

AR 226 - 3546

ATTACHMENT C



SOLVAY
SOLEXIS

November 11, 2003

Ms. Lynn Hall
GE Plastics
2148 North 2753rd Road
Ottawa, IL 61250

Dear Lynn,

I have attached a copy of the C8 report. Please let me know if I can provide any additional information.

Regards,

Tom Livesey
Algoflon PTFE Technical Service



Analytical Report

Fluorochemical Characterization of Wastewater Samples

Solvay Solexis PFOA Sampling 3/03

Oxygen Research Laboratory Report No. L34300

Testing Laboratory

Oxygen Research
3058 Research Drive
State College, PA 16801

Requester

Warren H. Buck, PhD.
Solvay Solexis
10 Leonard Lane
Thorofare, NJ 08086

1 Introduction

Results are reported for the analysis of water samples received by Centre Analytical Laboratories, Inc. (dba Exygen Research) (Exygen) from Solvay Solexis. This report presents results assigned to Exygen Research study number L34300.

Specific fluorochemical characterization by liquid chromatography / tandem mass spectrometry (LC/MS/MS) was requested for all samples. A single sample was received for analysis.

The samples were prepared and analyzed by LC/MS/MS for the following list of fluorochemicals:

- Table 1: Target Analysis

Compound Name	Acronym
Perfluorooctanoic Acid	PFOA

2 Sample Receipt

The sample was submitted in a plastic container, at ambient temperature. No sample collection date was supplied. The sample was received on 3/14/03. Chain-of-custody information is presented in Attachment C.

3 Holding Times

The analytical method used was validated against a maximum holding time of 14 days in water samples. All samples were analyzed within 14 days of receipt.

4 Methods - Analytical and Preparatory

4.1 LC/MS/MS

4.1.1 Sample Preparation for LC/MS/MS Analysis

Water samples were initially treated with 200 uL of 250 mg/L sodium thiosulfate solution to remove residual chlorine. Solid phase extraction (SPE) was used to prepare the samples for LC/MS/MS analysis. A forty-milliliter portion of sample was transferred to a C₁₈ SPE cartridge. The cartridge was eluted with 40% methanol: water. The eluate was discarded. The cartridge was then eluted with 100% methanol. A 5 mL portion of methanol was collected for analysis by LC/MS/MS. This treatment resulted in an eight-fold concentration of the samples prior to analysis.

4.1.2 Sample Analysis by LC/MS/MS

A Hewlett-Packard HP1100 HPLC system coupled to a Micromass Ultima MS/MS was used to analyze the sample extracts. Analysis was performed using selected reaction monitoring (SRM). Samples were extracted on 3/26/03 and analyzed on 3/27/03 and 3/28/03. Raw analytical data can be found in Attachment D.

5 Analysis

5.1 Calibration

A 6-point calibration curve was analyzed at the beginning of the analytical sequence and throughout the run for the compounds of interest. The calibration points were prepared at 25, 50, 100, 250, 500, and 1000 ng/L (ppt), as perfluorooctanoic acid (PFOA). The instrument response versus the concentration was plotted for each point. Using linear regression with 1/x weighting, the slope, y-intercept and correlation coefficient (r) and coefficient of determination (r^2) were determined. A calibration curve is acceptable if $r \geq 0.992$ ($r^2 \geq 0.985$).

Calibration standards for MS/MS analysis were prepared using the same SPE procedure used for samples.

For the results reported here, calibration criteria were met.

5.2 Blanks

Extraction blanks were prepared and analyzed with every extraction batch of samples. The extraction blanks should not have any target analytes present at or above the concentration of the low-level calibration standard. For these samples, the extraction blanks were compliant.

Instrument blanks in the form of clean methanol solvent were also analyzed after every high-level calibration standard, and after known high-level samples. Again, the blanks should not have any target analytes present at or above the low-level calibration standard. For the samples presented here the instrument blanks are compliant.

5.3 Surrogates

Surrogate spikes are not a component of the LC/MS/MS analytical method.

5.5 Duplicates

The sample was analyzed in duplicate. Results are given along with the sample results in Attachment A.

5.6 Laboratory Control Samples

Milliq water was spiked with PFOA at 50 and 500 ng/L with each extraction set. All laboratory control samples showed recoveries between 70 and 130%.

6 Data Summary

Please see Attachment A for a detailed listing of the analytical results. All results are reported in (ng/L) parts per trillion as PFOA.

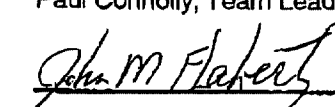
7 Data/Sample Retention

Samples are disposed of one month after the report is issued unless otherwise specified. All electronic data is archived on retrievable media and hard copy reports are stored in data folders maintained by Exygen.

8 Attachments

- 8.1 Attachment A: Results
- 8.2 Attachment B: Chain of Custody
- 8.3 Attachment C: LC/MS/MS Raw Analytical Data

9 Signatures

	3/28/03
Paul Connolly, Team Leader, LC/MS	Date
	3/28/03
John M. Flaherty, Vice President	Date

Other Lab Members Contributing to Data

Karen Smith

**Analytical
Report****Analytical Results Solvay Solexis Wastewater Sampling 3/03****Solvay Solexis Sample Identification****PFOA (ng/L)**

03083	74000
03083 (laboratory duplicate)	75100

Limit of Detection (LOD) for the procedure is approximately 10 ng/L

Limit of Quantitation (LOQ) for the procedure is 50 ng/L

ND - Compound not detected

NQ - Compound detected at a level between the LOD and LOQ. Result is not quantifiable.

ND < LOD < NQ < LOQ

X 3058 Research Drive
State College, PA 16801, USA
T: 814.272.1039
F: 814.231.1580
exygen.com

000181



SOLVAY SOLEXIS

March 13, 2003

John Flaherty
Exygen Research, Inc.
3058 Research Drive
State College, PA 16801

Dear John:

I have enclosed a sample of wastewater from one of our Algoflon® PTFE latex customers. I have given it the code 03083. I would like to have it analyzed for perfluorooctanoic acid (PFOA), in duplicate. Based on waste water samples from PVDF lattices that I have analyzed, I would guess that the concentration might be in the range of tens of parts per million, but I don't know specifically what the customer's process is. Please send the results to me, and bill Accounts Payable under purchase order #1230707. Please call if there are any questions about the request.

Sincerely,

Warren H. Buck, Ph. D.
Analytical Services Manager

03083 L34300-1
3/14/2003 1025
SLK



3058 Research Drive
State College, PA 16801

Phone: 800-281-3219
Fax: 814-272-1019

Laboratory Sample Log-in Sheet (Environmental)

Complete upon sample receipt:			
Client and/or Project Name	Solway Soleris		
Method of Delivery	☐ Walk-in ☐ Pick-up ☐ UPS ☒ FedEx ☐ Air Borne Tracking #: 4963 8168 8416 ☐ Other (explain)		
Chain of Custody	Custody Seals: ☒ present, & ☒ intact / ☐ broken (explain) ☐ absent		Chain of Custody Record: ☒ present ☐ absent
Temperature Preservation	Thermometer ID: 00234 Cooler ID: Box Cooler temp: N/A °C Cooler ID: Cooler temp: °C Cooler ID: Cooler temp: °C Cooler ID: Cooler temp: °C		Samples Received: ☐ on ice ☐ in ice melt ☐ with ice pack ☒ none
Explanation			
Completed by	Signature: [Signature] Date (Time): 3/14/2003 1025		
Complete during sample log-in:			
LIMS Log-in #	L34300		
Physical Condition	Samples intact? ☒ Yes ☐ No (explain)		
Chain of Custody	Samples received agree with COC record? ☒ Yes ☐ No (explain)		
Analysis Request	Analysis request clear? ☒ Yes ☐ No (explain)		
Preservation	Sample containers appropriate? ☐ Yes ☐ No (explain) Chemical preservation appropriate? ☐ Yes ☐ No (explain) Samples received within holding time? ☐ Yes ☐ No (explain) Sample volume/mass adequate? ☐ Yes ☐ No (explain)		
Explanation			
Completed by	Signature: [Signature] Date: 3/14/2003 1509		
Complete following resolution of any nonconformances:			
Client Contacted	☐ Yes Client: Date (Time): ☐ No		
Resolution			
Completed by	Signature: Date:		

LOGIN CHAIN OF CUSTODY REPORT (ln01)
Mar 14 2003, 03:22 pmLogin Number: L34300
Account: 2980 SOLVAY SOLEXIS

Laboratory	Client	Collect	Receive	Due
Sample Number	Sample Number	Date	Date	PR Date

L34300-1	03083		14-MAR-03	
----------	-------	--	-----------	--

SAMPLE STORED IN ROOM 008-D0002363.

Page 1

Signature: SeeDate: 3/14/03

000184

RAW DATA REPORT

Sponsor Study No: NA
 Exygen Study No: L34300
 Analyte: PFOA
 Ions Monitored: 413 -> 369
 Site: NA

Limit of Quantitation: 50 ng/L
 Injection Volume: 15 µL
 Matrix: Water
 Sample Volume: 40.0 mL
 Final Volume: 5.0 mL

Set No: 032603B SOLVAY
 Analyst: Karen Risha
 Instrument Type: LC/MS/MS Unit # 7
 Extraction Date: 03/26/03
 Analyzed on: 03/27-28/03

Exygen ID	Sponsor ID	Sample Code	Run No.	Std. Conc. (ng/L)	Dilution Factor	Peak Area	PFOA Found (ng/L)	Amount PFOA Added (ng/L)	Recovery (%)
XC031703-0	-	C	032603B-3001	0	-	0	-	-	-
XC031703-1	-	CS	032603B-3002	25	-	1254	-	-	-
XC031703-2	-	CS	032603B-3003	50	-	2231	-	-	-
XC031703-3	-	CS	032603B-3004	100	-	4792	-	-	-
XC031703-4	-	CS	032603B-3005	250	-	11709	-	-	-
XC031703-5	-	CS	032603B-3006	500	-	24453	-	-	-
XC031703-6	-	CS	032603B-3007	1000	-	48696	-	-	-
Methanol Wash	-	C	032603B-3008	-	-	0	-	-	-
0106020 Control	NA	C	032603B-3009	-	1	0	ND	-	-
0106020 Spk A	NA	LCS	032603B-3010	-	1	2670	48.9	50	98
0106020 Spk B	NA	LCS	032603B-3011	-	1	26791	499	500	100
L34300-1	03083	S	032603B-3012	-	100	39719	74000	-	-
L34300-1 Rep	03083	S	032603B-3013	-	100	40300	75100	-	-
XC031703-1	-	CS	032603B-3014	25	-	1833	-	-	-
XC031703-2	-	CS	032603B-3015	50	-	2803	-	-	-
XC031703-3	-	CS	032603B-3016	100	-	5777	-	-	-
XC031703-4	-	CS	032603B-3017	250	-	14527	-	-	-
XC031703-5	-	CS	032603B-3018	500	-	29456	-	-	-
XC031703-6	-	CS	032603B-3019	1000	-	59342	-	-	-

PFOA Found (ng/L) = (peak area - intercept) / slope x DF

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

Standard Curve: Linear (1/x weighted)

Intercept = 50.0803

Slope = 53.5769

Coef. Of Det. = 0.986138

CS = Calibration standard

C = Control sample

S = Sample

LF = Lab fortified sample

FF = Field fortified sample

LCS = Laboratory Control Spike

CK = Check Standard

ND = Not detected = Response between 0 and LOD

NQ = Not quantifiable = Response between LOD and LOQ

Spreadsheet prepared by:

6/13/20/03



March 13, 2003

John Flaherty
Exxygen Research, Inc.
3058 Research Drive
State College, PA 16801

Dear John:

I have enclosed a sample of wastewater from one of our Algoflon® PTFE latex customers. I have given it the code 03083. I would like to have it analyzed for perfluorooctanoic acid (PFOA), in duplicate. Based on waste water samples from PVDF lattices that I have analyzed, I would guess that the concentration might be in the range of tens of parts per million, but I don't know specifically what the customer's process is. Please send the results to me, and bill Accounts Payable under purchase order #1230707. Please call if there are any questions about the request.

Sincerely,

A handwritten signature in cursive script that reads "Warren H. Buck".

Warren H. Buck, Ph. D.
Analytical Services Manager

03083

L34380-1

3/14/2003 1025

SLK



3058 Research Drive
State College, PA 16801

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

SAMPLE TRANSFER SHEET

Protocol Number: NA Exygen Study Number: L34300

Exygen Sample #	Sponsor Sample #	Exygen Sample #	Sponsor Sample #
L34300-1	03083	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Amy Sheehan 03/26/03
Requested By (Printed Name/Date/Time)

Samples removed from: 0002363 Box# Shelf#
Samples removed from: Box# Shelf#

Samples transferred to the custody of Amy Sheehan
MSH 03/26/03 1220
Sample Custodian Initials/Date/Time

Samples received from custodian; Samples moved to Ref 32
MSH 03/26/03 1235
Laboratory Personnel Initials/Date/Time

Samples removed from ref. 32
Samples returned to 0002363 9/1/09
MSH 03/27/03 1700
Sample Custodian Initials/Date/Time

Comments:

December 19, 2002/6

000187



3058 Research Drive
State College, PA 16801

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

Internal Chain of Custody/Fortification Sheet

Oxygen Study Number: L34300

Matrix: Wastewater

Sponsor Study/Protocol No: NA

The samples listed below were removed from refrigerator No. 32

Time: 1240

Date 03/26/03

Initials AMB

[illegible]

	Spiking Solution Used	Volume Used for Spiking	Initial/Date
0106020 Spk A	F010603-4 (10 ng/mL)	200 μ L (200 μ L micropipet)	DL 1/03/26/03
0106020 Spk B	F010603-3 (100 ng/mL)	200 μ L (200 μ L micropipet)	DL 1/03/26/03
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

All samples were measured:

Time 1410

Date 03/26/03

Initials AMB

After measuring samples were returned to refrigerator No. 32

Time 1430

Date 03/26/03

Initials AMB

Comments: 200 μ L of 250 mg/mL sodium thiosulfate was added to all samples before spiking. Initials/Date: AMB 03/26/03

Analysis Summary:

Data Set: 032603B SOLVAY

Data Set: _____

Data Set: _____

Initials/Date: bl / 03/27/03

Initials/Date: /

Initials/Date: _____/_____

Set extraction/analysis data verified by: QMT

Date: 3/58/03

July 26, 2001/6

000188

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

EXYGEN STUDY NUMBER: L34300

METHOD: 01M-008-046

ANALYTES: PFOA

PROTOCOL NUMBER: NA

[illegible]

STEP 1: SPE column clean-up
STEP 2: Final volume to 5 mL collected in 15 mL polypropylene tubes
STEP 3: LC/MS/MS analysis
STEP 4: LC/MS/MS reanalysis.

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

\$\$\$ Method of Analysis for the Determination of Ammonium Perfluorooctanoate (APFO) in Water

COMMENTS:

Final extracts stored in refrigerator 32 Initials: AMB Date: 03/26/03

July 19, 2001/4

000189

PREPARATION OF EXTRACTED CALIBRATION STANDARDS Exygen STUDY NO. L34300

Protocol No.: None

Exygen Study No.: NA

Matrix: Type I Water[^]

Analytes: PFOA

Sample Vol: 40 mL

Sponsor Sample ID	Exygen Sample ID	Sample Description	Fort. Solution ID	Fort. Soln. Conc. (ng/mL)	Fort. Volume (μL)	Micropipet used (μL)	Fort. Level (ppt)	Final Solution ID #	Reagents/ Materials	Lot #
NA	0106020	Type I Water [^]	-	-	-	-	-	XC031703-0	Methanol	42350251
NA	0106020	Type I Water [^]	F010603-4	10	100	200	25	XC031703-1	C18 SPE	W204561
NA	0106020	Type I Water [^]	F010603-4	10	200	200	50	XC031703-2	Type I Water	NA
NA	0106020	Type I Water [^]	F010603-4	10	400	200	100	XC031703-3	-	-
NA	0106020	Type I Water [^]	F010603-3	100	100	200	250	XC031703-4	-	-
NA	0106020	Type I Water [^]	F010603-3	100	200	200	500	XC031703-5	-	-
NA	0106020	Type I Water [^]	F010603-3	100	400	200	1000	XC031703-6	-	-
NA	0106020	Type I Water [^]	F010603-6	100	100	200	250	XC031703-7	-	-
-	-	-	-	-	-	-	-	-	Initials/Date:	CEB 3/17/03

Vertical arrows in a column indicate identical values.

**This must be a unique number. Use this system: Extracted Calibration Soln ID #: XCMDDYY-0,1,2,3, etc.

Samples removed from refrigerator / freezer # 37 Time: 1000

Initials/Date: CEB / 3/17/03

40 mL of each sample measured using a 50 mL graduated cylinder.

After measuring, samples returned to refrigerator / freezer # 37 Time: 1530

Initials/Date: CEB / 3/17/03

Samples fortified:

Initials/Date: CEB / 03/17/03

SPE clean-up:

Initials/Date: CEB / 3/17/03

Final volume adjusted to 5 mL:

Initials/Date: CEB / 3/17/03

Extracts placed in refrigerator # 37

Initials/Date: CEB / 3/17/03

Comments:

[^]This type I water has been filtered through a hypercarb filter

* Method of Analysis for the Determination of Ammonium Perfluorooctanoate (APFO) in Water.

THIS IS AN EXACT COPY OF THE ORIGINAL DOCUMENT

BY CEB DATE 03/28/03

STANDARD EXPIRATION DATE: 3/31/03

MassLynx - Sample List

Sample List: C:\MassLynx\fluorochemicals.pro\SampleDB\032603B SOLVAY.SPL Page 1 of 2
Signature: By CENTRE\Karens (Karen Risha) Exygen STUDY NO. L34300
At Thursday, March 27, 2003 3:44:36 PM
Reason Create Sample list
Printed: Friday, March 28, 2003 9:20:48 AM KL 3/28/03 Page Position (1, 1)

Vial	File Name	LIMS ID	Client ID	Sample Description	Matrix	Sample Type	Conc (ng/L)	Conc B	Conc C	Test ID	DF
1	032603B-3001	---	---	XC031703-0, 0 ng/L Standard	---	Standard	0	---	---	0.000000	1.000000
2	032603B-3002	---	---	XC031703-1, 25 ng/L Standard	---	Standard	25	---	---	0.000000	1.000000
3	032603B-3003	---	---	XC031703-2, 50 ng/L Standard	---	Standard	50	---	---	0.000000	1.000000
4	032603B-3004	---	---	XC031703-3, 100 ng/L Standard	---	Standard	100	---	---	0.000000	1.000000
5	032603B-3005	---	---	XC031703-4, 250 ng/L Standard	---	Standard	250	---	---	0.000000	1.000000
6	032603B-3006	---	---	XC031703-5, 500 ng/L Standard	---	Standard	500	---	---	0.000000	1.000000
7	032603B-3007	---	---	XC031703-6, 1000 ng/L Standard	---	Standard	1000	---	---	0.000000	1.000000
8	032603B-3008	---	---	Methanol Wash	---	Blank	---	---	---	0.000000	1.000000
9	032603B-3009	---	---	0106020 Control	---	Blank	---	---	---	0.000000	1.000000
10	032603B-3010	---	---	0106020 Spk A, 50 ng/L	---	QC	50	---	---	0.000000	1.000000
11	032603B-3011	---	---	0106020 Spk B, 500 ng/L	---	QC	500	---	---	0.000000	1.000000
12	032603B-3012	---	---	L34300-1, DF=100	---	Analyte	---	---	---	0.000000	100.000000
13	032603B-3013	---	---	L34300-1 Rep, DF=100	---	Analyte	---	---	---	0.000000	100.000000
14	032603B-3014	---	---	XC031703-1, 25 ng/L Standard	---	Standard	25	---	---	0.000000	1.000000
15	032603B-3015	---	---	XC031703-2, 50 ng/L Standard	---	Standard	50	---	---	0.000000	1.000000
16	032603B-3016	---	---	XC031703-3, 100 ng/L Standard	---	Standard	100	---	---	0.000000	1.000000
17	032603B-3017	---	---	XC031703-4, 250 ng/L Standard	---	Standard	250	---	---	0.000000	1.000000
18	032603B-3018	---	---	XC031703-5, 500 ng/L Standard	---	Standard	500	---	---	0.000000	1.000000
19	032603B-3019	---	---	XC031703-6, 1000 ng/L Standard	---	Standard	1000	---	---	0.000000	1.000000

LC/MS/MS SYSTEM AND OPERATING CONDITIONSSponsor Protocol No: NAExygen Study No: L34300

Instrument: Micromass Quattro Ultima (LC/MS/MS Unit #7)

Computer: IBM IntelliStation M Pro

Software: Windows XP Professional: Version 5.1: Service Pack 1
Micromass Limited: MassLynx 4.0

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

HPLC Column: Genesis C-8, 5 cm x 2.1 mm i.d. x 4 μ (Exygen ID: 72A)
(JONESCHROMATOGRAPHY: Part No. FK5962E)

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

Analyst: Karen Risha
Exygen Research
3058 Research Drive, State College, PA 16801
Phone: (814) 272-1039 FAX: (814) 231-1580

kg 03/27/03

NOTE: The next 3 pages are computer generated printouts from the masslynx software program. The pages contain the instrument settings used for the analysis of this data set.

All Handwritten Peak ID's by: kg 03/28/03

Experiment Report

Page 1

File: c:\masslynx\fluorochemicals.pro\acqddb\pfoa.exp

Signature: At Thursday, March 27, 2003 14:13:39

By CENTRE\Karens (Karen Risha)

Reason update solvent delay

Printed: Thursday, March 27, 2003 14:50:03

KRD3/27/03

Name	Default Experiment
Creation Time	Thu 27 Mar 2003 14:13:39
Instrument Identifier	
Version Number	1.0
Duration (min)	8.0
Calibration Filename	C:\MassLynx\calibration.pro\ACQUDB\NaIRbCs032603.cal
Solvent Delay Start 2	8.0
Solvent Delay End 2	15.0
Solvent Delay Temperature 2	0.0
Solvent Delay Divert Valve Enabled	1
Number Of Functions	1

Function 1 : MRM of 413.00->369.00, Time 0.00 to 8.00, ES-

Type	MRM					
Ion Mode	ES-					
Parameter File	c:\masslynx\default.pro\acqddb\default.ipr					
Inter Channel Delay (sec)	0.1					
Span (Da)	0.0					
Start Time (min)	0.0					
End Time (min)	8.0					
Ch	Prnt(Da)	Dau(Da)	Dwell(s)	Cone(V)	Coll(eV)	Delay(s)
1	413.00	369.00	0.20	10.00	10.00	0.03

000194

Method Report

Page 1

Method File:
Last Modified:

C:\MassLynx\008-apfo.pro\ACQUDE\Water
Thursday, March 27, 2003 14:09:50

Signature:

At Wednesday, March 26, 2003 13:07:14
By CENTRE\karens (Karen Risha)
Reason create HPLC method

Printed:

Thursday, March 27, 2003 14:50:56

K/03/27/03

HP1100 LC Pump Initial Conditions

Solvents

A%	60.0
B%	40.0
C%	0.0
D%	0.0

Flow (ml/min)	0.300
Stop Time (mins)	15.0
Min Pressure (bar)	0
Max Pressure (bar)	400
Oven Temperature Left(°C)	35.0
Oven Temperature Right(°C)	35.0

HP1100 LC Pump Gradient Timetable

The gradient Timetable contains 10 entries which are :

Time	A%	B%	C%	D%	Flow (ml/min)	Pressure	
0.00	60.0	40.0	0.0	0.0	0.300	400	
0.40	60.0	40.0	0.0	0.0	0.300	400	
1.00	10.0	90.0	0.0	0.0	0.300	400	
7.00	10.0	90.0	0.0	0.0	0.300	400	
7.50	0.0	100.0	0.0	0.0	0.300	400	
9.00	0.0	100.0	0.0	0.0	0.400	400	
9.50	60.0	40.0	0.0	0.0	0.400	400	
13.50	60.0	40.0	0.0	0.0	0.400	400	
14.00	60.0	40.0	0.0	0.0	0.300	400	
15.00	60.0	40.0	0.0	0.0	0.300	400	

HP1100 LC Pump External Event Timetable

The Timetable contains 4 entries which are :

Time	Column Switch	Contact1	Contact2	Contact3	Contact4
Initial	Off	Off	Off	Off	Off
0.00	Off	Off	Off	Off	Off
0.10	Off	On	On	Off	Off
8.00	Off	Off	Off	Off	Off

HP1100 Autosampler Initial Conditions

Draw Speed	200.0
Eject Speed (µl/min)	200
Draw Position (mm)	0.10
Stop Time (mins)	15.00
Injection Volume(µl)	15.0
Vial Number	1
Thermostat On	
Thermostat Temperature(°C)	12.0

000195

Tune Parameters

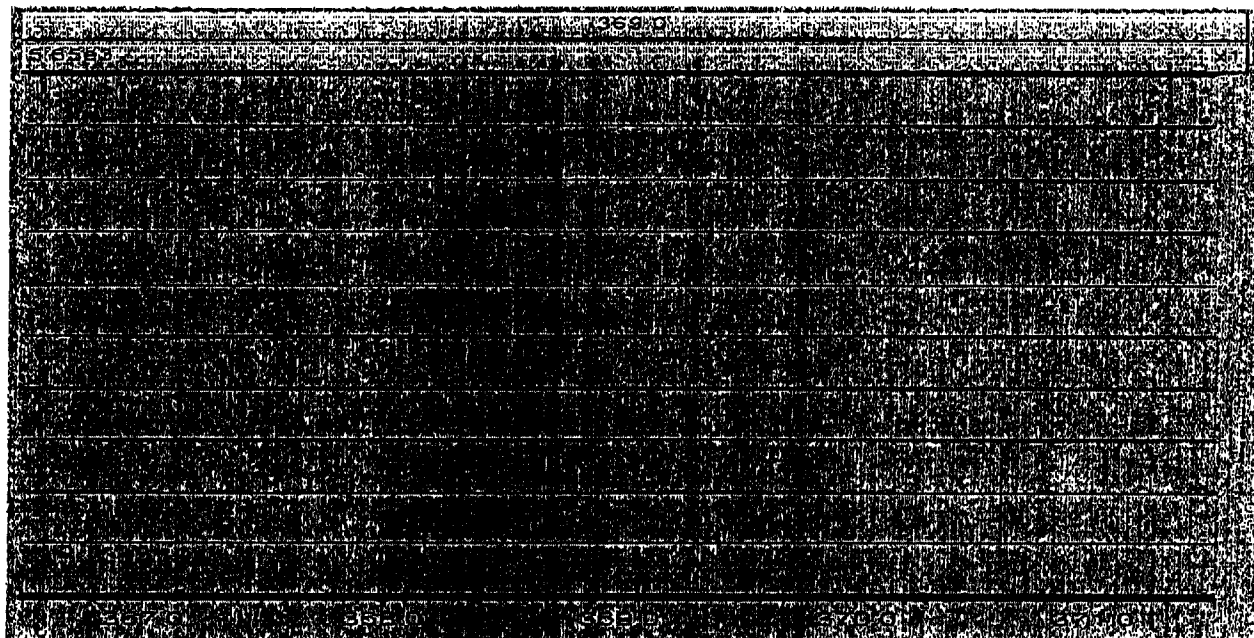
Page 1

File: C:\MassLynx\fluorochemicals.PRO\ACQUDB\PFOA Tune.IPR

Signature: At Thursday, March 27, 2003 14:01:08
 By CENTRE\Karens (Karen Risha)
 Reason new tune file

Printed: Thursday, March 27, 2003 14:51:17

03/27/03



Type	Start Mass	End Mass	Set Mass
Daughter Scan	367	372	413
Source (ES-)	Settings	Readbacks	
Capillary (kV)	3.00	-2.94	
Cone (V)	10	-11	
Hex 1 (V)	0.0		
Aperture (V)	0.0		
Hex 2 (V)	0.0		
Source Temperature (°C)	100	100	
Desolvation Temperature (°C)	300	300	
Cone Gas Flow (L/Hr)	131		
Desolvation Gas Flow (L/Hr)	669		
Analyser	Settings	Readbacks	
LM 1 Resolution	15.0		
HM 1 Resolution	15.0		
Ion Energy 1	1.0		
Entrance	-2	8	
Collision	10	9	
Exit	2	11	
LM 2 Resolution	15.0		
HM 2 Resolution	15.0		
Ion Energy 2	2.2		
Multiplier (V)	700	-696	
Pressure Gauges			
Pirani Pressure(mbar)	1.14e-3		
Penning Pressure(mbar)	OFF		
MUX Configuration			
Probe	Standard		

000196

Quantify Calibration Report

Page 1 of 1

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM

By CENTREKarens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

1/2 03/28/03

Method: C:\MassLynx\fluorochemicals.PRO\MethDB\PFOA 032603.mdb 28 Mar 2003 08:18:18

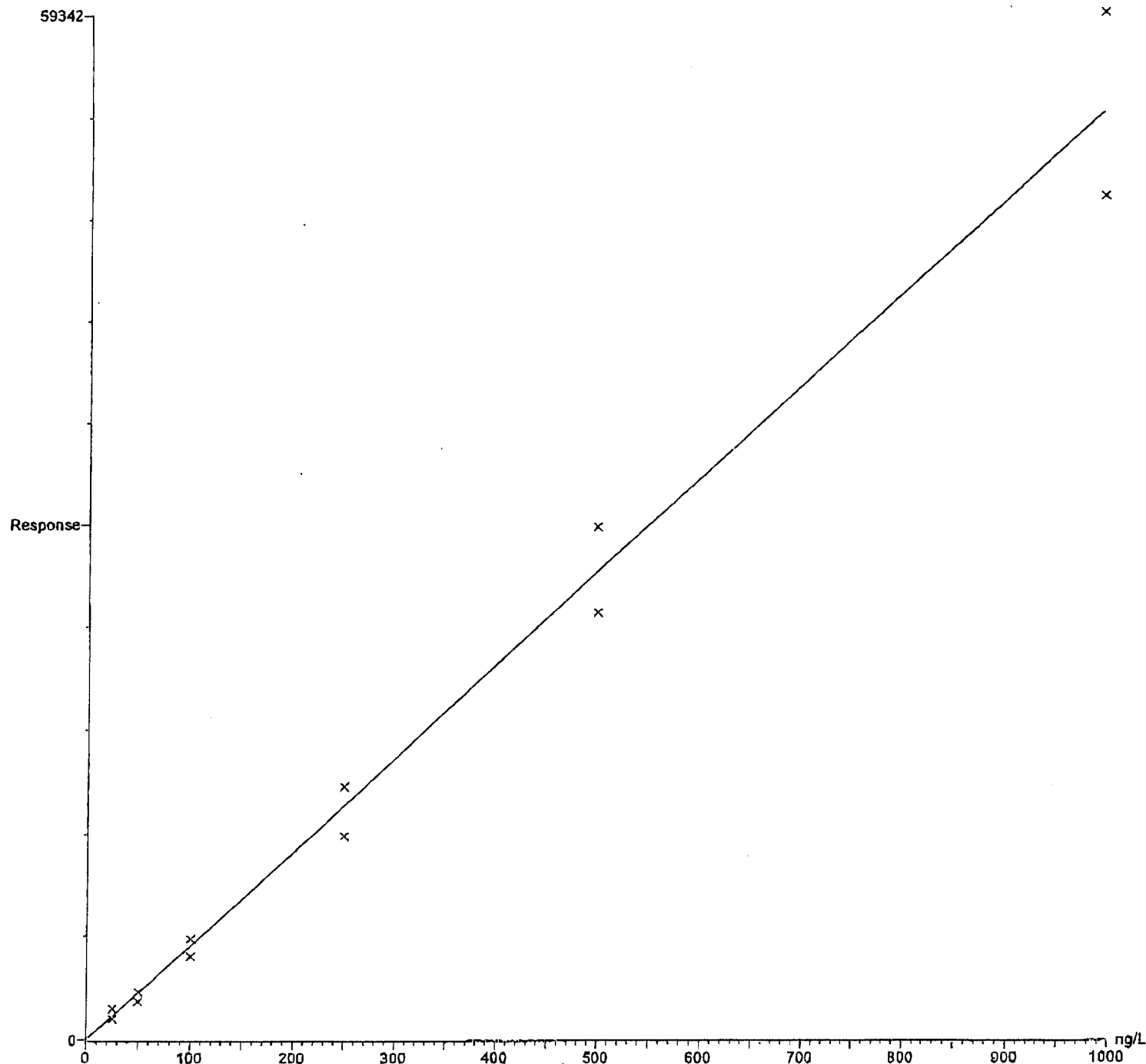
Calibration: 28 Mar 2003 08:49:19

Compound name: PFOA

Correlation coefficient: $r = 0.993045$, $r^2 = 0.986138$ Calibration curve: $53.5769 * x + 50.0803$

Response type: External Std, Area

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Exygen Research, 3058 Research Drive, State College, PA 16801, Data acquired on LCMSMS#7

000197

Quantify Sample Report

Page 1 of 19

Study No.:L34300, Data Set:032603B SOLVAY, Ext.Date:03/26/03, Analyst:K.Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Initials BRDate 03/28/03Run# 032603B-3001 To 032603B-3019

Method: C:\MassLynx\fluorochemicals.PRO\MethDB\PFOA 032603.mdb 28 Mar 2003 08:18:18

Calibration: 28 Mar 2003 08:49:19

Name: 032603B-3001

Date: 27-Mar-2003

Time: 21:23:58

Description: XC031703-0, 0 ng/L Standard

PFOA

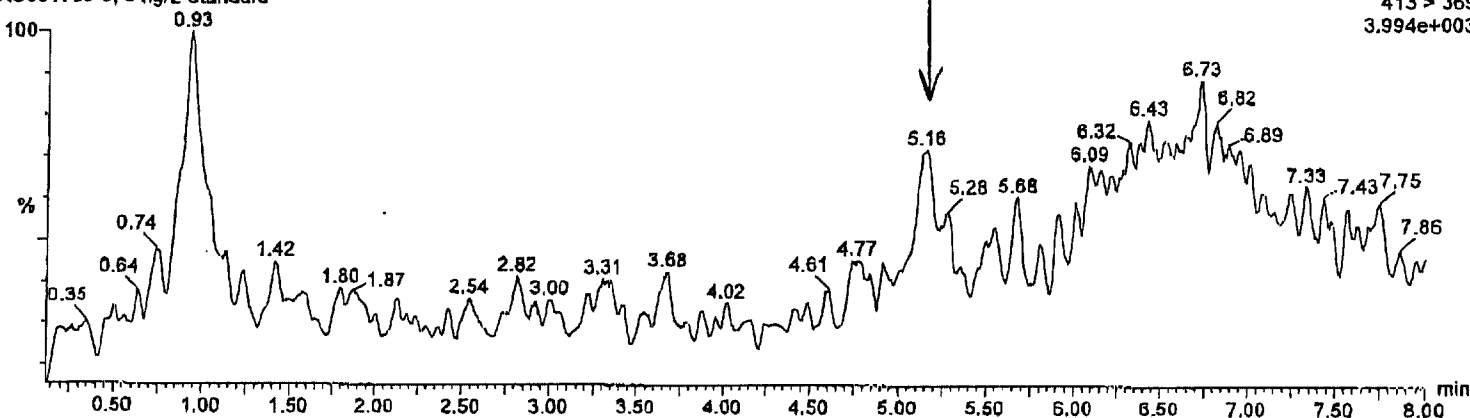
032603B-3001 Smooth(Mn,2x3)

XC031703-0, 0 ng/L Standard

MRM of 1 channel, ES-

413 > 369

3.994e+003



Quantify Sample Report

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Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM

By CENTRE\Karens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3002

Date: 27-Mar-2003

Time: 21:40:40

Description: XC031703-1, 25 ng/L Standard

PFOA

032603B-3002 Smooth(Mn,2x3)

XC031703-1, 25 ng/L Standard

PFOA

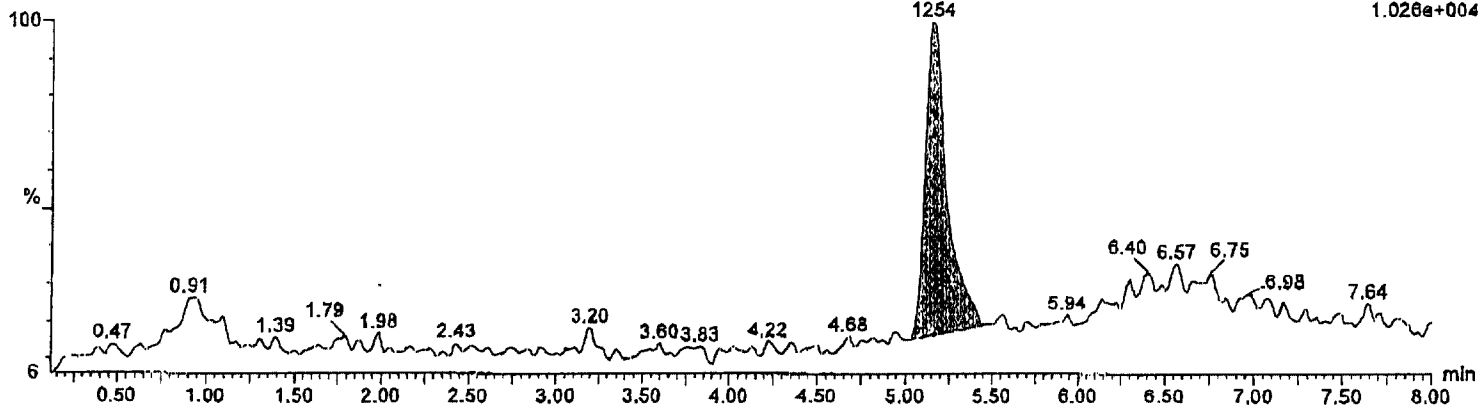
5.18

1254

MRM of 1 channel, ES-

413 > 389

1.026e+004



Quantify Sample Report

Study No.:L34300, Data Set:032603B SOLVAY, Ext.Date:03/26/03, Analyst:K.Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTREKarens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

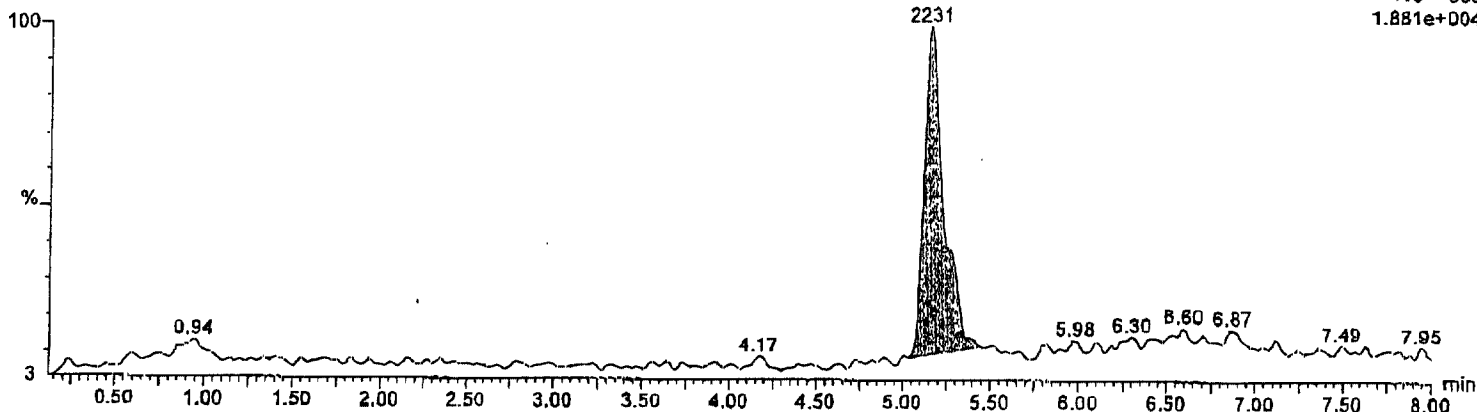
Name: 032603B-3003
Date: 27-Mar-2003
Time: 21:57:17
Description: XC031703-2, 50 ng/L Standard

PFOA

032603B-3003 Smooth(Mn,2x3)
XC031703-2, 50 ng/L Standard

PFOA
5.15
2231

MRM of 1 channel, ES-
413 > 369
1.881e+004



Identify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Generated: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Sample: 032603B-3004

Date: 27-Mar-2003

Time: 22:13:54

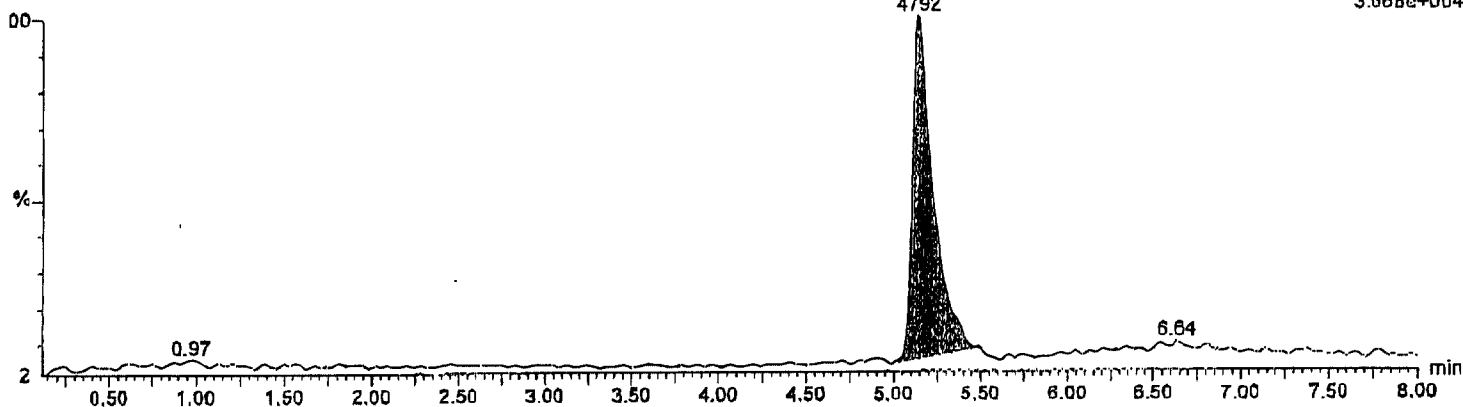
Description: XC031703-3, 100 ng/L Standard

FOA

032603B-3004 Smooth(Mn,2x3)
03031703-3, 100 ng/L Standard

PFOA
5.15
4792

MRM of 1 channel, ES-
413 > 369
3.668e+004



Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Structure: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3005

Date: 27-Mar-2003

Time: 22:30:43

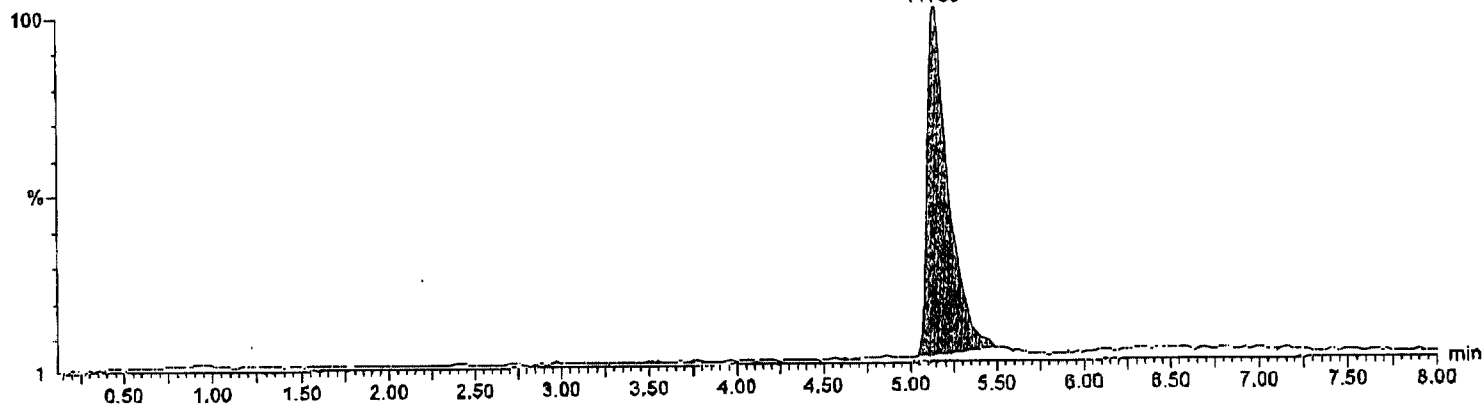
Description: XC031703-4, 250 ng/L Standard

PFOA

032603B-3005 Smooth(Mn,2x3)
XC031703-4, 250 ng/L Standard

PFOA
5.15
11709

MRM of 1 channel, ES-
413 > 369
8.505e+004



Quantify Sample Report

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Study No.:L34300, Data Set:032603B SOLVAY, Ext.Date:03/26/03, Analyst:K.Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Structure: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3006

Date: 27-Mar-2003

Time: 22:47:27

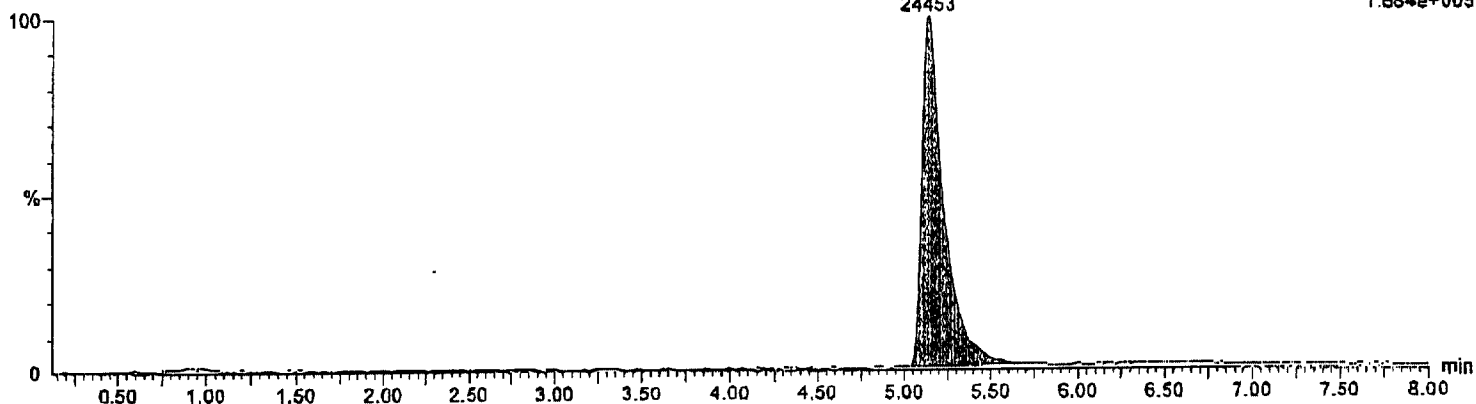
Description: XC031703-5, 500 ng/L Standard

PFOA

032603B-3006 Smooth(Mn,2x3)
XC031703-5, 500 ng/L Standard

PFOA
5.15
24453

MRM of 1 channel, ES-
413 > 369
1.684e+005



00/00/00 MED 10:21 FAX 4104401020

Quantify Sample Report

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Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3007

Date: 27-Mar-2003

Time: 23:04:17

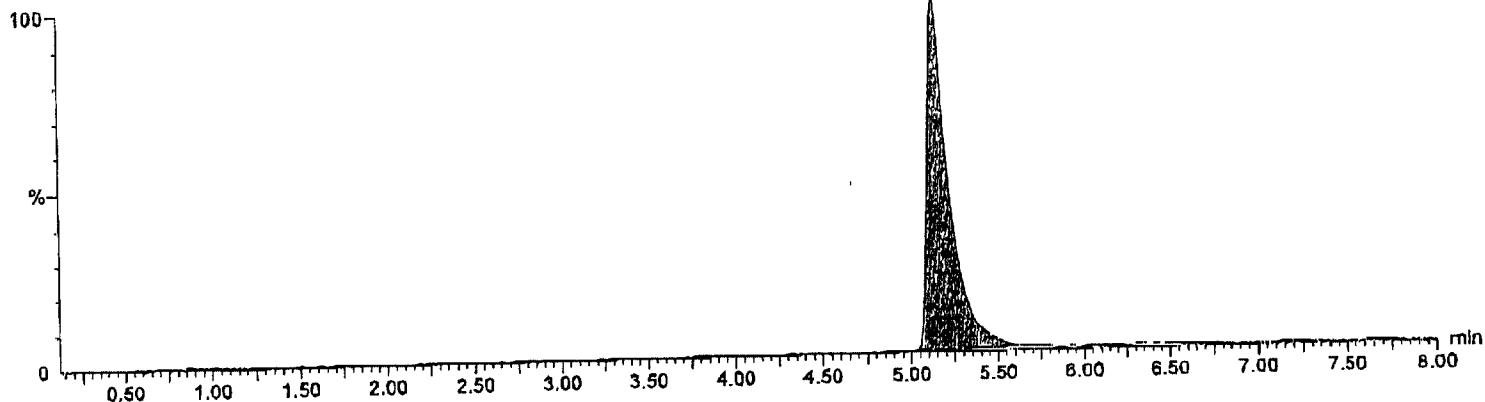
Description: XC031703-6, 1000 ng/L Standard

PFOA

032603B-3007 Smooth(Min,2x3)
XC031703-6, 1000 ng/L Standard

PFOA
5.15
48896

MRM of 1 channel, ES-
413 > 389
3.412e+005



Identify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Ingested: At Friday, March 28, 2003 9:07:08 AM
By CENTREKarens (Karen Risha)
Reason Processing
Ingested: Friday, March 28, 2003 9:07:19 AM

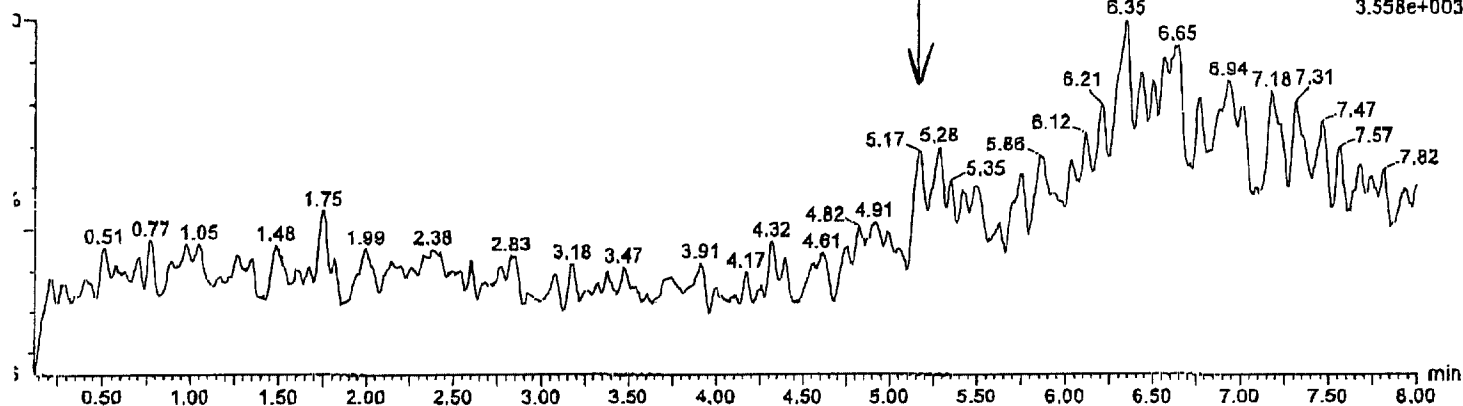
Sample: 032603B-3008

Date: 27-Mar-2003

Time: 23:20:57

Description: Methanol Wash

OA

.603B-3008 Smooth(Mn.2x3)
Methanol WashMRM of 1 channel, ES-
413 > 369
3.558e+003

Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Acquired: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3009

Date: 27-Mar-2003

Time: 23:37:41

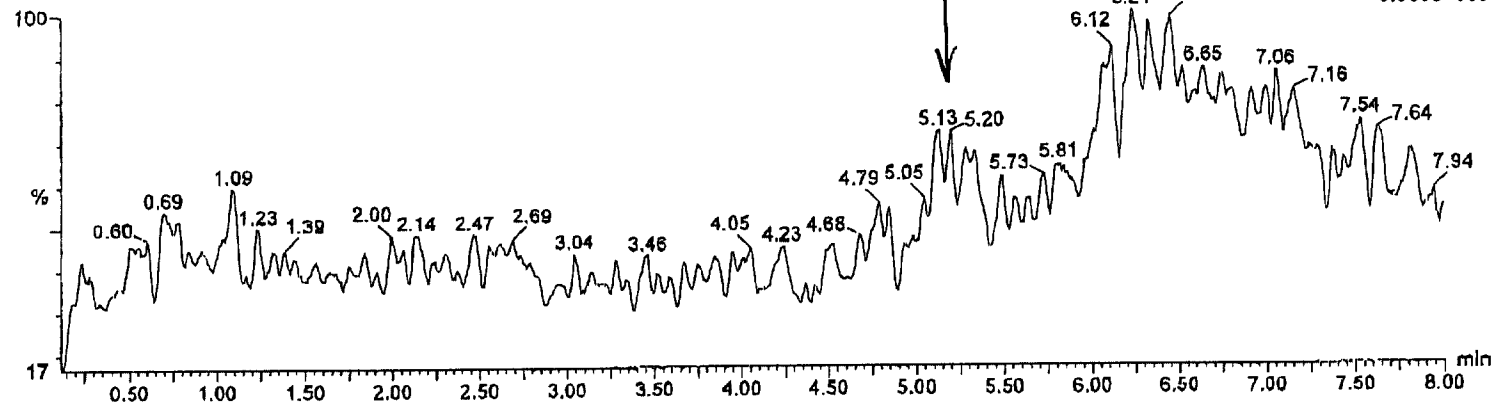
Description: 0106020 Control

FOA

032603B-3009 Smooth(Mn,2x3)

0106020 Control

MRM of 1 channel, ES-
413 > 369
3.390e+003



Quantify Sample Report

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Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM

By CENTREKarens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3010

Date: 27-Mar-2003

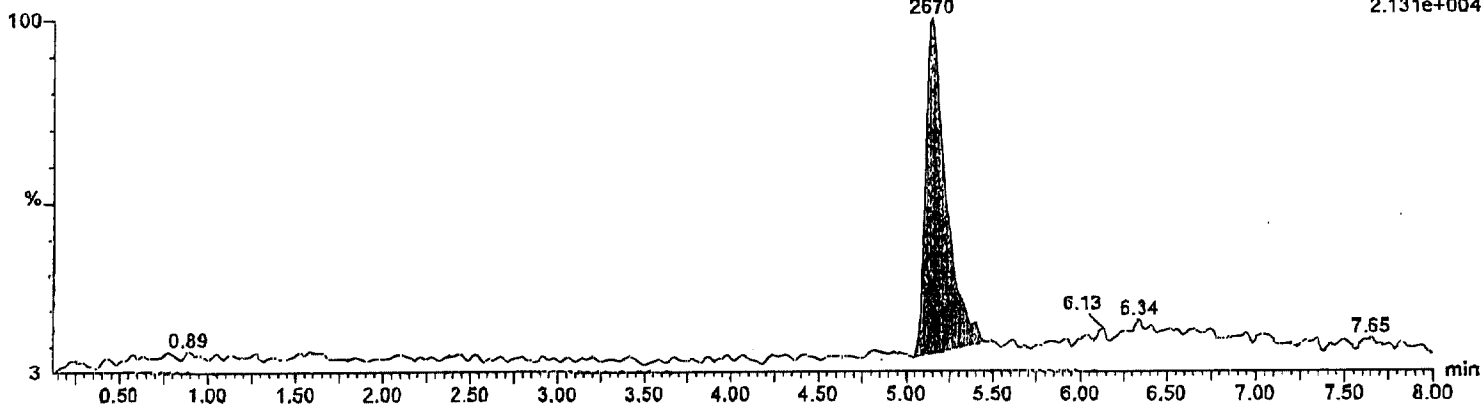
Time: 23:54:25

Description: 0106020 Spk A, 50 ng/L

PFOA

032603B-3010 Smooth(Mn,2x3)

0106020 Spk A, 50 ng/L

PFOA
5.15
2670MRM of 1 channel, ES-
413 > 389
2.131e+004

00/00/00 10:22 PM 4104101020

Quantify Sample Report

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Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM

By CENTRE\Karens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3011

Date: 28-Mar-2003

Time: 00:11:12

Description: 0106020 Spk B, 500 ng/L

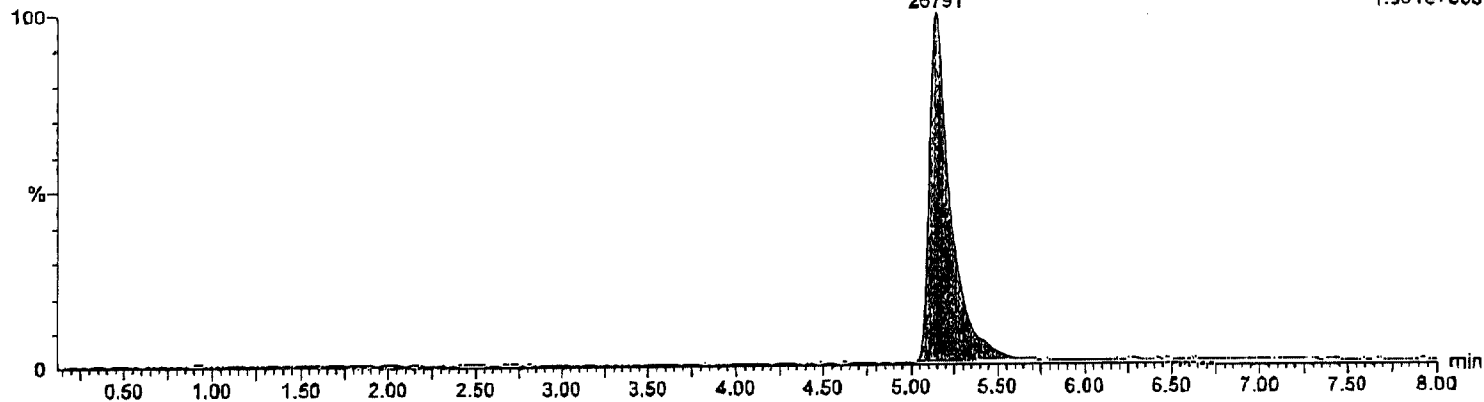
PFOA

032603B-3011 Smooth(Mn,2x3)

0106020 Spk B, 500 ng/L

PFOA
5.15
26791

MRM of 1 channel, ES-
413 > 369
1.901e+005



Quantify Sample Report

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Study No.:L34300, Data Set:032603B SOLVAY, Ext.Date:03/26/03, Analyst:K.Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

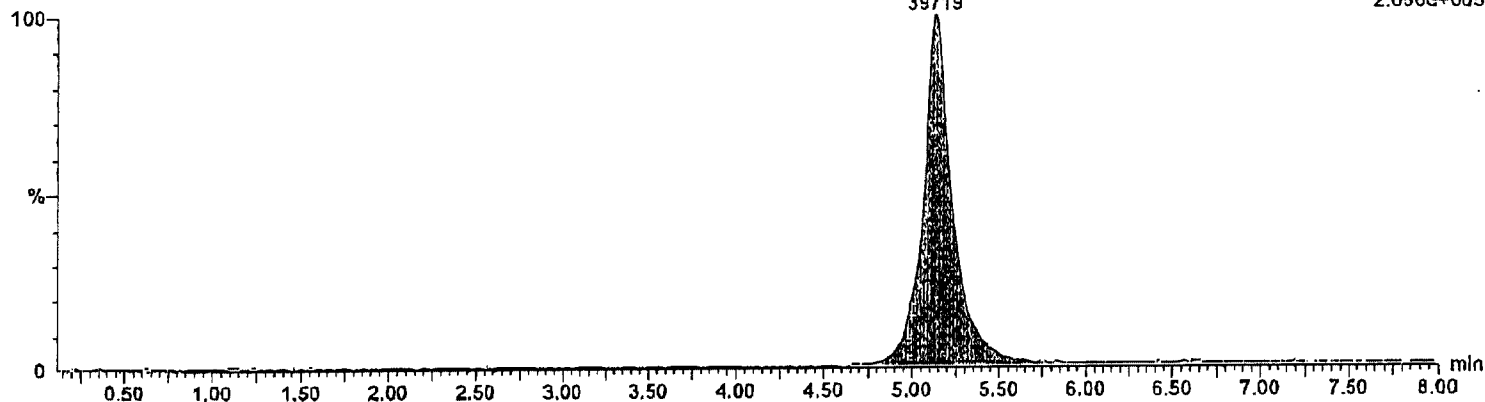
Name: 032603B-3012
Date: 28-Mar-2003
Time: 00:27:58
Description: L34300-1, DF=100

PFOA

032603B-3012 Smooth(Mn,2x3)
L34300-1, DF=100

PFOA
5.14
39719

MRM of 1 channel, ES-
413 > 369
2.056e+005



Quantify Sample Report

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Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM

By CENTRE\Karens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3013

Date: 28-Mar-2003

Time: 00:44:47

Description: L34300-1 Rep, DF=100

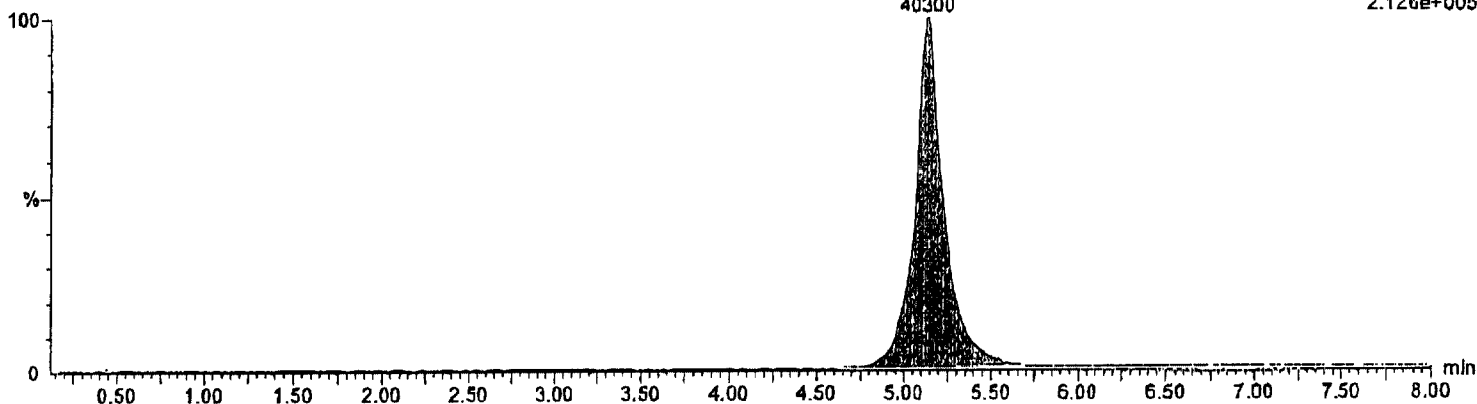
PFOA

032603B-3013 Smooth(Mn,2x3)

L34300-1 Rep, DF=100

PFOA
5.14
40300

MRM of 1 channel, ES-
413 > 369
2.126e+005



Quantify Sample Report

Page 14 of 19

Study No.:L34300, Data Set:032603B SOLVAY, Ext.Date:03/26/03, Analyst:K.Risha

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM

By CENTRE\Karens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3014

Date: 28-Mar-2003

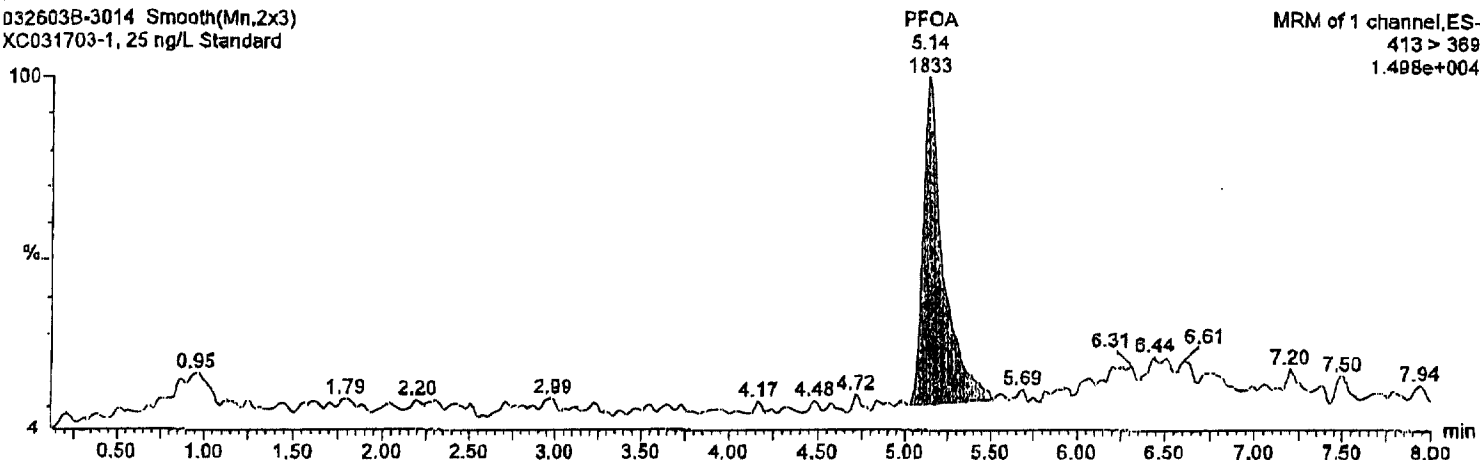
Time: 01:01:30

Description: XC031703-1, 25 ng/L Standard

PFOA

032603B-3014 Smooth(Mn,2x3)

XC031703-1, 25 ng/L Standard



Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

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Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTREKarens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3015

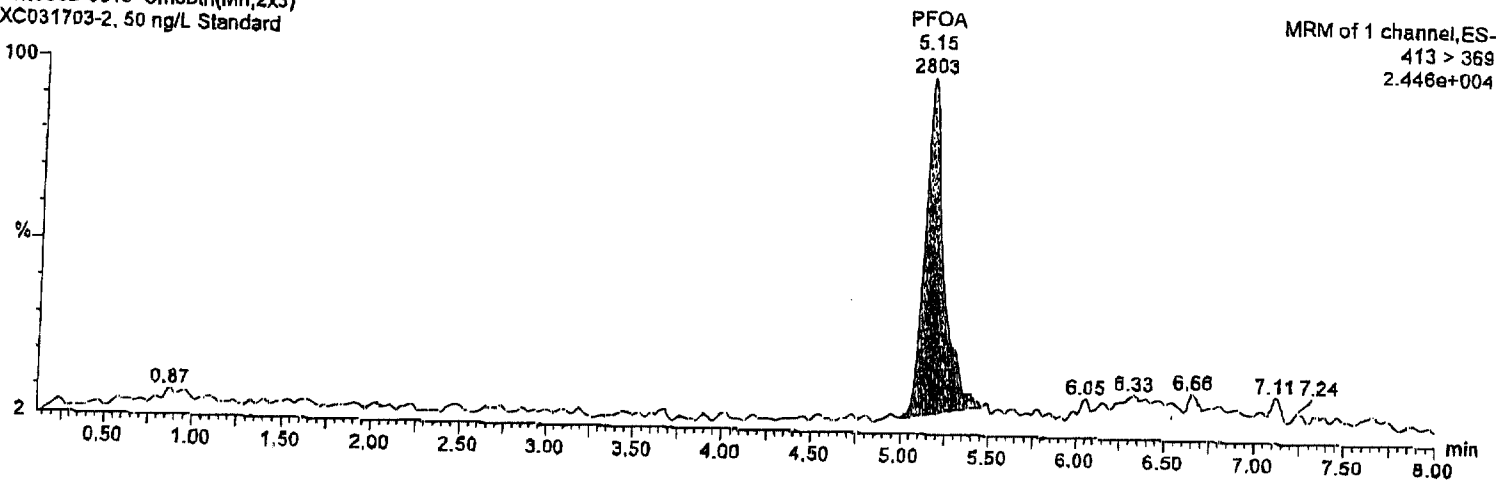
Date: 28-Mar-2003

Time: 01:18:11

Description: XC031703-2, 50 ng/L Standard

PFOA

032603B-3015 Smooth(Mn,2x3)
XC031703-2, 50 ng/L Standard



Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Page 16 of 19

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3016

Date: 28-Mar-2003

Time: 01:34:58

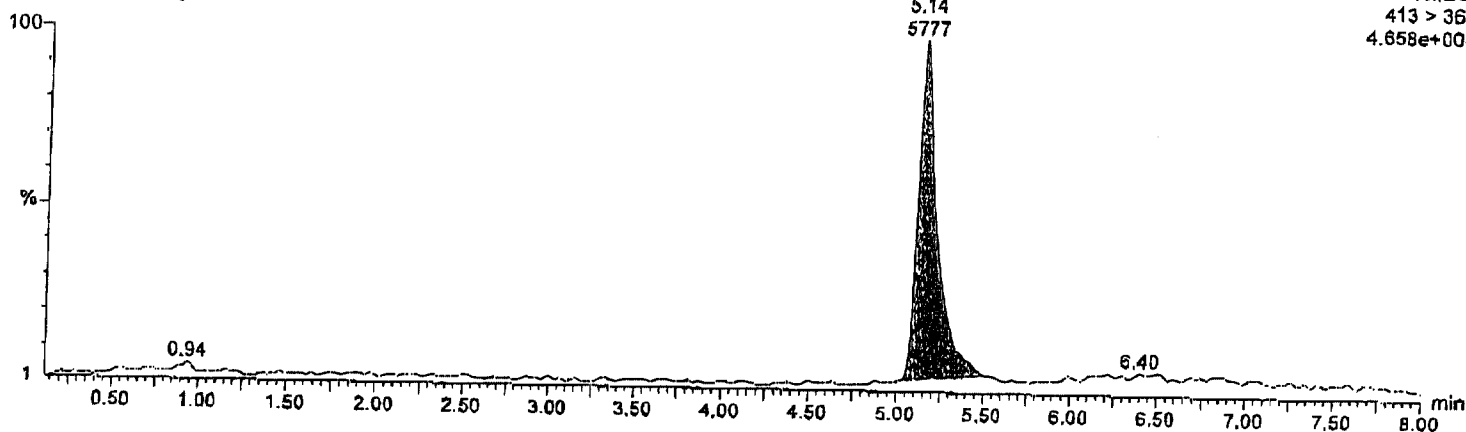
Description: XC031703-3, 100 ng/L Standard

PFOA

032603B-3016 Smooth(Mn,2x3)
XC031703-3, 100 ng/L Standard

PFOA
5.14
5777

MRM of 1 channel, ES-
413 > 369
4.658e+004



Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Page 17 of 19

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld

Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)

Reason Processing

Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3017

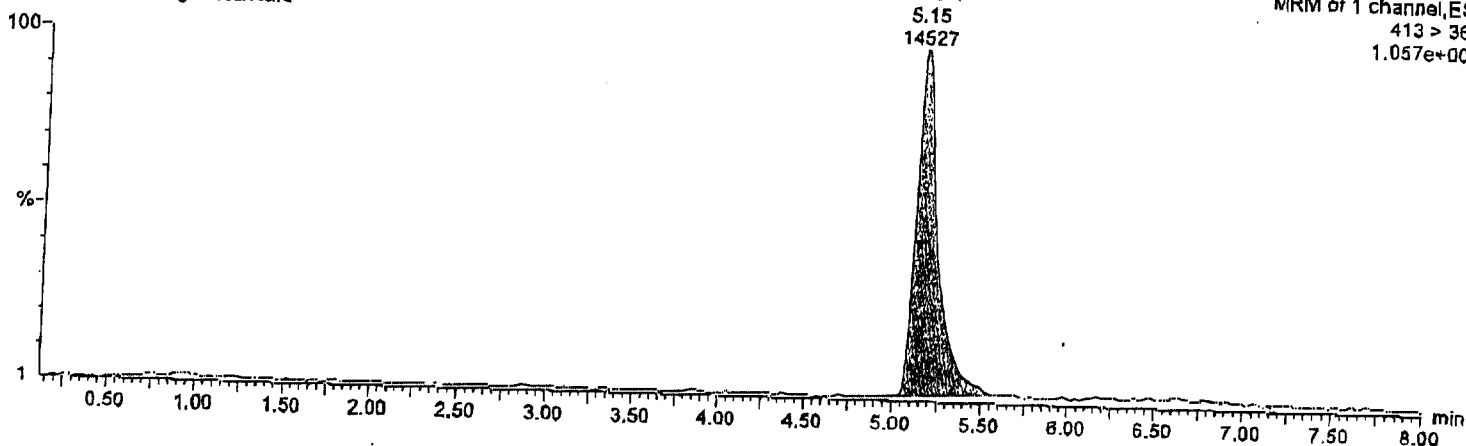
Date: 28-Mar-2003

Time: 01:51:45

Description: XC031703-4, 250 ng/L Standard

PFOA

032603B-3017 Smooth(Mn,2x3)
XC031703-4, 250 ng/L Standard



Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Page 18 of 19

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTRE\Karens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3018

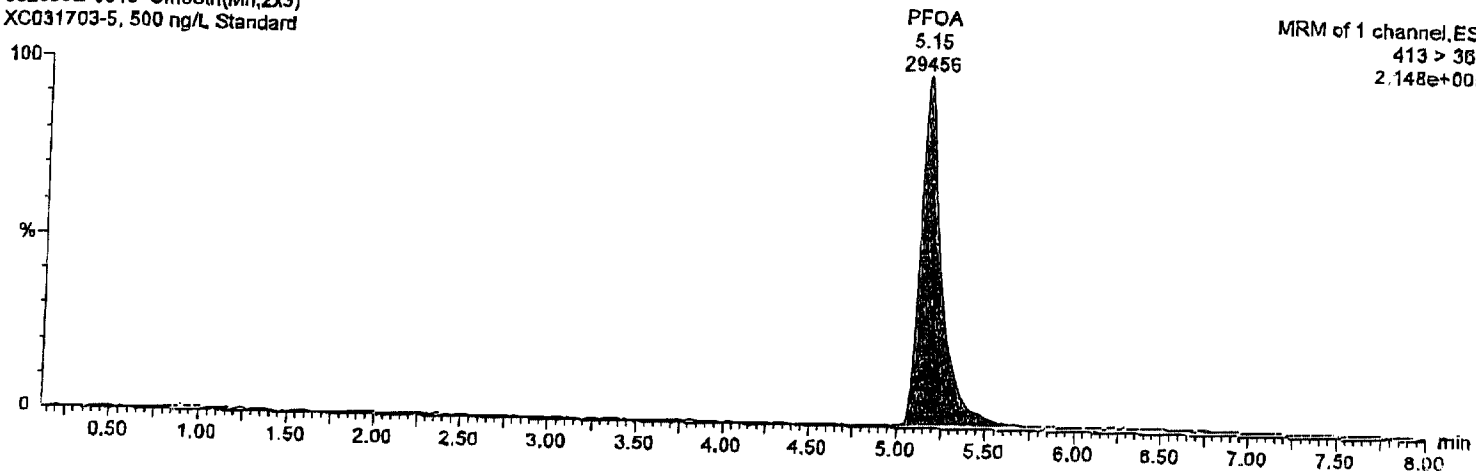
Date: 28-Mar-2003

Time: 02:08:26

Description: XC031703-5, 500 ng/L Standard

PFOA

032603B-3018 Smooth(Mn,2x3)
XC031703-5, 500 ng/L Standard



Quantify Sample Report

Study No.: L34300, Data Set: 032603B SOLVAY, Ext. Date: 03/26/03, Analyst: K. Risha

Page 19 of 19

Dataset: C:\MassLynx\fluorochemicals.pro\032603B SOLVAY.qld
Signature: At Friday, March 28, 2003 9:07:08 AM
By CENTREKarens (Karen Risha)
Reason Processing
Printed: Friday, March 28, 2003 9:07:19 AM

Name: 032603B-3019

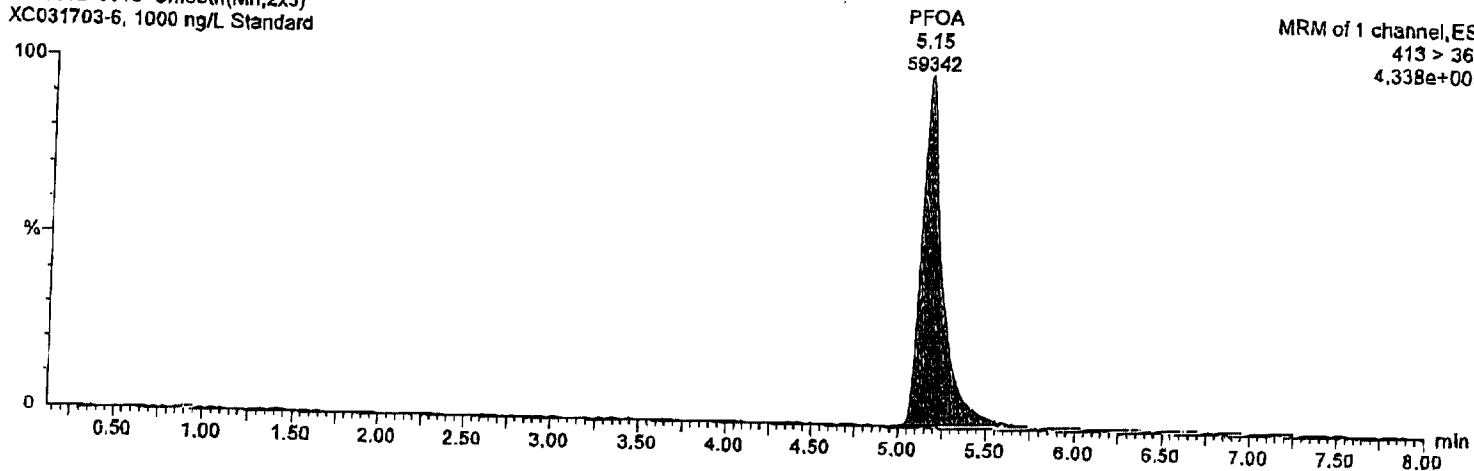
Date: 28-Mar-2003

Time: 02:25:15

Description: XC031703-6, 1000 ng/L Standard

PFOA

032603B-3019 Smooth(Mn,2x3)
XC031703-6, 1000 ng/L Standard



000216