MPI RESEARCH

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Analytical Report

PFOA and PFOS Analysis of Deer Muscle and Liver Samples by LC/MS/MS

MPI Report No. L0019346

Revised Report Date: 12/17/09

Testing Laboratory

MPI Research, Inc.
3058 Research Drive
State College, PA 16801

Requester/Project Manager

Dena Haverland
Dalton Utilities
PO BOX 869
Dalton, GA 30722
Phone: 706-529-1010

2010 JAN -6 P 1:44

1 Introduction

Results are reported for the analysis of the 3.5 yr male deer liver sample received at MPI Research from Dalton Utilities. The MPI Research study number assigned to the project is L0019346. Table I lists the target analytes quantitated for the samples.

Table I. Target Analytes for Quantitation

Compound Name	Acronym
Perfluorooctanesulfonate	C8 Sulfonate or PFOS

Note: PFOA and PFOS results for all the muscle and liver samples with the exception of the 3.5yr male deer liver sample are reported in the original report signed on 11/19/09.

2 Sample Receipt

Four samples were received from Dena Haverland at Dalton Utilities for this study. The samples were collected on October 02, 2009. The samples arrived on October 06, 2009 via Fedex and were logged in under MPI Research login number L0019346. The shipment was received frozen on dry ice. The samples were stored frozen at approximately -20°C from receipt until analysis. Chain-of-custody information is presented in Attachment A.

3 Methods - Analytical and Preparatory

3.1 Muscle and Liver Sample Preparation

3.1.1. Weigh 1 g of muscle or liver sample into a 50 mL disposable centrifuge tube and fortify, if appropriate. Add 20 µL of a 50000 ng/mL WIS for a final concentration of 1 ng/mL.

Note: The internal standard was spiked at a higher level to allow for post extraction dilutions to be performed.

3.1.2 Add water to the sample for a final volume of 10 mL. Cap tightly.

3.1.3 Homogenize sample using a tissuemizer for ~1 minute.

3.1.4 Transfer 1 mL of the sample using a disposable pipette into 15 mL disposable centrifuge tubes. Add 5 mL of ACN and shake for ~20 minutes on a wrist action shaker.

3.1.5. Centrifuge tubes at ~3000 rpm for ~ 5 minutes. Carefully decant supernatant into a 50 mL disposable centrifuge tube and add 35 mL of water.

3.1.6 Place the unconditioned SPE columns on the vacuum manifold. Condition the SPE columns by passing ~ 10 mL of methanol through the column followed by ~ 5 mL of water. The washes may be pulled through the SPE column using vacuum at a flow rate of ~1 drop/sec or may be allowed to pass through the column unaided. Discard all washes. Do not allow the column to dry.

3.1.7 Load the sample onto a conditioned SPE column . Discard the eluate. Any analyte residues will be trapped on the SPE column at this point.

3.1.8 Elute with 2 mL of methanol. Collect 2 mL of elute into a graduated 15 mL centrifuge tube.

Note: Post extraction dilutions were prepared in methanol.

3.2 Sample Analysis by LC/MS/MS

In High Pressure Liquid Chromatography (HPLC), an aliquot of extract is injected and passed through a liquid-phase chromatographic column. Based on the affinity of the analyte for the stationary phase in the column relative to the liquid mobile phase, the analyte is retained for a characteristic amount of time. Following HPLC separation, mass spectrometry provides a rapid and accurate means for analyzing a wide range of organic compounds. Molecules are ionized, fragmented, and detected. The ions characteristic of the compounds are observed and quantitated against external calibration standards.

An HP1100 system interfaced to an Applied Biosystems API 4000 LC/MS/MS was used to analyze the sample extracts for quantitation. A gradient elution through a Phenomenex Luna 3µ C8(2) Mercury, 20 x 4.0 mm column was used for separation.

The following gradient was performed:

Mobile Phase (A): 2mM Ammonium Acetate in Water
Mobile Phase (B): Methanol

Time	%A	%B
0.0	90	10
0.5	90	10
2.0	10	90
5.0	10	90
5.1	0	100
6.0	0	100
6.1	90	10
10.0	90	10

The following parameters were used for operation of the mass spectrometer:

Parameter	Setting
Ionization Mode	Electrospray
Polarity	Negative
Transitions Monitored	499→80 (PFOS) 503→80 (Internal Std. ^{13}C PFOS (m+4))
Gas Temperature	450°C

4 Analysis by LCMSMS

4.1 Calibration

For the muscle and liver sample analysis, a 6-point calibration curve was analyzed throughout the analytical sequence for PFOS. The calibration points were prepared at 0.1, 0.2, 0.5, 1.0, 2.0, 5.0 ng/mL (ppb) containing 1.0 ng/mL ^{13}C-PFOS (m+4).

The ratio of the analyte concentration to the IS concentration versus the ratio of the analyte instrument response (area) to the IS response (area) was plotted for each point. Using linear regression with 1/x weighting, the slope, y-intercept and coefficient of determination (r^2) were determined. A calibration curve is acceptable if $r^2 \geq 0.985$.

For the results reported here, calibration criteria were met. The calibration curves are included in the raw data in Attachment C.

4.2 Laboratory Control Spikes

Laboratory control spikes in the analytical set were prepared during each extraction set by adding a known concentration of the analyte to deer muscle and liver controls. Laboratory control spikes are used to assess method accuracy. The laboratory control spikes must show recoveries between 70-130% or the data is rejected. For the results reported here, the laboratory control spikes were within the acceptable range. Laboratory control spike recoveries are given in Attachment B.

4.3 Matrix Spikes

A matrix spike was prepared for each sample by adding a known concentration of the target analyte to a sample. Matrix spikes are used to assess method accuracy in the matrix. The matrix spikes should show recoveries between 70-130%. For the results reported here, the matrix spike was within the acceptable range with the exceptions of:

4.4 Laboratory Duplicates

Each sample was prepared in duplicate and analyzed. Duplicate results are given along with the sample results in Attachment B.

5 Data Summary

Please see Attachment B for a detailed listing of the analytical results. For the muscle and liver samples the results are reported in parts per billion (ng/g) on an as-received basis.

6 Data/Sample Retention

Samples are disposed of 60 days after the report is issued unless otherwise specified by the project manager. All electronic data is archived on retrievable media and hard copy reports are stored in data folders maintained by MPI Research. Hardcopy data is stored for a minimum of five years. The client will be notified 30 days prior to the disposal of hardcopy data.

7 Attachments

7.1 Attachment A: Chain of Custody

7.2 Attachment B: Analytical Results

7.3 Attachment C: Raw Analytical Data for Water

8 Signatures

Mark Neeley, Research Chemist Associate II — Date: 12-17-09

Robert Zhu, Manager, Analytical — Date: 12/17/09

A

MPI RESEARCH

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3058 Research Drive
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(814) 272-1039 Phone
(814) 231-1580 Fax

Login

Login Group: L0019346

Login #:	19460	Conform COC Sample:	True
Project:	P0005196	Conform COC:	True
Company Name:	Dalton Utilities	Conform Sample:	True
Submitted By:	Dena Haverland	Conform Request:	True
Login Type:	Immediate Receipt of Samples		
Started:	True		
Date Start:	10/27/2009		
Due Date:	11/06/2009		
Login Initiated:	10/27/2009		
Received By:	Ammerman, Mark		
Spread Sample:			
Label:			
MPI SD/PI:	Zhu, Xiang		
Project Title/Type:	PFOA and PFOS Analysis of Animal Muscle and Liver by LC/MS/MS / ROUTINE		
Login Notes:			

Packages / Containers

Package	Carton	Date / Condition	Shipper / ID	Temp. Control/Temp.	Direction / Handled By
K0022042		Received Date: 10/27/09 10:25 Package & Contents Uncompromised	FEDEX 8694 2057 8178	Dry Ice -79.2	RECEIVED Ammerman, Mark

Container #	Gross Weight	pH	Container Type	Preservative	Mfg. Lot	Mfg. ID
C0457624	218.20 g		1/2 gallon ziplock bag	NONE		
C0457625	278.00 g		1/2 gallon ziplock bag	NONE		
C0457626	324.10 g		1 gallon ziploc bag	NONE		
C0457627	994.10 g		1 gallon ziploc bag	NONE		

Samples

Sample ID	Container	Matrix	System	System Matrix	Sample	Date Sampled	Date Due
L0019346-0001	C0457624	SOLID	Deer	Tissue	Deer #6 0.5 yr female-muscle	10/02/2009	11/06/2009
L0019346-0002	C0457626	SOLID	Deer	Liver	Deer #6 0.5 yr female-liver	10/02/2009	11/06/2009
L0019346-0003	C0457625	SOLID	Deer	Tissue	Deer #7 3.5 yr male-muscle	10/02/2009	11/06/2009
L0019346-0004	C0457627	SOLID	Deer	Liver	Deer #7 3.5 yr male-liver	10/02/2009	11/06/2009

Login

Login Reviewed By: _____ Date/Time: 2/16/09 1317

MPI RESEARCH

Sample Submittal

Please fax this form before sending samples.

Please send samples to shipping and receiving:
3048 Research Drive, State College, PA 16801
T: (814) 272-1039 • F: (814) 272-1019

MPI Research Contact: Daniel Wright

Send Report To:

Company: Dalton Utilities
Address: 1200 VD Parrott JR Parkway, PO Box 869
City, State, ZIP: Dalton, GA 30722-0869
Attention: Dena Haverland
Phone #: 706-529-1010
Fax #: 706-529-1271
Email: dhaverland@dutil.com
Study/Job #:
Signature/Date:
Printed Name:

Turnaround time (TAT) requirements:

Results Due Date: 30 days
Preliminary Results Format: Verbal (Email) Fax
Report Due Date: 30 days

Storage Conditions

Room temperature
Refrigerator
(Freezer)
Ultra Low freezer
Desiccated
Lighting required

Stability (°C/%RH):

Stability time period

Safety Information

Special handling:
MSDS attached
Controlled substance:
HAZARDS

Please fill in the diamond HMIS/NFPA (0 4) if appropriate

	Client ID# Description	Lot/ Control #	Amt. Sent/ Weight	# of Bottles	Matrix	Date & Time	Tests Requested
1	Deer #6 0.5 yr Female-Serum		10 ml	10	deer	10/2/09 1:08AM	PFOA/PFOS
2	Deer #6 0.5 yr female-muscle		as requested	1 bag	deer	10/2/09 2:28AM	PFOA/PFOS
3	Deer #6 0.5 yr female-Liver		Whole	1 bag	deer	10/2/09 2:36AM	PFOA/PFOS
4	Deer #7 3.5 yr Male-Serum		10 ml	10	deer	10/2/09 1:45AM	PFOA/PFOS
5	Deer #7 3.5 yr Male-muscle		as requested	1 bag	deer	10/2/09 2:45AM	PFOA/PFOS
6	Deer #7 3.5 yr Male-Liver		Whole	1 bag	deer	10/2/09 2:48AM	PFOA/PFOS
7							
8							
9							
10							

PO #

Relinquished by	Date	Time	Received by	Date	Time
Darrell Kavanagh	10/5/09	6:35PM		10/06/09	10:27

Notes

"THIS IS AN EXACT COPY OF THE ORIGINAL DOCUMENT"
BY MLA DATE 10/27/09

MPI RESEARCH

TEMPORARY SAMPLE STORAGE FORM

To be completed during ExyLIMS Login

Project #: P 5196

Login #: L 14346

Initials / Date: MCA 10/27/09

One form to be completed for each package

Date / Time Received: 10/26/09 1025

Received By: Mark Ammerman

Shipper: FedEx

Shipper Package ID: 8694 2057 8178

Temperature (deg C) / Thermometer ID: -79.2 / D0001775

Temperature Control Method: dry ice-acetone

Temporary Storage Location: walk in freezer 11

Condition of sample(s):

✓ Good – Package and contents uncompromised
___ Fair – Package damaged / contents uncompromised
___ Poor – Package and contents compromised

Notes:

FedEx Express US Airbill

FedEx Tracking Number 8694 2057 8178

1 From

Date 10/5/07 [redacted]

Sender's Name Darrell Kavanaugh Phone 706 [illegible]

Company USA [illegible]

Address [illegible] Dept./Floor/Suite/Room

City Athens State GA ZIP [illegible]

2 Your Internal Billing Reference

3 To

Recipient's Name [illegible] Phone [illegible]

Company MPI Research Labs

Recipient's Address [illegible] Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City [illegible] State PA ZIP [illegible]

8694 2057 8178

Recipient's Copy

4a Express Package Service — *Packages up to 150 lbs.*

- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge. One-pound rate.

* To most locations.

4b Express Freight Service — *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ____ ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [x] Dry Ice — Dry ice, 9, UN 1845 1 x 2.5 kg
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment *Bill to:* — Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check
- [ ] Obtain Recip Acct. No.

[redacted]

Total Packages	Total Weight	Total Declared Value†
1		$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details.

Credit Card Auth.

8 Residential Delivery Signature Options — If you require a signature, check Direct or Indirect.

- [x] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.

520

Rev. Date 10/06-Part #158281-©1994-2006 FedEx-PRINTED IN U.S.A. SRY

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BY: [illegible] DATE 10/27/07

MPI RESEARCH

3058 Research Drive
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Fax: 814-231-1580

SAMPLE PROCESSING RECORD

Processing Requested By Employee: Mark Neeley

MPI Research Assigned Project Number: P0005196

MPI Research Assigned Login Number: L0019346

MPI Sample Number	MPI Container Number	Matrix	Equipment Description/Equipment ID Number
L0019346-0001	C0457624	Solid	RobotCoupe / IN0006779
L0019346-0002	C0457625	Solid	RobotCoupe / IN0006779
L0019346-0003	C0457626	Solid	RobotCoupe / IN0006779
L0019346-0004	C0457627	Solid	RobotCoupe / IN0006779

Date Processed: 10/29/2009 Time Started: 14:57 Time Finished: 17:20

Processed By Employee/Employees: Eric Edwards

Processing Instructions/Comments:

B

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Analytical Report

Summary of Fluorochemical Residues in Liver Samples

Sample ID	PFOS Perfluorooctanesulfonate Analyte Found (ng/g, ppb)
Deer # 7 3.5 yr male-liver	2750
Deer # 7 3.5 yr male-liver*	2600

*Laboratory Duplicate
ND = Not detected = Response is below the LOD of 1.0 ng/g (ppb).
NQ = Not quantifiable = Response is between the LOD and the LOQ of 10 ng/g (ppb).

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Recovery Summary of Fluorochemical Residues in Liver Samples

Sample Description	Amount Spiked (ng/g	Amt Found in Sample (ng/g	PFOS Amount Recovered (ng/g	Recovery (%)
LCS A (Data set 112409B) 2000 ng/g	2000	16.5	2340	116
LCS B (Data set 112409B) 2000 ng/g	2000	16.5	2170	108
Deer # 7 3.5 yr male-liver (L19346-4 Spk C, 2000 ng/g Lab Spike)	2000	2750	4770	101

ND = Not detected = Response is below the LOD of 1.0 ng/g.
NQ = Not quantifiable = Response is between the LOD and the LOQ of 10 ng/g.

C

RAW DATA REPORT

Sponsor Study No:	NA	Limit of Quantitation:	10 ng/g	Set No:	112409B
MPI Study No:	L19346	Injection Volume:	15 µL	Analyst:	Mark Neeley
Analyte:	PFOS	Matrix:	Deer Liver	Instrument Type:	LC/MS/MS Unit # 9
Ions Monitored:	499 -> 80	Sample Weight	1.0 g	Extraction Date:	11/24/09
Site:	NA			Analyzed on:	11/24/09

MPI Research ID	Sponsor ID	Sample Code	Sample Index No.	Std. Conc. (ng/mL)	Internal Std. Conc. (ng/mL)	Aliquot Factor (AF)	Dilution Factor (DF)	Peak Area	Internal Standard Peak Area	Analyte Found (ng/g)	Amount Analyte Added (ng/g)	Recovery (%)
SS33618	-	CS	1	0.100	1.0	-	-	34904	308667	-	-	-
SS33617	-	CS	2	0.200	1.0	-	-	67282	306260	-	-	-
SS33616	-	CS	3	0.500	1.0	-	-	162562	307963	-	-	-
SS33615	-	CS	4	1.00	1.0	-	-	335048	313198	-	-	-
SS33614	-	CS	5	2.00	1.0	-	-	663251	302152	-	-	-
SS33613	-	CS	6	5.00	1.0	-	-	1540686	295604	-	-	-
Methanol Wash	-	W	7	-	-	-	-	633	0	-	-	-
Methanol Wash	-	W	8	-	-	-	-	833	0	-	-	-
Control	MC4313 Deer Liver Control	C	9	-	1.0	20	1	221553	250243	16.5	-	-
LCS A	MC4313 Deer Liver Spike A, 2000 ng/g	LCS	10	-	0.5	20	100	248833	100052	2338	2000	116
LCS B	MC4313 Deer Liver Spike B, 2000 ng/g	LCS	11	-	0.5	20	100	278488	120785	2167	2000	108
L19346-4 Spk C	Deer # 7 3.5 yr male-liver Spike C, 2000 ng/g	LF	12	-	0.5	20	100	590437	116645	4767	2000	101
L19346-4	Deer # 7 3.5 yr male-liver	S	13	-	0.5	20	100	327125	111737	2754	-	-
L19346-4 Dup	Deer # 7 3.5 yr male-liver Duplicate	S	14	-	0.5	20	100	314680	113731	2602	-	-
SS33615	CCV, 1.0 ng/mL	CCV	15	1.00	1.0	1	1	324083	303718	1.00	1.00	100

Analyte Found (ng/g) = ((((analyte peak area/IS peak area) - intercept) / slope) x IS conc.) x AF x DF/Sample weight

Recovery (%) = $\frac{\text{[Analyte found (ng/g)-Analyte found in control (ng/g)]}}{\text{amount Analyte added (ng/g)}} \times 100$

Standard Curve : Linear (1/x weighted)
Intercept = 0.00878
Slope = 1.06
Coef. Of Det. = 0.9994

CS = Calibration standard
CCV = Continuing Calibration Verification
C = Control sample
S = Sample

LF = Lab fortified sample
FF = Field fortified sample
LCS = Laboratory Control Spike

W = Methanol Wash
ND = Not detected = Response between 0 and LOD
NQ = Not quantifiable = Response between LOD and LOQ

Spreadsheet prepared by: MDN / 11-25-09

MPI RESEARCH

3058 Research Drive
State College, PA 16801

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Internal Chain of Custody/Fortification Sheet

MPI Reseach Study Number: L19346 Matrix: Deer Liver
Sponsor Study/Protocol No: NA

The samples listed below were removed from Freezer No. 36
Time 9:42 AM Date 11-24-09 Initials MDH

CLIENT SAMPLE ID	MPI RESEARCH ID NUMBER	WEIGHT (g)	FORTIFICATION (ng)
na	MC4313 Control	1.0	-
na	MC4313 LCS A	1.0	2000
na	MC4313 LCS B	1.0	2000
Deer #7 3.5 yr male-liver	L19346-4 Spk C	1.0	2000
Deer #7 3.5 yr male-liver	L19346-4	1.0	-
Deer #7 3.5 yr male-liver	L19346-4 Dup	1.0	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

	Spiking Solution Used		Volume Used for Spiking	Initial/Date
MC4313 LCS A	SS33971	(100000 ng/mL)	20 µL (5-100µL auto-pipette)	MDH / 11-24-09
MC4313 LCS B	SS33971	(100000 ng/mL)	20 µL (5-100µL auto-pipette)	MDH / 11-24-09
L19346-4 Spk C	SS33971	(100000 ng/mL)	20 µL (5-100µL auto-pipette)	MDH / 11-24-09
MC4313 Control	SS0032652	(100 ng/mL)	200 µL (50-250µL auto-pipette)	MDH / 11-24-09
All Samples (except control)	SP0011659	(50000 ng/mL)	20 µL (5-100µL auto-pipette)	MDH / 11-24-09

All samples were weighed on balance 20.
Time 9:43 AM Date 11-24-09 Initials MDH

After weighing samples were returned to Freezer No. 36
Time 9:55 AM Date 11-24-09 Initials MDH

Comments:

Analysis Summary:

Data Set: 112409B Initials/Date: MDH / 11-27-09
Data Set: — Initials/Date: — / —
Data Set: — Initials/Date: — / —

Set extraction/analysis data verified by: _____ Date: _____

MPI RESEARCH

3058 Research Drive
State College, PA 16801

Phone: 814-272-1039
Fax: 814-231-1580

SAMPLE EXTRACTION AND ANALYSIS TRACKING SHEET

MPI STUDY NUMBER: L19346
MATRIX: Deer Liver

METHOD: V5821
ANALYTES: PFOA & PFOS

PROTOCOL NUMBER: NA

Client ID	MPI Research ID	STEP 1	STEP 2	STEP 3	STEP 4	STEP 5	STEP 6	Dilutions (mL/mL)	STEP 7	Dilutions (mL/mL)	STEP 8	Reagents/ Materials	ExyLims ID
na	MC4313 Control							—		—	—	Acetonitrile RE	0047372
na	MC4313 LCS A							0.01/1.0		—	—	Water RE	0048163
na	MC4313 LCS B							0.01/1.0		—	—	Methanol RE	0048220
Deer #7 3.5 yr male-liver	L19346-4 Spk C							0.01/1.0		—	—	SPE Column	MA0053393
Deer #7 3.5 yr male-liver	L19346-4							0.01/1.0		—	—	*Initials/Date*	EDD 11/24/09
Deer #7 3.5 yr male-liver	L19346-4 Dup							0.01/1.0		—	—	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	**HPLC**	
-	-	-	-	-	-	-	-	-	-	-	-	Methanol	RE47890
-	-	-	-	-	-	-	-	-	-	-	-	2 mM Ammonium Acetate in Water	5645925
-	-	-	-	-	-	-	-	-	-	-	-		
**Initials/Date*	-	MDN 11-24-09	MDN 11-24-09	EDD 11/24/09	EDD 11/24/09	EDD 11/24/09	EDD 11/24/09	MDN 11-24-09	MDN 11-24-09	—	—	*Initials/Date*	MDN 11-24-09

STEP 1: Weigh 1 g of liver into a 50 mL disposable centrifuge tube and fortify if appropriate. Add ~~0.2~~ 0.02 mL of internal standard (~~100~~ 50000 ng/mL).
STEP 2: Add water to the sample for a final volume of 10 mL. Homogenize using a tissumizer for ~ 1 minute.
STEP 3: Transfer 1.0 mL of the sample to a 15 mL centrifuge tube. Add 5 mL of ACN and shake for ~20 minutes on a wrist action shaker.
STEP 4: Centrifuge tubes at ~3000 for ~5 minutes. Carefully decant supernatant into a 50 mL disposable centrifuge tube and add 35 mL of water.
STEP 5: SPE Cleanup: Condition column with ~10 mL of methanol followed by ~5 mL of water at a rate of ~1 drop/second. Discard all washes. Do not allow column to go dry.
STEP 6: Load the sample onto the SPE Column. Discard the eluate. Elute with 2 mL of methanol into a 15 mL centrifuge tube. Transfer the extract into autosampler vials.
STEP 7: LC/MS/MS analysis.
STEP 8: LC/MS/MS reanalysis.

*Initials and date under each step indicates the personnel that performed this step.

COMMENTS: MDN 12-16-09

Final extracts stored in refrigerator 34 Initials: EDD Date: 11/24/2009

alyst Version: 1.4.2
inting Time: 3:33:23 PM
rinting Date: Tuesday, November 24, 2009

MPI Study: L19346
MPI Set No.: 112409B

Operator: Mark Neeley
Instrument No.: LC/MS/MS #9

MDP 11-24-09

oject: \\sc1wp5556\mdrive\PE SCIEX DATA\Projects\P5195 Batch:09_112409B Tab:Sample Set:SET1 AcqMethod:P5195_102909.da

Sample

	Sample Name	Sample ID	Vial Position	Data File
	SS33618	Calibration Standard, 0.1 ng/mL	11	09_112409B\112409B
	SS33617	Calibration Standard, 0.2 ng/mL	12	09_112409B\112409B
3	SS33616	Calibration Standard, 0.5 ng/mL	13	09_112409B\112409B
	SS33615	Calibration Standard, 1.0 ng/mL	14	09_112409B\112409B
	SS33614	Calibration Standard, 2.0 ng/mL	15	09_112409B\112409B
6	SS33613	Calibration Standard, 5.0 ng/mL	16	09_112409B\112409B
	Methanol Wash	Methanol Wash	91	09_112409B\112409B
	Methanol Wash	Methanol Wash	91	09_112409B\112409B
9	Control	MC4313 Deer Liver Control	27	09_112409B\112409B
0	LCS A	MC4313 Deer Liver Spike A, 2000 ng/g	28	09_112409B\112409B
1	LCS B	MC4313 Deer Liver Spike B, 2000 ng/g	29	09_112409B\112409B
12	L19346-4 Spk C	Deer # 7 3.5 yr male-liver Spike C, 2000 ng/g, DF=100	30	09_112409B\112409B
3	L19346-4	Deer # 7 3.5 yr male-liver, DF=100	31	09_112409B\112409B
14	L19346-4 Dup	Deer # 7 3.5 yr male-liver Duplicate, DF=100	32	09_112409B\112409B
5	SS33615	CCV, 1.0 ng/mL	14	09_112409B\112409B

LC/MS/MS SYSTEM AND OPERATING CONDITIONS

Protocol No: NA | MPI Study No: L19346

Instrument: AB API 4000 Biomolecular Mass Analyzer, **(LC/MS/MS #9)**
SCIEX Turbo Ion Spray Liquid Introduction Interface
Turbo Ion spray temperature = 450 °C

Computer: Dell OptiPlex GX 110

Software: PE Sciex Analyst 1.4

HPLC Equipment: Hewlett Packard (HP) Series 1100
HP Quat Pump — HP Vacuum Degasser
HP Autosampler — HP Column Oven

HPLC Column: Phenomenex Luna C8 (2) Mercury, 2cm x 4mm, 3 µm (ExyLIMS ID: MA0052622)

Column Temperature: 35°C

Mobile Phase (A): 2 mM Ammonium Acetate in Water (ExyLIMS ID: SL0045925)

Mobile Phase (B): Methanol (ExyLIMS ID: RE0047880)

Injected Volume: 15 µL

Time (min)	% A	% B	Flow Rate (µL/min)
0.0	90	10	750
0.5	90	10	750
2.0	10	90	750
5.0	10	90	750
5.1	0	100	750
6.0	0	100	750
6.1	90	10	750
10.0	90	10	750

Ions monitored:

Analyte	Parent ion	Daughter ion(s)	Dwell (secs)
PFOS	499	80	0.200
^{13}C PFOS (m+4) Internal Standard	503	80	0.200

Analyst: Mark Neeley MNN 11-24-09
MPI Research, Inc.
3058 Research Drive, State College, PA 16801
Phone: (814) 272-1039 FAX: (814) 231-1580

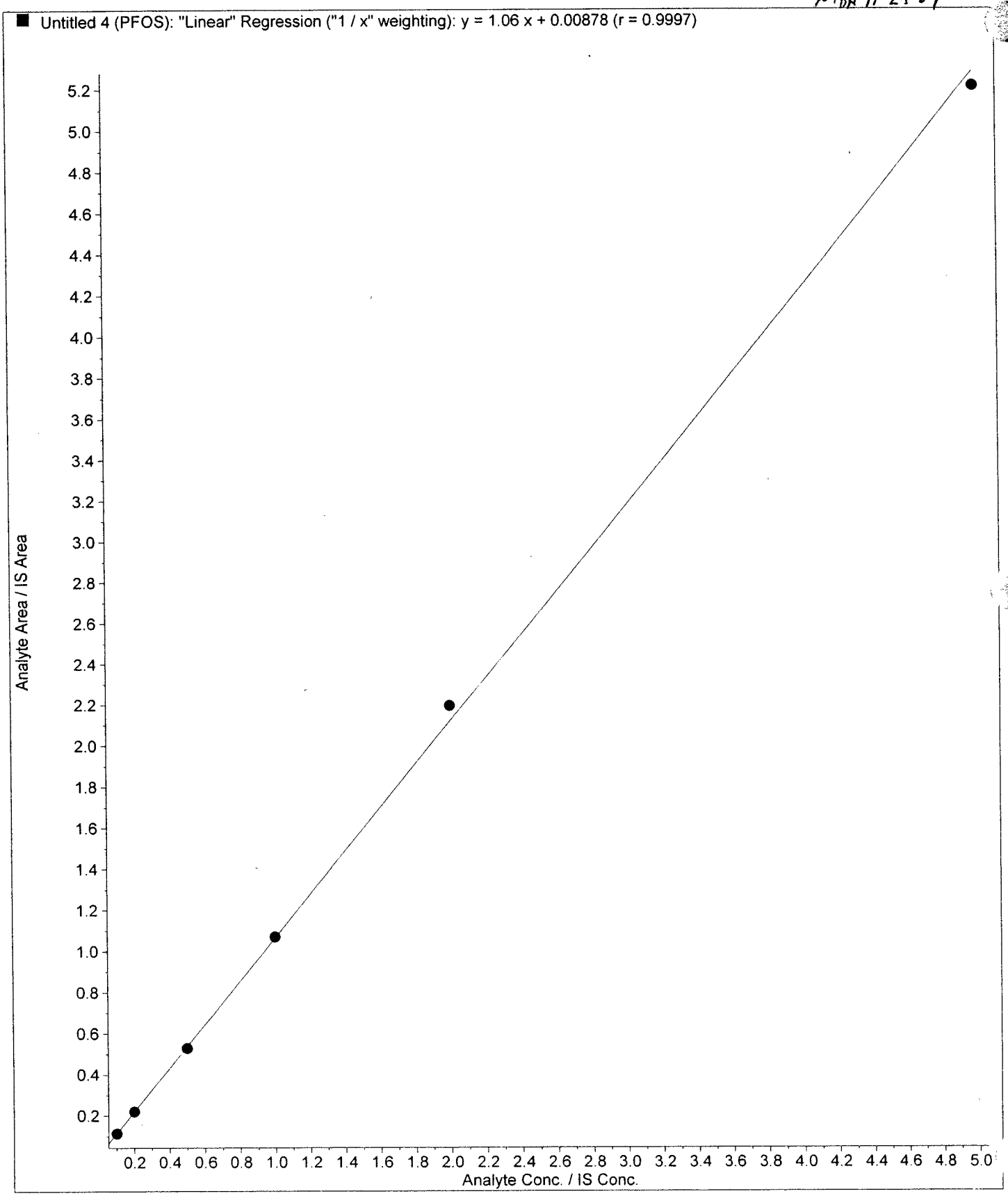
All Handwritten Peak ID's by: MNN 11-25-09

Printing Time: 9:09:26 AM
Printing Date: Wed, Nov 25, 2009
Analyst Version: 1.4.2

MPI Study No.: L19346
Set No.: 112409B

Operator: Mark Neeley
Instrument No.: LC/MS/MS # 9

MDN 11-25-09



MPI Research, Inc.

Printing Time: 9:10:18 AM
Printing Date: Wed, Nov 25, 2009
Analyst Version: 1.4.2

MPI Study No.: L19346
Set No.: 112409B

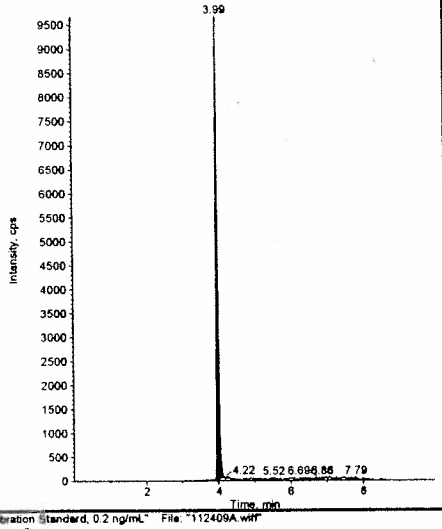
Operator: Mark Neeley
Instrument No.: LC/MS/MS # 9

Sample Name: "SS33618" Sample ID: "Calibration Standard, 0.1 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 1
Sample Type: Standard
Concentration: 0.100 ng/mL
Calculated Conc: 0.0940 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 6:29:07 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 14828 counts
Height: 9657 cps
Start Time: 3.87 min
End Time: 4.16 min

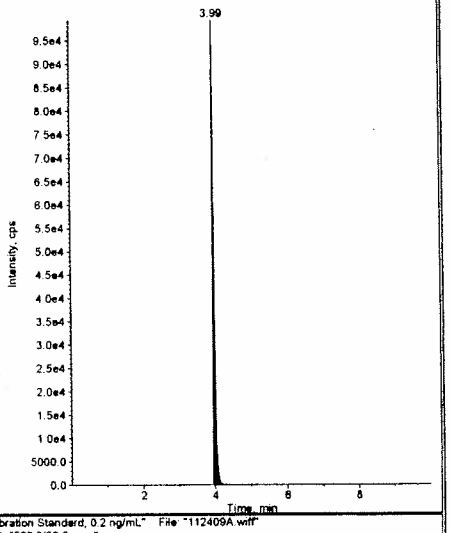


Sample Name: "SS33618" Sample ID: "Calibration Standard, 0.1 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 1
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 6:29:07 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 312440 counts
Height: 99356 cps
Start Time: 3.92 min
End Time: 4.20 min

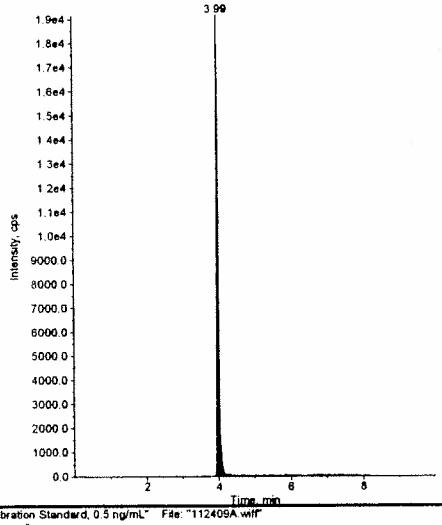


Sample Name: "SS33617" Sample ID: "Calibration Standard, 0.2 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 2
Sample Type: Standard
Concentration: 0.200 ng/mL
Calculated Conc: 0.200 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 6:40:03 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 67704 counts
Height: 19250 cps
Start Time: 3.83 min
End Time: 4.20 min

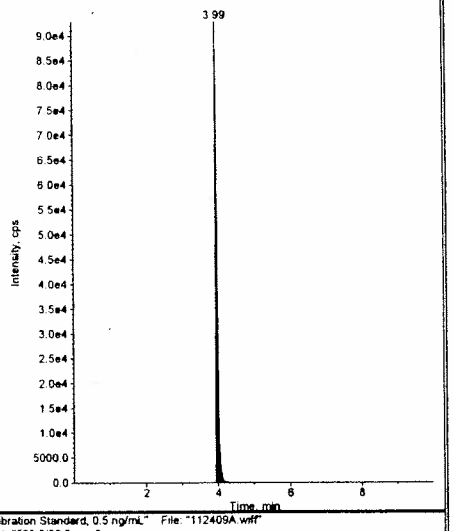


Sample Name: "SS33617" Sample ID: "Calibration Standard, 0.2 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 2
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 6:40:03 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 304225 counts
Height: 93045 cps
Start Time: 3.91 min
End Time: 4.20 min

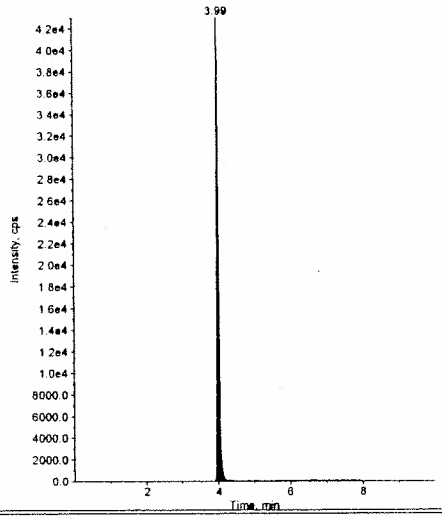


Sample Name: "SS33616" Sample ID: "Calibration Standard, 0.5 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 3
Sample Type: Standard
Concentration: 0.500 ng/mL
Calculated Conc: 0.503 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 6:50:58 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 160861 counts
Height: 43402 cps
Start Time: 3.87 min
End Time: 4.24 min

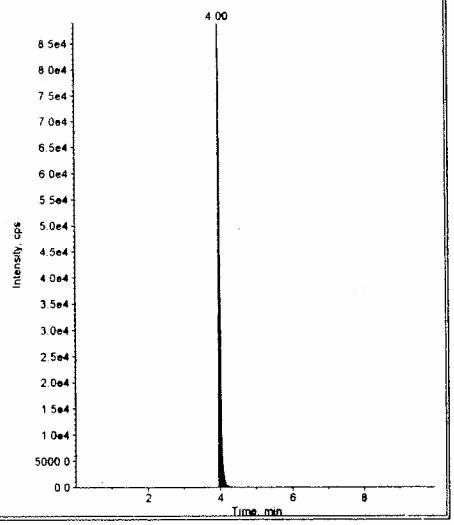


Sample Name: "SS33616" Sample ID: "Calibration Standard, 0.5 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 3
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 6:50:58 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 4.00 min
Area: 299113 counts
Height: 90494 cps
Start Time: 3.94 min
End Time: 4.21 min



Initials MN

Date 11-25-09

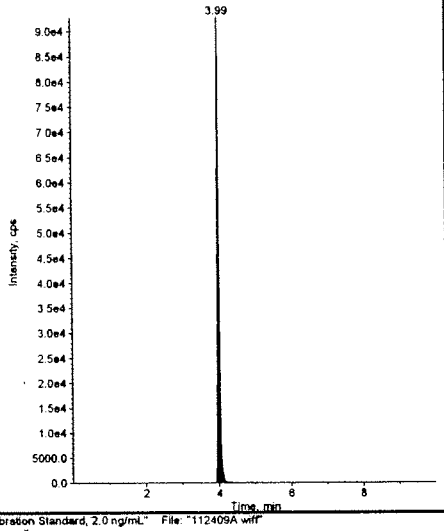
Sample Index 1 To 15

Sample Name: "SS33615" Sample ID: "Calibration Standard, 1.0 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 4
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: 1.04 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 7:01:54 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 336861 counts
Height: 93331 cps
Start Time: 3.88 min
End Time: 4.25 min

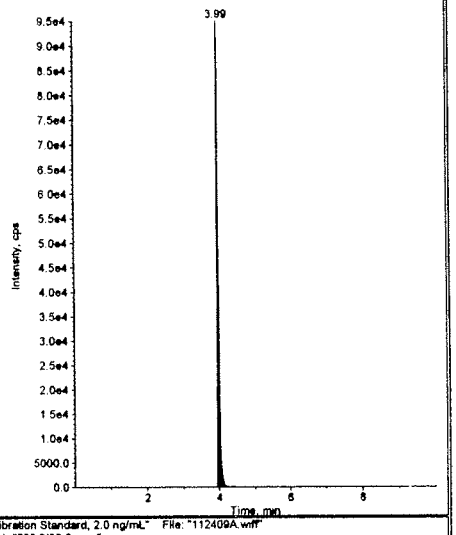


Sample Name: "SS33615" Sample ID: "Calibration Standard, 1.0 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 4
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:01:54 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 306906 counts
Height: 95692 cps
Start Time: 3.92 min
End Time: 4.20 min

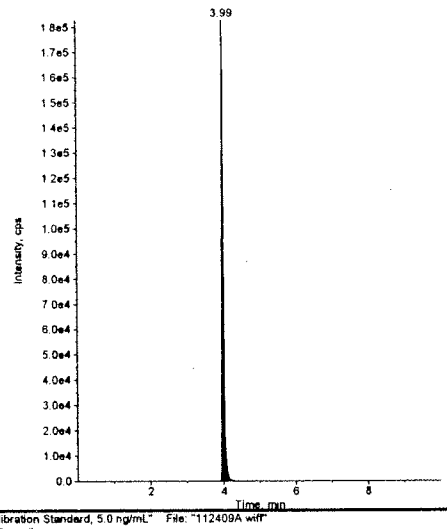


Sample Name: "SS33614" Sample ID: "Calibration Standard, 2.0 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 5
Sample Type: Standard
Concentration: 2.00 ng/mL
Calculated Conc: 2.07 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 7:12:51 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 660504 counts
Height: 183265 cps
Start Time: 3.87 min
End Time: 4.29 min

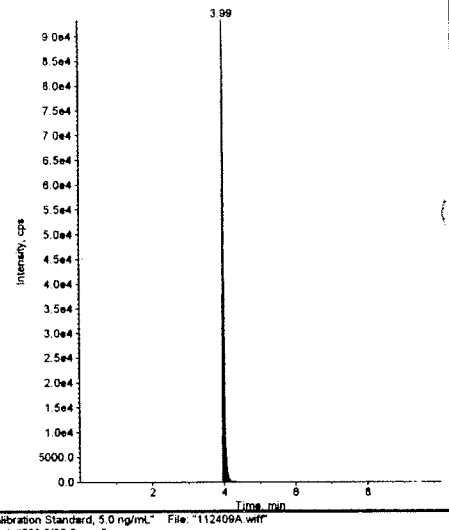


Sample Name: "SS33614" Sample ID: "Calibration Standard, 2.0 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 5
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:12:51 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 304605 counts
Height: 93766 cps
Start Time: 3.92 min
End Time: 4.21 min

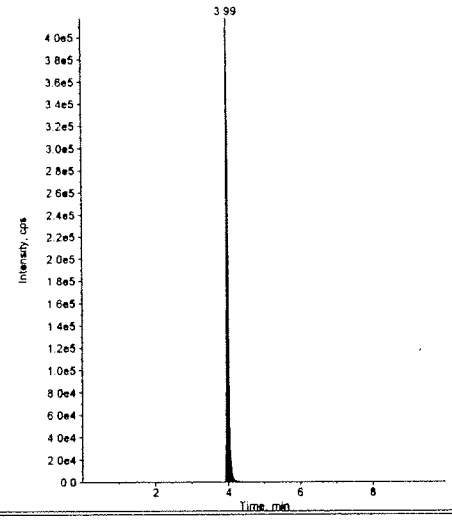


Sample Name: "SS33613" Sample ID: "Calibration Standard, 5.0 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 6
Sample Type: Standard
Concentration: 5.00 ng/mL
Calculated Conc: 4.90 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 7:23:47 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 1544063 counts
Height: 428162 cps
Start Time: 3.87 min
End Time: 4.44 min

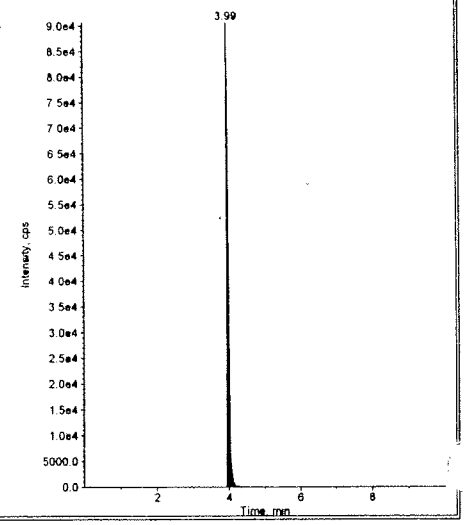


Sample Name: "SS33613" Sample ID: "Calibration Standard, 5.0 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 6
Sample Type: Standard
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:23:47 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 301538 counts
Height: 92579 cps
Start Time: 3.92 min
End Time: 4.18 min

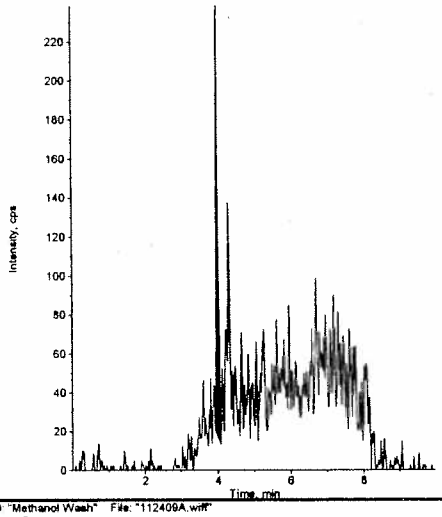


Sample Name: "Methanol Wash" Sample ID: "Methanol Wash" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 7
Sample Type: Solvent
Concentration: 0.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:34:43 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

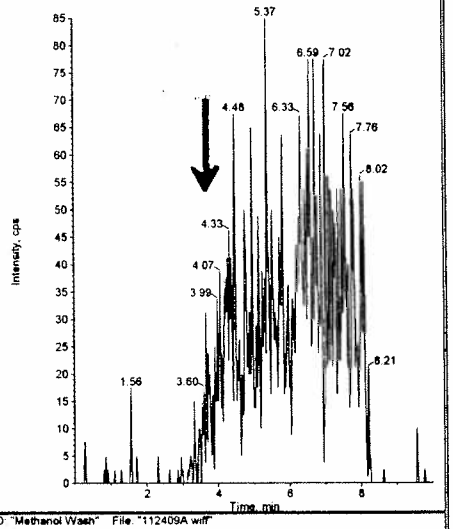
Int. Type: Base To Base
Retention Time: 4.00 min
Area: 857 counts
Height: 228 cps
Start Time: 3.94 min
End Time: 4.09 min



Sample Name: "Methanol Wash" Sample ID: "Methanol Wash" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 7
Sample Type: Solvent
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:34:43 PM

Modified: No

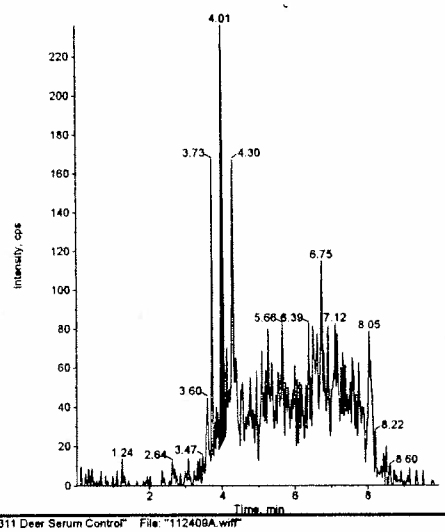


Sample Name: "Methanol Wash" Sample ID: "Methanol Wash" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 8
Sample Type: Solvent
Concentration: 0.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:45:39 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

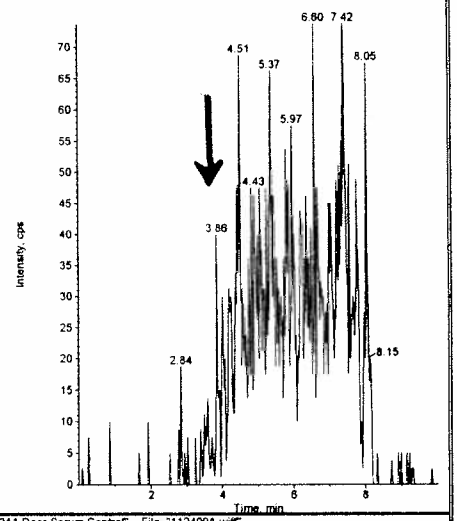
Int. Type: Base To Base
Retention Time: 4.01 min
Area: 935 counts
Height: 215 cps
Start Time: 3.92 min
End Time: 4.10 min



Sample Name: "Methanol Wash" Sample ID: "Methanol Wash" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 8
Sample Type: Solvent
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:45:39 PM

Modified: No

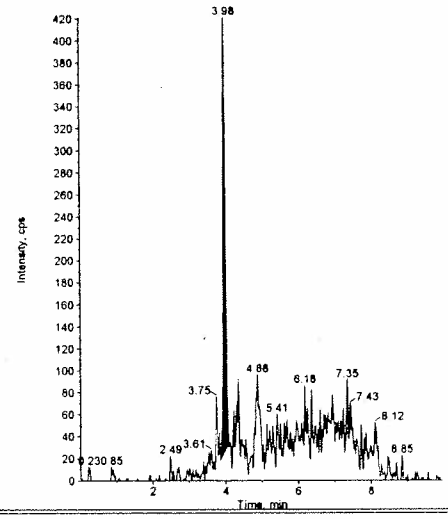


Sample Name: "Control" Sample ID: "MC4311 Deer Serum Control" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 9
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 0.371 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 7:56:34 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 3.98 min
Area: 1733 counts
Height: 404 cps
Start Time: 3.85 min
End Time: 4.09 min

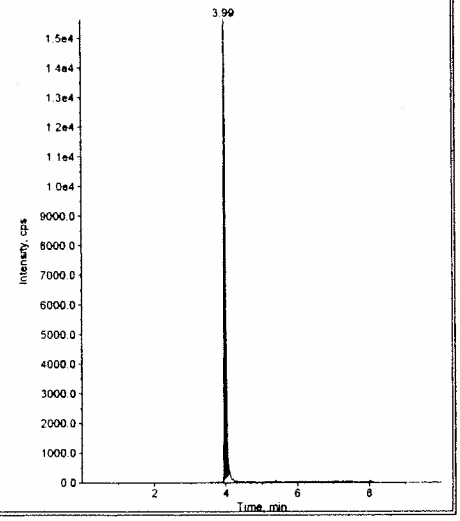


Sample Name: "Control" Sample ID: "MC4311 Deer Serum Control" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 9
Sample Type: Unknown
Concentration: 0.500 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 7:56:34 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 52828 counts
Height: 15933 cps
Start Time: 3.92 min
End Time: 4.11 min

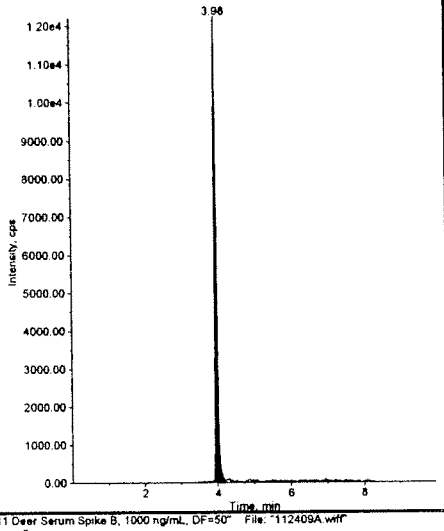


Sample Name: "LCS A" Sample ID: "MC4311 Deer Serum Spike A, 1000 ng/mL, DF=50" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 10
Sample Type: QC
Concentration: 1000. ng/mL
Calculated Conc: 794. ng/mL
Acq. Date: 11/24/2009
Acq. Time: 8:07:31 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.98 min
Area: 49776 counts
Height: 12516 cps
Start Time: 3.85 min
End Time: 4.22 min

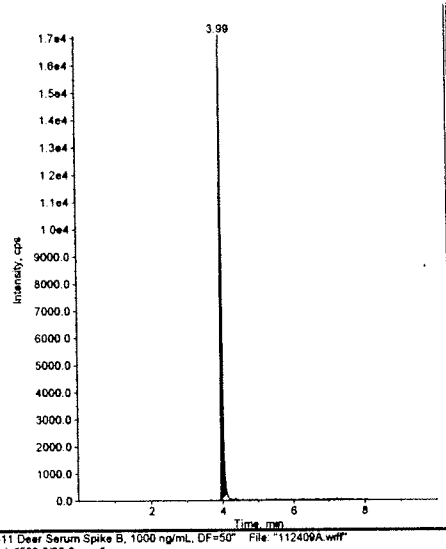


Sample Name: "LCS A" Sample ID: "MC4311 Deer Serum Spike A, 1000 ng/mL, DF=50" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 10
Sample Type: QC
Concentration: 0.500 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 8:07:31 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 59150 counts
Height: 17435 cps
Start Time: 3.92 min
End Time: 4.13 min

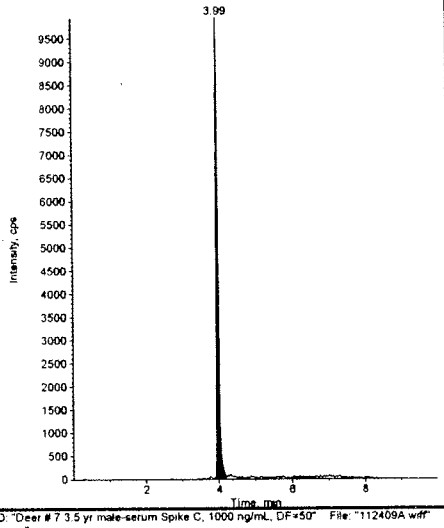


Sample Name: "LCS B" Sample ID: "MC4311 Deer Serum Spike B, 1000 ng/mL, DF=50" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 11
Sample Type: QC
Concentration: 1000. ng/mL
Calculated Conc: 624. ng/mL
Acq. Date: 11/24/2009
Acq. Time: 8:18:27 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 40217 counts
Height: 10000 cps
Start Time: 3.88 min
End Time: 4.21 min

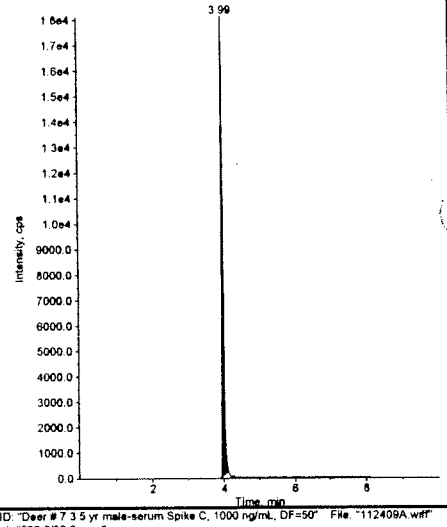


Sample Name: "LCS B" Sample ID: "MC4311 Deer Serum Spike B, 1000 ng/mL, DF=50" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 11
Sample Type: QC
Concentration: 0.500 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 8:18:27 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 60537 counts
Height: 18101 cps
Start Time: 3.92 min
End Time: 4.13 min

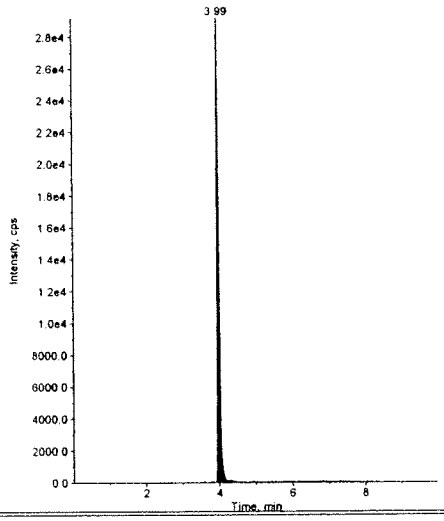


Sample Name: "L19345-2 Spk C" Sample ID: "Deer # 7 3.5 yr male-serum Spike C, 1000 ng/mL, DF=50" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 12
Sample Type: QC
Concentration: 1000. ng/mL
Calculated Conc: 1690. ng/mL
Acq. Date: 11/24/2009
Acq. Time: 8:29:23 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 115222 counts
Height: 29367 cps
Start Time: 3.88 min
End Time: 4.24 min

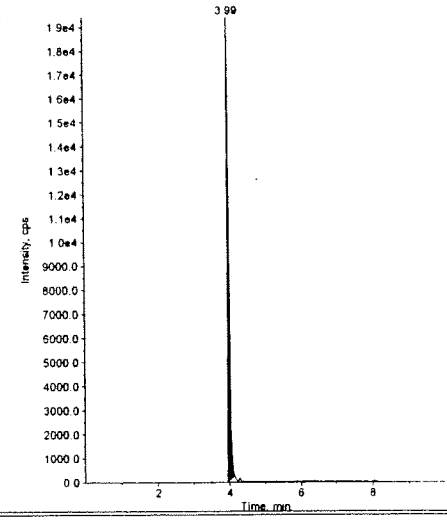


Sample Name: "L19345-2 Spk C" Sample ID: "Deer # 7 3.5 yr male-serum Spike C, 1000 ng/mL, DF=50" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 12
Sample Type: QC
Concentration: 0.500 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 8:29:23 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.99 min
Area: 64731 counts
Height: 19350 cps
Start Time: 3.94 min
End Time: 4.14 min

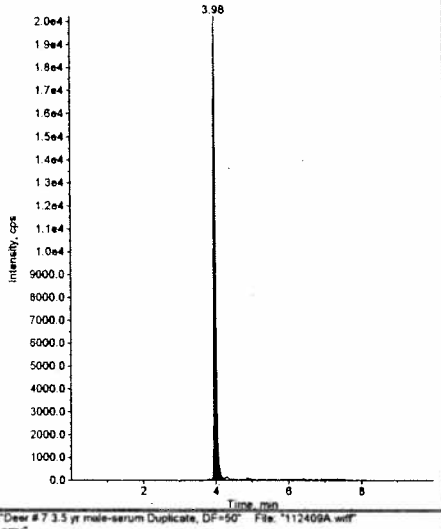


Sample Name: "L19345-2" Sample ID: "Deer # 7 3.5 yr male-serum, DF=50" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 13
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1000. ng/mL
Acq. Date: 11/24/2009
Acq. Time: 8:40:19 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 3.98 min
Area: 79961 counts
Height: 20386 cps
Start Time: 3.87 min
End Time: 4.21 min

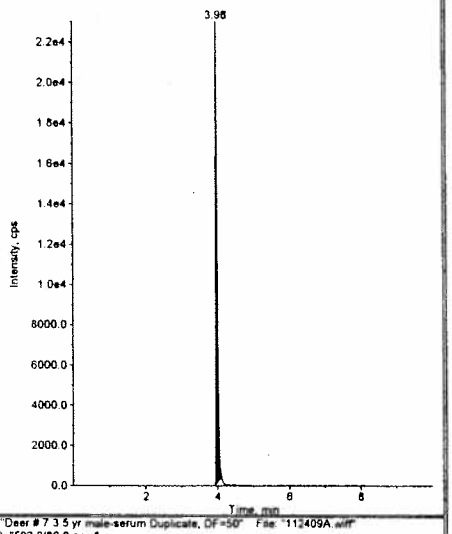


Sample Name: "L19345-2" Sample ID: "Deer # 7 3.5 yr male-serum, DF=50" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 13
Sample Type: Unknown
Concentration: 0.500 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 8:40:19 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.98 min
Area: 75497 counts
Height: 23667 cps
Start Time: 3.92 min
End Time: 4.11 min

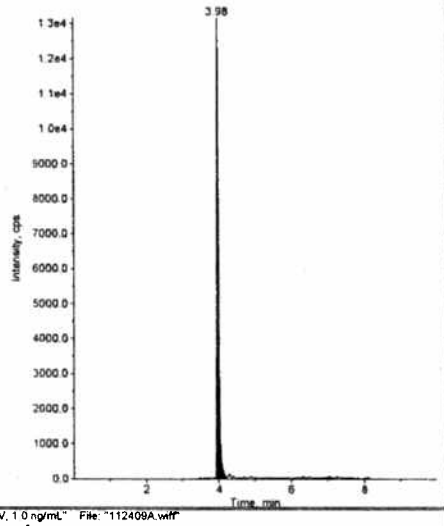


Sample Name: "L19345-2 Dup" Sample ID: "Deer # 7 3.5 yr male-serum Duplicate, DF=50" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 14
Sample Type: Unknown
Concentration: N/A
Calculated Conc: 1080 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 8:51:16 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Valley
Retention Time: 3.98 min
Area: 51058 counts
Height: 13334 cps
Start Time: 3.87 min
End Time: 4.20 min

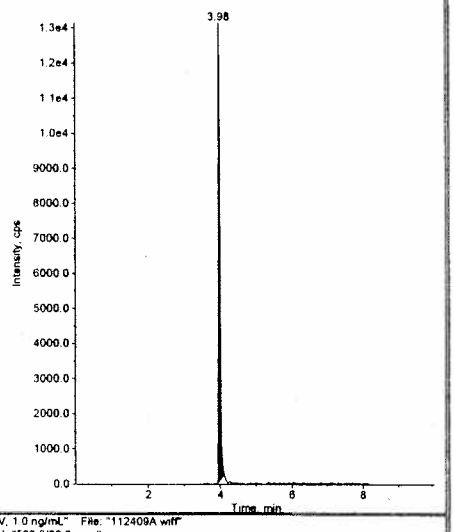


Sample Name: "L19345-2 Dup" Sample ID: "Deer # 7 3.5 yr male-serum Duplicate, DF=50" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 14
Sample Type: Unknown
Concentration: 0.500 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 8:51:16 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.98 min
Area: 44766 counts
Height: 13442 cps
Start Time: 3.92 min
End Time: 4.11 min

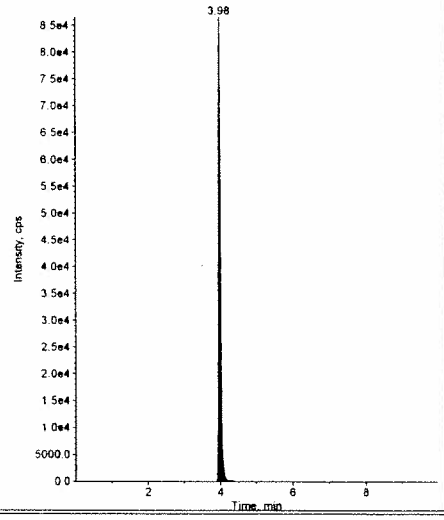


Sample Name: "SS33615" Sample ID: "CCV, 1.0 ng/mL" File: "112409A.wiff"
Peak Name: "PFOS" Mass(es): "499.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 15
Sample Type: QC
Concentration: 1.00 ng/mL
Calculated Conc: 1.04 ng/mL
Acq. Date: 11/24/2009
Acq. Time: 9:02:13 PM

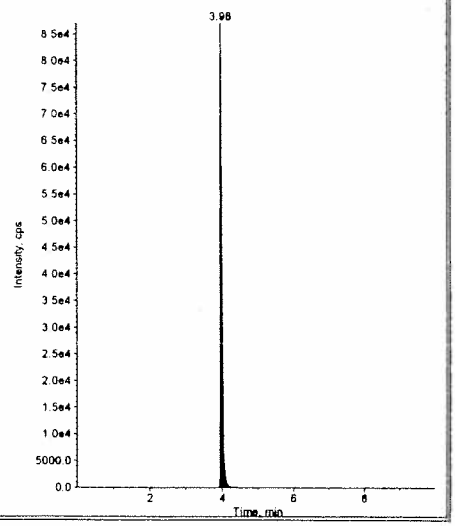
Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 15.73 cps
Area Threshold: 78.65 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.98 min
Area: 331783 counts
Height: 87575 cps
Start Time: 3.88 min
End Time: 4.26 min



Sample Name: "SS33615" Sample ID: "CCV, 1.0 ng/mL" File: "112409A.wiff"
Peak Name: "13CPFOS(M+4)(IS)" Mass(es): "503.0/80.0 amu"
Comment: "" Annotation: ""

Sample Index: 15
Sample Type: QC
Concentration: 1.00 ng/mL
Calculated Conc: N/A
Acq. Date: 11/24/2009
Acq. Time: 9:02:13 PM

Modified: No
Proc. Algorithm: Analyst Classic
Bunching Factor: 1
Noise Threshold: 140.21 cps
Area Threshold: 701.07 cps
Num. Smooths: 1
Sep. Width: 0.20
Sep. Height: 0.01
Exp. Peak Ratio: 5.00
Exp. Adj. Ratio: 4.00
Exp. Val. Ratio: 3.00
RT Window: 30.0 sec
Expected RT: 4.06 min
Use Relative RT: No

Int. Type: Base To Base
Retention Time: 3.98 min
Area: 303071 counts
Height: 88300 cps
Start Time: 3.91 min
End Time: 4.20 min