

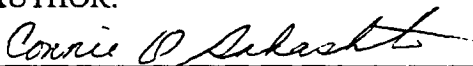
**Quantitative Determination of PFOS and Related Compounds in Human
Serum and Plasma by LC/MS/MS**

**Sample Analysis Report for Protocol
EPI-0012**

**Northwest Bioanalytical (NWB)
A Division of NWT Inc.
1121 East 3900 South
Salt Lake City, UT 84124**

PREPARED FOR: 3M Company
Epidemiology, Medical Department
220-3W-05
St. Paul, MN 55144

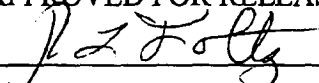
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DATE: 11-21-01

QUALITY ASSURANCE STATEMENT

LABORATORY: Northwest Bioanalytical (NWB)
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COMPOUND(S): PFOS and Related Compounds

NWB STUDY NUMBER: NWBS00-091

SPONSOR STUDY NUMBER: EPI-0012

NWB STUDY TITLE: Quantitative Determination of PFOS and Related
Compounds in Human Serum and Plasma by LC/MS/MS

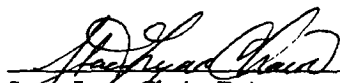
The clinical study described in this report is not included within the definition of a GLP regulated nonclinical study. However, Northwest Bioanalytical conducts all studies within the guidelines of the U.S. FDA Good Laboratory Practice Regulations for Nonclinical Laboratory Studies (Title 21 CFR Part 58), the OECD Principles of Good Laboratory Practice and the Japanese MHW Good Laboratory Practice Standard Ordinance for Nonclinical Laboratory Studies on the Safety of Drugs (Ordinance No. 21, PAB Notification No. 424.) The following inspections were performed by the NWB QAU per SOP.

Inspection and Reporting Statement.

<u>Date of Inspection</u>	<u>Phase of Study</u>	<u>Date Report Sent to NWB Project Manager</u>	<u>Date Report Sent to NWB Management*</u>
16 Oct 2000	Analytical Plan	16 Oct 2000	31 Oct 2000
17-23 Oct 2000	Sample Analysis	24 Oct 2000	31 Oct 2001
29 Oct - 01 Nov 2001	Report Draft and Raw Data	01 Nov 2001	30 Nov 2001
23 Nov 2001	Final Report	23 Nov 2001	30 Nov 2001

*Reports to NWB Management are issued monthly.

As can reasonably be established, the methods and procedures described and the results incorporated into this final report accurately reflect the raw data.


Stacy Lynn Chain, B.A.
NWB Quality Assurance Compliance Auditor

11-23-2001
Date

COMPLIANCE STATEMENT

The clinical study described in this report is not included within the definition of a GLP regulated nonclinical study. However, to the best of our knowledge, this project was conducted in accordance with the guidelines of the U.S. FDA Good Laboratory Practice Regulations for Nonclinical Laboratory Studies (Title 21 CFR Part 58) and according to the methods and procedures described within this report. In addition, the study followed the guidelines of the OECD Principles of Good Laboratory Practice and the Japanese MHW Good Laboratory Practice Standard Ordinance for Nonclinical Laboratory Studies on the Safety of Drugs (Ordinance No. 21, PAB Notification No. 424.)

This report contains serum sample results. As reported in NWB report NWBR00-122 [5.3], serum sample results obtained using plasma curves for PFOSA, PFOSAA, POAA, PFHS, M556 and M570 did not meet NWB SOP requirements for validation.

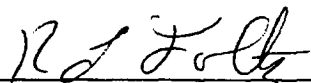
Any known circumstances that may have affected the quality or integrity of the project or reported data are discussed within the report. This report represents an accurate record of the raw data.



Connie O. Sakashita, B.S.
NWB Project Manager

11-20-01

Date



Rodger L. Foltz, Ph.D.
NWB Technical Director

11-21-01

Date

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Quantitative Determination of PFOS and Related Compounds in Human Serum and Plasma by LC/MS/MS

Sample Analysis Report for Protocol EPI-0012

1. INTRODUCTION

This report summarizes the analytical results from the quantitation of PFOS, PFOA, PFHS, PFOSAA, PFOSA, M556, and M570 in human serum and plasma samples for 3M Company (3M) in support of Protocol EPI-0012 [5.1]. The LC/MS/MS method for the analytes has a targeted calibration curve range of 1.00 to 500 ppb (except for M556 which has a LLOQ of 2.50 ppb). The actual calibration curve range for each analyte varies based upon the persistent levels of the analyte in the matrix. For this study, the assay exhibited the following LLOQ and ULOQ values:

Analyte	LLOQ	ULOQ
PFOS	3.94 ppb	414 ppb
PFOA	1.92 ppb	481 ppb
PFHS	1.36 ppb	523 ppb
PFOSAA	1.60 ppb	501 ppb
PFOSA	1.00 ppb	500 ppb
M556	2.50 ppb	500 ppb
M570	1.00 ppb	500 ppb

The sponsor was 3M Company (Epidemiology, Medical Department, 220-3W-05, St. Paul, MN 55144), and the Study Director was Jeffrey H. Mandel, M.D., M.P.H. The Study Contact at 3M was Jean Burris. James K. Lundberg was the technical contact at 3M. The following is a list of NWB supervisory personnel involved in the completion of this work: Connie O. Sakashita, B.S. (NWB Project Manager); Patrick Bennett, M.S., M.B.A. (NWB Laboratory Director); Rodger L. Foltz, Ph.D. (NWB Technical Director). Laboratory personnel involved in the completion of this study included Suzanne

Newman, B.S. (NWB Research Scientist); Emily Yardimci, B.S. (NWB Associate Research Scientist).

NWB SOPs and guidelines were used in the conduct of this study and were available to study personnel in electronic and/or hard copy formats.

Date Study Initiated: 24-Sep-2000 Date Analyses Completed: 07-Apr-2001

The clinical study described in this report is not included within the definition of a GLP regulated nonclinical study. However, Northwest Bioanalytical conducts all studies within the guidelines of the U.S. FDA Good Laboratory Practice Regulations for Nonclinical Laboratory Studies (Title 21 CFR Part 58), the OECD Principles of Good Laboratory Practice and the Japanese MHW Good Laboratory Practice Standard Ordinance for Nonclinical Laboratory Studies on the Safety of Drugs (Ordinance No. 21, PAB Notification No. 424). Any changes to or deviations from the original protocol (Analytical Plan) were documented through approved protocol amendments or deviation memos and are retained within the raw data.

2. METHODOLOGY

The assay used for this study is reported in Northwest Bioanalytical reports NWBR00-108 [5.2] and NWBR00-122 [5.3]. Chinese human plasma was used for the calibration curves and quality control samples. Serum sample results obtained using plasma curves are discussed in NWBR00-122.

Samples for this study were received at NWB on the following dates:

<i>Receipt Date</i>	<i>Number of Samples Received</i>	<i>Storage Condition (except during analysis)</i>
25-Jul-2000	243	-20 °C
26-Jul-2000	151	-20 °C

Reference Material

<i>Analyte</i>	<i>Lot Number</i>	<i>Purity</i>	<i>Expiration Date</i>	<i>Source</i>	<i>Storage Conditions</i>
PFOS	193	100%	31-Dec-2010	3M	Room temperature*
PFOA	245	100%	31-Dec-2010	3M	Room temperature*
PFHS	SE-036	91.1%	01-Jan-2010	3M	-20 °C
PFOSAA	617	53.8%	31-Dec-2010	3M	Room temperature
PFOSA	214	100%	31-Dec-2010	3M	Room temperature

*Stored dry

<i>Analyte</i>	<i>Lot Number</i>	<i>Purity</i>	<i>Expiration Date</i>	<i>Source</i>	<i>Storage Conditions</i>
M556	NB113047-8D	99.89%	31-Dec-2010	3M	Room temperature
M570	118506-26	99.75%	31-Dec-2010	3M	Room temperature
THPFOS	59909	90%	31-Dec-2010	3M	Room temperature

The reference material purity for PFOS, PFOSA, PFHS, and PFOA was not available prior to the conduct of this study. Therefore, the reference material purity was assumed to be 100%.

3M contracted with Centre Analytical Laboratories, Inc., in State College, Pennsylvania to determine the absolute concentration of PFOS, PFOA, and PFHS in NWB stock solutions used to prepare the analytical standards and controls used for this studies. All arrangements for purity determinations and the transfer of NWB solutions to Centre Analytical Laboratories, Inc., were performed by 3M. Based on Centre Analytical Laboratories' results, the concentrations of plasma calibrator and quality control samples were corrected using the following factors:

<i>Analyte</i>	<i>Correction Factor</i>
PFOS	0.821
PFOA	0.961
PFHS	1.043

Eight or more calibration standards were prepared on the day of each run by adding 100 μ L of blank Chinese human plasma and 400 μ L of 50 mM ammonium acetate in water (unadjusted pH ~6.9) to 13 x 100 mm polypropylene tubes. After a brief vortex mixing, 10.0 μ L of the appropriate spiking solution was added. The final calibration standard concentrations in human plasma for each analyte are listed below:

Analyte	Calibration Standard Concentrations*
PFOS	3.94, 5.17, 11.3, 23.6, 44.2, 85.4, 209, 332 and 414ppb
PFOA	1.92, 3.36, 10.6, 25.0, 49.0, 97.1, 241, 385 and 481 ppb
PFHS	1.36, 2.92, 10.7, 26.5, 52.6, 104, 262, 418 and 523 ppb
PFOSAA	1.60, 3.10, 10.6, 25.6, 50.6, 101, 251, 401 and 501 ppb
PFOSA	1.00, 2.50, 10.0, 25.0, 50.0, 100, 250, 400 and 500 ppb
M556	2.50, 10.0, 25.0, 50.0, 100, 250, 400 and 500 ppb (runs 1 – 17) 3.20, 10.7, 25.7, 50.7, 101, 251, 401 and 501 ppb (run 18)
M570	1.00, 2.50, 10.0, 25.0, 50.0, 100, 250, 400 and 500 ppb (runs 1 – 17) 1.90, 3.40, 10.9, 25.9, 50.9, 101, 251, 401 and 501 ppb (run 18)

* The target calibration curve range is 1.00 ppb to 500 ppb (except M556 which has a LLOQ of 2.50 ppb). Each analyte has a different final curve range based upon the persistent levels of the analyte in the human plasma used. Run 18 for M556 and M570 used a new pool of plasma with different persistent levels of analyte.

In addition, blank human plasma samples, both with and without internal standard (designated as QC0s and Blanks, respectively), were assayed in each analytical run.

Analytical QCs were prepared in Chinese human plasma on October 6, 2000, October 11, 2000, October 27, 2000 and March 8, 2001 and stored in a -20 °C freezer. For each run, analytical QC levels were assayed in duplicate.

Analyte	QC Concentrations (ppb)*		
	Low	Medium	High
PFOS	6.40	126	332
PFOA	4.81	145	385
PFHS	4.48	156	417
PFOSAA	4.60	151	401
PFOSA	4.00	150	400
M556	4.00	150	400
M570	4.00	150	400

* The target QC concentrations are 4.00 ppb, 150 ppb and 400 ppb. Each analyte has different QC concentrations based upon the persistent levels of the analyte in the human plasma used.

The internal standard (THPFOS) was added to all serum samples (except Blanks) for a final concentration of approximately 200 ppb.

The analytical method consisted of a liquid:liquid extraction procedure followed by evaporation and reconstitution of the extract residue with 20 mM ammonium acetate in water: 20 mM ammonium acetate in methanol (30:70 v/v). The samples were analyzed by liquid chromatography/tandem mass spectrometry using an API 3000. The instrument was operated in the multiple reaction monitoring (MRM) mode under optimized conditions for PFOS, PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 detection of the negative ions formed by TurboIonSpray™ ionization.

3. SAMPLE ANALYSIS

PFOS, PFOA, PFHS, PFOSAA, PFOSA, M556, M570, and THPFOS chromatographic peaks were integrated using the MacQuan software (version 1.6) with a smooth factor of one. Quantitation was based upon quadratic regression analysis of weighted ($1/x^2$) calibration curves using area ratio vs. concentration utilizing Watson® DMLIMS software (version 6.1.1.04). The samples were injected in a systematic order.

3.1. Acceptance Criteria

For an analytical run to be accepted, it must have met the acceptance criteria listed below which are consistent with regulatory and industry recommendations.

Calibration Curve

Each run will include in duplicate calibration standards at six or more concentrations covering the lower to upper limit of quantitation. For all analytes except PFOSA and PFOSAA, at least three-fourths of the calibration standard's back-calculated concentrations must be within $\pm 15\%$ ($\pm 20\%$ for LLOQ) of their individual target concentrations. For PFOSA and PFOSAA, at least three-fourths of the calibration standard's back-calculated concentrations must be within $\pm 20\%$ ($\pm 25\%$ for LLOQ)

of their individual target concentrations. A calibration standard will be considered an outlier if it is greater than two times the acceptance criteria for that standard.

Lower Limit of Quantitation

The back-calculated concentrations of at least one of the duplicate lowest points in the calibration curve must be within $\pm 25\%$ of the target concentration for PFOSA and PFOSAA to qualify as the LLOQ and within $\pm 20\%$ of the target concentration to qualify as the LLOQ for all other analytes. If this criterion is not met, the next level is subjected to the same test and the LLOQ raised accordingly.

Quality Control Samples

Each analytical run will include low, medium and high QC samples in duplicate. The measured concentrations of at least two-thirds of all analytical QCs must be within $\pm 20\%$ of their target concentrations ($\pm 25\%$ for PFOSA and PFOSAA), and no two QCs at the same concentration can be outside the limit. If study samples require dilution, a dilution QC will be analyzed in triplicate for each dilution level (except for PFOSA and PFOSAA which should not be diluted with control matrix). At least two dilution QCs at each level must be within $\pm 20\%$ of its target concentrations in order to accept diluted study samples at that level. The dilution QC acceptance is independent of the undiluted analytical QC acceptance.

4. RESULTS AND DISCUSSION

Serum sample results obtained using plasma curves for PFOA, PFHS, PFOSAA, PFOSA, M556, and M570 did not meet NWB SOP requirements for validation. Results may vary on average up to 26% from results obtained using human serum calibration curves at some concentration levels for PFOA, PFHS, PFOSAA, M556, and M570. For PFOSA, results may vary on average up to 43% from results obtained using human serum calibration curves. This data is reported in Assay Revalidation Addendum Report NWBR00-122 [5.3]. However, in order to obtain the lower limit of quantitation of less than 5 ppb required by the sponsor, it was necessary to use plasma calibration curves.

Each accepted run met the acceptance criteria set for the calibration curve points, for the lower limit of quantitation (LLOQ) and for the analytical quality control (QC) samples.

Run ID	PFOS Result	PFOA Result	PFHS Result	PFOSAA Result	Comments
1	Accepted	Rejected	Accepted	Accepted	Calibration curve failed for rejected analyte.
2	Accepted	Accepted	Accepted	Accepted	Pre-study assay evaluation.
3	Accepted	Accepted	Accepted	Accepted	
4	Accepted	Accepted	Accepted	Accepted	
5	Accepted	Accepted	Accepted	Accepted	
6	N/A	Accepted	N/A	N/A	
7	Accepted	Accepted	Accepted	Accepted	
8	Accepted	Accepted	Accepted	Accepted	
9	Accepted	Accepted	Accepted	Accepted	
10	Accepted	Accepted	Accepted	Accepted	
11	-	-	-	-	Run mistakenly created in Watson DMLIMS system (no data collected).
12	N/A	N/A	N/A	N/A	Reinjection of run 7.
13	N/A	N/A	N/A	N/A	Reinjection of run 8.
14	N/A	N/A	N/A	N/A	
15	Accepted	Accepted	Accepted	Accepted	
16	Rejected	Rejected	Rejected	Rejected	Rejected due to sample preparation error.
17	Accepted	Accepted	Accepted	Accepted	
18	N/A	N/A	N/A	N/A	

N/A = not analyzed

Run ID	PFOSA Result	M556 Result	M570 Result	Comments
1	Accepted	Accepted	Accepted	Pre-study assay evaluation.
2	Accepted	Accepted	Accepted	
3	Accepted	Accepted	Accepted	
4	Accepted	Accepted	Accepted	
5	Accepted	Accepted	Accepted	
6	N/A	N/A	N/A	QCs failed for rejected analytes.
7	Accepted	Rejected	Rejected	
8	Accepted	Rejected	Accepted	
9	Accepted	Accepted	Accepted	Calibration curve failed for rejected analyte.
10	Accepted	Accepted	Accepted	
11	-	-	-	Run mistakenly created in Watson DMLIMS system (no data collected).
12	N/A	Accepted	Rejected	Reinjection of run 7. QCs failed for rejected analytes.
13	N/A	Accepted	N/A	Reinjection of run 8.
14	N/A	N/A	Accepted	
15	Accepted	Accepted	Accepted	
16	Rejected	Rejected	Rejected	Rejected due to sample preparation error.
17	Accepted	Rejected	Rejected	QCs failed for rejected analytes.
18	N/A	Accepted	Accepted	

N/A = not analyzed

One of the medium QC replicates in Run 17 gave very high PFOSA and PFOSAA results. These results appear to be outliers which skew the overall study statistics. Without inclusion of this QC result, the medium QC statistics are as follows:

	PFOSAA	PFOSA
Mean	162	153
S.D.	18.5	17.7
%CV	11.0	11.6
%Theoretical	107.3	102.0
%Bias	7.3	2.0
N	19	19

Any known circumstances that may have affected the quality or integrity of the data are included in this report.

5. REFERENCES

- 5.1. 3M Company Protocol EPI-0012. "Serum fluorochemical trends of out-of-country residents in CLUE I (1974) and CLUE II (1989) epidemiologic investigations."
- 5.2. C. Sakashita. "Quantitative Determination of PFOS, PFOSA, PFOSAA, POAA, PFHS, M556 and M570 in Human Serum by LC/MS/MS." Assay Revalidation Report. NWB Study NWBS00-040. NWB Report NWBR00-108. January 24, 2001.
- 5.3. C. Sakashita. "Quantitative Determination of PFOS, PFOSA, PFOSAA, POAA, PFHS, M556 and M570 in Human Serum by LC/MS/MS." Assay Revalidation Addendum Report. NWB Study NWBS00-040. NWB Report NWBR00-122. November 20, 2001.

6. DATA RETENTION

The raw data and final report for this study will be stored in the NWB Archives, 1121 East 3900 South, Salt Lake City, UT 84124 per regulations and contract agreement. After submission of the final report to the Sponsor, remaining study samples will be stored under required conditions until confirmation of Sample Disposition/Return Authorization is received from the Sponsor. 3M Company will be notified concerning final disposition of records at completion of contract obligations.

Table 1. Calibration Curve Summary for PFOSQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
13-Oct-2000	1	-0.000005	0.029065	0.003518	0.9970	3.94	414
14-Oct-2000	3	-0.000007	0.030835	-0.004262	0.9967	3.94	414
16-Oct-2000	5	-0.000007	0.024230	-0.022998	0.9930	3.94	414
18-Oct-2000	4	-0.000010	0.028656	0.010100	0.9911	3.94	414
19-Oct-2000	9	-0.000002	0.020051	0.008280	0.9944	3.94	414
20-Oct-2000	7	-0.000008	0.021563	0.013487	0.9881	3.94	414
20-Oct-2000	8	-0.000009	0.021893	0.002918	0.9922	3.94	414
23-Oct-2000	10	-0.000010	0.022789	0.007538	0.9836	3.94	414
31-Oct-2000	15	-0.000005	0.027791	0.010909	0.9956	3.94	414
23-Mar-2001	17	0.000002	0.039134	0.020796	0.9869	3.94	414
Mean		-0.000006	0.026601	0.005029	0.9919		
S.D.		0.000004	0.005748	0.011906	0.0045		
%CV		-66.7	21.6	236.7	0.5		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 2. Calibration Curve Summary for PFOAQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
14-Oct-2000	3	0.000000	0.021802	-0.010687	0.9983	1.92	481
15-Oct-2000	6	0.000002	0.022043	-0.000611	0.9982	1.92	481
16-Oct-2000	5	0.000000	0.013756	-0.007270	0.9982	1.92	481
18-Oct-2000	4	-0.000001	0.015425	-0.002433	0.9964	1.92	481
19-Oct-2000	9	0.000004	0.015292	0.002113	0.9875	1.92	481
20-Oct-2000	7	0.000000	0.014501	-0.003931	0.9979	1.92	481
20-Oct-2000	8	0.000001	0.013316	-0.003358	0.9964	1.92	481
23-Oct-2000	10	0.000001	0.013509	0.001640	0.9856	1.92	481
31-Oct-2000	15	0.000001	0.018750	0.001244	0.9967	1.92	481
23-Mar-2001	17	0.000001	0.008393	0.007706	0.9842	1.92	481
Mean		0.000001	0.015679	-0.001559	0.9939		
S.D.		0.000001	0.004165	0.005206	0.0057		
%CV		100.0	26.6	-333.9	0.6		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 3. Calibration Curve Summary for PFHSQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
13-Oct-2000	1	-0.000010	0.030430	0.000781	0.9973	1.36	523
14-Oct-2000	3	-0.000010	0.031509	0.004692	0.9958	1.36	523
16-Oct-2000	5	-0.000009	0.027185	-0.000974	0.9926	1.36	523
18-Oct-2000	4	-0.000007	0.026276	0.001867	0.9986	1.36	523
19-Oct-2000	9	-0.000005	0.026618	0.007959	0.9895	1.36	523
20-Oct-2000	7	-0.000006	0.027614	0.003405	0.9949	1.36	523
20-Oct-2000	8	-0.000005	0.024990	0.005704	0.9975	1.36	523
23-Oct-2000	10	-0.000004	0.024289	0.010779	0.9948	1.36	523
31-Oct-2000	15	-0.000009	0.031737	0.006465	0.9976	1.36	523
23-Mar-2001	17	-0.000002	0.021861	0.020425	0.9959	1.36	523
Mean		-0.000007	0.027251	0.006110	0.9955		
S.D.		0.000003	0.003211	0.006113	0.0027		
%CV		-42.9	11.8	100.0	0.3		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 4. Calibration Curve Summary for PFOSAAQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
13-Oct-2000	1	0.000005	0.026658	0.002620	0.9900	1.60	501
14-Oct-2000	3	0.000004	0.033575	-0.001462	0.9859	1.60	501
16-Oct-2000	5	0.000000	0.025009	-0.008698	0.9925	1.60	501
18-Oct-2000	4	0.000001	0.036355	-0.011781	0.9936	1.60	501
19-Oct-2000	9	0.000002	0.021746	0.017518	0.9772	1.60	501
20-Oct-2000	7	-0.000004	0.030680	0.001307	0.9809	1.60	501
20-Oct-2000	8	-0.000005	0.035370	-0.003269	0.9912	1.60	501
23-Oct-2000	10	-0.000003	0.025921	0.008516	0.9750	1.60	501
31-Oct-2000	15	-0.000001	0.023946	-0.003099	0.9952	1.60	501
23-Mar-2001	17	0.000001	0.007894	0.004964	0.9685	1.60	501
Mean		0.000000	0.026715	0.000662	0.9850		
S.D.		0.000003	0.008305	0.008466	0.0091		
%CV			31.1	1278.9	0.9		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 5. Calibration Curve Summary for PFOSAQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
13-Oct-2000	1	-0.000005	0.059585	0.013519	0.9914	1.00	500
14-Oct-2000	3	-0.000005	0.060205	0.017572	0.9940	1.00	500
16-Oct-2000	5	-0.000004	0.047126	-0.000891	0.9938	1.00	500
18-Oct-2000	4	-0.000010	0.071207	0.006196	0.9853	1.00	500
19-Oct-2000	9	0.000000	0.036297	0.011607	0.9891	1.00	500
20-Oct-2000	7	-0.000007	0.041996	0.014850	0.9813	1.00	500
20-Oct-2000	8	-0.000010	0.046357	0.008887	0.9868	1.00	500
23-Oct-2000	10	-0.000013	0.044171	0.009049	0.9824	1.00	500
31-Oct-2000	15	-0.000013	0.052859	0.003517	0.9949	1.00	500
23-Mar-2001	17	0.000002	0.034802	0.013699	0.9847	1.00	500
Mean		-0.000006	0.049461	0.009801	0.9884		
S.D.		0.000005	0.011496	0.005641	0.0050		
%CV		-83.3	23.2	57.6	0.5		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 6. Calibration Curve Summary for M556Quadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
13-Oct-2000	1	0.000002	0.018046	0.011395	0.9826	2.50	500
14-Oct-2000	3	0.000000	0.025056	0.002464	0.9875	2.50	500
16-Oct-2000	5	-0.000002	0.019822	-0.004705	0.9931	2.50	500
18-Oct-2000	4	-0.000004	0.027460	-0.000627	0.9882	2.50	500
19-Oct-2000	9	0.000000	0.021846	0.010790	0.9800	2.50	500
21-Oct-2000	13	-0.000006	0.029287	0.003549	0.9936	2.50	500
22-Oct-2000	12	-0.000006	0.026339	0.005660	0.9846	2.50	500
23-Oct-2000	10	-0.000009	0.025551	-0.002177	0.9893	2.50	500
31-Oct-2000	15	-0.000001	0.018373	0.001923	0.9972	2.50	500
07-Apr-2001	18	0.000001	0.007457	0.002028	0.9924	3.20	501
Mean		-0.000002	0.021924	0.003030	0.9889		
S.D.		0.000004	0.006400	0.005167	0.0054		
%CV		-200.0	29.2	170.5	0.5		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 7. Calibration Curve Summary for M570Quadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
13-Oct-2000	1	-0.000004	0.044503	0.006965	0.9918	1.00	500
14-Oct-2000	3	-0.000007	0.055032	0.008879	0.9884	1.00	500
16-Oct-2000	5	-0.000008	0.039426	0.001905	0.9946	1.00	500
18-Oct-2000	4	-0.000012	0.056127	0.004675	0.9929	1.00	500
19-Oct-2000	9	0.000001	0.035531	0.023102	0.9784	1.00	500
20-Oct-2000	8	-0.000017	0.055069	0.020659	0.9948	1.00	500
23-Oct-2000	10	-0.000006	0.040644	0.023177	0.9892	1.00	500
30-Oct-2000	14	-0.000004	0.033297	0.021686	0.9878	1.00	500
31-Oct-2000	15	-0.000006	0.038561	0.012040	0.9924	1.00	500
07-Apr-2001	18	-0.000001	0.034524	0.014973	0.9858	1.90	501
Mean		-0.000006	0.043271	0.013806	0.9896		
S.D.		0.000005	0.008970	0.008054	0.0049		
%CV		-83.3	20.7	58.3	0.5		
n		10	10	10	10		

A, B, and C are coefficients used to define the calibration curve.

Table 8. Back-Calculated Concentrations of Calibration Standards for PFOSQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	3.94	5.17	11.3	23.6	44.2	85.4	209	332	414
13-Oct-2000	1	3.81	5.60	12.2	24.2	43.7	86.4	209	331	415
		3.81	5.08	11.2	22.1	45.1	77.4	220	336	406
14-Oct-2000	3	3.83	4.87	11.6	24.1	43.1	83.3	203	336	428
		*7.35	5.33	12.5	24.9	42.5	77.5	215	325	414
16-Oct-2000	5	4.08	5.12	11.3	23.1	42.6	71.2	201	324	406
		3.65	5.16	12.9	24.6	45.8	90.2	200	363	427
18-Oct-2000	4	4.30	5.63	12.5	26.1	46.6	85.9	218	350	442
		3.54	4.72	10.2	22.3	42.3	78.6	199	316	392
19-Oct-2000	9	4.30	4.92	10.3	24.1	50.5	78.2	213	342	410
		3.80	5.23	10.8	24.2	46.3	78.8	212	336	403
20-Oct-2000	7	3.32	4.82	10.0	21.7	44.2	77.9	212	322	395
		4.67	5.42	12.1	24.7	49.8	85.4	219	334	430
20-Oct-2000	8	3.76	4.79	11.3	23.2	41.8	76.7	200	327	431
		3.73	6.03	11.8	26.1	47.7	80.9	204	333	434
23-Oct-2000	10	3.80	4.56	9.95	20.7	53.2	77.5	*122	307	371
		4.28	5.50	12.5	*3.05	44.9	89.6	197	365	464
31-Oct-2000	15	3.65	5.67	12.0	23.4	45.0	84.2	224	347	424
		4.10	4.90	10.7	23.3	42.3	84.5	203	345	368
23-Mar-2001	17	4.01	5.70	10.6	26.0	41.2	81.4	232	293	419
		3.42	5.60	11.3	20.3	48.5	89.2	186	380	399
Mean		3.89	5.23	11.4	23.6	45.4	81.7	209	336	414
S.D.		0.337	0.401	0.913	1.68	3.24	5.11	11.1	20.0	23.0
%CV		8.7	7.7	8.0	7.1	7.1	6.3	5.3	6.0	5.6
%Bias		-1.3	1.2	0.9	0.0	2.7	-4.3	0.0	1.2	0.0
n		19	20	20	19	20	20	19	20	20

* Sample deactivated as an outlier (not included in summary statistics)

Table 9. Back-Calculated Concentrations of Calibration Standards for PFOAQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	1.92	3.36	10.6	25.0	49.0	97.1	241	385	481
14-Oct-2000	3	1.97	3.36	10.5	25.3	50.2	94.4	240	388	470
		*7.07	3.12	11.4	25.9	46.4	92.6	248	396	480
15-Oct-2000	6	1.95	3.43	9.83	25.6	46.9	97.3	245	380	461
		1.89	3.34	10.4	26.5	50.2	92.8	256	396	480
16-Oct-2000	5	1.99	3.33	10.9	25.7	48.8	89.6	241	402	483
		1.85	3.33	10.5	26.1	50.7	92.5	233	402	461
18-Oct-2000	4	1.74	3.25	9.97	25.7	47.0	93.5	236	403	466
		2.16	3.32	10.5	25.9	52.6	97.4	249	386	475
19-Oct-2000	9	2.02	2.83	8.96	23.9	53.8	81.6	244	371	454
		2.12	3.08	10.4	28.5	55.4	98.6	270	403	478
20-Oct-2000	7	1.77	3.52	9.98	25.5	50.0	92.7	243	371	478
		2.05	3.28	10.7	24.7	52.0	95.1	244	384	497
20-Oct-2000	8	1.99	2.92	10.7	25.8	48.1	94.6	243	392	493
		1.88	3.62	11.0	26.7	50.0	88.7	226	382	485
23-Oct-2000	10	2.04	3.22	10.9	25.1	*69.9	110	173	408	476
		2.00	2.81	10.8	*10.2	48.9	108	225	414	493
31-Oct-2000	15	1.94	3.49	9.80	24.9	47.2	89.3	250	383	470
		1.88	3.36	10.7	26.6	49.5	99.2	247	427	443
23-Mar-2001	17	1.54	2.87	12.5	27.4	50.2	90.7	256	383	492
		2.40	3.40	10.7	20.7	48.5	99.6	222	400	465
Mean		1.96	3.24	10.6	25.6	49.8	94.9	240	394	475
S.D.		0.178	0.234	0.705	1.56	2.39	6.41	19.3	14.3	14.0
%CV		9.1	7.2	6.7	6.1	4.8	6.8	8.0	3.6	2.9
%Bias		2.1	-3.6	0.0	2.4	1.6	-2.3	-0.4	2.3	-1.2
n		19	20	20	19	19	20	20	20	20

* Sample deactivated as an outlier (not included in summary statistics)

Table 10. Back-Calculated Concentrations of Calibration Standards for PFHSQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	1.36	2.92	10.7	26.5	52.6	104	262	418	523
13-Oct-2000	1	1.25	3.25	10.7	25.9	51.1	101	248	398	528
		1.37	3.03	11.1	26.2	52.6	99.7	272	431	543
14-Oct-2000	3	1.41	2.95	10.6	27.9	52.6	104	251	418	540
		*7.41	2.56	12.2	26.6	52.2	94.7	254	418	539
16-Oct-2000	5	1.56	2.99	10.7	27.5	51.0	92.8	257	413	528
		1.15	2.86	10.9	26.5	50.7	120	245	439	524
18-Oct-2000	4	1.38	2.93	10.6	29.0	51.6	109	252	426	537
		*25.7	2.81	10.4	26.0	53.2	101	257	411	522
19-Oct-2000	9	1.39	2.93	8.79	25.0	55.8	84.1	255	430	511
		1.23	3.45	11.5	27.8	56.1	106	278	421	524
20-Oct-2000	7	1.21	2.75	11.0	27.8	56.3	101	269	408	510
		1.59	2.72	10.1	26.5	53.5	101	264	423	531
20-Oct-2000	8	1.41	2.90	11.4	28.6	52.9	102	259	429	557
		1.31	2.90	10.4	26.9	53.1	93.1	248	411	516
23-Oct-2000	10	1.34	2.68	10.7	27.9	*74.5	115	*176	432	502
		1.47	2.76	10.1	*8.57	52.1	110	231	431	531
31-Oct-2000	15	1.30	3.01	11.2	26.0	49.7	98.7	268	419	530
		1.42	2.77	11.2	27.4	52.0	102	266	455	478
23-Mar-2001	17	1.41	3.13	10.6	28.1	52.5	98.5	283	405	527
		1.31	2.71	10.8	28.5	48.1	104	237	449	512
Mean		1.36	2.90	10.7	27.2	52.5	102	258	423	525
S.D.		0.114	0.208	0.677	1.09	2.06	7.95	13.3	14.3	16.9
%CV		8.4	7.2	6.3	4.0	3.9	7.8	5.2	3.4	3.2
%Bias		0.0	-0.7	0.0	2.6	-0.2	-1.9	-1.5	1.2	0.4
n		18	20	20	19	19	20	19	20	20

* Sample deactivated as an outlier (not included in summary statistics)

Table 11. Back-Calculated Concentrations of Calibration Standards for PFOSAAQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	1.60	3.10	10.6	25.6	50.6	101	251	401	501
13-Oct-2000	1	1.54	3.29	10.4	24.7	45.5	91.3	236	383	472
		1.50	3.50	11.2	25.1	54.2	92.6	308	425	502
14-Oct-2000	3	1.61	2.40	10.9	24.2	45.0	93.4	237	388	494
		*5.30	3.55	12.9	27.7	46.9	98.3	292	405	506
16-Oct-2000	5	1.84	3.05	11.0	28.0	52.0	89.1	263	428	484
		1.42	2.85	10.9	24.4	50.8	95.8	247	440	457
18-Oct-2000	4	1.45	2.81	10.1	23.1	49.2	93.8	250	384	472
		1.73	3.49	10.6	26.1	53.7	110	269	424	506
19-Oct-2000	9	1.58	2.29	7.91	23.7	52.4	89.8	248	371	450
		1.74	3.61	10.4	29.1	62.5	100	287	435	516
20-Oct-2000	7	1.31	4.10	10.5	24.8	57.6	99.0	*373	425	514
		1.71	2.84	10.4	22.0	51.5	87.6	275	380	472
20-Oct-2000	8	1.72	3.26	10.7	26.6	53.1	102	291	424	536
		1.40	3.34	9.16	26.8	46.5	94.0	237	356	469
23-Oct-2000	10	1.91	2.72	10.9	24.5	68.5	104	179	424	502
		1.52	2.56	10.6	*1.44	49.1	102	238	409	540
31-Oct-2000	15	1.41	3.26	10.7	24.0	48.1	94.6	271	394	487
		1.68	3.36	10.9	25.4	48.1	106	261	433	467
23-Mar-2001	17	*7.76	4.18	10.6	24.9	46.5	94.5	301	321	525
		1.32	3.23	10.3	17.3	59.0	108	243	459	460
Mean		1.58	3.18	10.6	24.9	52.0	97.3	260	405	492
S.D.		0.176	0.504	0.916	2.54	6.06	6.42	30.3	33.1	26.6
%CV		11.1	15.8	8.6	10.2	11.7	6.6	11.7	8.2	5.4
%Bias		-1.3	2.6	0.0	-2.7	2.8	-3.7	3.6	1.0	-1.8
n		18	20	20	19	20	20	19	20	20

* Sample deactivated as an outlier (not included in summary statistics)

Table 12. Back-Calculated Concentrations of Calibration Standards for PFOSAQuadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	1.00	2.50	10.0	25.0	50.0	100	250	400	500
13-Oct-2000	1	1.01	2.84	10.6	25.8	46.6	93.0	249	390	510
		0.864	2.91	10.2	22.4	49.3	87.2	275	408	493
14-Oct-2000	3	0.980	2.21	10.3	25.8	45.8	98.5	242	375	513
		*2.36	2.87	10.3	27.1	46.0	94.0	277	395	510
16-Oct-2000	5	1.06	2.43	9.13	24.5	48.3	86.9	249	394	472
		0.924	2.66	11.2	25.6	54.0	97.1	255	458	485
18-Oct-2000	4	1.07	2.76	12.6	26.3	54.4	98.8	285	417	508
		0.936	2.17	8.44	21.9	46.6	89.8	246	386	469
19-Oct-2000	9	1.15	2.36	8.79	25.8	59.2	83.0	268	399	496
		0.882	2.52	9.47	27.1	53.8	89.7	260	410	480
20-Oct-2000	7	0.760	2.34	8.72	23.1	48.2	90.2	247	371	456
		1.24	2.70	11.4	22.8	59.1	105	281	405	541
20-Oct-2000	8	0.851	2.21	9.55	22.1	44.0	90.8	256	391	479
		1.11	3.05	10.3	29.2	50.9	106	259	396	528
23-Oct-2000	10	0.939	2.19	9.62	22.7	55.0	99.1	168	392	477
		1.08	2.60	11.5	*1.08	55.8	102	227	474	573
31-Oct-2000	15	0.930	2.62	9.96	25.7	52.8	101	289	438	529
		1.06	2.48	9.45	24.1	47.2	100	229	362	453
23-Mar-2001	17	0.984	2.94	9.66	26.3	50.7	93.2	285	370	522
		0.906	2.80	10.6	17.0	49.6	106	240	431	458
Mean		0.986	2.58	10.1	24.5	50.9	95.6	254	403	498
S.D.		0.117	0.276	1.04	2.70	4.46	6.76	27.5	28.9	31.4
%CV		11.9	10.7	10.3	11.0	8.8	7.1	10.8	7.2	6.3
%Bias		-1.4	3.2	1.0	-2.0	1.8	-4.4	1.6	0.8	-0.4
n		19	20	20	19	20	20	20	20	20

* Sample deactivated as an outlier (not included in summary statistics)

Table 13. Back-Calculated Concentrations of Calibration Standards for M556Quadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	2.50	3.20	10.0	10.7	25.0	25.7	50.0	50.7	100	101	250	251	400	401	500	501
13-Oct-2000	1	2.06		9.64		23.4		43.9		88.0		231		358		449	
		2.89		11.3		26.2		55.6		97.1		301		450		526	
14-Oct-2000	3	1.97		10.4		23.8		43.8		94.1		236		394		491	
		2.93		11.4		28.1		47.3		97.5		277		395		522	
16-Oct-2000	5	2.53		10.8		28.1		52.4		90.7		272		414		498	
		2.41		10.2		22.9		49.1		88.6		230		440		464	
18-Oct-2000	4	2.15		9.36		23.4		46.1		89.8		228		375		455	
		2.89		9.85		26.1		56.9		112		274		438		526	
19-Oct-2000	9	2.15		8.10		23.1		52.0		78.5		237		376		446	
		2.93		9.93		29.5		59.4		101		273		433		544	
21-Oct-2000	13	2.14		9.49		25.2		48.2		92.8		234		389		500	
		2.87		10.1		26.9		54.0		98.1		257		427		499	
22-Oct-2000	12	2.73		10.2		26.4		58.2		102		299		445		577	
		2.27		9.80		22.0		49.5		84.0		223		342		429	
23-Oct-2000	10	2.60		10.0		22.8		62.8		97.1		*157		398		484	
		2.43		9.42		*1.95		49.6		99.2		211		413		547	

* Sample deactivated as an outlier (not included in summary statistics)

Table 13. Back-Calculated Concentrations of Calibration Standards for M556 (Continued)

Quadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	2.50	3.20	10.0	10.7	25.0	25.7	50.0	50.7	100	101	250	251	400	401	500	501
31-Oct-2000	15	2.33		9.67		24.3		51.9		95.2		255		388		499	
		2.70		9.81		25.8		49.3		104		249		438		470	
07-Apr-2001	18		3.47		9.97		28.4		49.5		99.9		258		425		478
			2.95		11.4		20.9		54.3		104		239		427		477
Mean		2.50	3.21	9.97	10.7	25.2	24.7	51.7	51.9	95.0	102	252	249	406	426	496	478
S.D.		0.331	ISD	0.747	ISD	2.19	ISD	5.32	ISD	7.79	ISD	26.7	ISD	31.8	ISD	39.7	ISD
%CV		13.2	ISD	7.5	ISD	8.7	ISD	10.3	ISD	8.2	ISD	10.6	ISD	7.8	ISD	8.0	ISD
%Bias		0.0	0.3	-0.3	0.0	0.8	-3.9	3.4	2.4	-5.0	1.0	0.8	-0.8	1.5	6.2	-0.8	-4.6
n		18	2	18	2	17	2	18	2	18	2	17	2	18	2	18	2

* Sample deactivated as an outlier (not included in summary statistics)
ISD = insufficient data points for statistical calculations

Table 14. Back-Calculated Concentrations of Calibration Standards for M570Quadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	1.00	1.90	2.50	3.40	10.0	10.9	25.0	25.9	50.0	50.9	100	101	250	251	400	401	500	501
13-Oct-2000	1	0.918		2.64		9.83		24.0		45.7		91.3		236		382		479	
		0.994		2.93		10.4		24.1		53.9		91.1		295		423		506	
14-Oct-2000	3	1.00		1.99		10.4		23.2		44.3		94.0		237		386		498	
		*3.99		2.90		11.5		27.8		47.0		97.4		286		403		505	
16-Oct-2000	5	1.14		2.33		10.6		26.4		50.7		89.7		260		409		486	
		0.900		2.35		10.6		24.6		50.9		95.5		243		434		479	
18-Oct-2000	4	0.895		2.20		9.60		22.8		47.5		95.3		245		395		456	
		1.12		2.76		10.1		25.9		54.8		106		270		426		503	
19-Oct-2000	9	0.939		1.78		7.85		23.6		51.5		89.2		240		364		452	
		1.16		2.64		10.2		29.3		61.3		103		281		434		525	
20-Oct-2000	8	0.995		2.45		10.6		26.0		53.0		99.8		274		422		559	
		0.985		2.68		9.12		26.2		45.9		90.7		231		365		464	
23-Oct-2000	10	1.02		2.30		10.4		25.4		*72.1		108		179		430		503	
		1.04		2.26		10.6		*1.13		51.2		109		229		402		541	
30-Oct-2000	14	0.936		2.35		10.8		27.2		49.5		83.1		231		381		491	
		1.13		2.15		9.43		27.5		58.8		98.3		224		451		531	
31-Oct-2000	15	0.828		2.29		10.1		23.6		48.1		93.7		262		392		486	
		1.18		2.66		9.94		25.9		50.6		109		252		431		475	

* Sample deactivated as an outlier (not included in summary statistics)

Table 14. Back-Calculated Concentrations of Calibration Standards for M570 (Continued)Quadratic weighted $1/x^2$. All concentrations are expressed as ppb.

Run Date	Run Number	1.00	1.90	2.50	3.40	10.0	10.9	25.0	25.9	50.0	50.9	100	101	250	251	400	401	500	501
07-Apr-2001	18		1.76		3.34		11.0		30.5		52.3		109		263		436		476
			2.22		2.90		10.9		19.5		52.0		102		231		426		466
Mean		1.01	1.99	2.43	3.12	10.1	11.0	25.5	25.0	50.9	52.2	96.9	106	249	247	407	431	497	471
S.D.		0.104	ISD	0.309	ISD	0.788	ISD	1.83	ISD	4.55	ISD	7.57	ISD	27.5	ISD	25.6	ISD	28.8	ISD
%CV		10.3	ISD	12.7	ISD	7.8	ISD	7.2	ISD	8.9	ISD	7.8	ISD	11.0	ISD	6.3	ISD	5.8	ISD
%Bias		1.0	4.7	-2.8	-8.2	1.0	0.9	2.0	-3.5	1.8	2.6	-3.1	5.0	-0.4	-1.6	1.8	7.5	-0.6	-6.0
n		17	2	18	2	18	2	17	2	17	2	18	2	18	2	18	2	18	2

* Sample deactivated as an outlier (not included in summary statistics)

ISD = insufficient data points for statistical calculations

Table 15. Analytical QC Summary for PFOS

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (6.40 ppb)	Medium QC (126 ppb)	High QC (332 ppb)
13-Oct-2000	1	6.41	132	330
		6.14	127	355
14-Oct-2000	3	6.48	132	339
		6.80	126	348
16-Oct-2000	5	7.41	109	353
		*7.81	130	309
18-Oct-2000	4	5.61	120	266
		5.31	107	302
19-Oct-2000	9	6.77	130	340
		6.94	131	343
20-Oct-2000	7	*4.41	131	323
		6.34	137	375
20-Oct-2000	8	5.88	125	377
		6.28	139	352
23-Oct-2000	10	6.61	139	359
		5.83	130	338
31-Oct-2000	15	6.62	129	323
		6.18	135	322
23-Mar-2001	17	*4.60	135	354
		6.50	*192	333
Mean		6.25	132	337
S.D.		0.826	16.5	25.7
%CV		13.2	12.5	7.6
%Theoretical		97.7	104.8	101.5
%Bias		-2.3	4.8	1.5
n		20	20	20

* > ±20% deviation from theoretical

Table 16. Analytical QC Summary for PFOA

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (4.81 ppb)	Medium QC (145 ppb)	High QC (385 ppb)
14-Oct-2000	3	5.08	146	391
		5.18	149	393
15-Oct-2000	6	4.45	147	359
		4.72	143	377
16-Oct-2000	5	5.77	142	384
		5.53	151	374
18-Oct-2000	4	4.57	147	399
		4.64	157	388
19-Oct-2000	9	4.68	152	390
		5.47	155	422
20-Oct-2000	7	*3.70	150	414
		4.84	172	398
20-Oct-2000	8	4.83	152	*466
		4.87	*181	386
23-Oct-2000	10	5.13	171	425
		5.28	167	431
31-Oct-2000	15	4.87	156	399
		4.90	147	380
23-Mar-2001	17	*2.72	159	412
		4.85	152	381
Mean		4.80	155	398
S.D.		0.660	10.5	24.3
%CV		13.8	6.8	6.1
%Theoretical		99.8	106.9	103.4
%Bias		-0.2	6.9	3.4
n		20	20	20

* > ±20% deviation from theoretical

Table 17. Analytical QC Summary for PFHS

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (4.48 ppb)	Medium QC (156 ppb)	High QC (417 ppb)
13-Oct-2000	1	4.24	149	373
		4.43	139	421
14-Oct-2000	3	4.60	154	392
		4.69	153	410
16-Oct-2000	5	5.35	159	441
		4.81	156	386
18-Oct-2000	4	4.50	160	400
		4.08	161	408
19-Oct-2000	9	4.66	159	415
		4.83	155	419
20-Oct-2000	7	4.84	163	406
		5.12	167	387
20-Oct-2000	8	4.36	157	469
		5.21	*188	440
23-Oct-2000	10	4.64	172	425
		4.66	178	442
31-Oct-2000	15	4.35	160	403
		4.60	151	400
23-Mar-2001	17	4.29	155	428
		4.06	171	406
Mean		4.62	160	414
S.D.		0.349	10.8	22.9
%CV		7.6	6.8	5.5
%Theoretical		103.1	102.6	99.3
%Bias		3.1	2.6	-0.7
n		20	20	20

* > ±20% deviation from theoretical

Table 18. Analytical QC Summary for PFOSAA

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (4.60 ppb)	Medium QC (151 ppb)	High QC (401 ppb)
13-Oct-2000	1	5.10	162	411
		5.08	152	456
14-Oct-2000	3	4.46	176	425
		4.85	148	456
16-Oct-2000	5	*5.86	136	395
		5.14	156	372
18-Oct-2000	4	4.08	136	379
		3.98	152	346
19-Oct-2000	9	*3.38	150	401
		4.43	152	426
20-Oct-2000	7	*3.10	183	462
		4.26	*194	450
20-Oct-2000	8	4.73	184	*538
		3.91	*201	377
23-Oct-2000	10	4.24	160	459
		4.29	143	458
31-Oct-2000	15	4.43	160	393
		4.03	157	394
23-Mar-2001	17	*2.38	172	463
		4.11	*374	456
Mean		4.29	172	426
S.D.		0.772	50.8	45.0
%CV		18.0	29.5†	10.6
%Theoretical		93.3	113.9†	106.2
%Bias		-6.7	13.9†	6.2
n		20	20	20

* > ±25% deviation from theoretical † See comments in Section 4, Results and Discussion

Table 19. Analytical QC Summary for PFOSA

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (4.00 ppb)	Medium QC (150 ppb)	High QC (400 ppb)
13-Oct-2000	1	4.37	148	392
		3.84	143	426
14-Oct-2000	3	3.72	166	420
		4.21	148	449
16-Oct-2000	5	4.55	125	418
		4.68	160	375
18-Oct-2000	4	3.29	127	*280
		3.20	*109	334
19-Oct-2000	9	4.59	170	440
		4.65	171	432
20-Oct-2000	7	*2.21	150	368
		4.14	158	467
20-Oct-2000	8	3.64	155	467
		4.08	163	350
23-Oct-2000	10	4.58	175	*483
		4.07	146	450
31-Oct-2000	15	3.74	154	423
		4.10	158	412
23-Mar-2001	17	*2.33	180	434
		4.47	*328	417
Mean		3.92	162	412
S.D.		0.712	42.9	49.8
%CV		18.2	26.5†	12.1
%Theoretical		98.0	108.0†	103.0
%Bias		-2.0	8.0	3.0
n		20	20	20

* > ±25% deviation from theoretical † See comments in Section 4, Results and Discussion

Table 20. Analytical QC Summary for M556

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (4.00 ppb)	Medium QC (150 ppb)	High QC (400 ppb)
13-Oct-2000	1	3.65	149	398
		4.28	155	459
14-Oct-2000	3	3.93	150	452
		4.30	156	444
16-Oct-2000	5	*5.47	143	395
		4.68	162	378
18-Oct-2000	4	3.81	140	407
		3.96	157	395
19-Oct-2000	9	4.10	146	387
		4.45	147	457
21-Oct-2000	13	3.64	145	426
		4.14	167	411
22-Oct-2000	12	*2.62	*194	432
		3.33	177	401
23-Oct-2000	10	4.60	157	443
		4.32	140	439
31-Oct-2000	15	3.95	161	417
		3.93	149	406
07-Apr-2001	18	4.73	152	407
		3.51	145	387
Mean		4.07	155	417
S.D.		0.599	13.1	25.2
%CV		14.7	8.5	6.0
%Theoretical		101.8	103.3	104.3
%Bias		1.8	3.3	4.3
n		20	20	20

* > $\pm 20\%$ deviation from theoretical

Table 21. Analytical QC Summary for M570

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC (4.00 ppb)	Medium QC (150 ppb)	High QC (400 ppb)
13-Oct-2000	1	4.60	157	408
		4.46	148	454
14-Oct-2000	3	4.13	166	432
		4.47	150	459
16-Oct-2000	5	*5.02	134	392
		4.75	159	375
18-Oct-2000	4	3.58	135	384
		3.51	150	352
19-Oct-2000	9	3.85	151	400
		*4.84	157	434
20-Oct-2000	8	4.37	175	*561
		3.68	*207	372
23-Oct-2000	10	4.20	167	468
		4.43	148	473
30-Oct-2000	14	3.21	159	402
		3.86	159	413
31-Oct-2000	15	3.70	164	410
		3.99	160	416
07-Apr-2001	18	*4.90	159	446
		4.47	156	423
Mean		4.20	158	424
S.D.		0.512	15.2	46.2
%CV		12.2	9.6	10.9
%Theoretical		105.0	105.3	106.0
%Bias		5.0	5.3	6.0
n		20	20	20

* > $\pm 20\%$ deviation from theoretical

Table 22. Serum Study Sample Concentrations

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
00223	23.9	<LLOQ(1.92)	1.54	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
00461	16.6	2.47	1.96	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
00660	13.8	2.52	<LLOQ(1.36)	3.12	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
00759	23.0	1.96	<LLOQ(1.36)	1.95	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
01339	16.3	2.79	1.38	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
01346	10.9	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
01485	13.2	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
01696	18.6	2.43	1.36	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.22
01739	15.7	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
01816	22.3	2.23	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
01997	67.8	2.65	3.63	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
02005	55.4	3.02	1.66	12.9	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
02393	25.8	<LLOQ(1.92)	2.36	2.01	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
03257	41.4	2.13	1.46	1.65	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
03423	23.6	3.10	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
03450	60.1	3.57	3.11	1.86	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
03482	80.2	3.30	4.59	1.79	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
04063	32.8	3.31	3.18	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
04627	44.6	2.98	3.33	3.67	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
04789	25.5	4.53	1.65	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
04854	20.9	2.17	1.75	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05250	38.9	3.66	2.05	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05325	56.0	6.57	4.49	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05333	37.5	2.58	2.97	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05370	49.0	2.87	2.41	3.78	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05447	32.4	3.86	2.54	1.71	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05456	61.9	3.42	2.55	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05570	50.4	2.50	1.87	1.67	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
05573	52.1	2.81	2.00	2.14	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05842	24.3	<LLOQ(1.92)	<LLOQ(1.36)	1.67	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
05843	26.3	<LLOQ(1.92)	1.58	1.87	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10277	27.8	2.01	<LLOQ(1.36)	2.23	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10525	34.9	2.36	3.01	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10526	112	3.01	8.41	2.14	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10637	38.7	2.61	2.87	2.15	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10664	54.3	4.11	6.17	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10726	21.4	2.17	<LLOQ(1.36)	2.38	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10736	82.0	2.54	2.61	6.96	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10773	42.3	<LLOQ(1.92)	4.05	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10837	52.7	2.07	3.49	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10873	35.0	2.31	1.93	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10881	30.6	<LLOQ(1.92)	1.96	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10885	29.3	2.49	3.69	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10891	15.6	<LLOQ(1.92)	1.42	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10899	24.0	3.11	1.88	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10910	23.5	<LLOQ(1.92)	1.36	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10960	34.6	1.97	2.71	2.34	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10991	26.1	<LLOQ(1.92)	1.50	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
11174	24.6	2.59	2.06	1.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
11214	37.6	<LLOQ(1.92)	1.52	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
11260	139	2.44	6.09	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
12651	19.5	<LLOQ(1.92)	<LLOQ(1.36)	2.44	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
13214	22.7	<LLOQ(1.92)	1.63	2.58	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
13225	19.2	1.98	1.50	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
13421	20.0	<LLOQ(1.92)	1.57	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
13592	41.4	4.21	2.51	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
13657	21.3	<LLOQ(1.92)	<LLOQ(1.36)	2.52	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
13738	20.0	3.48	1.67	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
13911	8.76	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14068	29.1	<LLOQ(1.92)	1.96	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14071	11.6	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14089	30.8	2.15	1.45	1.74	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14091	26.0	2.34	2.55	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14338	33.7	1.93	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14357	15.9	2.39	<LLOQ(1.36)	1.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14363	46.8	2.34	3.06	2.45	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14679	25.5	2.75	1.92	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.12
14726	35.8	2.43	2.25	1.81	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14863	22.3	2.06	<LLOQ(1.36)	3.28	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
14993	25.1	<LLOQ(1.92)	<LLOQ(1.36)	1.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
15016	15.7	3.20	2.39	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
15317	24.3	2.17	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
15508	34.6	2.87	3.24	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
15744	36.3	2.84	2.93	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
15750	14.9	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
15756	16.9	2.73	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
20198	33.6	3.19	1.52	1.64	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
20219	57.4	6.19	6.33	3.78	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
20554	35.7	2.36	2.28	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
21040	40.2	1.96	1.92	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.84
21476	24.5	2.09	<LLOQ(1.36)	2.00	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
23023	68.7	4.55	4.04	2.52	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
23704	15.0	2.10	<LLOQ(1.36)	1.88	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
23724	23.3	2.59	2.26	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
23957	32.0	3.83	4.08	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24003	18.0	2.43	1.72	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24020	32.7	2.28	<LLOQ(1.36)	5.29	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24022	31.4	2.70	1.65	1.86	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24077	21.5	2.00	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24138	36.4	2.29	2.45	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24206	18.4	2.48	<LLOQ(1.36)	1.77	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24363	35.9	2.11	<LLOQ(1.36)	2.38	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24413	45.6	3.75	2.29	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24421	7.14	<LLOQ(1.92)	<LLOQ(1.36)	8.21	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24958	41.4	3.28	1.69	2.06	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24959	36.8	2.91	<LLOQ(1.36)	1.97	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24963	46.8	6.11	4.57	3.01	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
24968	51.7	6.36	4.42	3.06	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
30612	20.1	1.94	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
30713	38.1	2.60	1.57	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.92
31297	36.4	2.52	1.54	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
31432	35.3	3.28	2.00	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
31652	27.1	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
32126	39.6	3.09	2.16	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
32535	13.3	<LLOQ(1.92)	1.75	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
32704	25.1	2.34	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33007	45.0	2.97	1.43	1.94	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33292	23.3	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33340	25.1	<LLOQ(1.92)	<LLOQ(1.36)	5.68	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33341	20.3	<LLOQ(1.92)	1.43	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33787	15.8	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33788	27.1	3.01	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
33793	32.4	2.61	1.40	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33897	68.2	2.32	2.54	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33914	147	<LLOQ(1.92)	3.11	3.17	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
33958	36.4	1.97	1.69	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34087	42.0	2.54	1.86	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34117	54.8	4.09	<LLOQ(1.36)	2.76	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34119	141	3.97	2.91	1.77	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34222	134	3.25	5.17	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34279	14.3	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34307	31.7	2.46	3.67	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34549	178	3.51	10.6	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
34917	68.2	3.45	3.12	3.06	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35082	29.4	2.09	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	4.40
35084	18.3	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35174	21.9	2.69	1.81	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35253	67.6	2.47	5.72	2.00	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35318	36.1	3.46	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.44
35332	36.7	2.33	2.00	2.50	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35346	45.0	3.57	2.00	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35576	33.1	8.03	1.70	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35599	34.6	<LLOQ(1.92)	1.44	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35935	34.7	<LLOQ(1.92)	1.64	2.27	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35946	35.7	<LLOQ(1.92)	1.72	2.72	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35950	30.4	2.25	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
35956	29.0	1.96	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40106	59.7	3.99	5.19	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40388	14.2	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40734	25.2	<LLOQ(1.92)	<LLOQ(1.36)	2.16	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
40790	32.5	2.44	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40867	26.2	<LLOQ(1.92)	1.75	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40868	57.9	2.39	3.57	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40881	29.6	3.47	1.53	1.65	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40916	15.6	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40955	9.52	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40991	20.4	2.16	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
40993	24.8	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41000	43.2	2.11	2.08	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41002	49.7	4.76	3.32	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41003	34.7	<LLOQ(1.92)	<LLOQ(1.36)	2.34	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41012	29.1	1.95	2.19	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41014	41.3	2.80	3.90	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41020	42.1	2.96	2.31	2.50	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41067	32.0	3.03	1.89	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41499	18.5	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41508	20.2	2.64	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41509	25.3	2.67	1.40	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41516	54.6	3.05	2.30	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41523	27.8	3.23	1.92	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41551	21.9	<LLOQ(1.92)	<LLOQ(1.36)	1.72	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41559	55.2	3.06	2.16	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41566	37.5	2.78	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41569	23.5	5.96	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41605	35.7	2.08	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41611	14.6	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41613	32.3	1.98	1.57	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41620	22.4	6.13	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
41621	11.8	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41623	20.3	2.39	<LLOQ(1.36)	1.60	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41626	18.1	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41633	20.0	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41650	25.2	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.90)
41665	25.2	2.42	<LLOQ(1.36)	1.99	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41784	28.6	<LLOQ(1.92)	1.86	2.24	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
41859	18.4	<LLOQ(1.92)	1.63	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
42174	42.8	2.65	1.76	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
42524	32.1	5.78	1.50	2.79	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
42579	39.0	3.49	2.68	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
42621	40.5	2.32	2.16	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
42671	21.1	<LLOQ(1.92)	<LLOQ(1.36)	2.95	<LLOQ(1.00)	<LLOQ(2.50)	1.21
42818	19.5	3.06	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43095	34.5	2.13	2.95	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43146	49.0	3.86	5.05	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43246	50.3	2.76	2.72	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43310	52.2	2.91	3.76	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43484	22.4	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43519	12.4	<LLOQ(1.92)	<LLOQ(1.36)	6.73	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43520	38.2	<LLOQ(1.92)	4.15	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43542	12.5	2.39	2.58	1.96	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43864	28.4	2.23	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
43882	18.6	2.20	<LLOQ(1.36)	2.94	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
44145	34.4	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
44391	20.5	<LLOQ(1.92)	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
44448	38.3	2.16	2.60	2.42	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
45329	17.0	<LLOQ(1.92)	<LLOQ(1.36)	4.31	<LLOQ(1.00)	<LLOQ(2.50)	2.83

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 22. Serum Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA*	PFHS*	PFOSAA*	PFOSA*	M556*	M570*
45330	16.3	<LLOQ(1.92)	<LLOQ(1.36)	4.61	<LLOQ(1.00)	<LLOQ(2.50)	2.67

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

* Serum sample results for PFOA, PFHS, PFOSAA, PFOSA, M556 and M570 obtained using plasma calibration curves may vary from results obtained using serum calibration curves (see Results and Discussion section).

Table 23. Plasma Study Sample Concentrations

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
A-0150	22.9	3.23	<LLOQ(1.36)	3.29	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-0277	31.9	2.75	<LLOQ(1.36)	5.18	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-0334	61.8	7.68	7.91	3.78	<LLOQ(1.00)	<LLOQ(2.50)	2.42
A-0790	33.3	12.8	2.32	2.85	<LLOQ(1.00)	<LLOQ(2.50)	1.80
A-1093	16.7	5.06	2.31	2.87	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-1211	29.3	4.84	1.91	2.50	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-1212	41.3	6.05	2.71	2.59	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-1242	18.5	2.00	<LLOQ(1.36)	3.08	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-1332	13.1	3.02	<LLOQ(1.36)	1.77	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-1335	89.6	6.46	6.88	6.07	<LLOQ(1.00)	<LLOQ(2.50)	1.24
A-1880	41.2	6.47	2.74	4.09	<LLOQ(1.00)	5.61	<LLOQ(1.00)
A-1929	16.6	2.64	<LLOQ(1.36)	3.15	<LLOQ(1.00)	<LLOQ(2.50)	1.04
A-2007	27.0	6.52	<LLOQ(1.36)	4.25	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-2159	28.2	5.83	<LLOQ(1.36)	2.64	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-2527	20.1	2.96	3.07	2.96	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-2542	29.0	4.43	1.47	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-2759	36.9	4.36	2.32	1.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-2760	27.5	4.56	<LLOQ(1.36)	3.33	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-2919	29.6	4.76	<LLOQ(1.36)	3.65	<LLOQ(1.00)	<LLOQ(2.50)	2.09
A-3003	64.8	5.34	2.55	2.44	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3133	42.9	3.39	2.30	3.88	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3142	40.7	9.49	1.42	8.80	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3151	10.5	2.12	<LLOQ(1.36)	2.47	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3169	21.7	3.17	1.39	3.12	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3234	17.3	3.15	<LLOQ(1.36)	3.95	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3260	69.1	5.57	2.35	2.50	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3297	33.4	4.09	3.45	1.90	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3322	23.7	4.04	<LLOQ(1.36)	2.63	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3327	41.9	5.34	2.57	3.50	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 23. Plasma Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
A-3354	23.3	18.9	<LLOQ(1.36)	6.10	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3355	70.3	4.73	3.09	5.72	<LLOQ(1.00)	<LLOQ(2.50)	2.26
A-3380	29.0	6.40	2.38	3.99	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3410	69.3	71.7	16.5	28.7	<LLOQ(1.00)	<LLOQ(2.50)	1.10
A-3439	61.7	10.8	2.40	3.86	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3442	27.3	6.42	2.15	2.96	<LLOQ(1.00)	<LLOQ(2.50)	1.07
A-3447	40.7	6.77	2.23	3.41	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3461	43.5	5.76	11.4	3.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3532	56.8	3.39	<LLOQ(1.36)	13.3	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3534	40.4	4.31	4.55	5.22	<LLOQ(1.00)	<LLOQ(2.50)	3.15
A-3600	38.6	5.43	3.14	3.93	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3630	32.3	5.74	1.79	2.93	<LLOQ(1.00)	<LLOQ(2.50)	2.14
A-3631	17.9	4.90	<LLOQ(1.36)	2.60	<LLOQ(1.00)	<LLOQ(2.50)	3.64
A-3683	33.0	3.29	<LLOQ(1.36)	4.19	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3796	19.2	7.14	<LLOQ(1.36)	2.27	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3797	62.5	6.79	4.65	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.11
A-3834	48.6	6.50	4.31	2.66	<LLOQ(1.00)	<LLOQ(2.50)	1.63
A-3844	33.0	6.32	1.77	2.87	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3869	58.0	5.33	2.59	3.42	<LLOQ(1.00)	<LLOQ(2.50)	5.69
A-3954	29.2	3.58	1.48	4.23	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3955	22.9	3.67	1.94	2.02	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-3956	38.6	5.31	2.54	3.60	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-4060	45.0	5.92	14.1	7.14	<LLOQ(1.00)	<LLOQ(2.50)	1.43
A-4078	41.5	7.90	2.97	3.50	<LLOQ(1.00)	<LLOQ(2.50)	1.01
A-4097	19.6	5.51	1.64	2.11	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-4115	45.8	6.98	14.5	4.56	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-4173	60.5	9.61	1.45	5.15	<LLOQ(1.00)	3.34	1.35
A-4979	55.3	5.94	3.22	3.76	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-6362	30.9	4.54	2.35	1.60	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 23. Plasma Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
A-6657	32.8	6.70	2.27	2.50	<LLOQ(1.00)	<LLOQ(2.50)	1.29
A-7535	45.5	5.59	2.84	3.64	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-7826	12.1	2.05	<LLOQ(1.36)	4.30	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-8008	28.4	5.39	3.15	1.96	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-8013	27.2	5.58	3.11	2.36	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-8028	53.6	5.63	1.44	4.40	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
A-8115	54.8	5.99	1.60	4.91	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-0585	35.2	3.51	1.55	1.79	<LLOQ(1.00)	<LLOQ(2.50)	1.32
B-1082	36.9	5.62	1.94	5.25	<LLOQ(1.00)	<LLOQ(2.50)	1.17
B-1112	20.8	2.95	1.56	2.26	<LLOQ(1.00)	<LLOQ(2.50)	1.04
B-1394	34.8	5.23	2.87	2.59	<LLOQ(1.00)	<LLOQ(2.50)	1.77
B-1739	12.2	3.03	7.17	4.05	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-1740	28.4	4.51	6.51	1.97	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-1783	50.1	6.40	2.21	29.5	<LLOQ(1.00)	5.19	1.69
B-2127	65.5	6.14	4.24	5.42	<LLOQ(1.00)	<LLOQ(2.50)	1.80
B-2170	33.4	4.39	1.98	2.38	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-2171	56.4	7.78	4.22	3.34	<LLOQ(1.00)	<LLOQ(2.50)	1.71
B-2199	40.3	5.33	3.01	2.24	<LLOQ(1.00)	<LLOQ(2.50)	2.86
B-2228	38.7	5.55	1.45	5.42	<LLOQ(1.00)	<LLOQ(2.50)	4.46
B-2584	58.6	6.42	2.34	5.24	<LLOQ(1.00)	<LLOQ(2.50)	1.11
B-2924	52.5	10.9	2.56	28.0	<LLOQ(1.00)	6.63	<LLOQ(1.00)
B-2938	45.8	7.32	3.97	4.06	<LLOQ(1.00)	<LLOQ(2.50)	1.11
B-3110	41.0	5.26	11.3	2.57	<LLOQ(1.00)	<LLOQ(2.50)	1.84
B-3114	31.8	3.99	1.41	3.90	<LLOQ(1.00)	<LLOQ(2.50)	1.61
B-3163	65.7	8.58	2.63	5.39	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3169	59.1	5.85	2.32	2.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3170	52.8	5.77	3.82	3.42	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3171	50.0	5.19	2.29	4.39	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3172	28.9	5.50	<LLOQ(1.36)	4.07	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 23. Plasma Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
B-3195	24.2	4.56	1.87	2.90	<LLOQ(1.00)	<LLOQ(2.50)	1.27
B-3197	48.2	6.97	3.63	5.91	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3198	43.7	6.66	4.87	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3206	6.50	<LLOQ(1.92)	<LLOQ(1.36)	2.71	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3211	39.7	5.41	4.37	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.04
B-3212	38.6	6.46	2.96	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.38
B-3225	40.7	6.76	15.2	2.30	<LLOQ(1.00)	<LLOQ(2.50)	1.44
B-3241	20.7	3.05	<LLOQ(1.36)	2.08	<LLOQ(1.00)	<LLOQ(2.50)	4.37
B-3242	22.7	2.66	<LLOQ(1.36)	2.45	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3265	59.0	6.93	4.95	4.76	<LLOQ(1.00)	<LLOQ(2.50)	1.25
B-3266	22.4	3.76	2.14	3.78	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3276	32.9	5.69	2.18	3.65	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3282	44.1	4.89	4.05	6.60	<LLOQ(1.00)	<LLOQ(2.50)	5.46
B-3290	35.7	7.32	2.63	2.79	<LLOQ(1.00)	<LLOQ(2.50)	1.33
B-3292	25.9	5.39	2.37	5.17	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3402	32.5	6.35	3.89	4.50	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3563	33.6	5.01	1.57	2.78	<LLOQ(1.00)	<LLOQ(2.50)	1.63
B-3575	13.6	4.49	1.57	2.20	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3844	18.1	4.57	2.24	2.08	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3852	36.1	6.43	3.43	4.31	<LLOQ(1.00)	<LLOQ(2.50)	1.65
B-3948	41.0	5.54	2.64	5.16	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3952	38.7	7.77	4.31	2.56	<LLOQ(1.00)	<LLOQ(2.50)	1.01
B-3955	12.9	10.5	4.39	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3960	18.1	2.91	3.09	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-3978	31.6	8.01	2.57	3.39	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-4054	11.6	3.32	1.60	4.71	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-4258	25.0	4.32	3.01	3.86	<LLOQ(1.00)	<LLOQ(2.50)	1.51
B-4259	34.6	4.40	1.56	3.22	<LLOQ(1.00)	<LLOQ(2.50)	1.57
B-4887	12.9	3.13	<LLOQ(1.36)	2.44	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 23. Plasma Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
B-5109	19.2	5.51	1.92	3.67	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-5434	29.5	6.21	3.40	3.71	<LLOQ(1.00)	<LLOQ(2.50)	3.74
B-5521	20.7	2.77	9.89	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-5548	37.5	6.21	4.18	3.09	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-5549	44.0	6.05	3.34	6.65	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-5966	32.1	8.38	8.98	2.47	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-6165	57.3	12.5	30.3	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.90)
B-6201	16.5	4.14	2.47	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-6396	123	11.0	5.86	127	<LLOQ(1.00)	4.32	1.27
B-6397	23.0	4.43	1.67	3.00	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-6649	37.5	22.0	65.4	2.58	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-6883	34.9	5.95	9.16	4.98	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-7259	21.8	6.52	2.10	2.36	<LLOQ(1.00)	<LLOQ(2.50)	1.05
B-7512	24.8	6.37	2.62	2.27	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-7926	36.5	14.8	2.38	7.36	<LLOQ(1.00)	<LLOQ(2.50)	2.64
B-7936	36.3	13.5	1.95	7.61	<LLOQ(1.00)	<LLOQ(2.50)	2.65
B-7957	25.8	4.53	18.6	3.47	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
B-7962	24.2	3.89	16.2	3.56	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-0494	59.6	19.0	48.1	5.02	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-1385	25.3	4.43	<LLOQ(1.36)	5.57	<LLOQ(1.00)	<LLOQ(2.50)	1.34
F-2872	53.0	7.27	3.23	3.30	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-3028	18.2	6.00	<LLOQ(1.36)	3.00	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-3029	27.5	3.33	1.83	2.25	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-3118	41.4	5.73	2.15	12.4	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-3233	39.7	5.69	13.3	2.42	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-3367	51.1	6.57	3.22	40.9	<LLOQ(1.00)	<LLOQ(2.50)	1.37
F-3368	42.3	5.86	2.79	10.1	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-4089	51.0	9.63	11.3	8.91	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-4166	41.1	6.71	3.13	4.04	<LLOQ(1.00)	<LLOQ(2.50)	2.18

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 23. Plasma Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
F-4441	25.7	5.32	3.08	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.39
F-4456	48.2	6.96	2.59	3.16	<LLOQ(1.00)	<LLOQ(2.50)	1.33
F-4516	40.9	6.05	1.56	2.69	<LLOQ(1.00)	<LLOQ(2.50)	1.20
F-4995	27.8	5.68	5.17	2.00	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-5050	38.0	4.85	6.65	3.07	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-5112	33.2	5.15	2.46	3.42	<LLOQ(1.00)	<LLOQ(2.50)	2.06
F-5156	21.7	3.41	<LLOQ(1.36)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-5289	28.2	4.06	1.82	1.82	<LLOQ(1.00)	<LLOQ(2.50)	1.06
F-6133	31.7	3.91	3.82	4.62	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
F-6202	39.5	4.97	1.78	12.4	<LLOQ(1.00)	2.70	<LLOQ(1.00)
F-6610	25.8	3.74	3.02	9.23	<LLOQ(1.00)	<LLOQ(2.50)	1.16
F-6614	29.2	3.67	3.98	9.72	<LLOQ(1.00)	<LLOQ(2.50)	1.22
F-6715	39.1	9.65	5.50	2.06	<LLOQ(1.00)	<LLOQ(2.50)	1.02
F-6716	37.3	10.2	5.13	1.97	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-0840	63.4	7.00	3.42	11.5	<LLOQ(1.00)	<LLOQ(2.50)	5.22
L-0866	24.5	8.86	5.54	2.22	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-0868	48.2	11.7	7.39	1.97	<LLOQ(1.00)	<LLOQ(2.50)	1.89
L-0948	48.1	6.53	4.15	3.68	<LLOQ(1.00)	<LLOQ(2.50)	1.37
L-1484	10.3	2.23	<LLOQ(1.36)	2.55	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-3082	35.6	6.68	2.07	3.23	<LLOQ(1.00)	<LLOQ(2.50)	1.34
L-4078	58.1	10.4	2.27	4.86	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-4134	23.6	4.13	1.64	3.10	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-4535	16.6	3.81	<LLOQ(1.36)	1.85	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-4553	40.2	7.49	6.57	2.79	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-4637	61.1	9.10	2.28	86.0	<LLOQ(1.00)	<LLOQ(2.50)	1.91
L-4731	33.0	5.62	<LLOQ(1.36)	40.8	<LLOQ(1.00)	<LLOQ(2.50)	1.14
L-4845	27.5	8.63	40.3	3.42	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-5881	22.8	3.18	<LLOQ(1.36)	3.39	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-5945	18.4	4.00	1.59	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 23. Plasma Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample No.	PFOS	PFOA	PFHS	PFOSAA	PFOSA	M556	M570
L-7039	32.7	5.60	3.25	2.48	<LLOQ(1.00)	<LLOQ(2.50)	2.22
L-7225	32.1	4.54	4.69	2.43	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-7415	35.7	7.22	2.69	8.00	<LLOQ(1.00)	2.60	1.92
L-7472	30.0	4.84	2.65	3.73	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-7703	49.8	6.26	1.89	4.28	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-7709	43.7	5.87	1.84	3.66	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
L-7726	25.4	4.41	6.44	5.88	<LLOQ(1.00)	<LLOQ(2.50)	1.36
L-7728	31.9	5.82	8.25	7.98	<LLOQ(1.00)	<LLOQ(2.50)	1.65
M-0106	52.3	5.91	3.55	4.40	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-0160	25.9	5.86	1.61	7.19	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-0424	67.6	8.85	6.08	3.66	<LLOQ(1.00)	<LLOQ(2.50)	1.17
M-0474	37.1	7.45	1.86	10.5	<LLOQ(1.00)	<LLOQ(2.50)	2.44
M-2136	41.3	6.34	1.51	4.90	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-2213	42.4	4.89	2.03	2.89	<LLOQ(1.00)	<LLOQ(2.50)	1.09
M-2214	40.1	6.85	<LLOQ(1.36)	4.69	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-2228	32.2	6.40	5.29	5.04	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-2233	54.4	12.5	20.6	7.07	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-2247	33.3	7.51	<LLOQ(1.36)	4.81	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-3719	20.7	3.07	<LLOQ(1.36)	2.49	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
M-4002	78.8	8.22	9.63	14.4	<LLOQ(1.00)	<LLOQ(2.50)	2.36
M-4294	37.0	5.99	8.73	2.90	<LLOQ(1.00)	<LLOQ(2.50)	3.25
M-4726	26.1	3.60	<LLOQ(1.36)	7.44	<LLOQ(1.00)	<LLOQ(2.50)	2.18
M-4732	25.3	3.23	<LLOQ(1.36)	7.00	<LLOQ(1.00)	<LLOQ(2.50)	2.06

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within $\pm 20\%$ ($\pm 25\%$ for PFOSA and PFOSAA) of the target concentration. The statistical error associated with any individual result may exceed the QC acceptance criteria.

Table 24. Repeat Analysis Table for PFOS in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	21.1	10	1	25.4, 24.9	17, 17	25.2	1

REASONS FOR REASSAY:
1). Analytical reasons.

REASONS FOR REPORTED CONC:
1). Mean of reassay results. Original result invalid.

Table 25. Repeat Analysis Table for PFOA in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	25.4	10	1	<LLOQ(1.92), <LLOQ(1.92)	17, 17	<LLOQ(1.92)	1

REASONS FOR REASSAY:
1). Analytical reasons.

REASONS FOR REPORTED CONC:
1). Mean of reassay results. Original result greater than 15% deviation from reassay results.

Table 26. Repeat Analysis Table for PFHS in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	29.2	10	1	<LLOQ(1.36), <LLOQ(1.36)	17, 17	<LLOQ(1.36)	1

REASONS FOR REASSAY:
1). Analytical reasons.

REASONS FOR REPORTED CONC:

1). Mean of reassay results. Original result greater than 15% deviation from reassay results.

Table 27. Repeat Analysis Table for PFOSAA in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	23.2	10	1	<LLOQ(1.60), <LLOQ(1.60)	17, 17	<LLOQ(1.60)	1

REASONS FOR REASSAY:
1). Analytical reasons.

REASONS FOR REPORTED CONC:

1). Mean of reassay results. Original result greater than 15% deviation from reassay results.

Table 28. Repeat Analysis Table for PFOSA in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	22.0	10	1	<LLOQ(1.00), <LLOQ(1.00)	17, 17	<LLOQ(1.00)	1

REASONS FOR REASSAY:
1). Analytical reasons.

REASONS FOR REPORTED CONC:

1). Mean of reassay results. Original result greater than 15% deviation from reassay results.

Table 29. Repeat Analysis Table for M556 in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	20.4	10	1	<LLOQ(3.20), <LLOQ(3.20)	18, 18	<LLOQ(3.20)	1

REASONS FOR REASSAY:
1). Analytical reasons.

REASONS FOR REPORTED CONC:

1). Mean of reassay results. Original result greater than 15% deviation from reassay results.

Table 30. Repeat Analysis Table for M570 in Human Serum

Sample No.	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
41650	23.8	10	1	<LLOQ(1.90), <LLOQ(1.90)	18, 18	<LLOQ(1.90)	1

REASONS FOR REASSAY:

1). Analytical reasons.

REASONS FOR REPORTED CONC:

1). Mean of reassay results. Original result greater than 15% deviation from reassay results.

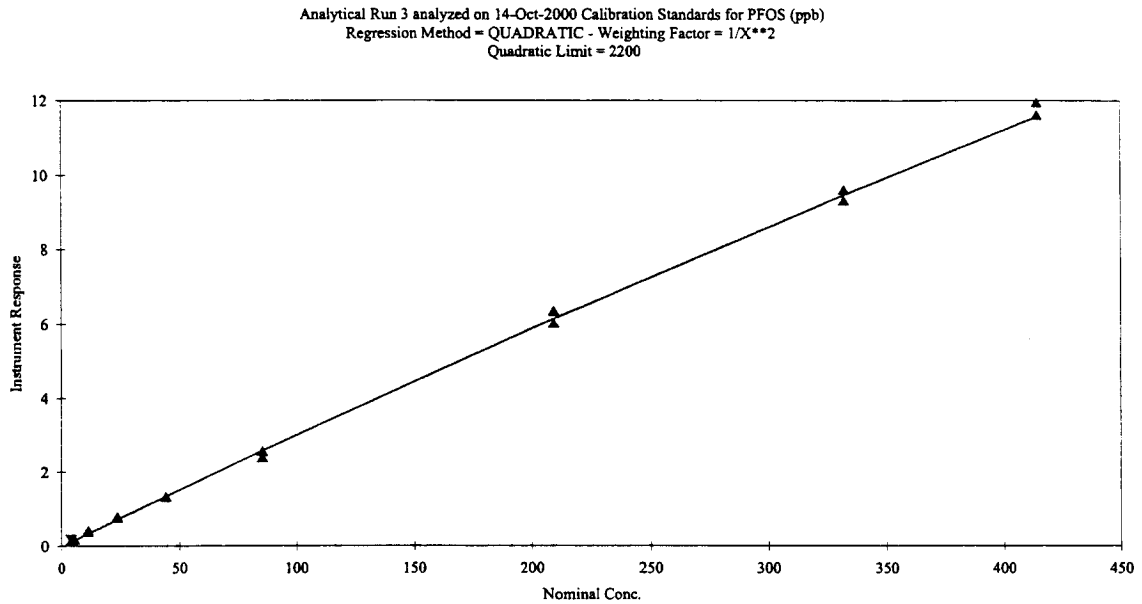
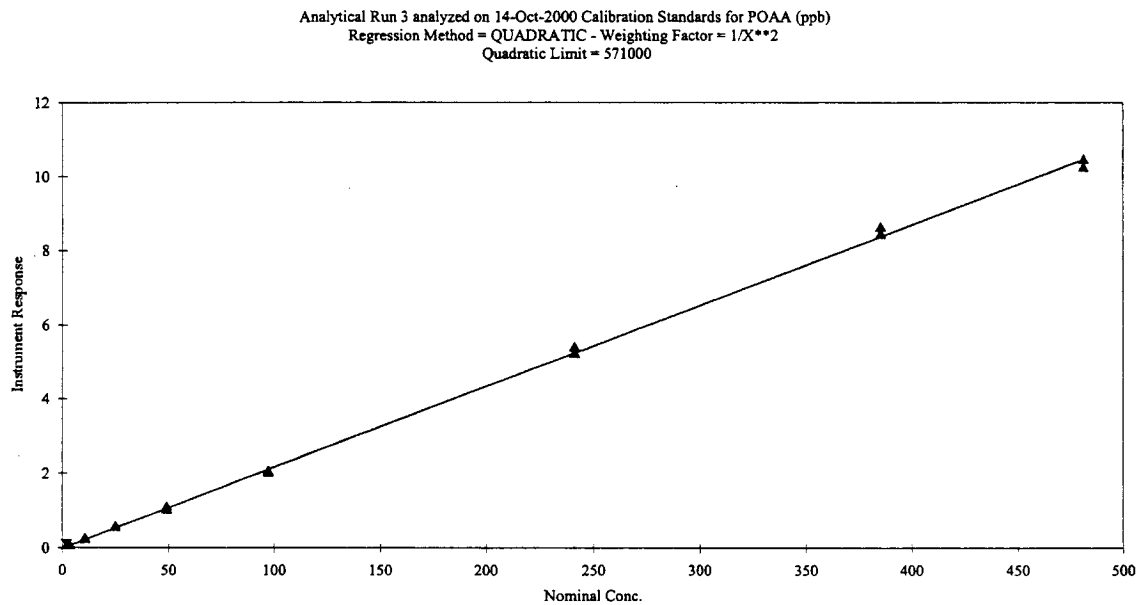
Figure 1. Representative Calibration Curve for PFOS**Figure 2. Representative Calibration Curve for PFOA**

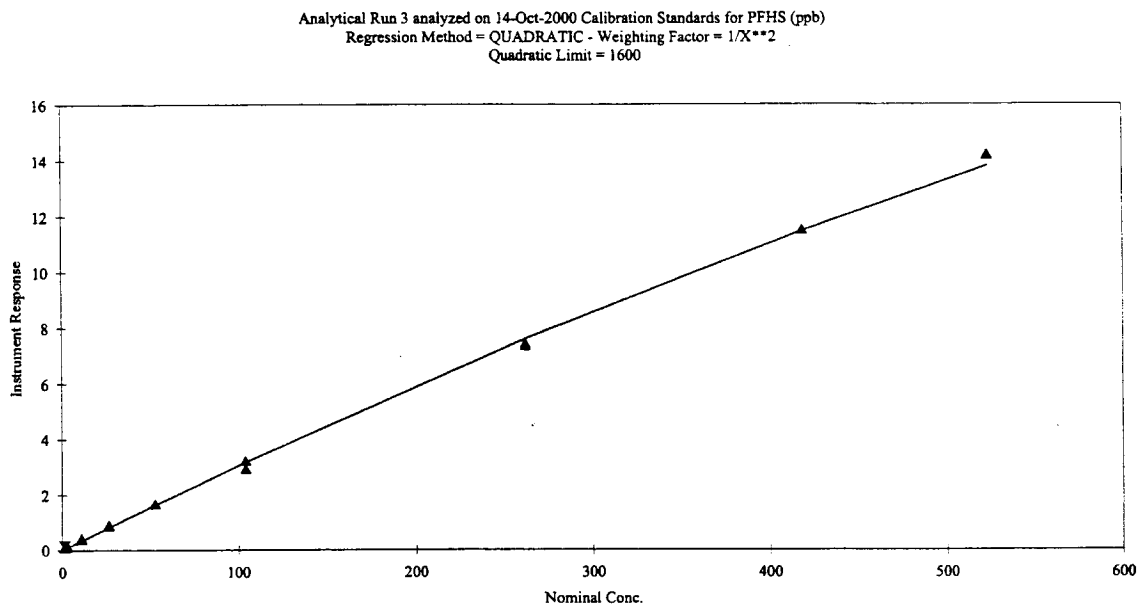
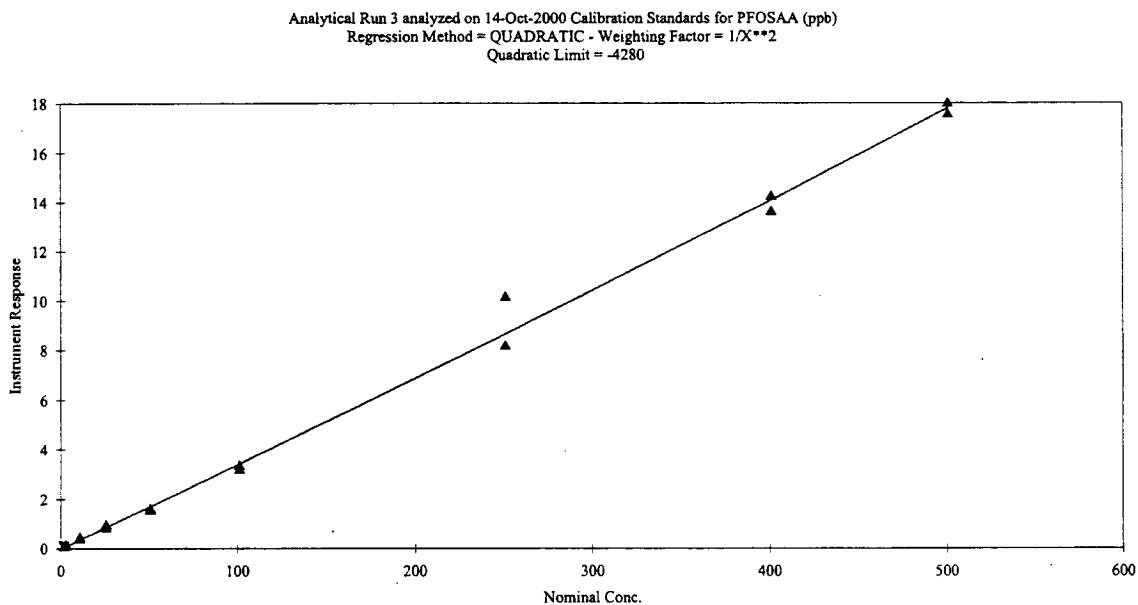
Figure 3. Representative Calibration Curve for PFHS**Figure 4. Representative Calibration Curve for PFOSAA**

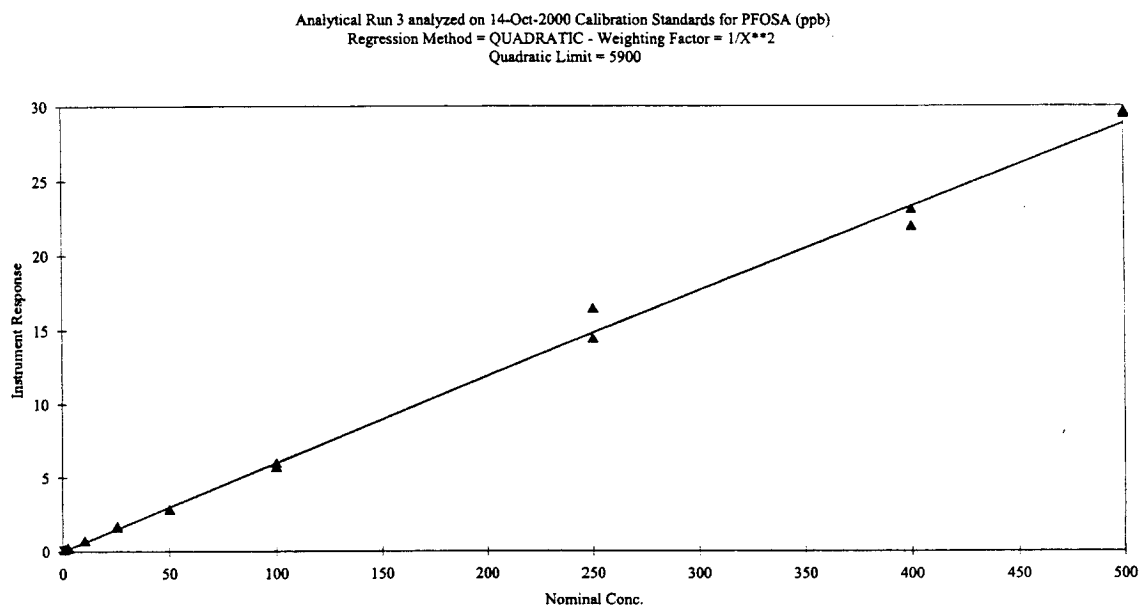
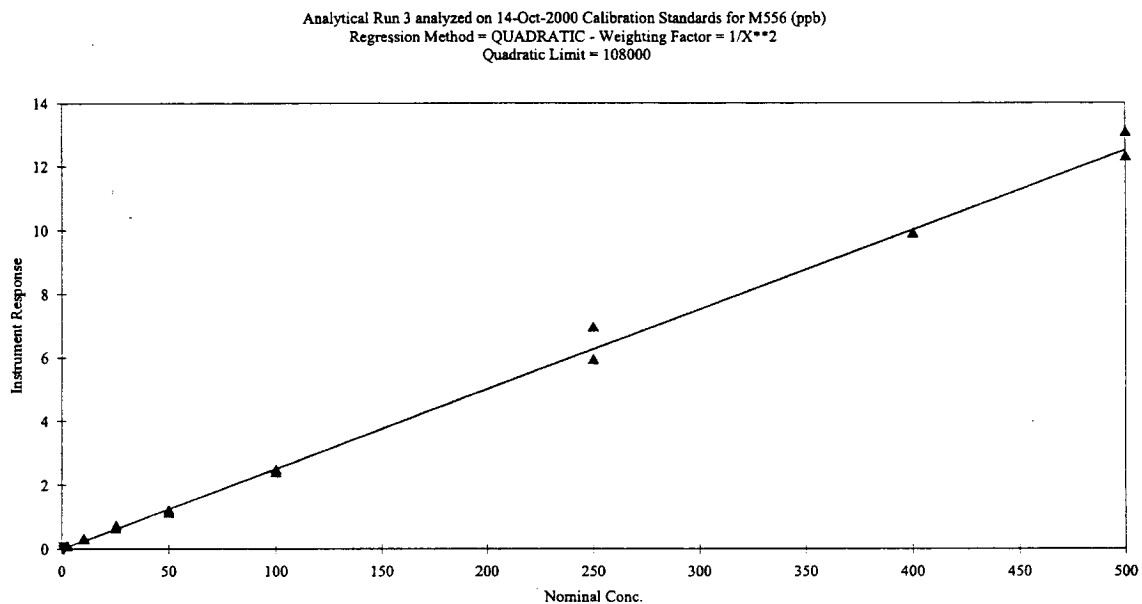
Figure 5. Representative Calibration Curve for PFOSA**Figure 6. Representative Calibration Curve for M556**

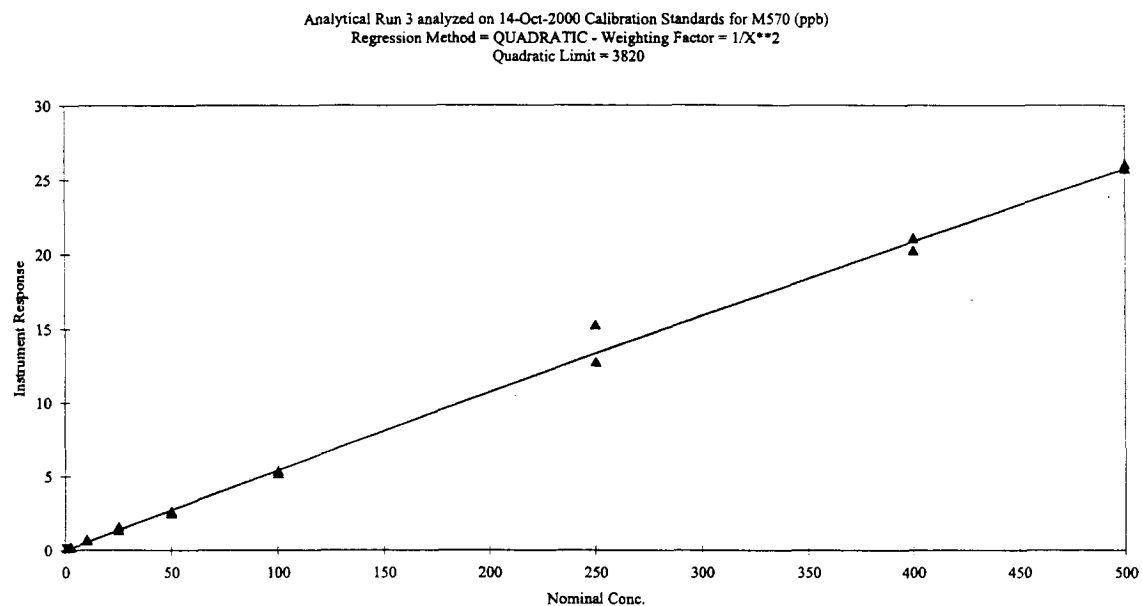
Figure 7. Representative Calibration Curve for M570

Figure 8. Human Plasma Blank for PFOS

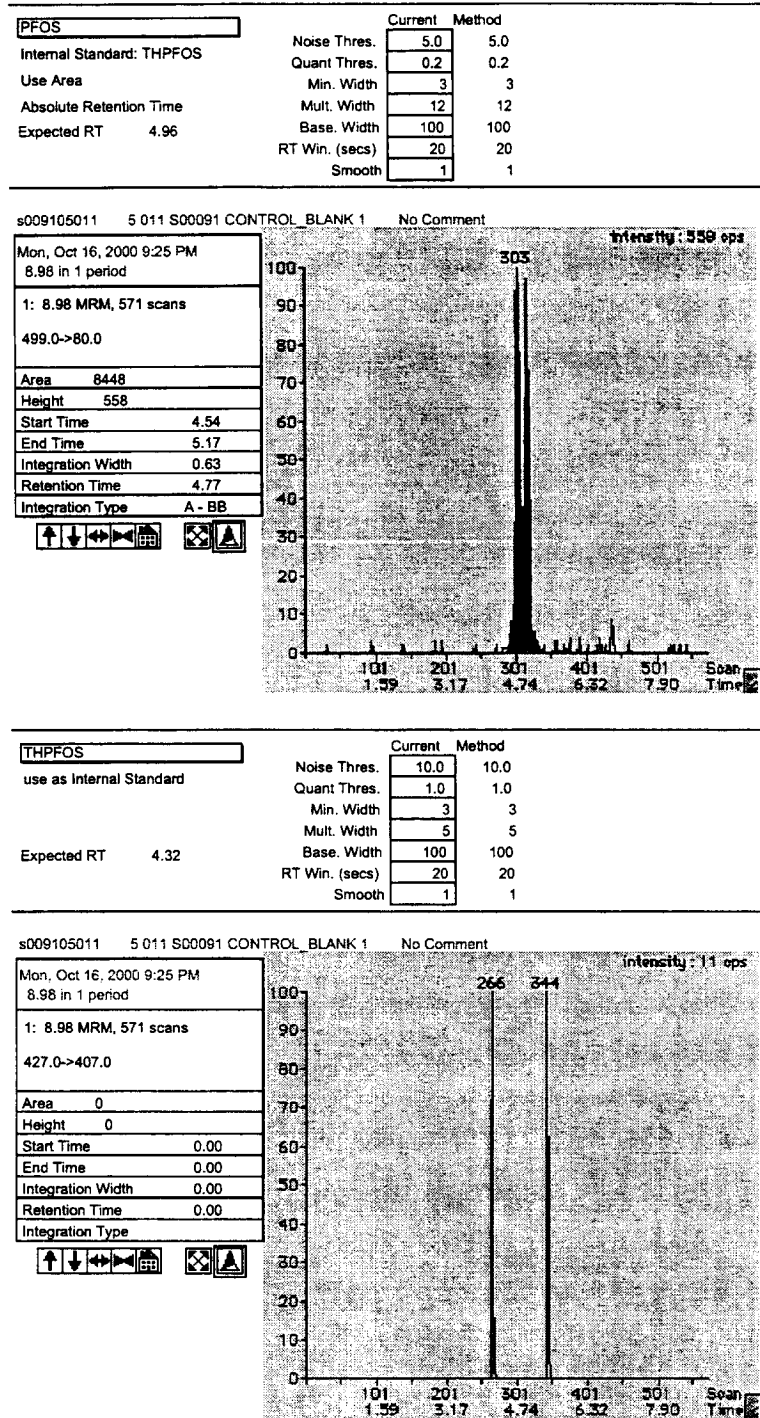


Figure 9. Human Plasma Blank for PFOA

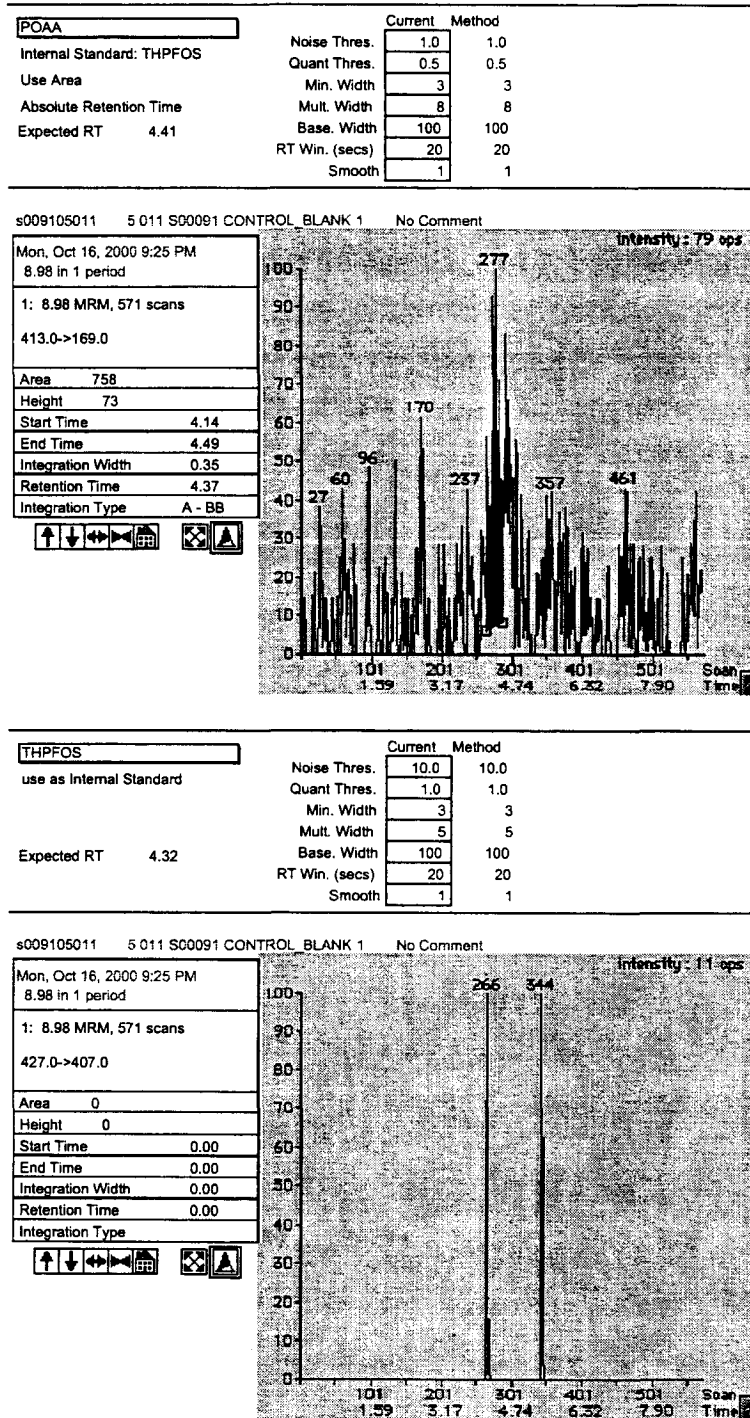


Figure 10. Human Plasma Blank for PFHS

PFHS	Current	Method
Internal Standard: THPFOS	Noise Thres. 3.0	3.0
Use Area	Quant Thres. 0.5	0.5
Absolute Retention Time	Min. Width 4	4
Expected RT 3.62	Mult. Width 10	10
	Base. Width 100	100
	RT Win. (secs) 20	20
	Smooth 1	1

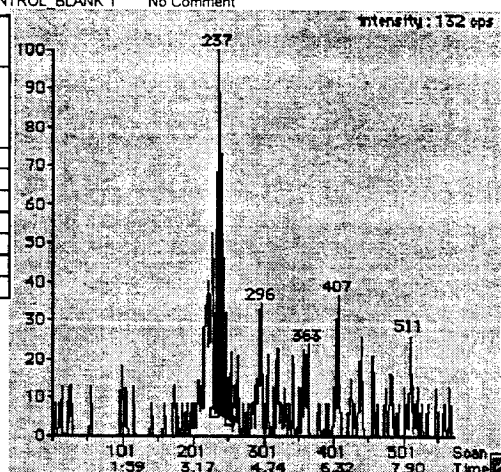
s009105011 5 011 S00091 CONTROL_BLANK 1 No Comment

Mon, Oct 16, 2000 9:25 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

399.0->80.0

Area	1008
Height	125
Start Time	3.64
End Time	3.96
Integration Width	0.32
Retention Time	3.73
Integration Type	A - BB



THPFOS	Current	Method
use as Internal Standard	Noise Thres. 10.0	10.0
	Quant Thres. 1.0	1.0
	Min. Width 3	3
	Mult. Width 5	5
	Base. Width 100	100
Expected RT 4.32	RT Win. (secs) 20	20
	Smooth 1	1

s009105011 5 011 S00091 CONTROL_BLANK 1 No Comment

Mon, Oct 16, 2000 9:25 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

427.0->407.0

Area	0
Height	0
Start Time	0.00
End Time	0.00
Integration Width	0.00
Retention Time	0.00
Integration Type	

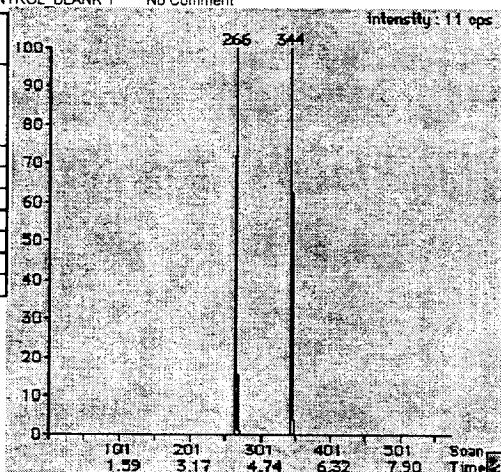


Figure 11. Human Plasma Blank for PFOSAA

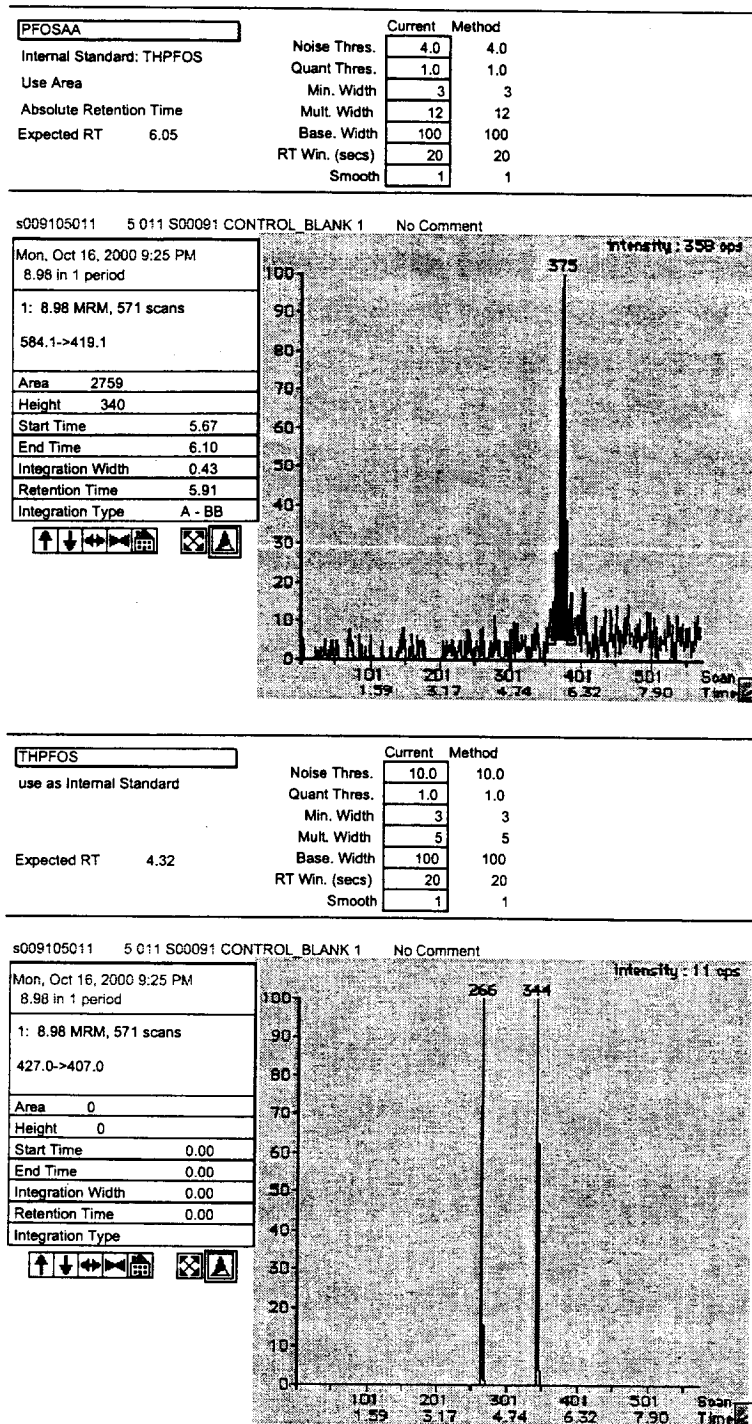


Figure 12. Human Plasma Blank for PFOSA

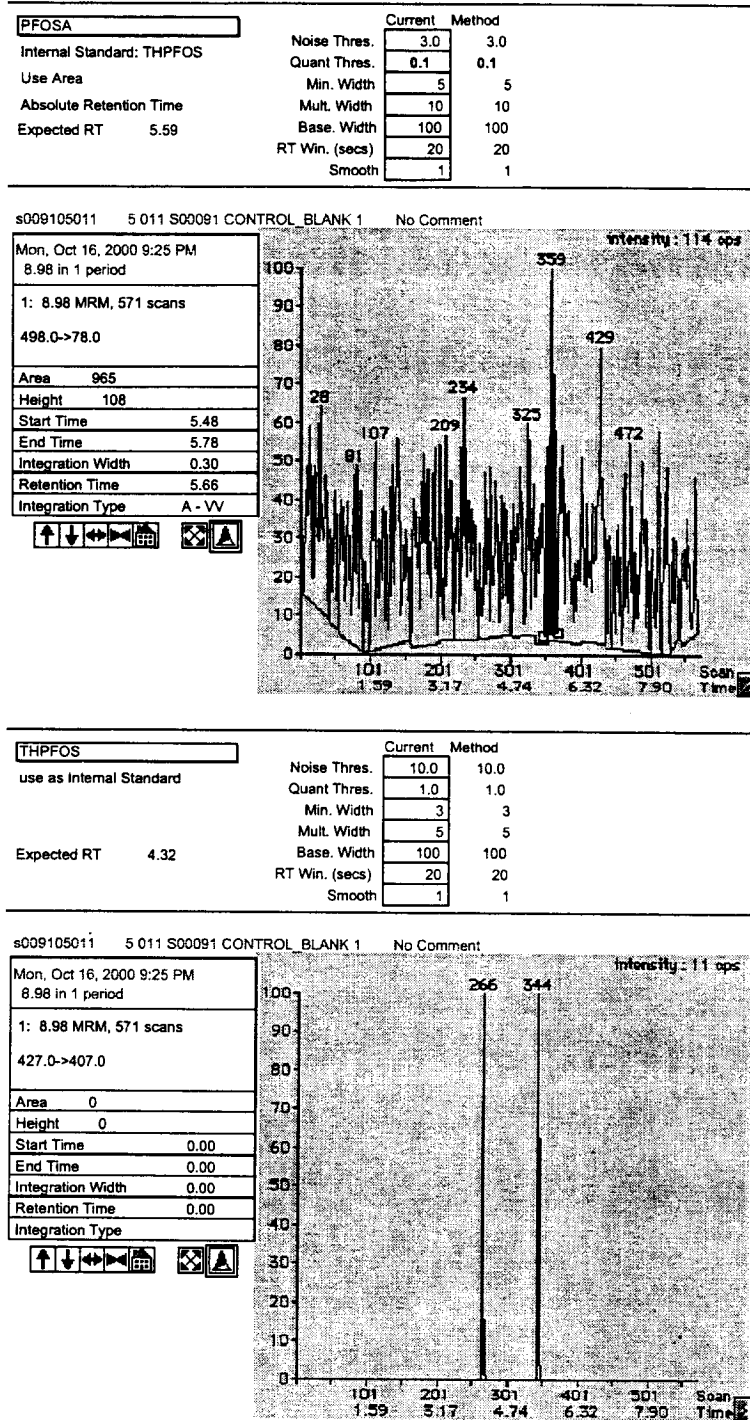


Figure 13. Human Plasma Blank for M556

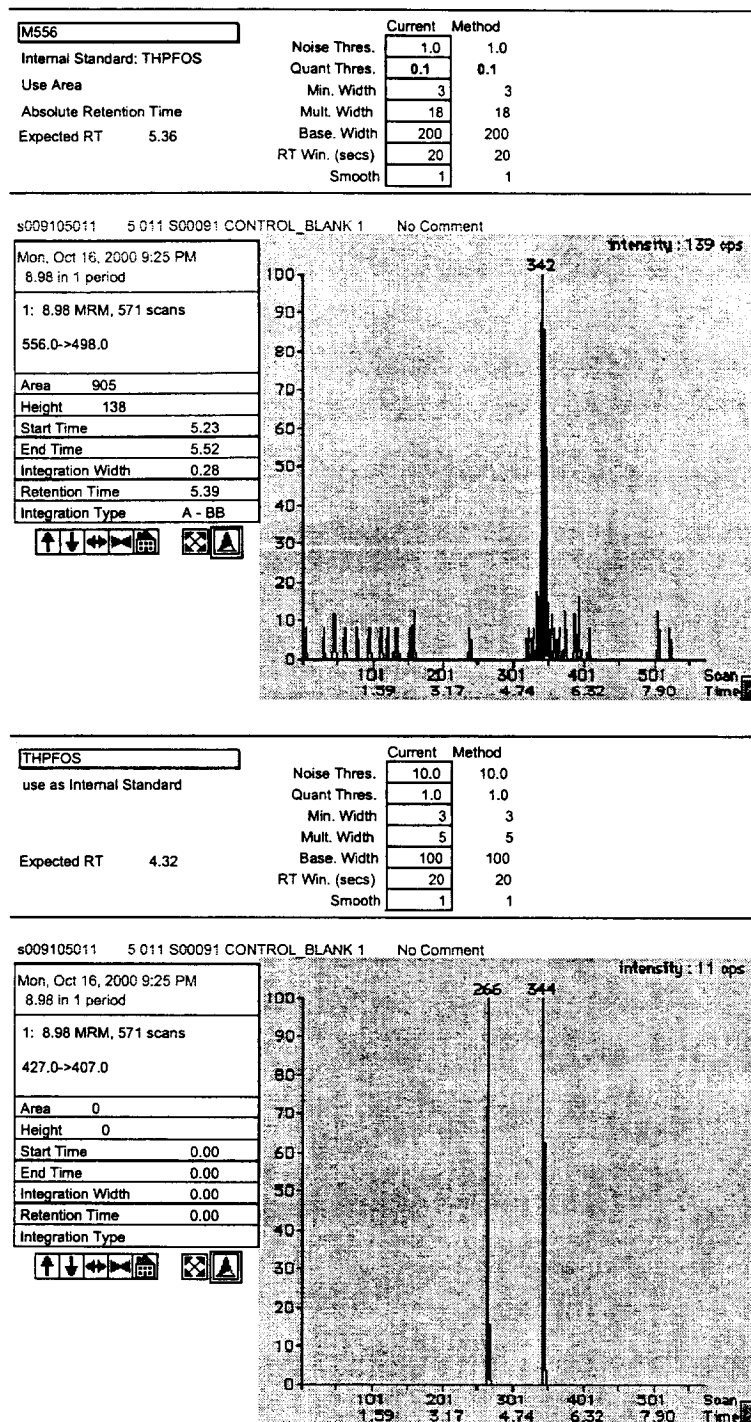


Figure 14. Human Plasma Blank for M570

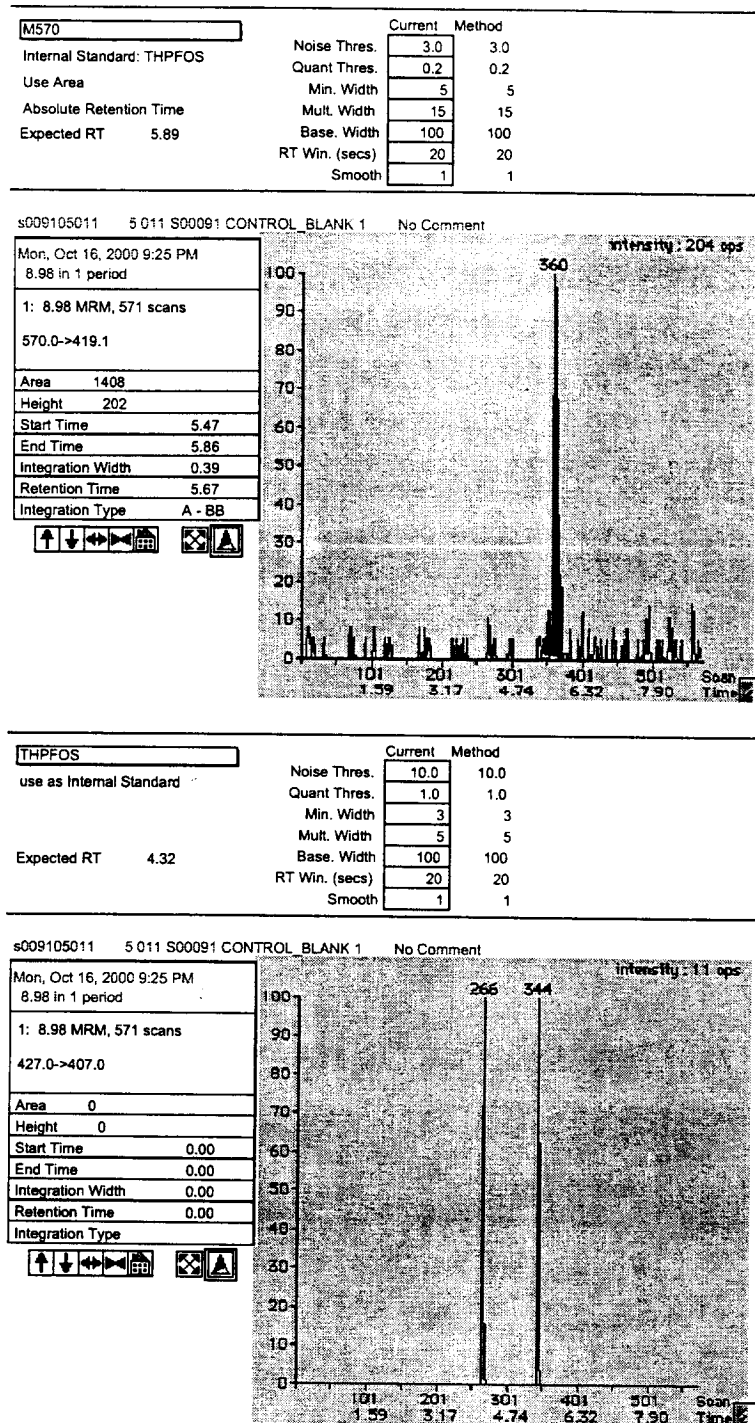


Figure 15. Human Plasma Blank with Internal Standard (QC0) for PFOS

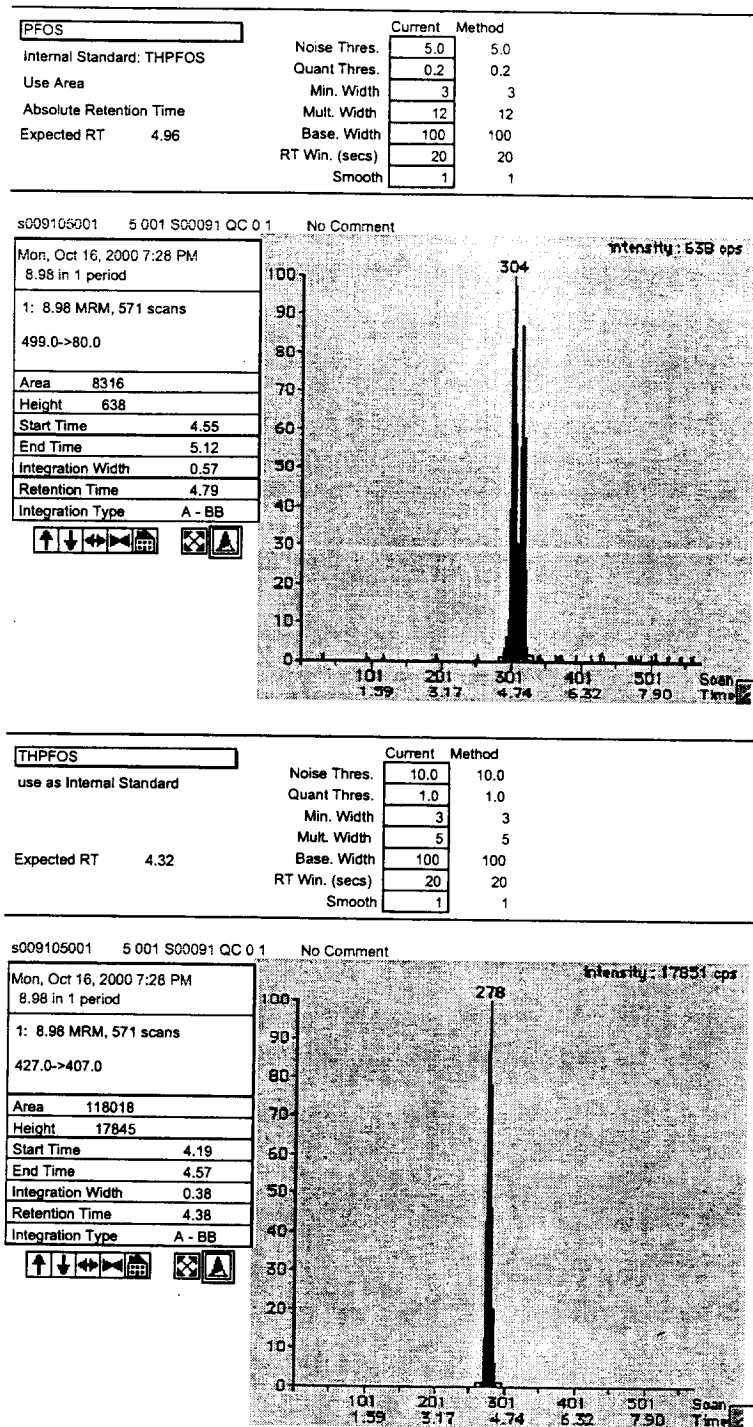


Figure 16. Human Plasma Blank with Internal Standard (QC0) for PFOA

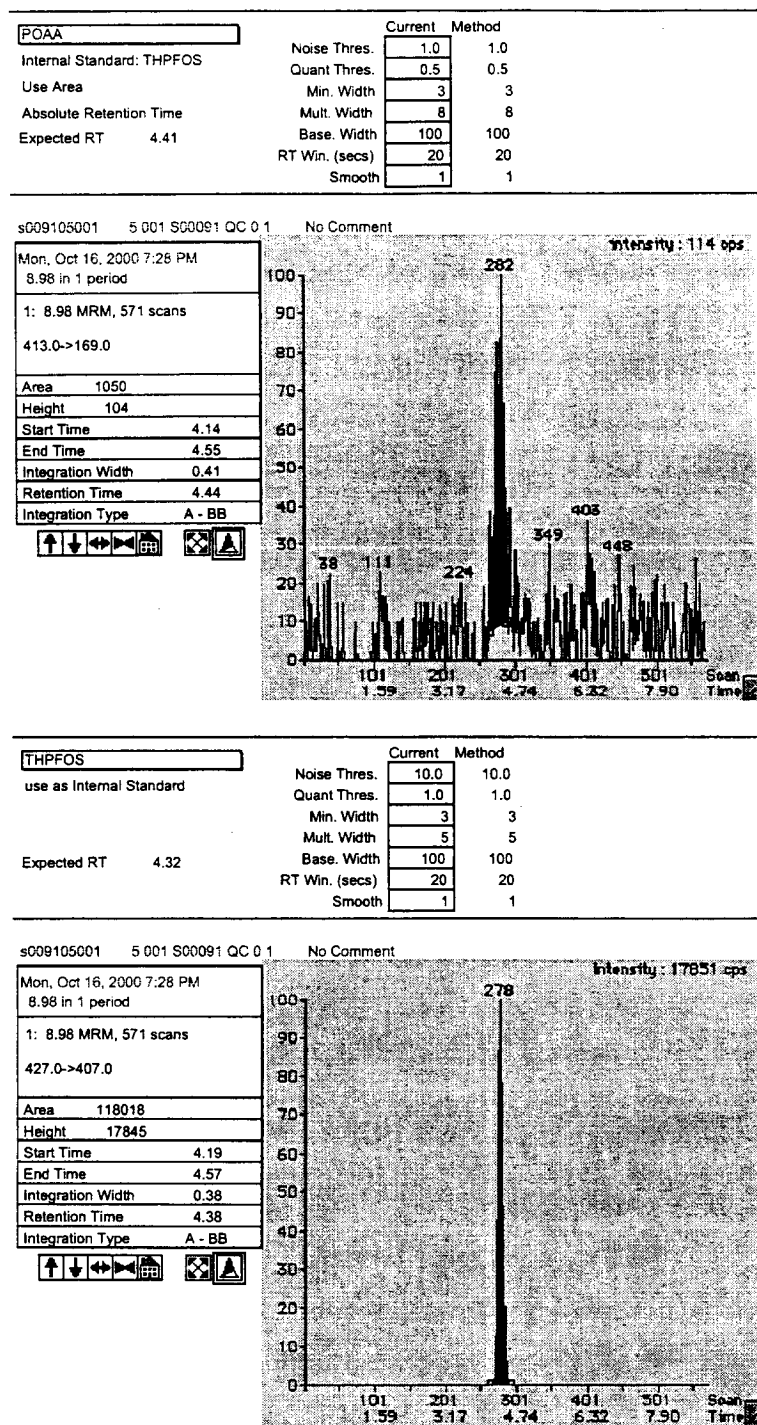


Figure 17. Human Plasma Blank with Internal Standard (QC0) for PFHS

PFHS		Current	Method
Internal Standard: THPFOS	Noise Thres.	3.0	3.0
Use Area	Quant Thres.	0.5	0.5
Absolute Retention Time	Min. Width	4	4
Expected RT 3.62	Mult. Width	10	10
	Base. Width	100	100
	RT Win. (secs)	20	20
	Smooth	1	1

s009105001 5 001 S00091 QC 0 1 No Comment

Mon, Oct 16, 2000 7:28 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

399.0->80.0

Area 879

Height 95

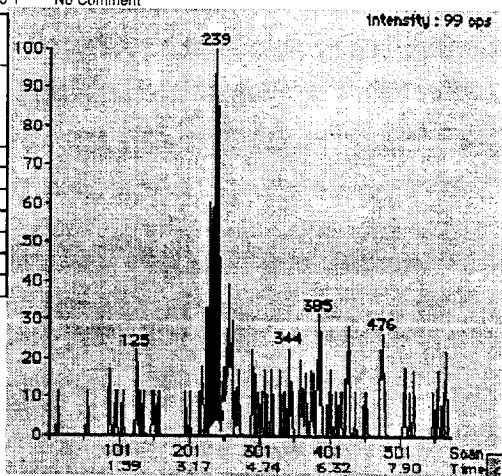
Start Time 3.51

End Time 3.83

Integration Width 0.32

Retention Time 3.77

Integration Type A - BB

THPFOS
use as Internal Standard

Expected RT 4.32

Current	Method
Noise Thres.	10.0
Quant Thres.	1.0
Min. Width	3
Mult. Width	5
Base. Width	100
RT Win. (secs)	20
Smooth	1

s009105001 5 001 S00091 QC 0 1 No Comment

Mon, Oct 16, 2000 7:28 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

427.0->407.0

Area 118018

Height 17845

Start Time 4.19

End Time 4.57

Integration Width 0.38

Retention Time 4.38

Integration Type A - BB

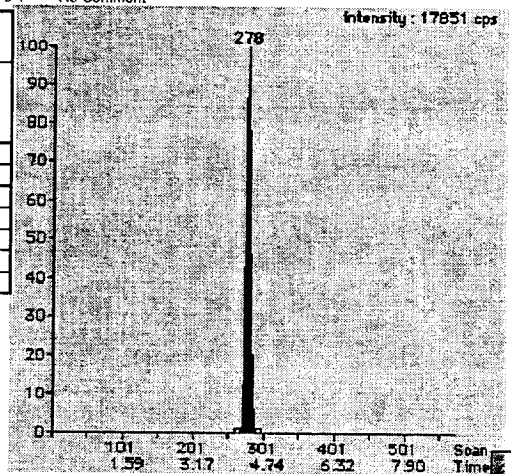


Figure 18. Human Plasma Blank with Internal Standard (QC0) for PFOSAA

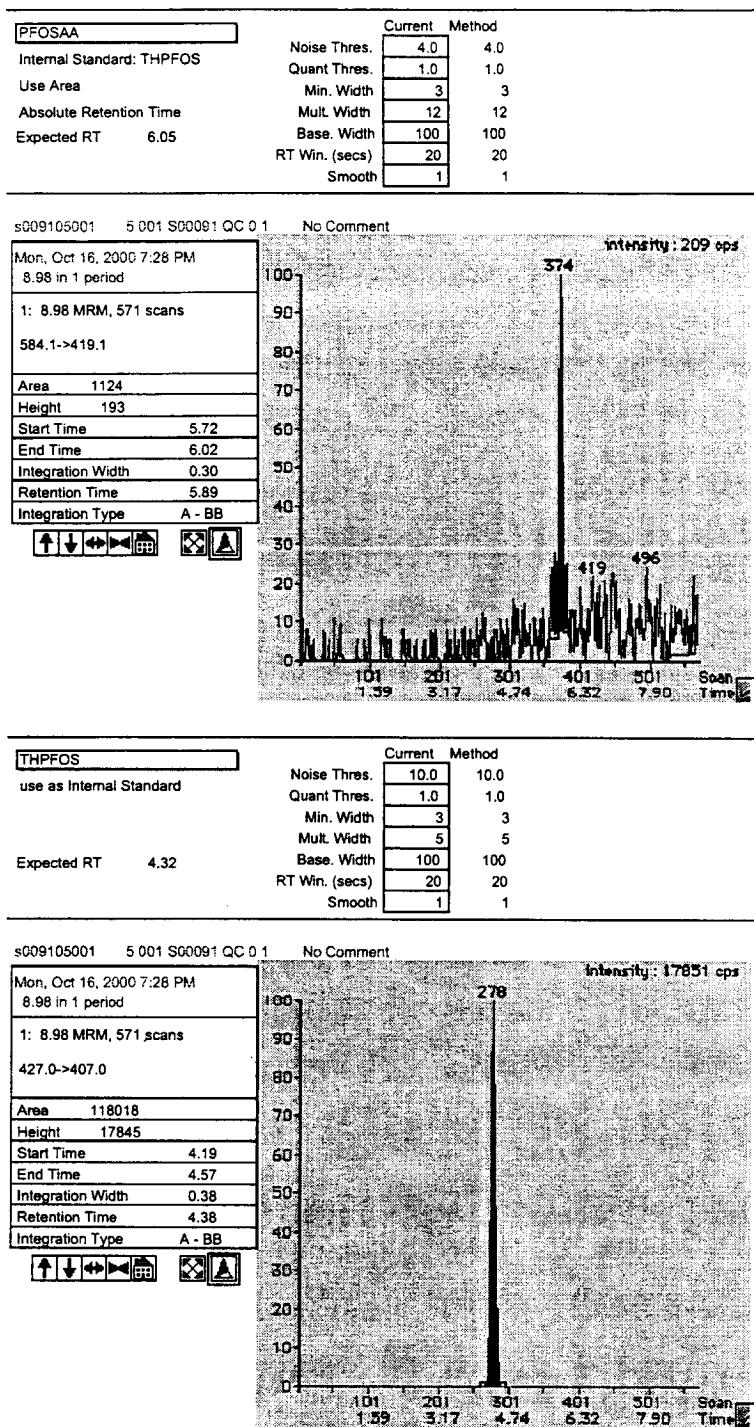


Figure 19. Human Plasma Blank with Internal Standard (QC0) for PFOSA

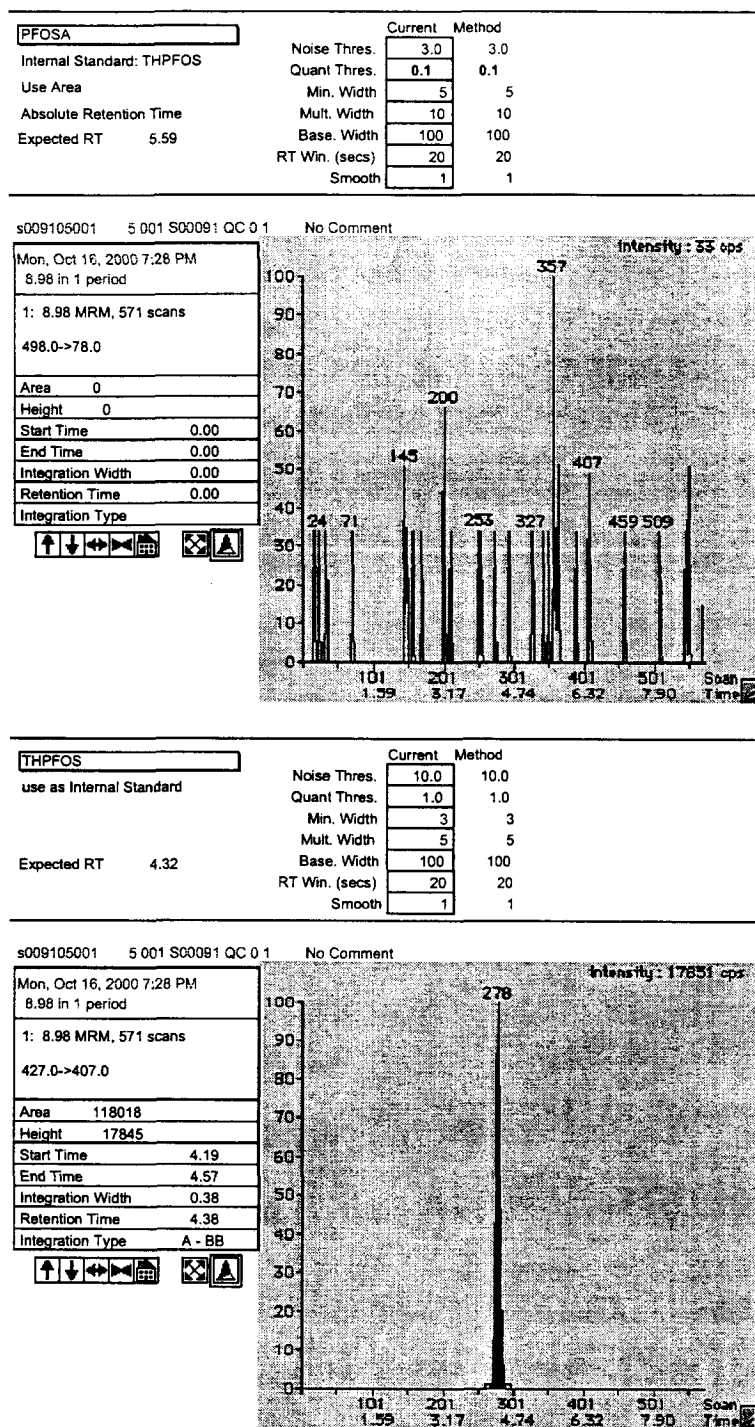


Figure 20. Human Plasma Blank with Internal Standard (QC0) for M556

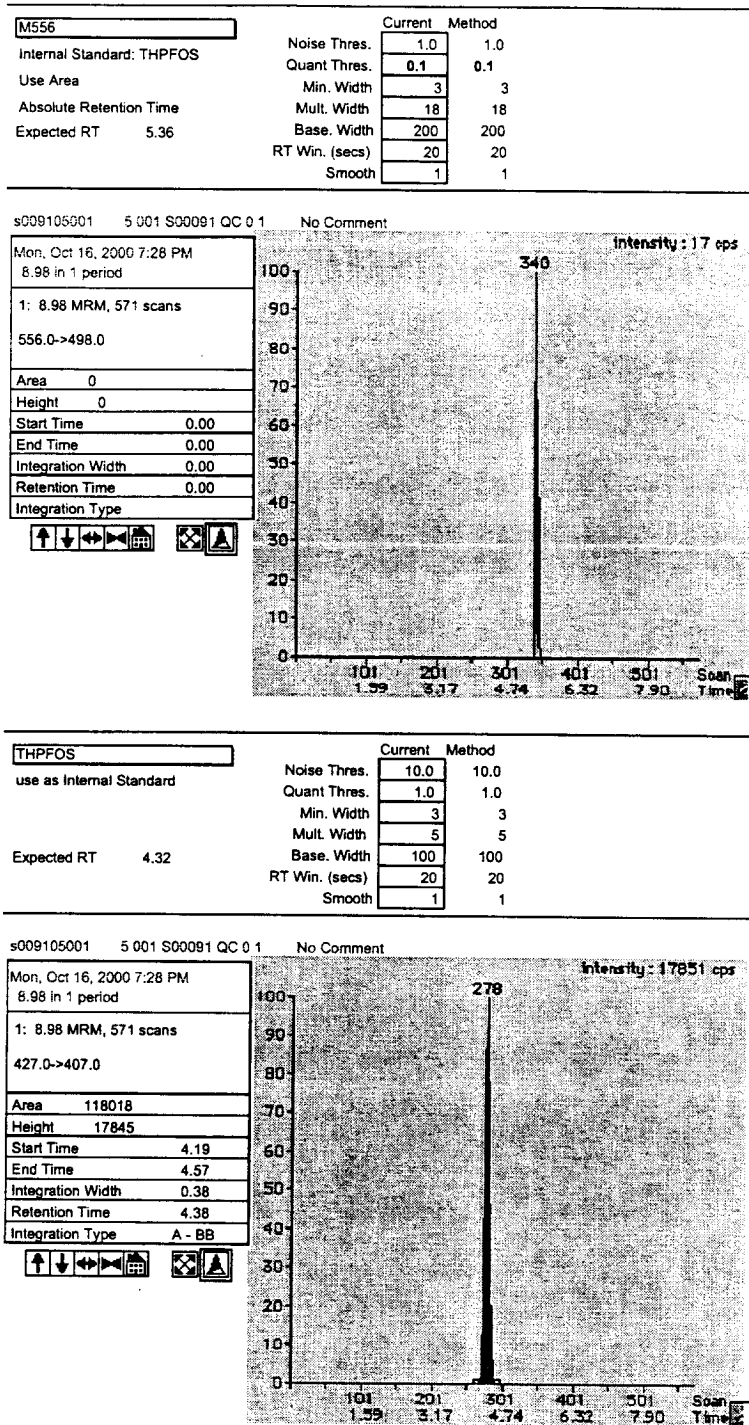


Figure 21. Human Plasma Blank with Internal Standard (QC0) for M570

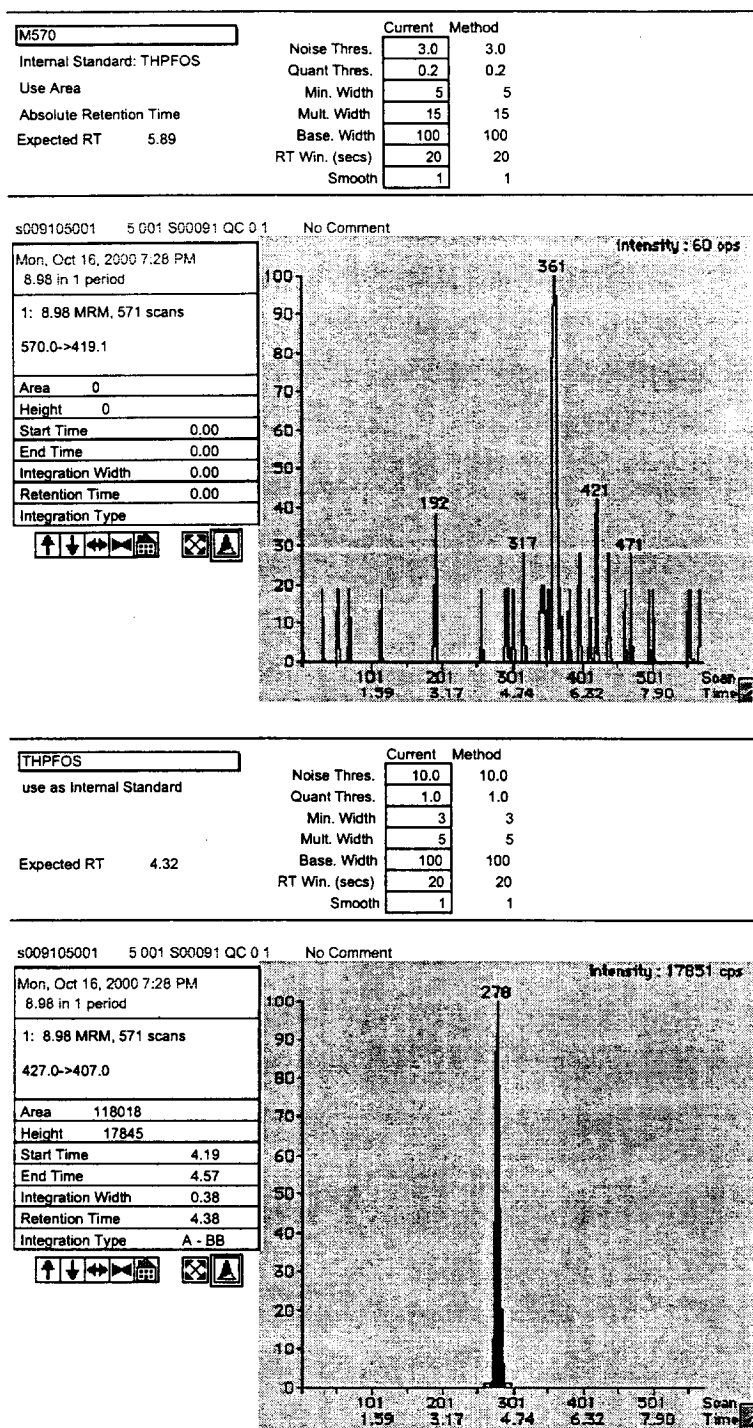


Figure 22. Low Standard for PFOS

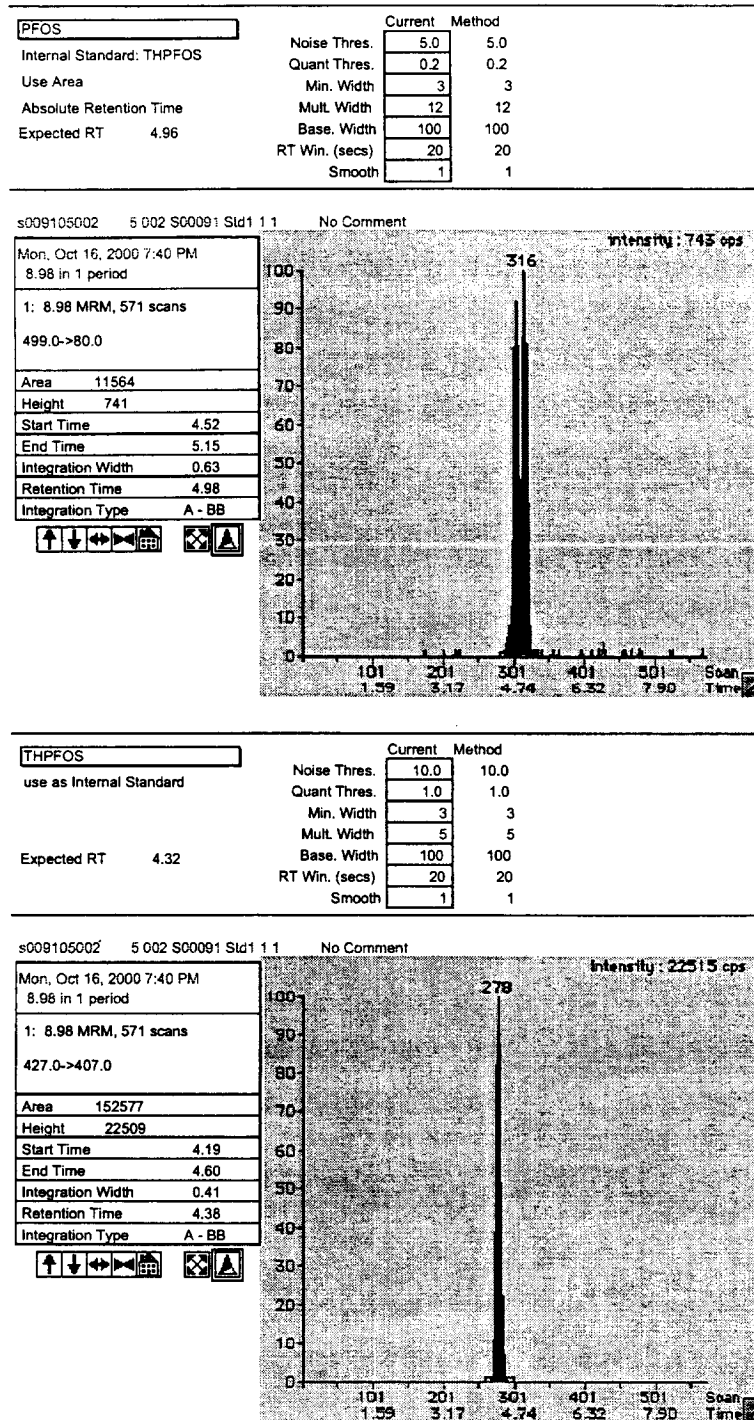


Figure 23. Low Standard for PFOA

POAA		Current	Method
Internal Standard: THPFOS		Noise Thres.	1.0
Use Area		Quant Thres.	0.5
Absolute Retention Time		Min. Width	3
Expected RT 4.41		Mult. Width	8
		Base. Width	100
		RT Win. (secs)	20
		Smooth	1

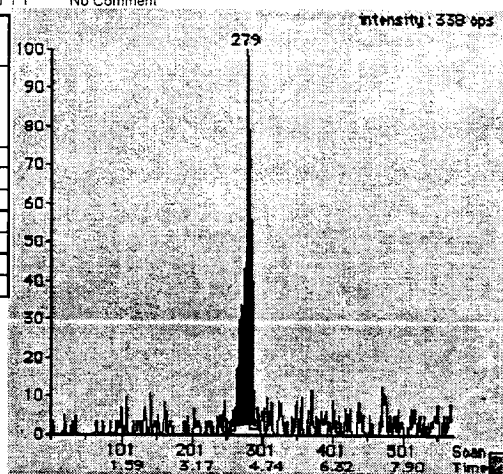
s009105002 5 002 S00091 Std1 1 1 No Comment

Mon, Oct 16, 2000 7:40 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

413.0->169.0

Area	3070
Height	329
Start Time	4.07
End Time	4.55
Integration Width	0.49
Retention Time	4.40
Integration Type	A - BB



THPFOS	
use as Internal Standard	

Expected RT 4.32

	Current	Method
Noise Thres.	10.0	10.0
Quant Thres.	1.0	1.0
Min. Width	3	3
Mult. Width	5	5
Base. Width	100	100
RT Win. (secs)	20	20
Smooth	1	1

s009105002 5 002 S00091 Std1 1 1 No Comment

Mon, Oct 16, 2000 7:40 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

427.0->407.0

Area	152577
Height	22509
Start Time	4.19
End Time	4.60
Integration Width	0.41
Retention Time	4.38
Integration Type	A - BB

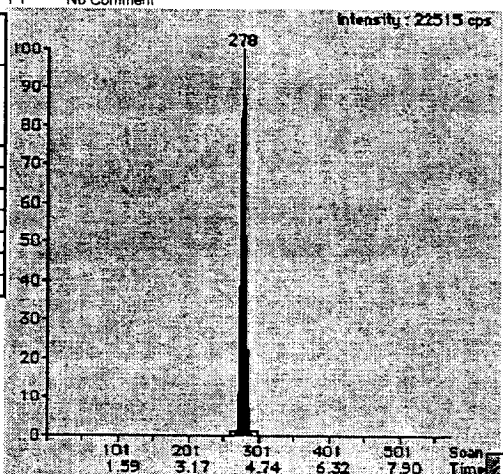


Figure 24. Low Standard for PFHS

PFHS		Current	Method
Internal Standard: THPFOS	Noise Thres.	3.0	3.0
Use Area	Quant Thres.	0.5	0.5
Absolute Retention Time	Min. Width	4	4
Expected RT 3.62	Mult. Width	10	10
	Base. Width	100	100
	RT Win. (secs)	20	20
	Smooth	1	1

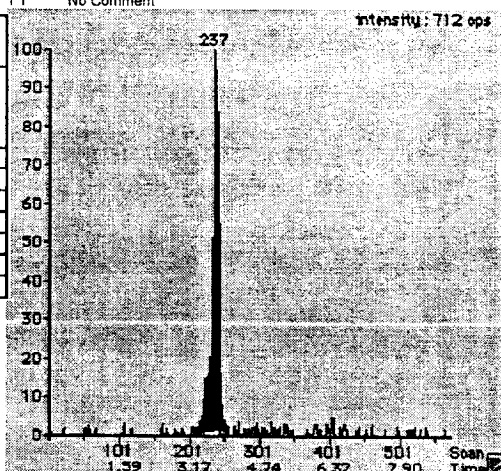
s009105002 5 002 S00091 Std1 1 1 No Comment

Mon, Oct 16, 2000 7:40 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

399.0->80.0

Area	6338
Height	705
Start Time	3.39
End Time	3.94
Integration Width	0.55
Retention Time	3.73
Integration Type	A - BB



THPFOS		Current	Method
use as Internal Standard	Noise Thres.	10.0	10.0
	Quant Thres.	1.0	1.0
	Min. Width	3	3
	Mult. Width	5	5
Expected RT 4.32	Base. Width	100	100
	RT Win. (secs)	20	20
	Smooth	1	1

s009105002 5 002 S00091 Std1 1 1 No Comment

Mon, Oct 16, 2000 7:40 PM
8.98 in 1 period

1: 8.98 MRM, 571 scans

427.0->407.0

Area	152577
Height	22509
Start Time	4.19
End Time	4.60
Integration Width	0.41
Retention Time	4.38
Integration Type	A - BB

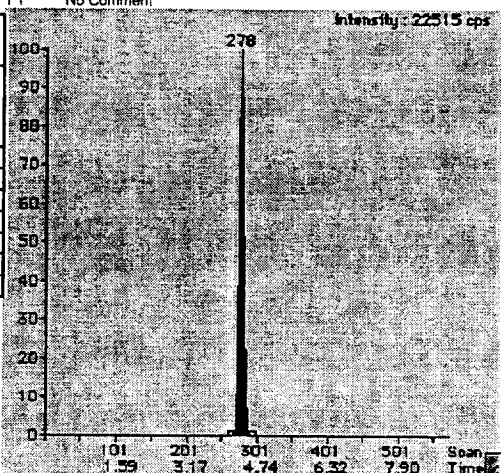


Figure 25. Low Standard for PFOSAA

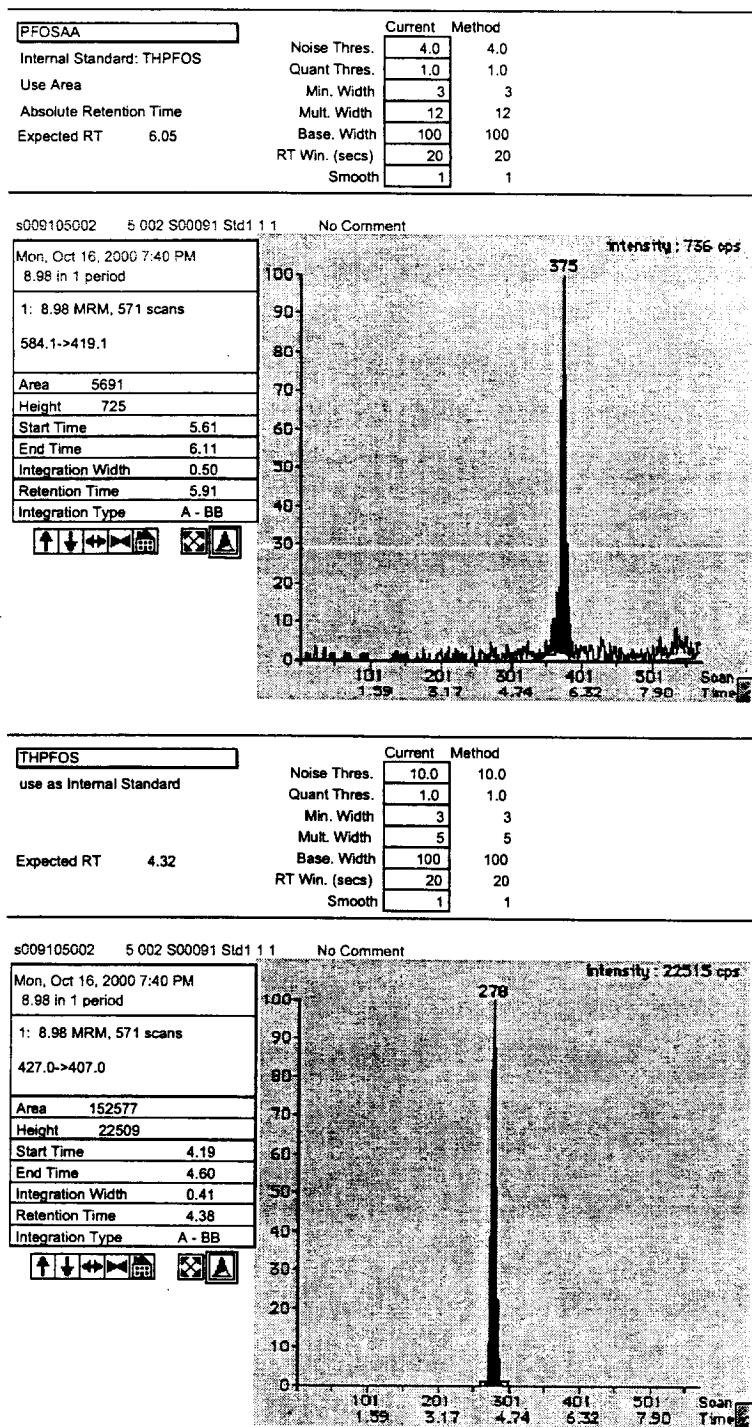


Figure 26. Low Standard for PFOSA

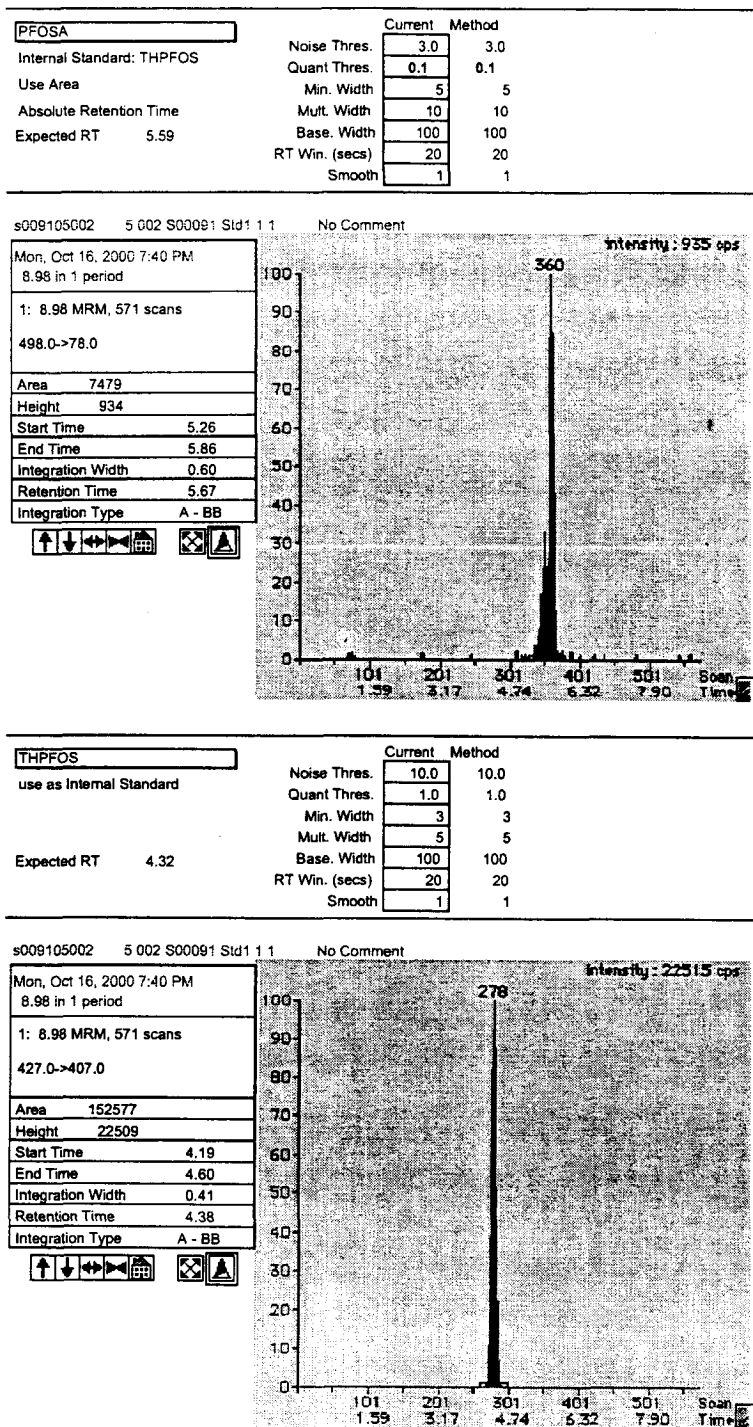


Figure 27. Low Standard for M556

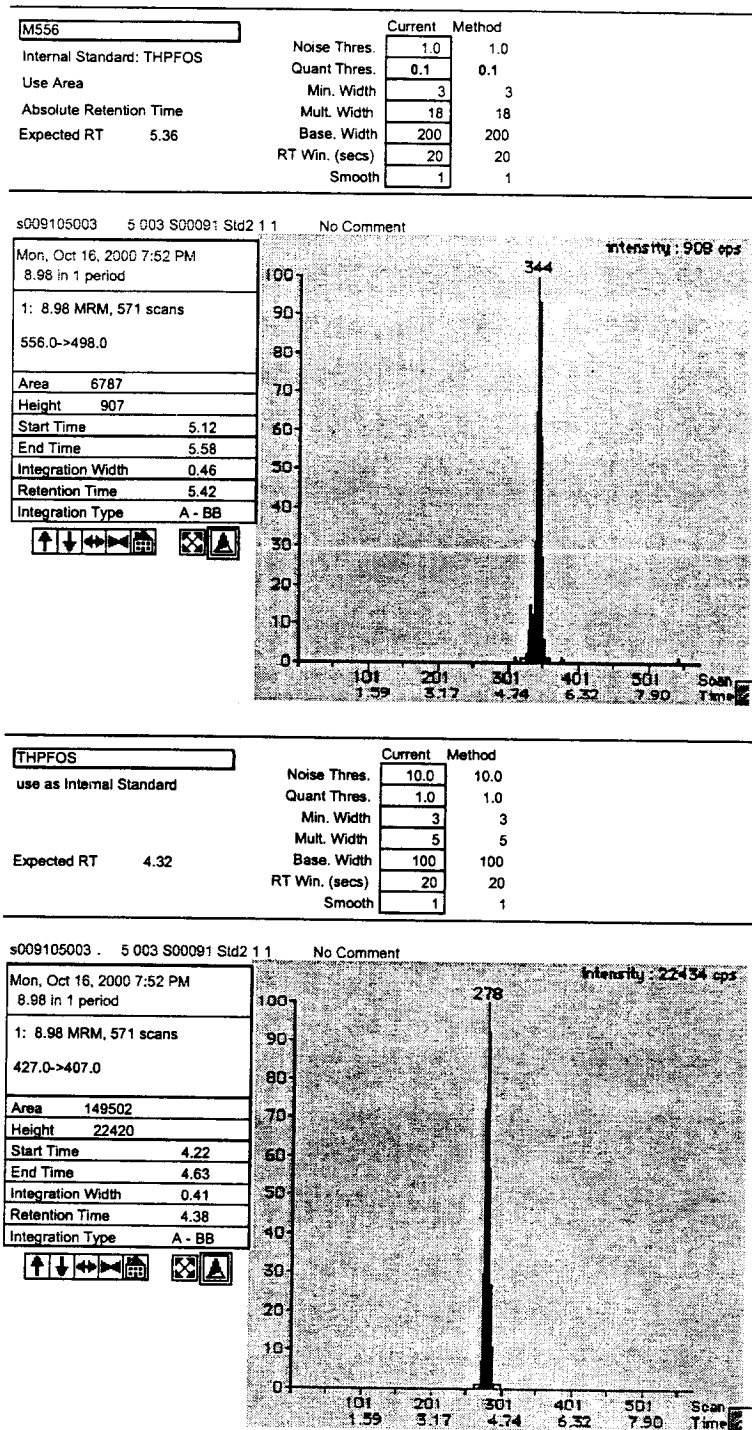


Figure 28. Low Standard for M570

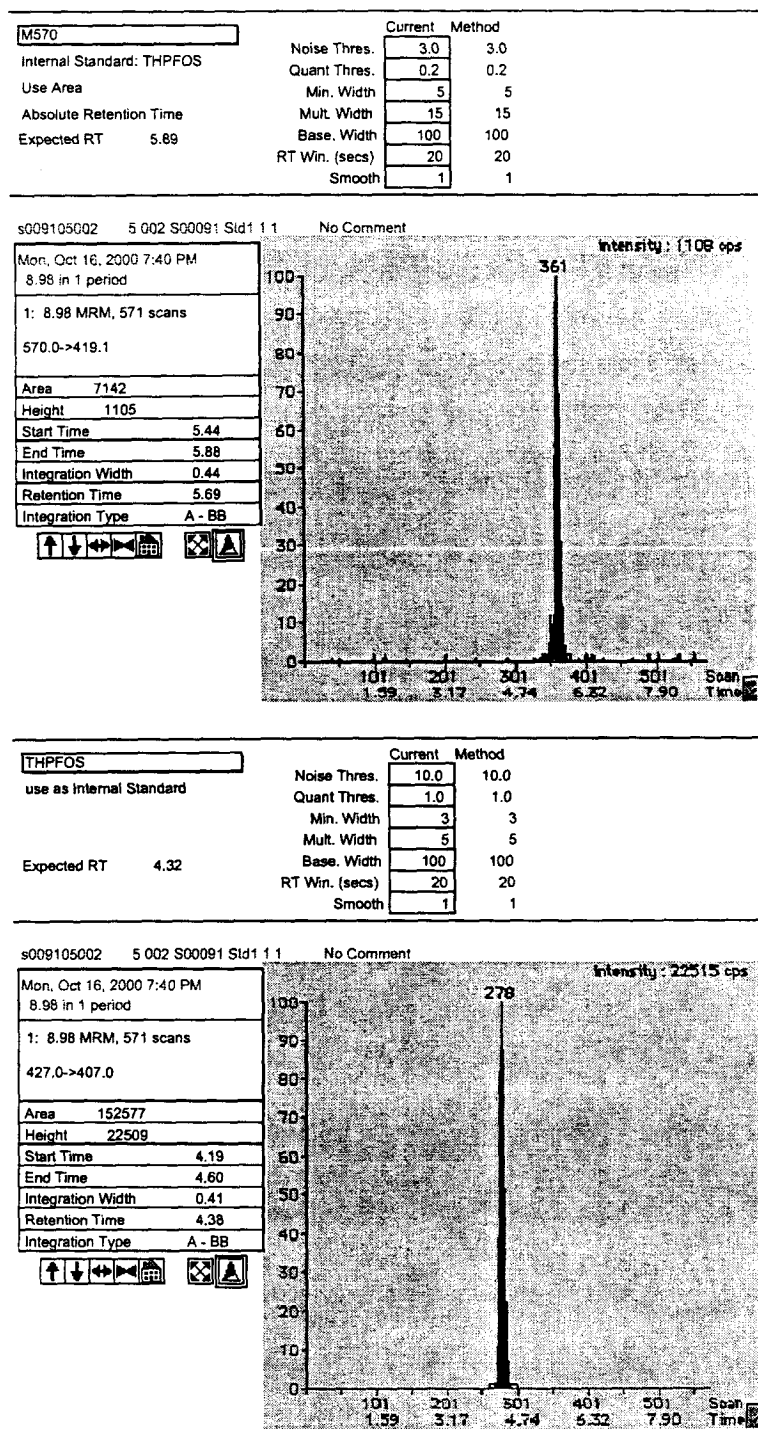


Figure 29. High Standard for PFOS

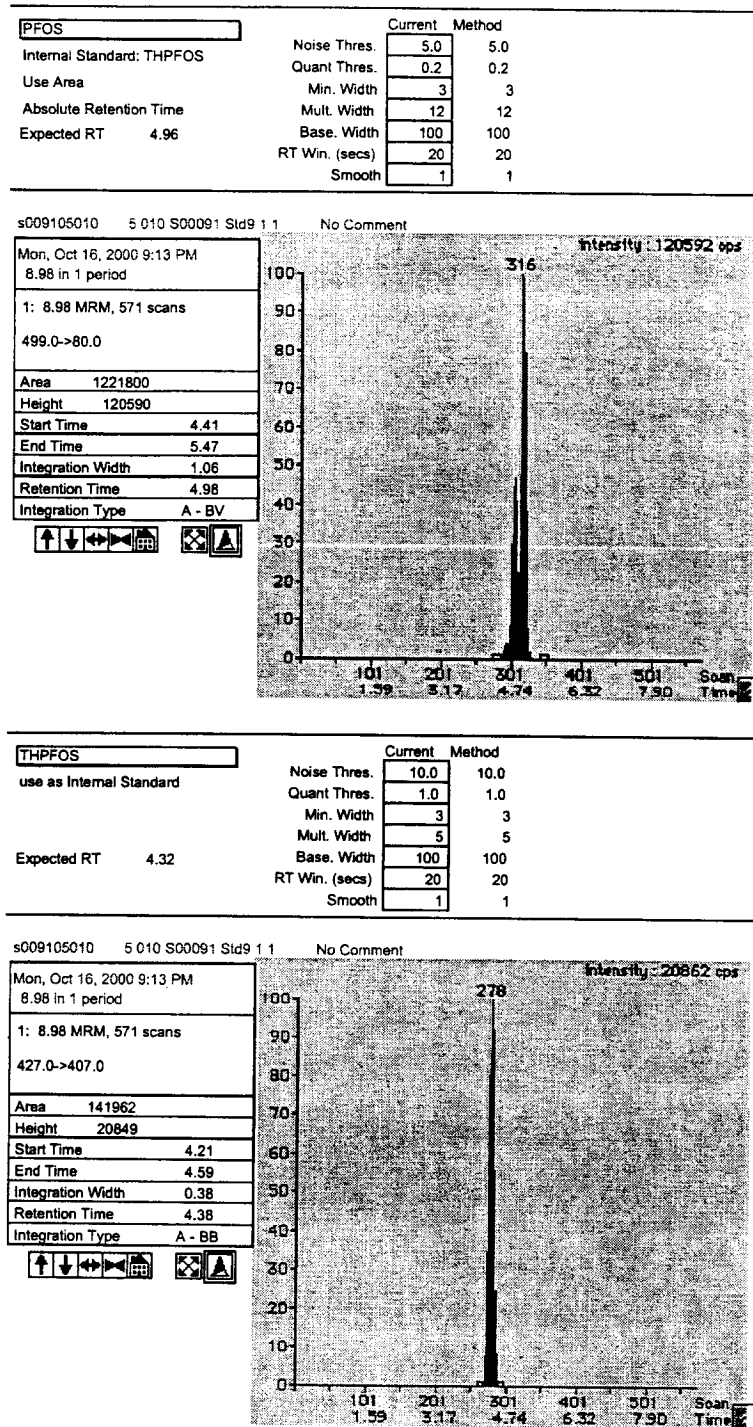


Figure 30. High Standard for PFOA

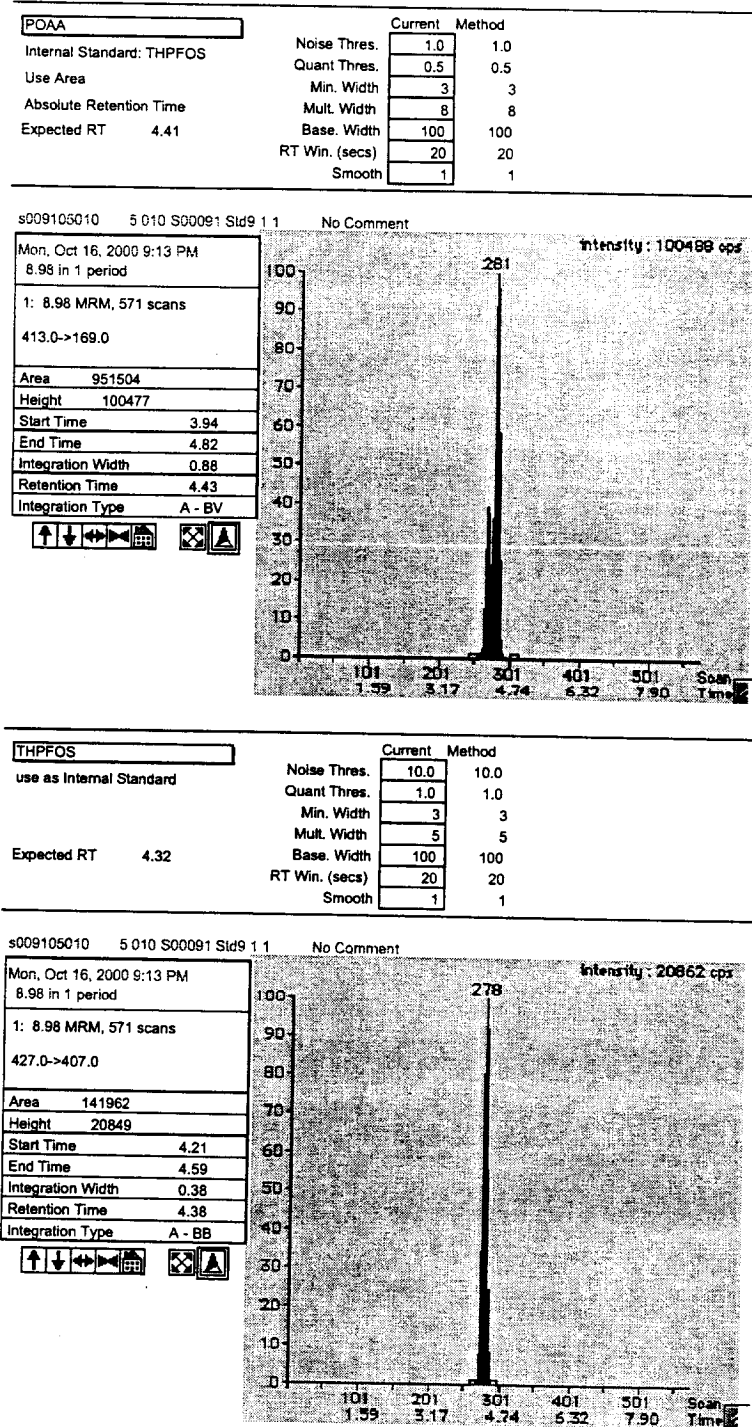


Figure 31. High Standard for PFHS

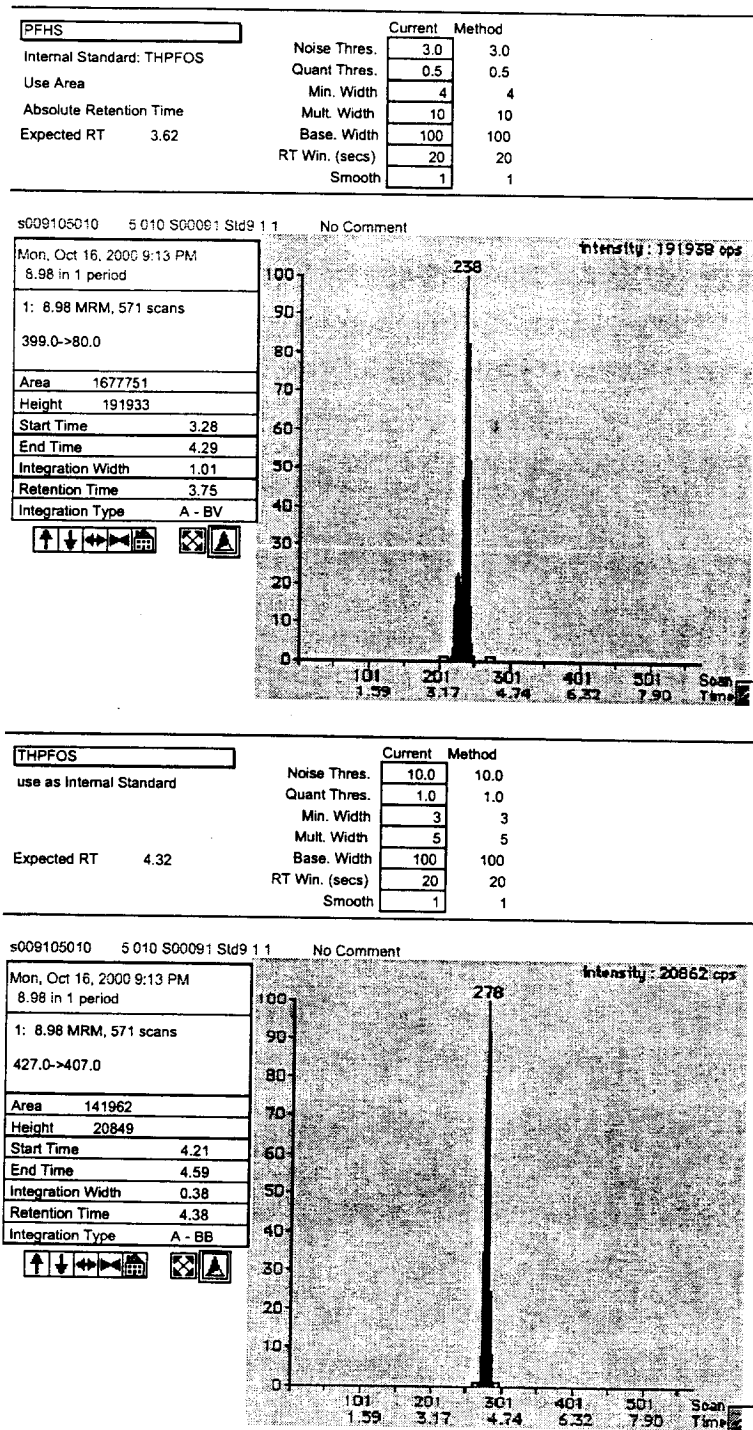


Figure 32. High Standard for PFOSAA

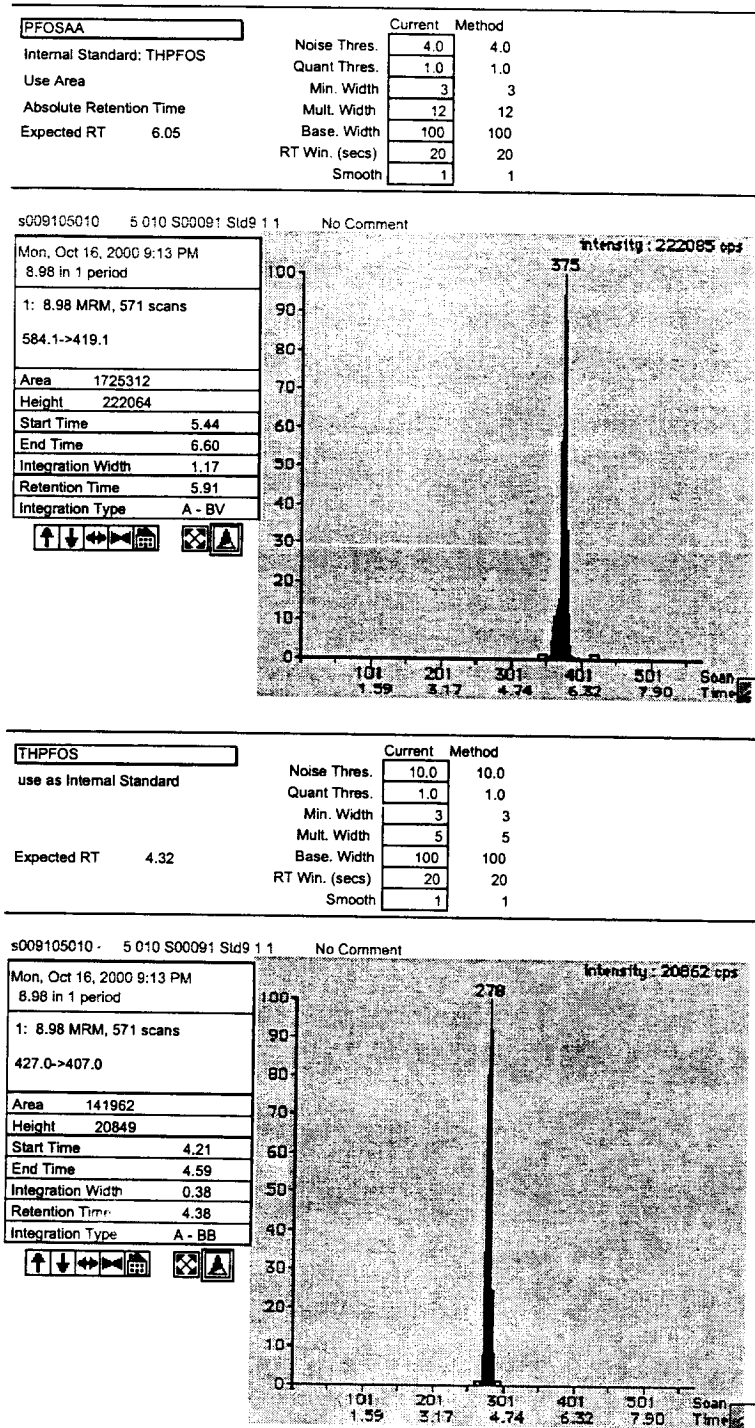


Figure 33. High Standard for PFOSA

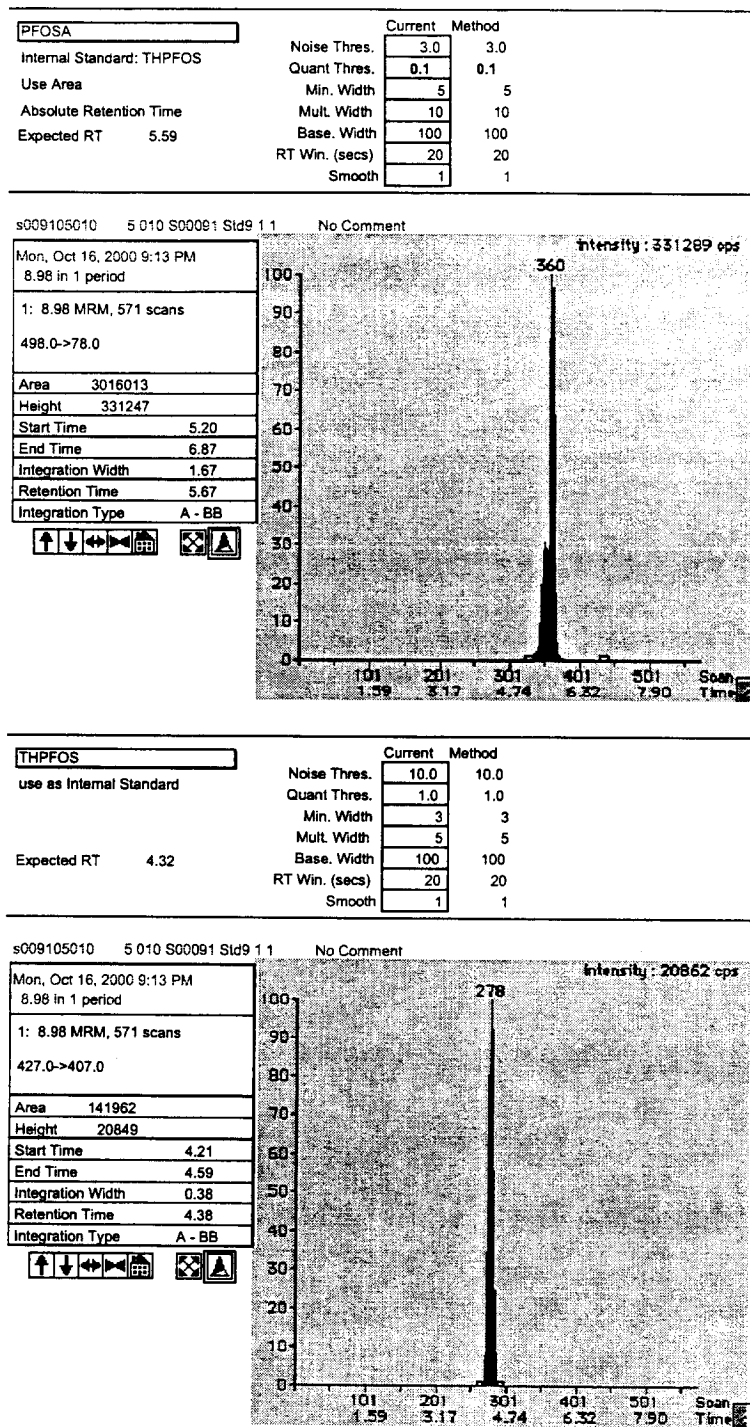


Figure 34. High Standard for M556

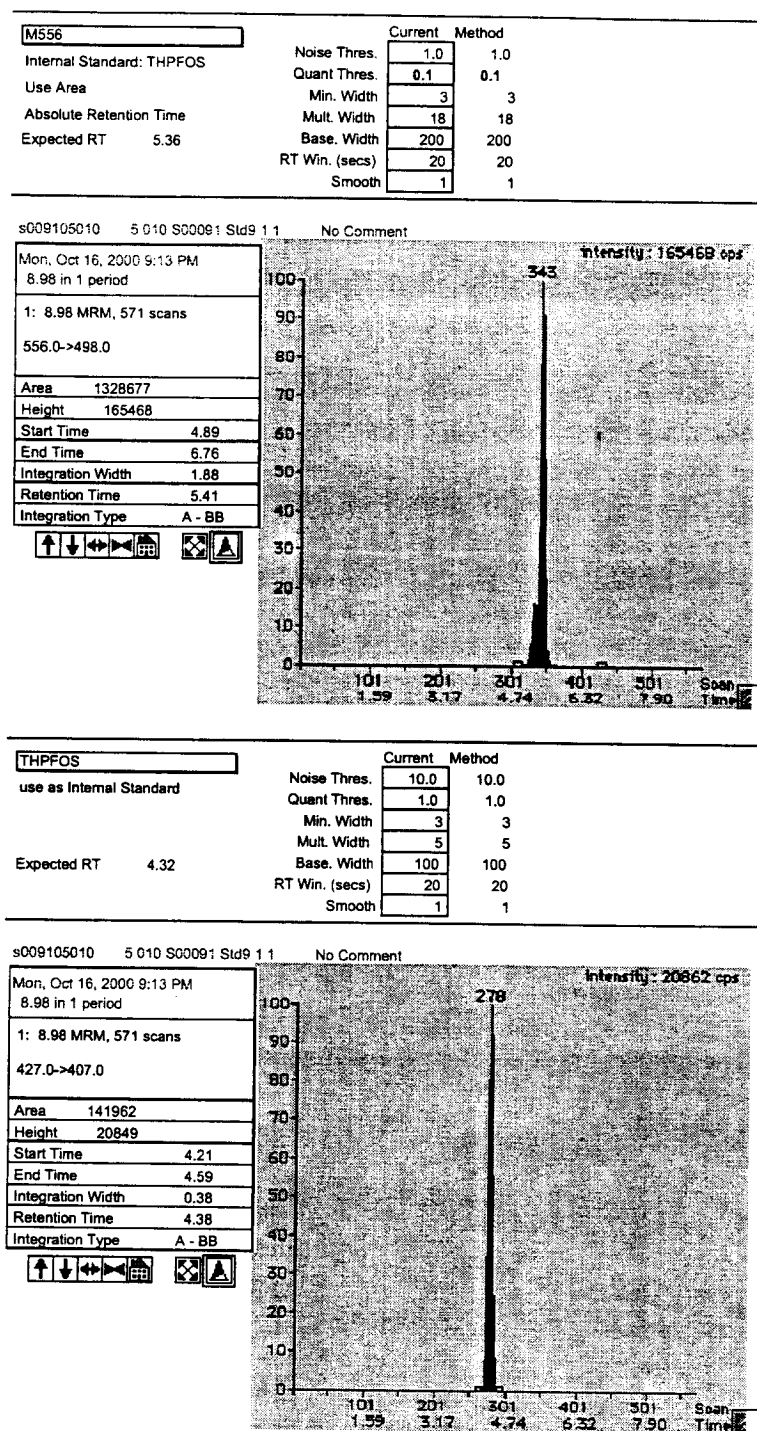


Figure 35. High Standard for M570

