Eurofins Laboratory Reports

- LDC Validation Report – Greenwich (478699)
- Eurofins Laboratory Report (478699 5/9/2014)
- LDC Validation Report – Greenwich (478700)
- Eurofins Laboratory Report (478700 5/9/2014)
- Eurofins Laboratory Report (LCMS 5/16/2014)

LDC Validation Report

– Greenwich (478699)

LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Integral Consulting Inc.
1205 West Bay Drive NW
Olympia, WA 98502
ATTN: Mr. Craig Hutchings

May 22, 2014

SUBJECT: PFCs, Project #C1165, Data Validation

Dear Mr. Hutchings,

Enclosed is the final validation report for the fraction listed below. This SDG was received May 12, 2014. Attachment 1 is a summary of the sample that was reviewed for each analysis.

LDC Project #31800A:

SDG#	Fraction
478699	Perfluorinated Alkyl Acids

The laboratory data package contained all of the required elements for Stage 2B and Stage 4 validation.

100% verification was performed on the sample results in the Electronic Data Deliverable (EDD) against hardcopy results.

The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, dated November 15, 2013
- Eurofins SOP
  EPA Method 537 for Perfluorinated Alkyl Acids
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

361 pages-SF 2 WEEK TAT

Attachment 1

EDD 90/10

LDC #31800 (Integral Consulting, Inc.-Olympia, WA / PFCs, Project #C1165)

LDC	SDG#	DATE REC'D	(3) DATE DUE	PFCs (537)																													
Matrix:	Water/Sediment			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	478699	05/12/14	05/27/14	7	0																												
B	478700	05/12/14	05/27/14	3	0																												
C	478874	05/12/14	05/27/14	6	0																												
C	478874	05/12/14	05/27/14	2	0																												
Total	T/SC			18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

31800ST.wpd

LDC Report# 31800A96

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: PFCs, Project #C1165

LDC Report Date: May 15, 2014

Matrix: Water

Parameters: Perfluorinated Alkyl Acids

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): 478699

Sample Identification	Collection Date	Laboratory Sample Identification
GW0113	04/24/14	201404250096
GW0115	04/24/14	201404250097
GW0114	04/24/14	201404250098
GW0116	04/24/14	201404250099
GW0118	04/24/14	201404250100
GW0117	04/24/14	201404250101
FB0002	04/24/14	201404250105

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 537 for Perfluorinated Alkyl Acids.

This review follows the Site Specific Quality Assurance Project Plan (QAPP) dated November 15, 2013 and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J+ Data are qualified as estimated, with a high bias likely to occur.

J- Data are qualified as estimated, with a low bias likely to occur.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

Qualification Codes

1 Holding Times
2 Sample Preservation (Cooler Temp)
3 Sample Custody
4 Missing Deliverables
5 Calibration
6 Field Blanks
7 Laboratory Blanks
8 Matrix Spike (%)
9 Matrix Spike Duplicate (RPD or Duplicate Sample Analysis)
10 Laboratory Control Sample
11 ICP Interference Check
12 RPD Between Two Columns
13 Surrogates
14 Field Duplicates
15 Peak Resolution
16 ICP Serial Dilution
17 Chemical Recoveries
18 Trip Blanks
19 Internal Standards
20 Linear Range Exceeded
21 Potential False Positives
22 Do not use, other result more technically sound
23 Estimated Maximum Possible Concentration
24 Less than reporting limit
25 Other

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were within QC limits for all compounds.

The percent differences (%D) of the second source calibration standard were within QC limits for all compounds.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perfluorinated alkyl acid contaminants were found in the method blanks.

Sample FB0002 was identified as a field blank. No perfluorinated alkyl acid contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QAPP limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QAPP limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation

Raw data were not reviewed for this SDG.

XIII. System Performance

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples GW0118 and GW011 were identified as field duplicates. No perfluorinated alkyl acids were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	GW0118	GW011	
Perfluorodecanoic acid	0.00099	0.00085	15 (≤35)
Perfluorononanoic acid	0.032	0.031	3 (≤35)
Perfluorooctanesulfonic acid	0.0090	0.0086	5 (≤35)
Perfluorooctanoic acid	0.040	0.042	5 (≤35)
Perfluoroundecanoic acid	0.00078	0.00048	48 (≤35)

PFCs, Project #C1165
Perfluorinated Alkyl Acids - Data Qualification Summary - SDG 478699

No Sample Data Qualified in this SDG

PFCs, Project #C1165
Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG 478699

No Sample Data Qualified in this SDG

PFCs, Project #C1165
Perfluorinated Alkyl Acids - Field Blank Data Qualification Summary - SDG 478699

No Sample Data Qualified in this SDG

LDC #: 31800A96
SDG #: 478699
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 3/15/14
Page: 1 of 1
Reviewer: 9
2nd Reviewer: C

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/24/14
II.	LC/MS Instrument performance check	A	
III.	Initial calibration	A	r^2
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ QC limits
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	SW	D=5+6
XVI.	Field blanks	ND	FB=7.

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:
all H2O's

1	GW0113	11	~~R~~ 76775MB	21		31	
2	GW0115	12		22		32	
3	GW0114	13		23		33	
4	GW0116	14		24		34	
5	GW0118	15		25		35	
6	GW0117	16		26		36	
7	FB0002	17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC#: 31800A96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC MS PFACs (EPA Method 537)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (µg/L)		RPD (≤ 35)
	5	6	
Perfluorodecanoic acid	0.00099	0.00085	15
Perfluorononanoic acid	0.032	0.031	3
Perfluorooctanesulfonic acid	0.0090	0.0086	5
Perfluorooctanoic acid	0.040	0.042	5
Perfluoroundecanoic acid	0.00078	0.00048	48

V:\FIELD DUPLICATES\31800A96.wpd

Eurofins Laboratory Report

– 478699 5/9/2014

eurofins | Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

NELAP ACCREDITED TNI LABORATORY
ORELAP 4034

ilac-MRA

ACLASS ACCREDITED TESTING
AT-1807

Laboratory Report

for

Integral Consulting Inc.
1205 West Bay Drive NW
Olympia, WA 98502
Attention: Craig Hutchings
Fax: 360-705-3669

Date of Issue
05/09/2014

Linda Geddes

EUROFINS EATON ANALYTICAL

LXG: Linda Geddes

Project Manager

Report: 478699
Project: PFC
Group: PFCs

* Accredited in accordance with TNI 2009 and ISO/IEC 17025:2005.
* Laboratory certifies that the test results meet all **TNI 2009 and ISO/IEC 17025:2005** requirements unless noted under the individual analysis.
* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.
* Test results relate only to the sample(s) tested.

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STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	**Mississippi**	Certified
Alaska	CA00006	**Montana**	Cert 0035
Arizona	AZ0778	**Nebraska**	Certified
Arkansas	Certified	**Nevada**	CA00006-2012-1
California-Monrovia-ELAP	2813	**New Hampshire ***	2959
California-Colton- ELAP	2812	**New Jersey ***	CA 008
California-Folsom- ELAP	2820	**New Mexico**	Certified
Colorado	Certified	**New York ***	11320
Connecticut	PH-0107	**North Carolina**	06701
Delaware	CA 006	**North Dakota**	R-009
Florida *	E871024	**Oregon (Primary AB) ***	**ORELAP 4034**
Georgia	947	**Pennsylvania ***	68-565
Guam	13-004r	**Rhode Island**	LAO00326
Hawaii	Certified	**South Carolina**	87016
Idaho	Certified	**South Dakota**	Certified
Illinois *	200033	**Tennessee**	TN02839
Indiana	C-CA-01	**Texas ***	T104704230-14-6
Kansas *	E-10268	**Utah ***	CA000062014-6
Kentucky	90107	**Vermont**	VT0114
Louisiana *	LA140009	**Virginia ***	00210
Maine	CA0006	**Washington**	C838
Maryland	224	**West Virginia**	9943 C
Commonwealth of Northern Marianas Is.	MP0004	**Wisconsin**	998316660
Massachusetts	M-CA006	**Wyoming**	8TMS-L
Michigan	9906	**EPA Region 5**	Certified
Los Angeles County Sanitation Districts	10264		

* NELAP/TNI Recognized Accreditation Bodies

The tests listed below are accredited and meet the requirements of ISO 17025 as verified by the ANSI-ASQ National Accreditation Board/ACLASS.
Refer to Certificate and scope of accreditation (AT 1807) found at: http://www.eatonanalytical.com

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
1,4-Dioxane	EPA 522	x	x	
2,3,7,8-TCDD	Modified EPA 1613B	x	x	
Acrylamide	In House Method	x	x	
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H (18th)		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x	x	
Asbestos	EPA 100.2	x		
Bicarbonate Alkalinity as HCO3	SM 2330B	x	x	x
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method	x	x	
Carbamates	EPA 531.2	x	x	
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x	x	
COD	EPA 410.4 / SM 5220D			x
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x	x	
Chlorinated Acids	EPA 555	x	x	
Chlorine Dioxide	SM 4500-CLO2 D	x	x	
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1			x
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x	x	
Cyanide, Amenable	SM 4500-CN G	x		x
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method	x	x	
Diquat and Paraquat	EPA 549.2	x	x	
DBP/HAA	SM 6251B	x	x	
Dissolved Oxygen	SM 4500-O G		x	x
E. Coli	(MTF/EC+MUG)	x		
E. Coli	CFR 141.21(f)(6)(i)		x	x
E. Coli	SM 9223			x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x	x	
E. Coli (Enumeration)	SM 9223B	x	x	
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x	x	
EDTA and NTA	In House Method	x	x	
Endothall	EPA 548.1	x	x	
Enterococci	SM 9230B	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)			x
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x	x	
Fecal Coliform with Chlorine Present	SM 9221E			x
Fecal Streptococci	SM 9230B	x		x
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x	x	
Gross Alpha/Beta	EPA 900.0	x	x	x
HAAs/ Dalapon	EPA 552.3	x	x	
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method	x	x	
Heterotrophic Bacteria	SM 9215 B	x	x	
Hexavalent Chromium	EPA 218.6	x	x	x
Hexavalent Chromium	EPA 218.7	x	x	
Hexavalent Chromium	SM 3500-Cr B or C (20th)			x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
Hormones	EPA 539	x	x	
Hydroxide as OH Calc.	SM 2330B	x	x	
Kjeldahl Nitrogen	EPA 351.2			x
Mercury	EPA 245.1	x	x	x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA	x	x	
NDMA	EPA 521	x	x	
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x	x	
Ortho Phosphate	EPA 365.1	x	x	
Ortho Phosphate and Total Phosphorous	EPA 365.1/SM 4500-P E			x
Ortho Phosphorous	SM 4500P E	x	x	
Oxyhalides Disinfection Byproducts	EPA 317.0	x	x	
Perchlorate	EPA 331.0	x	x	
Perchlorate	EPA 314.0	x	x	
Perfluorinated Alkyl Acids	EPA 537	x	x	
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method	x	x	
Pseudomonas	IDEXX Pseudalert	x	x	
Radium-226	RA-226 GA	x	x	
Radium-228	RA-228 GA	x	x	
Radon-222	SM 7500RN	x	x	
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D			x
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4			x
Semi-VOC	EPA 525.2	x	x	
Semi-VOC	EPA 625	x	x	x
Silica	SM 4500-Si D	x	x	x
Silica	SM 4500-SiO2 C	x		x
Sulfide	SM 4500-$S^{=}$ D			x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x	x	
Total Coliform	SM 9221 A, B	x	x	
Total Coliform (Enumeration)	SM 9221 A, B, C	x	x	
Total Coliform / E. coli	Colisure	x	x	
Total Coliform	SM 9221B			x
Total Coliform with Chlorine Present	SM 9221B			x
Total Coliform / E.coli	SM 9223	x	x	
TOC	SM 5310C		x	x
TOC/DOC	SM 5310C	x	x	
TOX	SM 5320B			x
Total Phenols	EPA 420.1			x
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P F			x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x		x
Uranium by ICP/MS	EPA 200.8	x	x	
UV 254	SM 5910B	x		
VOC	EPA 524.2/EPA 524.3	x	x	
VOC	EPA 624	x	x	x
VOC	EPA SW 846 8260	x	x	
VOC	In House Method	x	x	
Yeast and Mold	SM 9610	x	x	

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Acknowledgement of Samples Received

Addr: **Integral Consulting Inc.**
1205 West Bay Drive NW
Olympia, WA 98502

Client ID: INTEGRAL-OLYMP
Folder #: 478699
Project: PFC
Sample Group: PFCs

Attn: Craig Hutchings
Phone: 360-705-3534 x 417

Project Manager: Linda Geddes
Phone: (626) 386-1163

The following samples were received from you on **April 25, 2014**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical.

Sample #	Sample ID	Sample Date
201404250096	GW0113	04/24/2014 1145
	@537-INTEGRAL	
201404250097	GW0115	04/24/2014 1150
	@537-INTEGRAL	
201404250098	GW0114	04/24/2014 1204
	@537-INTEGRAL	
201404250099	GW0116	04/24/2014 1233
	@537-INTEGRAL	
201404250100	GW0118	04/24/2014 1225
	@537-INTEGRAL	
201404250101	GW0117	04/24/2014 1222
	@537-INTEGRAL	
201404250105	FB0002	04/24/2014 1437
	@537-INTEGRAL FB Freight - RUSH	

Test Description

@537-INTEGRAL -- Perfluorinated Alkyl Acids

@537-INTEGRAL FB -- Perfluorinated Alkyl Acids

750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://www.EatonAnalytical.com

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CHAIN OF CUSTODY RECORD

478699

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: JS

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

SAMPLE TEMP RECEIVED AT:

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☑ Monrovia 3.2 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice ✓ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / (FedEx) / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Integral Consulting

PROJECT CODE:

COMPLIANCE SAMPLES ☐ (check for yes)
- Requires state forms ☐

NON-COMPLIANCE SAMPLES ☐ (check for yes)
REGULATION INVOLVED: _____

Type of samples (circle one): **ROUTINE** **SPECIAL** **CONFIRMATION** (eg. SDWA, Phase V, NPDES, FDA,...)

EEA CLIENT CODE:

COC ID:

SAMPLE GROUP:

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

TAT requested: rush by adv notice only STD ✓ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	~~CLIENT LAB ID~~ TAG #	MATRIX *	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
4/24/14	1145	GW0113	2001 / 2002				
	1150	GW0115	2003 / 2004				
	1204	GW0114	2005 / 2006				
	1233	GW0116	2007 / 2008				
	1225	GW0118	2009 / 2010				
	1222	GW0117	2011 / 2012				

KC 4/24

* **MATRIX TYPES:** **RSW** = Raw Surface Water, **RGW** = Raw Ground Water, **CFW** = Chlor(am)inated Finished Water, **FW** = Other Finished Water, **SEAW** = Sea Water, **WW** = Waste Water, **BW** = Bottled Water, **SW** = Storm Water, **SO** = Soil, **SL** = Sludge, **O** = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	Katie Corso	Katie Corso	Integral Consulting	4/24/14	1600
RELINQUISHED BY:	Katie Corso	Katie Corso	Integral Consulting	4/24/14	1600
RECEIVED BY:		Joe Sanchez	EEA	4/25/14	0936
RELINQUISHED BY:					
RECEIVED BY:					

QA FO 0029 (06/26/2013)

PAGE ____ OF ____

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CHAIN OF CUSTODY RECORD

478699

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: JS

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

SAMPLE TEMP RECEIVED AT:

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☑ Monrovia 3.2 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice ✓ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Integral Consulting

PROJECT CODE: Solvay

EEA CLIENT CODE:

COC ID:

SAMPLE GROUP:

TAT requested: rush by adv notice only STD ✓ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

(check for yes) **COMPLIANCE SAMPLES** ☐ - Requires state forms ☐

(check for yes) **NON-COMPLIANCE SAMPLES** ☐ REGULATION INVOLVED: _____

Type of samples (circle one): **ROUTINE SPECIAL CONFIRMATION** (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), *OR*

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	~~CLIENT LAB ID~~ TAG #	MATRIX *	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
4/24/14	1340	GW0121	2013/2014				
	1405	GW0119	2015/2016				
	1405	GW0120	2017/2018				
	1437	FB0002	2019				No empty TB Bottle

KC 4/24

* **MATRIX TYPES:** **RSW** = Raw Surface Water **CFW** = Chlor(am)inated Finished Water **SEAW** = Sea Water **BW** = Bottled Water **SO** = Soil **O** = Other - Please Identify
RGW = Raw Ground Water **FW** = Other Finished Water **WW** = Waste Water **SW** = Storm Water **SL** = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	Katherine Corso	Katie Corso	Integral Consulting	4/24/14	1600.
RELINQUISHED BY:	Katherine Corso	Katie Corso	Integral Consulting	4/24/14	1600
RECEIVED BY:		Joe Sanchez	EEA	4/25/14	0750
RELINQUISHED BY:					
RECEIVED BY:					

QA FO 0029 (06/26/2013)

PAGE ____ OF ____

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CHAIN OF CUSTODY RECORD

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: JS

SAMPLE TEMP RECEIVED AT:

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☑ Monrovia 3.2 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice ✓ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / (FedEx) / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Integral Consulting

PROJECT CODE:

EEA CLIENT CODE:

COC ID:

SAMPLE GROUP:

COMPLIANCE SAMPLES ☐ (check for yes) **NON-COMPLIANCE SAMPLES** ☐ (check for yes)

- Requires state forms ☐ REGULATION INVOLVED: _____

Type of samples (circle one): **ROUTINE SPECIAL CONFIRMATION** (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), ***OR***

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

TAT requested: rush by adv notice only STD ✓ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	~~CLIENT LAB ID~~ TAG #	MATRIX *	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
4/24/14	1145	GW0113	2001 / 2002				
	1150	GW0115	2003 / 2004				
	1204	GW0114	2005 / 2006				
	1233	GW0116	2007 / 2008				
	1225	GW0118	2009 / 2010				
	1222	GW0117	2011 / 2012				

KC 4/24

*** MATRIX TYPES:** **RSW** = Raw Surface Water **CFW** = Chlor(am)inated Finished Water **SEAW** = Sea Water **BW** = Bottled Water **SO** = Soil **O** = Other - Please Identify
RGW = Raw Ground Water **FW** = Other Finished Water **WW** = Waste Water **SW** = Storm Water **SL** = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	Katie Corso	Katie Corso	Integral Consulting	4/24/14	1600
RELINQUISHED BY:	Katie Corso	Katie Corso	Integral Consulting	4/24/14	1600
RECEIVED BY:	Joe Sanchez	Joe Sanchez	EEA	4/25/14	0936
RELINQUISHED BY:					
RECEIVED BY:					

QA FO 0029 (06/26/2013)

PAGE _____ OF _____

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Comments
Report: 478699

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

The Comments Report may be blank if there are no comments for this report.

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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Hits
Report: 478699

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201404250096	**GW0113**				
05/07/2014 07:17	Perfluorononanoic acid		0.0070		ug/L	0.0025
05/07/2014 07:17	Perfluorooctanesulfonic acid		0.0030		ug/L	0.0025
05/07/2014 07:17	Perfluorooctanoic acid		0.012		ug/L	0.0025
	201404250097	**GW0115**				
05/07/2014 07:43	Perfluorononanoic acid		0.012		ug/L	0.0025
05/07/2014 07:43	Perfluorooctanoic acid		0.0088		ug/L	0.0025
	201404250098	**GW0114**				
05/07/2014 08:09	Perfluorononanoic acid		0.013		ug/L	0.0025
05/07/2014 08:09	Perfluorooctanoic acid		0.0098		ug/L	0.0025
	201404250099	**GW0116**				
05/07/2014 08:34	Perfluorononanoic acid		0.026		ug/L	0.0025
05/07/2014 08:34	Perfluorooctanesulfonic acid		0.0077		ug/L	0.0025
05/07/2014 08:34	Perfluorooctanoic acid		0.035		ug/L	0.0025
	201404250100	**GW0118**				
05/07/2014 09:00	Perfluorononanoic acid		0.032		ug/L	0.0025
05/07/2014 09:00	Perfluorooctanesulfonic acid		0.0090		ug/L	0.0025
05/07/2014 09:00	Perfluorooctanoic acid		0.040		ug/L	0.0025
	201404250101	**GW0117**				
05/07/2014 09:25	Perfluorononanoic acid		0.031		ug/L	0.0025
05/07/2014 09:25	Perfluorooctanesulfonic acid		0.0086		ug/L	0.0025
05/07/2014 09:25	Perfluorooctanoic acid		0.042		ug/L	0.0025

SUMMARY OF POSITIVE DATA ONLY

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1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 478699

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Prepared	Analyzed		QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
GW0113 (201404250096)							**Sampled on 04/24/2014 1145**			
	EPA 537 - Perfluorinated Alkyl Acids									
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorodecanoic acid	ND	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorononanoic acid	0.0070	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0030	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorooctanoic acid	0.012	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	13C-PFDA	83	%			1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	13C-PFOA	81	%			1
5/1/2014	05/07/2014	07:17	767756	(EPA 537)	13C-PFOS	94	%			1
GW0115 (201404250097)							**Sampled on 04/24/2014 1150**			
	EPA 537 - Perfluorinated Alkyl Acids									
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorodecanoic acid	ND	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorononanoic acid	0.012	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0023J	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorooctanoic acid	0.0088	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	13C-PFDA	98	%			1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	13C-PFOA	75	%			1
5/1/2014	05/07/2014	07:43	767756	(EPA 537)	13C-PFOS	92	%			1
GW0114 (201404250098)							**Sampled on 04/24/2014 1204**			
	EPA 537 - Perfluorinated Alkyl Acids									
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorodecanoic acid	ND	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorononanoic acid	0.013	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0024J	ug/L	0.0002	0.0025	1

Rounding on totals after summation.
(c) - Indicates calculated results.
ND - Analyte was not detected at the calculated MDL.
J - The analyte was either detected at or greater than the MDL and less than the MRL, or did not meet any one of the required QC criteria.

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Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 478699

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Prepared	Analyzed		QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorooctanoic acid	0.0098	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	13C-PFDA	91	%			1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	13C-PFOA	75	%			1
5/1/2014	05/07/2014	08:09	767756	(EPA 537)	13C-PFOS	84	%			1

GW0116 (201404250099) **Sampled on 04/24/2014 1233**

EPA 537 - Perfluorinated Alkyl Acids

5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorodecanoic acid	0.00066J	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorononanoic acid	0.026	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0077	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorooctanoic acid	0.035	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	Perfluoroundecanoic acid	0.00048J	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	13C-PFDA	81	%			1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	13C-PFOA	83	%			1
5/1/2014	05/07/2014	08:34	767756	(EPA 537)	13C-PFOS	95	%			1

GW0118 (201404250100) **Sampled on 04/24/2014 1225**

EPA 537 - Perfluorinated Alkyl Acids

5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorodecanoic acid	0.00099J	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorononanoic acid	0.032	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0090	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorooctanoic acid	0.040	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	Perfluoroundecanoic acid	0.00078J	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	13C-PFDA	108	%			1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	13C-PFOA	90	%			1
5/1/2014	05/07/2014	09:00	767756	(EPA 537)	13C-PFOS	91	%			1

Rounding on totals after summation.
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Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 478699

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Prepared	Analyzed		QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
GW0117 (201404250101)							**Sampled on 04/24/2014 1222**			
	EPA 537 - Perfluorinated Alkyl Acids									
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorodecanoic acid	0.00085J	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorononanoic acid	0.031	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0086	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorooctanoic acid	0.042	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	Perfluoroundecanoic acid	0.00048J	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	13C-PFDA	99	%			1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	13C-PFOA	97	%			1
5/1/2014	05/07/2014	09:25	767756	(EPA 537)	13C-PFOS	95	%			1
FB0002 (201404250105)							**Sampled on 04/24/2014 1437**			
	EPA 537 - Perfluorinated Alkyl Acids									
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorodecanoic acid	ND	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorononanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorooctanesulfonic acid	ND	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorooctanoic acid	ND	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	13C-PFDA	97	%			1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	13C-PFOA	93	%			1
5/1/2014	05/07/2014	03:01	767756	(EPA 537)	13C-PFOS	98	%			1

Rounding on totals after summation.
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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 478699

Integral Consulting Inc.

QC Ref # 767756 - Perfluorinated Alkyl Acids **Analysis Date: 05/07/2014**

201404250096	GW0113	Analyzed by: LHZ
201404250097	GW0115	Analyzed by: LHZ
201404250098	GW0114	Analyzed by: LHZ
201404250099	GW0116	Analyzed by: LHZ
201404250100	GW0118	Analyzed by: LHZ
201404250101	GW0117	Analyzed by: LHZ
201404250105	FB0002	Analyzed by: LHZ

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Laboratory QC
Report: 478699

Integral Consulting Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 767756 - Perfluorinated Alkyl Acids by EPA 537						**Analysis Date: 05/07/2014**			
LCS1	13C-PFDA (S)			84.2	%	84	(70-130)		
LCS2	13C-PFDA (S)			98.6	%	99	(70-130)		
MBLK	13C-PFDA (S)			94.4	%	94	(70-130)		
MRL_CHK	13C-PFDA (S)			93.6	%	94	(70-130)		
MS1_201405010499	13C-PFDA (S)			94.3	%	94	(70-130)		
MSD1_201405010499	13C-PFDA (S)			101	%	101	(70-130)		
LCS1	13C-PFOA (I)			89.2	%	89	(50-150)		
LCS2	13C-PFOA (I)			88.6	%	89	(50-150)		
MBLK	13C-PFOA (I)			92.4	%	92	(50-150)		
MRL_CHK	13C-PFOA (I)			94.7	%	95	(50-150)		
MS1_201405010499	13C-PFOA (I)			90.4	%	90	(50-150)		
MSD1_201405010499	13C-PFOA (I)			89.9	%	90	(50-150)		
LCS1	13C-PFOS (I)			101	%	101	(50-150)		
LCS2	13C-PFOS (I)			94.3	%	94	(50-150)		
MBLK	13C-PFOS (I)			99.2	%	99	(50-150)		
MRL_CHK	13C-PFOS (I)			95.2	%	95	(50-150)		
MS1_201405010499	13C-PFOS (I)			91.1	%	91	(50-150)		
MSD1_201405010499	13C-PFOS (I)			96.4	%	96	(50-150)		
LCS1	Perfluorodecanoic acid		0.025	0.0220	ug/L	88	(70-130)		
LCS2	Perfluorodecanoic acid		0.025	0.0245	ug/L	98	(70-130)	30	11
MBLK	Perfluorodecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorodecanoic acid		0.0025	0.00268	ug/L	107	(50-150)		
MS1_201405010499	Perfluorodecanoic acid	ND	0.025	0.0237	ug/L	95	(70-130)		
MSD1_201405010499	Perfluorodecanoic acid	ND	0.025	0.0260	ug/L	104	(70-130)	30	9.3
LCS1	Perfluorododecanoic acid		0.025	0.0189	ug/L	76	(70-130)		
LCS2	Perfluorododecanoic acid		0.025	0.0217	ug/L	87	(70-130)	30	14
MBLK	Perfluorododecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorododecanoic acid		0.0025	0.00248	ug/L	99	(50-150)		
MS1_201405010499	Perfluorododecanoic acid	ND	0.025	0.0189	ug/L	76	(70-130)		
MSD1_201405010499	Perfluorododecanoic acid	ND	0.025	0.0228	ug/L	91	(70-130)	30	19
LCS1	Perfluorononanoic acid		0.025	0.0240	ug/L	96	(70-130)		
LCS2	Perfluorononanoic acid		0.025	0.0269	ug/L	107	(70-130)	30	11
MBLK	Perfluorononanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorononanoic acid		0.0025	0.00282	ug/L	113	(50-150)		
MS1_201405010499	Perfluorononanoic acid	ND	0.025	0.0255	ug/L	101	(70-130)		
MSD1_201405010499	Perfluorononanoic acid	ND	0.025	0.0273	ug/L	109	(70-130)	30	6.8

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
(S) - Indicates surrogate compound.
(I) - Indicates internal standard compound.

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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

Laboratory QC
Report: 478699

Integral Consulting Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Perfluorooctanesulfonic acid		0.024	0.0192	ug/L	80	(70-130)		
LCS2	Perfluorooctanesulfonic acid		0.024	0.0224	ug/L	94	(70-130)	30	15
MBLK	Perfluorooctanesulfonic acid			<0.0008	ug/L				
MRL_CHK	Perfluorooctanesulfonic acid		0.0024	0.00239	ug/L	100	(50-150)		
MS1_201405010499	Perfluorooctanesulfonic acid	ND	0.024	0.0220	ug/L	87	(70-130)		
MSD1_201405010499	Perfluorooctanesulfonic acid	ND	0.024	0.0250	ug/L	100	(70-130)	30	13
LCS1	Perfluorooctanoic acid		0.025	0.0216	ug/L	87	(70-130)		
LCS2	Perfluorooctanoic acid		0.025	0.0242	ug/L	97	(70-130)	30	11
MBLK	Perfluorooctanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorooctanoic acid		0.0025	0.00257	ug/L	103	(50-150)		
MS1_201405010499	Perfluorooctanoic acid	ND	0.025	0.0253	ug/L	96	(70-130)		
MSD1_201405010499	Perfluorooctanoic acid	ND	0.025	0.0256	ug/L	97	(70-130)	30	1.2
LCS1	Perfluorotetradecanoic acid		0.025	0.0197	ug/L	79	(70-130)		
LCS2	Perfluorotetradecanoic acid		0.025	0.0208	ug/L	83	(70-130)	30	5.4
MBLK	Perfluorotetradecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorotetradecanoic acid		0.0025	0.00249	ug/L	100	(50-150)		
MS1_201405010499	Perfluorotetradecanoic acid	ND	0.025	0.0185	ug/L	74	(70-130)		
MSD1_201405010499	Perfluorotetradecanoic acid	ND	0.025	0.0212	ug/L	85	(70-130)	30	14
LCS1	Perfluorotridecanoic acid		0.025	0.0186	ug/L	74	(70-130)		
LCS2	Perfluorotridecanoic acid		0.025	0.0193	ug/L	77	(70-130)	30	3.7
MBLK	Perfluorotridecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorotridecanoic acid		0.0025	0.00203	ug/L	81	(50-150)		
MS1_201405010499	Perfluorotridecanoic acid	ND	0.025	0.0179	ug/L	72	(70-130)		
MSD1_201405010499	Perfluorotridecanoic acid	ND	0.025	0.0204	ug/L	81	(70-130)	30	13
LCS1	Perfluoroundecanoic acid		0.025	0.0215	ug/L	86	(70-130)		
LCS2	Perfluoroundecanoic acid		0.025	0.0241	ug/L	96	(70-130)	30	11
MBLK	Perfluoroundecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluoroundecanoic acid		0.0025	0.00252	ug/L	101	(50-150)		
MS1_201405010499	Perfluoroundecanoic acid	ND	0.025	0.0213	ug/L	85	(70-130)		
MSD1_201405010499	Perfluoroundecanoic acid	ND	0.025	0.0245	ug/L	98	(70-130)	30	14

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
(S) - Indicates surrogate compound.
(I) - Indicates internal standard compound.

LDC Validation Report

– Greenwich (478700)

LABORATORY DATA CONSULTANTS, INC.

2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Integral Consulting Inc.
1205 West Bay Drive NW
Olympia, WA 98502
ATTN: Mr. Craig Hutchings

May 22, 2014

SUBJECT: PFCs, Project #C1165, Data Validation

Dear Mr. Hutchings,

Enclosed is the final validation report for the fraction listed below. This SDG was received May 12, 2014. Attachment 1 is a summary of the sample that was reviewed for each analysis.

LDC Project #31800B:

SDG#	Fraction
478700	Perfluorinated Alkyl Acids

The laboratory data package contained all of the required elements for Stage 2B and Stage 4 validation.

100% verification was performed on the sample results in the Electronic Data Deliverable (EDD) against hardcopy results.

The analyses were validated using the following documents, as applicable to each method:

- Quality Assurance Project Plan, dated November 15, 2013
- Eurofins SOP
  EPA Method 537 for Perfluorinated Alkyl Acids
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

361 pages-SF 2 WEEK TAT

Attachment 1

EDD 90/10

LDC #31800 (Integral Consulting, Inc.-Olympia, WA / PFCs, Project #C1165)

LDC	SDG#	DATE REC'D	(3) DATE DUE	PFCs (537)																													
Matrix:	Water/Sediment			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	478699	05/12/14	05/27/14	7	0																												
B	478700	05/12/14	05/27/14	3	0																												
C	478874	05/12/14	05/27/14	6	0																												
C	478874	05/12/14	05/27/14	2	0																												
Total	T/SC			18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS/MSD, and DUPs

31800ST.wpd

LDC Report# 31800B96

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: PFCs, Project #C1165

LDC Report Date: May 19, 2014

Matrix: Water

Parameters: Perfluorinated Alkyl Acids

Validation Level: Stage 2B

Laboratory: Eurofins

Sample Delivery Group (SDG): 478700

Sample Identification	Collection Date	Laboratory Sample Identification
GW0121	04/24/14	201404250102
GW0119	04/24/14	201404250103
GW0120	04/24/14	201404250104

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 537 for Perfluorinated Alkyl Acids.

This review follows the Site Specific Quality Assurance Project Plan (QAPP) dated November 15, 2013 and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J+ Data are qualified as estimated, with a high bias likely to occur.

J- Data are qualified as estimated, with a low bias likely to occur.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

Qualification Codes

1 Holding Times
2 Sample Preservation (Cooler Temp)
3 Sample Custody
4 Missing Deliverables
5 Calibration
6 Field Blanks
7 Laboratory Blanks
8 Matrix Spike (%)
9 Matrix Spike Duplicate (RPD or Duplicate Sample Analysis)
10 Laboratory Control Sample
11 ICP Interference Check
12 RPD Between Two Columns
13 Surrogates
14 Field Duplicates
15 Peak Resolution
16 ICP Serial Dilution
17 Chemical Recoveries
18 Trip Blanks
19 Internal Standards
20 Linear Range Exceeded
21 Potential False Positives
22 Do not use, other result more technically sound
23 Estimated Maximum Possible Concentration
24 Less than reporting limit
25 Other

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. LC/MS Instrument Performance Check

Instrument performance was checked as applicable. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were within QC limits for all compounds.

The percent differences (%D) of the second source calibration standard were within QC limits for all compounds.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No perfluorinated alkyl acid contaminants were found in the method blanks.

Sample FB0002 (from SDG 478699) was identified as a field blank. No perfluorinated alkyl acid contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QAPP limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QAPP limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation

Raw data were not reviewed for this SDG.

XIII. System Performance

Raw data were not reviewed for this SDG.

XIV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XV. Field Duplicates

Samples GW0119 and GW0120 were identified as field duplicates. No perfluorinated alkyl acids were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	GW0119	GW0120	
Perfluorodecanoic acid	0.00050	0.00038	27 (≤35)
Perfluorononanoic acid	0.053	0.051	4 (≤35)
Perfluorooctanesulfonic acid	0.00094	0.00088	7 (≤35)
Perfluorooctanoic acid	0.032	0.028	13 (≤35)

PFCs, Project #C1165
Perfluorinated Alkyl Acids - Data Qualification Summary - SDG 478700

No Sample Data Qualified in this SDG

PFCs, Project #C1165
Perfluorinated Alkyl Acids - Laboratory Blank Data Qualification Summary - SDG 478700

No Sample Data Qualified in this SDG

PFCs, Project #C1165
Perfluorinated Alkyl Acids - Field Blank Data Qualification Summary - SDG 478700

No Sample Data Qualified in this SDG

LDC #: 31800B96
SDG #: 478700
Laboratory: Eurofins

VALIDATION COMPLETENESS WORKSHEET
Level III

Date: 5/15/14
Page: 1 of 1
Reviewer: 9
2nd Reviewer: A

METHOD: LCMS Perfluorinated Alkyl Acids (EPA Method 537)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 4/24/14
II.	LC/MS Instrument performance check	A	
III.	Initial calibration	A	r^2
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ QC limits
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	System performance	N	
XIV.	Overall assessment of data	A	
XV.	Field duplicates	SW	D = 2+3
XVI.	Field blanks	ND	FB0002 (478699)

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	GW0121	11	T6TT56MB	21		31	
2	GW0119	12		22		32	
3	GW0120	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

LDC#: 31800B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC MS PFACs (EPA Method 537)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (µg/L)		RPD (≤ 35)
	2	3	
Perfluorodecanoic acid	0.00050	0.00038	27
Perfluorononanoic acid	0.053	0.051	4
Perfluorooctanesulfonic acid	0.00094	0.00088	7
Perfluorooctanoic acid	0.032	0.028	13

V:\FIELD DUPLICATES\31800B96.wpd

Eurofins Laboratory Report

– 478700 5/9/2014

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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (626) 386-1101
1 800 566 LABS (1 800 566 5227)

NELAP ACCREDITED TNI LABORATORY
ORELAP 4034

ilac-MRA

ACLASS ACCREDITED TESTING
AT-1807

Laboratory Report

for

Integral Consulting Inc.
1205 West Bay Drive NW
Olympia, WA 98502
Attention: Craig Hutchings
Fax: 360-705-3669

Date of Issue
05/09/2014

Linda Geddes

EUROFINS EATON ANALYTICAL

LXG: Linda Geddes

Project Manager

Report: 478700
Project: PFC
Group: PFCs

* Accredited in accordance with TNI 2009 and ISO/IEC 17025:2005.
* Laboratory certifies that the test results meet all **TNI 2009 and ISO/IEC 17025:2005** requirements unless noted under the individual analysis.
* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.
* Test results relate only to the sample(s) tested.

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STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	**Mississippi**	Certified
Alaska	CA00006	**Montana**	Cert 0035
Arizona	AZ0778	**Nebraska**	Certified
Arkansas	Certified	**Nevada**	CA00006-2012-1
California-Monrovia-ELAP	2813	**New Hampshire ***	2959
California-Colton- ELAP	2812	**New Jersey ***	CA 008
California-Folsom- ELAP	2820	**New Mexico**	Certified
Colorado	Certified	**New York ***	11320
Connecticut	PH-0107	**North Carolina**	06701
Delaware	CA 006	**North Dakota**	R-009
Florida *	E871024	**Oregon (Primary AB) ***	**ORELAP 4034**
Georgia	947	**Pennsylvania ***	68-565
Guam	13-004r	**Rhode Island**	LAO00326
Hawaii	Certified	**South Carolina**	87016
Idaho	Certified	**South Dakota**	Certified
Illinois *	200033	**Tennessee**	TN02839
Indiana	C-CA-01	**Texas ***	T104704230-14-6
Kansas *	E-10268	**Utah ***	CA000062014-6
Kentucky	90107	**Vermont**	VT0114
Louisiana *	LA140009	**Virginia ***	00210
Maine	CA0006	**Washington**	C838
Maryland	224	**West Virginia**	9943 C
Commonwealth of Northern Marianas Is.	MP0004	**Wisconsin**	998316660
Massachusetts	M-CA006	**Wyoming**	8TMS-L
Michigan	9906	**EPA Region 5**	Certified
Los Angeles County Sanitation Districts	10264		

* NELAP/TNI Recognized Accreditation Bodies

The tests listed below are accredited and meet the requirements of ISO 17025 as verified by the ANSI-ASQ National Accreditation Board/ACLASS.
Refer to Certificate and scope of accreditation (AT 1807) found at: http://www.eatonanalytical.com

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
1,4-Dioxane	EPA 522	x	x	
2,3,7,8-TCDD	Modified EPA 1613B	x	x	
Acrylamide	In House Method	x	x	
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H (18th)		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x	x	
Asbestos	EPA 100.2	x		
Bicarbonate Alkalinity as HCO3	SM 2330B	x	x	x
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method	x	x	
Carbamates	EPA 531.2	x	x	
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x	x	
COD	EPA 410.4 / SM 5220D			x
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x	x	
Chlorinated Acids	EPA 555	x	x	
Chlorine Dioxide	SM 4500-CLO2 D	x	x	
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1			x
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x	x	
Cyanide, Amenable	SM 4500-CN G	x		x
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method	x	x	
Diquat and Paraquat	EPA 549.2	x	x	
DBP/HAA	SM 6251B	x	x	
Dissolved Oxygen	SM 4500-O G		x	x
E. Coli	(MTF/EC+MUG)	x		
E. Coli	CFR 141.21(f)(6)(i)		x	x
E. Coli	SM 9223			x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x	x	
E. Coli (Enumeration)	SM 9223B	x	x	
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x	x	
EDTA and NTA	In House Method	x	x	
Endothall	EPA 548.1	x	x	
Enterococci	SM 9230B	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)			x
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x	x	
Fecal Coliform with Chlorine Present	SM 9221E			x
Fecal Streptococci	SM 9230B	x		x
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x	x	
Gross Alpha/Beta	EPA 900.0	x	x	x
HAAs/ Dalapon	EPA 552.3	x	x	
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method	x	x	
Heterotrophic Bacteria	SM 9215 B	x	x	
Hexavalent Chromium	EPA 218.6	x	x	x
Hexavalent Chromium	EPA 218.7	x	x	
Hexavalent Chromium	SM 3500-Cr B or C (20th)			x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Drinking Water	Food & Beverage	Waste Water
Hormones	EPA 539	x	x	
Hydroxide as OH Calc.	SM 2330B	x	x	
Kjeldahl Nitrogen	EPA 351.2			x
Mercury	EPA 245.1	x	x	x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA	x	x	
NDMA	EPA 521	x	x	
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x	x	
Ortho Phosphate	EPA 365.1	x	x	
Ortho Phosphate and Total Phosphorous	EPA 365.1/SM 4500-P E			x
Ortho Phosphorous	SM 4500P E	x	x	
Oxyhalides Disinfection Byproducts	EPA 317.0	x	x	
Perchlorate	EPA 331.0	x	x	
Perchlorate	EPA 314.0	x	x	
Perfluorinated Alkyl Acids	EPA 537	x	x	
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method	x	x	
Pseudomonas	IDEXX Pseudalert	x	x	
Radium-226	RA-226 GA	x	x	
Radium-228	RA-228 GA	x	x	
Radon-222	SM 7500RN	x	x	
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D			x
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4			x
Semi-VOC	EPA 525.2	x	x	
Semi-VOC	EPA 625	x	x	x
Silica	SM 4500-Si D	x	x	x
Silica	SM 4500-SiO2 C	x		x
Sulfide	SM 4500-$S^{=}$ D			x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x	x	
Total Coliform	SM 9221 A, B	x	x	
Total Coliform (Enumeration)	SM 9221 A, B, C	x	x	
Total Coliform / E. coli	Colisure	x	x	
Total Coliform	SM 9221B			x
Total Coliform with Chlorine Present	SM 9221B			x
Total Coliform / E.coli	SM 9223	x	x	
TOC	SM 5310C		x	x
TOC/DOC	SM 5310C	x	x	
TOX	SM 5320B			x
Total Phenols	EPA 420.1			x
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P F			x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x		x
Uranium by ICP/MS	EPA 200.8	x	x	
UV 254	SM 5910B	x		
VOC	EPA 524.2/EPA 524.3	x	x	
VOC	EPA 624	x	x	x
VOC	EPA SW 846 8260	x	x	
VOC	In House Method	x	x	
Yeast and Mold	SM 9610	x	x	

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Acknowledgement of Samples Received

Addr: **Integral Consulting Inc.**
1205 West Bay Drive NW
Olympia, WA 98502

Client ID: INTEGRAL-OLYMP
Folder #: 478700
Project: PFC
Sample Group: PFCs

Attn: Craig Hutchings
Phone: 360-705-3534 x 417

Project Manager: Linda Geddes
Phone: (626) 386-1163

The following samples were received from you on **April 25, 2014**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical.

Sample #	Sample ID	Sample Date
201404250102	GW0121	04/24/2014 1340
	@537-INTEGRAL	
201404250103	GW0119	04/24/2014 1405
	@537-INTEGRAL	
201404250104	GW0120	04/24/2014 1415
	@537-INTEGRAL	

Test Description

@537-INTEGRAL -- Perfluorinated Alkyl Acids

750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (626) 386-1101 http://www.EatonAnalytical.com

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CHAIN OF CUSTODY RECORD

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: JS

SAMPLE TEMP RECEIVED AT:

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

☐ Colton / No. California / Arizona _____ °C (Compliance: 4 ± 2 °C)

☑ Monrovia 3.2 °C (Compliance: 4 ± 2 °C)

CONDITION OF BLUE ICE: Frozen _____ Partially Frozen _____ Thawed _____ Wet Ice ✓ No Ice _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Integral Consulting

PROJECT CODE: Solvay

EEA CLIENT CODE:

COC ID:

SAMPLE GROUP:

TAT requested: rush by adv notice only STD ✓ 1 wk ___ 3 day ___ 2 day ___ 1 day ___

(check for yes) **COMPLIANCE SAMPLES** ☐ - Requires state forms ☐

(check for yes) **NON-COMPLIANCE SAMPLES** ☐ REGULATION INVOLVED: _____

Type of samples (circle one): **ROUTINE SPECIAL CONFIRMATION** (eg. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes), ***OR***

list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	~~CLIENT LAB ID~~ JAC#	MATRIX *	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
4/24/14	1340	GW0121	2013/2014				
	1405	GW0119	2015/2016				
	1405	GW0120	2017/2018				
	1437	FB0002	2019				No empty TB Bottle

KC 4/24

*** MATRIX TYPES:** **RSW** = Raw Surface Water **RGW** = Raw Ground Water **CFW** = Chlor(am)inated Finished Water **FW** = Other Finished Water **SEAW** = Sea Water **WW** = Waste Water **BW** = Bottled Water **SW** = Storm Water **SO** = Soil **SL** = Sludge **O** = Other - Please Identify

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY:	Katie Corso	Katie Corso	Integral Consulting	4/24/14	1600.
RELINQUISHED BY:	Katie Corso	Katie Corso	Integral Consulting	4/24/14	1600.
RECEIVED BY:		Joe Sanchez	EEA	4/25/14	0935
RELINQUISHED BY:					
RECEIVED BY:					

QA FO 0029 (06/26/2013)

PAGE _____ OF _____

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Laboratory Comments
Report: 478700

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

The Comments Report may be blank if there are no comments for this report.

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Laboratory Hits
Report: 478700

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	201404250102	**GW0121**				
05/07/2014 09:51	Perfluorononanoic acid		0.012		ug/L	0.0025
05/07/2014 09:51	Perfluorooctanesulfonic acid		0.0025		ug/L	0.0025
05/07/2014 09:51	Perfluorooctanoic acid		0.0099		ug/L	0.0025
	201404250103	**GW0119**				
05/07/2014 10:16	Perfluorononanoic acid		0.053		ug/L	0.0025
05/07/2014 10:16	Perfluorooctanoic acid		0.032		ug/L	0.0025
	201404250104	**GW0120**				
05/07/2014 10:42	Perfluorononanoic acid		0.051		ug/L	0.0025
05/07/2014 10:42	Perfluorooctanoic acid		0.028		ug/L	0.0025

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Data
Report: 478700

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Prepared	Analyzed		QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
GW0121 (201404250102)							**Sampled on 04/24/2014 1340**			
			EPA 537 - Perfluorinated Alkyl Acids							
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorodecanoic acid	ND	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorononanoic acid	0.012	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.0025	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorooctanoic acid	0.0099	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	13C-PFDA	97	%			1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	13C-PFOA	104	%			1
5/1/2014	05/07/2014	09:51	767756	(EPA 537)	13C-PFOS	101	%			1
GW0119 (201404250103)							**Sampled on 04/24/2014 1405**			
			EPA 537 - Perfluorinated Alkyl Acids							
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorodecanoic acid	0.00050J	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorononanoic acid	0.053	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.00094J	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorooctanoic acid	0.032	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	13C-PFDA	88	%			1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	13C-PFOA	99	%			1
5/1/2014	05/07/2014	10:16	767756	(EPA 537)	13C-PFOS	95	%			1
GW0120 (201404250104)							**Sampled on 04/24/2014 1415**			
			EPA 537 - Perfluorinated Alkyl Acids							
5/1/2014	05/07/2014	10:42	767756	(EPA 537)	Perfluorodecanoic acid	0.00038J	ug/L	0.0003	0.0025	1
5/1/2014	05/07/2014	10:42	767756	(EPA 537)	Perfluorododecanoic acid	ND	ug/L	0.0006	0.0025	1
5/1/2014	05/07/2014	10:42	767756	(EPA 537)	Perfluorononanoic acid	0.051	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014	10:42	767756	(EPA 537)	Perfluorooctanesulfonic acid	0.00088J	ug/L	0.0002	0.0025	1

Rounding on totals after summation.
(c) - Indicates calculated results.
ND - Analyte was not detected at the calculated MDL.
J - The analyte was either detected at or greater than the MDL and less than the MRL, or did not meet any one of the required QC criteria.

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Laboratory Data
Report: 478700

Integral Consulting Inc.
Craig Hutchings
1205 West Bay Drive NW
Olympia, WA 98502

Samples Received on:
04/25/2014

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MDL	MRL	Dilution
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	Perfluorooctanoic acid	0.028	ug/L	0.0002	0.0025	1
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	Perfluorotetradecanoic acid	ND	ug/L	0.001	0.0025	1
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	Perfluorotridecanoic acid	ND	ug/L	0.0008	0.0025	1
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	Perfluoroundecanoic acid	ND	ug/L	0.0004	0.0025	1
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	13C-PFDA	79	%			1
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	13C-PFOA	98	%			1
5/1/2014	05/07/2014 10:42	767756	(EPA 537)	13C-PFOS	96	%			1

Rounding on totals after summation.
(c) - Indicates calculated results.
ND - Analyte was not detected at the calculated MDL.
J - The analyte was either detected at or greater than the MDL and less than the MRL, or did not meet any one of the required QC criteria.

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Laboratory
QC Summary: 478700

Integral Consulting Inc.

QC Ref # 767756 - Perfluorinated Alkyl Acids **Analysis Date: 05/07/2014**

201404250102	GW0121	Analyzed by: LHZ
201404250103	GW0119	Analyzed by: LHZ
201404250104	GW0120	Analyzed by: LHZ

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Laboratory QC
Report: 478700

Integral Consulting Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 767756 - Perfluorinated Alkyl Acids by EPA 537						**Analysis Date: 05/07/2014**			
LCS1	13C-PFDA (S)			84.2	%	84	(70-130)		
LCS2	13C-PFDA (S)			98.6	%	99	(70-130)		
MBLK	13C-PFDA (S)			94.4	%	94	(70-130)		
MRL_CHK	13C-PFDA (S)			93.6	%	94	(70-130)		
MS1_201405010499	13C-PFDA (S)			94.3	%	94	(70-130)		
MSD1_201405010499	13C-PFDA (S)			101	%	101	(70-130)		
LCS1	13C-PFOA (I)			89.2	%	89	(50-150)		
LCS2	13C-PFOA (I)			88.6	%	89	(50-150)		
MBLK	13C-PFOA (I)			92.4	%	92	(50-150)		
MRL_CHK	13C-PFOA (I)			94.7	%	95	(50-150)		
MS1_201405010499	13C-PFOA (I)			90.4	%	90	(50-150)		
MSD1_201405010499	13C-PFOA (I)			89.9	%	90	(50-150)		
LCS1	13C-PFOS (I)			101	%	101	(50-150)		
LCS2	13C-PFOS (I)			94.3	%	94	(50-150)		
MBLK	13C-PFOS (I)			99.2	%	99	(50-150)		
MRL_CHK	13C-PFOS (I)			95.2	%	95	(50-150)		
MS1_201405010499	13C-PFOS (I)			91.1	%	91	(50-150)		
MSD1_201405010499	13C-PFOS (I)			96.4	%	96	(50-150)		
LCS1	Perfluorodecanoic acid		0.025	0.0220	ug/L	88	(70-130)		
LCS2	Perfluorodecanoic acid		0.025	0.0245	ug/L	98	(70-130)	30	11
MBLK	Perfluorodecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorodecanoic acid		0.0025	0.00268	ug/L	107	(50-150)		
MS1_201405010499	Perfluorodecanoic acid	ND	0.025	0.0237	ug/L	95	(70-130)		
MSD1_201405010499	Perfluorodecanoic acid	ND	0.025	0.0260	ug/L	104	(70-130)	30	9.3
LCS1	Perfluorododecanoic acid		0.025	0.0189	ug/L	76	(70-130)		
LCS2	Perfluorododecanoic acid		0.025	0.0217	ug/L	87	(70-130)	30	14
MBLK	Perfluorododecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorododecanoic acid		0.0025	0.00248	ug/L	99	(50-150)		
MS1_201405010499	Perfluorododecanoic acid	ND	0.025	0.0189	ug/L	76	(70-130)		
MSD1_201405010499	Perfluorododecanoic acid	ND	0.025	0.0228	ug/L	91	(70-130)	30	19
LCS1	Perfluorononanoic acid		0.025	0.0240	ug/L	96	(70-130)		
LCS2	Perfluorononanoic acid		0.025	0.0269	ug/L	107	(70-130)	30	11
MBLK	Perfluorononanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorononanoic acid		0.0025	0.00282	ug/L	113	(50-150)		
MS1_201405010499	Perfluorononanoic acid	ND	0.025	0.0255	ug/L	101	(70-130)		
MSD1_201405010499	Perfluorononanoic acid	ND	0.025	0.0273	ug/L	109	(70-130)	30	6.8

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
(S) - Indicates surrogate compound.
(I) - Indicates internal standard compound.

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Laboratory QC
Report: 478700

Integral Consulting Inc.

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS1	Perfluorooctanesulfonic acid		0.024	0.0192	ug/L	80	(70-130)		
LCS2	Perfluorooctanesulfonic acid		0.024	0.0224	ug/L	94	(70-130)	30	15
MBLK	Perfluorooctanesulfonic acid			<0.0008	ug/L				
MRL_CHK	Perfluorooctanesulfonic acid		0.0024	0.00239	ug/L	100	(50-150)		
MS1_201405010499	Perfluorooctanesulfonic acid	ND	0.024	0.0220	ug/L	87	(70-130)		
MSD1_201405010499	Perfluorooctanesulfonic acid	ND	0.024	0.0250	ug/L	100	(70-130)	30	13
LCS1	Perfluorooctanoic acid		0.025	0.0216	ug/L	87	(70-130)		
LCS2	Perfluorooctanoic acid		0.025	0.0242	ug/L	97	(70-130)	30	11
MBLK	Perfluorooctanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorooctanoic acid		0.0025	0.00257	ug/L	103	(50-150)		
MS1_201405010499	Perfluorooctanoic acid	ND	0.025	0.0253	ug/L	96	(70-130)		
MSD1_201405010499	Perfluorooctanoic acid	ND	0.025	0.0256	ug/L	97	(70-130)	30	1.2
LCS1	Perfluorotetradecanoic acid		0.025	0.0197	ug/L	79	(70-130)		
LCS2	Perfluorotetradecanoic acid		0.025	0.0208	ug/L	83	(70-130)	30	5.4
MBLK	Perfluorotetradecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorotetradecanoic acid		0.0025	0.00249	ug/L	100	(50-150)		
MS1_201405010499	Perfluorotetradecanoic acid	ND	0.025	0.0185	ug/L	74	(70-130)		
MSD1_201405010499	Perfluorotetradecanoic acid	ND	0.025	0.0212	ug/L	85	(70-130)	30	14
LCS1	Perfluorotridecanoic acid		0.025	0.0186	ug/L	74	(70-130)		
LCS2	Perfluorotridecanoic acid		0.025	0.0193	ug/L	77	(70-130)	30	3.7
MBLK	Perfluorotridecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluorotridecanoic acid		0.0025	0.00203	ug/L	81	(50-150)		
MS1_201405010499	Perfluorotridecanoic acid	ND	0.025	0.0179	ug/L	72	(70-130)		
MSD1_201405010499	Perfluorotridecanoic acid	ND	0.025	0.0204	ug/L	81	(70-130)	30	13
LCS1	Perfluoroundecanoic acid		0.025	0.0215	ug/L	86	(70-130)		
LCS2	Perfluoroundecanoic acid		0.025	0.0241	ug/L	96	(70-130)	30	11
MBLK	Perfluoroundecanoic acid			<0.00083	ug/L				
MRL_CHK	Perfluoroundecanoic acid		0.0025	0.00252	ug/L	101	(50-150)		
MS1_201405010499	Perfluoroundecanoic acid	ND	0.025	0.0213	ug/L	85	(70-130)		
MSD1_201405010499	Perfluoroundecanoic acid	ND	0.025	0.0245	ug/L	98	(70-130)	30	14

Spike recovery is already corrected for native results.
Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.
RPD not calculated for LCS2 when different a concentration than LCS1 is used.
RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).
(S) - Indicates surrogate compound.
(I) - Indicates internal standard compound.

EUROFINS LABORATORY REPORT

– 478699/478700 LCMS 5/16/2014

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Scan Prep Sheet

Box ID #: _____
For Scanning DEPT

Lab Batch Number: LCMS3 (Instrument ID) 050614 (Analysis Date) LHZ (Analyst SLIMS Initials)

Lab Test Type: P537

Batch Prep Date: 05/01/14 — 05/05/14

Calibration Date: 05/06/14

QIR Number: _____

Reruns: _____

Prep: 765596 Run: 767756 Due Date: _____ Rush: ☐

Prep: _____ Run: _____ Due Date: _____ Rush: ☐

Notes: _____

Approved By: [illegible] Date: 5/8/14

LCMS-FO-UCMR3 537-0004A

Attachment VIII: 537 Data Review Checklist

LHZ 05/06/14
~~UCMR3~~ Method 537 Checklist

Analysis Date: 05/06/14 Analyst: LHZ Instrument ID: LCMS3
Submitted by: LHZ Date: 05/07/14 QC'd by: [illegible] Date: 5/8/14 Eluent Prepared Date: 05/06/14 by LHZ Exp. 05/08/14

Initial Calibration (ICAL):

- ✓ Unique File Name: LHZ 05/07/14 ~~CAC~~ C537-Batch# 765596-050614-calcurve.pdf
- ✓ Calibration contains a minimum of 5 standard concentrations from =/< MRL to high point.
- ✓ Each point is back-calculated against curve.
  - ✓ *Back calculation passes with the lowest level standard being within 50-150% of its true value.*
  - ✓ *All other points in the back calculation are within 70-130% of its true value.*
- ✓ IS must be within 70-140% compared to the average IS response in ICAL.
- ✓ < 20% RPD among IS responses in the lowest and highest CAL stds.
- ✓ Peak asymmetry ratio performed at a mid-level CAL std. must be 0.8-1.5 for first two eluent peaks.
- ✓ Surrogate recoveries must be within control limits of 70-130%.

Internal Standards (IS and Surrogates) for all QCs and Samples:

- ✓ IS must be within 70-140% compared to the response in the most recent CCC
- ✓ IS must be within 50-150% compared to the average IS response in ICAL.
- ✓ Surrogate recoveries must be within 70-130%.

Quality Control Sample (QCS):

- ✓ A QCS is from a source different than that used to prepare CAL stds.
- ✓ A QCS is analyzed after each preparation of new analyte primary dilution standards and at least quarterly.
- ✓ QCS is at mid level, and results are within ±30% of the true value.
- ✓ IS and surrogate recoveries are within QC limits.

Continuing Calibration Verification Check Standard (CCC):

- ✓ A low-level CCC is analyzed at the beginning of each analysis batch.
- ✓ Subsequent CCC's are analyzed following every 10 field samples and at the end of the batch.
- ✓ Subsequent CCC's are analyzed at rotating mid & high levels.
- ✓ The low-level CCC is within ±50% of the true value.
- ✓ Mid and high-level CCC's are within ±30% of the true value.
- ✓ IS and surrogate recoveries are within QC limits.

Laboratory Reagent Blank (LRB/Method Blank):

- ✓ An LRB is analyzed with each extraction/analysis batch.
- ✓ All target analytes must be ≤ 1/3 MRL.
- ✓ IS and surrogate recoveries are within QC limits.

Laboratory Fortified Blank (LFB):

- ✓ An LFB≤ MRL level is processed per extraction batch and analyzed per each analysis batch prior to analyzing filed samples.
- ✓ Low-level LFB recovery is 50-150% of the true value for each target analyte.
- ✓ IS and surrogate recoveries are within QC limits.
- NA If run, LFBs at mid & high levels must have recoveries within 70-130% of the true value for each target analyte.

Laboratory Fortified Sample Matrix (LFSM/LFSMD/MS/MSD) or Field Duplicates (FD/DUP):

- ✓ One LFSM must be analyzed per analysis batch at rotating low & mid levels.
- ✓ Analyze at least one LFSMD or FD per analysis batch.
- ✓ Low-level spike concentration is ±50% of the MRL level.
- NA Mid-level spike concentration is ±20% of the mid-level calibration standard.
- ✓ Analyte recovery for low-level should be within ±50% of the true value for LFSM and LFSMD.
- NA Analyte recovery for mid-level should be within ±30% of the true value for LFSM and LFSMD.
- ✓ Analyte relative percent difference (RPD) should be ≤50% for low-level or ≤30% for mid-level.
- ✓ IS and surrogate recoveries are within QC limits.

Samples:

- ✓ pH 6.5-7.5.
- ✓ Free chlorine <0.1 mg/L.
- ✓ 20 samples or less in **an analytical batch.**

Attachment VIII: 537 Data Review Checklist (cont'd)

✓ IS and surrogate recoveries are within QC limits.
✓ Hits are correctly identified.
✓ Mass Spectrum is printed for each analyte above MRL (even if false).

Field Reagent Blank (FRB):

NA To be analyzed when there are sample hits.
NA All target analytes ≤ 1/3 MRL.
NA If FRB is contaminated, samples are invalidated.
NA IS and surrogate recoveries are within QC limits.

Data Files:

✓ Are the data files (quantitation report) and method files consistent with one another?
✓ Are file ID's the same on both the hard copies and the electronic files?
NA Are all manual integrations (MI) documentation completed?
____ Printouts of before and after MI with analyst and reviewer signatures and the date
____ Reason for MI
NA QIR filled out if necessary (QIR number: _____)

EEA Folder No.: 478874, 478899, 478700, and 478873

Table of Contents

Level I deliverables include the following:

A. Case Narrative if applicable

- Client's sample identification and the corresponding laboratory identification
- Parameters analyzed and methodology used
- Holding time met or exceeded
- Detailed description of all analytical and/or sample receipt problems encountered
- Discussion of reasons for any QA/QC sample result exceedances
- Discussion of any manual integrations
- Observations regarding any occurrences which may adversely impact sample integrity or data quality.

B. Laboratory Report

- Cover page
- State Certification List
- List of ISO 17025 Accredited Methods
- Acknowledgment of samples received
- **Chain of Custody Documentation**
  - FedEx Air Bill/Method of Shipment Documentation
  - Sample Cooler Checklist
  - Purchase Requisition
- **Laboratory Comments Report**
  - Group Comments
  - Definition of Data Qualification
- **Laboratory Hits Report**
  - Sample ID
  - Analysis Date
  - Analyte
  - Result and units
  - Federal Maximum Contamination Limit (MCL) if available
  - Minimum Reporting Limit (MRL)
- **Laboratory Data Report**
  - Client's sample ID and corresponding lab ID
  - Sampled on (Date and time of sample collection)
  - Prepared (Date of sample preparation) as applicable
  - Analyzed (Date and time of analysis)
  - QC Ref # (QC Reference #)
  - Analyte and Method
  - Result (Analytical results) and Units
  - MRL

✓ = Items included in the data package
NA = Not applicable; items not included in the data package.

- Dilution factor (Dilution)
- Surrogate recoveries if applicable
- MDL (Minimum Detection Limit) if applicable

- **Laboratory QC Summary**
  - QC Ref # (Batch QC Reports)
  - Analyte/Method
  - Lab ID and corresponding client's sample ID
  - Analysis Date
  - Analyst by (Analyst Initials)

✓ = Items included in the data package
NA = Not applicable; items not included in the data package.

Level II deliverables include Level I and the following:

- **Laboratory QC Report** (Part of Laboratory Report)
  - QC Ref # - Analyte/Method
  - Analysis Date
  - QC Types, as applicable
    - CCCL/ CCCM/CCCH (Continuing Calibration Check at Low/Mid/High level
    - DUP (Sample Duplicate)
    - LCS (Laboratory Control Sample)
    - MBLK (Method Blank)
    - MRL_CHK (Minimum Reporting Limit Check)
    - MS/MSD (Matrix Spike/ MS Duplicate)
  - QC Types include the following, as applicable
    - Analyte
    - Native (Native Result)
    - Spiked (Spiked level)
    - Recovered (Spiked sample result)
    - Units
    - Yield % (Yield in % recovery)
    - Limits % (Acceptance limits)
    - RPD Limit (%) (Relative Percent Difference Limit in %)
    - RPD %

✓ = Items included in the data package
NA = Not applicable; items not included in the data package.

LEVEL III DELIVERABLES

ORGANICS

Analyte/ Method Reference: CP537 Prepared by: LHZ
EEA Folder No.: 478873, 478874, 478699, & 478700 Date Prepared: 05/07/14
QC Ref #: 767756
Sample Analysis Date: 05/06/14

Level III deliverables include Level I, Level II, and the following:

Raw Data
INITIAL CALIBRATION (ICAL)

- ✓ Primary Analyses
- ✓ Confirmation Analyses , if applicable
- ✓ Sequence log
- NA Instrument Tune (DFTPP or BFB) showing abundance criteria and result if applicable
- NA DDT/Endrin breakdown or tailings check information for tune file as required by the method, as applicable
- ✓ Instrument blank or method blank- Area printouts, quantitation reports, chromatogram
- ✓ Quantitation reports and chromatograms for all calibration levels
- ✓ Initial Calibration Summary including all points and regression plots
- ✓ Second source standard Quantitation Report and Chromatogram if required
- ✓ IS (Internal Standard) results if applicable
- ✓ Surrogate results if applicable
- NA Peak resolution, as applicable
- NA Retention time window determination, as applicable
- NA Manual integration (before and after) if applicable

SAMPLE /QC ANALYSES

- ✓ Primary Analysis
- ✓ Confirmation Analysis, if applicable
- ✓ Data Review Checklist
- NA QIR (Quality Investigation Report) if applicable
- ✓ Sample preparation logs if applicable
- ✓ Analysis Sequence Log/ Injection Log
  - NA Instrument Tune (DFTPP or BFB) showing abundance criteria and result
  - NA Breakdown or tailing check information for instrument tune if required by the method

✓ = Items included in the data package
NA = Not applicable; items not included in the data package.

- ✓ Continuing calibration standard (Area printouts, quantitation report, chromatogram, and % deviation including regression plots)
- ✓ Initial Calibration (See above for ICAL)
- ✓ Laboratory reagent blank (LRB)/Method Blank (MB) – Area printouts, quantitation report, and chromatogram.
- NA TIC's (Tentatively Identified Compounds) for LRB if necessary
- ✓ MRL (Method Reporting Limit) check
- ✓ LCS (Laboratory Control Sample) spike recoveries, area printouts, quantitation report, and chromatogram
- ✓ MS/MSD (Matrix Spike/ Matrix Spike Duplicate) spike recoveries or Lab duplicate, area printouts, quantitation report, and chromatogram
- ✓ Closing standard(s)- Area printouts, quantitation report, and chromatogram (and % deviation including regression plots), as applicable
- NA Peak resolution, as applicable
- NA Ion Scans and Enhanced Spectra/ extracted ion current profile (EICP) of target analytes and TICs with the associated best match spectra, if applicable
- ✓ All relevant clients data including Area printouts, quantitation report, chromatogram spectra, and TIC's
- ✓ 2nd Source standards/LCS
- ✓ IS (Internal Standard) results if applicable
- ✓ Surrogate results if applicable
- NA Manual integration (before and after) if applicable

✓ = Items included in the data package
NA = Not applicable; items not included in the data package.

LEVEL IV DELIVERABLES

ORGANICS

Analyte/ Method Reference: C537
EEA Folder No.: 478873, 478874, 478699 & 478700
QC Ref #: 767756
Sample Analysis Date: 05/06/14

Prepared by: MB
Date Prepared: 05/07/14

Level IV deliverables to include Levels I, II, III, and the following:

✓ Certificates of analysis for standards, IS, Surrogate and spiking solutions used on sample preparation or in analysis.

✓ Copy of the standard log for all prepared/diluted solutions of standards, IS and surrogates used in preparation, extraction or analysis of samples.

✓ = Items included in the data package
NA = Not applicable; items not included in the data package.

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

As IS stock standard

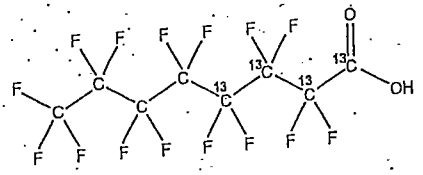
LOT NUMBER: MPFOA0113

PRODUCT CODE: MPFOA

COMPOUND: Perfluoro-n-[1,2,3,4-$^{13}C_4$]octanoic acid

CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA: $^{13}C_4{}^{12}C_4HF_{15}O_2$

CONCENTRATION: 50 ± 2.5 µg/ml

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 01/10/2013

EXPIRY DATE: (mm/dd/yyyy) 01/10/2018

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 418.04

SOLVENT(S): Methanol
Water (<1%)

ISOTOPIC PURITY: ≥99% ^{13}C (1,2,3,4-$^{13}C_4$)

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: B.G. Chittim Date: 01/25/2013 (mm/dd/yyyy)

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

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. They are designed to be used as reference standards for the identification and/or quantification of specific chemical compound(s).

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Material Safety Data Sheets (MSDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product, unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, x-ray crystallography and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS and/or LC/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external, ISO/IEC 17025:2005 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

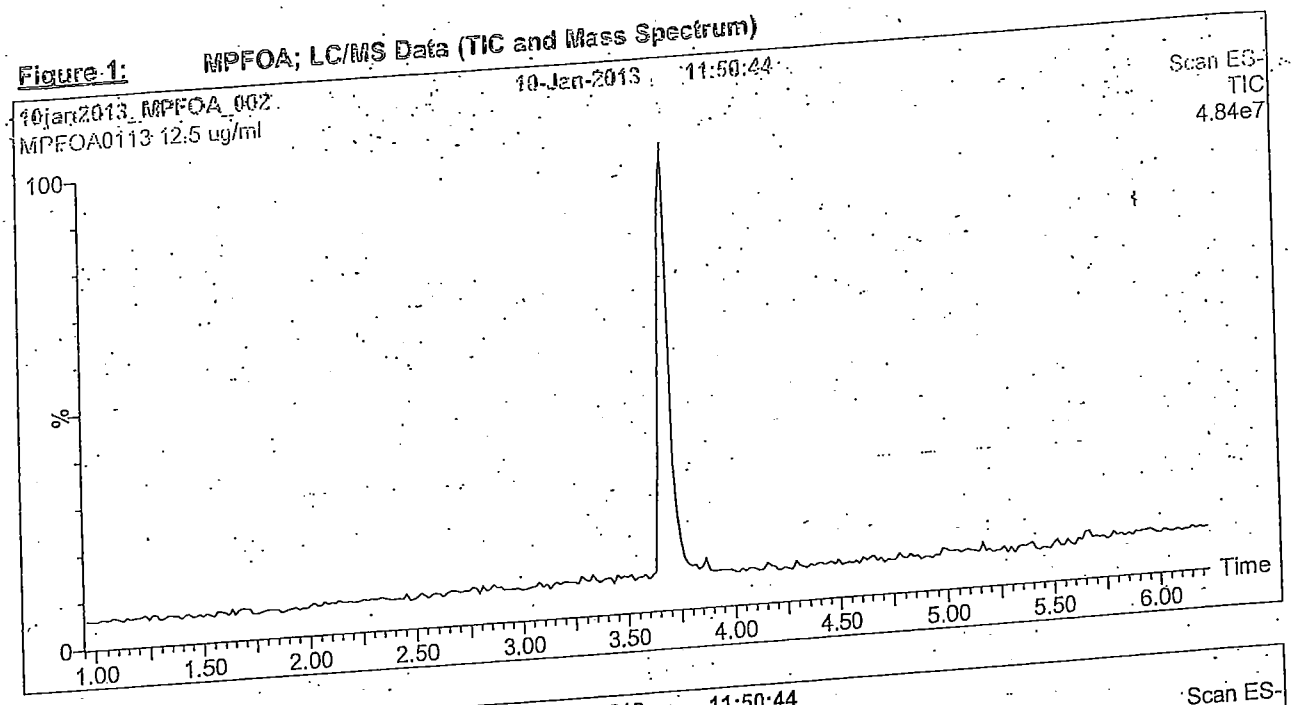
This product was produced using a Quality Management System registered to ISO 9001:2008 by SAI Global, ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34:2009 by ACLASS (certificate number AR-1523).

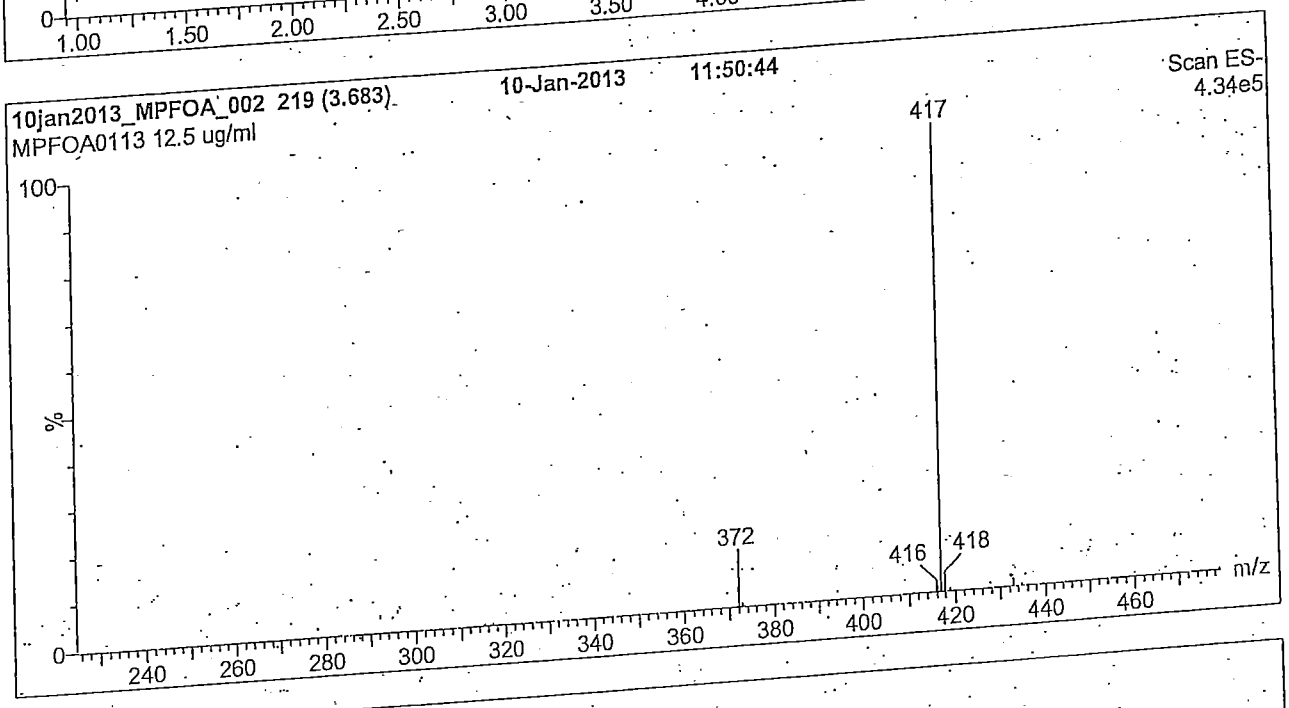
CALA Testing Accreditation No. A1226

ACLASS REFERENCE MATERIAL PRODUCER

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

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





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions in 0.5 min.
Time: 10 min

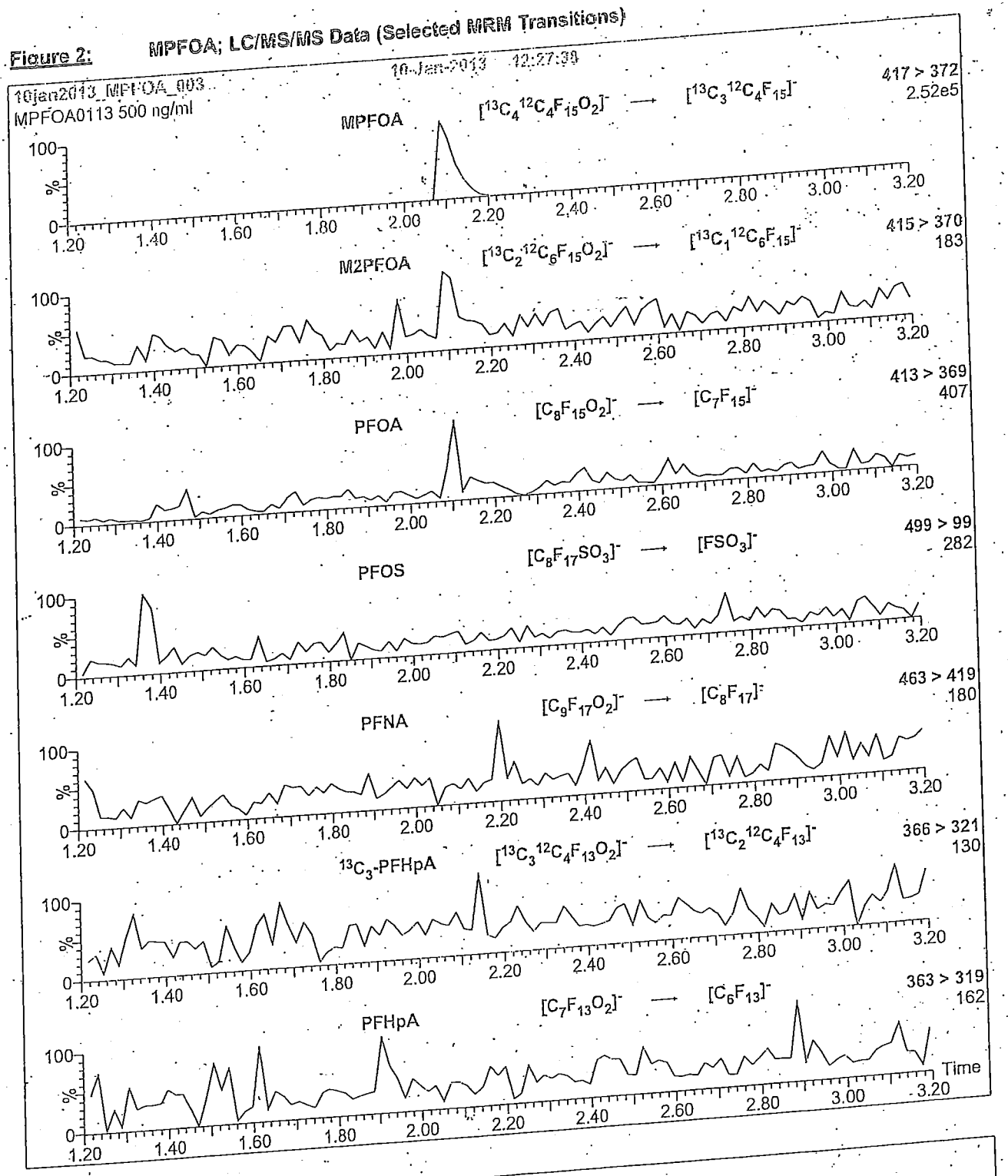
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

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



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFOA)

Mobile phase: Isocratic 70% (80:20 MeOH:ACN) / 30% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 11

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

As IS stock standard

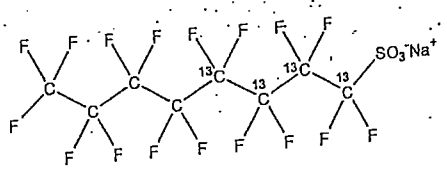
LOT NUMBER: MPFOS0913

PRODUCT CODE: MPFOS

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA: $^{13}C_4{}^{12}C_4F_{17}SO_3Na$

MOLECULAR WEIGHT: 526.08

CONCENTRATION: 50.0 ± 2.5 µg/ml (Na salt)
47.8 ± 2.4 µg/ml (MPFOS anion)

SOLVENT(S): Methanol

CHEMICAL PURITY: >98%

ISOTOPIC PURITY: ≥99% ^{13}C (1,2,3,4-$^{13}C_4$)

LAST TESTED: (mm/dd/yyyy) 09/18/2013

EXPIRY DATE: (mm/dd/yyyy) 09/18/2018

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 ~ 0.5% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim Date: 10/02/2013 (mm/dd/yyyy)

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

Form #27, Issued 2004-11-10

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. They are designed to be used as reference standards for the identification and/or quantification of specific chemical compound(s).

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Material Safety Data Sheets (MSDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product, unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, x-ray crystallography and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS and/or LC/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external, ISO/IEC 17025:2005 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

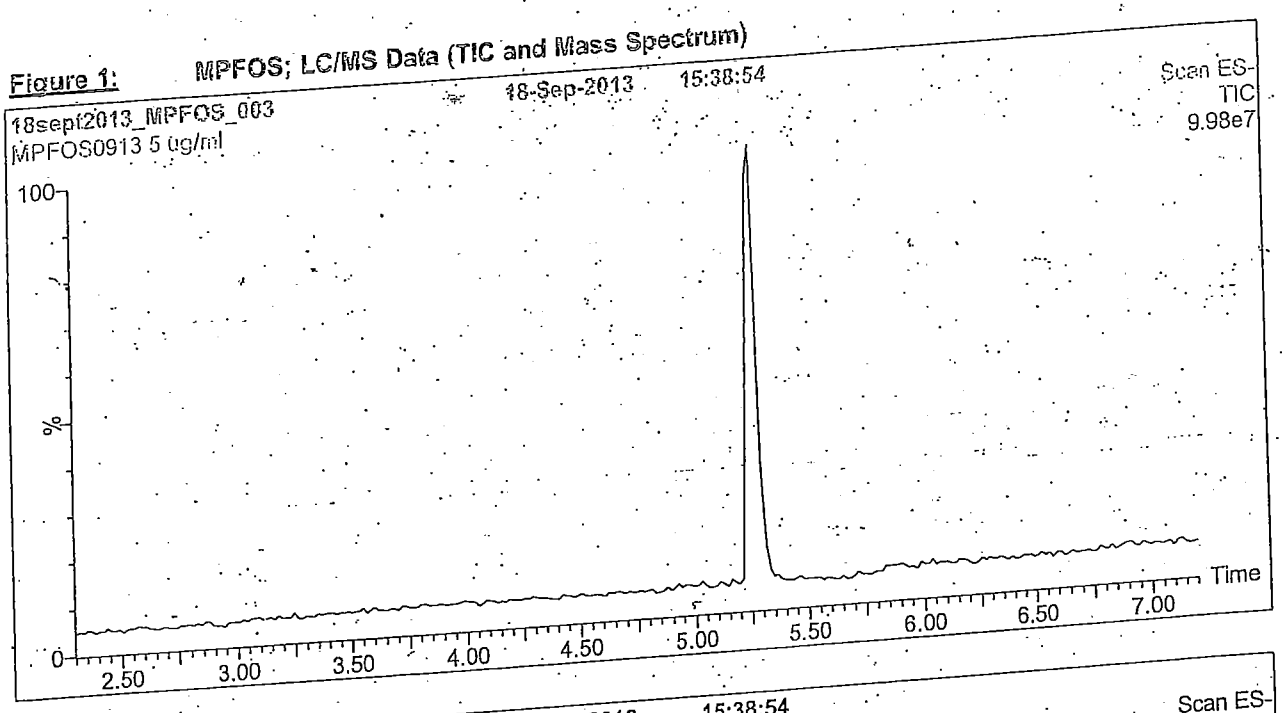
This product was produced using a Quality Management System registered to ISO 9001:2008 by SAI Global, ISO/IEC 17025:2005 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A-1226), and ISO GUIDE 34:2009 by ACLASS (certificate number AR-1523).

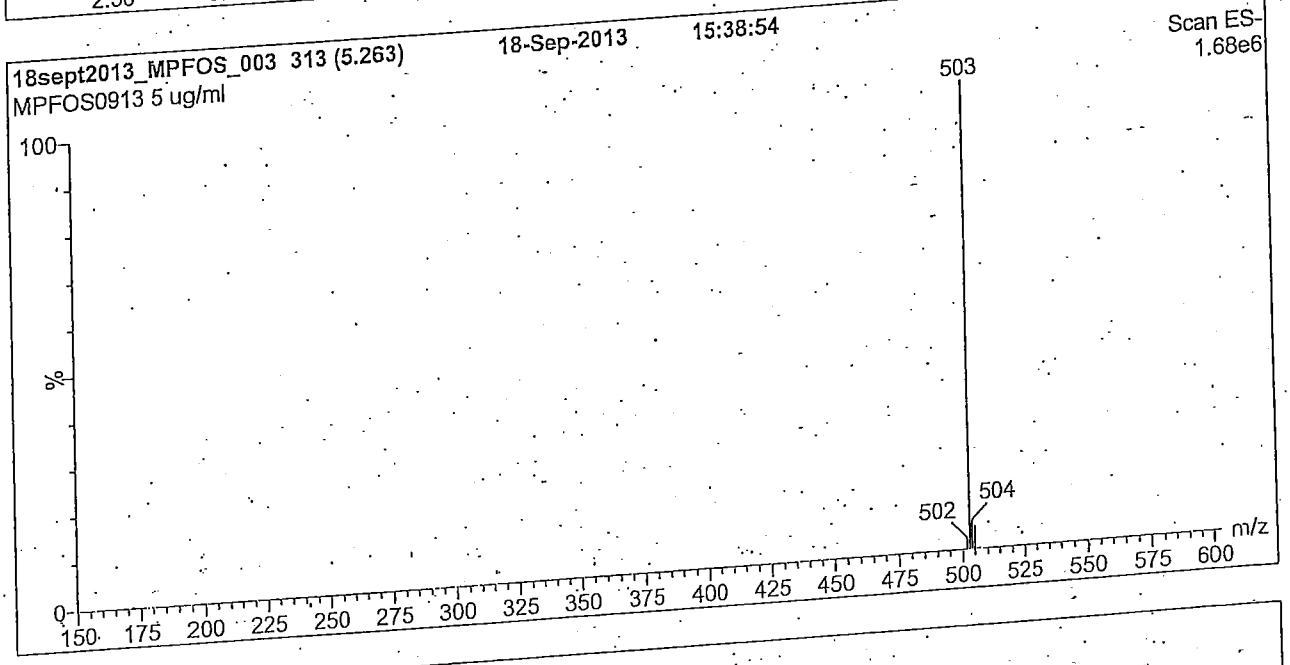
CALA

REFERENCE MATERIAL PRODUCER

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

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





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold
for 2 min before returning to initial conditions in 0.5 min.
Time: 10 min

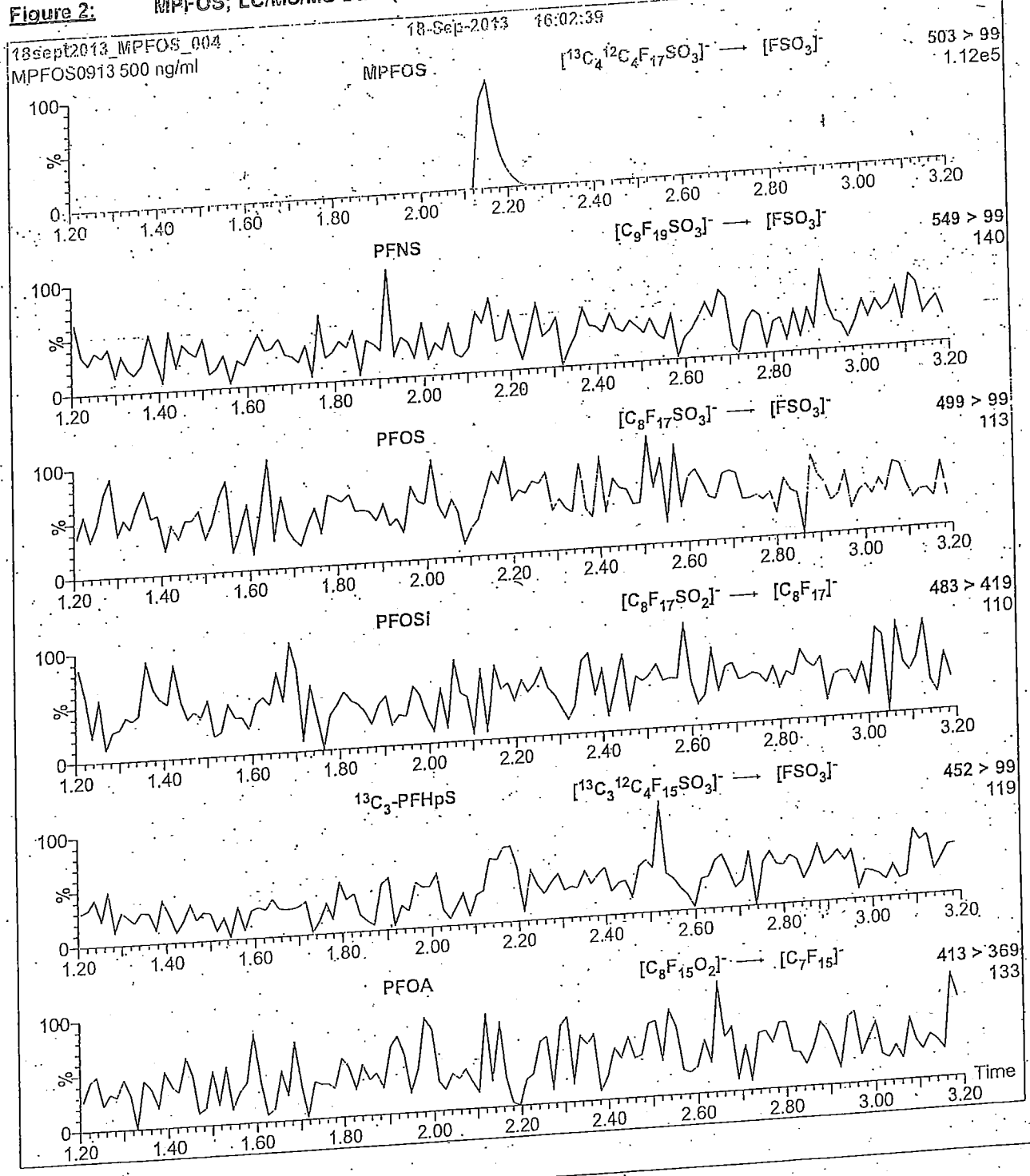
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 60.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 700

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



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFOS)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 40

Rec'd = 6/18/13 2L

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

As surrogate stock standard.

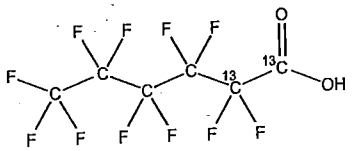
PRODUCT CODE: MPFHxA

COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid

LOT NUMBER: MPFHxA0213

CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA: $^{13}C_2{}^{12}C_4HF_{11}O_2$

CONCENTRATION: 50 ± 2.5 µg/ml

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 02/14/2013

EXPIRY DATE: (mm/dd/yyyy) 02/14/2018

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 316.04

SOLVENT(S): Methanol
Water (<1%)

ISOTOPIC PURITY: ≥99% ^{13}C (1,2-$^{13}C_2$)

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-hexanoic acid and ~ 0.3% of perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 02/20/2013 (mm/dd/yyyy)

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

Form#:27, Issued 2004-11-10
Revision#:2, Revised 2012-06-13

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. They are designed to be used as reference standards for the identification and/or quantification of specific chemical compound(s).

HAZARDS:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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

CALA Testing Accreditation No. A1226

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER

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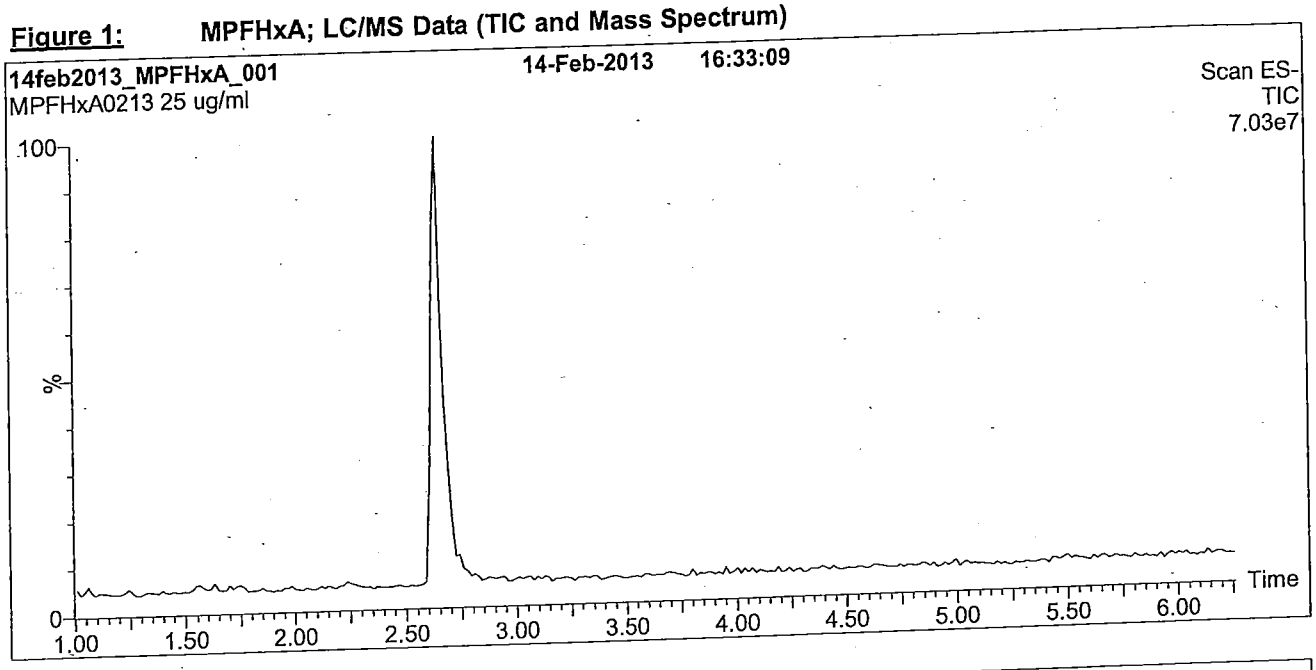
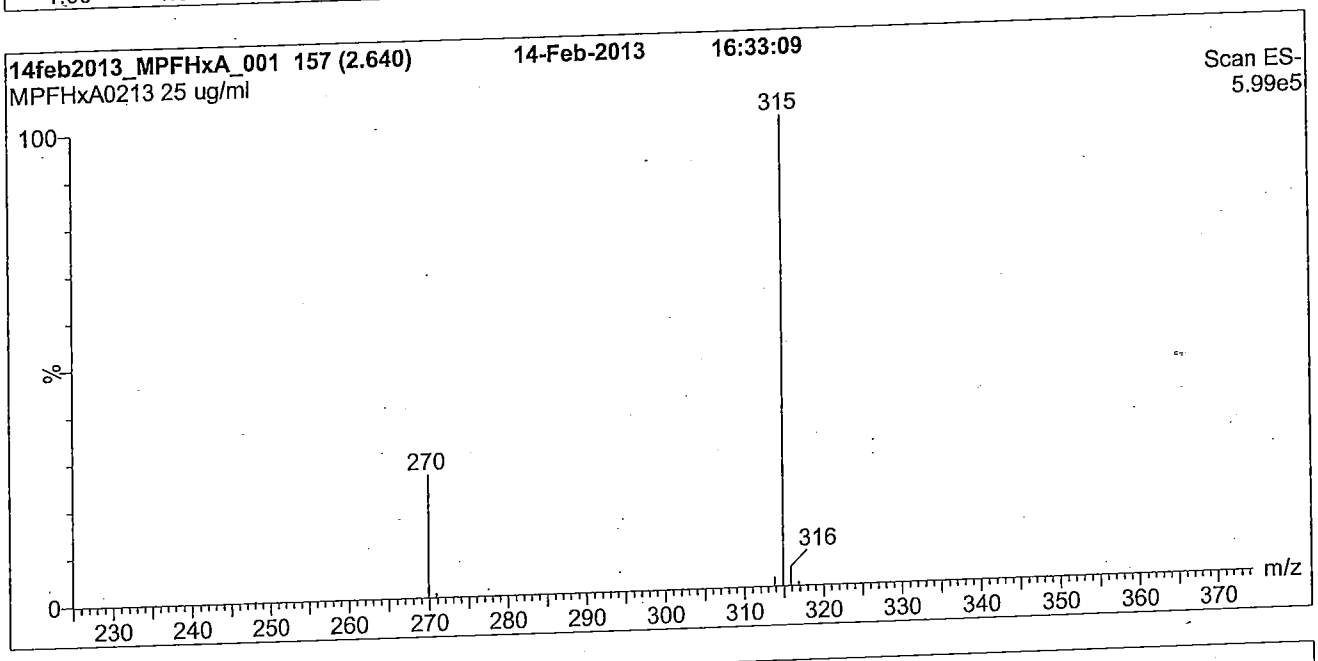
Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min before returning to initial conditions over 0.5 min.
Time: 10 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

Form#:27, Issued 2004-11-10
Revision#:2, Revised 2012-06-13

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

As surrogate stock standard

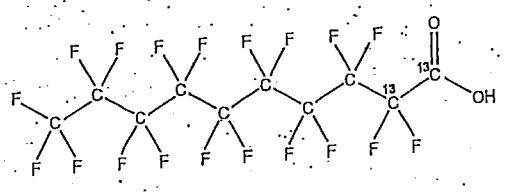
LOT NUMBER: MPFDA0912

PRODUCT CODE: MPFDA

COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid

CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA: $^{13}C_2{}^{12}C_8HF_{19}O_2$

MOLECULAR WEIGHT: 516.07

CONCENTRATION: 50 ± 2.5 µg/ml

SOLVENT(S): Methanol, Water (<1%)

ISOTOPIC PURITY: ≥99% ^{13}C (1,2-$^{13}C_2$)

CHEMICAL PURITY: >98%

LAST TESTED: (mm/dd/yyyy) 09/13/2012

EXPIRY DATE: (mm/dd/yyyy) 09/13/2017

RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of $^{13}C_1$-PFNA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim Date: 01/09/2013 (mm/dd/yyyy)

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

Form#:27, Issued 2004-11-10

INTENDED USE:

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HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Material Safety Data Sheets (MSDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product, unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, x-ray crystallography and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

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UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external, ISO/IEC 17025:2005 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA

REFERENCE MATERIAL PRODUCER

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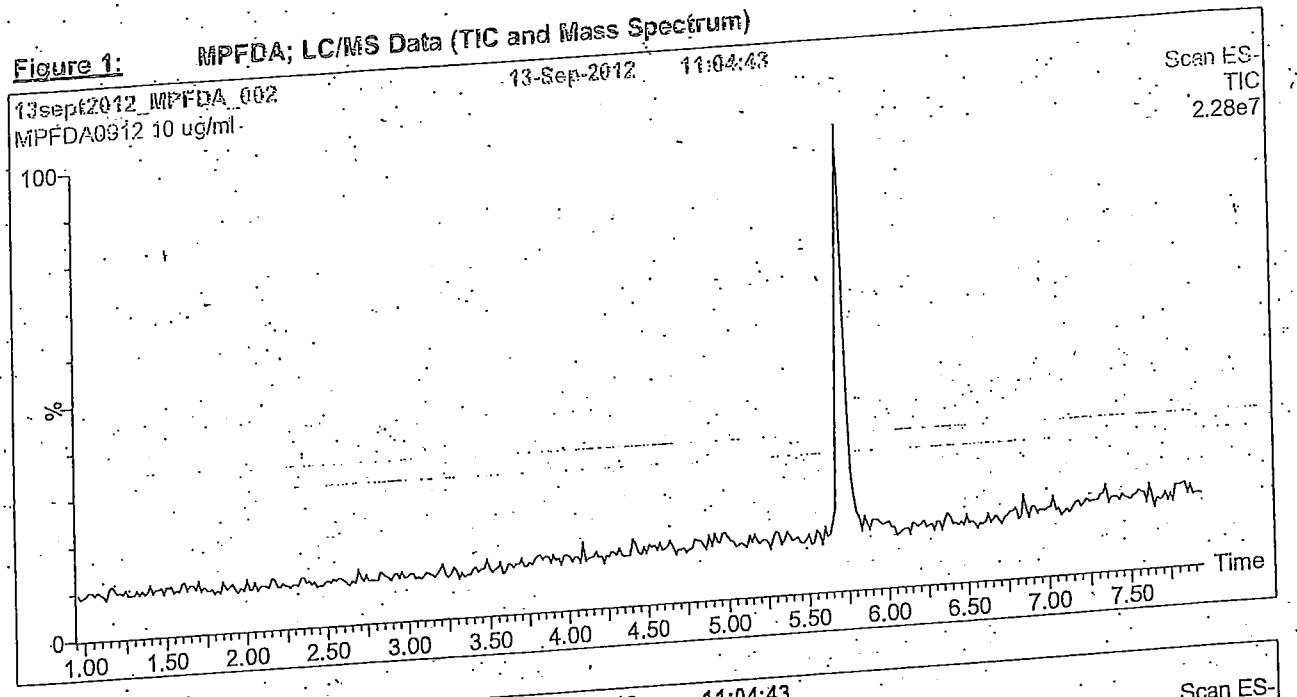
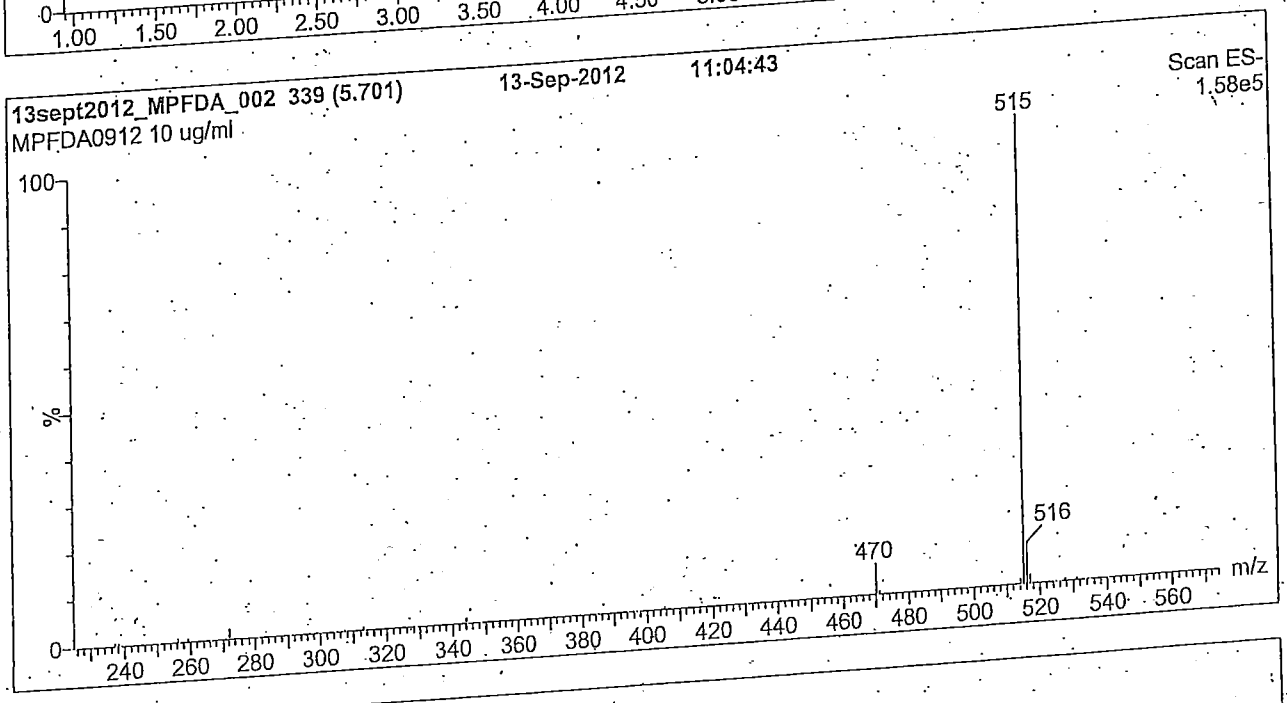
Figure 1: MPFDA; LC/MS Data (TIC and Mass Spectrum)





Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 2 min
before returning to initial conditions in 0.5 min.
Time: 10 min

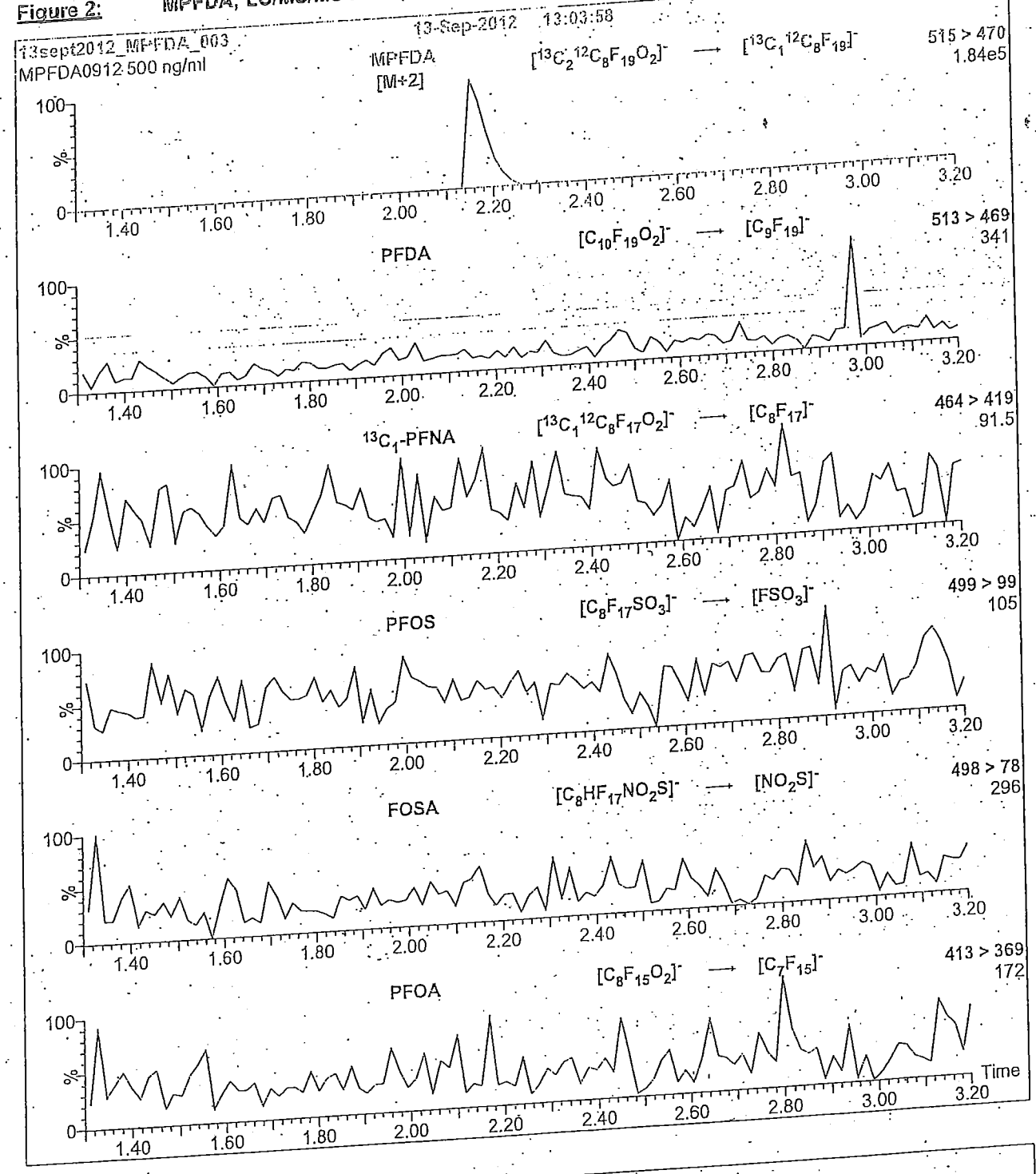
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 15.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

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



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFDA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

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

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXB

Solution/Mixture of Native Perfluoroalkylcarboxylic Acids and Native Perfluoroalkylsulfonates

As ~~2nd source standards~~ Primary Standards LHB 05/07/14

PRODUCT CODE:	PFAC-MXB
LOT NUMBER:	PFACMXB0913
SOLVENT(S):	Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	09/12/2013
LAST TESTED: (mm/dd/yyyy)	09/13/2013
EXPIRY DATE: (mm/dd/yyyy)	09/13/2018
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_6, 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.

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INTENDED USE:

The products prepared by Wellington Laboratories inc. are for laboratory use only. They are designed to be used as reference standards for the identification and/or quantification of specific chemical compound(s).

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Material Safety Data Sheets (MSDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product, unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, x-ray crystallography and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS and/or LC/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

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

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external, ISO/IEC 17025:2005 accredited calibration company. In addition, their calibration is verified prior to each weighing using NIST and/or NRC traceable external weights. All volumetric glassware used is of Class A tolerance and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to International interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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

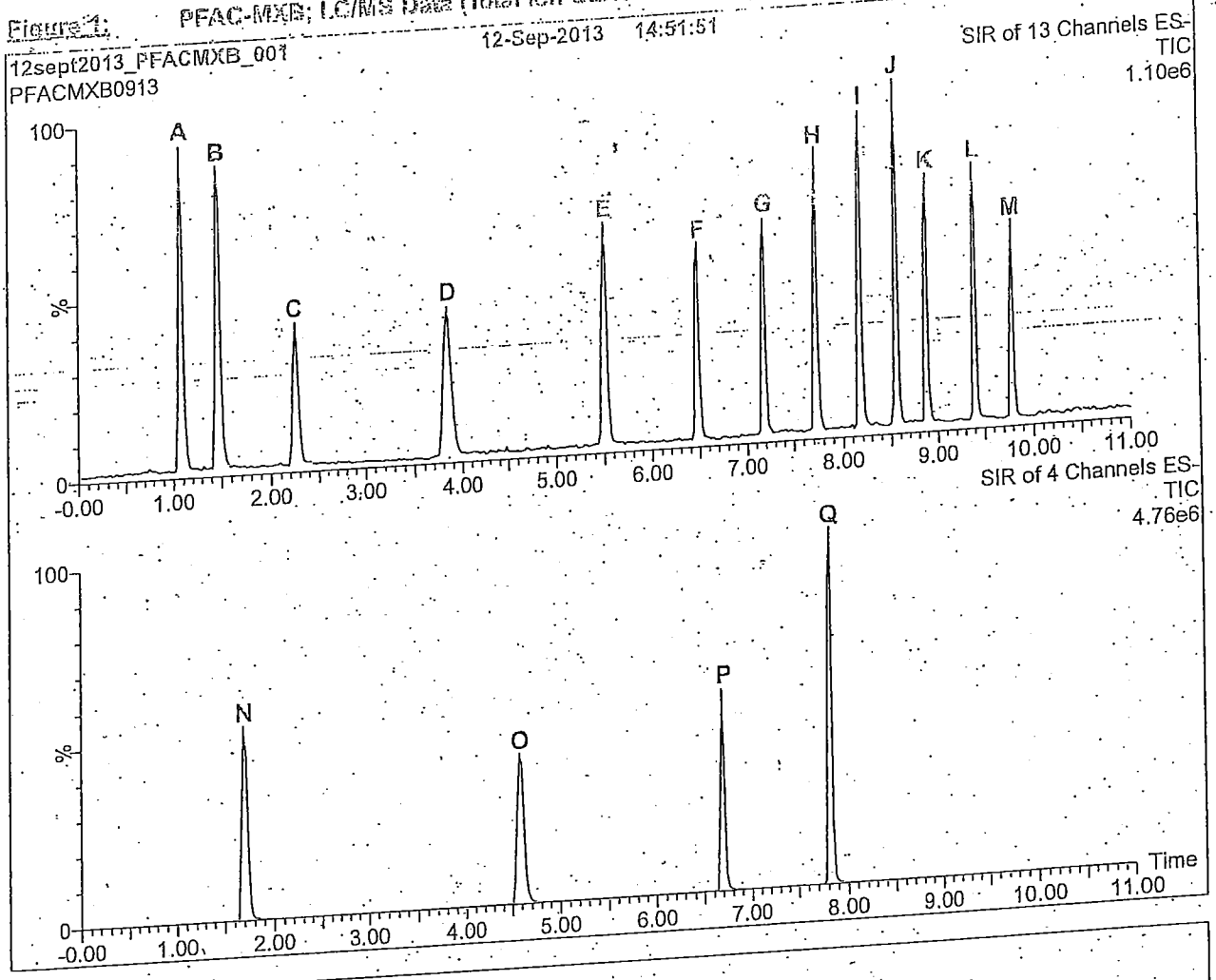
Name	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-butanoic acid	PFBA	2000	A
Perfluoro-n-pentanoic acid	PFPeA	2000	B
Perfluoro-n-hexanoic acid	PFHxA	2000	C
Perfluoro-n-heptanoic acid	PFHpA	2000	D
Perfluoro-n-octanoic acid	PFOA	2000	E
Perfluoro-n-nonanoic acid	PFNA	2000	F
Perfluoro-n-decanoic acid	PFDA	2000	G
Perfluoro-n-undecanoic acid	PFUdA	2000	H
Perfluoro-n-dodecanoic acid	PFDoA	2000	I
Perfluoro-n-tridecanoic acid	PFTrDA	2000	J
Perfluoro-n-tetradecanoic acid	PFTeDA	2000	K
Perfluoro-n-hexadecanoic acid	PFHxDA	2000	L
Perfluoro-n-octadecanoic acid	PFODA	2000	M

Name	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Potassium perfluoro-1-butanesulfonate	L-PFBS	2000	1770	N
Sodium perfluoro-1-hexanesulfonate	L-PFHxS	2000	1890	O
Sodium perfluoro-1-octanesulfonate	L-PFOS	2000	1930	P
Sodium perfluoro-1-decanesulfonate	L-PFDS	2000	1930	Q

Certified By: B.G. Chittim

Date: 09/24/2013 (mm/dd/yyyy)

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



Conditions for Figure 1:

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

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 100% organic over 7 min and hold for 2 min before returning to initial conditions in 0.5 min.

Time: 15 min

Flow: 300 µl/min

MS Parameters

Experiment:
Function 1: SIR of 13 Channels
Function 2: SIR of 4 Channels

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (10-70)
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

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

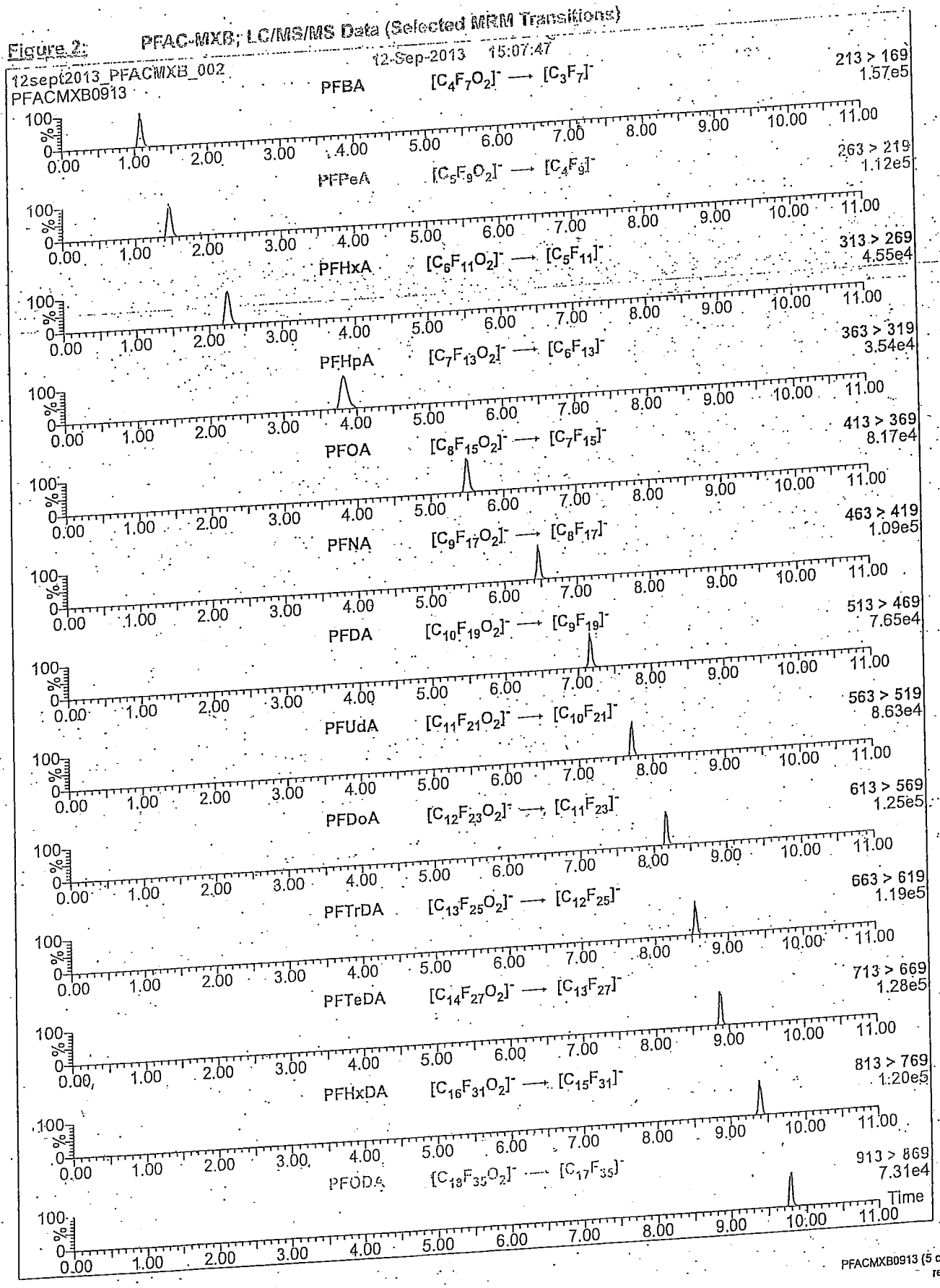
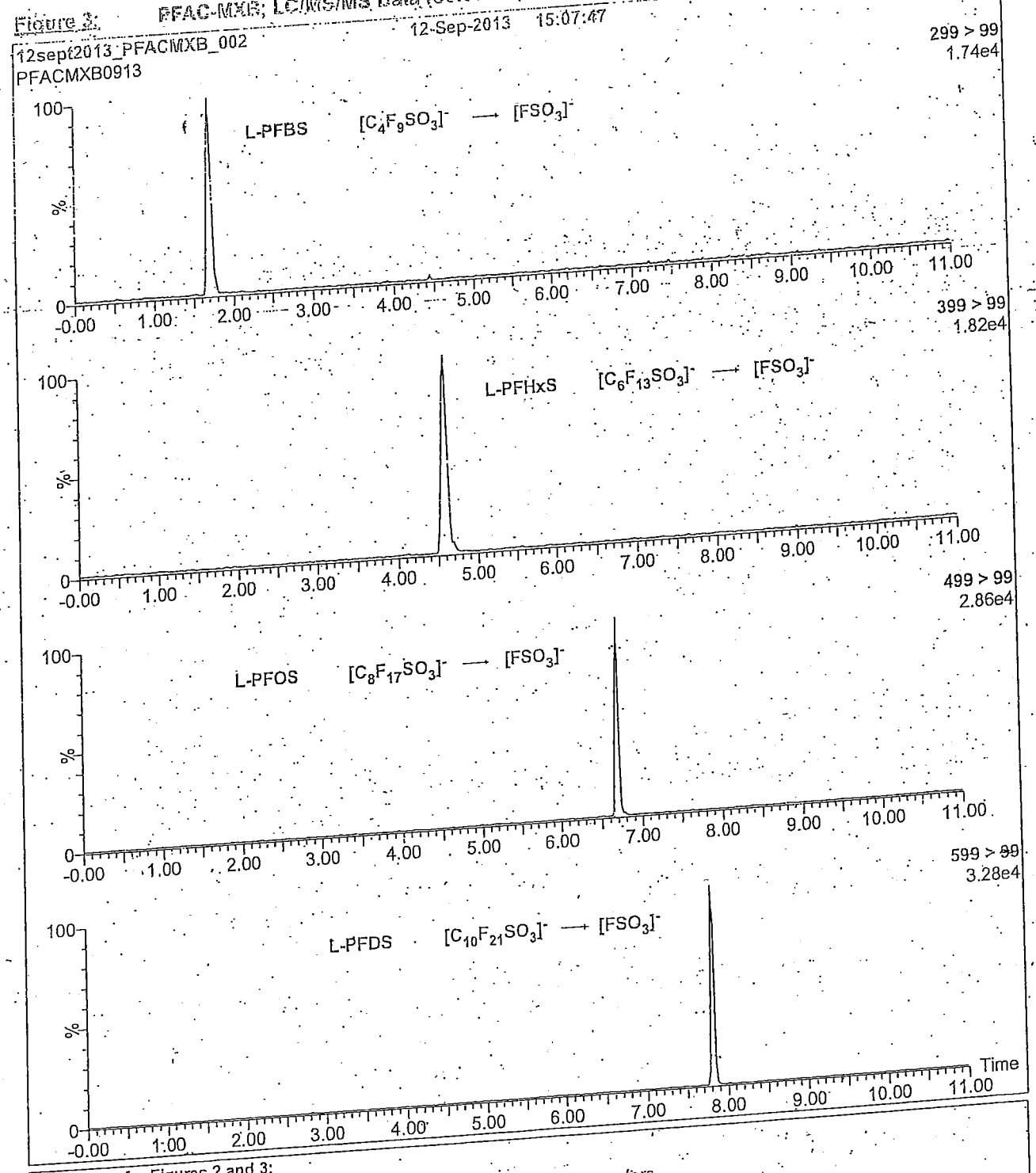


Figure 3: PFAC-MXB; LC/MS/MS Data (Selected MRM Transitions)



Conditions for Figures 2 and 3:

Injection: on-column (PFAC-MXB)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.13e-3

Collision Energy (eV) = 9-50 (variable)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

2nd Source Standards As ~~primary standards~~ VHB 05/07/14 (older lot)

PFAC-MXB

Solution/Mixture of Native Perfluoroalkylcarboxylic Acids and Native Perfluoroalkylsulfonates

PRODUCT CODE:	PFAC-MXB
LOT NUMBER:	PFACMXB0312 ✓
SOLVENT(S):	Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	03/07/2012
LAST TESTED: (mm/dd/yyyy)	03/08/2012
EXPIRY DATE: (mm/dd/yyyy)	03/08/2015 ✓
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_6, 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 acid to the methyl ester.

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where x is expressed as a relative standard uncertainty of the individual parameter.

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

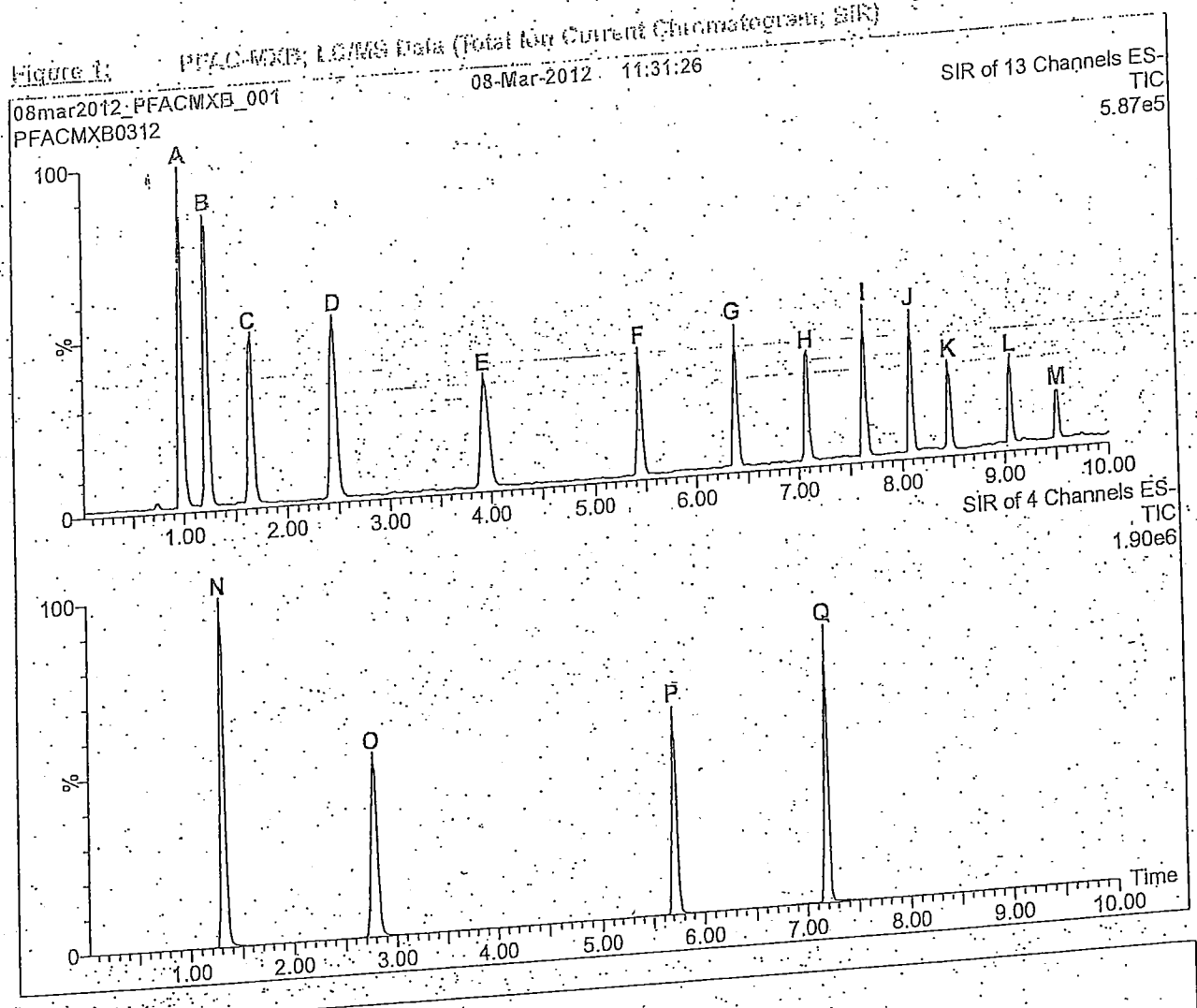
Name	Abbreviation	Concentration (ng/ml)	Peak Assignment in Figure 1
Perfluoro-n-butanoic acid	PFBA	2000	A
Perfluoro-n-pentanoic acid	PFPeA	2000	B
Perfluoro-n-hexanoic acid	PFHxA	2000	C
Perfluoro-n-heptanoic acid	PFHpA	2000	D
Perfluoro-n-octanoic acid	PFOA	2000	E
Perfluoro-n-nonanoic acid	PFNA	2000	F
Perfluoro-n-decanoic acid	PFDA	2000	G
Perfluoro-n-undecanoic acid	PFUdA	2000	H
Perfluoro-n-dodecanoic acid	PFDoA	2000	I
Perfluoro-n-tridecanoic acid	PFTrDA	2000	J
Perfluoro-n-tetradecanoic acid	PFTeDA	2000	K
Perfluoro-n-hexadecanoic acid	PFHxDA	2000	L
Perfluoro-n-octadecanoic acid	PFODA	2000	M

Name	Abbreviation	Concentration (ng/ml)		Peak Assignment in Figure 1
		as the salt	as the anion	
Potassium perfluoro-1-butanesulfonate	L-PFBS	2000	1770	N
Sodium perfluoro-1-hexanesulfonate	L-PFHxS	2000	1890	O
Sodium perfluoro-1-octanesulfonate	L-PFOS	2000	1910	P
Sodium perfluoro-1-decanesulfonate	L-PFDS	2000	1930	Q

Certified By: B.G. Chittim

Date: 03/19/2012 (mm/dd/yyyy)

Figure 1: PFACMXB; LC/MS Data (Total Ion Current Chromatogram; SIR)



Conditions for Figure 1:

LC: Waters Acquity Ultra Performance LC

MS: Micromass Quattro *micro* API MS

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% H_2O / 50% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Hold for 3 min; ramp to 100% organic over 7 min,
hold for 2 min, then return to initial conditions in 0.5 min.

Time: 15 min

Flow: 300 µl/min

MS Parameters

Experiment:
Function 1: SIR of 13 Channels
Function 2: SIR of 4 Channels

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = variable (10-70)
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

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

08mar2012_PFACMXB_004 08-Mar-2012 12:19:20

PFACMXB0312 -

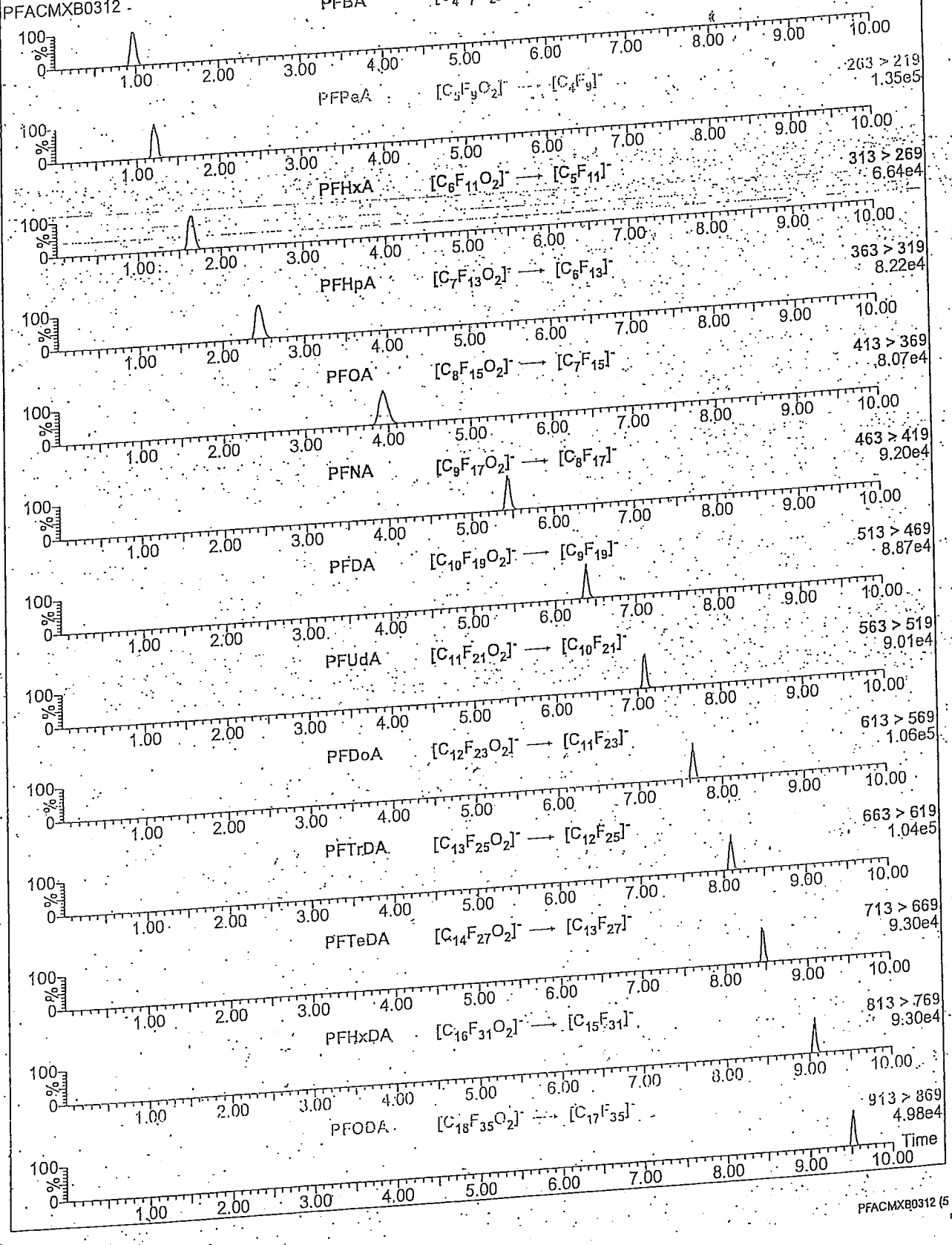
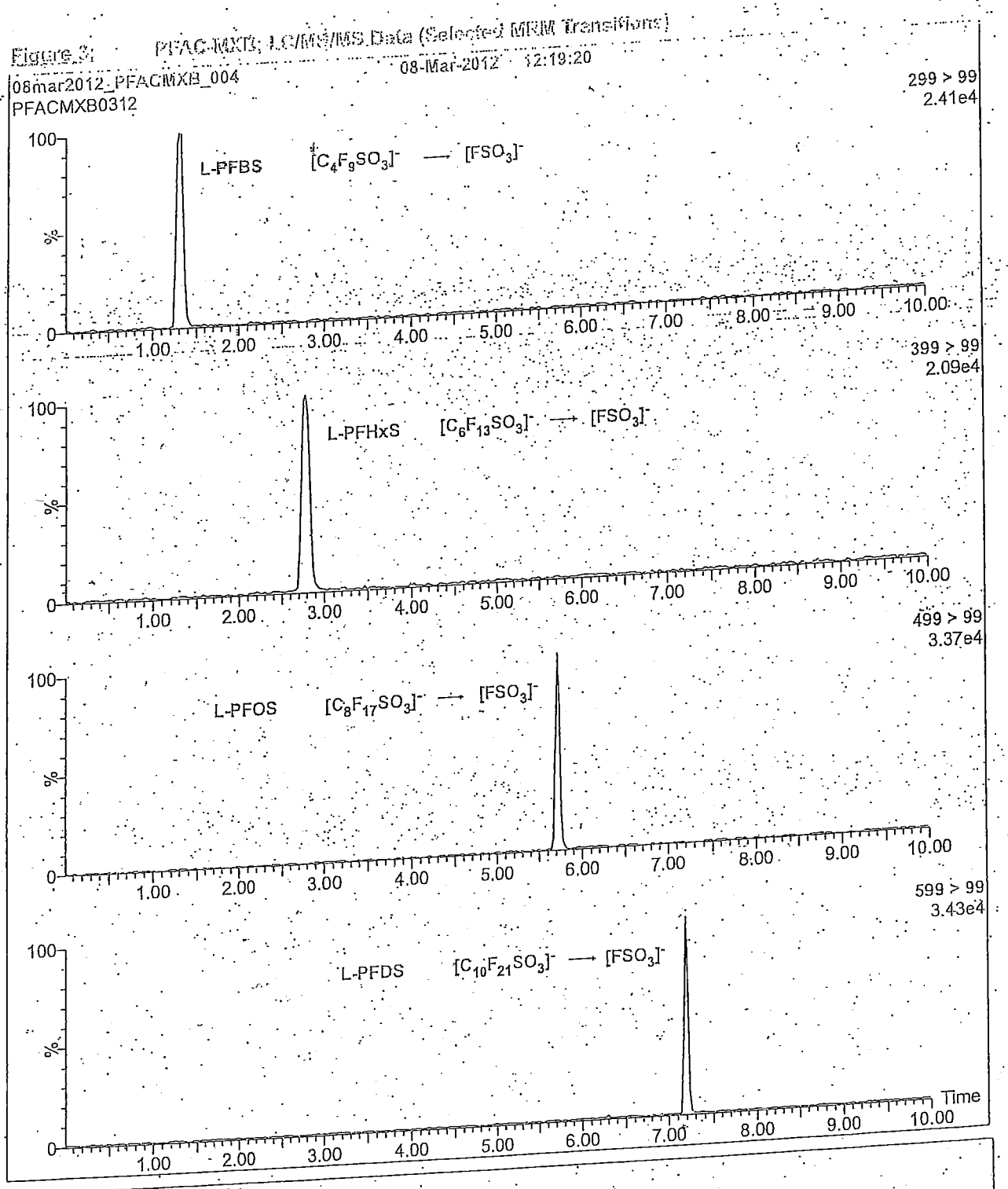


Figure 3: PFAC-MXB; LC/MS/MS Data (Selected MRM Transitions)



Conditions for Figures 2 and 3:

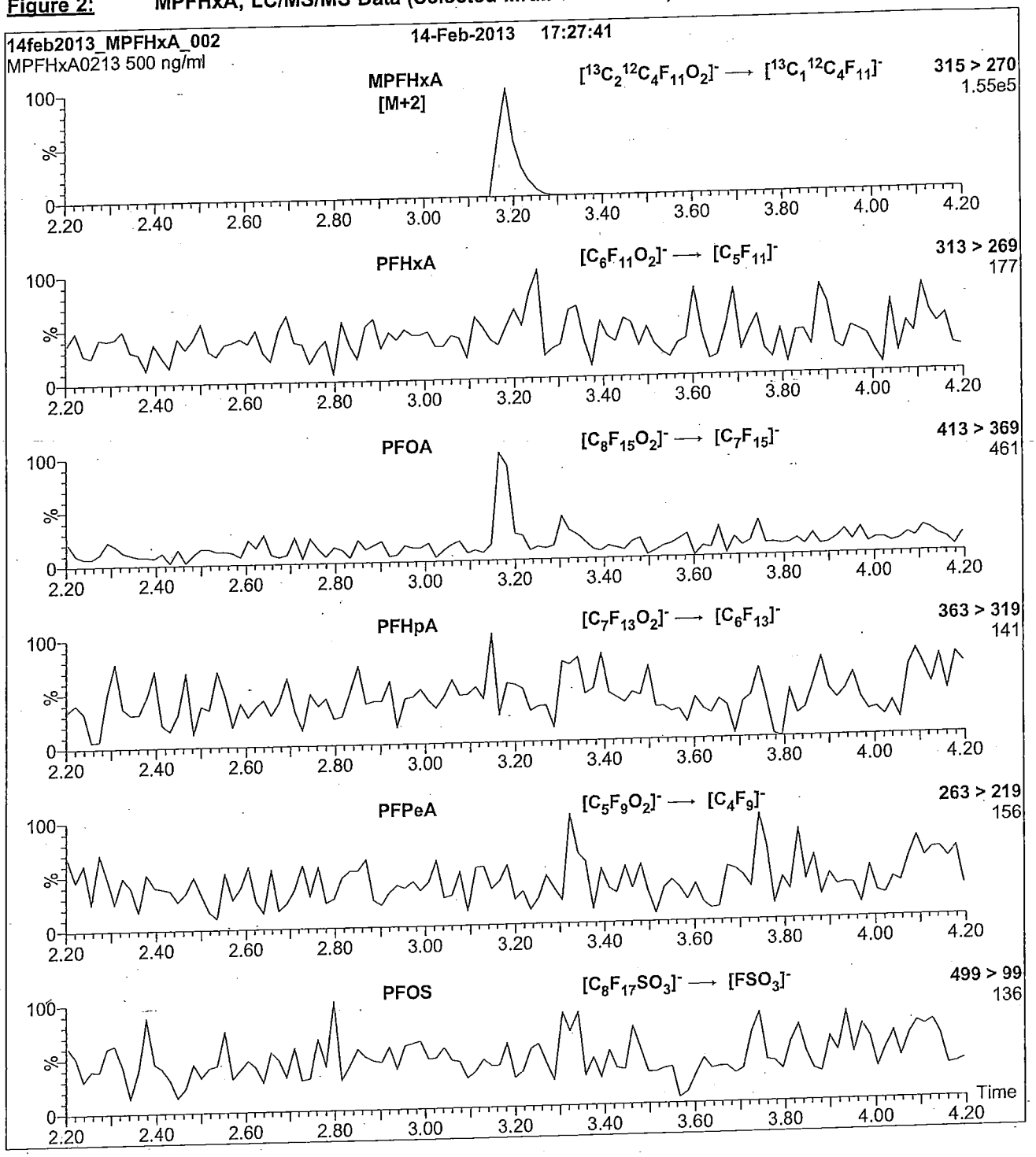
Injection: on-column (PFAC-MXB)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters
Collision Gas (mbar) = 3.17e-3
Collision Energy (eV) = 9-50 (variable)

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



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml MPFHxA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

Flow: 300 µl/min

MS Parameters

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

Form#:27, Issued 2004-11-10
Revision#:2, Revised 2012-06-13

4/11/14 @UCMR3-537: ACS standard. Exp. 4/25/14
ZL @UCMR3-537-2nd Source-PDS-030714-ZL Exp. 9/7/14 : 20mL
@UCMR3-537-IS-PDS-030714-ZL Exp. 5/7/14 : 10mL
@UCMR3-537-Surr-PDS-030714-ZL Exp. 9/7/14 : 10mL
Vol. of MeOH/HPLC-H2O (96:4) prep. @ 4/11/14 by ZL : 930mL

~~4/15/14~~ ~~4/15/14~~
ZL @UCMR3-537: MeOH/HPLC-H2O (96:4) mixture solvent
MeOH : MeOH-040114-06 : 240mL
HPLC-H2O : H2O-040914-01 : 10mL
Mix well.

~~4/15/14~~ ZL
~~4/15/14~~
4/15/14 @UCMR3-537-IS-PDS-041514-ZL
ZL 200 uL of MPFOA 0113 @ 50 ppm from Wellington Lab. Exp. 04/10/18
600 uL of MPFOS 0913 @ 50 ppm from Wellington Lab. Exp. 09/18/18
diluted to 10mL in a class A volumetric flask with
MeOH/HPLC-H2O (96:4) prep. by ZL @ 4/15/14 mix well
Exp. 6/15/14.

4/15/14 @UCMR3-537-Surr-PDS-041514-ZL
ZL 200 uL of MPFHxA 0213 @ 50ppm from Wellington Lab Exp. 2/14/18
200 uL of MPFDA 0912 @ 50ppm from Wellington Lab Exp. 9/
diluted to 10mL in a class A volumetric flask with
MeOH/HPLC-H2O (96:4) prep by ZL @ 4/15/14 mix well
Exp. 10/15/14

4/17/14 @UCMR3-539: MeOH/HPLC-H2O (50:50)
ZL MeOH : MeOH-040114-07 : 30mL
HPLC-H2O : H2O-040914-02 : 30mL
Mix well.

04/30/14
LHZ
10:20 a.m

@UCMR3 537: 20mM Ammonium Acetate MPAI

Dissolve 0.7902 gms of ammonium acetate (Aldrich, ID# NH4OAC-022014-04, opened 04/15/14 by EL) to 500mL of HPLC H_2O (ID# H_2O-042814-02, opened 04/29/14 by LHZ), mix well.

Exp. 05/02/14 10:20 a.m
Good for 48 hrs

Balance ID: Fisher Scientific, A-250, S/N: 24276

05/01/14
LHZ

@537: Primary Dilution Standard (PDS) @250 ppb

Take 625 µl (by microsyringe) of PFC stock standard (Wellington, ID# @537-PFAC-MXB-140212-01, opened 05/01/14 by LHZ, Exp. 09/13/2018) to a 5ml volumetric flask, diluted to volume with 96:4 = MeOH: H_2O mixture (prep. 04/11/14 by EL), mix well.

Lot# @537-PDS-STD@250ppb-050114-LHZ,

Exp. 11/01/14 6 months

05/01/14
LHZ

@537: Primary Dilution Standard (PDS) @25 ppb

Take 500 µl (by microsyringe) of @537 PDS std @250 ppb (Lot# @537-PDS-STD@250ppb-050114-LHZ, Exp. 11/01/14) to a 5ml class A volumetric flask, bring to volume with 96:4 = MeOH: H_2O mixture (prep. 04/11/14 by EL), mix well.

Lot# @537-PDS-STD@25ppb-050114-LHZ

Exp. 11/01/14 6 months

05/01/14 LHZ

@537 : 2nd Source PDS @ 100ppb

Take 250µl (by microsyringe) of PFAC-MXB (Wellington, P/N: PFAC-MXB, Lot# PFACMXB0312, @2.0mg/mL, Exp. 03/08/2015) to a 5-mL class A volumetric flask, diluted to volume with 96:4= MeOH:H2O mixture (Prep. 04/11/14 by EL), mix well

Lot# @537 2nd Source @ 100ppb-050114-LHZ

Exp. 11/01/14 6 months

05/02/14 LHZ

@532-LCMS : Primary Dilution Solvent (PDS) (*) @ 1ppm

Take 50µl of @532-LCMS 2nd Source Stock standard mixture (Lot# @532-LCMS 2nd Source Stock Mixture @200ppm-070313-LHZ, Exp. 07/03/14) to a class A 10-ml volumetric flask, diluted to volume with MeOH (ID# MeOH-040114-02, opened 04/30/14 by EL), mix well.

Lot# @532-LCMS PDS @ 1ppm-050214-LHZ, Exp. 07/03/14

05/02/14 LHZ

@532-LCMS : Primary Dilution Solvent (PDS) (*) @ 0.1ppm

Take 1ml of @532-LCMS PDS @ 1ppm (by microsyringe) (Lot# @532-LCMS PDS @ 1ppm-050214-LHZ, Exp. 07/03/14) to a class A volumetric flask @ 10-ml, diluted to volume with methanol (ID# MeOH-040114-02, opened 04/30/14 by EL), mix well.

Lot# @532-LCMS PDS @ 0.1ppm-050214-LHZ, Exp. 07/03/14

(*) NOTE:

05/06/14
LHB

@537: Calibration Standards

@537 Calibration Stds		@537 PDS Stds		@UCMR3537 IS	@UCMR3537 SURR	Volume of
Actual Concentration	For 250 ml/L Extraction Volume	@ 25 ppb Lot#@537-PDS-STD@25ppb-050114-LHB Exp. 11/01/14	@250 ppb Lot#@537-PDS-STD@250ppb-050114-LHB Exp. 11/01/14	Lot#UCMR3537-IS-PDS-041514-EL ④ of ④ Exp. 06/15/14	Lot#UCMR3537-SURR-PDS-041514-EL ④ of ④ Exp. 10/15/14	96:4=MeOH:H2O Mixture Prep. 05/05/14 By EL
(ppb)	(ppt)	(ul)	(ul)	(ul)	(ul)	(ul)
0	0	—	—	10	10	980
0.0025	0.625	25	—	10	10	955
0.005	1.25	—	5	10	10	975
0.01	2.5	—	10	10	10	970
0.02	5	—	20	10	10	960
0.04	10	—	40	10	10	940
0.08	20	—	80	10	10	900

Lot# @537Cal050614-LHB. Exp. 05/20/14
Good for 2 WKS

05/06/14
LHB

@537: 2nd Source QCS @0.02 ppb

@537 2nd Source QCS		@537 2nd Source	@UCMR3537 IS	@UCMR3537 SURR	Volume
Actual Concentration	For 250 ml/L Extraction Volume	Lot#@537 2nd Source PDS@100ppb-050114-LHB Exp. 11/01/14	Lot#UCMR3537-IS-PDS-041514-EL ④ of ④ Exp. 06/15/14	Lot#UCMR3537-SURR-PDS-041514-EL ④ of ④ Exp. 10/15/14	of 96:4=MeOH:H2O Mixture Prep. 05/05/14 by EL
(ppb)	(ppt)	(ul)	(ul)	(ul)	(ul)
0.02	5	50	10	10	930

Lot# @537 2nd Source QCS-050614-LHB Exp. 05/20/14

05/06/14
LHZ
2:57 p.m

@537: 20 mM Ammonium Acetate MPA1

Dissolve 0.7891 gms of ammonium acetate (Aldrich, ID# NH4OAC-022014-02, opened 05/06/14 by LHZ) to 500ml of HPLC H2O (ID# H2O-042814-03, opened 05/01/14 by EL), mix well.

Exp. 05/08/14 Good for 48 hrs.

Balance ID: Fisher Scientific, A-250, S/N: 24276

05/07/14
LHZ
1:58 p.m

@UCMR3 537: 20 mM Ammonium Acetate MPA1

Dissolve 1.5769 gms of ammonium acetate (Aldrich, ID# NH4OAC-022014-02, opened 05/06/14 by LHZ) to 1 liter of HPLC H2O (ID# H2O-050714-01, opened 05/07/14 by ARH), mix well

Exp. 05/09/14 1:58 p.m
Good for 48 hrs

Balance ID: Fisher Scientific, A-250, S/N: 24276

Sheet For Run # 765596

Referenced Methods:	LCMS 537				
Start Date:	05/01/2014	Time:	0800	Init:	FAM
Comp Date:	05/05/2014	Time:	1200	Init:	FAM
Reviewed:	05/05/2014	TR 5.5.14		Init:	FAM

Matrix: Water

	Standard ID	Inj Vol	Units	Exp. Date
Surr Soln:	UCMR3537SURRPDS041514EL(4)	10	UL	10/15/2014
MRL Spk Soln:	@537STD@25PPB050114LHZ	25	UL	11/01/2014
	NA	NA	NA	NA
LCS Soln:	@537STD@250PPB050114LHZ	25	NA	11/01/2014
	NA	NA	NA	NA
MS Soln:	@537STD@250PPB050114LHZ	25	UL	11/01/2014
	NA	NA	NA	NA
Solutions:	UCMR3537ISPDS041514EL(4)	10	UL	06/15/2014
	MEOH:HPLC(96:4)042814EL	NA	NA	NA
	NA	NA	NA	NA
	NA	NA	NA	NA
	NA	NA	NA	NA

	ID	mfg/lot
Reagent H2O:	NANOPURE	LAB
Solvent:	MEOH	EMD/53270
	NA	NA
	NA	NA
Salt:	NA	NA
Syringe:	NA	NA
	NA	NA
	NA	NA
	NA	NA
Disk:	STRATA SDB-L	PHENOMENEX/S214-55
Preservatives:	TRIZMA 5G/L	SIGMA/011M5401V
	NA	NA
	NA	NA
	NA	NA
	PH STRIPS	BDH/5113
	CL STRIPS	SENSAFE/101013D
	ZYMARK TURBOVAP LV	7

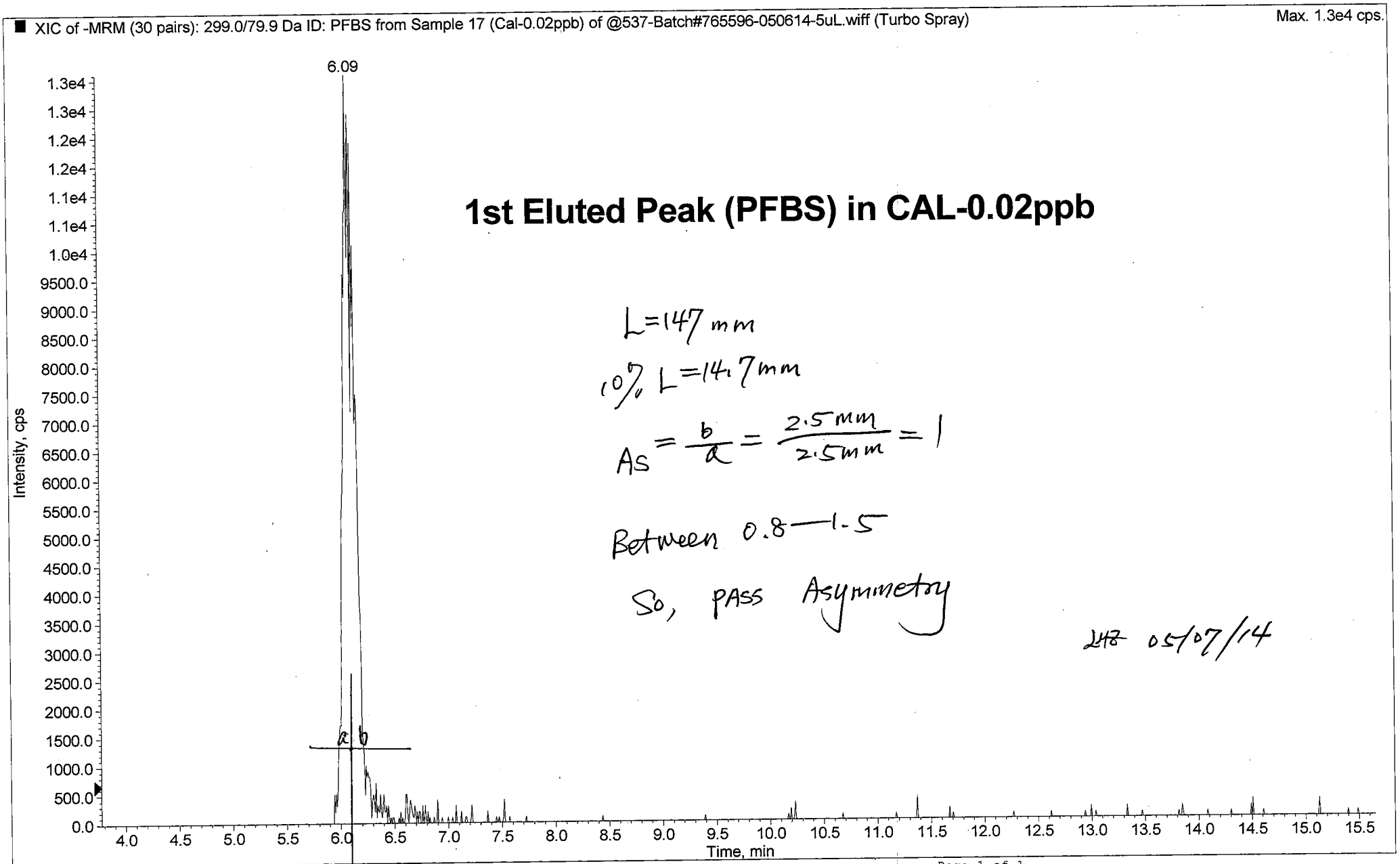
Room Temp: 22.0 Water Bath/Heating Block Temp: 55

	Folder #	Ordno	Client Code	Sample ID	Test	Vi (mL)	Vf (mL)	pH I	pH F	Cl-ppm
1	478874	201404250087	INTEGRAL-OLYMP	GW0112	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
2	478874	201404250089	INTEGRAL-OLYMP	GW0110	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
3	478874	201404250090	INTEGRAL-OLYMP	GW0111	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
4	478874	201404250091	INTEGRAL-OLYMP	GW0109	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
5	478874	201404250092	INTEGRAL-OLYMP	GW0105	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
6	478874	201404250093	INTEGRAL-OLYMP	GW0106	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
7	478874	201404250094	INTEGRAL-OLYMP	FB0001	@537-INTEGRAL FB	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
8	478874	201404250095	INTEGRAL-OLYMP	GW0107	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
9	478699	201404250096	INTEGRAL-OLYMP	GW0113	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
10	478699	201404250097	INTEGRAL-OLYMP	GW0115	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
11	478699	201404250098	INTEGRAL-OLYMP	GW0114	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
12	478699	201404250099	INTEGRAL-OLYMP	GW0116	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
13	478699	201404250100	INTEGRAL-OLYMP	GW0118	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
14	478699	201404250101	INTEGRAL-OLYMP	GW0117	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
15	478700	201404250102	INTEGRAL-OLYMP	GW0121	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
16	478700	201404250103	INTEGRAL-OLYMP	GW0119	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
17	478700	201404250104	INTEGRAL-OLYMP	GW0120	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
18	478699	201404250105	INTEGRAL-OLYMP	FB0002	@537-INTEGRAL FB	250	1	7	7	<0.1
	Comment: bottle 1						Flags:			
19	478873	201404250106	INTEGRAL-OLYMP	GW0123	@537-INTEGRAL	250	1	7	7	<0.1
	Comment: bottle 2						Flags:			
20	479555	201405010499	MIKE	Monrovia Water	@537	250	1	7	7	<0.1
	Comment:						Flags:			
21	Q120987	Q120987001		MS1 (201405010499)	Default	250	1	7	7	<0.1
	Comment:						Flags:			
22	Q120987	Q120987002		MSD1 (201405010499)	Default	250	1	7	7	<0.1
	Comment:						Flags:			
23	Q120987	Q120987003		LCS1	Default	250	1	7	7	<0.1
	Comment:						Flags:			
24	Q120987	Q120987004		LCS2	Default	250	1	7	7	<0.1
	Comment:						Flags:			
25	Q120987	Q120987005		MBLK	Default	250	1	7	7	<0.1
	Comment:						Flags:			
26	Q120987	Q120987006		MRL_CHK	Default	250	1	7	7	<0.1
	Comment:						Flags:			

Run Comments:

Operator: Lisa Zhao

Project: EPA537
Method Name: N/A
Batch Name: @537-Batch#765596-050614.dab



1st Eluted Peak (PFBS) in CAL-0.02ppb

L=147 mm

10% L=14.7mm

$As = \frac{b}{a} = \frac{2.5mm}{2.5mm} = 1$

Between 0.8—1.5

So, PASS Asymmetry

LHZ 05/07/14

Printing Time: 10:05:32 AM
Printing Date: Wednesday, May 07, 2014

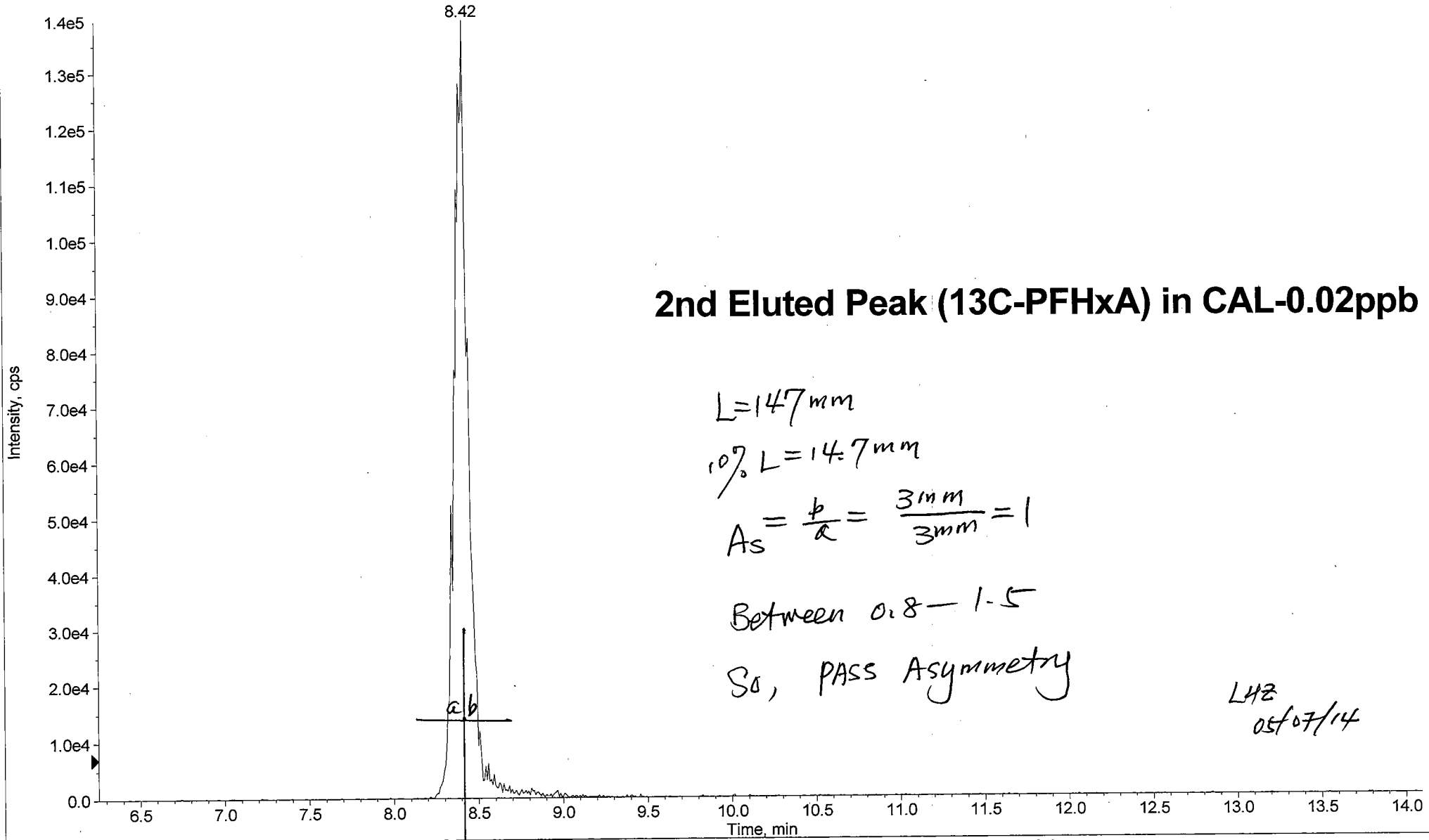
Results Name: N/A

Operator: Lisa Zhao

Project: EPA537
Method Name: N/A
Batch Name: @537-Batch#765596-050614.dab

XIC of -MRM (30 pairs): 315.0/270.0 Da ID: Surr-13c-PFHxA from Sample 17 (Cal-0.02ppb) of @537-Batch#765596-050614-5uL.wiff (Tu...

Max. 1.4e5 cps.



2nd Eluted Peak (13C-PFHxA) in CAL-0.02ppb

L=147mm

10% L=14.7mm

$A_s = \frac{b}{a} = \frac{3mm}{3mm} = 1$

Between 0.8 — 1.5

So, PASS Asymmetry

LHZ
05/07/14

Printing Time: 10:06:35 AM
Printing Date: Wednesday, May 07, 2014

Results Name: N/A

@537 IS RECOVERIES COMPARE WITH NEAREST CCCs AND IS RPD

@537-Batch#765596-050614

Analytical Run @05/06/2014 By LHZ LCMS3

Extracted @ 05/01/2014 - 05/05/2014 by FAM

LCMS3-FO-0001A

SOP ID#: LCMS 11 version 0.0

RAW DATA FROM RESULTS FILE			IS RPD	
Sample Name	IS-13C-PFOA Peak Area	IS-13C-PFOS Peak Area	13C-PFOA (%)	13C-PFOS (%)
Cal-0ppb	795414	1156533		
Cal-0.0025ppb	819406 Hi	1158074 Hi	4.14%	6.57%
Cal-0.005ppb	803797	1123213		
Cal-0.01ppb	803670	1142016		
Cal-0.02ppb	786152 Low	1101447		
Cal-0.04ppb	786821	1141320		
Cal-0.08ppb	800100	1084395 Low		
CCCL	817987	1144614	102.24%	105.55%
DNR-QCS_0.02ppb	829984	1127002	101.47%	98.46%
MBLK	739202	1116587	90.37%	97.55%
MRL_CHK	757856	1071133	92.65%	93.58%
LCS1	713192	1141871	87.19%	99.76%
LCS2	708642	1061477	86.63%	92.74%
201405010499MS1	723221	1024759	88.41%	89.53%
201405010499MSD1	719048	1085086	87.90%	94.80%
201405010499	700141	1037559	85.59%	90.65%
201404250105	745837	1105476	91.18%	96.58%
201404250087	690465	1039137	84.41%	90.78%
201404250089	753769	1061219	92.15%	92.71%
201404250090	728057	1082649	89.01%	94.59%
201404250091	731412	1059998	89.42%	92.61%
201404250092	732541	1053668	89.55%	92.05%
201404250093	690999	1044452	84.48%	91.25%
201404250094	714323	1043573	87.33%	91.17%
201404250095	660694	978541	80.77%	85.49%
CCCM	742512	1092062	90.77%	95.41%
201404250096	647916	1061953	87.26%	97.24%
201404250097	601988	1029997	81.07%	94.32%
201404250098	596936	942161	80.39%	86.27%
201404250099	664523	1063580	89.50%	97.39%
201404250100	720004	1024461	96.97%	93.81%
201404250101	778849	1068975	104.89%	97.89%
201404250102	832039	1139531	112.06%	104.35%
201404250103	790459	1067904	106.46%	97.79%
201404250104	781019	1084134	105.19%	99.27%
201404250106	802449	1093791	108.07%	100.16%
CCCH	912650	1131931	122.91%	103.65%
CCCL	949113	1178462	104.00%	104.11%
201404250105 Reinjec	981857	1149372	103.45%	97.53%
QCS_0.02ppb Reinjec	980069	1184382	103.26%	100.50%
CCCM	929350	1158983	97.92%	98.35%

IS RECOVERY AGAINST NEAREST CCCs	
13C-PFOA (%)	13C-PFOS (%)

All IS RPDs <20% PASS

@537 IS RECOVERIES AGAINST AVERAGE ICAL IS

@537-Batch#765596-050614

LCMS3-FO-0002A

Analytical Run @05/06/2014 By LHZ LCMS3

Extracted @ 05/01/2014 to 05/05/2014by FAM

SOP ID#: LCMS 11 Version 0.0

RAW DATA FROM RESULTS FILE		
Sample Name	IS 13C-PFOA RECOVERY WITH ICAL AVE. (%)	IS 13C-PFOS RECOVERY WITH ICAL AVE. (%)
Cal-0ppb	99.43	102.8
Cal-0.0025ppb	102.43	102.93
Cal-0.005ppb	100.48	99.83
Cal-0.01ppb	100.46	101.51
Cal-0.02ppb	98.27	97.90
Cal-0.04ppb	98.35	101.44
Cal-0.08ppb	100.01	96.38
CCCL	102.25	101.74
DNR-QCS_0.02ppb	103.75	100.17
MBLK	92.40	99.25
MRL_CHK	94.73	95.21
LCS1	89.15	101.49
LCS2	88.58	94.35
201405010499MS1	90.40	91.08
201405010499MSD1	89.88	96.45
201405010499	87.52	92.22
201404250105	93.23	98.26
201404250087	86.31	92.36
201404250089	94.22	94.32
201404250090	91.01	96.23
201404250091	91.43	94.22
201404250092	91.57	93.65
201404250093	86.38	92.83
201404250094	89.29	92.76
201404250095	82.59	86.98
CCCM	92.81	97.07
201404250096	80.99	94.39
201404250097	75.25	91.55
201404250098	74.62	83.74
201404250099	83.07	94.53
201404250100	90.00	91.06
201404250101	97.36	95.01
201404250102	104.01	101.28
201404250103	98.81	94.92
201404250104	97.63	96.36
201404250106	100.31	97.22
CCCH	114.08	100.61
CCCL	118.64	104.74
201404250105 Reinjec	122.73	102.16
QCS_0.02ppb Reinjec	122.51	105.27
CCCM	116.17	103.01

In ICAL, all points in the back calculation are within 70%-130% So, PASS

For all samples, IS recoveries are within 50%-150%% compared to the average IS response in ICAL So, PASS

@537: SURROGATE RECOVERIES

@537-Batch#765596-050614

LCMS3-FO-0003A

Analytical Run @05/06/2014

Extracted @ 05/01/2014 to 05/05/2014 by FAM

SOP ID#: LCMS 11 Version 0.0

RAW DATA FROM RESULTS FILE		
Sample Name	Surrogate Recovery 13c-PFHxA	Surrogate Recovery 13c-PFDA
Cal-0ppb	105.44	103.44
Cal-0.0025ppb	101.38	99.60
Cal-0.005ppb	98.53	98.39
Cal-0.01ppb	98.38	101.64
Cal-0.02ppb	103.62	99.84
Cal-0.04ppb	100.40	100.59
Cal-0.08ppb	97.69	99.94
CCCL	102.41	96.58
DNR-QCS_0.02ppb	89.38	99.60
MBLK	82.39	94.38
MRL_CHK	100.16	93.56
LCS1	87.48	84.20
LCS2	93.56	98.60
201405010499MS1	94.41	94.29
201405010499MSD1	98.56	101.50
201405010499	77.46	90.32
201404250105	30.06	96.82
201404250087	103.23	99.16
201404250089	87.81	86.52
201404250090	100.81	108.94
201404250091	95.29	83.79
201404250092	87.15	74.48
201404250093	94.65	100.98
201404250094	104.44	98.87
201404250095	97.63	82.33
CCCM	101.11	102.65
201404250096	98.15	82.67
201404250097	80.10	97.82
201404250098	78.00	91.11
201404250099	72.00	81.31
201404250100	83.34	107.99
201404250101	88.51	99.07
201404250102	94.51	96.98
201404250103	91.32	88.43
201404250104	72.91	78.63
201404250106	80.54	99.19
CCCH	76.83	101.64
CCCL	81.16	100.46
201404250105 Reinjec	24.77	91.37
QCS_0.02ppb Reinjec	78.04	95.87
CCCM	81.86	97.82

Surrogate Recoveries are within 70%-130% (except sample 201404250105) , So PASS

LHZ 05/07/14

Operator: Lisa Zhao

Project: EPA537
Method Name: @537-122211-LHZ.qmf
Batch Name: @537-Batch#765596-050614.dab

Run Sequence For @537

	Sample Name	Sample Type	Sample Comment	Acquisition Date
1	Cal-0ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 8:12:27 PM
2	Cal-0.0025ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 8:38:03 PM
3	Cal-0.005ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 9:03:38 PM
4	Cal-0.01ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 9:29:14 PM
5	Cal-0.02ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 9:54:48 PM
6	Cal-0.04ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 10:20:23 PM
7	Cal-0.08ppb	Standard	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 10:45:58 PM
8	CCCL	Quality Control	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/6/2014 11:11:34 PM
9 DNR	QCS_0.02ppb	Quality Control	lot#@5372ndSource(QCS)-050614-LHZ, Exp. 05/20/14	5/6/2014 11:37:09 PM
10	MBLK	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 12:02:44 AM
11	MRL_CHK	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 12:28:19 AM
12	LCS1	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 12:53:55 AM
13	LCS2	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 1:19:30 AM
14	201405010499MS1	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 1:45:05 AM
15	201405010499MSD1	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 2:10:40 AM
16	201405010499	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 2:36:16 AM
17 *	201404250105	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 3:01:51 AM
18	201404250087	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 3:27:27 AM
19	201404250089	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 3:53:03 AM
20	201404250090	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 4:18:38 AM
21	201404250091	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 4:44:14 AM
22	201404250092	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 5:09:50 AM
23	201404250093	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 5:35:25 AM
24	201404250094	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 6:01:01 AM
25	201404250095	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 6:26:37 AM
26	CCCM	Quality Control	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/7/2014 6:52:13 AM
27	201404250096	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 7:17:48 AM
28	201404250097	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 7:43:24 AM
29	201404250098	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 8:09:00 AM
30	201404250099	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 8:34:35 AM
31	201404250100	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 9:00:11 AM
32	201404250101	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 9:25:47 AM
33	201404250102	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 9:51:22 AM
34	201404250103	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 10:16:58 AM
35	201404250104	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 10:42:32 AM
36	201404250106	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 11:08:08 AM
37	CCCH	Quality Control	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/7/2014 11:33:43 AM

DNR : Data Not Reported. The QCS sample re-injected to confirm the results. The re-injected results are reported. LHZ 05/07/14

LHZ
05/08/14

Operator: Lisa Zhao

Project: EPA537
Method Name: @537-122211-LHZ.qmf
Batch Name: @537-Batch#765596-050614.dab

Run Sequence For @537

	Sample Name	Sample Type	Sample Comment	Acquisition Date
38	CCCL	Quality Control	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/7/2014 11:59:17 AM
DNR * 39	201404250105 Reinjec	Quality Control	Prep. By FAM@05/01/2014	5/7/2014 12:24:52 PM
40	QCS_0.02ppb Reinjec	Quality Control	lot#@5372ndSource(QCS)-050614-LHZ, Exp. 05/20/14	5/7/2014 12:50:27 PM
41	CCCM	Quality Control	Lot#@537Cal-050614-LHZ, Exp.05/20/14	5/7/2014 1:16:02 PM

*: The sample failed surrogate recovery (13C-PFHxA), the re-injection is done to confirm.

LHZ 05/08/14

AB SCIEX

Created with Analyst Reporter
Printed: 07/05/2014 3:35:03 PM

LHZ
05/07/14

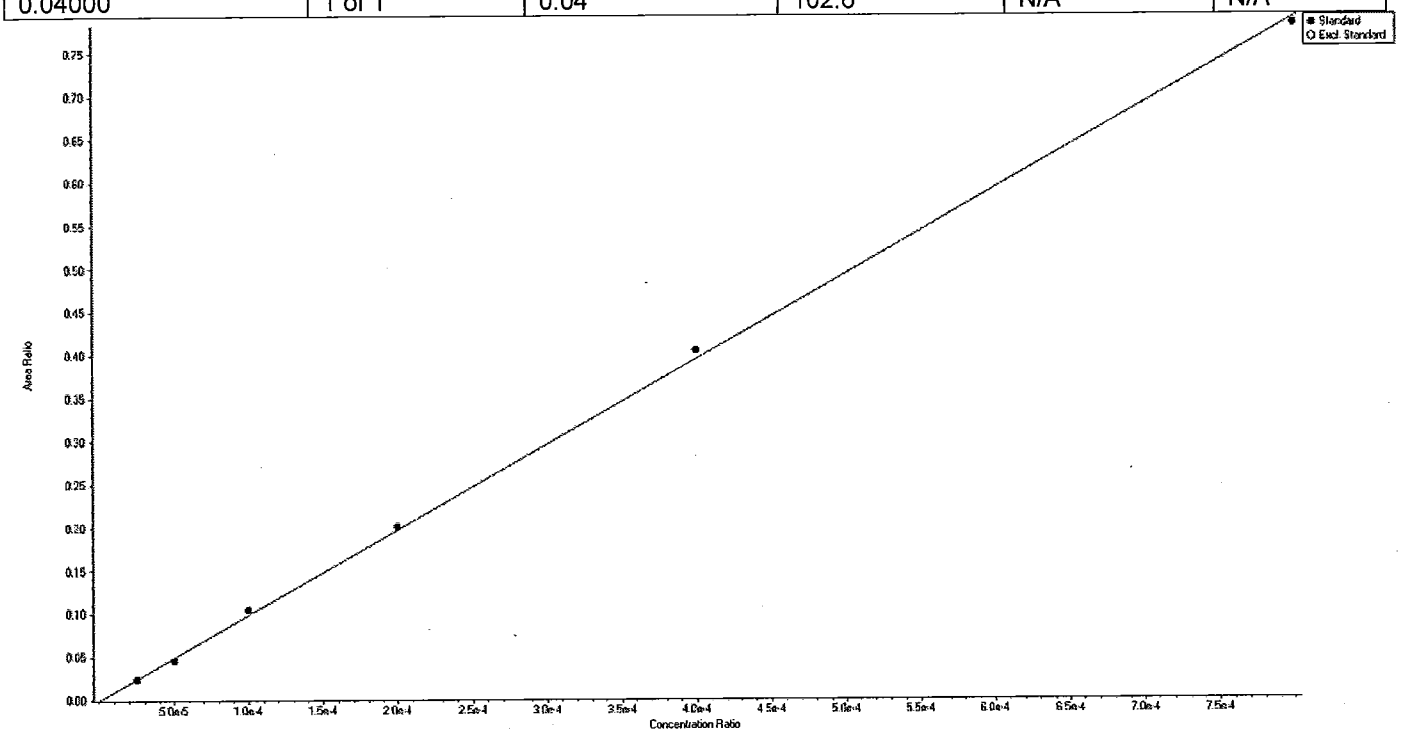
Analyte Name: PFHxA
Internal Standard: IS-13C-PFOA

Report File: @537-Batch#765596-050614-CalCurve.pdf

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 986.36895 x (r = 0.99979) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00250	1 of 1	0.00	99.5	N/A	N/A
0.00500	1 of 1	0.00	93.3	N/A	N/A
0.01000	1 of 1	0.01	106.3	N/A	N/A
0.02000	1 of 1	0.02	101.8	N/A	N/A
0.04000	1 of 1	0.04	102.6	N/A	N/A

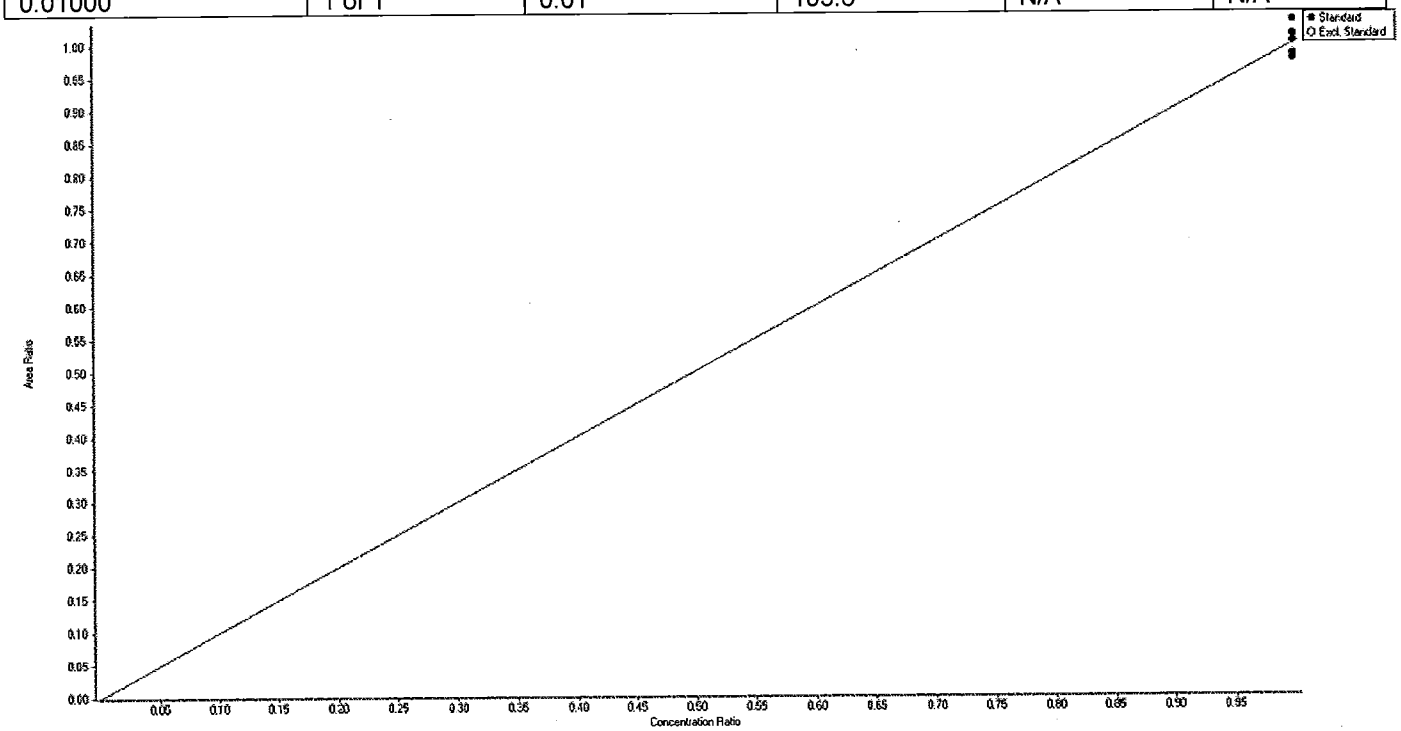


Analyte Name: Surr-13c-PFHxA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 0.99825 x (std. dev. = 0.02247) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.08000	1 of 1	0.08	99.2	N/A	N/A
100.00000	6 of 6	100.00	100.0	2.25	2.3
0.00250	1 of 1	0.00	117.5	N/A	N/A
0.00500	1 of 1	0.01	109.1	N/A	N/A
0.01000	1 of 1	0.01	103.6	N/A	N/A

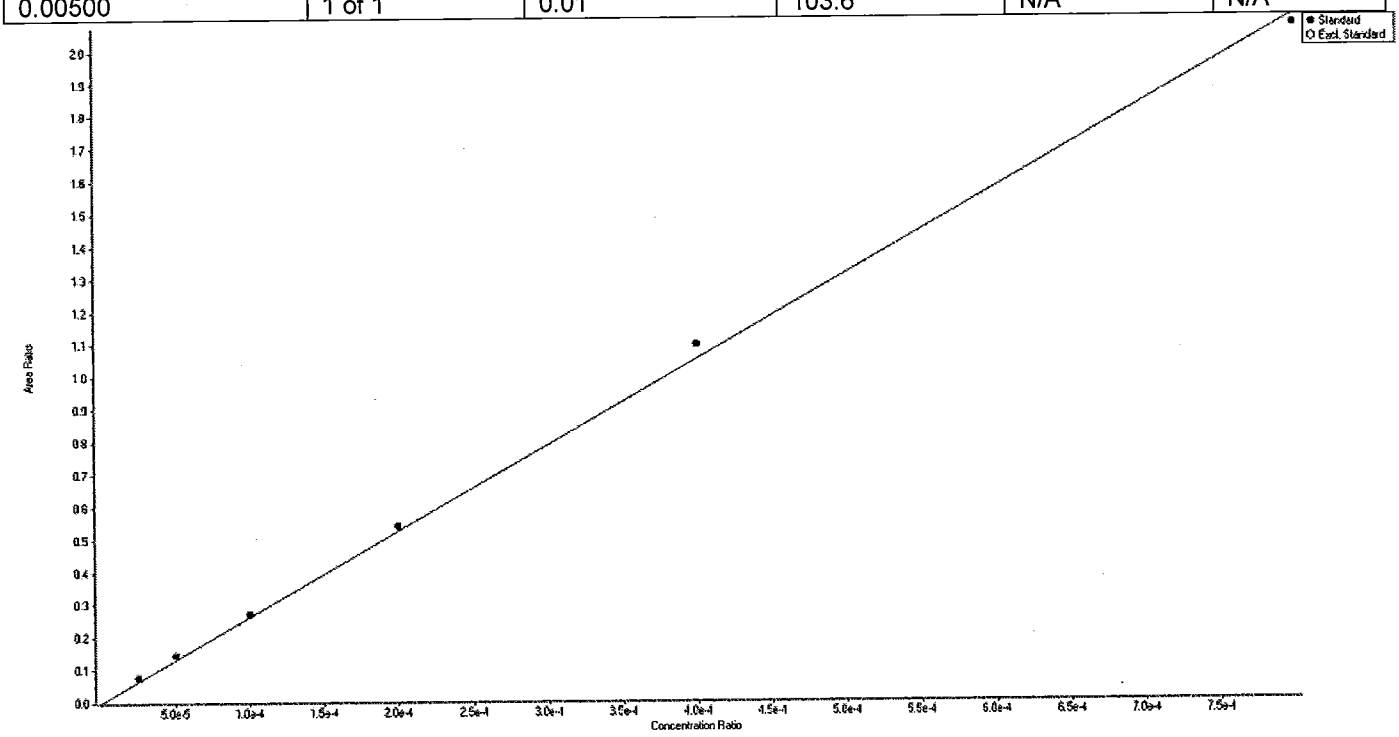


Analyte Name: PFHpA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 2625.88517 x (r = 0.99966) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.02000	1 of 1	0.02	103.1	N/A	N/A
0.04000	1 of 1	0.04	104.2	N/A	N/A
0.08000	1 of 1	0.08	98.7	N/A	N/A
0.00250	1 of 1	0.00	119.7	N/A	N/A
0.00500	1 of 1	0.01	103.6	N/A	N/A

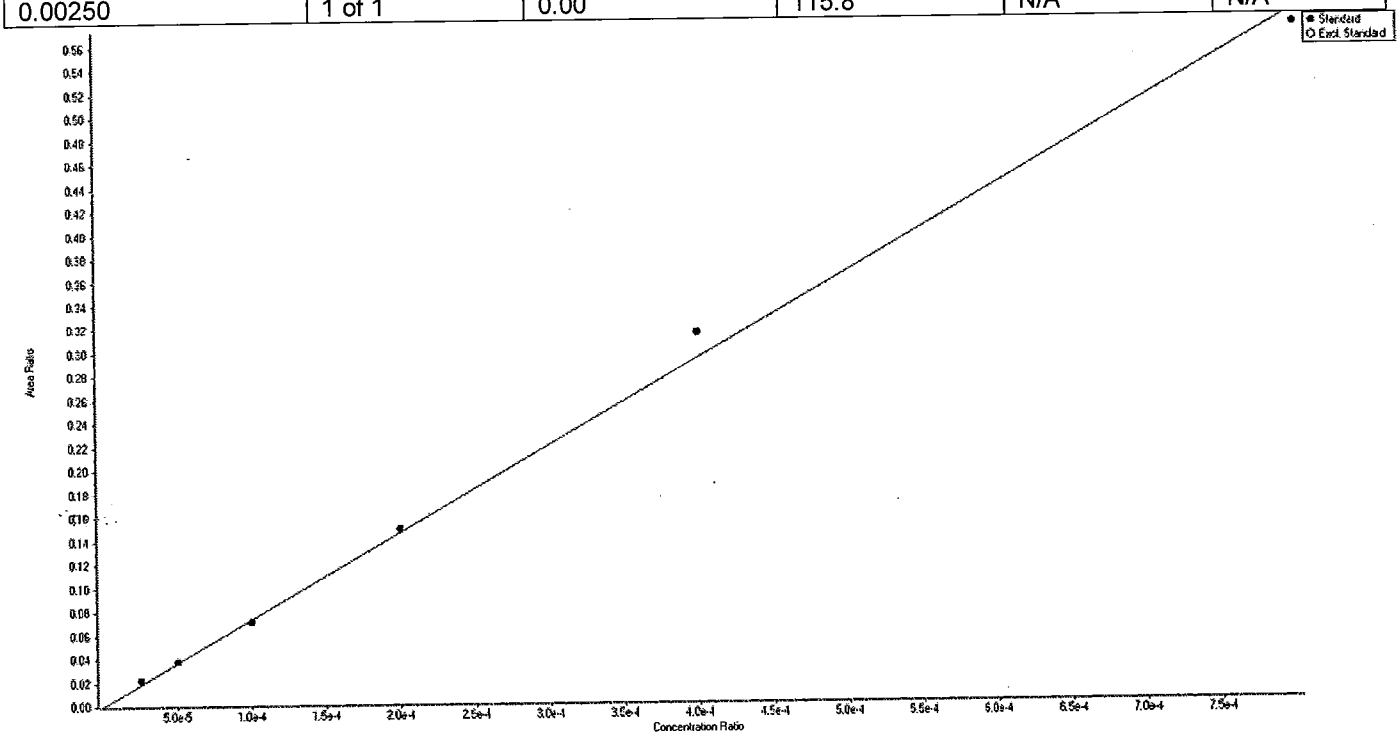


Analyte Name: PFHpA 2
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 731.67653 x (r = 0.99878) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.01000	1 of 1	0.01	97.5	N/A	N/A
0.02000	1 of 1	0.02	102.0	N/A	N/A
0.04000	1 of 1	0.04	107.5	N/A	N/A
0.08000	1 of 1	0.08	98.0	N/A	N/A
0.00250	1 of 1	0.00	115.8	N/A	N/A

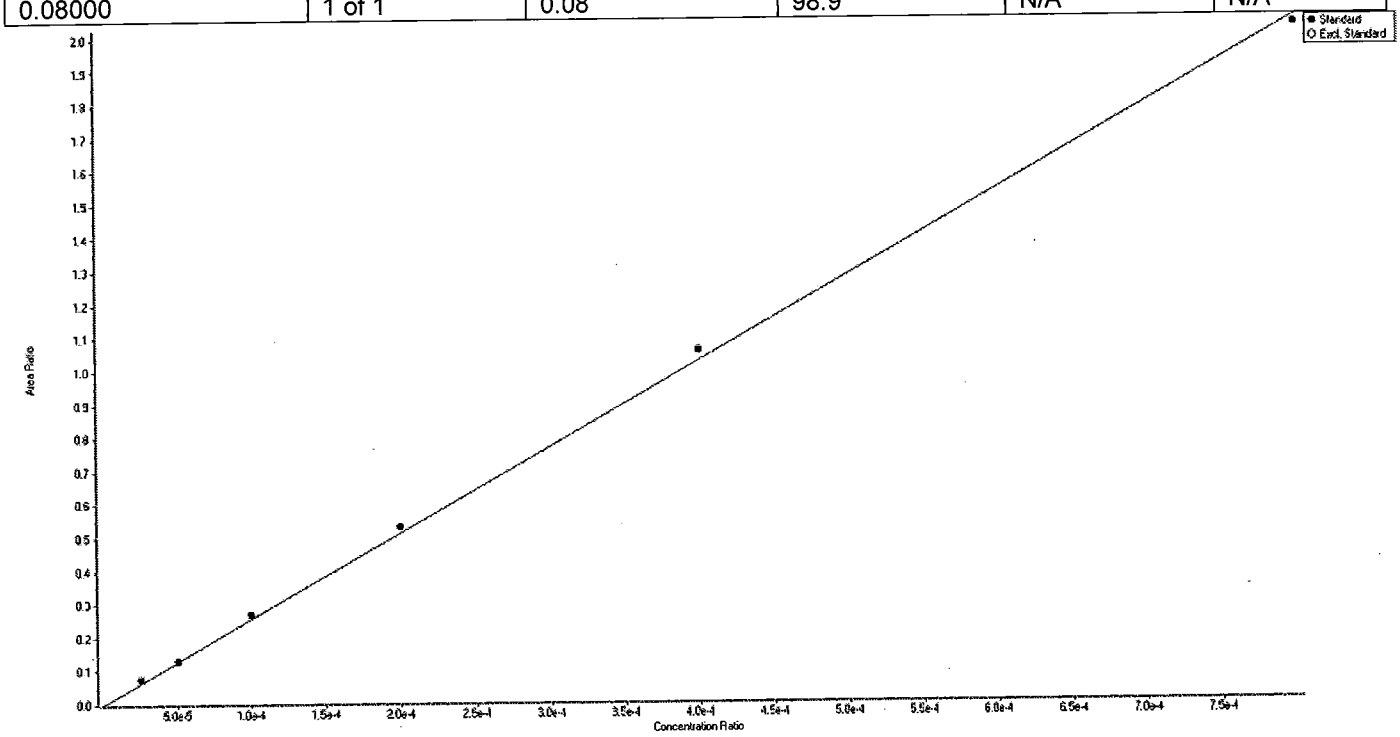


Analyte Name: PFOA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 2563.77981 x (r = 0.99977) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00500	1 of 1	0.01	101.3	N/A	N/A
0.01000	1 of 1	0.01	104.4	N/A	N/A
0.02000	1 of 1	0.02	103.4	N/A	N/A
0.04000	1 of 1	0.04	103.2	N/A	N/A
0.08000	1 of 1	0.08	98.9	N/A	N/A

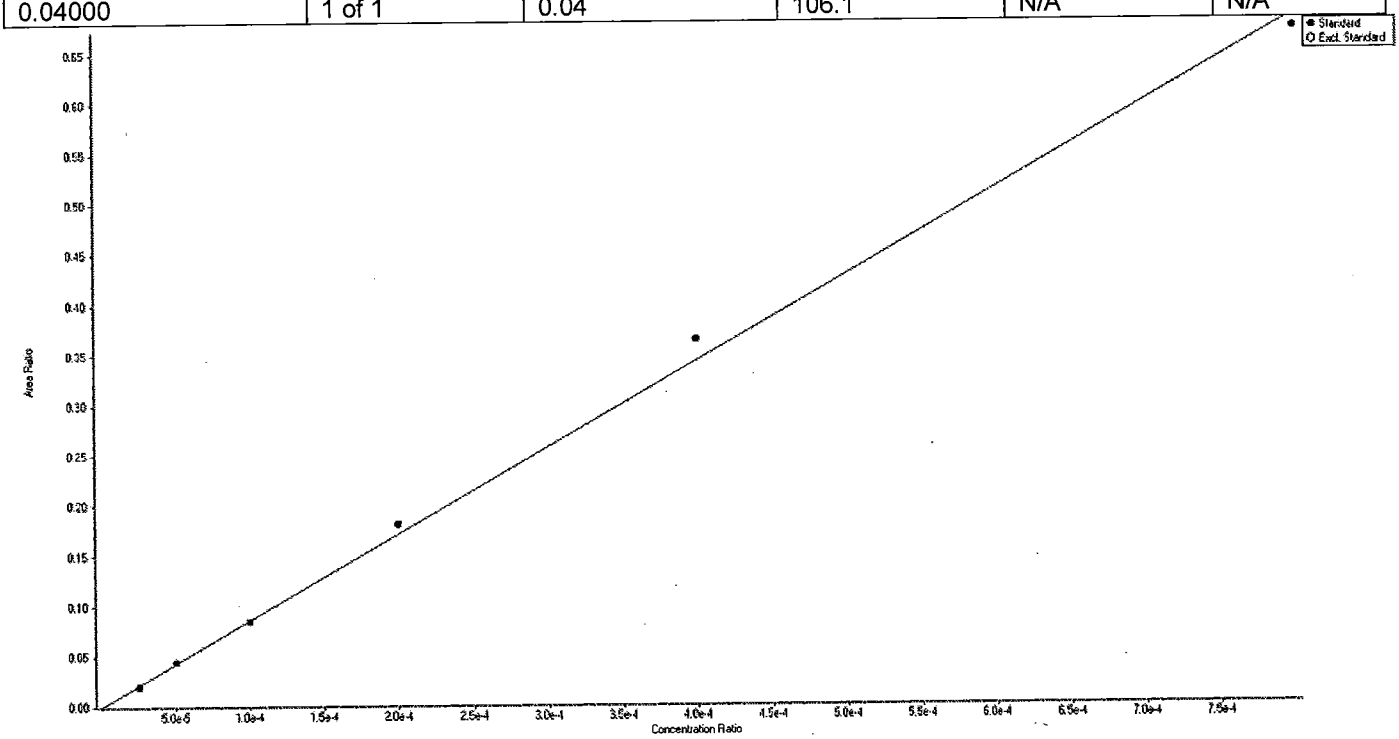


Analyte Name: PFOA 2
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 856.88351 x (r = 0.99902) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00250	1 of 1	0.00	96.1	N/A	N/A
0.00500	1 of 1	0.01	103.0	N/A	N/A
0.01000	1 of 1	0.01	98.6	N/A	N/A
0.02000	1 of 1	0.02	105.8	N/A	N/A
0.04000	1 of 1	0.04	106.1	N/A	N/A

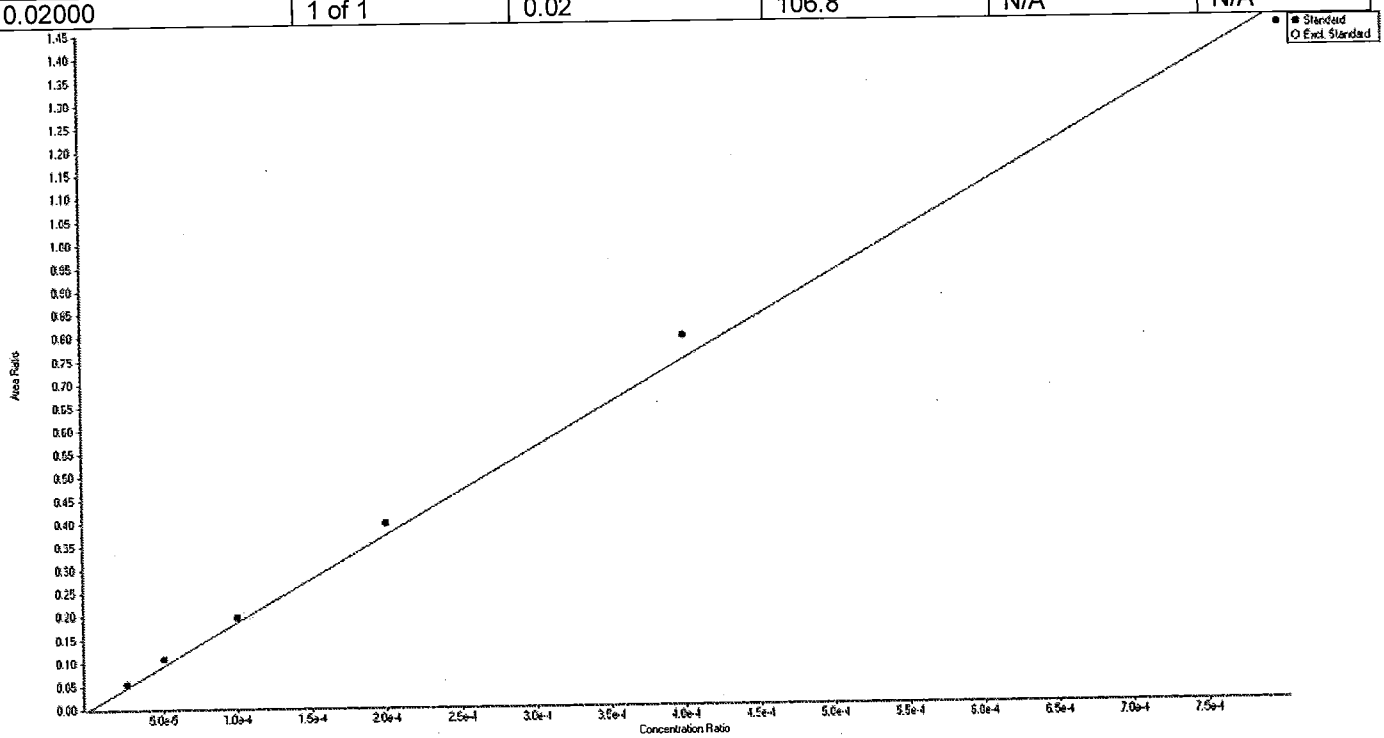


Analyte Name: PFNA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 1858.83919 x (r = 0.99892) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.08000	1 of 1	0.08	98.1	N/A	N/A
0.00250	1 of 1	0.00	114.0	N/A	N/A
0.00500	1 of 1	0.01	115.3	N/A	N/A
0.01000	1 of 1	0.01	105.3	N/A	N/A
0.02000	1 of 1	0.02	106.8	N/A	N/A

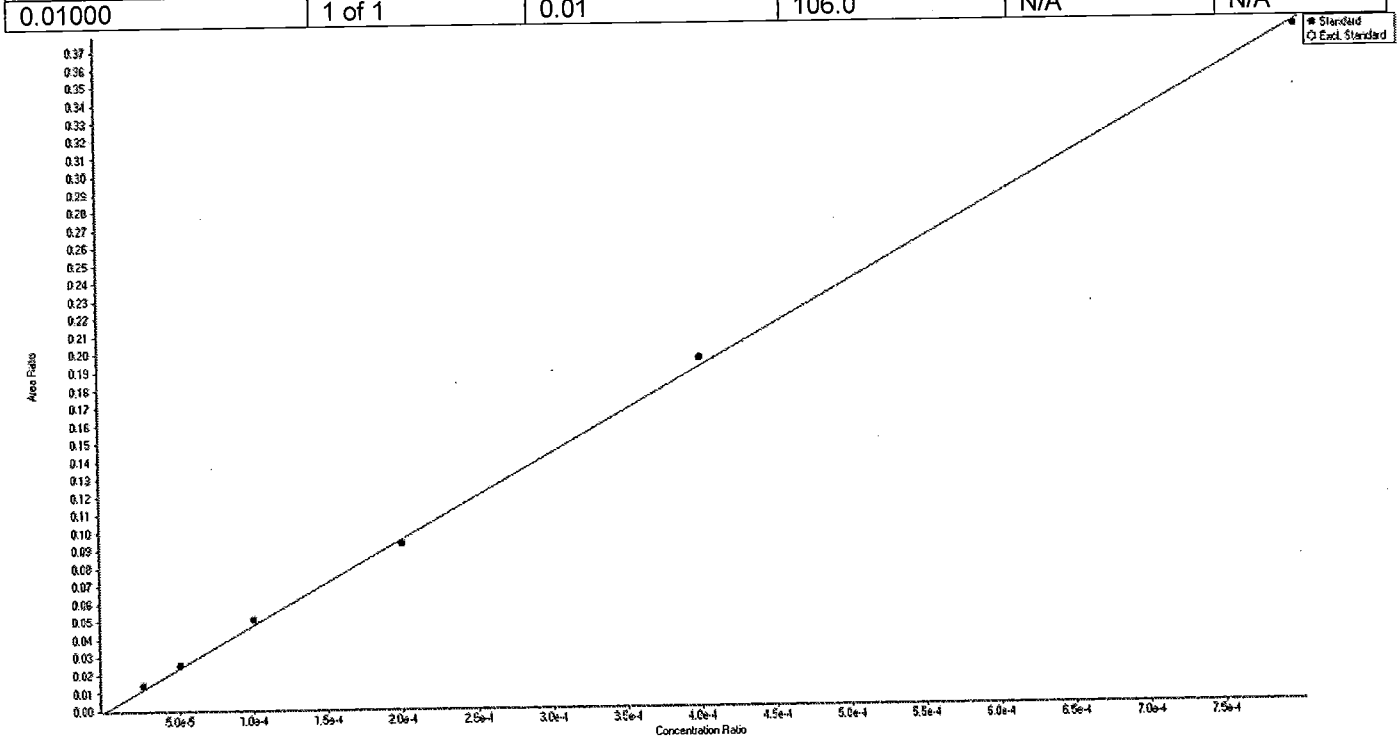


Analyte Name: PFNA 2
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 476.28904 x (r = 0.99983) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.04000	1 of 1	0.04	107.0	N/A	N/A
0.08000	1 of 1	0.08	97.7	N/A	N/A
0.00250	1 of 1	0.00	118.6	N/A	N/A
0.00500	1 of 1	0.01	107.6	N/A	N/A
0.01000	1 of 1	0.01	106.0	N/A	N/A

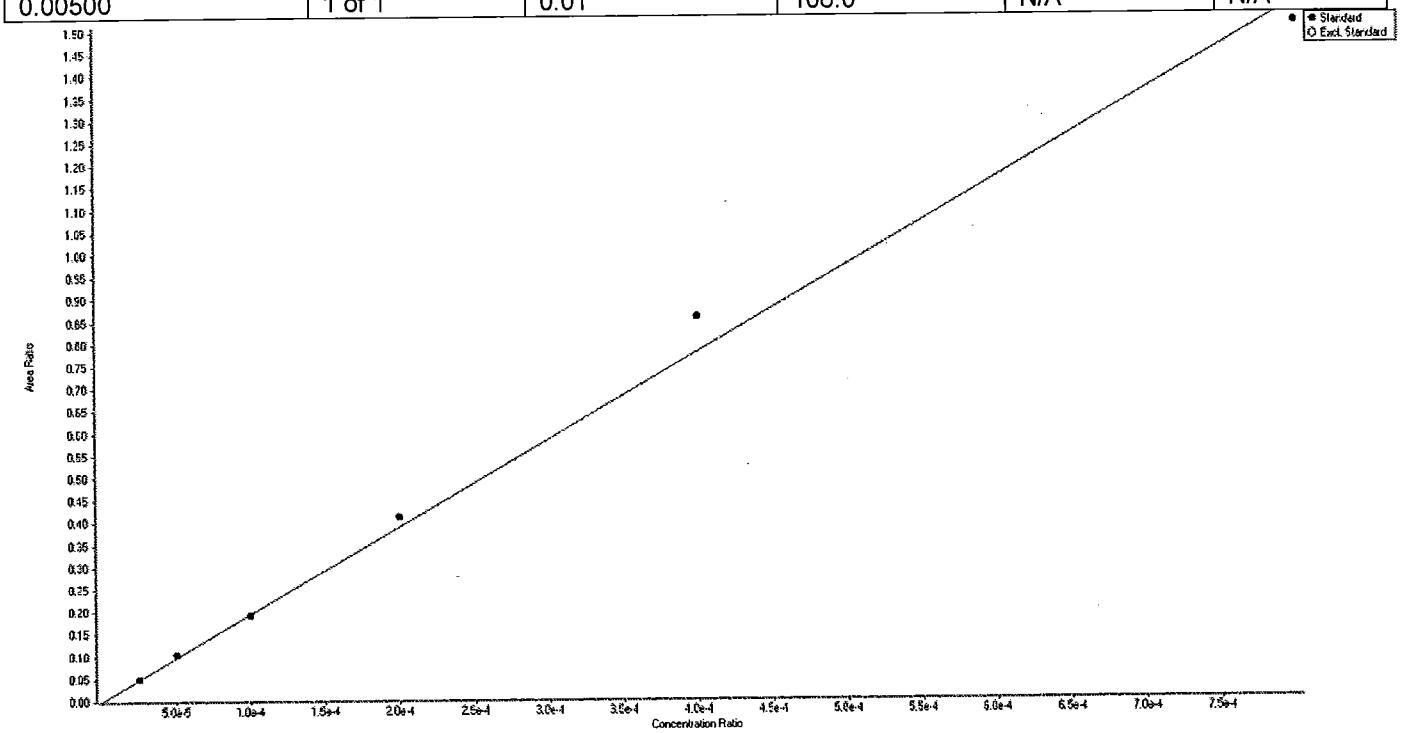


Analyte Name: PFDA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 1946.91003 x (r = 0.99768) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.02000	1 of 1	0.02	97.4	N/A	N/A
0.04000	1 of 1	0.04	102.4	N/A	N/A
0.08000	1 of 1	0.08	99.4	N/A	N/A
0.00250	1 of 1	0.00	100.7	N/A	N/A
0.00500	1 of 1	0.01	106.0	N/A	N/A

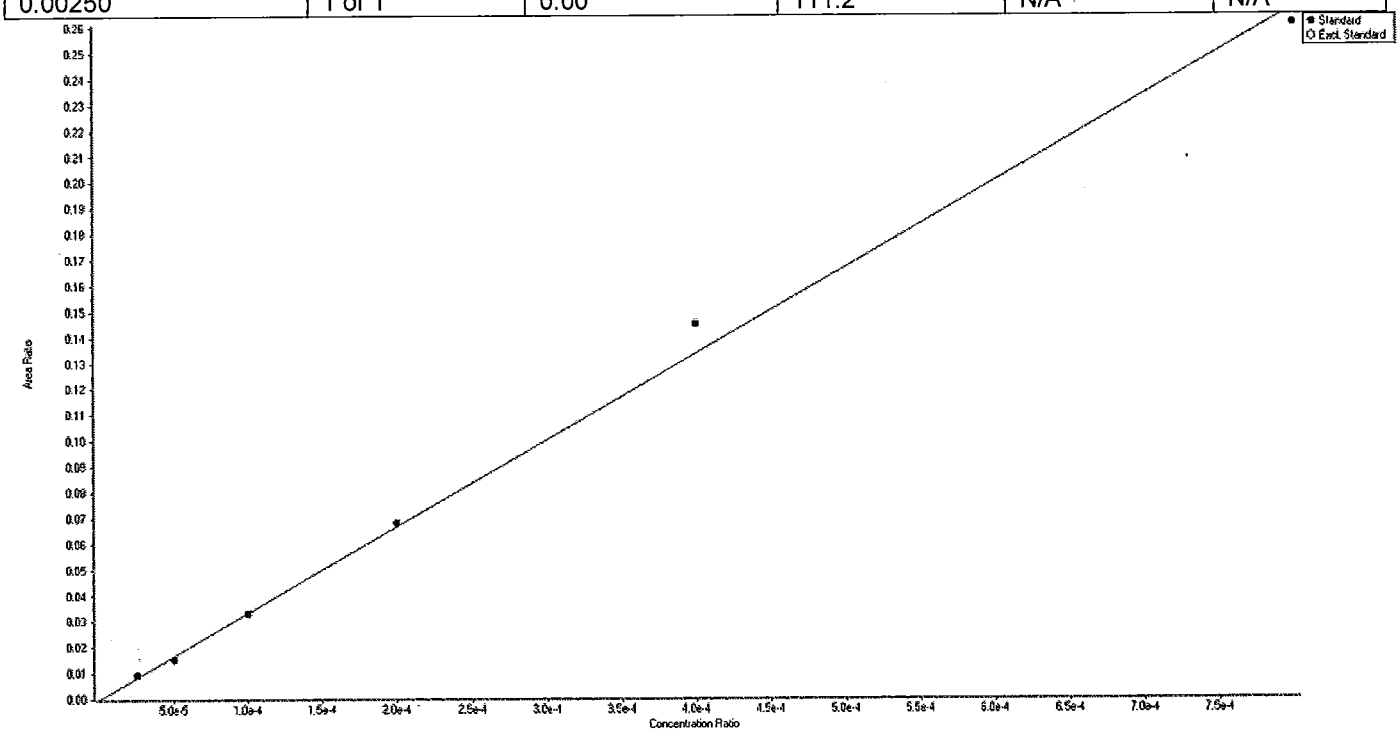


Analyte Name: PFDA 2
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 333.75541 x (r = 0.99835) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.01000	1 of 1	0.01	99.1	N/A	N/A
0.02000	1 of 1	0.02	105.5	N/A	N/A
0.04000	1 of 1	0.04	110.1	N/A	N/A
0.08000	1 of 1	0.08	97.1	N/A	N/A
0.00250	1 of 1	0.00	111.2	N/A	N/A

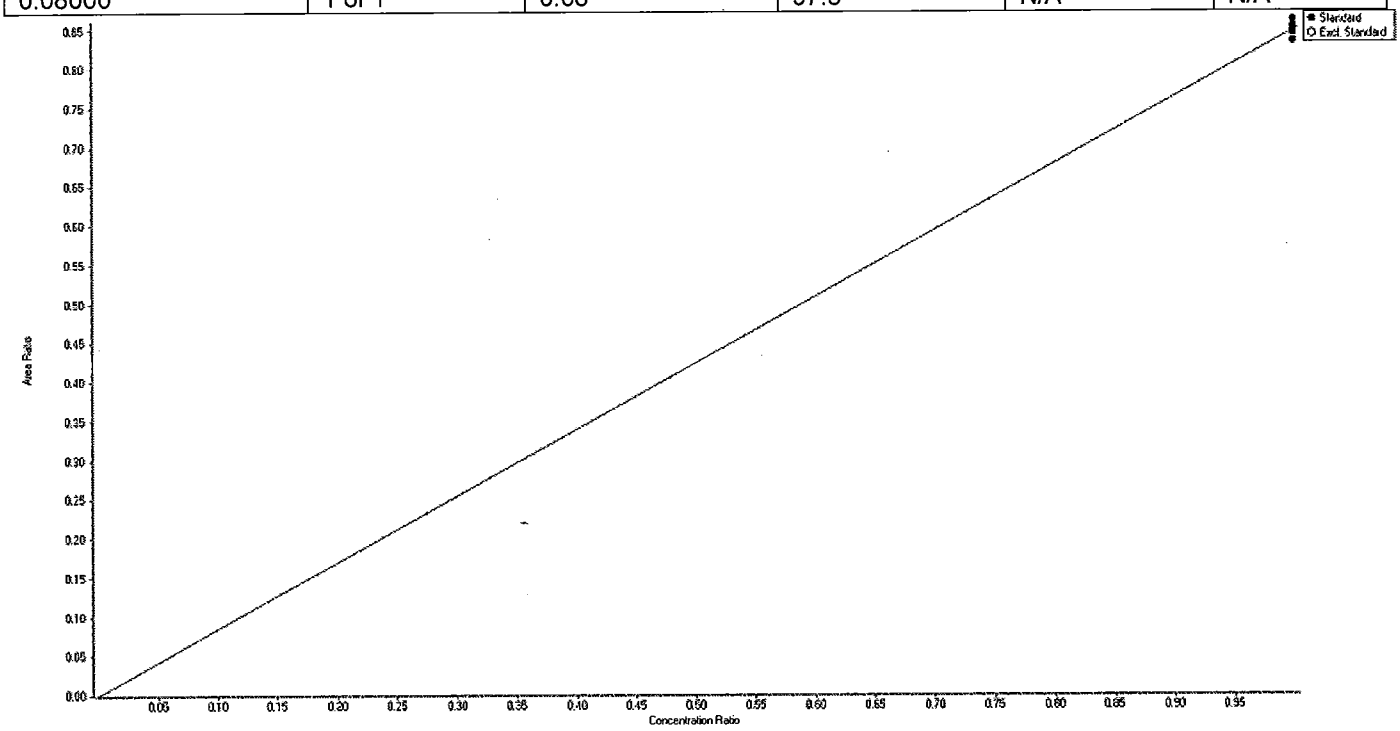


Analyte Name: Surr-13c-PFDA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 0.84769 x (std. dev. = 0.00913) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00500	1 of 1	0.00	91.4	N/A	N/A
0.01000	1 of 1	0.01	98.7	N/A	N/A
0.02000	1 of 1	0.02	101.8	N/A	N/A
0.04000	1 of 1	0.04	108.5	N/A	N/A
0.08000	1 of 1	0.08	97.8	N/A	N/A

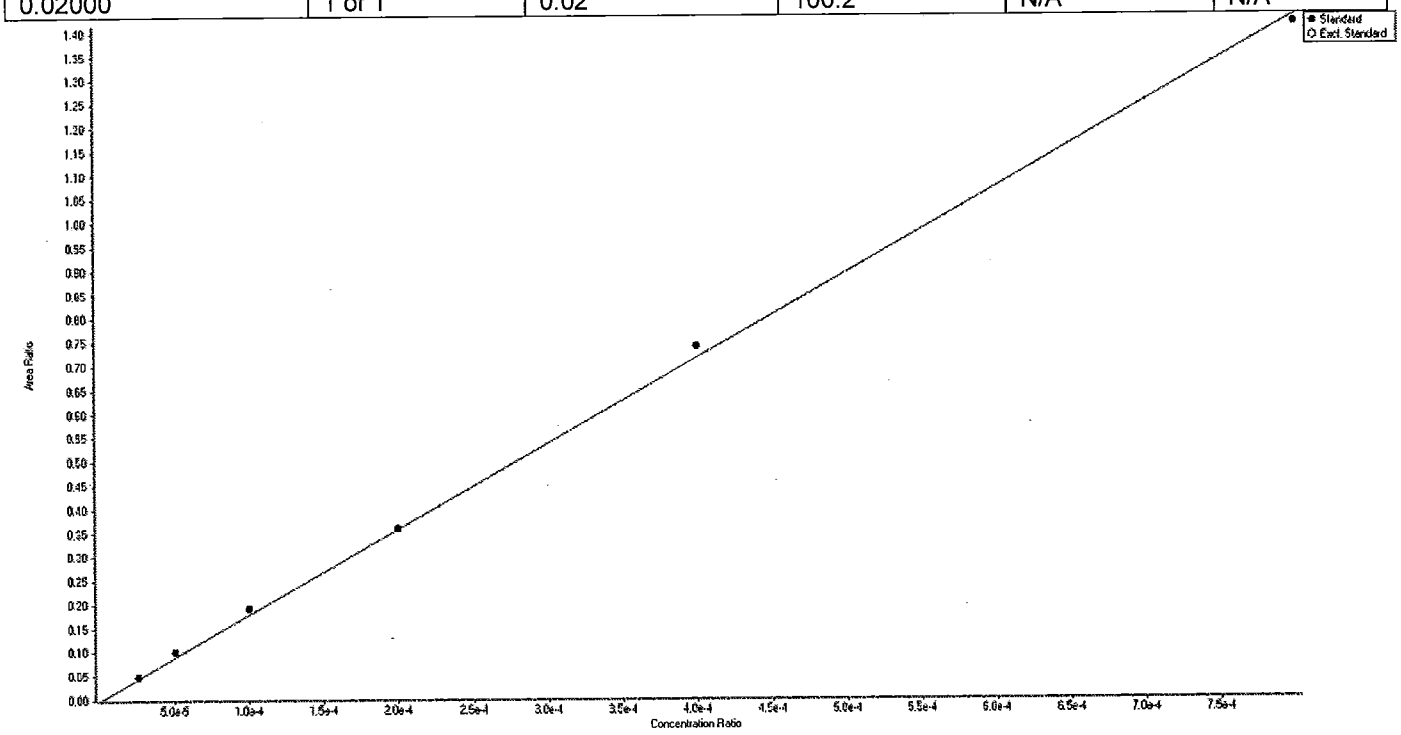


Analyte Name: PFUnA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 1788.30989 x (r = 0.99975) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
100.00000	6 of 6	100.00	100.0	1.08	1.1
0.00250	1 of 1	0.00	110.2	N/A	N/A
0.00500	1 of 1	0.01	113.0	N/A	N/A
0.01000	1 of 1	0.01	107.1	N/A	N/A
0.02000	1 of 1	0.02	100.2	N/A	N/A

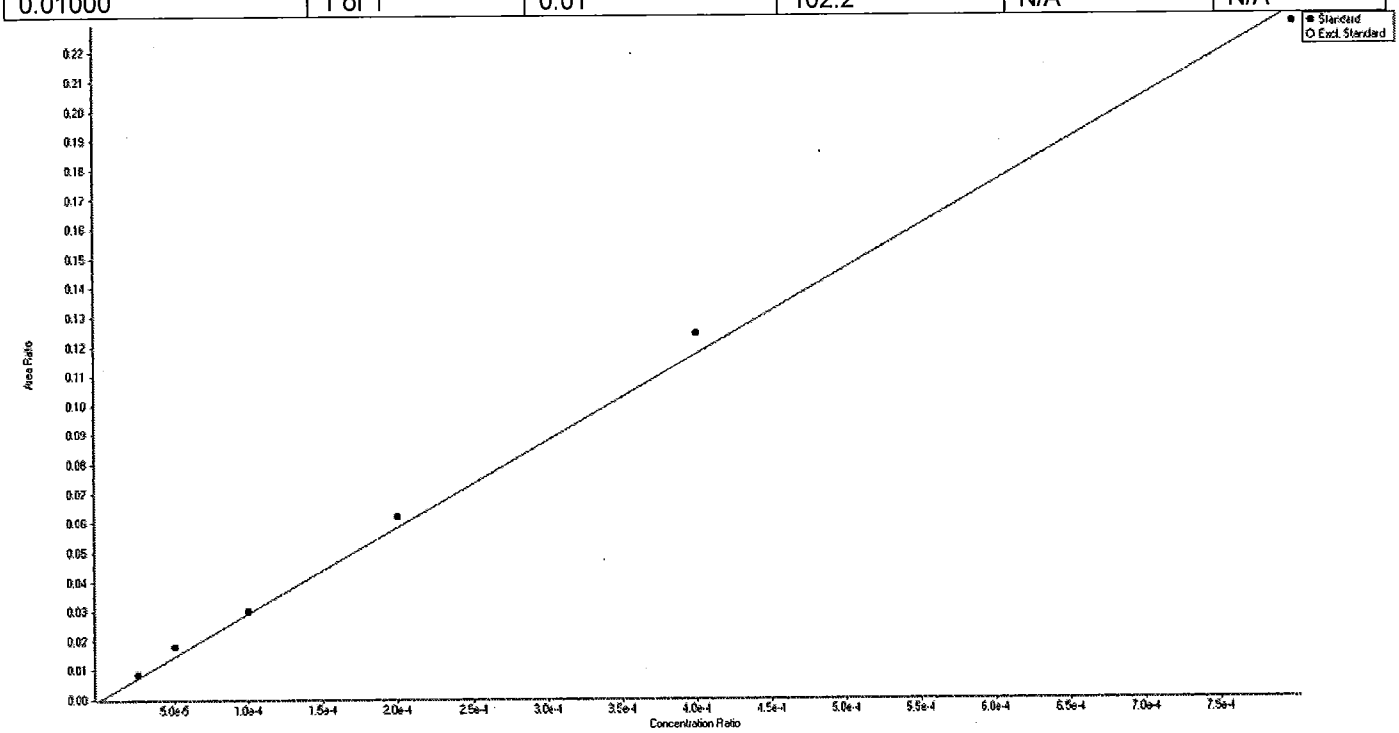


Analyte Name: PFUnA 2
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 292.44571 x (r = 0.99921) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.04000	1 of 1	0.04	103.5	N/A	N/A
0.08000	1 of 1	0.08	98.9	N/A	N/A
0.00250	1 of 1	0.00	117.9	N/A	N/A
0.00500	1 of 1	0.01	123.1	N/A	N/A
0.01000	1 of 1	0.01	102.2	N/A	N/A

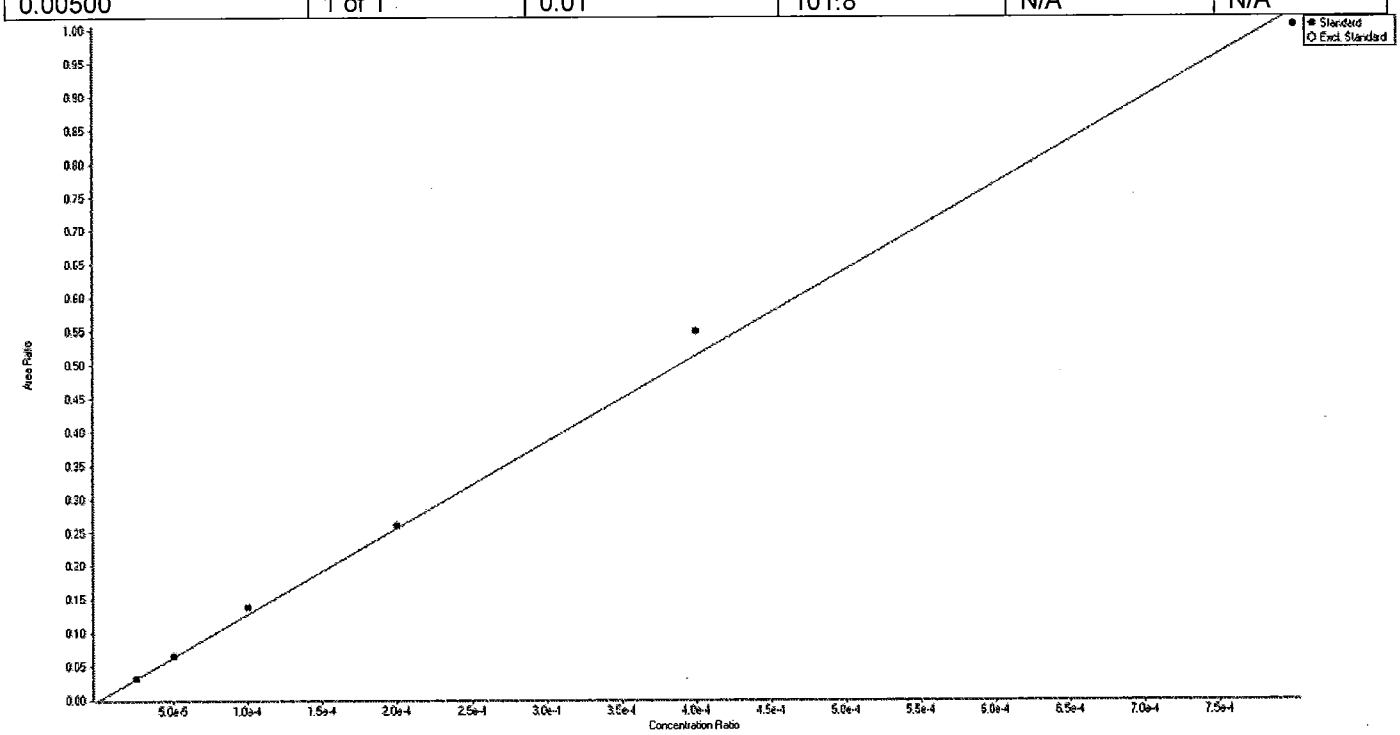


Analyte Name: PFDoA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 1283.22434 x (r = 0.99888) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.02000	1 of 1	0.02	105.9	N/A	N/A
0.04000	1 of 1	0.04	106.0	N/A	N/A
0.08000	1 of 1	0.08	98.0	N/A	N/A
0.00250	1 of 1	0.00	103.4	N/A	N/A
0.00500	1 of 1	0.01	101.8	N/A	N/A

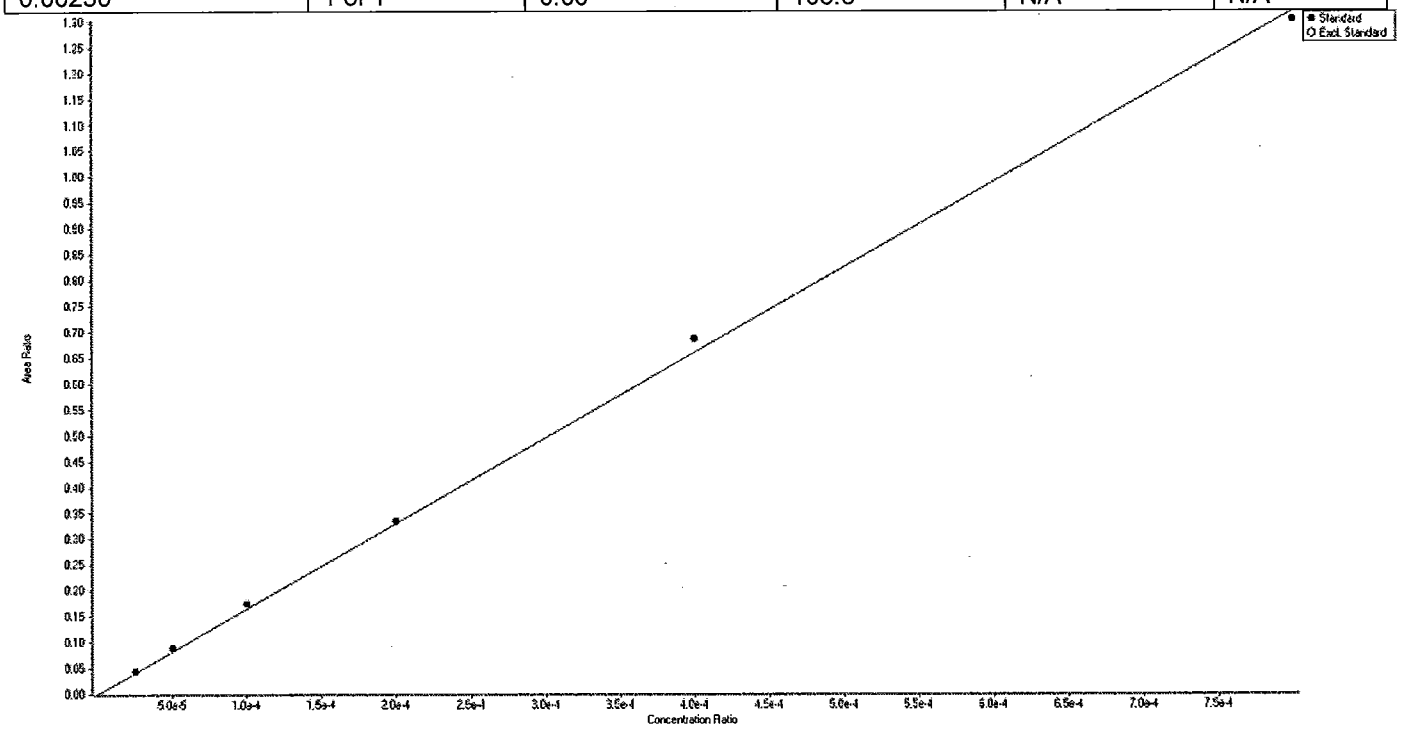


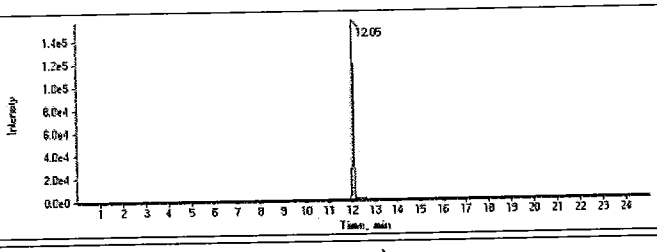
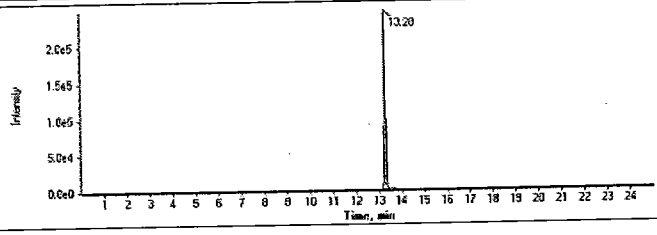
Analyte Name: PFTrDA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 1649.85345 x (r = 0.99965) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.01000	1 of 1	0.01	108.1	N/A	N/A
0.02000	1 of 1	0.02	101.8	N/A	N/A
0.04000	1 of 1	0.04	107.2	N/A	N/A
0.08000	1 of 1	0.08	98.0	N/A	N/A
0.00250	1 of 1	0.00	106.5	N/A	N/A



IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Standard)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Standard)	

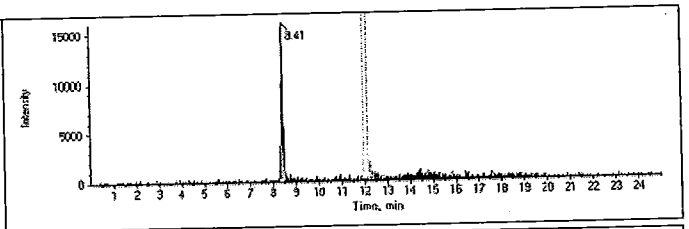
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.010628

Area Ratio: 1.048e-1

Sample Type: (Standard)



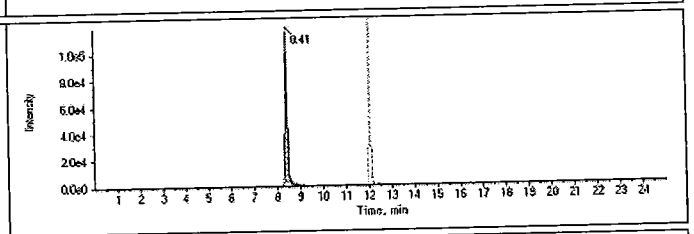
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 98.378488

Area Ratio: 9.821e-1

Sample Type: (Standard)



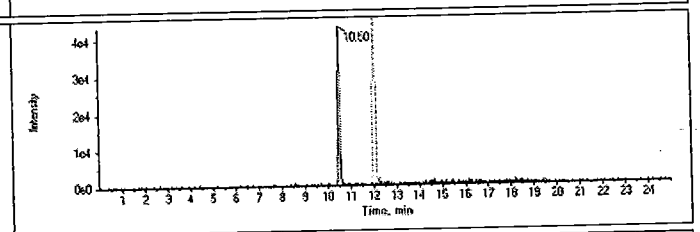
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.010357

Area Ratio: 2.720e-1

Sample Type: (Standard)



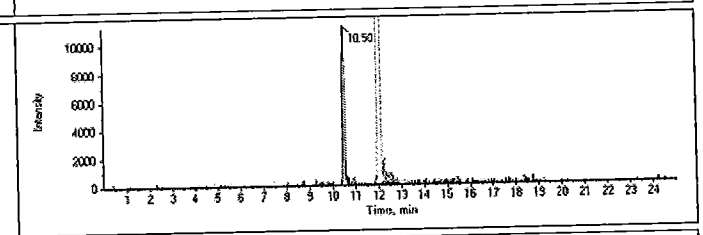
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.009749

Area Ratio: 7.133e-2

Sample Type: (Standard)



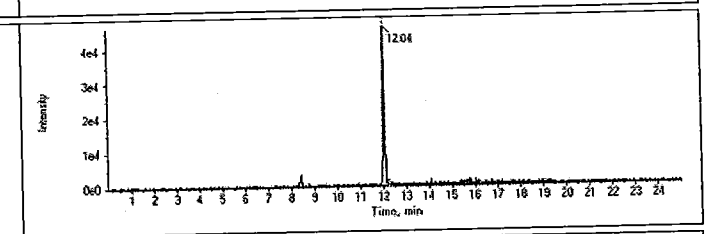
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.010438

Area Ratio: 2.676e-1

Sample Type: (Standard)



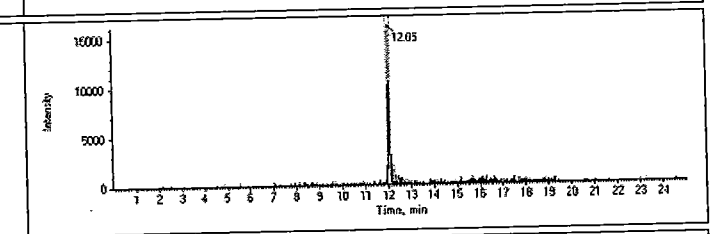
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.009862

Area Ratio: 8.450e-2

Sample Type: (Standard)



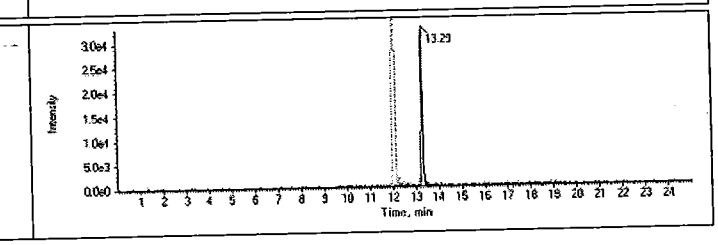
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.010534

Area Ratio: 1.958e-1

Sample Type: (Standard)



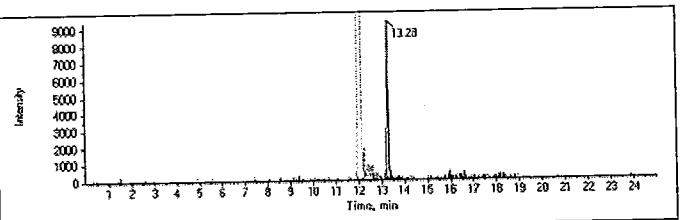
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.010595

Area Ratio: 5.046e-2

Sample Type: (Standard)



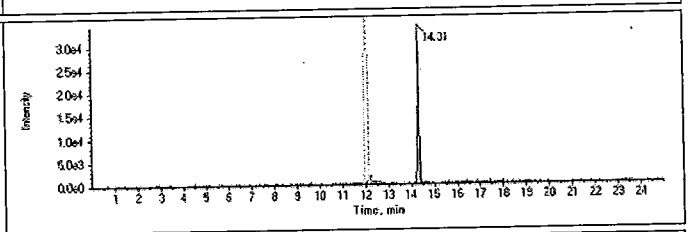
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.009906

Area Ratio: 1.929e-1

Sample Type: (Standard)



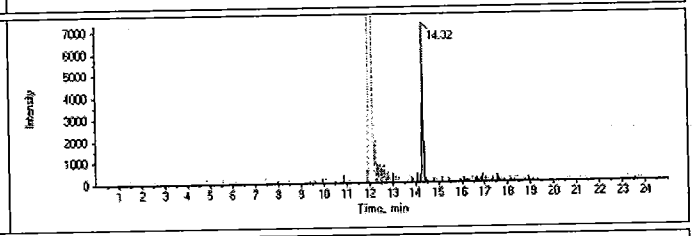
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.009872

Area Ratio: 3.295e-2

Sample Type: (Standard)



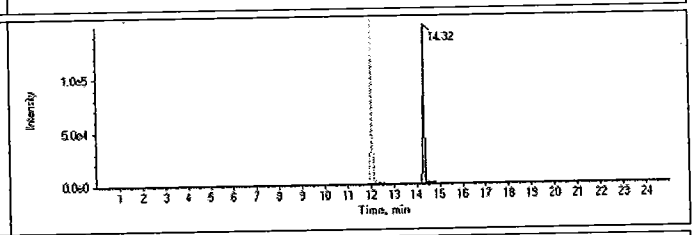
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 101.641807

Area Ratio: 8.616e-1

Sample Type: (Standard)



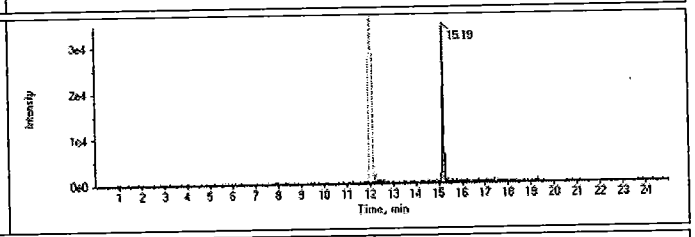
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.010706

Area Ratio: 1.915e-1

Sample Type: (Standard)



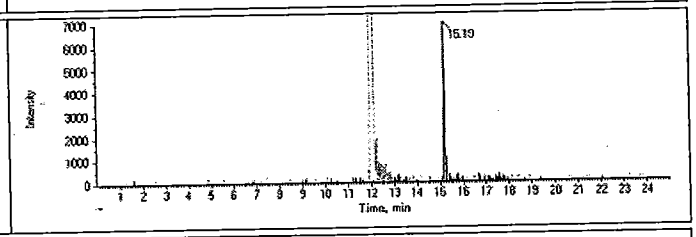
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.010223

Area Ratio: 2.990e-2

Sample Type: (Standard)



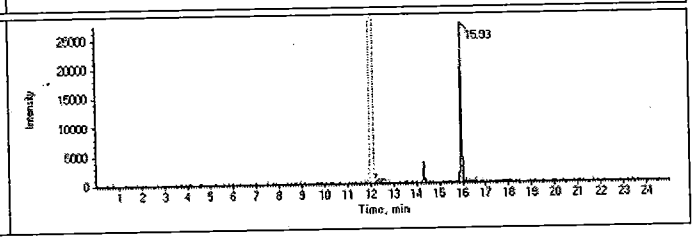
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.010809

Area Ratio: 1.387e-1

Sample Type: (Standard)



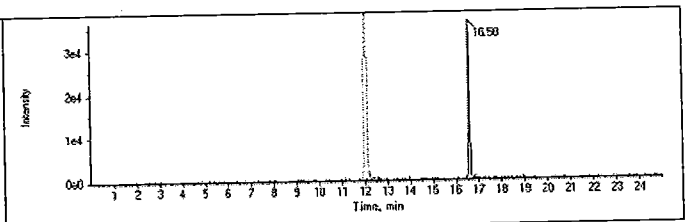
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.010561

Area Ratio: 1.742e-1

Sample Type: (Standard)



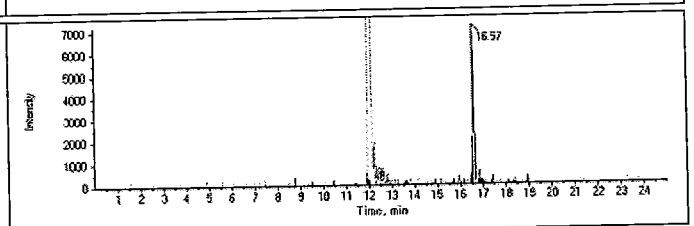
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.010244

Area Ratio: 3.545e-2

Sample Type: (Standard)



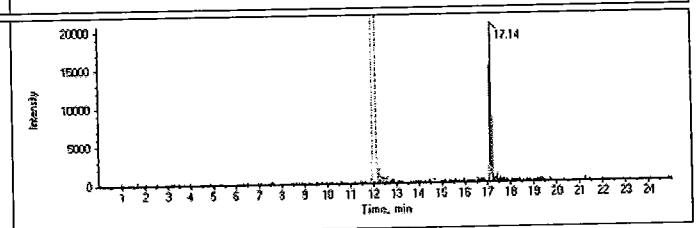
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.011260

Area Ratio: 8.604e-2

Sample Type: (Standard)



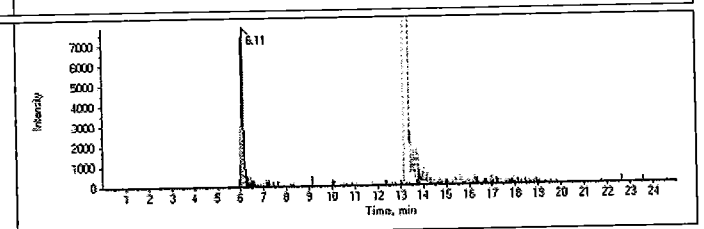
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.007754

Area Ratio: 3.811e-2

Sample Type: (Standard)



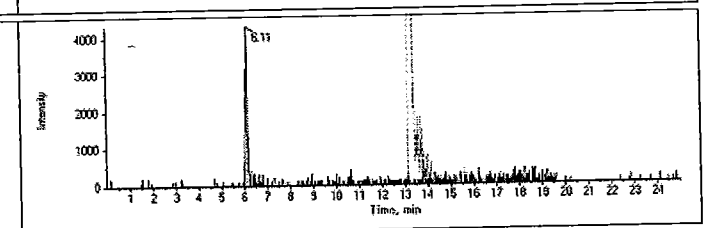
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.010235

Area Ratio: 2.078e-2

Sample Type: (Standard)



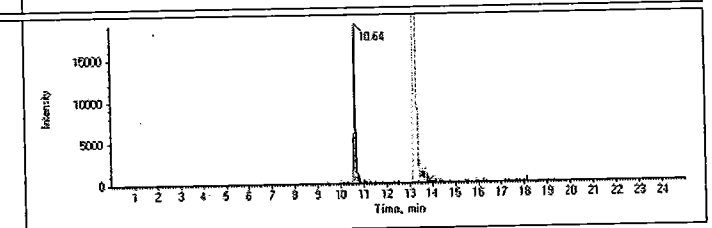
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.009652

Area Ratio: 8.031e-2

Sample Type: (Standard)



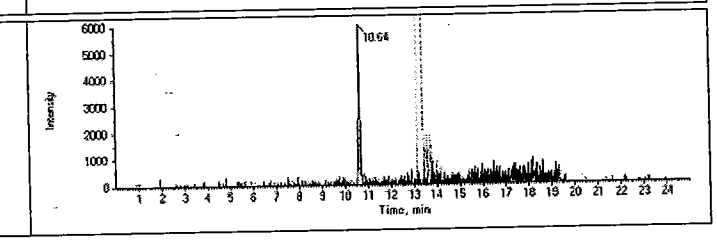
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.008845

Area Ratio: 2.500e-2

Sample Type: (Standard)



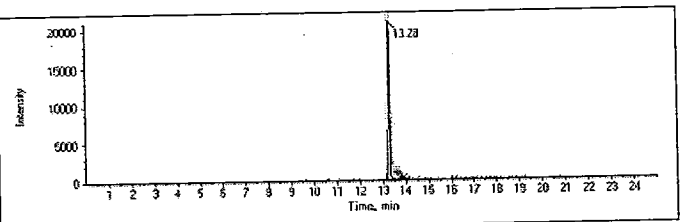
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.009851

Area Ratio: 7.897e-2

Sample Type: (Standard)



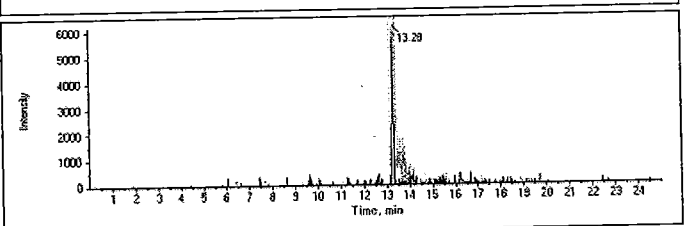
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.008518

Area Ratio: 2.022e-2

Sample Type: (Standard)



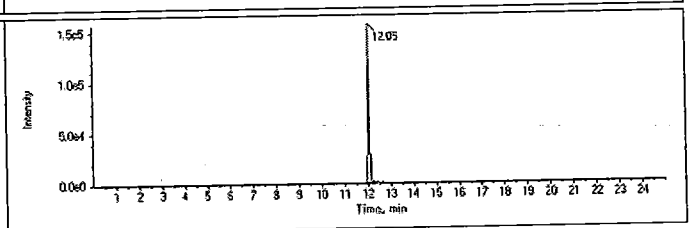
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 100.459877

Area Ratio: N/A

Sample Type: (Standard)



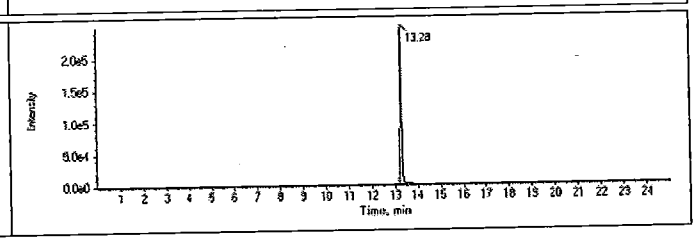
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 101.505514

Area Ratio: N/A

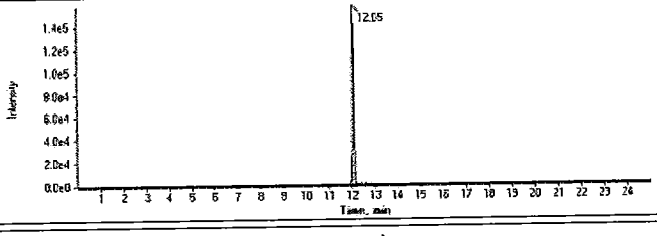
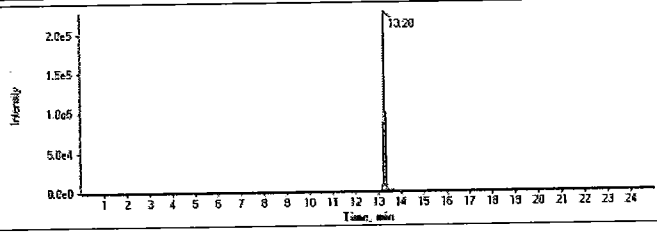
Sample Type: (Standard)



Sample Name	Cal-0.02ppb	**Injection Vial**	5
Sample ID		**Injection Volume**	5.00
Sample Type	Standard	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 9:54:48 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	786152	12.05	100.00000	-
IS-13C-PFOS	1101447	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.579e+05	8.39	0.02000	0.020365
Surr-13c-PFHxA	8.132e+05	8.41	100.00000	103.623032
PFHpA	4.257e+05	10.50	0.02000	0.020623
PFHpA 2	1.174e+05	10.50	0.02000	0.020406
PFOA	4.170e+05	12.05	0.02000	0.020688
PFOA 2	1.425e+05	12.04	0.02000	0.021161
PFNA	3.120e+05	13.29	0.02000	0.021353
PFNA 2	7.297e+04	13.29	0.02000	0.019488
PFDA	3.230e+05	14.32	0.02000	0.021103
PFDA 2	5.341e+04	14.31	0.02000	0.020354
Surr-13c-PFDA	6.653e+05	14.32	100.00000	99.838667
PFUnA	2.816e+05	15.19	0.02000	0.020033
PFUnA 2	4.871e+04	15.19	0.02000	0.021185
PFDoA	2.053e+05	15.93	0.02000	0.020352
PFTrDA	2.631e+05	16.58	0.02000	0.020282
PFTrDA 2	6.011e+04	16.58	0.02000	0.022093
PFTA	1.228e+05	17.14	0.02000	0.020449
PFBS	1.027e+05	6.10	0.01770	0.018970
PFBS 2	4.065e+04	6.11	0.01770	0.018176
PFHxS	1.917e+05	10.64	0.01900	0.020915
PFHxS 2	5.988e+04	10.64	0.01900	0.019235
PFOS	1.667e+05	13.28	0.01920	0.018885
PFOS 2	5.360e+04	13.28	0.01920	0.020495
13C-PFOA	7.862e+05	12.05	100.00000	98.270071
13C-PFOS	1.101e+06	13.28	100.00000	97.899691

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Standard)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Standard)	

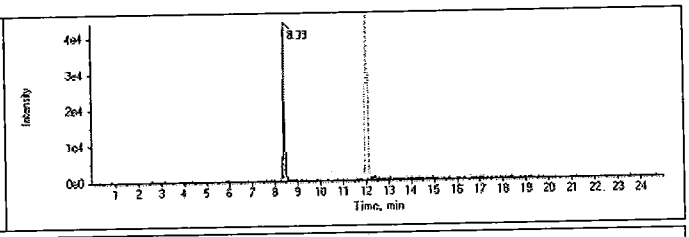
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.020365

Area Ratio: 2.009e-1

Sample Type: (Standard)



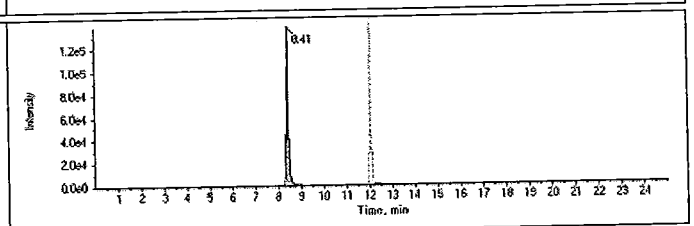
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 103.623032

Area Ratio: 1.034e0

Sample Type: (Standard)



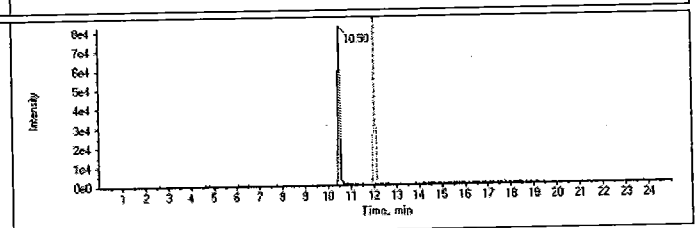
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.020623

Area Ratio: 5.415e-1

Sample Type: (Standard)



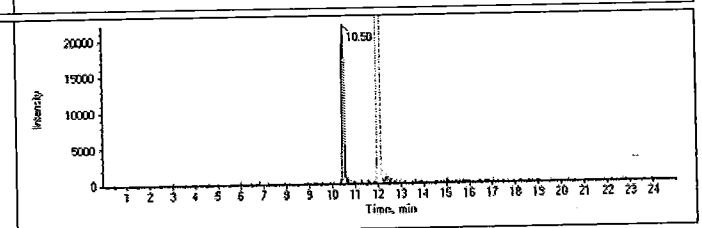
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.020406

Area Ratio: 1.493e-1

Sample Type: (Standard)



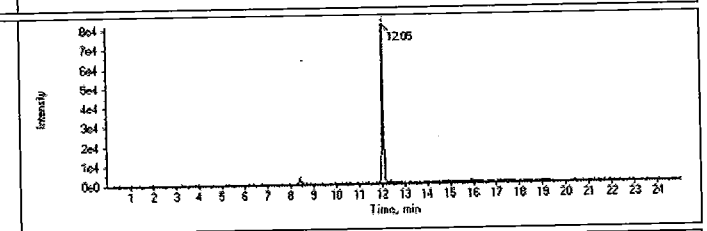
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.020688

Area Ratio: 5.304e-1

Sample Type: (Standard)



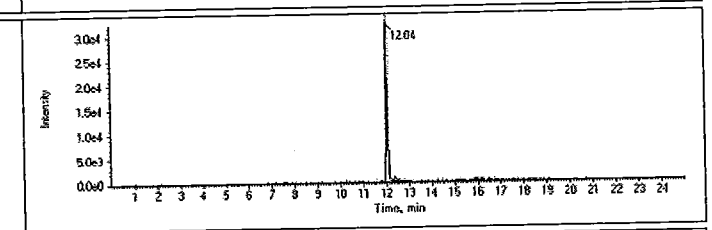
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.021161

Area Ratio: 1.813e-1

Sample Type: (Standard)



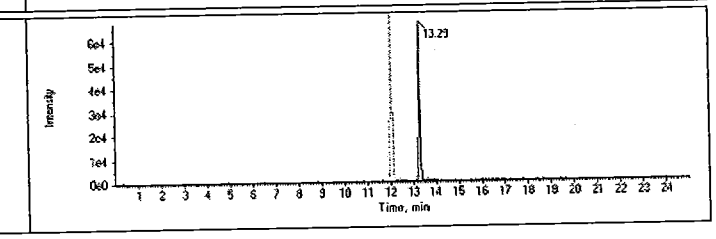
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.021353

Area Ratio: 3.969e-1

Sample Type: (Standard)



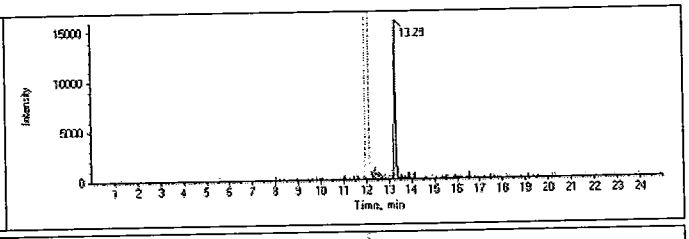
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.019488

Area Ratio: 9.282e-2

Sample Type: (Standard)



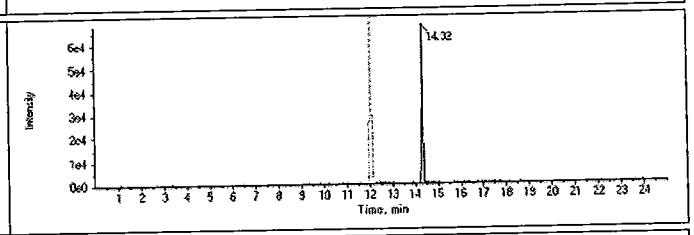
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.021103

Area Ratio: 4.109e-1

Sample Type: (Standard)



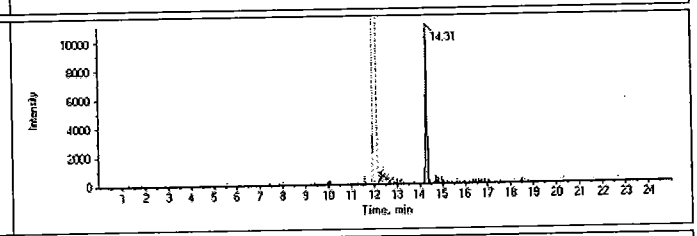
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min

Calculated conc: 0.020354

Area Ratio: 6.793e-2

Sample Type: (Standard)



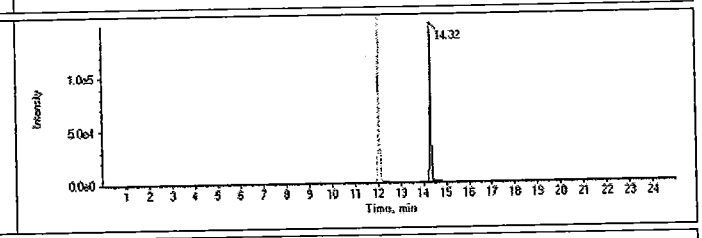
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 99.838667

Area Ratio: 8.463e-1

Sample Type: (Standard)



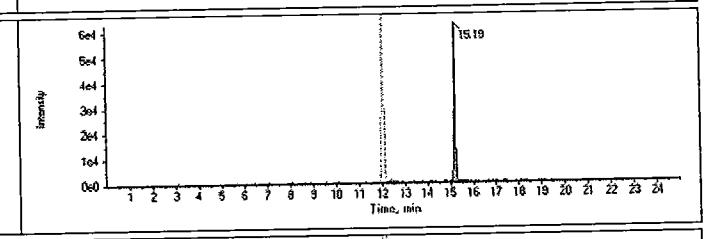
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.020033

Area Ratio: 3.582e-1

Sample Type: (Standard)



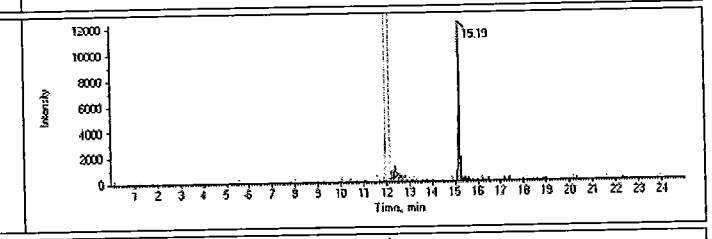
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.021185

Area Ratio: 6.195e-2

Sample Type: (Standard)



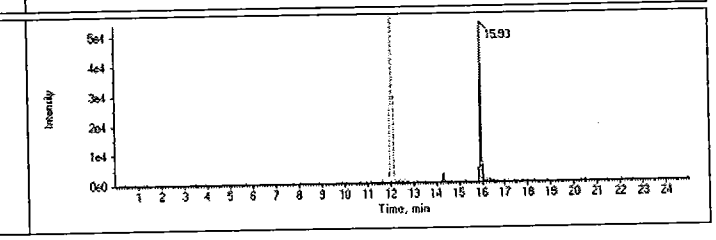
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.020352

Area Ratio: 2.612e-1

Sample Type: (Standard)



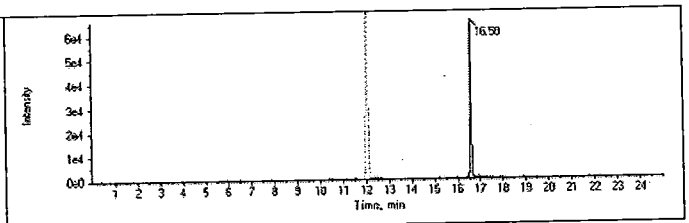
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.020282

Area Ratio: 3.346e-1

Sample Type: (Standard)



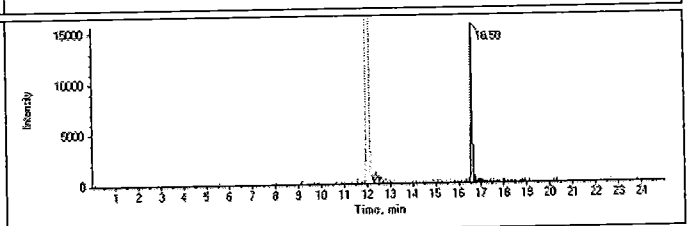
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.022093

Area Ratio: 7.646e-2

Sample Type: (Standard)



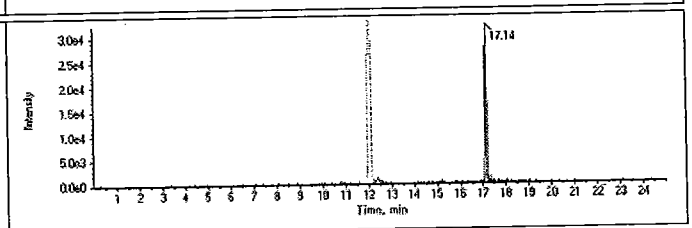
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.020449

Area Ratio: 1.563e-1

Sample Type: (Standard)



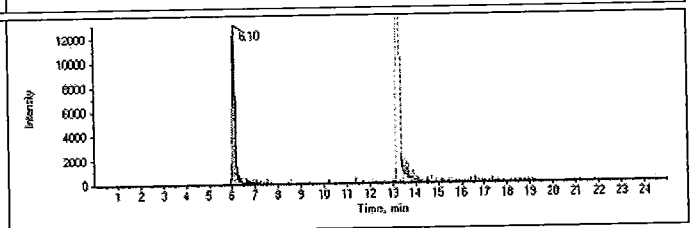
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.018970

Area Ratio: 9.323e-2

Sample Type: (Standard)



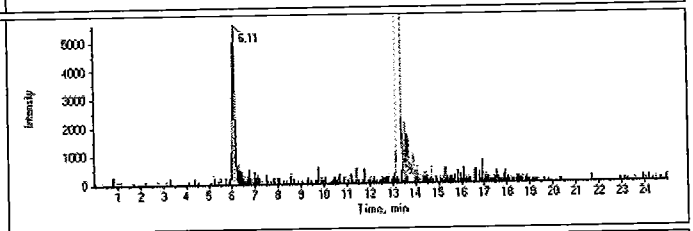
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.018176

Area Ratio: 3.691e-2

Sample Type: (Standard)



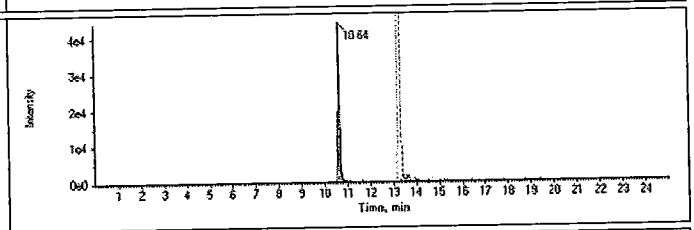
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.020915

Area Ratio: 1.740e-1

Sample Type: (Standard)



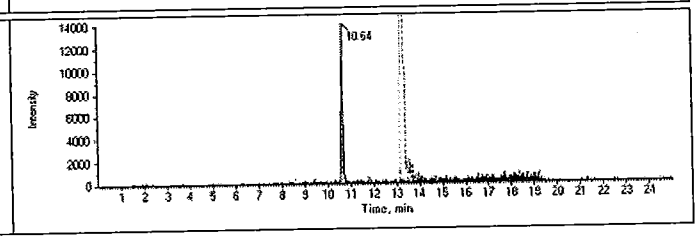
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.019235

Area Ratio: 5.436e-2

Sample Type: (Standard)



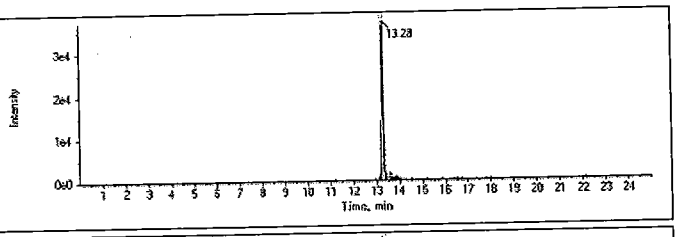
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.018885

Area Ratio: 1.514e-1

Sample Type: (Standard)



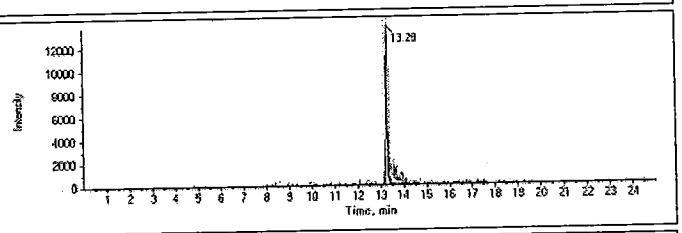
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.020495

Area Ratio: 4.866e-2

Sample Type: (Standard)



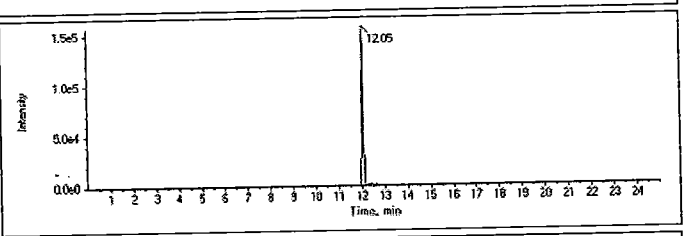
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 98.270071

Area Ratio: N/A

Sample Type: (Standard)



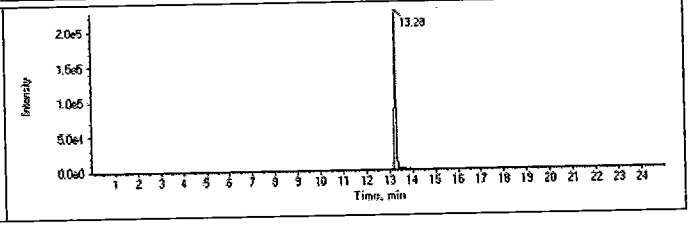
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 97.899691

Area Ratio: N/A

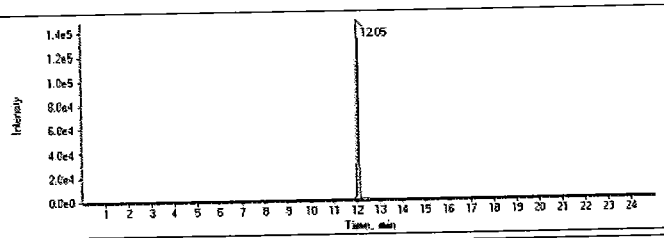
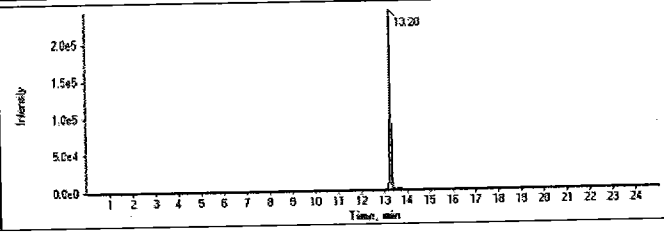
Sample Type: (Standard)



Sample Name	Cal-0.04ppb	**Injection Vial**	6
Sample ID		**Injection Volume**	5.00
Sample Type	Standard	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 10:20:23 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	786821	12.05	100.00000	-
IS-13C-PFOS	1141320	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	3.184e+05	8.42	0.04000	0.041031
Surr-13c-PFHxA	7.886e+05	8.40	100.00000	100.402404
PFHpA	8.608e+05	10.50	0.04000	0.041664
PFHpA 2	2.476e+05	10.50	0.04000	0.043001
PFOA	8.325e+05	12.05	0.04000	0.041272
PFOA 2	2.863e+05	12.05	0.04000	0.042457
PFNA	6.259e+05	13.28	0.04000	0.042792
PFNA 2	1.535e+05	13.28	0.04000	0.040970
PFDA	6.743e+05	14.31	0.04000	0.044019
PFDA 2	1.140e+05	14.31	0.04000	0.043417
Surr-13c-PFDA	6.709e+05	14.31	100.00000	100.586850
PFUnA	5.825e+05	15.19	0.04000	0.041401
PFUnA 2	9.756e+04	15.19	0.04000	0.042397
PFDoA	4.329e+05	15.94	0.04000	0.042874
PFTrDA	5.411e+05	16.58	0.04000	0.041681
PFTrDA 2	1.119e+05	16.58	0.04000	0.041103
PFTA	2.636e+05	17.14	0.04000	0.043843
PFBS	2.032e+05	6.10	0.03550	0.036231
PFBS 2	8.449e+04	6.11	0.03550	0.036457
PFHxS	3.508e+05	10.64	0.03790	0.036935
PFHxS 2	1.201e+05	10.64	0.03790	0.037248
PFOS	3.561e+05	13.28	0.03830	0.038925
PFOS 2	1.042e+05	13.28	0.03830	0.038453
13C-PFOA	7.868e+05	12.05	100.00000	98.353779
13C-PFOS	1.141e+06	13.28	100.00000	101.443652

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Standard)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Standard)	

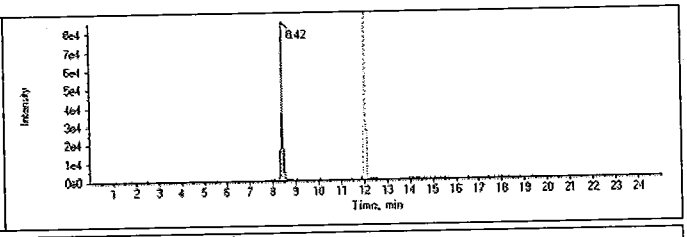
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.42 (8.40) min

Calculated conc: 0.041031

Area Ratio: 4.047e-1

Sample Type: (Standard)



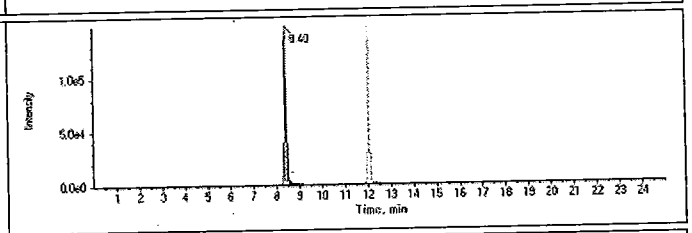
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 100.402404

Area Ratio: 1.002e0

Sample Type: (Standard)



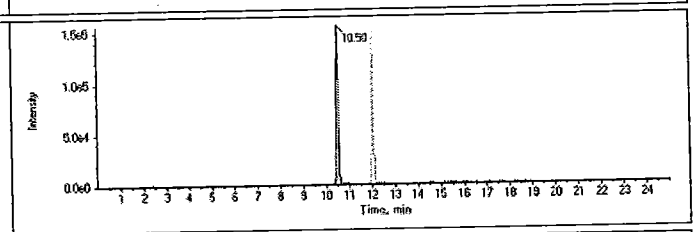
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.041664

Area Ratio: 1.094e0

Sample Type: (Standard)



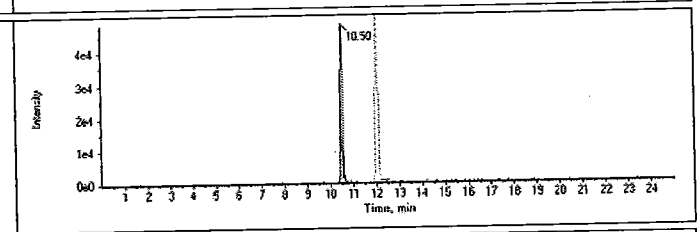
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.043001

Area Ratio: 3.146e-1

Sample Type: (Standard)



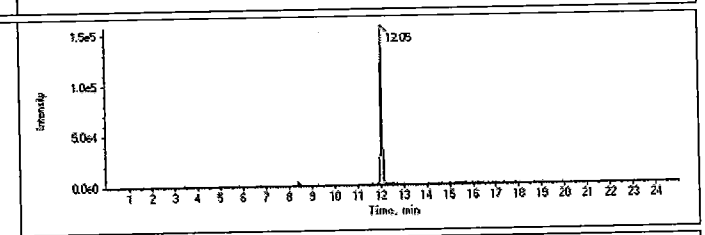
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.041272

Area Ratio: 1.058e0

Sample Type: (Standard)



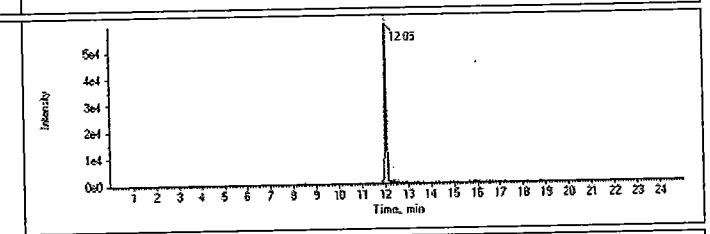
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.042457

Area Ratio: 3.638e-1

Sample Type: (Standard)



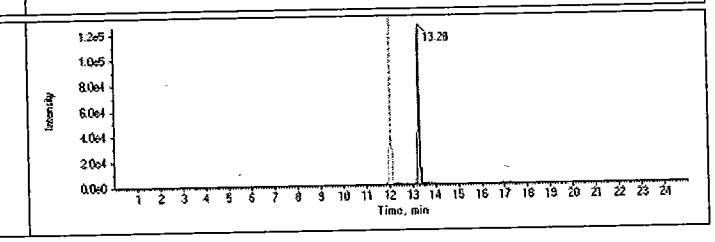
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.042792

Area Ratio: 7.954e-1

Sample Type: (Standard)



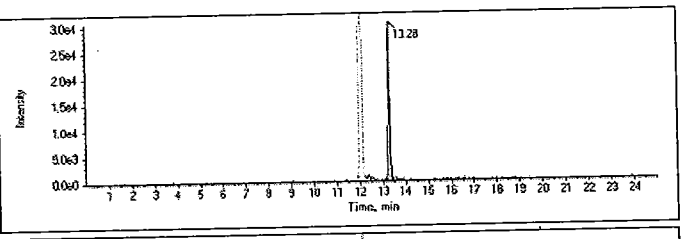
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.040970

Area Ratio: 1.951e-1

Sample Type: (Standard)



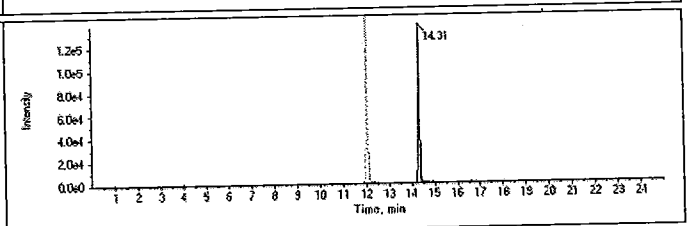
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.044019

Area Ratio: 8.570e-1

Sample Type: (Standard)



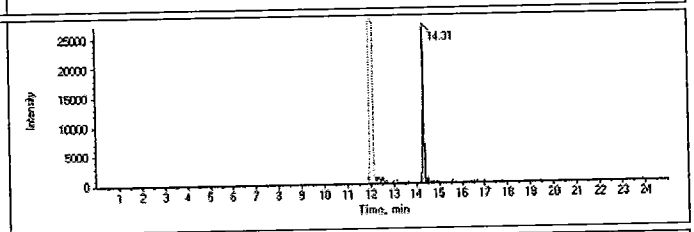
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min

Calculated conc: 0.043417

Area Ratio: 1.449e-1

Sample Type: (Standard)



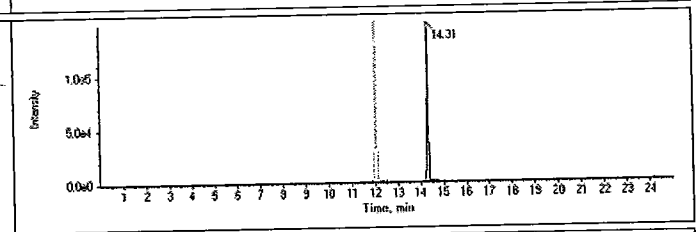
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 100.586850

Area Ratio: 8.527e-1

Sample Type: (Standard)



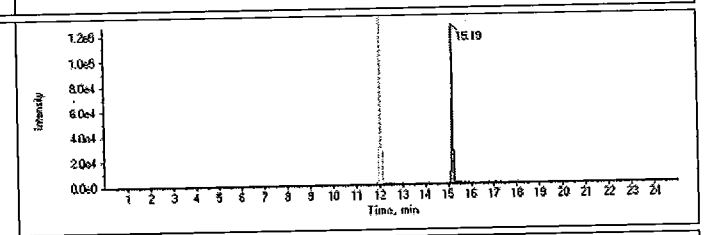
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.041401

Area Ratio: 7.404e-1

Sample Type: (Standard)



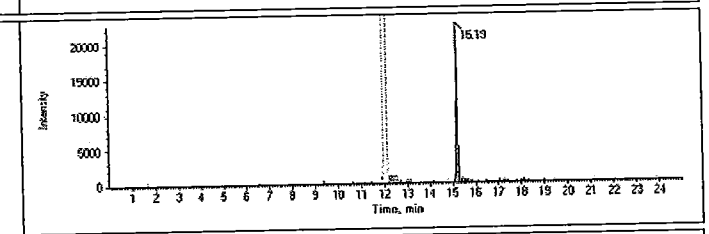
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.042397

Area Ratio: 1.240e-1

Sample Type: (Standard)



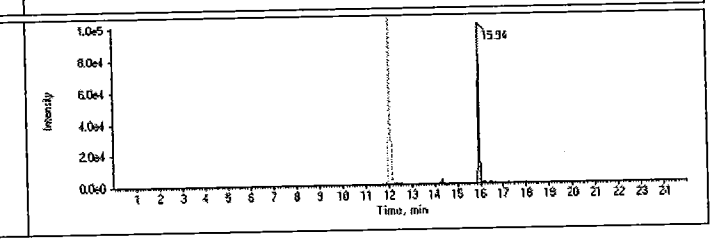
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.94 (15.93) min

Calculated conc: 0.042874

Area Ratio: 5.502e-1

Sample Type: (Standard)



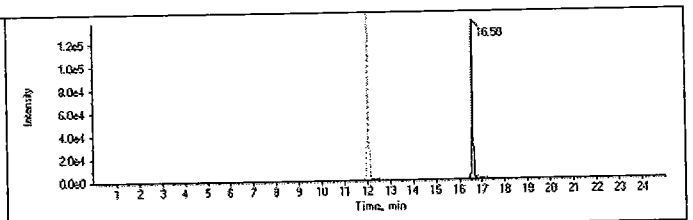
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.041681

Area Ratio: 6.877e-1

Sample Type: (Standard)



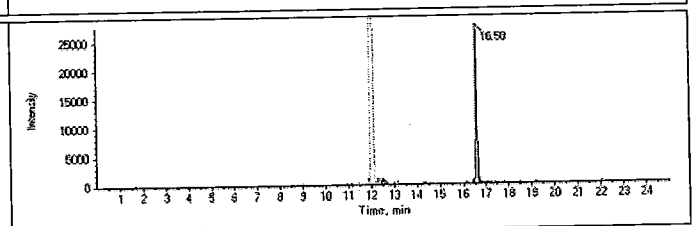
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.041103

Area Ratio: 1.423e-1

Sample Type: (Standard)



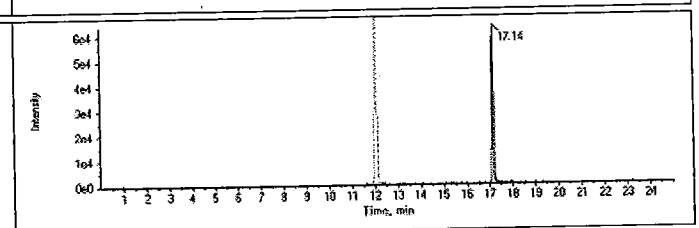
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.043843

Area Ratio: 3.350e-1

Sample Type: (Standard)



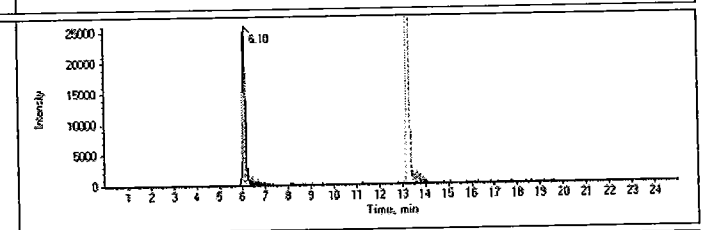
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.036231

Area Ratio: 1.781e-1

Sample Type: (Standard)



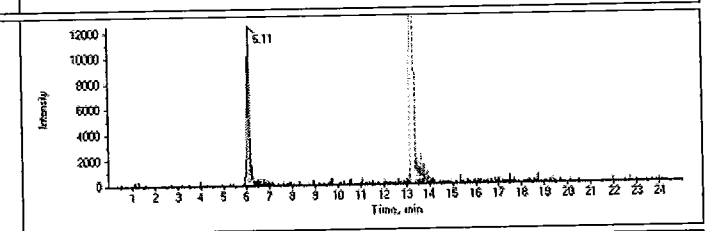
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.036457

Area Ratio: 7.403e-2

Sample Type: (Standard)



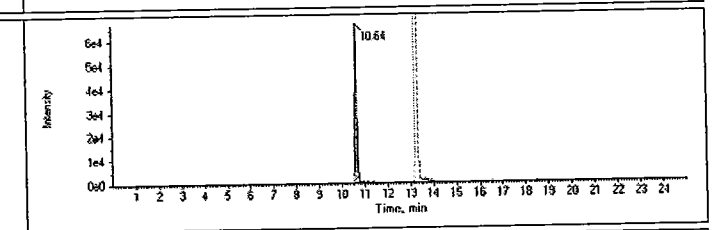
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.036935

Area Ratio: 3.073e-1

Sample Type: (Standard)



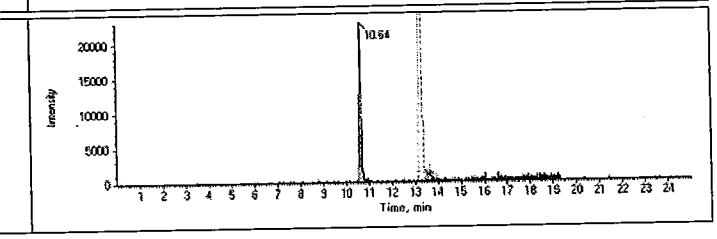
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.037248

Area Ratio: 1.053e-1

Sample Type: (Standard)



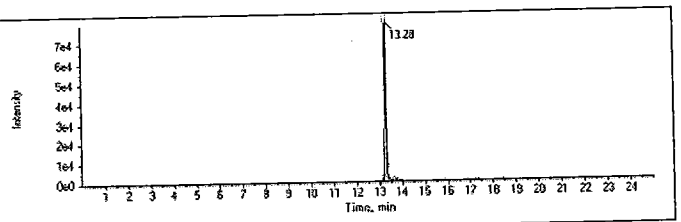
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.038925

Area Ratio: 3.120e-1

Sample Type: (Standard)



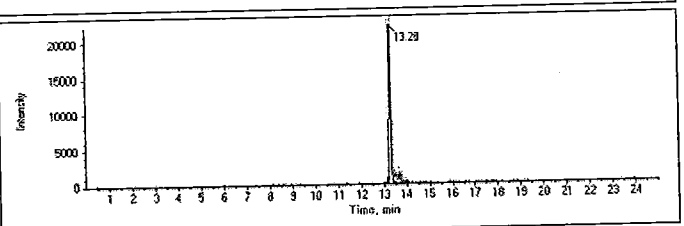
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.038453

Area Ratio: 9.130e-2

Sample Type: (Standard)



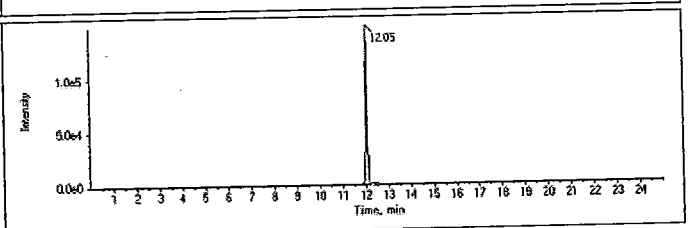
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 98.353779

Area Ratio: N/A

Sample Type: (Standard)



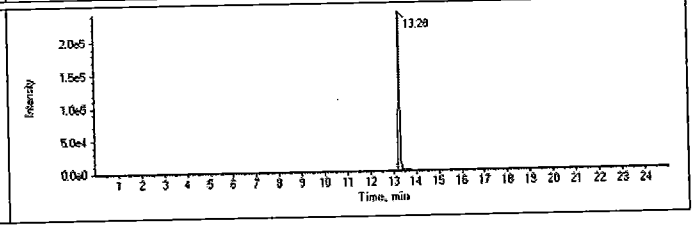
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 101.443652

Area Ratio: N/A

Sample Type: (Standard)



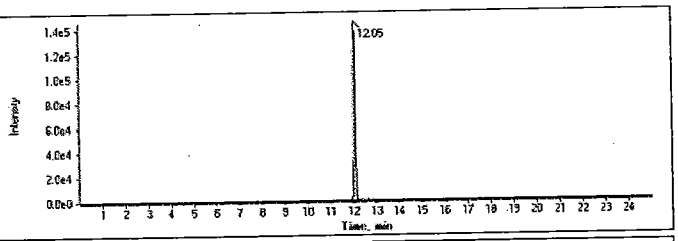
Sample Name	Cal-0.08ppb	**Injection Vial**	7
Sample ID		**Injection Volume**	5.00
Sample Type	Standard	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 10:45:58 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	800100	12.05	100.00000	-
IS-13C-PFOS	1084395	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	6.261e+05	8.41	0.08000	0.079336
Surr-13c-PFHxA	7.802e+05	8.40	100.00000	97.688652
PFHpA	1.658e+06	10.49	0.08000	0.078926
PFHpA 2	4.590e+05	10.49	0.08000	0.078403
PFOA	1.623e+06	12.04	0.08000	0.079121
PFOA 2	5.381e+05	12.04	0.08000	0.078492
PFNA	1.162e+06	13.28	0.08000	0.078141
PFNA 2	3.031e+05	13.29	0.08000	0.079531
PFDA	1.210e+06	14.31	0.08000	0.077707
PFDA 2	2.089e+05	14.31	0.08000	0.078237
Surr-13c-PFDA	6.778e+05	14.31	100.00000	99.938131
PFUnA	1.133e+06	15.19	0.08000	0.079155
PFUnA 2	1.834e+05	15.19	0.08000	0.078391
PFDoA	8.046e+05	15.93	0.08000	0.078366
PFTrDA	1.043e+06	16.58	0.08000	0.078991
PFTrDA 2	2.185e+05	16.58	0.08000	0.078899
PFTA	4.753e+05	17.14	0.08000	0.077747
PFBS	3.754e+05	6.11	0.07100	0.070451
PFBS 2	1.546e+05	6.10	0.07100	0.070226
PFHxS	6.836e+05	10.64	0.07580	0.075765
PFHxS 2	2.334e+05	10.63	0.07580	0.076164
PFOS	6.633e+05	13.28	0.07660	0.076314
PFOS 2	1.965e+05	13.28	0.07660	0.076305
13C-PFOA	8.001e+05	12.05	100.00000	100.013635
13C-PFOS	1.084e+06	13.28	100.00000	96.384049

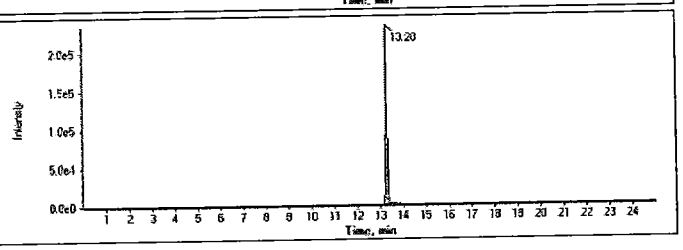
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.05(12.05) min
Concentration: 100.00000
Sample Type: (Standard)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.28(13.28) min
Concentration: 100.00000
Sample Type: (Standard)



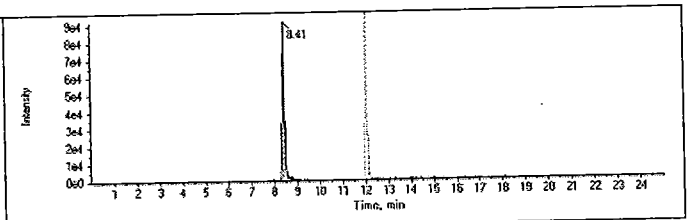
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.079336

Area Ratio: 7.825e-1

Sample Type: (Standard)



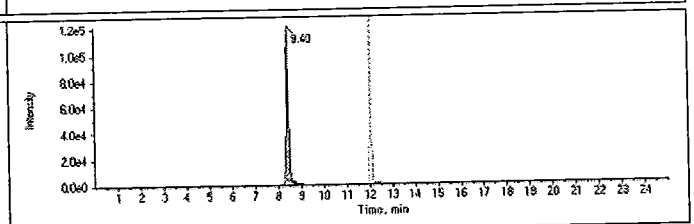
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 97.688652

Area Ratio: 9.752e-1

Sample Type: (Standard)



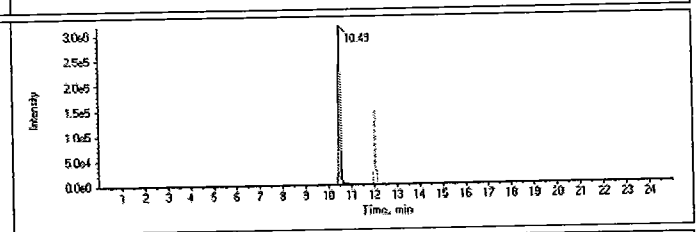
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.078926

Area Ratio: 2.072e0

Sample Type: (Standard)



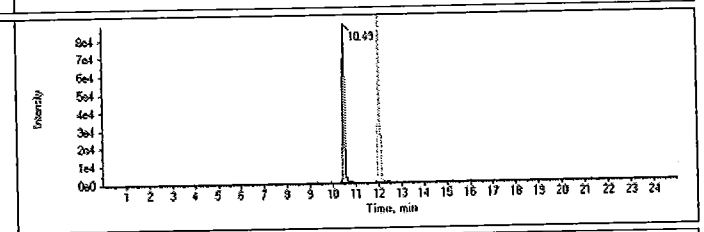
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.078403

Area Ratio: 5.737e-1

Sample Type: (Standard)



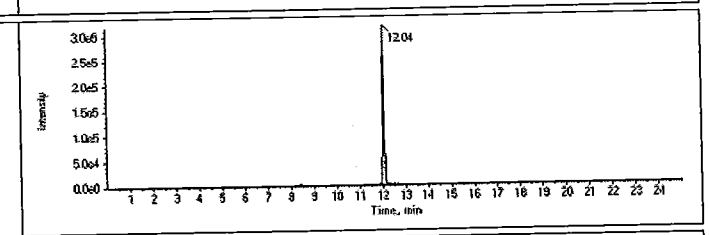
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.079121

Area Ratio: 2.028e0

Sample Type: (Standard)



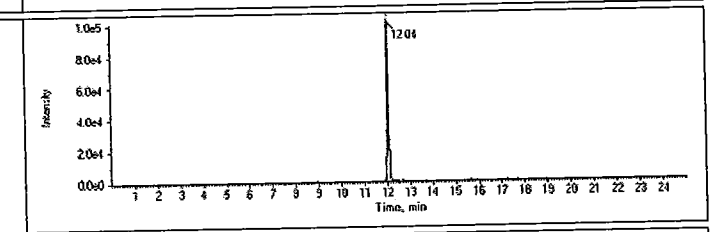
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.078492

Area Ratio: 6.726e-1

Sample Type: (Standard)



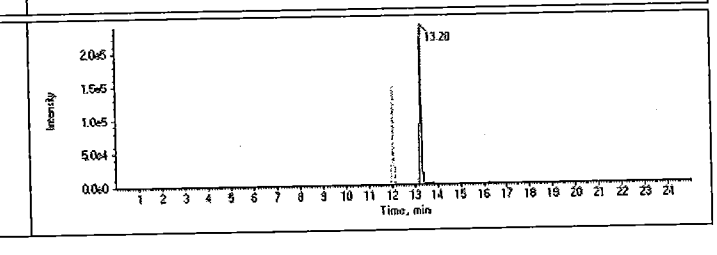
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.078141

Area Ratio: 1.453e0

Sample Type: (Standard)



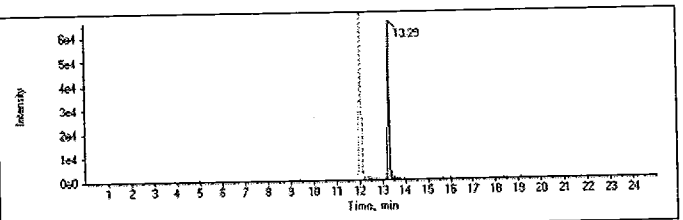
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.079531

Area Ratio: 3.788e-1

Sample Type: (Standard)



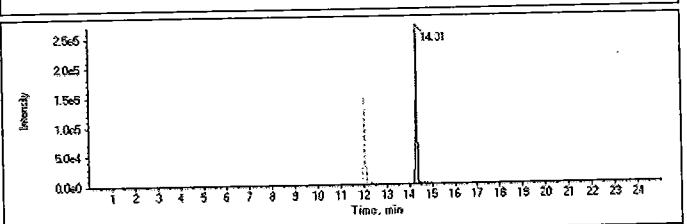
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.077707

Area Ratio: 1.513e0

Sample Type: (Standard)



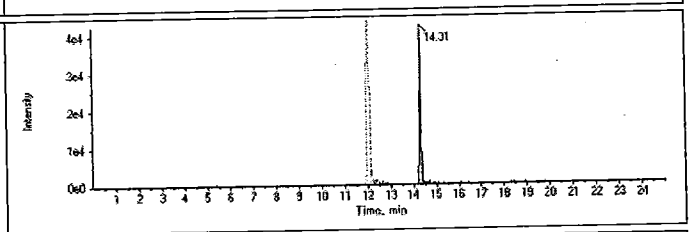
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min

Calculated conc: 0.078237

Area Ratio: 2.611e-1

Sample Type: (Standard)



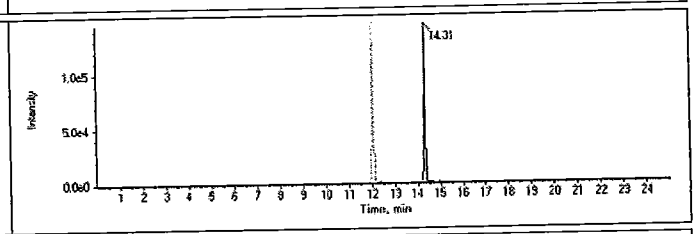
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 99.938131

Area Ratio: 8.472e-1

Sample Type: (Standard)



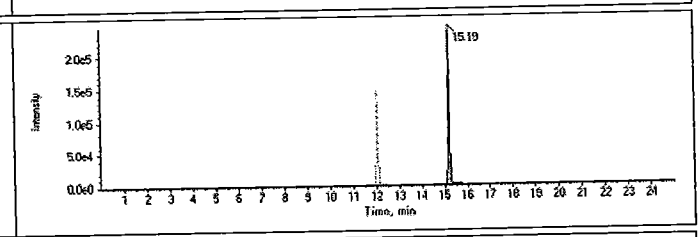
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.079155

Area Ratio: 1.416e0

Sample Type: (Standard)



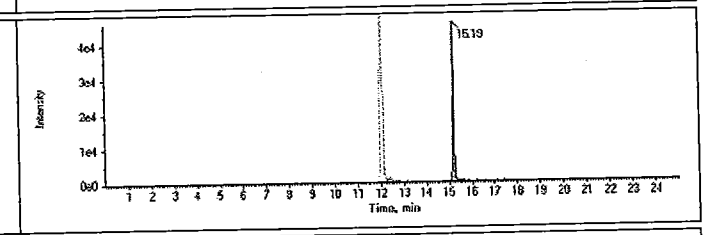
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.078391

Area Ratio: 2.293e-1

Sample Type: (Standard)



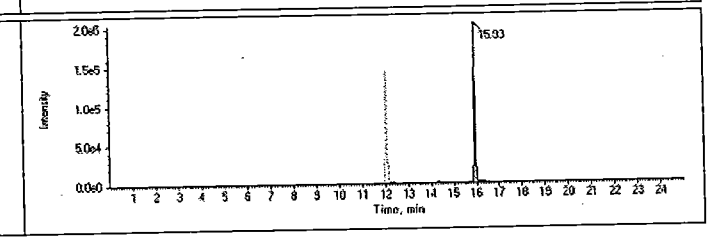
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.078366

Area Ratio: 1.006e0

Sample Type: (Standard)



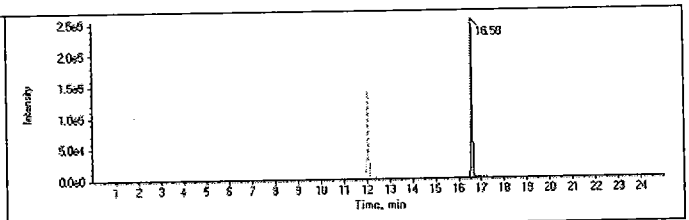
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.078991

Area Ratio: 1.303e0

Sample Type: (Standard)



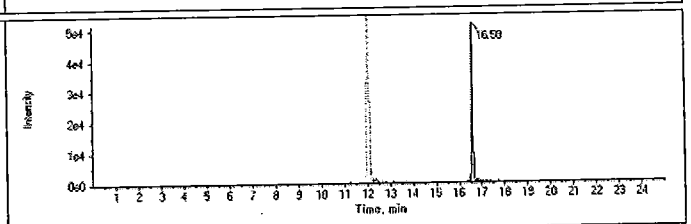
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.078899

Area Ratio: 2.731e-1

Sample Type: (Standard)



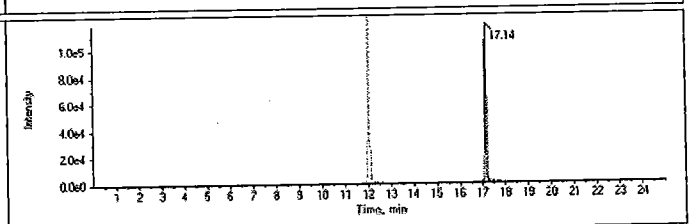
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.077747

Area Ratio: 5.941e-1

Sample Type: (Standard)



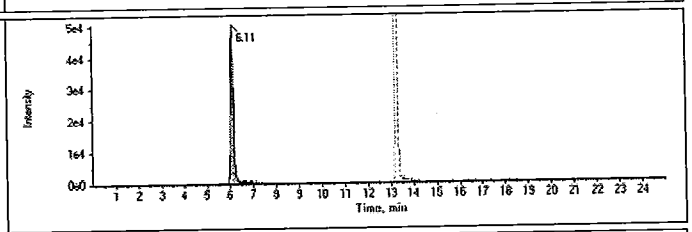
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.070451

Area Ratio: 3.462e-1

Sample Type: (Standard)



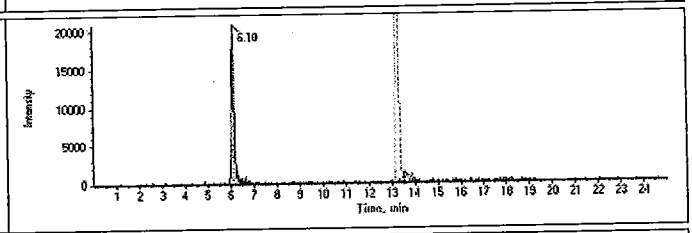
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.070226

Area Ratio: 1.426e-1

Sample Type: (Standard)



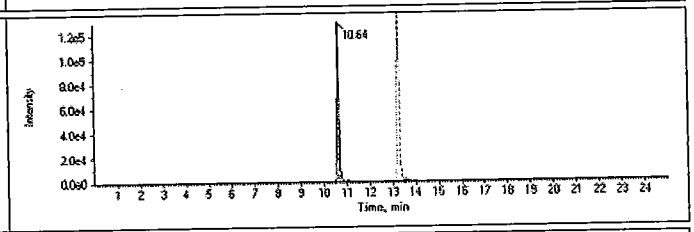
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.075765

Area Ratio: 6.304e-1

Sample Type: (Standard)



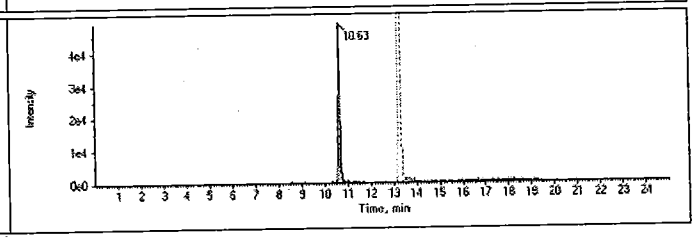
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.076164

Area Ratio: 2.153e-1

Sample Type: (Standard)



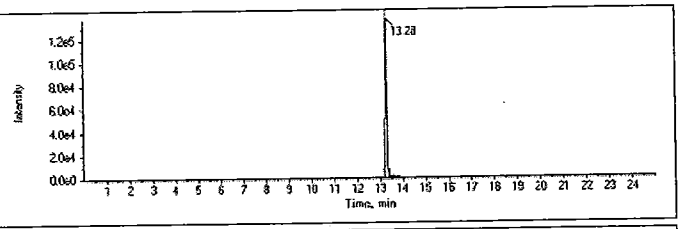
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.076314

Area Ratio: 6.117e-1

Sample Type: (Standard)



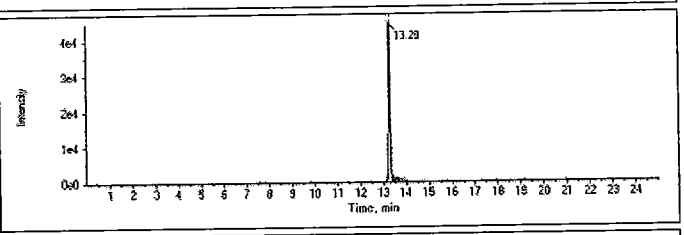
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.076305

Area Ratio: 1.812e-1

Sample Type: (Standard)



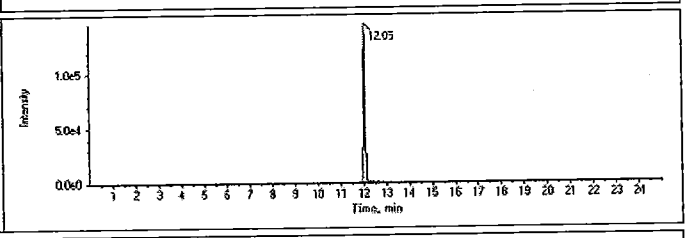
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 100.013635

Area Ratio: N/A

Sample Type: (Standard)



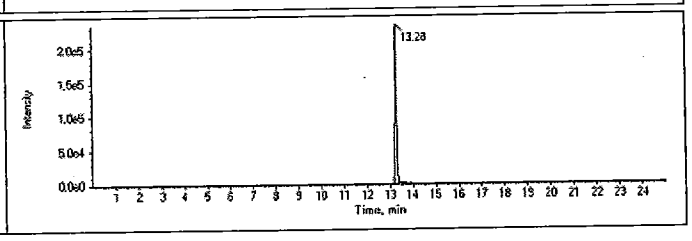
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 96.384049

Area Ratio: N/A

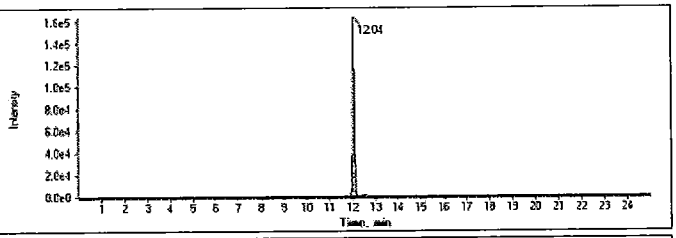
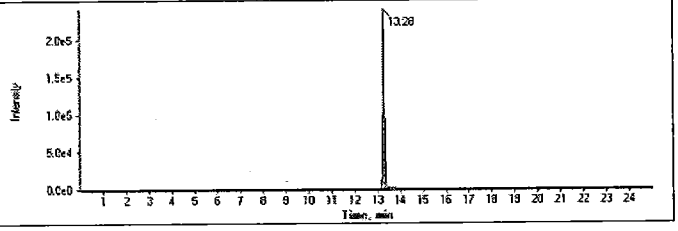
Sample Type: (Standard)



Sample Name	CCCL	**Injection Vial**	2
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 11:11:34 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	817987	12.04	100.00000	-
IS-13C-PFOS	1144614	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	2.070e+04	8.40	0.00250	0.002565
Surr-13c-PFHxA	8.362e+05	8.41	100.00000	102.410638
PFHpA	5.562e+04	10.49	0.00250	0.002589
PFHpA 2	1.785e+04	10.49	0.00250	0.002983
PFOA	5.723e+04	12.05	0.00250	0.002729
PFOA 2	1.839e+04	12.05	0.00250	0.002624
PFNA	4.100e+04	13.28	0.00250	0.002696
PFNA 2	1.152e+04	13.28	0.00250	0.002958
PFDA	4.742e+04	14.32	0.00250	0.002978
PFDA 2	5.860e+03	14.31	0.00250	0.002147
Surr-13c-PFDA	6.697e+05	14.31	100.00000	96.581734
PFUnA	4.105e+04	15.19	0.00250	0.002806
PFUnA 2	7.307e+03	15.19	0.00250	0.003054
PFDoA	2.869e+04	15.93	0.00250	0.002733
PFTrDA	3.678e+04	16.57	0.00250	0.002725
PFTrDA 2	7.158e+03	16.56	0.00250	0.002528
PFTA	2.050e+04	17.13	0.00250	0.003279
PFBS	1.417e+04	6.11	0.00222	0.002519
PFBS 2	5.786e+03	6.11	0.00222	0.002490
PFHxS	2.192e+04	10.64	0.00237	0.002301
PFHxS 2	7.307e+03	10.63	0.00237	0.002259
PFOS	2.246e+04	13.28	0.00240	0.002448
PFOS 2	5.443e+03	13.27	0.00240	0.002003
13C-PFOA	8.180e+05	12.04	100.00000	102.249528
13C-PFOS	1.145e+06	13.28	100.00000	101.736476

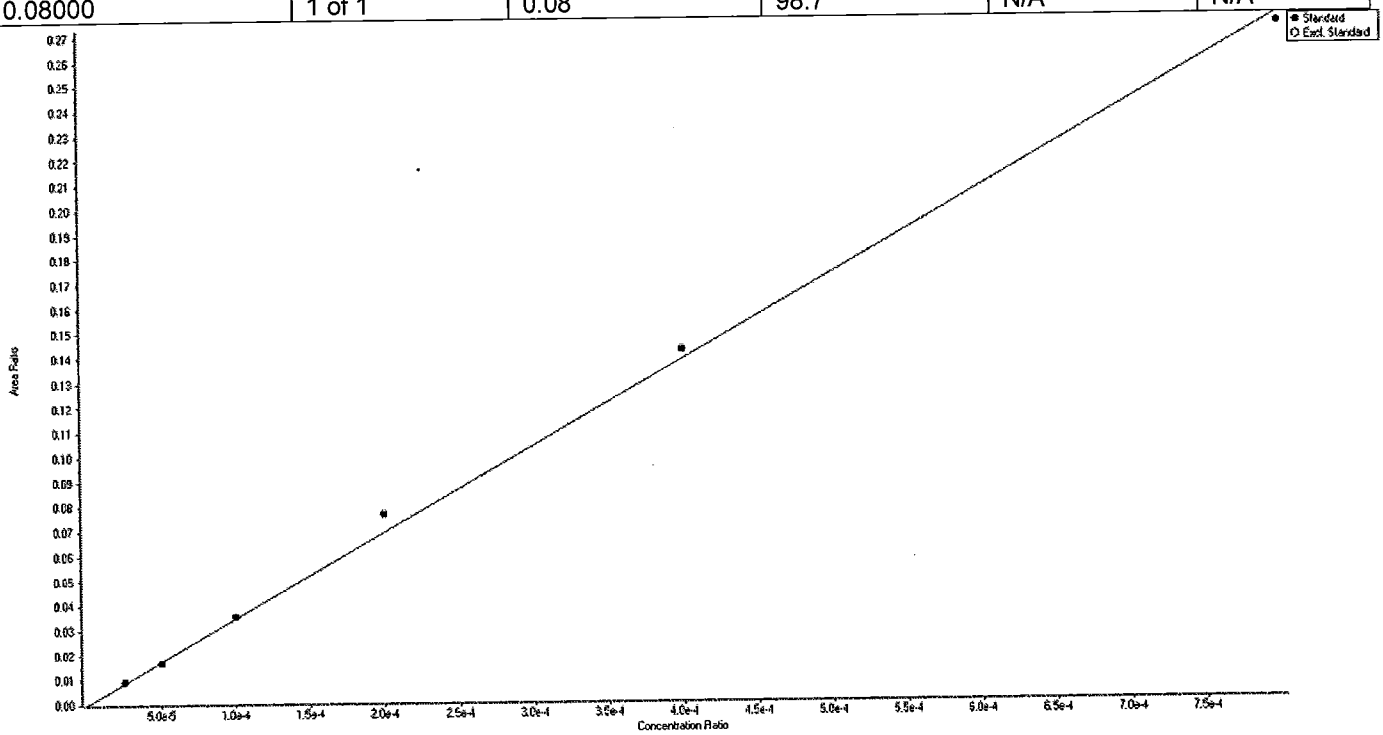
IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

Analyte Name: PFTrDA 2
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 346.09482 x (r = 0.99940) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00500	1 of 1	0.01	107.5	N/A	N/A
0.01000	1 of 1	0.01	105.6	N/A	N/A
0.02000	1 of 1	0.02	101.4	N/A	N/A
0.04000	1 of 1	0.04	104.2	N/A	N/A
0.08000	1 of 1	0.08	98.7	N/A	N/A

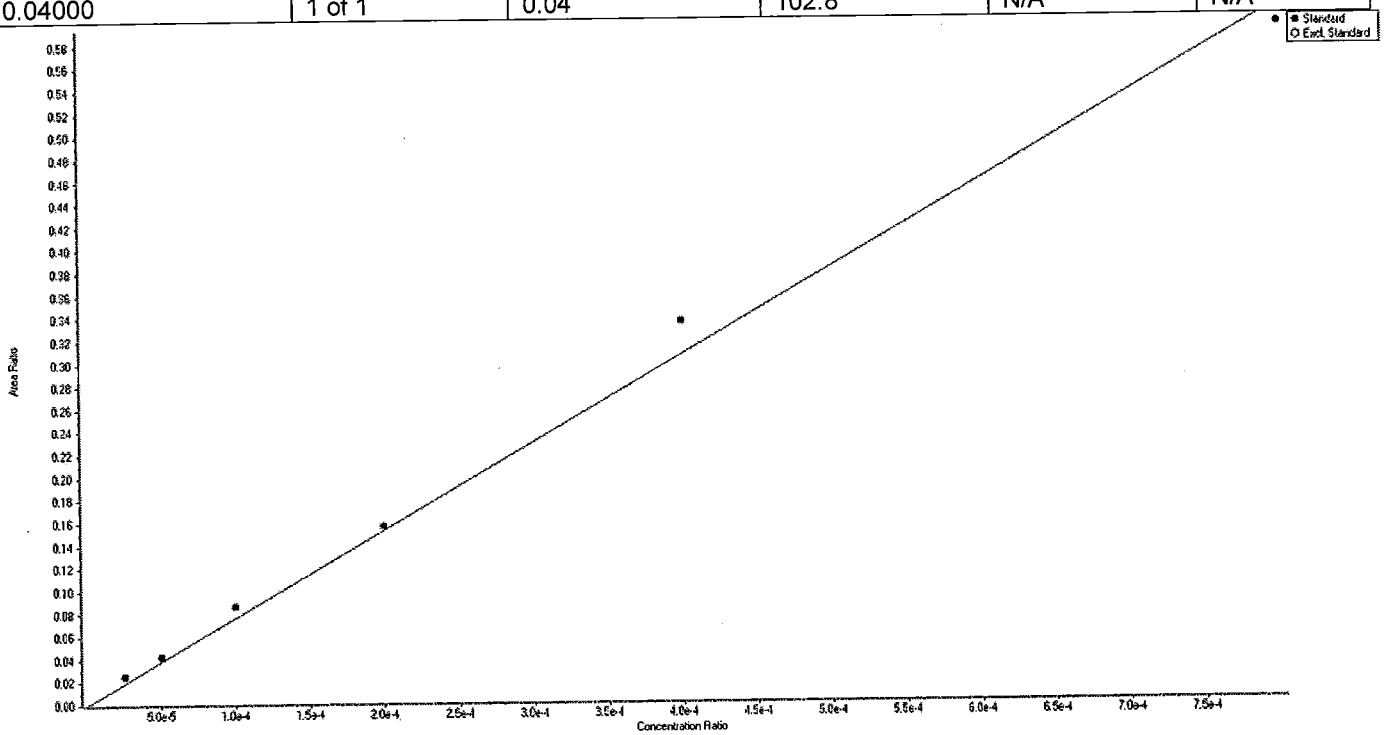


Analyte Name: PFTA
Internal Standard: IS-13C-PFOA

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 764.12538 x (r = 0.99814) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00250	1 of 1	0.00	105.8	N/A	N/A
0.00500	1 of 1	0.00	97.3	N/A	N/A
0.01000	1 of 1	0.01	102.4	N/A	N/A
0.02000	1 of 1	0.02	110.5	N/A	N/A
0.04000	1 of 1	0.04	102.8	N/A	N/A

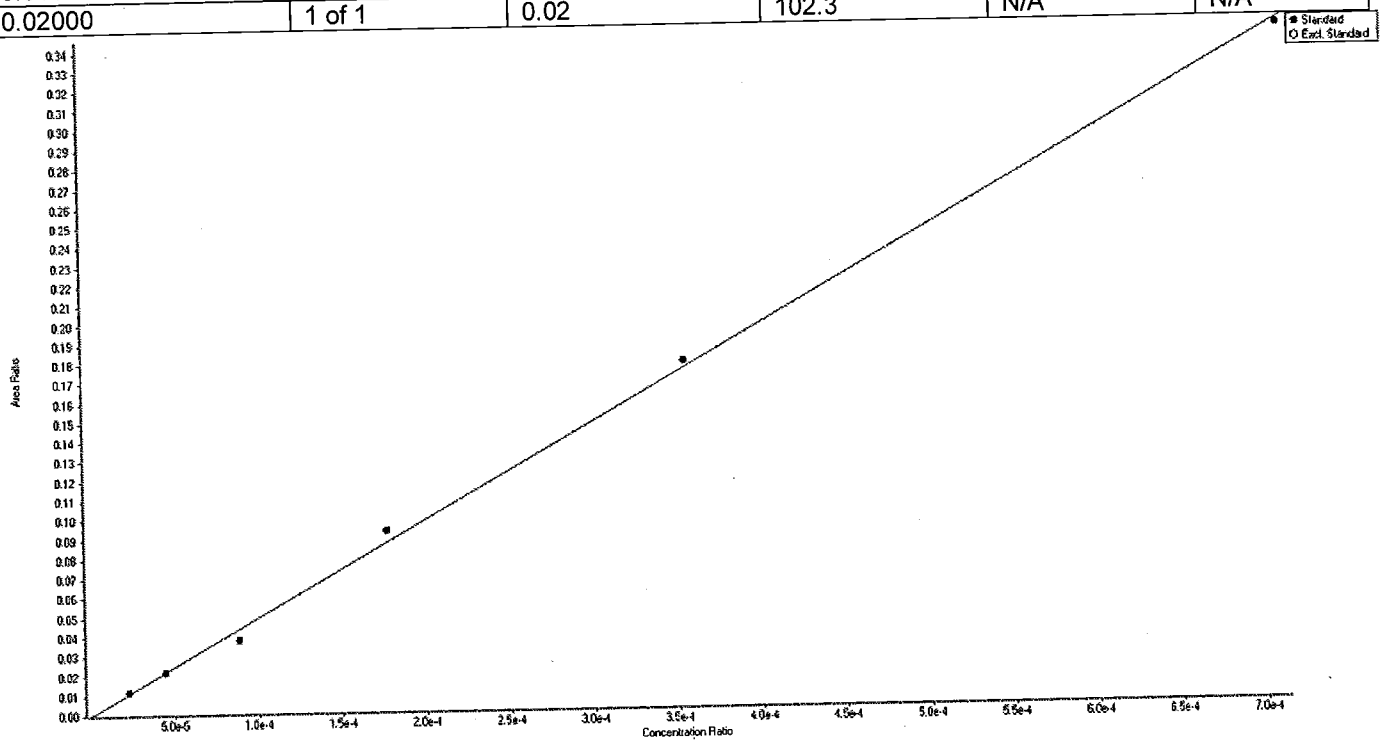


Analyte Name: PFBS
Internal Standard: IS-13C-PFOS

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 491.43625 x (r = 0.99947) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.08000	1 of 1	0.08	98.6	N/A	N/A
0.00250	1 of 1	0.00	133.8	N/A	N/A
0.00500	1 of 1	0.01	111.2	N/A	N/A
0.01000	1 of 1	0.01	112.6	N/A	N/A
0.02000	1 of 1	0.02	102.3	N/A	N/A

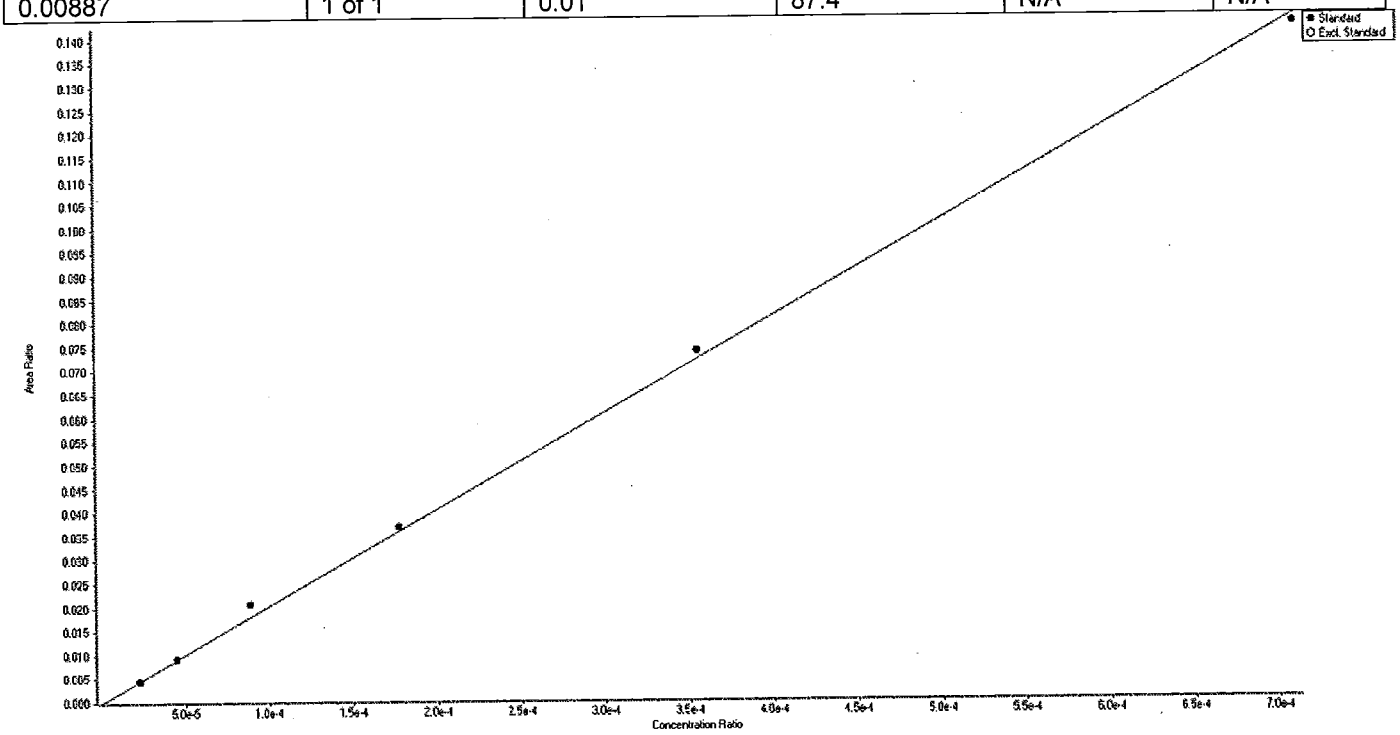


Analyte Name: PFBS 2
Internal Standard: IS-13C-PFOS

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 203.05560 x (r = 0.99968) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.04000	1 of 1	0.04	109.6	N/A	N/A
0.08000	1 of 1	0.08	97.2	N/A	N/A
0.00222	1 of 1	0.00	107.1	N/A	N/A
0.00443	1 of 1	0.00	100.7	N/A	N/A
0.00887	1 of 1	0.01	87.4	N/A	N/A

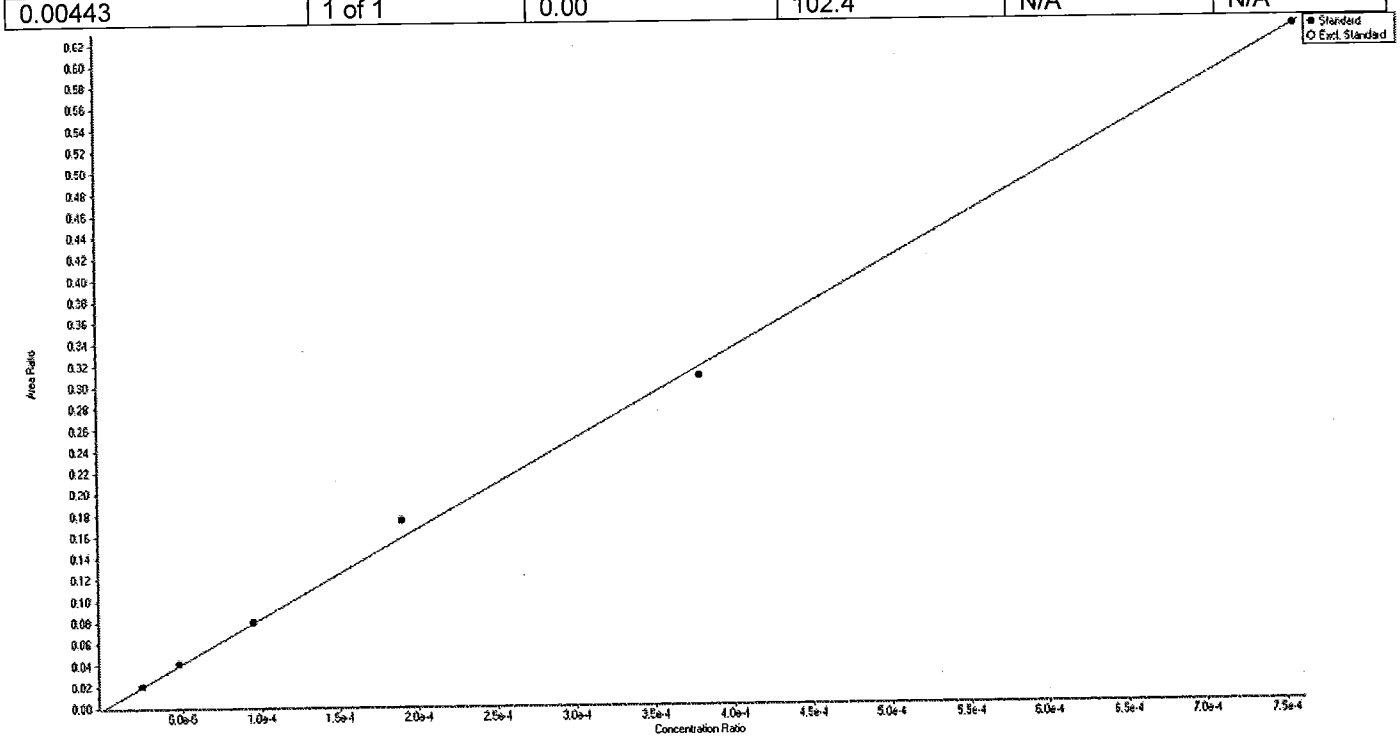


Analyte Name: PFHxS
Internal Standard: IS-13C-PFOS

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 832.06110 x (r = 0.99948) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.01770	1 of 1	0.02	107.2	N/A	N/A
0.03550	1 of 1	0.04	102.1	N/A	N/A
0.07100	1 of 1	0.07	99.2	N/A	N/A
0.00222	1 of 1	0.00	99.6	N/A	N/A
0.00443	1 of 1	0.00	102.4	N/A	N/A

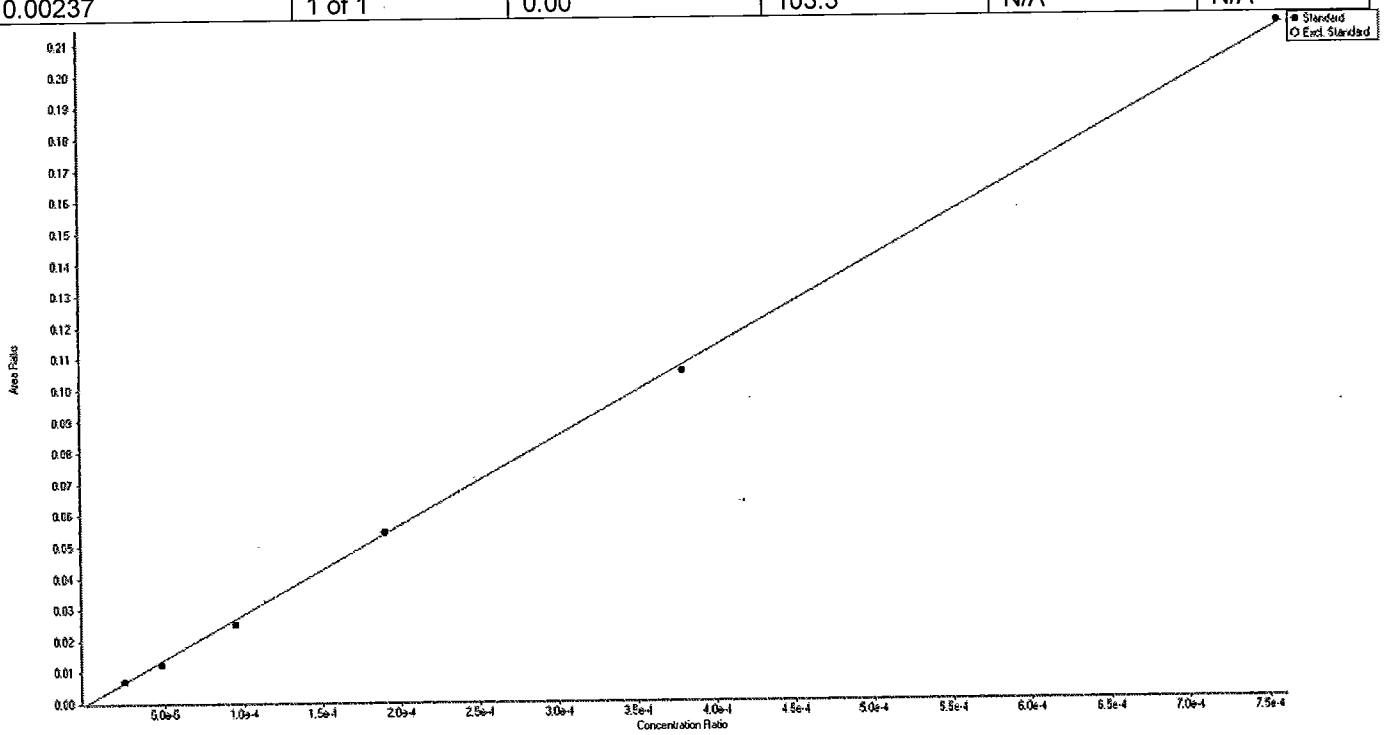


Analyte Name: PFHxS 2
Internal Standard: IS-13C-PFOS

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 282.61629 x (r = 0.99989) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00887	1 of 1	0.01	115.4	N/A	N/A
0.01770	1 of 1	0.02	102.7	N/A	N/A
0.03550	1 of 1	0.04	102.7	N/A	N/A
0.07100	1 of 1	0.07	98.9	N/A	N/A
0.00237	1 of 1	0.00	103.3	N/A	N/A

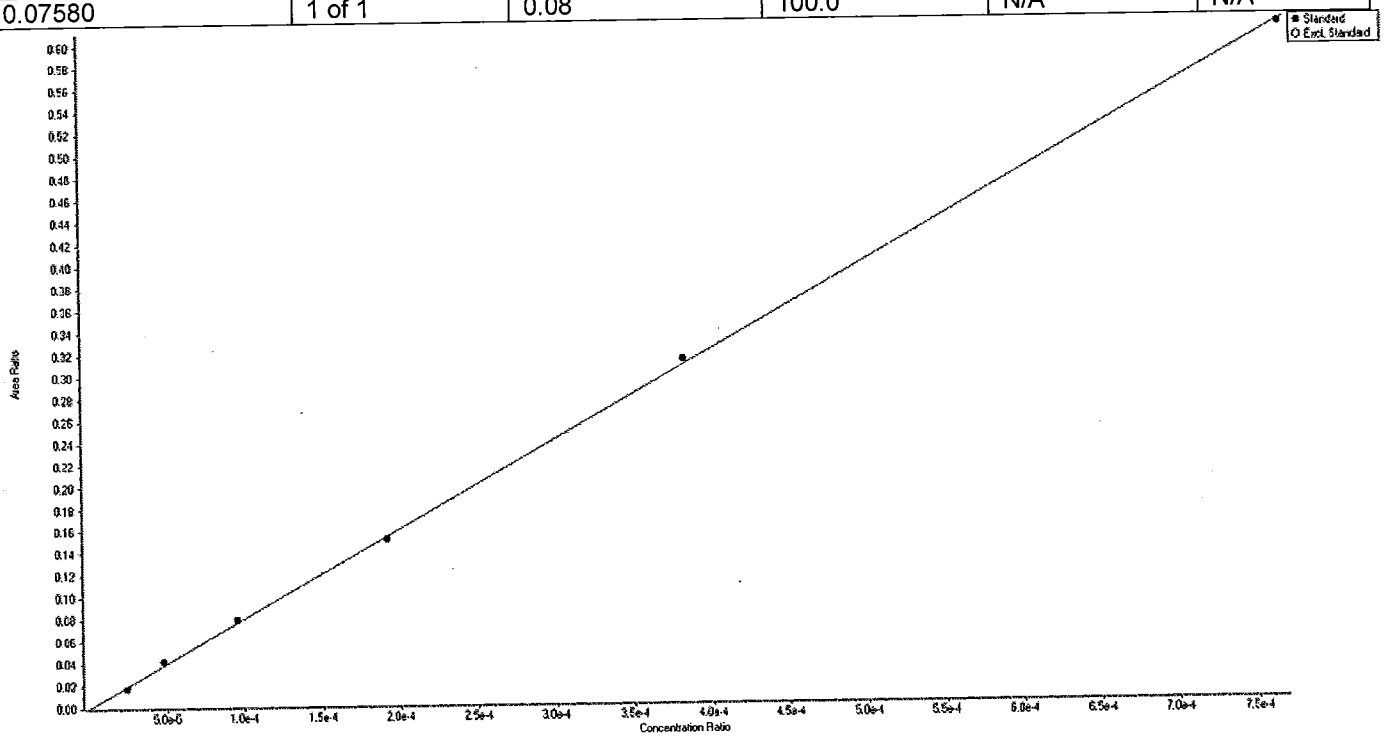


Analyte Name: PFOS
Internal Standard: IS-13C-PFOS

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 801.57187 x (r = 0.99990) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00474	1 of 1	0.00	104.6	N/A	N/A
0.00948	1 of 1	0.01	101.8	N/A	N/A
0.01900	1 of 1	0.02	110.1	N/A	N/A
0.03790	1 of 1	0.04	97.5	N/A	N/A
0.07580	1 of 1	0.08	100.0	N/A	N/A

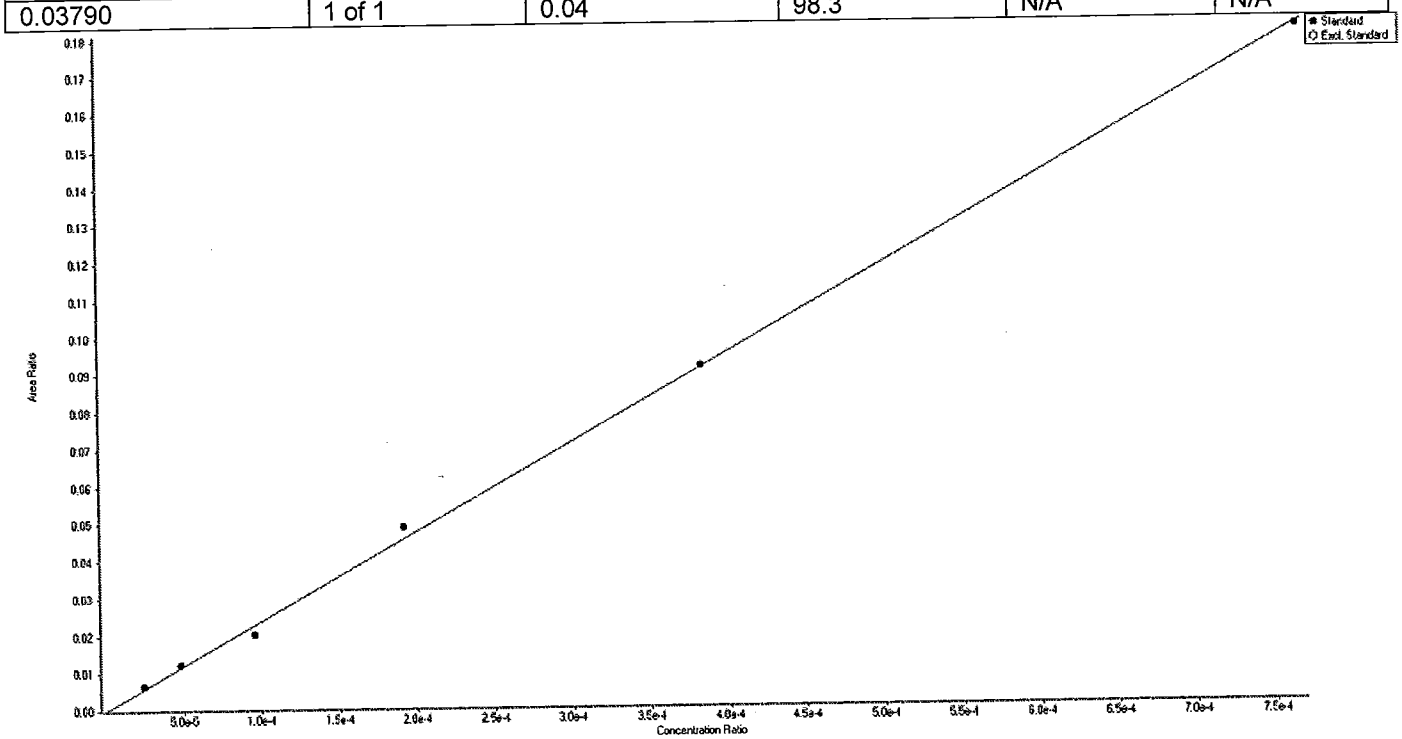


Analyte Name: PFOS 2
Internal Standard: IS-13C-PFOS

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 237.43521 x (r = 0.99963) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.00237	1 of 1	0.00	105.6	N/A	N/A
0.00474	1 of 1	0.00	92.6	N/A	N/A
0.00948	1 of 1	0.01	93.3	N/A	N/A
0.01900	1 of 1	0.02	101.2	N/A	N/A
0.03790	1 of 1	0.04	98.3	N/A	N/A

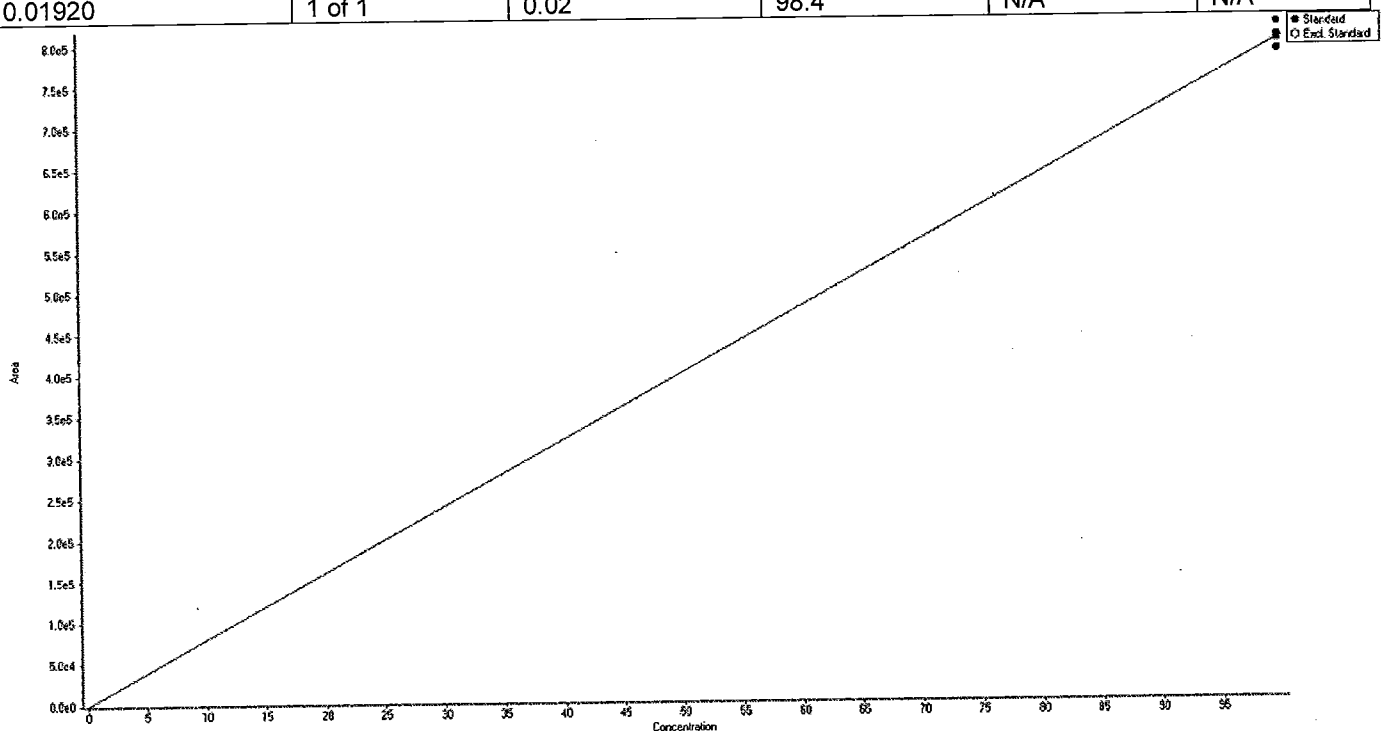


Analyte Name: 13C-PFOA
Internal Standard: N/A

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 7999.91075 x (std. dev. = 124.09105) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.07580	1 of 1	0.08	100.5	N/A	N/A
0.00240	1 of 1	0.00	91.6	N/A	N/A
0.00479	1 of 1	0.01	108.4	N/A	N/A
0.00958	1 of 1	0.01	102.8	N/A	N/A
0.01920	1 of 1	0.02	98.4	N/A	N/A

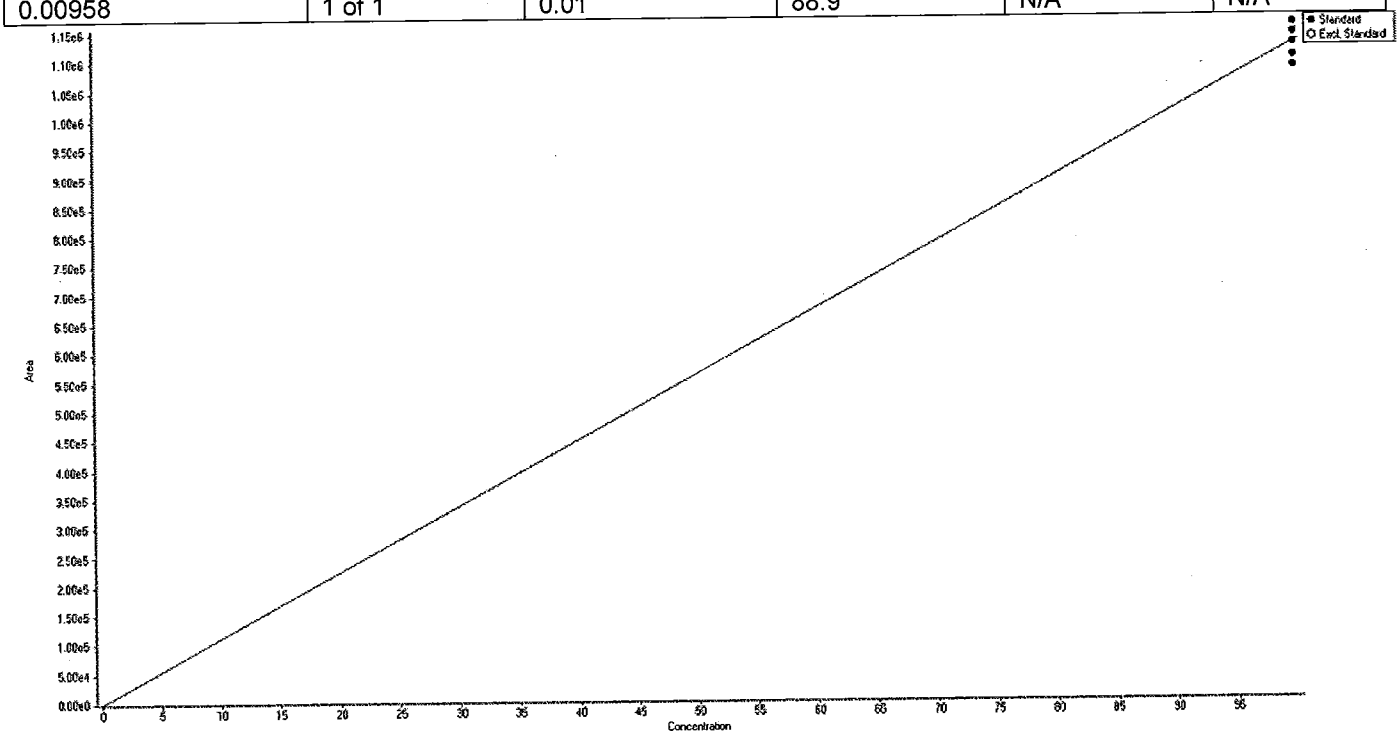


Analyte Name: 13C-PFOS
Internal Standard: N/A

Data File	@537-Batch#765596-050614-5uL.wiff	**Result Table**	@537-Batch#765596-050614
Acquisition Date	5/6/2014 8:12:27 PM	**Algorithm Used**	MQ4
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Instrument Name**	API 4000
Project	EPA537\2014_05_06		

Regression Equation: y = 11250.77400 x (std. dev. = 277.71809) (weighting: None)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.03830	1 of 1	0.04	101.6	N/A	N/A
0.07660	1 of 1	0.08	99.6	N/A	N/A
0.00240	1 of 1	0.00	112.2	N/A	N/A
0.00479	1 of 1	0.01	105.9	N/A	N/A
0.00958	1 of 1	0.01	88.9	N/A	N/A



LHZ 05/07/14

AB SCIEX

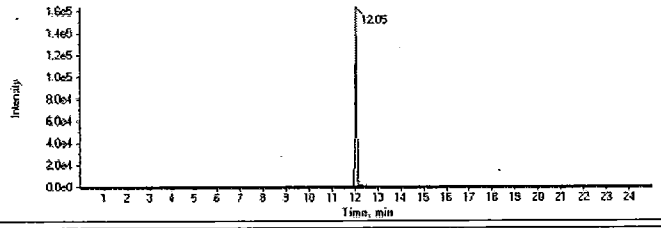
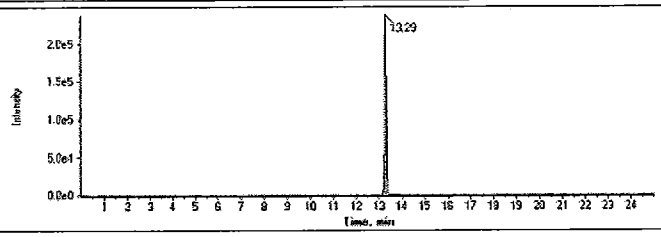
Created with Analyst Reporter
Printed: 07/05/2014 3:32:30 PM

Report File: @537-Batch#765596-050614-SampleReport1.pdf

Sample Name	Cal-0ppb	**Injection Vial**	1
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 8:12:27 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	795414	12.05	100.00000	-
IS-13C-PFOS	1156533	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	9.800e+01	8.39	0.00000	0.000013
Surr-13c-PFHxA	8.372e+05	8.41	100.00000	105.444528
PFHpA	6.860e+02	10.50	0.00000	0.000033
PFHpA 2	9.800e+01	10.22	0.00000	0.000017
PFOA	3.930e+02	12.06	0.00000	0.000019
PFOA 2	1.960e+02	12.01	0.00000	0.000029
PFNA	7.850e+02	13.31	0.00000	0.000053
PFNA 2	N/A	N/A	0.00000	N/A
PFDA	3.920e+02	14.34	0.00000	0.000025
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	6.974e+05	14.33	100.00000	103.435316
PFUnA	9.800e+02	15.19	0.00000	0.000069
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	1.960e+02	15.92	0.00000	0.000019
PFTrDA	9.800e+01	16.58	0.00000	0.000007
PFTrDA 2	9.800e+01	16.61	0.00000	0.000036
PFTA	3.430e+02	17.16	0.00000	0.000056
PFBS	9.800e+01	6.12	0.00000	0.000017
PFBS 2	1.960e+02	6.06	0.00000	0.000084
PFHxS	1.470e+02	10.67	0.00000	0.000015
PFHxS 2	9.800e+01	10.63	0.00000	0.000030
PFOS	2.450e+02	13.26	0.00000	0.000026
PFOS 2	9.800e+01	13.23	0.00000	0.000036
13C-PFOA	7.954e+05	12.05	100.00000	99.427853
13C-PFOS	1.157e+06	13.29	100.00000	102.795830

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

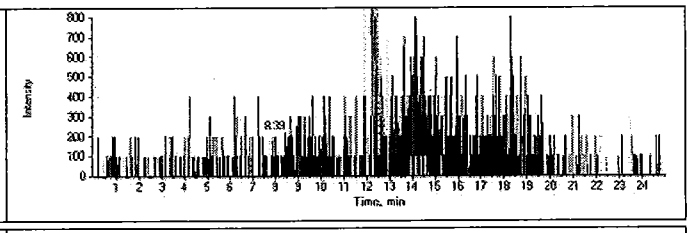
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.000013

Area Ratio: 1.233e-4

Sample Type: (Quality Control)



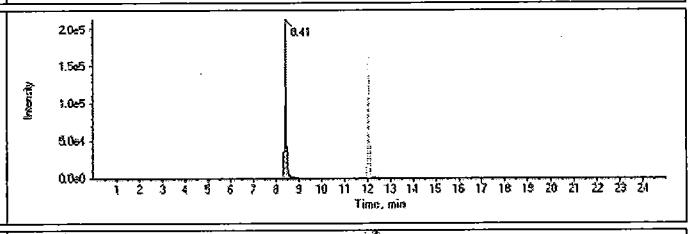
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 105.444528

Area Ratio: 1.053e0

Sample Type: (Quality Control)



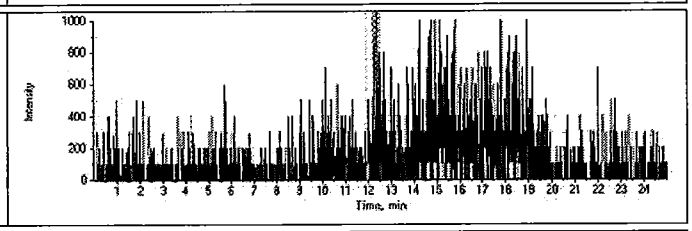
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.000033

Area Ratio: 8.631e-4

Sample Type: (Quality Control)



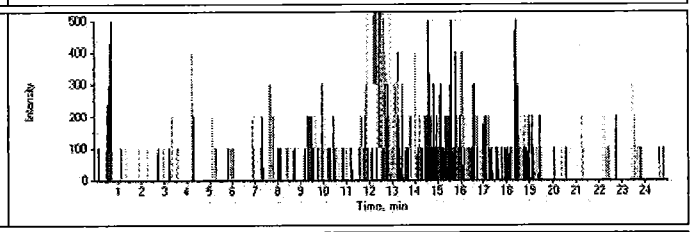
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.22 (10.50) min

Calculated conc: 0.000017

Area Ratio: 1.233e-4

Sample Type: (Quality Control)



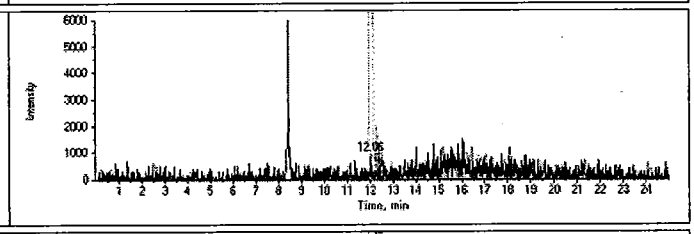
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 0.000019

Area Ratio: 4.935e-4

Sample Type: (Quality Control)



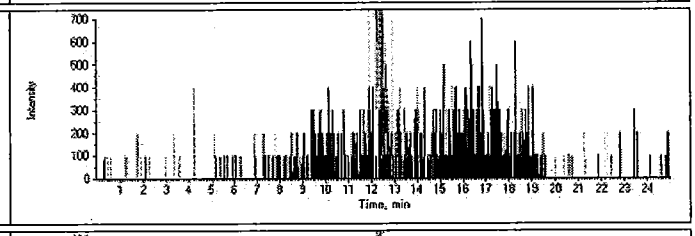
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.01 (12.04) min

Calculated conc: 0.000029

Area Ratio: 2.465e-4

Sample Type: (Quality Control)



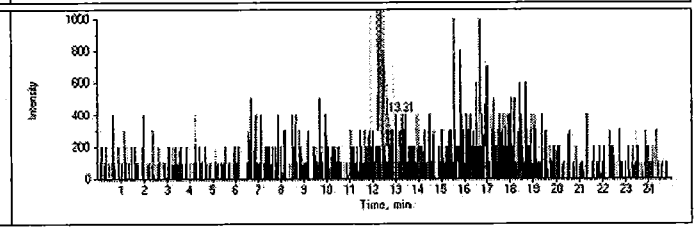
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.31 (13.29) min

Calculated conc: 0.000053

Area Ratio: 9.863e-4

Sample Type: (Quality Control)



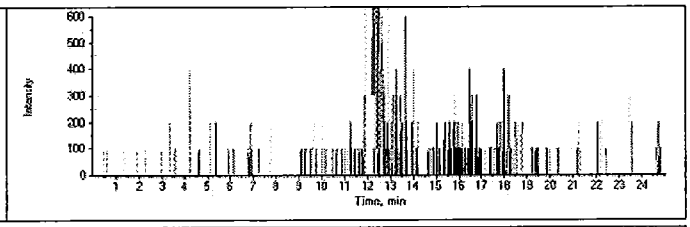
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): N/A (13.29) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



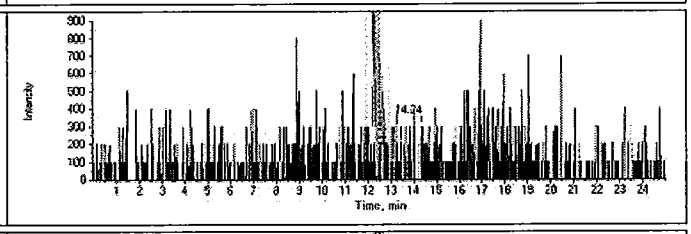
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.34 (14.32) min

Calculated conc: 0.000025

Area Ratio: 4.931e-4

Sample Type: (Quality Control)



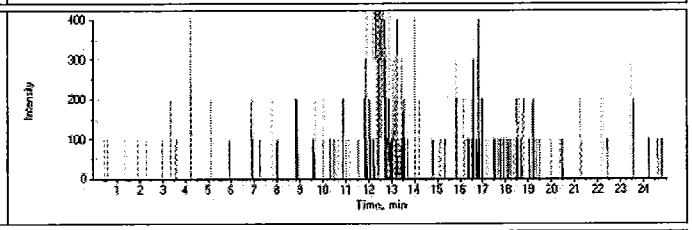
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



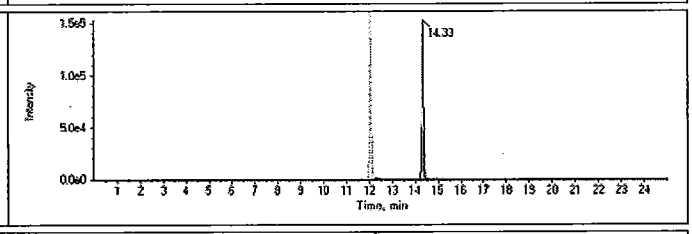
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 103.435316

Area Ratio: 8.768e-1

Sample Type: (Quality Control)



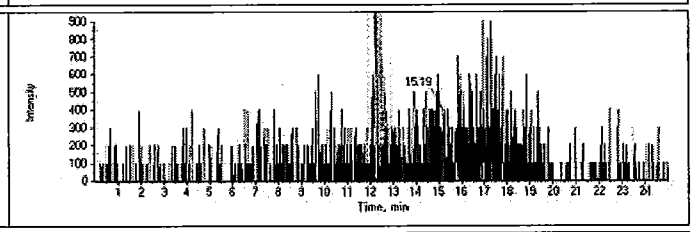
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000069

Area Ratio: 1.233e-3

Sample Type: (Quality Control)



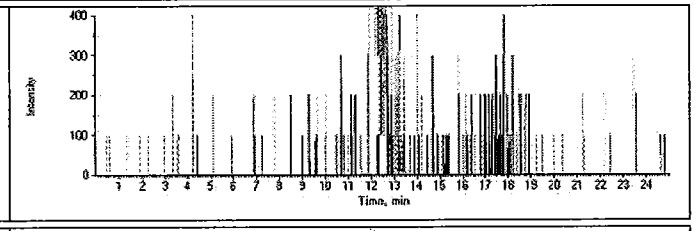
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



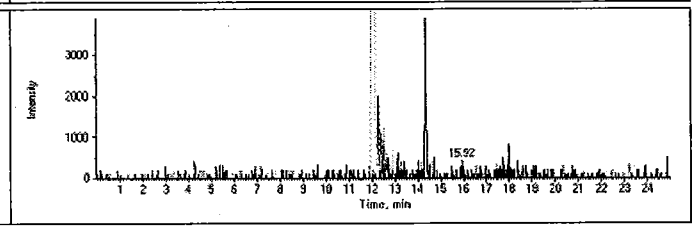
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.92 (15.93) min

Calculated conc: 0.000019

Area Ratio: 2.465e-4

Sample Type: (Quality Control)



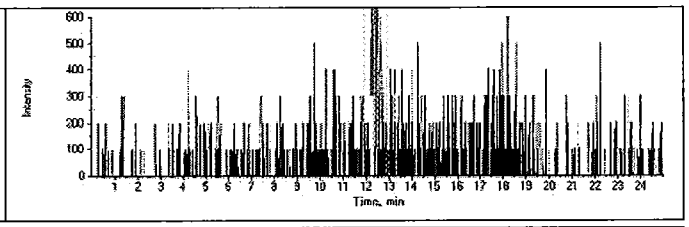
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.000007

Area Ratio: 1.233e-4

Sample Type: (Quality Control)



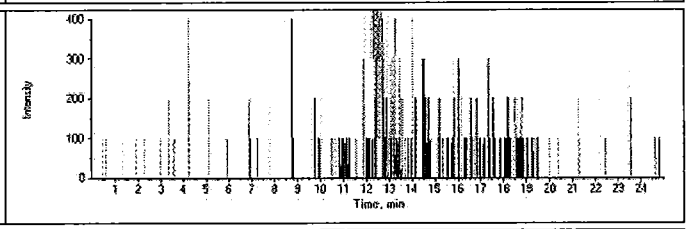
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.61 (16.58) min

Calculated conc: 0.000036

Area Ratio: 1.233e-4

Sample Type: (Quality Control)



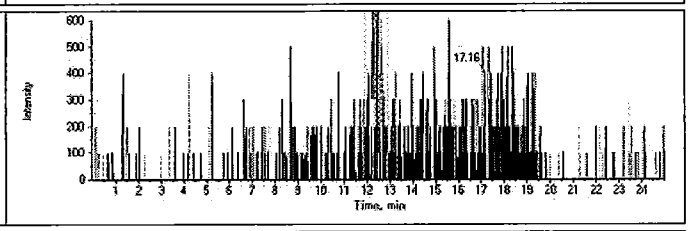
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.16 (17.14) min

Calculated conc: 0.000056

Area Ratio: 4.313e-4

Sample Type: (Quality Control)



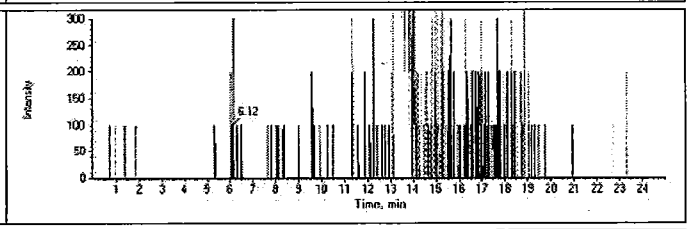
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.12 (6.10) min

Calculated conc: 0.000017

Area Ratio: 8.482e-5

Sample Type: (Quality Control)



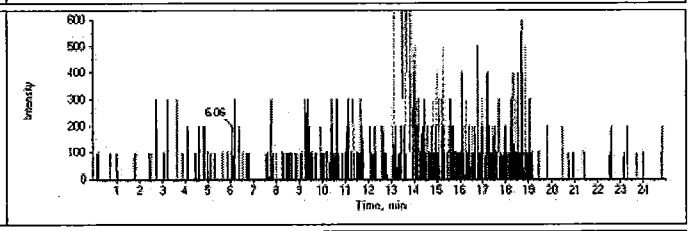
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.06 (6.11) min

Calculated conc: 0.000084

Area Ratio: 1.697e-4

Sample Type: (Quality Control)



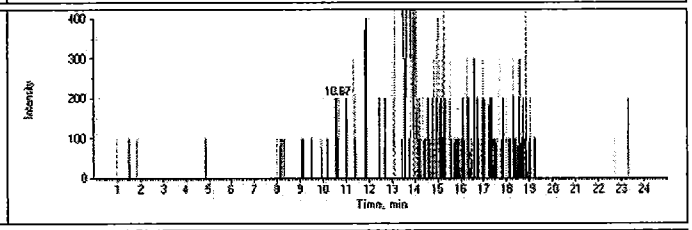
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.67 (10.64) min

Calculated conc: 0.000015

Area Ratio: 1.272e-4

Sample Type: (Quality Control)



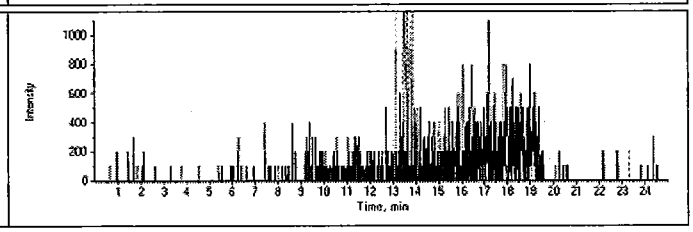
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.000030

Area Ratio: 8.478e-5

Sample Type: (Quality Control)



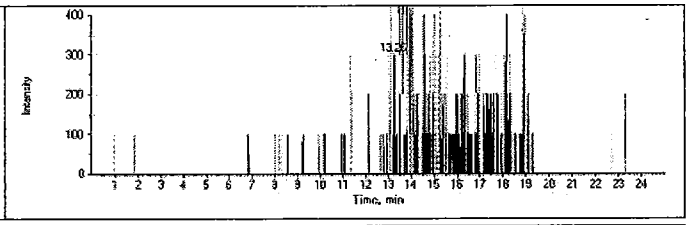
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.000026

Area Ratio: 2.121e-4

Sample Type: (Quality Control)



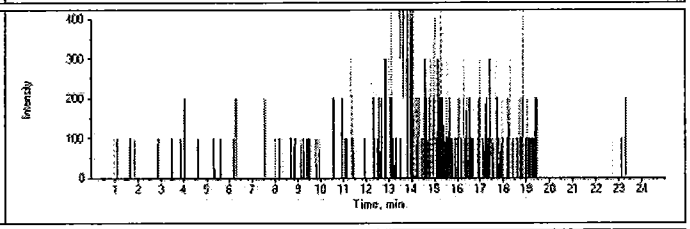
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.23 (13.28) min

Calculated conc: 0.000036

Area Ratio: 8.487e-5

Sample Type: (Quality Control)



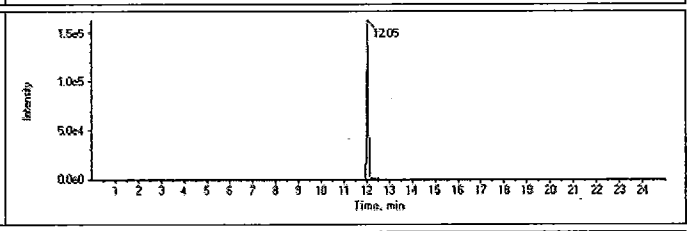
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 99.427853

Area Ratio: N/A

Sample Type: (Quality Control)



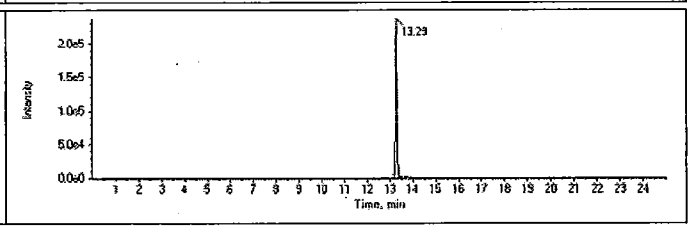
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 102.795830

Area Ratio: N/A

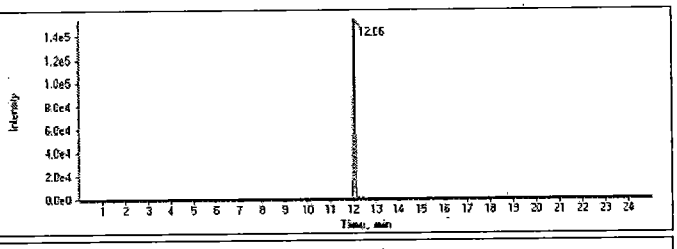
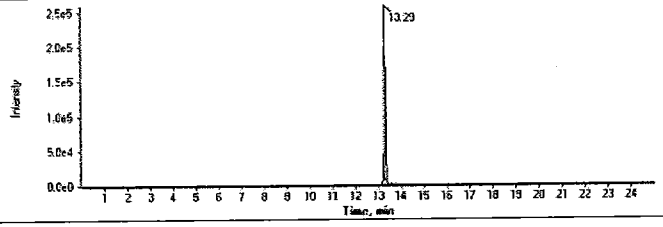
Sample Type: (Quality Control)



Sample Name	Cal-0.0025ppb	**Injection Vial**	2
Sample ID		**Injection Volume**	5.00
Sample Type	Standard	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 8:38:03 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	819406	12.06	100.00000	-
IS-13C-PFOS	1158074	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	2.011e+04	8.42	0.00250	0.002487
Surr-13c-PFHxA	8.293e+05	8.42	100.00000	101.379180
PFHpA	6.321e+04	10.51	0.00250	0.002938
PFHpA 2	1.795e+04	10.50	0.00250	0.002993
PFOA	6.081e+04	12.06	0.00250	0.002895
PFOA 2	1.687e+04	12.06	0.00250	0.002402
PFNA	4.340e+04	13.30	0.00250	0.002849
PFNA 2	1.157e+04	13.30	0.00250	0.002965
PFDA	4.014e+04	14.34	0.00250	0.002516
PFDA 2	7.602e+03	14.34	0.00250	0.002780
Surr-13c-PFDA	6.918e+05	14.33	100.00000	99.599596
PFUnA	4.036e+04	15.20	0.00250	0.002754
PFUnA 2	7.061e+03	15.21	0.00250	0.002947
PFDoA	2.717e+04	15.94	0.00250	0.002584
PFTrDA	3.600e+04	16.59	0.00250	0.002663
PFTrDA 2	7.503e+03	16.59	0.00250	0.002646
PFTA	2.094e+04	17.15	0.00250	0.003345
PFBS	1.354e+04	6.13	0.00222	0.002378
PFBS 2	5.198e+03	6.10	0.00222	0.002211
PFHxS	2.359e+04	10.65	0.00237	0.002448
PFHxS 2	8.189e+03	10.65	0.00237	0.002502
PFOS	2.040e+04	13.30	0.00240	0.002197
PFOS 2	7.404e+03	13.28	0.00240	0.002693
13C-PFOA	8.194e+05	12.06	100.00000	102.426868
13C-PFOS	1.158e+06	13.29	100.00000	102.932798

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.06(12.05) min Concentration: 100.00000 Sample Type: (Standard)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Standard)	

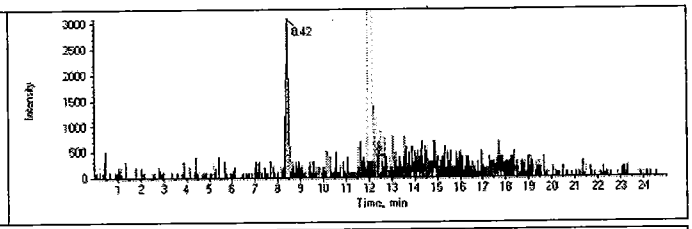
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.42 (8.40) min

Calculated conc: 0.002487

Area Ratio: 2.454e-2

Sample Type: (Standard)



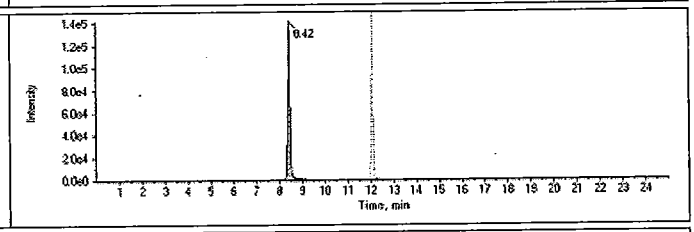
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.42 (8.41) min

Calculated conc: 101.379180

Area Ratio: 1.012e0

Sample Type: (Standard)



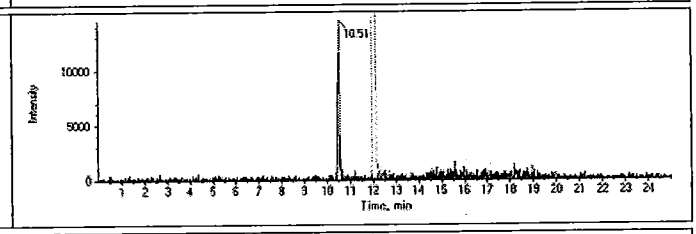
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.002938

Area Ratio: 7.714e-2

Sample Type: (Standard)



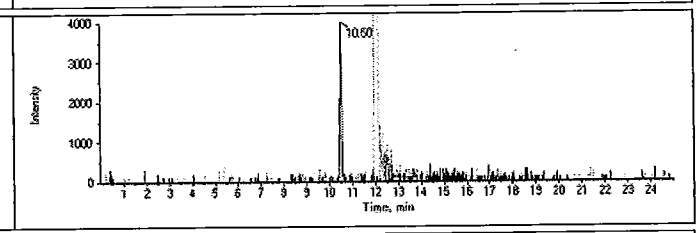
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.002993

Area Ratio: 2.190e-2

Sample Type: (Standard)



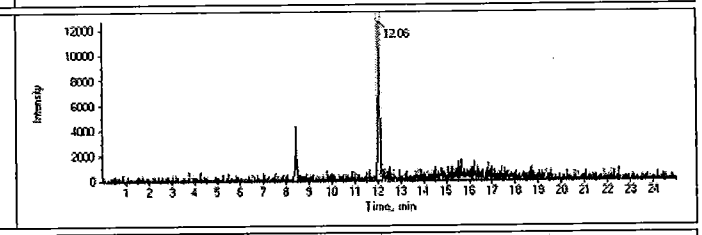
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 0.002895

Area Ratio: 7.421e-2

Sample Type: (Standard)



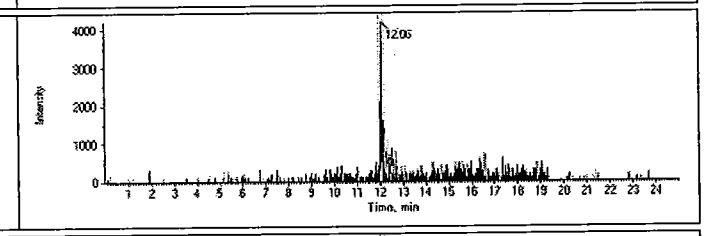
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.002402

Area Ratio: 2.059e-2

Sample Type: (Standard)



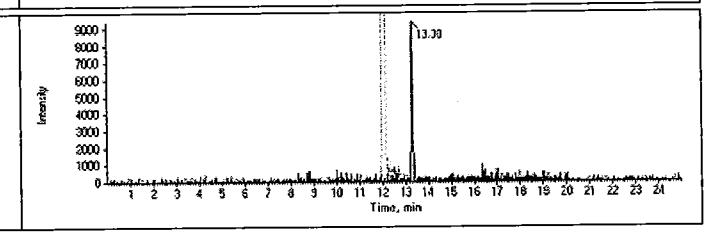
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.002849

Area Ratio: 5.296e-2

Sample Type: (Standard)



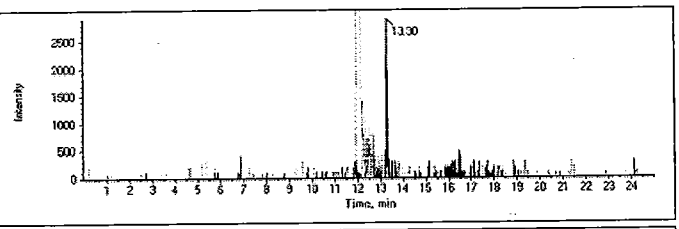
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.002965

Area Ratio: 1.412e-2

Sample Type: (Standard)



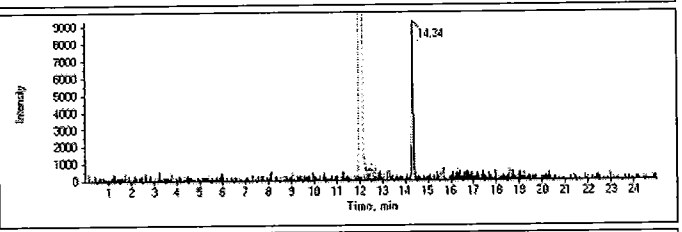
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.34 (14.32) min

Calculated conc: 0.002516

Area Ratio: 4.899e-2

Sample Type: (Standard)



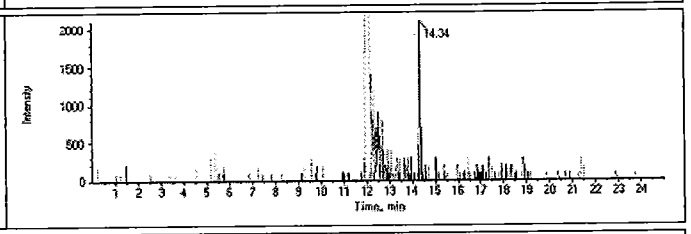
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.34 (14.31) min

Calculated conc: 0.002780

Area Ratio: 9.277e-3

Sample Type: (Standard)



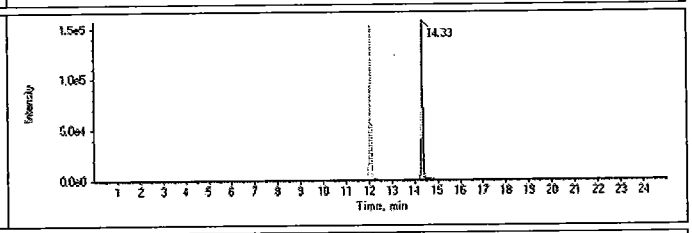
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 99.599596

Area Ratio: 8.443e-1

Sample Type: (Standard)



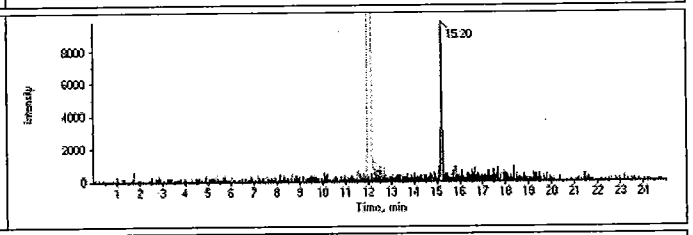
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.002754

Area Ratio: 4.925e-2

Sample Type: (Standard)



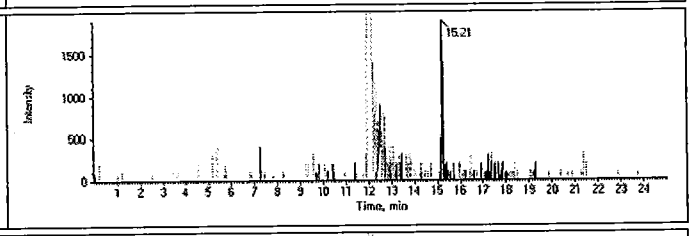
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.21 (15.19) min

Calculated conc: 0.002947

Area Ratio: 8.618e-3

Sample Type: (Standard)



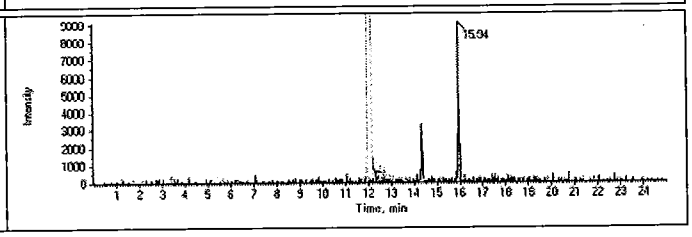
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.94 (15.93) min

Calculated conc: 0.002584

Area Ratio: 3.316e-2

Sample Type: (Standard)



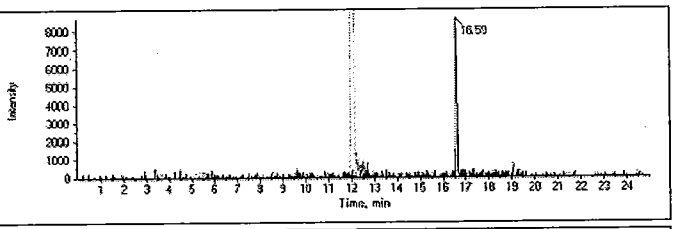
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.002663

Area Ratio: 4.393e-2

Sample Type: (Standard)



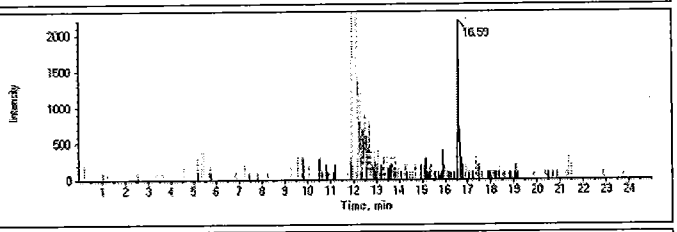
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.002646

Area Ratio: 9.157e-3

Sample Type: (Standard)



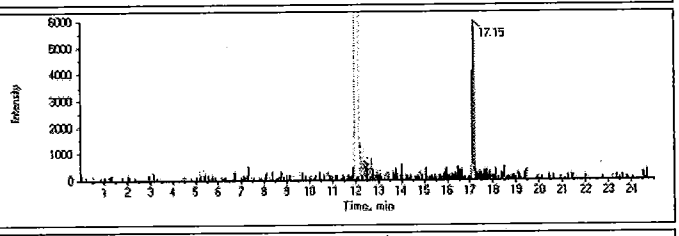
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.15 (17.14) min

Calculated conc: 0.003345

Area Ratio: 2.556e-2

Sample Type: (Standard)



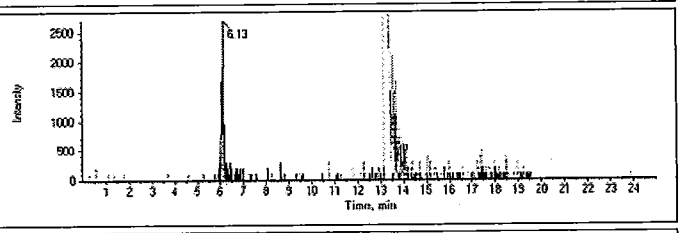
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.13 (6.10) min

Calculated conc: 0.002378

Area Ratio: 1.169e-2

Sample Type: (Standard)



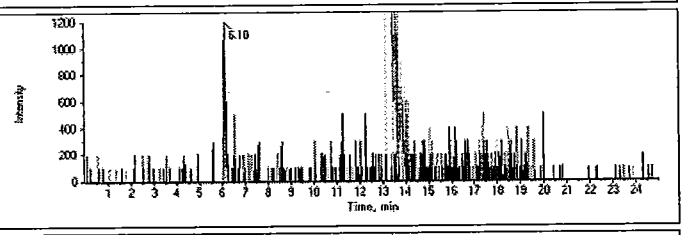
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.002211

Area Ratio: 4.489e-3

Sample Type: (Standard)



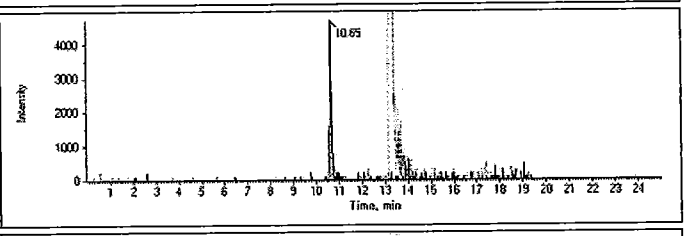
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.002448

Area Ratio: 2.037e-2

Sample Type: (Standard)



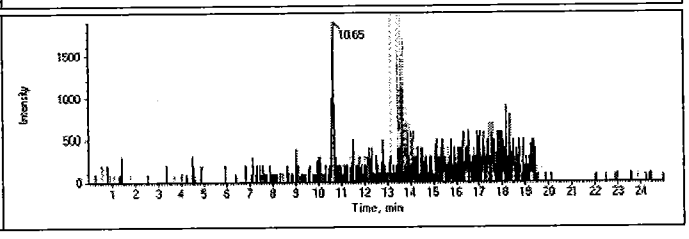
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.002502

Area Ratio: 7.071e-3

Sample Type: (Standard)



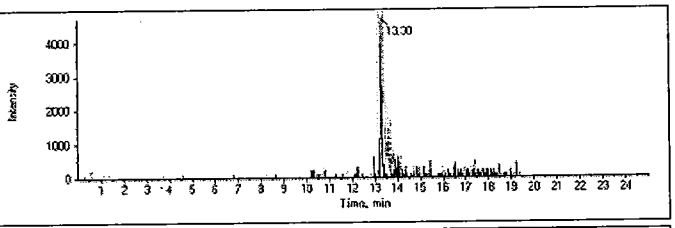
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.30 (13.28) min

Calculated conc: 0.002197

Area Ratio: 1.761e-2

Sample Type: (Standard)



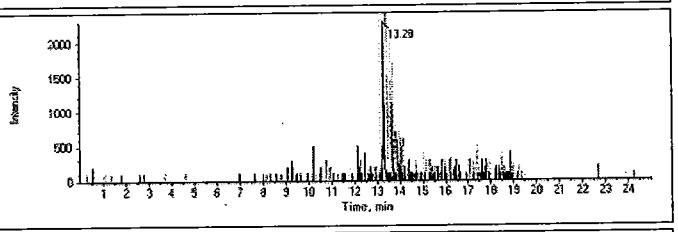
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.002693

Area Ratio: 6.393e-3

Sample Type: (Standard)



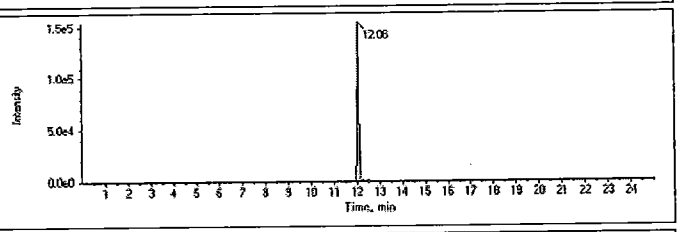
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 102.426868

Area Ratio: N/A

Sample Type: (Standard)



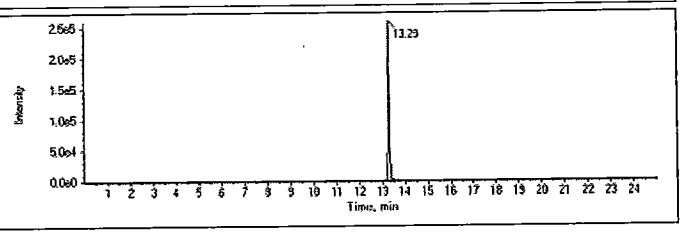
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 102.932798

Area Ratio: N/A

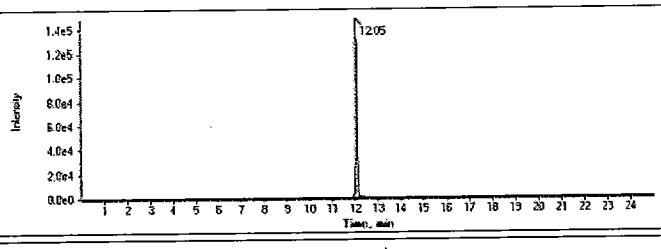
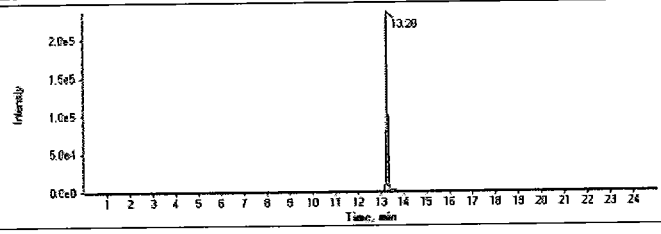
Sample Type: (Standard)



Sample Name	Cal-0.005ppb	**Injection Vial**	3
Sample ID		**Injection Volume**	5.00
Sample Type	Standard	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 9:03:38 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

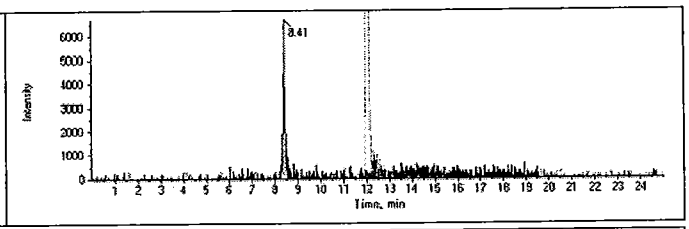
Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	803797	12.05	100.00000	-
IS-13C-PFOS	1123213	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	3.698e+04	8.41	0.00500	0.004664
Surr-13c-PFHxA	7.906e+05	8.41	100.00000	98.528245
PFHpA	1.152e+05	10.49	0.00500	0.005456
PFHpA 2	3.045e+04	10.50	0.00500	0.005178
PFOA	1.044e+05	12.04	0.00500	0.005064
PFOA 2	3.545e+04	12.04	0.00500	0.005147
PFNA	8.611e+04	13.29	0.00500	0.005763
PFNA 2	2.059e+04	13.28	0.00500	0.005379
PFDA	8.297e+04	14.32	0.00500	0.005302
PFDA 2	1.226e+04	14.32	0.00500	0.004570
Surr-13c-PFDA	6.704e+05	14.32	100.00000	98.394949
PFUnA	8.120e+04	15.19	0.00500	0.005649
PFUnA 2	1.447e+04	15.19	0.00500	0.006154
PFDoA	5.249e+04	15.93	0.00500	0.005089
PFTrDA	7.125e+04	16.58	0.00500	0.005373
PFTrDA 2	1.353e+04	16.57	0.00500	0.004865
PFTA	3.413e+04	17.14	0.00500	0.005557
PFBS	2.462e+04	6.10	0.00443	0.004460
PFBS 2	1.035e+04	6.11	0.00443	0.004537
PFHxS	4.634e+04	10.64	0.00474	0.004959
PFHxS 2	1.393e+04	10.64	0.00474	0.004388
PFOS	4.673e+04	13.28	0.00479	0.005190
PFOS 2	1.353e+04	13.28	0.00479	0.005075
13C-PFOA	8.038e+05	12.05	100.00000	100.475771
13C-PFOS	1.123e+06	13.28	100.00000	99.834296

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Standard)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Standard)	

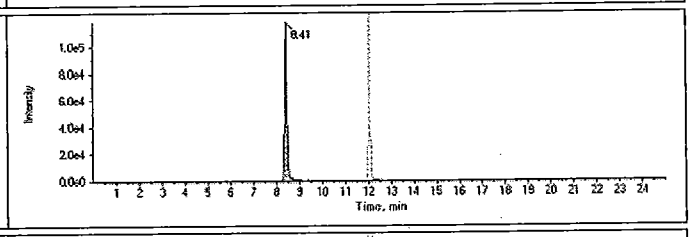
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min
Calculated conc: 0.004664
Area Ratio: 4.600e-2
Sample Type: (Standard)



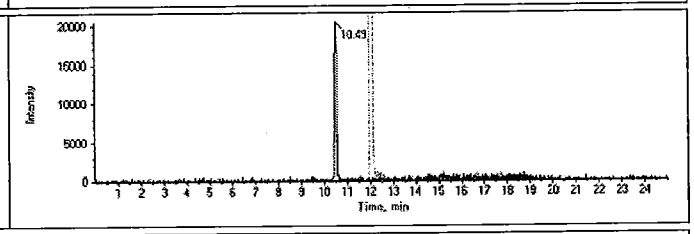
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min
Calculated conc: 98.528245
Area Ratio: 9.836e-1
Sample Type: (Standard)



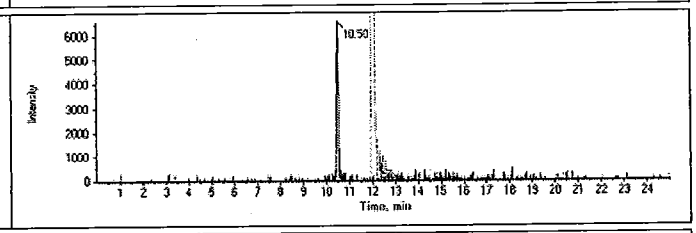
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min
Calculated conc: 0.005456
Area Ratio: 1.433e-1
Sample Type: (Standard)



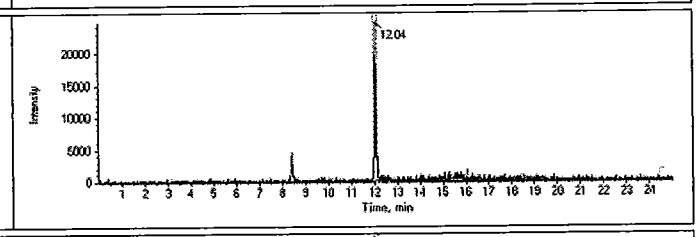
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min
Calculated conc: 0.005178
Area Ratio: 3.788e-2
Sample Type: (Standard)



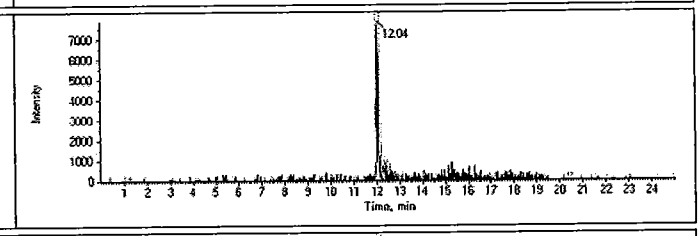
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min
Calculated conc: 0.005064
Area Ratio: 1.298e-1
Sample Type: (Standard)



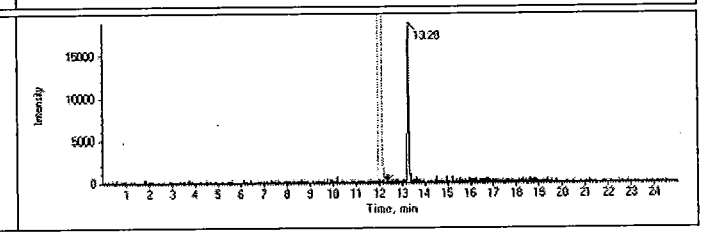
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min
Calculated conc: 0.005147
Area Ratio: 4.411e-2
Sample Type: (Standard)



PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.005763
Area Ratio: 1.071e-1
Sample Type: (Standard)



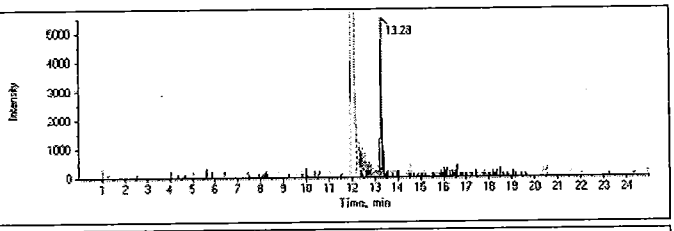
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.005379

Area Ratio: 2.562e-2

Sample Type: (Standard)



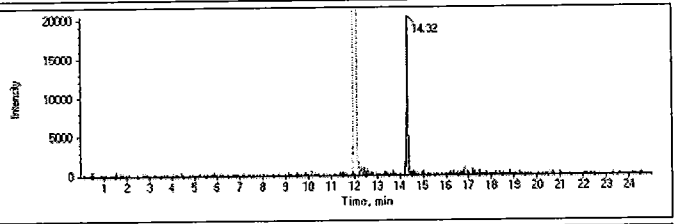
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.005302

Area Ratio: 1.032e-1

Sample Type: (Standard)



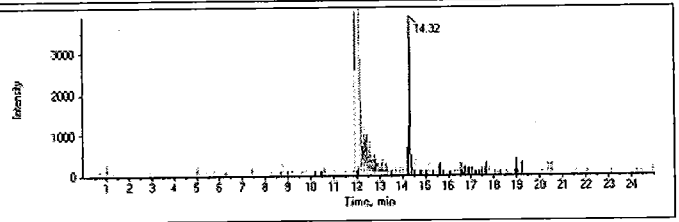
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.004570

Area Ratio: 1.525e-2

Sample Type: (Standard)



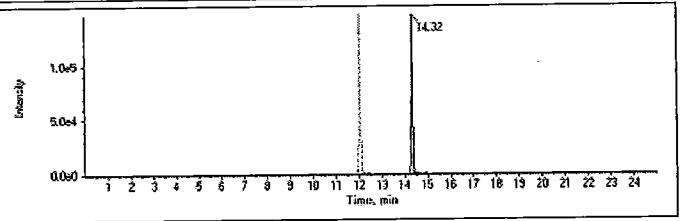
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 98.394949

Area Ratio: 8.341e-1

Sample Type: (Standard)



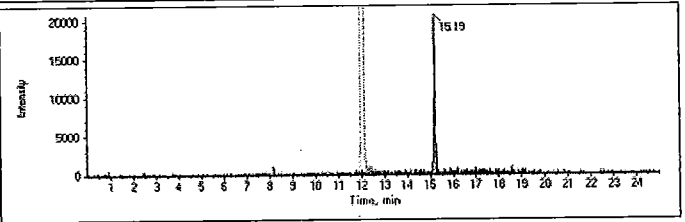
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.005649

Area Ratio: 1.010e-1

Sample Type: (Standard)



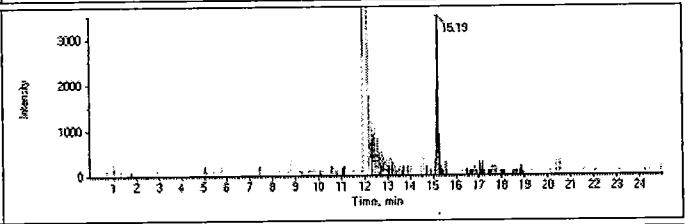
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.006154

Area Ratio: 1.800e-2

Sample Type: (Standard)



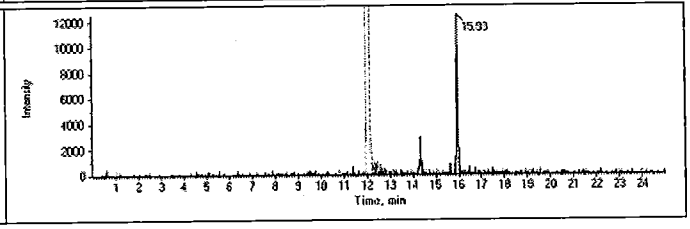
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.005089

Area Ratio: 6.531e-2

Sample Type: (Standard)



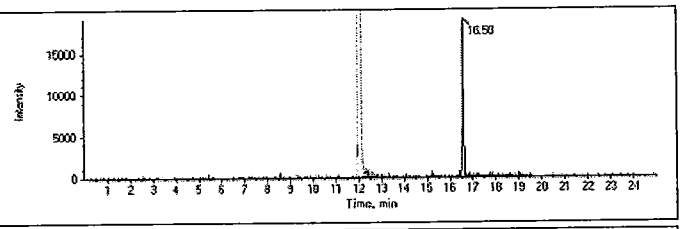
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.005373

Area Ratio: 8.864e-2

Sample Type: (Standard)



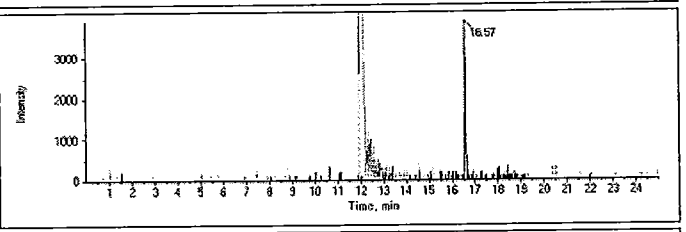
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.004865

Area Ratio: 1.684e-2

Sample Type: (Standard)



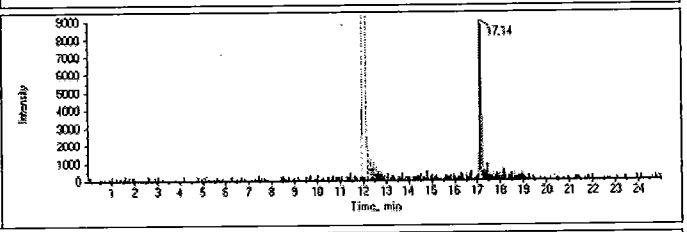
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.005557

Area Ratio: 4.247e-2

Sample Type: (Standard)



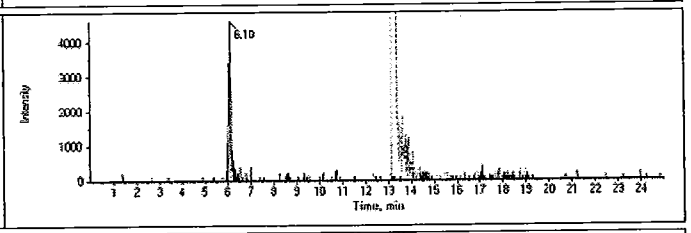
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.004460

Area Ratio: 2.192e-2

Sample Type: (Standard)



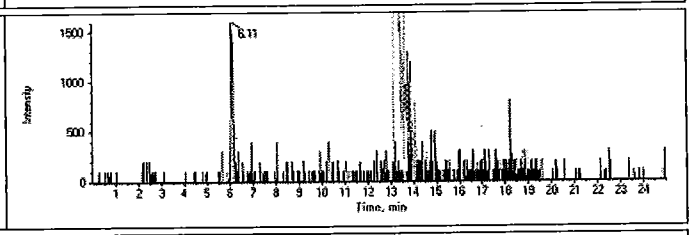
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.004537

Area Ratio: 9.213e-3

Sample Type: (Standard)



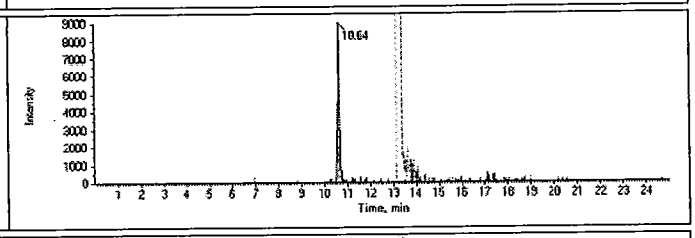
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.004959

Area Ratio: 4.126e-2

Sample Type: (Standard)



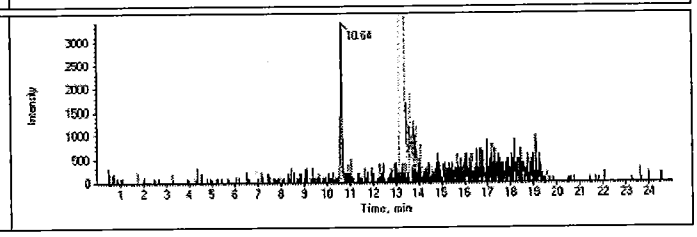
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.004388

Area Ratio: 1.240e-2

Sample Type: (Standard)



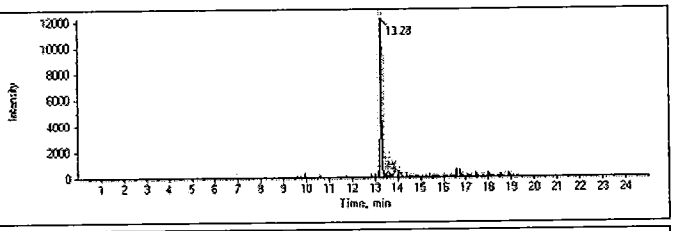
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.005190

Area Ratio: 4.160e-2

Sample Type: (Standard)



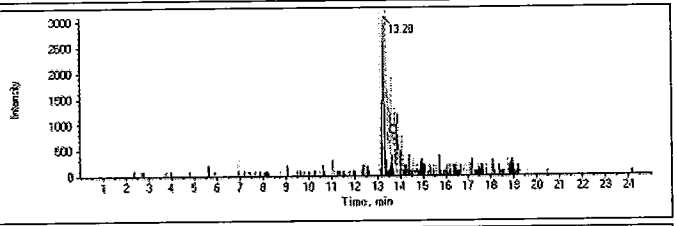
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.005075

Area Ratio: 1.205e-2

Sample Type: (Standard)



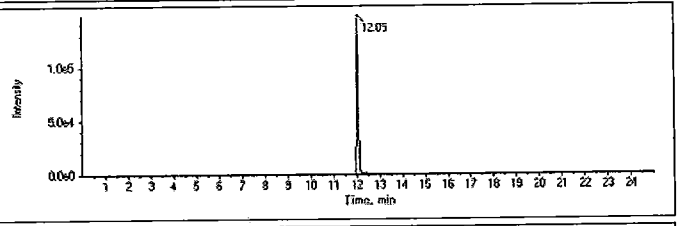
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 100.475771

Area Ratio: N/A

Sample Type: (Standard)



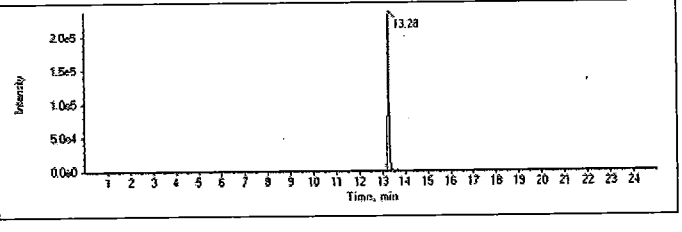
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 99.834296

Area Ratio: N/A

Sample Type: (Standard)



Sample Name	Cal-0.01ppb	**Injection Vial**	4
Sample ID		**Injection Volume**	5.00
Sample Type	Standard	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 9:29:14 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	803670	12.05	100.00000	-
IS-13C-PFOS	1142016	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	8.425e+04	8.41	0.01000	0.010628
Surr-13c-PFHxA	7.893e+05	8.41	100.00000	98.378488
PFHpA	2.186e+05	10.50	0.01000	0.010357
PFHpA 2	5.733e+04	10.50	0.01000	0.009749
PFOA	2.151e+05	12.04	0.01000	0.010438
PFOA 2	6.791e+04	12.05	0.01000	0.009862
PFNA	1.574e+05	13.29	0.01000	0.010534
PFNA 2	4.056e+04	13.28	0.01000	0.010595
PFDA	1.550e+05	14.31	0.01000	0.009906
PFDA 2	2.648e+04	14.32	0.01000	0.009872
Surr-13c-PFDA	6.924e+05	14.32	100.00000	101.641807
PFUnA	1.539e+05	15.19	0.01000	0.010706
PFUnA 2	2.403e+04	15.19	0.01000	0.010223
PFDoA	1.115e+05	15.93	0.01000	0.010809
PFTrDA	1.400e+05	16.58	0.01000	0.010561
PFTrDA 2	2.849e+04	16.57	0.01000	0.010244
PFTA	6.915e+04	17.14	0.01000	0.011260
PFBS	4.352e+04	6.11	0.00887	0.007754
PFBS 2	2.373e+04	6.11	0.00887	0.010235
PFHxS	9.172e+04	10.64	0.00948	0.009652
PFHxS 2	2.855e+04	10.64	0.00948	0.008845
PFOS	9.018e+04	13.28	0.00958	0.009851
PFOS 2	2.310e+04	13.28	0.00958	0.008518
13C-PFOA	8.037e+05	12.05	100.00000	100.459877
13C-PFOS	1.142e+06	13.28	100.00000	101.505514

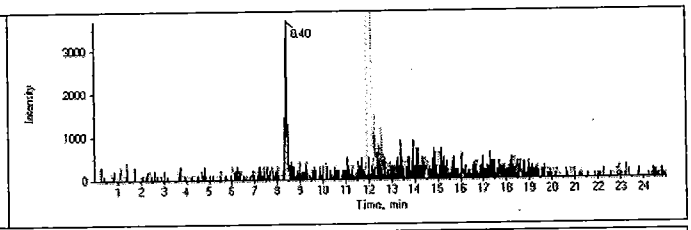
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.40 (8.40) min

Calculated conc: 0.002565

Area Ratio: 2.530e-2

Sample Type: (Quality Control)



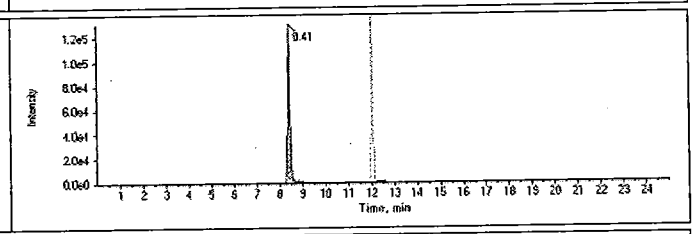
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 102.410638

Area Ratio: 1.022e0

Sample Type: (Quality Control)



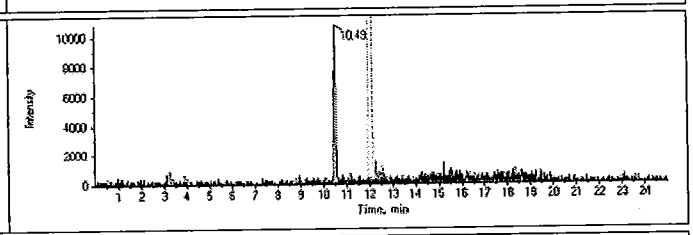
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.002589

Area Ratio: 6.799e-2

Sample Type: (Quality Control)



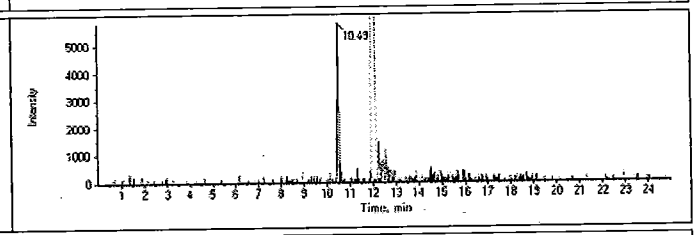
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.002983

Area Ratio: 2.182e-2

Sample Type: (Quality Control)



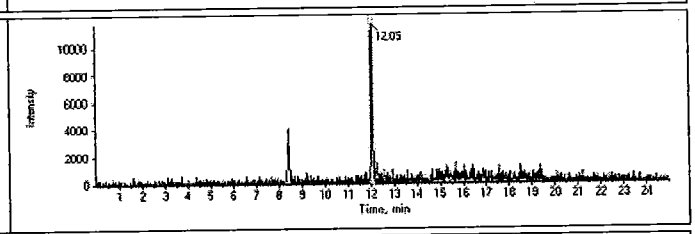
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.002729

Area Ratio: 6.996e-2

Sample Type: (Quality Control)



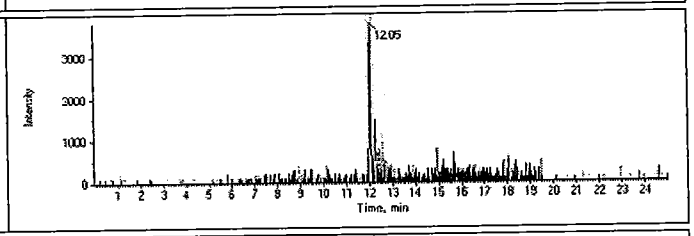
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.002624

Area Ratio: 2.248e-2

Sample Type: (Quality Control)



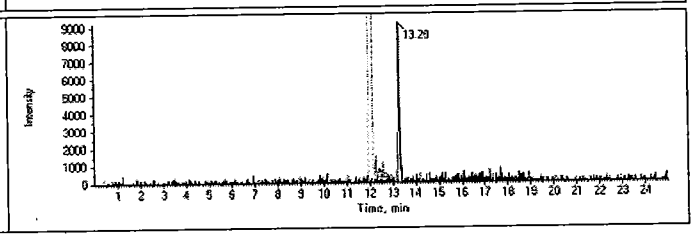
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.002696

Area Ratio: 5.012e-2

Sample Type: (Quality Control)



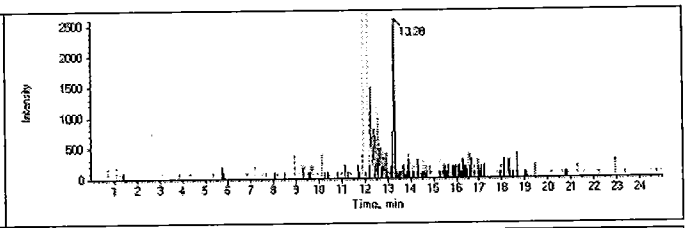
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.002958

Area Ratio: 1.409e-2

Sample Type: (Quality Control)



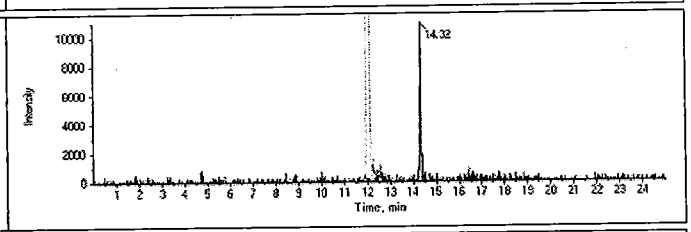
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.002978

Area Ratio: 5.798e-2

Sample Type: (Quality Control)



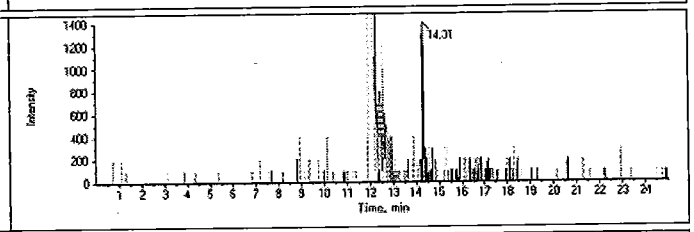
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min

Calculated conc: 0.002147

Area Ratio: 7.164e-3

Sample Type: (Quality Control)



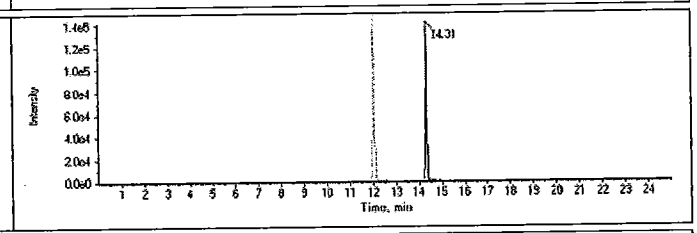
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 96.581734

Area Ratio: 8.187e-1

Sample Type: (Quality Control)



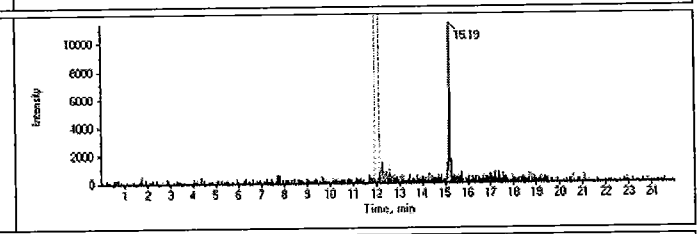
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.002806

Area Ratio: 5.018e-2

Sample Type: (Quality Control)



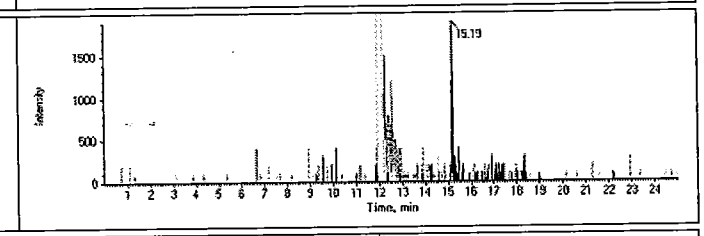
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.003054

Area Ratio: 8.933e-3

Sample Type: (Quality Control)



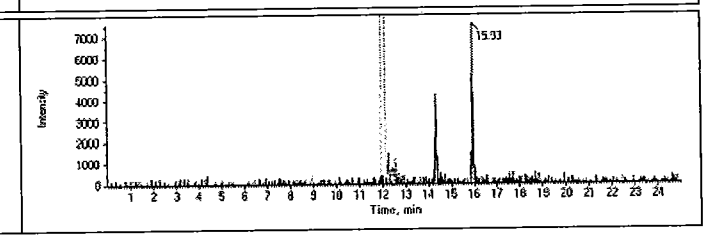
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.002733

Area Ratio: 3.507e-2

Sample Type: (Quality Control)



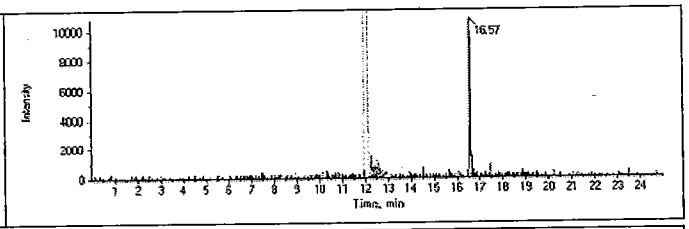
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.002725

Area Ratio: 4.496e-2

Sample Type: (Quality Control)



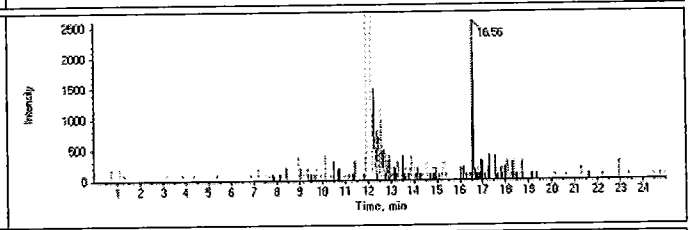
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.56 (16.58) min

Calculated conc: 0.002528

Area Ratio: 8.751e-3

Sample Type: (Quality Control)



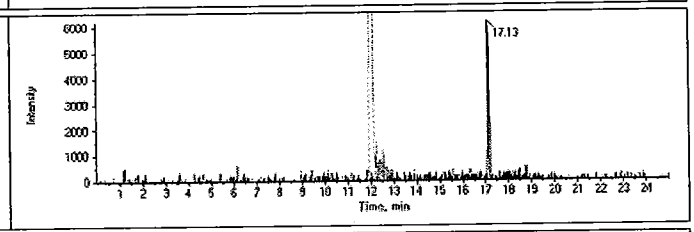
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.003279

Area Ratio: 2.506e-2

Sample Type: (Quality Control)



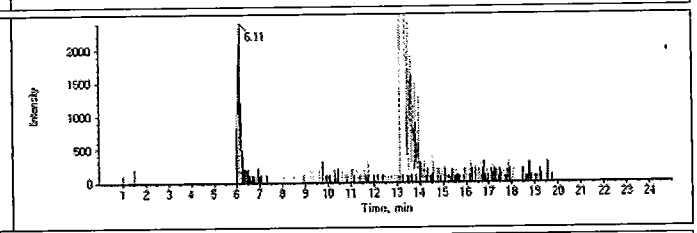
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.002519

Area Ratio: 1.238e-2

Sample Type: (Quality Control)



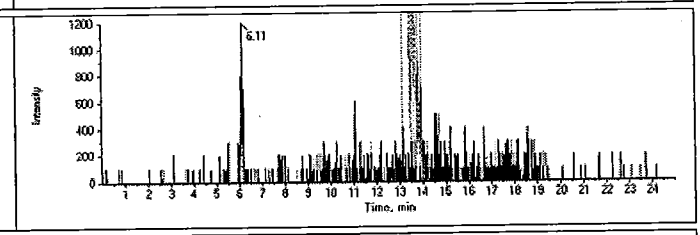
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.002490

Area Ratio: 5.055e-3

Sample Type: (Quality Control)



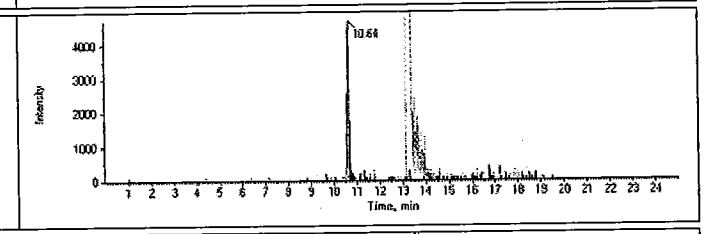
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.002301

Area Ratio: 1.915e-2

Sample Type: (Quality Control)



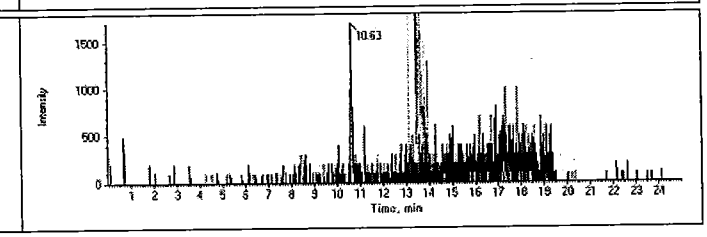
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.002259

Area Ratio: 6.383e-3

Sample Type: (Quality Control)



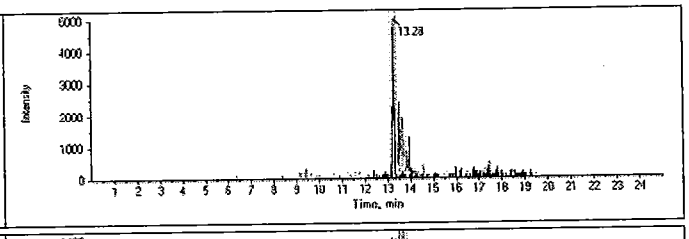
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.002448

Area Ratio: 1.962e-2

Sample Type: (Quality Control)



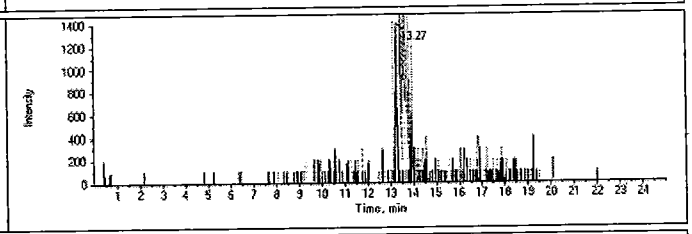
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.002003

Area Ratio: 4.756e-3

Sample Type: (Quality Control)



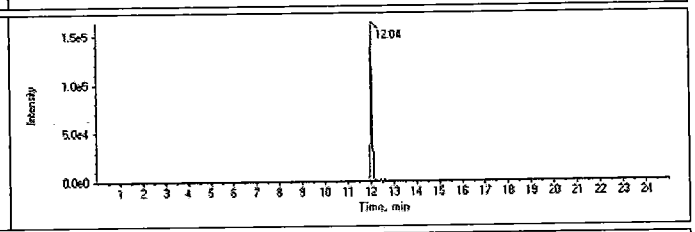
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 102.249528

Area Ratio: N/A

Sample Type: (Quality Control)



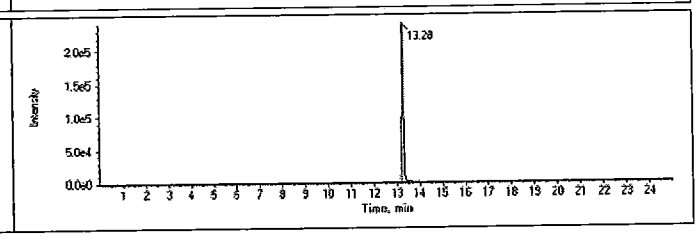
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 101.736476

Area Ratio: N/A

Sample Type: (Quality Control)



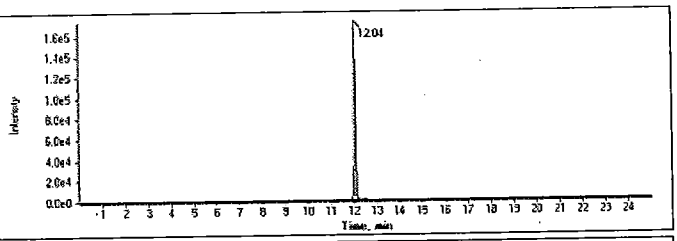
Sample Name	DNR-QCS_0.02ppb	**Injection Vial**	8
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/6/2014 11:37:09 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	lot#@5372ndSource(QCS)-050614-LHZ, Exp. 05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	829984	12.04	100.00000	-
IS-13C-PFOS	1127002	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.906e+05	8.40	0.02000	0.023280
Surr-13c-PFHxA	7.405e+05	8.40	100.00000	89.378904
PFHpA	5.850e+05	10.50	0.02000	0.026841
PFHpA 2	1.616e+05	10.50	0.02000	0.026607
PFOA	5.527e+05	12.04	0.02000	0.025973
PFOA 2	1.826e+05	12.04	0.02000	0.025671
PFNA	4.132e+05	13.28	0.02000	0.026780
PFNA 2	1.108e+05	13.29	0.02000	0.028021
PFDA	4.255e+05	14.32	0.02000	0.026333
PFDA 2	7.424e+04	14.32	0.02000	0.026800
Surr-13c-PFDA	7.008e+05	14.31	100.00000	99.602883
PFUnA	4.097e+05	15.19	0.02000	0.027600
PFUnA 2	6.891e+04	15.19	0.02000	0.028389
PFDoA	2.715e+05	15.93	0.02000	0.025492
PFTrDA	3.629e+05	16.58	0.02000	0.026505
PFTrDA 2	7.406e+04	16.58	0.02000	0.025784
PFTA	1.721e+05	17.13	0.02000	0.027141
PFBS	1.331e+05	6.09	0.01770	0.024033
PFBS 2	5.630e+04	6.10	0.01770	0.024603
PFHxS	2.355e+05	10.63	0.01900	0.025117
PFHxS 2	8.268e+04	10.63	0.01900	0.025958
PFOS	2.282e+05	13.28	0.01920	0.025261
PFOS 2	7.313e+04	13.28	0.01920	0.027331
13C-PFOA	8.300e+05	12.04	100.00000	103.749132
13C-PFOS	1.127e+06	13.28	100.00000	100.171104

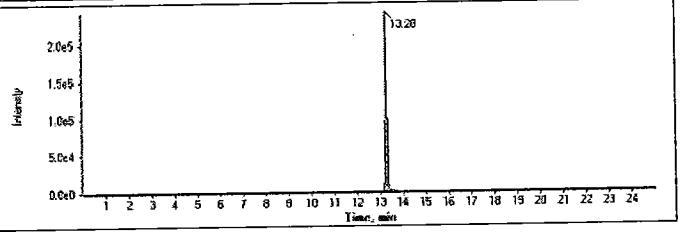
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.04(12.05) min
Concentration: 100.00000
Sample Type: (Quality Control)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.28(13.28) min
Concentration: 100.00000
Sample Type: (Quality Control)



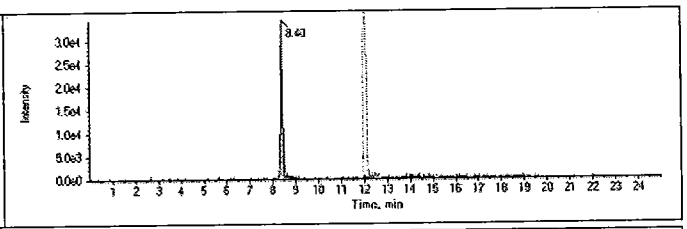
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.40 (8.40) min

Calculated conc: 0.023280

Area Ratio: 2.296e-1

Sample Type: (Quality Control)



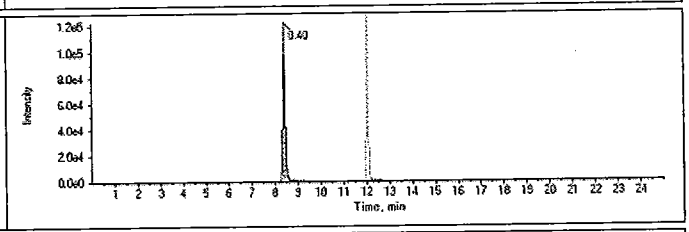
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 89.378904

Area Ratio: 8.922e-1

Sample Type: (Quality Control)



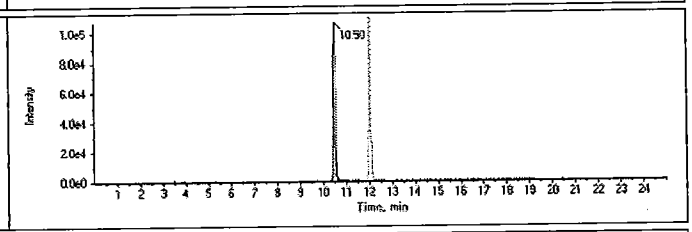
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.026841

Area Ratio: 7.048e-1

Sample Type: (Quality Control)



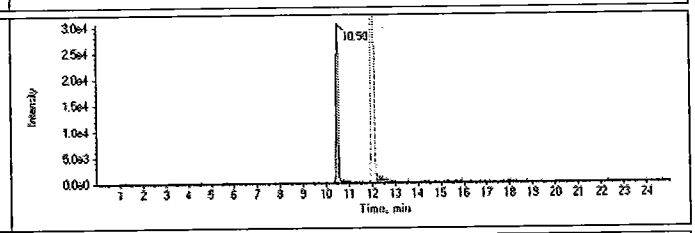
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.026607

Area Ratio: 1.947e-1

Sample Type: (Quality Control)



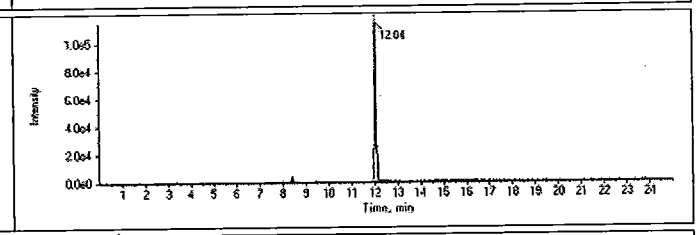
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.025973

Area Ratio: 6.659e-1

Sample Type: (Quality Control)



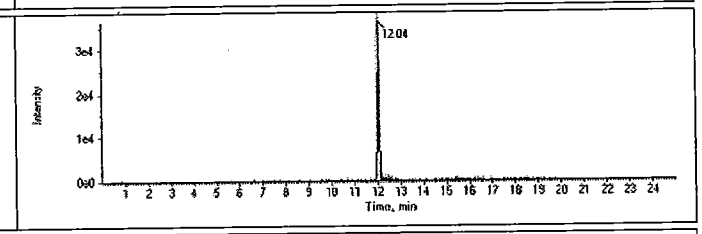
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.025671

Area Ratio: 2.200e-1

Sample Type: (Quality Control)



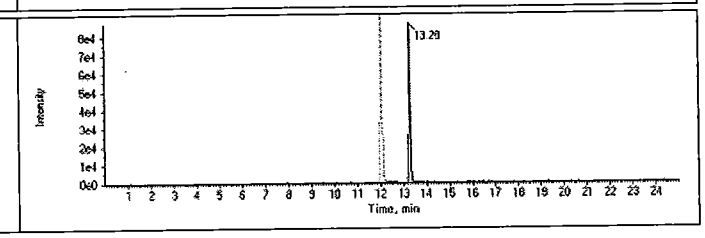
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.026780

Area Ratio: 4.978e-1

Sample Type: (Quality Control)



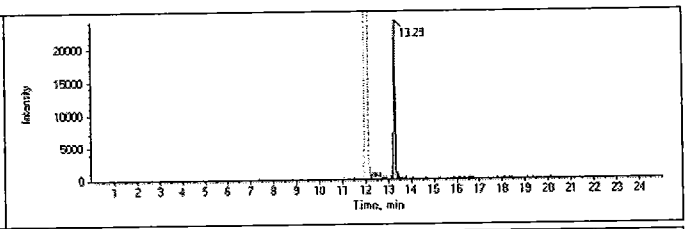
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.028021

Area Ratio: 1.335e-1

Sample Type: (Quality Control)



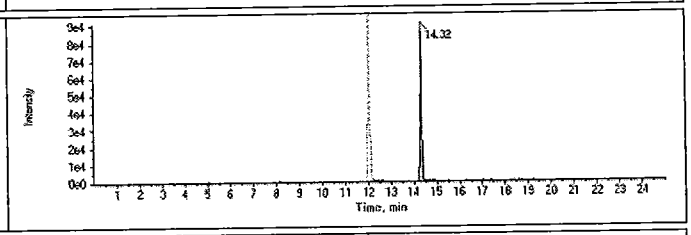
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.026333

Area Ratio: 5.127e-1

Sample Type: (Quality Control)



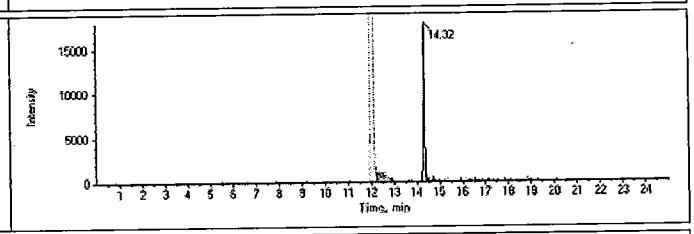
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.026800

Area Ratio: 8.945e-2

Sample Type: (Quality Control)



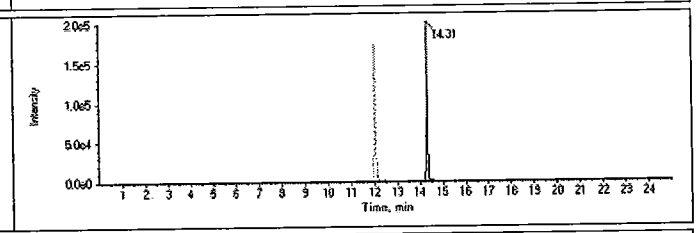
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 99.602883

Area Ratio: 8.443e-1

Sample Type: (Quality Control)



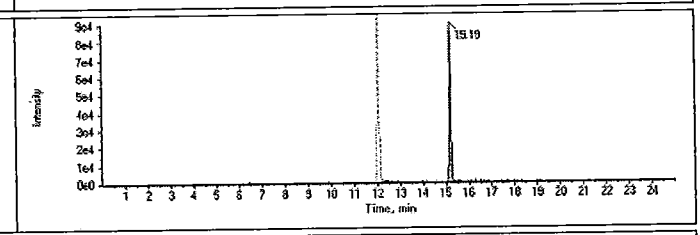
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.027600

Area Ratio: 4.936e-1

Sample Type: (Quality Control)



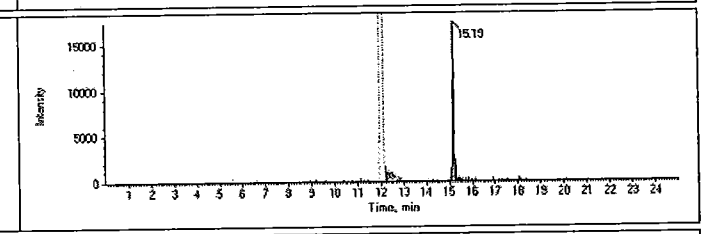
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.028389

Area Ratio: 8.302e-2

Sample Type: (Quality Control)



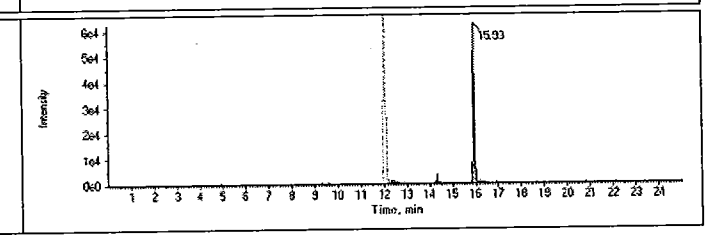
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.025492

Area Ratio: 3.271e-1

Sample Type: (Quality Control)



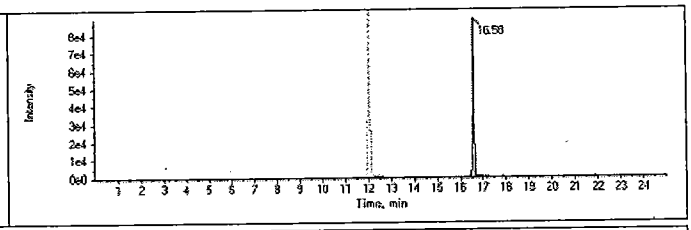
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.026505

Area Ratio: 4.373e-1

Sample Type: (Quality Control)



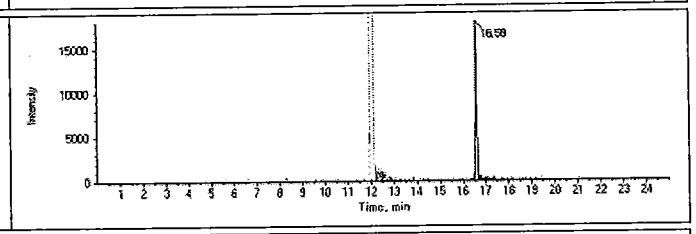
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.025784

Area Ratio: 8.924e-2

Sample Type: (Quality Control)



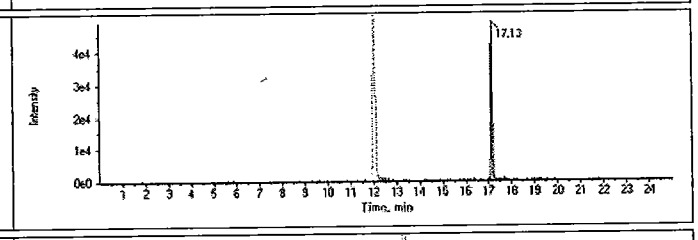
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.027141

Area Ratio: 2.074e-1

Sample Type: (Quality Control)



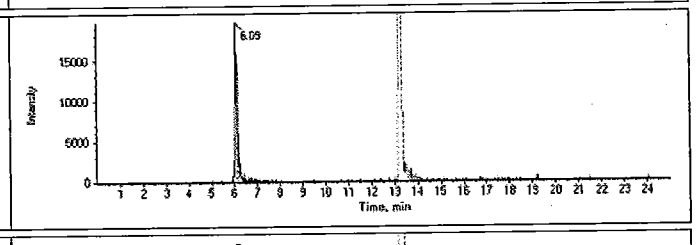
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.09 (6.10) min

Calculated conc: 0.024033

Area Ratio: 1.181e-1

Sample Type: (Quality Control)



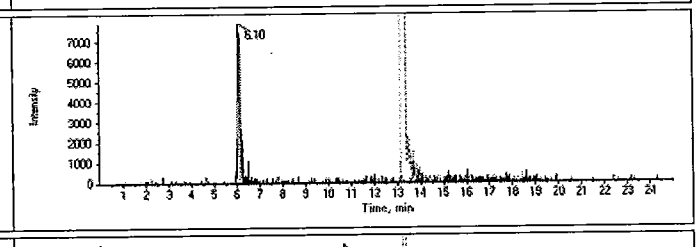
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.024603

Area Ratio: 4.996e-2

Sample Type: (Quality Control)



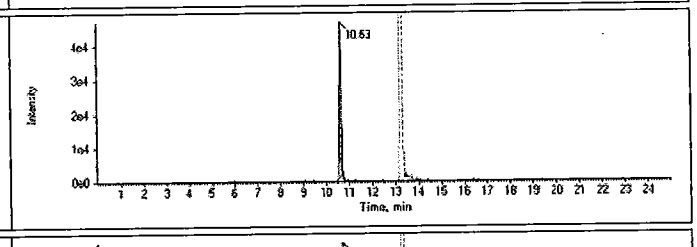
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.025117

Area Ratio: 2.090e-1

Sample Type: (Quality Control)



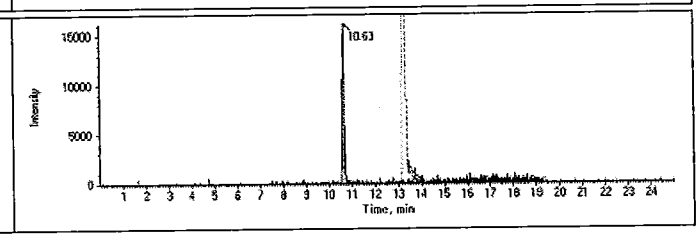
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.025958

Area Ratio: 7.336e-2

Sample Type: (Quality Control)



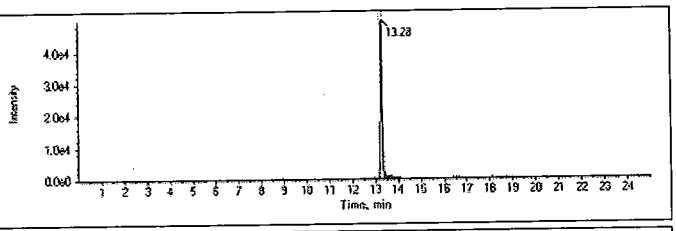
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.025261

Area Ratio: 2.025e-1

Sample Type: (Quality Control)



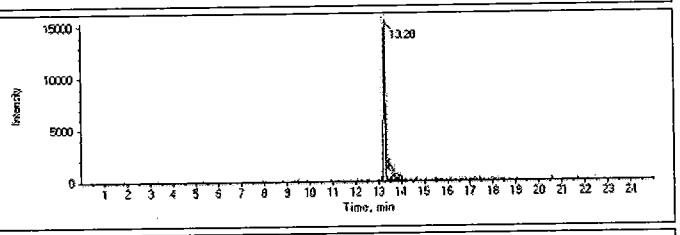
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.027331

Area Ratio: 6.489e-2

Sample Type: (Quality Control)



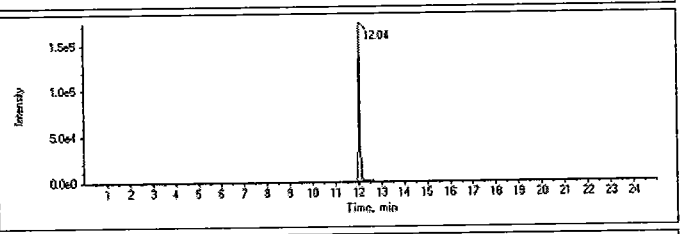
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 103.749132

Area Ratio: N/A

Sample Type: (Quality Control)



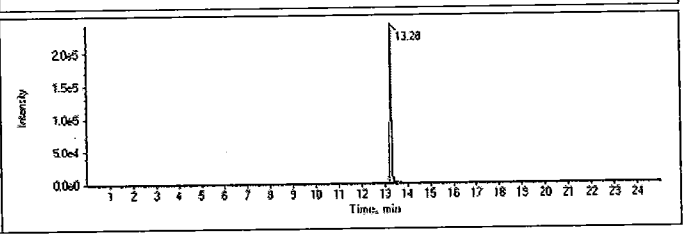
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 100.171104

Area Ratio: N/A

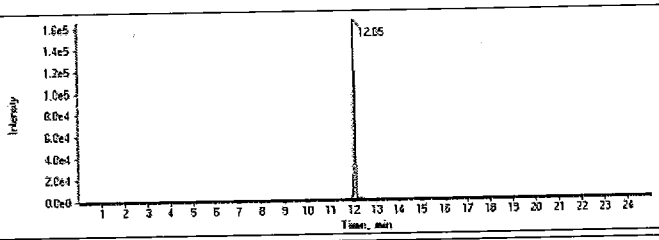
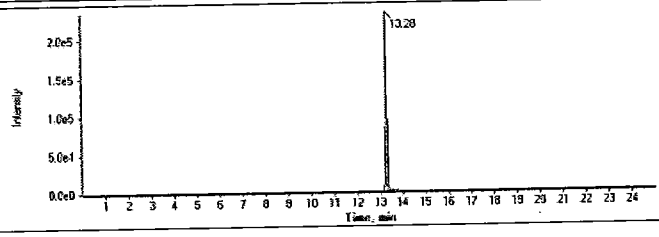
Sample Type: (Quality Control)



Sample Name	MBLK	**Injection Vial**	9
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 12:02:44 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	739202	12.05	100.00000	-
IS-13C-PFOS	1116587	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.470e+02	8.57	0.00000	0.000020
Surr-13c-PFHxA	6.079e+05	8.41	100.00000	82.388047
PFHpA	1.960e+02	10.51	0.00000	0.000010
PFHpA 2	9.800e+01	10.51	0.00000	0.000018
PFOA	2.305e+03	12.05	0.00000	0.000122
PFOA 2	4.900e+02	12.02	0.00000	0.000077
PFNA	4.410e+02	13.28	0.00000	0.000032
PFNA 2	1.960e+02	13.28	0.00000	0.000056
PFDA	3.430e+02	14.32	0.00000	0.000024
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	5.914e+05	14.31	100.00000	94.380387
PFUnA	2.940e+02	15.20	0.00000	0.000022
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	1.470e+02	15.95	0.00000	0.000016
PFTrDA	1.960e+02	16.58	0.00000	0.000016
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	3.430e+02	17.13	0.00000	0.000061
PFBS	N/A	N/A	0.00000	N/A
PFBS 2	N/A	N/A	0.00000	N/A
PFHxS	9.800e+01	10.75	0.00000	0.000011
PFHxS 2	1.960e+02	10.61	0.00000	0.000062
PFOS	1.960e+02	13.26	0.00000	0.000022
PFOS 2	1.470e+02	13.28	0.00000	0.000055
13C-PFOA	7.392e+05	12.05	100.00000	92.401250
13C-PFOS	1.117e+06	13.28	100.00000	99.245336

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

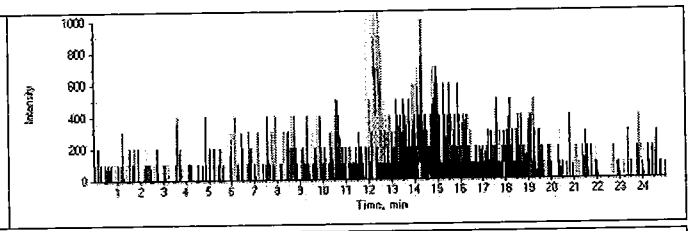
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.57 (8.40) min

Calculated conc: 0.000020

Area Ratio: 1.989e-4

Sample Type: (Quality Control)



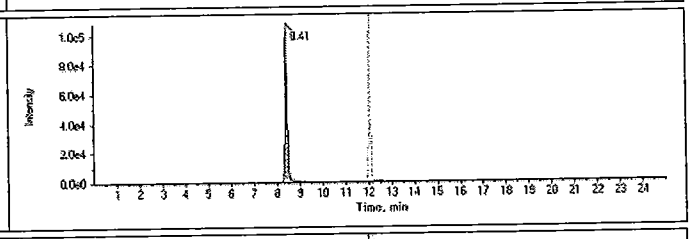
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 82.388047

Area Ratio: 8.224e-1

Sample Type: (Quality Control)



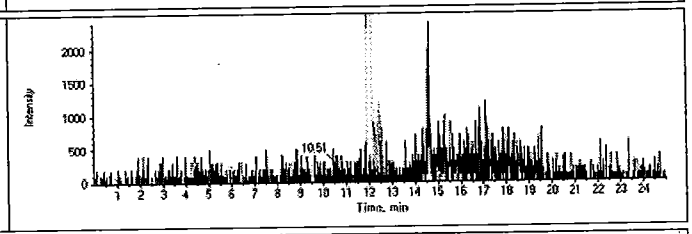
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.000010

Area Ratio: 2.654e-4

Sample Type: (Quality Control)



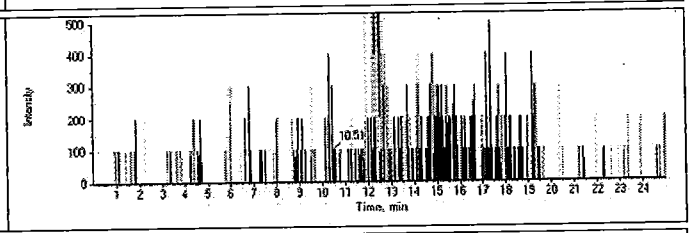
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.000018

Area Ratio: 1.326e-4

Sample Type: (Quality Control)



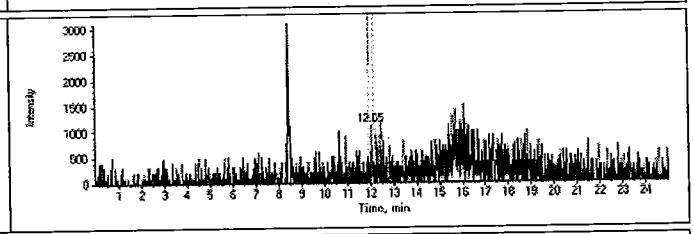
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.000122

Area Ratio: 3.118e-3

Sample Type: (Quality Control)



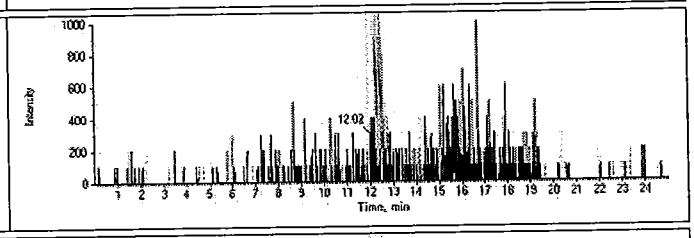
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.02 (12.04) min

Calculated conc: 0.000077

Area Ratio: 6.635e-4

Sample Type: (Quality Control)



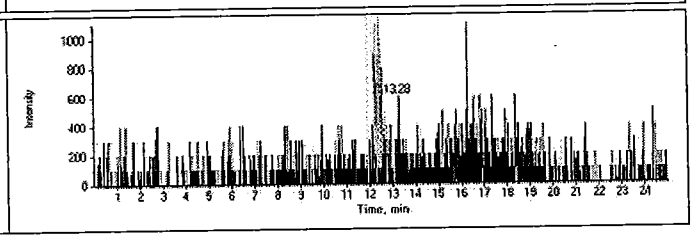
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.000032

Area Ratio: 5.968e-4

Sample Type: (Quality Control)



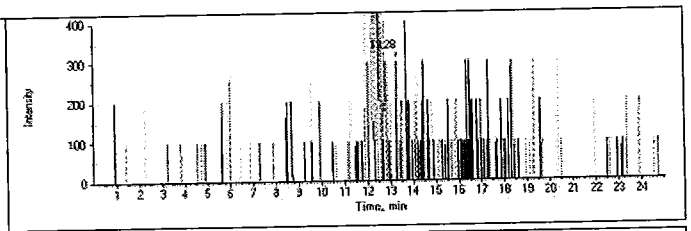
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.000056

Area Ratio: 2.652e-4

Sample Type: (Quality Control)



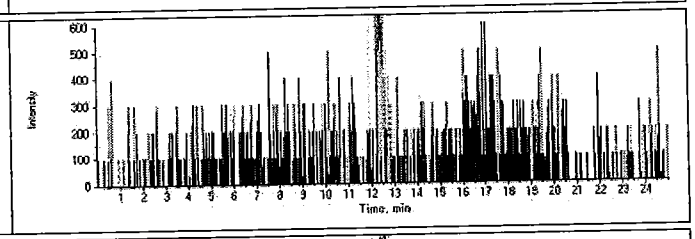
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.000024

Area Ratio: 4.643e-4

Sample Type: (Quality Control)



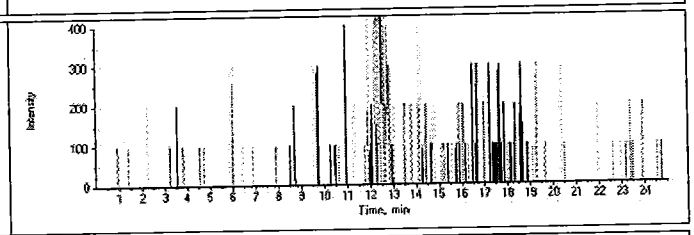
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



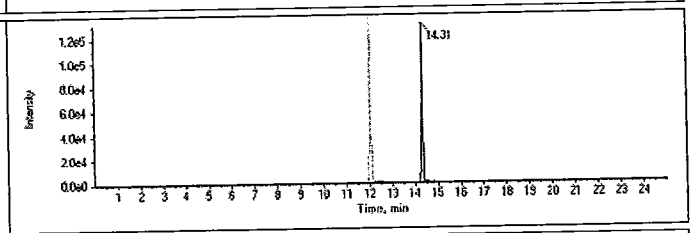
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 94.380387

Area Ratio: 8.000e-1

Sample Type: (Quality Control)



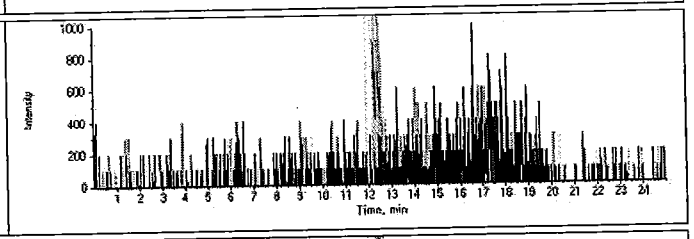
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.000022

Area Ratio: 3.983e-4

Sample Type: (Quality Control)



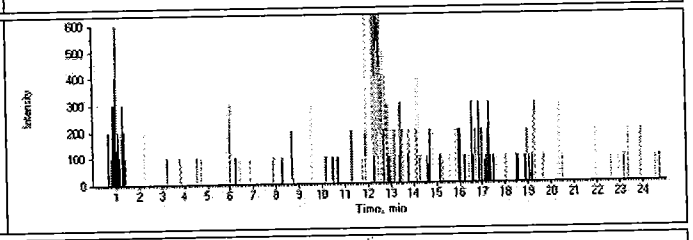
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



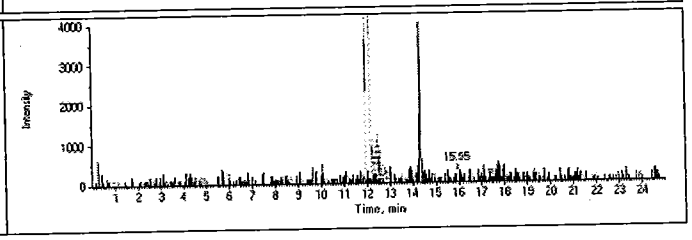
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.95 (15.93) min

Calculated conc: 0.000016

Area Ratio: 1.990e-4

Sample Type: (Quality Control)



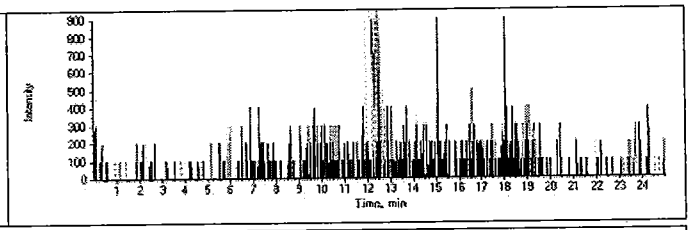
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.000016

Area Ratio: 2.654e-4

Sample Type: (Quality Control)



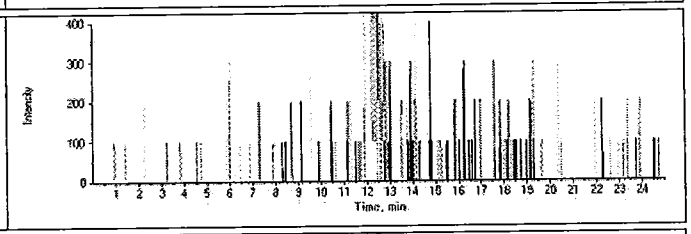
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



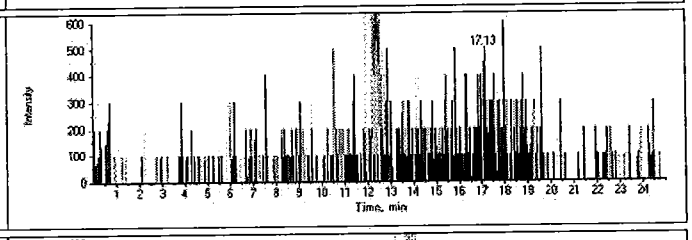
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.000061

Area Ratio: 4.645e-4

Sample Type: (Quality Control)



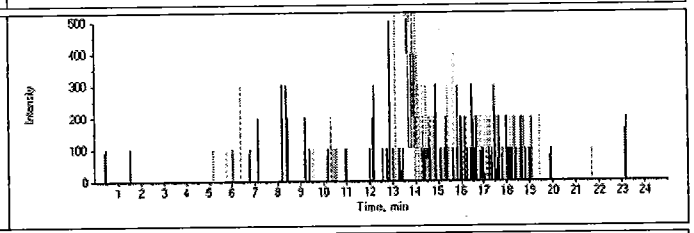
PFBS (299.0 / 79.9)

RT (Exp. RT): N/A (6.10) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



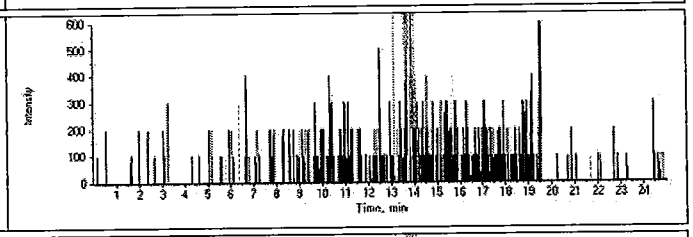
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): N/A (6.11) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



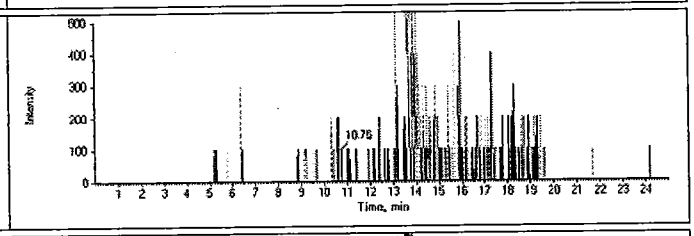
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.75 (10.64) min

Calculated conc: 0.000011

Area Ratio: 8.781e-5

Sample Type: (Quality Control)



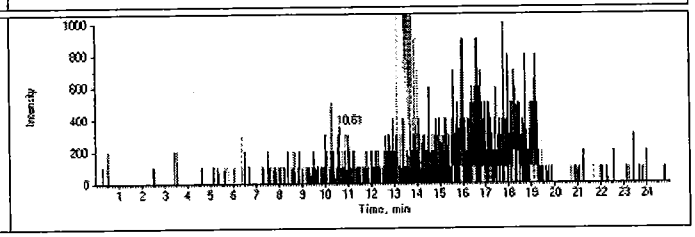
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.61 (10.64) min

Calculated conc: 0.000062

Area Ratio: 1.757e-4

Sample Type: (Quality Control)



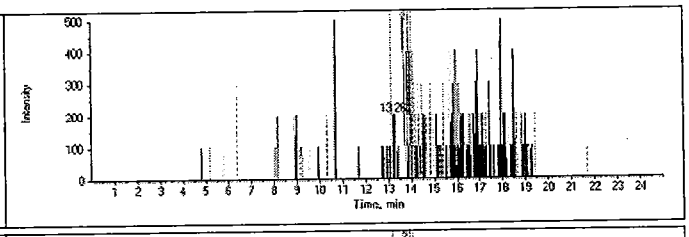
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.000022

Area Ratio: 1.756e-4

Sample Type: (Quality Control)



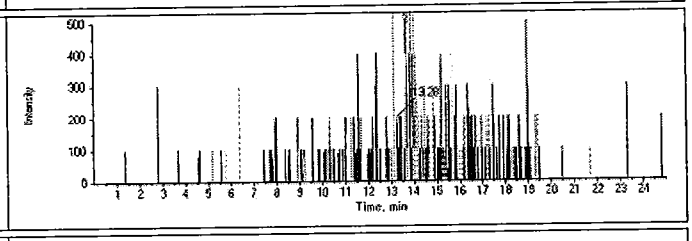
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.000055

Area Ratio: 1.317e-4

Sample Type: (Quality Control)



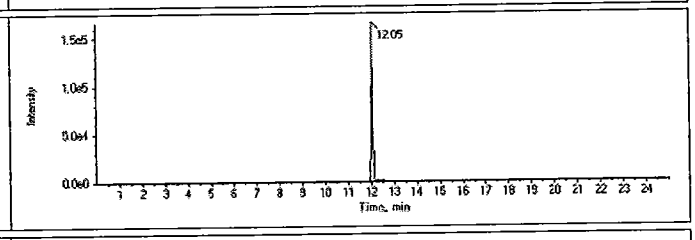
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 92.401250

Area Ratio: N/A

Sample Type: (Quality Control)



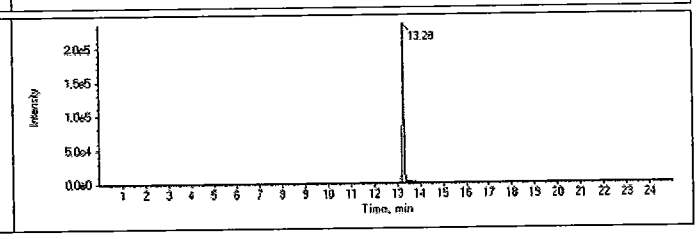
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 99.245336

Area Ratio: N/A

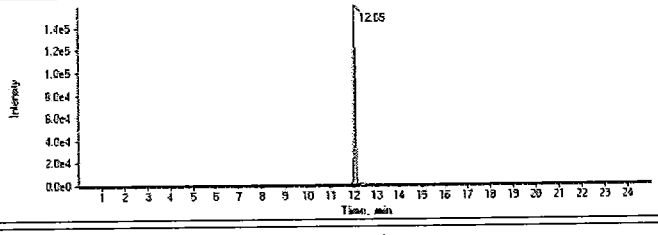
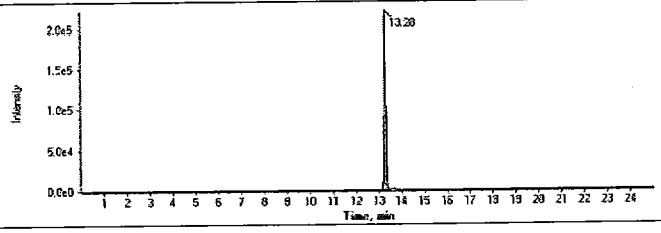
Sample Type: (Quality Control)



Sample Name	MRL_CHK	**Injection Vial**	10
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 12:28:19 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	757856	12.05	100.00000	-
IS-13C-PFOS	1071133	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.775e+04	8.41	0.00250	0.002375
Surr-13c-PFHxA	7.577e+05	8.41	100.00000	100.157719
PFHpA	4.752e+04	10.50	0.00250	0.002388
PFHpA 2	1.099e+04	10.50	0.00250	0.001981
PFOA	4.999e+04	12.05	0.00250	0.002573
PFOA 2	1.721e+04	12.05	0.00250	0.002651
PFNA	3.977e+04	13.28	0.00250	0.002823
PFNA 2	1.025e+04	13.28	0.00250	0.002840
PFDA	3.958e+04	14.32	0.00250	0.002682
PFDA 2	6.425e+03	14.33	0.00250	0.002540
Surr-13c-PFDA	6.010e+05	14.32	100.00000	93.558587
PFUnA	3.423e+04	15.19	0.00250	0.002526
PFUnA 2	4.953e+03	15.19	0.00250	0.002235
PFDoA	2.408e+04	15.93	0.00250	0.002476
PFTrDA	2.538e+04	16.58	0.00250	0.002029
PFTrDA 2	4.364e+03	16.59	0.00250	0.001664
PFTA	1.442e+04	17.14	0.00250	0.002490
PFBS	1.344e+04	6.10	0.00222	0.002553
PFBS 2	3.432e+03	6.08	0.00222	0.001578
PFHxS	1.702e+04	10.64	0.00237	0.001909
PFHxS 2	5.983e+03	10.65	0.00237	0.001976
PFOS	2.055e+04	13.27	0.00240	0.002393
PFOS 2	6.818e+03	13.29	0.00240	0.002681
13C-PFOA	7.579e+05	12.05	100.00000	94.733044
13C-PFOS	1.071e+06	13.28	100.00000	95.205228

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

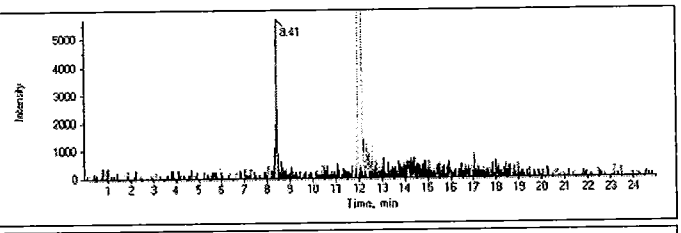
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.002375

Area Ratio: 2.342e-2

Sample Type: (Quality Control)



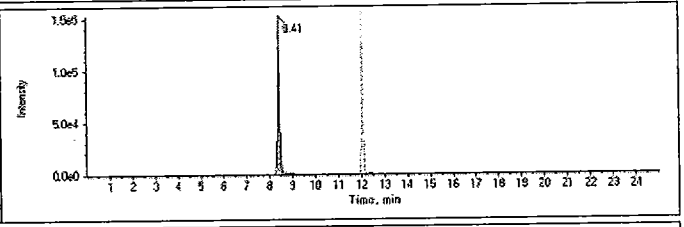
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 100.157719

Area Ratio: 9.998e-1

Sample Type: (Quality Control)



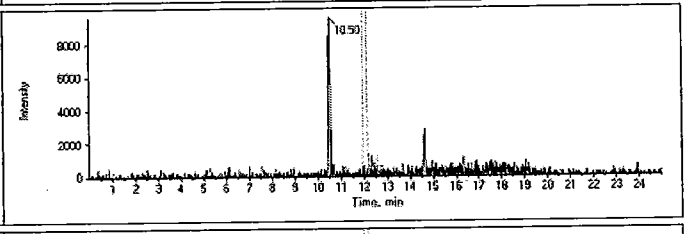
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.002388

Area Ratio: 6.270e-2

Sample Type: (Quality Control)



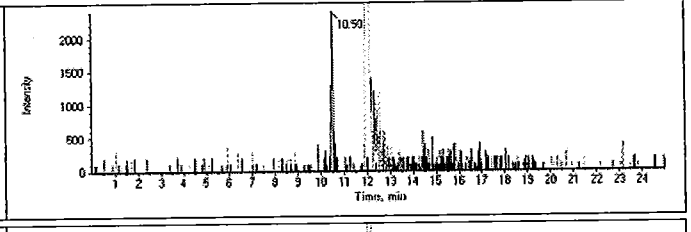
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.001981

Area Ratio: 1.449e-2

Sample Type: (Quality Control)



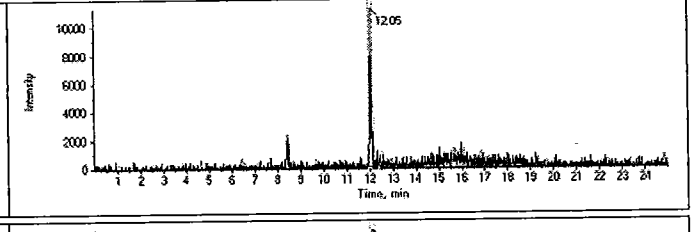
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.002573

Area Ratio: 6.597e-2

Sample Type: (Quality Control)



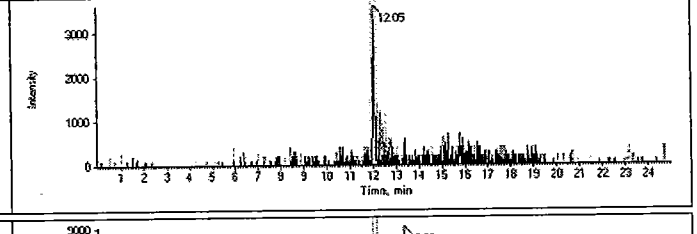
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.002651

Area Ratio: 2.271e-2

Sample Type: (Quality Control)



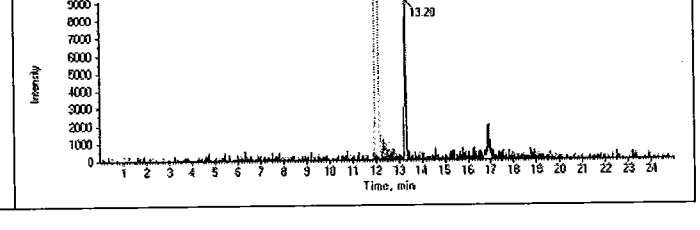
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.002823

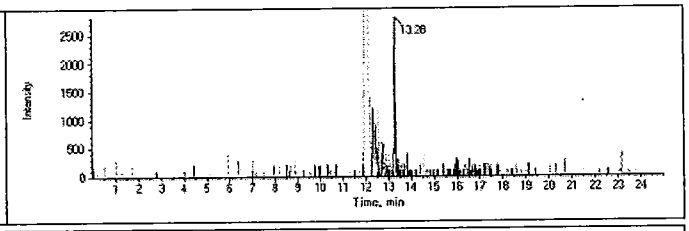
Area Ratio: 5.248e-2

Sample Type: (Quality Control)



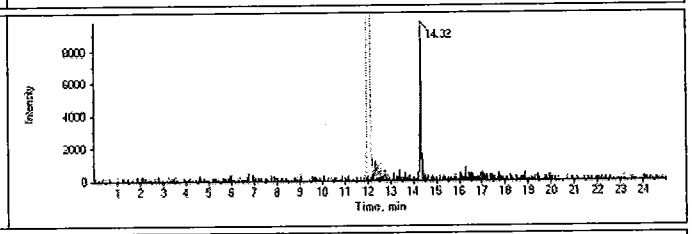
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min
Calculated conc: 0.002840
Area Ratio: 1.352e-2
Sample Type: (Quality Control)



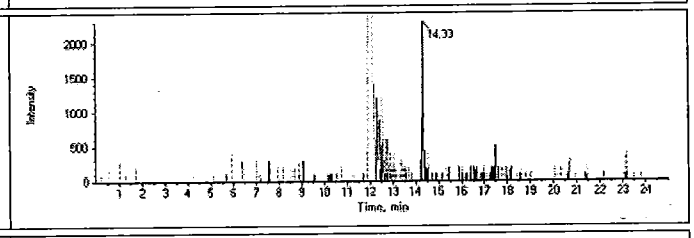
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.002682
Area Ratio: 5.222e-2
Sample Type: (Quality Control)



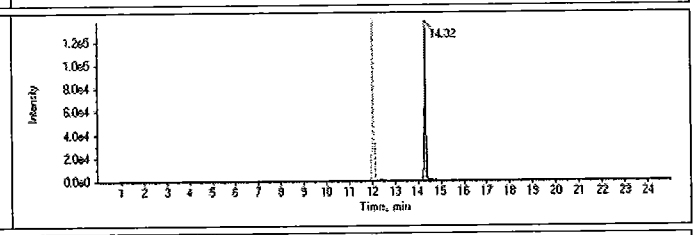
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.33 (14.31) min
Calculated conc: 0.002540
Area Ratio: 8.478e-3
Sample Type: (Quality Control)



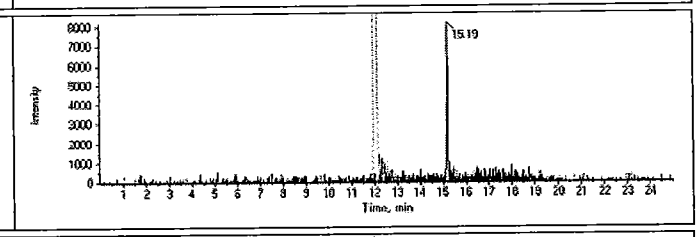
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 93.558587
Area Ratio: 7.931e-1
Sample Type: (Quality Control)



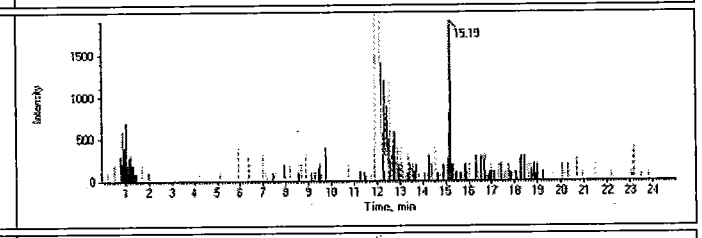
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min
Calculated conc: 0.002526
Area Ratio: 4.517e-2
Sample Type: (Quality Control)



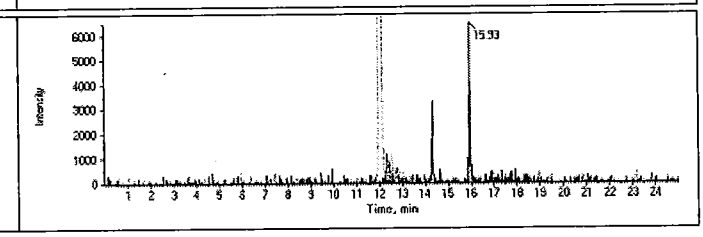
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min
Calculated conc: 0.002235
Area Ratio: 6.536e-3
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min
Calculated conc: 0.002476
Area Ratio: 3.178e-2
Sample Type: (Quality Control)



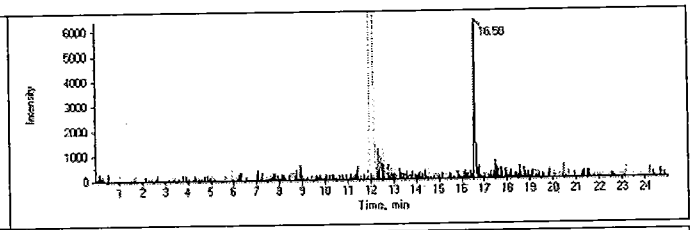
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.002029

Area Ratio: 3.348e-2

Sample Type: (Quality Control)



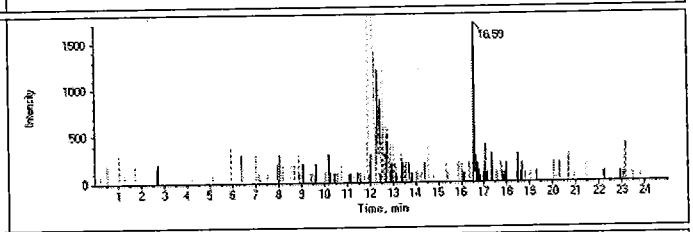
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.001664

Area Ratio: 5.758e-3

Sample Type: (Quality Control)



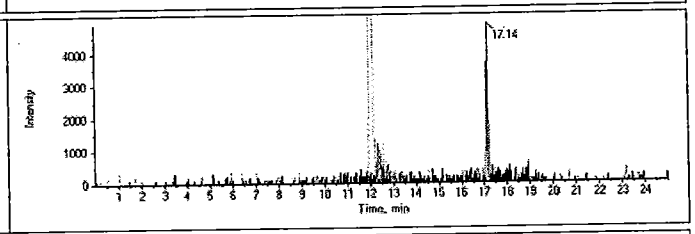
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.002490

Area Ratio: 1.903e-2

Sample Type: (Quality Control)



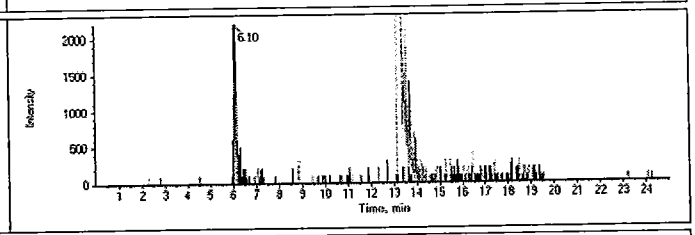
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.002553

Area Ratio: 1.254e-2

Sample Type: (Quality Control)



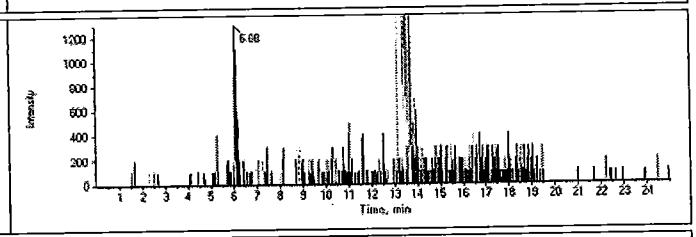
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.08 (6.11) min

Calculated conc: 0.001578

Area Ratio: 3.204e-3

Sample Type: (Quality Control)



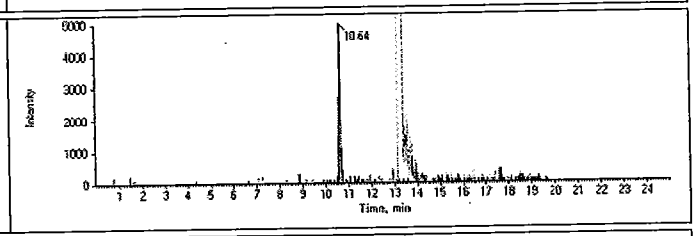
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.001909

Area Ratio: 1.589e-2

Sample Type: (Quality Control)



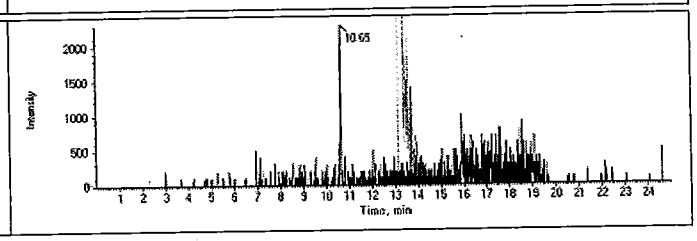
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.001976

Area Ratio: 5.586e-3

Sample Type: (Quality Control)



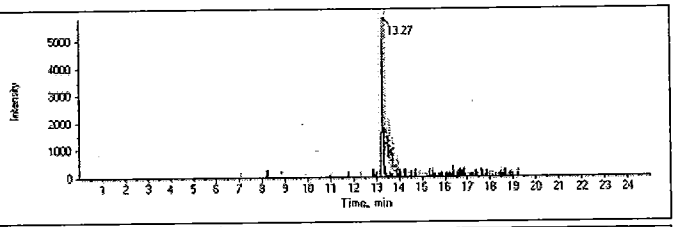
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.002393

Area Ratio: 1.918e-2

Sample Type: (Quality Control)



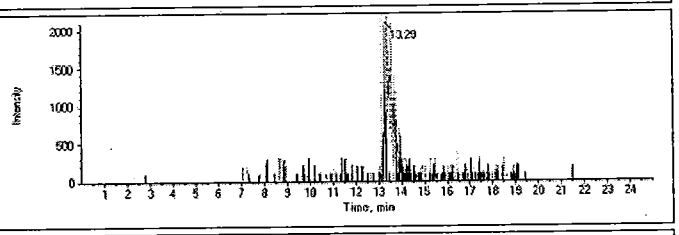
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.002681

Area Ratio: 6.365e-3

Sample Type: (Quality Control)



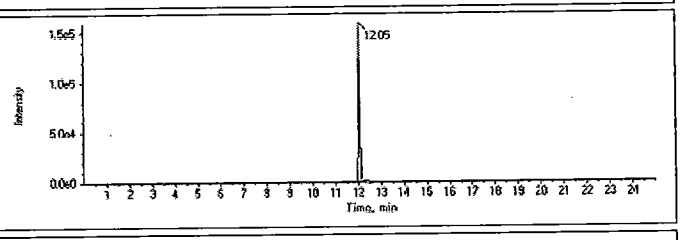
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 94.733044

Area Ratio: N/A

Sample Type: (Quality Control)



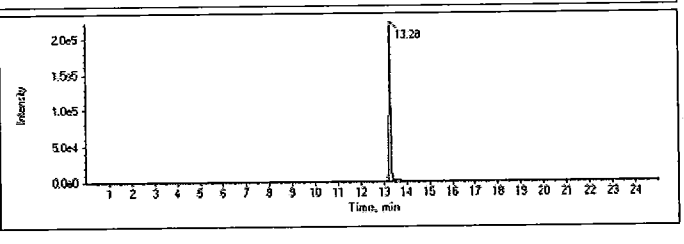
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 95.205228

Area Ratio: N/A

Sample Type: (Quality Control)



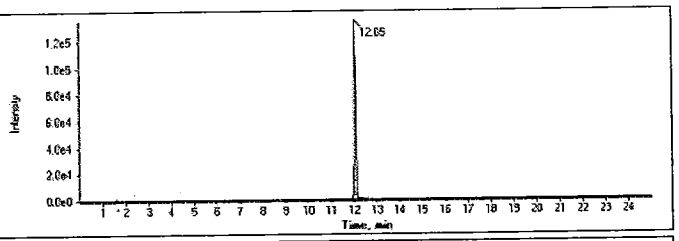
Sample Name	LCS1	**Injection Vial**	11
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 12:53:55 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	713192	12.05	100.00000	-
IS-13C-PFOS	1141871	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.520e+05	8.41	0.02500	0.021603
Surr-13c-PFHxA	6.228e+05	8.40	100.00000	87.480517
PFHpA	4.060e+05	10.50	0.02500	0.021680
PFHpA 2	1.083e+05	10.50	0.02500	0.020755
PFOA	3.955e+05	12.05	0.02500	0.021629
PFOA 2	1.359e+05	12.05	0.02500	0.022242
PFNA	3.187e+05	13.28	0.02500	0.024040
PFNA 2	7.439e+04	13.28	0.02500	0.021900
PFDA	3.056e+05	14.31	0.02500	0.022011
PFDA 2	4.923e+04	14.32	0.02500	0.020683
Surr-13c-PFDA	5.091e+05	14.31	100.00000	84.201482
PFUnA	2.742e+05	15.19	0.02500	0.021503
PFUnA 2	4.693e+04	15.19	0.02500	0.022498
PFDoA	1.733e+05	15.93	0.02500	0.018932
PFTrDA	2.183e+05	16.58	0.02500	0.018555
PFTrDA 2	4.561e+04	16.58	0.02500	0.018477
PFTA	1.076e+05	17.13	0.02500	0.019748
PFBS	1.085e+05	6.10	0.02220	0.019331
PFBS 2	4.024e+04	6.10	0.02220	0.017353
PFHxS	1.727e+05	10.64	0.02370	0.018177
PFHxS 2	6.518e+04	10.64	0.02370	0.020199
PFOS	1.753e+05	13.28	0.02400	0.019153
PFOS 2	5.257e+04	13.28	0.02400	0.019389
13C-PFOA	7.132e+05	12.05	100.00000	89.150038
13C-PFOS	1.142e+06	13.28	100.00000	101.492622

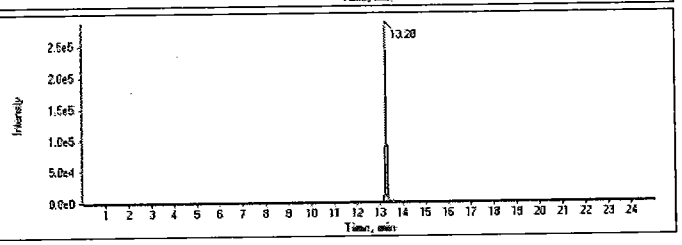
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.05(12.05) min
Concentration: 100.00000
Sample Type: (Quality Control)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.28(13.28) min
Concentration: 100.00000
Sample Type: (Quality Control)



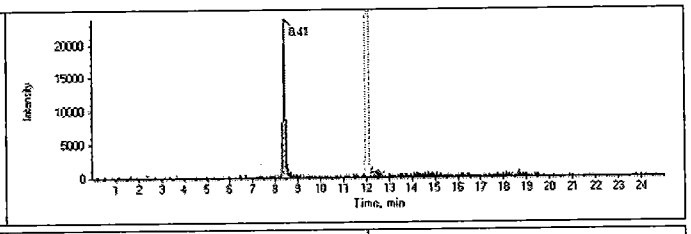
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.021603

Area Ratio: 2.131e-1

Sample Type: (Quality Control)



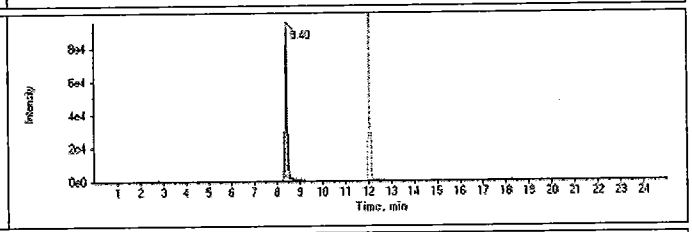
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 87.480517

Area Ratio: 8.733e-1

Sample Type: (Quality Control)



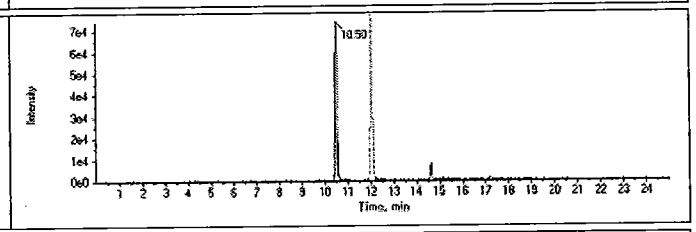
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.021680

Area Ratio: 5.693e-1

Sample Type: (Quality Control)



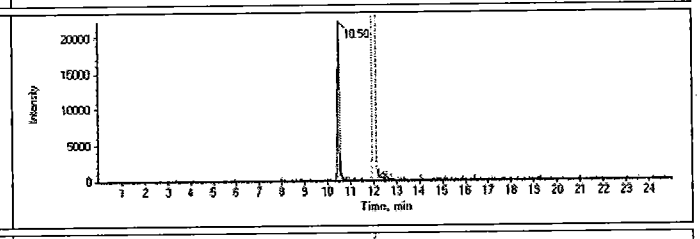
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.020755

Area Ratio: 1.519e-1

Sample Type: (Quality Control)



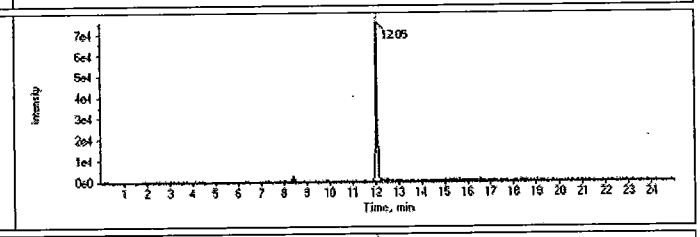
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.021629

Area Ratio: 5.545e-1

Sample Type: (Quality Control)



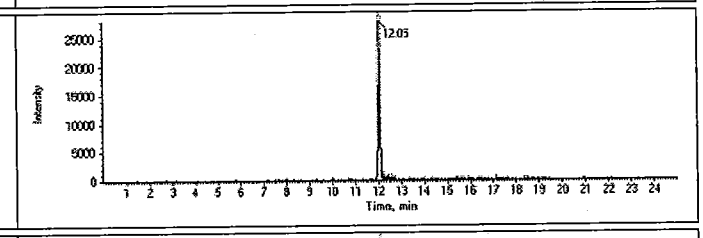
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.022242

Area Ratio: 1.906e-1

Sample Type: (Quality Control)



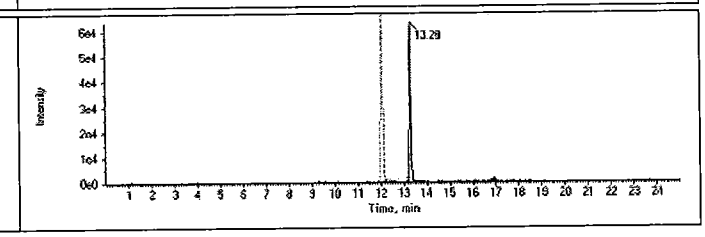
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.024040

Area Ratio: 4.469e-1

Sample Type: (Quality Control)



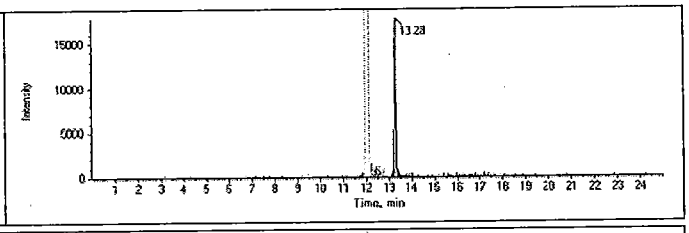
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.021900

Area Ratio: 1.043e-1

Sample Type: (Quality Control)



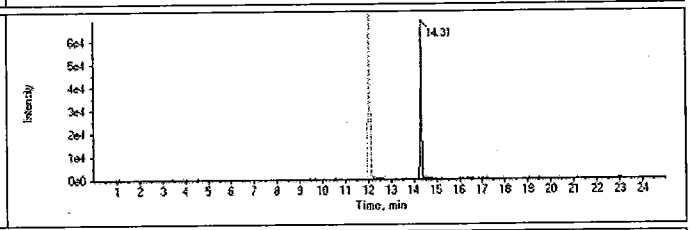
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.022011

Area Ratio: 4.285e-1

Sample Type: (Quality Control)



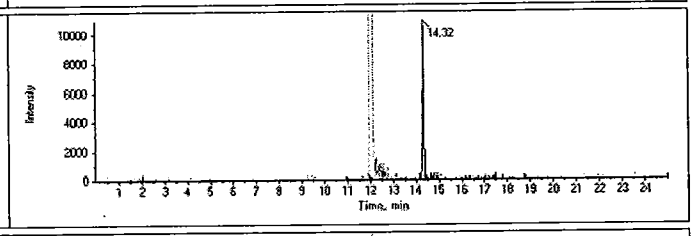
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.020683

Area Ratio: 6.903e-2

Sample Type: (Quality Control)



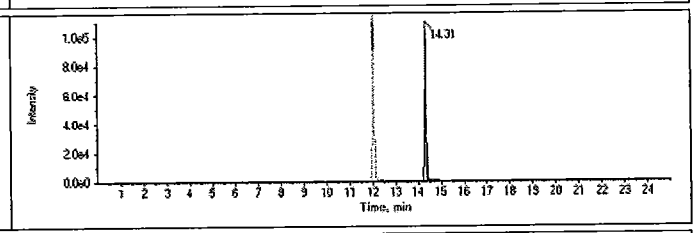
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 84.201482

Area Ratio: 7.138e-1

Sample Type: (Quality Control)



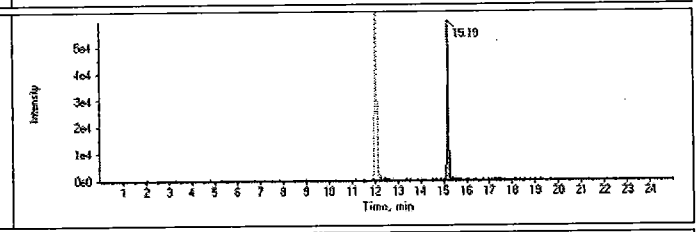
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.021503

Area Ratio: 3.845e-1

Sample Type: (Quality Control)



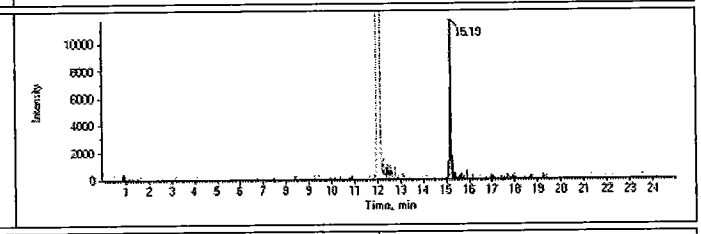
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.022498

Area Ratio: 6.580e-2

Sample Type: (Quality Control)



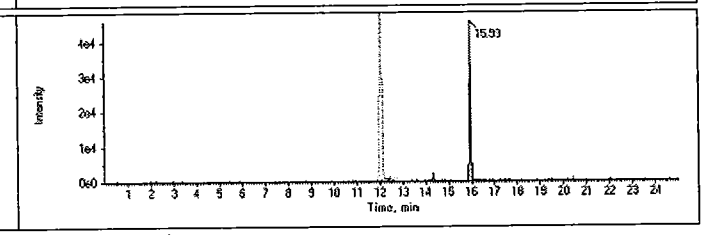
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.018932

Area Ratio: 2.429e-1

Sample Type: (Quality Control)

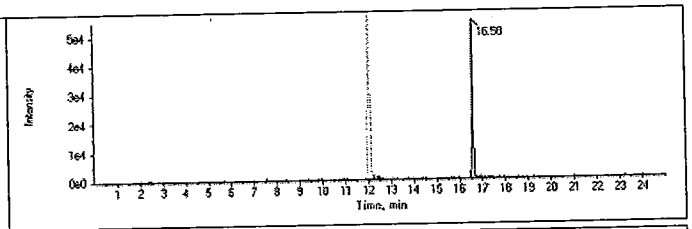


PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.018555

Area Ratio: 3.061e-1
Sample Type: (Quality Control)

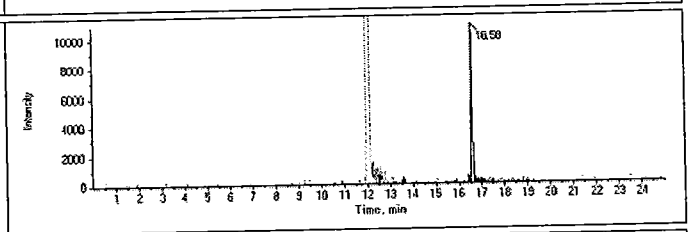


PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.018477

Area Ratio: 6.395e-2
Sample Type: (Quality Control)

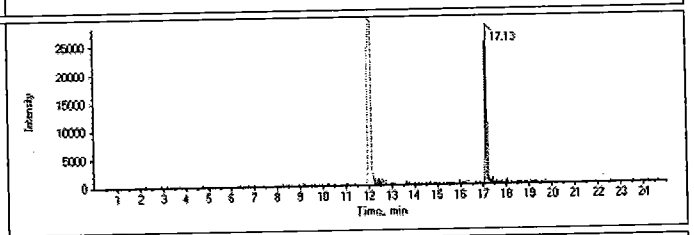


PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.019748

Area Ratio: 1.509e-1
Sample Type: (Quality Control)

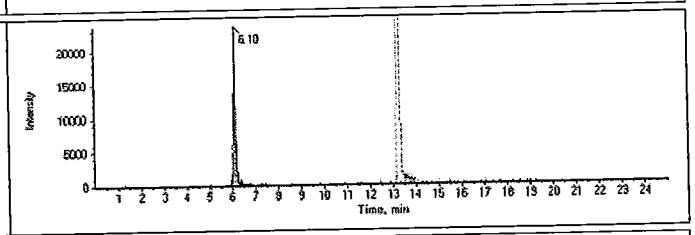


PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.019331

Area Ratio: 9.500e-2
Sample Type: (Quality Control)

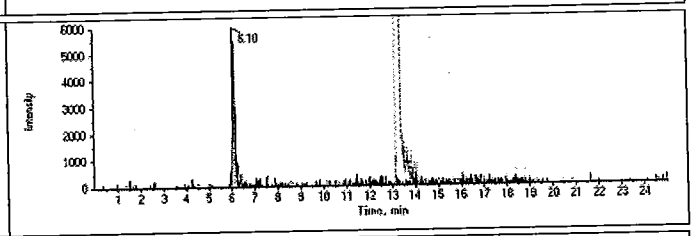


PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.017353

Area Ratio: 3.524e-2
Sample Type: (Quality Control)

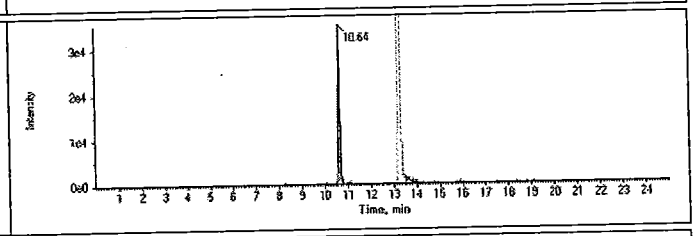


PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.018177

Area Ratio: 1.512e-1
Sample Type: (Quality Control)

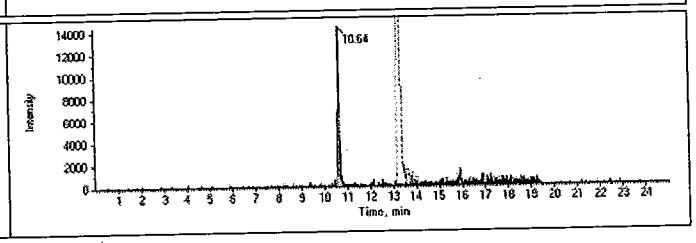


PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.020199

Area Ratio: 5.709e-2
Sample Type: (Quality Control)



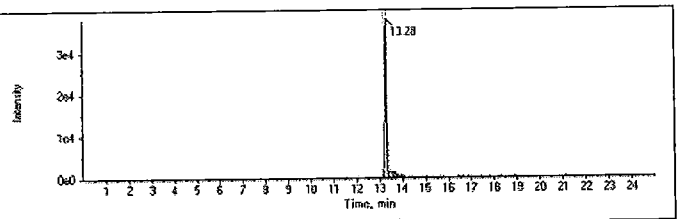
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.019153

Area Ratio: 1.535e-1

Sample Type: (Quality Control)



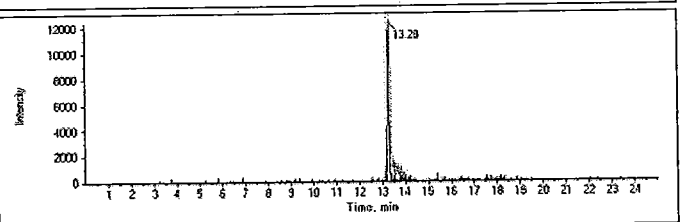
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.019389

Area Ratio: 4.604e-2

Sample Type: (Quality Control)



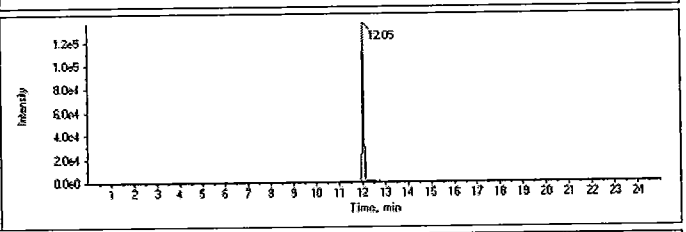
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 89.150038

Area Ratio: N/A

Sample Type: (Quality Control)



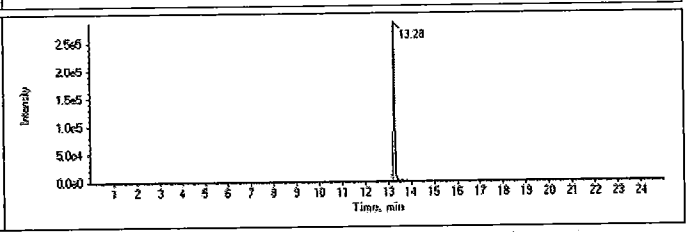
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 101.492622

Area Ratio: N/A

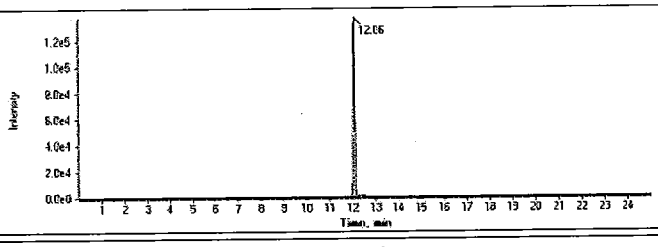
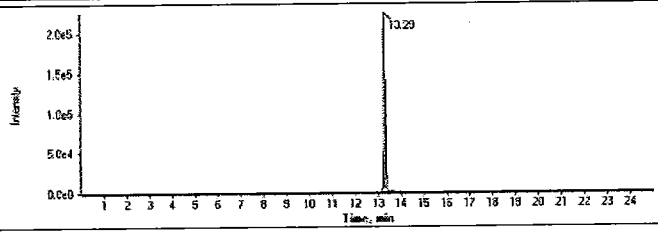
Sample Type: (Quality Control)



Sample Name	LCS2	**Injection Vial**	12
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 1:19:30 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	708642	12.06	100.00000	-
IS-13C-PFOS	1061477	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.613e+05	8.42	0.02500	0.023069
Surr-13c-PFHxA	6.619e+05	8.42	100.00000	93.563198
PFHpA	4.370e+05	10.51	0.02500	0.023483
PFHpA 2	1.190e+05	10.51	0.02500	0.022956
PFOA	4.398e+05	12.06	0.02500	0.024208
PFOA 2	1.406e+05	12.06	0.02500	0.023152
PFNA	3.539e+05	13.29	0.02500	0.026867
PFNA 2	8.379e+04	13.29	0.02500	0.024827
PFDA	3.382e+05	14.33	0.02500	0.024514
PFDA 2	5.953e+04	14.33	0.02500	0.025168
Surr-13c-PFDA	5.923e+05	14.33	100.00000	98.600677
PFUnA	3.053e+05	15.20	0.02500	0.024092
PFUnA 2	5.277e+04	15.20	0.02500	0.025461
PFDoA	1.976e+05	15.95	0.02500	0.021731
PFTrDA	2.257e+05	16.59	0.02500	0.019303
PFTrDA 2	4.767e+04	16.59	0.02500	0.019436
PFTA	1.127e+05	17.15	0.02500	0.020822
PFBS	1.152e+05	6.11	0.02220	0.022093
PFBS 2	4.463e+04	6.11	0.02220	0.020705
PFHxS	1.888e+05	10.65	0.02370	0.021373
PFHxS 2	6.835e+04	10.65	0.02370	0.022785
PFOS	1.909e+05	13.29	0.02400	0.022434
PFOS 2	5.349e+04	13.29	0.02400	0.021224
13C-PFOA	7.086e+05	12.06	100.00000	88.581294
13C-PFOS	1.061e+06	13.29	100.00000	94.347024

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.06(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

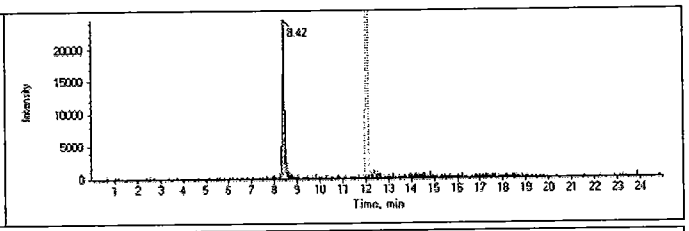
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.42 (8.40) min

Calculated conc: 0.023069

Area Ratio: 2.275e-1

Sample Type: (Quality Control)



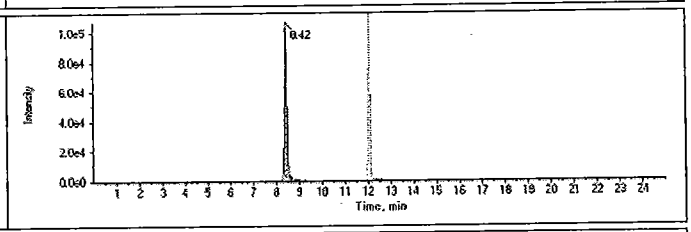
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.42 (8.41) min

Calculated conc: 93.563198

Area Ratio: 9.340e-1

Sample Type: (Quality Control)



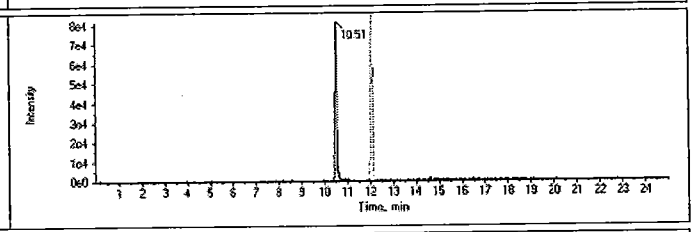
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.023483

Area Ratio: 6.166e-1

Sample Type: (Quality Control)



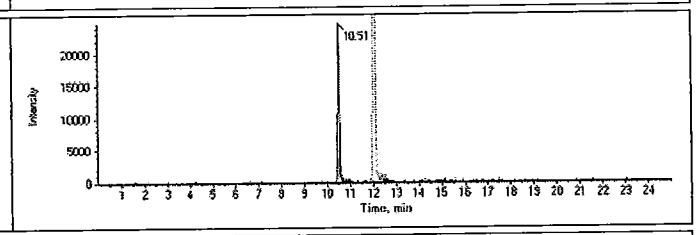
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.022956

Area Ratio: 1.680e-1

Sample Type: (Quality Control)



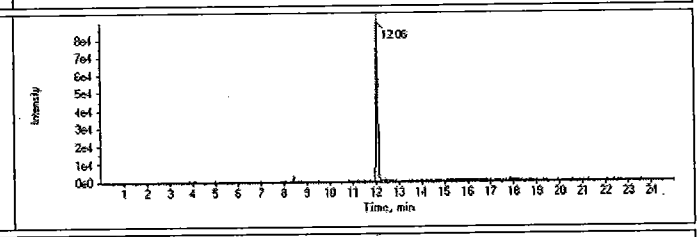
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 0.024208

Area Ratio: 6.206e-1

Sample Type: (Quality Control)



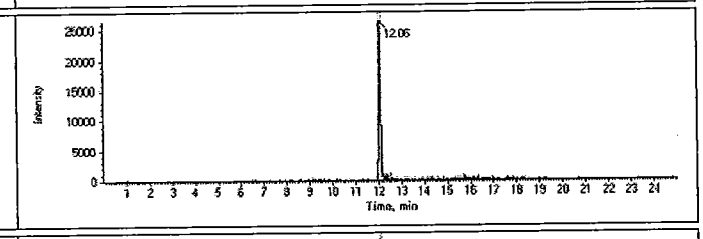
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.023152

Area Ratio: 1.984e-1

Sample Type: (Quality Control)



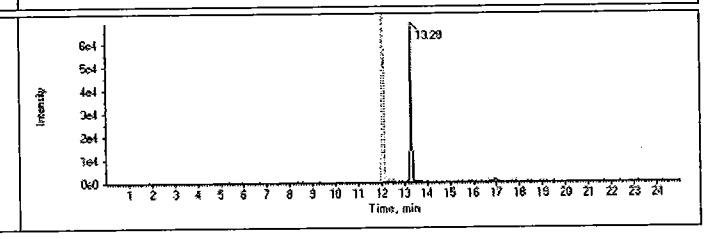
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.026867

Area Ratio: 4.994e-1

Sample Type: (Quality Control)



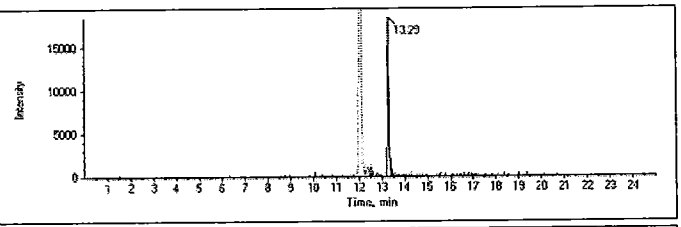
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.024827

Area Ratio: 1.182e-1

Sample Type: (Quality Control)



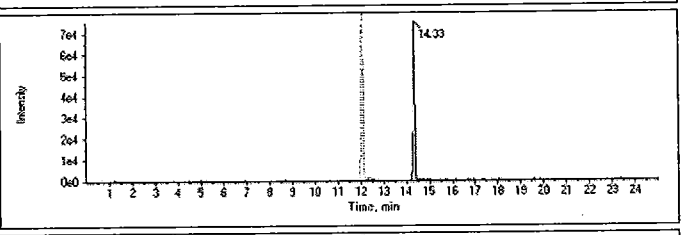
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 0.024514

Area Ratio: 4.773e-1

Sample Type: (Quality Control)



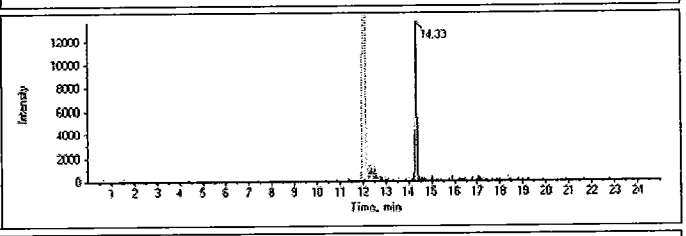
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.33 (14.31) min

Calculated conc: 0.025168

Area Ratio: 8.400e-2

Sample Type: (Quality Control)



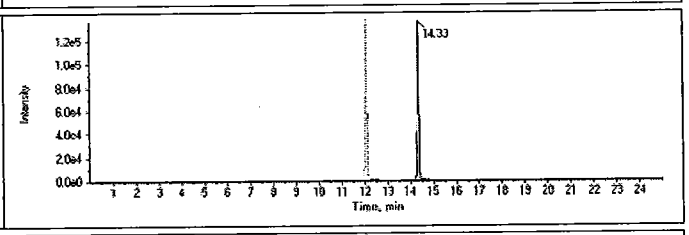
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 98.600677

Area Ratio: 8.358e-1

Sample Type: (Quality Control)



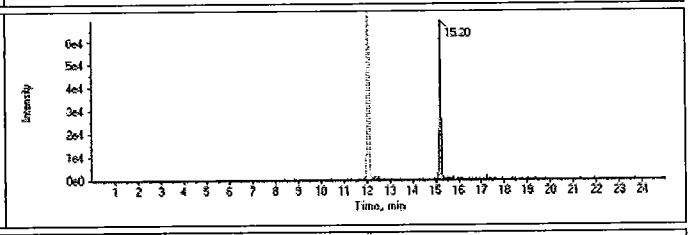
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.024092

Area Ratio: 4.308e-1

Sample Type: (Quality Control)



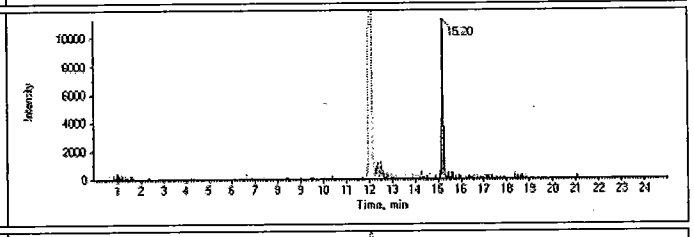
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.025461

Area Ratio: 7.446e-2

Sample Type: (Quality Control)



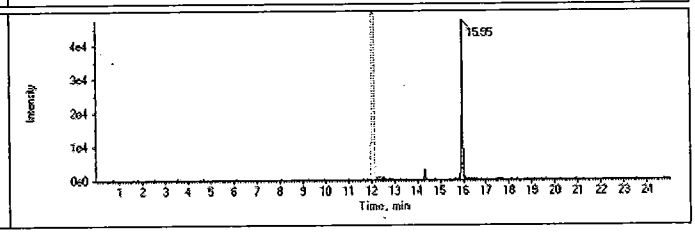
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.95 (15.93) min

Calculated conc: 0.021731

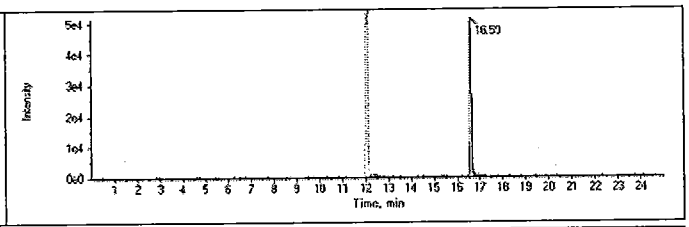
Area Ratio: 2.789e-1

Sample Type: (Quality Control)



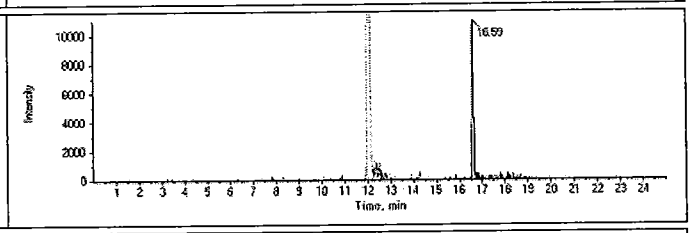
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min
Calculated conc: 0.019303
Area Ratio: 3.185e-1
Sample Type: (Quality Control)



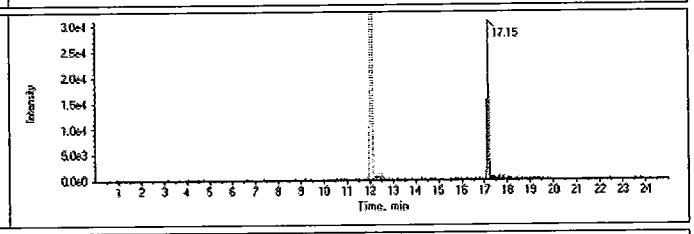
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.59 (16.58) min
Calculated conc: 0.019436
Area Ratio: 6.727e-2
Sample Type: (Quality Control)



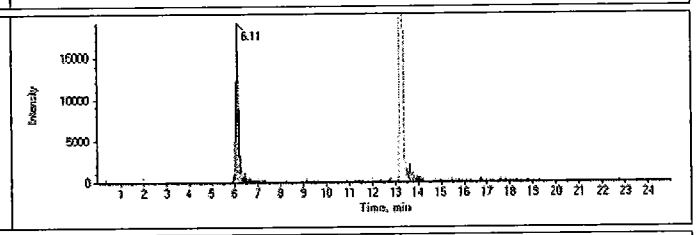
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.15 (17.14) min
Calculated conc: 0.020822
Area Ratio: 1.591e-1
Sample Type: (Quality Control)



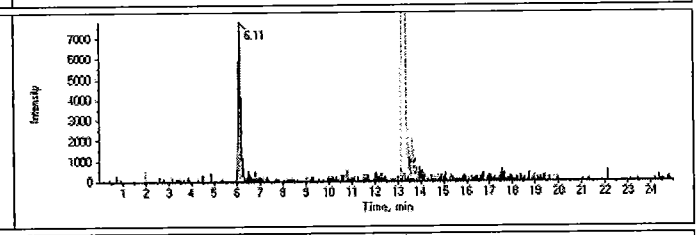
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min
Calculated conc: 0.022093
Area Ratio: 1.086e-1
Sample Type: (Quality Control)



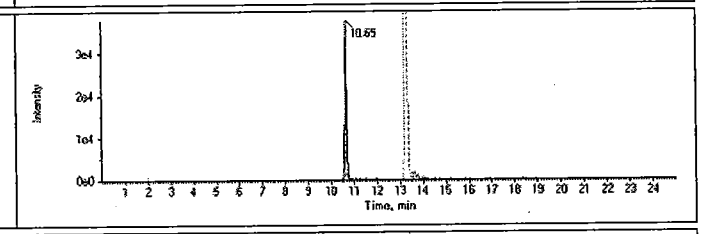
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min
Calculated conc: 0.020705
Area Ratio: 4.204e-2
Sample Type: (Quality Control)



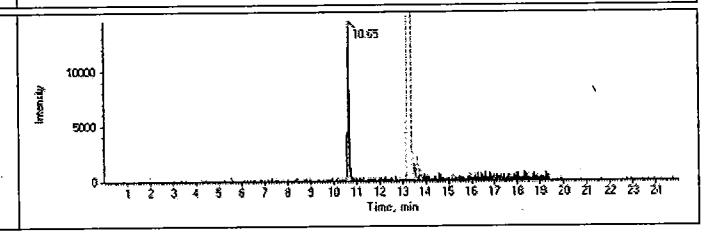
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.65 (10.64) min
Calculated conc: 0.021373
Area Ratio: 1.778e-1
Sample Type: (Quality Control)



PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.65 (10.64) min
Calculated conc: 0.022785
Area Ratio: 6.439e-2
Sample Type: (Quality Control)



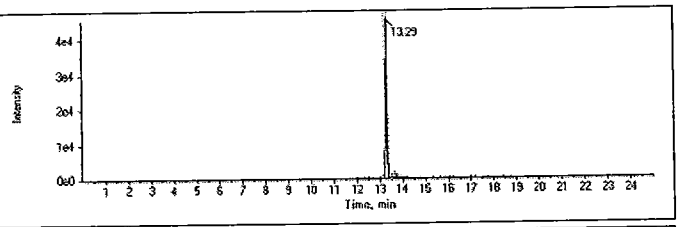
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.022434

Area Ratio: 1.798e-1

Sample Type: (Quality Control)



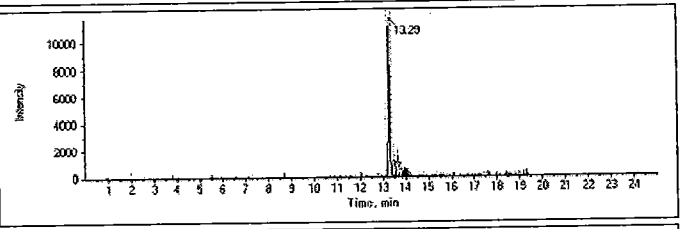
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.021224

Area Ratio: 5.039e-2

Sample Type: (Quality Control)



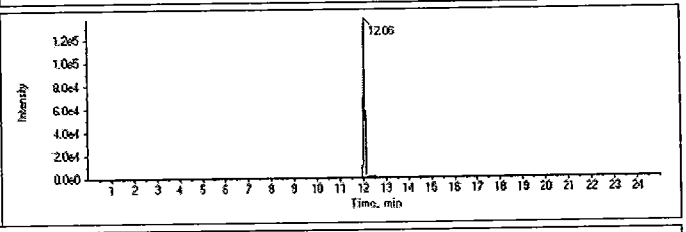
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 88.581294

Area Ratio: N/A

Sample Type: (Quality Control)



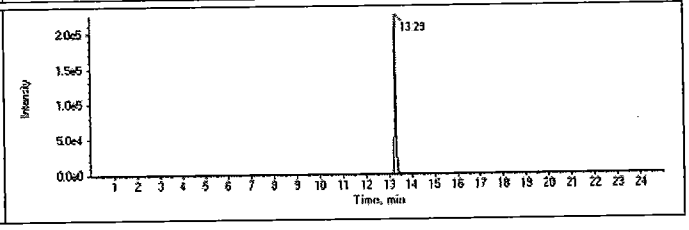
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 94.347024

Area Ratio: N/A

Sample Type: (Quality Control)



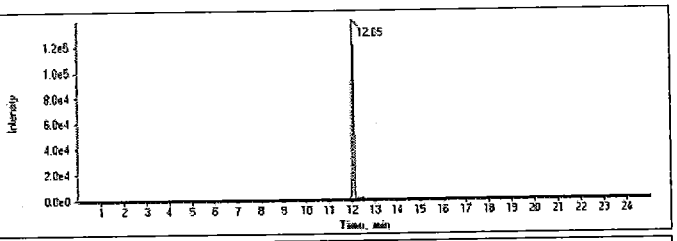
Sample Name	201405010499MS1	**Injection Vial**	13
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 1:45:05 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	723221	12.05	100.00000	-
IS-13C-PFOS	1024759	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.685e+05	8.42	0.02500	0.023619
Surr-13c-PFHxA	6.816e+05	8.42	100.00000	94.410588
PFHpA	4.306e+05	10.51	0.02500	0.022675
PFHpA 2	1.193e+05	10.51	0.02500	0.022547
PFOA	4.689e+05	12.06	0.02500	0.025291
PFOA 2	1.522e+05	12.06	0.02500	0.024555
PFNA	3.425e+05	13.30	0.02500	0.025476
PFNA 2	8.802e+04	13.30	0.02500	0.025553
PFDA	3.341e+05	14.33	0.02500	0.023730
PFDA 2	5.433e+04	14.33	0.02500	0.022509
Surr-13c-PFDA	5.781e+05	14.33	100.00000	94.288952
PFUnA	2.750e+05	15.20	0.02500	0.021265
PFUnA 2	4.811e+04	15.20	0.02500	0.022749
PFDoA	1.755e+05	15.95	0.02500	0.018910
PFTrDA	2.141e+05	16.59	0.02500	0.017944
PFTrDA 2	4.568e+04	16.59	0.02500	0.018251
PFTA	1.020e+05	17.15	0.02500	0.018462
PFBS	1.027e+05	6.12	0.02220	0.020401
PFBS 2	4.001e+04	6.11	0.02220	0.019230
PFHxS	1.863e+05	10.65	0.02370	0.021851
PFHxS 2	6.316e+04	10.65	0.02370	0.021809
PFOS	1.809e+05	13.29	0.02400	0.022023
PFOS 2	5.860e+04	13.29	0.02400	0.024084
13C-PFOA	7.232e+05	12.05	100.00000	90.403602
13C-PFOS	1.025e+06	13.29	100.00000	91.083405

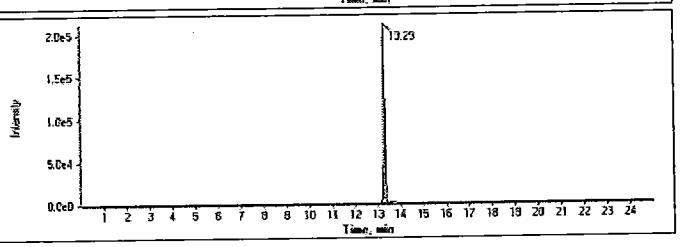
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.05(12.05) min
Concentration: 100.00000
Sample Type: (Quality Control)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.29(13.28) min
Concentration: 100.00000
Sample Type: (Quality Control)

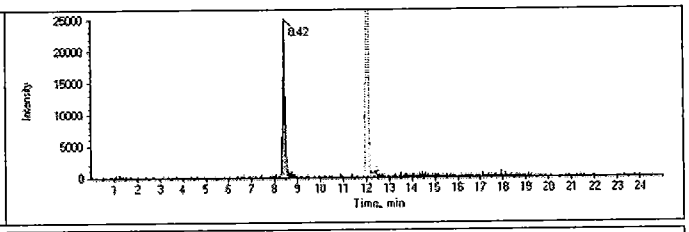


PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.42 (8.40) min

Calculated conc: 0.023619

Area Ratio: 2.330e-1
Sample Type: (Quality Control)

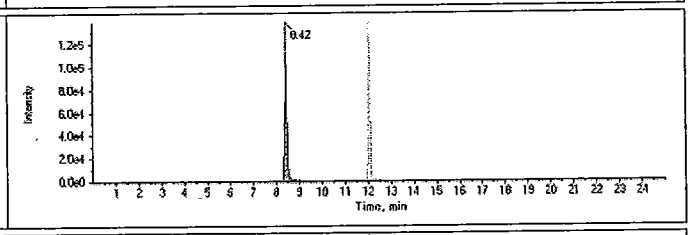


Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.42 (8.41) min

Calculated conc: 94.410588

Area Ratio: 9.424e-1
Sample Type: (Quality Control)

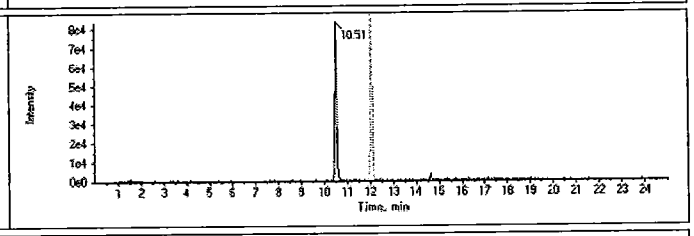


PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.022675

Area Ratio: 5.954e-1
Sample Type: (Quality Control)

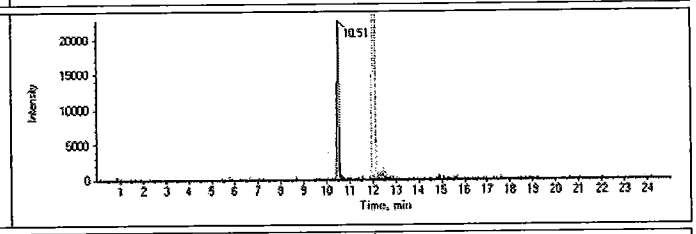


PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.51 (10.50) min

Calculated conc: 0.022547

Area Ratio: 1.650e-1
Sample Type: (Quality Control)

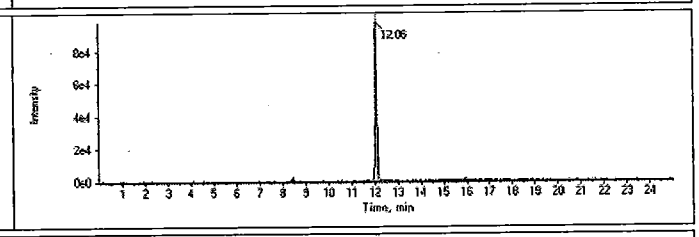


PFOA (413.0 / 368.9)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 0.025291

Area Ratio: 6.484e-1
Sample Type: (Quality Control)

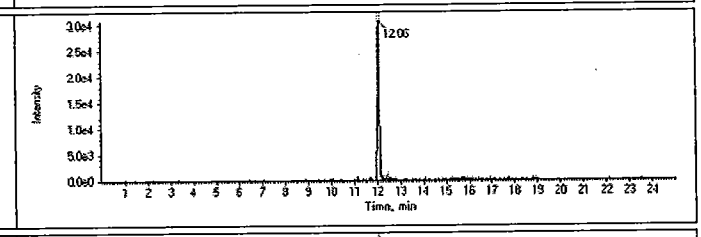


PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.024555

Area Ratio: 2.104e-1
Sample Type: (Quality Control)

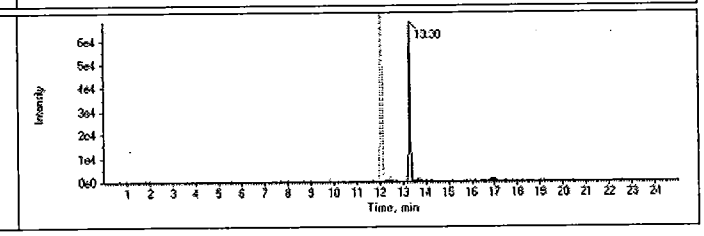


PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.025476

Area Ratio: 4.736e-1
Sample Type: (Quality Control)

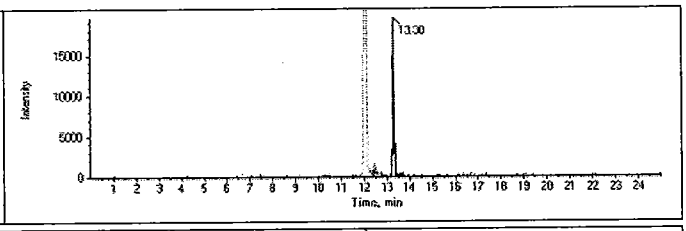


PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.025553

Area Ratio: 1.217e-1
Sample Type: (Quality Control)

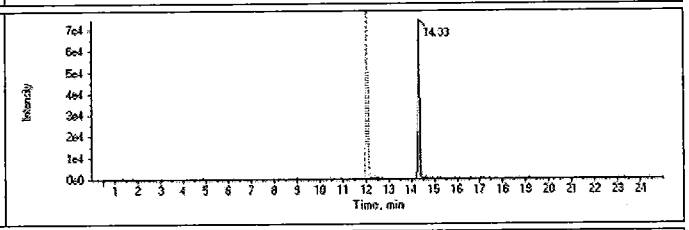


PFDA (513.0 / 469.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 0.023730

Area Ratio: 4.620e-1
Sample Type: (Quality Control)

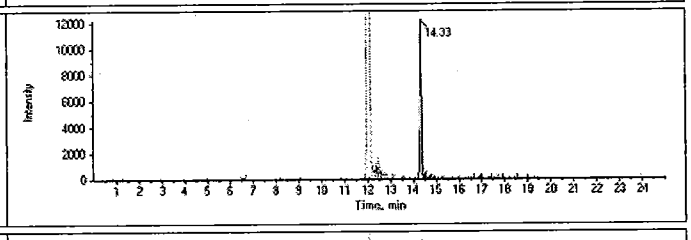


PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.33 (14.31) min

Calculated conc: 0.022509

Area Ratio: 7.513e-2
Sample Type: (Quality Control)

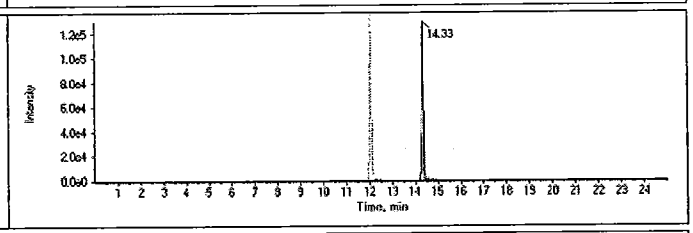


Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 94.288952

Area Ratio: 7.993e-1
Sample Type: (Quality Control)

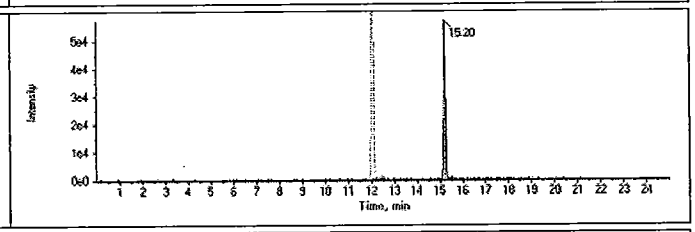


PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.021265

Area Ratio: 3.803e-1
Sample Type: (Quality Control)

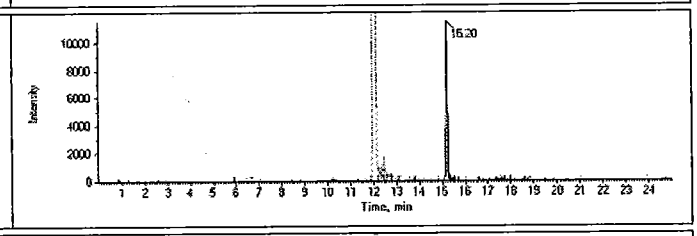


PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.022749

Area Ratio: 6.653e-2
Sample Type: (Quality Control)

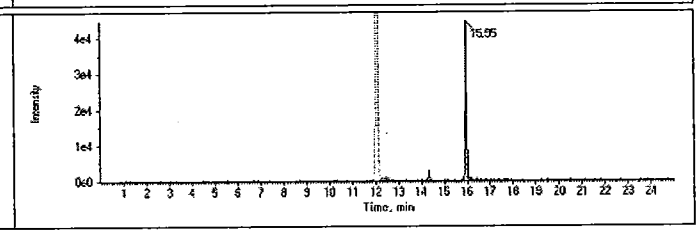


PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.95 (15.93) min

Calculated conc: 0.018910

Area Ratio: 2.427e-1
Sample Type: (Quality Control)



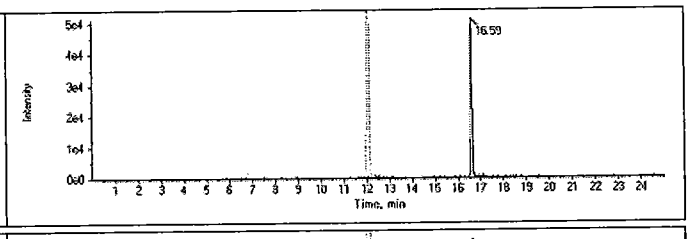
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.017944

Area Ratio: 2.961e-1

Sample Type: (Quality Control)



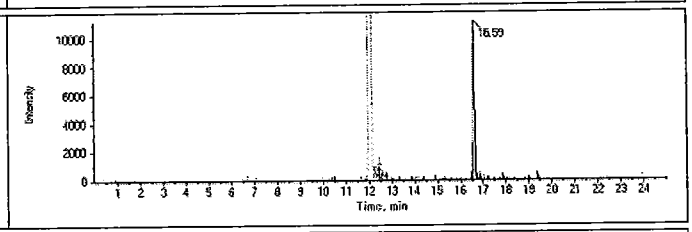
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.018251

Area Ratio: 6.316e-2

Sample Type: (Quality Control)



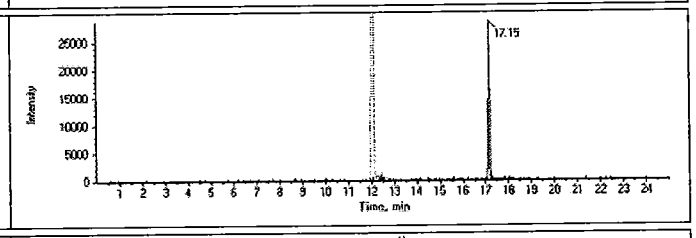
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.15 (17.14) min

Calculated conc: 0.018462

Area Ratio: 1.411e-1

Sample Type: (Quality Control)



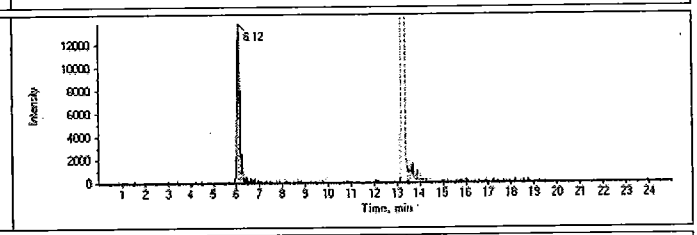
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.12 (6.10) min

Calculated conc: 0.020401

Area Ratio: 1.003e-1

Sample Type: (Quality Control)



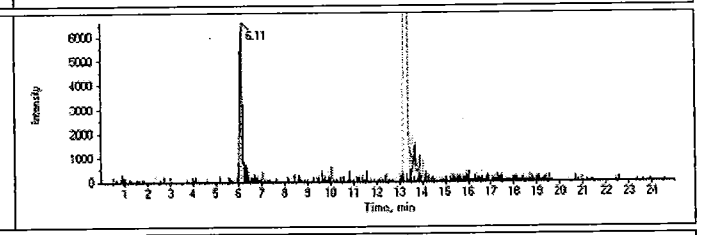
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.019230

Area Ratio: 3.905e-2

Sample Type: (Quality Control)



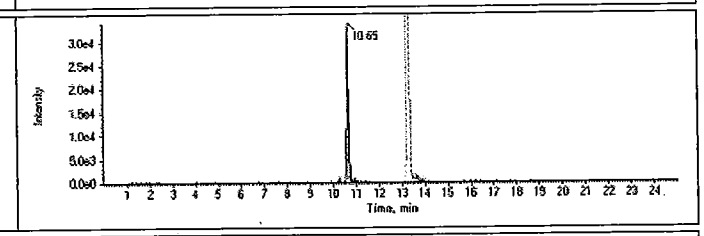
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.021851

Area Ratio: 1.818e-1

Sample Type: (Quality Control)



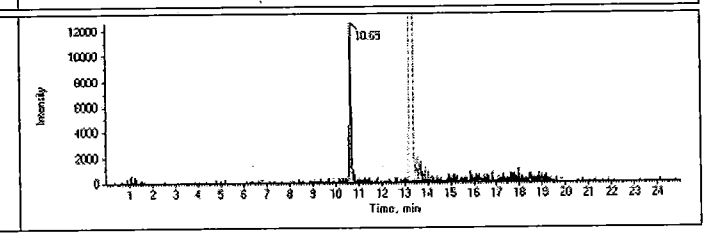
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.021809

Area Ratio: 6.164e-2

Sample Type: (Quality Control)



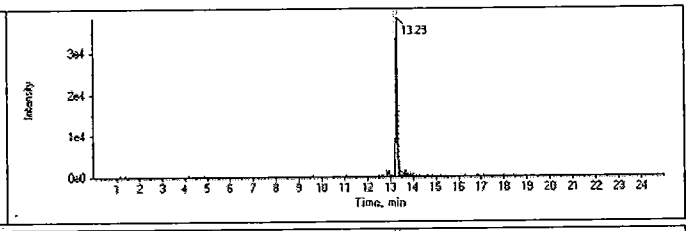
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.022023

Area Ratio: 1.765e-1

Sample Type: (Quality Control)



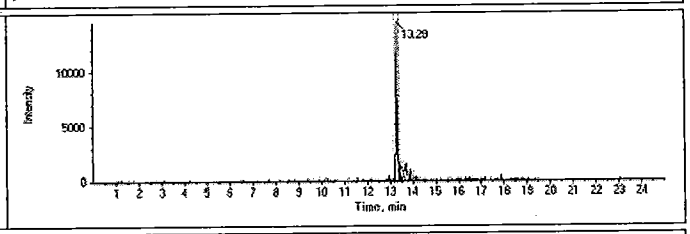
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.024084

Area Ratio: 5.718e-2

Sample Type: (Quality Control)



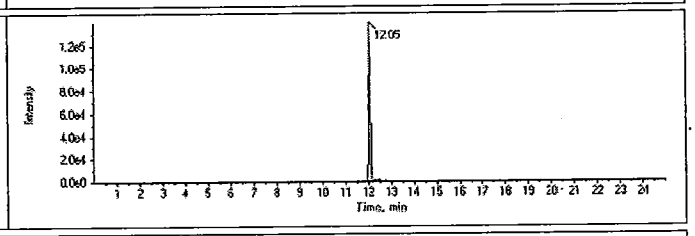
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 90.403602

Area Ratio: N/A

Sample Type: (Quality Control)



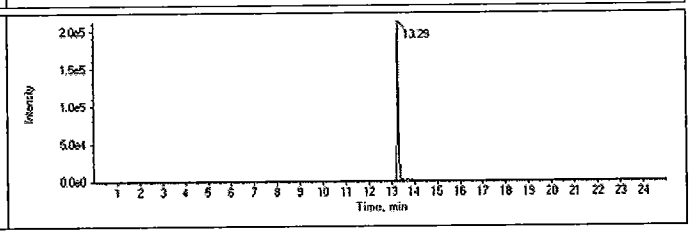
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 91.083405

Area Ratio: N/A

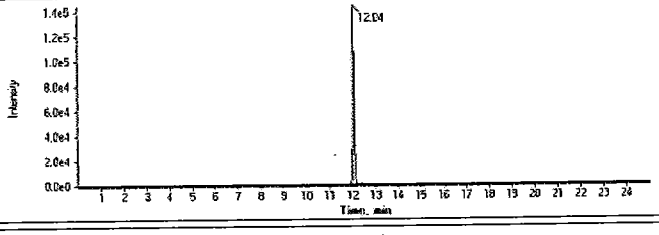
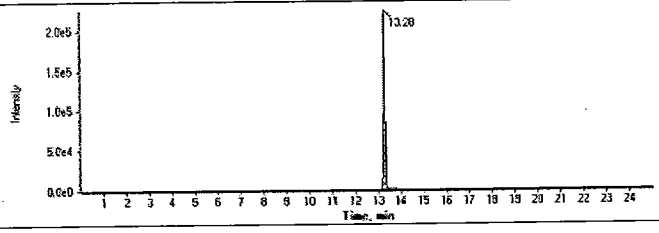
Sample Type: (Quality Control)



Sample Name	201405010499MSD1	**Injection Vial**	14
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 2:10:40 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	719048	12.04	100.00000	-
IS-13C-PFOS	1085086	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.688e+05	8.40	0.02500	0.023806
Surr-13c-PFHxA	7.074e+05	8.40	100.00000	98.556375
PFHpA	4.569e+05	10.49	0.02500	0.024198
PFHpA 2	1.279e+05	10.50	0.02500	0.024310
PFOA	4.723e+05	12.04	0.02500	0.025619
PFOA 2	1.664e+05	12.05	0.02500	0.027011
PFNA	3.654e+05	13.28	0.02500	0.027340
PFNA 2	9.696e+04	13.28	0.02500	0.028312
PFDA	3.644e+05	14.31	0.02500	0.026030
PFDA 2	6.305e+04	14.31	0.02500	0.026272
Surr-13c-PFDA	6.187e+05	14.31	100.00000	101.496782
PFUnA	3.150e+05	15.19	0.02500	0.024494
PFUnA 2	5.624e+04	15.19	0.02500	0.026746
PFDoA	2.105e+05	15.93	0.02500	0.022814
PFTrDA	2.415e+05	16.58	0.02500	0.020360
PFTrDA 2	4.958e+04	16.58	0.02500	0.019924
PFTA	1.165e+05	17.13	0.02500	0.021203
PFBS	1.134e+05	6.11	0.02220	0.021269
PFBS 2	4.994e+04	6.09	0.02220	0.022667
PFHxS	1.987e+05	10.64	0.02370	0.022004
PFHxS 2	6.979e+04	10.63	0.02370	0.022757
PFOS	2.174e+05	13.28	0.02400	0.024991
PFOS 2	6.062e+04	13.28	0.02400	0.023528
13C-PFOA	7.190e+05	12.04	100.00000	89.881965
13C-PFOS	1.085e+06	13.28	100.00000	96.445471

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

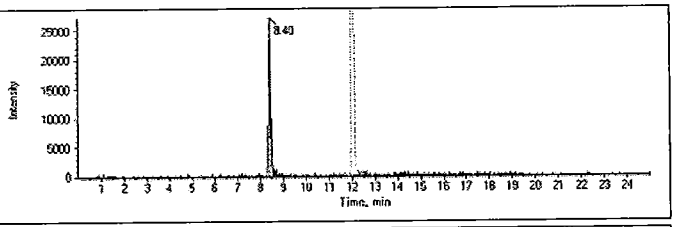
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.40 (8.40) min

Calculated conc: 0.023806

Area Ratio: 2.348e-1

Sample Type: (Quality Control)



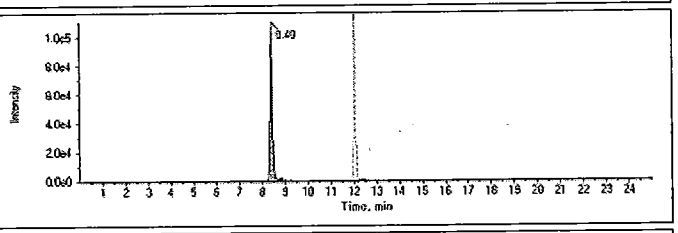
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 98.556375

Area Ratio: 9.838e-1

Sample Type: (Quality Control)



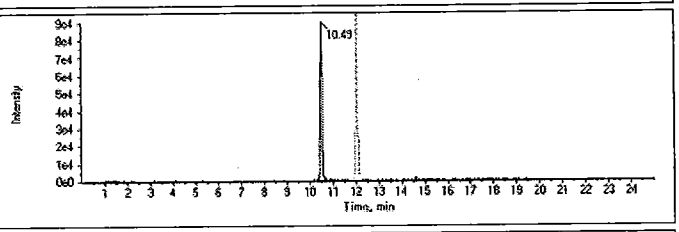
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.024198

Area Ratio: 6.354e-1

Sample Type: (Quality Control)



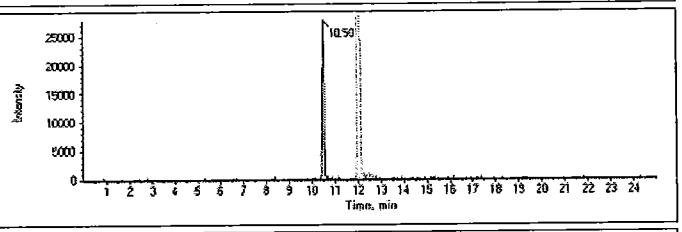
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.024310

Area Ratio: 1.779e-1

Sample Type: (Quality Control)



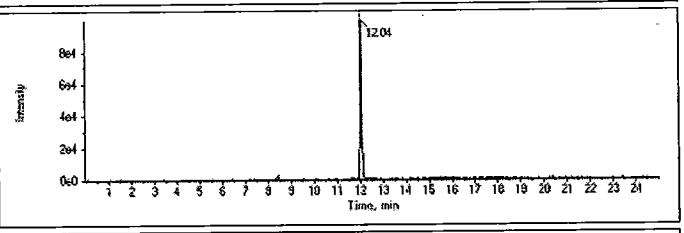
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.025619

Area Ratio: 6.568e-1

Sample Type: (Quality Control)



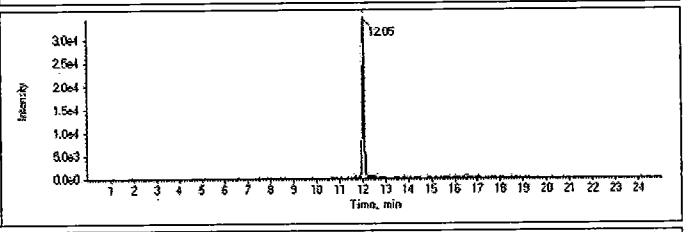
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.027011

Area Ratio: 2.315e-1

Sample Type: (Quality Control)



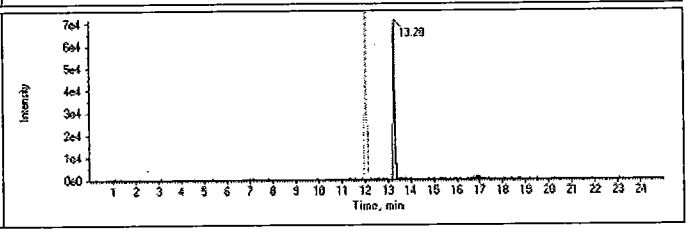
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.027340

Area Ratio: 5.082e-1

Sample Type: (Quality Control)



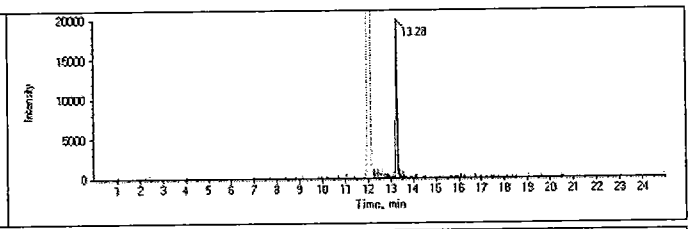
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.028312

Area Ratio: 1.348e-1

Sample Type: (Quality Control)



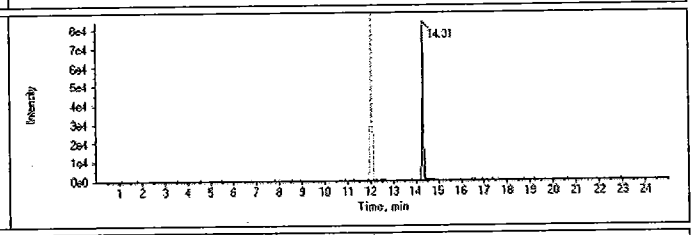
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.026030

Area Ratio: 5.068e-1

Sample Type: (Quality Control)



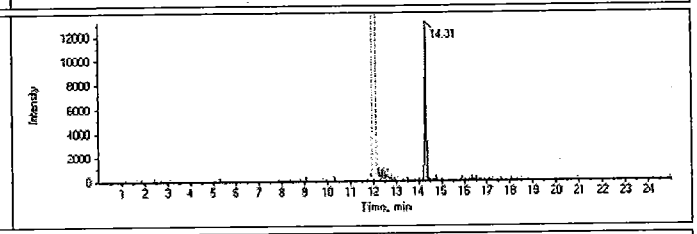
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min

Calculated conc: 0.026272

Area Ratio: 8.768e-2

Sample Type: (Quality Control)



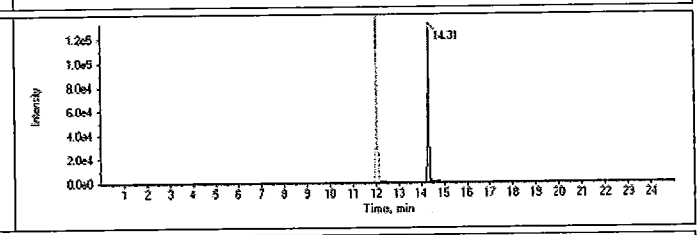
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 101.496782

Area Ratio: 8.604e-1

Sample Type: (Quality Control)



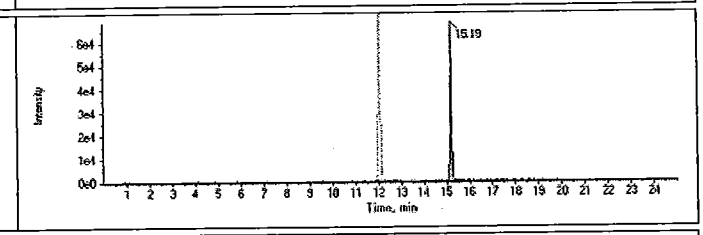
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.024494

Area Ratio: 4.380e-1

Sample Type: (Quality Control)



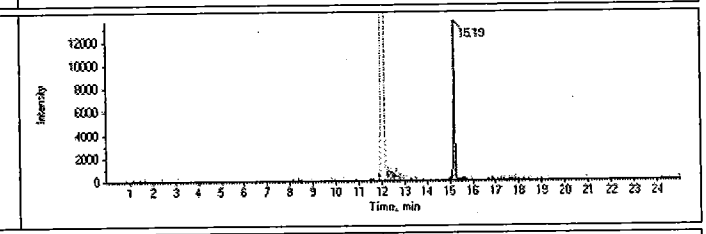
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.026746

Area Ratio: 7.822e-2

Sample Type: (Quality Control)



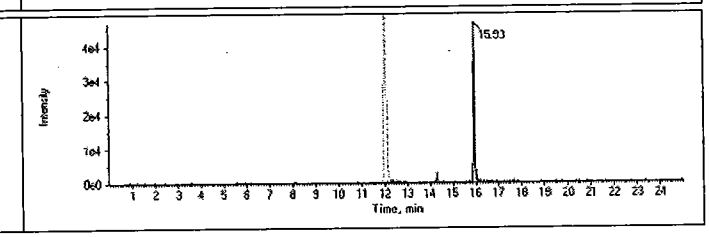
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.022814

Area Ratio: 2.928e-1

Sample Type: (Quality Control)



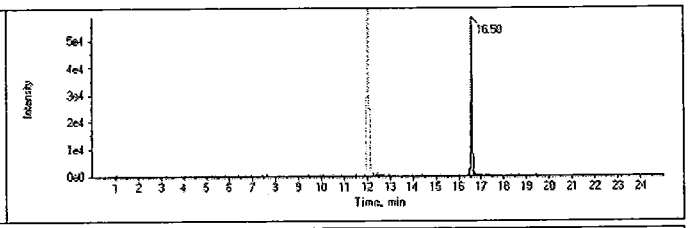
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.020360

Area Ratio: 3.359e-1

Sample Type: (Quality Control)



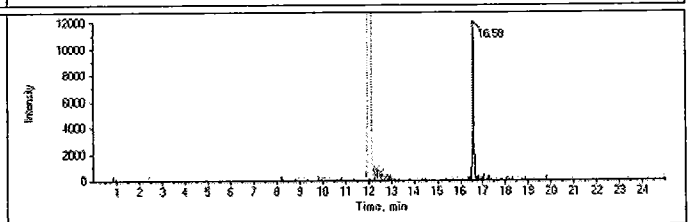
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.019924

Area Ratio: 6.896e-2

Sample Type: (Quality Control)



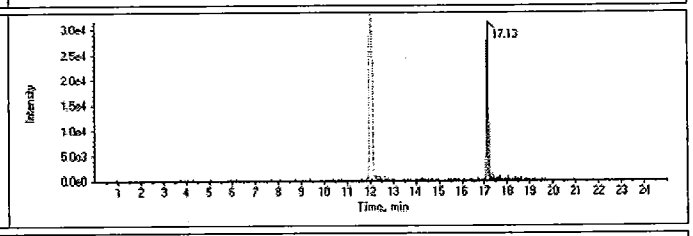
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.021203

Area Ratio: 1.620e-1

Sample Type: (Quality Control)



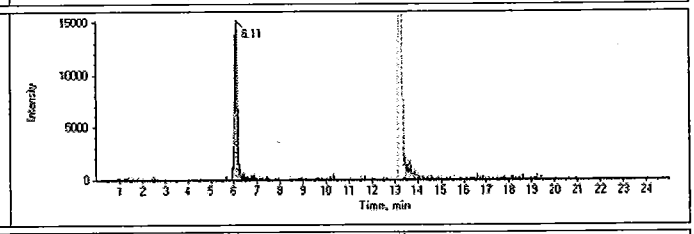
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.021269

Area Ratio: 1.045e-1

Sample Type: (Quality Control)



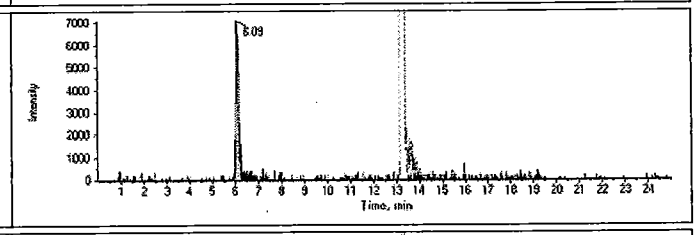
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.09 (6.11) min

Calculated conc: 0.022667

Area Ratio: 4.603e-2

Sample Type: (Quality Control)



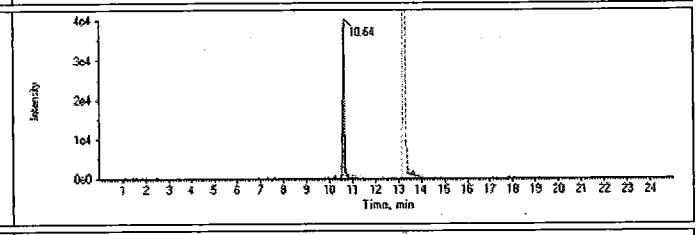
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.022004

Area Ratio: 1.831e-1

Sample Type: (Quality Control)



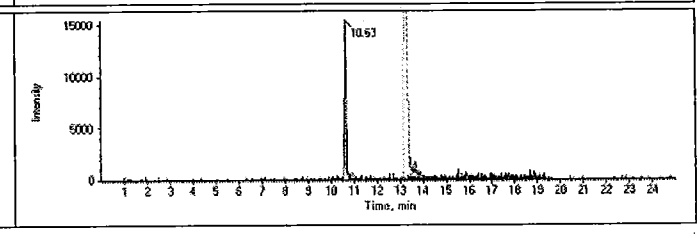
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.022757

Area Ratio: 6.432e-2

Sample Type: (Quality Control)



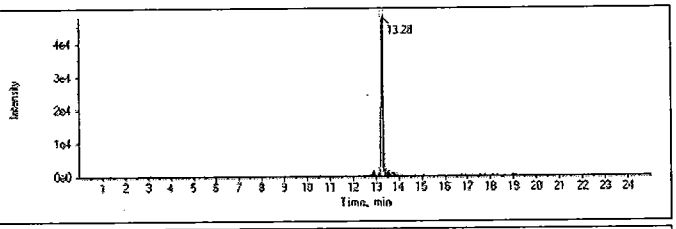
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.024991

Area Ratio: 2.003e-1

Sample Type: (Quality Control)



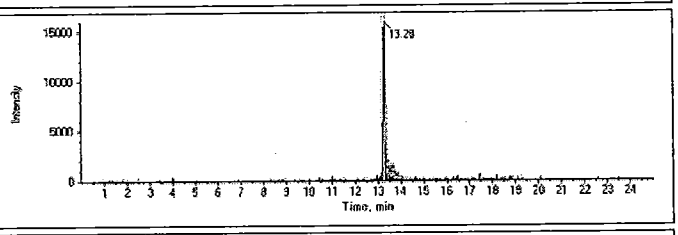
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.023528

Area Ratio: 5.586e-2

Sample Type: (Quality Control)



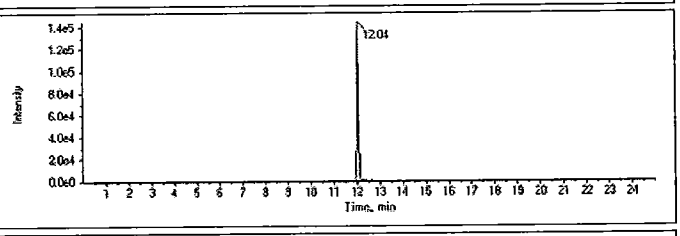
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 89.881965

Area Ratio: N/A

Sample Type: (Quality Control)



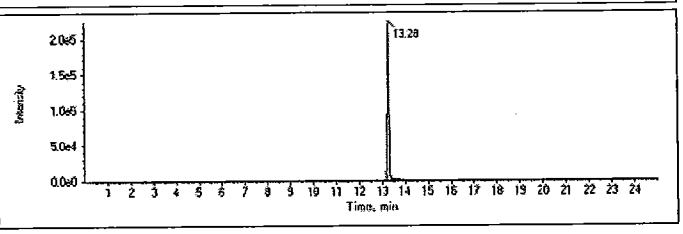
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 96.445471

Area Ratio: N/A

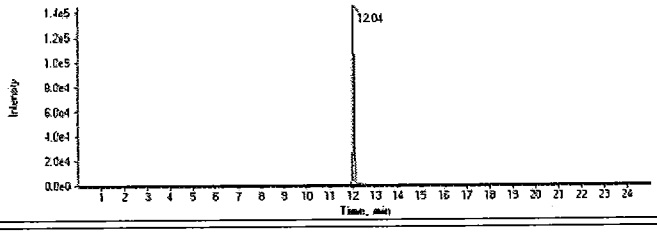
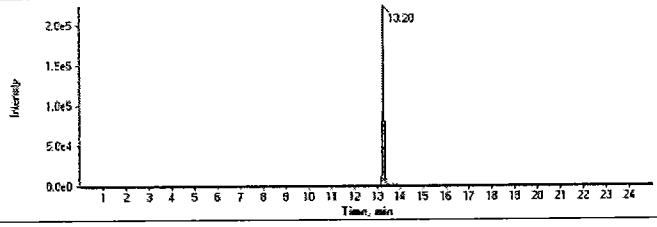
Sample Type: (Quality Control)



Sample Name	201405010499	**Injection Vial**	15
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 2:36:16 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	700141	12.04	100.00000	-
IS-13C-PFOS	1037559	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.094e+04	8.39	0.00000	0.001583
Surr-13c-PFHxA	5.414e+05	8.40	100.00000	77.459626
PFHpA	7.184e+03	10.48	0.00000	0.000391
PFHpA 2	1.030e+03	10.49	0.00000	0.000201
PFOA	2.378e+04	12.04	0.00000	0.001325
PFOA 2	4.290e+03	12.06	0.00000	0.000715
PFNA	2.746e+03	13.30	0.00000	0.000211
PFNA 2	7.850e+02	13.26	0.00000	0.000235
PFDA	1.177e+03	14.32	0.00000	0.000086
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	5.360e+05	14.32	100.00000	90.317884
PFUnA	7.840e+02	15.23	0.00000	0.000063
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	1.470e+02	15.99	0.00000	0.000016
PFTrDA	2.940e+02	16.60	0.00000	0.000025
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	1.960e+02	17.14	0.00000	0.000037
PFBS	2.109e+03	6.09	0.00000	0.000414
PFBS 2	8.340e+02	6.12	0.00000	0.000396
PFHxS	8.191e+03	10.64	0.00000	0.000949
PFHxS 2	2.010e+03	10.64	0.00000	0.000686
PFOS	9.317e+03	13.28	0.00000	0.001120
PFOS 2	2.402e+03	13.28	0.00000	0.000975
13C-PFOA	7.001e+05	12.04	100.00000	87.518658
13C-PFOS	1.038e+06	13.28	100.00000	92.221122

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

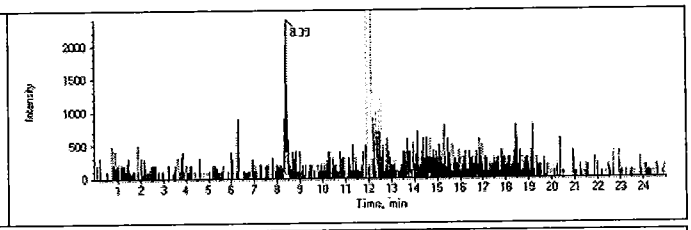
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.001583

Area Ratio: 1.562e-2

Sample Type: (Quality Control)



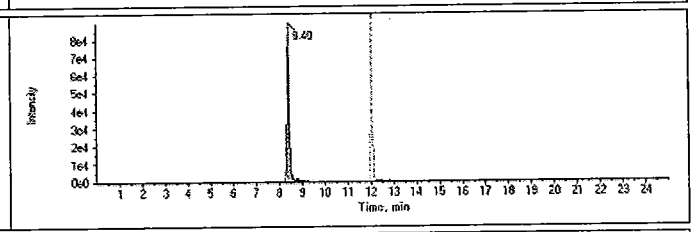
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 77.459626

Area Ratio: 7.732e-1

Sample Type: (Quality Control)



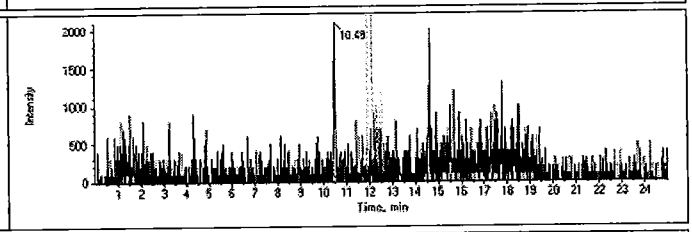
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.000391

Area Ratio: 1.026e-2

Sample Type: (Quality Control)



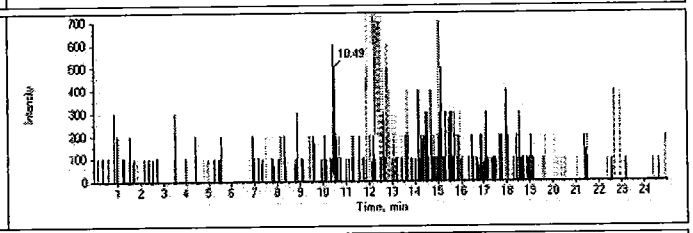
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.000201

Area Ratio: 1.471e-3

Sample Type: (Quality Control)



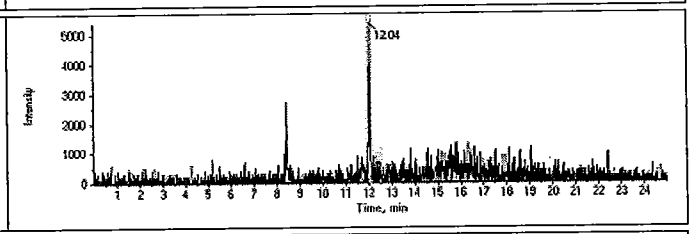
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.001325

Area Ratio: 3.397e-2

Sample Type: (Quality Control)



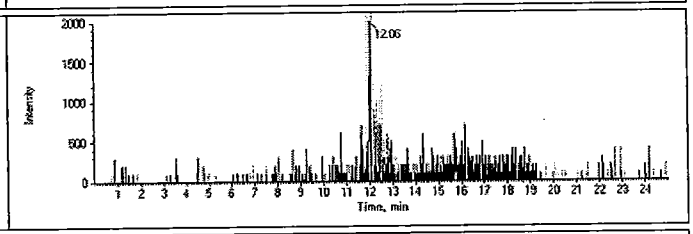
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.000715

Area Ratio: 6.128e-3

Sample Type: (Quality Control)



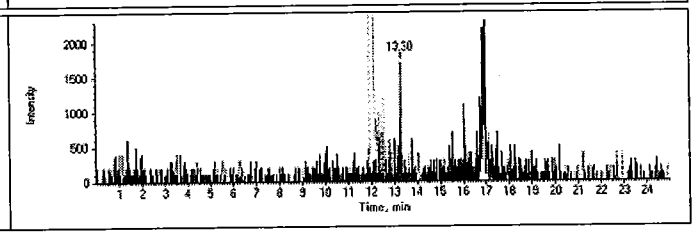
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.000211

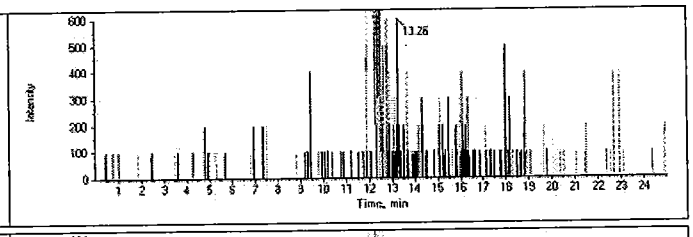
Area Ratio: 3.923e-3

Sample Type: (Quality Control)



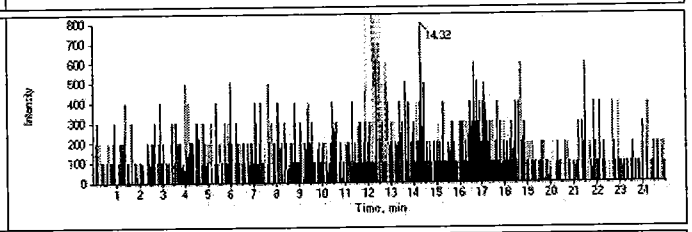
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.26 (13.29) min
Calculated conc: 0.000235
Area Ratio: 1.120e-3
Sample Type: (Quality Control)



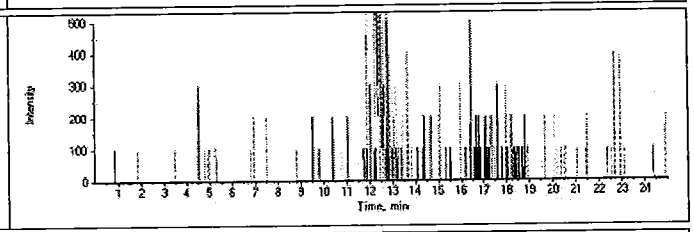
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.000086
Area Ratio: 1.681e-3
Sample Type: (Quality Control)



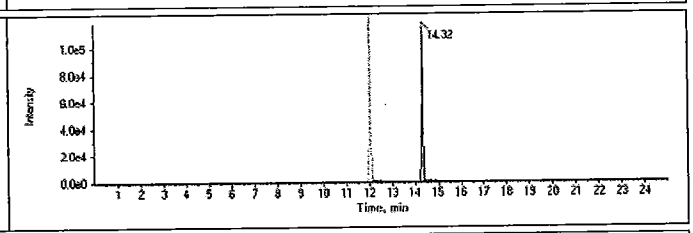
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



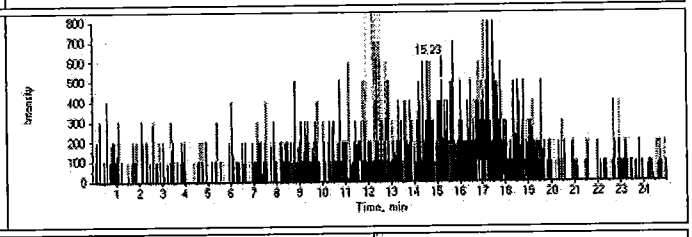
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 90.317884
Area Ratio: 7.656e-1
Sample Type: (Quality Control)



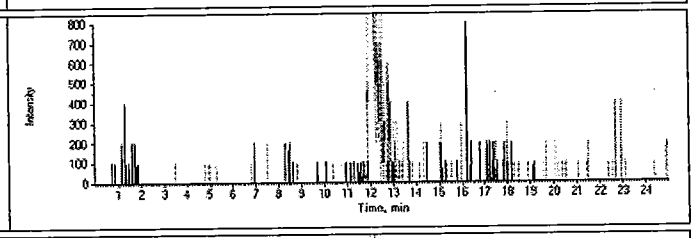
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.23 (15.19) min
Calculated conc: 0.000063
Area Ratio: 1.120e-3
Sample Type: (Quality Control)



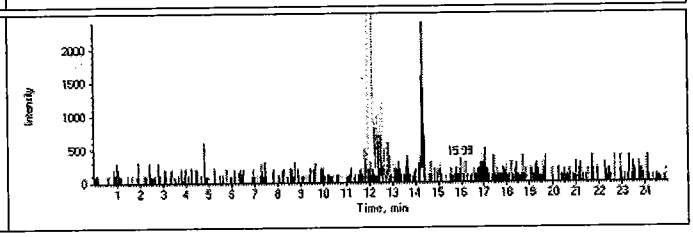
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.99 (15.93) min
Calculated conc: 0.000016
Area Ratio: 2.101e-4
Sample Type: (Quality Control)



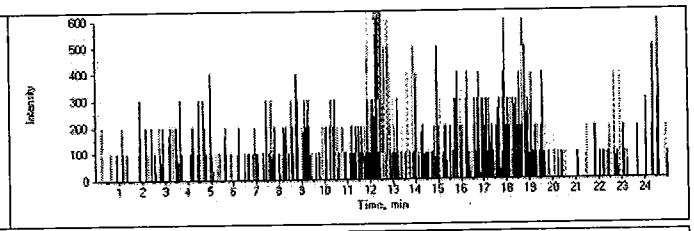
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.60 (16.58) min

Calculated conc: 0.000025

Area Ratio: 4.203e-4

Sample Type: (Quality Control)



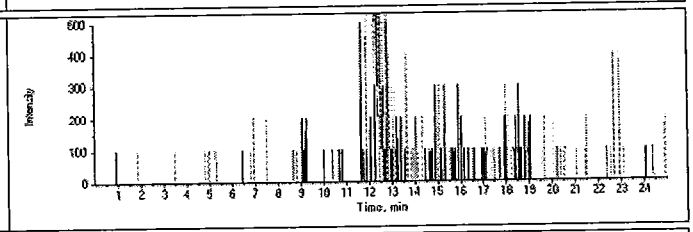
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



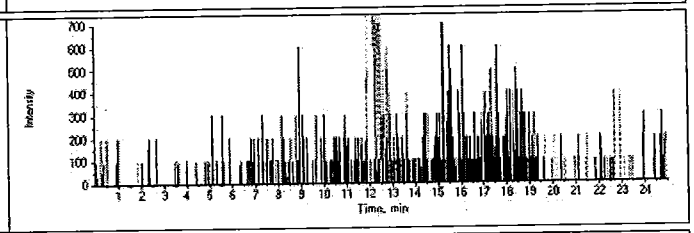
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.000037

Area Ratio: 2.802e-4

Sample Type: (Quality Control)



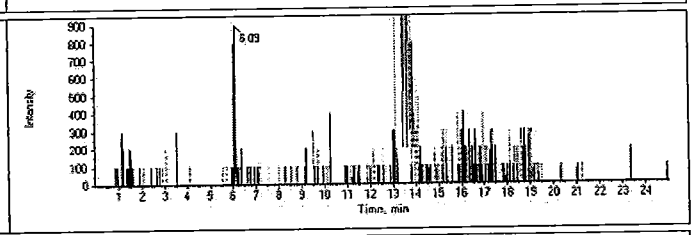
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.09 (6.10) min

Calculated conc: 0.000414

Area Ratio: 2.033e-3

Sample Type: (Quality Control)



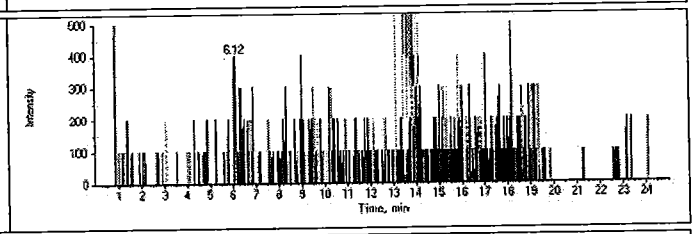
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.12 (6.11) min

Calculated conc: 0.000396

Area Ratio: 8.035e-4

Sample Type: (Quality Control)



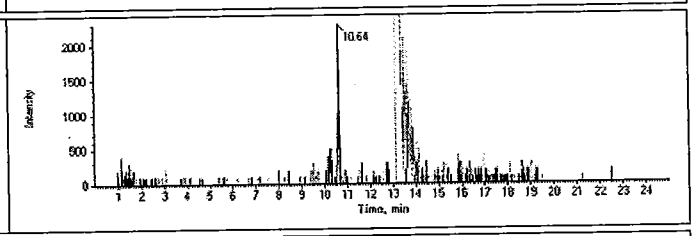
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.000949

Area Ratio: 7.894e-3

Sample Type: (Quality Control)



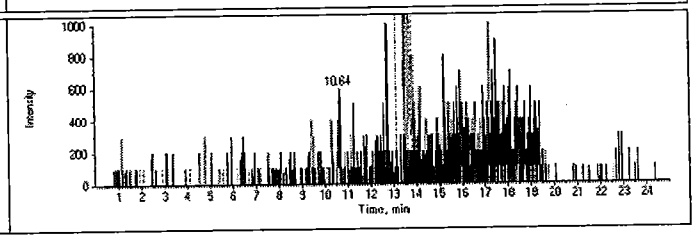
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.000686

Area Ratio: 1.938e-3

Sample Type: (Quality Control)



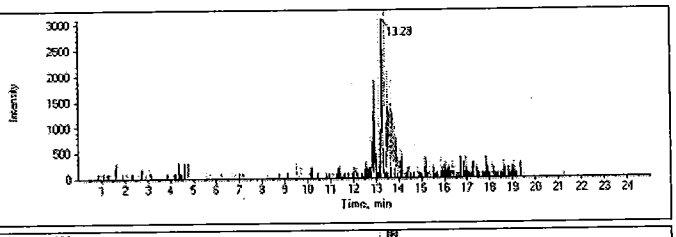
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.001120

Area Ratio: 8.979e-3

Sample Type: (Quality Control)



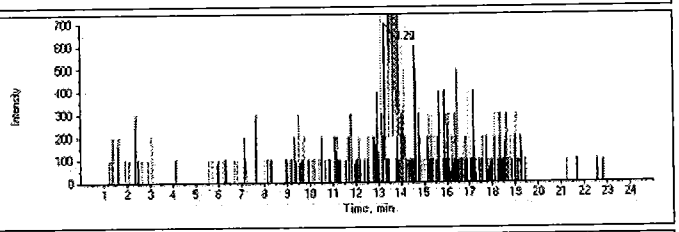
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.000975

Area Ratio: 2.316e-3

Sample Type: (Quality Control)



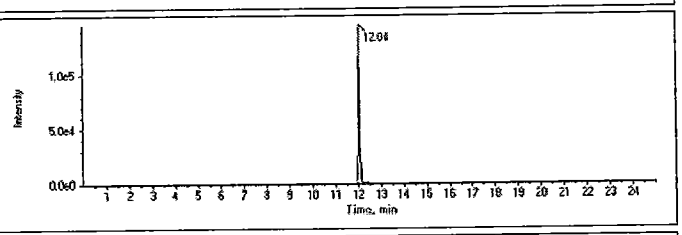
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 87.518658

Area Ratio: N/A

Sample Type: (Quality Control)



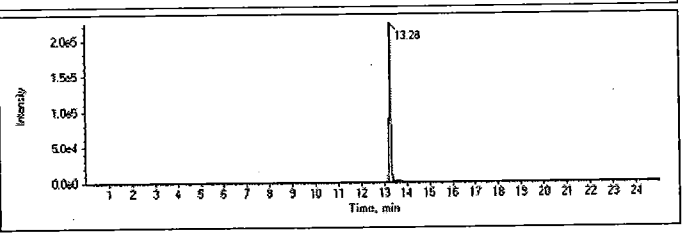
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 92.221122

Area Ratio: N/A

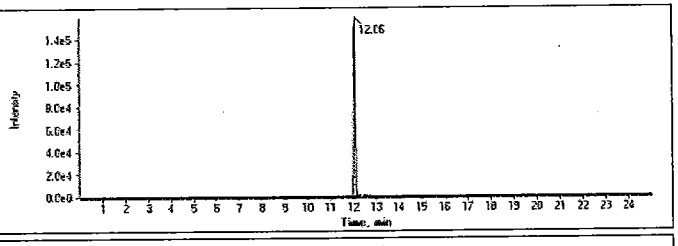
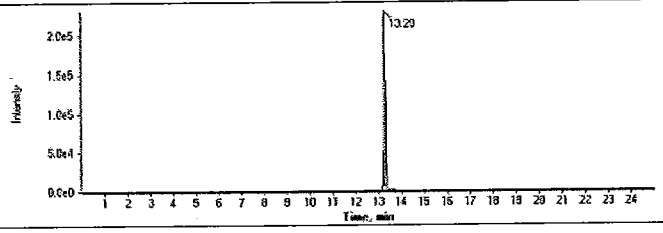
Sample Type: (Quality Control)



Sample Name	201404250105	**Injection Vial**	16
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 3:01:51 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

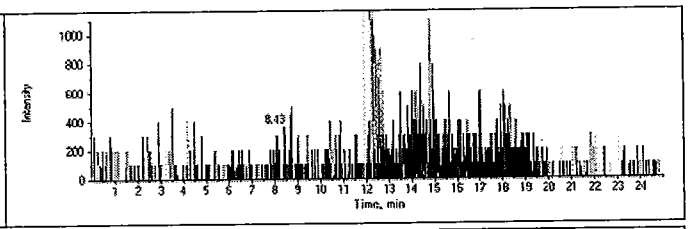
Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	745837	12.06	100.00000	-
IS-13C-PFOS	1105476	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	2.940e+02	8.43	0.00000	0.000040
Surr-13c-PFHxA	2.238e+05	8.41	100.00000	30.057716
PFHpA	4.410e+02	10.52	0.00000	0.000023
PFHpA 2	N/A	N/A	0.00000	N/A
PFOA	8.330e+02	12.04	0.00000	0.000044
PFOA 2	6.370e+02	12.05	0.00000	0.000100
PFNA	7.840e+02	13.30	0.00000	0.000057
PFNA 2	N/A	N/A	0.00000	N/A
PFDA	6.370e+02	14.33	0.00000	0.000044
PFDA 2	9.800e+01	14.36	0.00000	0.000039
Surr-13c-PFDA	6.121e+05	14.33	100.00000	96.820867
PFUnA	1.079e+03	15.19	0.00000	0.000081
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	3.920e+02	15.94	0.00000	0.000041
PFTrDA	1.960e+02	16.59	0.00000	0.000016
PFTrDA 2	3.430e+02	16.57	0.00000	0.000133
PFTA	2.940e+02	17.15	0.00000	0.000052
PFBS	N/A	N/A	0.00000	N/A
PFBS 2	N/A	N/A	0.00000	N/A
PFHxS	9.800e+01	10.68	0.00000	0.000011
PFHxS 2	1.960e+02	10.66	0.00000	0.000063
PFOS	3.430e+02	13.26	0.00000	0.000039
PFOS 2	N/A	N/A	0.00000	N/A
13C-PFOA	7.458e+05	12.06	100.00000	93.230640
13C-PFOS	1.105e+06	13.29	100.00000	98.257804

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.06(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

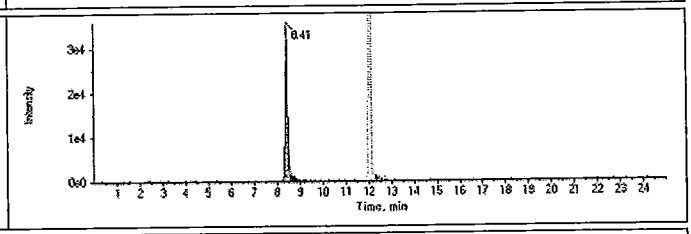
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.43 (8.40) min
Calculated conc: 0.000040
Area Ratio: 3.945e-4
Sample Type: (Quality Control)



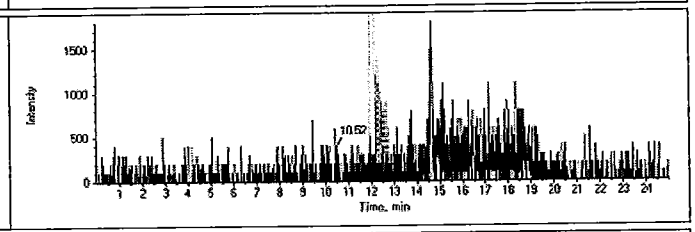
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min
Calculated conc: 30.057716
Area Ratio: 3.000e-1
Sample Type: (Quality Control)



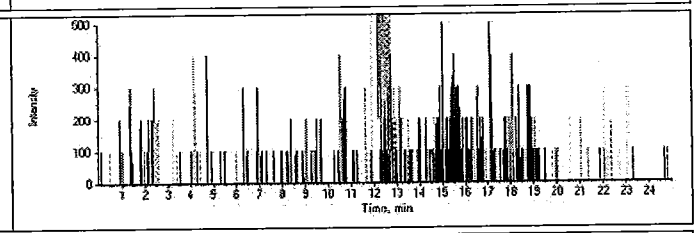
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.52 (10.50) min
Calculated conc: 0.000023
Area Ratio: 5.916e-4
Sample Type: (Quality Control)



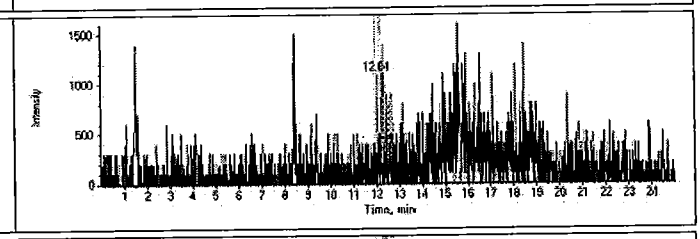
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): N/A (10.50) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



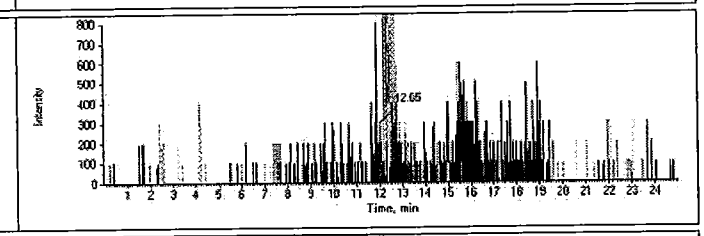
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min
Calculated conc: 0.000044
Area Ratio: 1.117e-3
Sample Type: (Quality Control)



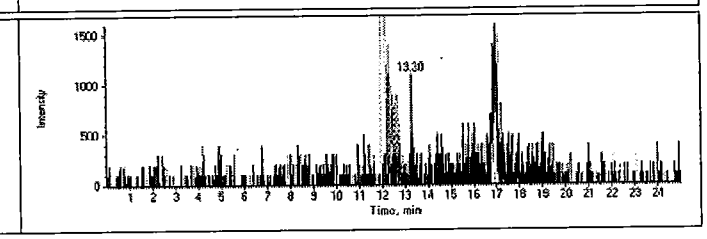
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min
Calculated conc: 0.000100
Area Ratio: 8.547e-4
Sample Type: (Quality Control)



PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min
Calculated conc: 0.000057
Area Ratio: 1.052e-3
Sample Type: (Quality Control)



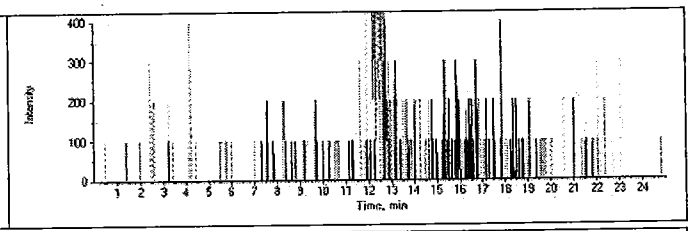
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): N/A (13.29) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



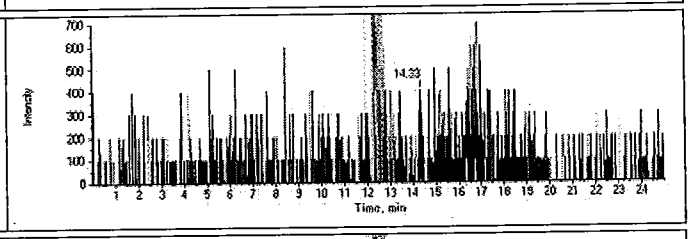
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 0.000044

Area Ratio: 8.547e-4

Sample Type: (Quality Control)



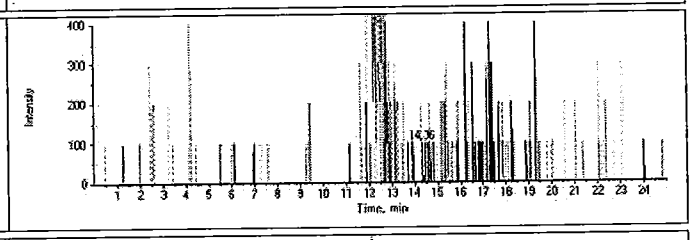
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.36 (14.31) min

Calculated conc: 0.000039

Area Ratio: 1.315e-4

Sample Type: (Quality Control)



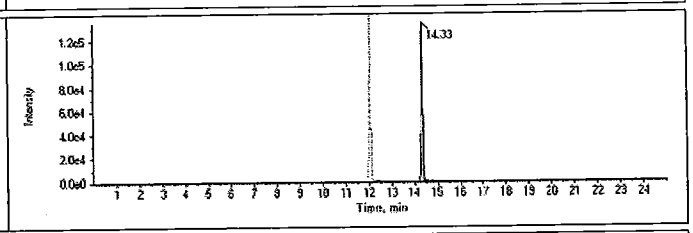
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 96.820867

Area Ratio: 8.207e-1

Sample Type: (Quality Control)



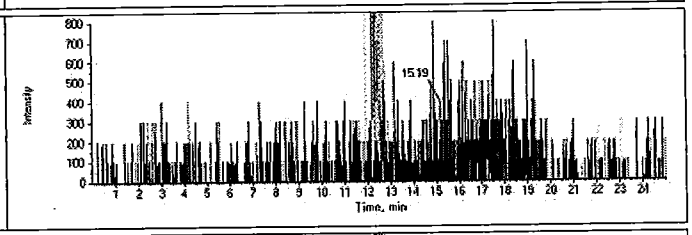
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000081

Area Ratio: 1.447e-3

Sample Type: (Quality Control)



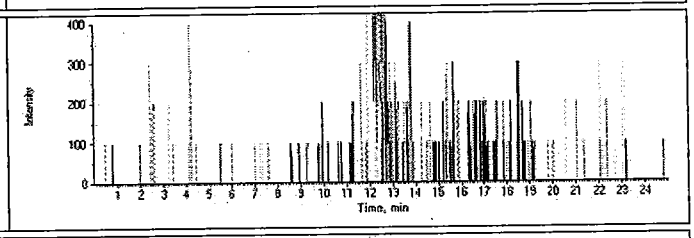
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



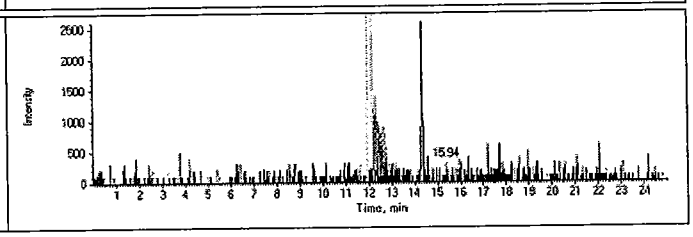
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.94 (15.93) min

Calculated conc: 0.000041

Area Ratio: 5.261e-4

Sample Type: (Quality Control)



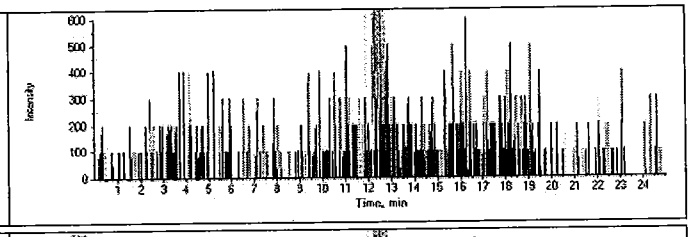
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.000016

Area Ratio: 2.631e-4

Sample Type: (Quality Control)



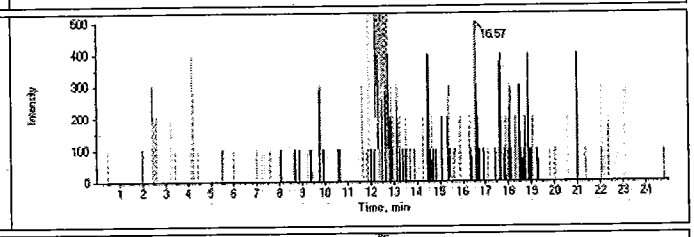
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.000133

Area Ratio: 4.600e-4

Sample Type: (Quality Control)



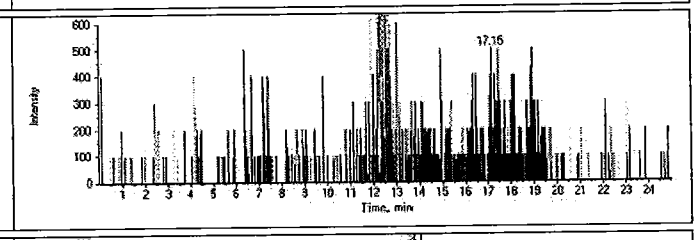
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.15 (17.14) min

Calculated conc: 0.000052

Area Ratio: 3.946e-4

Sample Type: (Quality Control)



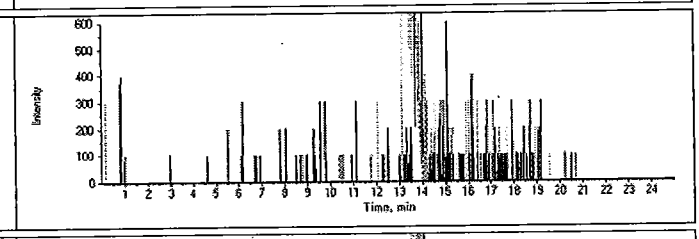
PFBS (299.0 / 79.9)

RT (Exp. RT): N/A (6.10) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



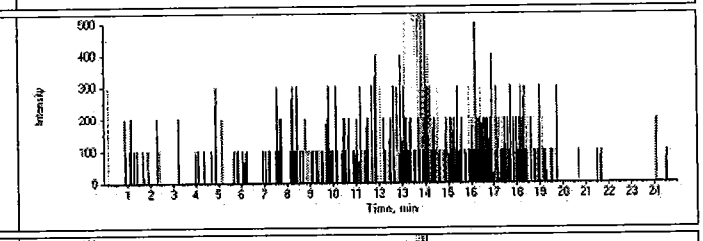
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): N/A (6.11) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



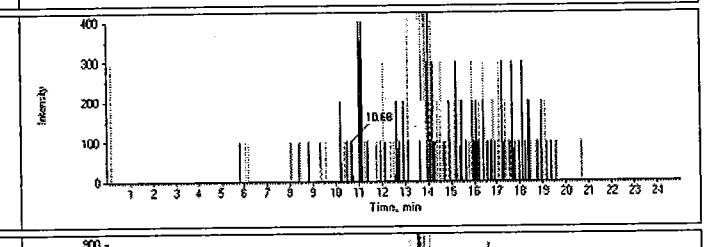
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.68 (10.64) min

Calculated conc: 0.000011

Area Ratio: 8.869e-5

Sample Type: (Quality Control)



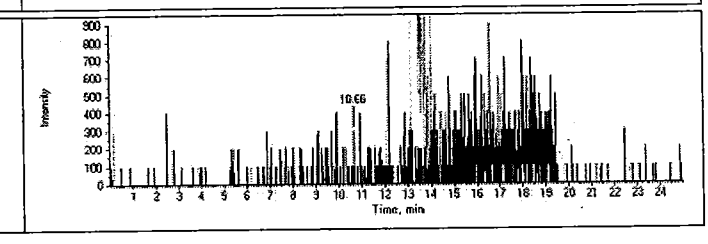
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.66 (10.64) min

Calculated conc: 0.000063

Area Ratio: 1.775e-4

Sample Type: (Quality Control)



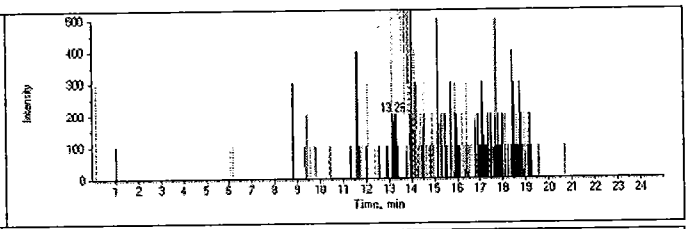
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.000039

Area Ratio: 3.105e-4

Sample Type: (Quality Control)



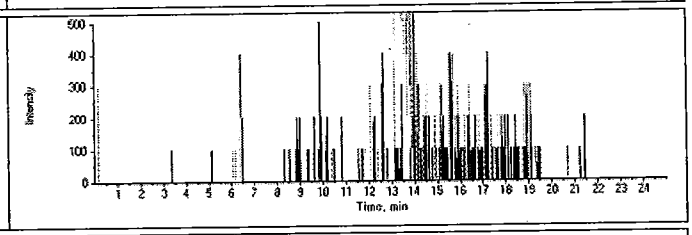
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): N/A (13.28) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



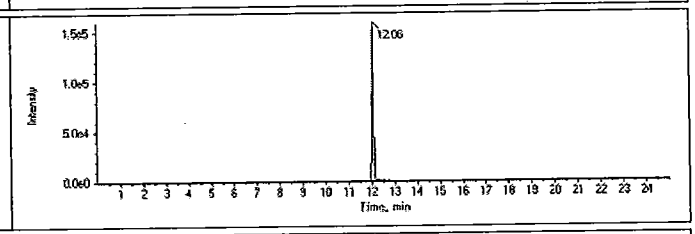
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 93.230640

Area Ratio: N/A

Sample Type: (Quality Control)



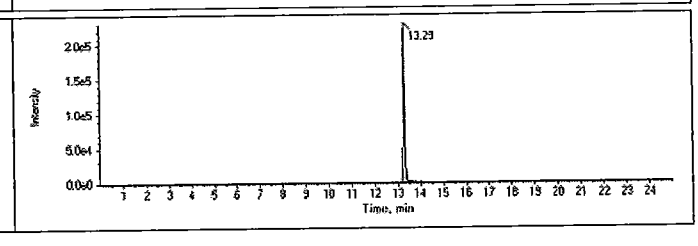
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 98.257804

Area Ratio: N/A

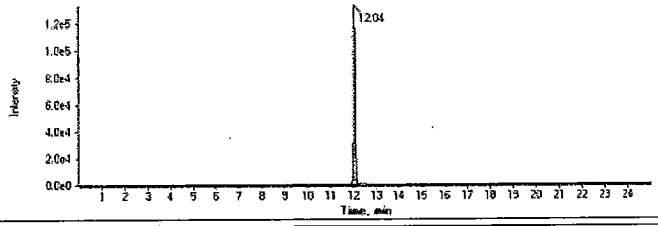
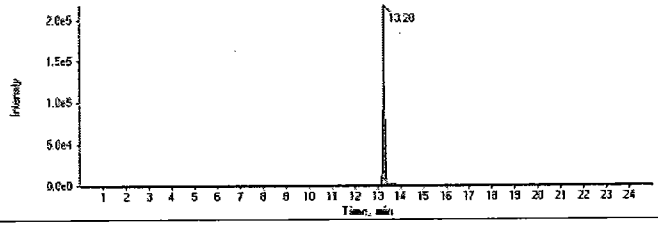
Sample Type: (Quality Control)



Sample Name	201404250087	**Injection Vial**	17
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 3:27:27 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	690465	12.04	100.00000	-
IS-13C-PFOS	1039137	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.207e+04	8.39	0.00000	0.001772
Surr-13c-PFHxA	7.115e+05	8.40	100.00000	103.233317
PFHpA	1.435e+04	10.49	0.00000	0.000791
PFHpA 2	2.599e+03	10.48	0.00000	0.000515
PFOA	3.992e+04	12.05	0.00000	0.002255
PFOA 2	1.503e+04	12.05	0.00000	0.002540
PFNA	9.218e+03	13.28	0.00000	0.000718
PFNA 2	1.766e+03	13.27	0.00000	0.000537
PFDA	2.011e+03	14.31	0.00000	0.000150
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	5.804e+05	14.31	100.00000	99.157076
PFUnA	8.830e+02	15.17	0.00000	0.000072
PFUnA 2	1.470e+02	14.70	0.00000	0.000073
PFDoA	2.940e+02	15.93	0.00000	0.000033
PFTrDA	9.800e+01	16.55	0.00000	0.000009
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	2.940e+02	17.13	0.00000	0.000056
PFBS	3.040e+03	6.08	0.00000	0.000595
PFBS 2	6.870e+02	6.12	0.00000	0.000325
PFHxS	8.384e+03	10.63	0.00000	0.000970
PFHxS 2	1.864e+03	10.64	0.00000	0.000635
PFOS	8.190e+03	13.29	0.00000	0.000983
PFOS 2	1.227e+03	13.28	0.00000	0.000497
13C-PFOA	6.905e+05	12.04	100.00000	86.309113
13C-PFOS	1.039e+06	13.28	100.00000	92.361334

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

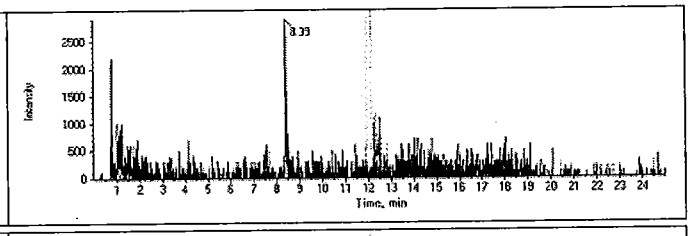
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.001772

Area Ratio: 1.747e-2

Sample Type: (Quality Control)



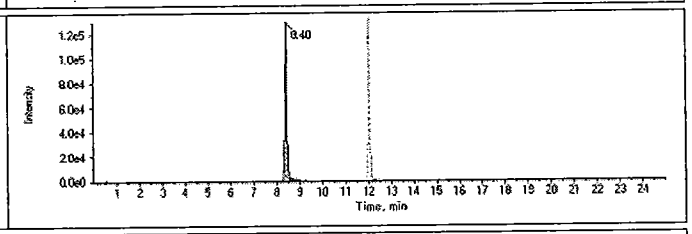
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 103.233317

Area Ratio: 1.031e0

Sample Type: (Quality Control)



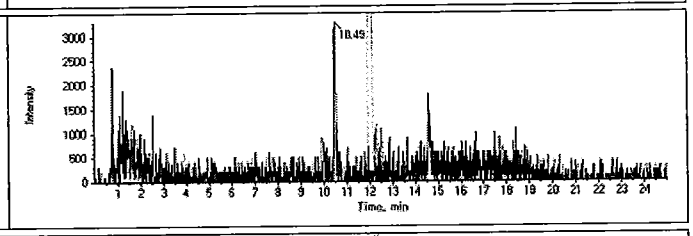
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.000791

Area Ratio: 2.078e-2

Sample Type: (Quality Control)



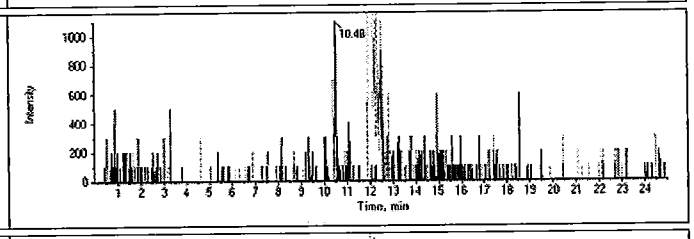
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.000515

Area Ratio: 3.765e-3

Sample Type: (Quality Control)



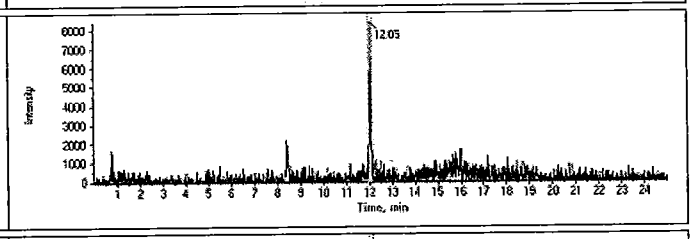
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.002255

Area Ratio: 5.781e-2

Sample Type: (Quality Control)



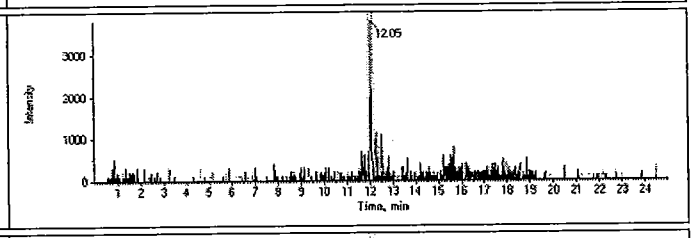
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.002540

Area Ratio: 2.177e-2

Sample Type: (Quality Control)



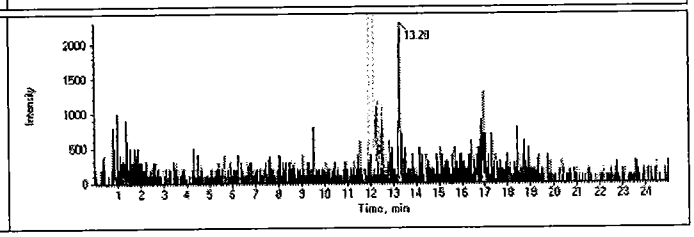
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.000718

Area Ratio: 1.335e-2

Sample Type: (Quality Control)



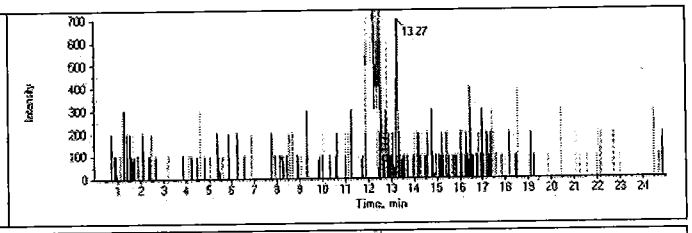
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.000537

Area Ratio: 2.557e-3

Sample Type: (Quality Control)



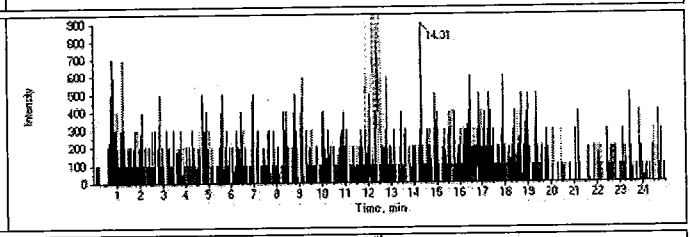
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.000150

Area Ratio: 2.913e-3

Sample Type: (Quality Control)



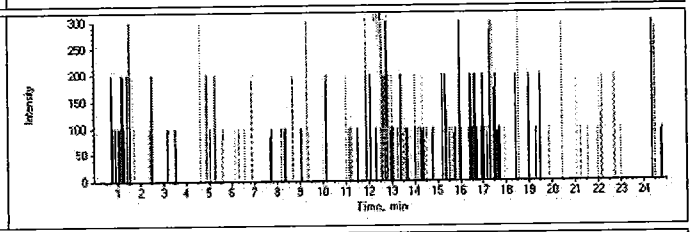
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



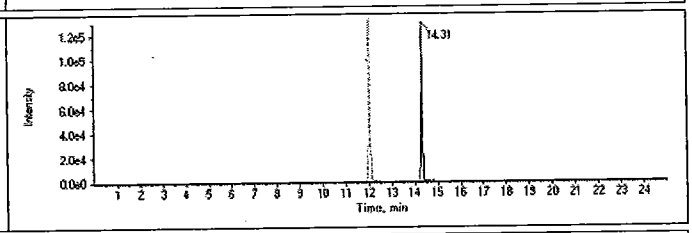
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 99.157076

Area Ratio: 8.405e-1

Sample Type: (Quality Control)



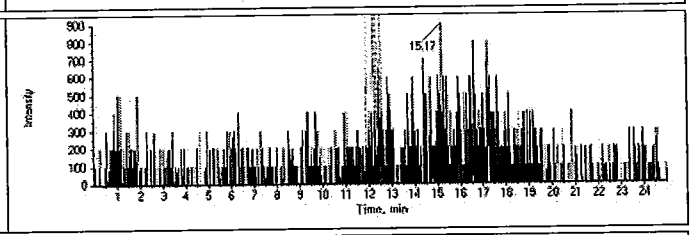
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.17 (15.19) min

Calculated conc: 0.000072

Area Ratio: 1.279e-3

Sample Type: (Quality Control)



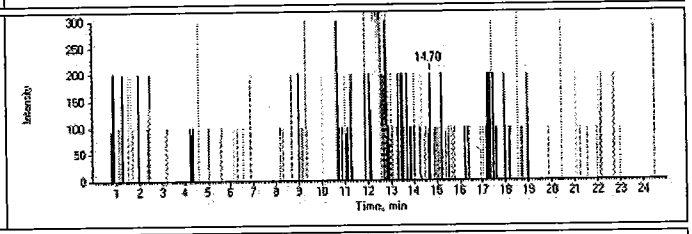
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 14.70 (15.19) min

Calculated conc: 0.000073

Area Ratio: 2.131e-4

Sample Type: (Quality Control)



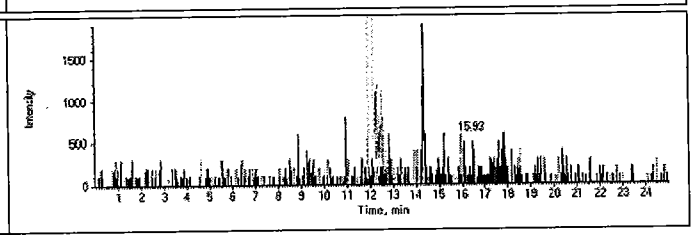
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.000033

Area Ratio: 4.262e-4

Sample Type: (Quality Control)



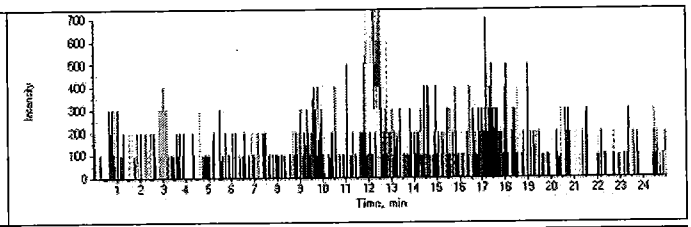
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.55 (16.58) min

Calculated conc: 0.000009

Area Ratio: 1.419e-4

Sample Type: (Quality Control)



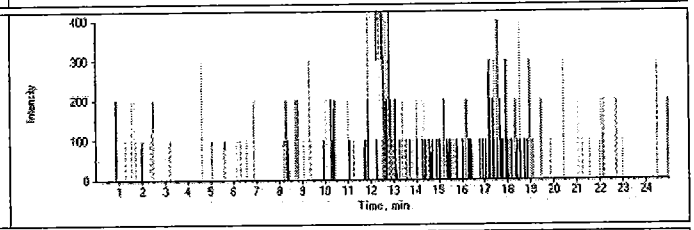
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



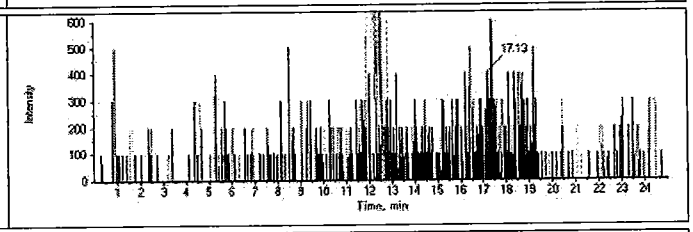
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.000056

Area Ratio: 4.261e-4

Sample Type: (Quality Control)



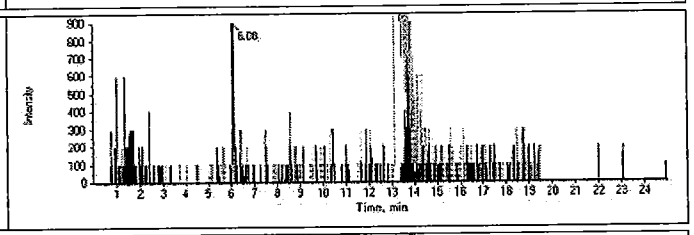
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.08 (6.10) min

Calculated conc: 0.000595

Area Ratio: 2.926e-3

Sample Type: (Quality Control)



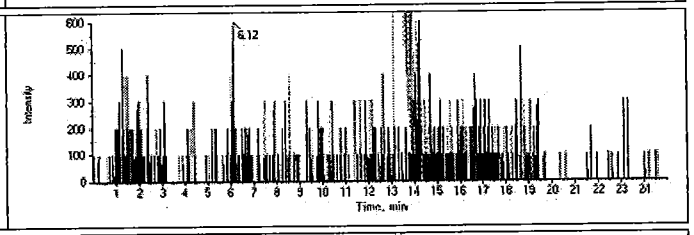
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.12 (6.11) min

Calculated conc: 0.000325

Area Ratio: 6.608e-4

Sample Type: (Quality Control)



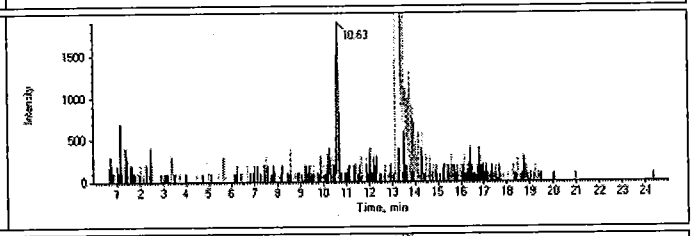
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.000970

Area Ratio: 8.068e-3

Sample Type: (Quality Control)



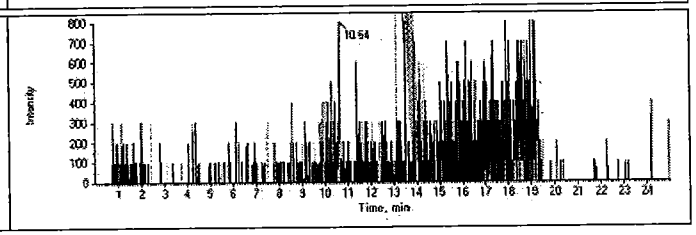
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.000635

Area Ratio: 1.793e-3

Sample Type: (Quality Control)



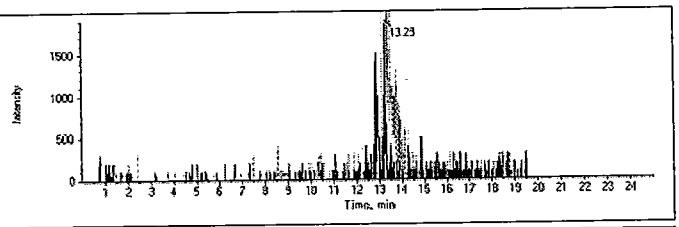
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.000983

Area Ratio: 7.882e-3

Sample Type: (Quality Control)



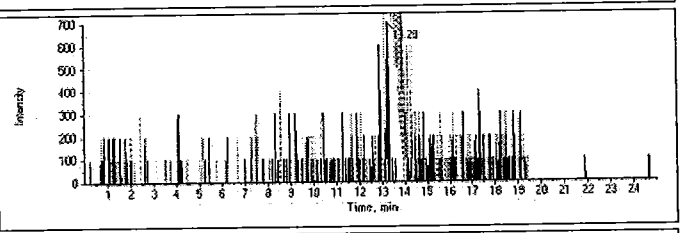
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.000497

Area Ratio: 1.180e-3

Sample Type: (Quality Control)



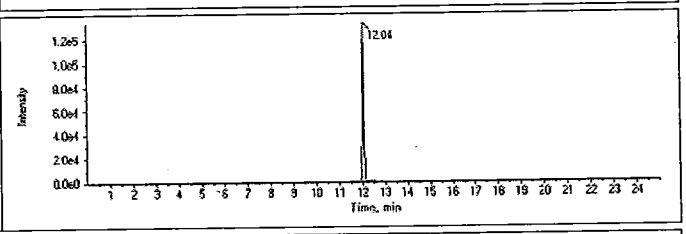
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 86.309113

Area Ratio: N/A

Sample Type: (Quality Control)



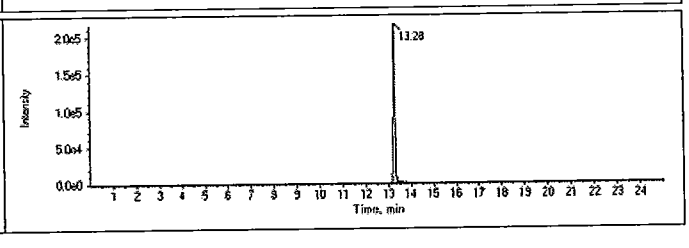
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 92.361334

Area Ratio: N/A

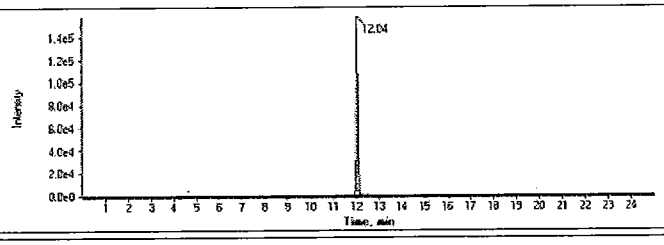
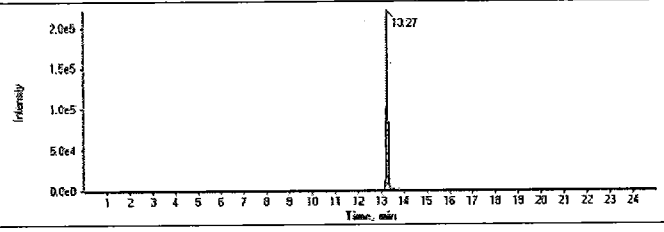
Sample Type: (Quality Control)



Sample Name	201404250089	**Injection Vial**	18
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 3:53:03 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	753769	12.04	100.00000	-
IS-13C-PFOS	1061219	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	3.430e+02	8.39	0.00000	0.000046
Surr-13c-PFHxA	6.607e+05	8.40	100.00000	87.811782
PFHpA	5.400e+02	10.47	0.00000	0.000027
PFHpA 2	9.800e+01	10.73	0.00000	0.000018
PFOA	6.473e+03	12.04	0.00000	0.000335
PFOA 2	3.930e+02	12.06	0.00000	0.000061
PFNA	4.410e+02	13.30	0.00000	0.000031
PFNA 2	N/A	N/A	0.00000	N/A
PFDA	9.800e+01	14.33	0.00000	0.000007
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	5.528e+05	14.32	100.00000	86.522715
PFUnA	6.380e+02	15.21	0.00000	0.000047
PFUnA 2	9.800e+01	15.21	0.00000	0.000044
PFDoA	2.460e+02	15.92	0.00000	0.000025
PFTrDA	1.470e+02	16.61	0.00000	0.000012
PFTrDA 2	1.470e+02	16.44	0.00000	0.000056
PFTA	1.960e+02	17.13	0.00000	0.000034
PFBS	1.470e+02	6.13	0.00000	0.000028
PFBS 2	9.800e+01	6.14	0.00000	0.000046
PFHxS	2.450e+02	10.64	0.00000	0.000028
PFHxS 2	1.960e+02	10.65	0.00000	0.000065
PFOS	1.960e+02	13.27	0.00000	0.000023
PFOS 2	1.470e+02	13.59	0.00000	0.000058
13C-PFOA	7.538e+05	12.04	100.00000	94.222114
13C-PFOS	1.061e+06	13.27	100.00000	94.324048

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

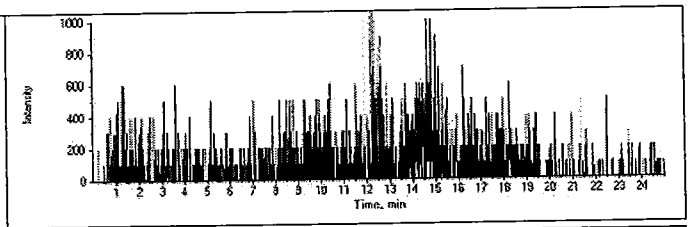
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.000046

Area Ratio: 4.555e-4

Sample Type: (Quality Control)



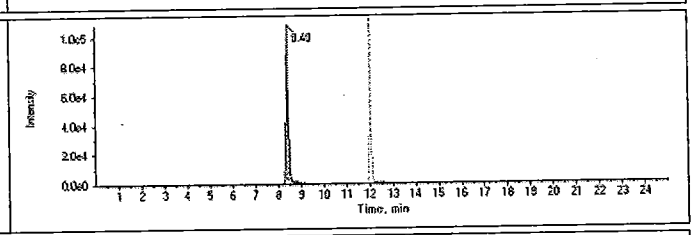
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 87.811782

Area Ratio: 8.766e-1

Sample Type: (Quality Control)



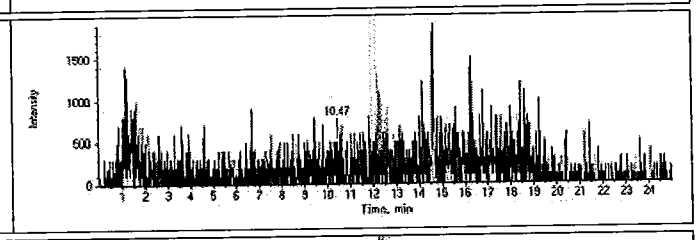
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.47 (10.50) min

Calculated conc: 0.000027

Area Ratio: 7.159e-4

Sample Type: (Quality Control)



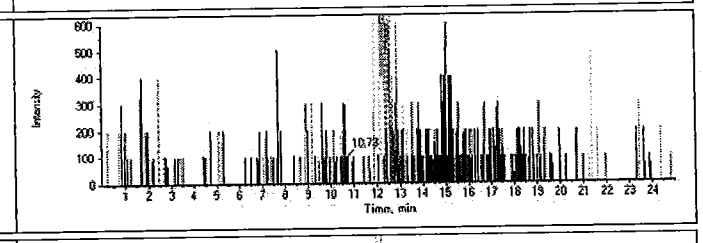
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.73 (10.50) min

Calculated conc: 0.000018

Area Ratio: 1.301e-4

Sample Type: (Quality Control)



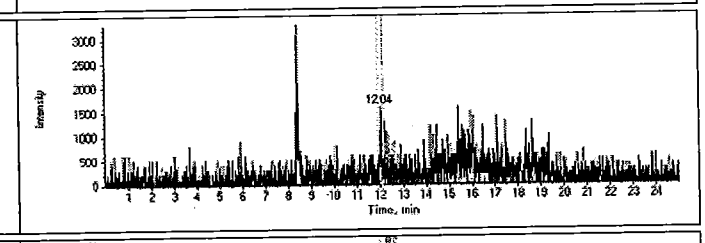
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.000335

Area Ratio: 8.587e-3

Sample Type: (Quality Control)



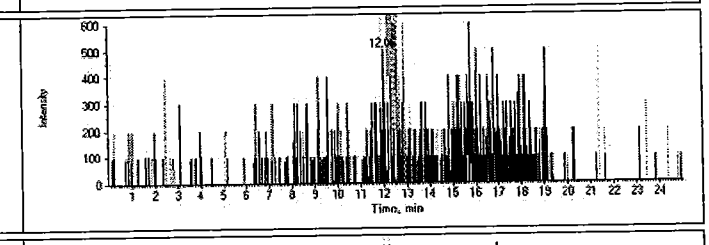
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.000061

Area Ratio: 5.208e-4

Sample Type: (Quality Control)



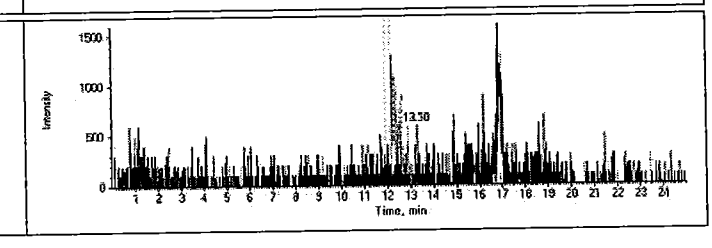
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.000031

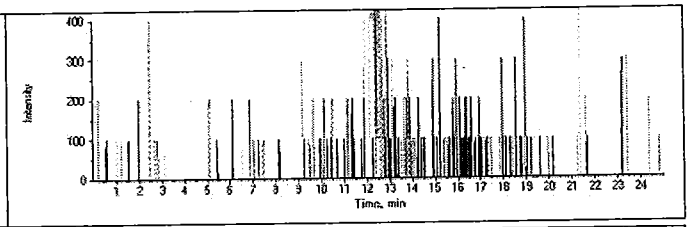
Area Ratio: 5.853e-4

Sample Type: (Quality Control)



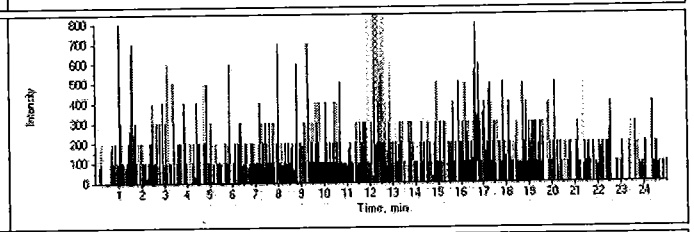
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): N/A (13.29) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



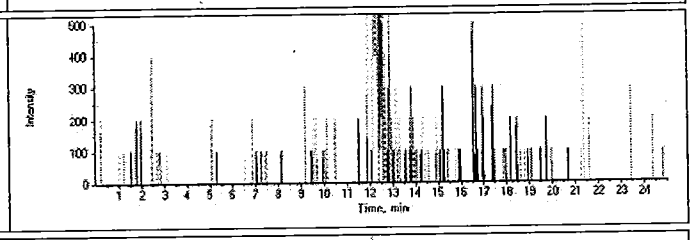
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.33 (14.32) min
Calculated conc: 0.000007
Area Ratio: 1.301e-4
Sample Type: (Quality Control)



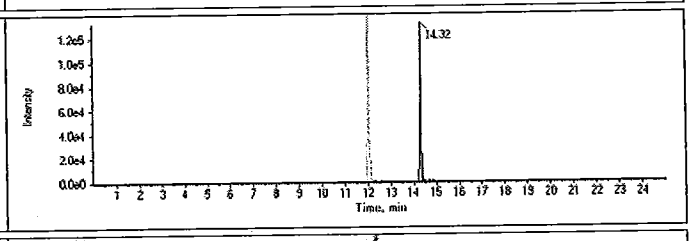
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



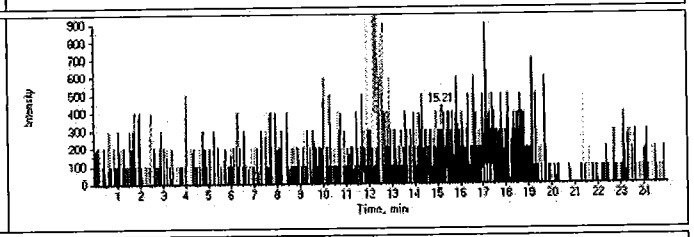
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 86.522715
Area Ratio: 7.334e-1
Sample Type: (Quality Control)



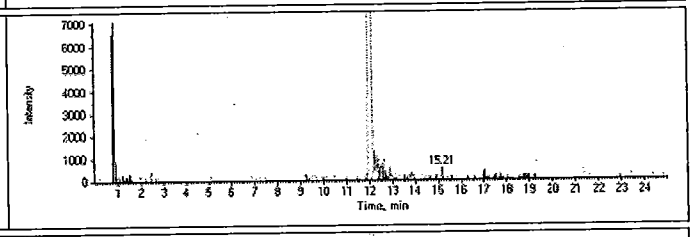
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.21 (15.19) min
Calculated conc: 0.000047
Area Ratio: 8.458e-4
Sample Type: (Quality Control)



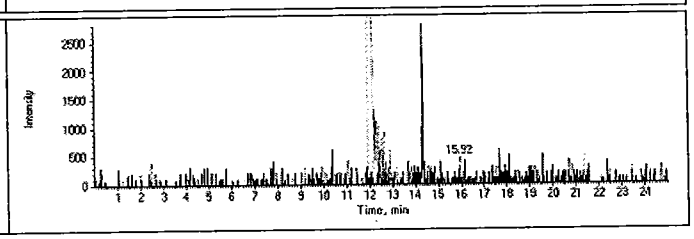
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.21 (15.19) min
Calculated conc: 0.000044
Area Ratio: 1.300e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.92 (15.93) min
Calculated conc: 0.000025
Area Ratio: 3.257e-4
Sample Type: (Quality Control)



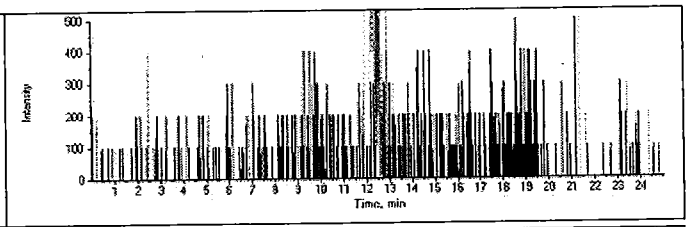
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.61 (16.58) min

Calculated conc: 0.000012

Area Ratio: 1.950e-4

Sample Type: (Quality Control)



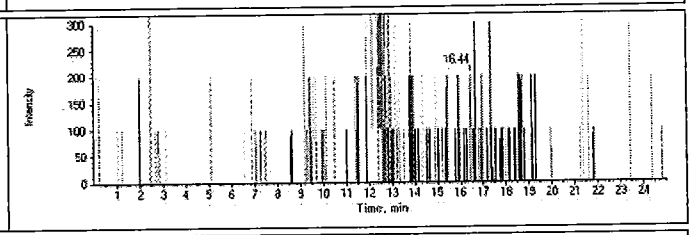
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.44 (16.58) min

Calculated conc: 0.000056

Area Ratio: 1.951e-4

Sample Type: (Quality Control)



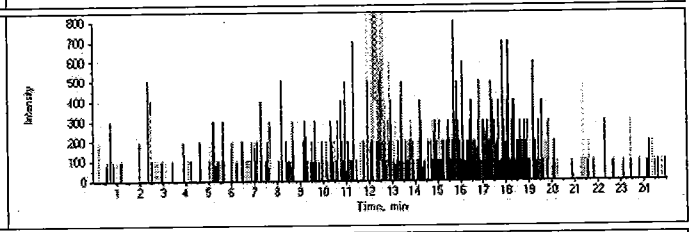
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.000034

Area Ratio: 2.602e-4

Sample Type: (Quality Control)



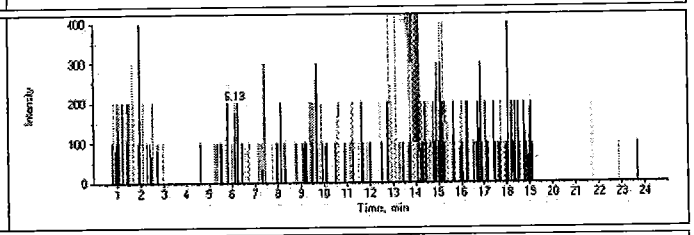
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.13 (6.10) min

Calculated conc: 0.000028

Area Ratio: 1.386e-4

Sample Type: (Quality Control)



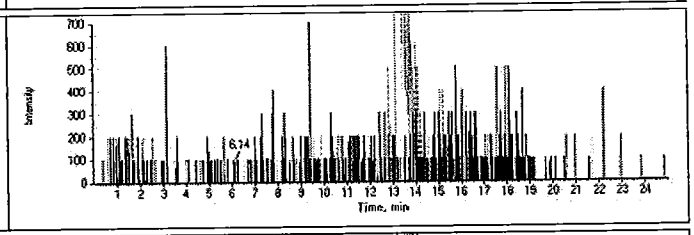
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.14 (6.11) min

Calculated conc: 0.000046

Area Ratio: 9.244e-5

Sample Type: (Quality Control)



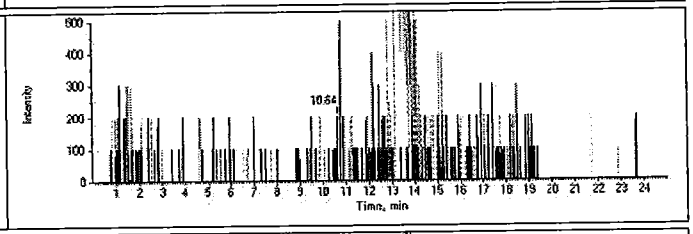
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.000028

Area Ratio: 2.310e-4

Sample Type: (Quality Control)



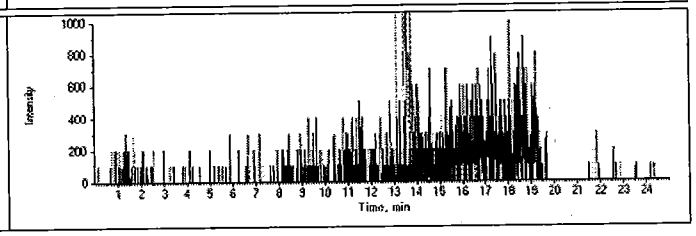
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.000065

Area Ratio: 1.848e-4

Sample Type: (Quality Control)



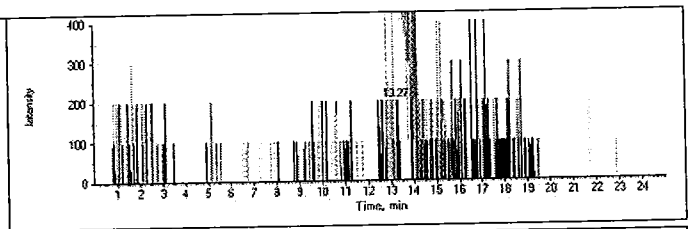
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.000023

Area Ratio: 1.848e-4

Sample Type: (Quality Control)



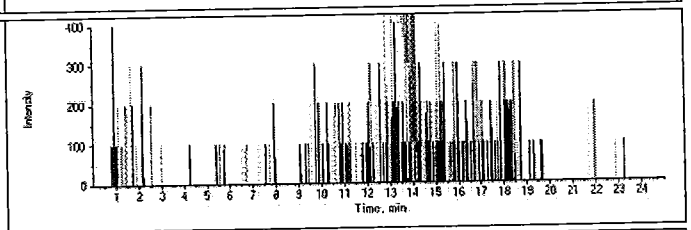
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.59 (13.28) min

Calculated conc: 0.000058

Area Ratio: 1.387e-4

Sample Type: (Quality Control)



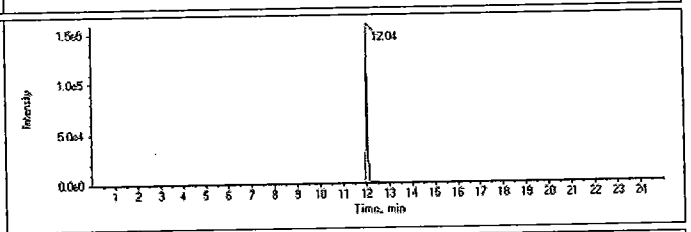
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 94.222114

Area Ratio: N/A

Sample Type: (Quality Control)



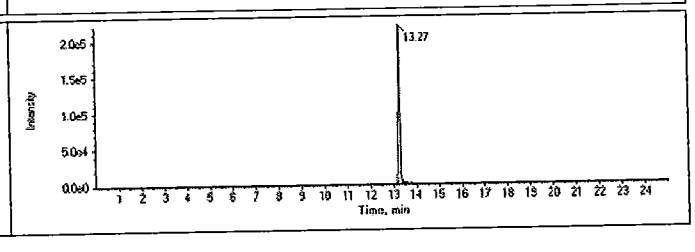
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 94.324048

Area Ratio: N/A

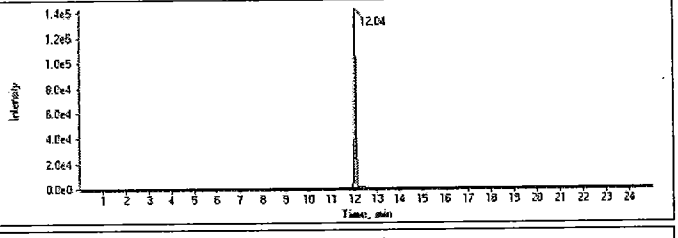
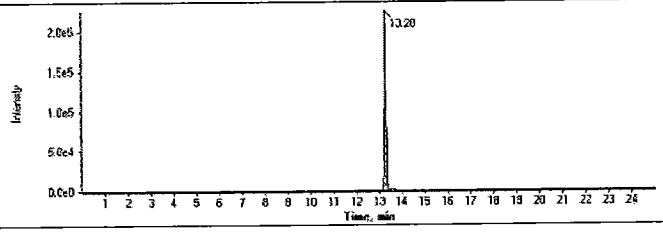
Sample Type: (Quality Control)



Sample Name	201404250090	**Injection Vial**	19
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 4:18:38 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	728057	12.04	100.00000	-
IS-13C-PFOS	1082649	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.960e+02	8.41	0.00000	0.000027
Surr-13c-PFHxA	7.327e+05	8.40	100.00000	100.813356
PFHpA	6.370e+02	10.49	0.00000	0.000033
PFHpA 2	1.470e+02	10.04	0.00000	0.000028
PFOA	6.817e+03	12.04	0.00000	0.000365
PFOA 2	1.471e+03	12.04	0.00000	0.000236
PFNA	3.930e+02	13.28	0.00000	0.000029
PFNA 2	1.470e+02	13.32	0.00000	0.000042
PFDA	1.177e+03	14.34	0.00000	0.000083
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	6.724e+05	14.31	100.00000	108.943869
PFUnA	3.430e+02	15.21	0.00000	0.000026
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	2.450e+02	15.94	0.00000	0.000026
PFTrDA	6.380e+02	16.57	0.00000	0.000053
PFTrDA 2	1.960e+02	16.22	0.00000	0.000078
PFTA	3.430e+02	17.19	0.00000	0.000062
PFBS	N/A	N/A	0.00000	N/A
PFBS 2	1.960e+02	6.14	0.00000	0.000089
PFHxS	2.940e+02	10.64	0.00000	0.000033
PFHxS 2	9.800e+01	10.60	0.00000	0.000032
PFOS	9.800e+01	13.26	0.00000	0.000011
PFOS 2	1.470e+02	13.27	0.00000	0.000057
13C-PFOA	7.281e+05	12.04	100.00000	91.008159
13C-PFOS	1.083e+06	13.28	100.00000	96.228824

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

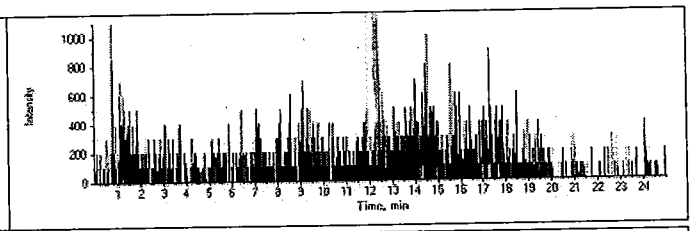
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.000027

Area Ratio: 2.693e-4

Sample Type: (Quality Control)



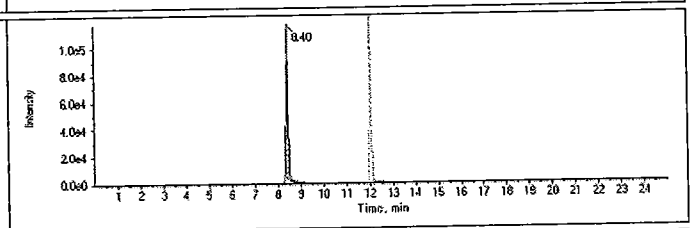
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 100.813356

Area Ratio: 1.006e0

Sample Type: (Quality Control)



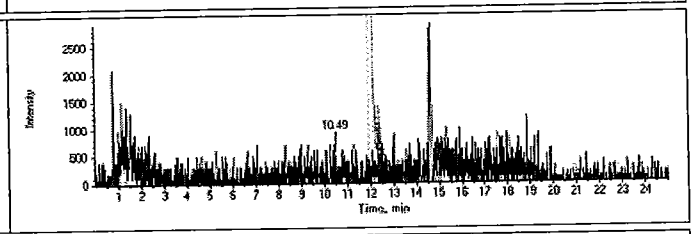
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.000033

Area Ratio: 8.755e-4

Sample Type: (Quality Control)



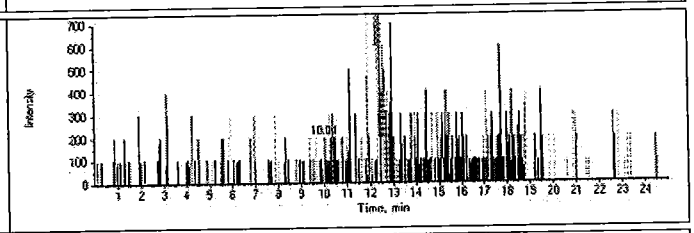
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.04 (10.50) min

Calculated conc: 0.000028

Area Ratio: 2.020e-4

Sample Type: (Quality Control)



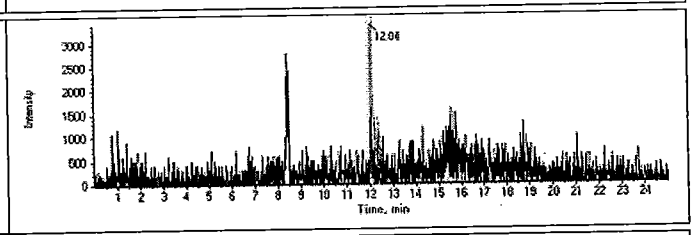
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.000365

Area Ratio: 9.364e-3

Sample Type: (Quality Control)



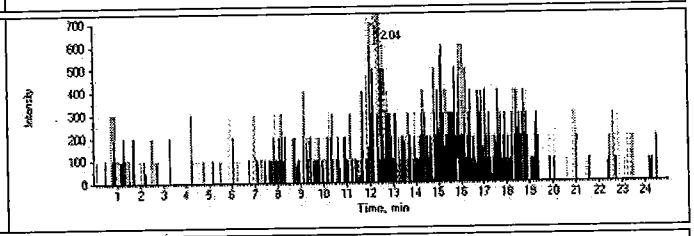
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.000236

Area Ratio: 2.021e-3

Sample Type: (Quality Control)



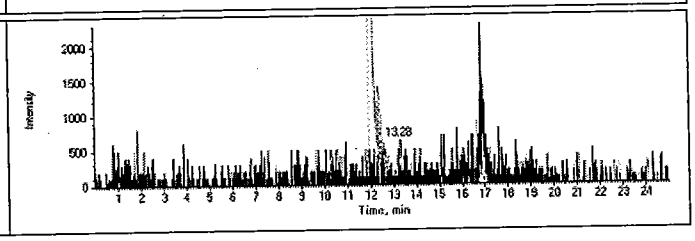
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.000029

Area Ratio: 5.391e-4

Sample Type: (Quality Control)



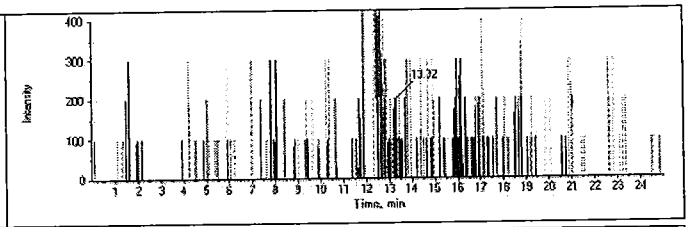
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.32 (13.29) min

Calculated conc: 0.000042

Area Ratio: 2.021e-4

Sample Type: (Quality Control)



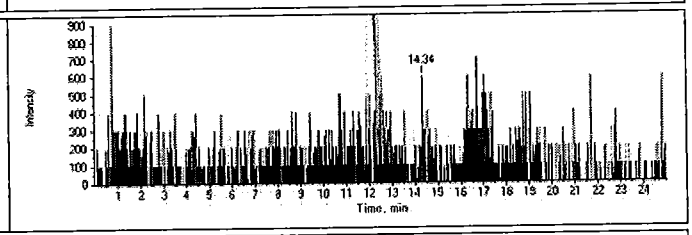
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.34 (14.32) min

Calculated conc: 0.000083

Area Ratio: 1.617e-3

Sample Type: (Quality Control)



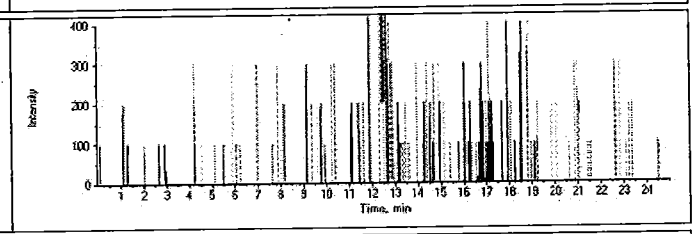
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



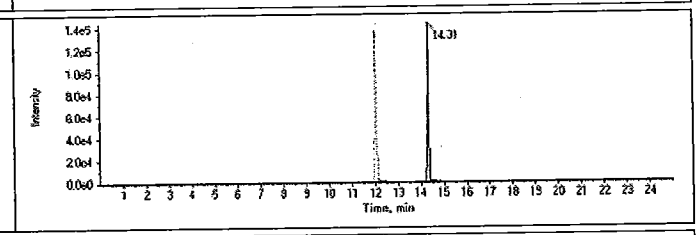
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 108.943869

Area Ratio: 9.235e-1

Sample Type: (Quality Control)



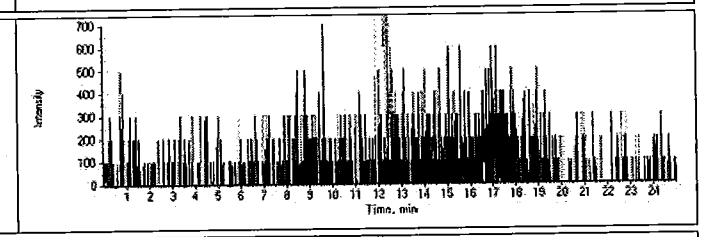
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.21 (15.19) min

Calculated conc: 0.000026

Area Ratio: 4.714e-4

Sample Type: (Quality Control)



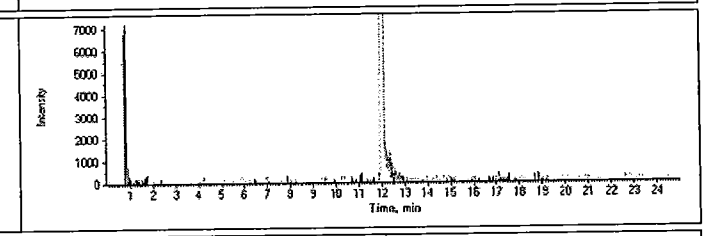
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



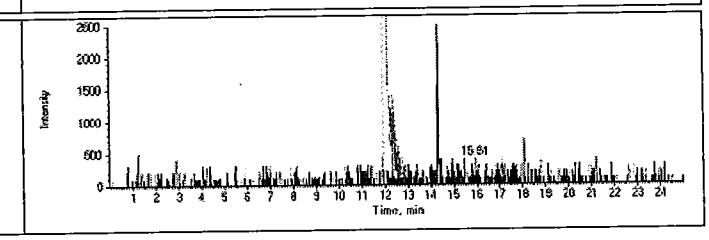
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.94 (15.93) min

Calculated conc: 0.000026

Area Ratio: 3.369e-4

Sample Type: (Quality Control)



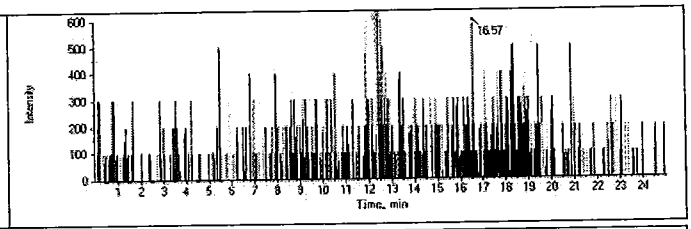
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.000053

Area Ratio: 8.758e-4

Sample Type: (Quality Control)



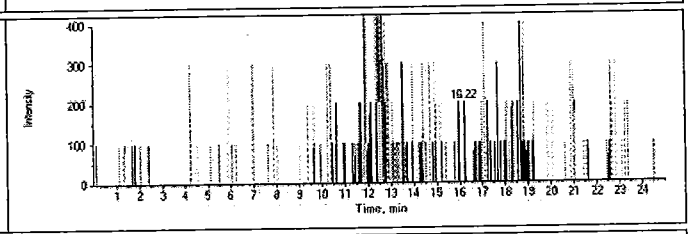
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.22 (16.58) min

Calculated conc: 0.000078

Area Ratio: 2.694e-4

Sample Type: (Quality Control)



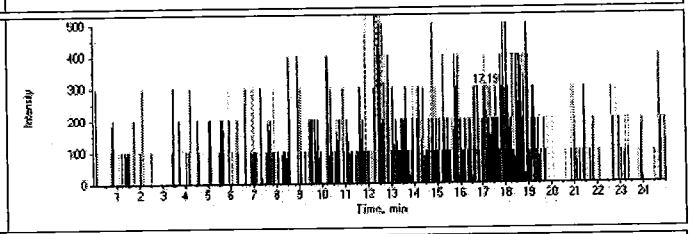
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.19 (17.14) min

Calculated conc: 0.000062

Area Ratio: 4.716e-4

Sample Type: (Quality Control)



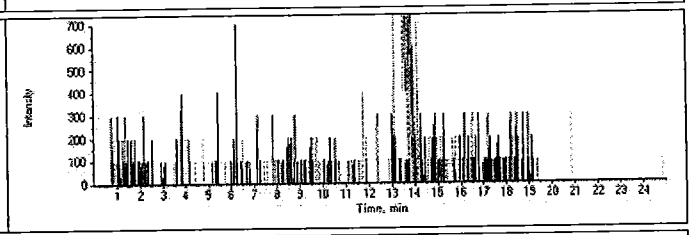
PFBS (299.0 / 79.9)

RT (Exp. RT): N/A (6.10) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



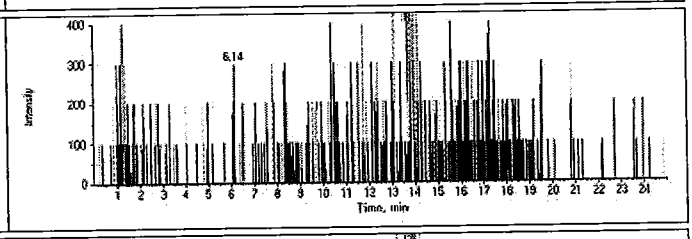
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.14 (6.11) min

Calculated conc: 0.000089

Area Ratio: 1.812e-4

Sample Type: (Quality Control)



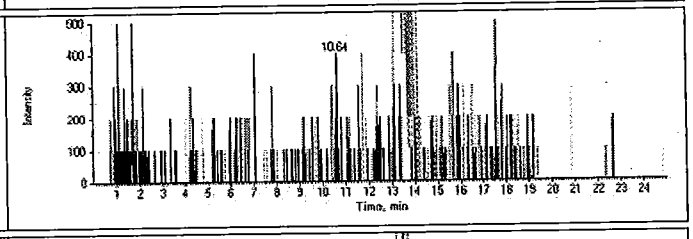
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.000033

Area Ratio: 2.716e-4

Sample Type: (Quality Control)



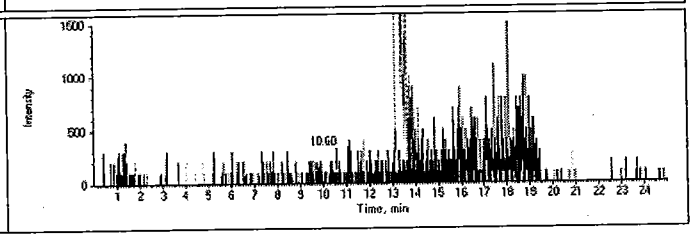
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.60 (10.64) min

Calculated conc: 0.000032

Area Ratio: 9.061e-5

Sample Type: (Quality Control)



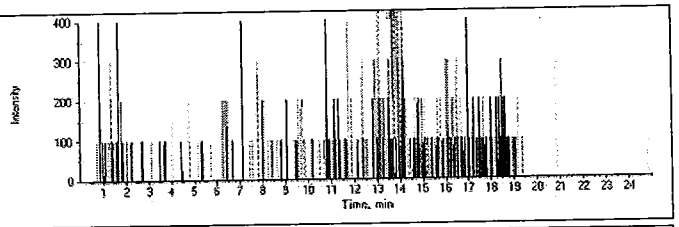
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.000011

Area Ratio: 9.061e-5

Sample Type: (Quality Control)



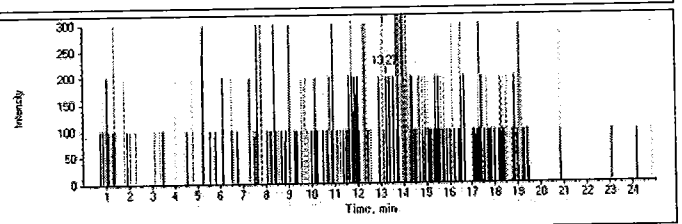
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.000057

Area Ratio: 1.359e-4

Sample Type: (Quality Control)



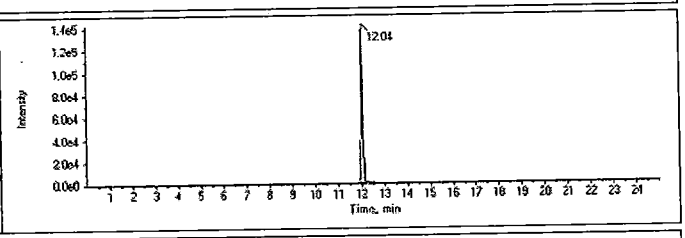
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 91.008159

Area Ratio: N/A

Sample Type: (Quality Control)



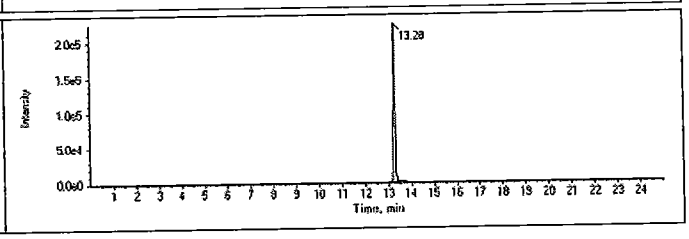
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 96.228824

Area Ratio: N/A

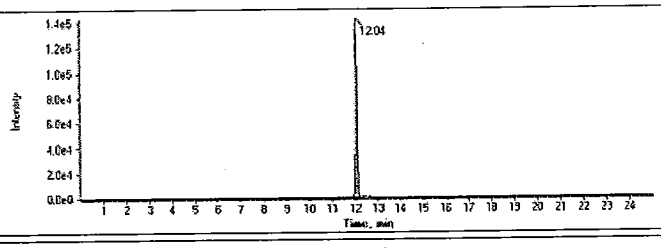
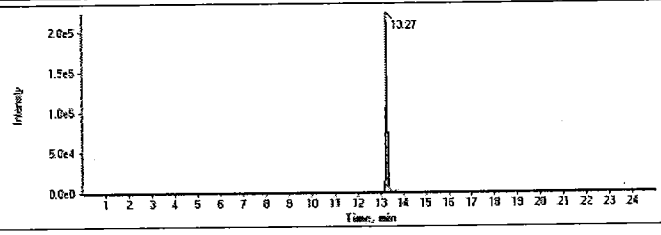
Sample Type: (Quality Control)



Sample Name	201404250091	**Injection Vial**	20
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 4:44:14 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	731412	12.04	100.00000	-
IS-13C-PFOS	1059998	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.319e+04	8.41	0.00000	0.001828
Surr-13c-PFHxA	6.958e+05	8.40	100.00000	95.292193
PFHpA	3.769e+04	10.49	0.00000	0.001962
PFHpA 2	1.000e+04	10.49	0.00000	0.001869
PFOA	1.228e+05	12.04	0.00000	0.006550
PFOA 2	3.913e+04	12.04	0.00000	0.006244
PFNA	4.752e+05	13.28	0.00000	0.034951
PFNA 2	1.216e+05	13.28	0.00000	0.034908
PFDA	3.089e+03	14.30	0.00000	0.000217
PFDA 2	9.800e+01	14.30	0.00000	0.000040
Surr-13c-PFDA	5.195e+05	14.31	100.00000	83.791200
PFUnA	5.880e+02	15.19	0.00000	0.000045
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	9.800e+01	16.15	0.00000	0.000010
PFTrDA	7.360e+02	16.58	0.00000	0.000061
PFTrDA 2	9.800e+01	16.84	0.00000	0.000039
PFTA	1.960e+02	17.11	0.00000	0.000035
PFBS	2.060e+03	6.11	0.00000	0.000395
PFBS 2	1.470e+02	6.14	0.00000	0.000068
PFHxS	2.104e+04	10.63	0.00000	0.002385
PFHxS 2	6.375e+03	10.64	0.00000	0.002128
PFOS	3.849e+04	13.28	0.00000	0.004530
PFOS 2	1.275e+04	13.28	0.00000	0.005065
13C-PFOA	7.314e+05	12.04	100.00000	91.427501
13C-PFOS	1.060e+06	13.27	100.00000	94.215536

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

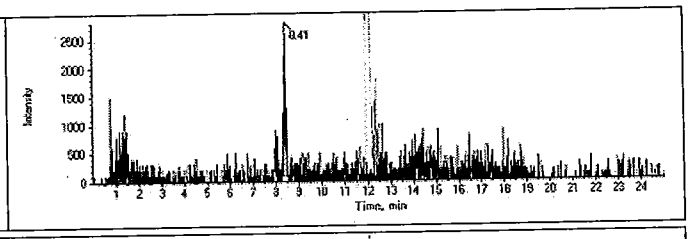
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.001828

Area Ratio: 1.803e-2

Sample Type: (Quality Control)



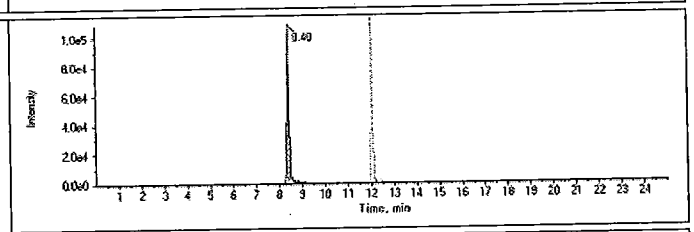
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 95.292193

Area Ratio: 9.513e-1

Sample Type: (Quality Control)



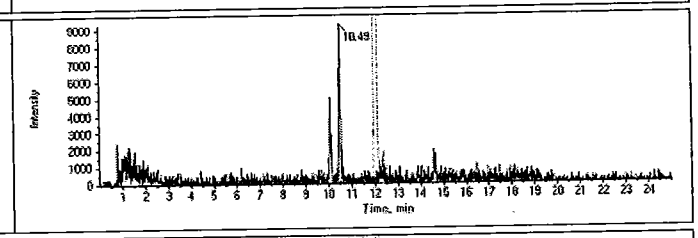
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.001962

Area Ratio: 5.153e-2

Sample Type: (Quality Control)



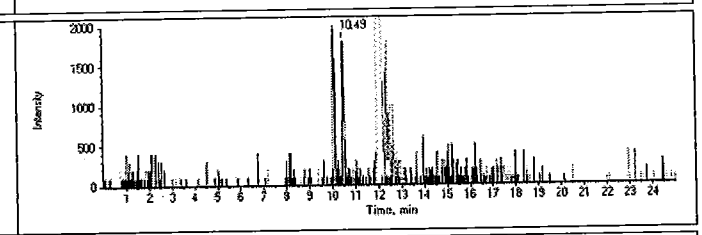
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.001869

Area Ratio: 1.368e-2

Sample Type: (Quality Control)



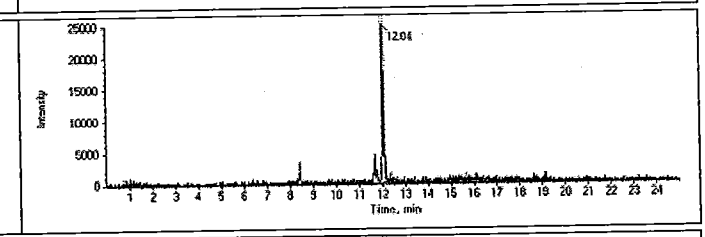
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.006550

Area Ratio: 1.679e-1

Sample Type: (Quality Control)



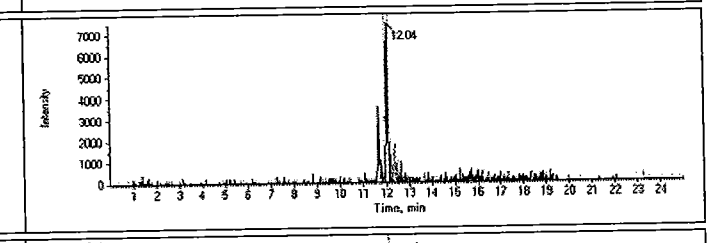
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.006244

Area Ratio: 5.350e-2

Sample Type: (Quality Control)



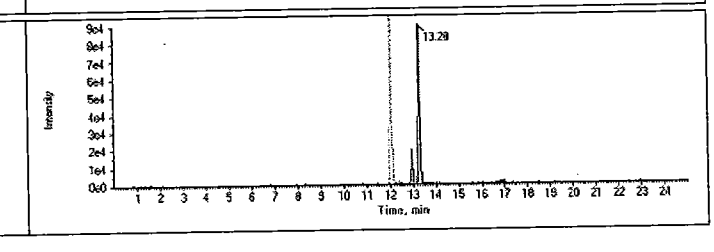
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.034951

Area Ratio: 6.497e-1

Sample Type: (Quality Control)



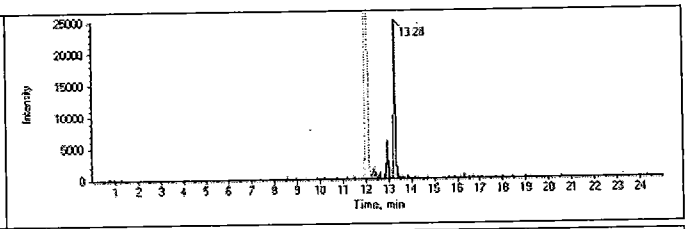
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.034908

Area Ratio: 1.663e-1

Sample Type: (Quality Control)



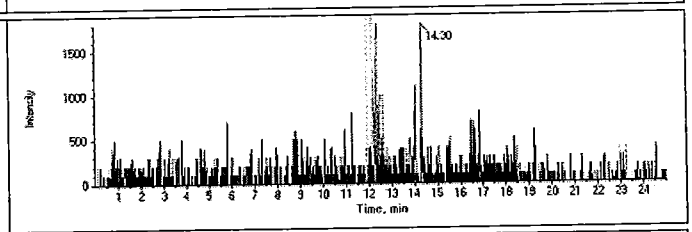
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 0.000217

Area Ratio: 4.223e-3

Sample Type: (Quality Control)



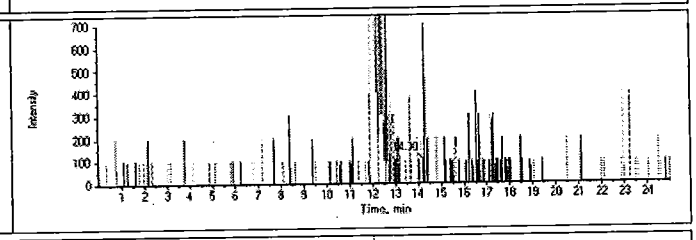
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.30 (14.31) min

Calculated conc: 0.000040

Area Ratio: 1.341e-4

Sample Type: (Quality Control)



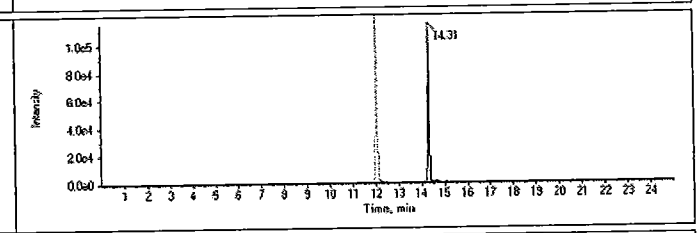
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 83.791200

Area Ratio: 7.103e-1

Sample Type: (Quality Control)



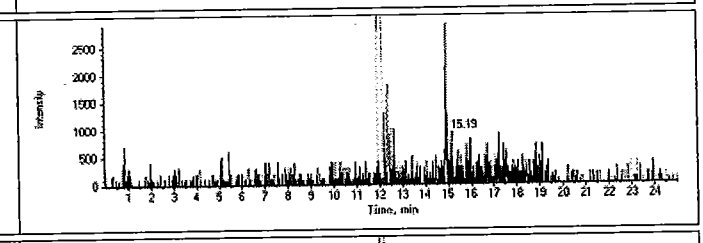
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000045

Area Ratio: 8.043e-4

Sample Type: (Quality Control)



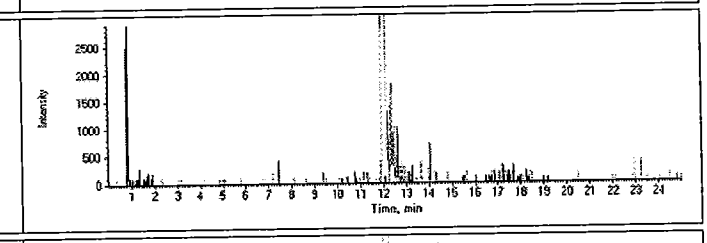
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



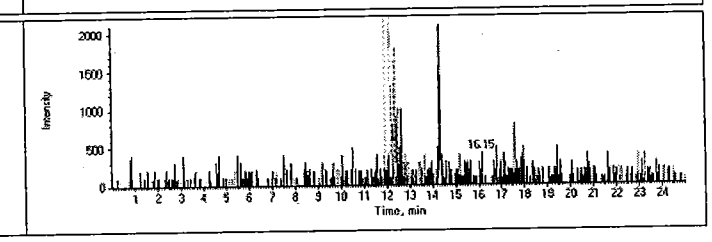
PFDoA (612.8 / 569.0)

RT (Exp. RT): 16.15 (15.93) min

Calculated conc: 0.000010

Area Ratio: 1.342e-4

Sample Type: (Quality Control)



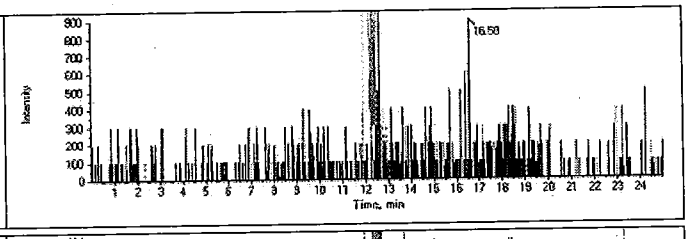
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.000061

Area Ratio: 1.006e-3

Sample Type: (Quality Control)



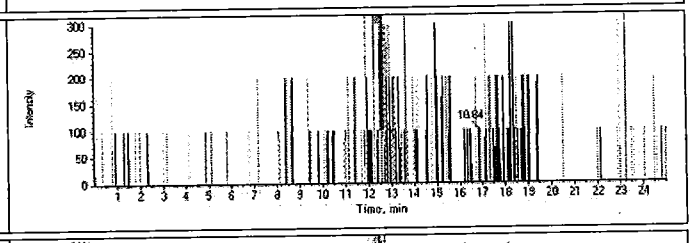
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.84 (16.58) min

Calculated conc: 0.000039

Area Ratio: 1.341e-4

Sample Type: (Quality Control)



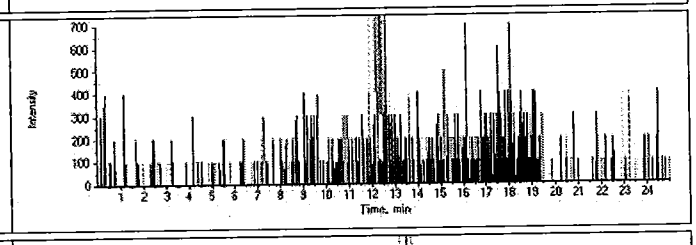
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.11 (17.14) min

Calculated conc: 0.000035

Area Ratio: 2.682e-4

Sample Type: (Quality Control)



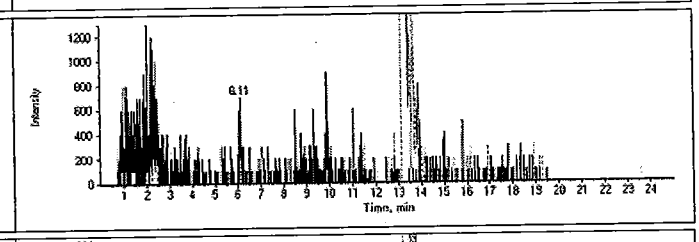
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.000395

Area Ratio: 1.943e-3

Sample Type: (Quality Control)



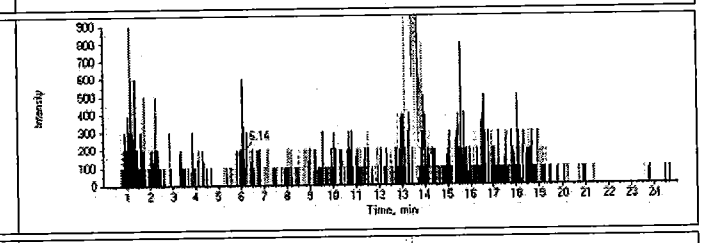
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.14 (6.11) min

Calculated conc: 0.000068

Area Ratio: 1.388e-4

Sample Type: (Quality Control)



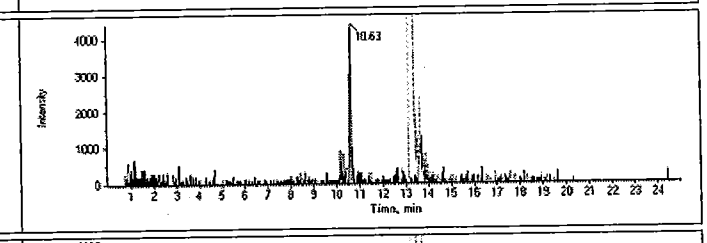
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.002385

Area Ratio: 1.985e-2

Sample Type: (Quality Control)



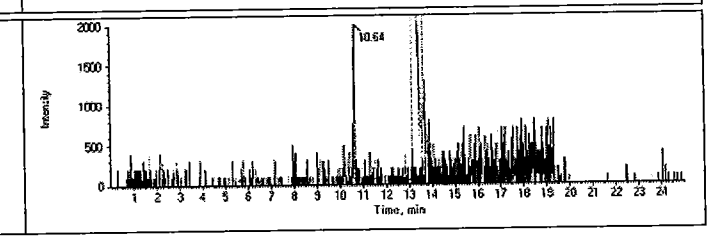
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.002128

Area Ratio: 6.014e-3

Sample Type: (Quality Control)



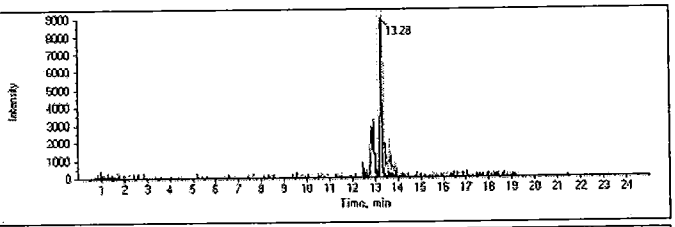
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.004530

Area Ratio: 3.631e-2

Sample Type: (Quality Control)



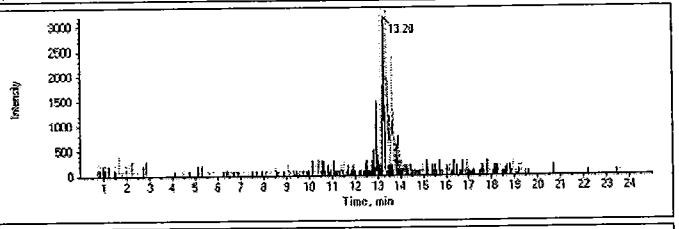
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.005065

Area Ratio: 1.203e-2

Sample Type: (Quality Control)



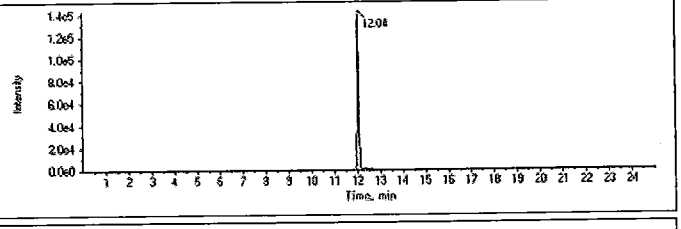
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 91.427501

Area Ratio: N/A

Sample Type: (Quality Control)



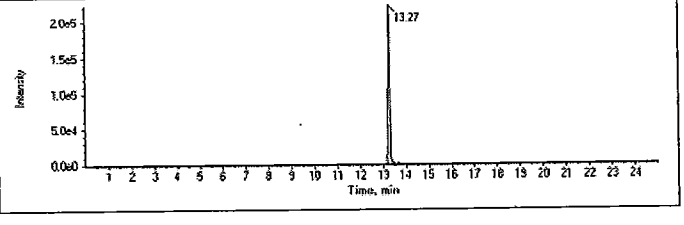
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 94.215536

Area Ratio: N/A

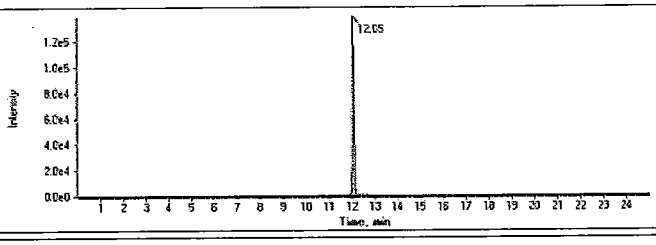
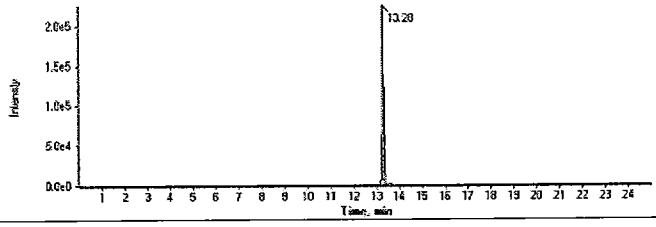
Sample Type: (Quality Control)



Sample Name	201404250092	**Injection Vial**	21
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 5:09:50 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	732541	12.05	100.00000	-
IS-13C-PFOS	1053668	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	3.920e+02	8.38	0.00000	0.000054
Surr-13c-PFHxA	6.373e+05	8.41	100.00000	87.145504
PFHpA	7.850e+02	10.49	0.00000	0.000041
PFHpA 2	5.890e+02	10.52	0.00000	0.000110
PFOA	2.787e+03	12.07	0.00000	0.000148
PFOA 2	1.422e+03	12.06	0.00000	0.000227
PFNA	9.320e+02	13.30	0.00000	0.000068
PFNA 2	9.800e+01	13.32	0.00000	0.000028
PFDA	1.960e+02	14.32	0.00000	0.000014
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	4.625e+05	14.32	100.00000	74.481219
PFUnA	4.410e+02	15.17	0.00000	0.000034
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	7.850e+02	15.96	0.00000	0.000083
PFTrDA	1.470e+02	16.50	0.00000	0.000012
PFTrDA 2	9.800e+01	16.50	0.00000	0.000039
PFTA	5.400e+02	17.16	0.00000	0.000096
PFBS	1.470e+02	6.11	0.00000	0.000028
PFBS 2	N/A	N/A	0.00000	N/A
PFHxS	3.920e+02	10.66	0.00000	0.000045
PFHxS 2	2.450e+02	10.67	0.00000	0.000082
PFOS	1.470e+02	13.27	0.00000	0.000017
PFOS 2	9.800e+01	13.31	0.00000	0.000039
13C-PFOA	7.325e+05	12.05	100.00000	91.568697
13C-PFOS	1.054e+06	13.28	100.00000	93.652943

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

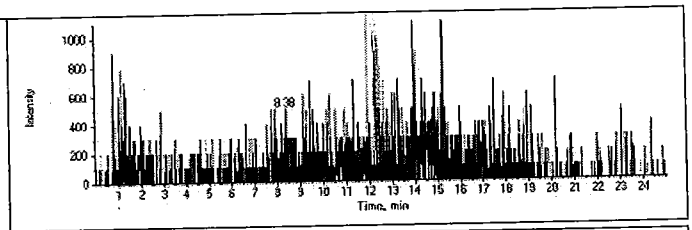
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.38 (8.40) min

Calculated conc: 0.000054

Area Ratio: 5.353e-4

Sample Type: (Quality Control)



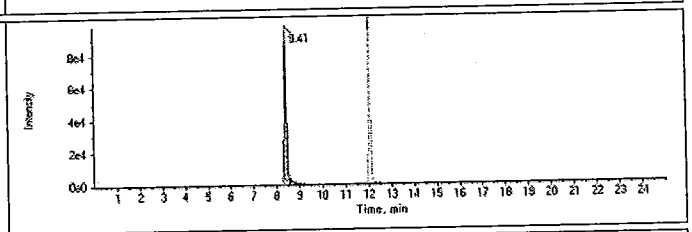
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 87.145504

Area Ratio: 8.699e-1

Sample Type: (Quality Control)



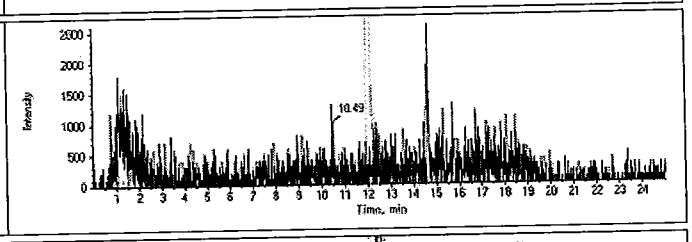
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.000041

Area Ratio: 1.071e-3

Sample Type: (Quality Control)



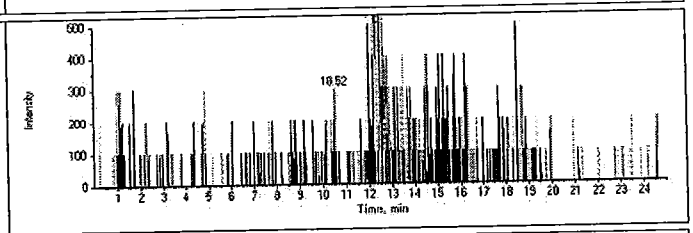
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.52 (10.50) min

Calculated conc: 0.000110

Area Ratio: 8.034e-4

Sample Type: (Quality Control)



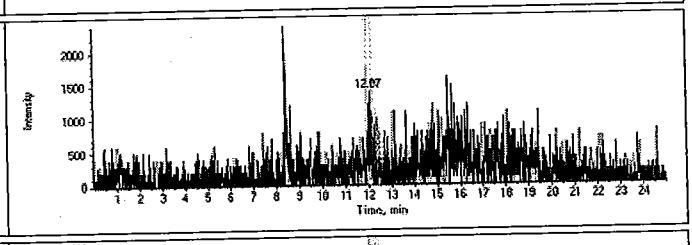
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.07 (12.05) min

Calculated conc: 0.000148

Area Ratio: 3.805e-3

Sample Type: (Quality Control)



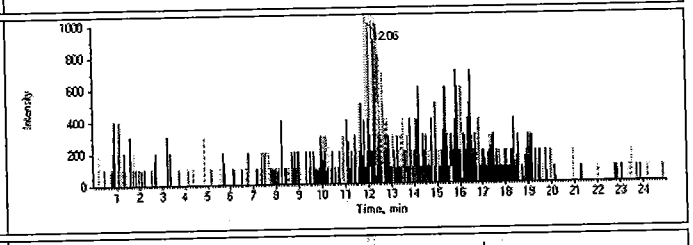
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.000227

Area Ratio: 1.941e-3

Sample Type: (Quality Control)



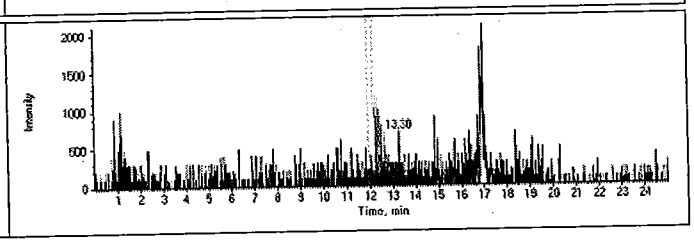
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.000068

Area Ratio: 1.272e-3

Sample Type: (Quality Control)



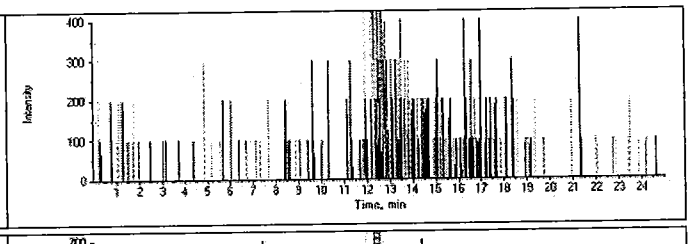
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.32 (13.29) min

Calculated conc: 0.000028

Area Ratio: 1.338e-4

Sample Type: (Quality Control)



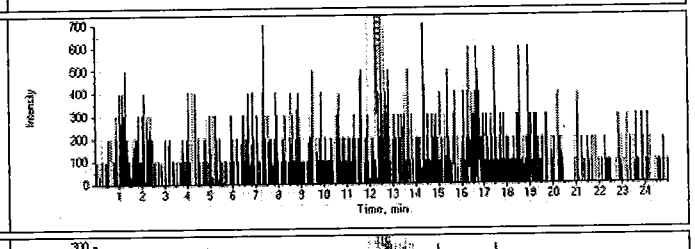
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.000014

Area Ratio: 2.677e-4

Sample Type: (Quality Control)



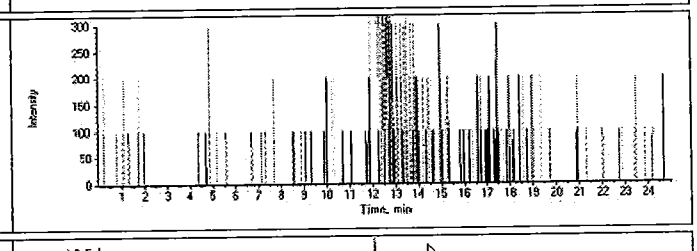
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



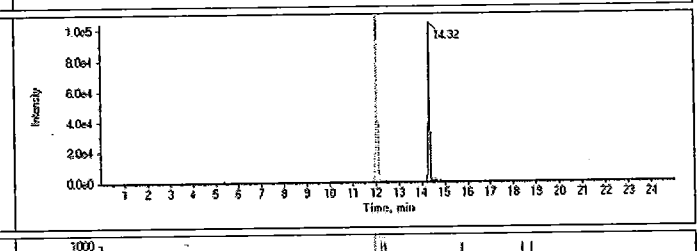
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 74.481219

Area Ratio: 6.314e-1

Sample Type: (Quality Control)



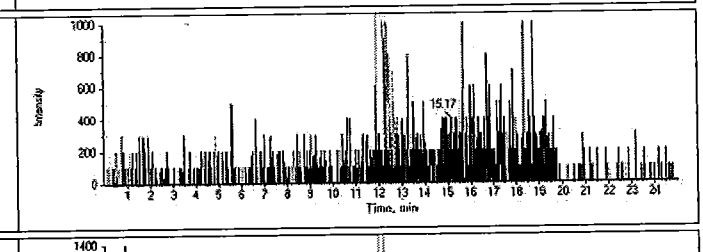
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.17 (15.19) min

Calculated conc: 0.000034

Area Ratio: 6.024e-4

Sample Type: (Quality Control)



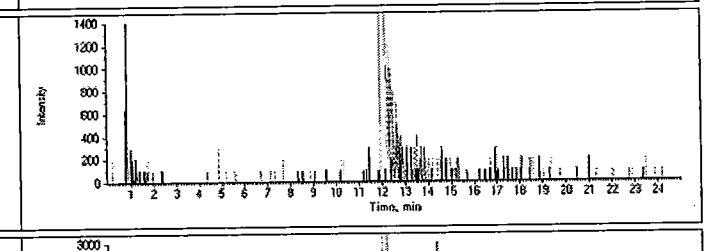
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



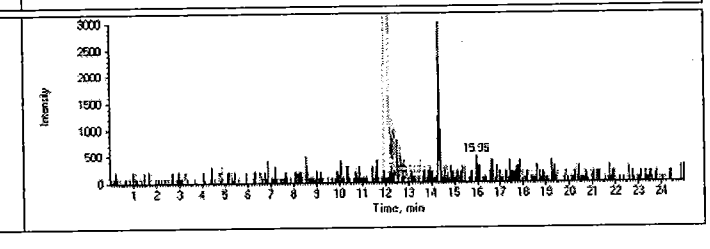
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.96 (15.93) min

Calculated conc: 0.000083

Area Ratio: 1.071e-3

Sample Type: (Quality Control)



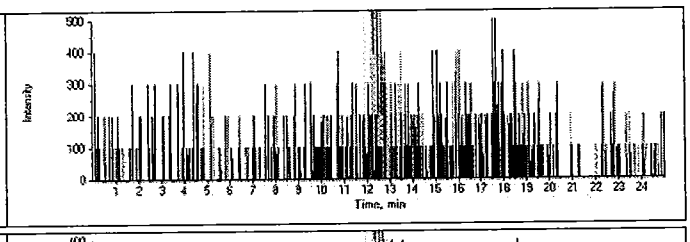
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.50 (16.58) min

Calculated conc: 0.000012

Area Ratio: 2.007e-4

Sample Type: (Quality Control)



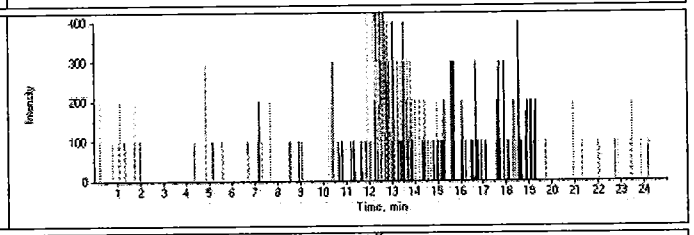
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.50 (16.58) min

Calculated conc: 0.000039

Area Ratio: 1.338e-4

Sample Type: (Quality Control)



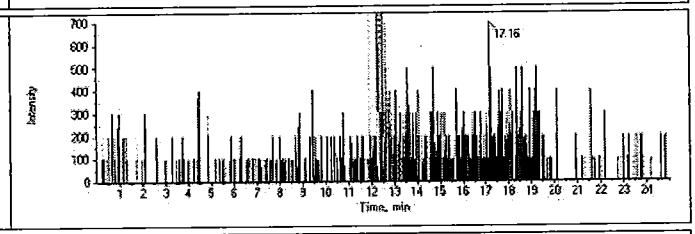
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.16 (17.14) min

Calculated conc: 0.000096

Area Ratio: 7.365e-4

Sample Type: (Quality Control)



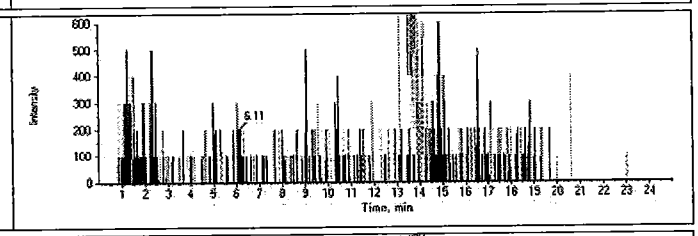
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.000028

Area Ratio: 1.397e-4

Sample Type: (Quality Control)



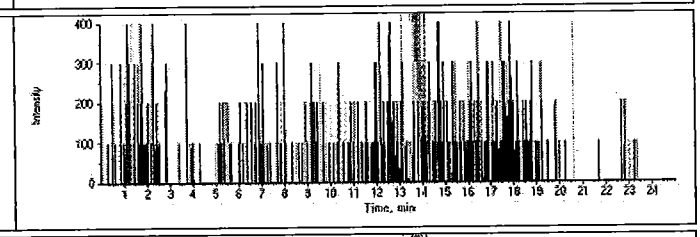
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): N/A (6.11) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



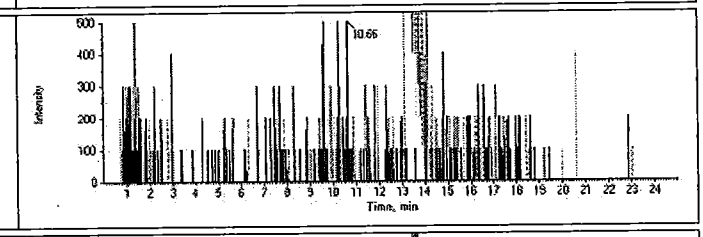
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.66 (10.64) min

Calculated conc: 0.000045

Area Ratio: 3.724e-4

Sample Type: (Quality Control)



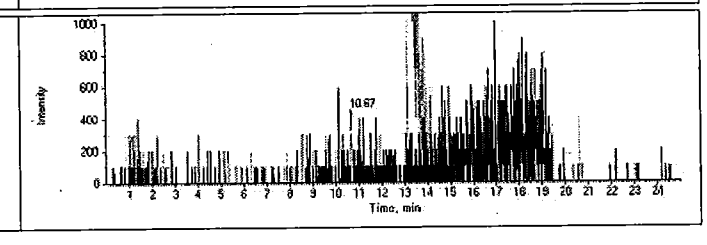
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.67 (10.64) min

Calculated conc: 0.000082

Area Ratio: 2.327e-4

Sample Type: (Quality Control)



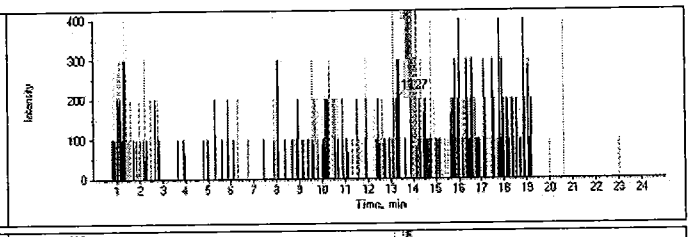
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.000017

Area Ratio: 1.396e-4

Sample Type: (Quality Control)



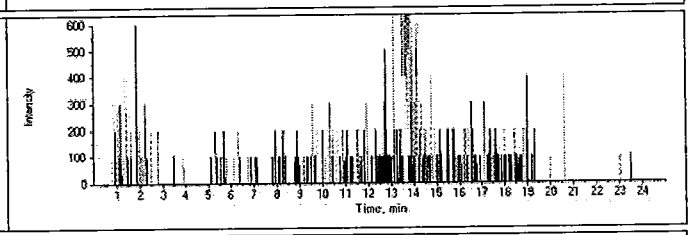
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.31 (13.28) min

Calculated conc: 0.000039

Area Ratio: 9.306e-5

Sample Type: (Quality Control)



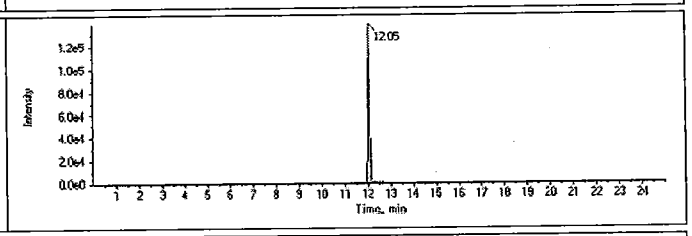
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 91.568697

Area Ratio: N/A

Sample Type: (Quality Control)



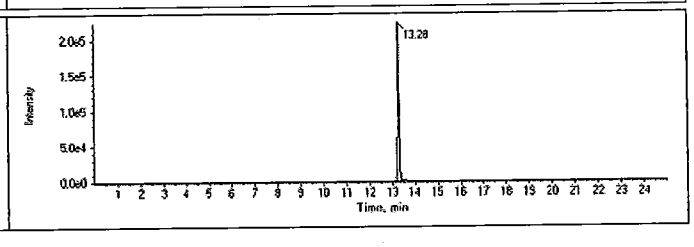
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 93.652943

Area Ratio: N/A

Sample Type: (Quality Control)



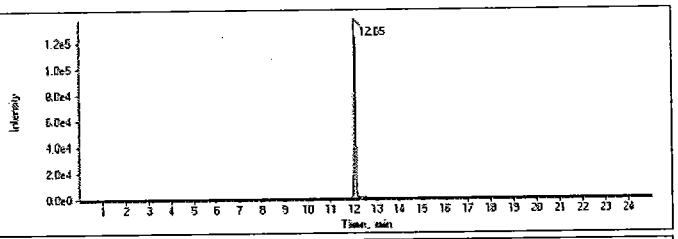
Sample Name	201404250093	**Injection Vial**	22
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 5:35:25 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	690999	12.05	100.00000	-
IS-13C-PFOS	1044452	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	4.410e+02	8.39	0.00000	0.000065
Surr-13c-PFHxA	6.529e+05	8.41	100.00000	94.653534
PFHpA	9.810e+02	10.50	0.00000	0.000054
PFHpA 2	4.410e+02	10.47	0.00000	0.000087
PFOA	6.817e+03	12.05	0.00000	0.000385
PFOA 2	1.373e+03	12.05	0.00000	0.000232
PFNA	4.410e+02	13.30	0.00000	0.000034
PFNA 2	1.960e+02	13.09	0.00000	0.000060
PFDA	8.340e+02	14.32	0.00000	0.000062
PFDA 2	3.430e+02	13.90	0.00000	0.000149
Surr-13c-PFDA	5.915e+05	14.33	100.00000	100.977112
PFUnA	9.800e+01	15.17	0.00000	0.000008
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	1.960e+02	15.80	0.00000	0.000022
PFTrDA	4.410e+02	16.59	0.00000	0.000039
PFTrDA 2	1.470e+02	16.62	0.00000	0.000061
PFTA	3.920e+02	17.14	0.00000	0.000074
PFBS	1.960e+02	6.09	0.00000	0.000038
PFBS 2	1.470e+02	6.12	0.00000	0.000069
PFHxS	9.810e+02	10.62	0.00000	0.000113
PFHxS 2	1.470e+02	10.65	0.00000	0.000050
PFOS	3.920e+02	13.28	0.00000	0.000047
PFOS 2	2.940e+02	13.26	0.00000	0.000119
13C-PFOA	6.910e+05	12.05	100.00000	86.375795
13C-PFOS	1.044e+06	13.29	100.00000	92.833782

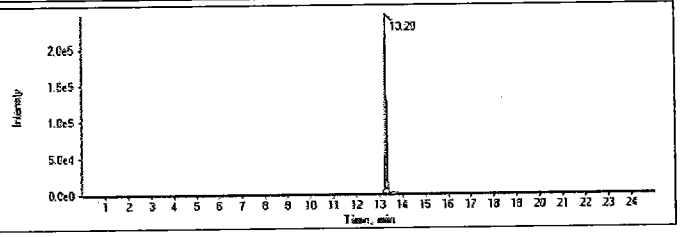
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.05(12.05) min
Concentration: 100.00000
Sample Type: (Quality Control)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.29(13.28) min
Concentration: 100.00000
Sample Type: (Quality Control)



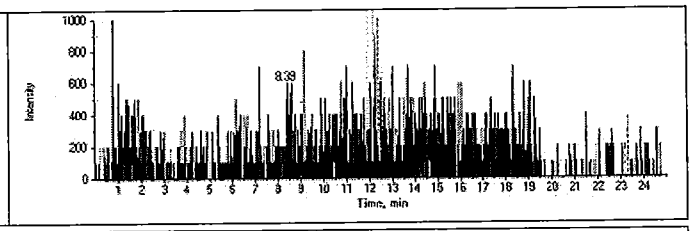
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.000065

Area Ratio: 6.384e-4

Sample Type: (Quality Control)



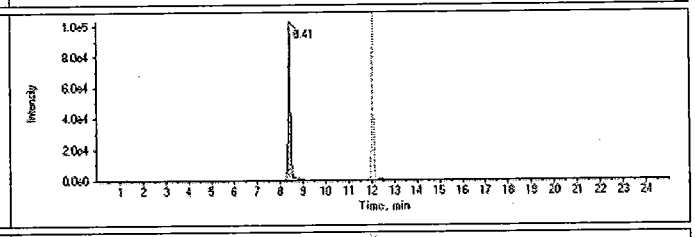
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 94.653534

Area Ratio: 9.449e-1

Sample Type: (Quality Control)



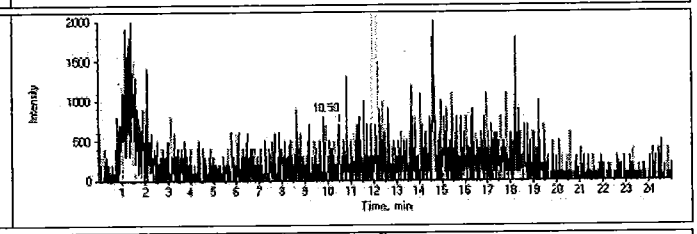
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.000054

Area Ratio: 1.420e-3

Sample Type: (Quality Control)



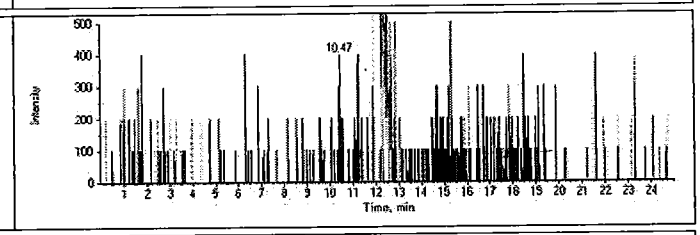
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.47 (10.50) min

Calculated conc: 0.000087

Area Ratio: 6.388e-4

Sample Type: (Quality Control)



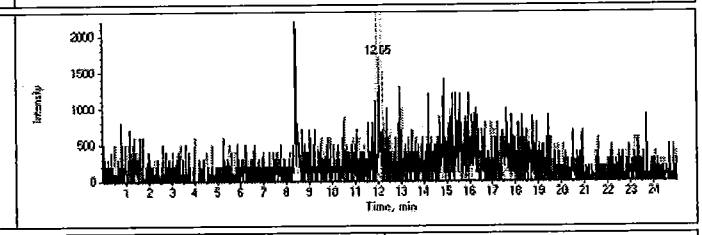
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.000385

Area Ratio: 9.865e-3

Sample Type: (Quality Control)



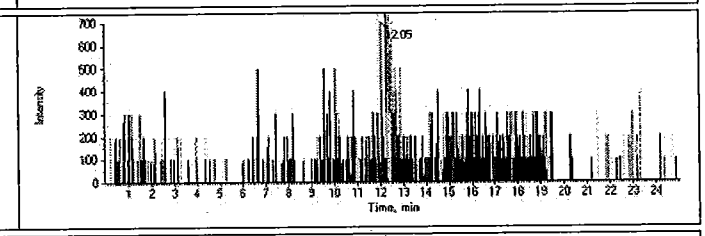
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.000232

Area Ratio: 1.987e-3

Sample Type: (Quality Control)



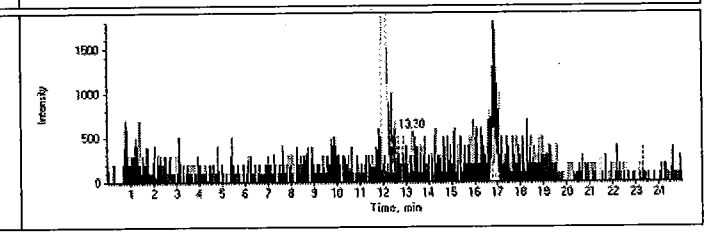
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.30 (13.29) min

Calculated conc: 0.000034

Area Ratio: 6.387e-4

Sample Type: (Quality Control)



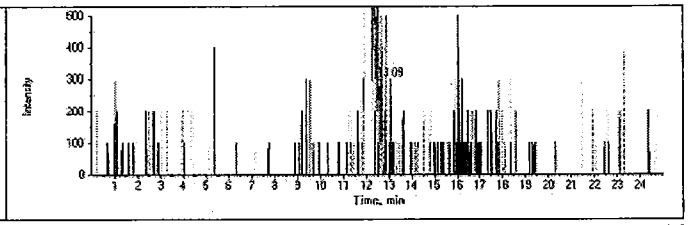
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.09 (13.29) min

Calculated conc: 0.000060

Area Ratio: 2.839e-4

Sample Type: (Quality Control)



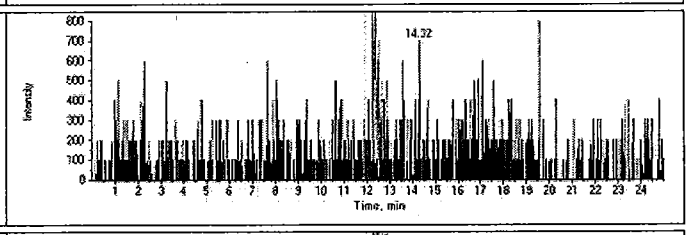
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.000062

Area Ratio: 1.206e-3

Sample Type: (Quality Control)



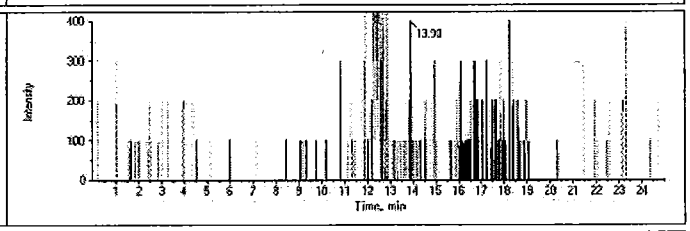
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 13.90 (14.31) min

Calculated conc: 0.000149

Area Ratio: 4.967e-4

Sample Type: (Quality Control)



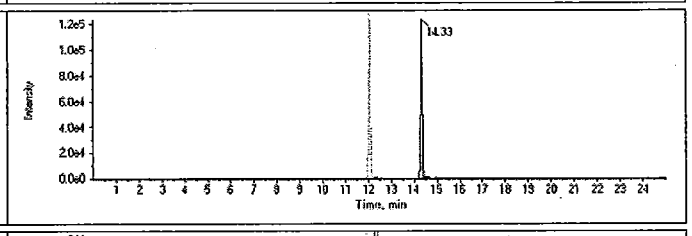
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 100.977112

Area Ratio: 8.560e-1

Sample Type: (Quality Control)



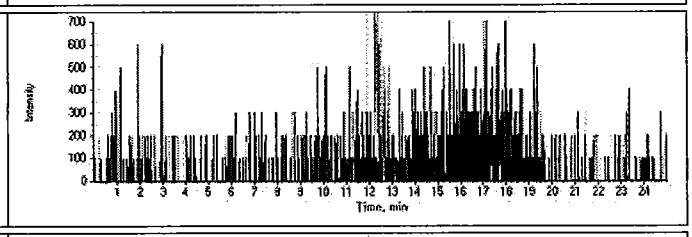
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.17 (15.19) min

Calculated conc: 0.000008

Area Ratio: 1.419e-4

Sample Type: (Quality Control)



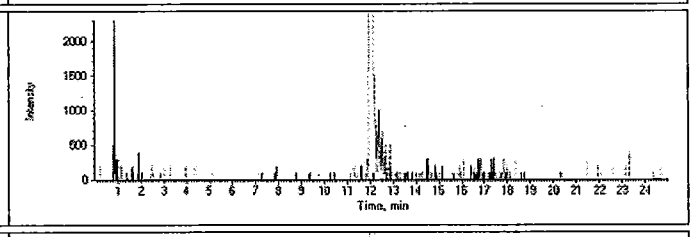
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



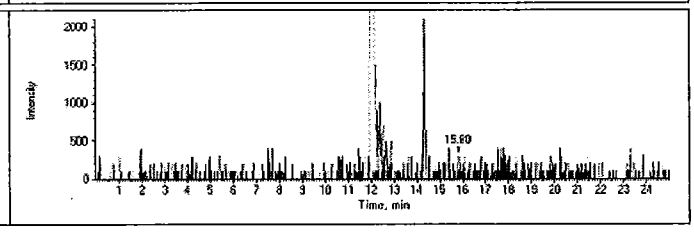
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.80 (15.93) min

Calculated conc: 0.000022

Area Ratio: 2.839e-4

Sample Type: (Quality Control)



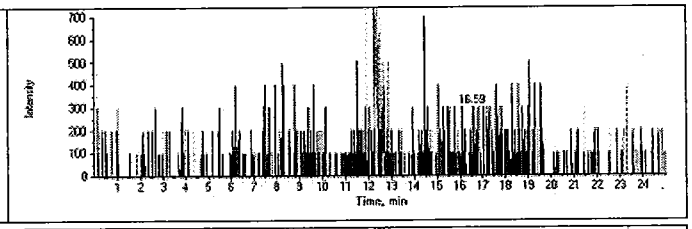
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.000039

Area Ratio: 6.388e-4

Sample Type: (Quality Control)



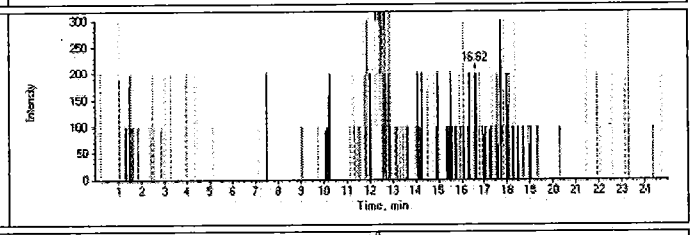
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.62 (16.58) min

Calculated conc: 0.000061

Area Ratio: 2.128e-4

Sample Type: (Quality Control)



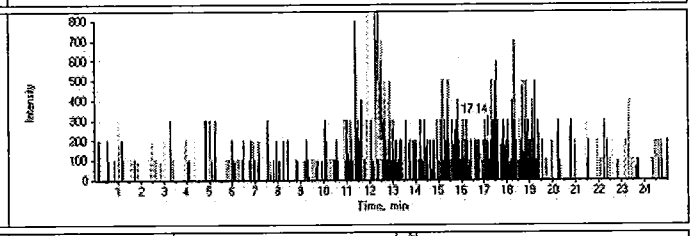
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.000074

Area Ratio: 5.676e-4

Sample Type: (Quality Control)



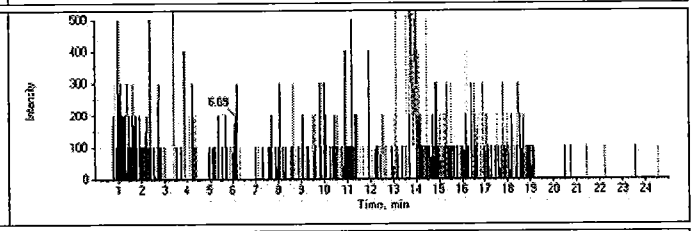
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.09 (6.10) min

Calculated conc: 0.000038

Area Ratio: 1.878e-4

Sample Type: (Quality Control)



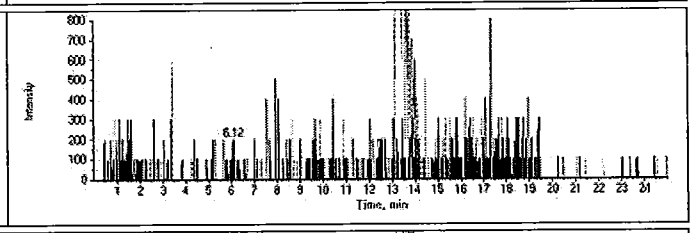
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.12 (6.11) min

Calculated conc: 0.000069

Area Ratio: 1.410e-4

Sample Type: (Quality Control)



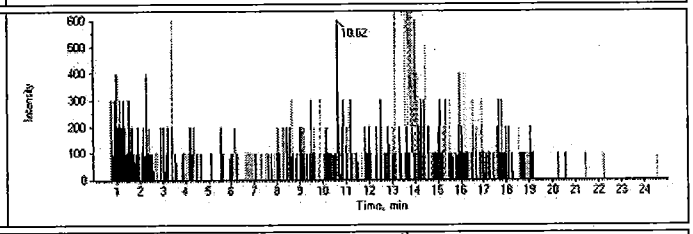
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.62 (10.64) min

Calculated conc: 0.000113

Area Ratio: 9.389e-4

Sample Type: (Quality Control)



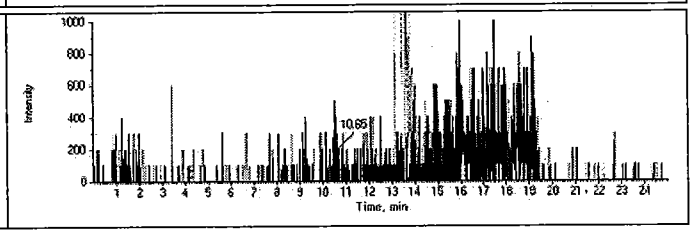
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.65 (10.64) min

Calculated conc: 0.000050

Area Ratio: 1.409e-4

Sample Type: (Quality Control)



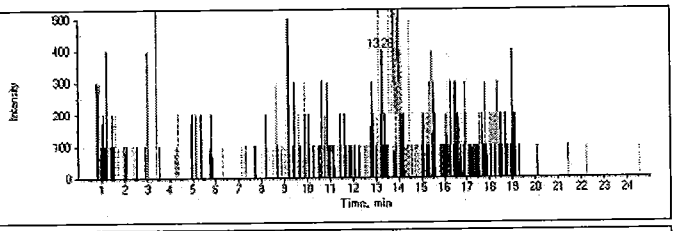
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.000047

Area Ratio: 3.755e-4

Sample Type: (Quality Control)



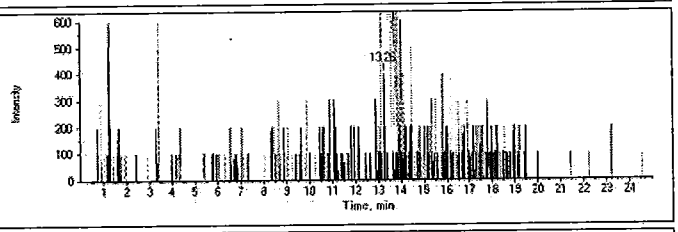
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.000119

Area Ratio: 2.818e-4

Sample Type: (Quality Control)



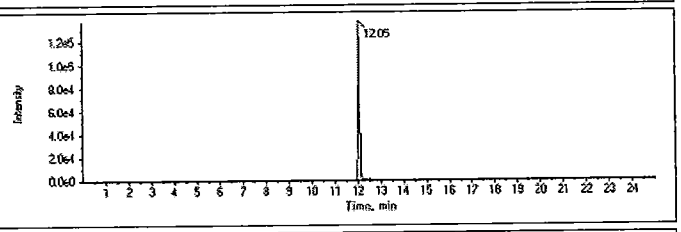
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 86.375795

Area Ratio: N/A

Sample Type: (Quality Control)



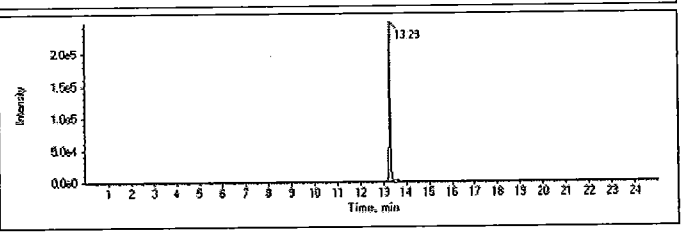
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 92.833782

Area Ratio: N/A

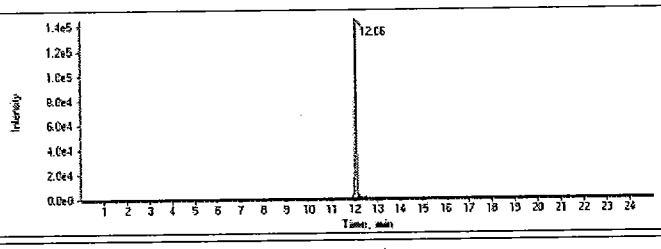
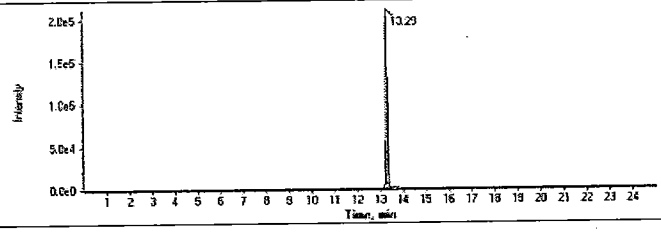
Sample Type: (Quality Control)



Sample Name	201404250094	**Injection Vial**	23
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 6:01:01 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	714323	12.06	100.00000	-
IS-13C-PFOS	1043573	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	6.380e+02	8.43	0.00000	0.000090
Surr-13c-PFHxA	7.448e+05	8.41	100.00000	104.443739
PFHpA	5.150e+02	10.49	0.00000	0.000027
PFHpA 2	N/A	N/A	0.00000	N/A
PFOA	3.089e+03	12.05	0.00000	0.000169
PFOA 2	1.960e+02	12.02	0.00000	0.000032
PFNA	7.895e+03	13.27	0.00000	0.000595
PFNA 2	1.030e+03	13.29	0.00000	0.000303
PFDA	3.430e+02	14.30	0.00000	0.000025
PFDA 2	1.960e+02	14.36	0.00000	0.000082
Surr-13c-PFDA	5.987e+05	14.32	100.00000	98.867177
PFUnA	4.410e+02	15.18	0.00000	0.000035
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	3.430e+02	15.93	0.00000	0.000037
PFTrDA	2.450e+02	16.56	0.00000	0.000021
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	1.470e+02	17.15	0.00000	0.000027
PFBS	1.470e+02	6.11	0.00000	0.000029
PFBS 2	2.450e+02	6.51	0.00000	0.000116
PFHxS	9.800e+01	10.63	0.00000	0.000011
PFHxS 2	1.960e+02	10.53	0.00000	0.000067
PFOS	1.960e+02	13.30	0.00000	0.000023
PFOS 2	1.960e+02	13.30	0.00000	0.000079
13C-PFOA	7.143e+05	12.06	100.00000	89.291377
13C-PFOS	1.044e+06	13.29	100.00000	92.755676

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.06(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

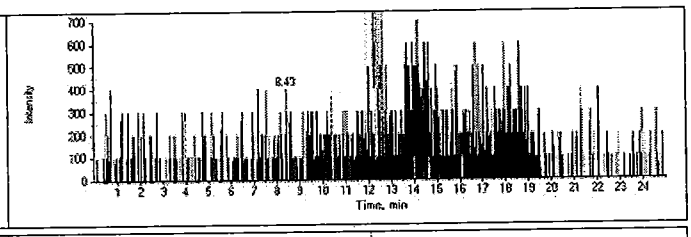
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.43 (8.40) min

Calculated conc: 0.000090

Area Ratio: 8.925e-4

Sample Type: (Quality Control)



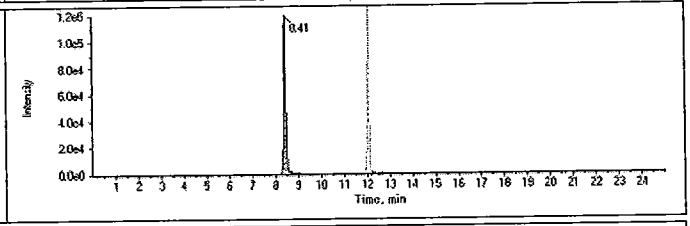
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 104.443739

Area Ratio: 1.043e0

Sample Type: (Quality Control)



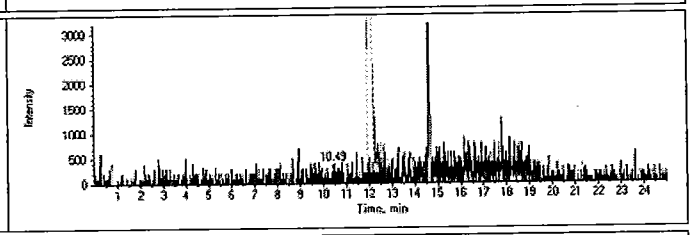
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.000027

Area Ratio: 7.208e-4

Sample Type: (Quality Control)



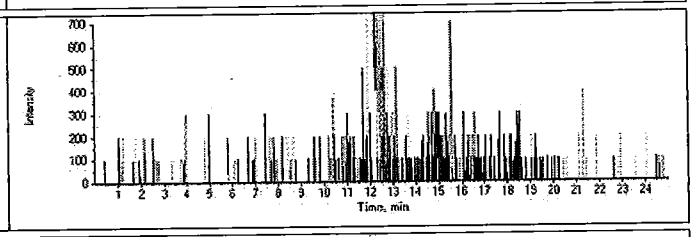
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): N/A (10.50) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



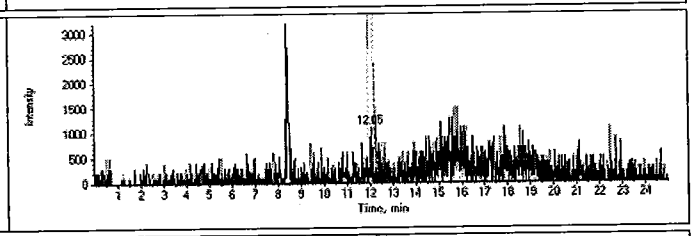
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.000169

Area Ratio: 4.325e-3

Sample Type: (Quality Control)



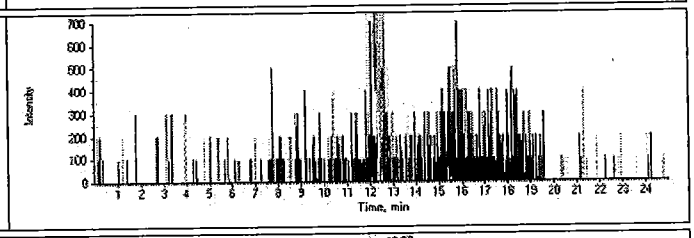
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.02 (12.04) min

Calculated conc: 0.000032

Area Ratio: 2.748e-4

Sample Type: (Quality Control)



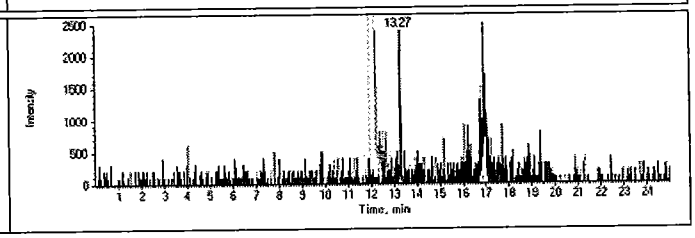
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.000595

Area Ratio: 1.105e-2

Sample Type: (Quality Control)



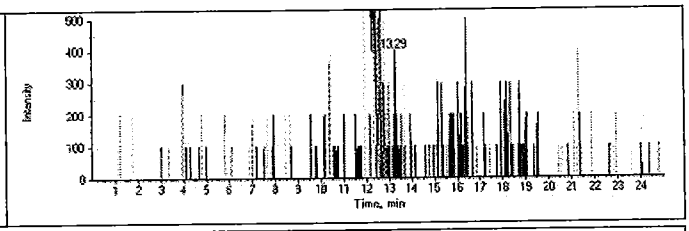
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.000303

Area Ratio: 1.442e-3

Sample Type: (Quality Control)



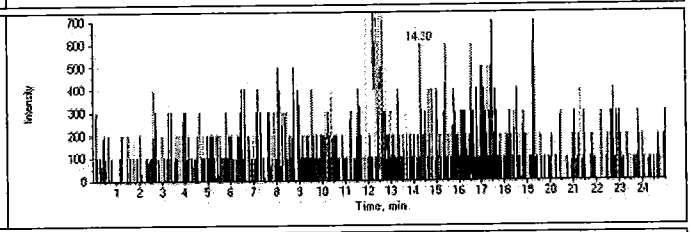
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 0.000025

Area Ratio: 4.807e-4

Sample Type: (Quality Control)



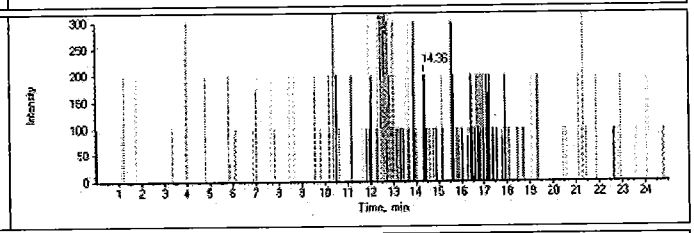
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.36 (14.31) min

Calculated conc: 0.000082

Area Ratio: 2.745e-4

Sample Type: (Quality Control)



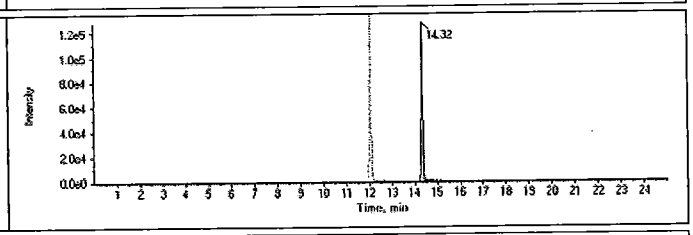
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 98.867177

Area Ratio: 8.381e-1

Sample Type: (Quality Control)



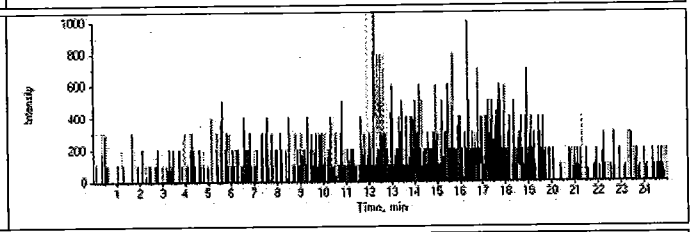
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.18 (15.19) min

Calculated conc: 0.000035

Area Ratio: 6.178e-4

Sample Type: (Quality Control)



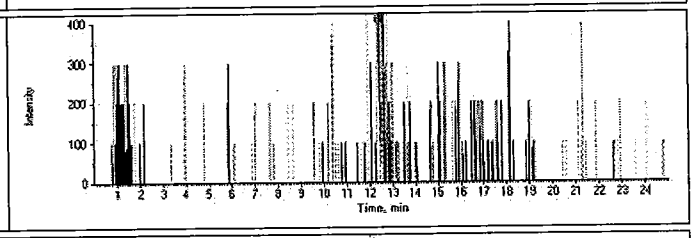
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



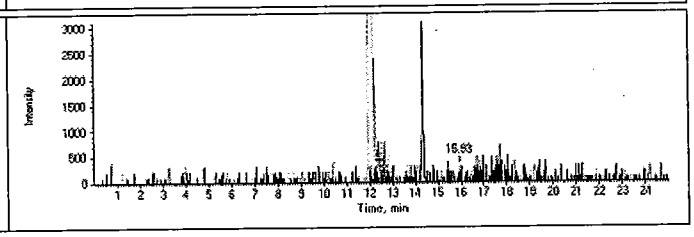
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.000037

Area Ratio: 4.806e-4

Sample Type: (Quality Control)



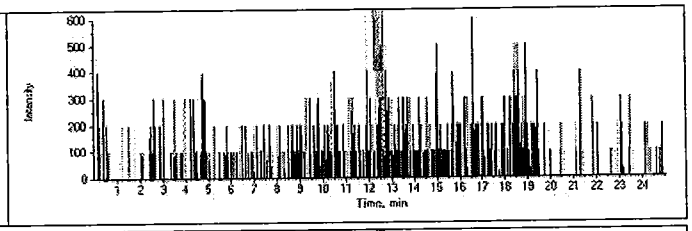
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.56 (16.58) min

Calculated conc: 0.000021

Area Ratio: 3.433e-4

Sample Type: (Quality Control)



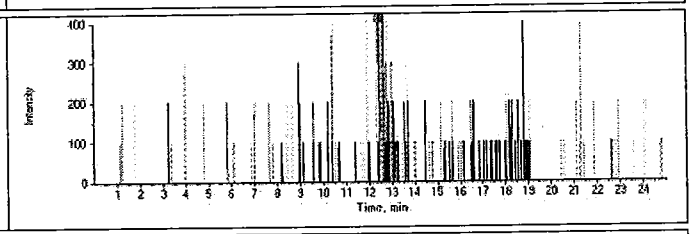
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



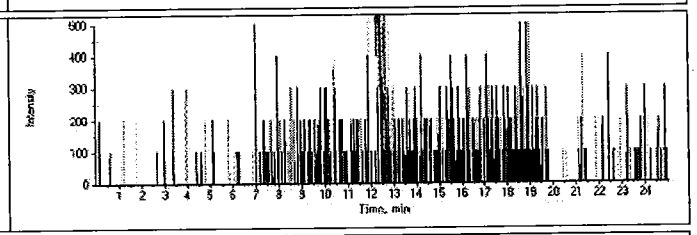
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.15 (17.14) min

Calculated conc: 0.000027

Area Ratio: 2.059e-4

Sample Type: (Quality Control)



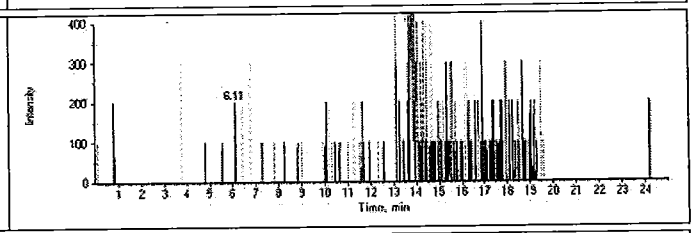
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.000029

Area Ratio: 1.410e-4

Sample Type: (Quality Control)



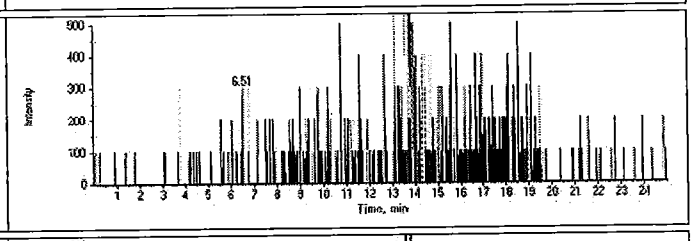
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.51 (6.11) min

Calculated conc: 0.000116

Area Ratio: 2.350e-4

Sample Type: (Quality Control)



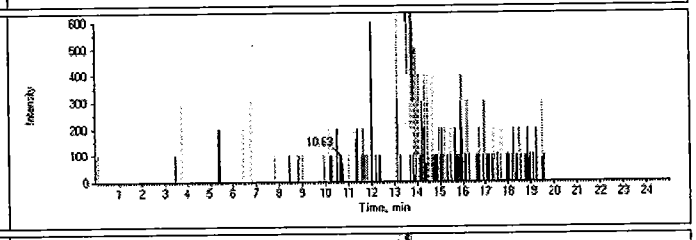
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.000011

Area Ratio: 9.400e-5

Sample Type: (Quality Control)



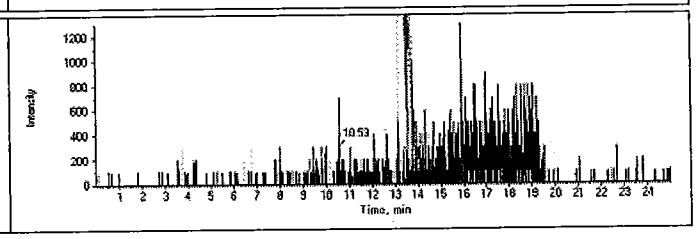
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.53 (10.64) min

Calculated conc: 0.000067

Area Ratio: 1.880e-4

Sample Type: (Quality Control)



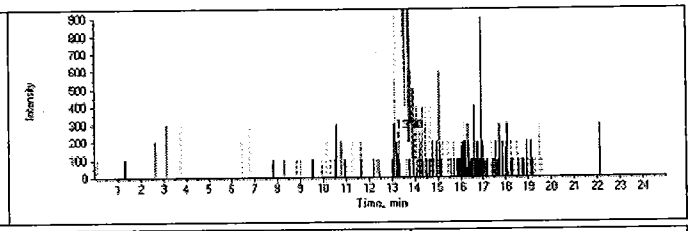
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.30 (13.28) min

Calculated conc: 0.000023

Area Ratio: 1.880e-4

Sample Type: (Quality Control)



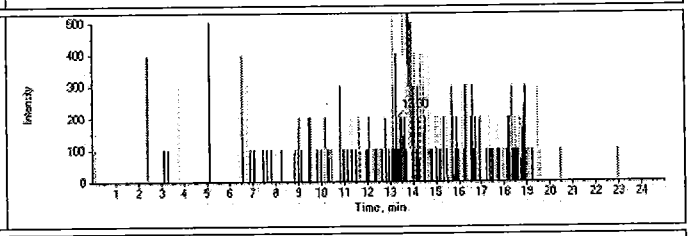
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.30 (13.28) min

Calculated conc: 0.000079

Area Ratio: 1.880e-4

Sample Type: (Quality Control)



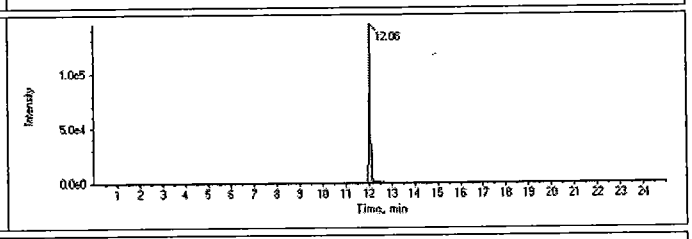
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.06 (12.05) min

Calculated conc: 89.291377

Area Ratio: N/A

Sample Type: (Quality Control)



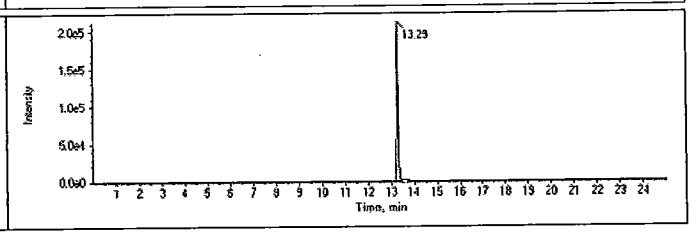
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 92.755676

Area Ratio: N/A

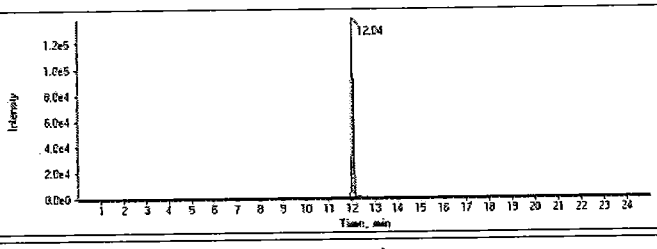
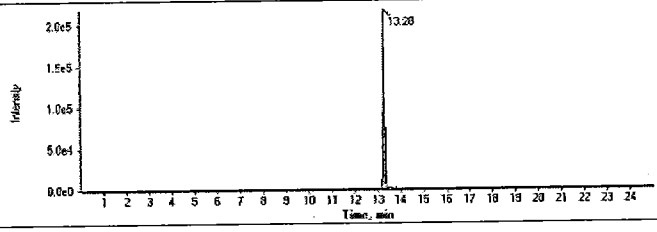
Sample Type: (Quality Control)



Sample Name	201404250095	**Injection Vial**	24
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 6:26:37 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	660694	12.04	100.00000	-
IS-13C-PFOS	978541	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.241e+04	8.40	0.00000	0.001904
Surr-13c-PFHxA	6.439e+05	8.41	100.00000	97.633588
PFHpA	2.972e+04	10.49	0.00000	0.001713
PFHpA 2	9.759e+03	10.50	0.00000	0.002019
PFOA	1.114e+05	12.04	0.00000	0.006575
PFOA 2	2.817e+04	12.05	0.00000	0.004977
PFNA	4.289e+05	13.28	0.00000	0.034925
PFNA 2	1.057e+05	13.28	0.00000	0.033597
PFDA	1.961e+03	14.33	0.00000	0.000152
PFDA 2	3.920e+02	14.32	0.00000	0.000178
Surr-13c-PFDA	4.611e+05	14.31	100.00000	82.326240
PFUnA	1.226e+03	15.17	0.00000	0.000104
PFUnA 2	2.450e+02	15.18	0.00000	0.000127
PFDoA	1.960e+02	15.99	0.00000	0.000023
PFTrDA	2.940e+02	16.60	0.00000	0.000027
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	3.920e+02	17.16	0.00000	0.000078
PFBS	4.021e+03	6.11	0.00000	0.000836
PFBS 2	5.390e+02	6.13	0.00000	0.000272
PFHxS	1.952e+04	10.64	0.00000	0.002397
PFHxS 2	4.071e+03	10.62	0.00000	0.001472
PFOS	3.702e+04	13.28	0.00000	0.004720
PFOS 2	1.182e+04	13.28	0.00000	0.005087
13C-PFOA	6.607e+05	12.04	100.00000	82.587646
13C-PFOS	9.785e+05	13.28	100.00000	86.975443

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

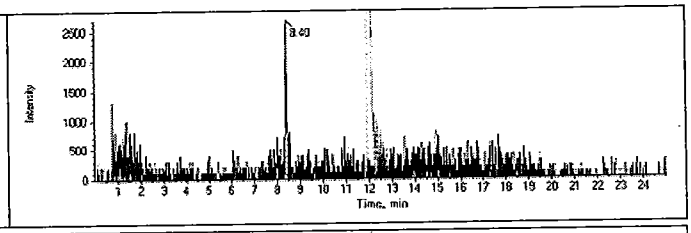
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.40 (8.40) min

Calculated conc: 0.001904

Area Ratio: 1.878e-2

Sample Type: (Quality Control)



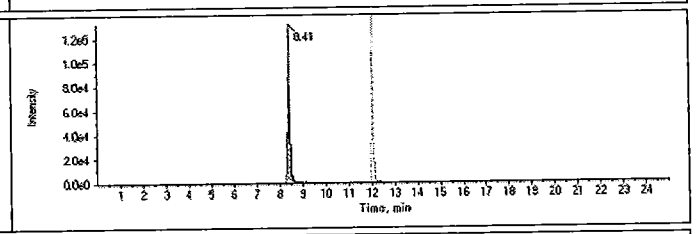
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 97.633588

Area Ratio: 9.746e-1

Sample Type: (Quality Control)



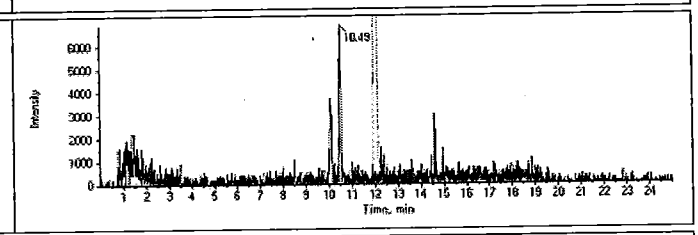
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.001713

Area Ratio: 4.498e-2

Sample Type: (Quality Control)



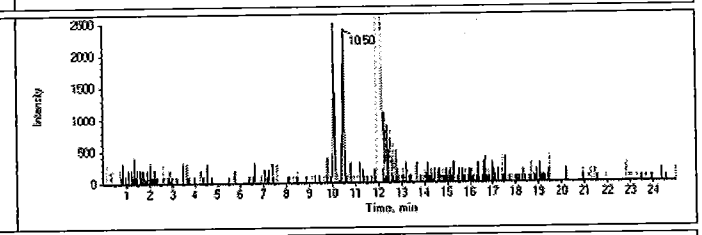
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.002019

Area Ratio: 1.477e-2

Sample Type: (Quality Control)



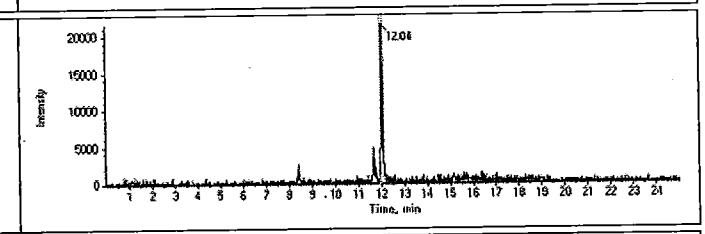
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.006575

Area Ratio: 1.686e-1

Sample Type: (Quality Control)



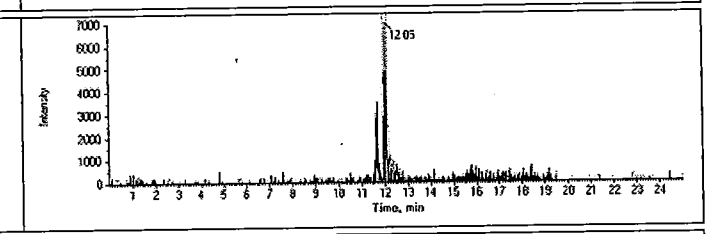
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.004977

Area Ratio: 4.264e-2

Sample Type: (Quality Control)



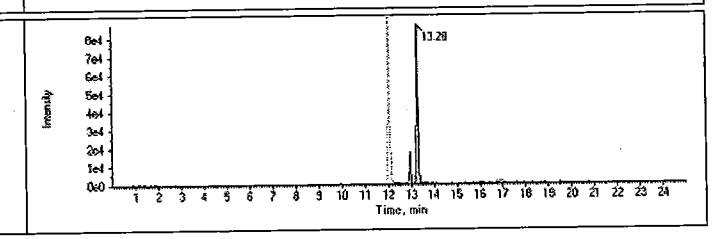
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.034925

Area Ratio: 6.492e-1

Sample Type: (Quality Control)



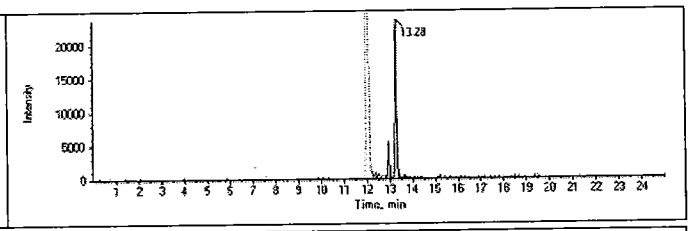
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.033597

Area Ratio: 1.600e-1

Sample Type: (Quality Control)



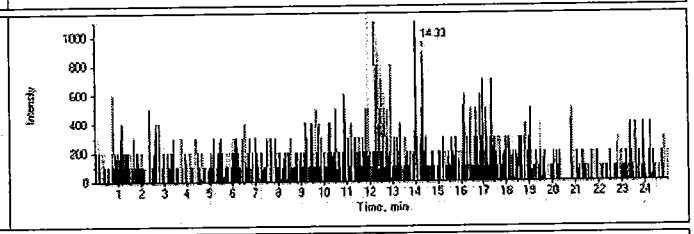
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.33 (14.32) min

Calculated conc: 0.000152

Area Ratio: 2.968e-3

Sample Type: (Quality Control)



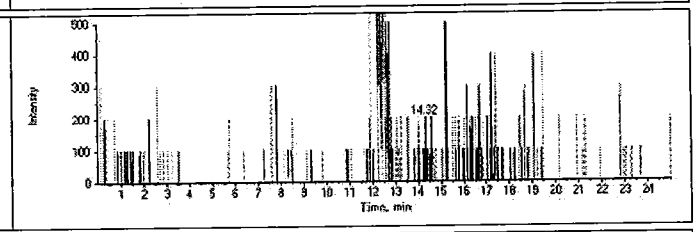
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.000178

Area Ratio: 5.938e-4

Sample Type: (Quality Control)



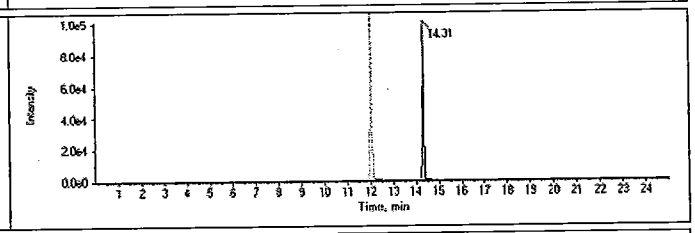
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 82.326240

Area Ratio: 6.979e-1

Sample Type: (Quality Control)



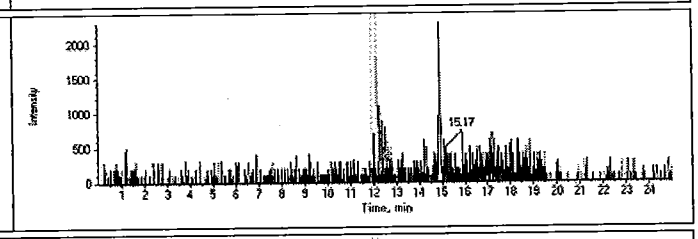
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.17 (15.19) min

Calculated conc: 0.000104

Area Ratio: 1.856e-3

Sample Type: (Quality Control)



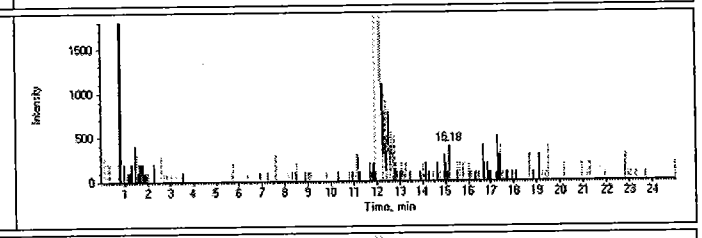
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.18 (15.19) min

Calculated conc: 0.000127

Area Ratio: 3.710e-4

Sample Type: (Quality Control)



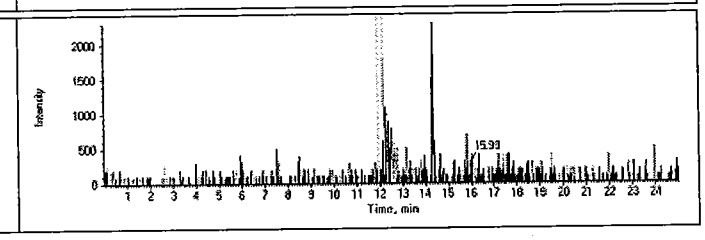
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.99 (15.93) min

Calculated conc: 0.000023

Area Ratio: 2.970e-4

Sample Type: (Quality Control)



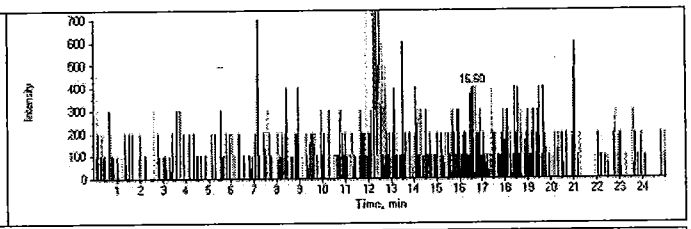
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.60 (16.58) min

Calculated conc: 0.000027

Area Ratio: 4.454e-4

Sample Type: (Quality Control)



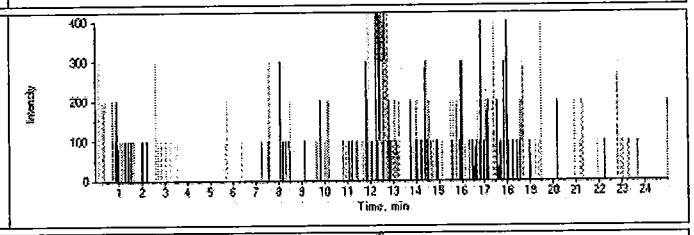
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



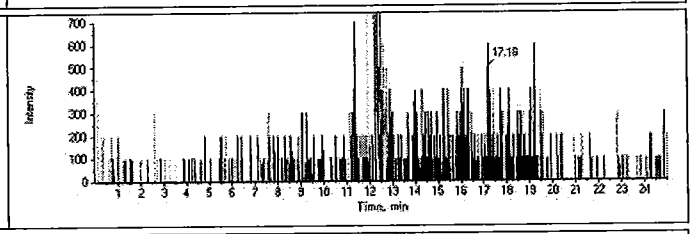
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.16 (17.14) min

Calculated conc: 0.000078

Area Ratio: 5.938e-4

Sample Type: (Quality Control)



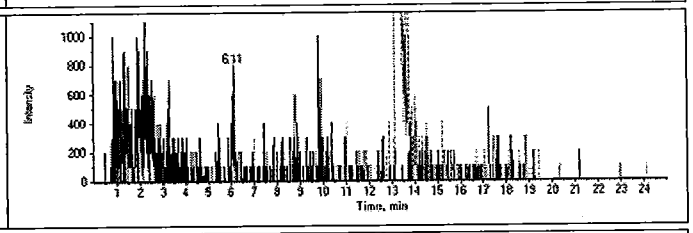
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.000836

Area Ratio: 4.109e-3

Sample Type: (Quality Control)



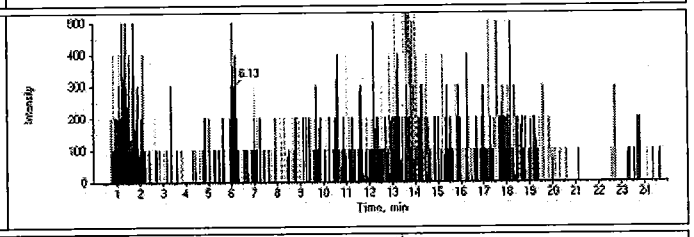
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.13 (6.11) min

Calculated conc: 0.000272

Area Ratio: 5.513e-4

Sample Type: (Quality Control)



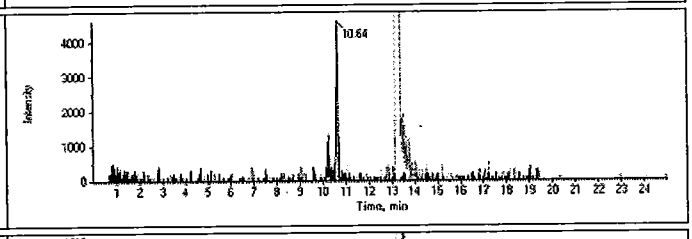
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.002397

Area Ratio: 1.995e-2

Sample Type: (Quality Control)



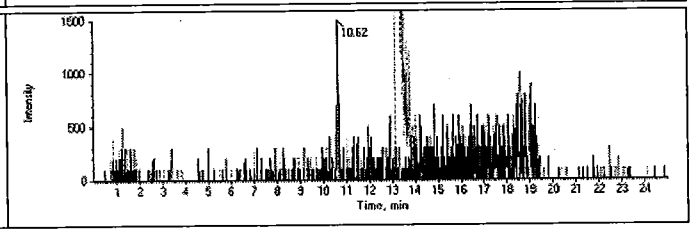
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.62 (10.64) min

Calculated conc: 0.001472

Area Ratio: 4.160e-3

Sample Type: (Quality Control)



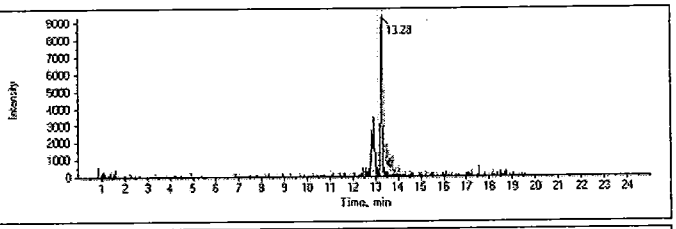
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.004720

Area Ratio: 3.783e-2

Sample Type: (Quality Control)



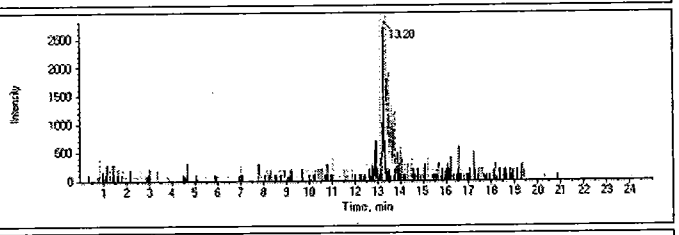
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.005087

Area Ratio: 1.208e-2

Sample Type: (Quality Control)



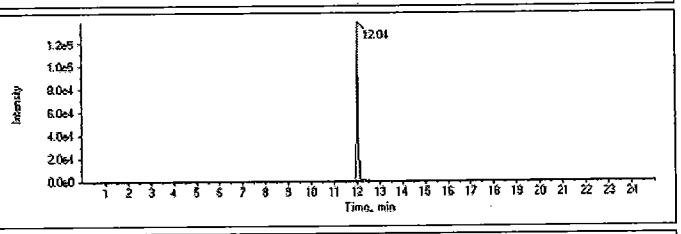
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 82.587646

Area Ratio: N/A

Sample Type: (Quality Control)



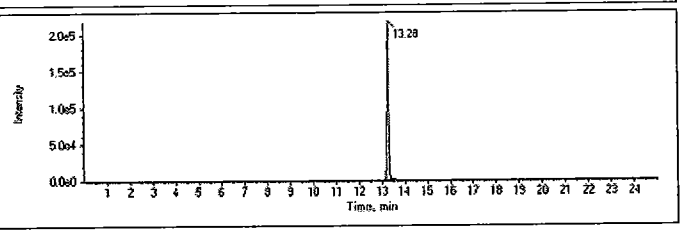
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 86.975443

Area Ratio: N/A

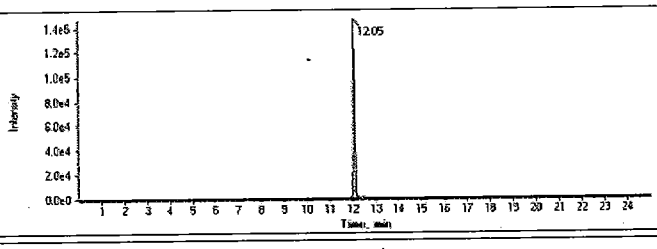
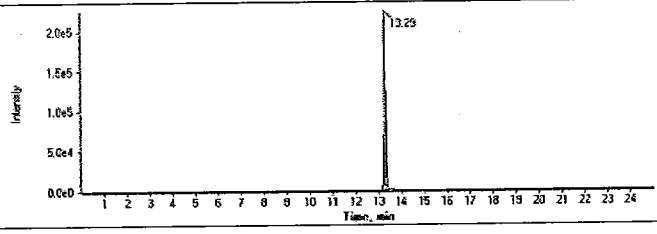
Sample Type: (Quality Control)



Sample Name	CCCM	**Injection Vial**	5
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 6:52:13 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	742512	12.05	100.00000	-
IS-13C-PFOS	1092062	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.380e+05	8.41	0.02000	0.018847
Surr-13c-PFHxA	7.494e+05	8.41	100.00000	101.110917
PFHpA	4.075e+05	10.50	0.02000	0.020899
PFHpA 2	1.150e+05	10.50	0.02000	0.021176
PFOA	4.094e+05	12.05	0.02000	0.021508
PFOA 2	1.202e+05	12.05	0.02000	0.018891
PFNA	3.125e+05	13.29	0.02000	0.022644
PFNA 2	7.449e+04	13.29	0.02000	0.021064
PFDA	3.085e+05	14.32	0.02000	0.021343
PFDA 2	5.169e+04	14.33	0.02000	0.020860
Surr-13c-PFDA	6.461e+05	14.32	100.00000	102.652766
PFUnA	2.812e+05	15.19	0.02000	0.021181
PFUnA 2	4.815e+04	15.19	0.02000	0.022173
PFDoA	2.090e+05	15.94	0.02000	0.021932
PFTrDA	2.668e+05	16.58	0.02000	0.021778
PFTrDA 2	6.066e+04	16.58	0.02000	0.023604
PFTA	1.238e+05	17.14	0.02000	0.021816
PFBS	9.787e+04	6.11	0.01770	0.018237
PFBS 2	3.609e+04	6.11	0.01770	0.016274
PFHxS	1.775e+05	10.64	0.01900	0.019532
PFHxS 2	5.512e+04	10.64	0.01900	0.017860
PFOS	1.577e+05	13.28	0.01920	0.018020
PFOS 2	4.750e+04	13.28	0.01920	0.018317
13C-PFOA	7.425e+05	12.05	100.00000	92.814985
13C-PFOS	1.092e+06	13.29	100.00000	97.065540

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

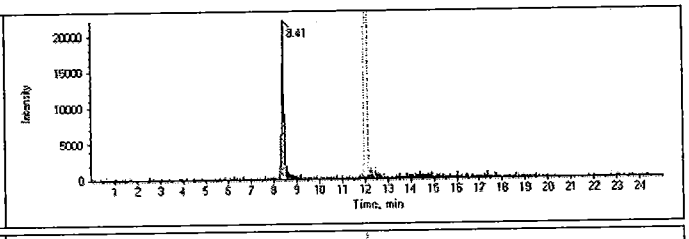
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.018847

Area Ratio: 1.859e-1

Sample Type: (Quality Control)



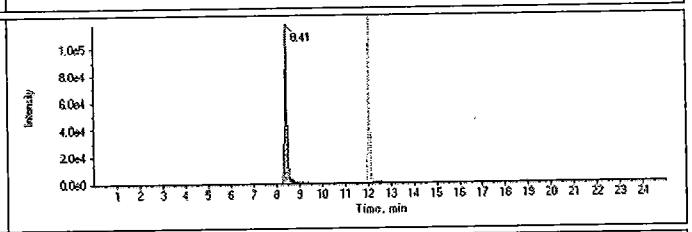
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 101.110917

Area Ratio: 1.009e0

Sample Type: (Quality Control)



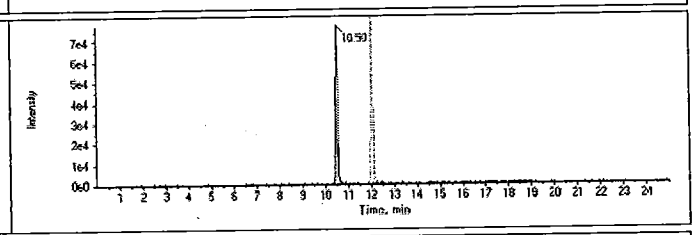
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.020899

Area Ratio: 5.488e-1

Sample Type: (Quality Control)



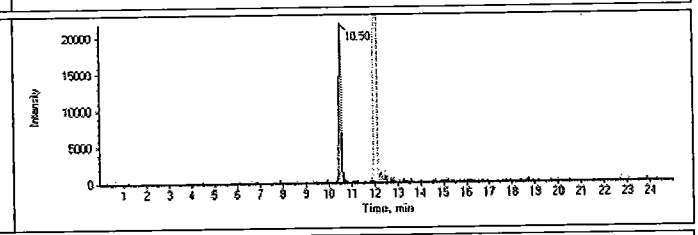
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.021176

Area Ratio: 1.549e-1

Sample Type: (Quality Control)



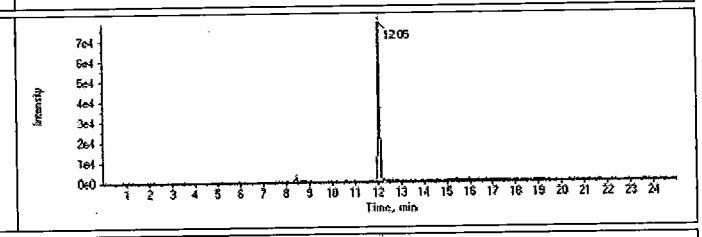
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.021508

Area Ratio: 5.514e-1

Sample Type: (Quality Control)



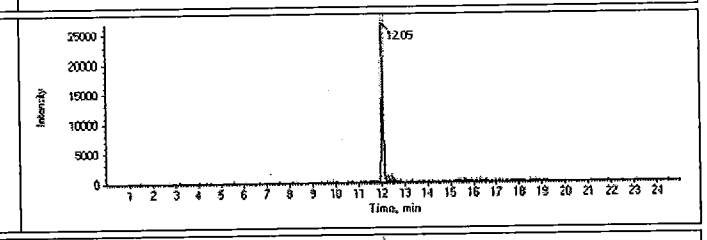
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.018891

Area Ratio: 1.619e-1

Sample Type: (Quality Control)



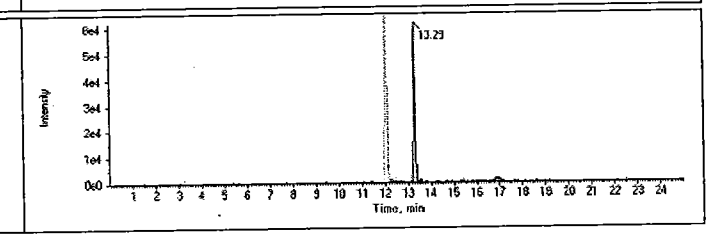
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.022644

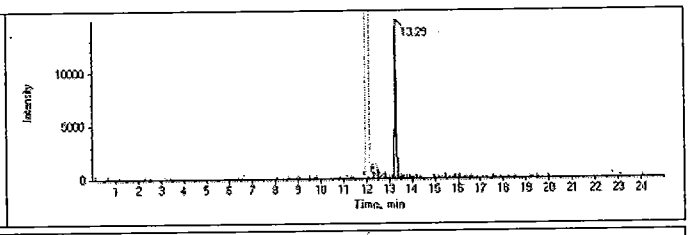
Area Ratio: 4.209e-1

Sample Type: (Quality Control)



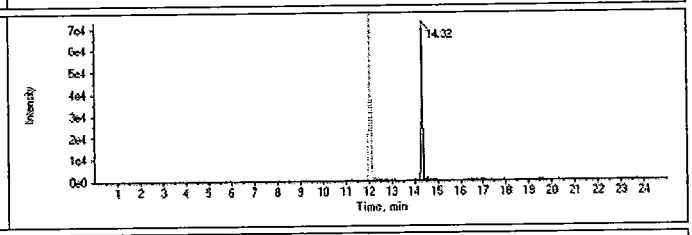
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.021064
Area Ratio: 1.003e-1
Sample Type: (Quality Control)



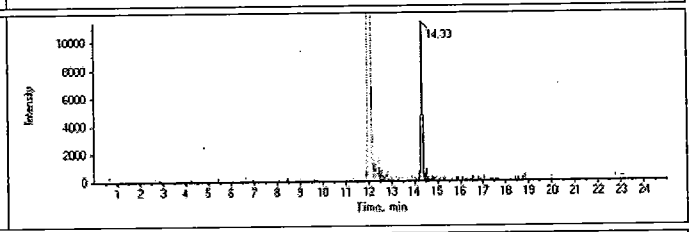
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.021343
Area Ratio: 4.155e-1
Sample Type: (Quality Control)



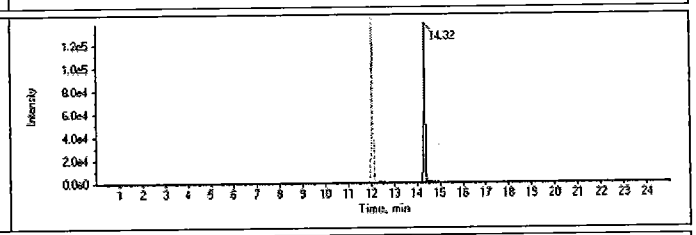
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.33 (14.31) min
Calculated conc: 0.020860
Area Ratio: 6.962e-2
Sample Type: (Quality Control)



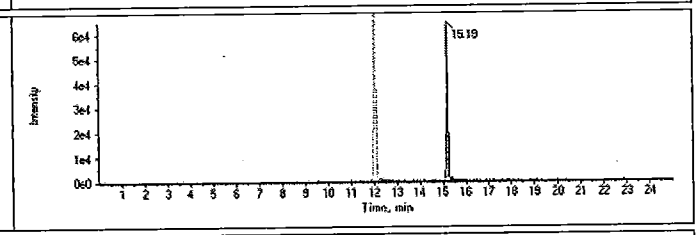
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 102.652766
Area Ratio: 8.702e-1
Sample Type: (Quality Control)



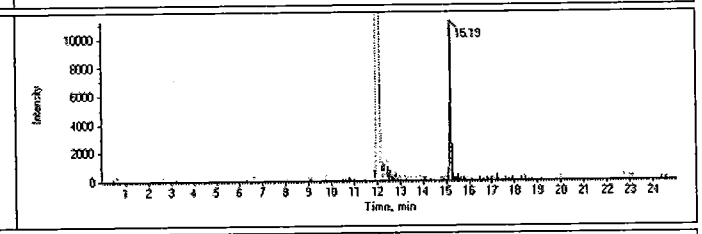
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min
Calculated conc: 0.021181
Area Ratio: 3.788e-1
Sample Type: (Quality Control)



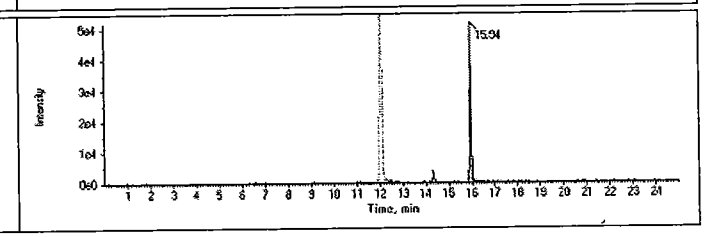
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min
Calculated conc: 0.022173
Area Ratio: 6.485e-2
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.94 (15.93) min
Calculated conc: 0.021932
Area Ratio: 2.814e-1
Sample Type: (Quality Control)



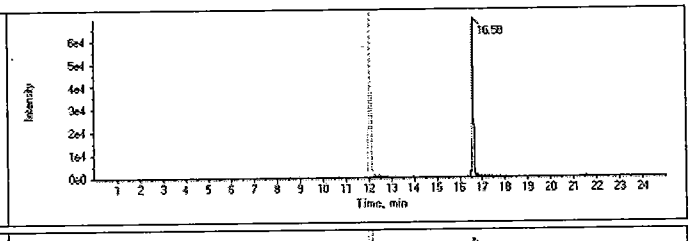
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.021778

Area Ratio: 3.593e-1

Sample Type: (Quality Control)



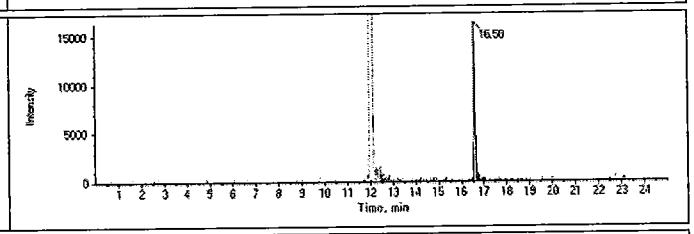
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.023604

Area Ratio: 8.169e-2

Sample Type: (Quality Control)



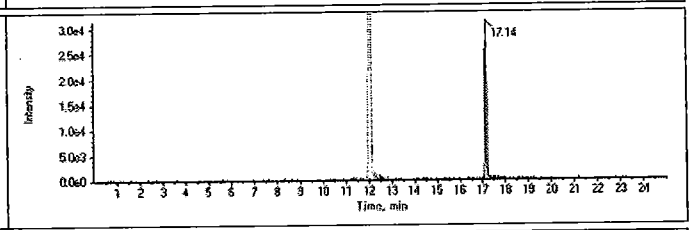
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.021816

Area Ratio: 1.667e-1

Sample Type: (Quality Control)



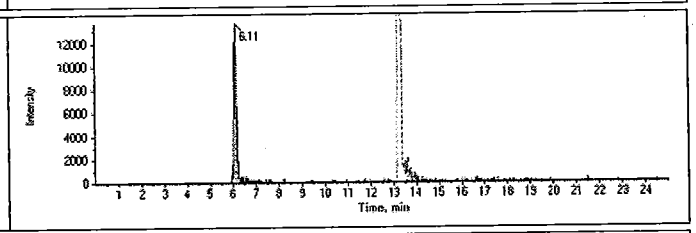
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.018237

Area Ratio: 8.962e-2

Sample Type: (Quality Control)



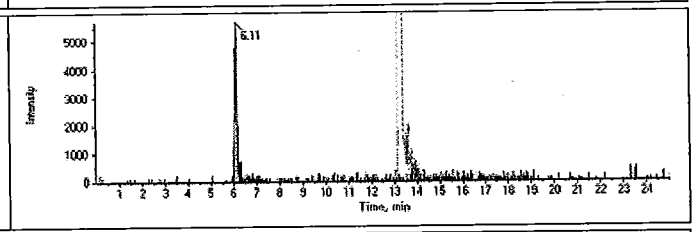
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.016274

Area Ratio: 3.305e-2

Sample Type: (Quality Control)



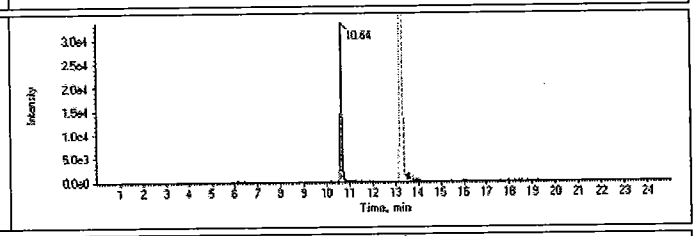
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.019532

Area Ratio: 1.625e-1

Sample Type: (Quality Control)



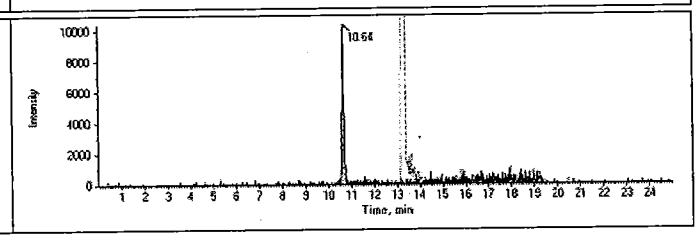
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.017860

Area Ratio: 5.047e-2

Sample Type: (Quality Control)



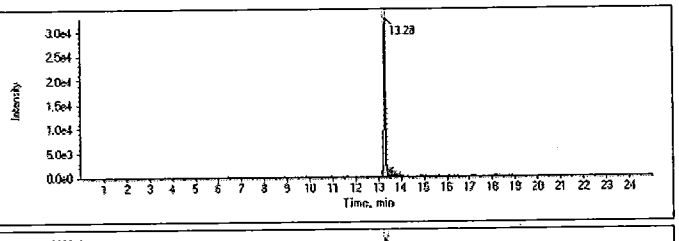
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.018020

Area Ratio: 1.444e-1

Sample Type: (Quality Control)



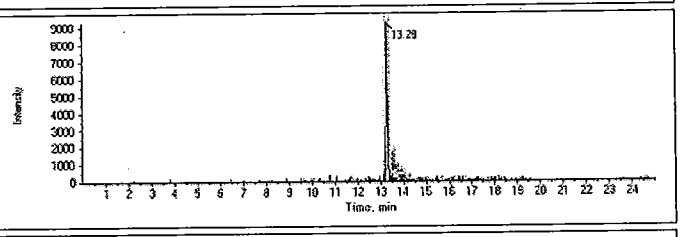
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.018317

Area Ratio: 4.349e-2

Sample Type: (Quality Control)



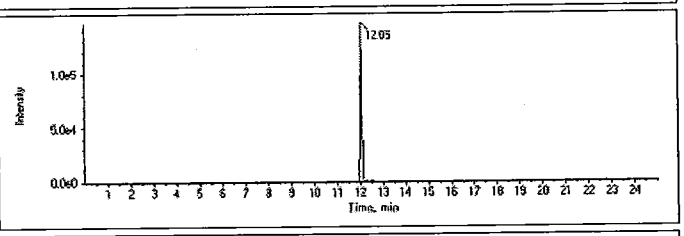
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 92.814985

Area Ratio: N/A

Sample Type: (Quality Control)



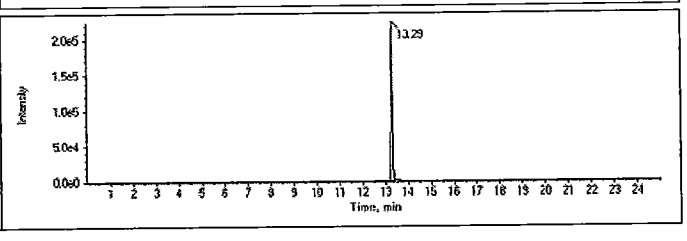
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 97.065540

Area Ratio: N/A

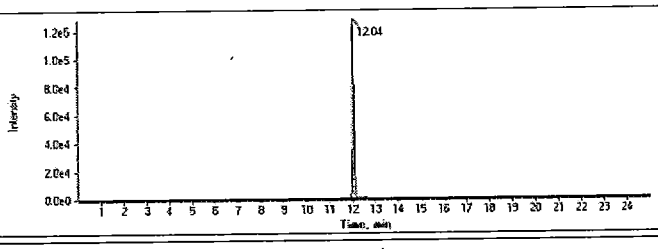
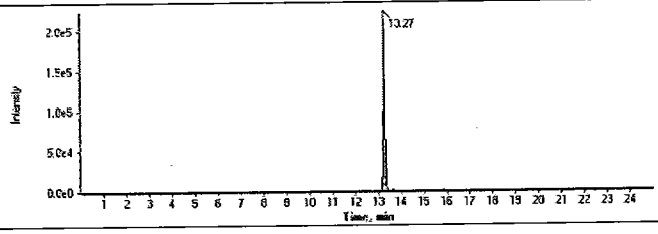
Sample Type: (Quality Control)



Sample Name	201404250096	**Injection Vial**	25
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 7:17:48 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	647916	12.04	100.00000	-
IS-13C-PFOS	1061953	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	4.213e+04	8.39	0.00000	0.006592
Surr-13c-PFHxA	6.348e+05	8.39	100.00000	98.145029
PFHpA	6.017e+04	10.49	0.00000	0.003537
PFHpA 2	1.707e+04	10.49	0.00000	0.003600
PFOA	2.017e+05	12.04	0.00000	0.012142
PFOA 2	5.998e+04	12.04	0.00000	0.010803
PFNA	8.410e+04	13.28	0.00000	0.006983
PFNA 2	2.094e+04	13.28	0.00000	0.006786
PFDA	2.942e+03	14.32	0.00000	0.000233
PFDA 2	4.410e+02	14.32	0.00000	0.000204
Surr-13c-PFDA	4.540e+05	14.31	100.00000	82.666774
PFUnA	1.373e+03	15.17	0.00000	0.000119
PFUnA 2	1.960e+02	15.18	0.00000	0.000104
PFDoA	7.350e+02	15.93	0.00000	0.000088
PFTrDA	3.920e+02	16.59	0.00000	0.000037
PFTrDA 2	1.960e+02	16.65	0.00000	0.000087
PFTA	2.940e+02	17.15	0.00000	0.000059
PFBS	1.226e+03	6.12	0.00000	0.000235
PFBS 2	7.850e+02	6.13	0.00000	0.000364
PFHxS	2.846e+04	10.63	0.00000	0.003221
PFHxS 2	9.807e+03	10.64	0.00000	0.003268
PFOS	2.521e+04	13.27	0.00000	0.002961
PFOS 2	7.896e+03	13.27	0.00000	0.003131
13C-PFOA	6.479e+05	12.04	100.00000	80.990422
13C-PFOS	1.062e+06	13.27	100.00000	94.389355

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

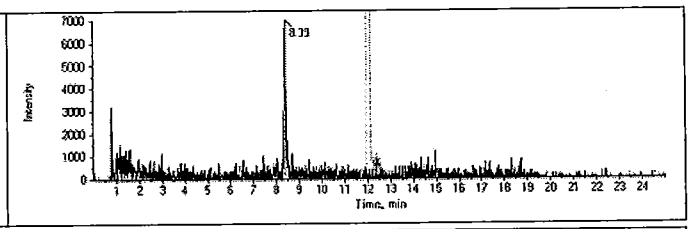
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.006592

Area Ratio: 6.502e-2

Sample Type: (Quality Control)



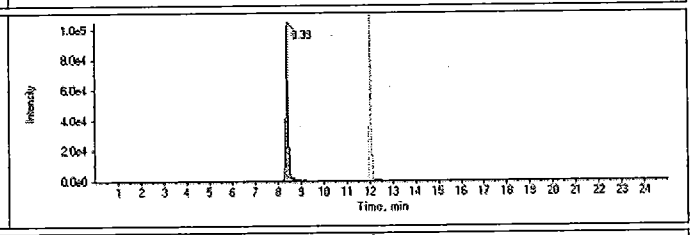
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.39 (8.41) min

Calculated conc: 98.145029

Area Ratio: 9.797e-1

Sample Type: (Quality Control)



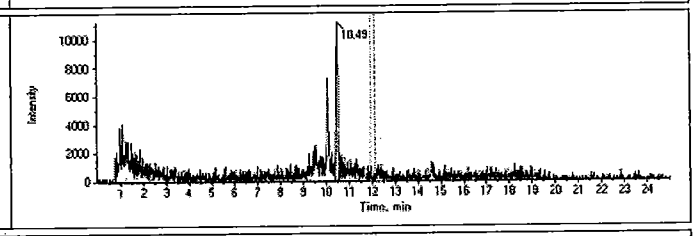
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.003537

Area Ratio: 9.287e-2

Sample Type: (Quality Control)



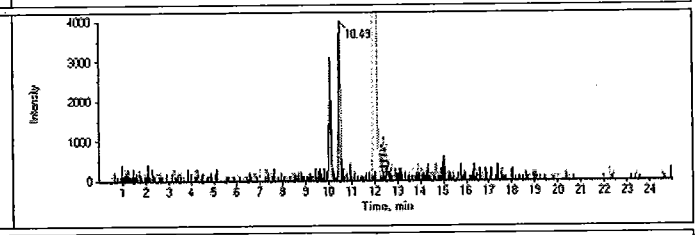
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.003600

Area Ratio: 2.634e-2

Sample Type: (Quality Control)



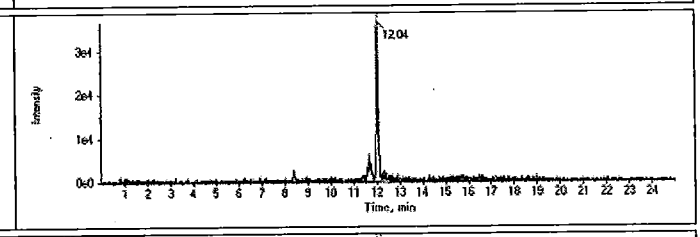
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.012142

Area Ratio: 3.113e-1

Sample Type: (Quality Control)



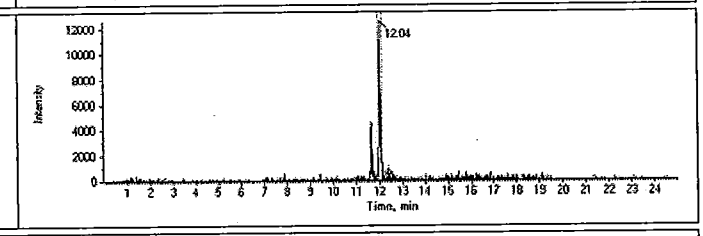
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.010803

Area Ratio: 9.257e-2

Sample Type: (Quality Control)



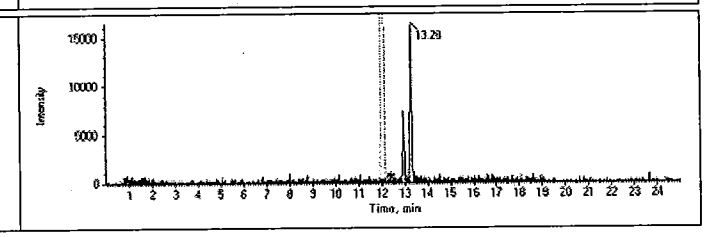
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.006983

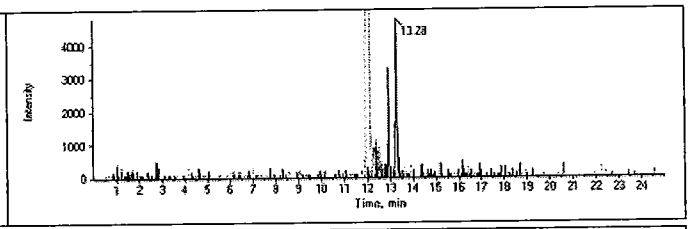
Area Ratio: 1.298e-1

Sample Type: (Quality Control)



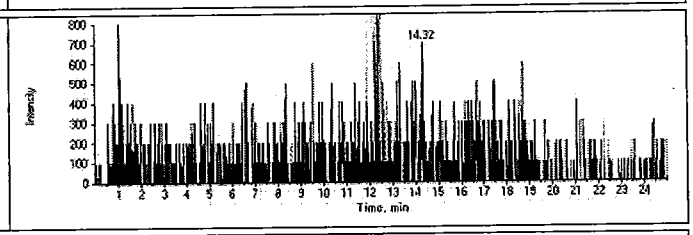
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min
Calculated conc: 0.006786
Area Ratio: 3.232e-2
Sample Type: (Quality Control)



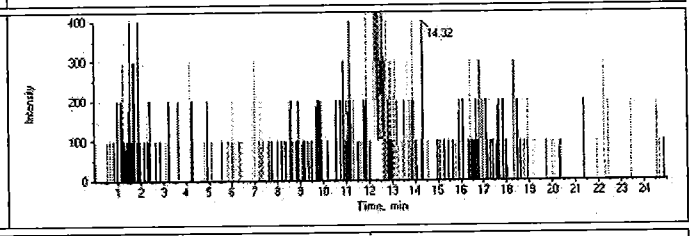
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.000233
Area Ratio: 4.541e-3
Sample Type: (Quality Control)



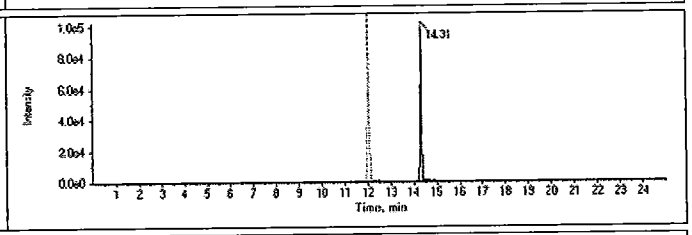
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min
Calculated conc: 0.000204
Area Ratio: 6.812e-4
Sample Type: (Quality Control)



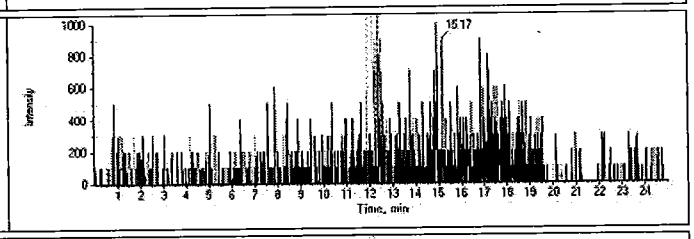
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min
Calculated conc: 82.666774
Area Ratio: 7.008e-1
Sample Type: (Quality Control)



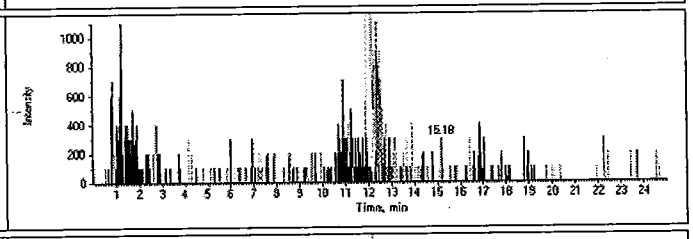
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.17 (15.19) min
Calculated conc: 0.000119
Area Ratio: 2.119e-3
Sample Type: (Quality Control)



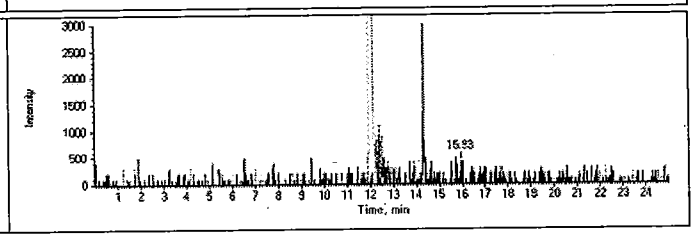
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.18 (15.19) min
Calculated conc: 0.000104
Area Ratio: 3.027e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min
Calculated conc: 0.000088
Area Ratio: 1.135e-3
Sample Type: (Quality Control)



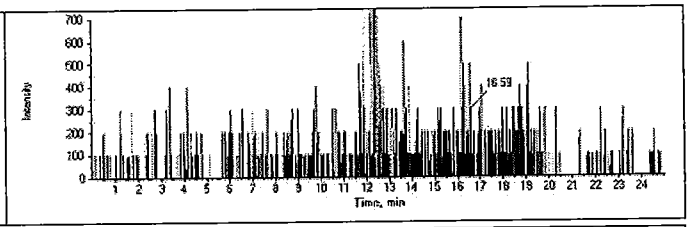
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.000037

Area Ratio: 6.057e-4

Sample Type: (Quality Control)



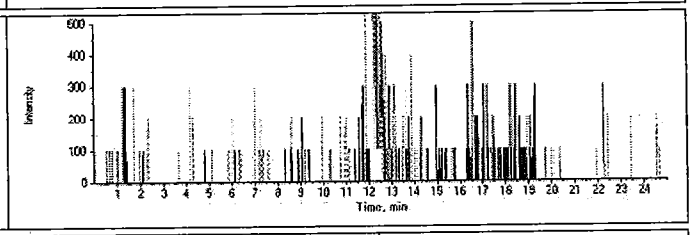
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.65 (16.58) min

Calculated conc: 0.000087

Area Ratio: 3.027e-4

Sample Type: (Quality Control)



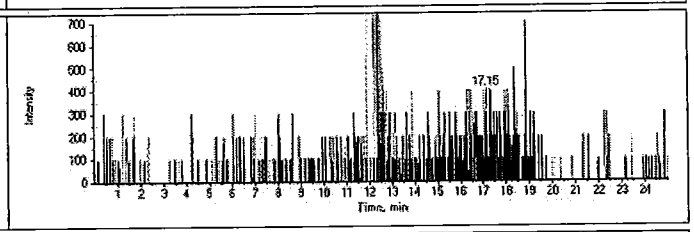
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.15 (17.14) min

Calculated conc: 0.000059

Area Ratio: 4.540e-4

Sample Type: (Quality Control)



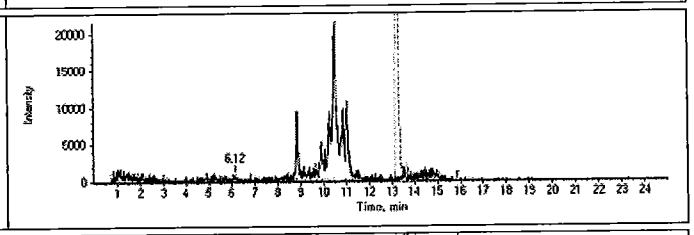
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.12 (6.10) min

Calculated conc: 0.000235

Area Ratio: 1.155e-3

Sample Type: (Quality Control)



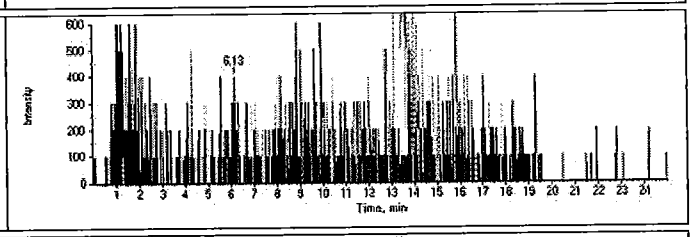
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.13 (6.11) min

Calculated conc: 0.000364

Area Ratio: 7.387e-4

Sample Type: (Quality Control)



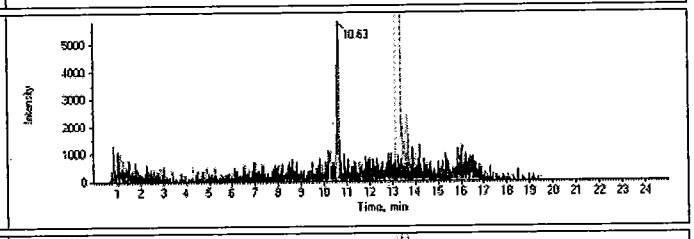
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.003221

Area Ratio: 2.680e-2

Sample Type: (Quality Control)



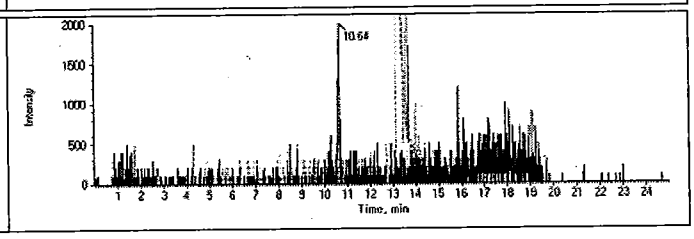
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.003268

Area Ratio: 9.235e-3

Sample Type: (Quality Control)



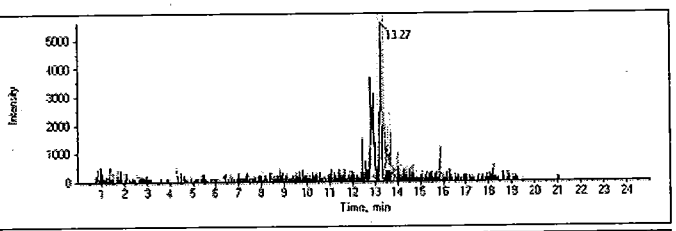
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.002961

Area Ratio: 2.374e-2

Sample Type: (Quality Control)



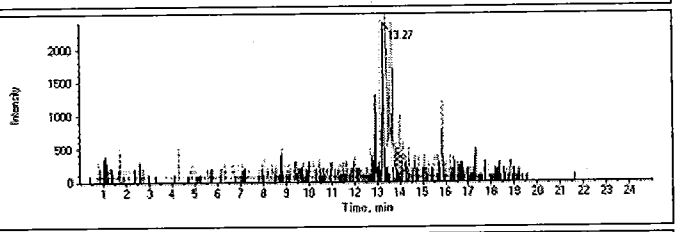
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.003131

Area Ratio: 7.435e-3

Sample Type: (Quality Control)



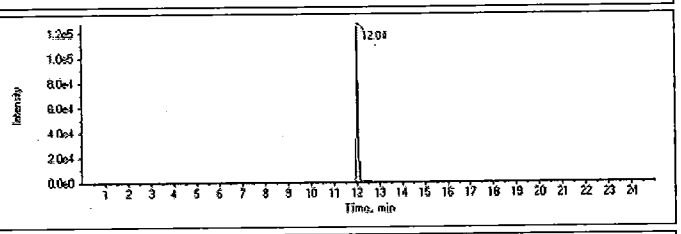
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 80.990422

Area Ratio: N/A

Sample Type: (Quality Control)



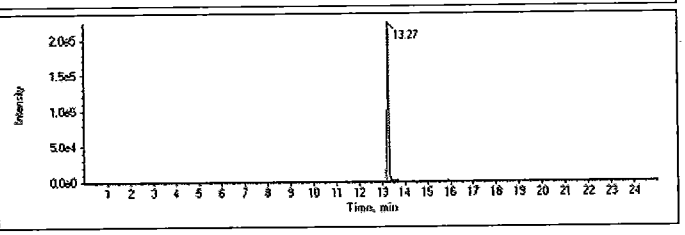
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 94.389355

Area Ratio: N/A

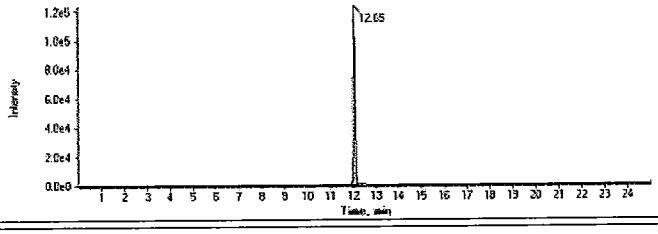
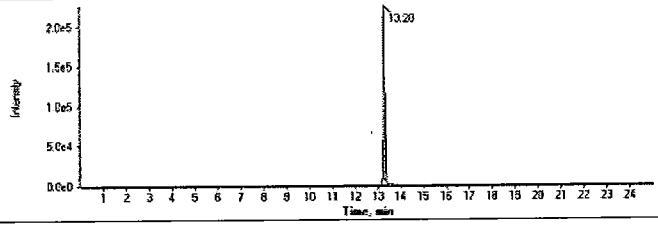
Sample Type: (Quality Control)



Sample Name	201404250097	**Injection Vial**	26
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 7:43:24 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	601988	12.05	100.00000	-
IS-13C-PFOS	1029997	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	3.217e+04	8.39	0.00000	0.005418
Surr-13c-PFHxA	4.814e+05	8.41	100.00000	80.100885
PFHpA	4.715e+04	10.50	0.00000	0.002983
PFHpA 2	1.349e+04	10.50	0.00000	0.003062
PFOA	1.364e+05	12.05	0.00000	0.008835
PFOA 2	5.042e+04	12.06	0.00000	0.009773
PFNA	1.368e+05	13.29	0.00000	0.012226
PFNA 2	3.163e+04	13.29	0.00000	0.011031
PFDA	1.960e+02	14.32	0.00000	0.000017
PFDA 2	N/A	N/A	0.00000	N/A
Surr-13c-PFDA	4.992e+05	14.32	100.00000	97.821337
PFUnA	1.471e+03	15.20	0.00000	0.000137
PFUnA 2	1.470e+02	15.21	0.00000	0.000084
PFDoA	1.470e+02	15.95	0.00000	0.000019
PFTrDA	3.920e+02	16.57	0.00000	0.000040
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	1.470e+02	17.04	0.00000	0.000032
PFBS	5.297e+03	6.13	0.00000	0.001047
PFBS 2	1.472e+03	6.11	0.00000	0.000704
PFHxS	5.039e+04	10.64	0.00000	0.005879
PFHxS 2	1.589e+04	10.64	0.00000	0.005458
PFOS	1.868e+04	13.28	0.00000	0.002263
PFOS 2	4.364e+03	13.27	0.00000	0.001785
13C-PFOA	6.020e+05	12.05	100.00000	75.249302
13C-PFOS	1.030e+06	13.28	100.00000	91.548995

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

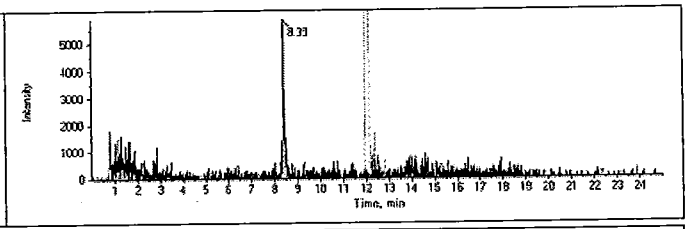
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.005418

Area Ratio: 5.344e-2

Sample Type: (Quality Control)



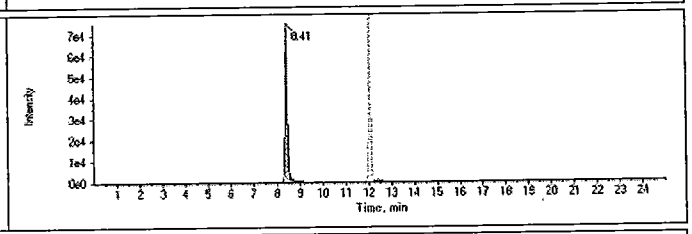
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 80.100885

Area Ratio: 7.996e-1

Sample Type: (Quality Control)



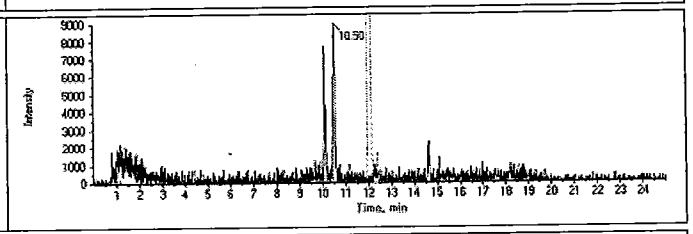
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.002983

Area Ratio: 7.832e-2

Sample Type: (Quality Control)



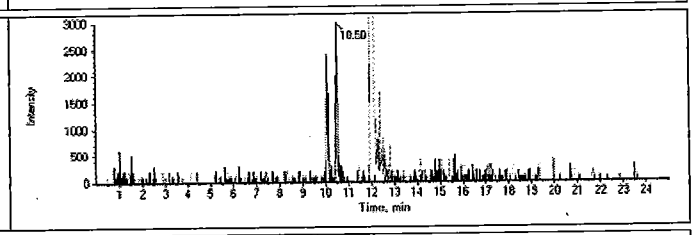
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.003062

Area Ratio: 2.240e-2

Sample Type: (Quality Control)



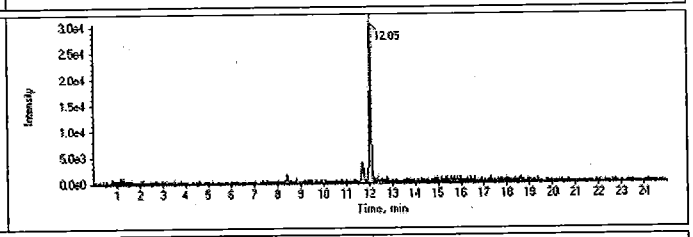
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.008835

Area Ratio: 2.265e-1

Sample Type: (Quality Control)



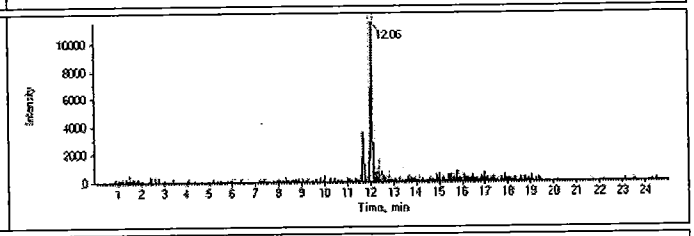
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.06 (12.04) min

Calculated conc: 0.009773

Area Ratio: 8.375e-2

Sample Type: (Quality Control)



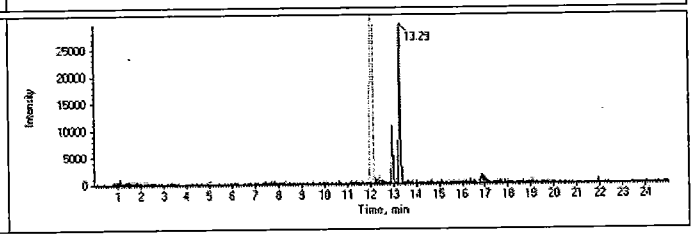
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.012226

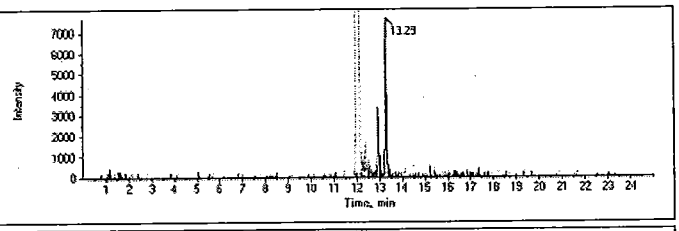
Area Ratio: 2.273e-1

Sample Type: (Quality Control)



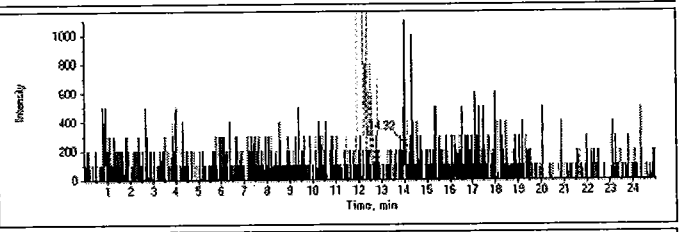
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.011031
Area Ratio: 5.254e-2
Sample Type: (Quality Control)



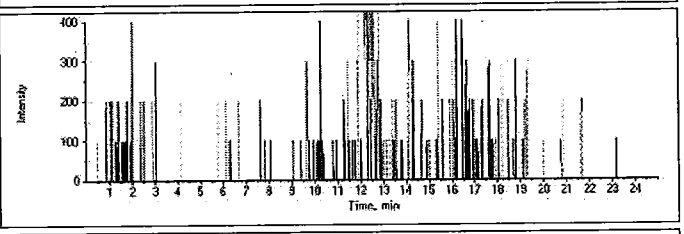
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.000017
Area Ratio: 3.258e-4
Sample Type: (Quality Control)



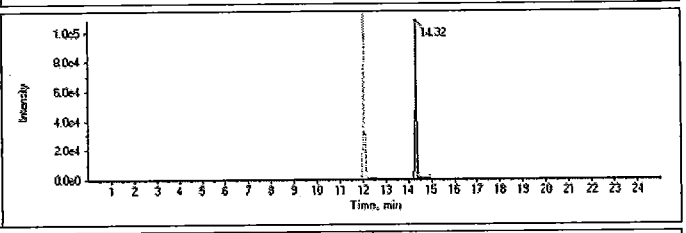
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): N/A (14.31) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



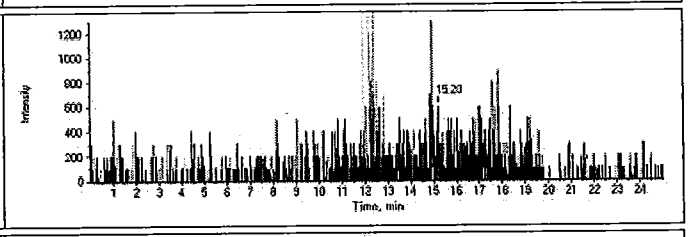
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 97.821337
Area Ratio: 8.292e-1
Sample Type: (Quality Control)



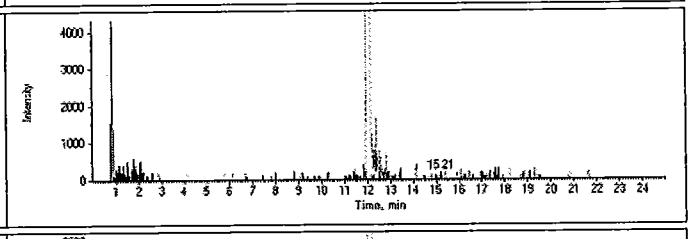
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.20 (15.19) min
Calculated conc: 0.000137
Area Ratio: 2.444e-3
Sample Type: (Quality Control)



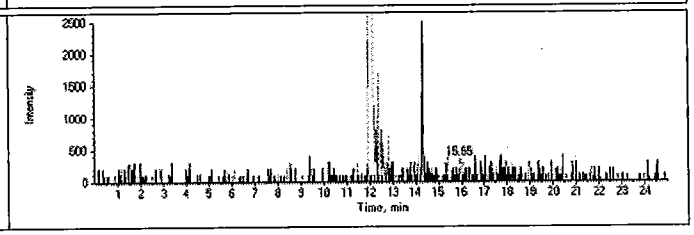
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.21 (15.19) min
Calculated conc: 0.000084
Area Ratio: 2.444e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.95 (15.93) min
Calculated conc: 0.000019
Area Ratio: 2.444e-4
Sample Type: (Quality Control)



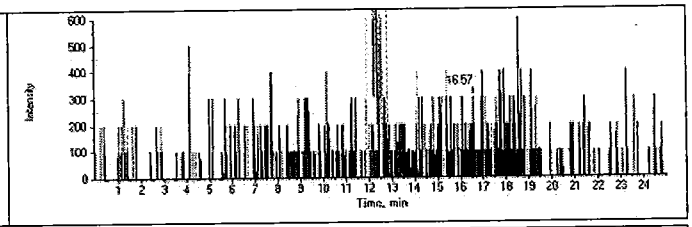
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.000040

Area Ratio: 6.518e-4

Sample Type: (Quality Control)



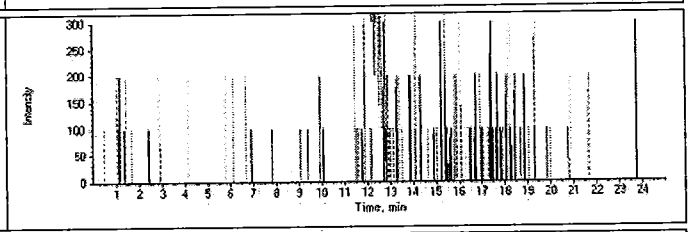
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



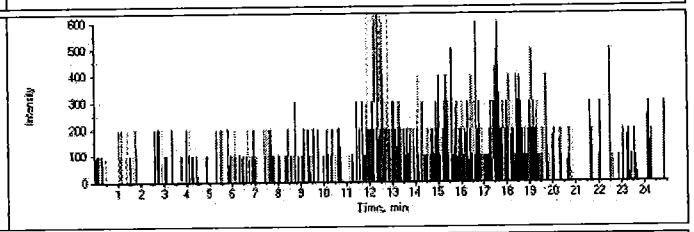
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.04 (17.14) min

Calculated conc: 0.000032

Area Ratio: 2.444e-4

Sample Type: (Quality Control)



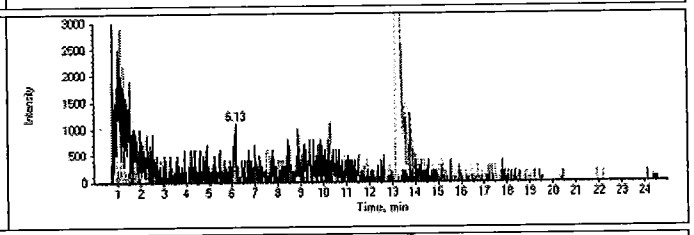
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.13 (6.10) min

Calculated conc: 0.001047

Area Ratio: 5.143e-3

Sample Type: (Quality Control)



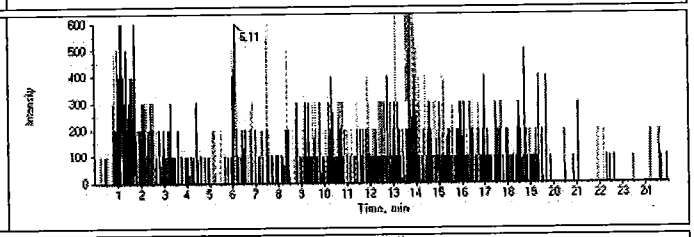
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.000704

Area Ratio: 1.429e-3

Sample Type: (Quality Control)



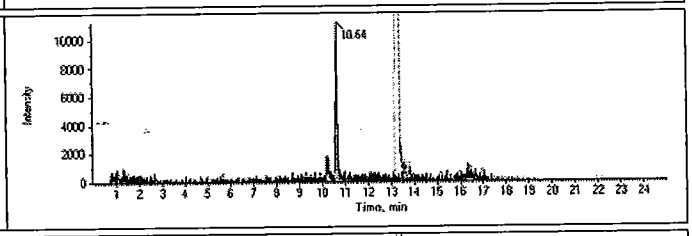
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.005879

Area Ratio: 4.892e-2

Sample Type: (Quality Control)



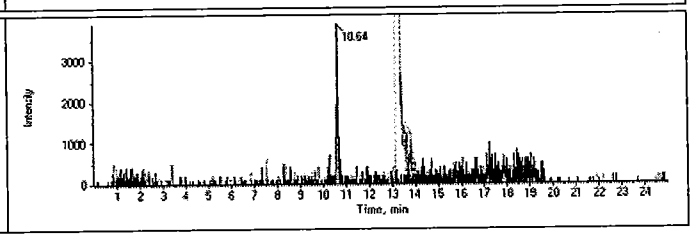
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.005458

Area Ratio: 1.543e-2

Sample Type: (Quality Control)



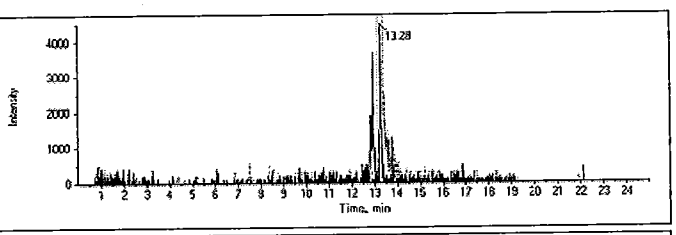
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.002263

Area Ratio: 1.814e-2

Sample Type: (Quality Control)



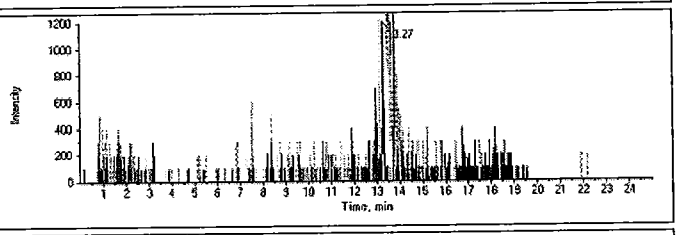
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.001785

Area Ratio: 4.237e-3

Sample Type: (Quality Control)



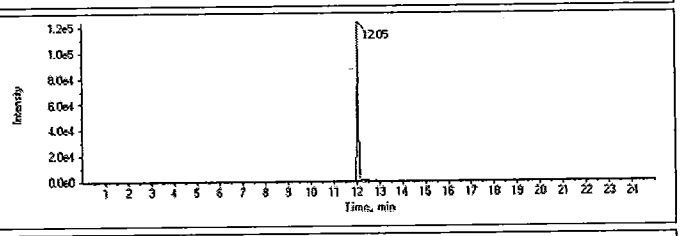
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 75.249302

Area Ratio: N/A

Sample Type: (Quality Control)



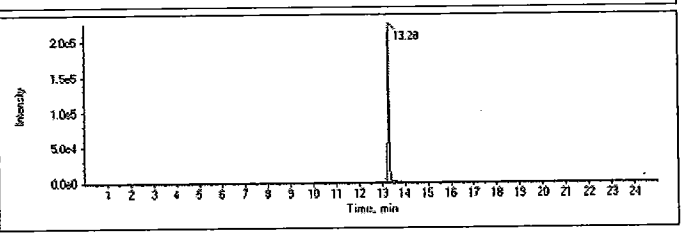
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 91.548995

Area Ratio: N/A

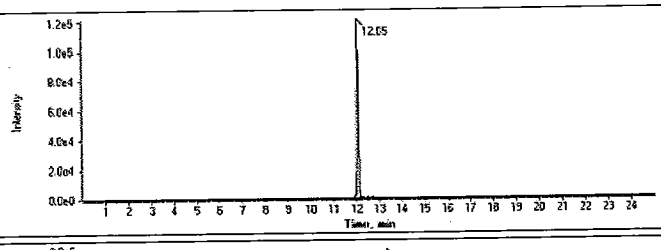
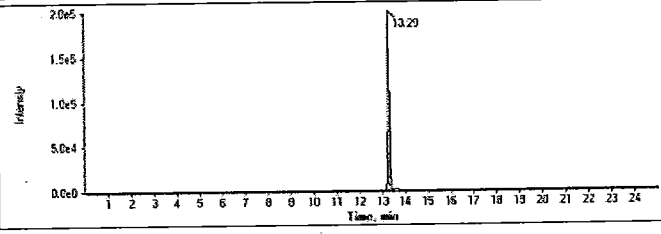
Sample Type: (Quality Control)



Sample Name	201404250098	**Injection Vial**	27
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 8:09:00 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

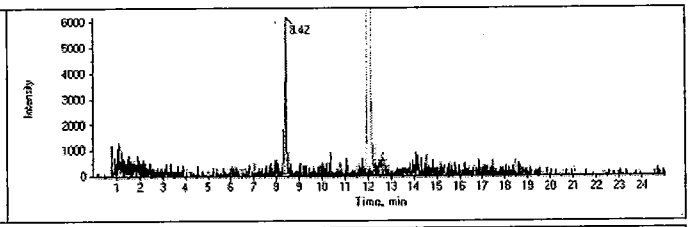
Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	596936	12.05	100.00000	-
IS-13C-PFOS	942161	13.29	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	2.839e+04	8.42	0.00000	0.004822
Surr-13c-PFHxA	4.648e+05	8.40	100.00000	78.002722
PFHpA	4.943e+04	10.49	0.00000	0.003153
PFHpA 2	1.304e+04	10.50	0.00000	0.002986
PFOA	1.499e+05	12.05	0.00000	0.009793
PFOA 2	4.715e+04	12.05	0.00000	0.009217
PFNA	1.473e+05	13.29	0.00000	0.013277
PFNA 2	3.756e+04	13.29	0.00000	0.013211
PFDA	2.059e+03	14.32	0.00000	0.000177
PFDA 2	2.450e+02	14.34	0.00000	0.000123
Surr-13c-PFDA	4.610e+05	14.32	100.00000	91.111418
PFUnA	2.452e+03	15.18	0.00000	0.000230
PFUnA 2	3.430e+02	15.20	0.00000	0.000197
PFDoA	2.940e+02	15.95	0.00000	0.000038
PFTrDA	1.960e+02	16.62	0.00000	0.000020
PFTrDA 2	1.960e+02	16.82	0.00000	0.000095
PFTA	2.940e+02	17.12	0.00000	0.000064
PFBS	5.493e+03	6.12	0.00000	0.001186
PFBS 2	1.275e+03	6.10	0.00000	0.000666
PFHxS	5.924e+04	10.64	0.00000	0.007556
PFHxS 2	2.069e+04	10.64	0.00000	0.007772
PFOS	1.849e+04	13.28	0.00000	0.002448
PFOS 2	4.314e+03	13.29	0.00000	0.001929
13C-PFOA	5.969e+05	12.05	100.00000	74.617876
13C-PFOS	9.422e+05	13.29	100.00000	83.741843

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.29(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

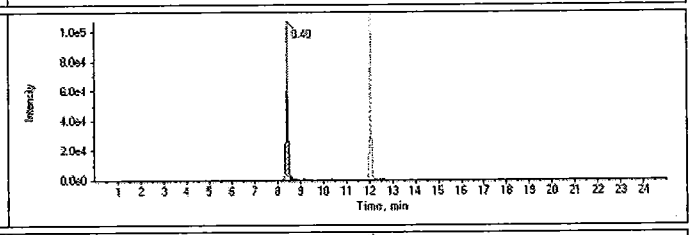
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.42 (8.40) min
Calculated conc: 0.004822
Area Ratio: 4.756e-2
Sample Type: (Quality Control)



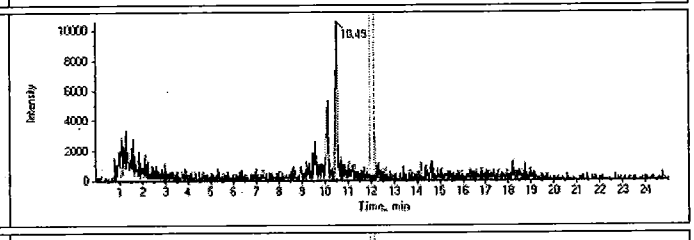
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min
Calculated conc: 78.002722
Area Ratio: 7.787e-1
Sample Type: (Quality Control)



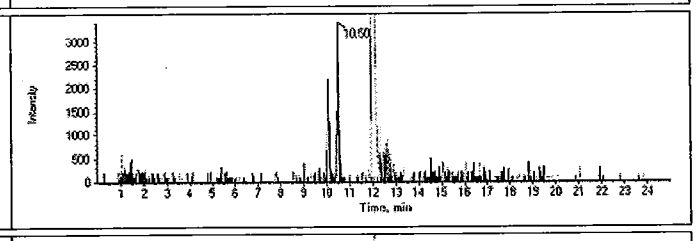
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min
Calculated conc: 0.003153
Area Ratio: 8.281e-2
Sample Type: (Quality Control)



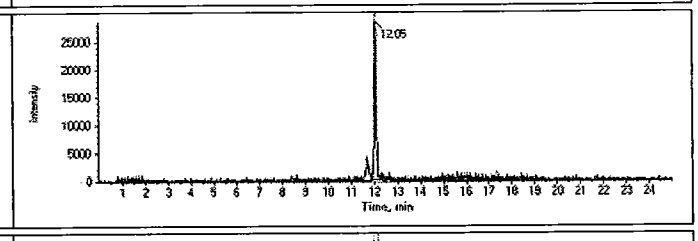
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min
Calculated conc: 0.002986
Area Ratio: 2.185e-2
Sample Type: (Quality Control)



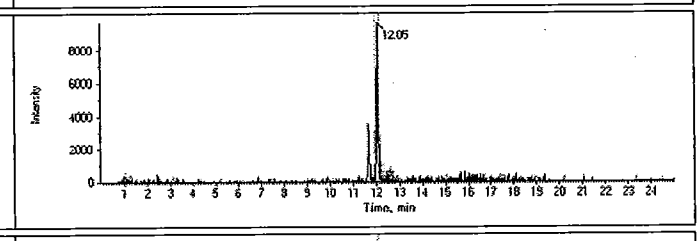
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min
Calculated conc: 0.009793
Area Ratio: 2.511e-1
Sample Type: (Quality Control)



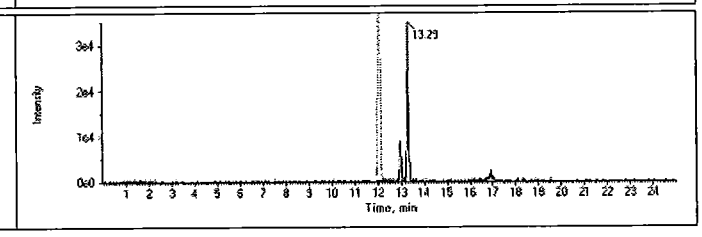
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min
Calculated conc: 0.009217
Area Ratio: 7.898e-2
Sample Type: (Quality Control)



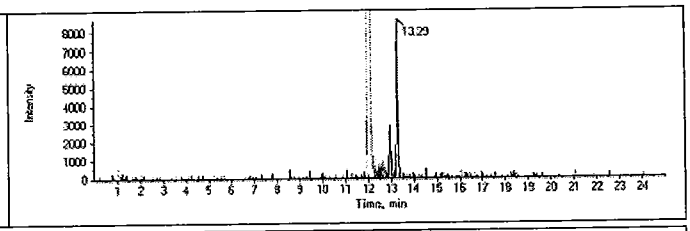
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.013277
Area Ratio: 2.468e-1
Sample Type: (Quality Control)



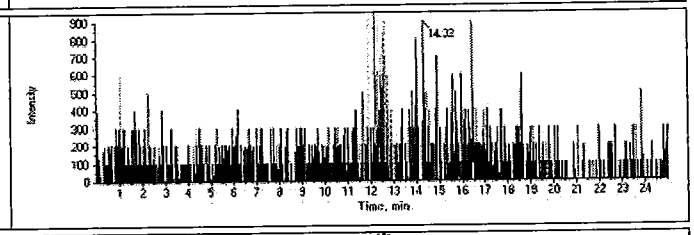
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.013211
Area Ratio: 6.292e-2
Sample Type: (Quality Control)



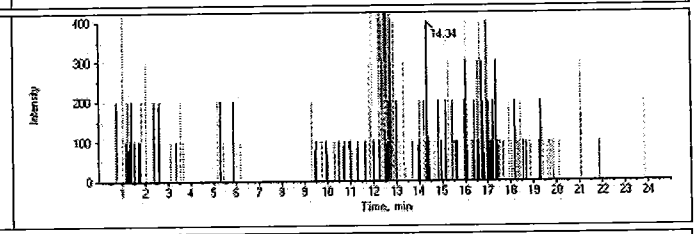
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.000177
Area Ratio: 3.449e-3
Sample Type: (Quality Control)



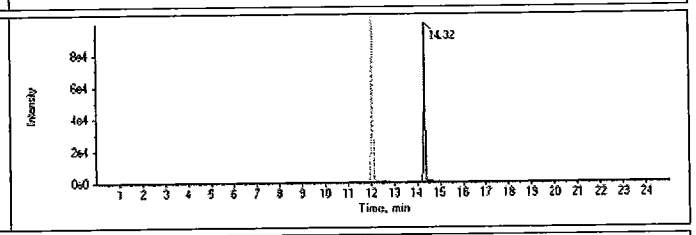
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.34 (14.31) min
Calculated conc: 0.000123
Area Ratio: 4.108e-4
Sample Type: (Quality Control)



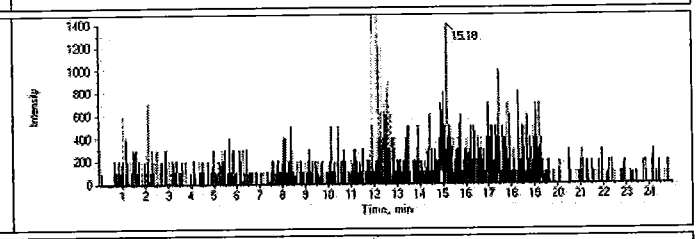
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 91.111418
Area Ratio: 7.723e-1
Sample Type: (Quality Control)



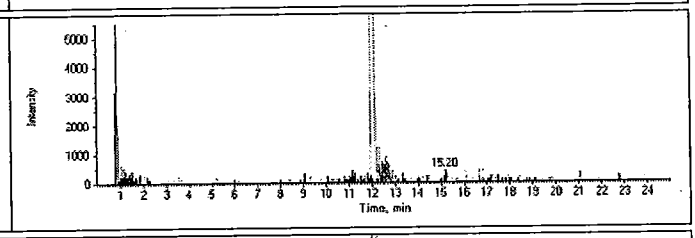
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.18 (15.19) min
Calculated conc: 0.000230
Area Ratio: 4.107e-3
Sample Type: (Quality Control)



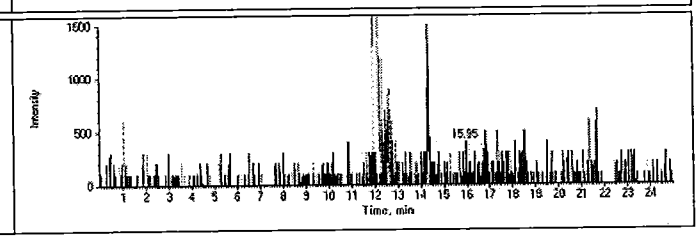
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.20 (15.19) min
Calculated conc: 0.000197
Area Ratio: 5.749e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.95 (15.93) min
Calculated conc: 0.000038
Area Ratio: 4.929e-4
Sample Type: (Quality Control)



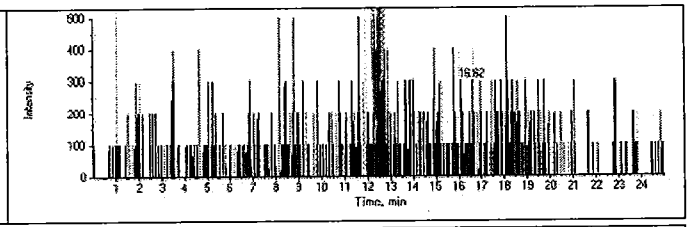
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.62 (16.58) min

Calculated conc: 0.000020

Area Ratio: 3.287e-4

Sample Type: (Quality Control)



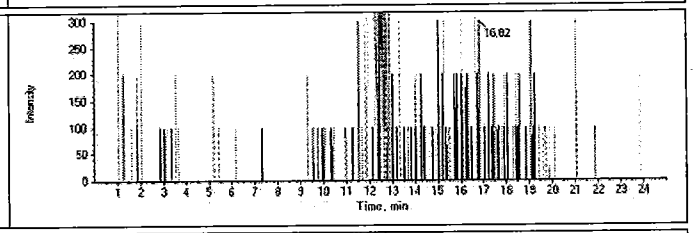
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.82 (16.58) min

Calculated conc: 0.000095

Area Ratio: 3.284e-4

Sample Type: (Quality Control)



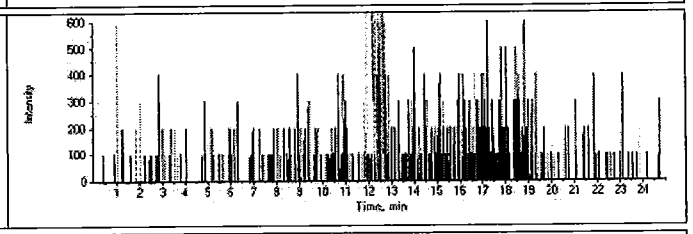
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.12 (17.14) min

Calculated conc: 0.000064

Area Ratio: 4.928e-4

Sample Type: (Quality Control)



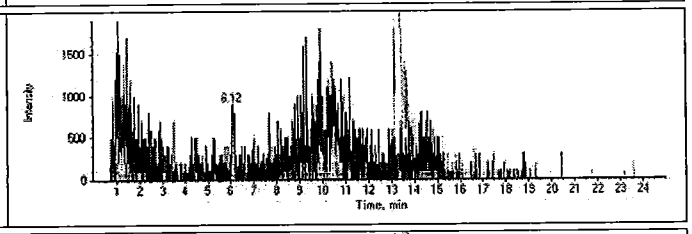
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.12 (6.10) min

Calculated conc: 0.001186

Area Ratio: 5.830e-3

Sample Type: (Quality Control)



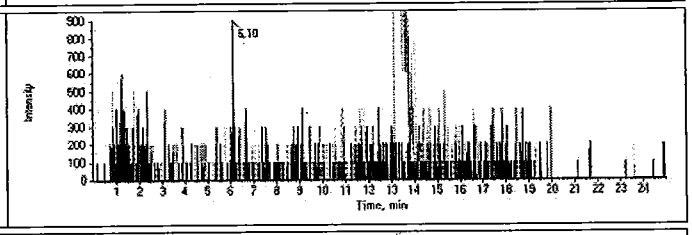
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.000666

Area Ratio: 1.353e-3

Sample Type: (Quality Control)



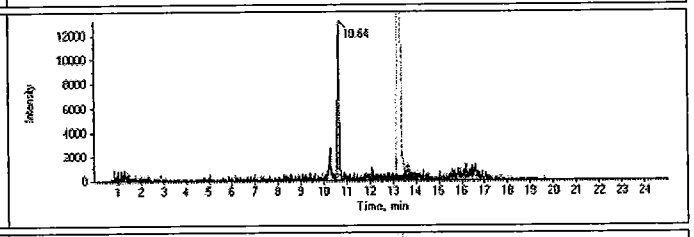
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.007556

Area Ratio: 6.287e-2

Sample Type: (Quality Control)



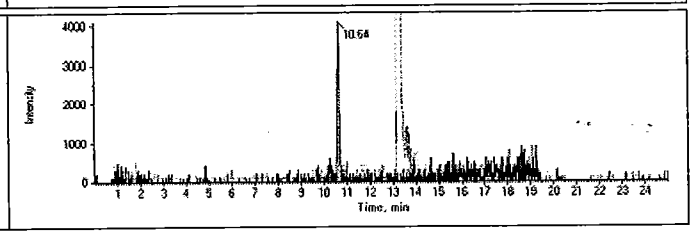
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.007772

Area Ratio: 2.196e-2

Sample Type: (Quality Control)



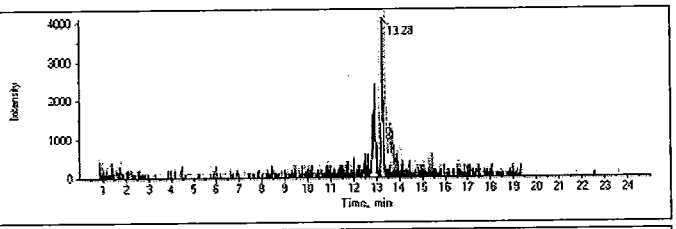
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.002448

Area Ratio: 1.962e-2

Sample Type: (Quality Control)



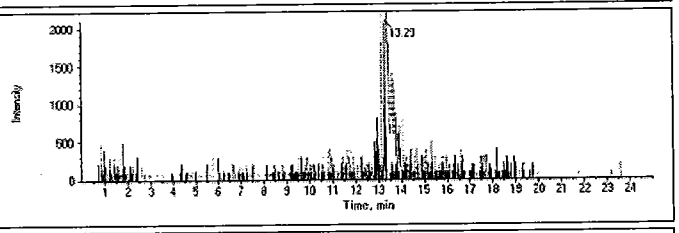
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.001929

Area Ratio: 4.579e-3

Sample Type: (Quality Control)



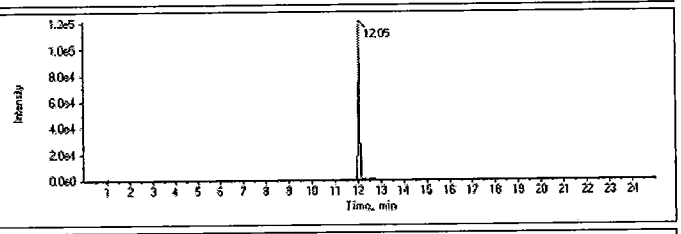
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 74.617876

Area Ratio: N/A

Sample Type: (Quality Control)



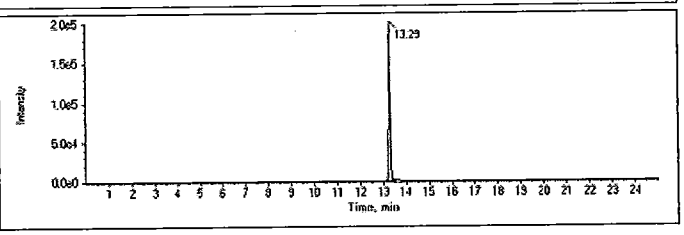
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 83.741843

Area Ratio: N/A

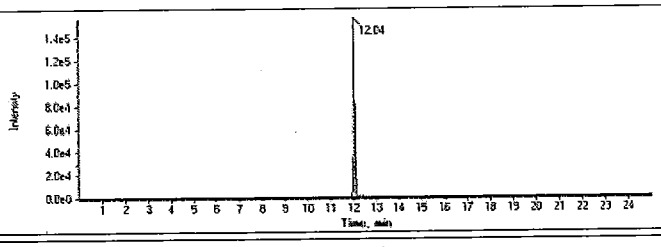
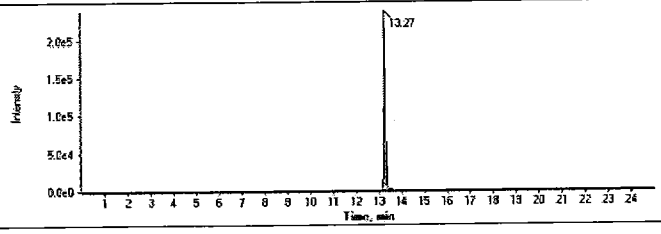
Sample Type: (Quality Control)



Sample Name	201404250099	**Injection Vial**	28
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 8:34:35 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	664523	12.04	100.00000	-
IS-13C-PFOS	1063580	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	9.378e+04	8.40	0.00000	0.014308
Surr-13c-PFHxA	4.776e+05	8.40	100.00000	72.003312
PFHpA	1.727e+05	10.49	0.00000	0.009897
PFHpA 2	4.658e+04	10.49	0.00000	0.009581
PFOA	5.917e+05	12.04	0.00000	0.034732
PFOA 2	2.015e+05	12.04	0.00000	0.035383
PFNA	3.249e+05	13.28	0.00000	0.026302
PFNA 2	8.125e+04	13.28	0.00000	0.025670
PFDA	8.531e+03	14.31	0.00000	0.000659
PFDA 2	9.320e+02	14.29	0.00000	0.000420
Surr-13c-PFDA	4.580e+05	14.31	100.00000	81.310329
PFUnA	5.689e+03	15.18	0.00000	0.000479
PFUnA 2	3.430e+02	15.19	0.00000	0.000177
PFDoA	9.800e+01	15.79	0.00000	0.000011
PFTrDA	9.800e+01	16.60	0.00000	0.000009
PFTrDA 2	9.800e+01	16.09	0.00000	0.000043
PFTA	2.450e+02	17.14	0.00000	0.000048
PFBS	1.229e+04	6.10	0.00000	0.002350
PFBS 2	6.915e+03	6.11	0.00000	0.003202
PFHxS	4.080e+04	10.63	0.00000	0.004610
PFHxS 2	1.451e+04	10.63	0.00000	0.004829
PFOS	6.580e+04	13.27	0.00000	0.007718
PFOS 2	1.907e+04	13.27	0.00000	0.007553
13C-PFOA	6.645e+05	12.04	100.00000	83.066333
13C-PFOS	1.064e+06	13.27	100.00000	94.533901

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

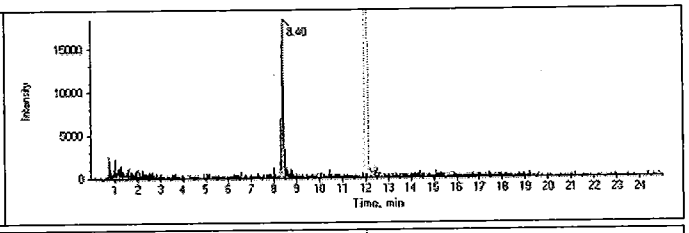
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.40 (8.40) min

Calculated conc: 0.014308

Area Ratio: 1.411e-1

Sample Type: (Quality Control)



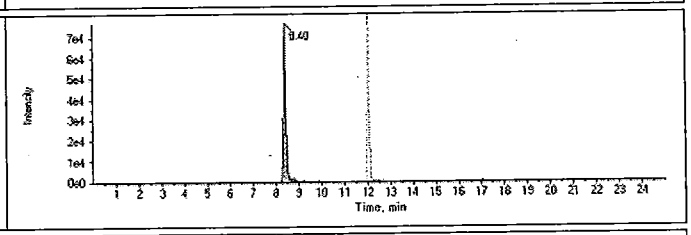
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 72.003312

Area Ratio: 7.188e-1

Sample Type: (Quality Control)



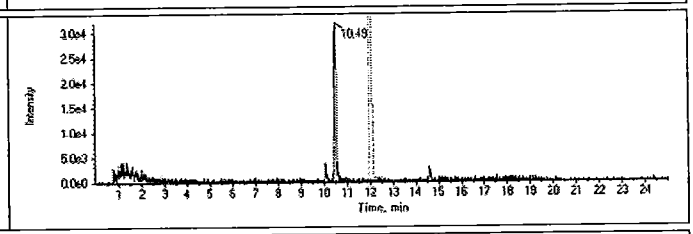
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.009897

Area Ratio: 2.599e-1

Sample Type: (Quality Control)



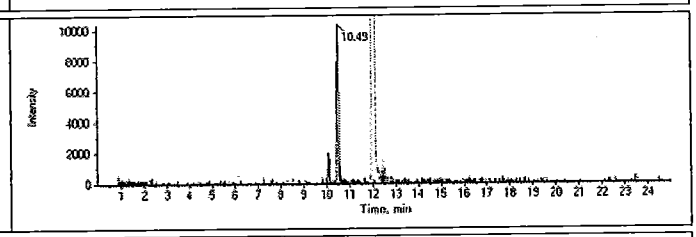
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.009581

Area Ratio: 7.010e-2

Sample Type: (Quality Control)



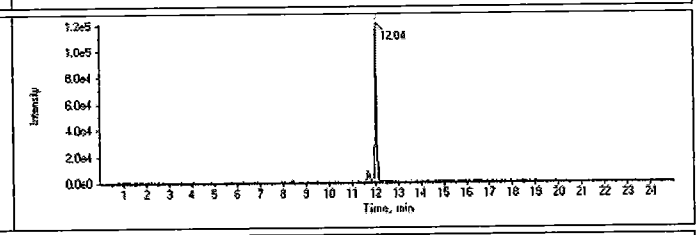
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.034732

Area Ratio: 8.905e-1

Sample Type: (Quality Control)



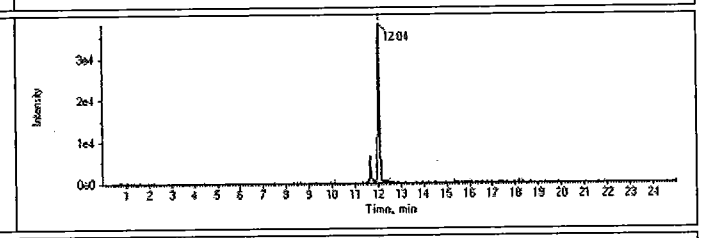
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.035383

Area Ratio: 3.032e-1

Sample Type: (Quality Control)



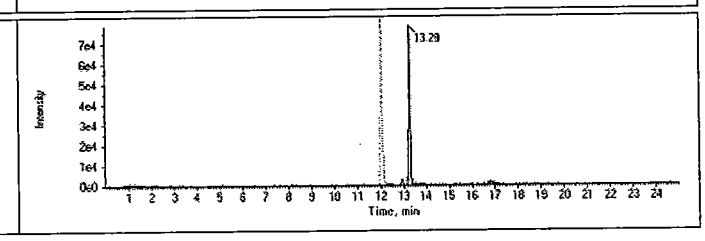
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.026302

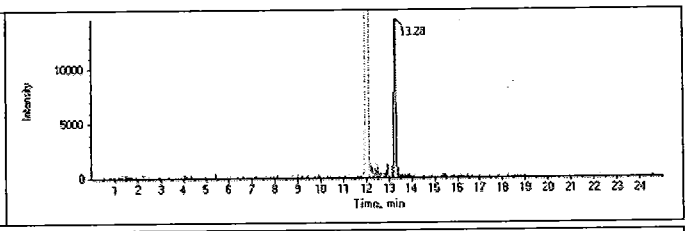
Area Ratio: 4.889e-1

Sample Type: (Quality Control)



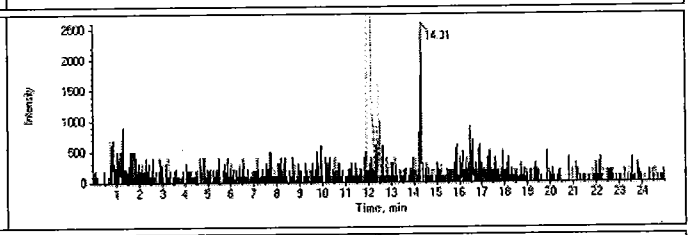
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min
Calculated conc: 0.025670
Area Ratio: 1.223e-1
Sample Type: (Quality Control)



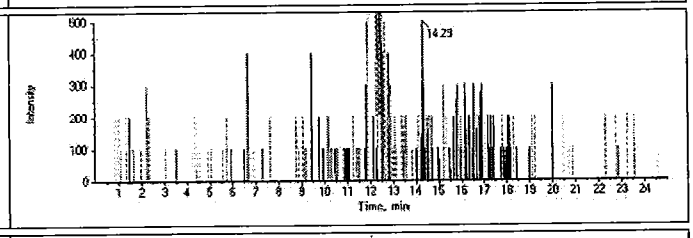
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min
Calculated conc: 0.000659
Area Ratio: 1.284e-2
Sample Type: (Quality Control)



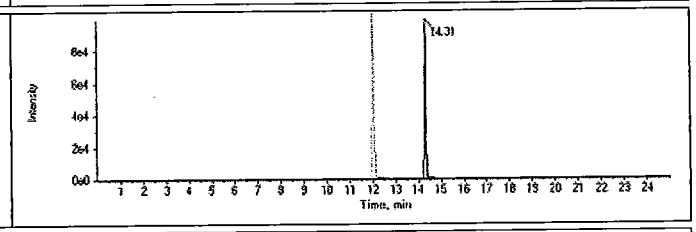
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.29 (14.31) min
Calculated conc: 0.000420
Area Ratio: 1.402e-3
Sample Type: (Quality Control)



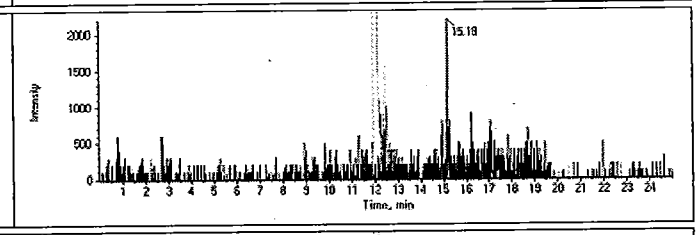
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min
Calculated conc: 81.310329
Area Ratio: 6.893e-1
Sample Type: (Quality Control)



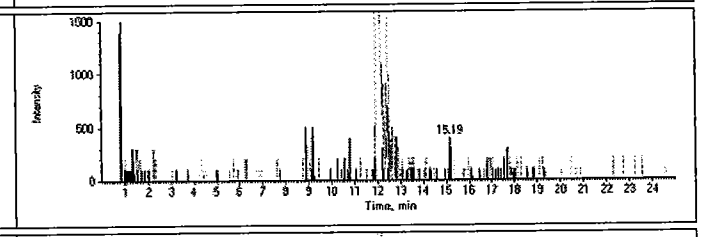
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.18 (15.19) min
Calculated conc: 0.000479
Area Ratio: 8.562e-3
Sample Type: (Quality Control)



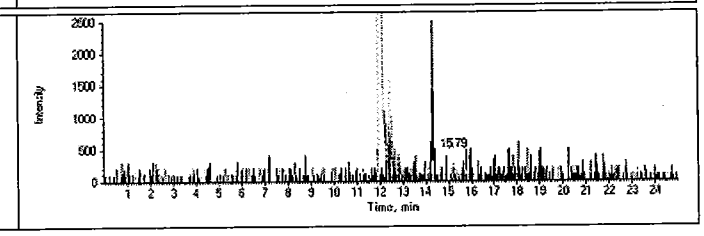
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min
Calculated conc: 0.000177
Area Ratio: 5.165e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.79 (15.93) min
Calculated conc: 0.000011
Area Ratio: 1.475e-4
Sample Type: (Quality Control)



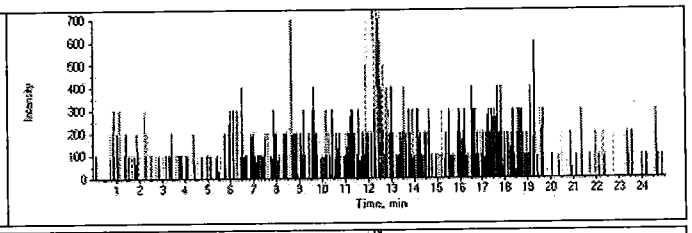
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.60 (16.58) min

Calculated conc: 0.000009

Area Ratio: 1.475e-4

Sample Type: (Quality Control)



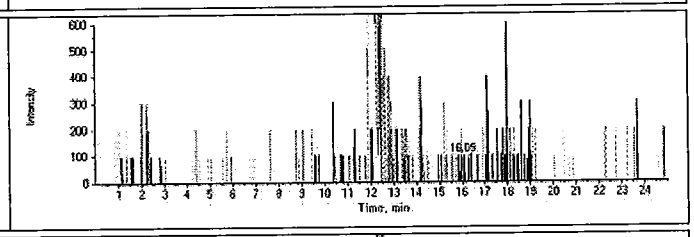
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.09 (16.58) min

Calculated conc: 0.000043

Area Ratio: 1.476e-4

Sample Type: (Quality Control)



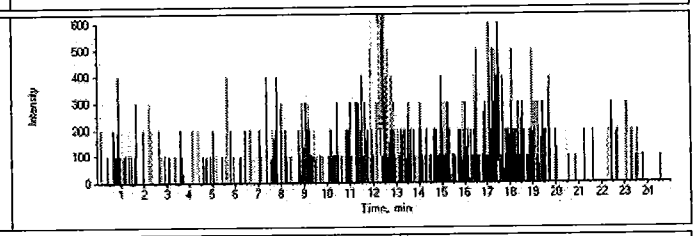
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.000048

Area Ratio: 3:691e-4

Sample Type: (Quality Control)



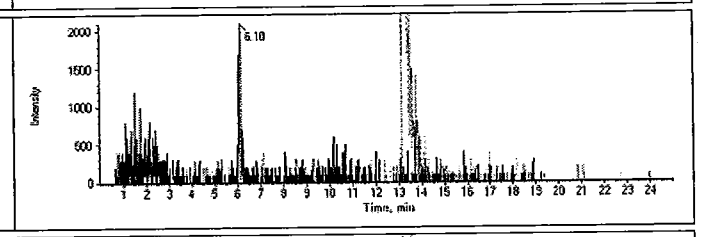
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.002350

Area Ratio: 1.155e-2

Sample Type: (Quality Control)



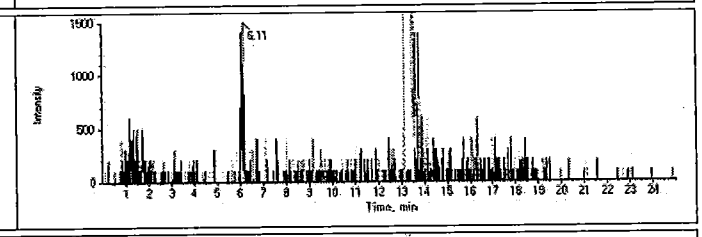
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.11 (6.11) min

Calculated conc: 0.003202

Area Ratio: 6.502e-3

Sample Type: (Quality Control)



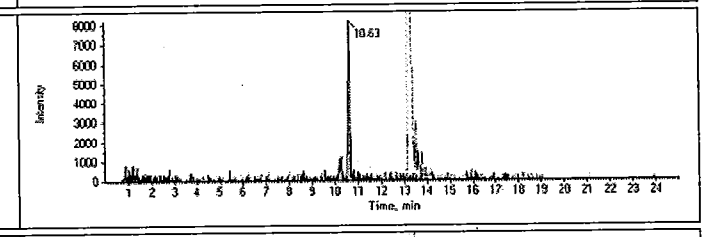
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.004610

Area Ratio: 3.836e-2

Sample Type: (Quality Control)



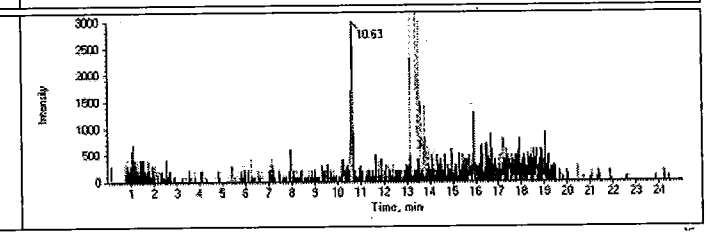
PFHxS 2 (398.9 / 99.0)

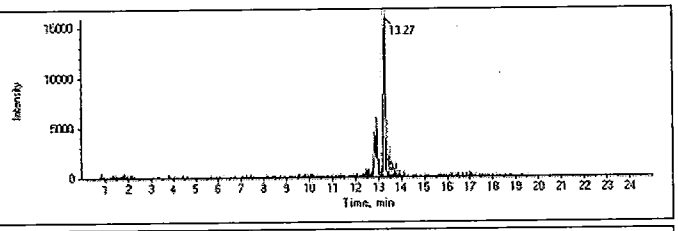
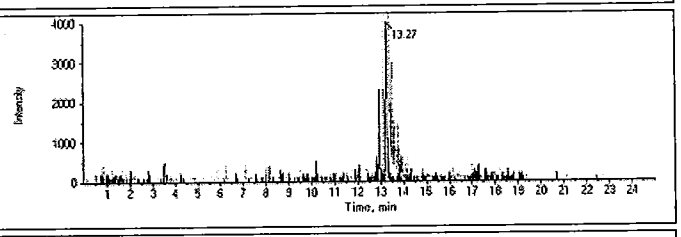
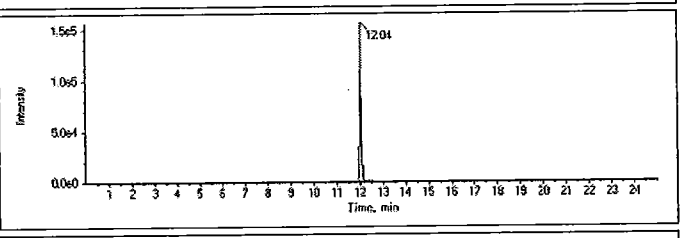
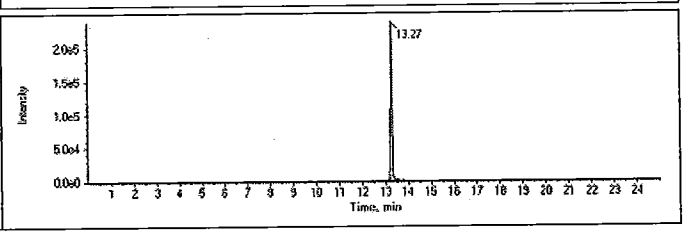
RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.004829

Area Ratio: 1.365e-2

Sample Type: (Quality Control)

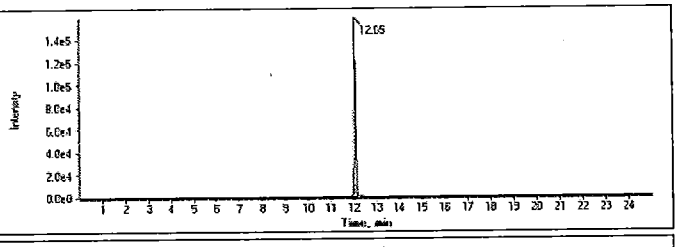
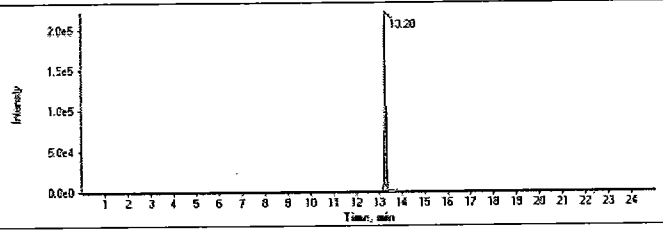


PFOS (499.0 / 79.9) RT (Exp. RT): 13.27 (13.28) min Calculated conc: 0.007718 Area Ratio: 6.187e-2 Sample Type: (Quality Control)	
PFOS 2 (499.0 / 99.0) RT (Exp. RT): 13.27 (13.28) min Calculated conc: 0.007553 Area Ratio: 1.793e-2 Sample Type: (Quality Control)	
13C-PFOA (417.0 / 372.0) RT (Exp. RT): 12.04 (12.05) min Calculated conc: 83.066333 Area Ratio: N/A Sample Type: (Quality Control)	
13C-PFOS (503.0 / 80.0) RT (Exp. RT): 13.27 (13.28) min Calculated conc: 94.533901 Area Ratio: N/A Sample Type: (Quality Control)	

Sample Name	201404250100	**Injection Vial**	29
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 9:00:11 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	720004	12.05	100.00000	-
IS-13C-PFOS	1024461	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	9.767e+04	8.41	0.00000	0.013752
Surr-13c-PFHxA	5.990e+05	8.40	100.00000	83.337264
PFHpA	2.418e+05	10.50	0.00000	0.012790
PFHpA 2	7.121e+04	10.50	0.00000	0.013518
PFOA	7.462e+05	12.05	0.00000	0.040426
PFOA 2	2.606e+05	12.05	0.00000	0.042241
PFNA	4.264e+05	13.29	0.00000	0.031861
PFNA 2	1.079e+05	13.29	0.00000	0.031458
PFDA	1.393e+04	14.32	0.00000	0.000994
PFDA 2	2.305e+03	14.31	0.00000	0.000959
Surr-13c-PFDA	6.591e+05	14.32	100.00000	107.985339
PFUnA	1.000e+04	15.20	0.00000	0.000777
PFUnA 2	9.810e+02	15.17	0.00000	0.000466
PFDoA	2.450e+02	15.92	0.00000	0.000027
PFTrDA	2.450e+02	16.56	0.00000	0.000021
PFTrDA 2	1.470e+02	16.57	0.00000	0.000059
PFTA	1.470e+02	17.07	0.00000	0.000027
PFBS	1.385e+04	6.11	0.00000	0.002752
PFBS 2	6.963e+03	6.10	0.00000	0.003347
PFHxS	5.100e+04	10.63	0.00000	0.005983
PFHxS 2	1.530e+04	10.64	0.00000	0.005284
PFOS	7.390e+04	13.29	0.00000	0.008999
PFOS 2	2.275e+04	13.29	0.00000	0.009354
13C-PFOA	7.200e+05	12.05	100.00000	90.001473
13C-PFOS	1.024e+06	13.28	100.00000	91.056913

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

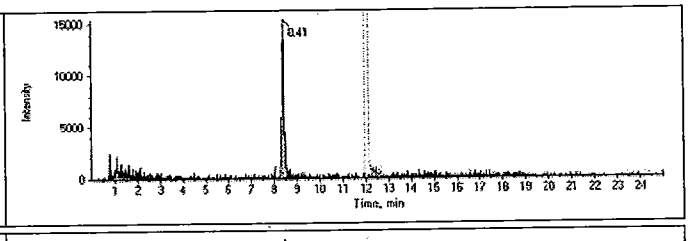
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.013752

Area Ratio: 1.356e-1

Sample Type: (Quality Control)



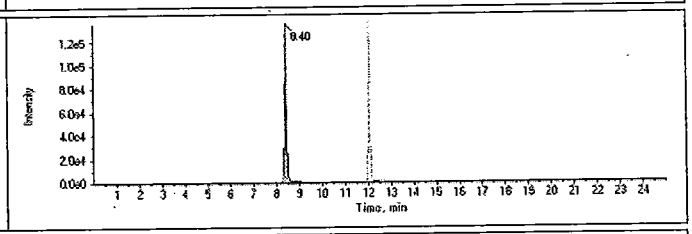
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 83.337264

Area Ratio: 8.319e-1

Sample Type: (Quality Control)



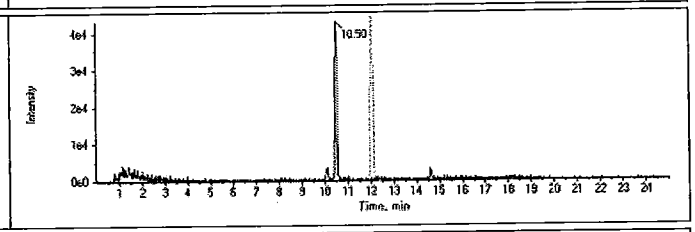
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.012790

Area Ratio: 3.359e-1

Sample Type: (Quality Control)



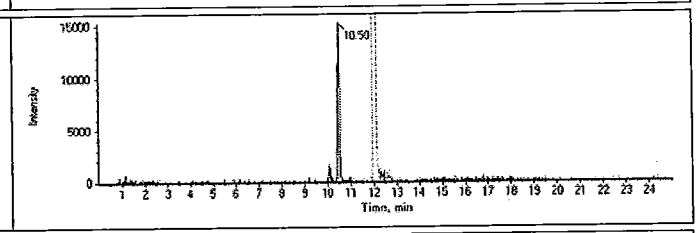
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.013518

Area Ratio: 9.891e-2

Sample Type: (Quality Control)



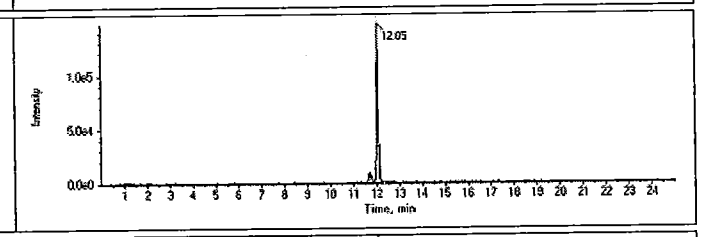
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.040426

Area Ratio: 1.036e0

Sample Type: (Quality Control)



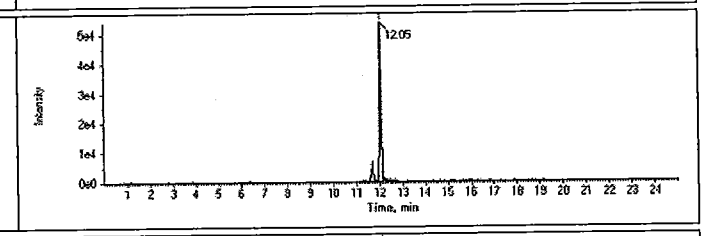
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.042241

Area Ratio: 3.620e-1

Sample Type: (Quality Control)



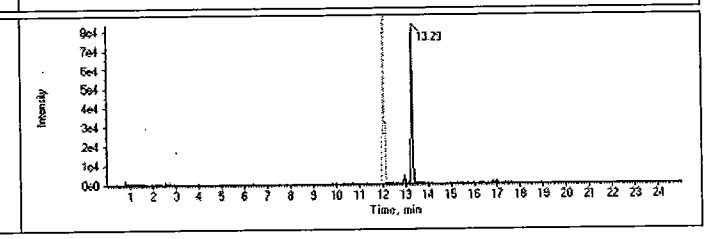
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.031861

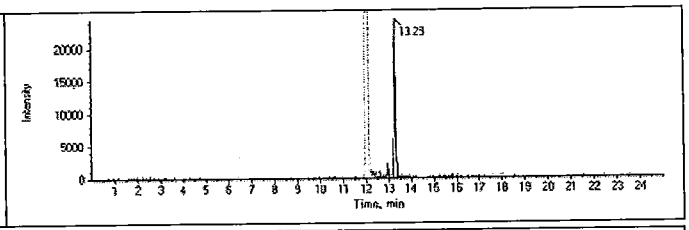
Area Ratio: 5.922e-1

Sample Type: (Quality Control)



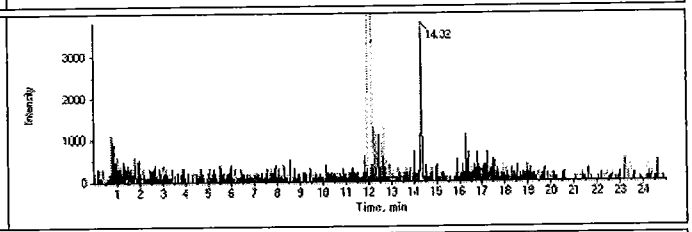
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.031458
Area Ratio: 1.498e-1
Sample Type: (Quality Control)



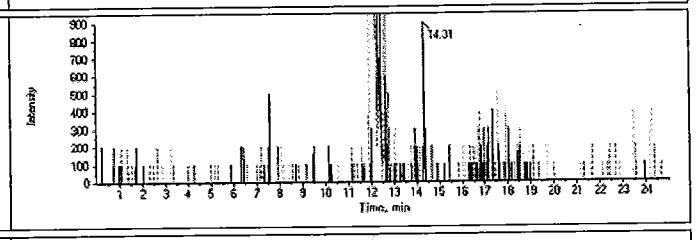
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 0.000994
Area Ratio: 1.934e-2
Sample Type: (Quality Control)



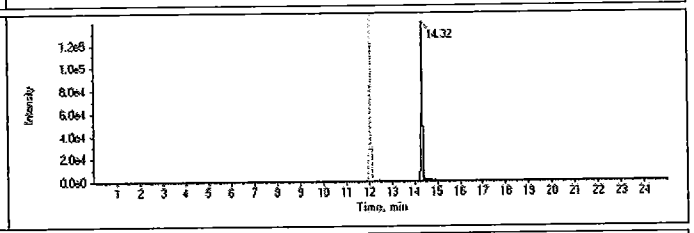
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min
Calculated conc: 0.000959
Area Ratio: 3.201e-3
Sample Type: (Quality Control)



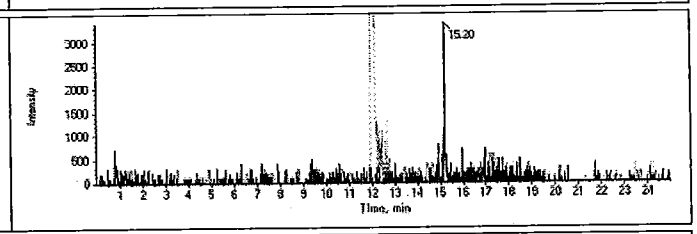
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min
Calculated conc: 107.985339
Area Ratio: 9.154e-1
Sample Type: (Quality Control)



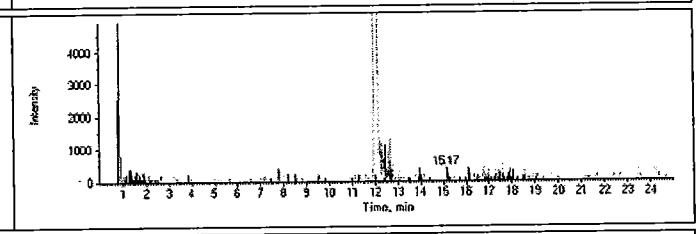
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.20 (15.19) min
Calculated conc: 0.000777
Area Ratio: 1.389e-2
Sample Type: (Quality Control)



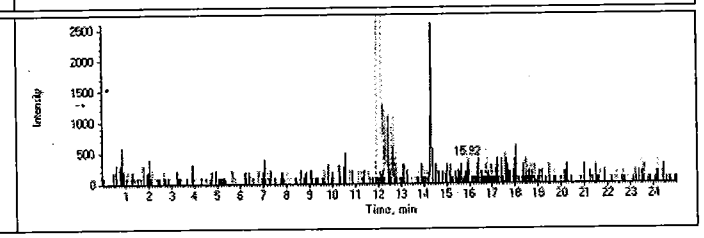
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.17 (15.19) min
Calculated conc: 0.000466
Area Ratio: 1.362e-3
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.92 (15.93) min
Calculated conc: 0.000027
Area Ratio: 3.406e-4
Sample Type: (Quality Control)



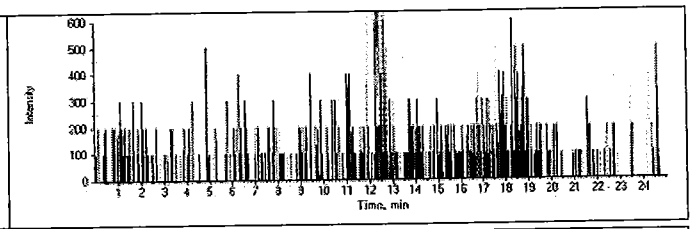
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.56 (16.58) min

Calculated conc: 0.000021

Area Ratio: 3.406e-4

Sample Type: (Quality Control)



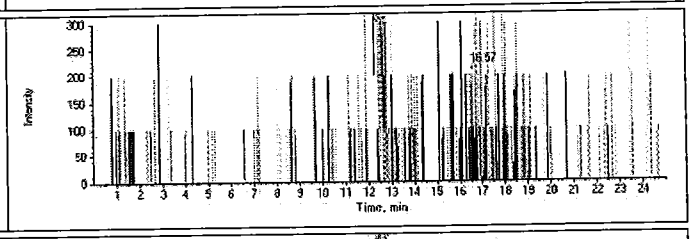
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.000059

Area Ratio: 2.043e-4

Sample Type: (Quality Control)



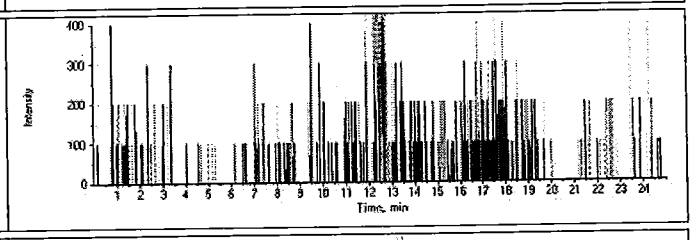
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.07 (17.14) min

Calculated conc: 0.000027

Area Ratio: 2.044e-4

Sample Type: (Quality Control)



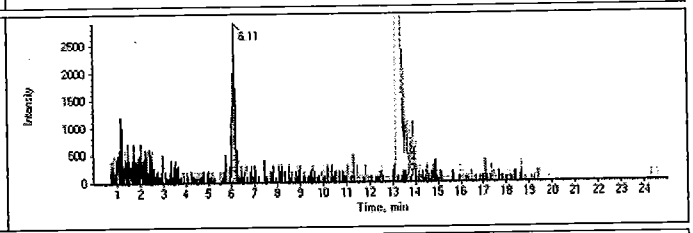
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.002752

Area Ratio: 1.352e-2

Sample Type: (Quality Control)



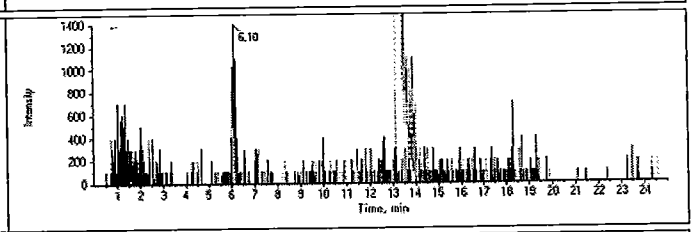
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.003347

Area Ratio: 6.797e-3

Sample Type: (Quality Control)



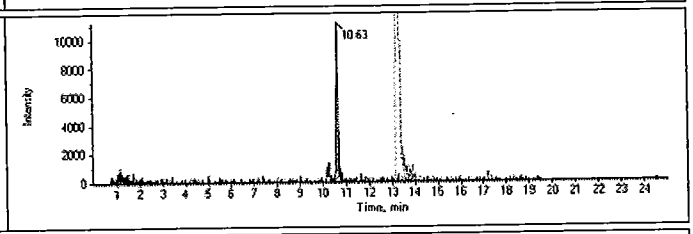
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.005983

Area Ratio: 4.979e-2

Sample Type: (Quality Control)



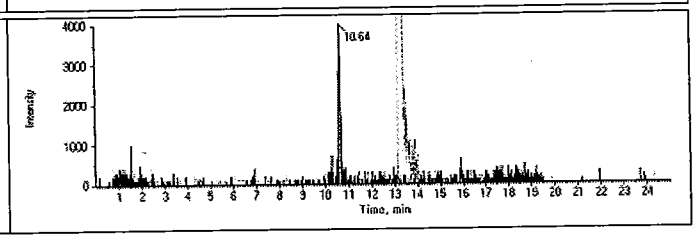
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.005284

Area Ratio: 1.493e-2

Sample Type: (Quality Control)



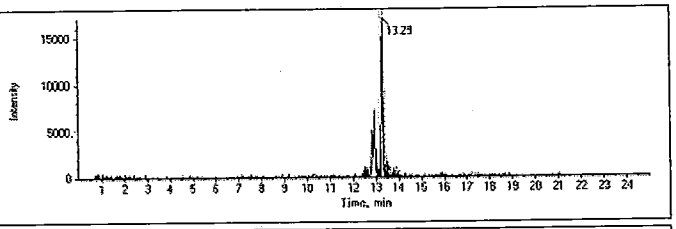
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.008999

Area Ratio: 7.213e-2

Sample Type: (Quality Control)



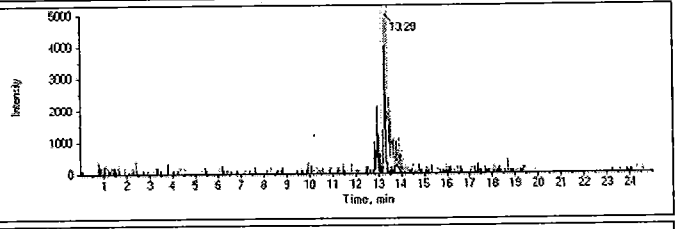
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.009354

Area Ratio: 2.221e-2

Sample Type: (Quality Control)



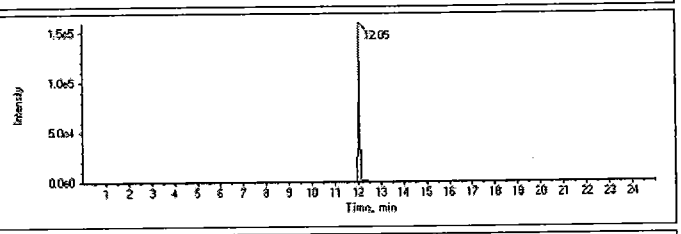
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 90.001473

Area Ratio: N/A

Sample Type: (Quality Control)



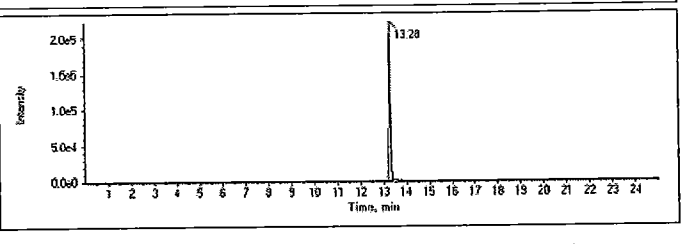
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 91.056913

Area Ratio: N/A

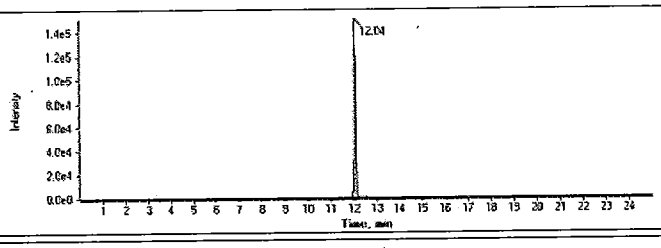
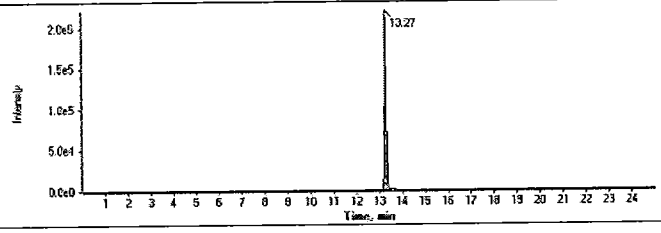
Sample Type: (Quality Control)



Sample Name	201404250101	**Injection Vial**	30
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 9:25:47 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	778849	12.04	100.00000	-
IS-13C-PFOS	1068975	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.448e+05	8.41	0.00000	0.018848
Surr-13c-PFHxA	6.881e+05	8.40	100.00000	88.507104
PFHpA	2.687e+05	10.49	0.00000	0.013138
PFHpA 2	7.374e+04	10.49	0.00000	0.012941
PFOA	8.463e+05	12.04	0.00000	0.042383
PFOA 2	2.740e+05	12.04	0.00000	0.041050
PFNA	4.559e+05	13.28	0.00000	0.031490
PFNA 2	1.146e+05	13.28	0.00000	0.030904
PFDA	1.295e+04	14.31	0.00000	0.000854
PFDA 2	1.962e+03	14.31	0.00000	0.000755
Surr-13c-PFDA	6.541e+05	14.31	100.00000	99.074615
PFUnA	6.718e+03	15.19	0.00000	0.000482
PFUnA 2	4.410e+02	15.18	0.00000	0.000194
PFDoA	9.800e+01	15.92	0.00000	0.000010
PFTrDA	4.900e+02	16.51	0.00000	0.000038
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	1.470e+02	17.19	0.00000	0.000025
PFBS	2.067e+04	6.10	0.00000	0.003935
PFBS 2	6.547e+03	6.10	0.00000	0.003016
PFHxS	4.874e+04	10.63	0.00000	0.005479
PFHxS 2	1.633e+04	10.63	0.00000	0.005404
PFOS	7.362e+04	13.27	0.00000	0.008592
PFOS 2	2.407e+04	13.27	0.00000	0.009485
13C-PFOA	7.788e+05	12.04	100.00000	97.357274
13C-PFOS	1.069e+06	13.27	100.00000	95.013432

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

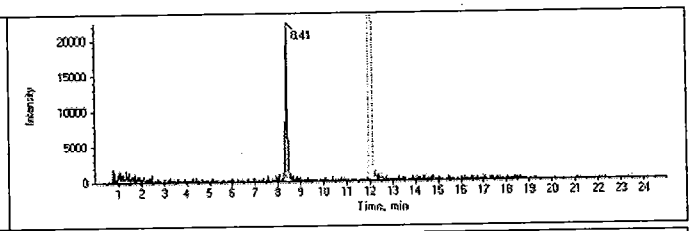
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.018848

Area Ratio: 1.859e-1

Sample Type: (Quality Control)



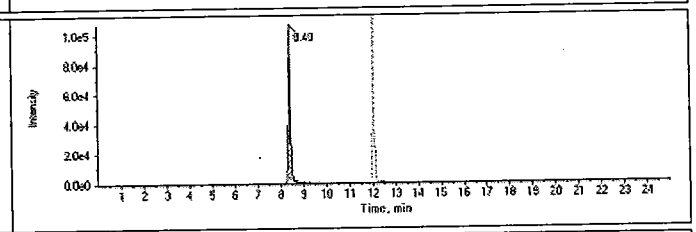
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 88.507104

Area Ratio: 8.835e-1

Sample Type: (Quality Control)



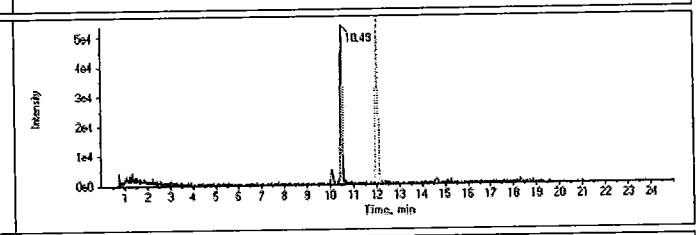
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.013138

Area Ratio: 3.450e-1

Sample Type: (Quality Control)



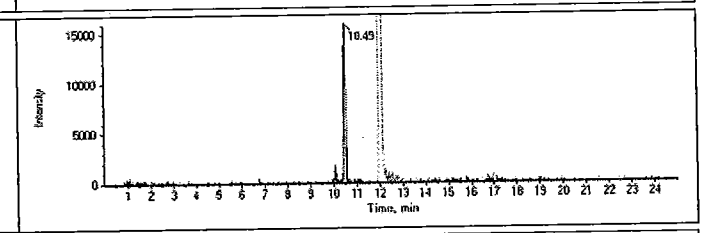
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.012941

Area Ratio: 9.468e-2

Sample Type: (Quality Control)



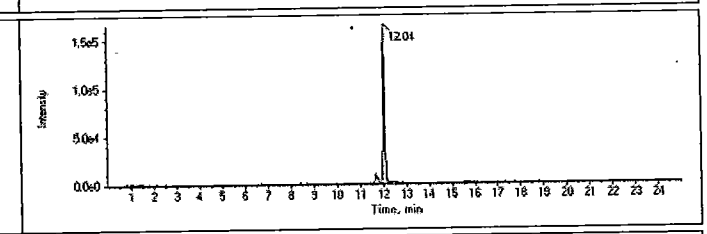
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.042383

Area Ratio: 1.087e0

Sample Type: (Quality Control)



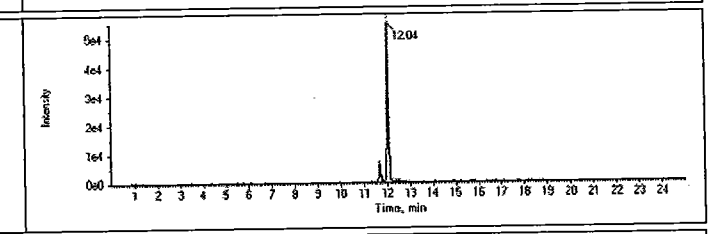
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.041050

Area Ratio: 3.518e-1

Sample Type: (Quality Control)



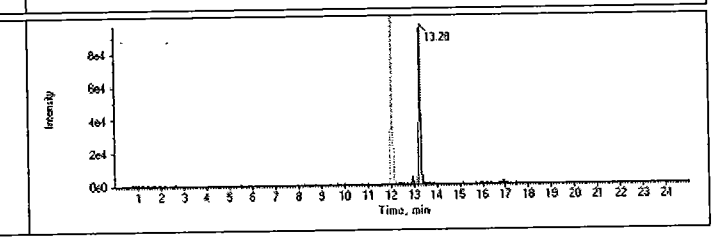
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.031490

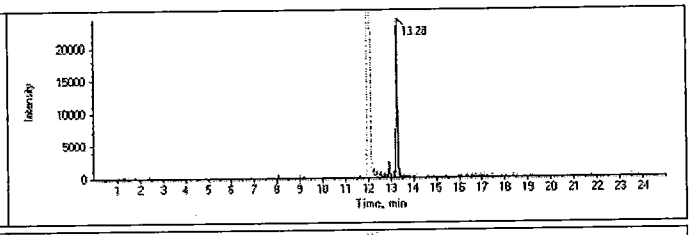
Area Ratio: 5.853e-1

Sample Type: (Quality Control)



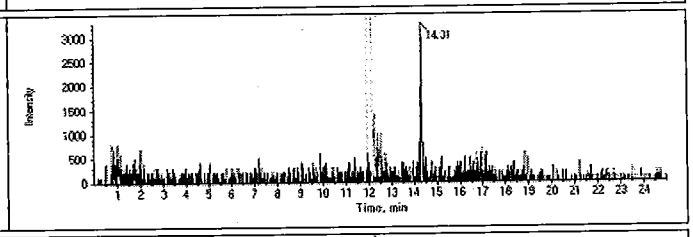
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min
Calculated conc: 0.030904
Area Ratio: 1.472e-1
Sample Type: (Quality Control)



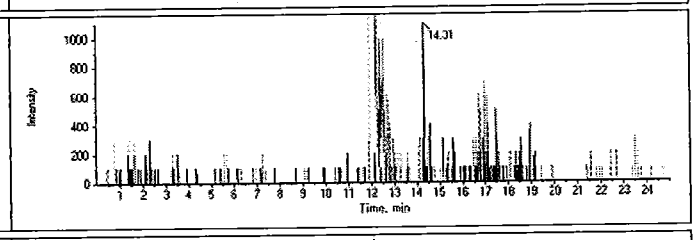
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min
Calculated conc: 0.000854
Area Ratio: 1.662e-2
Sample Type: (Quality Control)



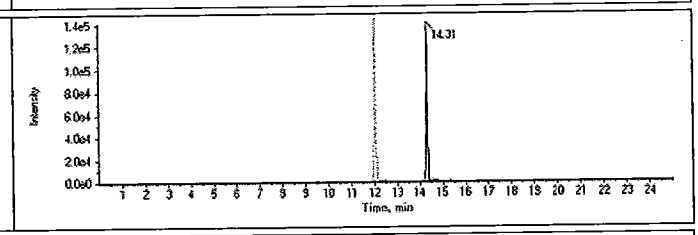
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.31 (14.31) min
Calculated conc: 0.000755
Area Ratio: 2.518e-3
Sample Type: (Quality Control)



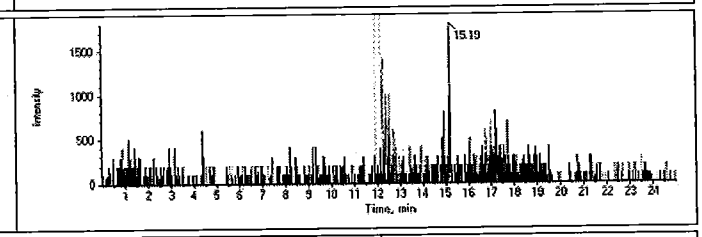
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min
Calculated conc: 99.074615
Area Ratio: 8.398e-1
Sample Type: (Quality Control)



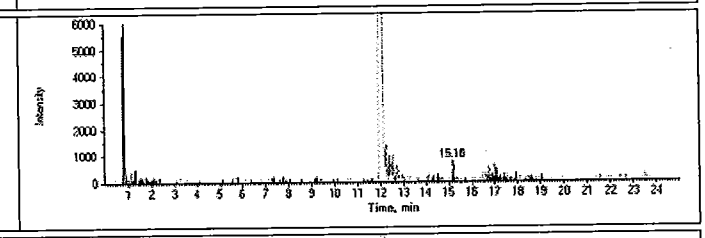
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min
Calculated conc: 0.000482
Area Ratio: 8.625e-3
Sample Type: (Quality Control)



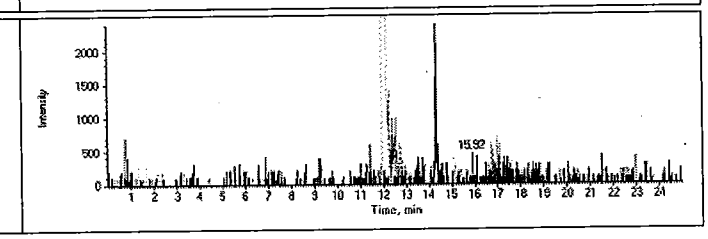
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.18 (15.19) min
Calculated conc: 0.000194
Area Ratio: 5.666e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.92 (15.93) min
Calculated conc: 0.000010
Area Ratio: 1.260e-4
Sample Type: (Quality Control)



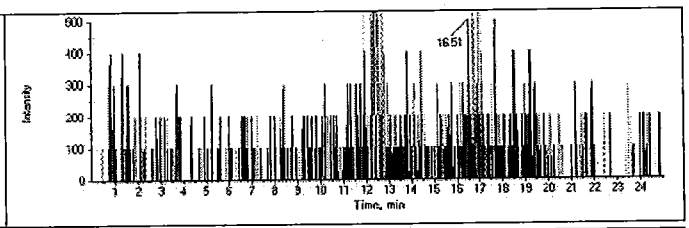
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.51 (16.58) min

Calculated conc: 0.000038

Area Ratio: 6.296e-4

Sample Type: (Quality Control)



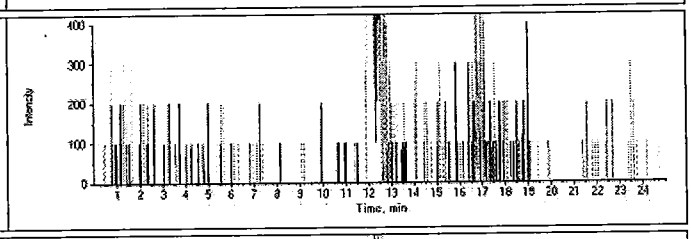
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



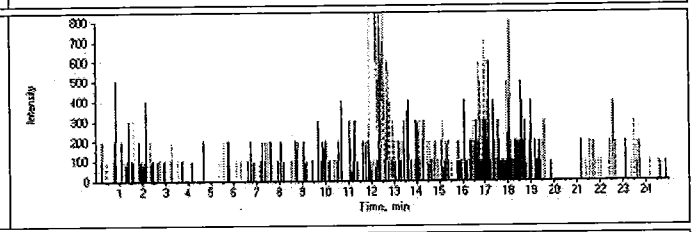
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.19 (17.14) min

Calculated conc: 0.000025

Area Ratio: 1.889e-4

Sample Type: (Quality Control)



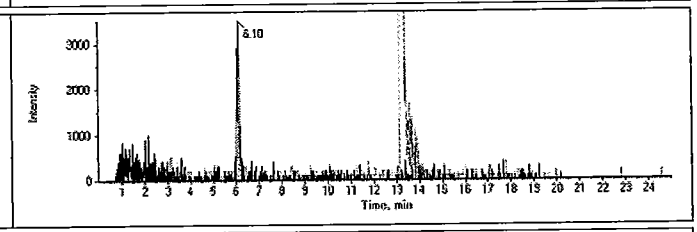
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.003935

Area Ratio: 1.934e-2

Sample Type: (Quality Control)



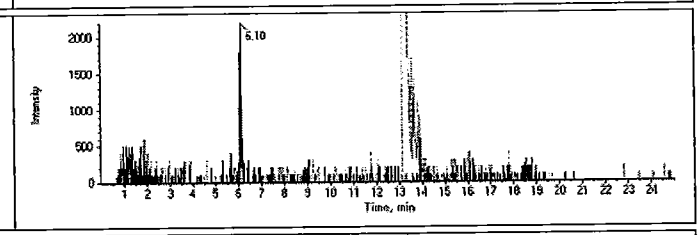
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.003016

Area Ratio: 6.125e-3

Sample Type: (Quality Control)



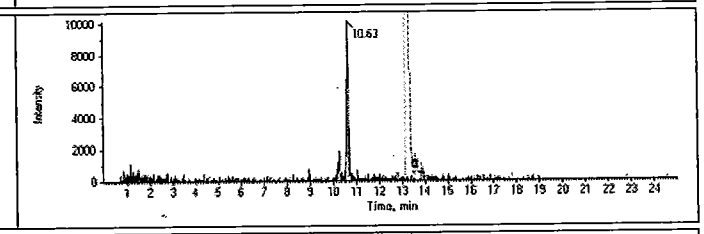
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.005479

Area Ratio: 4.559e-2

Sample Type: (Quality Control)



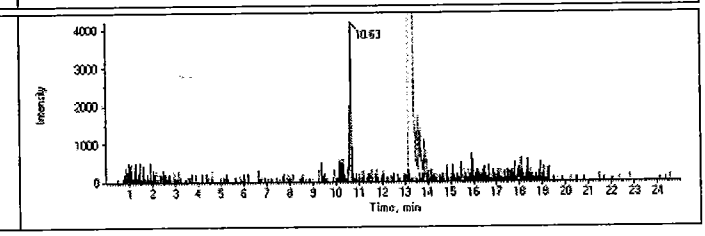
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.005404

Area Ratio: 1.527e-2

Sample Type: (Quality Control)



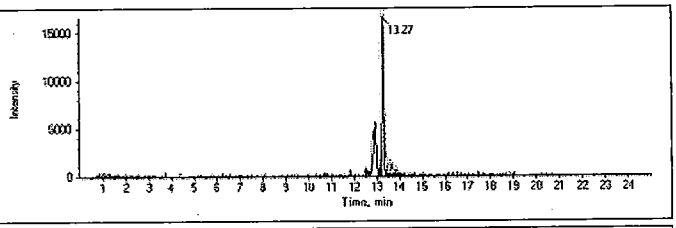
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.008592

Area Ratio: 6.887e-2

Sample Type: (Quality Control)



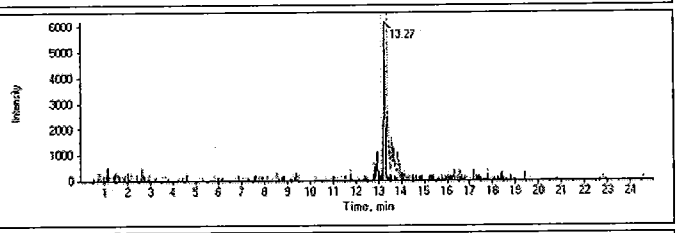
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.009485

Area Ratio: 2.252e-2

Sample Type: (Quality Control)



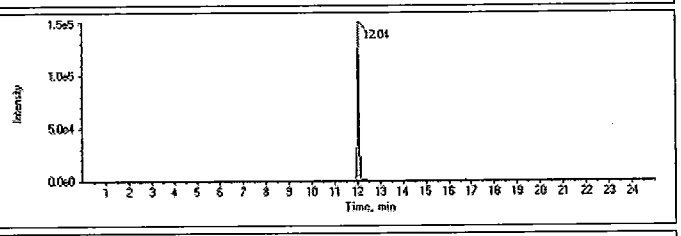
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 97.357274

Area Ratio: N/A

Sample Type: (Quality Control)



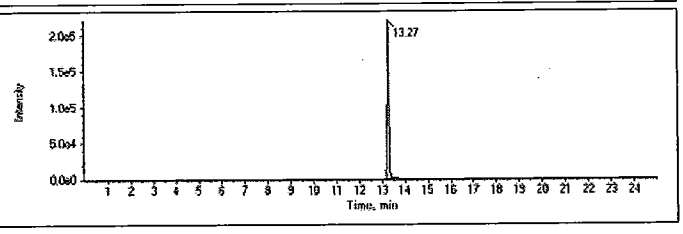
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 95.013432

Area Ratio: N/A

Sample Type: (Quality Control)



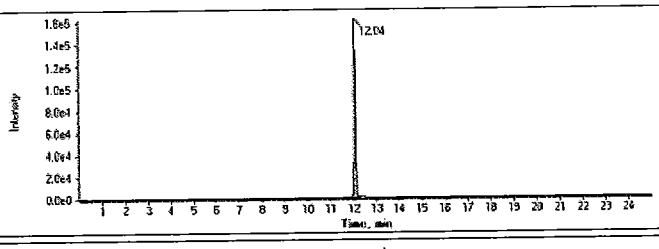
Sample Name	201404250102	**Injection Vial**	31
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 9:51:22 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	832039	12.04	100.00000	-
IS-13C-PFOS	1139531	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	4.786e+04	8.42	0.00000	0.005832
Surr-13c-PFHxA	7.850e+05	8.41	100.00000	94.514482
PFHpA	7.648e+04	10.50	0.00000	0.003500
PFHpA 2	1.918e+04	10.49	0.00000	0.003150
PFOA	2.116e+05	12.05	0.00000	0.009920
PFOA 2	7.042e+04	12.04	0.00000	0.009877
PFNA	1.892e+05	13.28	0.00000	0.012232
PFNA 2	4.344e+04	13.29	0.00000	0.010962
PFDA	3.481e+03	14.29	0.00000	0.000215
PFDA 2	1.960e+02	14.33	0.00000	0.000071
Surr-13c-PFDA	6.840e+05	14.31	100.00000	96.977427
PFUnA	6.870e+02	15.18	0.00000	0.000046
PFUnA 2	9.800e+01	15.21	0.00000	0.000040
PFDoA	2.450e+02	15.95	0.00000	0.000023
PFTrDA	2.450e+02	16.58	0.00000	0.000018
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	1.470e+02	17.20	0.00000	0.000023
PFBS	6.916e+03	6.11	0.00000	0.001235
PFBS 2	1.569e+03	6.10	0.00000	0.000678
PFHxS	6.328e+04	10.64	0.00000	0.006674
PFHxS 2	1.824e+04	10.64	0.00000	0.005664
PFOS	2.285e+04	13.28	0.00000	0.002502
PFOS 2	7.894e+03	13.28	0.00000	0.002918
13C-PFOA	8.320e+05	12.04	100.00000	104.006029
13C-PFOS	1.140e+06	13.28	100.00000	101.284694

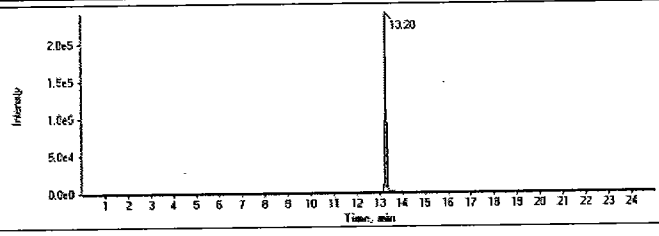
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.04(12.05) min
Concentration: 100.00000
Sample Type: (Quality Control)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.28(13.28) min
Concentration: 100.00000
Sample Type: (Quality Control)



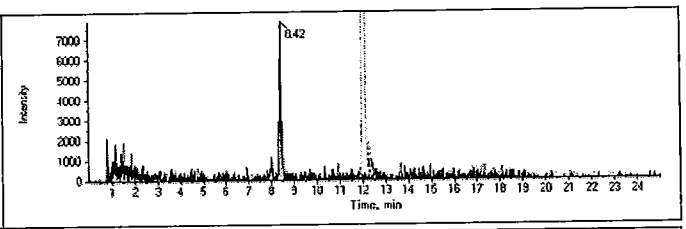
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.42 (8.40) min

Calculated conc: 0.005832

Area Ratio: 5.752e-2

Sample Type: (Quality Control)



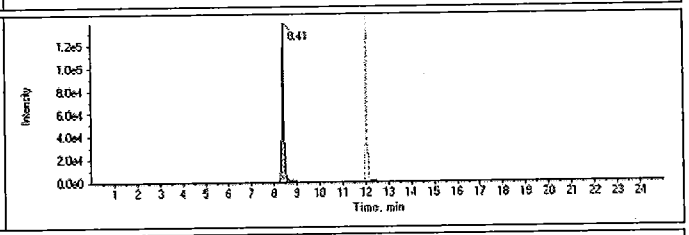
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 94.514482

Area Ratio: 9.435e-1

Sample Type: (Quality Control)



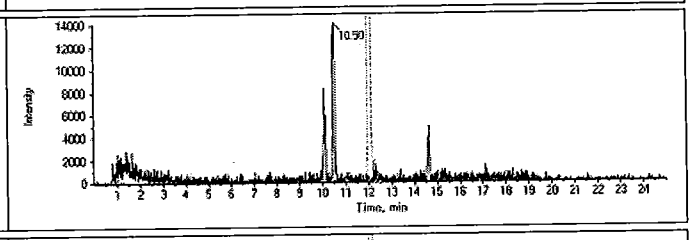
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.003500

Area Ratio: 9.191e-2

Sample Type: (Quality Control)



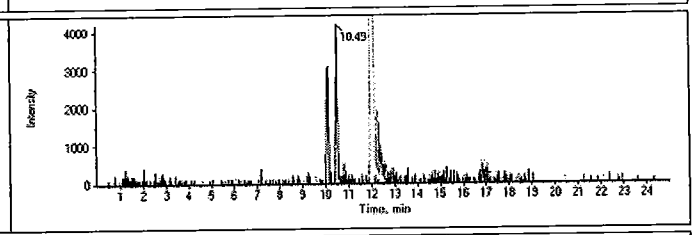
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.003150

Area Ratio: 2.305e-2

Sample Type: (Quality Control)



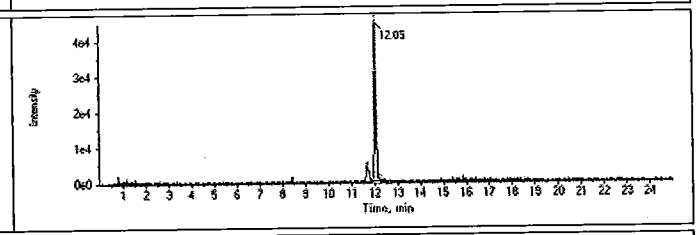
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.009920

Area Ratio: 2.543e-1

Sample Type: (Quality Control)



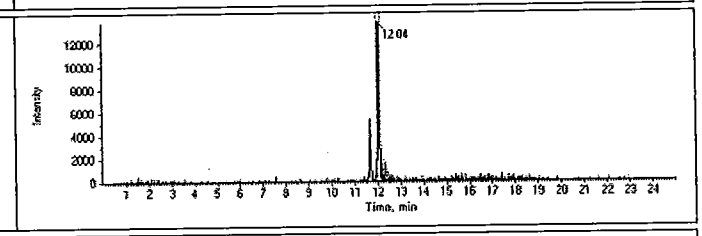
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.009877

Area Ratio: 8.463e-2

Sample Type: (Quality Control)



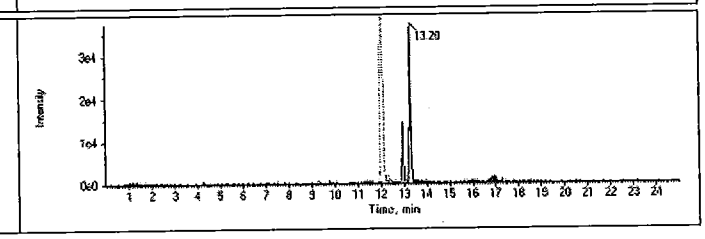
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.012232

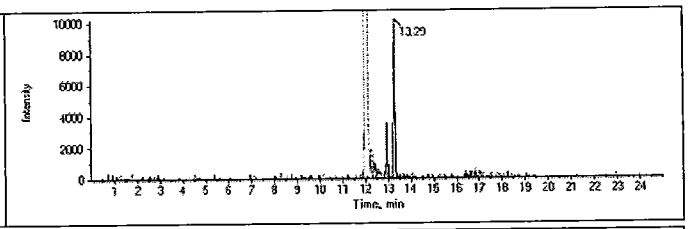
Area Ratio: 2.274e-1

Sample Type: (Quality Control)



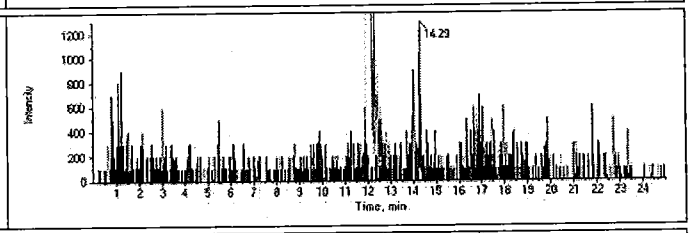
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min
Calculated conc: 0.010962
Area Ratio: 5.221e-2
Sample Type: (Quality Control)



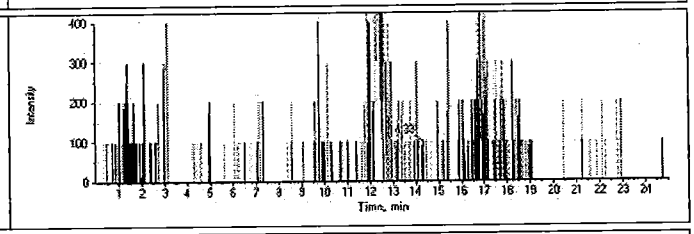
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.29 (14.32) min
Calculated conc: 0.000215
Area Ratio: 4.184e-3
Sample Type: (Quality Control)



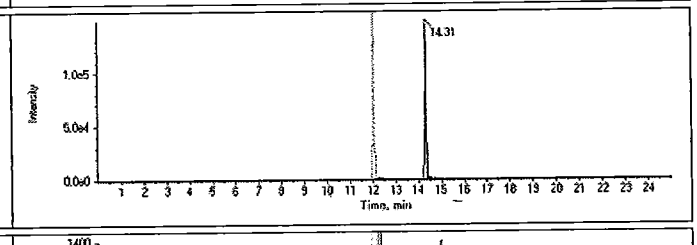
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.33 (14.31) min
Calculated conc: 0.000071
Area Ratio: 2.357e-4
Sample Type: (Quality Control)



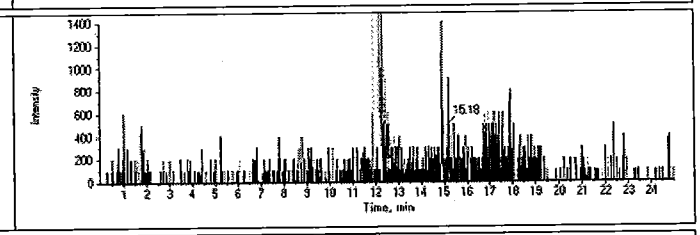
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min
Calculated conc: 96.977427
Area Ratio: 8.221e-1
Sample Type: (Quality Control)



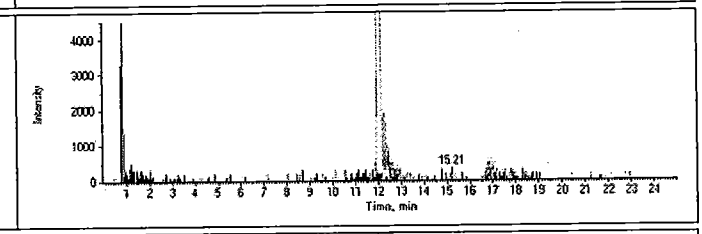
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.18 (15.19) min
Calculated conc: 0.000046
Area Ratio: 8.253e-4
Sample Type: (Quality Control)



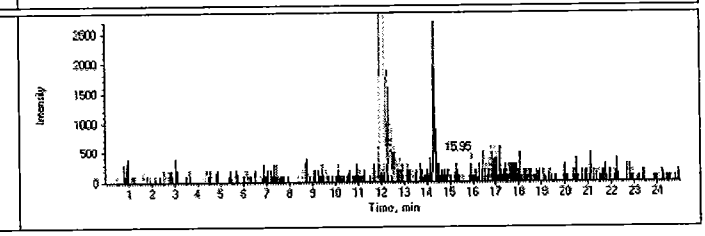
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.21 (15.19) min
Calculated conc: 0.000040
Area Ratio: 1.179e-4
Sample Type: (Quality Control)



PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.95 (15.93) min
Calculated conc: 0.000023
Area Ratio: 2.948e-4
Sample Type: (Quality Control)



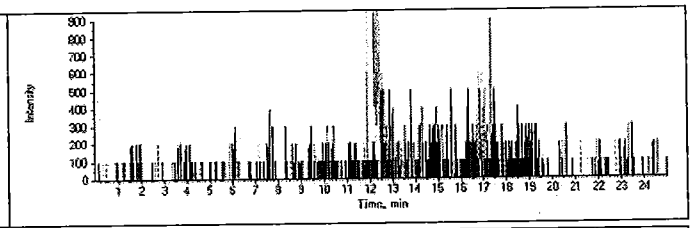
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.000018

Area Ratio: 2.947e-4

Sample Type: (Quality Control)



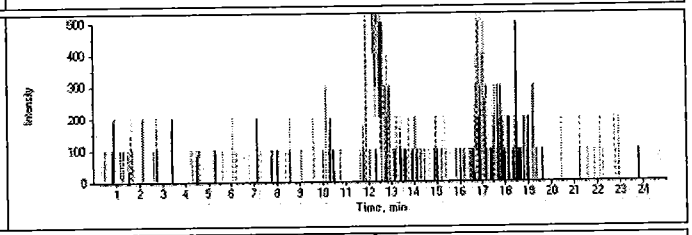
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



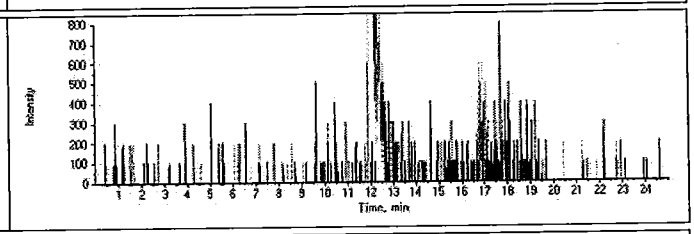
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.20 (17.14) min

Calculated conc: 0.000023

Area Ratio: 1.769e-4

Sample Type: (Quality Control)



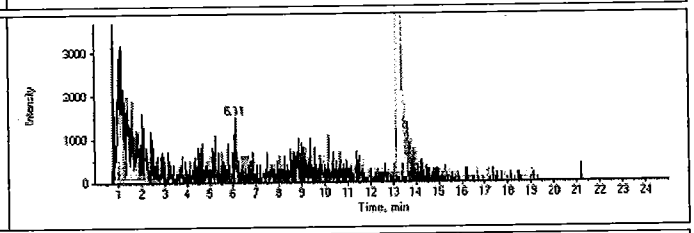
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.001235

Area Ratio: 6.069e-3

Sample Type: (Quality Control)



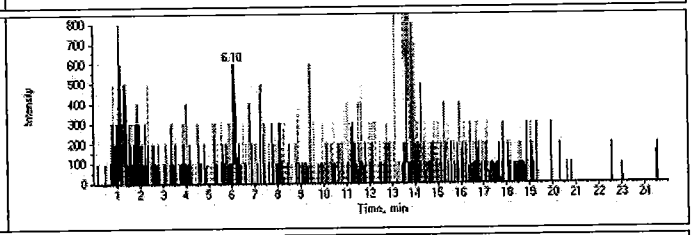
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.000678

Area Ratio: 1.377e-3

Sample Type: (Quality Control)



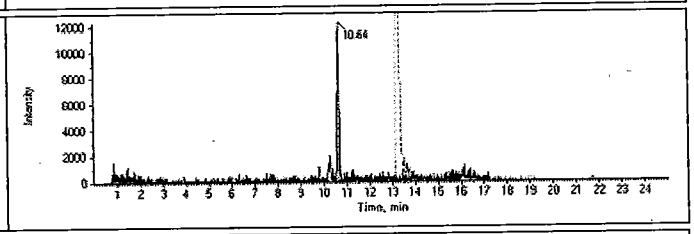
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.006674

Area Ratio: 5.553e-2

Sample Type: (Quality Control)



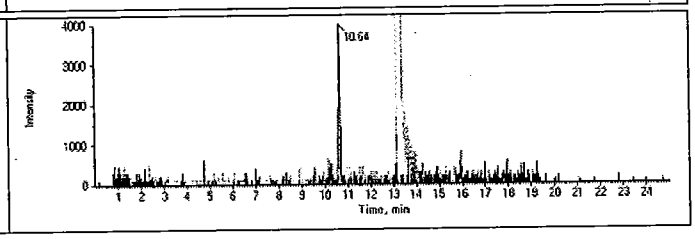
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.005664

Area Ratio: 1.601e-2

Sample Type: (Quality Control)



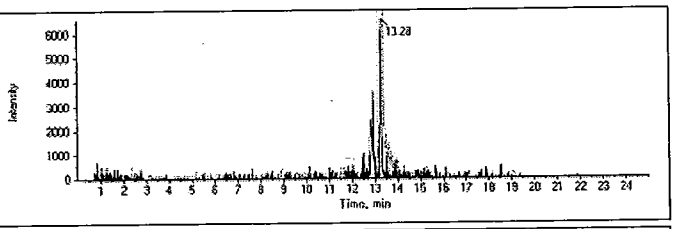
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.002502

Area Ratio: 2.005e-2

Sample Type: (Quality Control)



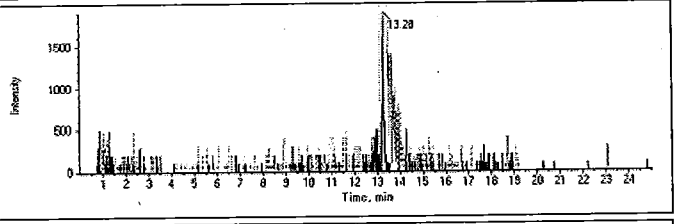
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.002918

Area Ratio: 6.927e-3

Sample Type: (Quality Control)



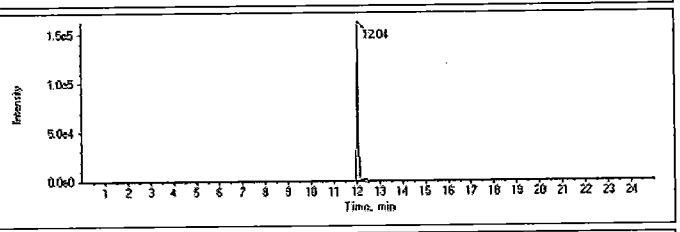
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 104.006029

Area Ratio: N/A

Sample Type: (Quality Control)



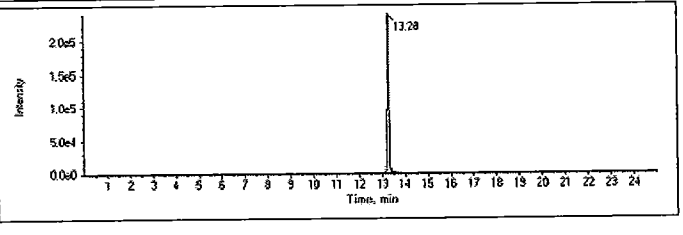
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 101.284694

Area Ratio: N/A

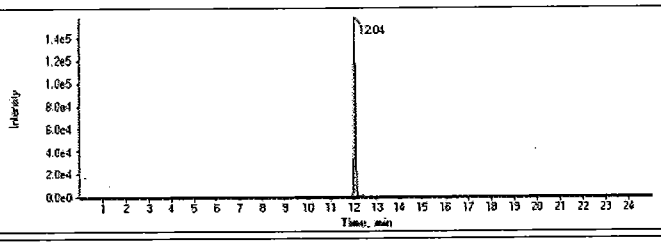
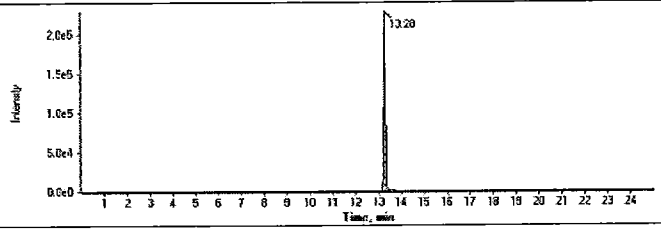
Sample Type: (Quality Control)



Sample Name	201404250103	**Injection Vial**	32
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 10:16:58 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	790459	12.04	100.00000	-
IS-13C-PFOS	1067904	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	7.805e+04	8.41	0.00000	0.010010
Surr-13c-PFHxA	7.206e+05	8.40	100.00000	91.316565
PFHpA	1.987e+05	10.49	0.00000	0.009574
PFHpA 2	5.537e+04	10.49	0.00000	0.009573
PFOA	6.495e+05	12.04	0.00000	0.032051
PFOA 2	2.229e+05	12.04	0.00000	0.032916
PFNA	7.736e+05	13.28	0.00000	0.052652
PFNA 2	2.026e+05	13.28	0.00000	0.053814
PFDA	7.699e+03	14.32	0.00000	0.000500
PFDA 2	1.030e+03	14.32	0.00000	0.000390
Surr-13c-PFDA	5.925e+05	14.31	100.00000	88.427173
PFUnA	3.920e+02	15.19	0.00000	0.000028
PFUnA 2	1.960e+02	15.20	0.00000	0.000085
PFDoA	2.450e+02	15.93	0.00000	0.000024
PFTrDA	1.960e+02	16.58	0.00000	0.000015
PFTrDA 2	2.450e+02	16.56	0.00000	0.000090
PFTA	1.470e+02	17.14	0.00000	0.000024
PFBS	5.639e+03	6.06	0.00000	0.001075
PFBS 2	5.880e+02	6.13	0.00000	0.000271
PFHxS	9.807e+03	10.63	0.00000	0.001104
PFHxS 2	1.912e+03	10.64	0.00000	0.000634
PFOS	8.091e+03	13.27	0.00000	0.000945
PFOS 2	2.403e+03	13.28	0.00000	0.000948
13C-PFOA	7.905e+05	12.04	100.00000	98.808459
13C-PFOS	1.068e+06	13.28	100.00000	94.918265

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

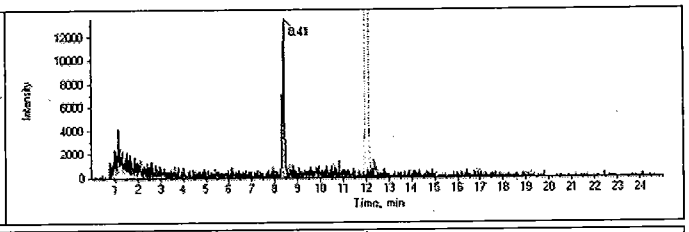
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.010010

Area Ratio: 9.874e-2

Sample Type: (Quality Control)



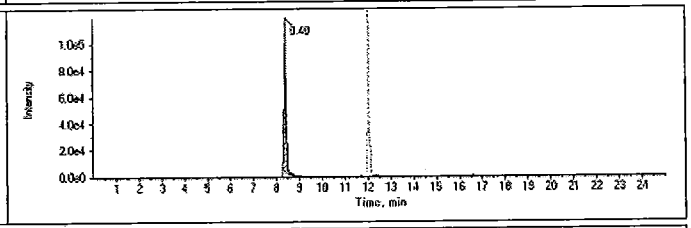
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min

Calculated conc: 91.316565

Area Ratio: 9.116e-1

Sample Type: (Quality Control)



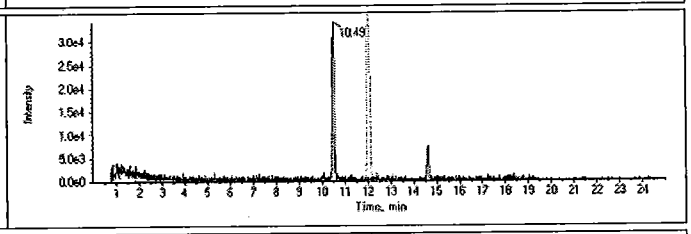
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.009574

Area Ratio: 2.514e-1

Sample Type: (Quality Control)



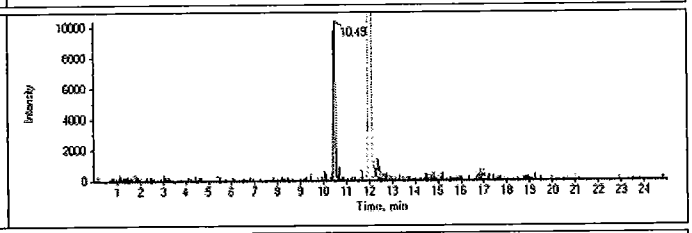
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.009573

Area Ratio: 7.004e-2

Sample Type: (Quality Control)



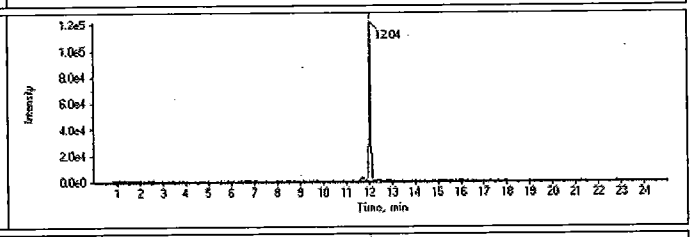
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.032051

Area Ratio: 8.217e-1

Sample Type: (Quality Control)



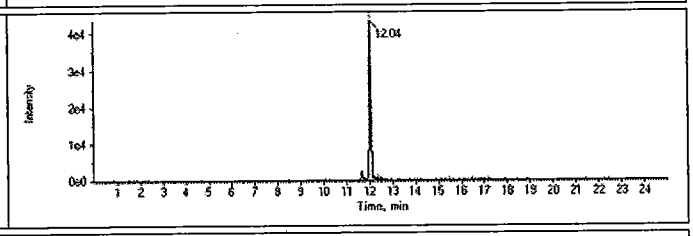
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.032916

Area Ratio: 2.820e-1

Sample Type: (Quality Control)



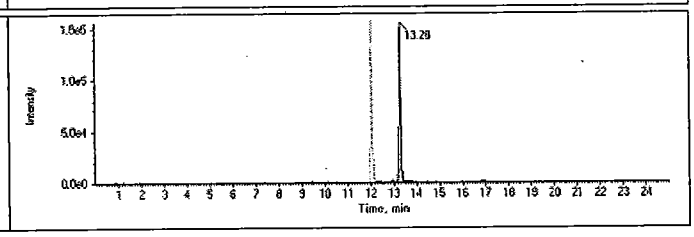
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.052652

Area Ratio: 9.787e-1

Sample Type: (Quality Control)



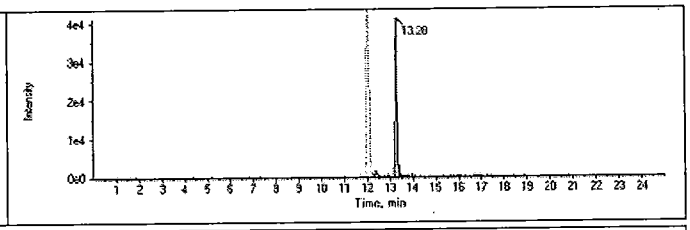
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.053814

Area Ratio: 2.563e-1

Sample Type: (Quality Control)



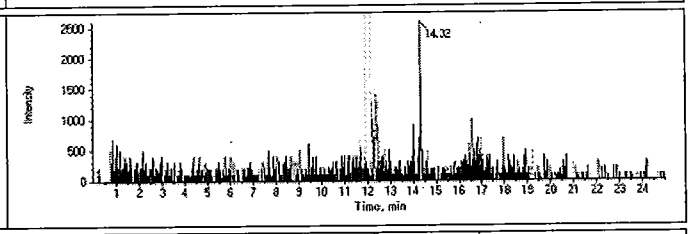
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.000500

Area Ratio: 9.740e-3

Sample Type: (Quality Control)



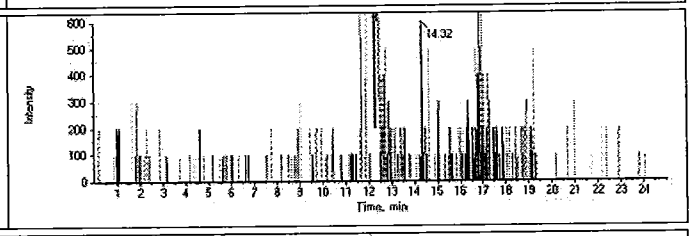
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.000390

Area Ratio: 1.303e-3

Sample Type: (Quality Control)



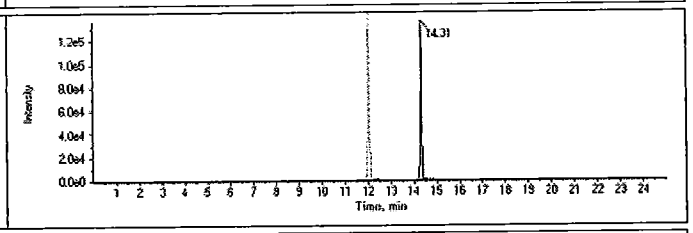
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 88.427173

Area Ratio: 7.496e-1

Sample Type: (Quality Control)



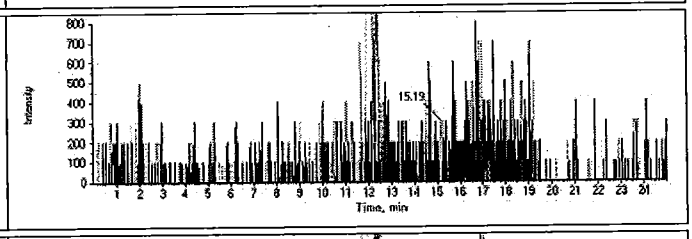
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000028

Area Ratio: 4.961e-4

Sample Type: (Quality Control)



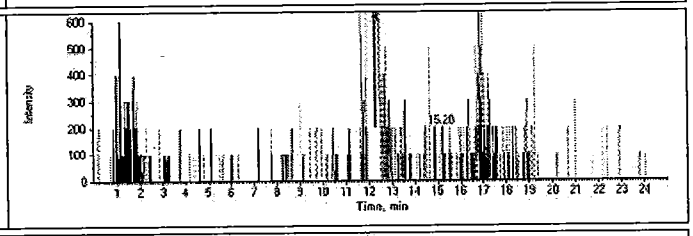
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.20 (15.19) min

Calculated conc: 0.000085

Area Ratio: 2.481e-4

Sample Type: (Quality Control)



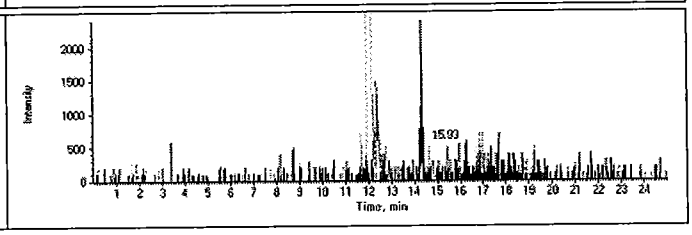
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.000024

Area Ratio: 3.101e-4

Sample Type: (Quality Control)



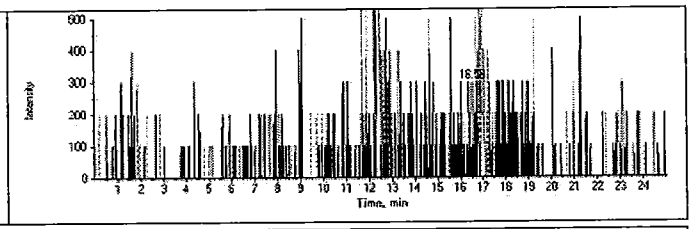
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.000015

Area Ratio: 2.482e-4

Sample Type: (Quality Control)



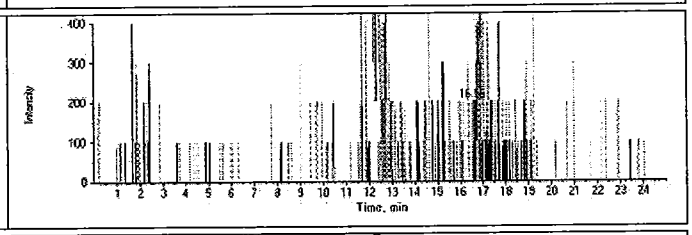
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.56 (16.58) min

Calculated conc: 0.000090

Area Ratio: 3.104e-4

Sample Type: (Quality Control)



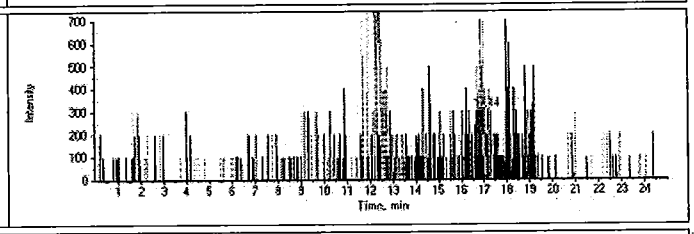
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.000024

Area Ratio: 1.861e-4

Sample Type: (Quality Control)



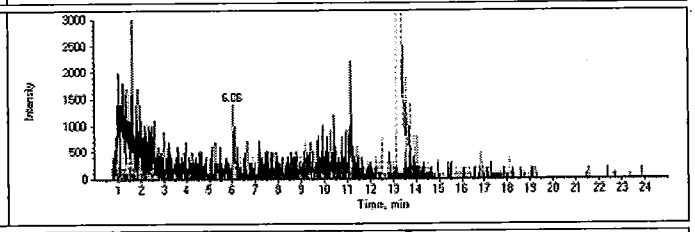
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.06 (6.10) min

Calculated conc: 0.001075

Area Ratio: 5.281e-3

Sample Type: (Quality Control)



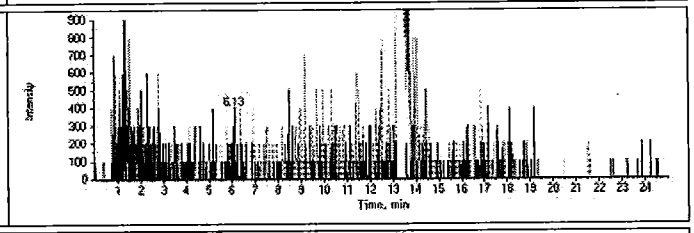
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.13 (6.11) min

Calculated conc: 0.000271

Area Ratio: 5.508e-4

Sample Type: (Quality Control)



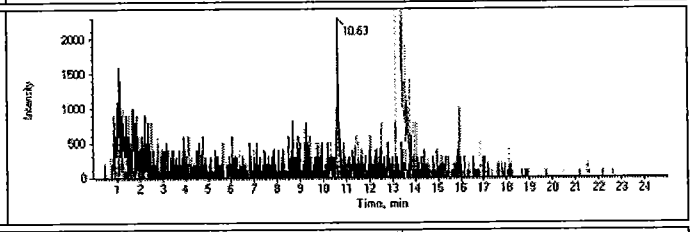
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.001104

Area Ratio: 9.183e-3

Sample Type: (Quality Control)



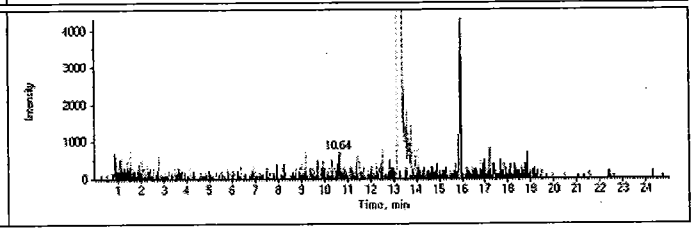
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.000634

Area Ratio: 1.790e-3

Sample Type: (Quality Control)



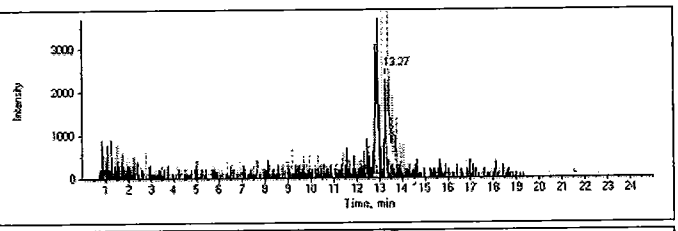
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.000945

Area Ratio: 7.576e-3

Sample Type: (Quality Control)



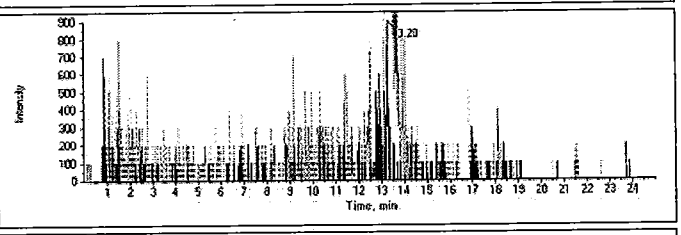
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.000948

Area Ratio: 2.250e-3

Sample Type: (Quality Control)



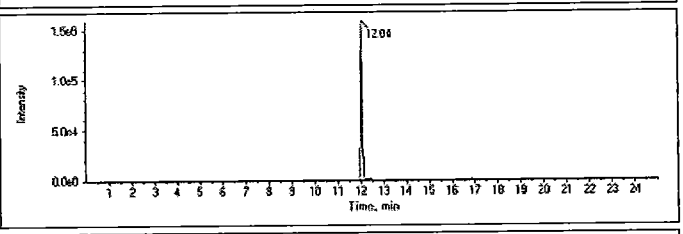
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 98.808459

Area Ratio: N/A

Sample Type: (Quality Control)



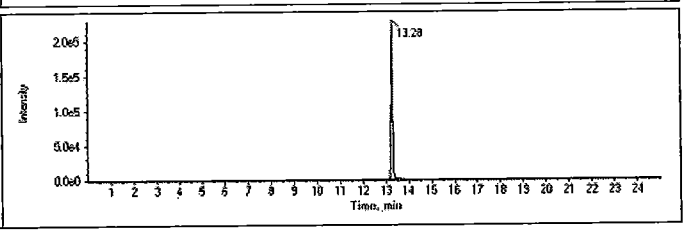
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 94.918265

Area Ratio: N/A

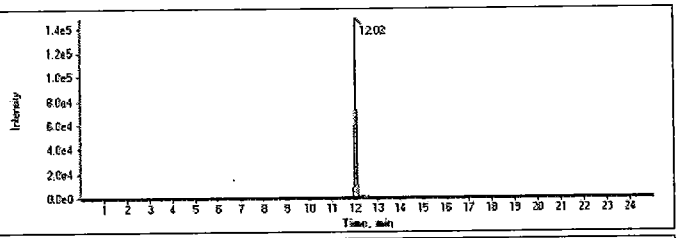
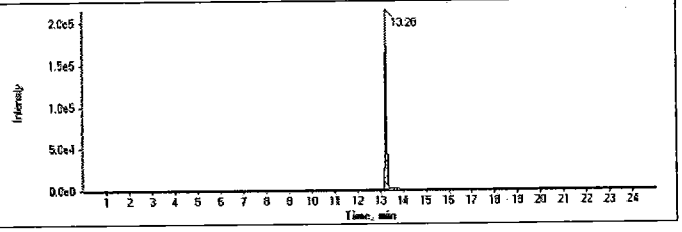
Sample Type: (Quality Control)



Sample Name	201404250104	**Injection Vial**	33
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 10:42:32 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	781019	12.02	100.00000	-
IS-13C-PFOS	1084134	13.26	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	5.906e+04	8.38	0.00000	0.007667
Surr-13c-PFHxA	5.684e+05	8.39	100.00000	72.909975
PFHpA	1.667e+05	10.48	0.00000	0.008126
PFHpA 2	3.981e+04	10.47	0.00000	0.006967
PFOA	5.530e+05	12.03	0.00000	0.027619
PFOA 2	1.817e+05	12.03	0.00000	0.027145
PFNA	7.381e+05	13.27	0.00000	0.050842
PFNA 2	1.923e+05	13.27	0.00000	0.051690
PFDA	5.835e+03	14.29	0.00000	0.000384
PFDA 2	4.410e+02	14.29	0.00000	0.000169
Surr-13c-PFDA	5.206e+05	14.30	100.00000	78.633462
PFUnA	3.430e+02	15.19	0.00000	0.000025
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	1.470e+02	15.88	0.00000	0.000015
PFTrDA	2.450e+02	16.59	0.00000	0.000019
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	1.470e+02	17.18	0.00000	0.000025
PFBS	1.790e+03	6.12	0.00000	0.000336
PFBS 2	6.860e+02	6.12	0.00000	0.000312
PFHxS	7.356e+03	10.63	0.00000	0.000815
PFHxS 2	8.340e+02	10.66	0.00000	0.000272
PFOS	7.699e+03	13.27	0.00000	0.000886
PFOS 2	5.890e+02	13.29	0.00000	0.000229
13C-PFOA	7.810e+05	12.02	100.00000	97.628508
13C-PFOS	1.084e+06	13.26	100.00000	96.360801

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.02(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.26(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

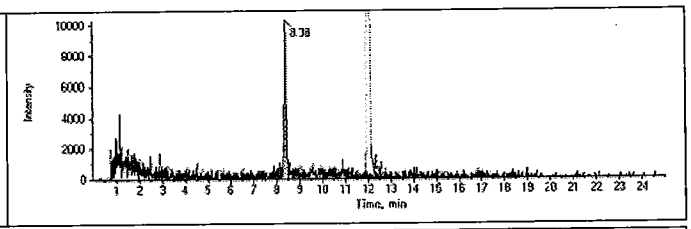
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.38 (8.40) min

Calculated conc: 0.007667

Area Ratio: 7.562e-2

Sample Type: (Quality Control)



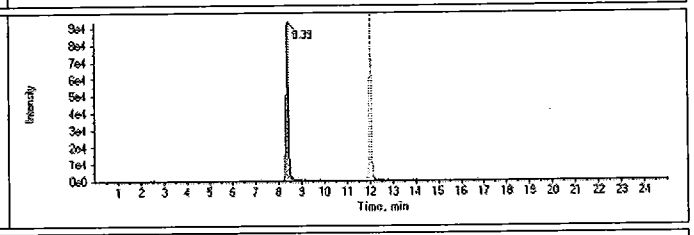
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.39 (8.41) min

Calculated conc: 72.909975

Area Ratio: 7.278e-1

Sample Type: (Quality Control)



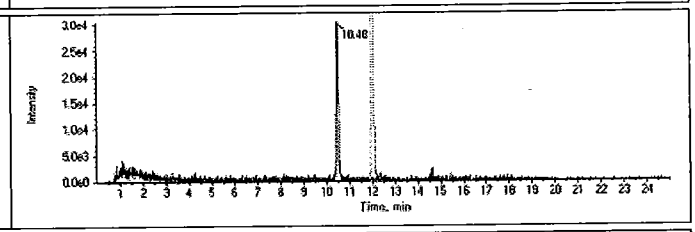
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.008126

Area Ratio: 2.134e-1

Sample Type: (Quality Control)



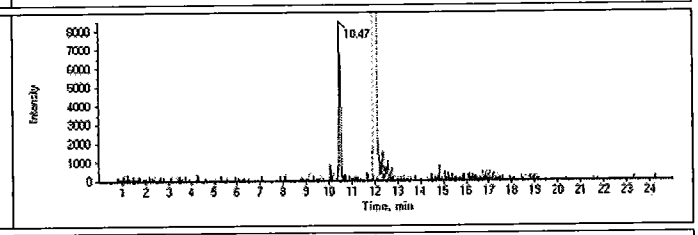
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.47 (10.50) min

Calculated conc: 0.006967

Area Ratio: 5.098e-2

Sample Type: (Quality Control)



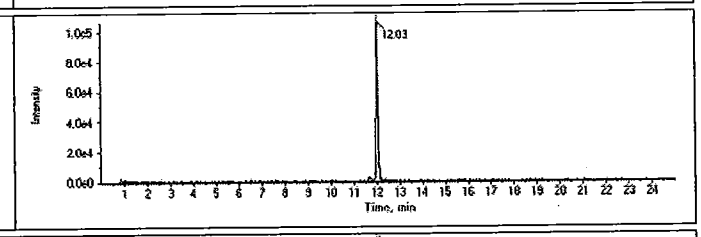
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.03 (12.05) min

Calculated conc: 0.027619

Area Ratio: 7.081e-1

Sample Type: (Quality Control)



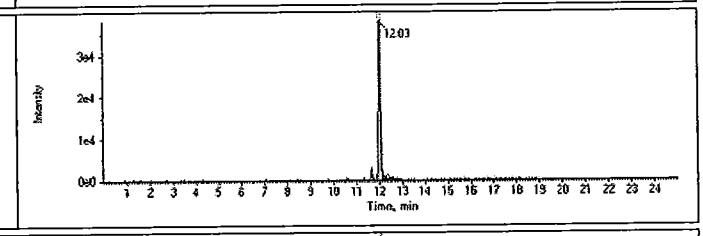
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.03 (12.04) min

Calculated conc: 0.027145

Area Ratio: 2.326e-1

Sample Type: (Quality Control)



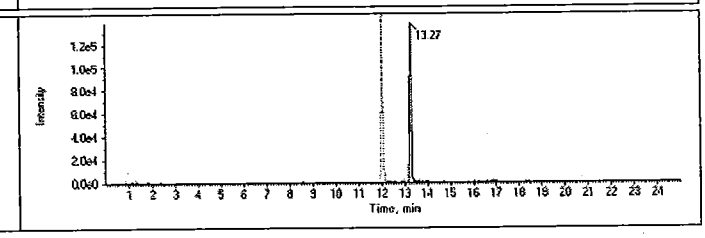
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.050842

Area Ratio: 9.451e-1

Sample Type: (Quality Control)



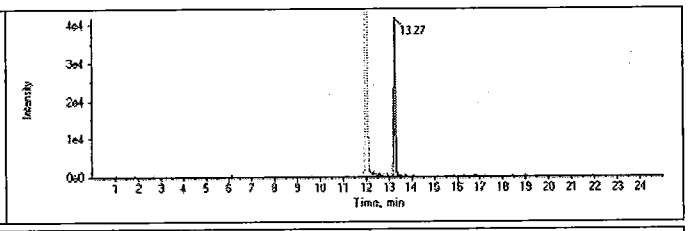
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.051690

Area Ratio: 2.462e-1

Sample Type: (Quality Control)



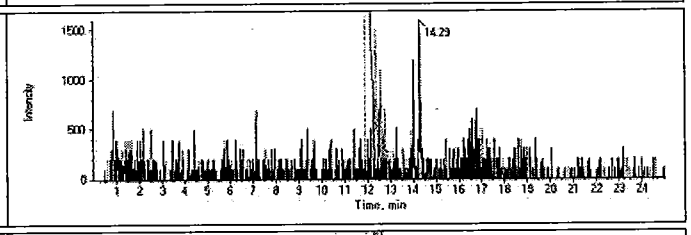
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.29 (14.32) min

Calculated conc: 0.000384

Area Ratio: 7.471e-3

Sample Type: (Quality Control)



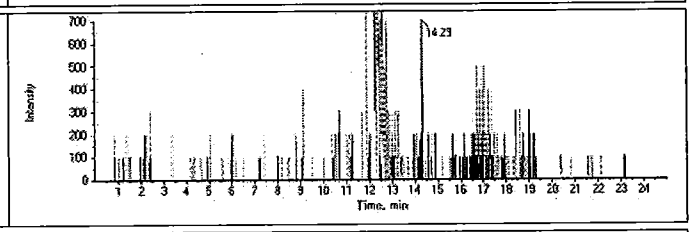
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.29 (14.31) min

Calculated conc: 0.000169

Area Ratio: 5.652e-4

Sample Type: (Quality Control)



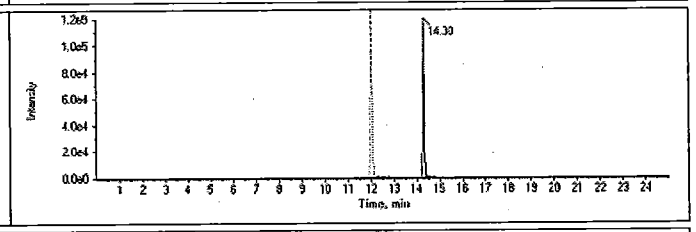
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 78.633462

Area Ratio: 6.666e-1

Sample Type: (Quality Control)



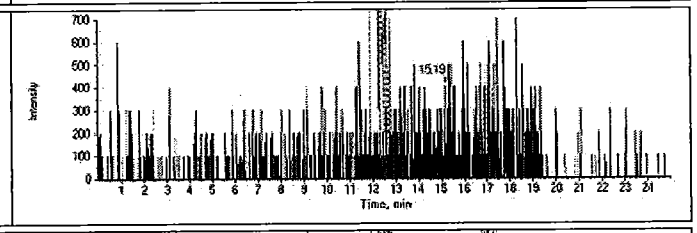
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000025

Area Ratio: 4.396e-4

Sample Type: (Quality Control)



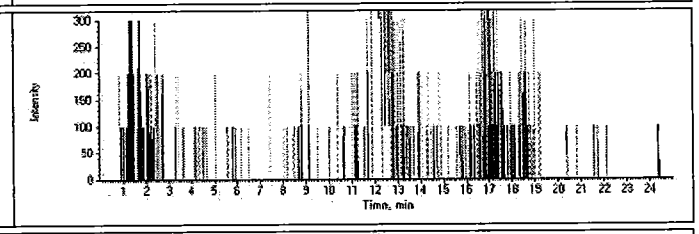
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



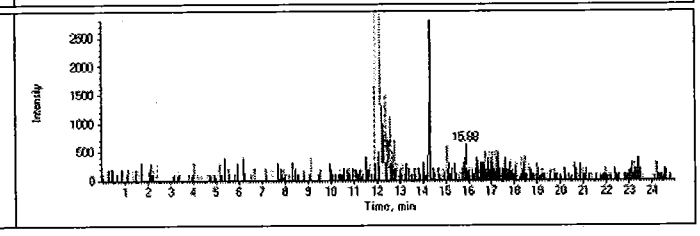
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.88 (15.93) min

Calculated conc: 0.000015

Area Ratio: 1.884e-4

Sample Type: (Quality Control)



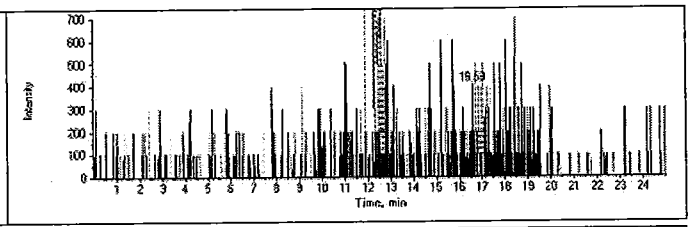
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min

Calculated conc: 0.000019

Area Ratio: 3.139e-4

Sample Type: (Quality Control)



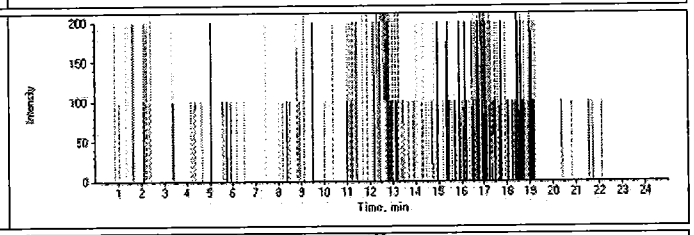
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



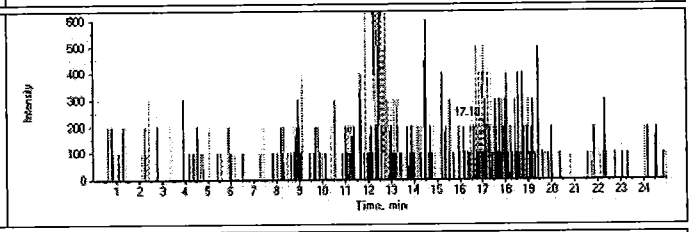
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.18 (17.14) min

Calculated conc: 0.000025

Area Ratio: 1.885e-4

Sample Type: (Quality Control)



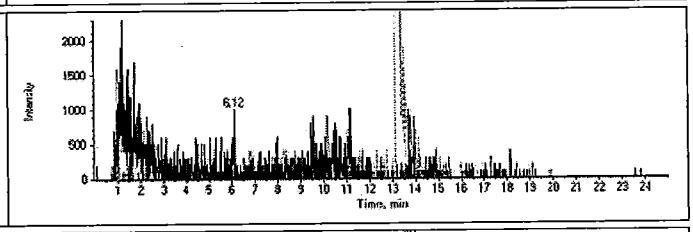
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.12 (6.10) min

Calculated conc: 0.000336

Area Ratio: 1.651e-3

Sample Type: (Quality Control)



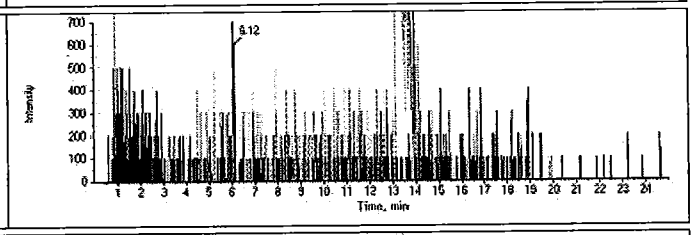
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.12 (6.11) min

Calculated conc: 0.000312

Area Ratio: 6.332e-4

Sample Type: (Quality Control)



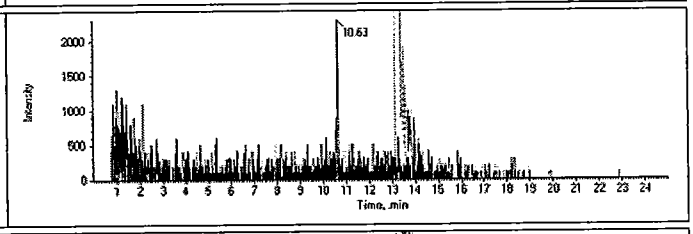
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.000815

Area Ratio: 6.785e-3

Sample Type: (Quality Control)



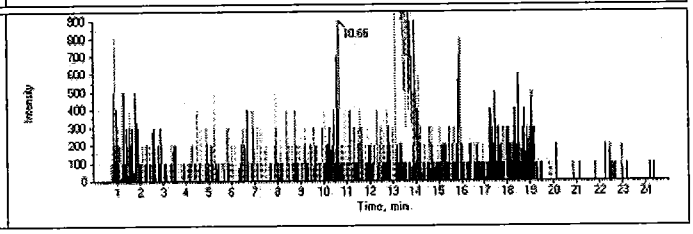
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.66 (10.64) min

Calculated conc: 0.000272

Area Ratio: 7.696e-4

Sample Type: (Quality Control)



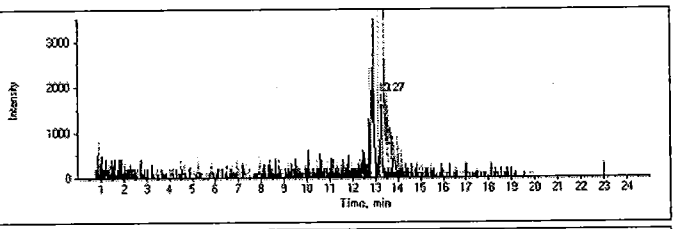
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.000886

Area Ratio: 7.102e-3

Sample Type: (Quality Control)



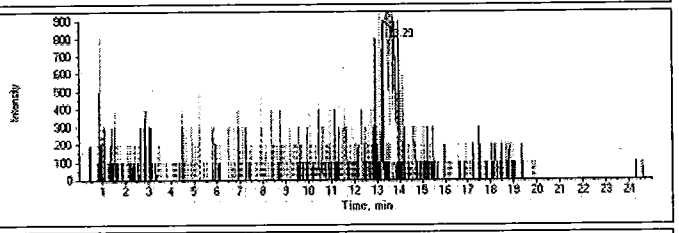
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.29 (13.28) min

Calculated conc: 0.000229

Area Ratio: 5.429e-4

Sample Type: (Quality Control)



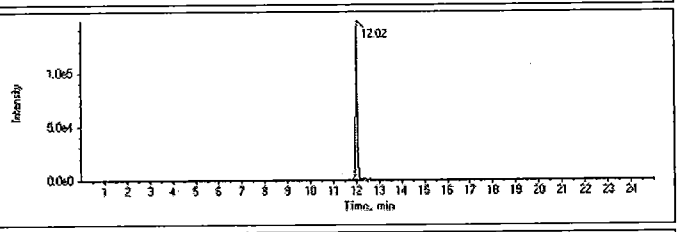
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.02 (12.05) min

Calculated conc: 97.628508

Area Ratio: N/A

Sample Type: (Quality Control)



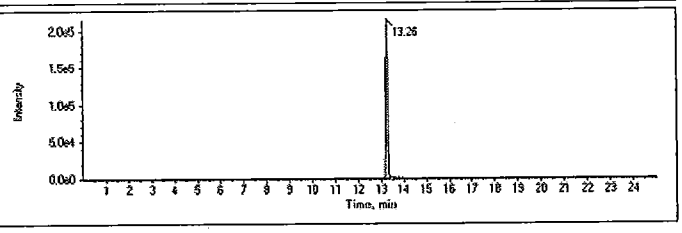
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 96.360801

Area Ratio: N/A

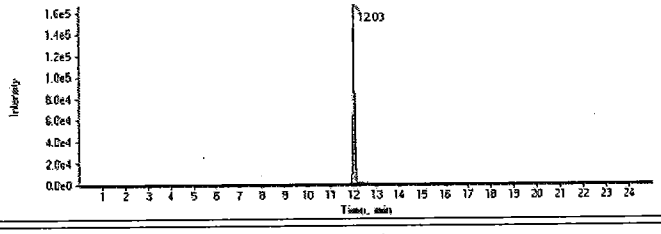
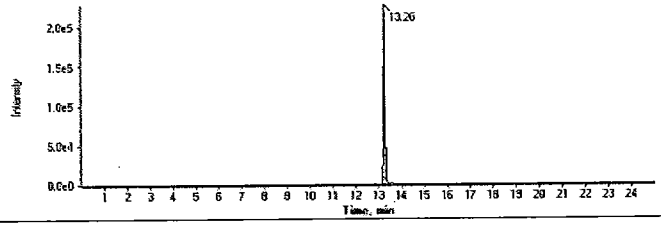
Sample Type: (Quality Control)



Sample Name	201404250106	**Injection Vial**	34
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 11:08:08 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	802449	12.03	100.00000	-
IS-13C-PFOS	1093791	13.26	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.652e+04	8.39	0.00000	0.002088
Surr-13c-PFHxA	6.451e+05	8.39	100.00000	80.536862
PFHpA	3.984e+04	10.48	0.00000	0.001891
PFHpA 2	1.216e+04	10.48	0.00000	0.002071
PFOA	1.531e+05	12.03	0.00000	0.007443
PFOA 2	5.115e+04	12.03	0.00000	0.007439
PFNA	2.517e+05	13.27	0.00000	0.016875
PFNA 2	6.140e+04	13.27	0.00000	0.016065
PFDA	1.471e+03	14.32	0.00000	0.000094
PFDA 2	1.960e+02	14.28	0.00000	0.000073
Surr-13c-PFDA	6.747e+05	14.30	100.00000	99.187080
PFUnA	1.960e+02	15.19	0.00000	0.000014
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	4.900e+02	15.92	0.00000	0.000048
PFTrDA	1.470e+02	16.79	0.00000	0.000011
PFTrDA 2	N/A	N/A	0.00000	N/A
PFTA	5.880e+02	17.16	0.00000	0.000096
PFBS	1.570e+03	6.12	0.00000	0.000292
PFBS 2	3.430e+02	6.09	0.00000	0.000155
PFHxS	2.461e+04	10.62	0.00000	0.002705
PFHxS 2	8.336e+03	10.62	0.00000	0.002697
PFOS	3.207e+04	13.27	0.00000	0.003658
PFOS 2	9.612e+03	13.27	0.00000	0.003701
13C-PFOA	8.024e+05	12.03	100.00000	100.307219
13C-PFOS	1.094e+06	13.26	100.00000	97.219209

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.03(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.26(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

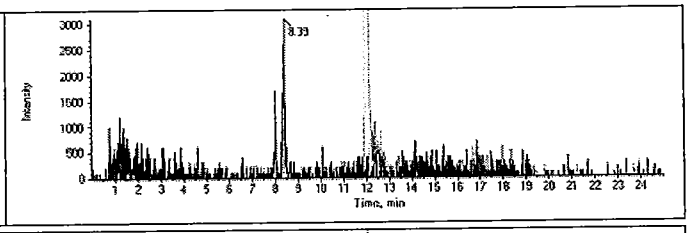
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.002088

Area Ratio: 2.059e-2

Sample Type: (Quality Control)



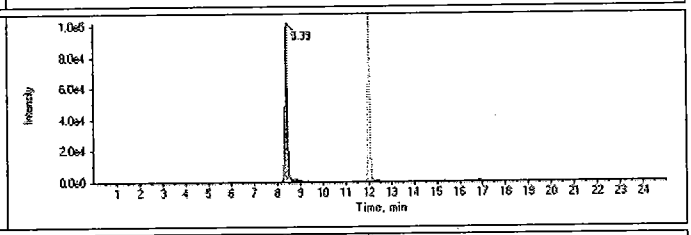
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.39 (8.41) min

Calculated conc: 80.536862

Area Ratio: 8.040e-1

Sample Type: (Quality Control)



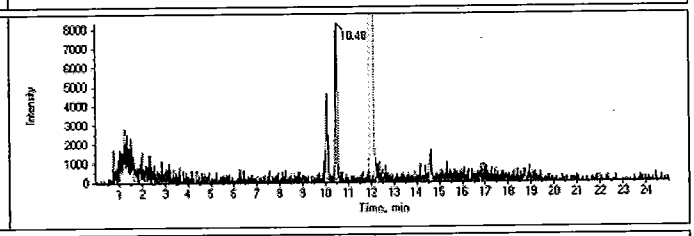
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.001891

Area Ratio: 4.965e-2

Sample Type: (Quality Control)



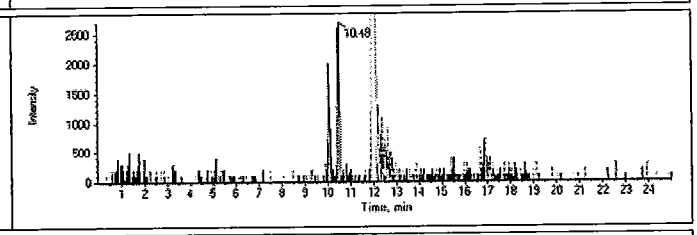
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.002071

Area Ratio: 1.515e-2

Sample Type: (Quality Control)



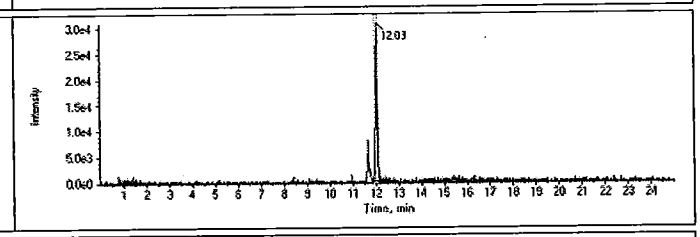
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.03 (12.05) min

Calculated conc: 0.007443

Area Ratio: 1.908e-1

Sample Type: (Quality Control)



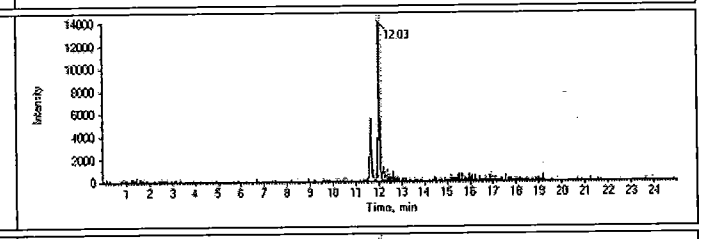
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.03 (12.04) min

Calculated conc: 0.007439

Area Ratio: 6.374e-2

Sample Type: (Quality Control)



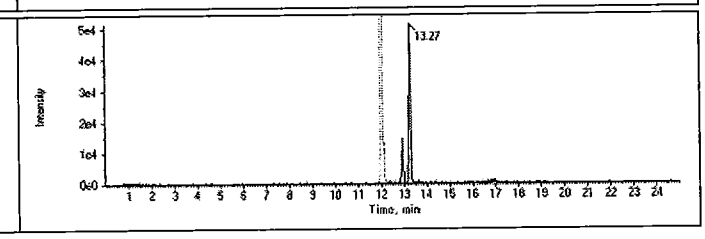
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.016875

Area Ratio: 3.137e-1

Sample Type: (Quality Control)



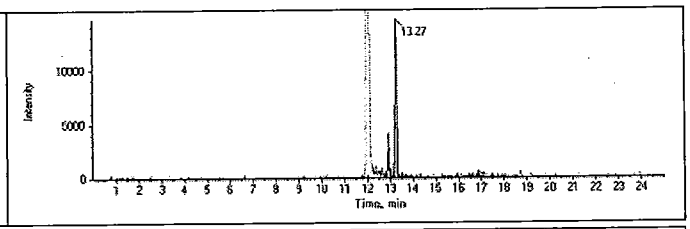
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.016065

Area Ratio: 7.651e-2

Sample Type: (Quality Control)



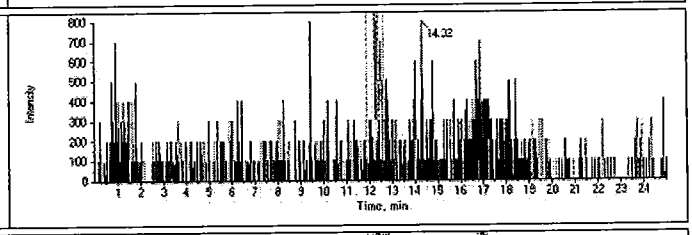
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.000094

Area Ratio: 1.833e-3

Sample Type: (Quality Control)



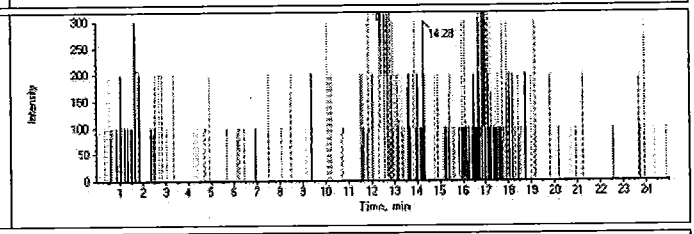
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.28 (14.31) min

Calculated conc: 0.000073

Area Ratio: 2.444e-4

Sample Type: (Quality Control)



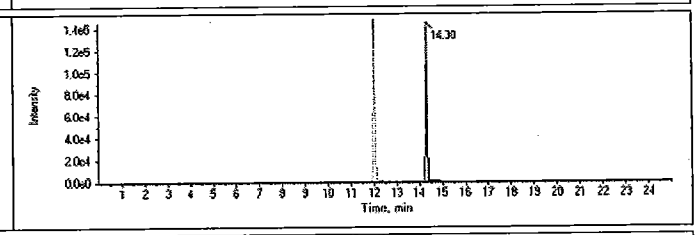
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 99.187080

Area Ratio: 8.408e-1

Sample Type: (Quality Control)



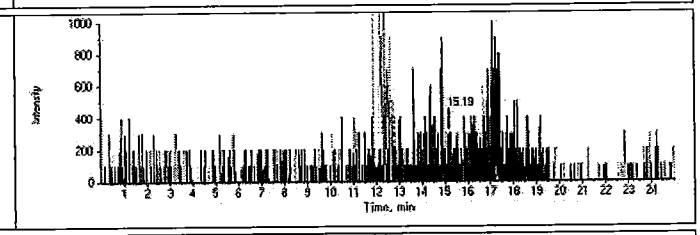
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000014

Area Ratio: 2.445e-4

Sample Type: (Quality Control)



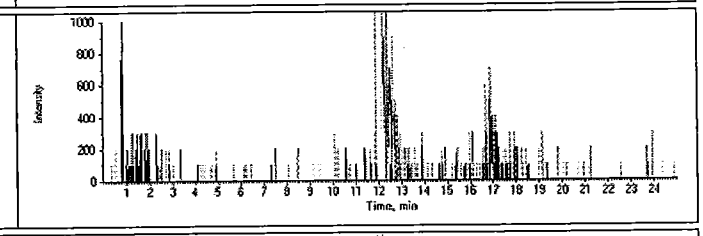
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



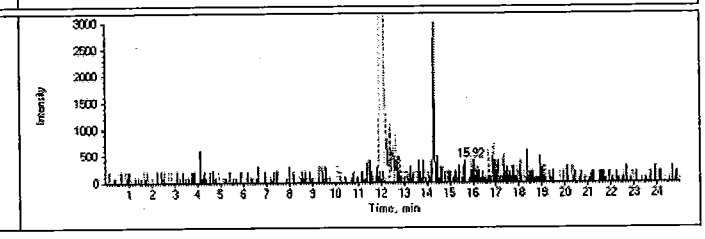
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.92 (15.93) min

Calculated conc: 0.000048

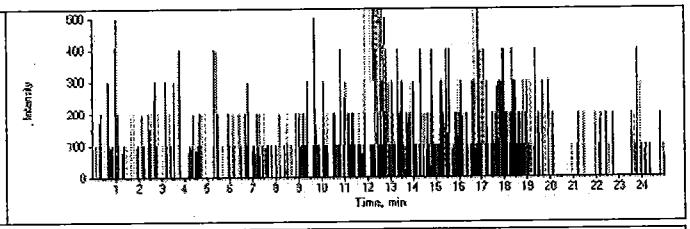
Area Ratio: 6.111e-4

Sample Type: (Quality Control)



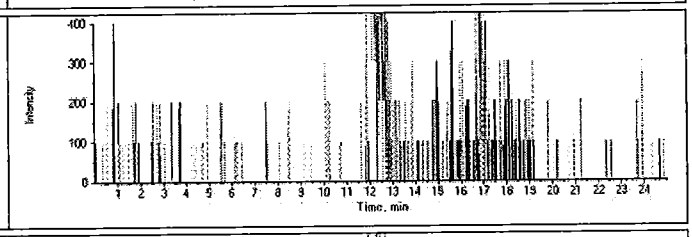
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.79 (16.58) min
Calculated conc: 0.000011
Area Ratio: 1.834e-4
Sample Type: (Quality Control)



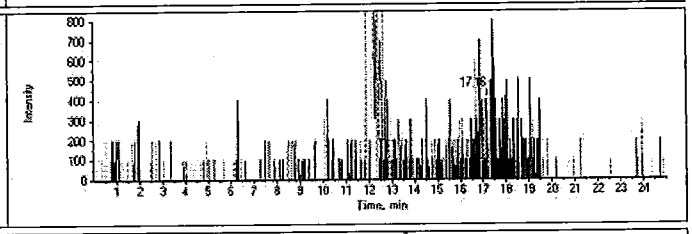
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): N/A (16.58) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



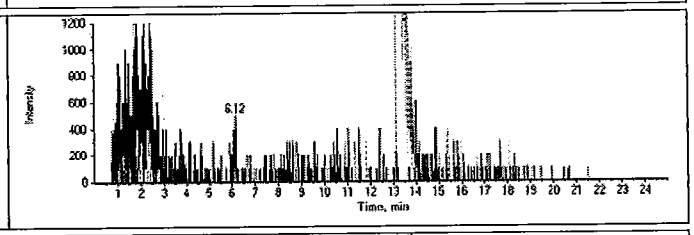
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.16 (17.14) min
Calculated conc: 0.000096
Area Ratio: 7.332e-4
Sample Type: (Quality Control)



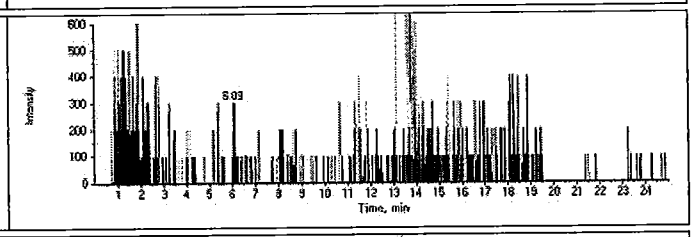
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.12 (6.10) min
Calculated conc: 0.000292
Area Ratio: 1.435e-3
Sample Type: (Quality Control)



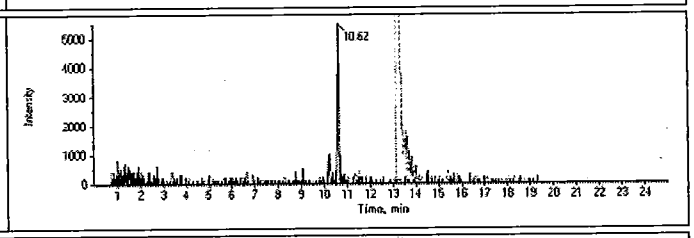
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.09 (6.11) min
Calculated conc: 0.000155
Area Ratio: 3.138e-4
Sample Type: (Quality Control)



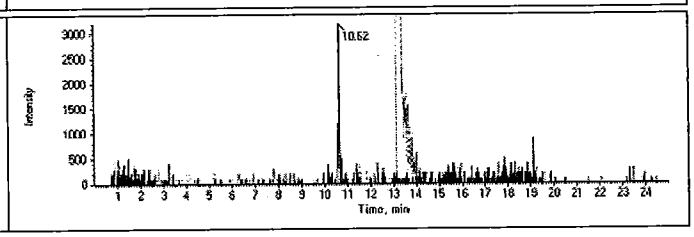
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.62 (10.64) min
Calculated conc: 0.002705
Area Ratio: 2.250e-2
Sample Type: (Quality Control)



PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.62 (10.64) min
Calculated conc: 0.002697
Area Ratio: 7.621e-3
Sample Type: (Quality Control)



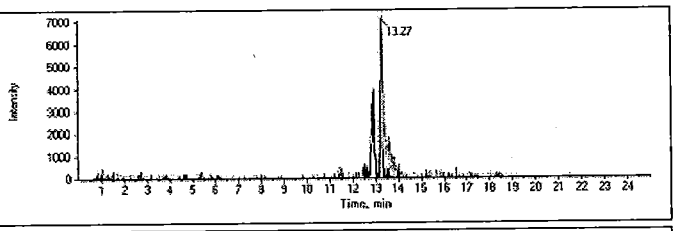
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.003658

Area Ratio: 2.932e-2

Sample Type: (Quality Control)



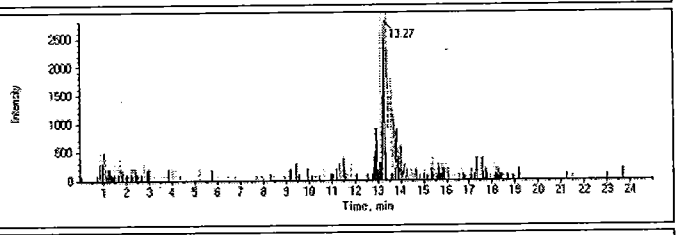
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.003701

Area Ratio: 8.788e-3

Sample Type: (Quality Control)



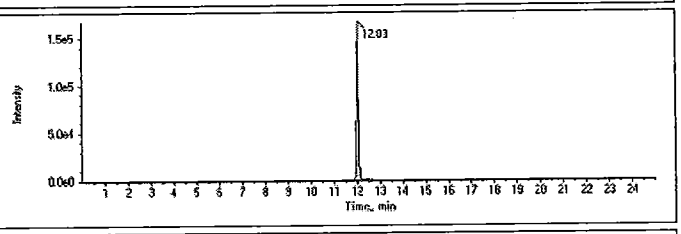
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.03 (12.05) min

Calculated conc: 100.307219

Area Ratio: N/A

Sample Type: (Quality Control)



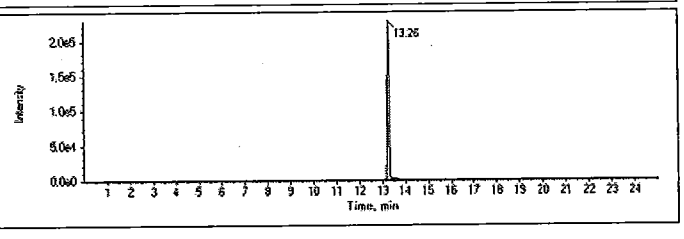
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 97.219209

Area Ratio: N/A

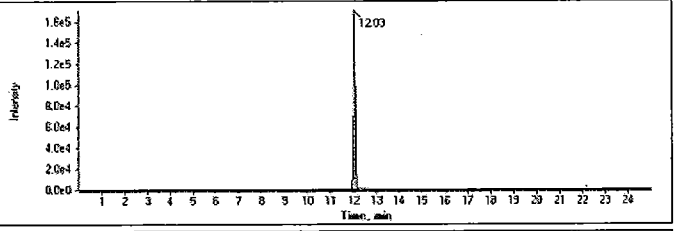
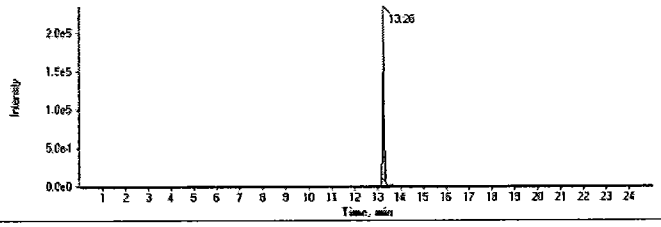
Sample Type: (Quality Control)



Sample Name	CCCH	**Injection Vial**	6
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 11:33:43 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	912650	12.03	100.00000	-
IS-13C-PFOS	1131931	13.26	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	2.844e+05	8.38	0.04000	0.031589
Surr-13c-PFHxA	7.000e+05	8.38	100.00000	76.832609
PFHpA	9.237e+05	10.48	0.04000	0.038542
PFHpA 2	2.510e+05	10.47	0.04000	0.037592
PFOA	9.797e+05	12.03	0.04000	0.041871
PFOA 2	3.117e+05	12.03	0.04000	0.039858
PFNA	7.477e+05	13.27	0.04000	0.044073
PFNA 2	1.779e+05	13.27	0.04000	0.040928
PFDA	7.393e+05	14.30	0.04000	0.041610
PFDA 2	1.258e+05	14.30	0.04000	0.041309
Surr-13c-PFDA	7.863e+05	14.30	100.00000	101.641412
PFUnA	6.416e+05	15.17	0.04000	0.039311
PFUnA 2	1.183e+05	15.17	0.04000	0.044334
PFDoA	4.437e+05	15.92	0.04000	0.037884
PFTrDA	5.896e+05	16.57	0.04000	0.039156
PFTrDA 2	1.268e+05	16.57	0.04000	0.040151
PFTA	3.128e+05	17.12	0.04000	0.044859
PFBS	1.901e+05	6.08	0.03550	0.034169
PFBS 2	7.980e+04	6.09	0.03550	0.034717
PFHxS	3.751e+05	10.61	0.03790	0.039826
PFHxS 2	1.169e+05	10.62	0.03790	0.036542
PFOS	3.479e+05	13.26	0.03830	0.038346
PFOS 2	9.871e+04	13.26	0.03830	0.036727
13C-PFOA	9.127e+05	12.03	100.00000	114.082541
13C-PFOS	1.132e+06	13.26	100.00000	100.609198

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.03(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.26(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

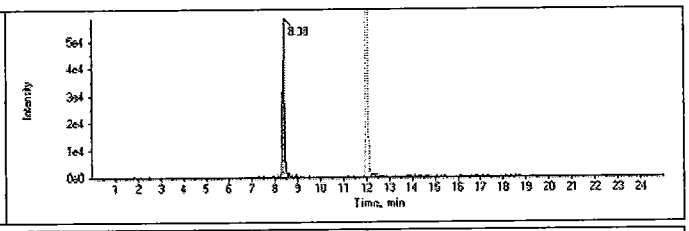
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.38 (8.40) min

Calculated conc: 0.031589

Area Ratio: 3.116e-1

Sample Type: (Quality Control)



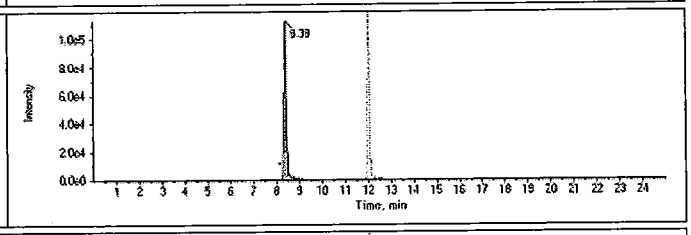
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.38 (8.41) min

Calculated conc: 76.832609

Area Ratio: 7.670e-1

Sample Type: (Quality Control)



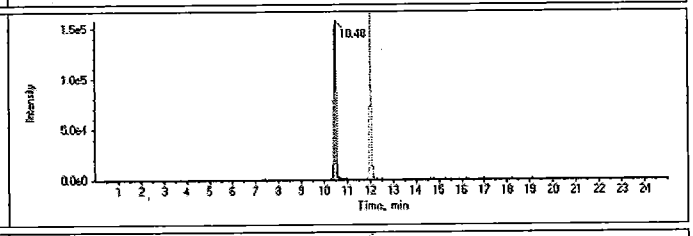
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.038542

Area Ratio: 1.012e0

Sample Type: (Quality Control)



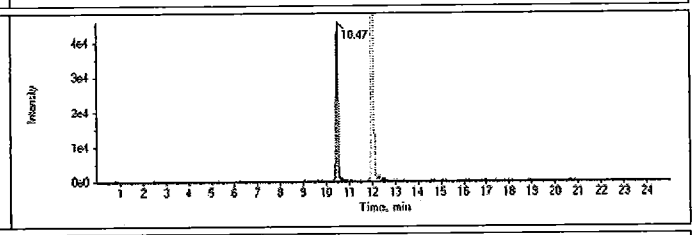
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.47 (10.50) min

Calculated conc: 0.037592

Area Ratio: 2.751e-1

Sample Type: (Quality Control)



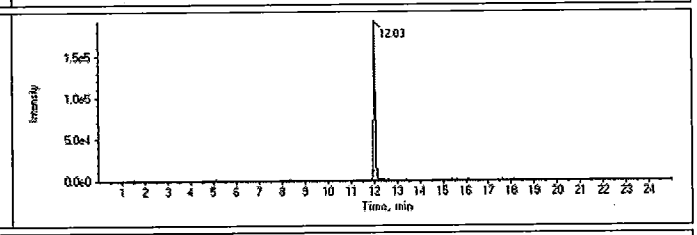
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.03 (12.05) min

Calculated conc: 0.041871

Area Ratio: 1.073e0

Sample Type: (Quality Control)



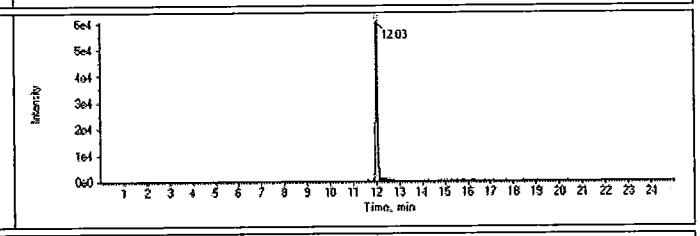
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.03 (12.04) min

Calculated conc: 0.039858

Area Ratio: 3.415e-1

Sample Type: (Quality Control)



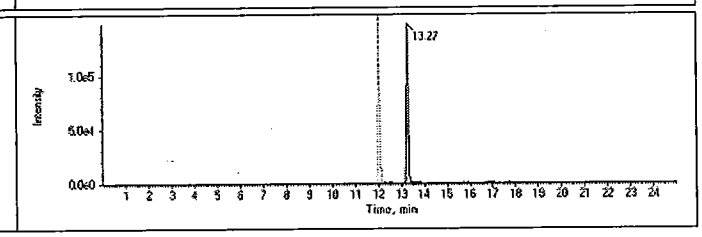
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.044073

Area Ratio: 8.192e-1

Sample Type: (Quality Control)



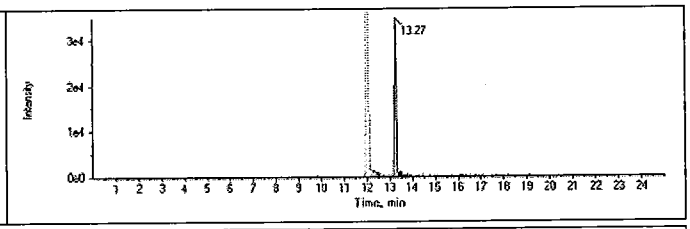
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.040928

Area Ratio: 1.949e-1

Sample Type: (Quality Control)



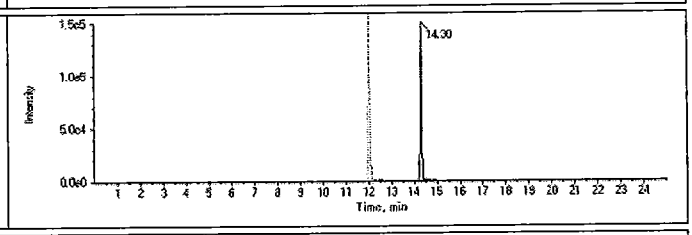
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 0.041610

Area Ratio: 8.101e-1

Sample Type: (Quality Control)



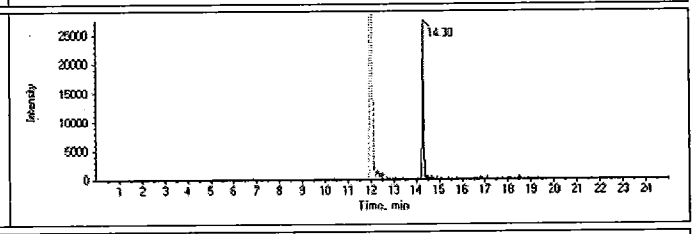
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.30 (14.31) min

Calculated conc: 0.041309

Area Ratio: 1.379e-1

Sample Type: (Quality Control)



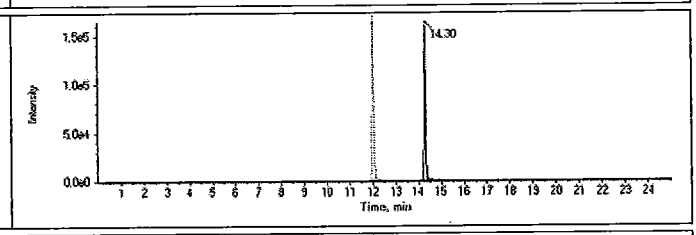
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 101.641412

Area Ratio: 8.616e-1

Sample Type: (Quality Control)



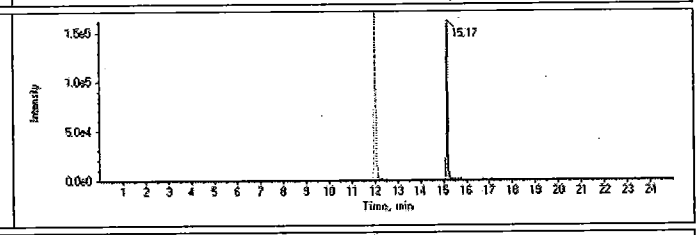
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.17 (15.19) min

Calculated conc: 0.039311

Area Ratio: 7.030e-1

Sample Type: (Quality Control)



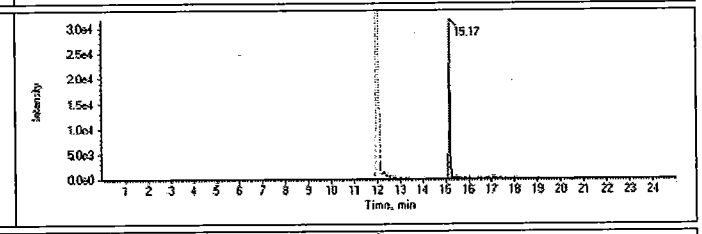
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.17 (15.19) min

Calculated conc: 0.044334

Area Ratio: 1.297e-1

Sample Type: (Quality Control)



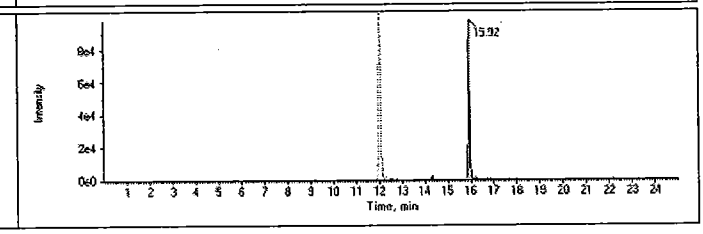
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.92 (15.93) min

Calculated conc: 0.037884

Area Ratio: 4.861e-1

Sample Type: (Quality Control)



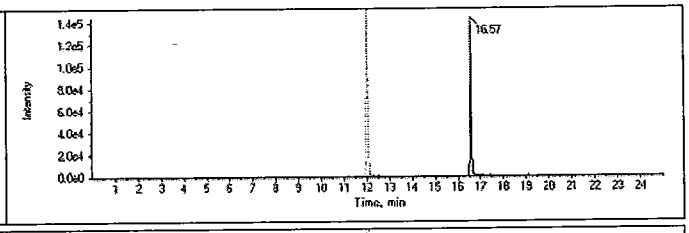
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.039156

Area Ratio: 6.460e-1

Sample Type: (Quality Control)



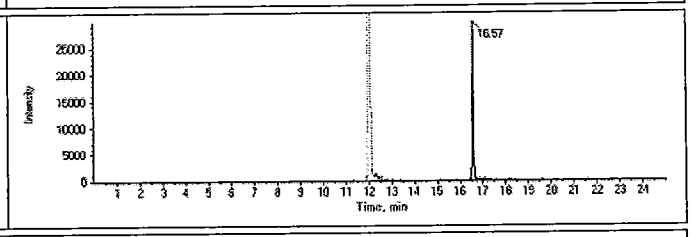
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.040151

Area Ratio: 1.390e-1

Sample Type: (Quality Control)



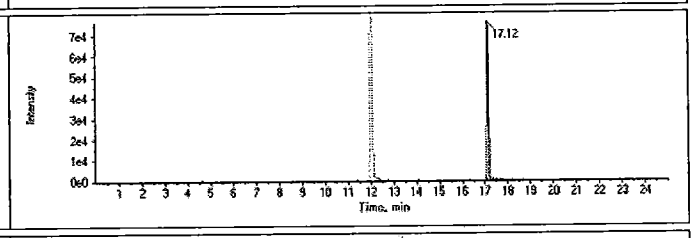
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.12 (17.14) min

Calculated conc: 0.044859

Area Ratio: 3.428e-1

Sample Type: (Quality Control)



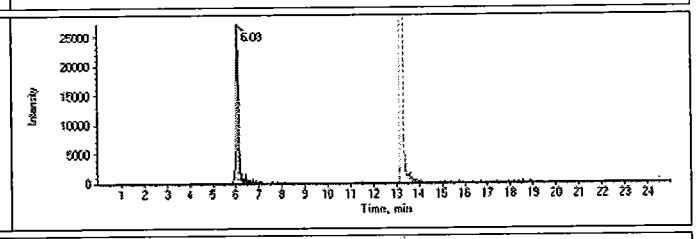
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.08 (6.10) min

Calculated conc: 0.034169

Area Ratio: 1.679e-1

Sample Type: (Quality Control)



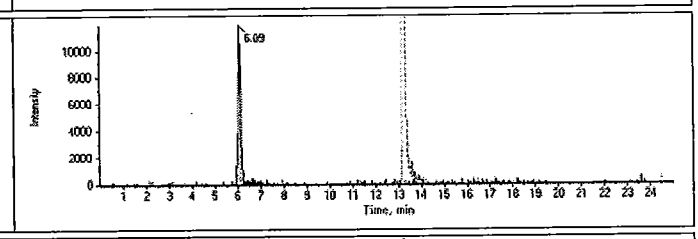
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.09 (6.11) min

Calculated conc: 0.034717

Area Ratio: 7.050e-2

Sample Type: (Quality Control)



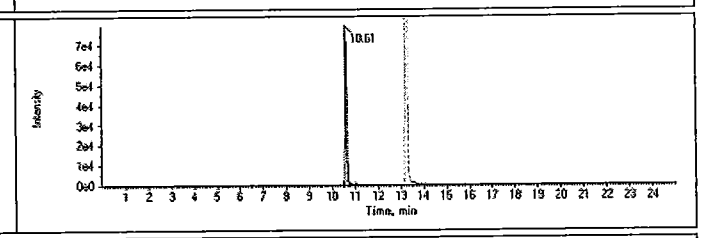
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.61 (10.64) min

Calculated conc: 0.039826

Area Ratio: 3.314e-1

Sample Type: (Quality Control)



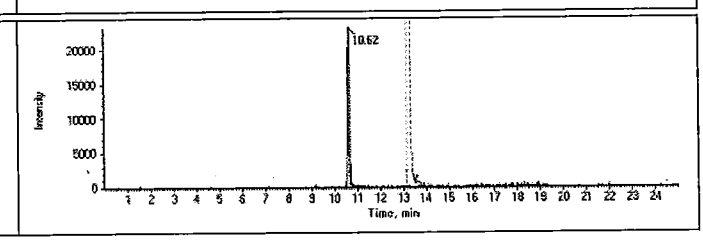
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.62 (10.64) min

Calculated conc: 0.036542

Area Ratio: 1.033e-1

Sample Type: (Quality Control)



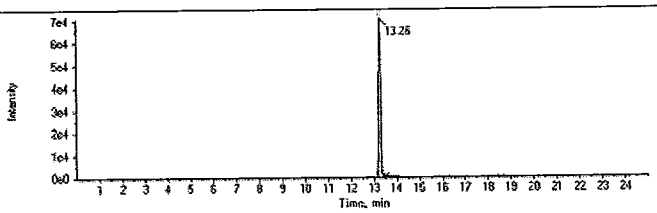
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.038346

Area Ratio: 3.074e-1

Sample Type: (Quality Control)



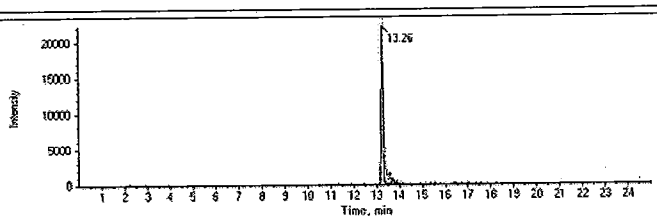
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.036727

Area Ratio: 8.720e-2

Sample Type: (Quality Control)



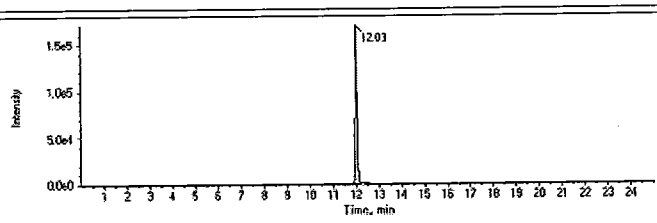
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.03 (12.05) min

Calculated conc: 114.082541

Area Ratio: N/A

Sample Type: (Quality Control)



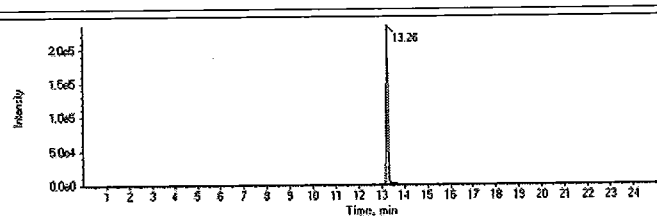
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 100.609198

Area Ratio: N/A

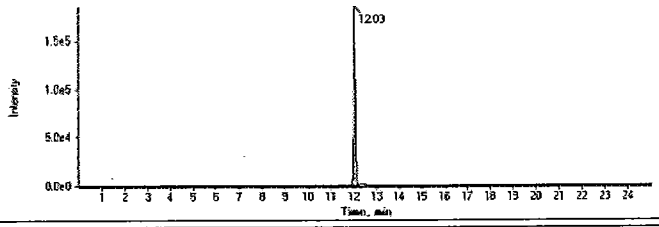
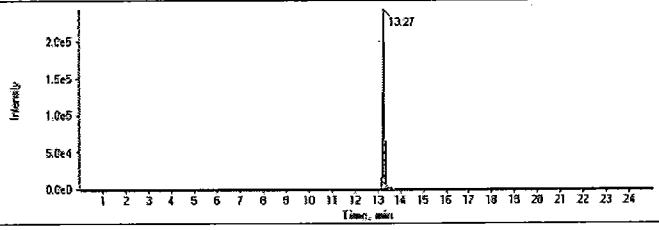
Sample Type: (Quality Control)



Sample Name	CCCL	**Injection Vial**	2
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 11:59:17 AM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	949113	12.03	100.00000	-
IS-13C-PFOS	1178462	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.756e+04	8.40	0.00250	0.001875
Surr-13c-PFHxA	7.689e+05	8.39	100.00000	81.155861
PFHpA	5.821e+04	10.48	0.00250	0.002336
PFHpA 2	1.687e+04	10.49	0.00250	0.002429
PFOA	6.375e+04	12.04	0.00250	0.002620
PFOA 2	2.379e+04	12.04	0.00250	0.002925
PFNA	5.001e+04	13.28	0.00250	0.002835
PFNA 2	1.231e+04	13.28	0.00250	0.002722
PFDA	4.872e+04	14.31	0.00250	0.002636
PFDA 2	7.944e+03	14.30	0.00250	0.002508
Surr-13c-PFDA	8.083e+05	14.31	100.00000	100.464200
PFUnA	4.507e+04	15.18	0.00250	0.002655
PFUnA 2	7.258e+03	15.18	0.00250	0.002615
PFDoA	3.182e+04	15.93	0.00250	0.002613
PFTrDA	4.227e+04	16.57	0.00250	0.002699
PFTrDA 2	7.944e+03	16.57	0.00250	0.002418
PFTA	1.957e+04	17.14	0.00250	0.002698
PFBS	1.226e+04	6.11	0.00222	0.002117
PFBS 2	1.177e+03	6.14	0.00222	0.000492
PFHxS	2.481e+04	10.62	0.00237	0.002530
PFHxS 2	8.385e+03	10.62	0.00237	0.002518
PFOS	2.403e+04	13.27	0.00240	0.002543
PFOS 2	6.031e+03	13.27	0.00240	0.002155
13C-PFOA	9.491e+05	12.03	100.00000	118.640405
13C-PFOS	1.178e+06	13.27	100.00000	104.744940

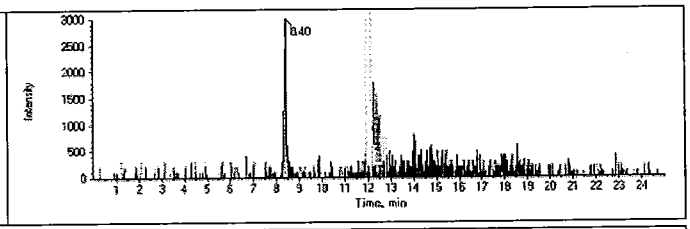
IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.03(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.40 (8.40) min

Calculated conc: 0.001875

Area Ratio: 1.850e-2
Sample Type: (Quality Control)

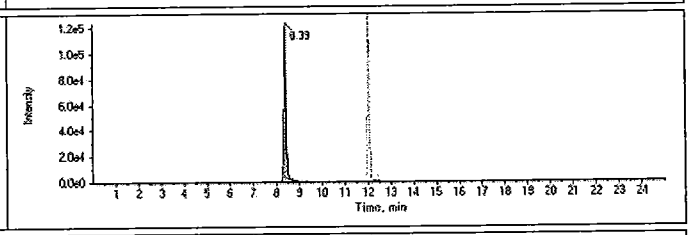


Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.39 (8.41) min

Calculated conc: 81.155861

Area Ratio: 8.101e-1
Sample Type: (Quality Control)

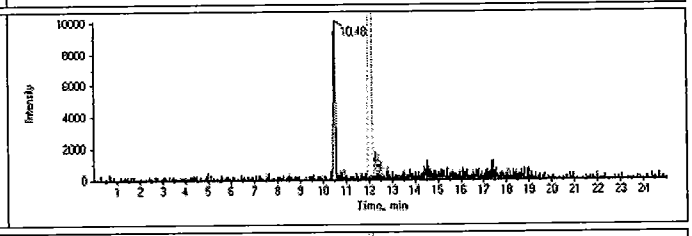


PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.48 (10.50) min

Calculated conc: 0.002336

Area Ratio: 6.133e-2
Sample Type: (Quality Control)

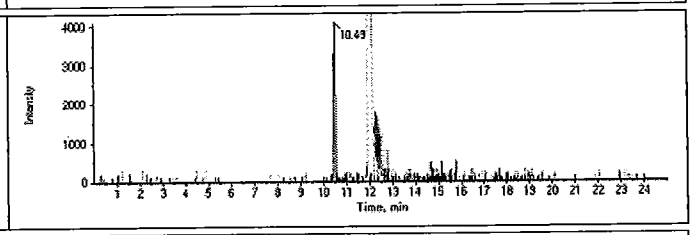


PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.002429

Area Ratio: 1.777e-2
Sample Type: (Quality Control)

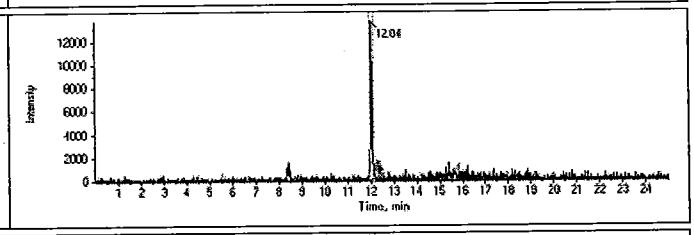


PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.002620

Area Ratio: 6.717e-2
Sample Type: (Quality Control)

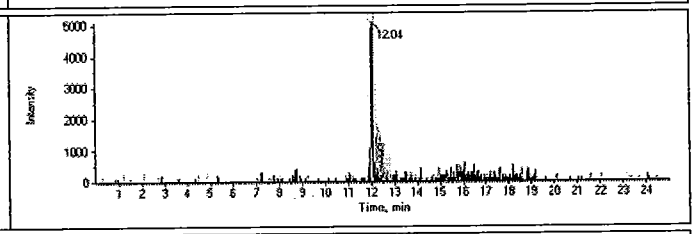


PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.002925

Area Ratio: 2.506e-2
Sample Type: (Quality Control)

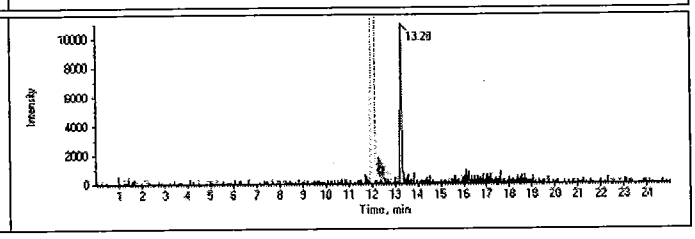


PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.002835

Area Ratio: 5.269e-2
Sample Type: (Quality Control)



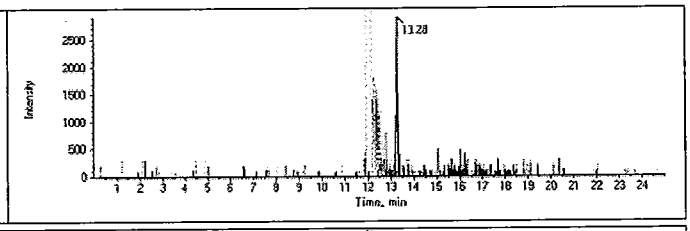
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.002722

Area Ratio: 1.297e-2

Sample Type: (Quality Control)



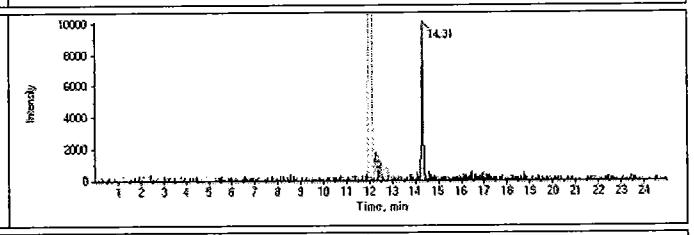
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 0.002636

Area Ratio: 5.133e-2

Sample Type: (Quality Control)



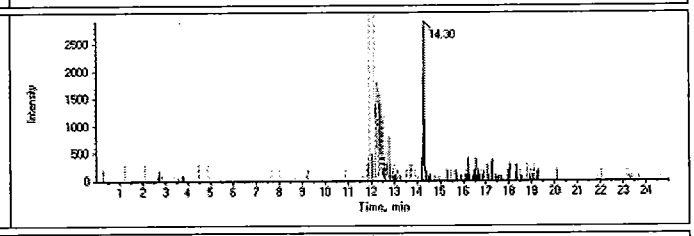
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.30 (14.31) min

Calculated conc: 0.002508

Area Ratio: 8.370e-3

Sample Type: (Quality Control)



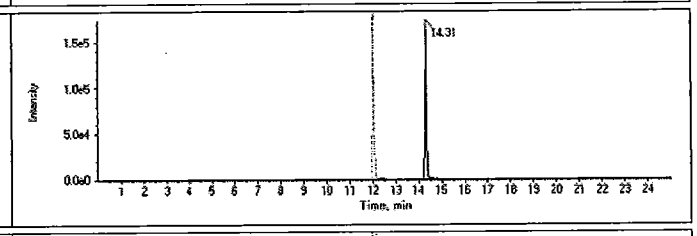
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 100.464200

Area Ratio: 8.516e-1

Sample Type: (Quality Control)



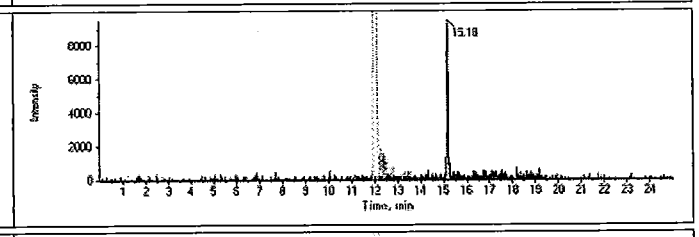
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.18 (15.19) min

Calculated conc: 0.002655

Area Ratio: 4.748e-2

Sample Type: (Quality Control)



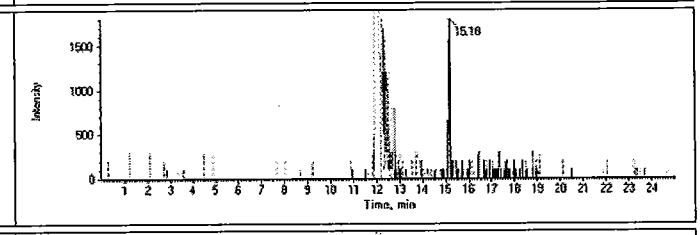
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.18 (15.19) min

Calculated conc: 0.002615

Area Ratio: 7.647e-3

Sample Type: (Quality Control)



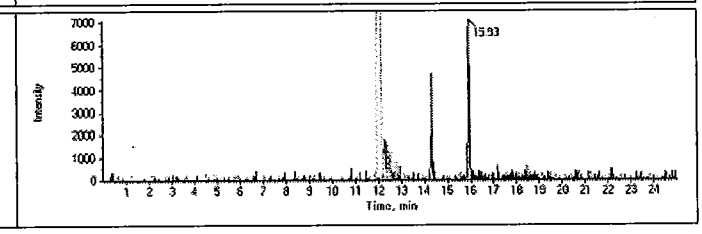
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.002613

Area Ratio: 3.353e-2

Sample Type: (Quality Control)



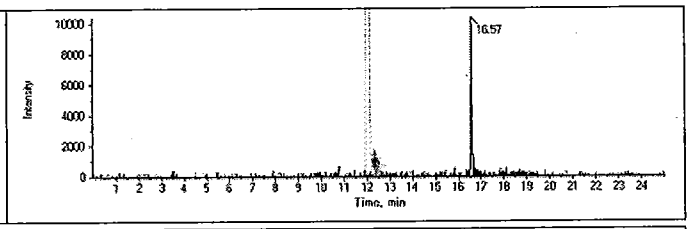
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.002699

Area Ratio: 4.454e-2

Sample Type: (Quality Control)



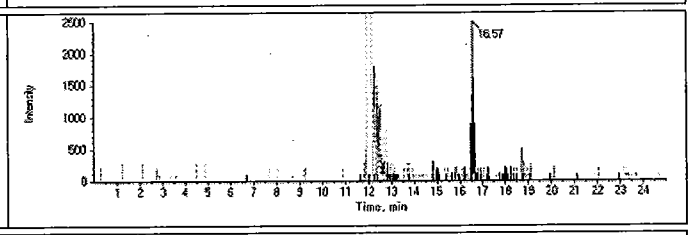
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.002418

Area Ratio: 8.370e-3

Sample Type: (Quality Control)



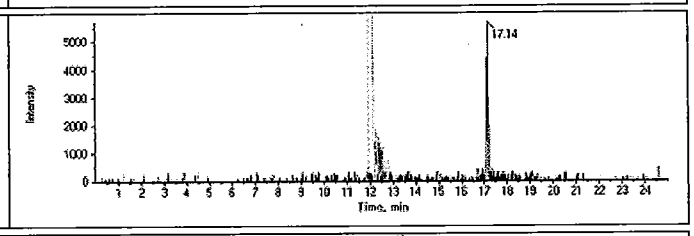
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.002698

Area Ratio: 2.061e-2

Sample Type: (Quality Control)



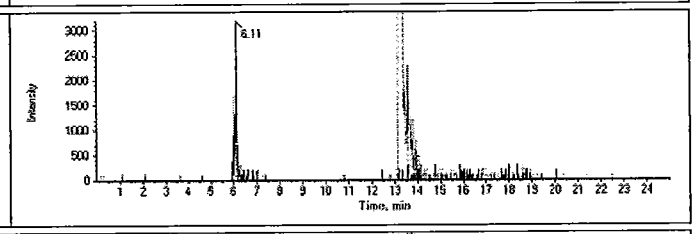
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.11 (6.10) min

Calculated conc: 0.002117

Area Ratio: 1.041e-2

Sample Type: (Quality Control)



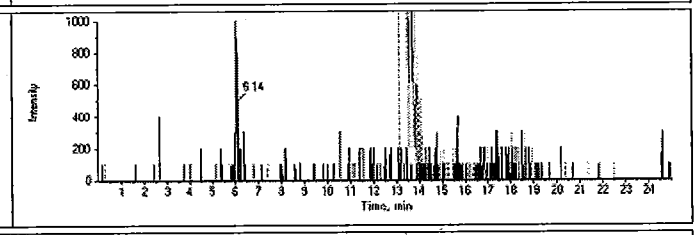
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.14 (6.11) min

Calculated conc: 0.000492

Area Ratio: 9.991e-4

Sample Type: (Quality Control)



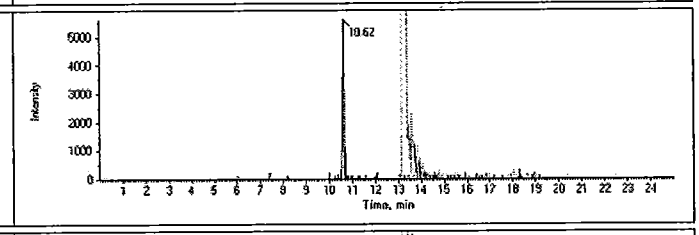
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.62 (10.64) min

Calculated conc: 0.002530

Area Ratio: 2.105e-2

Sample Type: (Quality Control)



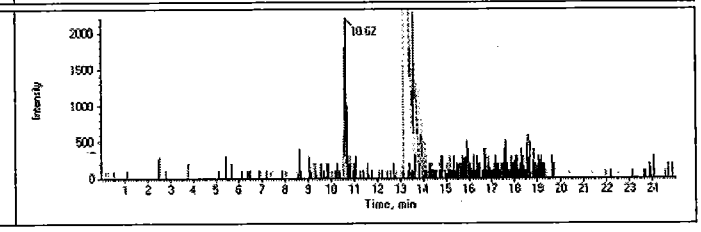
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.62 (10.64) min

Calculated conc: 0.002518

Area Ratio: 7.115e-3

Sample Type: (Quality Control)



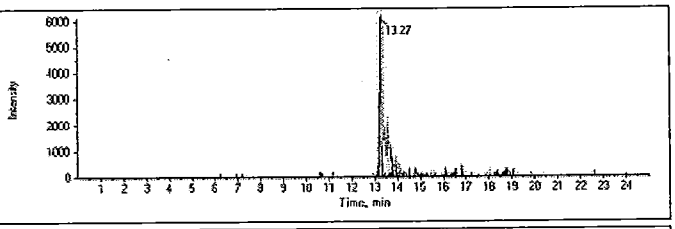
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.002543

Area Ratio: 2.039e-2

Sample Type: (Quality Control)



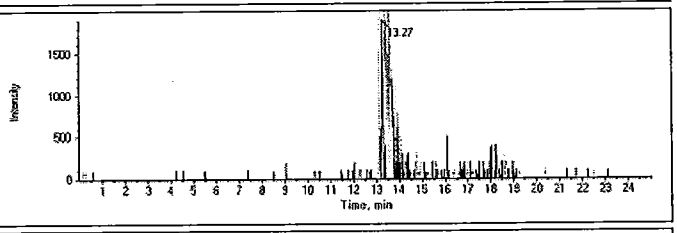
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.002155

Area Ratio: 5.118e-3

Sample Type: (Quality Control)



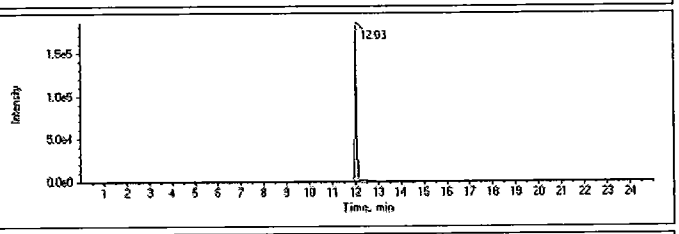
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.03 (12.05) min

Calculated conc: 118.640405

Area Ratio: N/A

Sample Type: (Quality Control)



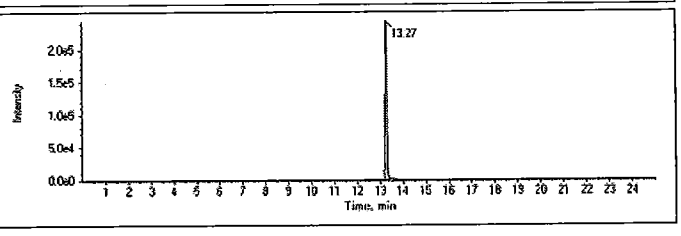
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 104.744940

Area Ratio: N/A

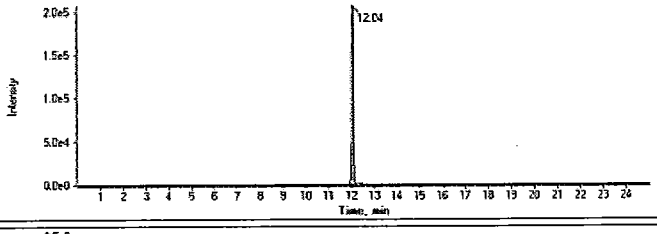
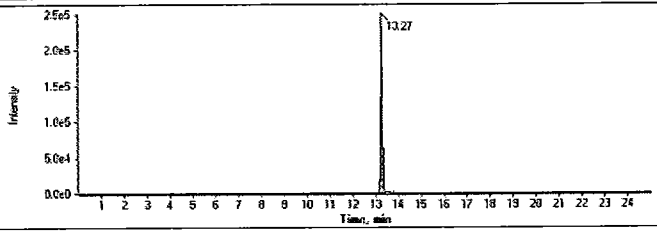
Sample Type: (Quality Control)



Sample Name	201404250105 Reinjec	**Injection Vial**	16
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 12:24:52 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Prep. By FAM@05/01/2014		

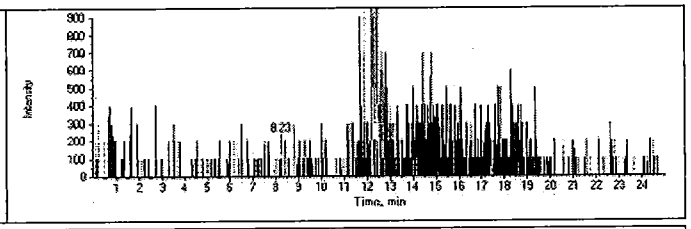
Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	981857	12.04	100.00000	-
IS-13C-PFOS	1149372	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	9.800e+01	8.23	0.00000	0.000010
Surr-13c-PFHxA	2.428e+05	8.40	100.00000	24.771825
PFHpA	5.890e+02	10.52	0.00000	0.000023
PFHpA 2	9.800e+01	10.46	0.00000	0.000014
PFOA	1.594e+03	12.03	0.00000	0.000063
PFOA 2	5.390e+02	12.07	0.00000	0.000064
PFNA	1.226e+03	13.28	0.00000	0.000067
PFNA 2	N/A	N/A	0.00000	N/A
PFDA	4.410e+02	14.29	0.00000	0.000023
PFDA 2	1.960e+02	14.27	0.00000	0.000060
Surr-13c-PFDA	7.605e+05	14.31	100.00000	91.368135
PFUnA	3.920e+02	15.19	0.00000	0.000022
PFUnA 2	N/A	N/A	0.00000	N/A
PFDoA	2.940e+02	15.93	0.00000	0.000023
PFTrDA	3.920e+02	16.59	0.00000	0.000024
PFTrDA 2	1.470e+02	16.57	0.00000	0.000043
PFTA	2.940e+02	17.14	0.00000	0.000039
PFBS	1.470e+02	6.06	0.00000	0.000026
PFBS 2	N/A	N/A	0.00000	N/A
PFHxS	N/A	N/A	0.00000	N/A
PFHxS 2	9.800e+01	10.66	0.00000	0.000030
PFOS	9.800e+01	13.28	0.00000	0.000011
PFOS 2	1.960e+02	13.26	0.00000	0.000072
13C-PFOA	9.819e+05	12.04	100.00000	122.733475
13C-PFOS	1.149e+06	13.27	100.00000	102.159380

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.04(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.27(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

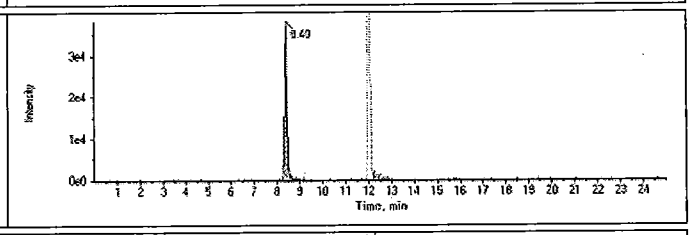
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.23 (8.40) min
Calculated conc: 0.000010
Area Ratio: 9.996e-5
Sample Type: (Quality Control)



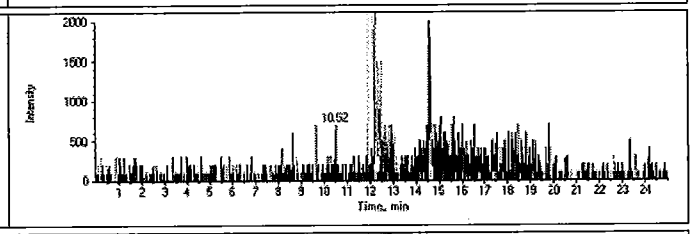
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.40 (8.41) min
Calculated conc: 24.771825
Area Ratio: 2.473e-1
Sample Type: (Quality Control)



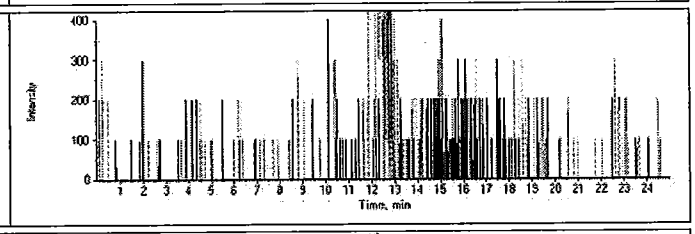
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.52 (10.50) min
Calculated conc: 0.000023
Area Ratio: 5.995e-4
Sample Type: (Quality Control)



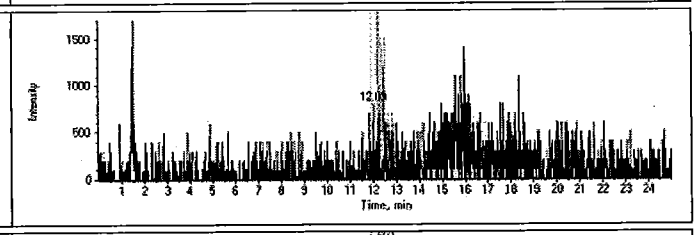
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.46 (10.50) min
Calculated conc: 0.000014
Area Ratio: 9.986e-5
Sample Type: (Quality Control)



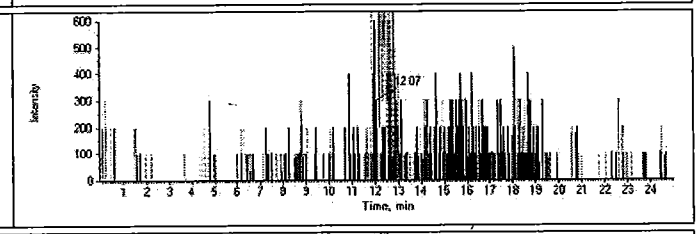
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.03 (12.05) min
Calculated conc: 0.000063
Area Ratio: 1.623e-3
Sample Type: (Quality Control)



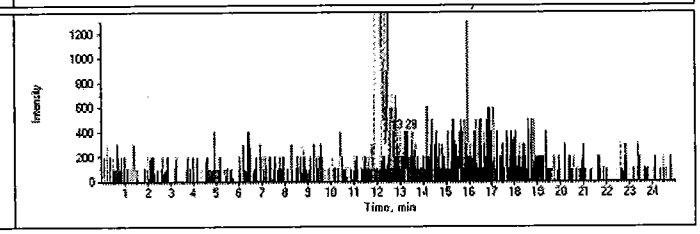
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.07 (12.04) min
Calculated conc: 0.000064
Area Ratio: 5.495e-4
Sample Type: (Quality Control)



PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min
Calculated conc: 0.000067
Area Ratio: 1.249e-3
Sample Type: (Quality Control)



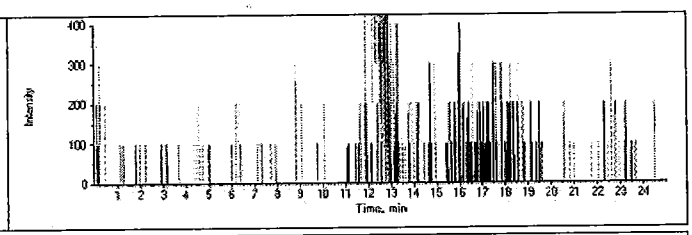
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): N/A (13.29) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



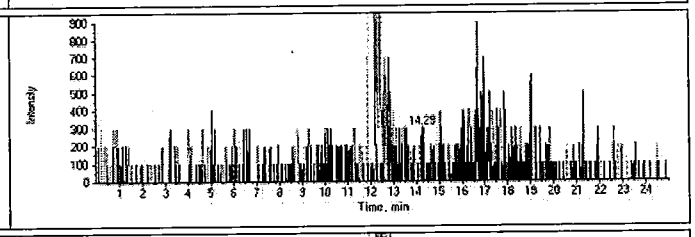
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.29 (14.32) min

Calculated conc: 0.000023

Area Ratio: 4.496e-4

Sample Type: (Quality Control)



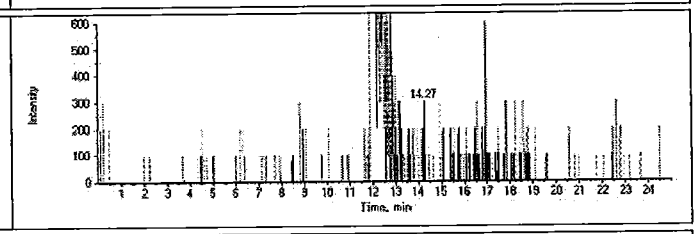
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.27 (14.31) min

Calculated conc: 0.000060

Area Ratio: 1.998e-4

Sample Type: (Quality Control)



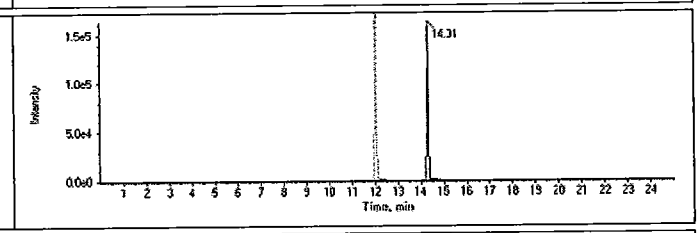
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 91.368135

Area Ratio: 7.745e-1

Sample Type: (Quality Control)



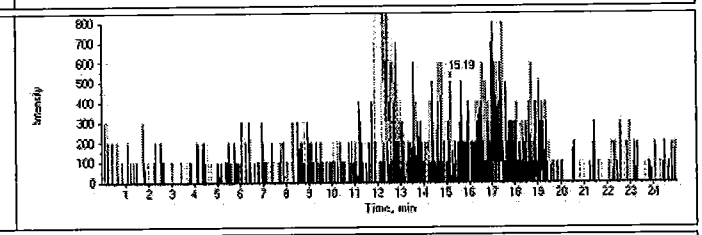
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.000022

Area Ratio: 3.996e-4

Sample Type: (Quality Control)



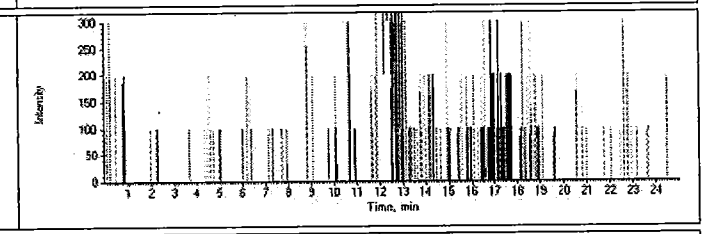
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): N/A (15.19) min

Calculated conc: N/A

Area Ratio: N/A

Sample Type: (Quality Control)



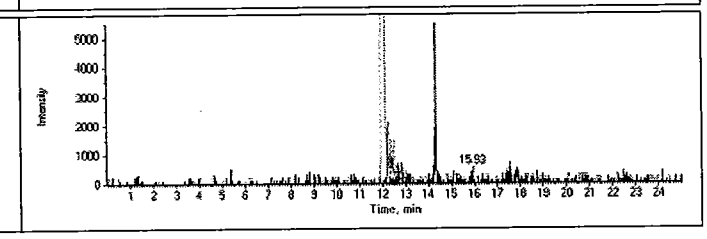
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.000023

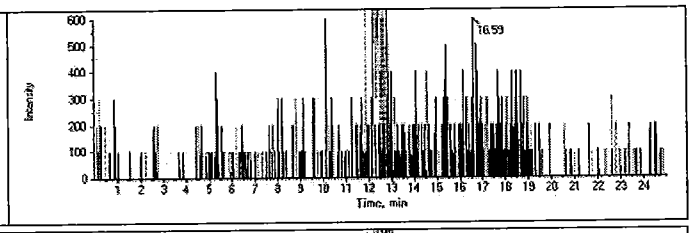
Area Ratio: 2.997e-4

Sample Type: (Quality Control)



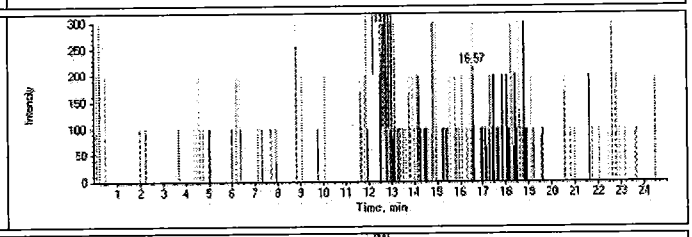
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.59 (16.58) min
Calculated conc: 0.000024
Area Ratio: 3.997e-4
Sample Type: (Quality Control)



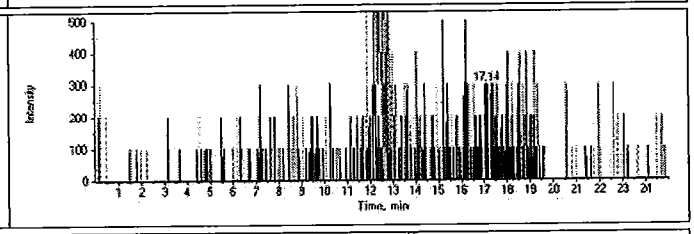
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.57 (16.58) min
Calculated conc: 0.000043
Area Ratio: 1.499e-4
Sample Type: (Quality Control)



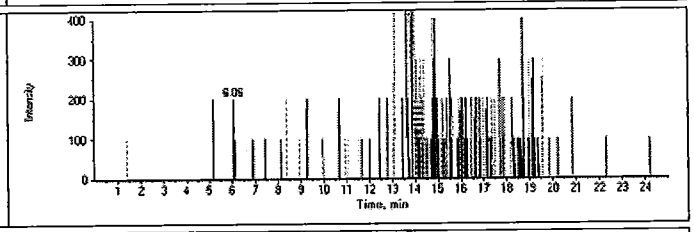
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min
Calculated conc: 0.000039
Area Ratio: 2.997e-4
Sample Type: (Quality Control)



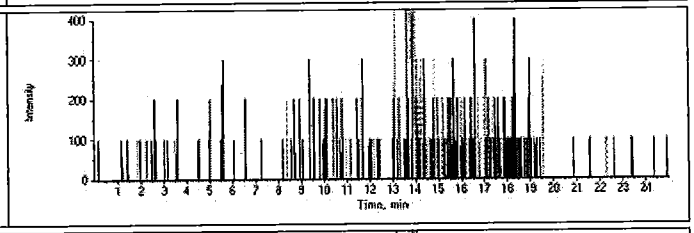
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.06 (6.10) min
Calculated conc: 0.000026
Area Ratio: 1.280e-4
Sample Type: (Quality Control)



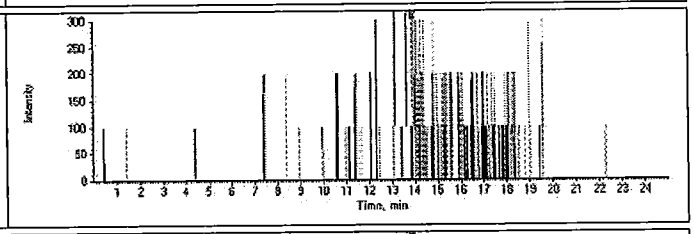
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): N/A (6.11) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



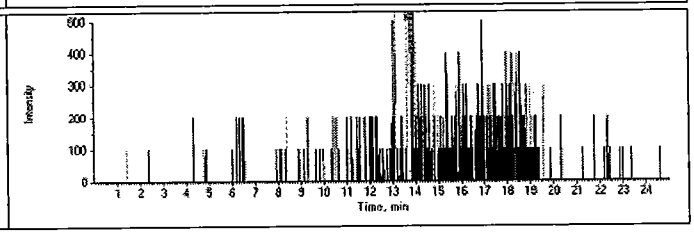
PFHxS (398.9 / 80.0)

RT (Exp. RT): N/A (10.64) min
Calculated conc: N/A
Area Ratio: N/A
Sample Type: (Quality Control)



PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.66 (10.64) min
Calculated conc: 0.000030
Area Ratio: 8.535e-5
Sample Type: (Quality Control)



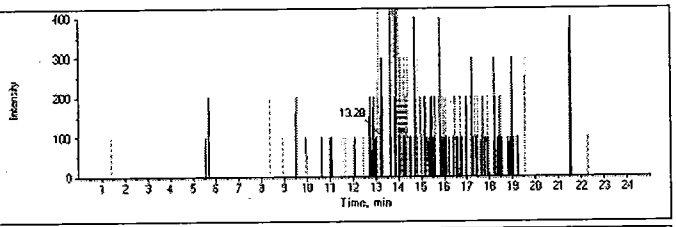
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.000011

Area Ratio: 8.539e-5

Sample Type: (Quality Control)



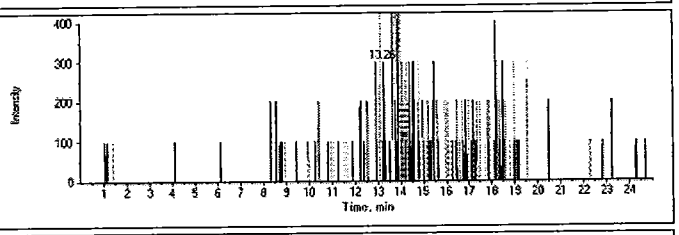
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.26 (13.28) min

Calculated conc: 0.000072

Area Ratio: 1.707e-4

Sample Type: (Quality Control)



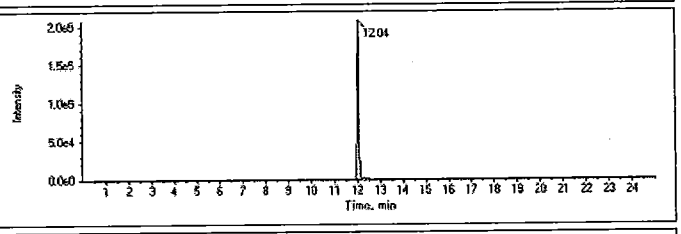
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 122.733475

Area Ratio: N/A

Sample Type: (Quality Control)



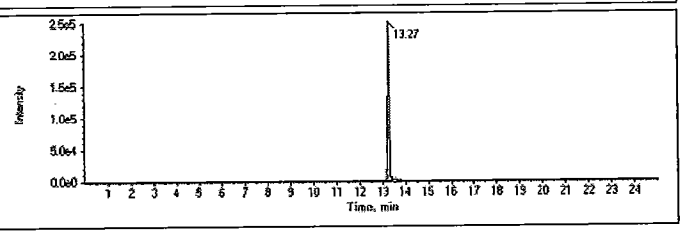
13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 102.159380

Area Ratio: N/A

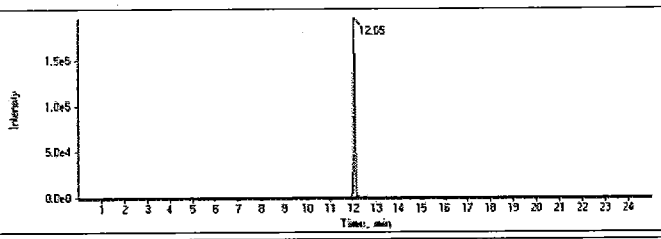
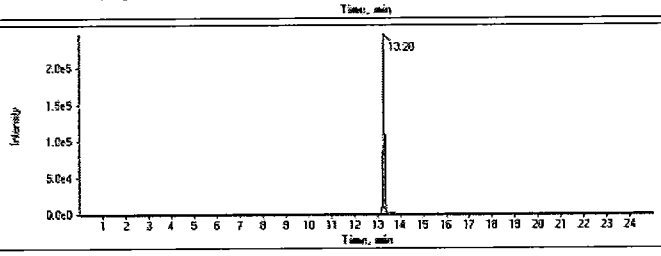
Sample Type: (Quality Control)



Sample Name	QCS_0.02ppb Reinjec	**Injection Vial**	8
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 12:50:27 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	lot#@5372ndSource(QCS)-050614-LHZ, Exp. 05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	980069	12.05	100.00000	-
IS-13C-PFOS	1184382	13.28	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.591e+05	8.41	0.02000	0.016461
Surr-13c-PFHxA	7.635e+05	8.41	100.00000	78.038021
PFHpA	5.517e+05	10.50	0.02000	0.021436
PFHpA 2	1.499e+05	10.50	0.02000	0.020902
PFOA	5.570e+05	12.05	0.02000	0.022167
PFOA 2	1.854e+05	12.05	0.02000	0.022071
PFNA	4.297e+05	13.29	0.02000	0.023586
PFNA 2	1.135e+05	13.29	0.02000	0.024311
PFDA	4.409e+05	14.32	0.02000	0.023105
PFDA 2	7.469e+04	14.32	0.02000	0.022834
Surr-13c-PFDA	7.965e+05	14.32	100.00000	95.873805
PFUnA	3.716e+05	15.19	0.02000	0.021204
PFUnA 2	6.125e+04	15.19	0.02000	0.021371
PFDoA	2.630e+05	15.94	0.02000	0.020912
PFTrDA	3.370e+05	16.58	0.02000	0.020844
PFTrDA 2	7.811e+04	16.58	0.02000	0.023029
PFTA	1.789e+05	17.14	0.02000	0.023891
PFBS	1.021e+05	6.10	0.01770	0.017540
PFBS 2	4.168e+04	6.10	0.01770	0.017331
PFHxS	2.065e+05	10.64	0.01900	0.020950
PFHxS 2	7.503e+04	10.64	0.01900	0.022416
PFOS	2.212e+05	13.28	0.01920	0.023303
PFOS 2	6.376e+04	13.28	0.01920	0.022672
13C-PFOA	9.801e+05	12.05	100.00000	122.510017
13C-PFOS	1.184e+06	13.28	100.00000	105.271113

IS-13C-PFOA (Internal Standard) RT (Exp. RT): 12.05(12.05) min Concentration: 100.00000 Sample Type: (Quality Control)	
IS-13C-PFOS (Internal Standard) RT (Exp. RT): 13.28(13.28) min Concentration: 100.00000 Sample Type: (Quality Control)	

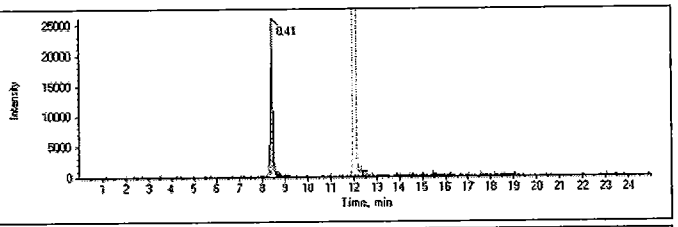
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.41 (8.40) min

Calculated conc: 0.016461

Area Ratio: 1.624e-1

Sample Type: (Quality Control)



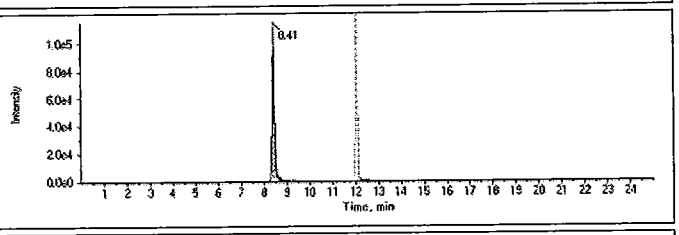
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.41 (8.41) min

Calculated conc: 78.038021

Area Ratio: 7.790e-1

Sample Type: (Quality Control)



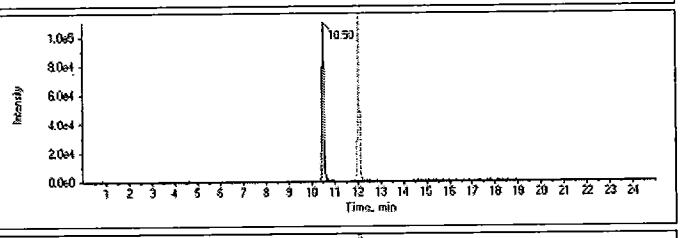
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.021436

Area Ratio: 5.629e-1

Sample Type: (Quality Control)



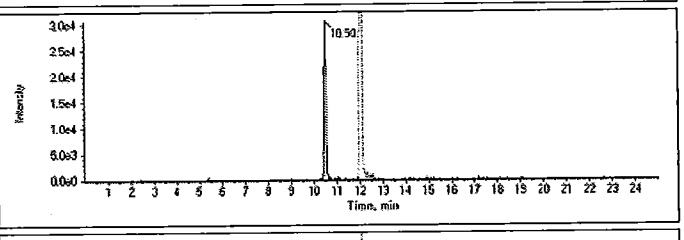
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.50 (10.50) min

Calculated conc: 0.020902

Area Ratio: 1.529e-1

Sample Type: (Quality Control)



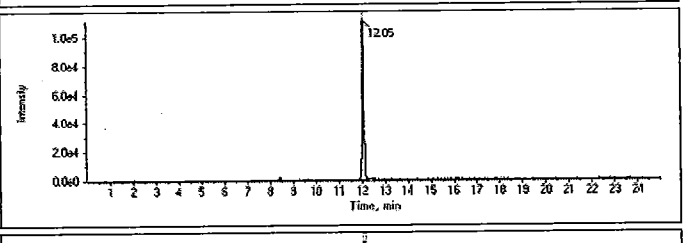
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 0.022167

Area Ratio: 5.683e-1

Sample Type: (Quality Control)



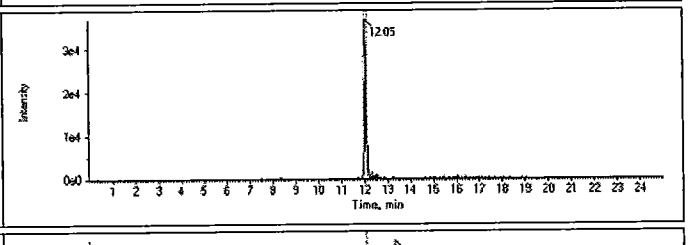
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.05 (12.04) min

Calculated conc: 0.022071

Area Ratio: 1.891e-1

Sample Type: (Quality Control)



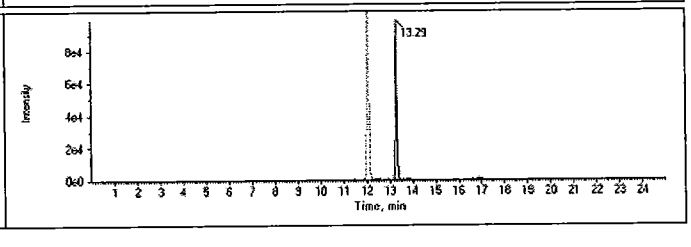
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.023586

Area Ratio: 4.384e-1

Sample Type: (Quality Control)



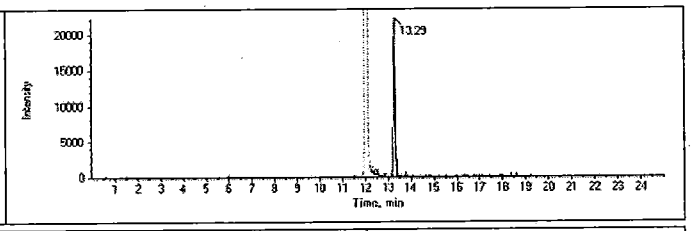
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.29 (13.29) min

Calculated conc: 0.024311

Area Ratio: 1.158e-1

Sample Type: (Quality Control)



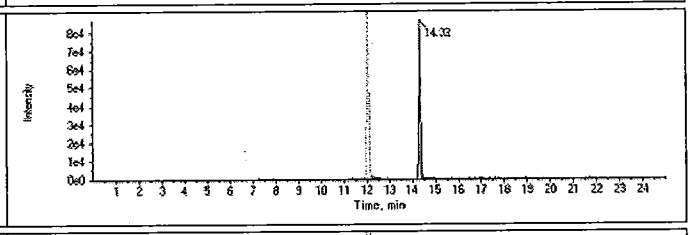
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 0.023105

Area Ratio: 4.498e-1

Sample Type: (Quality Control)



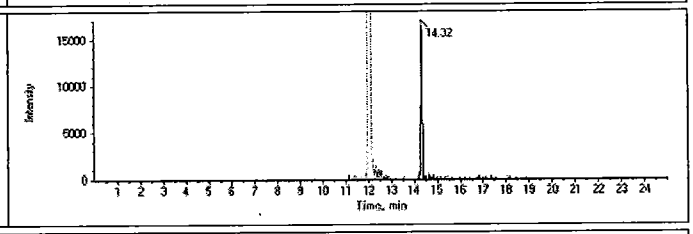
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.32 (14.31) min

Calculated conc: 0.022834

Area Ratio: 7.621e-2

Sample Type: (Quality Control)



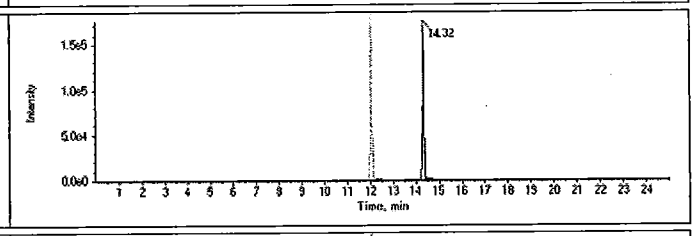
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.32 (14.32) min

Calculated conc: 95.873805

Area Ratio: 8.127e-1

Sample Type: (Quality Control)



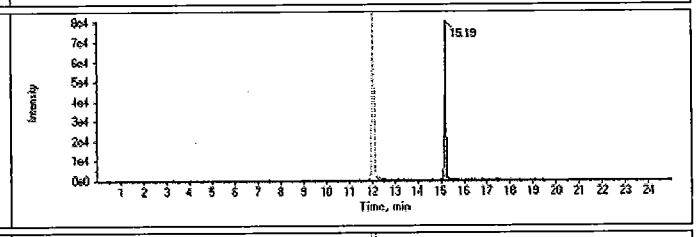
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.021204

Area Ratio: 3.792e-1

Sample Type: (Quality Control)



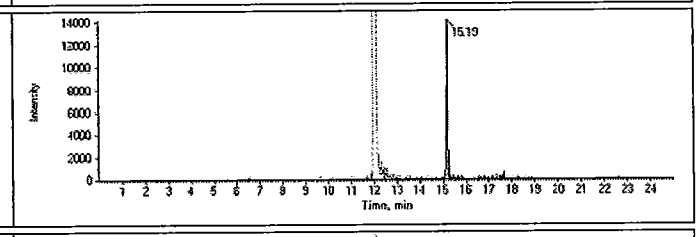
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.19 (15.19) min

Calculated conc: 0.021371

Area Ratio: 6.250e-2

Sample Type: (Quality Control)



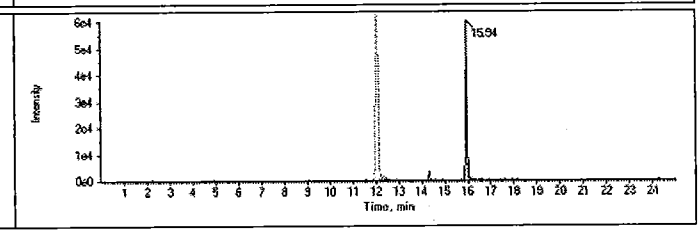
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.94 (15.93) min

Calculated conc: 0.020912

Area Ratio: 2.683e-1

Sample Type: (Quality Control)



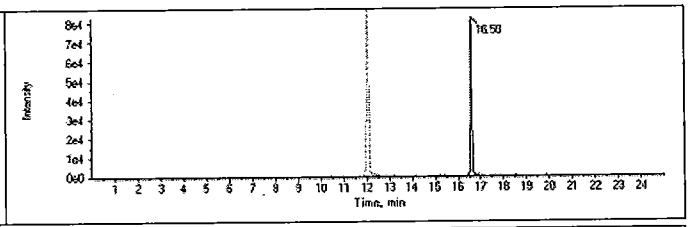
PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.020844

Area Ratio: 3.439e-1

Sample Type: (Quality Control)



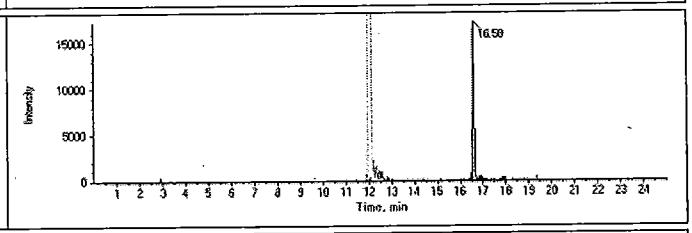
PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.58 (16.58) min

Calculated conc: 0.023029

Area Ratio: 7.970e-2

Sample Type: (Quality Control)



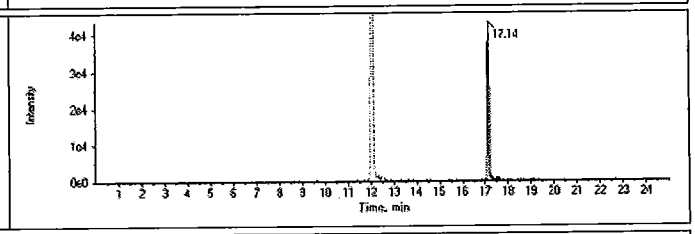
PFTA (713.3 / 669.0)

RT (Exp. RT): 17.14 (17.14) min

Calculated conc: 0.023891

Area Ratio: 1.826e-1

Sample Type: (Quality Control)



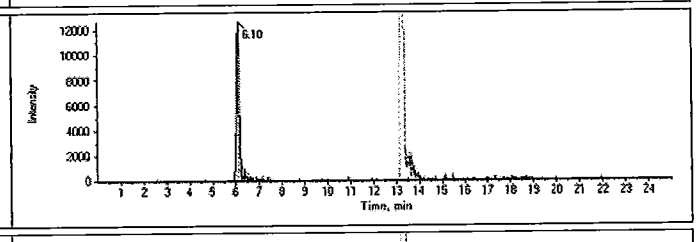
PFBS (299.0 / 79.9)

RT (Exp. RT): 6.10 (6.10) min

Calculated conc: 0.017540

Area Ratio: 8.620e-2

Sample Type: (Quality Control)



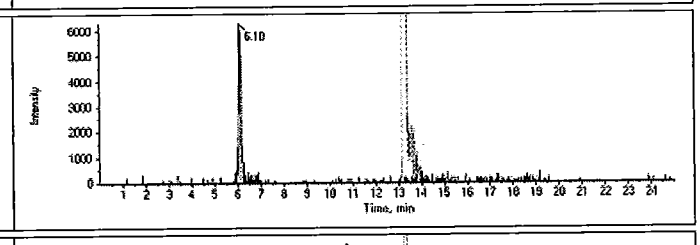
PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.10 (6.11) min

Calculated conc: 0.017331

Area Ratio: 3.519e-2

Sample Type: (Quality Control)



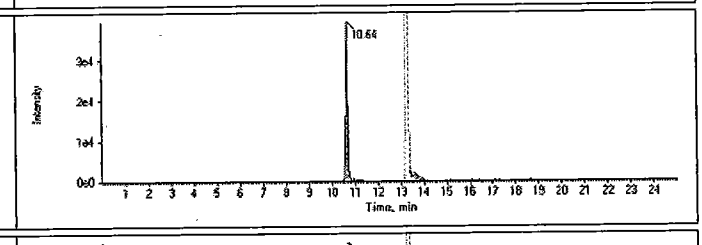
PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.020950

Area Ratio: 1.743e-1

Sample Type: (Quality Control)



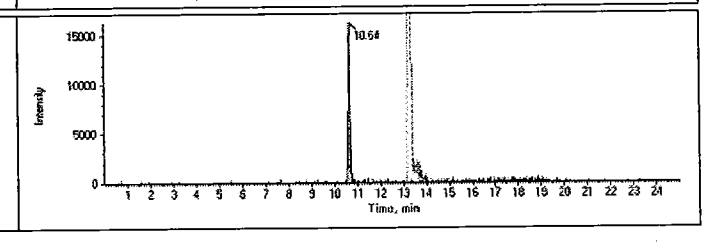
PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.64 (10.64) min

Calculated conc: 0.022416

Area Ratio: 6.335e-2

Sample Type: (Quality Control)

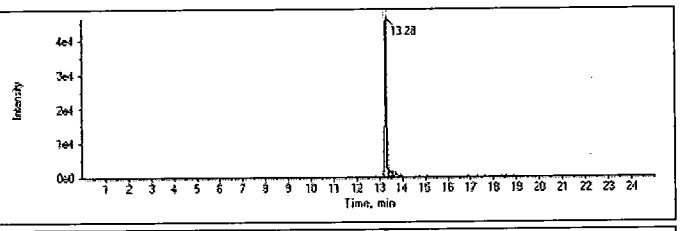


PFOS (499.0 / 79.9)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.023303

Area Ratio: 1.868e-1
Sample Type: (Quality Control)

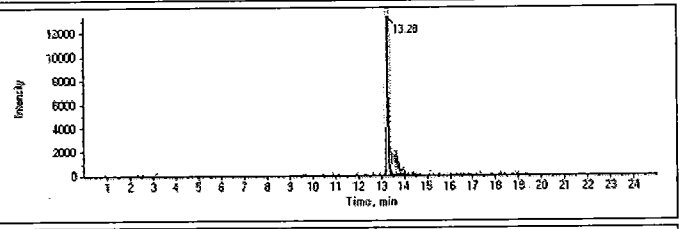


PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 0.022672

Area Ratio: 5.383e-2
Sample Type: (Quality Control)

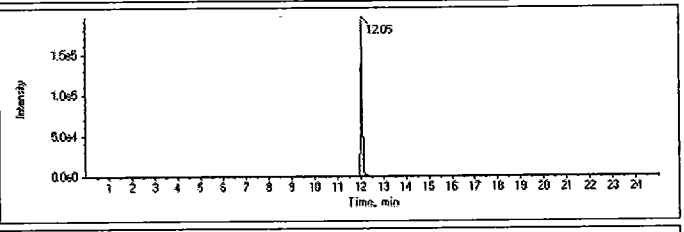


13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.05 (12.05) min

Calculated conc: 122.510017

Area Ratio: N/A
Sample Type: (Quality Control)

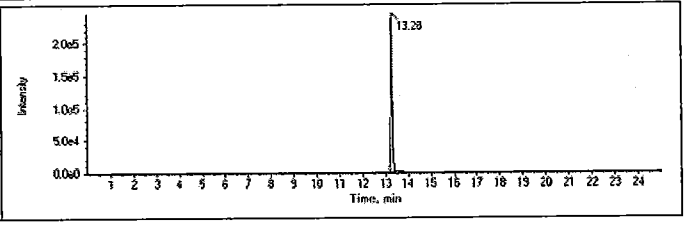


13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.28 (13.28) min

Calculated conc: 105.271113

Area Ratio: N/A
Sample Type: (Quality Control)



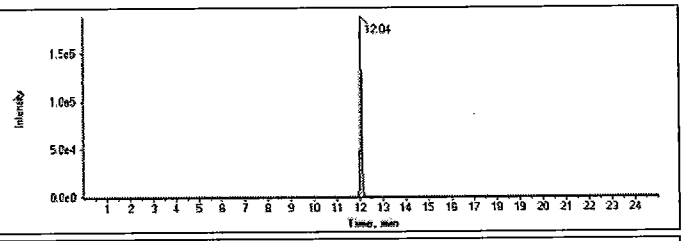
Sample Name	CCCM	**Injection Vial**	5
Sample ID		**Injection Volume**	5.00
Sample Type	Quality Control	**Algorithm Used**	MQ4
Acquisition Date	5/7/2014 1:16:02 PM	**Dilution Factor**	1.00
Acquisition Method	@537-ShortRun-110613-Ali.dam	**Weight to Volume**	N/A
Project	EPA537\2014_05_06	**Instrument Name**	API 4000
Data File	@537-Batch#765596-050614-5uL.wiff		
Result Table	@537-Batch#765596-050614		
Sample Comment	Lot#@537Cal-050614-LHZ, Exp.05/20/14		

Internal Standard	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
IS-13C-PFOA	929350	12.04	100.00000	-
IS-13C-PFOS	1158983	13.27	100.00000	-

Target Analyte	Area (cps)	RT (min)	Target conc. ()	Calc. Conc. ()
PFHxA	1.322e+05	8.39	0.02000	0.014423
Surr-13c-PFHxA	7.594e+05	8.39	100.00000	81.858705
PFHpA	4.805e+05	10.49	0.02000	0.019689
PFHpA 2	1.245e+05	10.49	0.02000	0.018316
PFOA	4.869e+05	12.04	0.02000	0.020435
PFOA 2	1.626e+05	12.04	0.02000	0.020414
PFNA	3.764e+05	13.28	0.02000	0.021791
PFNA 2	9.841e+04	13.27	0.02000	0.022233
PFDA	3.660e+05	14.30	0.02000	0.020230
PFDA 2	6.326e+04	14.30	0.02000	0.020395
Surr-13c-PFDA	7.706e+05	14.31	100.00000	97.820786
PFUnA	2.993e+05	15.18	0.02000	0.018008
PFUnA 2	5.350e+04	15.18	0.02000	0.019684
PFDoA	2.161e+05	15.93	0.02000	0.018117
PFTrDA	2.845e+05	16.57	0.02000	0.018557
PFTrDA 2	5.576e+04	16.56	0.02000	0.017336
PFTA	1.347e+05	17.13	0.02000	0.018966
PFBS	9.116e+04	6.08	0.01770	0.016005
PFBS 2	3.948e+04	6.09	0.01770	0.016774
PFHxS	1.799e+05	10.63	0.01900	0.018652
PFHxS 2	5.661e+04	10.63	0.01900	0.017283
PFOS	1.785e+05	13.27	0.01920	0.019218
PFOS 2	5.394e+04	13.27	0.01920	0.019601
13C-PFOA	9.294e+05	12.04	100.00000	116.170015
13C-PFOS	1.159e+06	13.27	100.00000	103.013602

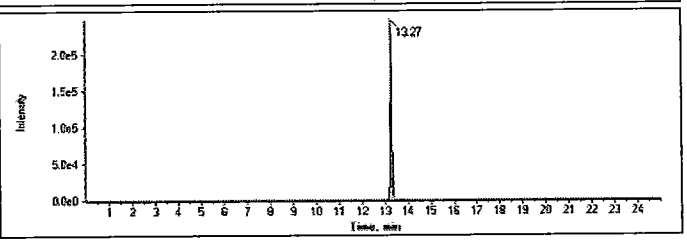
IS-13C-PFOA (Internal Standard)

RT (Exp. RT): 12.04(12.05) min
Concentration: 100.00000
Sample Type: (Quality Control)



IS-13C-PFOS (Internal Standard)

RT (Exp. RT): 13.27(13.28) min
Concentration: 100.00000
Sample Type: (Quality Control)



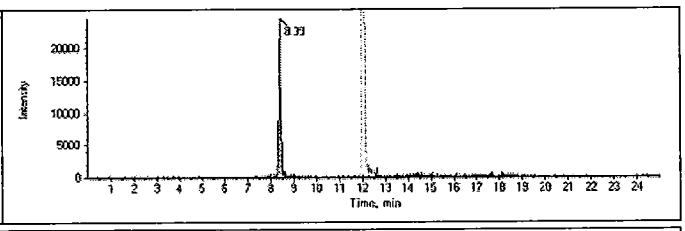
PFHxA (313.0 / 268.8)

RT (Exp. RT): 8.39 (8.40) min

Calculated conc: 0.014423

Area Ratio: 1.423e-1

Sample Type: (Quality Control)



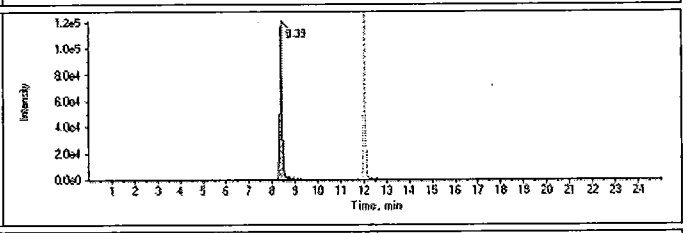
Surr-13c-PFHxA (315.0 / 270.0)

RT (Exp. RT): 8.39 (8.41) min

Calculated conc: 81.858705

Area Ratio: 8.172e-1

Sample Type: (Quality Control)



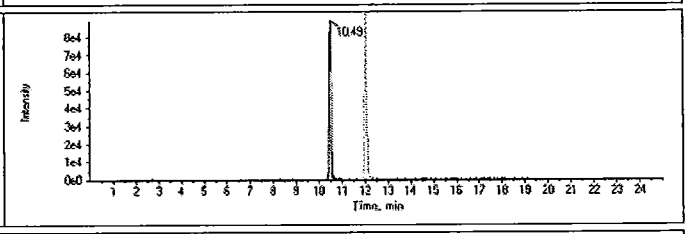
PFHpA (363.0 / 318.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.019689

Area Ratio: 5.170e-1

Sample Type: (Quality Control)



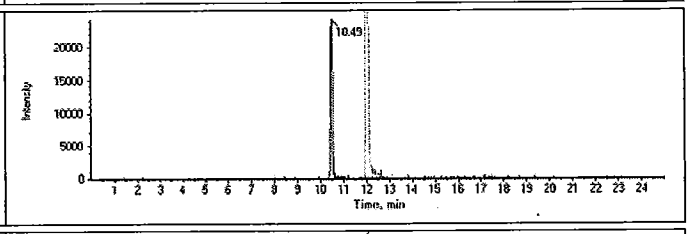
PFHpA 2 (363.0 / 168.9)

RT (Exp. RT): 10.49 (10.50) min

Calculated conc: 0.018316

Area Ratio: 1.340e-1

Sample Type: (Quality Control)



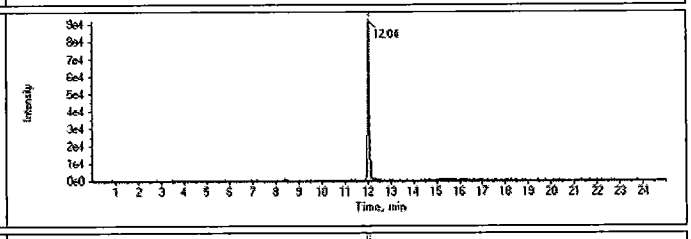
PFOA (413.0 / 368.9)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 0.020435

Area Ratio: 5.239e-1

Sample Type: (Quality Control)



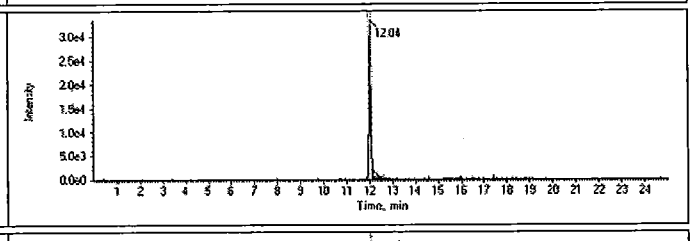
PFOA 2 (413.0 / 168.8)

RT (Exp. RT): 12.04 (12.04) min

Calculated conc: 0.020414

Area Ratio: 1.749e-1

Sample Type: (Quality Control)



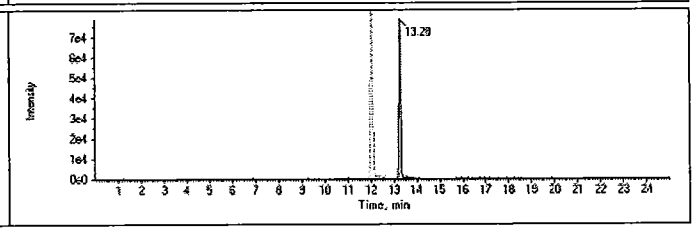
PFNA (463.0 / 419.0)

RT (Exp. RT): 13.28 (13.29) min

Calculated conc: 0.021791

Area Ratio: 4.051e-1

Sample Type: (Quality Control)



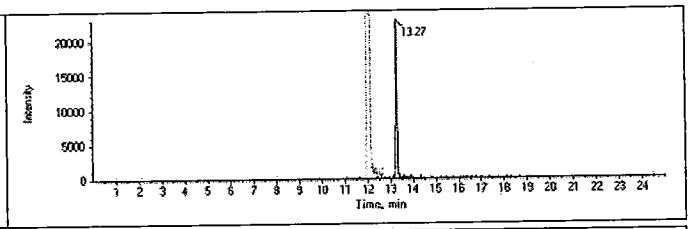
PFNA 2 (463.0 / 218.9)

RT (Exp. RT): 13.27 (13.29) min

Calculated conc: 0.022233

Area Ratio: 1.059e-1

Sample Type: (Quality Control)



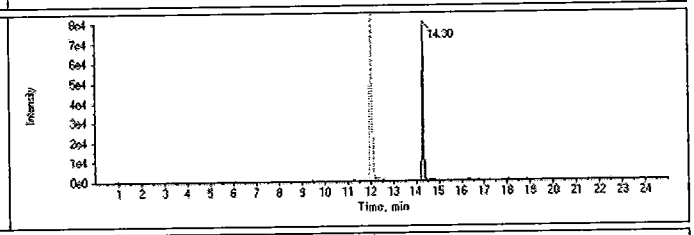
PFDA (513.0 / 469.0)

RT (Exp. RT): 14.30 (14.32) min

Calculated conc: 0.020230

Area Ratio: 3.939e-1

Sample Type: (Quality Control)



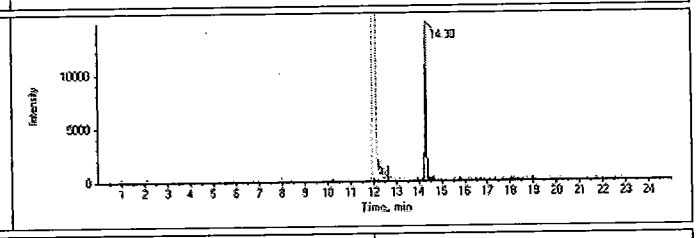
PFDA 2 (513.0 / 218.8)

RT (Exp. RT): 14.30 (14.31) min

Calculated conc: 0.020395

Area Ratio: 6.807e-2

Sample Type: (Quality Control)



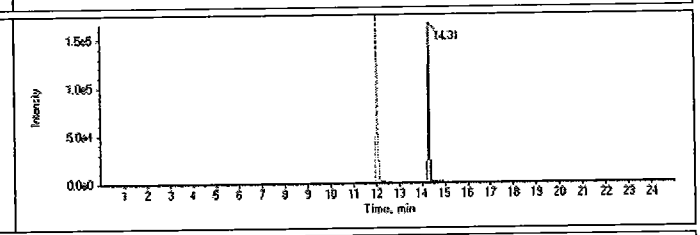
Surr-13c-PFDA (515.0 / 470.0)

RT (Exp. RT): 14.31 (14.32) min

Calculated conc: 97.820786

Area Ratio: 8.292e-1

Sample Type: (Quality Control)



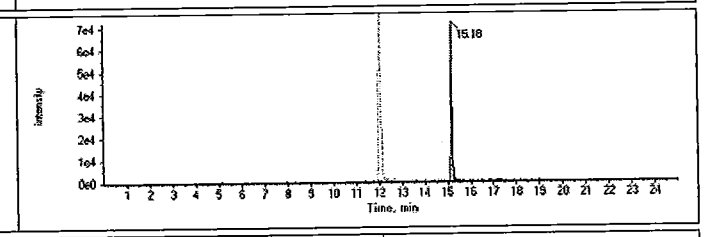
PFUnA (563.0 / 519.0)

RT (Exp. RT): 15.18 (15.19) min

Calculated conc: 0.018008

Area Ratio: 3.220e-1

Sample Type: (Quality Control)



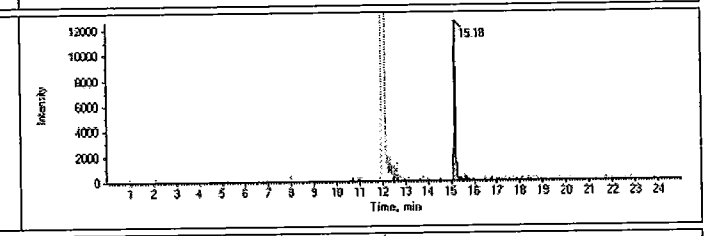
PFUnA 2 (563.0 / 268.8)

RT (Exp. RT): 15.18 (15.19) min

Calculated conc: 0.019684

Area Ratio: 5.757e-2

Sample Type: (Quality Control)



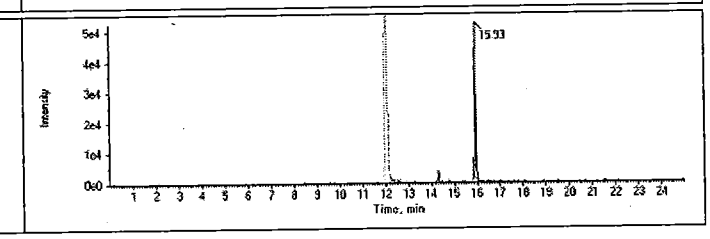
PFDoA (612.8 / 569.0)

RT (Exp. RT): 15.93 (15.93) min

Calculated conc: 0.018117

Area Ratio: 2.325e-1

Sample Type: (Quality Control)

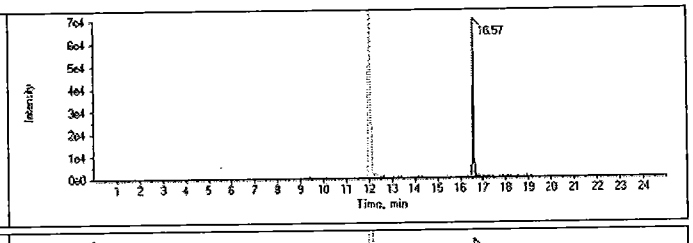


PFTrDA (662.9 / 619.0)

RT (Exp. RT): 16.57 (16.58) min

Calculated conc: 0.018557

Area Ratio: 3.062e-1
Sample Type: (Quality Control)

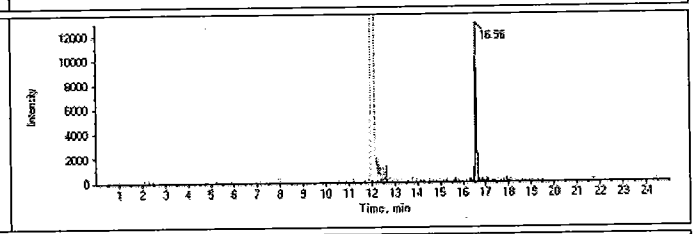


PFTrDA 2 (662.9 / 168.9)

RT (Exp. RT): 16.56 (16.58) min

Calculated conc: 0.017336

Area Ratio: 6.000e-2
Sample Type: (Quality Control)

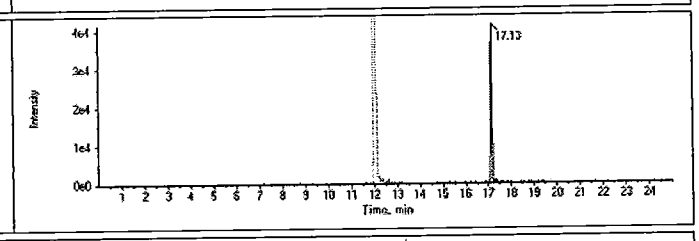


PFTA (713.3 / 669.0)

RT (Exp. RT): 17.13 (17.14) min

Calculated conc: 0.018966

Area Ratio: 1.449e-1
Sample Type: (Quality Control)

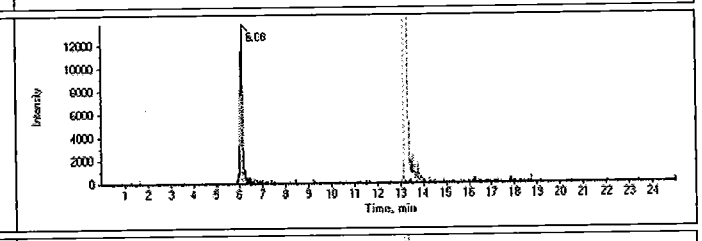


PFBS (299.0 / 79.9)

RT (Exp. RT): 6.08 (6.10) min

Calculated conc: 0.016005

Area Ratio: 7.866e-2
Sample Type: (Quality Control)

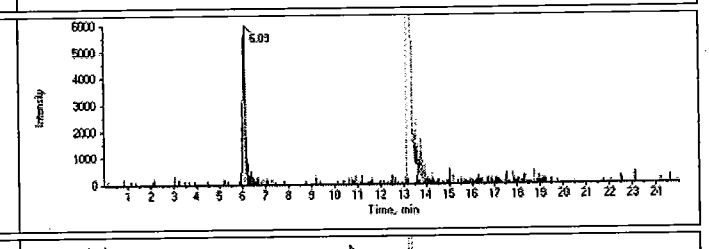


PFBS 2 (299.0 / 99.0)

RT (Exp. RT): 6.09 (6.11) min

Calculated conc: 0.016774

Area Ratio: 3.406e-2
Sample Type: (Quality Control)

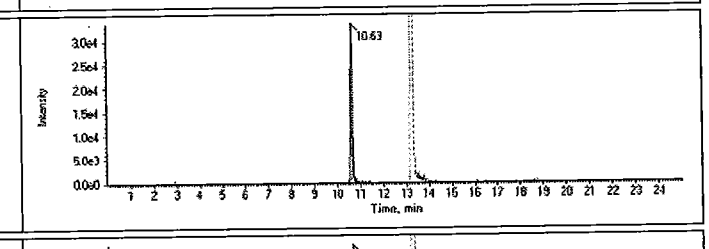


PFHxS (398.9 / 80.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.018652

Area Ratio: 1.552e-1
Sample Type: (Quality Control)

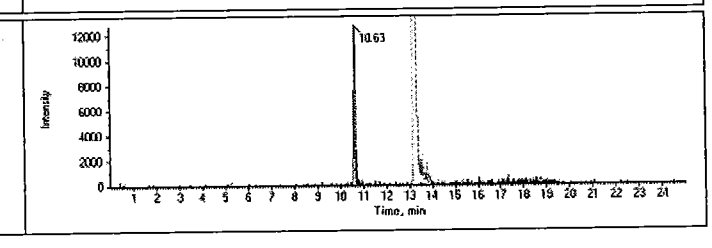


PFHxS 2 (398.9 / 99.0)

RT (Exp. RT): 10.63 (10.64) min

Calculated conc: 0.017283

Area Ratio: 4.885e-2
Sample Type: (Quality Control)



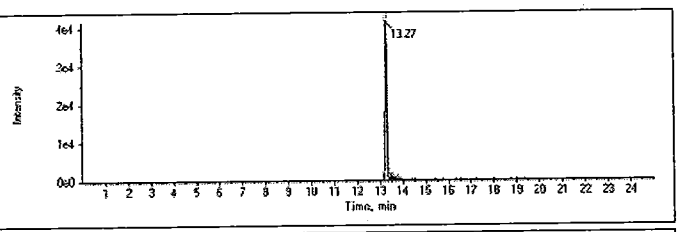
PFOS (499.0 / 79.9)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.019218

Area Ratio: 1.540e-1

Sample Type: (Quality Control)



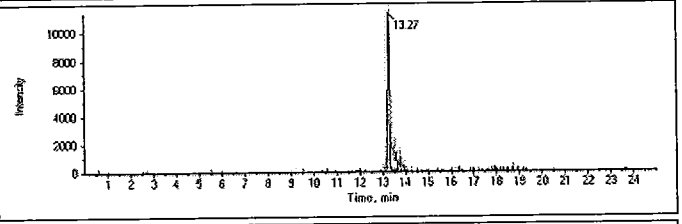
PFOS 2 (499.0 / 99.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 0.019601

Area Ratio: 4.654e-2

Sample Type: (Quality Control)



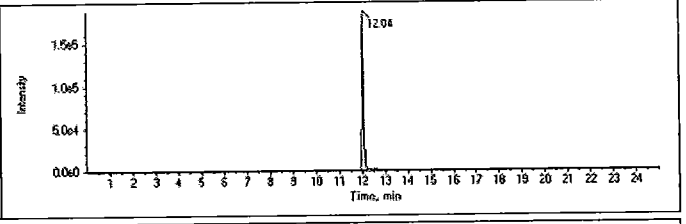
13C-PFOA (417.0 / 372.0)

RT (Exp. RT): 12.04 (12.05) min

Calculated conc: 116.170015

Area Ratio: N/A

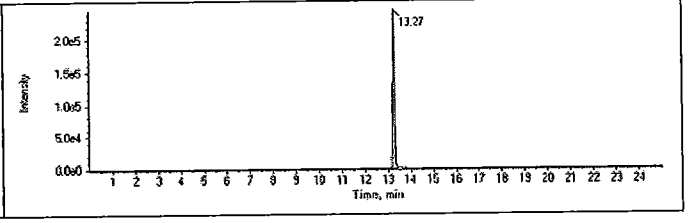
Sample Type: (Quality Control)



13C-PFOS (503.0 / 80.0)

RT (Exp. RT): 13.27 (13.28) min

Calculated conc: 103.013602

Area Ratio: N/A

Sample Type: (Quality Control)