOA EAS EATAHON ANALYTICAL DRY	\$400,005 NO REG 5 4 \$3,000,000 T 60.00 \$0,000,001 \$100,000 \$100,00		1,3 1,5	UC_RG U U TRG UC_RG U U TRG UC_RG U U TRG UC_RG U U TRG		4.2 0.59 2.5 1.0 SEG80 WG20122 4.2 1.4 2.5 1.0 SEG80 WG20121 4.2 3.00 2.5 1.0 SEG80 WG20121
MESTROSCOPOCO (MADE) MESTROSAN, MAS (MESTRATOR) - 0317 NONE VOA MESTROSCOPOCO (MADE) MESTROSAN, MESTROS-1020-0317 NONE VOA MESTROSCOPOCO (MESTROSCOPOCO) MADE) MESTROSCOPOCO (MESTROSCOPOCO) MESTROSCOPOCO (MESTROSCOPOCO) MADE) MESTROSCOPOCO (MESTROSCOPOCOCO) MESTROSCOPOCO (MESTROSCOPOCOCO) MESTROSCOPOCOCO (MESTROSCOPOCOCOCO) MESTROSCOPOCOCO (MESTROSCOPOCOCO) MESTROSCOPOCOCOCO (MESTROSCOPOCOCO) MESTROSCOPOCOCOCO (MESTROSCOPOCOCOCO) MESTROSCOPOCOCOCOCOCO (MESTROSCOPOCOCOCOCOCOCO) MESTROSCOPOCOCOCOCOCOCOCOCOCOCOCOCOCOCOCOCOCO	1390C VOA 645 RATAHION ANALYTICAL DISY	\$W0005 900 86G 5 4 30,03,0307 66:50 02,06,7037 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D0170310 12-02-00 20170310 12-02-00 51480-5 1 1	64-1,3 Glehloropropere 10061-01-5 2-5 2-5 Tolume 10061-01-5 2-5 2-5 Tolume 10061-01-3 2-5 2-5 2-5 4-Methyl 5-pentanore 10061-01 12 12 12 Tolumbur 10061-01 12 12 12 12 12 12 12 12 12 12 12 12 12	UC, GG U U 1765 UC, GG U U 1765 UC, GG U U 1765 UC, GG U U 1765 UC, GG U U 1765		4.2 0.72 2.5 5.0 SISSBO WC20121 4.2 1.4 2.5 5.0 SISSBO WC20121 4.2 1.4 2.5 5.0 SISSBO WC20122 4.2 1.0 12 25 SISBO WC20121 4.2 1.5 5.0 SISBO WC20121
	1550C VOA RAS RATALISM ANALYTICAL 50Y	SW0005	00170310 220200 20170320 1202000 484807 1	12 12 12 12 12 12 12 12	US_66		4.2 0.86 2.5 1.0 \$51.000 WG20122 4.2 0.97 2.5 1.0 \$51.000 WG20122 4.2 1.0 2.5 1.0 \$51.000 WG20122 4.2 1.0 2.5 1.0 \$51.000 WG20122
NELS-POSECOROD AND METEROARY, MAS METER PERO - 0337 NONE YCA NELS-POSECOROD AND NONE YCA NELS-POSECOROD AND NONE YCA NELS-POSECOROD AND NONE YCA NELS-POSECOROD AND NELS-POSECOROD NELS-POSECOROD NOSECOROD NELS-POSECOROD NOSECOROD NELS-POSECOROD NOSECOROD NOS	E350C YGA EAG EATAHGM ABAUTICAL DRY	\$\text{SMSG05}\$ 000 \$\text{RG}\$ 5 4 \$\text{SMSG03760500}\$ 00\text{GMC}\text{CO17}\$ \$\text{SMSG05}\$ 000 \$\text{SGG}\$ 5 4 \$\text{SMSG03760500}\$ 00\text{GMC}\text{CO17}\$ \$\text{SMSG055}\$ 000 \$\text{RGG}\$ 5 4 \$\text{SMSG02576050}\$ 00\text{GMC}\text{CO17}\$ \$\text{SMSG02576050}\$ 00\text{MCG2017}\$		12-Obromoethase 306-93-4 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	06,65 U 0 195 06,65 U 0 195 06,65 U 0 195 106,65 U 0 195		4.2 1.2 2.5 5.0 SX1680 WG201121 4.2 4.8 12. 25. SX1680 WG201121 4.2 0.51 2.5 5.0 SX1680 WG20121
GLEFORDERS GLE	MAD	1,000,000 1,000 1,000,00		1207-04-04 2.5	0		42 13 75 15. SCASSO WCD01212 42 17 1.0 10. SCASO WCD01212 42 17 1.0 10. SCASO WCD01212 42 13 15 10. SCASO WCD01212
NE24703650000 ARCI MERISAN NAS MK 208 TRC-0377 NOME YOA NE247036500000 ARCI MERISAN NAS MK 208 TRC-04377 NOME YOA NE247036500000 ARCI MERISAN NAS MK 208 TRC-04377 NOME YOA	1350C	000000000000000000000000000000000000	20170110 1202.00 20170110 12.02.00 20170110	Syrene	UC_RG U U TRG UC_RG U U TRG UC_RG U U TRG		42 5.51 5.5 1.0 841880 WG201231 42 5.70 5.5 1.0 841880 WG201231 42 5.50 5.5 1.0 841880 WG201231
WEST-0004000000 Mod0 METEROAR MAS METER TEXT-00177 MORE VIÇA MAST VIÇA VIÇA MAST VIÇA MAST VIÇA VI	MASS	WMG055 500 86G 5 4 MAG4,0027 68:00 GAPC,0017 WMG055 500 66G 5 4 MAG4,0027 68:00 GAPC,0017 WMG055 500 66G 5 4 MAG4,0027 68:00 GAPC,0017 WMG055 500 MAGC,0017 WMG055 5 5 5 5 5 5 5 5 5	00170310 120200 20170330 1202000 561480-5 1	13.2.7 Paraction or have 93.45 2.5 2.5 2.5 1.3.0 (All College Paracters of 147.72 1.5 2.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1	US. NS		42 3.84 1.5 5.0 (50.080 NC.2012) 4.2 3.62 2.5 5.0 (50.080 NC.2012) 4.2 3.64 2.5 5.0 (50.080 NC.2012) 4.2 3.64 2.5 5.0 (50.080 NC.2012) 4.2 3.64 2.5 5.0 (50.080 NC.2012)
NEXT/101609000 (IND1 MERICAN, NAS MESON-TRO-0317 NONE VOA NEZY/701609000 (IND1 MERICAN, NAS MESON-TRO-0317 NONE VOA NEZY/701609000 (IND1 MERICAN, NAS MESON-TRO-0317 NONE VOA	\$2,00C MOA MOS RATAINSMA ANALYTICAL 589 52,00C MOA MOS MOS	1000005 200 100 1 1 1 1 1 1 1 1	ADTURNIO 120200 ANTINES 120200 ANTINES 1 ADTURNIO 120200 ANTINES 120200 ANTINES 1	1,2 Obrasso 3-coloropropases 51-12 25 25 12,5 12,4 Professor 3-coloropropases 52-12 25 25 12,4 Professor street 25 25 25 12,5 Professor street 25 25 25 25 12,5 Professor street 25 25 25 12,5 Professor street 25 25 25	UC_RG U U TRG		4.2 1.5 2.5 1.0 041880 W4204121 4.2 3.70 3.5 1.0 041880 W4204121
NESHYDSEGROOD (MIND) MEDICAN, NAS MESDA-TEGO-0317 NONE 10A NESHYDSEGROOD (MIND) MEDICAN, NAS MESDA-TEGO-0317 NONE 10A NESHYDSEGROOD (MIND) MEDICAN, NAS MESDA-TEGO-0317 NONE 10A	1250C MOA MAS MATACON ANALYTICAL 50Y 1250C MOA AAS MATACON ANALYTICAL 50Y 1250C MOA 6AS MATACON ANALYTICAL 50Y 1250C MOA 6AS MATACON ANALYTICAL 50Y 1250C MOA 6AS MATACON ANALYTICAL 50Y 1250C 1	SW0005 S00 REG \$ \$ \$383,0307 GE-00 \$28667,037 \$ \$ \$ \$ \$ \$ \$ \$ \$	00170010 1240:00 0070030 1240:00 151400-5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Bornochkornethne 1447-5 2.5	UC KG U U TKG U U TKG U U KG U U KKG U U KKG U U KKG U U KKG U KKG U U KKG U KKG U U KKG U U KKG KG U U KKG U KKG U KKG U U KKG U KKG U U KKG U KKG U U U KKG U KKG U U KKG U KKG U U		4.2 0.91 2.5 1.0 955800 WC29123 4.2 2.7 1.0 5.0 955800 WC29123 4.2 3.96 2.5 1.0 95680 WC29123 4.2 3.96 2.5 1.0 95680 WC29123
M227030500000 [M001 M4590AA, MAS M4500-100-0-0317 NOME VOA M227030500000 [M001 M5590AA, MAS M4500-100-0-0317 NOME VOA M227030500000 [M001 M5590AA, MAS M4500-100-0-0317 NOME VOA M227030500000 [M001 M5590AA, MAS M4500-100-0-0317 NOME VOA M227030500000 [M001 M5590AA MAS M5500-100-0-0317 NOME VOA	1,500C POIA MS BATANDA PARATTICAL DIST	\$000005 \$000 \$85G \$ 4 \$030302072 08000 \$03062017 \$0000055 \$000 \$15G \$ 4 \$030320270 08000 \$03062017 \$000000 \$03062017 \$000000 \$03062017 \$000000 \$03062017 \$000000 \$03062017 \$00000000000000000000000000000000000	00170310 120200 20170310 120200 931805 1	+ errorectivatement	PCT SURR 2.55.	120 85 20001101 115 85 20001101 124 58 30001101 124 58 30001101	4.2 9 9 9 SESSION PROCESSES 4.2 9 0 9 SESSION PROCESSES 4.2 9 0 9 SESSION PROCESSES 4.2 9 9 9 SESSION PROCESSES 4.2 9 9 9 SESSION PROCESSES 4.2 9 9 9 SESSION PROCESSES
\$12-0704500000 24001 MERIOAR, NAS MEDOR 2020-2027 NONE VOA NES-000500000 24001 MERIOAR, NAS MEDOR 2020-2027 NONE VOA NES-00050000 24001 MERIOAR, NAS NES-001212-8 (AANK NONE VOA NES-0014500000 24001 MERIOAR, NAS RECORDIZIS BLANK NONE VOA NES-0014500000 24001 MERIOAR, NAS RECORDIZIS BLANK NONE VOA	1300C NOA OAS BATHAGON ADMILYTICAL SEY 1300C COA OAS BATHAGON ADMILYTICAL SEY 1300C COA OAS BATHAGON ADMILYTICAL SEY 1300C COA OAS BATHAGON ADMILYTICAL SEY OAS	1990 1900 187 4 1970 1972 11.55 1970 1970 17 1970 17 17 17 17 17 17 17		Stationalfilaromethate (Free-12) 7571-8 1.0 1.	UC_RG U U TRG 0.000 0.00		42 502 6.0 55 56560 WC28121 42 1.4 6.0 55 56560 WC28121 43 527 6.0 50 56560 WC28121
MESTADA MORE	MATERIA MATE	MAX S 4 33/9/2007 11-56 69/9/2017 59/9/2017 59/9/2017 59/9/2017 59/9/2017 59/9/2017 59/9/2015 500 0.K 5 4 33/9/2017 11-56 69/9/2017 59/9/2015 500 0.K 5 4 33/9/2017 11-56 69/9/2017 59/9/2017	DECEMBER 11250340 20079330 1125030 WC201212-2 1	permomentance 744.9-9 5.0 5.0 5.0 Clorestrates 75.0-1 5.0 5.0 5.0 Clorestrates 75.0-0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	U		**
NEET-TO-SECTION NEET NEE	\$2,00C \$\text{VGA}		20170310 11:36:00 30170310 11:16:00 WC201212-2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Carbon disulfide 75-15-0 2.5	UC_NG U U 1752 UC_NG U U 1752 UC_NG U U 1752		42 5.78 1.5 1.0 81580 WGD01231 42 5.50 2.5 1.0 81580 WGD01231 42 79 2.2 25 81580 WGD01231
NESTROSEGODO (MADE) MESTICANA, NAS (WZ20122-01-AMAC NONE VOA NESTROSEGODO (MADE) MESTICANA (WZ20122-01-AMAC NONE VOA NESTROSEGODO (MADE) MESTICANA, NAS (WZ20122-01-AMAC NONE VOA	#2500C YOA FAS FATAHISH ARASTICAL DRY 15500C YOA FAS FATAHISH ARASTICAL DRY 1250C YOA FAS FATAHISH ARASTICAL DRY	\$96505 000 BLK 5 4 \$32/9/2017 1:56 \$03/9/2017 \$965055 000 BLK 5 4 \$32/9/2017 1:156 \$03/9/2017 \$965055 000 BLK 5 4 \$32/9/2017 1:156 \$03/9/2017		Acetone 97-06-1 12 12 trans-1-2 Octobossemens 97-06-5 2.5 1.5 Methyl-tent-butyl ether (MTRE) 958-06-4 2.5 2.5	UC, KG U U 195 UC, KG U U 1765 UC, KG U U 1765		4.2 5.1 12. 25. 503800 WG200121 4.2 0.71 2.5 10. 503800 WG200121 4.2 1.1 2.5 5.0 50380 WG20121
HAST-000400000 AND METERAR NAS MC20123 BANK	2005	WOODS MAX M.K. 4 MAJERGARY AT 18 MAJ	007/04/10 11/06/00 207/04/10 11/16/00 WG001127-2 1	1,1-0cm/colestonestes	00_05		6.2 1.7 2.5 5.0 SESSO WEATER 4.2 3.91 3.5 5.0 SESSO WEATER 4.2 3.5 1.5 5.0 SESSO WEATER 4.2 3.5 1.5 5.0 SESSO WEATER 4.2 1.3 1.5 5.0 SESSO WEATER 4.3 1.5 5.0 SESSO WEATER 4.4 1.5 SESSO WEATER 4.5 SESSO WEATER 4.5 SESSO WEATER 4.5 SESSO WEATER 4.7 SESSO WEATER 4.7 SESSO WEATER 4.8 SESSO WEATER 4.9 SESSO WEATER 4.9 SESSO WEATER 4.0 SESSO
#524705500000 M01 MERICAR N.S. WC20122-BLANK NONE YOA N24705500000 IM01 MERICAR N.S. WC20122-BLANK NONE YOA N24705500000 IM01 MERICAR N.S. WC20122-BLANK NONE YOA	2500C COA FAS BATAHERN ANALYTICAL SIN'	\$W5005 500 66K 5 4 53/95000713:16 03/05/2017 \$W5005 500 66K 5 4 53/95000713:36 03/05/2017 \$W5005 500 66K 5 4 53/95000713:36 03/05/2017 \$W5005 500 66K 5 4 53/95000713:36 03/05/2017	20170310 1156:00 20170310 1156:00 MC001121-2 1	1,1,1-Tochlorosebans 71,65-6 2,5 2,5 2,5 2,5 2,5 2,5 2,5 2,5 2,5 2,5	UC 85 U U TRG		42 9.42 2.5 5.0 SESSO WG20123 4.2 1.9 12 25 SESSO WG20121 4.2 3.92 2.5 SESSO WG201211
NEST-0705600000 JANOS MARTINA SERICARA, NAS. NICOSSESS BLAME NOME VIÇA NEST-0705600000 JANOS MARTINA SERICARA, NAS. NICOSSESS BLAME NOME VIÇA NEST-0705600000 JANOS MARTINA SERICARA, NAS. NICOSSESS BLAME NOME VIÇA NEST-0705600000 JANOS MARTINA SERICARA, NAS. NICOSSESS BLAME NOME VIÇA	#390C YOA RAS RATAHISMANAUTICAL DRY 1990C YOA RAS RATAHISMANAUTICAL DRY 1900C YOA RAS RATAHISMANAUTICAL DRY 1900C YOA RAS RATAHISMANAUTICAL DRY 1900C YOA RAS RATAHISMANAUTICAL DRY	\$995055 200 BLK 5 4 \$325020711.156 \$337027017 \$985055 200 BLK 5 4 \$325020711.156 \$327027017 \$985055 200 BLK 5 4 \$325020711.156 \$32702017 \$985055 200 BLK 5 4 \$325020711.156 \$32702017 \$985055 200 BLK 5 4 \$325020711.156 \$32702017 \$985055 200 BLK 5 4 \$325020711.156 \$32702017 \$98505 200 BLK 5 5 4 \$327020711.156 \$327020717 \$98505 200 BLK 5 5 4 \$327020711.156 \$98505 200 BLK 5 5 4 \$3270	DOI/1010 11:56:00 201/1010 11:16:00 WC00112-2 1	Oytobeame 100-027 2.5 2.5 1,2 Gibbosehane 300-02 2.5 2.5 Trickloroethane 300-06 2.5 2.5 Trickloroethane 30-06 2.5 2.5 1,2 Gibbosenhane 30-06 2.5 2.5 1,2 Gibbosenhane 30-06 2.5 2.5 1,2 Gibbosenhane 30-06 2.5 2.5	US 85 U U 1785 U 0 17		4.2 1.4 2.5 1.0 (\$1580 WC20112) 4.2 1.0 1.5 1.0 (\$1580 WC20112) 4.2 1.0 1.5 1.0 (\$1580 WC20112) 4.2 1.0 1.5 1.0 (\$1580 WC20112) 4.2 1.4 2.5 1.0 (\$1580 WC20112) 4.3 1.4 2.5 1.0 (\$1580 WC20112)
NE24705600000 (Mol1 MESIDAN, NAS WG250122-BLANK NONE NOA NE24705600000 (Mol1 MESIDAN, NAS WG250122-BLANK NONE NOA NOA NE247056000000 (Mol1 MESIDAN, NAS WG250122-BLANK NONE NOA NOA NE247056000000 (Mol1 MESIDAN, NAS WG250122-BLANK NONE NOA	250C VOA EAS EATAHEIN ANALYTICAL 36Y 350C VOA EAS EATAHEIN ANALYTICAL 36Y	\$\text{SW5035}\$ \$200 \$8LK \$ \$ 4 \$\text{S\$\sqrt{10}\text{20}\text{20}\text{7.11.36}}\$ \$\text{03}\sqrt{20}\text{2017}\text{017}\text{507}\	20170310 11-56:00 20170315 11-16:00 WC201121-3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		UG NG U U 1756 UG NG U U 1756 UG NG U U 1756 UG NG U U 1756		4.2 3.60 2.5 1.0 92580 WG20121 4.2 3.72 2.5 3.0 82580 WG20121 4.2 1.4 2.5 3.0 82580 WG20121
NEST/00000000 IAMDI MERIDAN, NAS NEGRILIZ-BIANA NON NON NO NEST/00000000 IAMDI MERIDAN, NAS NEGRILIZ-BIANA NON NON NO NEST/00000000 IAMDI MERIDAN, NAS NEGRILIZ-BIANA NON NON NO	1300C YOA MAS MATAHEM ANALYTICAL SIN'	1986/055 200 BLK 5 4 33/19/2017 11:16 23/19/2017 1986/05 200 BLK 5 4 33/19/2017 11:16 23/19/2017 1986/05 200 BLK 5 4 33/19/2017 11:16 23/19/2017	DETITORIO 11:56:00 207/30310 11:16:00 WC001212-2 1 1 1 1 1 1 1 1 1	4-Methyl-2-pentanore 094-10-1 12 12 Tetrachforethere 127-15-4 125 125 trans-1_3-Oichforeprepere 0995-02-6 125 125	06.65 U 0 195 06.65 U 0 155 06.65 U 0 156		4.2 5.9 12. 25. SS1680 WC20122 4.2 12.5 5.0 SS1680 WC20122 4.2 18.6 2.5 5.0 SS1680 WC20122 4.2 18.6 2.5 5.0 SS1680 WC20122
	2000	1996055 200 BLK 5 4 30/10/2007 31.16 00/10/2017 1 1996055 200 BLK 5 4 30/10/2007 11.16 00/10/2017 1 1996055 200 BLK 5 4 30/10/2007 11.16 00/10/2017 1 1996055 200 BLK 5 4 30/10/2007 11.16 00/10/2017 1	00770100 11.56.00 20770100 11.56.00 WG0011272 1	12-0-0 12-0	00.00 U 0 1750 U 0 17		42 1.0 25 1.0 K1580 WG20121 42 1.0 25 1.0 K1580 WG20121 42 1.2 25 1.0 K1580 WG20121 42 1.2 25 5.0 K1580 WG20121 42 4.8 12 25 K5680 WG20121
NE24736609000 IM01 MERIDIAN_NAS WG201121-0LANK NONE VOA NE24736609000 IM01 MERIDIAN_NAS WG201121-0LANK NONE VOA	#2500C YOA FAS FATAHISH ARASTICAL DRY #2500C YOA FAS FATAHISH ARASTICAL DRY #2500C YOA FAS FATAHISH ARASTICAL DRY	\$985035 000 BEK 5 4 \$32/9/2017 12:56 \$03/9/2017 15:55 \$14.50 \$14.		Olsorobenciene 108-90-7 2.5 2.5 18tylemanes 209-01-4 2.5 2.5 18tylemanes 209-01-4 2.5 2.5 2.5 18tylem, total 220-20-7 7.5 7.5	UC, KG U U 1765 UC, KG U U 1765 UC, KG U U 1765		4.2 9.51 2.5 1.0 \$0.580 WG201121 4.2 9.55 2.5 1.0 \$0.580 WG201121 4.2 1.3 7.5 15. \$0.580 WG201121
H22-0761600000 (MIG) MREDIAN ALS RECEILEZ ALAKE NOME (YOA H22-0761600000 (MIG) MREDIANA, NAS RECEILEZ ALAKE NOME (YOA H22-0761600000 (MIG) MREDIANA, NAS RECEILEZ ALAKE NOME (YOA H22-0761600000 (MIG) MREDIANA NAS RECEILEZ ALAKE NOME (YOA H22-0761600000 (MIG) MREDIANA NAS RECEILEZ ALAKE NOME (YOA	2500C VOA EAS BATAHERI ADMENTACIA SHY	10000015 200 10.K 1 4 20/20/2017 11:16 0/27/20/2017 0/27/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/20/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017 0/27/2017		en- and p-Nyleren Indextract 5.0 5	00.65 U U 1866 U U 1876 U U 18		4.2 1.7 1.0 00. \$55,000 MCA00121 4.2 1.3 2.5 5.0 \$55,00 MCA00121 4.2 0.51 2.5 5.0 \$55,00 WCA00121 4.2 0.50 2.5 5.0 \$55,00 WCA00121 4.2 0.70 2.5 5.0 \$55,00 WCA00121
NEST/00000000 JANDS MESTIGUAN, NAS NEGOS123 GLANA NONE NOA NEST/00000000 JANDS MESTIGUAN, NAS NEGOS123 GLANAC NONE NOA NEST/00000000 JANDS NOSE NOA NEST/0000000000 JANDS NOSE NOA NEST/0000000000000 JANDS NOSE NOOSE N	E350C YGA EAS EATAHON ANALYTICAL DRY	\$1,00055 \$000 \$6.K \$ 4 \$2,000,0037.11.56 \$0,000,0017 \$1,000,0017 \$1,000,0017 \$1,000,0017 \$1,000,0015 \$1,	DOT/0310 11:8600 207/0310 11:1600 WS01121-2 1 1	Ispropybatane	06,65 U U 1755 U U U 1755 U U 1755 U U U 1755 U 1755 U U U U 1755 U U U U 1755 U U U U 1755 U U U U 1755 U 1755 U U U U U 1755 U U U U 1755 U U U U U U 1755 U U U U U 1755 U U U U U U U 1755 U U U U U U 1755 U U U U U U U 1755 U U U U U U 1755 U U U U U 1755 U U U U U U U U U U U U U U U U U U		4.2 9.02 2.5 1.0 SK1680 WG20121 4.2 9.84 2.5 1.0 SK1680 WG20122 4.2 5.62 2.5 1.0 SK1680 WG20123
NEST/00000000 (MOS) MESSIGNA, NAS (WC20123-0LANK NON NOA NOA NOA NEST/00000000 (MOS) MESSIGNA, NAS (WC20123-0LANK NON NOA NOA NOA NOA NOA NOA NOA NOA NOA	18390C	\$W0055 900 BLK 5 4 93/500573-11:56 03/16/5017 \$W0055 900 BLK 5 4 93/500573-11:56 03/16/5017 \$W0055 900 BLK 5 4 93/500573-11:56 03/16/5017 \$W0055 900 BLK 5 4 93/500573-11:56 03/16/5017	DOI/70100 11-56-00 201/70100 11-16-00 WC001121-2 1	1,4-Oichiorobeasene 106-66-7 2,5 2,5 1,2 Oichiorobeasene 106-66-7 2,5 2,5 1,2 Oichiorobeasene 15-0-1 2,5 2,5 1,2 Oichiorobeasene 15-0-1 2,5 2,5 1,2 Oichiorobeasene 15-0-1 2,5 2,5 2,5 1,2 -1-0-10-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	US_SG U U 1986 US_SG U U 1986 US_SG U U 1986 US_SG U U 1987 US_SG U U 1986 US_SG U U 1986		4.2 0.44 2.5 5.0 SSISBO WC20121 4.2 0.78 2.5 5.0 SSISBO WC20121 4.2 1.5 2.5 5.0 SSISBO WC201221 4.2 1.5 2.5 5.0 SSISBO WC201221 4.2 0.70 2.5 5.0 SSISBO WC201221
ME2H705600000 MM01	1250C VOA EAS EATAHON ANALYTICAL DRY	\$995035 900 BEK \$ 4 \$2/90/2027 11:56 \$0/95/2017 \$996035 900 BEK \$ 4 \$2/90/2027 11:56 \$0/95/2017 \$996035 900 BEK \$ 4 \$2/90/2027 11:56 \$0/95/2017 \$996035 900 BEK \$ 4 \$2/90/2027 11:56 \$0/95/2017	20170310 11-56:00 20170310 11-56:00 WG201121-2 1	1,2,3-Techlorobenzere 17-61-6 2.5 2.5 Bromochtromethane 34-07-5 2.5 2.5 Methyl acetale 79-20-9 1.0 1.0	UG.RG U U TRG UG.RG U U TRG UG.RG U U TRG UG.RG U U TRG		4.2 6.76 2.5 5.0 50360 WG20121 4.2 6.01 2.5 5.0 50360 WG20121 4.2 2.7 1.0 5.0 50360 WG20121
NESTROSCOCIO (MADE) MEDICANA, NAS (NEZOS122-BLANK NON VOA NESTROSCOCIO (MADE) MEDICANA, NESTROSCO, NEZOS122-BLANK NON VOA NESTROSCOCIO (MADE) MEDICANA, NEZOS122-BLANK NON VOA NEZOS122-BLANK	1399C	SW6035 000 BLK 5 4 33/30/2017 11:96 03/30/2017 SW6035 000 BLK 5 4 33/30/2017 11:96 03/30/2017	00170310 11:96:00 30170310 11:16:00 MG20121-2 1	Methylcyclohexane 108-87-2 2.5 2.5 4-Bromofluorobenzene 460-00-4 97.6 97.6	UG_RG U U TRG	120 65 20091101	
NE24705600000 (M01) MESIDOAN NAS NIG20122-6LANK NONE NOA NE24705600000 (M01) MESIDOAN NAS NIG20122-6LANK NONE NOA NE24705600000 (M01) MESIDOAN, NAS NIG201224-CS NONE NOA NOA NE24705600000 (M01) MESIDOAN, NAS NIG201224-CS NONE NOA NOA NOA NIG20124-CS NONE NOA NOA NIG20124-CS NONE NOA NIG20124-CS NIG20124-C	1260C VOA RAS RATAHON ANALYTICAL DBY 1260C VOA RAS RATAHON ANALYTICAL DBY 1260C VOA RAS RATAHON ANALYTICAL DBY 1260C VOA RAS RATAHON ANALYTICAL DBY 1260C VOA RAS RATAHON ANALYTICAL DBY	SW5005 000 BE S S A 03/00/007 31-16 03/00/2017	20120210 11-16-00 20120210 11-16-00 WG201121-2 1	Toluene-Oil 2017-26-5 99-4 99-4 11-2-11-2-11-2-11-2-11-2-11-2-11-2-11	PCT SURR 2.5A PCT SURR 2.5A CT SURR 2.5A	115 85 20091101 134 68 20091101	4.2 9.56 2.5 1.0 SS1580 WCZ91121 4.2 9 9 9 SS1580 WCZ91121 4.7 6 9 9 WCZ91121
NEST/00000000 IAMDE MERICAN, NAS NEGRO1124-CS NONE NOA NEST/00000000 IAMDE MERICAN, NAS NEGRO1124-CS NONE NOA NEGRO2000000 IAMDE NOA NEGRO200124-CS NONE NOA NEGRO200000 IAMDE NEGRO200000 IAMDE NEGRO2000000 IAMDE NEGRO20000000 IAMDE NEGRO2000000000000000000000000000000000000		WHORSE NO		Tolland Toll	PCT	115 85 20091101 134 58 20091101 130 64 20091101 135 25 25 20091101 130 50 20091101	4.2 \$5.66 \$.2.5 \$1.0 \$0.586.0 \$0.003121 \$ 4.2 \$1.5 \$2 \$2.0036.0 \$0.003122 \$ 4.2 \$1.5 \$2.0036.0 \$0.003122 \$ 4.2 \$1.5 \$2.0036.0 \$0.003122 \$ 4.2 \$1.5 \$2.0036.0 \$0.003122 \$ 4.2 \$1.5 \$2.0036.0 \$0.003612 \$ 4.2 \$1.5 \$2.0036.0 \$0.003612 \$ 4.2 \$1.5 \$2.0036.0 \$0.003612 \$ 4.2 \$1.5 \$2.0036.0 \$0.003612 \$ 4.3 \$1.5 \$2.0036.0 \$0.003612 \$ 4.4 \$1.0 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$0.003612 \$ 4.5 \$2.0036.0 \$ 4.5 \$2.
NE2F701609000 IM01 MERIDAN_NAS WG201121-LCS NONE VOA	D300C COA 645 EATAHERN ANALYTICAL D8Y	March Mod March Mod	\$1,000 \$	Indicate Of Conference Indicate Of Confere	C	15 15 2001	1
NG24701609000 IM01 MERIDIAN_NAS NG201121-LCS NONE VOA NG24701609000 IM01 MERIDIAN_NAS NG201121-LCS NONE VOA	1935C 1054 0.65 143 ANDRON ARALTICOL 287 1850C 1054 0.65 143 ANDRON ARALTICOL 287 1850C 1054 0.65 143 ANDRON ARALTICOL 287 1850C 1054 105 105 ANDRON ARALTICOL 287 1850C 1054 1055 105 ANDRON ARALTICOL 287 1850C 1054 1055	MORRES M	March Marc	Makes Od Minks of American Conference 1970-26-16 1971-26 1	C	1	1
BLEST/00000000 (MICE) MERIDIANA NAS. BICE/200124CCS NOME NOME </td <td> DESC DA</td> <td> MARCH Marc</td> <td> 10.00</td> <td> Produce Of Mines and 1970-26 1971-26 1</td> <td> C</td> <td> 1</td> <td> 1</td>	DESC DA	MARCH Marc	10.00	Produce Of Mines and 1970-26 1971-26 1	C	1	1
NET		WORDS WO	\$\begin{array}{cccccccccccccccccccccccccccccccccccc	August A	C	1	1
MATERIANSON MATERIAN MATER	Decision	March Marc	December 1,140	1.00 1.00	C	1	1
MATERIANSON MATERIAN MATER	DESC. DESC. DESC. DESCRIPTION DESC		Color	1.5 1.5	Transport Tran	135 70 20091101	1
MATERIANSON MATERIAN MATER	Decision		Color	1.5 1.5	C	125 70 2009101 125 75 2009101 120 70 2009101	1
MATERIANSON MATERIAN MATER	Decided Deci		Column	1.5 1.5	The color of the	125 70 2009101 125 75 2009101 120 70 2009101	1
Company Comp	Decided Deci		Column	Administration	C	125 70 2009101 125 75 2009101 120 70 2009101	1
MATERIAL	4000C 100 10	0000055 900 90 1 0 0 0 0 0 0 0 0	Column	1,0 200 test parties 200 to 2 21	C	1	1
MATERIAL	1005 65	MARTIN NO	2012 2014 2015 2014 2015 2015 1 1 1 1 1 1 1 1 1	Administration	3 d d	1	1
MATERIAL	Dec			100 pt 1	C C C C C C C C C C	1	1
MATERIAL	DEC	March Marc	2012 2014 2015 2014 2015 2015 1 1 1 1 1 1 1 1 1	Acceptance	3 d d	1	1
MATERIAL	Dec			100 pt 1	C C C C C C C C C C	1	1
MATERIAL	DEC			Acceptance	C C C C C C C C C C	1	1
Company	DEC			Acceptance	C C C C C C C C C C	1	1
Company	DEC			Authorized 100 pt 101 pt	C C C C C C C C C C	1	1
Company	DEC	March Marc	\$\ \text{Size} \ \text{Size}	Authorization	C C C C C C C C C C	1	1
Columbia	DEC	March Marc	\$\ \text{Size} \ \text{Size}	Authorization	C C C C C C C C C C	1	1
Column	DEC	March Marc	\$\ \text{Size} \ \text{Size}	Activation	C C C C C C C C C C	1	1
Columbia	DEC	March Marc	\$\ \text{Size} \ \text{Size}	Activation	C C C C C C C C C C	1	1
Column	Dec	March Marc	\$\ \text{Size} \ \text{Size}	Activation	C C C C C C C C C C	1	1
Column	Dec	March Marc	\$\ \text{Size} \ \text{Size}	April	C C C C C C C C C C	1	1
Column	Description	March Marc	Section Sect	April	C C C C C C C C C C	1	1
Column	Dec	Company	\$\ \text{Size} \ \text{Size}	April	C C C C C C C C C C	1	1
Column	Description	March Marc	Section Sect	April	C C C C C C C C C C	1	1
Column	Description Company	March Marc	Color	Applications	C C C C C C C C C C	1	1
Column	Description	March Marc	Section Sect	Applications	C C C C C C C C C C	1	1

Contract_ID DO_CTO_Number Phase in NG247006090000 IM01 M	Installation_ID Sample_Name MERICIAN_NAS WG201342-BLANK	CH2M_Code Analysis_Group Au NONE VOA BE	rallytical_Method PRC_Code 260C VOA	Lab_Code Lab_Name Leuchate_Method EXG EATAHOIN ANALYTICAL	Sample_Basis Extraction_Method Re WET SW5030 X	esult_Type Lab_QC_Type Sample_Medium QC 00 BLK W 4	_Level OuteTime_Collected Date_Received Lea 03/14/2017 10:37 03/14/2017	hate_Date Reschate_Time Extraction_Date 20170314	Extraction_Time Analysis_E 10:37:00 20170314	Date Analysis Time Lab Sample ID 10:37:00 WG201342-2	Ollution Run_Number Pe	ercent_Moisture Percent_Upid Chem_Name 1,2-Oichlorobenzene	Analyte_ID Analyte_Value 85-50-1 0.50	Original_Analyte_Value Result_Units L 0.50 UG_L L	b_Qualitier Validator_Qualifier GC	Column_Type Analysis_Result_Type Result_Narrativ TRG	e QC_Control_Limit_Code C	QC_Accuracy_Upper QC_Accuracy_Lower	Control_Limit_Date QC_Narrativ	MDL Detection_Limit QSM_Version 4.2	n DL LOO LOO SDG Analysis Batch Validator_Name Val_Date 0.15 0.50 1.0 SK1680 WG201342
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN_NAS WG201342-BLANK MERIDIAN_NAS WG201342-BLANK	NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00	00 BLK W 4	03/14/2017 10:37 03/14/2017 03/14/2017 10:37 03/14/2017	20170314 20170314	10:37:00 20170314 10:37:00 20170314	10:37:00 WG201342-2 10:37:00 WG201342-2		1,2-Obromo-3-chloroptopane 1,2,4-Trichlorobenzene	96-12-8 1.0 120-82-1 0.50	0.50 UG_L L	U U	TRG TRG				4.2 4.2	9.50 1.0 2.0 SC1680 WG201342 9.37 9.50 1.0 SC1680 WG201342
N624701609000 IM01 M N624701609000 IM01 M	MERIDIAN_NAS WG201342-BLANK MERIDIAN_NAS WG201342-BLANK	NONE VOA SE	260C VOA 260C VOA	KAS KATAHON ANALYTICAL KAS KATAHON ANALYTICAL	WET SW5030 00 WET SW5030 00	00 BLK W 6 00 BLK W 4	03/14/2017 10:37 03/14/2017 03/14/2017 10:37 03/14/2017 03/14/2017 10:37 03/14/2017	20170314 20170314	10:37:00 20170314 10:37:00 20170314	10:37:00 WG201342-2 10:37:00 WG201342-2 10:37:00 WG201342-2		Methylcyclobrane Scomorbiocomathane	109-87-2 0.50 24-97-5 0.50	0.50 UG_L L	Ü	TRG TRG				42 42 42	2.30 0.75 1.0 SC1000 WC201242 2.30 0.50 1.0 SC1000 WG201342 0.21 0.50 0.0 SC1000 WG201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN, NAS WG201342-BLANK MERIDIAN, NAS WG201342-BLANK MERIDIAN NAS WG201342-BLANK	NONE WOA SE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00	00 8LK W 4	93/14/2017 10:37 03/14/2017 93/14/2017 10:37 03/14/2017	20170314	10:37:00 20170314 10:37:00 20170314	10:37:00 WG201342-2 10:37:00 WG201342-2		D-Xylene th-and D-Xylene	95-47-6 0.50 mBOXYLENE 1.0	0.50 UG L L	u u	TRG TRG				42 42	0.25 0.50 1.0 St1680 WG201342 0.59 1.0 2.0 St1680 WG201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERICIAN_NAS WG201342-BLANK MERICIAN_NAS WG201342-BLANK	NONE VOA 83	260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 SLK W 4 00 SLK W 4	03/14/2017 10:37 03/14/2017 03/14/2017 10:37 03/14/2017	20170314 20170314	10:37:00 20170314 10:37:00 20170314	10:37:00 WG201342-2 10:37:00 WG201342-2	1 1	1,2,3-%/chloroberzene Kylene, total	87-61-6 0.50 1330-20-7 1.5	0.50 UG_L L 1.5 UG_L L	U	TRG TRG				42 42	5.27 0.50 1.0 St1680 WG201342 0.25 1.5 1.0 St1680 WG201342
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERICAN, NAS WGG02142 GLANK MERICAN, NAS WGG0142 GLANK	NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 BLK W 4 00 BLK W 4	93/14/2017 10:37 93/14/2017 93/14/2017 10:37 93/14/2017	20170314 20170314	10:37:00 20170314 10:37:00 20170314	10:37:00 WG201342-2 10:37:00 WG201342-2	1 1	4-Bromofluonobenzene Toluene-OB	460-00-4 93.5 2037-26-5 102.	93.5 PCT 102. PCT		SLIER SLIER	9.5A 1 9.5A 1	120 % 120 IS	20091101 20091101	12 142 142 143 143 144 145 145 145 145 145 145 145 145 145	0 0 0 91580 WG201342 0 0 0 91580 WG201342
N6247016D9000 (M01 M N6247016D9000 (M01 M	MERIDIAN_NAS WG201342-BLANK MERIDIAN_NAS WG201342-BLANK	NONE VOA BE	260C VOA 260C VOA	EAS KATAHDIN ANALYTICAL EAS KATAHDIN ANALYTICAL	WET \$W\$030 00 WET \$W\$030 00	00 BLK W 4	03/14/2017 10:37 03/14/2017 03/14/2017 10:37 03/14/2017	20170314 20170314	10:37:00 20170314 10:37:00 20170314	10:37:00 WG201342-2 1 10:37:00 WG201342-2		1,3 Dichloroethane-d4 Dicromofluoromethane	17060-07-0 115. 1868-53-7 107.	115. PCT 107. PCT		SURR SURR	9.5A 1	120 70 115 85	20091101 20091101	42 42	9 9 9 91500 WG301342 9 9 9 91500 WG301342
N624-70160-9000 (M01 M	MERIDIAN NAS WIGOTIALICS MERIDIAN NAS WIGOTIALICS	NONE VOA BE	260C VOA 260C VOA	EAS EATANDEN ANALYTICAL EAS EATANDEN ANALYTICAL EAS EATANDEN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 6	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314 20170314	09:21:00 20170314 09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1 99:21:00 WG201342-1		Unincroatius (precision de la constitución de la co	75-71-8 22.8 74-87-3 38.8 75-01-4 40.8	38.8 UG_L 40.8 UG_L		TRG	LSA L	125 40 145 50	20091101 20091101 20091101	42 42	1.04 1.0 2.0 St1680 WG.01242 2.36 1.0 2.0 St1680 WG.201342 2.55 1.0 2.0 St1680 WG.201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERICAN, PAS GEOSSIAL GLANK MERICAN, PAS GEOSSIAL GLANK MERICAN, PAS GEOSSIAL GE MERICAN, PAS GE	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHON ANALYTICAL KAS KATAHON ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1	1 1	Economethane Chloroethane	74-83-9 46.6 75-00-3 51.1	46.6 UG_L 51.1 UG_L		TRG TRG	LSA 1	145 10 115 50	20091101 20091101	42 42	9.69 1.0 2.0 SK1680 WG201342 9.55 1.0 2.0 SK1680 WG201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET \$W\$030 00 WET \$W\$030 00	00 85 W 6 00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1	1 1	Trichlorofluoromethane (Freon-) 1,1-Oichloroethene	1) 75-69-4 40.6 75-35-4 40.8	40.6 UG_L 40.8 UG_L		TRG TRG	LSA 1	145 60 130 70	20091101 20091101	42 42	0.24 1.0 2.0 SC1680 WG201342 0.35 0.50 1.0 SC1680 WG201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET \$W\$030 X	00 85 W 6 00 85 W 6	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1		Carbon disulfide 1,1,2-Trichloro-1,2,2-trifluoroeth	75-15-0 68.4 ane (Freon-113) NS-13-1 19.9	48.4 UG_L 29.9 UG_L		TRG TRG	LSA 1	160 15 126 73	20091101 20091101	42 42	0.25 0.50 1.0 St1680 WG201342 0.31 0.50 1.0 St1680 WG201342
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS	NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00	00 IS W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1		Methylene chloride Acetone	75-09-2 43.1 67-64-1 50.7	43.1 UG_L 50.7 UG_L		TRG TRG	ISA I	140 55 140 40	20091101 20091101	4.2 4.2	11 25 50 S1080 WG201342 22 25 50 S1080 WG201342
N6247016050000 (M01 M0 N6247016050000 (M01 M0	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE VOA BE	260C VOA 260C VOA	KAS KATAHUN ANALYTICAL KAS KATAHUN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 6 00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1		Methyl ether (MTSE)	159-60-5 62.1 1534-08-4 89.8 25.36.3 43.4	19.8 UG_L 43.4 UG_L		TRG TRG	ISA I	100 50 125 65 136	20091101 20091101 20091101	42 42 42 42 42	2.56 0.50 1.0 SC1600 WG20142 0.36 0.50 1.0 SC1600 WG20142 0.21 0.50 0.0 SC1600 WG20142
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERICAN, NAS. MEDDISHALCS MERICAN, NAS. MEDISHALCS MERICAN, NAS. MEDISHALCS MERICAN, NAS. MEDDISHALCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET \$W\$030 00 WET \$W\$030 00	00 85 W 6 00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1	1 1	cis-1,2-Dichloroethene Chloroform	156-59-2 40.0 67-66-3 41.8	40.0 UG_L 41.8 UG_L		TRG TRG	LSA 1	125 70 135 65	20091101 20091101	42 42	0.21 0.50 1.0 SK1680 WG201342 0.32 0.50 1.0 SK1680 WG201342
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4 00 85 W 6	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1	1 1	1,1,1-Trichloroethane 2-Sutanone	71-55-6 43.4 78-93-3 37.9	43.4 UG_L 37.9 UG_L		TRG TRG	LSA 1	130 65 150 10	20091101 20091101	42 42	0.20 0.50 1.0 SK1680 WG201342 1.3 2.5 5.0 SK1680 WG201342
N624701609000 (M01 M	MERIDAN NAS WG201342-LCS	NONE VOA 82	260C VOA	EAS EATAHON ANALYTICAL	WET SW5030 00	00 85 W 4	03/14/2017 09:21 03/14/2017	20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1		Cyconesine Carbon tetrachloride	56-23-5 46.8 37-43-3 46.3	46.0 UG_L		195 195	LSA I	140 65	20091101	42	0.11 0.50 1.0 SC080 WG.01342 0.22 0.50 1.0 SC080 WG.01342
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE VOA BE	260C WOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4	93/14/2017 09:21 93/14/2017 93/14/2017 09:21 93/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1		1,2-0ichloroethane Trichloroethene	107-06-2 42-3 79-01-6 44-7	42.3 UG_L 44.7 UG_L		TRG TRG	LSA 1	130 70 125 70	20091101 20091101	42 42 42 42 42 42 42 42 42 42	0.20 0.50 1.0 SK1680 WG201342 0.28 0.50 1.0 SK1680 WG201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET \$W\$030 00 WET \$W\$030 00	00 85 W 6	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1	1 1	1,2 Olchloropropane Bromodichloromethane	78-87-5 43.7 75-27-4 44.9	43.7 UG_L 44.9 UG_L		TRG TRG	LSA 1	125 S 120 S	20091101 20091101	42 42	0.25 0.50 1.0 St1680 WG201342 0.33 0.50 1.0 St1680 WG201342
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4 00 85 W 6	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1	1 1	cis-1,3-Oichloropropene Toluene	10848-3 41.6	48.0 UG_L 41.8 UG_L		TRG TRG	LSA 1	130 70 120 75	20091101 20091101	42 42	0.19 0.50 1.0 SK1680 WG201342 0.27 0.50 1.0 SK1680 WG201342
N624701609000 (M01 M	MERICAN, NAS WEGDOLAVICS	NONE VOA 82	260C VOA	EAS EATAHON ANALYTICAL	WET SW5030 00	00 85 W 4	03/14/2017 09:21 03/14/2017	20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1		trans-1,3-Okhlorogropene	10061-02-6 45.2	45.2 UG_L		195 195	LSA I	140 55	20091101	42 42 42 42 42 42 42 42	1.4 2.5 5.0 SC1000 WG201342 12.0 0.50 1.0 SC1000 WG201342
N624701609000 (M01 M N624701609000 (M01 M	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE VOA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1		Tetrachiorosthene Obrorochioromethane	127-18-4 42-6 124-48-1 48-2	42.6 UG_L 48.2 UG_L		TRG	LSA 1	150 45 136 60	20091101 20091101	42 42	0.40 0.50 1.0 St160 WG201342 0.30 0.50 1.0 St160 WG201342
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN_NAS WG201342-LCS MERIDIAN_NAS WG201342-LCS	NONE VOA 82	260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4	53/14/2017 09:21 03/14/2017 53/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1	1 1	1,2 Obromoethane 2-Hexanone	106-93-4 37.5 591-79-6 36.0 108-90-7 43.2	37.5 UG_L **		TRG TRG	LSA 1	120 80 130 55	20091101 20091101	42 42	5.22 0.50 1.0 St1680 WG201342 1.7 2.5 5.0 St1680 WG201342
N624701609000 JM01 M N624701609000 JM01 M	MERICAN, NAS WG201342-LCS MERICAN, NAS WG201342-LCS MERICAN, NAS WG201342-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4 00 85 W 4	03/14/2017 09:21 03/14/2017 93/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1	1 1	Chlorobenaese Ethylbenaese	108-90-7 43.2 100-41-4 44.0	43.2 UG_L 44.0 UG_L		TRG TRG	LSA 1	120 80 125 75	20091101 20091101	42 42	0.22 0.50 0.0 SK1680 WG201342 0.21 0.50 0.0 SK1680 WG201342
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE YOA BE	260C VOA 260C VOA	EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL	WIT SW5030 00 WIT SW5030 00	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314 20170314	09:21:00 20170314 09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1 99:21:00 WG201342-1		Styrene Bromoform	200-42-5 46.2 75-25-2 67.1 88-82-8 46.9	47.1 UG_L 46.9 UG_L		TRG TRG	ISA I	130 20 125 9c	20091101 20091101 20091101	62 62 62 62 62 62 62	0.22 0.50 1.0 SK1680 WG201342 0.23 0.50 1.0 SK1680 WG201342
N624701609000 IM01 M N624701609000 IM01 M	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE VOA E	260C VOA 260C VOA	EAG EATAHOIN ANALYTICAL EAG EATAHOIN ANALYTICAL	WET \$W5030 X WET \$W5030 X	00 85 W 4 00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1		1,1,2,2-Tetrachicroethane 1,3-Oichiorobenzene	79-34-5 41.9 541-73-1 44.5	41.9 UG_L 44.5 UG_L		TRG TRG	LSA I	130 65 125 75	20091101 20091101	42 42	0.38 0.50 1.0 563680 WG202342 0.26 0.50 1.0 563680 WG202342
N624703609000 JM01 M N624703609000 JM01 M	MERIDAN_NAS WG2013424CS MERIDAN_NAS WG2013424CS MERIDAN_NAS WG2013424CS MERIDAN_NAS WG2013424CS MERIDAN_NAS WG2013424CS MERIDAN_NAS WG2013424CS	NONE VOA ES	260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	WET \$W5030 XX WET \$W5030 XX	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 99:21:00 WG201342-1		1,4-Oichionobenzene 1,2-Oichionobenzene	106-46-7 42.8 95-50-1 45.0	42.8 UG_L 45.0 UG_L		TRG TRG	ISA I	125 75 120 70	20091101 20091101	42 42	0.24 0.50 1.0 St.080 WG201342 0.15 0.50 1.0 St.080 WG201342
N6247016D9000 IM01 M	MERIDIAN_NAS WG201342-LCS	NONE NON SECOND	260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	WET SW5030 XX	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	WC201342-1 09:21:00 WG201342-1		1,2-Obromo-3-chloropropane 1,2,4-Tichlorobenzene	99-12-8 15.1 120-82-1 45.4 38,50 0	45.4 UG_L 45.4 UG_L		TRG TRG	ISA I	135 55 137	20091101 20091101 20091101	42 42	0.37 0.50 1.0 001680 WG201342
N624701609000 JM01 M N624701609000 JM01 M	MERICAN, NAS WCZ001324CS MERICAN, NAS WCZ001324CS MERICAN, NAS WCZ001324CG	NONE VOA BE	260C VOA 260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	WET SW5030 XX WET SW5030 XX	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314 20170314	09:21:00 20170314 09:21:00 20170314	99:21:00 WG201342-1 09:21:00 WG201347-1		Methylcycloheane Bromochlonomethar	108-07-2 41.1 74-97-5 42.5	41.1 UG_L 42.5 UG_L		TRG TRG	ISA I	125 73 130 65	20091101 20091101	42 42 42	0.30 0.50 1.0 St1680 WG20142
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN NAS WG2013H2-LCS MERIDIAN NAS WG2013H2-LCS	NONE NON 3NON	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET \$W5030 X WET \$W5030 X	00 85 W 4 00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	99.21:00 WG201342-1 99.21:00 WG201342-1		o-Xylene tr- and p-Xylene	95-47-6 44.6 m8pXYLENE 88.8	44.6 UG_L 88.8 UG_L		TRG TRG	LSA L	120 80 130 75	20091101 20091101	42 42	0.25 0.50 0.0 SK1680 WG201342 0.59 0.0 2.0 SK1680 WG201342
N624701609000 JM01 M N624701609000 JM01 M	MERIDAN_NAS WG2013H24CS MERIDAN_NAS WG2013H24CS MERIDAN_NAS WG2013H24CS MERIDAN_NAS WG2013H24CS MERIDAN_NAS WG2013H24CS	NONE WOA BE	260C VOA	KAG KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET \$W5030 XX WET \$W5030 XX	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314	09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1		1,2,3-Trichlorobenzene Kylene, total	87-61-6 43.3 1330-20-7 133.	43.3 UG_1 133. UG_1 *	_	TRG TRG	ISA 1	140 55 116 89	20091101 20091101	42 42 42 42 42 42 42 42	0.27 0.50 1.0 St.080 WG2014/2 0.25 1.5 1.0 St.080 WG2014/2
NS24700500000 IM01 M NS24700500000 IM01 M NS24700500000 IM01	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201342-LCS	NONE NOA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	WET SW5030 00 WET SW5030 00	00 85 W 4	03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017 03/14/2017 09:21 03/14/2017	20170314 20170314 2017031*	09:21:00 20170314 09:21:00 20170314 09:21:00 20170314	09:21:00 WG201342-1 09:21:00 WG201342-1 09:21:00 WG201342-1		4-Bromofluorobenzene Toluene-OB 1 2-Dichlorowthama-**	999-00-4 95.9 2037-26-5 101. 17060-07-0 100	101. PCT 102. PCT		SURR SURR SURR	9.5A 1 9.5A 1	120 B5 120 Bn	20091101 20091101 20091101	42 42 42	r r 9 343689 814,411,412 0 0 0 54580 8152342 0 0 0 54580 81523149
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN NAS WG201342-LCS MERIDIAN NAS WG201520-DIANI	NONE VOA 12	260C VQA 260C VQA	EAS EATAHOIN ANALYTICAL EAS EATAHOIN ANALYTICAL	WET \$W5030 XX DRY \$W5035 XX	00 85 W 4	03/14/2017 09:21 03/14/2017 03/17/2017 11:45 03/17/2017	20170314 20170317	09:21:00 20170314 11:45:00 20170317	99:21:00 WG201342-1 11:45:00 WG201539-2		Dibromefluoromethane Dibromefluoromethane Dichlorodifluoromethane (Freon	1868-53-7 99.3 12) 75-71-8 5.0	99.3 PCT 5.0 UG_KG K	U	SURR TRG	SISA I	115 15	20091101	42 42	0 0 0 SESSIO WG201342 0.92 5.0 50. SESSIO WG202539
N6247016D9000 JM01 M	MERIDIAN_NAS WG201539-BLANK	NONE VOA E	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	28Y \$W5035 X	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	F 11:45:00 WG201539-2 F 11:45:00 WG201539-2		Chloromethane Vinyl chloride	7447-3 5.0 75-01-4 5.0	5.0 UG KG U	U	TRG TRG				42 42	1.4 5.0 50. SK1680 WG201539 0.87 5.0 50. SK1680 WG201539
N624701609000 JM01 M N624701609000 JM01 M	MERICAN, NAS WG201529-BLANK MERICAN, NAS WG201539-BLANK MERICAN, NAS WG201539-BLANK MERICAN, NAS WG201539-BLANK	NONE WOA SE	260C VOA 260C VOA	KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL	38Y SW5035 X 38Y SW5035 X	00 BLK 5 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	7 11:45:00 WG201539-2 7 11:45:00 WG201539-2		Bromomethane Oxforcethane	7443-9 5.0 75-00-3 5.0	5.0 UG,KG U	U	TRG TRG			+	02 02 02 02 02 02 02 02 02 02 04 02 04 04 04 04 04 04 04 04 04 04 04 04 04	1.1 5.0 10. SK1680 WG201539 1.3 5.0 10. SK1680 WG201539
N6247016D9000 (M01 M N6247016D9000 (M01 M	MERICIAN_NAS WG201539-BLANK MERICIAN_NAS WG201539-BLANK	NONE VOA BE	260C VOA 260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	08Y SW5035 00 08Y SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		Trichlorofluoromethane (Freon-1 1, 1 Girls or 1 Girls of 1 Girls o	1) 7549-4 5.0 75-35-4 2.5	2.5 UG_NG U	U	TRG TRG				42 42	991 5.0 10. SCIGNO WG201539 193 2.5 5.0 SCIGNO WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERICIAN_NAS WG201539-BLANK MERICIAN_NAS WG201539-BLANK	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	RAS KATAHON ANALYTICAL RAS KATAHON ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	1,1,2-Trichipro-1,2,2-trifluoroeth Methylene chloride	ane (Freon-113) 76-13-1 2.5 75-09-2 12	2.5 UG_KG U	U	TRG TRG				62 62	2.5 5.0 SC1600 WG201539 7.9 12. 25. SC1600 WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERICIAN NAS WG201539-BLANK MERICIAN NAS WG201539-BLANK	NONE VOA 83	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	Acetone trans-1,2-Oichlonoethene	67-64-1 12 156-60-5 2.5	12 UG_NG L 2.5 UG_NG L	U	TRG TRG				4.2 4.2	5.1 12. 25. SC1680 WG201539 0.71 2.5 5.0 SC1680 WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN_NAS WG201539-BLANK MERIDIAN_NAS WG201539-BLANK	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 XX ORY SW5035 XX	00 BLK S 4 00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	Methyl-tert-butyl ether (MTIII) 1,3-Olchloroethane	1634-04-4 2.5 75-34-3 2.5	2.5 UG_NG U	U U	TRG TRG				42 42	1.1 2.5 5.0 SK1680 WG201539 1.7 2.5 5.0 SK1680 WG201539
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN_NAS WG201539-BLANK MERIDIAN_NAS WG201539-BLANK MERIDIAN NAS WG201530-BLANK	NONE VOA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	08Y \$W5035 00 08Y \$W5035 00 08Y \$W5035	00 BLK S 4 00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	Civ-1,2-Dichloroethene Chloroform Carbon tetrarbloride	156-59-2 2.5 67-66-3 2.5 56-23-5 2.5	2.5 UG_NG U	0	TRG TRG				42 42 42 42 42 42 42 42 42 42	9.91 2.5 S.0 SCIGRO WG201539 9.35 2.5 S.0 SCIGRO WG201539 1.3 2.5 S.0 SCIGRO WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN, NAS WG201539-BLANK MERIDIAN, NAS WG201539-BLANK MERIDIAN, NAS WG201539-BLANK	NONE VOA 82	260C WOA 260C WOA	RAS KATAHDIN ANALYTICAL RAS KATAHDIN ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		1,1,1-Trichloroethane 2-Sutanone	71-55-6 2.5 78-93-3 12	2.5 UG_NG U	Ü	TRG TRG				62 62	0.42 2.5 5.0 SC1680 WG201539 5.9 12. 25. SC1680 WG201539
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERICAN, NAS WEGDISSIS-BLANK	NONE VOA 83	260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	F 11:45:00 WG201539-2 F 11:45:00 WG201539-2	1 1	Became Cyclohesane	71-43-2 2.5 110-82-7 2.5	2.5 UG_KG L 2.5 UG_KG L	U	TRG TRG				42 42	1.92 2.5 5.0 SK1680 WG201529 1.4 2.5 5.0 SK1680 WG201529
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN_NAS WG201539-BLANK MERIDIAN_NAS WG201539-BLANK	NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4 00 BLK S 4	93/17/2017 11:45 93/17/2017 93/17/2017 11:45 93/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	F 11:45:00 WG201539-2 F 11:45:00 WG201539-2	1 1	1,2-Okhloroethane Trichloroethene	107-06-2 2.5 79-01-6 2.5	2.5 UG_NG U	U	TRG TRG				42 42	1.0 2.5 5.0 SK1680 WG201539 5.50 2.5 5.0 SK1680 WG201539
N6247016050000 (M01 M01 M01 M01 M01 M01 M01 M01 M01 M01	MERICAN, NAS WIG201529 GLANK MERICAN, NAS WIG201529 GLANK MERICAN, NAS WIG201529 GLANK MERICAN, NAS WIG201529 GLANK	NONE VOA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	DRY SW5035 00 DRY SW5035 00 DRY SW5035 00	00 BLK 5 6 00 BLK 5 6	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2 11:45:00 WG201539-2		Eromodichioromethane	75-27-4 2.5 10061-01-5 2.5	2.5 UG NG U	U U	TRG				42 42	1.6 2.5 5.0 SC1680 WC201529 1.60 2.5 5.0 SC1680 WC201529 1.77 2.5 5.0 SC1680 WC201529
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERICIAN_NAS WG201539-BLANK MERICIAN_NAS WG201539-BLANK	NONE VOA BE	260C NOA 260C NOA	EAS KATAHEN ANALYTICAL EAS KATAHEN ANALYTICAL	ORY \$W5035 XX	00 BLK 5 6 00 BLK 5 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		Toluene 4-Methyl-2-pentanone	10848-3 2.5 108-10-1 12	2.5 UG_NG U	U U	TRG TRG				42 42 42 42 42 42 42 42 42 42 42 42 42 4	1.6 2.5 5.0 SC1680 WG201539 5.9 12. 25. SC1680 WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERICAN, NAS WG201529-BLANK MERICAN, NAS WG201539-BLANK MERICAN, NAS WG201539-BLANK MERICAN, NAS WG201539-BLANK	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 XX ORY SW5035 XX	00 BLK S 4 00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	Tetrachloroethene trans-1,3-Olchlorogropene	127-18-4 2.5 10061-02-6 2.5	2.5 UG_NG U	U	TRG TRG				42 42	1.2 2.5 5.0 SK1680 WG201539 0.86 2.5 5.0 SK1680 WG201539
Mark Production Communication	MERDIAN, NAS MIGZOISSE-BLANK MERDIAN, NAS MIGZOISSE-BLANK MERDIAN, NAS MIGZOISSE-BLANK	NONE VOA BE	260C VOA 260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	08Y SW5035 00 08Y SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017		11:45:00 20170317 11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		1,1,2-Trichloroethane Disronchloromethane	79-00-5 2.5 124-68-1 2.5 106-93-4 2.5	2.5 UG_NG U	U	TRG TRG				42 42	1.0 2.5 5.0 St1680 WG201539 1.0 2.5 5.0 St1680 WG201539
N624701609000 (M01 M N624701609000 (M01 M	MERICAN, NAS WG201539-GLANK MERICAN, NAS WG201539-GLANK MERICAN, NAS WG201539-GLANK	NONE VOA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		2-Hexanore Oloroberame	991-78-6 12 108-90-7 2.5	12 UG_KG U	u u	TRG				42 42	4.8 12 25 SC1600 WG201539 9.51 12.5 5.0 SG1600 WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN NAS WG201529-BLANK MERIDIAN NAS WG201529-BLANK MERIDIAN NAS WG201529-BLANK	NONE VOA 82 NONE VOA 82	260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	08Y SW5035 00 08Y SW5035 00	00 SLK S 4 00 SLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	Ethylberuene Xylene, total	100-41-4 2.5 1330-20-7 7.5	2.5 UG_NG U	U	TRG TRG				42 42	1.05 2.5 5.0 SC1680 WG201529 1.3 7.5 15. SC1680 WG201529
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDAN, NAS WG201539-BLANK MERIDAN, NAS WG201539-BLANK MERIDAN, NAS WG201539-BLANK	NONE VOA 82	260C VOA 260C VOA	EAS EATAHDIN ANALYTICAL EAS EATAHDIN ANALYTICAL	08Y SW5035 00 08Y SW5035 00	00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	F 11:45:00 WG201539-2 F 11:45:00 WG201539-2		tn- and p-Xylene 0-Xylene	95-47-6 2.5	5.0 UG_NG U	U	TRG TRG				42 42 42 42 42 42 42 42 42	1.7 S.0 10. SC1000 WG201539 1.3 2.5 S.0 SC1000 WG201539
N624701609000 JM01 M N624701609000 JM01 M	MERICIAN NAS WG201539-BLANK MERICIAN NAS WG201539-BLANK	NONE WOA BE	260C WOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	0RY SW5035 00 0RY SW5035 00	00 BLK S 4	93/17/2017 11:45 93/17/2017 93/17/2017 11:45 93/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	F 11:45:00 WG201539-2 F 11:45:00 WG201539-2		Spring Suproprim Suproprietes	75-25-2 2.5 98-92-8 2.5	2.5 UG_KG U	ű ű	TRG TRG				42 42	0.70 2.5 5.0 SK1680 WG230539 0.90 2.5 5.0 SK1680 WG230539
N6247016D9000 IM01 M N6247016D9000 IM01 M	MERIDIAN NAS WG201539-BLANK MERIDIAN NAS WG201539-BLANK	NONE VOA 82 NONE VOA 82	260C NOA 260C NOA	EAS KATAHDIN ANALYTICAL EAS KATAHDIN ANALYTICAL	ORY SW5035 XX ORY SW5035 XX	00 BLK 5 6 00 BLK 5 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		1,1,2,2-Tetrachioroethane 1,3-Oichiorobetzene	29-34-5 2.5 541-73-1 2.5	2.5 UG_KG U 2.5 UG_KG U	U	TRG TRG				42 42	5.84 2.5 5.0 SK1680 WG201539 5.62 2.5 5.0 SK1680 WG201539
N6247016D9000 JM01 M N6247016D9000 JM01 M	MERIDIAN_NAS WG201539-BLANK MERIDIAN_NAS WG201539-BLANK MERIDIAN NAS WG201539-BLANK	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	ORY SW5035 XX ORY SW5035 XX	00 BLK S 4 00 BLK S 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2	1 1	1,4-Olchlorobenzene 1,2-Olchlorobenzene	106-46-7 2.5 95-50-1 2.5	2.5 UG_NG U	U	TRG TRG				42 42 42 42 42	0.44 2.5 S.0 SK1680 WG201539 0.78 2.5 S.0 SK1680 WG201539
N624701609000 (M01 M	MERIDAN, NAS WGZDISZPRIANK MERIDAN, NAS WGZDISZPRIANK MERIDAN, NAS WGZDISZPRIANK	NONE VOA 82	260C VOA	EAS EATAHON ANALYTICAL	08Y SW5035 00	00 BLK 5 6	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		1,2-Usromo-a-micropropase 1,2,4-Trichlorobenzene	12542-1 2.5 12542-1 2.5	2.5 UG_NG U	Ü	195 195				42	1.5 2.5 5.0 SC1980 WC201539 1.79 2.5 5.0 SC1980 WC201539
N624703609000 JM01 M N624703609000 JM01 M	MERIDIAN NAS WG201529-BLANK MERIDIAN NAS WG201529-BLANK	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	EAS KATAHOEN ANALYTICAL EAS KATAHOEN ANALYTICAL	ORY SW5035 00 ORY SW5035 00	00 BLK S 4	53/17/2017 11:45 63/17/2017 53/17/2017 11:45 63/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		Snomochloromethane Methyl acetate	34-97-5 2.5 29-20-9 3.0	2.5 UG_NG U	U	THG THG				42 42	3.91 2.5 S.0 SC1680 WG201539 2.7 3.0 S.0 SC1680 WG201539
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN, NAS WG201539-BLANK MERIDIAN, NAS WG201539-BLANK	NONE VOA 82 NONE VOA 82	260C VQA 260C VQA	EAS EATAHOIN ANALYTICAL EAS EATAHOIN ANALYTICAL	DRY \$W5035 XX DRY \$W5035 XX	00 BLK 5 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317 20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 11:45:00 WG201539-2		Methylcyclohexane 4-Sromofluorobenzene	108-87-2 2.5 460-00-4 101.	2.5 UG_KG U	Ü	TRG SURR	2.5A I	120 85	20091101	42 42 42 42 42 42 42 42 42 42 42 42 42 4	0.96 2.5 5.0 SK1680 WG20539 0 0 0 SK1680 WG20539
NG24700509000 JM01 M NG24700509000 JM01 M NG24701509000 JM01	MERICAN, NAS WG201529-BLANK MERICAN, NAS WG201529-BLANK MERICAN, NAS WG201529-BLANK MERICAN, NAS WG201529-BLANK	NONE NOA SE	260C VOA	KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL	287 SW5035 33 287 SW5035 33 289 SW5035	00 BLK 5 4 00 BLK 5 4	03/17/2017 11:45 03/17/2017 03/17/2017 11:45 03/17/2017	20170317	11:45:00 20170317 11:45:00 20170317	11:45:00 WG201539-2 7 11:45:00 WG201539-2	\blacksquare	Tokene-OS 1,2-Ochloroethase-d4	2037-26-5 103. 17069-07-0 112.	105. PCT 112. PCT	\rightarrow	SURR SURR SURR	925A 1 925A 1	115 85 134 58	20091101 20091101 20091101	42 42	0 0 0 50560 NG200539 0 0 0 50560 NG200539
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN_NAS WG201539-BLANK MERIDIAN_NAS WG201539-LCS MERIDIAN_NAS WG201539-LCS	NONE VOA III	260C VOA 260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	28Y SW5035 XX 28Y SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		Dichoronethane (Freon Dichoronethane (Freon Dhoronethane	75-71-8 42.6 74-87-3 46.6	42.6 UG_KG 46.6 UG_KG		TRG TRG	ISA I	135 35 130 50	20091101 20091101	42 42 42	5.92 5.0 10. SE1580 WG201539 1.4 5.0 10. SE1580 WG201539
N624701609000 JM01 M	MERIDIAN_NAS WG201539-LCS	NONE POA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	DRY \$W5035 XX	00 IS S 4 00 IS S 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	99-38:00 WG201539-1 99-38:00 WG201539-1		Viryl chloride Bromomethane	75-01-4 51.0 74-83-9 53.7	\$1.0 UG_KG \$3.7 UG_KG		TRG TRG	LSA I	125 60 160 10	20091101 20091101	42 42	0.87 S.O SO. SKISBO WG20539 1.1 S.O SO. SKISBO WG20539
Ns24701609000 JM01 M NS24701609000 JM01 M	MERIDAN NAS WG201539-LCS MERIDAN NAS WG201539-LCS MERIDAN NAS WG201539-LCS	NONE VOA E	260C VOA	EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL	DRY SW5035 XX	00 85 5 4 00 85 5 6	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317	09:38:00 20170317 09:38:00 20170317 09:38:00	99:38:00 WG201539-1 99:38:00 WG201539-1		Chloroethane Trichloroffuercerethane (Freon-	75-00-3 55.8 1) 75-69-4 60.8	10.8 UG KG		TRG TRG	ISA I	100 40 185 25	20091101 20091101 20091101	42 42	1.4 S.U 10. SC1680 NG201539 0.91 5.0 10. SC1680 NG201539 1.93 5.5 5.0 SC1680 NG201539
N624701609000 JM01 M N624701609000 JM01 M	MERIDUAN, NAS WCZDDISPILCS MERIDUAN NAS WCZDDISPILCS MERIDUAN NAS WCZDDISPILCS MERIDUAN, NAS WCZDDISPILCS	NONE VOA ES	260C VOA	KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL	28Y SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317	7 09:38:00 WG201539-1 7 09:38:00 WG201539-1		Carbon disuffide 1,1,2-Trichloro-1,2,2-trifluoroeth	75-15-0 63.2 ane (Freon-112) 76-13-1 54.9	63.2 UG_KG 54.9 UG_KG		TRG TRG	LSA I	160 45 135 67	20091101 20091101	42 42 42 42	0.78 2.5 5.0 SE580 WG20559 0.90 2.5 5.0 SE580 WG20559
N624701609000 JM01 M N624701609000 JM01 M	MERDIDAN, NAS WIGDDSSPALCS MERDIDAN, NAS WIGDDSSPALCS MERDIDAN, NAS WIGDDSSPALCS MERDIDAN NAS WIGDDSSPALCS	NONE NON BROWN	260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	DRY SW5035 XX DRY SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	7 09:38:00 WG201539-1 7 09:38:00 WG201539-1		Methylene chloride Acetone	75-09-2 49.5 67-64-1 59.4	49.5 UG_KG 59.4 UG_KG		TRG TRG	ISA I	140 55 160 20	20091101 20091101	62 62 62 62 62 62 62	7.9 12. 25. \$41680 WG201539 5.1 12. 25. \$41680 WG201539
N624701609000 IM01 M N624701609000 IM01 M	MERIDAN NAS WG201539-LCS MERIDAN NAS WG201539-LCS MERIDAN NAS WG201739-LCS	NONE NON BE	260C VOA	RAS KATAHON ANALYTICAL RAS KATAHON ANALYTICAL RAS KATAHON ANALYTICAL	08Y SW5035 X	00 85 5 4 00 85 5 8	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		trans-1,2-Oichlonoethene Methyl-tert-butyl ether (MTSE)	155-60-5 58.7 1634-08-4 119.	119. UG KG		TRG TRG	ISA I	10 65 125 81	20091101 20091101 20091101	42 42	E.74 2.5 S.O SKISBO ING201529 1.1 2.5 S.O SKISBO ING201529 1.7 2.5 S.O SKISBO ING201529
N624701609000 IM01 M N624701609000 IM01 M	MERICIAN NAS WG201539-LCS MERICIAN NAS WG201539-LCS	NONE VOA 12	260C VOA 260C VOA	EAS KATAHON ANALYTICAL EAS KATAHON ANALYTICAL	DRY SW5035 00 DRY SW5035 00	00 IS S 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		(ii-1,2-0ichloroethene Chloroform	156-59-2 52.0 67-66-3 56.1	52.0 UG_KG 56.1 UG_KG	-	TRG TRG	ISA I	125 65 125 70	20091101 20091101	42 42 42	0.01 2.5 5.0 Sk1680 WG201539 0.05 2.5 5.0 Sk1680 WG201539
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN NAS WG201539-LCS MERIDIAN NAS WG201539-LCS	NONE YOA EE	260C VOA 260C VOA	EAS EATAHOIN ANALYTICAL EAS EATAHOIN ANALYTICAL	DRY SW5035 XX DRY SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		Carbon tetrachloride 1,1,1-Trichloroethane	56-23-5 58.9 71-55-6 57.8	58.9 UG_KG 57.8 UG_KG		TRG TRG	ISA 1	135 65 135 70	20091101 20091101	12 12 12	1.3 2.5 5.0 \$45680 WG20539 8.42 2.5 5.0 \$45680 WG20539
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN_NAS WG201539-LCS MERIDIAN_NAS WG201539-LCS MERIDIAN_NAS WG201539-LCS	NONE VOA BE	260C VOA 260C VOA	EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL	28Y SW5035 X 28Y SW5035 X	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	7 09:38:00 WG201539-1 7 09:38:00 WG201539-1		2-Butanone Benzene	78-93-3 54.7 73-43-2 54.5	\$4.7 UG_KG \$4.5 UG_KG		TRG TRG	ISA I	160 10 125 15	20091101 20091101	42 42	1.0
9624703609000 (M01 M 9624703609000 (M01 M 9624703609000 (M01 M	MERIDAN NAS WIGZOISSPLCS MERIDAN NAS WIGZOISSPLCS	NONE VOA BE	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	08Y SW5035 X 08Y SW5035 X 08Y SW5035 X	00 85 5 4 00 85 5 4	03/17/2017 09:48 03/17/2017 03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1 99:38:00 WG201539-1		Cyclohexane 1,2-Oichloroethane Trichloroethane	100-62-7 57.9 107-06-2 57.2 79-01-6 58.8	57.2 UG_KG 58.8 UG_KG		TRG TRG	LSA I	125 70 125 75	20091101 20091101 20091101	42 42 42	1.4 2.5 1.0 505880 WCZ90529 1.0 2.5 1.0 505880 WCZ90529 0.50 2.5 1.0 50580 WCZ90529 0.50 2.5 1.0 50580 WCZ90529
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN NAS WG201529-LCS MERIDIAN NAS WG201529-LCS	NONE VOA E	260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	28Y \$W5035 X	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	F 09:38:00 WG201539-1 F 09:38:00 WG201539-1		1,2-Oichloropropune Bromodichloromethane	78-87-5 55.7 75-27-4 58-4	\$5.7 UG KG \$8.4 UG KG		TRG TRG	LSA L	120 70 130 70	20091101 20091101	42 42	1.4 2.5 1.0 Science Wiczostrie 0.60 2.5 1.0 Science Wiczostrie 0.72 2.5 1.0 Science Wiczostrie 0
N6247016D9000 JM01 M N6247016D9000 JM01 M		NONE VOA EZ	260C VOA 260C VOA	KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL	38Y \$W5035 X 38Y \$W5035 X	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		tis-1,3-Oichloropropene Toluene	10961-01-5 \$8.7 108-88-3 \$3.7	58.7 UG_KG 53.7 UG_KG		TRG TRG	ISA I	125 70 125 70	20091101 20091101	42 42	0.72 2.5 5.0 St.680 WG201539 1.4 2.5 5.0 St.680 WG201539
N6247016D9000 JM01 N N6247016D9000 JM01 N N6247016D9000 JM01 N	MERICIAN NAS WG201529-LCS MERICIAN NAS WG201529-LCS MERICIAN NAS WG201529-LCS MERICIAN NAS WG201529-LCS	NONE VOA BE	260C VOA 260C VOA 260C VOA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	DRY SW5035 00 DRY SW5035 00 DRY SW5035	00 85 5 4 00 85 5 4	23/17/2017 09-38 03/17/2017 33/17/2017 09-38 03/17/2017 33/17/2017 09-38 03/17/2017 23/17/2017 09-38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 9 09:38:00 WG201539-1 9 09:38:00 WG201639-1		4-Methyl-2-pentanone Tetrachloroethene trans-1-3-Oichloroeroene	108-88-3 51.7 108-10-1 56.5 127-18-4 55.1 10061-02-6 61.2	55.1 UG_KG 55.1 UG_KG		TRG TRG	LSA L LSA L	165 45 140 55 125 6t	20091101 20091101 20091101	42 42 42	D.9 12. 25. SS1680 MC200539 12. 2.5 5.0 SS1680 MC200539 0.86 2.5 5.0 SS1680 MC200539
NE24701609000 JM01 M NE24701609000 JM01 M	MERICANA NAS MICROSOSPACES	NONE VOA ES	260C VQA 260C VQA	EAS EATAHOIN ANALYTICAL EAS EATAHOIN ANALYTICAL	DRY SW5035 XX	00 85 5 4 00 85 5 4	13/17/2017 09:38 03/17/2017 13/17/2017 09:38 03/17/2017 13/17/2017 09:38 03/17/2017 13/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317	7 09:38:00 WG201539-1 7 09:38:00 WG201539-1		1,1,2-Trichloroethane Discorrochloromethane	79-00-5 56.5 124-68-1 57.8	\$6.5 UG KG \$7.8 UG KG		TRG TRG	ISA I	125 50 130 65	20091101 20091101	42 42	0.97 2.5 5.0 SK1680 WG201539 1.0 2.5 5.0 SK1680 WG201539
NESPRISEDENCO (MINE) MM (NESPRISEDENCO (MINE) MINE) MINE (MINE) MINE (MIN	MERIDIAN NAS WG201539-LCS MERIDIAN NAS WG201539-LCS	NONE YOA EE	260C VOA 260C VOA	EAS EATAHOIN ANALYTICAL EAS EATAHOIN ANALYTICAL	DRY SW5035 XX DRY SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		1,2 Obromoethane 2-Hexanone	106-93-4 55.7 591-78-6 54.6	55.7 UG_KG 54.6 UG_KG		TRG TRG	ISA 1	125 70 145 45	20091101 20091101	42 42	1.2 2.5 5.0 \$45680 WG20539 4.8 12. 25. \$45680 WG20539
Ns24701509000 JM01 M NS24701509000 JM01 M	MERIDAN NAS WG201539-LCS MERIDAN NAS WG201539-LCS MERIDAN NAS WG201539-LCS	NONE WOA SE	2805. VOA 260C VOA	KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL KAG KATAHDIN ANALYTICAL	287 SW5035 XX 287 SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 50170317	99-38:00 WG201539-1 9 99-38:00 WG201539-1		Chlorobenzene Ethylbenzene	108-90-7 54.8 100-41-4 53.4	53.4 UG_KG		TRG TRG	ISA I	10 S 125 S	20091101 20091101 20091101	42 42	0.51 2.5 5.0 50.560 NG200539 0.65 2.5 5.0 50.560 NG200539 1.3 2.5 5.0 50.560 NG200539
N624701609000 JM01 M N624701609000 JM01 M	MERICIAN NAS WG201539-LCS MERICIAN NAS WG201539-LCS	NONE VOA EE NONE VOA EE NONE VOA EE NONE VOA EE	260C VOA 260C VOA	KAS KATAHDEN ANALYTICAL KAS KATAHDEN ANALYTICAL KAS KATAHDEN ANALYTICAL KAS KATAHDEN ANALYTICAL	28Y SW5035 XX 28Y SW5035 XX	00 85 5 4 00 85 5 4	03/17/2017 08:38 03/17/2017 03/17/2017 08:38 03/17/2017 03/17/2017 08:38 03/17/2017 03/17/2017 08:38 03/17/2017 03/17/2017 08:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		Kysene, total tr- and p-Xylene b-Xulene	m8pXYENE 110. 95-47-6 53.9	103. UG_KG 110. UG_KG 53.9 UG_KG		TRG TRG	ISA I	125 10 125 15	20091101 20091101	42 42 42	1.7 5.0 10. SE1680 WG201539 1.3 2.5 5.0 SE1680 WG201539
NE2H7036D0000 IM01 M NE2H7036D0000 IM01 M NE2H7036D0000 IM01 M NE2H7036D0000 IM01 M	MERIDAN, NAS WG201539-LCS MERIDAN, NAS WG201539-LCS	ADV 3MON ADV 3MON	260C VOA	EAS EATAHDIN ANALYTICAL EAS EATAHDIN ANALYTICAL	38Y \$W5035 XX 38Y \$W5035 XX	00 45 5 4 00 45 5 4	33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	99-38:00 WG201539-1 99-38:00 WG201539-1		Styrene Bromoform	100-42-5 55.4 75-25-2 59.4	55.4 UG_KG 59.4 UG_KG		TRG TRG	ISA I	15 5 15 5	20091101 20091101	42 42	0.51 2.5 5.0 \$6560 WG20539 0.70 2.5 5.0 \$6560 WG20539
NE24703609000 JM01 M NE24703609000 JM01 M NE24703609000 JM01 M	MERICAN, NAS WEGDISSPICES	NONE WOA SE	260C VGA	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	38Y SW5035 X 38Y SW5035 X	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	7 09:38:00 WG201539-1 7 09:38:00 WG201539-1		Isopropybenzene 1,1,2,2-Tetrachloroethane	98-82-8 55-2 29-34-5 53.9	55.2 UG_KG 53.9 UG_KG		TRG TRG	LSA 1	130 75 130 55	20091101 20091101	42 42	0.92 2.5 5.0 St.580 WG201539 0.84 2.5 5.0 St.580 WG201539
N624701609000 IM01 M	MERIDIAN NAS WG201539-LCS	NONE VOA BE	260C VOA 260C VOA	EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL	58Y 5W5035 00 58Y 5W5035 00 58Y 5W5035 W	00 85 5 4 00 85 5 4	33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 9:38:00 WG201539-1 9:38:00 WG201530-1		1,3-Oichiorobenzene 1,4-Oichiorobenzene 1,2-Oichiorobenzene	500.024 32 32 32 32 32 32 32	57.5 UG_KG 57.5 UG_KG 55.4 UG_KG		TRG TRG	ISA I	20 125 120 120	20091101 20091101 20091101	42 42 42	0.44 2.5 5.0 SK1680 WG201539 0.78 2.5 5.0 SK1680 WG201539
N624701609000 IM01 M N624701609000 IM01 M	MERIDIAN NAS WG201539-LCS MERIDIAN NAS WG201539-LCS	NONE VOA 82 NONE VOA 82	260C VOA 260C VOA	KAS KATANDEN ANALYTICAL	38Y \$W5035 X 38Y \$W5035 X	00 85 5 4 00 85 5 4	03/17/2017 09-88 03/17/2017 03/17/2017 09-38 03/17/2017 03/17/2017 09-38 03/17/2017 03/17/2017 09-38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	7 09:38:00 WG201539-1 7 09:38:00 WG201539-1		1,2-Ostromo-Schioropropane 1,2,4-Trichlorobenzene	96-12-8 59.8 120-02-1 65.6	59.8 UC_NG *		TRG TRG	LSA I	135 40 130 65	20091101 20091101	42 42	1.5 2.5 5.0 563680 89G20539 0.79 2.5 5.0 563680 89G20539
N624701609000 IM01 M N624701609000 IM01 M	MERICAN NAS WG205529-LCS	NONE VOA E	2000	IN INTOINE MALTINA	38Y \$W5035 XX 38Y \$W5035 XX	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317	09:38:00 20170317 09:38:00 20170317	99:38:00 WG201539-1 99:38:00 WG201539-1		1,2,3-Trichlorobenzene Bromochloromethane	87-61-6 60.3 74-97-5 54.8	60.3 UG KG 54.8 UG KG		TRG	LSA 1	115 50 125 70	20091101 20091101	42 42	0.76 2.5 5.0 501680 WG201539 0.91 2.5 5.0 501680 WG201539
N624701609000 (M01 M N624701609000 (M01 M N624701609000 (M01 M	MERCHAN NAS MIGROSPACS MERCHAN NAS MIGROSPACS	NOME VOA E NOME VOA E NOME VOA	260C VOA	EAS EATAHON ANALYTICAL	08Y SW5035 00 08Y SW5035 00	00 85 5 4 00 85 5 8	13/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017 33/17/2017 09:38 03/17/2017	20170317	09:38:00 20170317 09:38:00 20170317	99.38:00 WG201539-1		Methylacetate Methylcyclohexane	79-20-9 \$1.9 \$08-87-2 \$2.3 \$60,00 \$ \$104	\$1.9 UG_KG \$2.3 UG_KG		TRG Crisp	15A 1	127 71 127 120	20091101 20091101 20091101	42 42	0.96 2.5 5.0 \$45880 \$46,201529 0.96 2.5 5.0 \$45800 \$46,201529 0. 0. 0. \$45,000 \$46,201529
N624701609000 JM01 M N624701609000 JM01 M	MERIDIAN_NAS WG201529-LCS MERIDIAN_NAS WG201529-LCS MERIDIAN_NAS WG201529-LCS	NONE NOA SE	260C VOA	EAS EATAHON ANALYTICAL EAS EATAHON ANALYTICAL	26Y SW5035 X 26Y SW5035 X	00 85 5 4 00 85 5 4	03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017 03/17/2017 09:38 03/17/2017	20170317 20170317 20170317	09:38:00 20170317 09:38:00 20170317 09:38:00 20170317	F 09:38:00 WG201539-1 F 09:38:00 WG201539-1 F 09:38:00 WG201539-1		Tolune OS 1,2 Okhloroethane 44	150 4.7 4 6.4 10.5 10.5 10.5 10.5 10.5 10.5 10.5 10.5	102. PCT		SURR SURR	SSA 1	115 85 134 58	20091101 20091101	1	0
NS247016D9000 JM01 M NS247016D9000 JM01 M	MERICAN NAS WG201529-LCS MERICAN NAS WG201529-LCS MERICAN NAS MESON-FCOR-COLTYA MERICAN NAS MESON-FCOR-COLTYA MERICAN NAS MESON-FCOR-COTARA MERICAN NAS MESON-FCOR-COTARA MERICAN NAS MESON-FCOR-COLTY MERICAN NAS MESON-FCOR-COLTY MERICAN NAS MESON-FCOR-COLTY	NONE VOA 82 NONE WOHEM 22	260C VOA 560G PCHAR	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	DRY SW5035 XX DRY METHOD XX	00 85 5 4 00 80G 5 4	03/17/0017 06:38 03/17/0017 33/17/0017 06:38 03/17/0017 33/17/0017 06:38 03/17/0017 33/03/0017 06:00 03/06/2017 33/03/0017 06:00 03/06/2017 33/03/0017 06:05 03/06/2017 33/03/0017 06:05 03/06/2017 33/03/0017 06:05 03/06/2017	20170317 20170322	09:38:00 20170317 15:02:00 20170323	99:38:00 WG201539-1 16:57:00 SK1680-2	1 1 14	Dibromofluoromethane 4.445 % Solids	1868-53-7 106. NSOLIDS 66.	106. PCT 66. PCT		SURR TRG	52.5A 1	130 64	20091101	42 42	0 0 0 \$1580 WG20539 1 1 1 51560 WG20518
N6247016D9000 IM01 M N6247016D9000 IM01 M N6247016D9000 IM01 M	MERCHAN, NAS MESCR 5820-0708A MERCHAN, NAS MESCR 5821-0708A-LR MERCHAN NAS MESCR 5821-0708A-LR	NONE WOHEM 21 NONE WOHEM 21 NONE WOHEM 21 NONE WOHEM 21	SHOS PCHAR	EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL EAG EATAHON ANALYTICAL	DRY METHOD IX	00 REG 5 4 00 LR 5 4	03/03/2017 09:25 03/06/2017 03/03/2017 10:45 03/06/2017	20170322 20170322	15:06:00 20170323 15:06:00 20170323	16:57:00 SH680-1 17:00:00 WG201818-3	1 1 24 1 1 24	6.3/1 % Solids 6.344 % Solids	NSOLIDS 66. NSOLIDS 75.	96. PCT 95. PCT		TRG TRG	1			42 42	1 50:580 WG200818 1 1 5 50:580 WG200818 1 1 5 50:580 WG200818
N624701609000 IM01 M	MERIDIAN NAS MESOR-TRO2-0317 MERIDIAN NAS WG201818-BLANK	NONE WORM 25 NONE WORM 25	500G PCHAR 500G PCHAR 500G PCHAR 500G PCHAR 500G PCHAR 500G PCHAR 500G PCHAR 500G PCHAR	KAS KATAHDIN ANALYTICAL KAS KATAHDIN ANALYTICAL	DRY METHOD XX	00 REG 5 4	33/03/2017 10:45 03/06/2017 33/03/2017 08:00 03/06/2017 33/23/2017 15:04 03/23/2017	20170322 20170322	15:03:00 20170323 12:01:00 20170321 15:04:00 20170323	1 16:58:00 SK1680-3 1 12:14:00 SK1680-5 1 17:00:00 WG201819-1	1 1 24	N Solids N Solids	NSOLIDS 100 NSOLIDS 100	76. PCT 100 PCT 100 PCT		TRG TRG				12	1 1 1 SK1680 WG201745 1 1 1 SK1680 WG201818
	MERIDIAN_NAS WG201818-BLANK MERIDIAN_NAS WG201818-LCS	NONE WORM 25 NONE WORM 25	SADG PCHAR	KAS KATAHDIN ANALYTICAL	DRY METHOD X	00 85 5 6	03/22/2017 15:05 03/22/2017	20170322	15:05:00 20170323	17:00:00 WG201818-2	p ji	% Solids	NSCLIDS 89.	BD. PCT		TRG	LSA I	110 80	20091101	42	1 1 1 915680 WG201818
NS24/03608000 (INC)																					



DATA VALIDATION SUMMARY REPORT NAVAL AIR STATION MERIDIAN, MISSISSIPPI

Client: CH2M HILL, Inc., Virginia Beach, Virginia

SDG: 320-26263-1

Laboratory: Test America Laboratories, West Sacramento, California Site: Naval Air Station Meridian, JM01, Meridian, Mississippi

Date: October 29, 2017

	P	PFCs			
EDS ID	Client Sample ID Laboratory Sample		DS ID Client Sample ID Laboratory Sample		Matrix
1	MEAFF-WWTP-MW01-0317	320-26263-1	Water		
1DL	MEAFF-WWIP-MW01-0317DL	320-26263-1DL	Water		
2	MEAFF-PWMA-MW01-0317	320-26263-2	Water		
2DL1	MEAFF-PWMA-MW01-0317DL1	320-26263-2DL1	Water		
2DL2	MEAFF-PWMA-MW01-0317DL2	320-26263-2DL2	Water		
3	MEAFF-UNKNOWN22-MW01-0317	320-26263-3	Water		
4	MEAFF-FD04-030117	320-26263-4	Water		

A full data validation was performed on the analytical data for four water samples collected on March 1, 2017 by CH2M HILL at the NAS Meridian site in Mississippi. 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 Modified

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the Draft Sampling and Analysis Plan, Perfluorinated Compounds Site Inspection, Naval Air Station Meridian, Task Order JM01, August 2016, 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," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

• Holding times and sample preservation

- Liquid Chromatography/Mass Spectrometry (LC/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/Laboratory Control Sample Duplicate (LCS/LCSD) 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 no rejections of data.

Overall the data is acceptable for the intended purposes. There were no qualifications.

Perfluorinated Compounds (PFCs)

Holding Times

• All samples were extracted within 14 days for water samples and analyzed within 28 days.

LC/MS Tuning

All criteria were met.

Initial Calibration

• All relative standard deviation (%RSD) and/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 OC Blank

• The field QC sample was free of contamination.

Blank ID	Compound	Conc. ng/L	Qualifier	Affected Samples
MEAFF-EB04-0317	None - ND		=	Ε.

Surrogate Spike Recoveries

• All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

The MS/MSD samples were not analyzed.

Laboratory Control Sample/Laboratory Control Sample (LCS/LCSD)

• The LCS/LCSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Target Compound Identification

• All mass spectra and quantitation criteria were met.

Compound Quantitation

- Several samples results were flagged (M) by the laboratory indicating manual integration. These flags were removed by the reviewer.
- EDS Sample ID 1 was flagged (E) by the laboratory for PFOS exceeding the linear range of the instrument. The sample was diluted and reanalyzed and the dilution result for PFOS should be used for reporting purposes.
- EDS Sample ID 2 was flagged (E) by the laboratory for all PFCs exceeding the linear range of the instrument. The sample was diluted and reanalyzed and the dilution results should be used for reporting purposes.

Field Duplicate Sample Precision

Field duplicate results are summarized below.

Compound	MEAFF-UNKNOWN22- MW01-0317 ng/L	MEAFF-FD04-030117 ng/L	RPD	Qualifier
PFOA	9.0	8.1	11%	None
PFOS	2.0	1.2	50%	None - <5X LOQ
PFBS	3.7	3.6	3%	None

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed:

Mancy Weaver Dated: 11/3/17

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

1

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-WWTP-MW01-0317

Matrix: Water

Analysis Method: 537 (Modified)

Extraction Method: 3535

Sample wt/vol: 261.2(mL)

Con. Extract Vol.: 0.5(mL)

Injection Volume: 2(uL)

% Moisture:

Analysis Batch No.: 154459

Lab Sample ID: 320-26263-1

Lab File ID: 2017.03.10B 044.d

Date Collected: 03/01/2017 12:40

Date Extracted: 03/06/2017 16:19

Date Analyzed: 03/10/2017 22:52

Dilution Factor: 1

GC Column: GeminiC18 3x100 ID: 3(mm)

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid	260	¥	2.4	1.9	0.72
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	380 370	ME	19 3.8	14 2-9	6.1 1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	25	М	2.4	1.9	0.88

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	8.5		25-150
STL00991	13C4 PFOS	107		25-150
STL00994	1802 PFHxS	110		25-150

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

LDL

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-WWTP-MW01-0317 DL

Matrix: Water

Analysis Method: 537 (Modified)

Extraction Method: 3535

Sample wt/vol: 261.2(mL)

Con. Extract Vol.: 0.5(mL)

Injection Volume: 2(uL)

% Moisture:

Analysis Batch No.: 154808

Lab Sample ID: 320-26263-1 DL

Lab File ID: 2017.03.13A 048.d

Date Collected: 03/01/2017 12:40

Date Extracted: 03/06/2017 16:19

Date Analyzed: 03/13/2017/ 17:16

Dilution Factor: 5

GC Column: GeminiC18 3x100 ID: 3(mm)

GPC Cleanup: (Y/M) N

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid	270	D-M	12	9.6	3.6
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	380) D M	19	14	6.1
375-73-5	Perfluorobutanesulfonic acid (PFBS)	18	DM	12	9.6	4.4

CAS NO.	ISOTOPE DILUTION	%REC	Q LIMITS
STL00990	13C4 PFOA	81	25-150
STL00991	13C4 PFOS	98	25-150
STL00994	1802 PFHxS	116	25-150

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-PWMA-MW01-0317

Matrix: Water

Analysis Method: 537 (Modified)

Extraction Method: 3535

Sample wt/vol: 272.2(mL)

Con. Extract Vol.: 0.5(mL)

Injection Volume: 2(uL)

% Moisture:

Analysis Batch No.: 154459

Lab Sample ID: 320-26263-2

Lab File ID: 2017.03.10B 045.d

Date Collected: 03/01/2017 14:00

Date Extracted: 03/06/2017 16:19

Date Analyzed: 03/10/2017 23:00

Dilution Factor: 1

GC Column: GeminiC18 3x100 ID: 3(mm)

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid	4500 2500	M E	57 2-3	46 1.8	17 9.69
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1600 1300	M E	37 37	28 2.8	12. 1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	830 650	ME	23 2.3	18 1.8	8,4 0.84

CAS NO	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	48		25-150
STL00991	13C4 PFOS	99		25-150
STL00994	1802 PFHxS	46		25-150

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

2041

Lab Name: TestAmerica Sacramento Job

SDG No.:

Client Sample ID: MEAFF-PWMA-MW01-0317 DL

Matrix: Water

Analysis Method: 537 (Modified)

Extraction Method: 3535

Sample wt/vol: 272.2(mL)

Con. Extract Vol.: 0.5(mL)

Injection Volume: 2(uL)

% Moisture:

Analysis Batch No.: 154808

Job No.: 320-26263-1

Lab Sample ID: 320-26263-2 DL

Lab File ID: 2017.03.13A 049.d

Date Collected: 03/01/2017 14:00

Date Extracted: 03/06/2017 16:19

Date Analyzed: 03/13/2017 17:23

Dilution Factor: 10

GC Column: GeminiCl® 3x100 ID: 3(mm)

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	4500 4400	DME	57 23	46 18	17 6.0
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1600	D-M-	37	28	12
375-73-5	Perfluorobutanesulfonic acid (PFBS)	830	P	23	18	8.4

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	83		25-150
STL00991	13C4 PFOS	112		25-150
STL00994	1802 PFHxS	97		25-150

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

2012

Lab Name: TestAmerica Sacramento

Job No.: 320-26263-1

SDG No .:

Client Sample ID: MEAFF-PWMA-MW01-0317 DL2

Matrix: Water

Analysis Method: 537 (Modified)

Extraction Method: 3535

Sample wt/vol: 272.2(mL)

Con. Extract Vol.: 0.5(mL)

Injection Volume: 2(uL)

% Moisture:

Analysis Batch No.: 155009

Lab Sample ID: 320-26263-2 DL2

Lab File ID: 2017.03.14A 020.d

Date Collected: 03/01/2017 14:00

Date Extracted: 03/06/2017 16:19

Date Analyzed: 03/14/2017 15:13

Dilution Factor: 25

GC Column: GeminiC18 3x100 ID: 3(mm)

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid	4500	D-M	57	46	17
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1500	DM	92	69	29
375-73-5	Perfluorobutanesulfonic acid (PFBS)	7.38	P	57	46	21

CAS NO.	ISO	OTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA		108		25-150
STL00991	13C4 PFOS		112		25-150
STL00994	1802 PFHxS		108		25-150

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1

SDG No.:

Client Sample ID: MEAFF-Unknown22-MW01-0317 Lab Sample ID: 320-26263-3

Matrix: Water

Analysis Method: 537 (Modified)

Extraction Method: 3535

Sample wt/vol: 269.1(mL)

Con. Extract Vol.: 0.5(mL)

Injection Volume: 2(uL)

% Moisture:

Analysis Batch No.: 154459

Lab File ID: 2017.03.10B_046.d

Date Collected: 03/01/2017 15:05

Date Extracted: 03/06/2017 16:19

Date Analyzed: 03/10/2017 23:07

Dilution Factor: 1

GC Column: GeminiC18 3x100 ID: 3(mm)

GPC Cleanup: (Y/N) N

CAS NO	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	9.0	7	2.3	1.9	0.69
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	2.0	J	3.7	2.8	1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.7		2.3	1.9	0.85

CAS NO.	ISOTOPE DILUTION	%REC	Q LIMITS
STL00990	13C4 PFOA	87	25-150
STL00991	13C4 PFOS	118	25-150
STL00994	1802 PFHxS	125	25-150

FORM I LCMS ORGANICS ANALYSIS DATA SHEET

	1
1	L
_	1
	ı.

Lab Name: TestAmerica Sacramento Job No.: 320-26263-1 SDG No.: Client Sample ID: MEAFF-FD04-030117 Lab Sample ID: 320-26263-4 Matrix: Water Lab File ID: 2017.03.10B 047.d Date Collected: 03/01/2017 00:00 Analysis Method: 537 (Modified) Extraction Method: 3535 Date Extracted: 03/06/2017 16:19 Sample wt/vol: 270.9(mL) Date Analyzed: 03/10/2017 23:15 Con. Extract Vol.: 0.5(mL) Dilution Factor: 1 Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm) % Moisture: GPC Cleanup: (Y/N) N Analysis Batch No.: 154459 Units: ng/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
335-67-1	Perfluorooctanoic acid (PFOA)	8.1	Ŋ.	2.3	1.8	0.69
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	1.2	J 👖	3.7	2.8	1.2
375-73-5	Perfluorobutanesulfonic acid (PFBS)	3.6		2.3	1.8	0.85

CAS NO.	ISOTOPE DILUTION	%REC	Q	LIMITS
STL00990	13C4 PFOA	83		25-150
STL00991	13C4 PFOS	134		25-150
STL00994	1802 PFHxS	137		25-150