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

Sample Analysis Report for Protocol EPI-0013

Northwest Bioanalytical (NWB)
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PREPARED FOR: 3M Company
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APPROVED FOR RELEASE BY:
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QUALITY ASSURANCE STATEMENT

LABORATORY:	Northwest Bioanalytical (NWB) A Division of NWT, Inc. 1121 East 3900 South Salt Lake City, UT 84124
SPONSOR:	3M Company Corporate Occupational Medicine, Medical Department 220-3W-05 St. Paul, MN 55144
COMPOUND(S):	PFOS, PFOA (POAA), PFHS, PFOSA, PFOSAA, M556, M570
NWB STUDY NUMBER:	NWBS00-128
SPONSOR STUDY NUMBER:	EPI-0013
NWB STUDY TITLE:	Quantitative Determination of PFOS and Related Compounds in Human Serum 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 projects in accordance with 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.

		Date Inspection Report Issued To	
Inspection Date	Phase of Study	NWB Project Manager	[1]NWB Management
28 Nov 2000	Analytical Plan	28 Nov 2000	30 Nov 2000
20-23 Mar 2001	Sample Analysis	23 Mar 2001	31 Mar 2001
05-06 Apr 2001	Sample Receipt	06 Apr 2001	30 Apr 2001
02-04 May 2001	QC Preparation	04 May 2001	31 May 2001
31 Dec 2001 – 07 Jan 2002	Report Draft/ Raw Data	07 Jan 2002	31 Jan 2002
09 Jan 2002	Final Report	09 Jan 2002	31 Jan 2002

[1]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.

Sheryl A. Mathews

Sheryl A. Mathews, A.A.S.
NWB QAU Compliance Auditor

09 Jan. 2002
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.) Any known incidents that may have affected the quality or integrity of the project or reported data is included in this report. This report represents an accurate record of the raw data.

Connie O. Sakashita

1-9-02

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

Date

R L Foltz

1-9-02

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

Date

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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

Sample Analysis for Protocol EPI-0013

1. INTRODUCTION

This report summarizes the analytical results from the quantitation of PFOS, PFHS, PFOA, PFOSAA, PFOSA, M556, and M570 in human serum samples for 3M Company in support of Protocol EPI-0013 [5.1]. The LC/MS/MS method for the analytes exhibited a quadratic response and had target LLOQ and ULOQ values of 1.00 ppb (2.50 ppb for M556) and 500 ppb for the analytes.

The testing facility was 3M Company (Corporate Occupational Medicine, Medical Department, 220-3W-05, St. Paul, MN 55144), and the Study Director was Jeffrey H. Mandel, M.D. The Study Contacts at 3M Company were Jean Burris, M.P.H, R.N., and James Lundberg, Ph.D. The following is a list of NWB supervisory personnel involved in the completion of this work: Connie O. Sakashita, B.S. (NWB Project Manager); Tonya Felix, M.A. (NWB Acting 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), Toni Peacock, B.S. (NWB Assistant Scientist) and 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 hard copy formats.

Date Study Initiated: 15-Nov-2000 Date Analyses Completed: 11-May-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:

Receipt Date	*Number of Samples Received*	*Storage Condition (except during analysis)*
22-Nov-2000	100	-20 °C
21-Feb-2001	108	-20 °C
06-Mar-2001	330	-20 °C
15-Mar-2001	16	-20 °C
05-Apr-2001	125	-20 °C

Reference Material

Analyte	*Lot Number*	*Purity*	*Expiration Date*	*Source*	*Storage Conditions*
PFOS (FC-95)	193	100%	31-Dec-2010	3M	Room temperature*
PFHS	SE-036	100%	01-Jan-2010	3M	-20 °C
PFOA (FC-143)	245	100%	31-Dec-2010	3M	Room temperature*
PFOSAA (FC-129)	617	53.8%	31-Dec-2010	3M	Room temperature
PFOSA	214	100%	31-Dec-2010	3M	Room temperature
M556	NB113047-8D	99.89%	31-Dec-2010	3M	Room temperature
M570	118506-26	99.75%	31-Dec-2010	3M	Room temperature
THPFOS	59909	90.0%	31-Dec-2010	3M	Room temperature

*Stored dry

Eight or more calibration standards were prepared on the day of each run by adding 100 µL of blank human plasma and 400 µL 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 µL of the appropriate spiking solution was added.

The absolute purity of PFOS, PFOSA, PFOA, and PFHS reference material 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, PFHS, and PFOA 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:

Analyte	*Correction Factor*
PFOS	0.836
PFHS	0.909
PFOA	0.855

The final calibration standard concentrations in human plasma for each analyte can be found in Tables 8 – 14. *NOTE:* Due to the use of different matrix pools with different persistent levels, there are several standard concentrations in these tables. However, only eight (for M556) or nine (all other analytes) standards are used for a single curve. The target calibration curve range is 1.00 ppb (2.50 ppb M556) to 500 ppb prior to correction for purity.

In addition, blank 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 human plasma on October 27, 2000, March 8, 2001, April 5, 2001 and May 2, 2001 and frozen in a -20 °C freezer. For each run, analytical QC levels were assayed in duplicate. In addition, for each dilution level, dilution QCs

were run in triplicate in any analytical run that contained diluted subject samples. The QC concentrations are shown below:

Analyte	QC Concentrations* All concentrations are expressed as ppb.			
	Low	Medium	High	Dilution DF=5
PFOS	5.75, 6.40	126	331, 332	348
PFHS	4.48	156, 157	417, 418	
PFOA	4.32, 4.81	145	385	
PFOSAA	4.30, 4.60	150, 151	400, 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 prior to correction for purity. 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 plasma and 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, PFHS, PFOA, PFOSAA, PFOSA, M556 and M570 detection of the negative ions formed by TurboIonSpray™ ionization.

3. SAMPLE ANALYSIS

PFOS, PFHS, PFOA, 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.

For sample 11689, the measured concentration of PFOS was corrected for the persistent level of analyte present in the dilution matrix. The concentration is reported as a whole number and has not been rounded to 3 significant figures.

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 calibration standards in duplicate 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 ± 15% (± 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 ± 20% (± 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 ± 25% of the target concentration for PFOSA and PFOSAA to qualify as the LLOQ and within ± 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 ± 20% of their target concentrations (± 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 ± 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 PFHS, PFOA, 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 PFHS, PFOA, PFOSAA, M556, and M570. For PFOSA, results may vary on average up to 43% from results obtained using human serum calibration curves. These data are 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 No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
1	PFOS	Accepted	27-Nov-2000	27-Nov-2000	3.94	414	
1	PFOSA	Accepted	27-Nov-2000	27-Nov-2000	1.00	500	
1	PFOSAA	Accepted	27-Nov-2000	27-Nov-2000	1.60	501	
1	PFOA	Accepted	27-Nov-2000	27-Nov-2000	1.92	481	
1	PFHS	Accepted	27-Nov-2000	27-Nov-2000	1.36	523	
1	M556	Accepted	27-Nov-2000	27-Nov-2000	2.50	500	
1	M570	Accepted	27-Nov-2000	27-Nov-2000	1.00	500	
2	PFOS	Accepted	27-Nov-2000	28-Nov-2000	3.94	414	
2	PFOSA	Accepted	27-Nov-2000	28-Nov-2000	1.00	500	
2	PFOSAA	Accepted	27-Nov-2000	28-Nov-2000	1.60	501	
2	PFOA	Accepted	27-Nov-2000	28-Nov-2000	1.92	481	
2	PFHS	Accepted	27-Nov-2000	28-Nov-2000	1.36	523	

Run No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
2	M556	Accepted	27-Nov-2000	28-Nov-2000	2.50	500	
2	M570	Accepted	27-Nov-2000	28-Nov-2000	1.00	500	
3	PFOS	-	-	-			Run aborted due to power outage (repeated in run 6)
3	PFOSA	-	-	-			Run aborted due to power outage (repeated in run 6)
3	PFOSAA	-	-	-			Run aborted due to power outage (repeated in run 6)
3	PFOA	-	-	-			Run aborted due to power outage (repeated in run 6)
3	PFHS	-	-	-			Run aborted due to power outage (repeated in run 6)
3	M556	-	-	-			Run aborted due to power outage (repeated in run 6)
3	M570	-	-	-			Run aborted due to power outage (repeated in run 6)
4	PFOS	Accepted	21-Mar-2001	23-Mar-2001	3.94	414	
4	PFOSA	Accepted	21-Mar-2001	23-Mar-2001	1.00	500	
4	PFOSAA	Accepted	21-Mar-2001	23-Mar-2001	1.60	501	
4	PFOA	Accepted	21-Mar-2001	23-Mar-2001	1.92	481	
4	PFHS	Accepted	21-Mar-2001	23-Mar-2001	1.36	523	
4	M556	Rejected	21-Mar-2001	23-Mar-2001	2.50	500	QCs failed
4	M570	Rejected	21-Mar-2001	23-Mar-2001	1.00	500	QCs failed
5	PFOS	Accepted	22-Mar-2001	24-Mar-2001	3.94	414	
5	PFOSA	Accepted	22-Mar-2001	24-Mar-2001	1.00	500	
5	PFOSAA	Accepted	22-Mar-2001	24-Mar-2001	1.60	501	
5	PFOA	Accepted	22-Mar-2001	24-Mar-2001	1.92	481	
5	PFHS	Accepted	22-Mar-2001	24-Mar-2001	1.36	523	
5	M556	Accepted	22-Mar-2001	24-Mar-2001	2.50	500	
5	M570	Accepted	22-Mar-2001	24-Mar-2001	1.00	500	
6	PFOS	Accepted	26-Mar-2001	26-Mar-2001	4.27	414	
6	PFOSA	Accepted	26-Mar-2001	26-Mar-2001	1.40	500	
6	PFOSAA	Accepted	26-Mar-2001	26-Mar-2001	2.80	502	
6	PFOA	Accepted	26-Mar-2001	26-Mar-2001	2.11	482	
6	PFHS	Accepted	26-Mar-2001	26-Mar-2001	2.09	523	

Run No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
6	M556	Accepted	26-Mar-2001	26-Mar-2001	3.20	501	
6	M570	Accepted	26-Mar-2001	26-Mar-2001	1.80	501	
7	PFOS	Accepted	26-Mar-2001	26-Mar-2001	4.27	414	
7	PFOSA	Accepted	26-Mar-2001	26-Mar-2001	1.40	500	
7	PFOSAA	Accepted	26-Mar-2001	26-Mar-2001	2.80	502	
7	PFOA	Accepted	26-Mar-2001	26-Mar-2001	2.11	482	
7	PFHS	Accepted	26-Mar-2001	26-Mar-2001	2.09	523	
7	M556	Accepted	26-Mar-2001	26-Mar-2001	3.20	501	
7	M570	Accepted	26-Mar-2001	26-Mar-2001	1.80	501	
8	PFOS	Accepted	28-Mar-2001	28-Mar-2001	4.27	414	
8	PFOSA	Accepted	28-Mar-2001	28-Mar-2001	1.40	500	
8	PFOSAA	Accepted	28-Mar-2001	28-Mar-2001	2.80	502	
8	PFOA	Accepted	28-Mar-2001	28-Mar-2001	2.11	482	
8	PFHS	Accepted	28-Mar-2001	28-Mar-2001	2.09	523	
8	M556	Accepted	28-Mar-2001	28-Mar-2001	3.20	501	
8	M570	Accepted	28-Mar-2001	28-Mar-2001	1.80	501	
9	PFOS	Accepted	28-Mar-2001	28-Mar-2001	4.27	414	
9	PFOSA	Accepted	28-Mar-2001	28-Mar-2001	1.40	500	
9	PFOSAA	Accepted	28-Mar-2001	28-Mar-2001	2.80	502	
9	PFOA	Accepted	28-Mar-2001	28-Mar-2001	2.11	482	
9	PFHS	Accepted	28-Mar-2001	28-Mar-2001	2.09	523	
9	M556	Rejected	28-Mar-2001	28-Mar-2001	3.20	501	Low QCs failed
9	M570	Rejected	28-Mar-2001	28-Mar-2001	1.80	501	Curve and QC fail
10	PFOS	Accepted	30-Mar-2001	30-Mar-2001	4.27	414	
10	PFOSA	Accepted	30-Mar-2001	30-Mar-2001	1.40	500	
10	PFOSAA	Accepted	30-Mar-2001	30-Mar-2001	2.80	502	
10	PFOA	Accepted	30-Mar-2001	30-Mar-2001	2.11	482	
10	PFHS	Accepted	30-Mar-2001	30-Mar-2001	2.09	523	
10	M556	Accepted	30-Mar-2001	30-Mar-2001	3.20	501	
10	M570	Accepted	30-Mar-2001	30-Mar-2001	1.80	501	
11	PFOS	Accepted	30-Mar-2001	30-Mar-2001	4.27	414	
11	PFOSA	Accepted	30-Mar-2001	30-Mar-2001	1.40	500	
11	PFOSAA	Rejected	30-Mar-2001	30-Mar-2001	2.80	502	Curve fails

Run No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
11	PFOA	Rejected	30-Mar-2001	30-Mar-2001	2.11	482	Curve fails
11	PFHS	Accepted	30-Mar-2001	30-Mar-2001	2.09	523	
11	M556	Accepted	30-Mar-2001	30-Mar-2001	3.20	501	
11	M570	Rejected	30-Mar-2001	30-Mar-2001	1.80	501	Curve fails
12	M556	Accepted	28-Mar-2001	01-Apr-2001	3.20	501	Run 12 was a reinjection of run 9 for M556 and M570 only
12	M570	Accepted	28-Mar-2001	01-Apr-2001	1.80	501	Run 12 was a reinjection of run 9 for M556 and M570 only
13	PFOS	Accepted	02-Apr-2001	02-Apr-2001	4.27	414	
13	PFOSA	Accepted	02-Apr-2001	02-Apr-2001	1.40	500	
13	PFOSAA	Accepted	02-Apr-2001	02-Apr-2001	2.80	502	
13	PFOA	Accepted	02-Apr-2001	02-Apr-2001	2.11	482	
13	PFHS	Accepted	02-Apr-2001	02-Apr-2001	2.09	523	
13	M556	Rejected	02-Apr-2001	02-Apr-2001	3.20	501	Low QCs failed
13	M570	Accepted	02-Apr-2001	02-Apr-2001	1.80	501	
14	PFOS	Accepted	04-Apr-2001	07-Apr-2001	4.27	414	
14	PFOSA	Accepted	04-Apr-2001	07-Apr-2001	1.40	500	
14	PFOSAA	Accepted	04-Apr-2001	07-Apr-2001	2.80	502	
14	PFOA	Accepted	04-Apr-2001	07-Apr-2001	2.11	482	
14	PFHS	Accepted	04-Apr-2001	07-Apr-2001	2.09	523	
14	M556	Accepted	04-Apr-2001	07-Apr-2001	3.20	501	
14	M570	Accepted	04-Apr-2001	07-Apr-2001	1.80	501	
15	PFOS	Accepted	06-Apr-2001	09-Apr-2001	4.27	414	
15	PFOSA	Accepted	06-Apr-2001	09-Apr-2001	1.40	500	
15	PFOSAA	Accepted	06-Apr-2001	09-Apr-2001	2.80	502	
15	PFOA	Accepted	06-Apr-2001	09-Apr-2001	2.11	482	
15	PFHS	Accepted	06-Apr-2001	09-Apr-2001	2.09	523	
15	M556	Accepted	06-Apr-2001	09-Apr-2001	3.20	501	
15	M570	Accepted	06-Apr-2001	09-Apr-2001	1.80	501	
16	PFOS	Accepted	09-Apr-2001	11-Apr-2001	4.27	414	
16	PFOSA	Accepted	09-Apr-2001	11-Apr-2001	1.40	500	
16	PFOSAA	Rejected	09-Apr-2001	11-Apr-2001	2.80	502	Curve fails

Run No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
16	PFOA	Rejected	09-Apr-2001	11-Apr-2001	2.11	482	Curve fails
16	PFHS	Accepted	09-Apr-2001	11-Apr-2001	2.09	523	
16	M556	Rejected	09-Apr-2001	11-Apr-2001	3.20	501	Curve fails
16	M570	Rejected	09-Apr-2001	11-Apr-2001	1.80	501	Curve fails
17	PFOS	Accepted	10-Apr-2001	12-Apr-2001	4.27	414	
17	PFOSA	Accepted	10-Apr-2001	12-Apr-2001	1.40	500	
17	PFOSAA	Accepted	10-Apr-2001	12-Apr-2001	2.80	502	
17	PFOA	Accepted	10-Apr-2001	12-Apr-2001	2.11	482	
17	PFHS	Accepted	10-Apr-2001	12-Apr-2001	2.09	523	
17	M556	Accepted	10-Apr-2001	12-Apr-2001	3.20	501	
17	M570	Accepted	10-Apr-2001	12-Apr-2001	1.80	501	
18	PFOS	Accepted	19-Apr-2001	23-Apr-2001	4.27	414	
18	PFOSA	Accepted	19-Apr-2001	23-Apr-2001	1.40	500	
18	PFOSAA	Accepted	19-Apr-2001	23-Apr-2001	2.80	502	
18	PFOA	Accepted	19-Apr-2001	23-Apr-2001	2.11	482	
18	PFHS	Accepted	19-Apr-2001	23-Apr-2001	2.09	523	
18	M556	Accepted	19-Apr-2001	23-Apr-2001	3.20	501	
18	M570	Rejected	19-Apr-2001	23-Apr-2001	1.80	501	Curve and Low QC failed
19	PFOS	Rejected	09-Apr-2001	14-Apr-2001	4.02	414	Reinjection of run 16: Analyte results not needed
19	PFOSA	Rejected	09-Apr-2001	14-Apr-2001	1.30	500	Reinjection of run 16: Analyte results not needed
19	PFOSAA	Accepted	09-Apr-2001	14-Apr-2001	2.80	502	Reinjection of run 16
19	PFOA	Accepted	09-Apr-2001	14-Apr-2001	2.11	482	Reinjection of run 16
19	PFHS	Rejected	09-Apr-2001	14-Apr-2001	2.09	523	Reinjection of run 16: Analyte results not needed
19	M556	Accepted	09-Apr-2001	14-Apr-2001	3.20	501	Reinjection of run 16
19	M570	Accepted	09-Apr-2001	14-Apr-2001	1.80	501	Reinjection of run 16
20	PFOS	Accepted	06-Apr-2001	13-Apr-2001	4.27	414	Pre-study assay evaluation (new Chinese plasma pool and QCs)
20	PFOSA	Accepted	06-Apr-2001	13-Apr-2001	1.40	500	Pre-study assay evaluation (new Chinese plasma pool and QCs)

Run No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
20	PFOSAA	Accepted	06-Apr-2001	13-Apr-2001	2.80	502	Pre-study assay evaluation (new Chinese plasma pool and QCs)
20	PFOA	Accepted	06-Apr-2001	13-Apr-2001	2.10	482	Pre-study assay evaluation (new Chinese plasma pool and QCs)
20	PFHS	Accepted	06-Apr-2001	13-Apr-2001	2.09	523	Pre-study assay evaluation (new Chinese plasma pool and QCs)
20	M556	Rejected	06-Apr-2001	13-Apr-2001	1.60	501	Pre-study assay evaluation (new Chinese plasma pool and QCs); Low QC fail.
20	M570	Accepted	06-Apr-2001	13-Apr-2001	1.90	501	Pre-study assay evaluation (new Chinese plasma pool and QCs)
21	PFOSAA	Accepted	17-Apr-2001	22-Apr-2001	2.80	502	Run was analyzed for PFOSAA, PFOA and M570 only
21	PFOA	Accepted	17-Apr-2001	22-Apr-2001	2.11	482	Run was analyzed for PFOSAA, PFOA and M570 only
21	M570	Accepted	17-Apr-2001	22-Apr-2001	1.80	501	Run was analyzed for PFOSAA, PFOA and M570 only
22	M570	Accepted	19-Apr-2001	24-Apr-2001	1.80	501	Reinjection of run 18 for M570 only
23	PFOS	Accepted	02-May-2001	05-May-2001	3.86	414	Pre-study assay evaluation of new low QC
23	PFOSA	Accepted	02-May-2001	05-May-2001	1.50	501	Pre-study assay evaluation of new low QC
23	PFOSAA	Accepted	02-May-2001	05-May-2001	2.40	501	Pre-study assay evaluation of new low QC
23	PFOA	Accepted	02-May-2001	05-May-2001	2.31	482	Pre-study assay evaluation of new low QC
23	PFHS	Accepted	02-May-2001	05-May-2001	2.50	523	Pre-study assay evaluation of new low QC
23	M556	Accepted	02-May-2001	05-May-2001	3.80	501	Pre-study assay evaluation of new low QC
23	M570	Accepted	02-May-2001	05-May-2001	2.30	501	Pre-study assay evaluation of new low QC
24	PFOSAA	Rejected	10-May-2001	10-May-2001	1.50	501	Sample preparation error
24	PFOA	Rejected	10-May-2001	10-May-2001	25.4	482	Sample preparation error

Run No.	Analyte	Regression Status	Extraction Date	Assay Date	LLOQ	ULOQ	Comment
24	PFHS	Rejected	10-May-2001	10-May-2001	2.50	523	Sample preparation error
24	M570	Rejected	10-May-2001	10-May-2001	2.30	501	Sample preparation error
25	PFOSAA	Accepted	11-May-2001	11-May-2001	1.30	500	
25	PFOA	Accepted	11-May-2001	11-May-2001	1.44	481	
25	PFHS	Rejected	11-May-2001	11-May-2001	1.36	522	Analyte results not needed
25	M570	Accepted	11-May-2001	11-May-2001	1.00	500	

In run 4 for PFOSA and PFOSAA, one of the medium QC samples gave extremely high results. These results appear to skew the overall statistics for these analytes. Without this "outlier", the overall %CV was 9.2% for PFOSA and 12.3% for PFOSAA. The overall %Bias was 2.0% for PFOSA and 5.3% for PFOSAA.

In run 8 for PFOA, one of the low QC samples gave an extremely low result of 0.161 ppb. This result appears to skew the overall statistics for the analyte. Without this "outlier", the overall %CV was 14.1% and the %Bias was –10.0%/

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-0013. "Identification of Fluorochemicals in Sera of American Red Cross Blood Donors in the United States." September 29, 2000.

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 PFOS

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	-0.000031	0.052622	0.012630	0.9958	3.94	414
28-Nov-2000	2	-0.000027	0.049661	0.017690	0.9926	3.94	414
23-Mar-2001	4	0.000002	0.039134	0.020796	0.9869	3.94	414
24-Mar-2001	5	-0.000002	0.009354	0.001128	0.9985	3.94	414
26-Mar-2001	6	-0.000001	0.010776	-0.003903	0.9867	4.27	414
26-Mar-2001	7	0.000003	0.035721	0.024340	0.9943	4.27	414
28-Mar-2001	8	0.000000	0.037629	0.025011	0.9931	4.27	414
28-Mar-2001	9	0.000000	0.010093	0.007090	0.9895	4.27	414
30-Mar-2001	10	0.000000	0.011733	0.002809	0.9947	4.27	414
30-Mar-2001	11	0.000001	0.047343	0.024473	0.9733	4.27	414
02-Apr-2001	13	-0.000003	0.045861	0.035036	0.9973	4.27	414
07-Apr-2001	14	-0.000010	0.039827	0.014677	0.9925	4.27	414
09-Apr-2001	15	0.000004	0.045781	0.046887	0.9919	4.27	414
11-Apr-2001	16	-0.000006	0.058787	-0.001384	0.9942	4.27	414
12-Apr-2001	17	-0.000009	0.055527	0.020155	0.9976	4.27	414
23-Apr-2001	18	-0.000002	0.017703	0.000222	0.9935	4.27	414
Mean		-0.000005	0.035472	0.015479	0.9920		
S.D.		0.000010	0.017605	0.014172	0.0060		
%CV		-200.0	49.6	91.6	0.6		
n		16	16	16	16		

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

Table 2. Calibration Curve Summary for PFHS

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	-0.000013	0.030678	0.025452	0.9949	1.36	523
28-Nov-2000	2	-0.000013	0.031308	0.026252	0.9950	1.36	523
23-Mar-2001	4	-0.000002	0.021861	0.020425	0.9959	1.36	523
24-Mar-2001	5	-0.000002	0.007620	0.006999	0.9966	1.36	523
26-Mar-2001	6	-0.000002	0.008120	-0.002637	0.9953	2.09	523
26-Mar-2001	7	-0.000004	0.023053	0.006759	0.9902	2.09	523
28-Mar-2001	8	-0.000003	0.025470	0.002418	0.9892	2.09	523
28-Mar-2001	9	-0.000002	0.008701	0.002381	0.9972	2.09	523
30-Mar-2001	10	-0.000001	0.008569	0.003686	0.9836	2.09	523
30-Mar-2001	11	0.000000	0.028707	0.027904	0.9813	2.09	523
02-Apr-2001	13	-0.000004	0.021870	0.016367	0.9858	2.09	523
07-Apr-2001	14	-0.000006	0.021837	0.012060	0.9915	2.09	523
09-Apr-2001	15	-0.000002	0.022158	0.030931	0.9901	2.09	523
11-Apr-2001	16	-0.000007	0.029426	0.013375	0.9881	2.09	523
12-Apr-2001	17	-0.000007	0.026000	0.009029	0.9970	2.09	523
23-Apr-2001	18	-0.000004	0.011306	0.008022	0.9875	2.09	523
Mean		-0.000004	0.020418	0.013089	0.9912		
S.D.		0.000004	0.008650	0.010370	0.0050		
%CV		-100.0	42.4	79.2	0.5		
n		16	16	16	16		

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

Table 3. Calibration Curve Summary for PFOA

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	-0.000001	0.015479	0.005741	0.9933	1.92	481
28-Nov-2000	2	-0.000002	0.016334	0.015052	0.9877	1.92	481
23-Mar-2001	4	0.000001	0.008393	0.007706	0.9842	1.92	481
24-Mar-2001	5	-0.000001	0.007290	0.002187	0.9979	1.92	481
26-Mar-2001	6	0.000000	0.007392	-0.000487	0.9898	2.11	482
26-Mar-2001	7	0.000003	0.008327	0.004956	0.9865	2.11	482
28-Mar-2001	8	0.000002	0.008675	0.015973	0.9825	2.11	482
28-Mar-2001	9	0.000000	0.007316	0.005861	0.9940	2.11	482
30-Mar-2001	10	0.000000	0.007744	0.003135	0.9964	2.11	482
02-Apr-2001	13	-0.000001	0.008171	0.003088	0.9901	2.11	482
07-Apr-2001	14	-0.000003	0.009779	0.000405	0.9926	2.11	482
09-Apr-2001	15	0.000002	0.007753	0.019137	0.9872	2.11	482
12-Apr-2001	17	0.000000	0.007833	0.004324	0.9945	2.11	482
14-Apr-2001	19	-0.000001	0.007768	0.001433	0.9954	2.11	482
22-Apr-2001	21	0.000000	0.015981	-0.001298	0.9878	2.11	482
23-Apr-2001	18	-0.000002	0.016857	0.000933	0.9905	2.11	482
11-May-2001	25	-0.000001	0.012990	-0.002765	0.9962	1.44	481
Mean		0.000000	0.010240	0.005022	0.9910		
S.D.		0.000002	0.003645	0.006254	0.0045		
%CV		NCL	35.6	124.5	0.5		
n		17	17	17	17		

A, B, and C are coefficients used to define the calibration curve.
NCL = not calculable

Table 4. Calibration Curve Summary for PFOSAA

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	0.000000	0.013246	0.007247	0.9804	1.60	501
28-Nov-2000	2	0.000005	0.012198	0.010441	0.9797	1.60	501
23-Mar-2001	4	0.000001	0.007894	0.004964	0.9685	1.60	501
24-Mar-2001	5	0.000001	0.006730	0.010546	0.9935	1.60	501
26-Mar-2001	6	0.000002	0.008322	-0.001161	0.9836	2.80	502
26-Mar-2001	7	0.000001	0.007111	-0.001354	0.9760	2.80	502
28-Mar-2001	8	0.000001	0.005138	-0.004421	0.9798	2.80	502
28-Mar-2001	9	0.000002	0.006742	0.011207	0.9666	2.80	502
30-Mar-2001	10	0.000003	0.007717	0.008093	0.9848	2.80	502
02-Apr-2001	13	0.000008	0.024032	0.015403	0.9884	2.80	502
07-Apr-2001	14	0.000001	0.033688	0.011384	0.9867	2.80	502
09-Apr-2001	15	0.000014	0.029651	0.017800	0.9846	2.80	502
12-Apr-2001	17	0.000006	0.025674	0.007502	0.9944	2.80	502
14-Apr-2001	19	0.000012	0.026710	-0.009422	0.9813	2.80	502
22-Apr-2001	21	0.000004	0.007075	-0.004642	0.9735	2.80	502
23-Apr-2001	18	0.000004	0.007908	0.000878	0.9744	2.80	502
11-May-2001	25	0.000002	0.012005	0.000362	0.9937	1.30	500
Mean		0.000004	0.014226	0.004990	0.9818		
S.D.		0.000004	0.009564	0.007661	0.0083		
%CV		100.0	67.2	153.5	0.8		
n		17	17	17	17		

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

Table 5. Calibration Curve Summary for PFOSA

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	-0.000041	0.096146	0.018081	0.9920	1.00	500
28-Nov-2000	2	-0.000025	0.087183	0.015131	0.9931	1.00	500
23-Mar-2001	4	0.000002	0.034802	0.013699	0.9847	1.00	500
24-Mar-2001	5	-0.000002	0.018868	0.003711	0.9985	1.00	500
26-Mar-2001	6	-0.000001	0.023192	-0.012070	0.9931	1.40	500
26-Mar-2001	7	-0.000002	0.034174	0.000108	0.9956	1.40	500
28-Mar-2001	8	0.000001	0.032420	0.015115	0.9965	1.40	500
28-Mar-2001	9	0.000000	0.022395	0.000709	0.9848	1.40	500
30-Mar-2001	10	-0.000003	0.023907	0.000482	0.9934	1.40	500
30-Mar-2001	11	0.000018	0.108434	0.040511	0.9882	1.40	500
02-Apr-2001	13	-0.000008	0.108295	0.054874	0.9885	1.40	500
07-Apr-2001	14	-0.000011	0.097511	0.020730	0.9819	1.40	500
09-Apr-2001	15	-0.000006	0.119455	0.031195	0.9923	1.40	500
11-Apr-2001	16	0.000034	0.124021	-0.030446	0.9870	1.40	500
12-Apr-2001	17	-0.000010	0.129002	0.003170	0.9944	1.40	500
23-Apr-2001	18	0.000007	0.040292	0.010493	0.9936	1.40	500
Mean		-0.000003	0.068756	0.011593	0.9911		
S.D.		0.000016	0.042828	0.020139	0.0047		
%CV		-533.3	62.3	173.7	0.5		
n		16	16	16	16		

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

Table 6. Calibration Curve Summary for M556

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	0.000001	0.008245	0.002637	0.9851	2.50	500
28-Nov-2000	2	0.000003	0.007109	0.006480	0.9931	2.50	500
24-Mar-2001	5	0.000001	0.002937	0.003249	0.9943	2.50	500
26-Mar-2001	6	0.000001	0.003973	-0.002024	0.9809	3.20	501
26-Mar-2001	7	0.000001	0.006232	-0.005748	0.9928	3.20	501
28-Mar-2001	8	0.000001	0.004865	-0.004285	0.9923	3.20	501
30-Mar-2001	10	0.000001	0.002628	0.000476	0.9939	3.20	501
30-Mar-2001	11	0.000003	0.004105	0.002505	0.9789	3.20	501
01-Apr-2001	12	0.000001	0.002392	0.001473	0.9825	3.20	501
07-Apr-2001	14	0.000001	0.007457	0.002028	0.9924	3.20	501
09-Apr-2001	15	0.000003	0.006599	0.008776	0.9891	3.20	501
12-Apr-2001	17	0.000002	0.006819	-0.003271	0.9913	3.20	501
14-Apr-2001	19	0.000003	0.006308	-0.001438	0.9886	3.20	501
23-Apr-2001	18	0.000002	0.003128	0.001358	0.9870	3.20	501
Mean		0.000002	0.005200	0.000873	0.9887		
S.D.		0.000001	0.001993	0.004007	0.0051		
%CV		50.0	38.3	459.0	0.5		
n		14	14	14	14		

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

Table 7. Calibration Curve Summary for M570

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

Run Date	Run Number	A	B	C	R-Squared	LLOQ	ULOQ
27-Nov-2000	1	-0.000003	0.022236	0.026662	0.9910	1.00	500
28-Nov-2000	2	0.000002	0.021764	0.021002	0.9902	1.00	500
24-Mar-2001	5	0.000000	0.003326	0.003631	0.9937	1.00	500
26-Mar-2001	6	0.000002	0.003649	-0.000239	0.9851	1.80	501
26-Mar-2001	7	0.000001	0.017625	0.009909	0.9880	1.80	501
28-Mar-2001	8	0.000002	0.013605	0.006783	0.9911	1.80	501
30-Mar-2001	10	0.000001	0.003548	0.001744	0.9859	1.80	501
01-Apr-2001	12	0.000001	0.003371	0.002595	0.9779	1.80	501
02-Apr-2001	13	0.000007	0.027857	0.035353	0.9890	1.80	501
07-Apr-2001	14	-0.000001	0.034478	0.018645	0.9854	1.80	501
09-Apr-2001	15	0.000011	0.032868	0.046246	0.9863	1.80	501
12-Apr-2001	17	0.000004	0.030324	0.016921	0.9936	1.80	501
14-Apr-2001	19	0.000009	0.030213	0.008691	0.9817	1.80	501
22-Apr-2001	21	0.000001	0.003114	-0.002037	0.9880	1.80	501
24-Apr-2001	22	0.000018	0.038537	0.040536	0.9873	1.80	501
11-May-2001	25	0.000000	0.004063	-0.001174	0.9955	1.00	500
Mean		0.000003	0.018161	0.014704	0.9881		
S.D.		0.000005	0.013225	0.015506	0.0045		
%CV		166.7	72.8	105.5	0.5		
n		16	16	16	16		

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

Table 8. Back-Calculated Concentrations of Calibration Standards for PFOS

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

Run Date	Run Number	3.94	4.27	5.17	5.50	11.3	11.7	23.6	24.0	44.2	44.5	85.4	85.5	209	332	414
27-Nov-2000	1	4.04		5.05		11.1		24.1		48.3		80.9		234	307	432
		3.98		5.02		11.4		*44.7		**18.9		77.2		209	321	417
28-Nov-2000	2	4.05		4.91		10.9		25.4		49.5		84.5		234	299	450
		4.00		5.24		10.6		*42.1		**18.1		74.2		204	319	416
23-Mar-2001	4	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
24-Mar-2001	5	3.99		5.05		11.6		23.2		46.8		82.0		209	351	421
		3.94		5.07		11.6		24.2		44.0		81.3		205	314	415
26-Mar-2001	6		4.13		4.95		11.4		22.1		42.0		73.8	191	319	419
			4.46		5.64		13.7		23.7		53.9		81.8	223	368	399
26-Mar-2001	7		4.75		5.64		11.4		25.7		46.6		80.7	214	365	392
			3.85		5.34		11.4		23.8		41.9		86.0	218	304	422
28-Mar-2001	8		4.25		5.23		12.4		24.8		52.8		86.1	203	332	437
			4.54		5.26		11.0		24.3		40.5		80.3	190	340	406
28-Mar-2001	9		5.01		5.55		11.3		26.7		49.0		89.0	207	335	415
			4.07		4.86		10.0		23.0		46.2		76.3	224	314	415
30-Mar-2001	10		4.55		4.89		13.0		24.7		45.4		81.5	199	345	391
			4.54		5.10		10.8		23.8		44.1		86.6	221	342	413

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to preparation error

Table 8. Back-Calculated Concentrations of Calibration Standards for PFOS (Continued)

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

Run Date	Run Number	3.94	4.27	5.17	5.50	11.3	11.7	23.6	24.0	44.2	44.5	85.4	85.5	209	332	414
30-Mar-2001	11		5.45		4.97		10.6		20.5		44.9		81.5	204	311	397
			3.63		5.49		11.1		24.2		52.8		106	169	381	428
02-Apr-2001	13		4.16		5.28		11.1		24.8		44.9		85.4	213	351	426
			4.59		5.54		11.5		22.9		46.0		86.2	208	337	374
07-Apr-2001	14		4.24		5.75		12.2		26.9		46.3		88.3	225	373	409
			4.47		4.96		11.2		21.3		42.0		81.9	195	329	380
09-Apr-2001	15		5.00		5.11		10.5		25.9		47.1		90.8	223	359	407
			4.03		5.46		10.5		23.5		45.0		80.4	206	320	394
11-Apr-2001	16		4.66		5.37		11.1		22.8		47.4		72.9	224	328	395
			3.92		5.69		11.6		24.5		47.7		87.9	209	342	417
12-Apr-2001	17		4.45		5.20		11.3		25.4		44.2		86.4	196	328	435
			***2.26		5.38		12.5		23.3		45.9		82.6	207	341	405
23-Apr-2001	18		4.61		5.25		11.2		25.3		44.9		76.0	201	314	377
			4.33		5.25		11.3		22.9		48.1		90.0	230	364	426
Mean		3.93	4.42	5.21	5.30	11.1	11.4	23.9	24.0	46.4	46.2	81.3	84.1	210	335	411
S.D.		0.208	0.411	0.290	0.263	0.407	0.830	2.01	1.57	3.18	3.39	4.48	6.80	15.1	23.8	17.8
%CV		5.3	9.3	5.6	5.0	3.7	7.3	8.4	6.5	6.9	7.3	5.5	8.1	7.2	7.1	4.3
%Bias		-0.3	3.5	0.8	-3.6	-1.8	-2.6	1.3	0.0	5.0	3.8	-4.8	-1.6	0.5	0.9	-0.7
n		8	23	8	24	8	24	6	24	6	24	8	24	32	32	32

*** Sample deactivated due to unacceptable internal standard response

Table 9. Back-Calculated Concentrations of Calibration Standards for PFHS

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

Run Date	Run Number	1.36	2.09	2.92	3.65	10.7	11.5	26.5	27.1	52.6	53.2	104	105	262	418	523
27-Nov-2000	1	1.39		2.66		10.8		27.4		54.5		98.9		278	373	508
		1.46		2.54		11.4		*54.5		**26.8		106		271	415	564
28-Nov-2000	2	1.42		2.78		10.7		28.0		57.6		101		274	386	536
		1.42		2.46		10.9		*50.7		**25.0		102		257	421	534
23-Mar-2001	4	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
24-Mar-2001	5	1.33		2.76		11.1		26.5		55.2		99.5		261	432	528
		1.48		2.58		11.3		27.3		53.8		101		255	389	545
26-Mar-2001	6		2.08		3.70		11.0		26.9		50.8		98.2	247	409	525
			2.12		3.64		10.7		28.7		62.9		102	271	441	516
26-Mar-2001	7		2.42		3.23		11.6		27.3		52.6		90.7	242	398	472
			1.94		3.39		12.4		29.4		54.0		108	294	418	594
28-Mar-2001	8		2.20		2.96		12.3		30.9		60.1		94.6	236	437	533
			2.30		3.21		11.3		27.6		52.9		104	243	415	545
28-Mar-2001	9		2.22		3.66		11.6		26.4		52.3		105	255	455	496
			1.99		3.49		12.0		28.8		55.5		96.2	254	412	544
30-Mar-2001	10		2.11		2.83		13.2		31.4		51.1		107	223	465	550
			2.27		3.71		10.3		28.8		58.8		91.3	239	374	565

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to preparation error

Table 9. Back-Calculated Concentrations of Calibration Standards for PFHS (Continued)

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

Run Date	Run Number	1.36	2.09	2.92	3.65	10.7	11.5	26.5	27.1	52.6	53.2	104	105	262	418	523
30-Mar-2001	11		2.62		2.90		12.0		24.6		53.2		99.0	249	406	502
			1.89		3.36		11.1		28.0		66.3		114	230	468	537
02-Apr-2001	13		1.77		2.88		10.9		27.4		52.9		107	255	439	506
			2.68		3.61		11.7		27.2		57.4		108	266	445	485
07-Apr-2001	14		1.97		2.94		11.4		26.7		51.5		98.0	270	431	497
			2.43		3.59		11.9		30.9		54.6		103	268	422	523
09-Apr-2001	15		2.60		3.30		11.0		28.0		56.4		110	264	449	514
			1.75		3.56		10.7		27.2		55.9		99.4	263	411	498
11-Apr-2001	16		2.28		2.97		11.3		26.6		53.8		85.9	251	433	482
			2.23		3.20		12.7		29.3		58.5		106	288	445	514
12-Apr-2001	17		2.12		3.87		10.9		28.5		53.0		103	248	419	552
			***1.93		3.29		12.0		28.3		55.8		98.0	253	425	519
23-Apr-2001	18		2.54		3.15		10.7		27.1		50.2		114	251	427	502
			1.94		3.33		11.0		26.4		63.9		107	282	398	522
Mean		1.40	2.19	2.70	3.32	11.0	11.5	27.6	28.0	53.6	55.6	101	102	258	422	523
S.D.		0.0585	0.266	0.205	0.305	0.288	0.717	0.715	1.60	3.19	4.29	2.59	7.17	17.1	24.2	26.4
%CV		4.2	12.1	7.6	9.2	2.6	6.2	2.6	5.7	6.0	7.7	2.6	7.0	6.6	5.7	5.0
%Bias		2.9	4.8	-7.5	-9.0	2.8	0.0	4.2	3.3	1.9	4.5	-2.9	-2.9	-1.5	1.0	0.0
n		8	23	8	24	8	24	6	24	6	24	8	24	32	32	32

*** Sample deactivated due to unacceptable internal standard response

Table 10. Back-Calculated Concentrations of Calibration Standards for PFOA

Quadratic 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
27-Nov-2000	1	1.88	3.04	9.65	25.3	51.6	87.9	252	356	457
		2.13	3.14	11.5	*53.4	**22.5	103	261	387	503
28-Nov-2000	2	1.77	2.97	10.2	28.0	52.8	93.6	244	390	478
		2.37	2.78	10.9	*46.6	**19.9	94.2	247	372	483
23-Mar-2001	4	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
24-Mar-2001	5	1.89	3.05	10.4	24.4	51.5	92.7	243	399	477
		2.05	3.38	10.6	26.2	51.4	94.9	236	380	480
Mean		2.00	3.08	10.8	25.3	51.0	94.6	245	384	480
S.D.		0.295	0.222	0.869	2.63	1.48	4.79	14.1	14.4	12.9
%CV		14.8	7.2	8.0	10.4	2.9	5.1	5.8	3.8	2.7
%Bias		4.2	-8.3	1.9	1.2	4.1	-2.6	1.7	-0.3	-0.2
n		8	8	8	6	6	8	34	10	10

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to sample preparation error

Table 10. Back-Calculated Concentrations of Calibration Standards for PFOA (Continued)

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

Run Date	Run Number	2.11	3.56	10.8	25.2	49.2	97.3	241	386	482
26-Mar-2001	6	2.49	3.57	9.76	24.0	49.0	92.5	244	355	501
		1.87	3.25	10.3	26.8	59.1	93.8	255	396	466
26-Mar-2001	7	*4.06	3.37	11.5	23.1	46.7	87.7	234	387	440
		2.45	2.72	10.2	29.1	52.2	103	275	385	501
28-Mar-2001	8	2.06	*1.68	7.94	27.8	55.8	90.6	249	372	477
		2.44	2.73	13.2	26.0	46.7	93.2	245	400	480
28-Mar-2001	9	2.40	3.26	11.4	25.5	48.8	99.5	242	392	465
		2.09	3.07	10.0	23.9	55.2	96.2	251	392	470
30-Mar-2001	10	2.03	3.10	11.4	25.7	52.4	95.3	236	389	474
		2.30	3.69	10.1	24.8	49.1	94.9	256	386	479
02-Apr-2001	13	1.83	3.48	10.2	25.1	49.5	95.0	250	419	489
		*3.48	4.55	10.5	23.8	50.1	94.9	238	390	437
07-Apr-2001	14	2.06	3.54	10.4	25.1	45.5	85.6	240	390	459
		*4.56	*5.97	13.2	23.9	52.7	95.5	238	408	498
09-Apr-2001	15	1.84	*0.842	7.81	25.3	45.7	98.2	228	389	431
		2.30	4.05	10.9	27.1	53.9	101	261	407	498
12-Apr-2001	17	2.13	2.95	11.0	26.1	47.2	102	225	380	489
		***1.13	4.03	11.3	24.6	49.9	91.7	246	408	472

* Sample deactivated as an outlier (not included in summary statistics)
*** Sample deactivated due to unacceptable internal standard response

Table 10. Back-Calculated Concentrations of Calibration Standards for PFOA (Continued)

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

Run Date	Run Number	2.11	3.56	10.8	25.2	49.2	97.3	241	386	482
14-Apr-2001	19	2.13	3.41	10.4	26.2	47.9	94.7	225	382	506
		*6.30	*6.57	12.2	23.8	49.9	93.1	275	364	474
22-Apr-2001	21	1.71	3.35	10.4	24.8	51.8	95.2	226	384	466
		2.62	3.45	10.7	28.4	48.9	99.2	213	435	489
23-Apr-2001	18	2.40	3.82	10.7	27.5	49.8	80.4	262	388	483
		1.85	3.21	10.9	23.4	54.2	92.6	255	381	465
Mean		2.16	3.43	10.7	25.5	50.5	94.4	245	391	475
S.D.		0.266	0.449	1.24	1.64	3.42	5.09	14.1	16.8	20.1
%CV		12.3	13.1	11.6	6.4	6.8	5.4	5.8	4.3	4.2
%Bias		2.4	-3.7	-0.9	1.2	2.6	-3.0	1.7	1.3	-1.5
n		19	20	24	24	24	24	34	24	24

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

Table 10. Back-Calculated Concentrations of Calibration Standards for PFOA (Continued)

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

Run Date	Run Number	1.44	2.88	10.1	24.5	48.5	96.6	241	385	481
11-May-2001	25	1.46	2.95	9.39	25.2	45.5	90.0	245	399	482
		1.33	3.14	11.0	26.3	45.6	94.6	242	371	487
Mean		1.40	3.05	10.2	25.8	45.6	92.3	245	384	480
S.D.		ISD	ISD	ISD	ISD	ISD	ISD	14.1	14.4	12.9
%CV		ISD	ISD	ISD	ISD	ISD	ISD	5.8	3.8	2.7
%Bias		-2.8	5.9	1.0	5.3	-6.0	-4.5	1.7	-0.3	-0.2
n		2	2	2	2	2	2	34	10	10

ISD = insufficient data points for statistical calculations

Table 11. Back-Calculated Concentrations of Calibration Standards for PFOSAA

Quadratic 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
27-Nov-2000	1	1.81	3.48	10.3	26.6	61.0	97.6	303	395	538
		1.39	2.80	9.64	*50.8	**17.1	77.2	252	369	467
28-Nov-2000	2	1.45	2.36	8.59	24.5	51.0	92.0	282	364	491
		1.77	3.84	12.0	*58.2	**22.6	101	293	399	491
23-Mar-2001	4	*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
24-Mar-2001	5	1.62	2.75	11.0	25.6	55.3	103	272	413	511
		1.80	2.59	10.3	26.8	49.2	97.0	255	369	484
Mean		1.59	3.15	10.3	24.3	53.7	96.3	275	386	496
S.D.		0.207	0.641	0.987	3.54	5.72	9.20	23.3	40.7	27.2
%CV		13.0	20.3	9.6	14.6	10.7	9.6	8.5	10.5	5.5
%Bias		-0.6	1.6	-2.8	-5.1	6.1	-4.7	9.6	-3.7	-1.0
n		7	8	8	6	6	8	8	8	8

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to sample preparation error

Table 11. Back-Calculated Concentrations of Calibration Standards for PFOSAA (Continued)

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

Run Date	Run Number	1.30	2.80	4.30	10.3	11.8	25.3	26.8	50.3	51.8	100	102	250	252	400	402	500	502
26-Mar-2001	6		2.68	3.87		12.0		23.8		48.1		86.7		250		358		505
			2.99	4.57		*19.7		26.7		65.1		99.3		287		461		463
26-Mar-2001	7		3.63	4.22		11.3		28.1		59.3		90.3		292		463		446
			2.44	3.48		10.4		26.7		45.8		108		282		380		459
28-Mar-2001	8		3.28	2.92		10.6		24.9		58.9		97.5		242		378		503
			3.05	3.75		14.6		27.2		51.7		101		269		439		481
28-Mar-2001	9		3.68	4.64		11.8		33.2		59.2		110		257		380		516
			2.43	3.02		9.06		21.9		52.8		88.1		302		386		473
30-Mar-2001	10		2.98	3.21		14.6		28.0		48.4		103		253		417		459
			3.21	3.82		10.6		25.9		47.1		111		271		419		495
02-Apr-2001	13		2.32	5.07		11.0		27.2		54.9		101		280		433		513
			3.13	4.16		10.7		24.3		54.1		97.1		262		388		443
07-Apr-2001	14		2.68	3.97		12.1		29.8		49.7		107		266		422		454
			3.29	3.72		12.1		20.8		54.2		107		244		451		468
09-Apr-2001	15		2.87	3.34		9.14		26.5		49.8		107		268		410		435
			3.18	4.62		10.8		26.9		56.0		111		286		421		490
12-Apr-2001	17		3.20	3.67		11.9		29.5		50.8		102		240		381		503
			***0.932	3.88		12.0		26.8		51.6		105		254		420		510

* Sample deactivated as an outlier (not included in summary statistics)
*** Sample deactivated due to unacceptable internal standard response

Table 11. Back-Calculated Concentrations of Calibration Standards for PFOSAA (Continued)

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

Run Date	Run Number	1.30	2.80	4.30	10.3	11.8	25.3	26.8	50.3	51.8	100	102	250	252	400	402	500	502
14-Apr-2001	19		2.32	4.35		10.7		25.5		54.0		113		254		425		510
			3.30	4.45		11.3		23.9		57.1		87.2		310		340		478
22-Apr-2001	21		2.32	2.75		10.1		26.7		55.7		103		217		393		492
			3.73	4.79		13.0		26.5		54.8		112		238		453		500
23-Apr-2001	18		3.26	3.04		12.7		31.8		53.2		99.2		289		413		467
			3.18	3.81		8.77		22.2		51.4		110		290		403		459
11-May-2001	25	1.45	2.84		10.6		28.3		52.3		102		266		428		495	
		1.24	2.33		10.3		23.2		48.1		94.5		257		386		472	
Mean		1.35	2.97	3.88	10.5	11.4	25.8	26.5	50.2	53.5	98.3	102	262	267	407	410	484	480
S.D.		ISD	0.437	0.634	ISD	1.50	ISD	2.90	ISD	4.48	ISD	8.01	ISD	22.9	ISD	32.1	ISD	24.6
%CV		ISD	14.7	16.3	ISD	13.2	ISD	10.9	ISD	8.4	ISD	7.9	ISD	8.6	ISD	7.8	ISD	5.1
%Bias		3.8	6.1	-9.8	1.9	-3.4	2.0	-1.1	-0.2	3.3	-1.7	0.0	4.8	6.0	1.8	2.0	-3.2	-4.4
n		2	25	24	2	23	2	24	2	24	2	24	2	24	2	24	2	24

ISD = insufficient data points for statistical calculations

Table 12. Back-Calculated Concentrations of Calibration Standards for PFOSA

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

Run Date	Run Number	1.00	1.40	2.50	2.90	10.0	10.4	25.0	25.4	50.0	50.4	100	250	400	500
27-Nov-2000	1	1.10		2.57		9.38		27.4		52.7		97.7	287	378	569
		0.893		2.46		10.0		*46.1		**18.1		87.8	242	349	497
28-Nov-2000	2	1.08		2.40		9.06		26.8		50.2		97.9	283	354	560
		0.906		2.70		10.2		*48.6		**19.1		93.3	256	377	480
23-Mar-2001	4	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
24-Mar-2001	5	0.935		2.47		10.1		24.6		51.2		98.1	255	406	517
		1.08		2.40		10.1		26.3		49.2		98.4	247	382	497
26-Mar-2001	6		1.38		2.93		9.65		24.1		43.9	94.7	245	382	491
			1.38		3.10		*16.2		26.6		58.7	101	260	453	471
26-Mar-2001	7		*2.12		3.01		10.3		26.6		50.7	88.9	251	423	461
			1.41		2.79		10.0		26.1		46.4	110	273	377	518
28-Mar-2001	8		*0.353		3.21		11.1		25.2		54.8	99.8	240	409	527
			1.36		2.74		10.1		25.5		45.6	96.8	247	401	479
28-Mar-2001	9		1.53		3.37		10.2		30.2		51.2	106	254	388	500
			1.25		2.65		8.72		21.7		49.8	89.4	304	387	471
30-Mar-2001	10		1.39		2.47		12.1		27.1		48.9	92.0	238	409	488
			1.51		2.83		9.54		26.4		48.9	104	261	416	492
30-Mar-2001	11		*2.96		2.91		11.1		23.8		50.3	99.9	259	383	448
			1.39		2.95		9.56		24.4		58.4	*154	203	476	524

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to sample preparation error

Table 12. Back-Calculated Concentrations of Calibration Standards for PFOSA (Continued)

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

Run Date	Run Number	1.00	1.40	2.50	2.90	10.0	10.4	25.0	25.4	50.0	50.4	100	250	400	500
02-Apr-2001	13		1.06		2.93		10.2		26.1		52.2	99.3	262	429	517
			1.66		3.32		9.31		24.0		51.2	97.3	249	393	452
07-Apr-2001	14		1.14		3.23		10.9		29.4		52.0	109	285	426	502
			1.66		2.58		10.1		18.9		48.0	97.7	227	399	457
09-Apr-2001	15		*2.32		2.77		9.77		28.9		51.8	112	281	429	518
			1.40		3.11		9.74		23.9		46.7	92.5	232	364	472
11-Apr-2001	16		1.59		2.67		9.79		22.9		55.6	88.9	285	346	473
			1.23		3.16		9.03		26.6		54.6	111	241	416	533
12-Apr-2001	17		1.47		2.55		10.5		29.5		47.5	103	223	386	536
			***0.557		2.86		11.0		25.2		47.4	102	247	403	501
23-Apr-2001	18		1.44		3.00		9.87		28.1		49.5	83.9	256	405	481
			1.33		3.01		9.81		23.4		50.8	115	269	389	503
Mean		0.986	1.40	2.59	2.92	9.89	10.1	24.7	25.6	50.6	50.6	98.9	256	398	497
S.D.		0.0884	0.158	0.201	0.244	0.493	0.758	3.90	2.63	1.26	3.78	7.71	21.8	29.0	30.3
%CV		9.0	11.3	7.8	8.4	5.0	7.5	15.8	10.3	2.5	7.5	7.8	8.5	7.3	6.1
%Bias		-1.4	0.0	3.6	0.7	-1.1	-2.9	-1.2	0.8	1.2	0.4	-1.1	2.4	-0.5	-0.6
n		8	19	8	24	8	23	6	24	6	24	31	32	32	32

* Sample deactivated as an outlier (not included in summary statistics)
*** Sample deactivated due to unacceptable internal standard response

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

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
27-Nov-2000	1	2.81		10.2		27.5		56.0		98.1		287		421		555	
		2.23		8.65		*45.7		**17.3		84.1		235		360		451	
28-Nov-2000	2	2.20		9.06		24.5		48.3		91.1		269		378		499	
		2.83		10.7		*53.6		**21.2		106		274		404		486	
24-Mar-2001	5	2.05		9.42		24.5		52.5		104		256		407		504	
		2.98		10.0		24.7		49.8		99.5		248		384		499	
26-Mar-2001	6		3.16		9.86		23.1		43.9		86.7		234		361		497
			3.08		13.9		25.7		60.8		97.4		271		460		496
26-Mar-2001	7		3.15		10.5		25.7		55.1		85.8		258		445		468
			3.15		12.1		26.0		45.1		101		263		381		506
28-Mar-2001	8		3.13		9.57		29.3		53.8		91.5		234		373		508
			*4.76		12.2		25.6		47.5		96.3		255		440		504
30-Mar-2001	10		2.75		12.4		27.1		49.3		96.9		245		407		485
			3.55		10.4		24.0		47.4		101		265		416		496
30-Mar-2001	11		3.36		12.2		23.8		52.0		102		247		364		445
			3.00		10.2		23.2		58.2		*145		209		487		538
01-Apr-2001	12		3.90		10.7		29.4		56.4		102		263		398		498
			2.63		8.84		23.4		52.9		80.0		289		383		490

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to sample preparation error

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
07-Apr-2001	14		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
09-Apr-2001	15		2.68		8.84		27.5		49.7		108		254		421		459
			3.93		9.80		24.8		52.2		103		266		416		489
12-Apr-2001	17		2.67		10.5		25.8		46.2		97.3		226		368		490
			3.68		11.4		26.2		54.6		105		255		441		523
14-Apr-2001	19		3.21		9.15		25.9		51.3		106		225		408		530
			3.30		11.0		23.8		55.8		96.2		303		348		488
23-Apr-2001	18		2.89		10.2		25.8		51.1		81.9		253		402		461
			3.65		9.66		23.7		53.8		115		295		419		488
Mean		2.52	3.20	9.67	10.7	25.3	25.4	51.7	51.9	97.1	97.9	262	255	392	409	499	492
S.D.		0.400	0.387	0.765	1.29	1.47	2.12	3.38	4.29	8.23	8.74	18.9	22.7	22.3	34.9	33.6	22.4
%CV		15.9	12.1	7.9	12.1	5.8	8.3	6.5	8.3	8.5	8.9	7.2	8.9	5.7	8.5	6.7	4.6
%Bias		0.8	0.0	-3.3	0.0	1.2	-1.2	3.4	2.4	-2.9	-3.1	4.8	1.6	-2.0	2.0	-0.2	-1.8
n		6	21	6	22	4	22	4	22	6	21	6	22	6	22	6	22

Table 14. Back-Calculated Concentrations of Calibration Standards for M570

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

Run Date	Run Number	1.00	1.80	2.50	3.30	10.0	10.8	25.0	25.8	50.0	50.8	100	101	250	251	400	401	500	501
27-Nov-2000	1	1.05		2.47		9.76		26.4		58.7		94.4		275		390		530	
		1.01		2.09		10.1		*50.6		**18.6		87.5		266		374		472	
28-Nov-2000	2	0.991		2.16		8.82		23.2		52.0		88.8		269		374		480	
		*1.56		2.90		11.4		*58.7		**21.2		101		274		407		507	
24-Mar-2001	5	0.927		2.07		10.3		26.0		55.4		96.9		263		414		507	
		1.15		2.40		9.59		26.1		50.6		97.2		241		382		492	
26-Mar-2001	6		1.60		2.96		10.5		24.6		48.6		90.0		238		354		489
			2.08		3.37		*18.0		28.3		*69.4		108		296		461		474
26-Mar-2001	7		2.04		3.40		9.97		25.7		56.3		89.3		274		462		464
			1.49		3.55		10.2		27.4		44.2		105		262		385		469
28-Mar-2001	8		1.89		3.04		9.96		25.8		60.0		101		228		405		503
			1.90		2.84		12.3		25.4		48.3		94.2		262		435		473
30-Mar-2001	10		1.87		2.55		12.8		28.6		48.7		98.3		234		413		468
			2.08		2.73		9.87		26.2		47.6		109		279		410		500
01-Apr-2001	12		2.15		3.70		10.3		32.2		56.2		103		254		387		508
			1.60		2.53		8.98		22.4		53.2		86.3		297		370		496
02-Apr-2001	13		1.53		2.87		10.3		27.1		54.5		98.1		258		426		522
			2.25		3.19		10.3		24.4		54.2		101		266		382		450

* Sample deactivated as an outlier (not included in summary statistics)
** Sample deactivated due to sample preparation error

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	1.80	2.50	3.30	10.0	10.8	25.0	25.8	50.0	50.8	100	101	250	251	400	401	500	501
07-Apr-2001	14		1.65		3.24		10.9		30.4		52.3		109		263		436		475
			2.11		2.80		10.8		19.4		52.0		102		231		426		466
09-Apr-2001	15		1.98		2.39		8.68		26.3		48.4		107		255		403		448
			1.86		3.60		10.1		27.6		54.8		107		279		424		491
12-Apr-2001	17		2.03		2.78		11.5		28.1		50.5		103		229		387		517
			***0.564		2.92		11.3		24.7		51.2		104		248		416		501
14-Apr-2001	19		1.46		3.44		9.54		25.8		52.4		112		240		418		521
			2.18		3.19		10.2		24.0		56.6		88.5		310		340		477
22-Apr-2001	21		1.94		2.56		10.9		25.2		54.0		106		214		395		502
			*3.02		3.40		12.4		27.2		48.9		101		214		448		518
24-Apr-2001	22		1.68		3.12		10.1		22.5		53.7		119		268		390		508
			2.15		2.76		10.4		29.0		52.8		86.3		263		406		470
11-May-2001	25	1.03		2.64		10.3		26.8		50.8		99.5		257		435		466	
		1.01		2.12		9.85		24.6		46.9		98.6		267		370		508	
Mean		1.02	1.89	2.36	3.04	10.0	10.5	25.5	26.2	52.4	52.1	95.5	101	264	257	393	407	495	488
S.D.		0.0677	0.246	0.302	0.371	0.736	1.01	1.36	2.72	4.12	3.64	4.94	8.50	10.9	25.4	23.2	30.6	21.7	22.4
%CV		6.6	13.0	12.8	12.2	7.4	9.6	5.3	10.4	7.9	7.0	5.2	8.4	4.1	9.9	5.9	7.5	4.4	4.6
%Bias		2.0	5.0	-5.6	-7.9	0.0	-2.8	2.0	1.6	4.8	2.6	-4.5	0.0	5.6	2.4	-1.8	1.5	-1.0	-2.6
n		7	22	8	24	8	23	6	24	6	23	8	24	8	24	8	24	8	24

* Sample deactivated as an outlier (not included in summary statistics)
*** Sample deactivated due unacceptable internal standard response

Table 15. Analytical QC Summary for PFOS

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC 6.40 ppb	Low QC 5.75 ppb	Medium QC 126 ppb	Medium QC 126 ppb	High QC 332 ppb	High QC 332 ppb	High QC 331 ppb	High QC 348 ppb DF=5
	Preparation Date	27-Oct-2000	05-Apr-2001	27-Oct-2000	05-Apr-2001	27-Oct-2000	08-Mar-2001	05-Apr-2001	08-Mar-2001
27-Nov-2000	1	5.91		121		320			
		6.13		127		372			
28-Nov-2000	2	6.49		121		347			
		5.82		125		351			
23-Mar-2001	4	*4.60		135		354			
		6.50		*192		333			
24-Mar-2001	5	6.36		134		343			
		6.49		131		362			
26-Mar-2001	6	5.88		**74.2			304		
		6.49		119			344		
26-Mar-2001	7	6.70		139			326		
		5.88		123			323		
28-Mar-2001	8	5.58		117			348		
		6.29		133			323		
28-Mar-2001	9	5.65		141			357		
		5.14		140			344		

* >±20% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 15. Analytical QC Summary for PFOS (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC 6.40 ppb	Low QC 5.75 ppb	Medium QC 126 ppb	Medium QC 126 ppb	High QC 332 ppb	High QC 332 ppb	High QC 331 ppb	High QC 348 ppb DF=5
	Preparation Date	27-Oct-2000	05-Apr-2001	27-Oct-2000	05-Apr-2001	27-Oct-2000	08-Mar-2001	05-Apr-2001	08-Mar-2001
30-Mar-2001	10	6.08		127			324		
		5.74		138			332		
30-Mar-2001	11	6.60		126			328		
		5.82		118			**149		
02-Apr-2001	13	6.47		130			346		
		6.65		137			330		
07-Apr-2001	14	6.21		123			373		
		6.22		125			330		
09-Apr-2001	15	5.78		132			332		
		5.84		135			357		
11-Apr-2001	16	6.99		130			339		
		6.51		122			345		
12-Apr-2001	17	6.25		137			357		353
		6.20		141			352		357
									365

** Sample deactivated due to unacceptable internal standard response

Table 15. Analytical QC Summary for PFOS (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC 6.40 ppb	Low QC 5.75 ppb	Medium QC 126 ppb	Medium QC 126 ppb	High QC 332 ppb	High QC 332 ppb	High QC 331 ppb	High QC 348 ppb DF=5
	Preparation Date	27-Oct-2000	05-Apr-2001	27-Oct-2000	05-Apr-2001	27-Oct-2000	08-Mar-2001	05-Apr-2001	08-Mar-2001
23-Apr-2001	18		6.57		138			296	
			6.84		130			330	
Mean		6.11	6.71	132	134	348	339	313	358
S.D.		0.492	ISD	13.7	ISD	16.3	15.8	ISD	6.11
%CV		8.1	ISD	10.4	ISD	4.7	4.7	ISD	1.7
%Theoretical		95.5	116.7	104.8	106.3	104.8	102.1	94.6	102.9
%Bias		-4.5	16.7	4.8	6.3	4.8	2.1	-5.4	2.9
n		30	2	29	2	8	21	2	3

ISD = insufficient data points for statistical calculation

Table 16. Analytical QC Summary for PFHS

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.48 ppb 27-Oct-2000	Low QC 4.48 ppb 05-Apr-2001	Medium QC 156 ppb 27-Oct-2000	Medium QC 157 ppb 05-Apr-2001	High QC 417 ppb 27-Oct-2000	High QC 417 ppb 08-Mar-2001	High QC 418 ppb 05-Apr-2001
27-Nov-2000	1	3.61		161		382		
		4.28		148		443		
28-Nov-2000	2	3.70		157		411		
		3.86		153		445		
23-Mar-2001	4	4.29		155		428		
		4.06		171		406		
24-Mar-2001	5	3.96		164		414		
		4.02		161		460		
26-Mar-2001	6	4.85		**128			373	
		5.07		157			396	
26-Mar-2001	7	4.71		157			411	
		4.95		135			407	
28-Mar-2001	8	5.31		158			420	
		4.35		158			383	
28-Mar-2001	9	4.32		158			392	
		3.92		158			415	

** Sample deactivated due to unacceptable internal standard response

Table 16. Analytical QC Summary for PFHS (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.48 ppb 27-Oct-2000	Low QC 4.48 ppb 05-Apr-2001	Medium QC 156 ppb 27-Oct-2000	Medium QC 157 ppb 05-Apr-2001	High QC 417 ppb 27-Oct-2000	High QC 417 ppb 08-Mar-2001	High QC 418 ppb 05-Apr-2001
30-Mar-2001	10	*3.48		136			413	
		4.29		146			345	
30-Mar-2001	11	4.08		151			391	
		4.06		154			**200	
02-Apr-2001	13	4.20		158			428	
		4.38		158			436	
07-Apr-2001	14	4.87		153			408	
		4.25		149			378	
09-Apr-2001	15	3.92		156			444	
		3.68		152			401	
11-Apr-2001	16	4.85		155			387	
		3.62		155			383	
12-Apr-2001	17	4.14		157			397	
		4.43		153			404	

* >±20% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 16. Analytical QC Summary for PFHS (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.48 ppb 27-Oct-2000	Low QC 4.48 ppb 05-Apr-2001	Medium QC 156 ppb 27-Oct-2000	Medium QC 157 ppb 05-Apr-2001	High QC 417 ppb 27-Oct-2000	High QC 417 ppb 08-Mar-2001	High QC 418 ppb 05-Apr-2001
23-Apr-2001	18		3.87		166			397
			4.05		145			389
Mean		4.25	3.96	155	156	424	401	393
S.D.		0.467	ISD	7.17	ISD	25.3	22.6	ISD
%CV		11.0	ISD	4.6	ISD	6.0	5.6	ISD
%Theoretical		94.9	88.4	99.4	99.4	101.7	96.2	94.0
%Bias		-5.1	-11.6	-0.6	-0.6	1.7	-3.8	-6.0
n		30	2	29	2	8	21	2

ISD = insufficient data points for statistical calculation

Table 17. Analytical QC Summary for PFOA

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.81 ppb 27-Oct-2000	Low QC 4.32 ppb 05-Apr-2001	Low QC 4.32 ppb 02-May-2001	Medium QC 145 ppb 27-Oct-2000	Medium QC 145 ppb 05-Apr-2001	High QC 385 ppb 27-Oct-2000	High QC 385 ppb 08-Mar-2001	High QC 385 ppb 05-Apr-2001
27-Nov-2000	1	4.55			154		403		
		4.30			160		429		
28-Nov-2000	2	4.35			151		416		
		3.92			162		439		
23-Mar-2001	4	*2.72			159		412		
		4.85			152		381		
24-Mar-2001	5	4.09			143		390		
		*3.69			151		377		
26-Mar-2001	6	4.12			**124			393	
		4.81			152			395	
26-Mar-2001	7	5.47			146			348	
		4.93			140			384	
28-Mar-2001	8	4.63			151			404	
		*0.161			156			375	
28-Mar-2001	9	4.33			158			404	
		3.89			157			433	

* >±20% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 17. Analytical QC Summary for PFOA (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC 4.81 ppb	Low QC 4.32 ppb	Low QC 4.32 ppb	Medium QC 145 ppb	Medium QC 145 ppb	High QC 385 ppb	High QC 385 ppb	High QC 385 ppb
	Preparation Date	27-Oct-2000	05-Apr-2001	02-May-2001	27-Oct-2000	05-Apr-2001	27-Oct-2000	08-Mar-2001	05-Apr-2001
30-Mar-2001	10	4.29			151			393	
		4.14			155			382	
02-Apr-2001	13	4.56			145			381	
		4.15			139			336	
07-Apr-2001	14	*5.97			145			381	
		4.77			136			361	
09-Apr-2001	15	4.45			159			406	
		*3.61			147			351	
12-Apr-2001	17	4.17			151			372	
		4.07			158			375	
14-Apr-2001	19	*3.79			131			377	
		5.04			*109			401	
22-Apr-2001	21	4.03			143			401	
		3.90			170			361	
23-Apr-2001	18		3.82			141			370
			4.67			151			414

* >±20% deviation from theoretical

Table 17. Analytical QC Summary for PFOA (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number	Low QC 4.81 ppb	Low QC 4.32 ppb	Low QC 4.32 ppb	Medium QC 145 ppb	Medium QC 145 ppb	High QC 385 ppb	High QC 385 ppb	High QC 385 ppb
	Preparation Date	27-Oct-2000	05-Apr-2001	02-May-2001	27-Oct-2000	05-Apr-2001	27-Oct-2000	08-Mar-2001	05-Apr-2001
11-May-2001	25			4.16		150			386
				4.65		148			398
Mean		4.19	4.25	4.41	149	148	406	382	392
S.D.		0.970	ISD	ISD	11.5	4.51	22.3	22.5	18.6
%CV		23.2	ISD	ISD	7.7	3.0	5.5	5.9	4.7
%Theoretical		87.1	98.4	102.1	102.8	102.1	105.5	99.2	101.8
%Bias		-12.9	-1.6	2.1	2.8	2.1	5.5	-0.8	1.8
n		30	2	2	29	4	8	22	4

ISD = insufficient data points for statistical calculation

Table 18. Analytical QC Summary for PFOSAA

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.60 ppb 27-Oct-2000	Low QC 4.30 ppb 05-Apr-2001	Low QC 4.30 ppb 02-May-2001	Medium QC 151 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 401 ppb 27-Oct-2000	High QC 401 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
27-Nov-2000	1	4.22			141		398		
		*3.38			167		425		
28-Nov-2000	2	4.50			150		378		
		3.66			165		368		
23-Mar-2001	4	*2.38			172		463		
		4.11			*374		456		
24-Mar-2001	5	4.22			157		422		
		4.11			157		389		
26-Mar-2001	6	4.55			**71.5			348	
		4.98			130			445	
26-Mar-2001	7	4.85			146			365	
		4.26			135			384	
28-Mar-2001	8	*6.56			145			415	
		4.31			142			383	
28-Mar-2001	9	4.16			183			440	
		4.41			175			415	

* >±25% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 18. Analytical QC Summary for PFOSAA (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.60 ppb 27-Oct-2000	Low QC 4.30 ppb 05-Apr-2001	Low QC 4.30 ppb 02-May-2001	Medium QC 151 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 401 ppb 27-Oct-2000	High QC 401 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
30-Mar-2001	10	5.47			149			380	
		4.96			170			376	
02-Apr-2001	13	*6.00			154			412	
		5.38			153			360	
07-Apr-2001	14	5.41			166			452	
		4.70			154			439	
09-Apr-2001	15	4.61			170			426	
		3.71			165			380	
12-Apr-2001	17	5.23			178			465	
		5.04			*189			448	
14-Apr-2001	19	4.60			160			420	
		5.43			123			429	
22-Apr-2001	21	*6.60			149			432	
		4.64			*218			413	
23-Apr-2001	18		4.41			167			398
			5.33			169			427

* >±25% deviation from theoretical

Table 18. Analytical QC Summary for PFOSAA (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.60 ppb 27-Oct-2000	Low QC 4.30 ppb 05-Apr-2001	Low QC 4.30 ppb 02-May-2001	Medium QC 151 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 401 ppb 27-Oct-2000	High QC 401 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
11-May-2001	25			4.34		143			424
				3.95		145			407
Mean		4.68	4.87	4.15	167	156	412	410	414
S.D.		0.882	ISD	ISD	44.2	13.9	35.1	33.2	13.8
%CV		18.8	ISD	ISD	26.5	8.9	8.5	8.1	3.3
%Theoretical		101.7	113.3	96.5	110.6	104.0	102.7	102.2	103.5
%Bias		1.7	13.3	-3.5	10.6	4.0	2.7	2.2	3.5
n		30	2	2	29	4	8	22	4

ISD = insufficient data points for statistical calculations

Table 19. Analytical QC Summary for PFOSA

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
27-Nov-2000	1	4.39		147		399		
		4.12		162		466		
28-Nov-2000	2	4.86		146		416		
		3.97		158		386		
23-Mar-2001	4	*2.33		180		434		
		4.47		*328		417		
24-Mar-2001	5	3.94		156		423		
		4.21		158		399		
26-Mar-2001	6	3.85		**72.6			311	
		3.85		133			457	
26-Mar-2001	7	4.80		141			369	
		3.98		133			396	
28-Mar-2001	8	4.16		146			431	
		3.58		155			406	
28-Mar-2001	9	3.84		173			447	
		3.82		157			408	

* >±25% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 19. Analytical QC Summary for PFOSA (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
30-Mar-2001	10	4.16		144			400	
		3.96		161			368	
30-Mar-2001	11	*5.14		138			392	
		4.08		124			**170	
02-Apr-2001	13	4.21		148			431	
		4.39		159			361	
07-Apr-2001	14	4.79		150			456	
		4.46		147			424	
09-Apr-2001	15	4.19		157			423	
		3.92		157			422	
11-Apr-2001	16	*5.84		165			404	
		4.95		127			425	
12-Apr-2001	17	4.53		155			437	
		4.38		170			403	

* >±25% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 19. Analytical QC Summary for PFOSA (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
23-Apr-2001	18		4.95		178			392
			4.73		170			436
Mean		4.24	4.84	158	174	418	408	414
S.D.		0.596	ISD	35.3	ISD	24.9	34.9	ISD
%CV		14.1	ISD	22.3	ISD	6.0	8.6	ISD
%Theoretical		106.0	121.0	105.3	116.0	104.5	102.0	103.5
%Bias		6.0	21.0	5.3	16.0	4.5	2.0	3.5
n		30	2	29	2	8	21	2

ISD = insufficient data points for statistical calculations

Table 20. Analytical QC Summary for M556

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
27-Nov-2000	1	4.09		133		423		
		3.23		161		439		
28-Nov-2000	2	4.52		144		393		
		3.60		166		389		
24-Mar-2001	5	4.77		160			402	
		3.60		156			401	
26-Mar-2001	6	3.52		**79.4			367	
		4.07		137			428	
26-Mar-2001	7	4.45		137			354	
		*2.73		124			404	
28-Mar-2001	8	*6.68		164			426	
		4.15		166			388	
30-Mar-2001	10	*4.85		149			382	
		4.06		171			385	
30-Mar-2001	11	***7.47		146			369	
		4.28		126			**173	
01-Apr-2001	12	*5.69		162			396	
		4.35		158			388	

* >±20% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response
*** Sample deactivated due to carryover

Table 20. Analytical QC Summary for M556 (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
07-Apr-2001	14	4.73		152		407		
		3.51		145		387		
09-Apr-2001	15	4.02		171			434	
		*3.14		164			395	
12-Apr-2001	17	4.40		164			395	
		4.29		162			387	
14-Apr-2001	19	3.75		155			396	
		4.71		*115			406	
23-Apr-2001	18		4.51		180			381
			4.11		160			395
Mean		4.21	4.31	152	170	406	395	388
S.D.		0.818	ISD	15.5	ISD	21.0	20.3	ISD
%CV		19.4	ISD	10.2	ISD	5.2	5.1	ISD
%Theoretical		105.3	107.8	101.3	113.3	101.5	98.8	97.0
%Bias		5.3	7.8	1.3	13.3	1.5	-1.3	-3.0
n		25	2	25	2	6	19	2

* >±20% deviation from theoretical
ISD = insufficient data points for statistical calculations

Table 21. Analytical QC Summary for M570

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Low QC 4.00 ppb 02-May-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
27-Nov-2000	1	3.61			149		388		
		*3.07			163		451		
28-Nov-2000	2	4.10			151		383		
		3.59			169		394		
24-Mar-2001	5	3.81			168		415		
		3.89			165		412		
26-Mar-2001	6	3.63			**74.2			338	
		4.00			140			447	
26-Mar-2001	7	4.75			150			344	
		3.26			133			403	
28-Mar-2001	8	*5.01			156			433	
		3.25			161			396	
30-Mar-2001	10	4.64			150			359	
		3.54			180			379	
01-Apr-2001	12	3.78			166			411	
		3.60			169			364	

* >±20% deviation from theoretical
** Sample deactivated due to unacceptable internal standard response

Table 21. Analytical QC Summary for M570 (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Low QC 4.00 ppb 02-May-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
02-Apr-2001	13	4.55			156			405	
		3.99			162			362	
07-Apr-2001	14	4.80			159			446	
		4.37			156			423	
09-Apr-2001	15	3.91			168			380	
		*2.69			163			375	
12-Apr-2001	17	4.38			172			447	
		4.28			*185			446	
14-Apr-2001	19	4.17			158			413	
		4.26			120			423	
22-Apr-2001	21	*5.54			146			447	
		3.89			*207			413	
24-Apr-2001	22		*3.11			178			373
			4.18			168			393

* >±20% deviation from theoretical

Table 21. Analytical QC Summary for M570 (Continued)

All concentrations are expressed as ppb.

Run Date	Run Number Preparation Date	Low QC 4.00 ppb 27-Oct-2000	Low QC 4.00 ppb 05-Apr-2001	Low QC 4.00 ppb 02-May-2001	Medium QC 150 ppb 27-Oct-2000	Medium QC 150 ppb 05-Apr-2001	High QC 400 ppb 27-Oct-2000	High QC 400 ppb 08-Mar-2001	High QC 400 ppb 05-Apr-2001
11-May-2001	25			4.51		143			417
				*2.83		149			408
Mean		4.01	3.65	3.67	160	160	407	402	398
S.D.		0.621	ISD	ISD	16.6	16.3	25.0	35.4	19.2
%CV		15.5	ISD	ISD	10.4	10.2	6.1	8.8	4.8
%Theoretical		100.3	91.3	91.8	106.7	106.7	101.8	100.5	99.5
%Bias		0.3	-8.8	-8.3	6.7	6.7	1.8	0.5	-0.5
n		28	2	2	27	4	6	22	4

* >±20% deviation from theoretical
ISD = insufficient data points for statistical calculations

Table 22. Study Sample Concentrations

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10956	54.1	3.10	3.95	3.68	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10957	51.3	5.45	6.64	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.10
10958	80.5	12.4	22.2	7.59	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10959	69.3	3.01	13.9	4.13	<LLOQ(1.40)	<LLOQ(3.20)	2.26
10960	37.3	2.95	5.13	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10961	48.4	2.79	2.77	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	6.18
10962	55.7	<LLOQ(2.09)	4.44	4.21	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10963	42.0	<LLOQ(2.09)	6.58	3.55	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10964	114	<LLOQ(2.09)	7.07	9.05	<LLOQ(1.40)	<LLOQ(3.20)	4.97
10965	45.0	8.00	3.90	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.55
10966	29.2	<LLOQ(2.09)	<LLOQ(2.11)	2.81	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10967	31.7	<LLOQ(2.09)	<LLOQ(2.11)	4.58	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10968	42.8	9.26	5.17	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.72
10969	37.9	2.96	<LLOQ(2.11)	4.23	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10970	46.7	<LLOQ(2.09)	3.35	3.08	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10971	13.4	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10972	24.0	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10973	34.1	3.68	5.11	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10974	51.8	<LLOQ(2.09)	3.37	3.46	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10975	35.8	5.73	3.04	3.43	<LLOQ(1.40)	<LLOQ(3.20)	2.03
10976	44.0	2.62	7.32	3.43	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10977	99.7	5.98	6.94	8.67	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10978	48.7	<LLOQ(2.09)	3.23	4.47	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10979	44.2	<LLOQ(2.09)	3.16	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10980	57.7	3.66	4.86	4.33	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10981	25.8	4.98	2.59	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10982	46.4	7.28	2.20	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.13
10983	38.6	<LLOQ(2.09)	<LLOQ(2.11)	3.90	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10984	75.1	<LLOQ(2.09)	17.4	3.44	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10985	41.9	6.97	2.22	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.86
10986	57.7	3.26	5.04	5.09	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10987	14.0	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.31
10988	39.2	2.17	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10989	68.9	2.53	5.28	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.16
10990	38.6	<LLOQ(2.09)	4.42	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10991	36.6	2.11	<LLOQ(2.11)	3.45	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10992	19.4	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10993	18.9	<LLOQ(2.09)	2.29	3.62	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10994	44.6	2.18	2.51	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10995	61.6	2.26	4.38	4.11	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10996	39.2	<LLOQ(2.09)	3.69	5.76	<LLOQ(1.40)	<LLOQ(3.20)	5.11
10997	25.6	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10998	70.6	<LLOQ(2.09)	6.92	5.16	<LLOQ(1.40)	<LLOQ(3.20)	2.99
10999	101	8.84	8.54	4.69	<LLOQ(1.40)	<LLOQ(3.20)	16.4
11000	42.3	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11001	16.3	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11002	127	3.45	9.90	6.22	<LLOQ(1.40)	<LLOQ(3.20)	3.99
11003	65.2	<LLOQ(2.09)	2.84	3.69	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11004	40.1	<LLOQ(2.09)	3.43	3.63	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11005	25.8	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.17
11006	39.1	2.17	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.58
11007	36.8	<LLOQ(2.09)	9.12	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11008	26.2	<LLOQ(2.09)	4.76	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11009	19.5	<LLOQ(2.09)	<LLOQ(2.11)	3.01	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11010	40.9	2.18	2.78	3.95	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11011	33.6	<LLOQ(2.09)	5.50	6.00	<LLOQ(1.40)	12.7	5.18
11012	23.0	2.26	3.73	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.33
11013	47.8	7.39	8.05	4.93	<LLOQ(1.40)	<LLOQ(3.20)	1.88
11014	38.7	<LLOQ(2.09)	4.25	6.10	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11015	105	2.29	10.2	6.49	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11016	42.2	8.70	7.65	4.12	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11017	27.7	<LLOQ(2.09)	3.55	3.34	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11018	19.0	2.20	3.75	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11019	84.9	2.67	17.0	3.96	<LLOQ(1.40)	<LLOQ(3.20)	2.00
11020	33.3	2.59	3.80	4.63	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11021	19.4	<LLOQ(2.09)	2.47	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11022	15.1	3.58	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11023	50.3	3.59	3.83	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.53
11024	57.5	<LLOQ(2.09)	5.91	7.77	<LLOQ(1.40)	<LLOQ(3.20)	2.45
11025	57.5	<LLOQ(2.09)	7.68	7.48	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11026	48.8	2.74	3.97	3.49	<LLOQ(1.40)	<LLOQ(3.20)	2.20
11027	48.7	5.70	6.74	4.95	<LLOQ(1.40)	<LLOQ(3.20)	2.26

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11028	45.2	2.13	6.43	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11029	21.9	<LLOQ(2.09)	3.61	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11030	36.7	<LLOQ(2.09)	6.17	3.00	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11031	54.5	8.04	4.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11032	39.8	<LLOQ(2.09)	3.95	3.25	<LLOQ(1.40)	<LLOQ(3.20)	5.51
11033	63.2	4.36	6.34	3.25	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11034	26.4	9.84	4.68	4.83	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11035	38.6	<LLOQ(2.09)	9.98	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.84
11036	26.4	<LLOQ(2.09)	2.95	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.57
11037	17.3	<LLOQ(2.09)	<LLOQ(2.11)	4.44	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11038	41.1	2.23	3.17	7.37	<LLOQ(1.40)	<LLOQ(3.20)	5.93
11039	60.7	2.85	7.45	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11040	44.7	<LLOQ(2.09)	4.35	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11041	42.8	3.07	10.1	3.19	<LLOQ(1.40)	<LLOQ(3.20)	2.04
11042	55.7	<LLOQ(2.09)	3.84	3.85	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11043	27.1	<LLOQ(2.09)	2.39	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11044	34.2	<LLOQ(2.09)	5.38	2.84	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11045	49.0	2.16	6.15	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11046	56.9	2.11	5.98	4.34	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11047	73.8	3.75	7.45	3.84	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11048	70.8	<LLOQ(2.09)	8.77	27.6	<LLOQ(1.40)	5.88	7.82
11049	33.5	<LLOQ(2.09)	4.71	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11050	40.4	<LLOQ(2.09)	4.11	6.39	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11051	26.7	<LLOQ(2.09)	<LLOQ(2.11)	3.11	<LLOQ(1.40)	<LLOQ(3.20)	2.51
11052	44.3	<LLOQ(2.09)	3.41	8.78	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11053	44.8	<LLOQ(2.09)	8.70	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.96
11054	49.6	3.03	5.27	2.99	<LLOQ(1.40)	<LLOQ(3.20)	2.02
11055	27.5	2.39	3.32	3.13	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11056	27.0	<LLOQ(2.09)	6.01	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11057	51.9	<LLOQ(2.09)	7.40	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11058	53.2	<LLOQ(2.09)	5.78	6.47	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11059	48.7	<LLOQ(2.09)	6.82	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.38
11060	36.4	<LLOQ(2.09)	4.67	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.14
11061	18.3	<LLOQ(2.09)	2.34	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11062	58.1	<LLOQ(2.09)	20.2	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.93
11063	25.8	<LLOQ(2.09)	5.08	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11064	56.0	2.96	9.41	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.29
11065	56.5	2.91	3.86	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11066	30.1	2.27	3.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11067	31.5	8.26	8.37	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11068	6.63	<LLOQ(2.09)	<LLOQ(2.11)	3.23	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11069	27.6	<LLOQ(2.09)	5.53	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.89
11070	205	2.63	34.1	5.28	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11071	27.6	2.73	4.60	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.13
11072	49.4	3.74	14.1	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.35
11073	47.6	<LLOQ(2.09)	4.78	3.35	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11074	29.7	<LLOQ(2.09)	3.59	3.67	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11075	69.7	<LLOQ(2.09)	6.18	5.54	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11076	27.4	<LLOQ(2.09)	4.63	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11077	42.6	2.42	6.26	4.38	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11078	46.9	<LLOQ(2.09)	6.02	3.88	<LLOQ(1.40)	<LLOQ(3.20)	1.89
11079	32.3	5.27	5.79	3.44	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11080	43.4	<LLOQ(2.09)	8.73	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.46
10556	14.1	3.88	4.18	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.01

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10557	22.5	2.42	5.84	2.81	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10558	33.1	10.4	8.55	3.51	<LLOQ(1.40)	<LLOQ(3.20)	4.26
10559	35.4	12.6	3.55	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10560	16.9	<LLOQ(2.09)	3.37	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.47
10561	40.0	2.38	10.5	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.40
10562	25.3	2.09	4.54	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.60
10563	56.0	3.49	7.83	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10564	18.1	<LLOQ(2.09)	5.37	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10565	47.2	6.23	8.44	3.48	<LLOQ(1.40)	<LLOQ(3.20)	2.57
10566	29.5	3.55	10.0	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.64
10567	23.3	2.37	6.88	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.88
10568	13.6	<LLOQ(2.09)	2.21	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10569	18.5	2.41	3.43	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10570	19.9	<LLOQ(2.09)	3.53	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10571	20.7	2.81	3.77	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10572	26.0	5.16	4.30	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10573	30.6	2.10	6.29	4.07	<LLOQ(1.40)	<LLOQ(3.20)	2.31
10574	21.1	<LLOQ(2.09)	3.19	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10575	<LLOQ(4.27)	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10576	20.3	3.13	4.17	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10577	23.6	2.54	4.60	2.92	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10578	63.7	5.97	9.31	5.14	<LLOQ(1.40)	<LLOQ(3.20)	2.37
10579	37.4	2.28	7.36	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.16
10580	44.1	<LLOQ(2.09)	6.25	3.24	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10581	9.83	<LLOQ(2.09)	5.84	2.92	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10582	25.7	2.10	4.11	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10583	39.2	2.56	9.18	3.26	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10584	13.5	<LLOQ(2.09)	4.81	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.19
10585	37.6	3.67	7.23	4.84	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10586	32.1	2.71	3.87	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.89
10587	11.0	8.05	3.50	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10588	18.1	<LLOQ(2.09)	6.97	3.10	<LLOQ(1.40)	<LLOQ(3.20)	3.41
10589	37.2	4.96	6.73	4.40	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10590	52.6	8.80	11.8	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.84
10591	38.2	4.18	6.75	3.29	<LLOQ(1.40)	<LLOQ(3.20)	4.29
10592	51.7	11.2	13.6	2.98	<LLOQ(1.40)	<LLOQ(3.20)	19.0

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10593	30.9	6.75	6.20	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10594	74.2	10.2	13.9	6.71	<LLOQ(1.40)	<LLOQ(3.20)	2.11
10595	37.1	2.56	4.59	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10596	21.8	2.39	3.91	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.40
10597	14.3	<LLOQ(2.09)	3.36	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10598	29.9	2.89	9.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10599	18.0	2.51	4.10	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10600	47.7	3.16	7.19	3.58	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10601	43.5	<LLOQ(2.09)	3.04	3.13	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10602	20.8	3.20	5.09	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10603	23.5	<LLOQ(2.09)	5.23	3.35	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10604	10.2	<LLOQ(2.09)	2.67	3.24	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10605	25.2	<LLOQ(2.09)	3.49	3.01	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10606	27.6	<LLOQ(1.36)	7.16	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	3.78
10607	36.7	3.62	7.89	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	2.05
10608	30.8	1.72	8.13	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	1.93
10609	29.7	2.76	6.53	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10610	65.8	1.87	13.7	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10611	22.2	<LLOQ(1.36)	5.82	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10612	32.0	11.4	7.23	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10613	67.6	1.49	10.7	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10614	57.6	5.36	10.1	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	3.92
10615	36.0	<LLOQ(1.36)	4.01	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10616	27.7	<LLOQ(1.36)	5.76	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10617	25.8	3.31	5.24	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10619	22.7	2.16	4.40	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10620	54.3	6.80	9.52	2.42	<LLOQ(1.00)	<LLOQ(3.20)	13.0
10621	14.0	<LLOQ(1.36)	2.47	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10622	35.5	<LLOQ(1.36)	6.63	2.59	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10623	11.7	<LLOQ(1.36)	4.13	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10624	25.3	3.70	5.89	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10625	35.2	<LLOQ(1.36)	4.17	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	2.39
10626	41.7	<LLOQ(1.36)	7.28	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	3.36
10627	31.8	<LLOQ(1.36)	6.28	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	1.88
10628	25.4	2.84	6.87	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	4.42
10629	36.3	<LLOQ(1.36)	4.55	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10630	30.3	1.99	4.65	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10631	54.1	1.51	8.91	2.28	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10632	41.4	1.47	5.23	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	3.03
10633	87.2	<LLOQ(1.36)	5.48	2.35	<LLOQ(1.00)	<LLOQ(3.20)	2.65
10634	30.6	<LLOQ(1.36)	7.36	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10635	36.8	1.79	5.27	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10636	26.3	1.84	3.48	3.32	<LLOQ(1.00)	<LLOQ(3.20)	2.67
10637	12.7	<LLOQ(1.36)	3.52	1.61	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10638	45.2	2.80	8.02	1.62	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10639	44.7	<LLOQ(1.36)	9.13	4.68	<LLOQ(1.00)	<LLOQ(3.20)	2.12
10640	19.3	2.36	4.73	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10641	19.8	<LLOQ(1.36)	3.07	1.78	<LLOQ(1.00)	<LLOQ(3.20)	1.83
10642	80.9	2.08	5.93	2.99	<LLOQ(1.00)	<LLOQ(3.20)	3.65
10643	40.5	2.29	7.21	2.45	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10644	23.9	3.45	7.29	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	2.41
10645	26.5	<LLOQ(1.36)	5.04	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10646	48.7	1.60	10.5	3.00	<LLOQ(1.00)	<LLOQ(3.20)	3.48
10647	26.7	1.40	7.51	3.34	<LLOQ(1.00)	<LLOQ(3.20)	6.35

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10648	16.7	<LLOQ(1.36)	3.49	4.28	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10649	39.0	1.58	10.1	4.64	<LLOQ(1.00)	<LLOQ(3.20)	2.95
10650	14.3	<LLOQ(1.36)	2.86	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10651	28.6	1.36	5.69	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	1.84
10652	32.7	2.12	11.4	2.81	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10653	11.7	<LLOQ(1.36)	2.13	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	2.51
10654	28.5	2.19	11.4	2.43	<LLOQ(1.00)	<LLOQ(3.20)	9.66
10655	15.9	2.64	4.26	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	2.83
10656	33.9	2.23	2.14	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(3.20)	<LLOQ(1.80)
10657	48.1	3.02	3.46	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10658	45.7	3.79	5.80	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10659	18.7	2.94	4.57	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10660	26.1	6.70	4.58	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10661	28.6	2.68	5.56	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.30
10662	44.5	<LLOQ(2.09)	6.28	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10663	26.9	2.85	2.80	5.09	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10664	31.4	<LLOQ(2.09)	3.28	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10665	44.9	2.57	5.48	4.40	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10666	29.9	<LLOQ(2.09)	4.65	4.52	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10667	40.8	<LLOQ(2.09)	4.41	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10668	19.8	<LLOQ(2.09)	4.30	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10328	24.3	<LLOQ(1.36)	4.90	2.59	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10329	50.6	3.86	7.92	4.83	<LLOQ(1.00)	<LLOQ(2.50)	1.95
10330	47.7	3.50	18.7	5.56	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10331	31.7	8.44	5.39	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10332	30.8	5.15	4.08	1.87	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10333	31.9	1.65	4.05	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.76
10334	24.6	<LLOQ(1.36)	3.23	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10335	19.3	<LLOQ(1.36)	3.20	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10336	42.5	<LLOQ(1.36)	3.62	2.22	<LLOQ(1.00)	<LLOQ(2.50)	1.21
10337	32.1	1.52	5.76	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	6.28
10338	19.3	<LLOQ(1.36)	2.46	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.92
10339	28.4	<LLOQ(1.36)	4.59	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10340	39.2	<LLOQ(1.36)	5.02	4.66	<LLOQ(1.00)	<LLOQ(2.50)	1.35
10341	14.8	<LLOQ(1.36)	3.84	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10342	23.1	4.89	8.59	2.17	<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 ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10343	29.6	<LLOQ(1.36)	6.45	3.42	<LLOQ(1.00)	<LLOQ(2.50)	1.50
10344	44.9	<LLOQ(1.36)	3.03	4.92	<LLOQ(1.00)	<LLOQ(2.50)	2.51
10345	45.6	2.07	5.74	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10346	39.8	2.44	4.38	1.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10347	14.7	<LLOQ(1.36)	2.28	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10348	17.7	<LLOQ(1.36)	3.58	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.83
10349	33.0	<LLOQ(1.36)	4.94	2.05	<LLOQ(1.00)	<LLOQ(2.50)	1.39
10350	30.5	2.58	2.35	4.32	<LLOQ(1.00)	<LLOQ(2.50)	5.37
10351	34.8	6.40	3.95	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.17
10352	18.0	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10353	23.8	2.02	6.55	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10354	31.6	3.17	4.74	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10355	95.7	1.43	10.7	2.38	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10356	26.5	<LLOQ(1.36)	3.80	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10357	22.0	<LLOQ(1.36)	4.05	1.84	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10358	43.5	4.08	4.92	3.40	<LLOQ(1.00)	<LLOQ(2.50)	1.51
10359	71.0	1.37	5.30	1.96	<LLOQ(1.00)	<LLOQ(2.50)	1.03
10360	17.0	<LLOQ(1.36)	4.90	1.79	<LLOQ(1.00)	<LLOQ(2.50)	1.28

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10361	7.70	<LLOQ(1.36)	2.53	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10362	41.7	3.02	5.90	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.01
10363	34.7	1.41	4.93	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.59
10364	22.8	<LLOQ(1.36)	3.92	1.83	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10365	22.6	<LLOQ(1.36)	3.07	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.85
10366	21.9	<LLOQ(1.36)	4.96	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10367	17.7	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10368	74.3	<LLOQ(1.36)	9.98	10.3	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10369	18.1	<LLOQ(1.36)	3.53	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.02
10370	24.7	<LLOQ(1.36)	3.98	2.75	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10371	71.8	7.12	7.18	5.41	<LLOQ(1.00)	<LLOQ(2.50)	3.89
10372	59.5	12.0	5.03	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.62
10373	52.8	3.87	20.0	1.79	<LLOQ(1.00)	<LLOQ(2.50)	10.6
10374	29.7	<LLOQ(1.36)	4.85	1.94	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10375	49.2	10.8	4.40	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.20
10376	21.1	<LLOQ(1.36)	3.54	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.62
10377	88.4	6.67	15.8	7.53	<LLOQ(1.00)	<LLOQ(2.50)	2.31
10378	100	1.37	5.57	4.93	<LLOQ(1.00)	<LLOQ(2.50)	1.52

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10379	54.6	<LLOQ(1.36)	3.88	3.27	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10380	31.3	1.49	4.22	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.72
10381	34.8	<LLOQ(1.36)	3.92	2.56	<LLOQ(1.00)	<LLOQ(2.50)	1.69
10382	35.8	1.72	2.81	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.70
10383	15.6	<LLOQ(1.36)	2.80	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.84
10384	24.7	<LLOQ(1.36)	2.56	2.34	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10385	28.3	2.03	4.89	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.40
10386	41.4	5.75	3.30	8.31	<LLOQ(1.00)	<LLOQ(2.50)	1.33
10387	11.7	<LLOQ(1.36)	2.43	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10388	79.1	<LLOQ(2.09)	5.93	4.38	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10389	28.4	1.60	4.29	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.29
10390	15.8	<LLOQ(1.36)	3.09	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.42
10391	48.4	2.45	7.41	3.27	<LLOQ(1.00)	<LLOQ(2.50)	3.07
10392	55.5	1.61	5.34	2.54	<LLOQ(1.00)	<LLOQ(2.50)	4.03
10393	20.9	1.41	2.91	1.98	<LLOQ(1.00)	<LLOQ(2.50)	3.12
10394	21.7	1.65	2.18	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10395	40.0	4.73	4.92	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.41
10396	36.3	1.81	5.66	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.32

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10397	28.2	6.51	4.57	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.62
10398	36.9	5.10	5.59	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	4.39
10399	38.9	5.63	3.38	2.00	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10400	27.5	<LLOQ(1.36)	4.57	1.72	<LLOQ(1.00)	<LLOQ(2.50)	1.34
10401	32.0	2.79	5.63	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10402	25.2	<LLOQ(1.36)	<LLOQ(1.92)	2.12	<LLOQ(1.00)	<LLOQ(2.50)	4.05
10403	34.3	3.92	2.97	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10404	30.6	3.56	2.78	4.71	<LLOQ(1.00)	<LLOQ(2.50)	1.34
10405	36.5	1.69	7.05	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10406	24.1	6.87	6.27	1.78	<LLOQ(1.00)	<LLOQ(2.50)	2.03
10407	27.0	<LLOQ(1.36)	4.62	2.44	<LLOQ(1.00)	<LLOQ(2.50)	6.76
10408	80.4	1.90	10.6	2.83	<LLOQ(1.00)	<LLOQ(2.50)	1.81
10409	28.8	1.61	3.49	1.75	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10410	88.8	15.2	13.8	3.43	<LLOQ(1.00)	<LLOQ(2.50)	4.60
10411	32.3	<LLOQ(1.36)	3.26	1.68	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10412	53.5	1.87	8.98	7.34	<LLOQ(1.00)	<LLOQ(2.50)	3.45
10413	16.8	<LLOQ(1.36)	2.53	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10414	27.0	<LLOQ(1.36)	3.17	2.57	<LLOQ(1.00)	<LLOQ(2.50)	1.42

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10415	207	2.09	14.9	7.76	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10416	17.2	<LLOQ(1.36)	<LLOQ(1.92)	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10417	37.7	4.54	4.28	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10418	29.1	<LLOQ(1.36)	4.43	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10419	30.6	<LLOQ(1.36)	2.82	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10420	56.6	2.70	11.5	2.58	<LLOQ(1.00)	<LLOQ(2.50)	5.07
10421	33.6	1.83	4.61	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.63
10422	14.4	<LLOQ(1.36)	2.40	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.78
10423	36.7	<LLOQ(1.36)	5.76	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10424	38.8	1.39	3.38	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	3.20
10425	30.8	<LLOQ(1.36)	3.59	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	7.63
10426	115	<LLOQ(1.36)	10.3	12.9	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10427	57.7	<LLOQ(1.36)	5.95	1.91	<LLOQ(1.00)	<LLOQ(2.50)	2.21
11883	17.8	<LLOQ(2.09)	2.40	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11884	26.1	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11885	26.5	<LLOQ(2.09)	6.13	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11886	26.6	<LLOQ(2.09)	4.07	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11887	60.1	<LLOQ(2.09)	26.7	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.93

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11888	91.8	7.34	10.1	3.64	<LLOQ(1.40)	<LLOQ(3.20)	13.3
11889	33.8	<LLOQ(2.09)	5.85	3.43	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11890	23.2	<LLOQ(2.09)	3.64	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11891	71.3	<LLOQ(2.09)	6.40	4.04	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11892	30.2	3.60	7.40	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11893	35.0	<LLOQ(2.09)	4.90	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.90
11894	22.0	<LLOQ(2.09)	4.55	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11895	12.5	<LLOQ(2.09)	4.48	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11896	34.2	<LLOQ(2.09)	4.71	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10756	166	4.51	29.0	60.1	<LLOQ(1.00)	12.9	3.75
10757	77.9	4.27	11.7	52.9	<LLOQ(1.00)	9.21	<LLOQ(1.00)
10758	133	11.6	6.25	7.18	<LLOQ(1.00)	<LLOQ(2.50)	5.21
10759	160	2.78	15.3	8.11	<LLOQ(1.00)	<LLOQ(2.50)	1.28
10760	38.1	1.71	5.39	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.55
10761	90.5	1.50	8.54	12.2	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10762	41.7	<LLOQ(1.36)	6.09	1.80	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10763	36.4	<LLOQ(1.36)	6.25	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10764	30.3	<LLOQ(1.36)	3.29	<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 ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10765	96.1	3.73	11.7	1.75	<LLOQ(1.00)	<LLOQ(2.50)	2.82
10766	40.7	7.70	6.54	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10767	34.1	<LLOQ(1.36)	6.81	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.65
10768	28.1	4.56	5.96	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10769	54.7	4.64	6.69	2.19	<LLOQ(1.00)	<LLOQ(2.50)	1.18
10770	42.7	<LLOQ(1.36)	4.14	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.59
10771	26.8	1.57	4.70	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	4.22
10772	36.1	2.00	4.34	3.44	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10773	66.6	15.6	5.78	2.89	<LLOQ(1.00)	<LLOQ(2.50)	2.77
10774	77.2	2.25	8.75	8.08	<LLOQ(1.00)	<LLOQ(2.50)	1.86
10775	46.8	<LLOQ(1.36)	9.30	8.98	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10776	159	4.24	29.8	56.6	<LLOQ(1.00)	12.2	2.45
10777	49.1	2.76	6.08	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10778	31.0	<LLOQ(1.36)	2.21	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	2.07
10779	22.7	<LLOQ(1.36)	5.12	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10780	57.3	3.76	7.72	3.56	<LLOQ(1.00)	<LLOQ(2.50)	1.73
10781	43.9	2.78	6.04	1.68	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10782	79.0	4.71	9.85	3.38	<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 ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10783	54.2	1.78	7.46	4.60	<LLOQ(1.00)	<LLOQ(2.50)	2.05
10784	37.3	2.12	5.89	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10785	31.6	1.91	4.88	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10786	38.9	5.22	4.79	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.98
10787	73.0	6.27	18.2	2.28	<LLOQ(1.00)	<LLOQ(2.50)	2.16
10788	33.8	2.19	5.34	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10789	49.3	2.00	7.30	1.95	<LLOQ(1.00)	<LLOQ(2.50)	1.61
10790	55.2	<LLOQ(1.36)	6.45	4.51	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10791	69.8	2.67	7.16	2.36	<LLOQ(1.00)	<LLOQ(2.50)	1.57
10792	22.0	1.38	4.02	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.21
10793	31.1	1.64	5.08	2.31	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10794	74.2	3.86	10.6	13.7	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10795	105	2.09	5.51	1.96	<LLOQ(1.00)	<LLOQ(2.50)	2.67
10796	40.2	19.8	8.76	2.09	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10797	52.5	4.12	4.32	1.76	<LLOQ(1.00)	<LLOQ(2.50)	4.69
10798	58.2	4.96	7.87	1.81	<LLOQ(1.00)	<LLOQ(2.50)	1.97
10799	117	1.70	13.1	5.44	<LLOQ(1.00)	<LLOQ(2.50)	1.27
10800	75.1	3.15	8.95	8.62	<LLOQ(1.00)	<LLOQ(2.50)	2.97

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10801	48.7	2.48	6.21	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.22
10802	33.3	<LLOQ(1.36)	4.47	6.91	<LLOQ(1.00)	<LLOQ(2.50)	2.16
10803	32.6	8.59	4.31	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10804	68.5	<LLOQ(1.36)	17.8	3.71	<LLOQ(1.00)	<LLOQ(2.50)	3.03
10805	45.5	4.35	6.93	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10806	110	11.5	21.8	3.35	<LLOQ(1.00)	<LLOQ(2.50)	5.59
10807	33.9	3.52	7.08	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	1.68
10808	40.3	1.86	2.70	<LLOQ(1.60)	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10809	29.8	1.79	4.72	3.58	<LLOQ(1.00)	<LLOQ(2.50)	<LLOQ(1.00)
10810	42.9	<LLOQ(2.09)	3.54	3.58	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10811	32.6	<LLOQ(2.09)	4.45	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.99
10812	69.9	3.77	7.50	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.46
10813	27.4	<LLOQ(2.09)	2.85	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.95
10814	38.4	2.82	6.57	6.45	<LLOQ(1.40)	<LLOQ(3.20)	3.66
10815	55.1	<LLOQ(2.09)	8.35	4.05	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10816	50.1	4.39	2.60	3.04	<LLOQ(1.40)	<LLOQ(3.20)	5.68
10817	106	4.58	7.17	3.25	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10818	67.6	9.17	11.4	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.34

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10819	37.1	<LLOQ(2.09)	4.65	3.21	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10820	71.0	2.96	3.88	4.70	<LLOQ(1.40)	<LLOQ(3.20)	2.09
10821	45.3	<LLOQ(2.09)	4.17	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10822	54.4	10.7	7.46	15.1	<LLOQ(1.40)	<LLOQ(3.20)	4.37
10823	35.9	<LLOQ(2.09)	7.14	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.51
10824	109	<LLOQ(2.09)	6.50	9.12	<LLOQ(1.40)	3.91	4.18
10825	72.7	14.1	6.90	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10826	30.6	2.47	3.42	3.76	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10827	59.4	5.37	8.35	6.62	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10828	143	3.33	13.4	8.59	<LLOQ(1.40)	<LLOQ(3.20)	4.03
10829	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received
10830	34.3	4.97	5.75	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	8.31
10831	75.8	9.32	13.5	4.28	<LLOQ(1.40)	<LLOQ(3.20)	5.26
10832	44.5	4.10	4.87	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10833	68.9	3.29	10.7	3.51	<LLOQ(1.40)	<LLOQ(3.20)	10.8
10834	49.8	5.53	3.62	5.10	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10835	71.3	4.02	10.7	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.47
10836	35.5	3.82	4.66	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10837	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received
10838	36.5	7.12	8.60	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.75
10839	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received
10840	34.1	2.50	6.97	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.83
10841	68.2	22.4	5.68	4.33	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10842	154	12.1	18.2	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10843	41.8	2.34	4.37	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	8.20
10844	70.7	9.59	14.9	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	6.61
10845	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received
10846	65.8	18.7	13.3	2.85	<LLOQ(1.40)	<LLOQ(3.20)	2.83
10847	92.4	12.9	9.46	4.10	<LLOQ(1.40)	<LLOQ(3.20)	3.57
10848	44.2	<LLOQ(2.09)	3.27	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10849	51.5	2.98	7.02	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.99
10850	40.7	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10851	70.5	4.00	6.49	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.11
10852	19.3	<LLOQ(2.09)	2.95	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10853	31.7	<LLOQ(2.09)	4.70	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.44
10854	50.5	2.46	3.97	3.65	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
10855	18.5	<LLOQ(2.09)	2.16	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.53
10856	36.3	7.00	4.66	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10857	81.9	2.48	12.0	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10858	54.7	<LLOQ(2.09)	4.82	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10859	19.5	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10860	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received	Not Received
10861	39.9	2.57	3.35	5.15	<LLOQ(1.40)	<LLOQ(3.20)	3.21
10862	37.8	4.03	4.23	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.23
10863	70.6	<LLOQ(2.09)	4.20	3.11	<LLOQ(1.40)	<LLOQ(3.20)	3.10
10864	58.3	2.34	3.80	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10865	56.8	6.25	3.85	24.7	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
10866	24.0	<LLOQ(2.09)	3.03	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.35
10867	57.4	2.28	5.32	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.95
10868	22.9	4.80	3.46	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.79
11649	17.6	<LLOQ(2.09)	3.96	3.20	<LLOQ(1.40)	3.88	<LLOQ(1.80)
11650	28.3	<LLOQ(2.09)	3.49	3.24	<LLOQ(1.40)	<LLOQ(3.20)	2.06
11651	48.8	<LLOQ(2.09)	4.07	25.1	<LLOQ(1.40)	5.12	<LLOQ(1.80)
11652	23.5	<LLOQ(2.09)	2.71	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11653	25.2	<LLOQ(2.09)	4.76	3.89	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11654	329	6.91	16.7	36.9	<LLOQ(1.40)	12.2	<LLOQ(1.80)
11655	31.2	<LLOQ(2.09)	3.77	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11656	31.5	<LLOQ(2.09)	3.13	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.96
11657	70.3	<LLOQ(2.09)	6.63	13.3	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11658	27.4	2.54	2.94	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11659	43.9	11.8	3.61	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.43
11660	17.7	<LLOQ(2.09)	3.13	3.42	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11661	46.4	<LLOQ(2.09)	3.91	4.90	<LLOQ(1.40)	<LLOQ(3.20)	2.63
11662	44.6	10.9	4.92	2.82	<LLOQ(1.40)	<LLOQ(3.20)	2.06
11663	14.0	<LLOQ(2.09)	3.77	4.98	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11664	64.1	2.48	6.96	9.91	<LLOQ(1.40)	4.21	2.03
11665	45.0	<LLOQ(2.09)	4.49	5.04	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11666	37.7	<LLOQ(2.09)	5.07	2.83	<LLOQ(1.40)	<LLOQ(3.20)	2.86
11667	9.45	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11668	29.9	<LLOQ(2.09)	3.81	5.86	<LLOQ(1.40)	<LLOQ(3.20)	1.82
11669	31.9	<LLOQ(2.09)	6.28	3.77	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11670	28.3	<LLOQ(2.09)	4.08	2.92	<LLOQ(1.40)	<LLOQ(3.20)	3.64

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11671	37.7	2.16	4.44	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11672	30.7	<LLOQ(2.09)	5.43	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11673	36.2	<LLOQ(2.09)	2.68	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.37
11674	37.5	3.91	4.44	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11675	14.2	3.99	3.22	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11676	12.0	<LLOQ(2.09)	2.33	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11677	43.4	3.22	3.60	3.39	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11678	32.2	3.83	3.57	2.96	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11679	17.0	<LLOQ(2.09)	2.56	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11680	44.5	7.24	6.79	5.66	<LLOQ(1.40)	<LLOQ(3.20)	2.65
11681	15.8	<LLOQ(2.09)	5.41	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11682	9.20	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.62
11683	40.3	8.61	6.21	4.72	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11684	42.3	<LLOQ(2.09)	4.48	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11685	24.4	<LLOQ(2.09)	2.34	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11686	14.6	4.12	5.38	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11687	36.1	2.11	4.10	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11688	17.2	<LLOQ(2.09)	<LLOQ(2.11)	4.43	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11689	1656**	9.87	4.32	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11690	25.6	<LLOQ(2.09)	2.92	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11691	24.4	2.59	3.13	3.88	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11692	14.2	<LLOQ(2.09)	2.71	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11693	27.1	2.58	3.91	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.14
11694	33.4	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11695	20.8	<LLOQ(2.09)	3.04	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11696	14.5	<LLOQ(2.09)	<LLOQ(2.11)	3.03	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11697	108	<LLOQ(2.09)	12.2	13.0	<LLOQ(1.40)	<LLOQ(3.20)	2.07
11698	124	<LLOQ(2.09)	12.0	9.58	<LLOQ(1.40)	3.58	<LLOQ(1.80)
11699	22.9	2.28	4.24	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11700	25.5	<LLOQ(2.09)	3.48	5.45	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11701	14.1	<LLOQ(2.09)	3.11	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11702	39.0	3.27	5.61	6.74	<LLOQ(1.40)	<LLOQ(3.20)	3.70
11703	12.0	<LLOQ(2.09)	<LLOQ(2.11)	2.97	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11704	78.7	6.54	12.9	15.6	<LLOQ(1.40)	<LLOQ(3.20)	3.68
11705	12.0	<LLOQ(2.09)	3.09	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

** Concentration corrected for amount of persistent PFOS in dilution matrix.

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11706	22.3	<LLOQ(2.09)	3.35	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11707	17.5	<LLOQ(2.09)	3.87	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.96
11708	14.5	<LLOQ(2.09)	2.43	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11709	43.5	<LLOQ(2.09)	5.13	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.82
11710	35.9	3.37	2.90	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11711	30.3	<LLOQ(2.09)	3.45	3.48	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11712	11.1	<LLOQ(2.09)	3.39	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11713	50.8	3.76	11.2	20.6	<LLOQ(1.40)	<LLOQ(3.20)	5.27
11714	18.4	<LLOQ(2.09)	3.80	6.13	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11715	36.8	<LLOQ(2.09)	4.04	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11716	12.6	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11717	13.2	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11718	17.6	2.25	5.15	2.63	<LLOQ(1.40)	<LLOQ(3.20)	1.55
11719	16.1	<LLOQ(2.09)	3.22	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	5.50
11720	25.2	<LLOQ(2.09)	2.11	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11721	37.4	2.26	4.13	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11722	8.26	<LLOQ(2.09)	2.53	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.95
11723	30.2	5.64	4.19	3.21	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11725	16.6	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11726	20.2	<LLOQ(2.09)	2.78	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11727	25.7	<LLOQ(2.09)	8.48	2.90	<LLOQ(1.40)	<LLOQ(3.20)	2.68
11729	21.6	<LLOQ(2.09)	4.08	7.58	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11731	63.4	4.77	10.2	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.10
11732	30.3	<LLOQ(2.09)	4.07	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.85
11735	20.5	<LLOQ(2.09)	3.05	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11739	54.6	9.42	5.41	5.86	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11745	26.9	<LLOQ(2.09)	4.97	4.48	<LLOQ(1.40)	<LLOQ(3.20)	2.06
11746	24.6	<LLOQ(2.09)	3.76	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11748	31.1	<LLOQ(2.09)	3.31	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11749	17.6	<LLOQ(2.09)	4.36	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.94
11750	20.8	5.48	4.37	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11751	6.60	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.85
11752	45.3	<LLOQ(2.09)	4.09	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.05
11753	29.2	3.61	2.28	2.95	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11754	37.8	<LLOQ(2.09)	3.66	7.38	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11756	36.4	4.53	8.37	3.59	<LLOQ(1.40)	<LLOQ(3.20)	6.89

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11757	34.1	6.63	3.58	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.02
11758	24.8	<LLOQ(2.09)	4.65	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.22
11759	17.9	<LLOQ(2.09)	4.20	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11761	17.2	<LLOQ(2.09)	<LLOQ(2.11)	3.20	<LLOQ(1.40)	<LLOQ(3.20)	2.59
11762	20.0	<LLOQ(2.09)	2.82	3.55	<LLOQ(1.40)	<LLOQ(3.20)	2.85
11763	28.3	<LLOQ(2.09)	6.68	4.33	<LLOQ(1.40)	<LLOQ(3.20)	2.94
11765	22.3	<LLOQ(2.09)	2.62	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.62
11766	49.1	<LLOQ(2.09)	4.74	7.58	<LLOQ(1.40)	<LLOQ(3.20)	2.93
11767	16.6	<LLOQ(2.09)	2.97	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11768	14.8	<LLOQ(2.09)	2.52	3.18	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11769	26.0	<LLOQ(2.09)	4.17	3.25	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11771	6.03	<LLOQ(2.09)	2.76	2.81	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11772	40.4	4.13	7.03	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.93
11773	9.26	<LLOQ(2.09)	<LLOQ(2.11)	2.87	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11156	44.3	<LLOQ(2.09)	6.33	3.11	<LLOQ(1.40)	6.60	3.84
11157	28.0	2.16	3.28	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11158	21.5	4.10	4.16	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11159	40.0	3.04	4.72	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11160	31.5	<LLOQ(2.09)	2.74	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11161	20.7	<LLOQ(2.09)	3.03	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11162	30.9	3.08	6.16	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.04
11163	56.8	2.40	4.63	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11164	76.4	4.42	9.41	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.60
11165	93.3	13.7	5.53	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11166	17.7	3.64	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11167	11.1	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11168	48.1	3.33	4.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11169	36.6	3.51	5.19	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11170	41.4	<LLOQ(2.09)	8.30	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11171	48.1	5.19	4.74	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.97
11172	50.3	15.3	5.31	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.96
11173	42.7	<LLOQ(2.09)	4.77	3.14	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11174	65.4	3.24	6.58	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.96
11175	52.6	<LLOQ(2.09)	5.50	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.37
11176	24.3	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11177	30.8	<LLOQ(2.09)	3.33	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11178	41.0	<LLOQ(2.09)	9.73	<LLOQ(2.80)	<LLOQ(1.40)	3.84	2.88
11179	35.2	<LLOQ(2.09)	3.68	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11180	28.3	<LLOQ(2.09)	3.44	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11181	92.8	12.4	4.16	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11182	50.0	25.7	14.2	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11183	37.4	5.94	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11184	48.8	9.40	5.68	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.97
11185	71.6	4.31	9.01	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11186	21.7	<LLOQ(2.09)	4.50	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11187	15.1	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11188	23.2	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11189	52.6	<LLOQ(2.09)	13.2	9.91	<LLOQ(1.40)	<LLOQ(3.20)	7.86
11190	81.9	<LLOQ(2.09)	6.91	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.99
11191	24.3	<LLOQ(2.09)	3.26	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11192	27.1	<LLOQ(2.09)	5.59	2.92	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11193	34.3	<LLOQ(2.09)	7.09	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11194	17.1	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11195	45.6	<LLOQ(2.09)	7.49	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11196	18.2	<LLOQ(2.09)	4.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11197	21.4	<LLOQ(2.09)	3.76	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.07
11198	38.2	11.1	3.02	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11199	28.8	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11200	26.2	<LLOQ(2.09)	2.87	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11201	24.1	4.20	3.00	<LLOQ(2.80)	2.09	<LLOQ(3.20)	<LLOQ(1.80)
11202	42.1	10.7	6.93	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11203	25.2	2.79	3.45	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11204	31.1	3.27	5.55	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11205	12.8	2.26	2.47	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11206	24.3	<LLOQ(2.09)	6.67	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.96
11207	44.2	<LLOQ(2.09)	5.25	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11208	15.9	<LLOQ(2.09)	3.61	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11209	25.7	<LLOQ(2.09)	4.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11210	29.3	4.41	4.32	4.64	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11211	47.5	<LLOQ(2.09)	2.81	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11212	69.6	<LLOQ(2.09)	7.25	3.34	<LLOQ(1.40)	<LLOQ(3.20)	3.30
11213	51.9	<LLOQ(2.09)	5.10	3.98	<LLOQ(1.40)	<LLOQ(3.20)	2.10

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11214	36.4	6.25	3.57	4.34	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11215	122	<LLOQ(2.09)	5.93	3.21	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11216	42.5	<LLOQ(2.09)	5.22	2.98	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11217	41.4	<LLOQ(2.09)	6.32	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11218	57.9	2.91	6.89	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.01
11219	19.4	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11220	29.8	<LLOQ(2.09)	2.94	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	3.12
11221	46.0	<LLOQ(2.09)	6.44	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11222	26.5	19.2	2.73	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11223	41.5	5.21	5.80	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11224	64.9	66.3	4.30	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11225	29.9	<LLOQ(2.09)	4.50	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.02
11226	18.7	<LLOQ(2.09)	5.01	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11227	23.1	2.33	4.61	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11228	41.4	<LLOQ(2.09)	6.50	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11229	45.9	3.22	5.43	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.07
11230	85.2	2.45	7.01	4.60	<LLOQ(1.40)	<LLOQ(3.20)	2.57
11231	62.9	2.51	3.53	6.36	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11232	21.6	<LLOQ(2.09)	4.87	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	4.44
11233	30.0	<LLOQ(2.09)	3.10	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.15
11234	39.0	<LLOQ(2.09)	4.81	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.58
11235	22.0	2.23	3.39	3.18	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11236	26.7	<LLOQ(2.09)	4.13	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11237	80.0	<LLOQ(2.09)	9.10	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11238	37.8	<LLOQ(2.09)	4.97	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11239	24.7	2.64	4.41	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11240	37.2	<LLOQ(2.09)	3.29	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	6.15
11241	139	5.3	20.6	3.83	<LLOQ(1.40)	<LLOQ(3.20)	2.56
11242	65.9	9.47	6.87	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.88
11243	27.0	<LLOQ(2.09)	3.01	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11244	64.9	3.73	8.74	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11245	29.7	2.22	5.21	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.49
11246	28.2	<LLOQ(2.09)	2.44	3.26	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11247	19.0	<LLOQ(2.09)	3.14	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11248	36.2	5.00	5.70	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	2.17
11249	36.3	<LLOQ(2.09)	5.58	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11250	26.1	4.07	2.32	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11251	34.6	2.19	5.07	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11252	13.1	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11253	56.8	4.36	7.39	21.2	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11254	50.8	<LLOQ(2.09)	4.81	3.65	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11256	47.8	7.07	2.64	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11257	33.8	<LLOQ(2.09)	5.55	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11258	23.1	<LLOQ(2.09)	4.33	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11259	7.63	<LLOQ(2.09)	<LLOQ(2.11)	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11260	34.7	4.14	5.12	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11261	12.6	3.80	2.53	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11262	17.7	<LLOQ(2.09)	4.07	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.87
11263	226	<LLOQ(2.09)	52.3	7.22	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11264	42.2	5.11	3.54	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11265	24.7	2.45	5.69	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11266	27.2	<LLOQ(2.09)	3.47	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)
11267	36.8	11.3	2.84	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	1.86
11268	39.7	<LLOQ(2.09)	2.47	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Study Sample Concentrations (Continued)

All concentrations are expressed as ppb.

Sample ID	PFOS Concentration (ppb)	PFHS* Concentration (ppb)	PFOA* Concentration (ppb)	PFOSAA* Concentration (ppb)	PFOSA* Concentration (ppb)	M556* Concentration (ppb)	M570* Concentration (ppb)
11269	25.2	3.67	2.54	<LLOQ(2.80)	<LLOQ(1.40)	<LLOQ(3.20)	<LLOQ(1.80)

NOTE: The method acceptance criteria states that the measured concentration for each QC must be within ±20% (±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. Repeat Analysis Table for PFOS

Sample ID	Original Conc. ppb	Original Run Number	Reason for Reassay	Reassay Conc. ppb	Reassay Run Number	Reported Conc. ppb	Reason for Reported Conc.
11689	>ULOQ(414)	10	1	1670	17	1656*	1

* Concentration corrected for amount of persistent PFOS in dilution matrix.

REASONS FOR REASSAY:
1). Greater than the ULOQ.

REASONS FOR REPORTED CONC:
1). Original result outside of quantitation range. Reassay results reported.

Figure 1. Representative Calibration Curve for PFOS

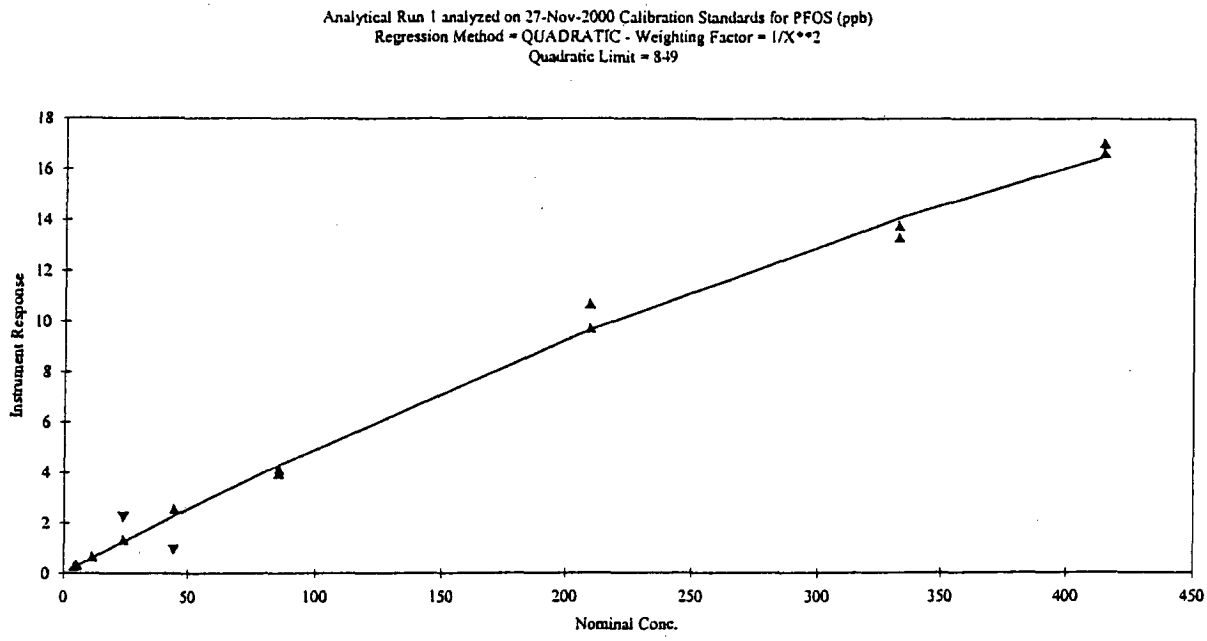

Figure 2. Representative Calibration Curve for PFHS

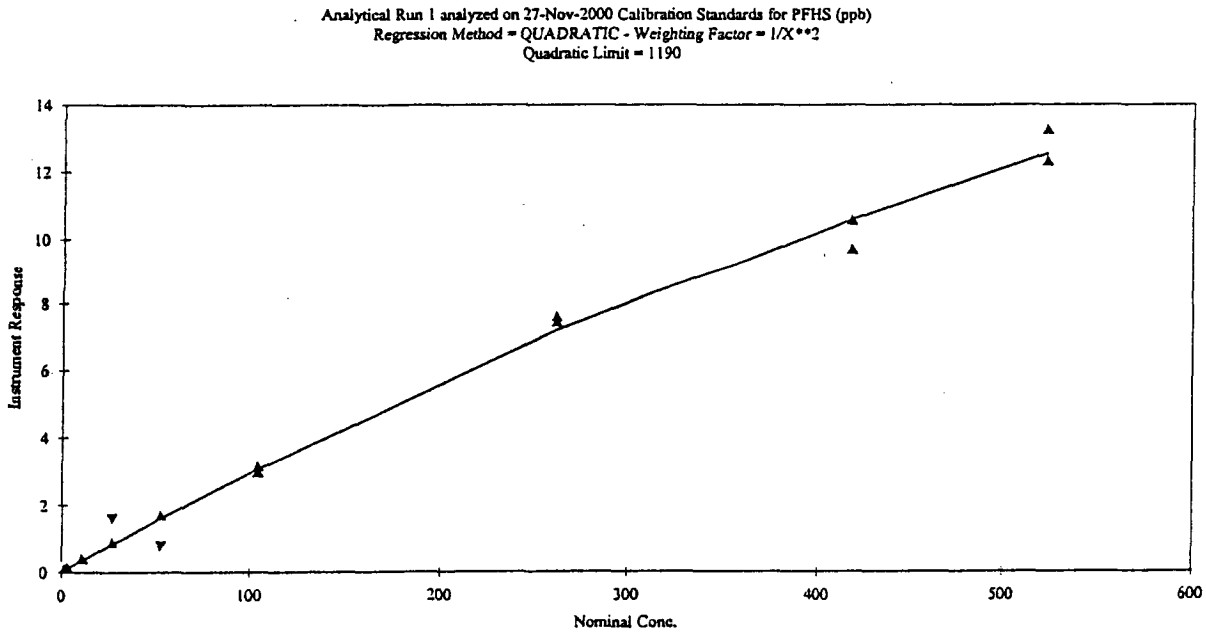

Figure 3. Representative Calibration Curve for PFOA

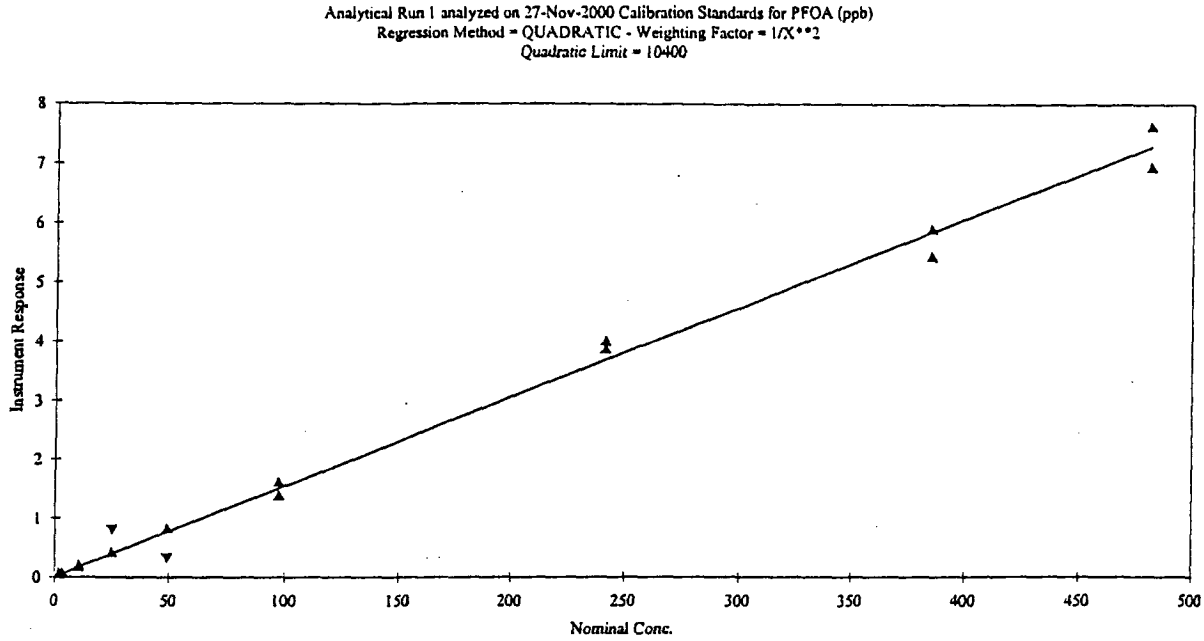

Figure 4. Representative Calibration Curve for PFOSAA

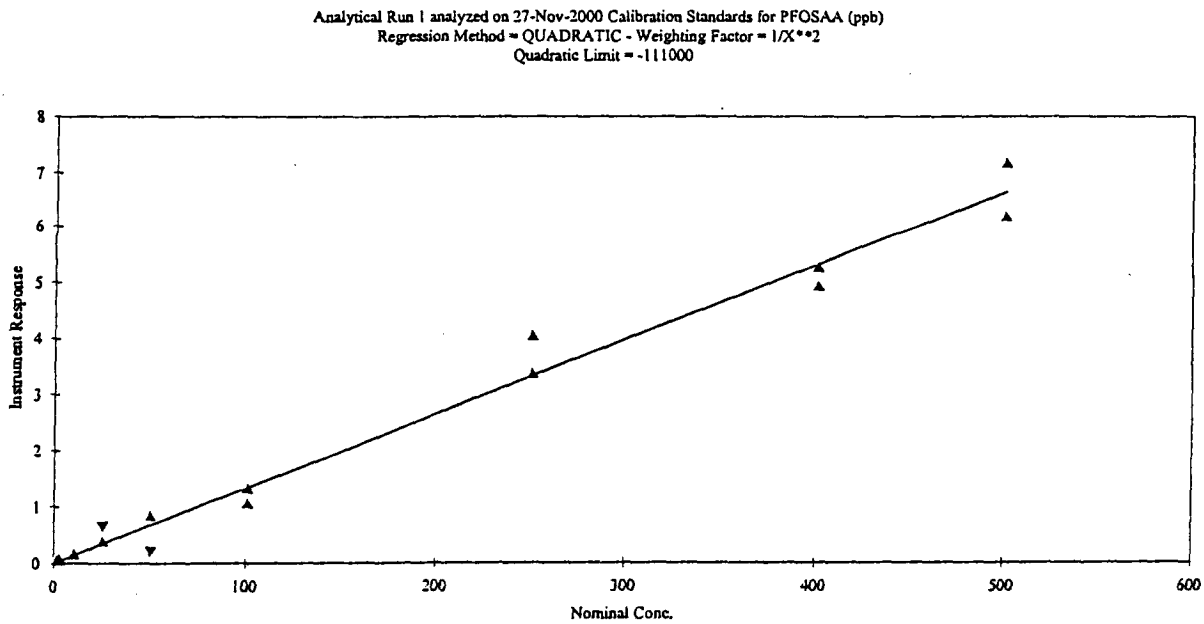

Figure 5. Representative Calibration Curve for PFOSA

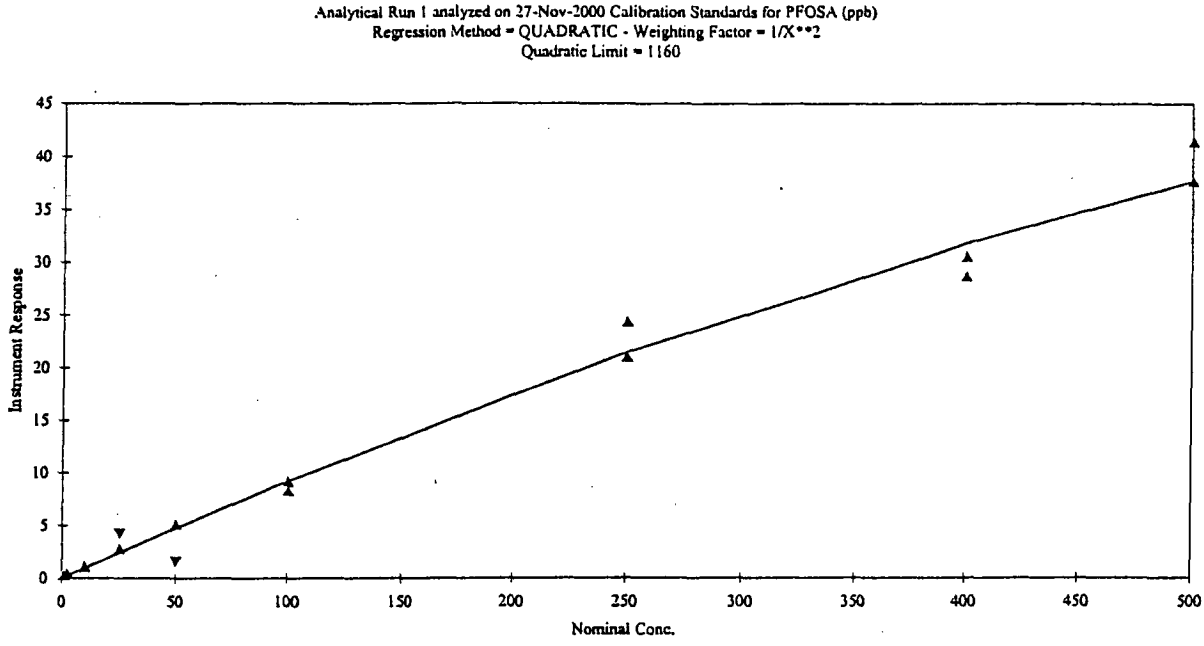

Figure 6. Representative Calibration Curve for M556

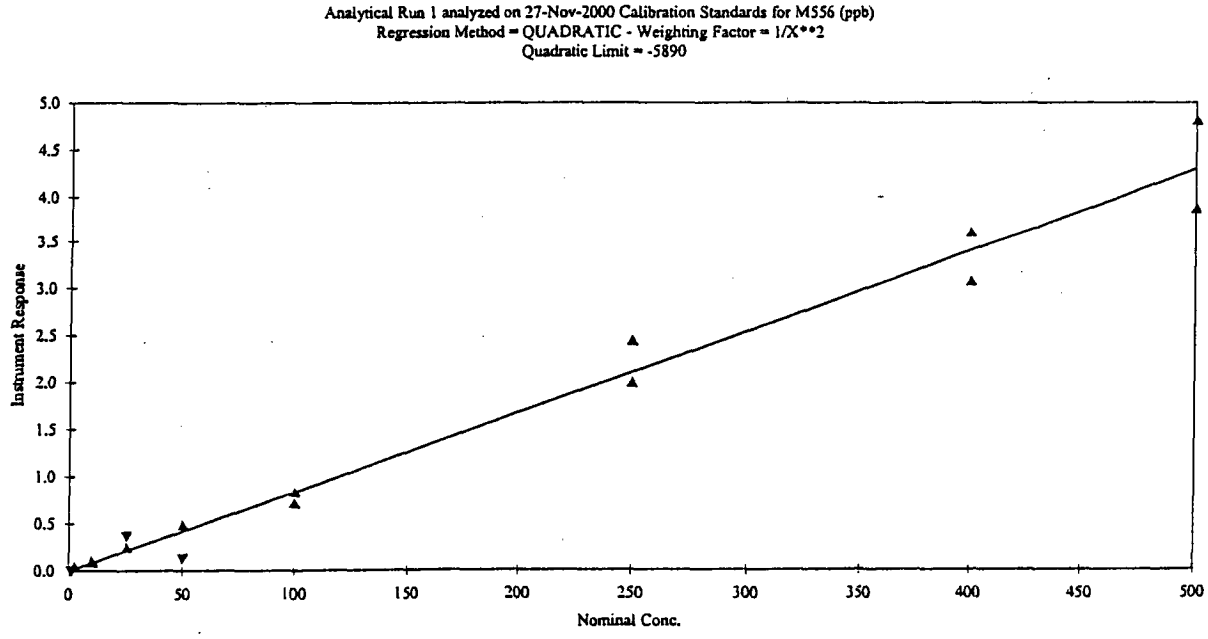

Figure 7. Representative Calibration Curve for M570

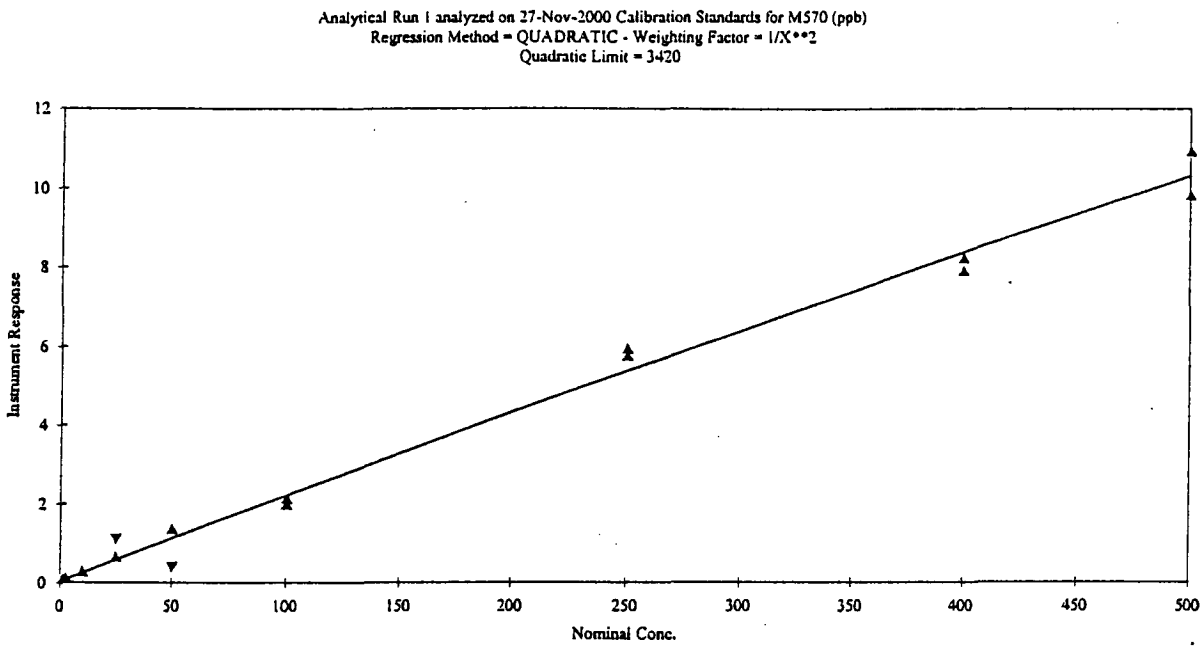

Figure 8. Human Plasma Blank for PFOS

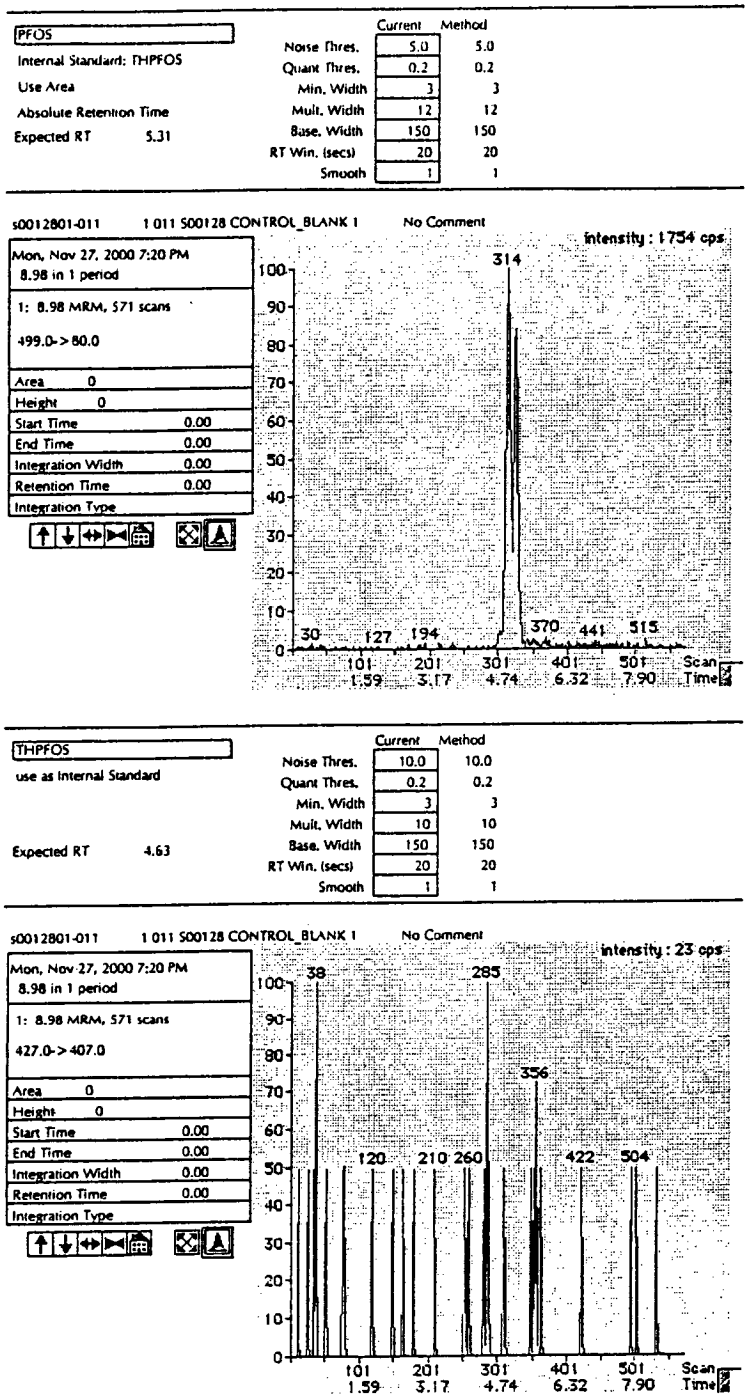

Figure 9. Human Plasma Blank for PFHS

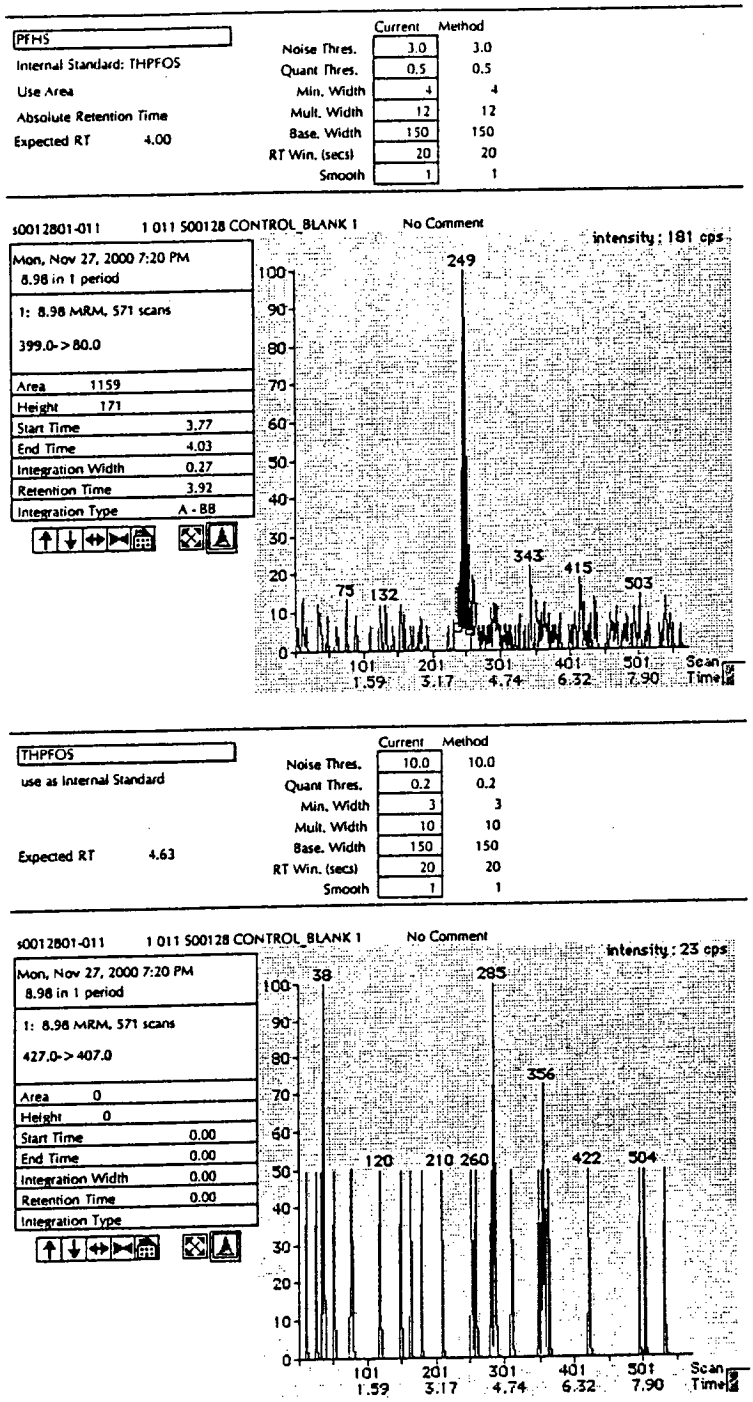

Figure 10. Human Plasma Blank for PFOA

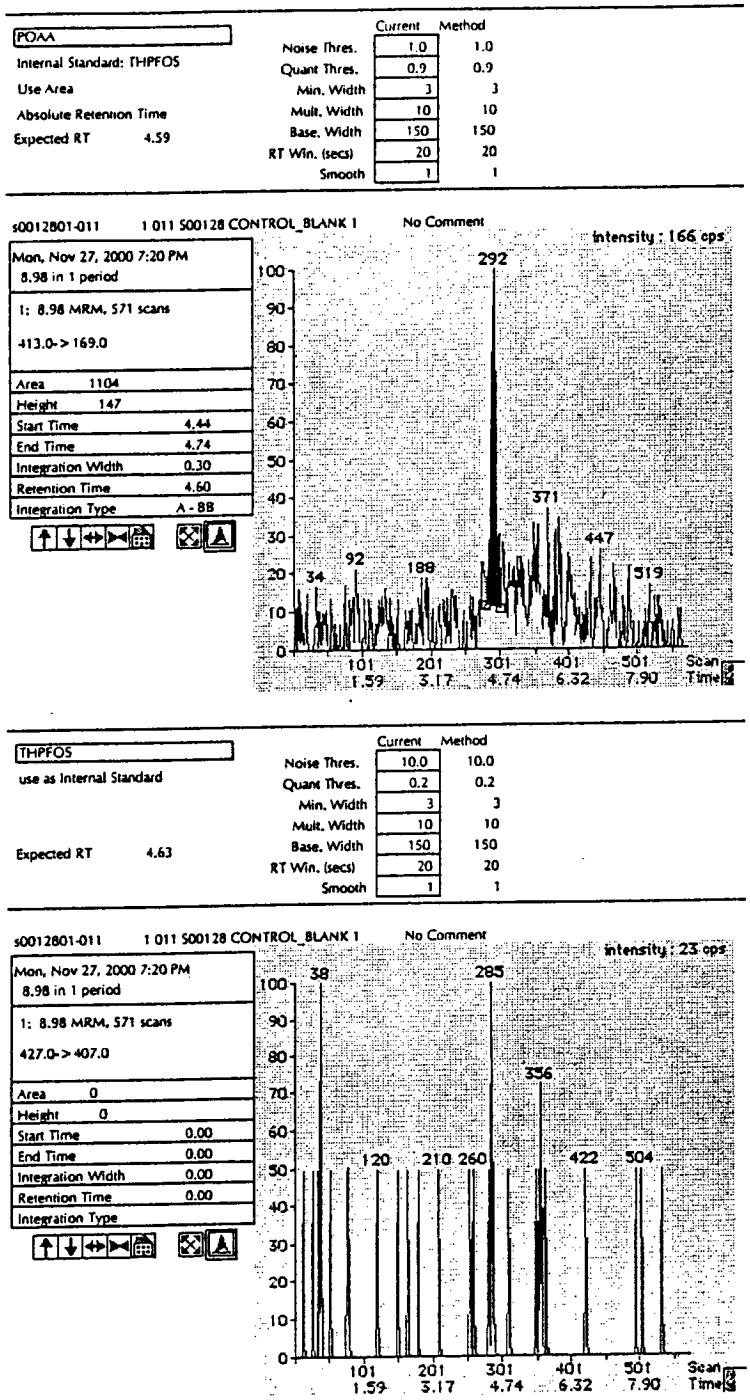

Figure 11. Human Plasma Blank for PFOSAA

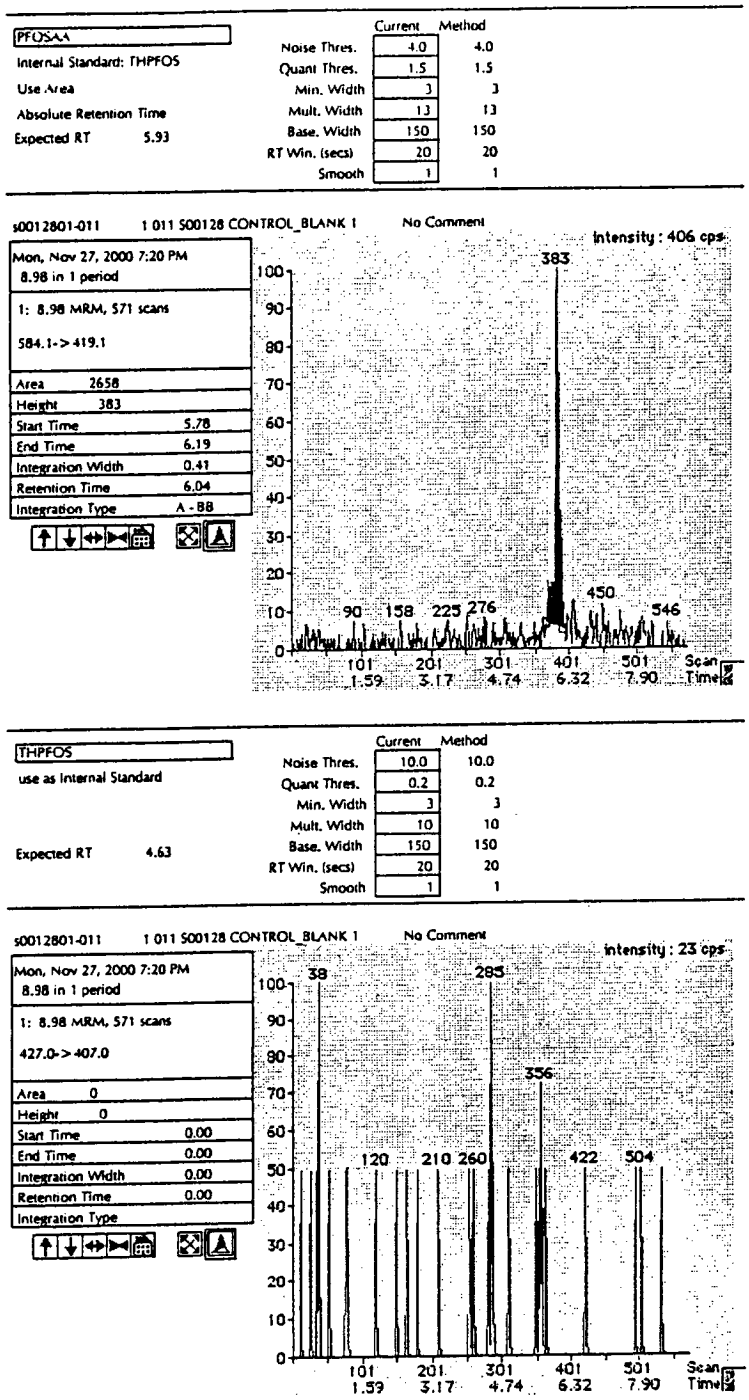

Figure 12. Human Plasma Blank for PFOSA

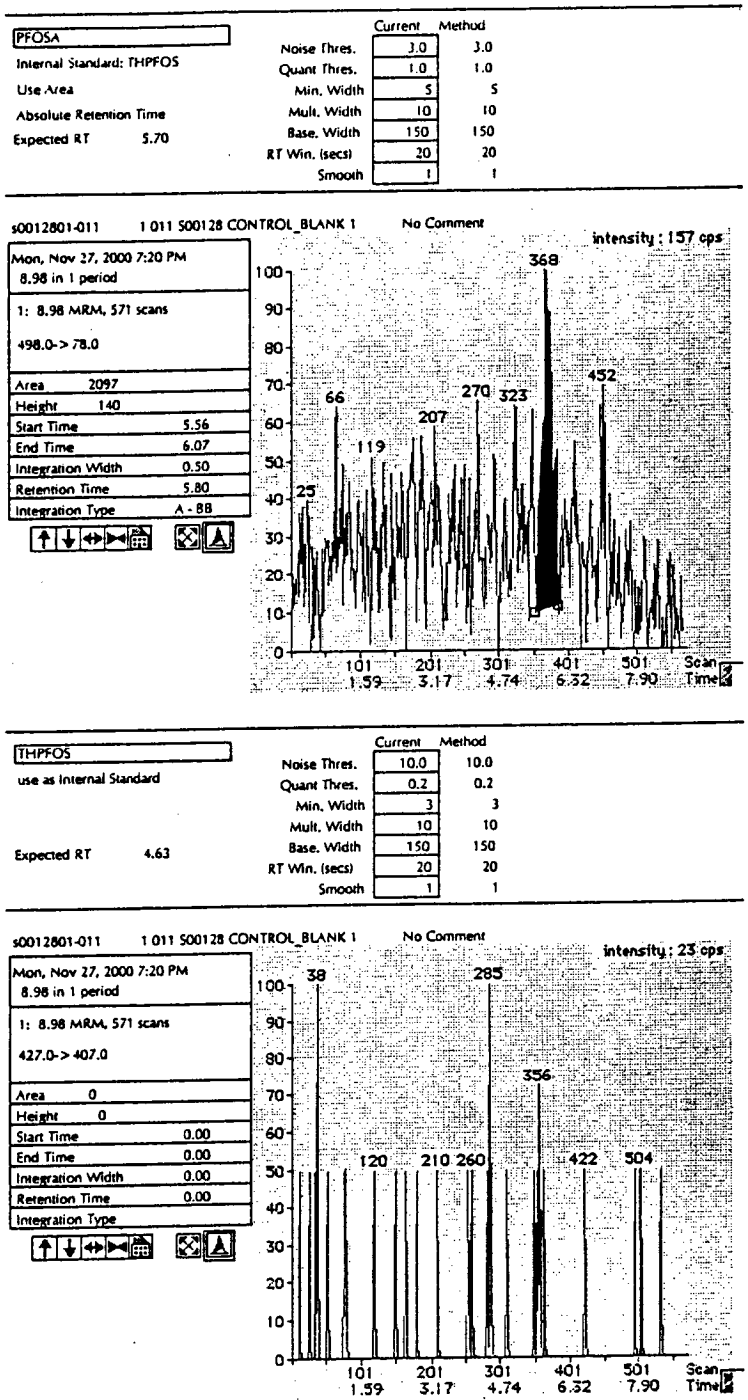

Figure 13. Human Plasma Blank for M556

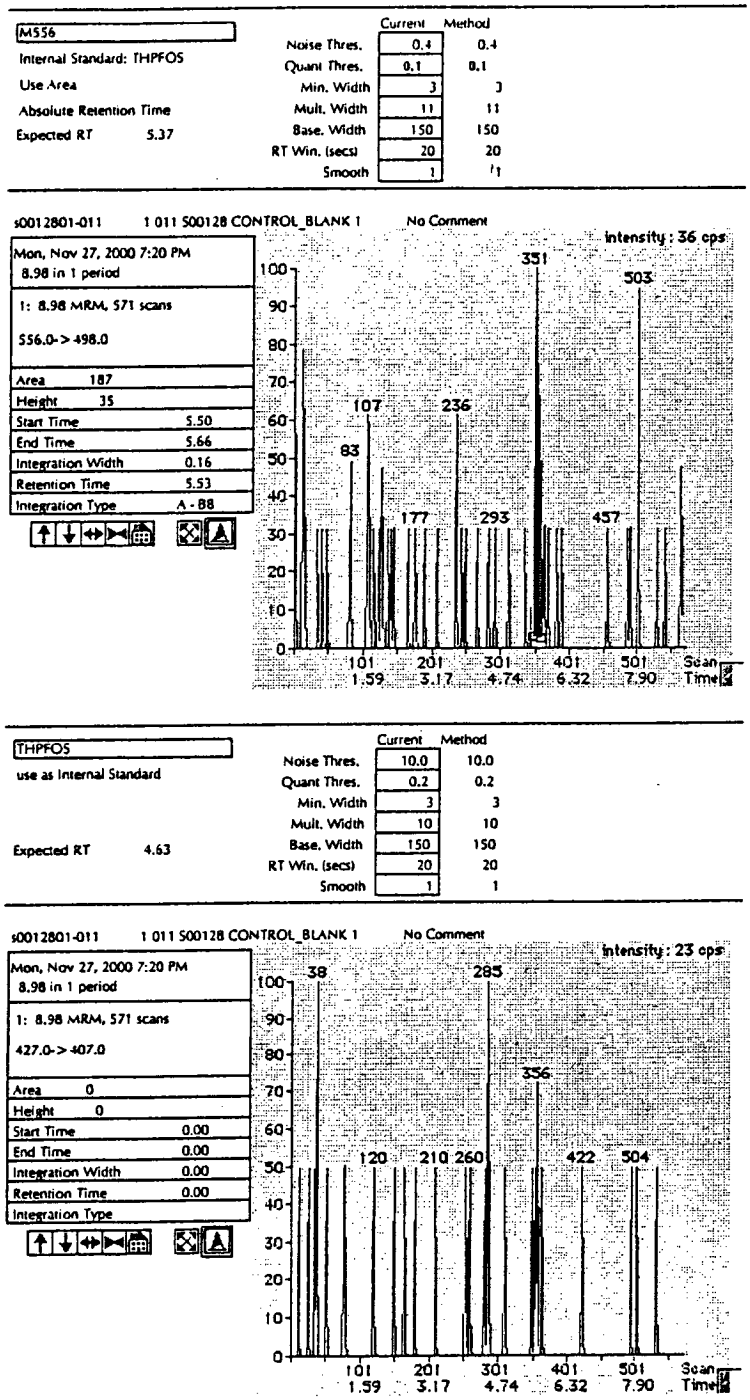

Figure 14. Human Plasma Blank for M570

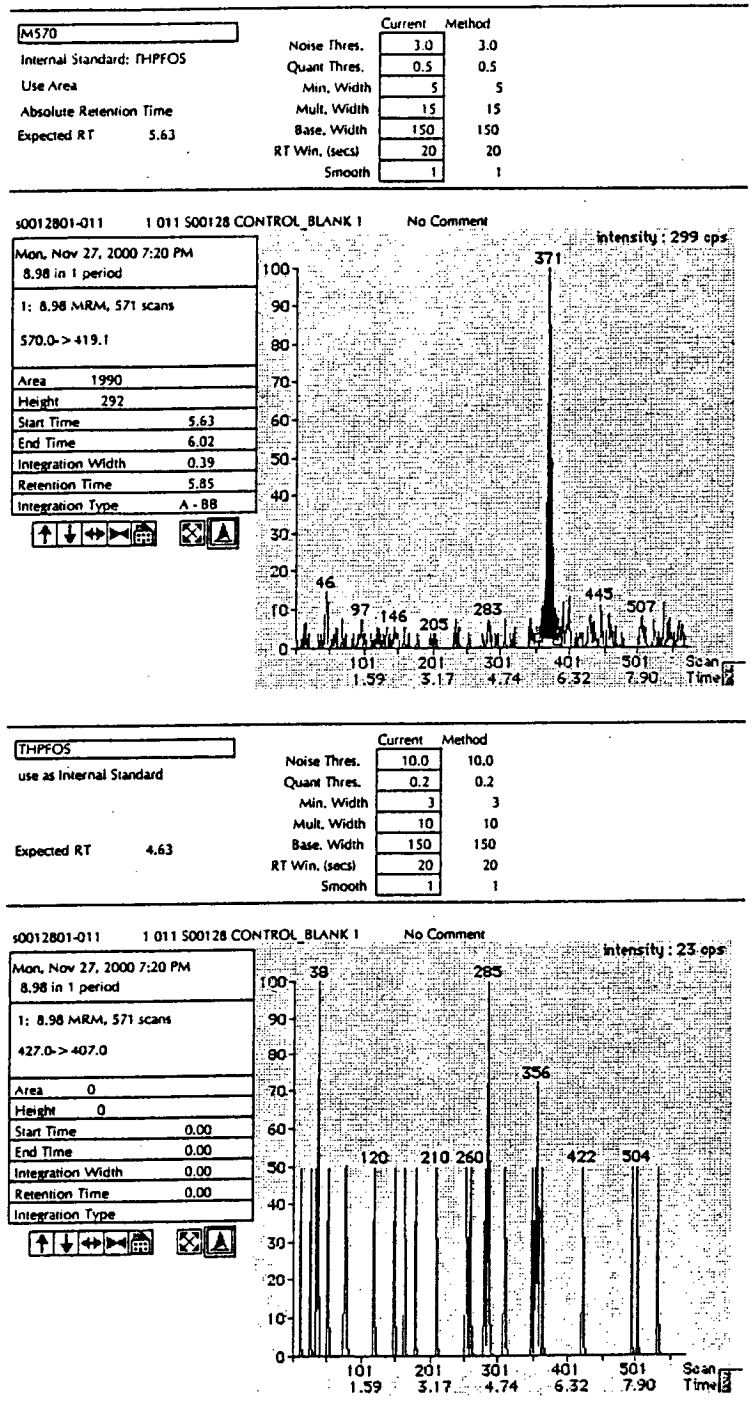

Figure 15. Human Plasma Blank with Internal Standard (QC0) for PFOS

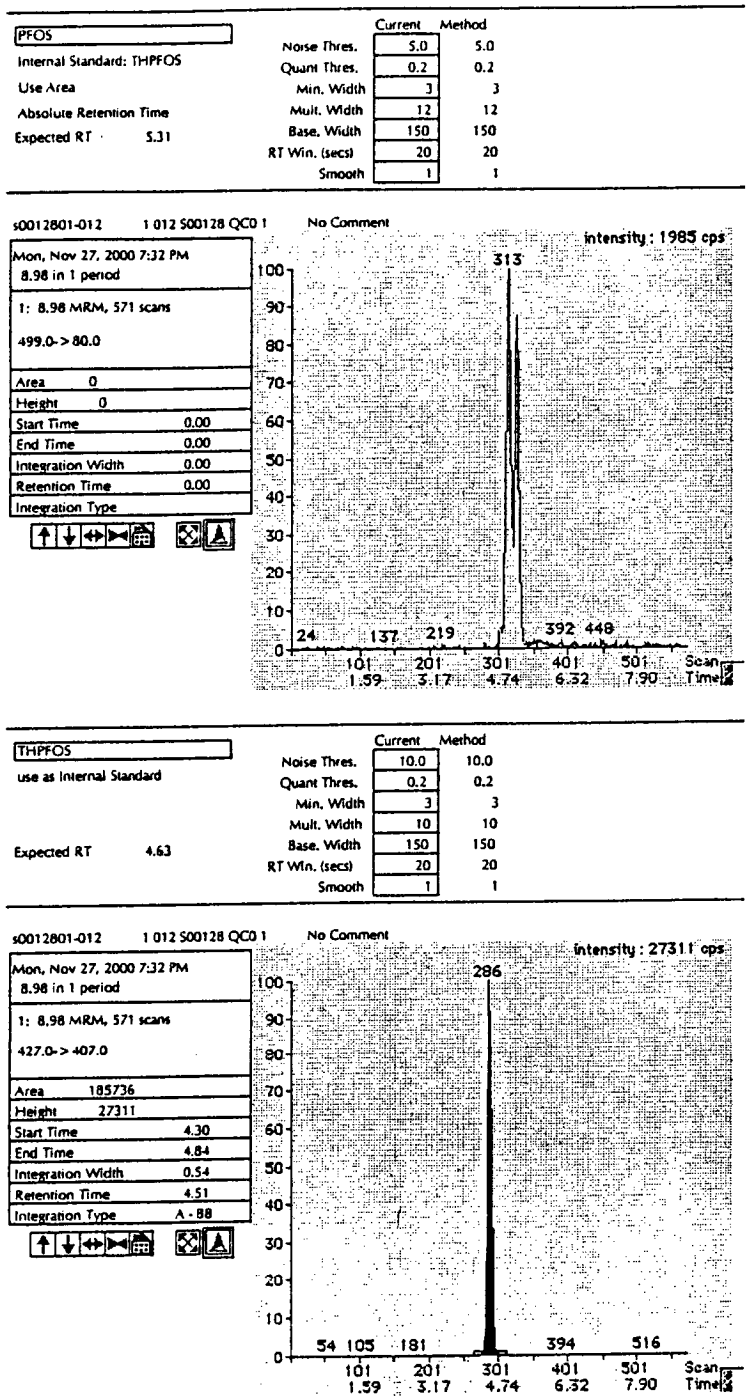

Figure 16. Human Plasma Blank with Internal Standard (QC0) for PFHS

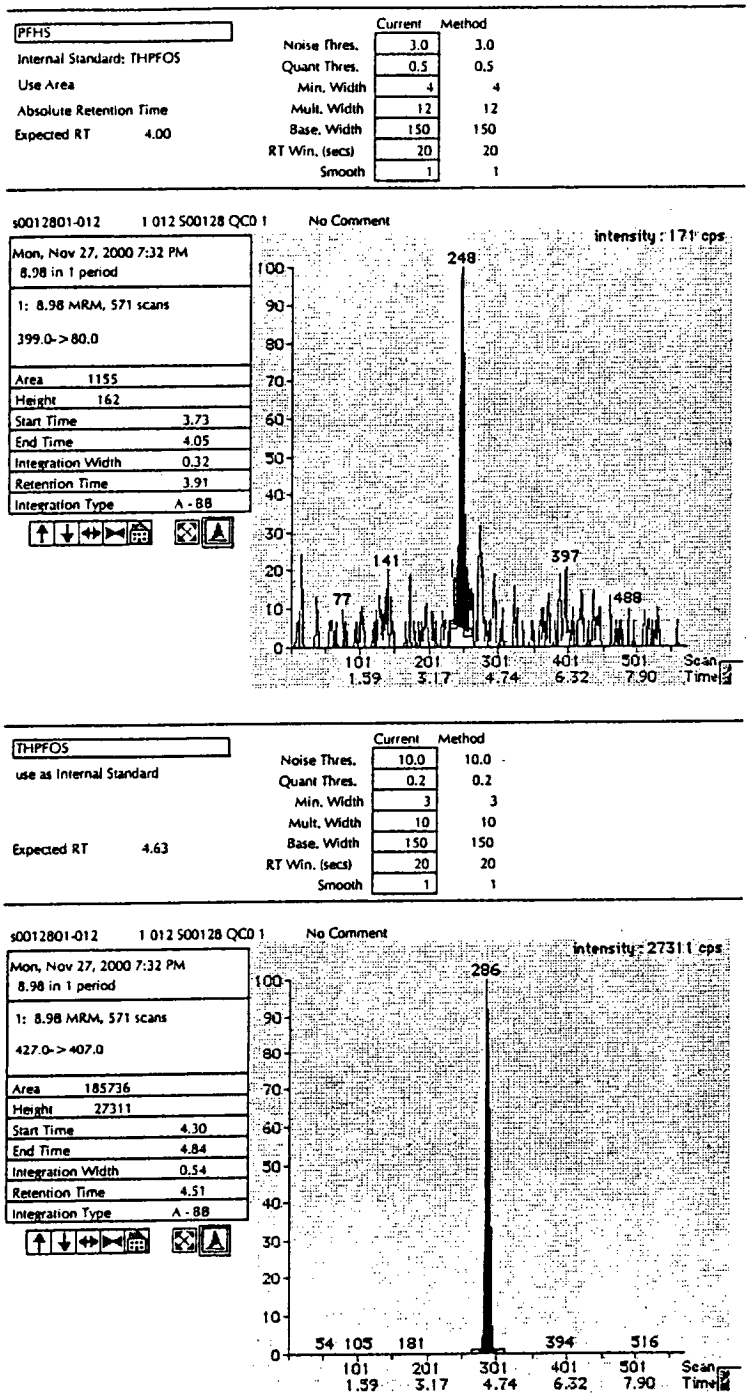

Figure 17. Human Plasma Blank with Internal Standard (QC0) for PFOA

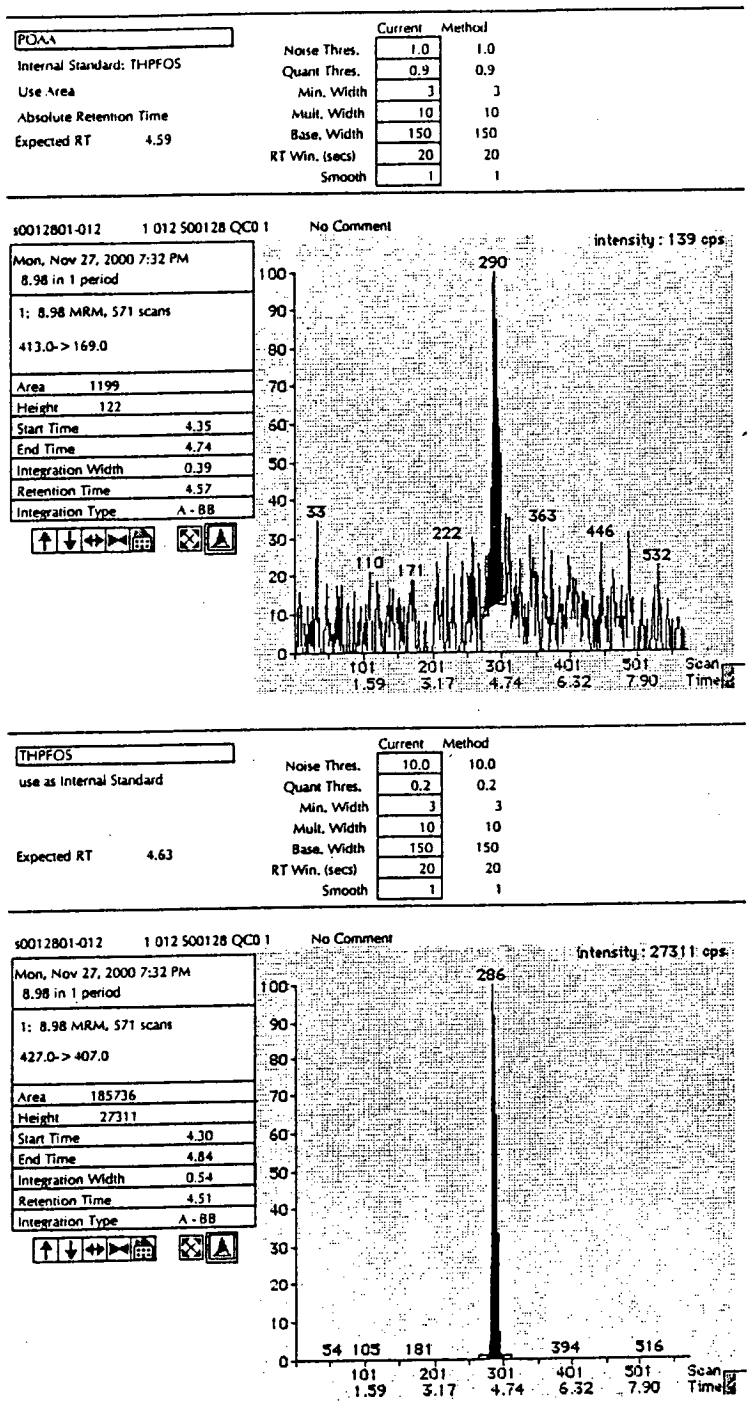

Figure 18. Human Plasma Blank with Internal Standard (QC0) for PFOSAA

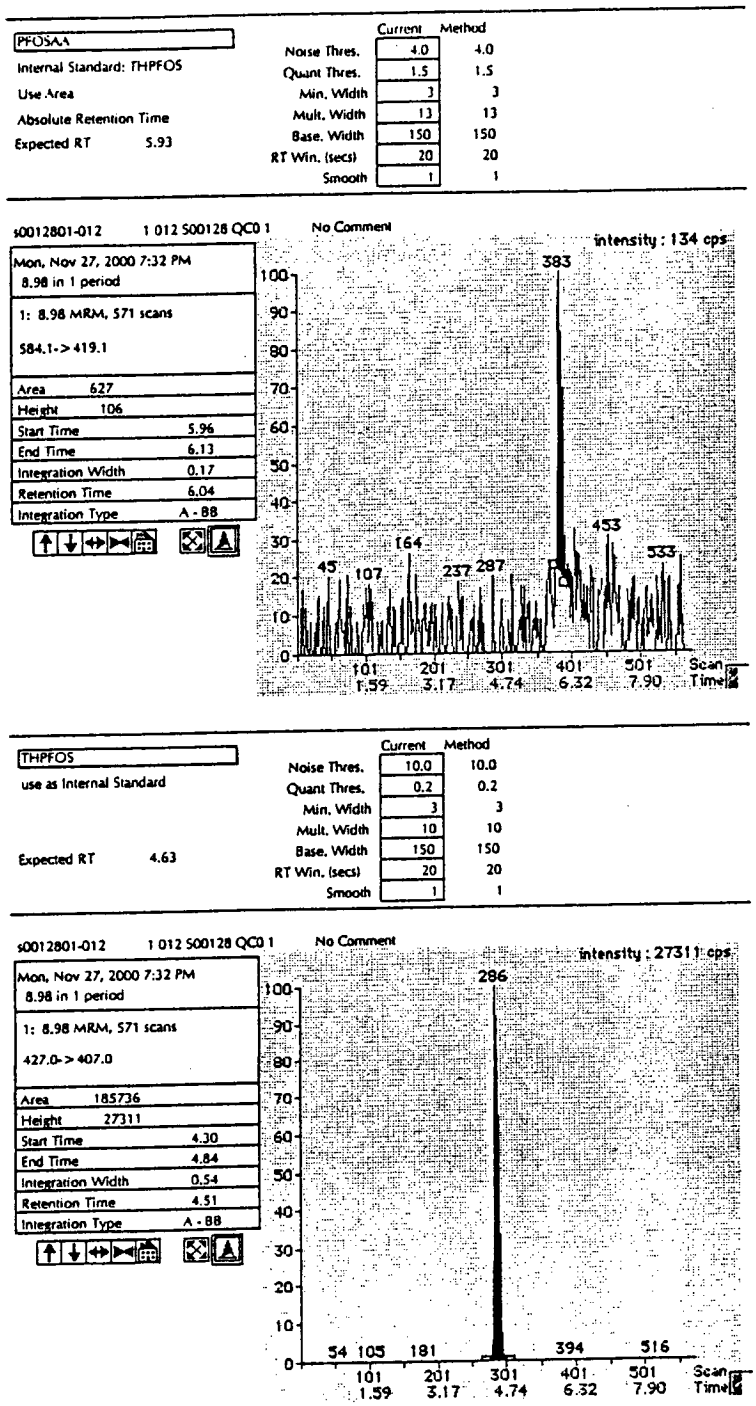

Figure 19. Human Plasma Blank with Internal Standard (QC0) for PFOSA

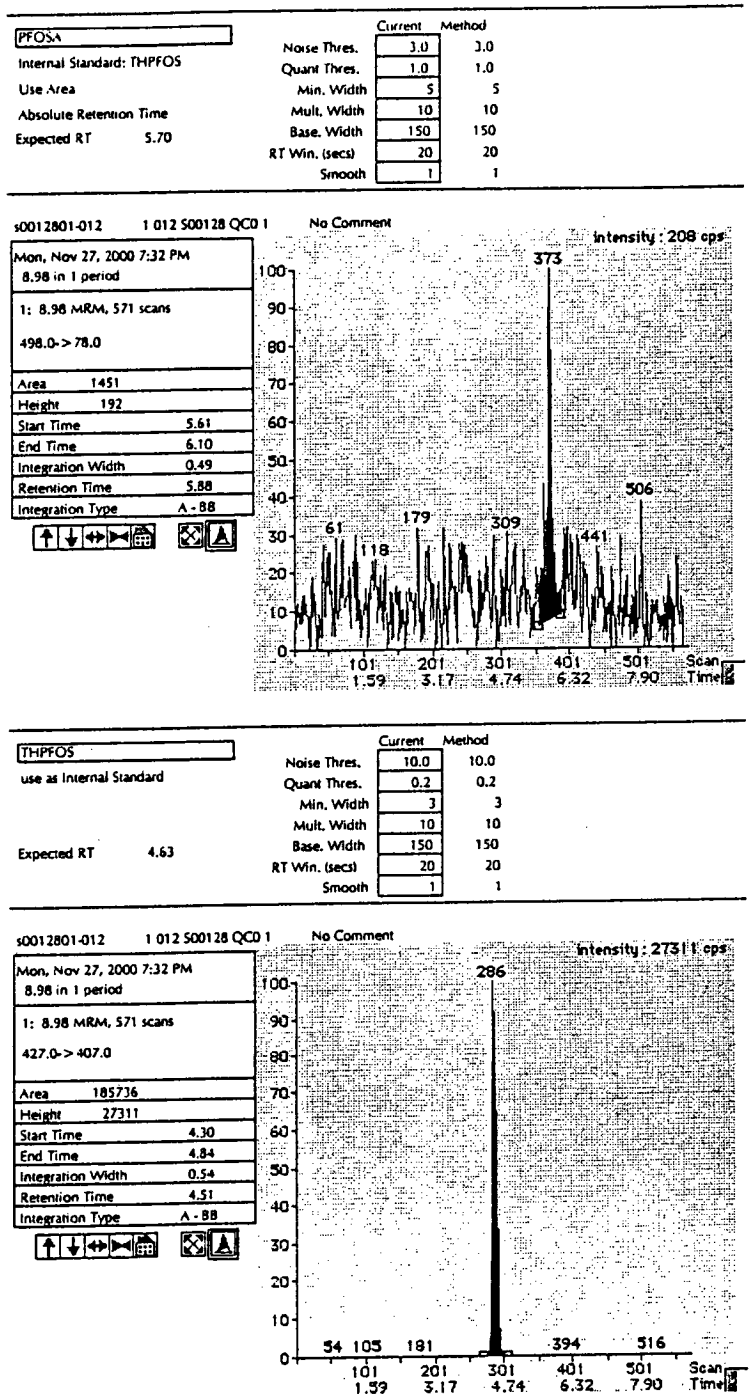

Figure 20. Human Plasma Blank with Internal Standard (QC0) for M556

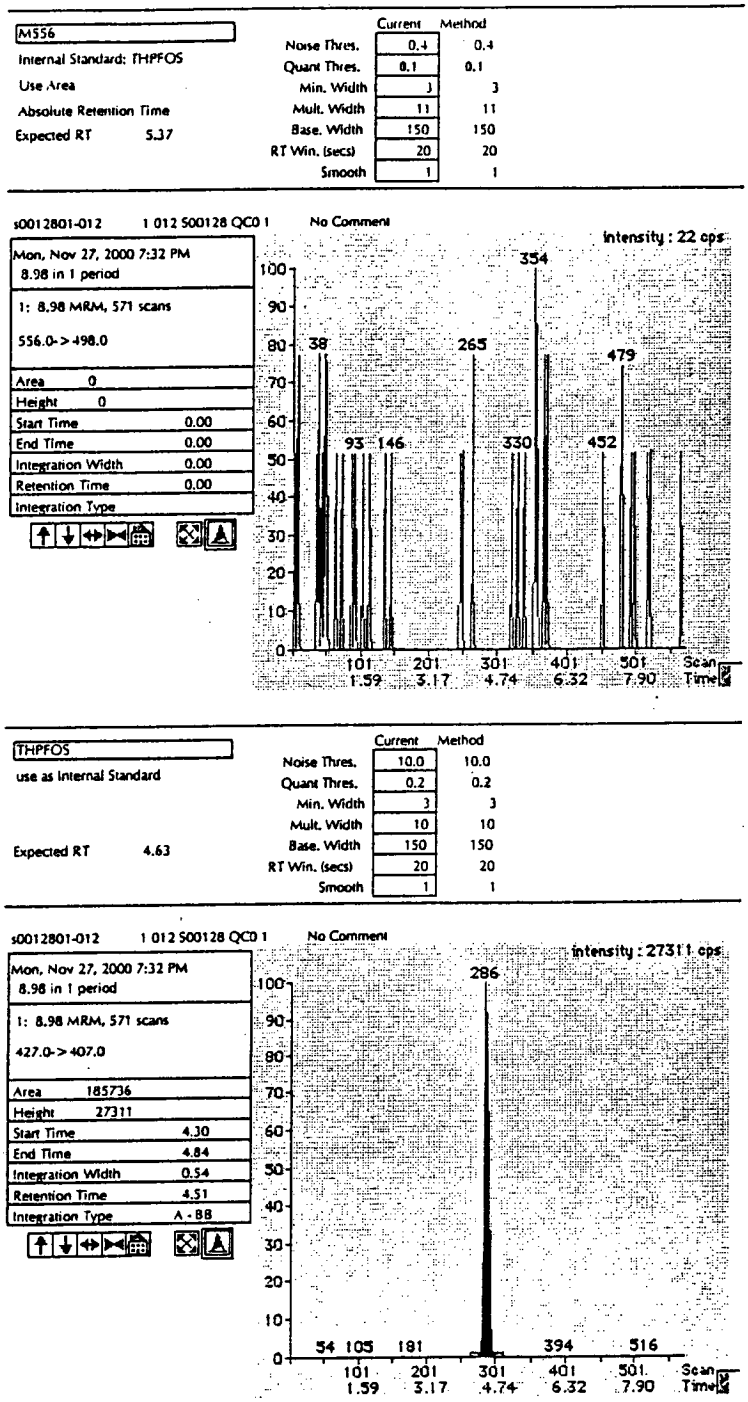

Figure 21. Human Plasma Blank with Internal Standard (QC0) for M570

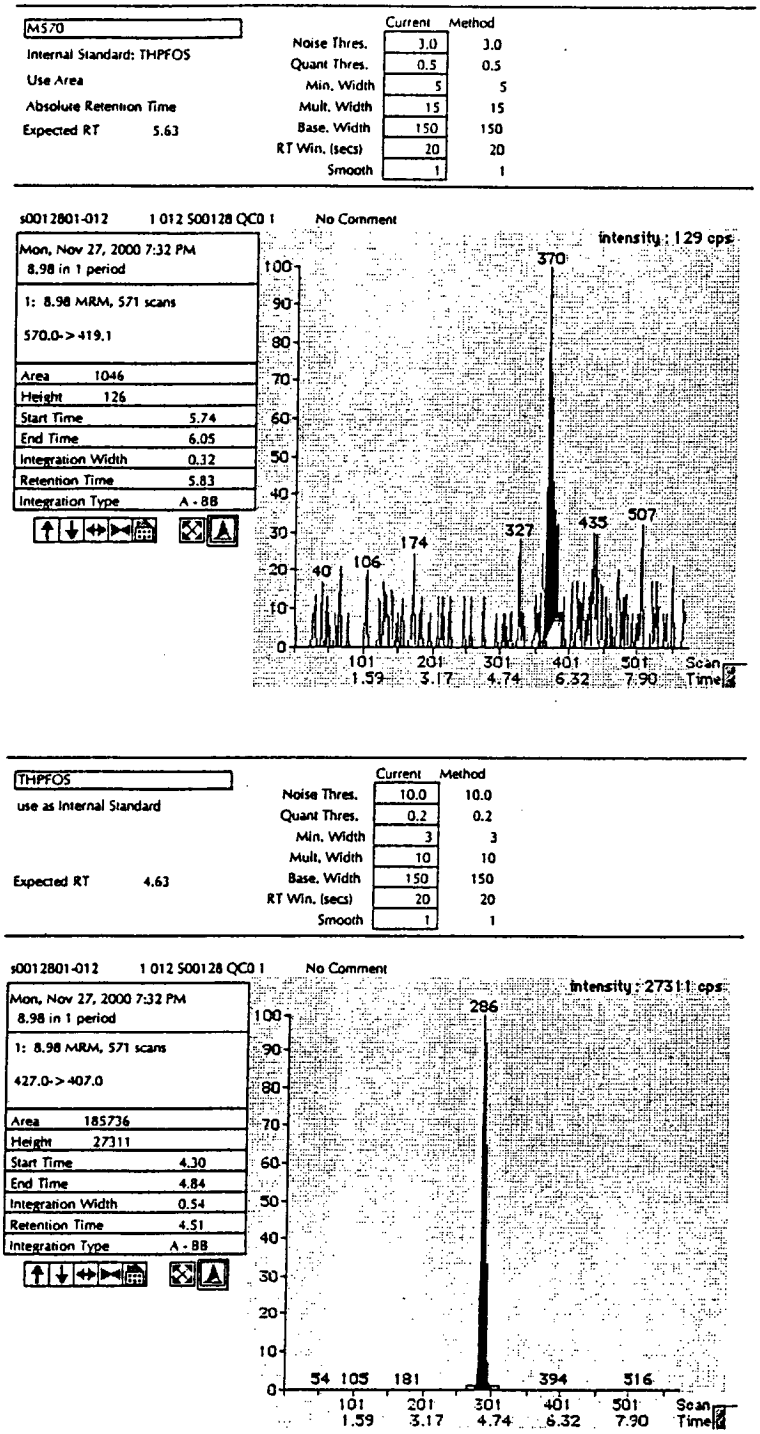

Figure 22. Low Standard for PFOS

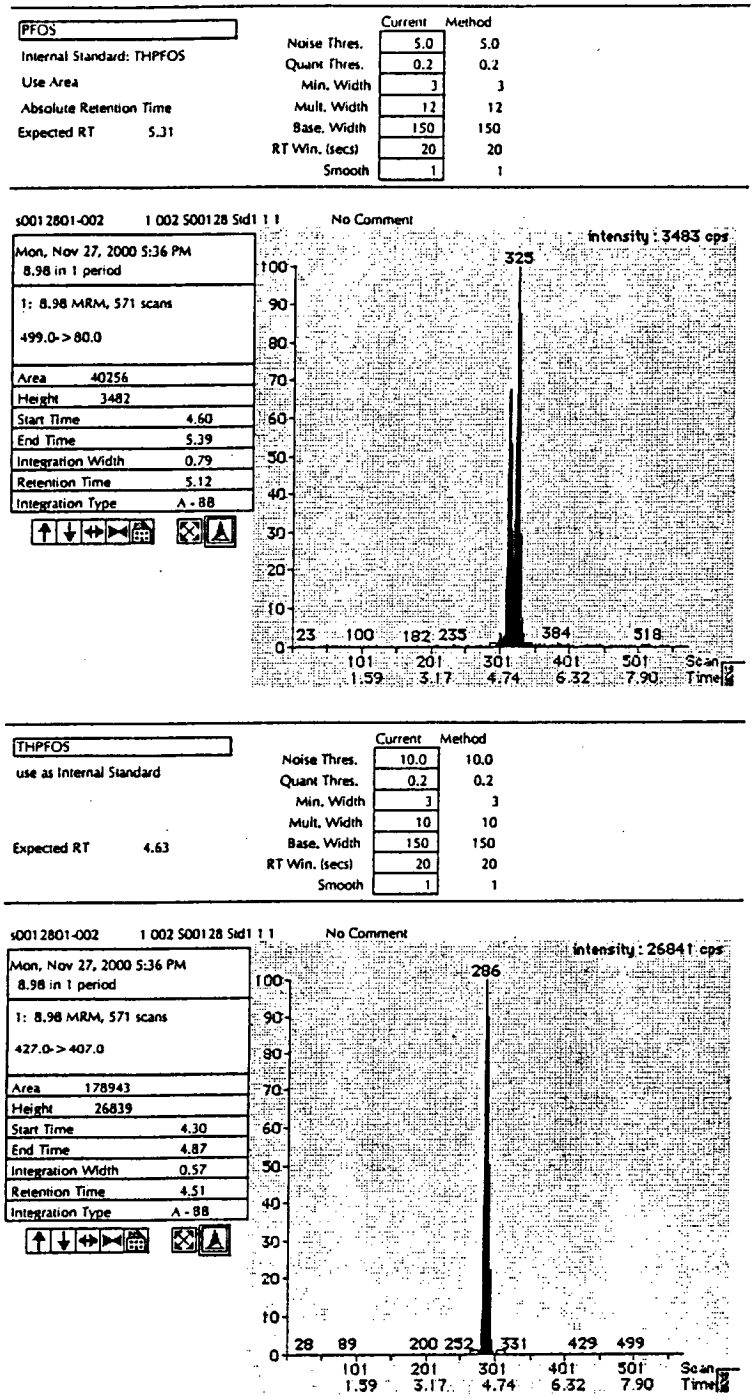

Figure 23. Low Standard for PFHS

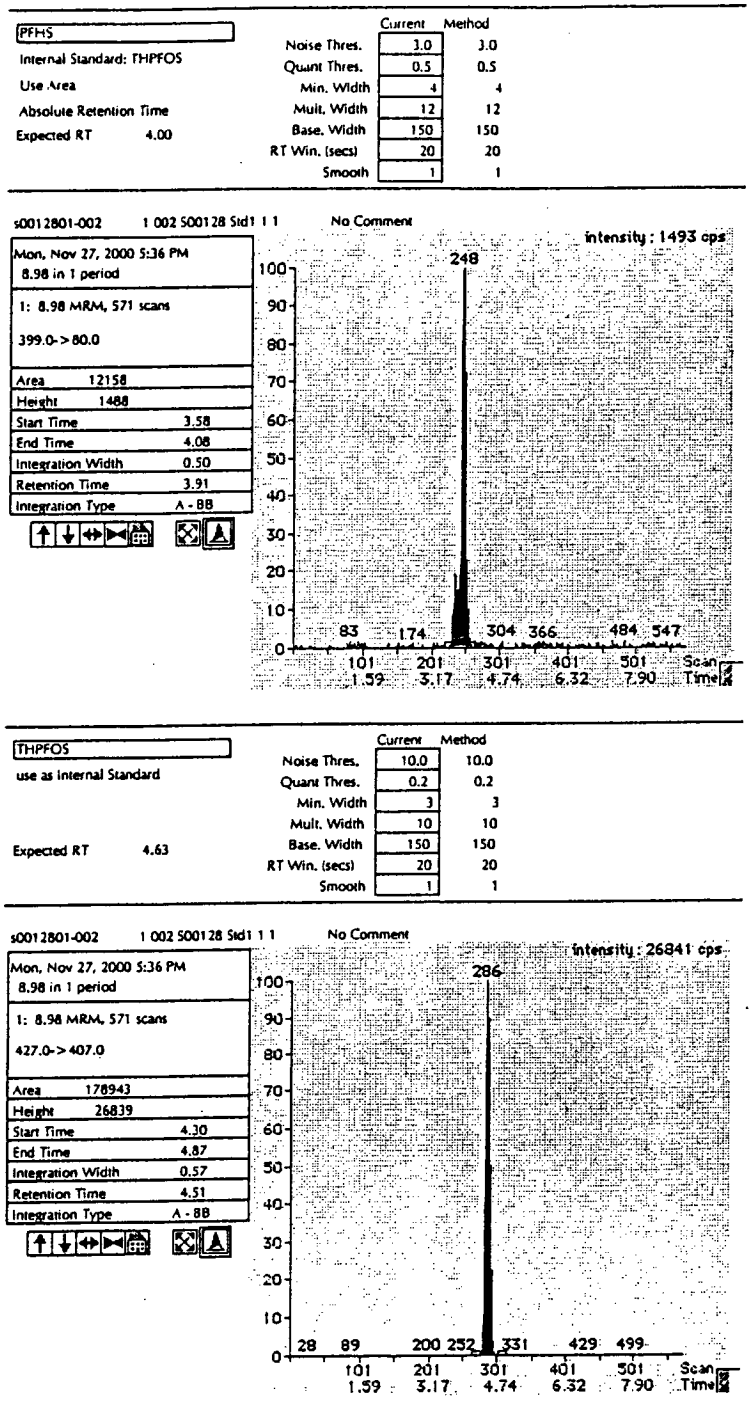

Figure 24. Low Standard for PFOA

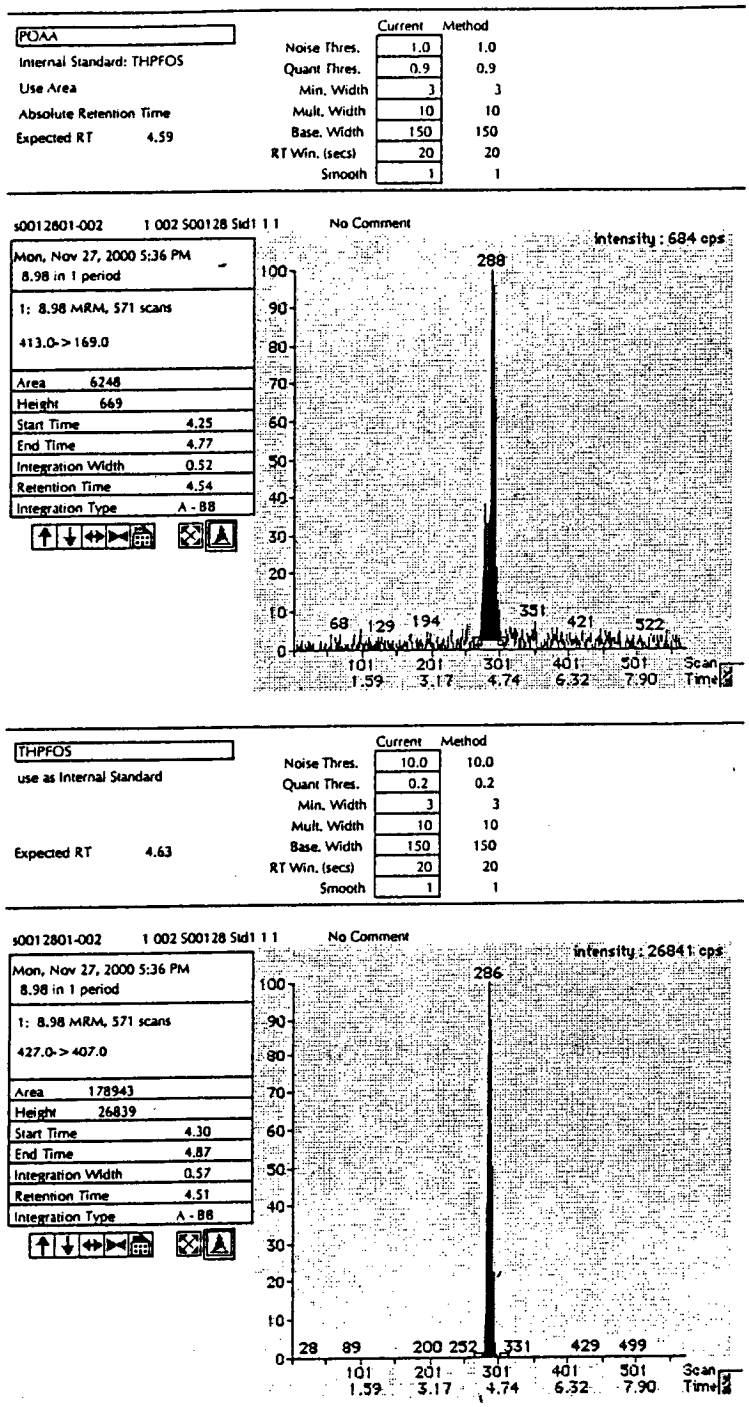

Figure 25. Low Standard for PFOSAA

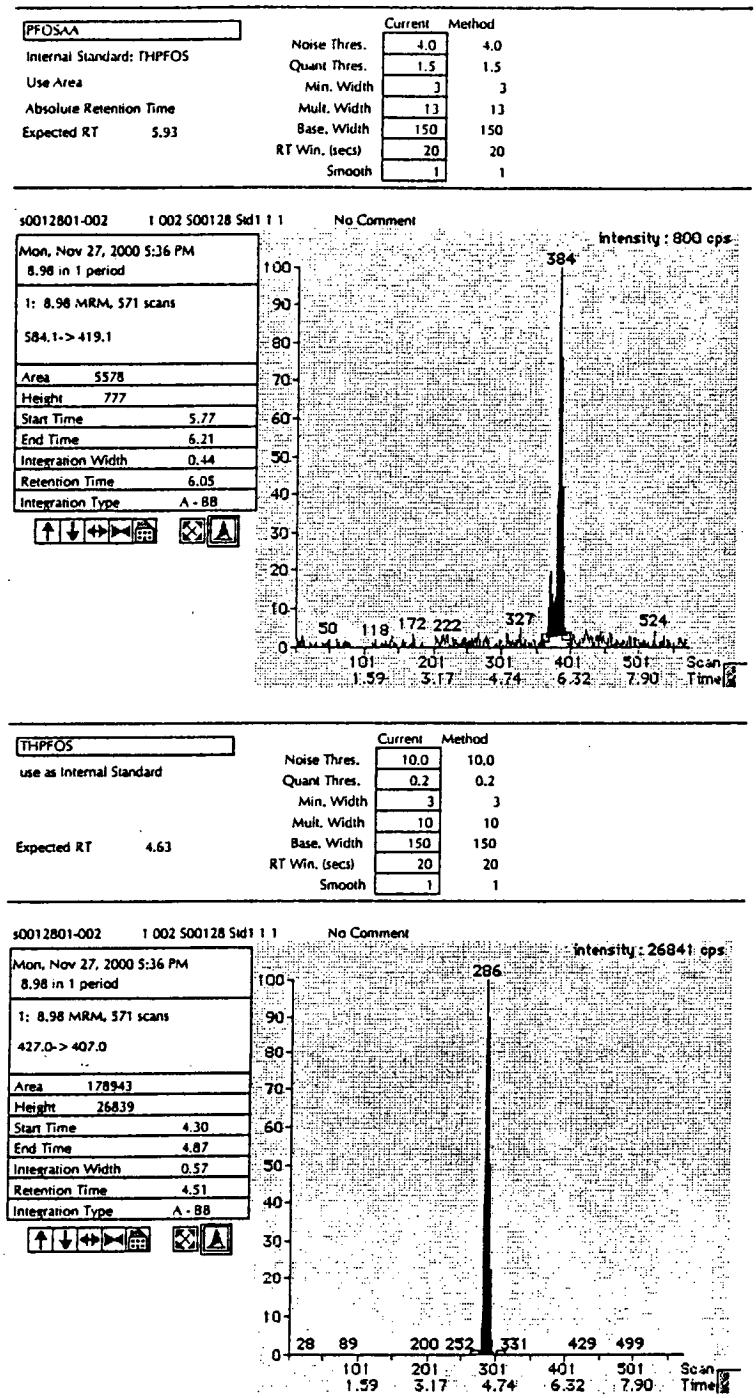

Figure 26. Low Standard for PFOSA

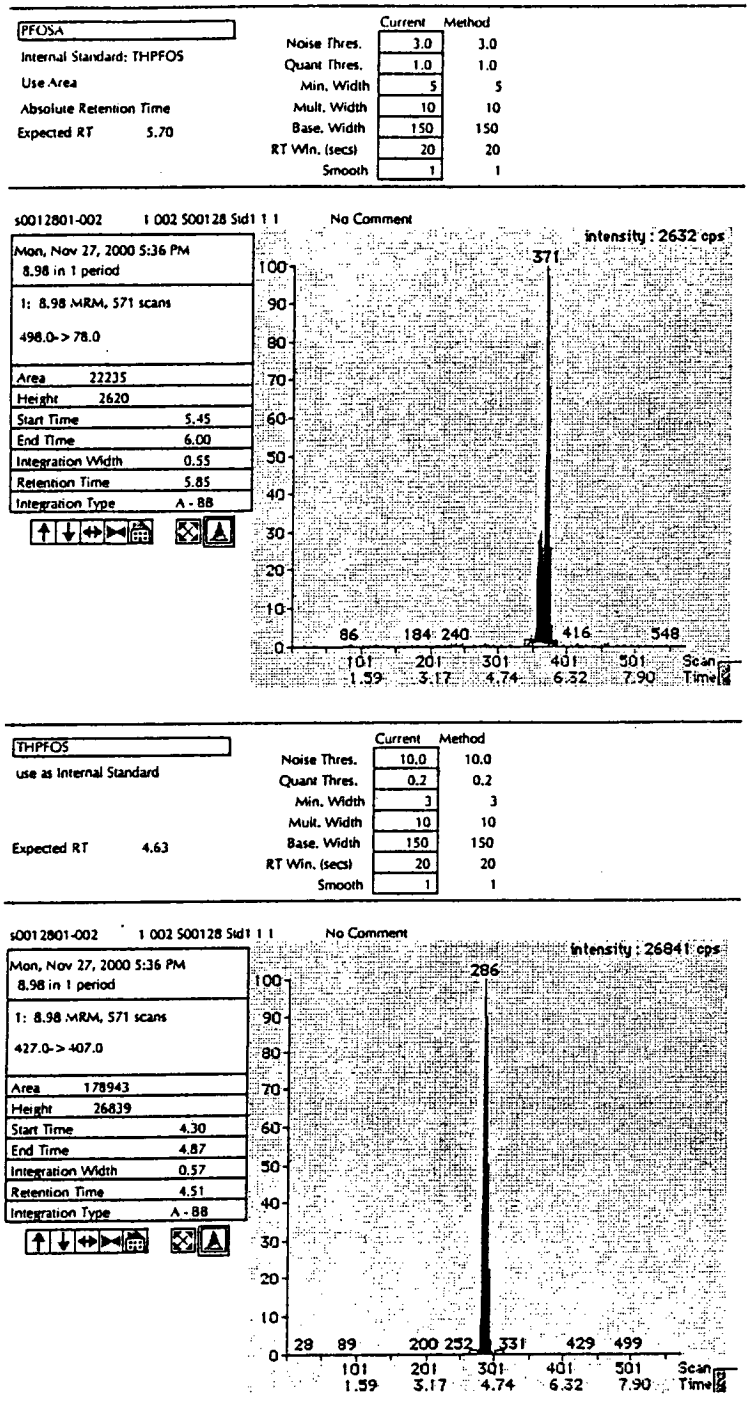

Figure 27. Low Standard for M556

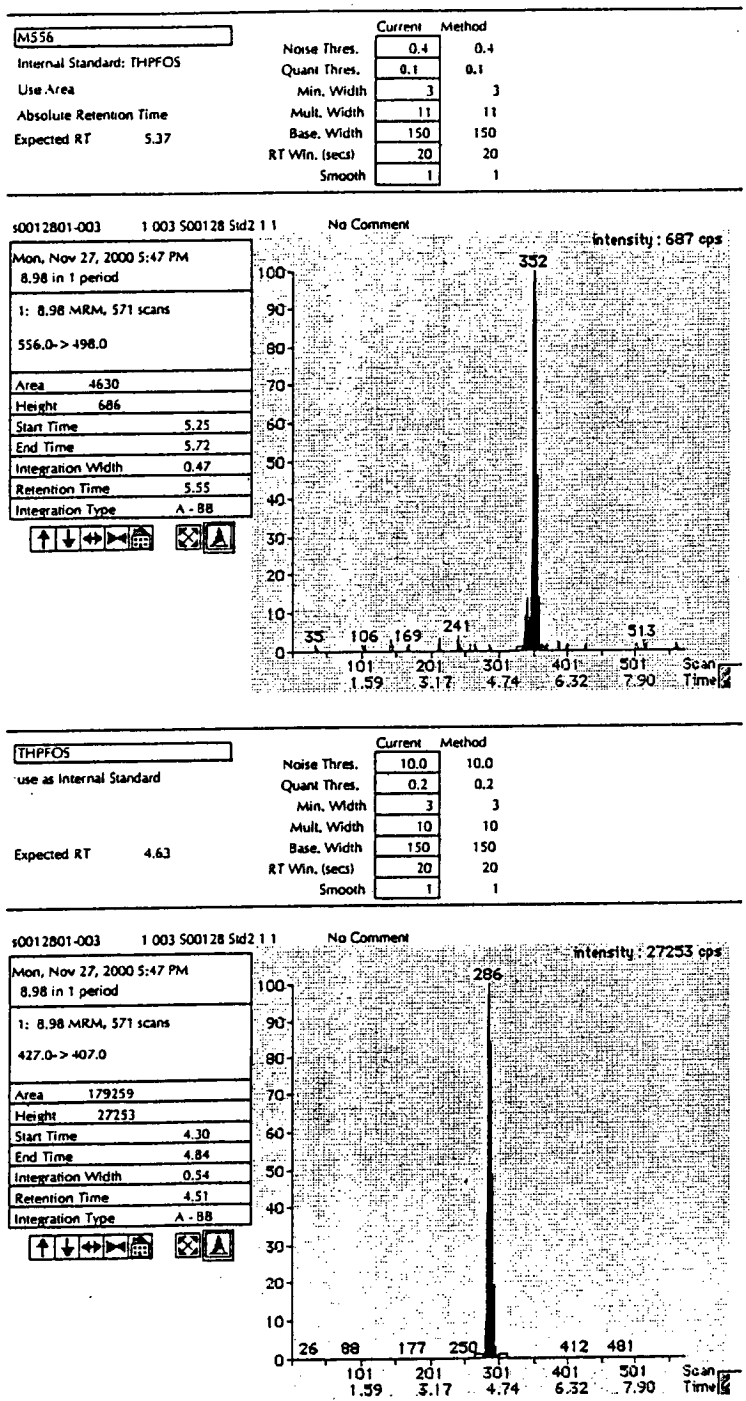

Figure 28. Low Standard for M570

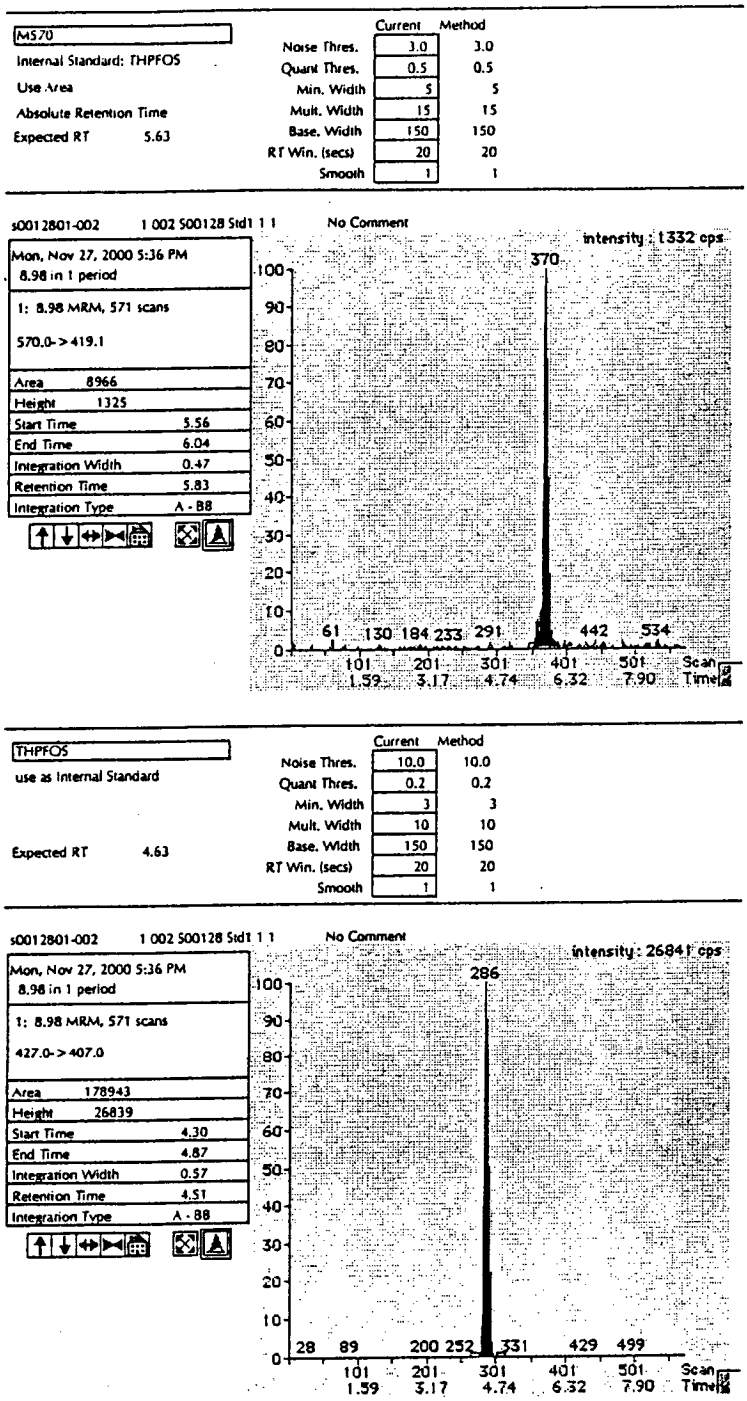

Figure 29. High Standard for PFOS

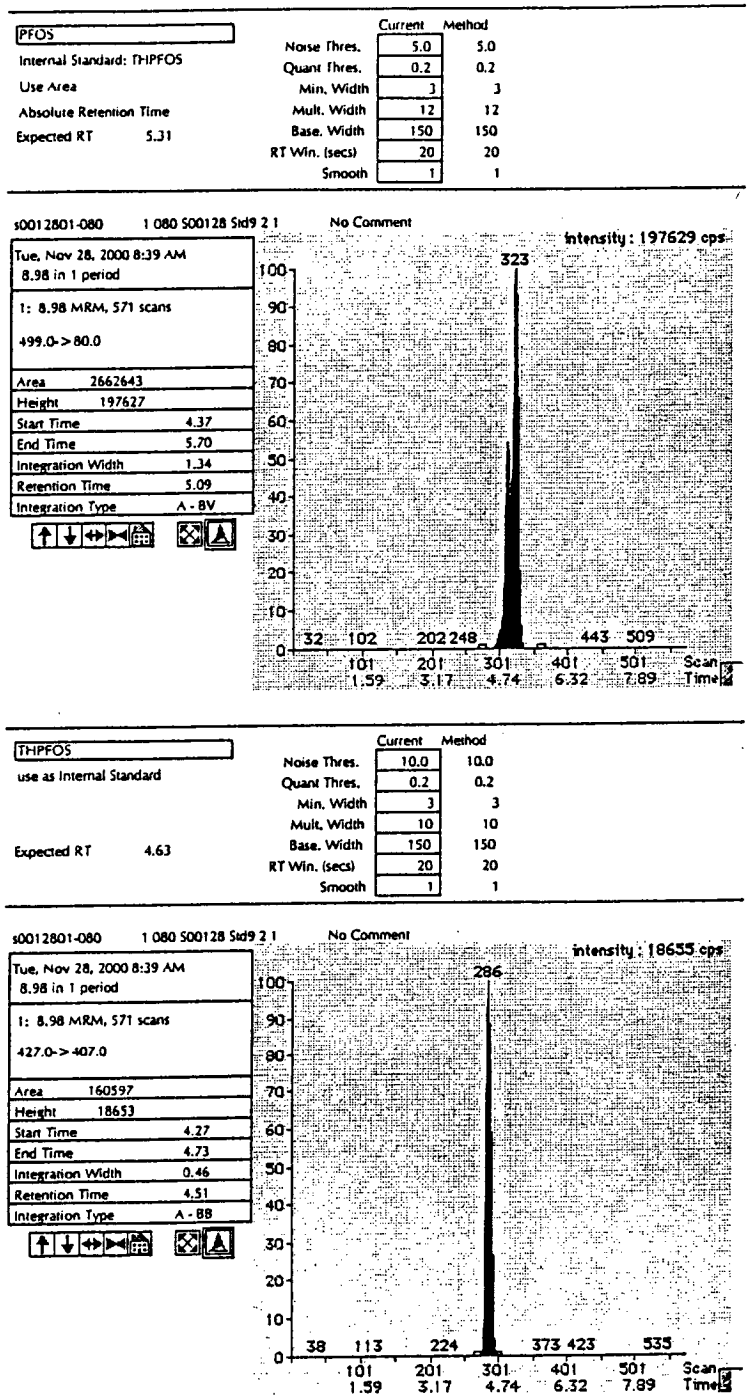

Figure 30. High Standard for PFHS

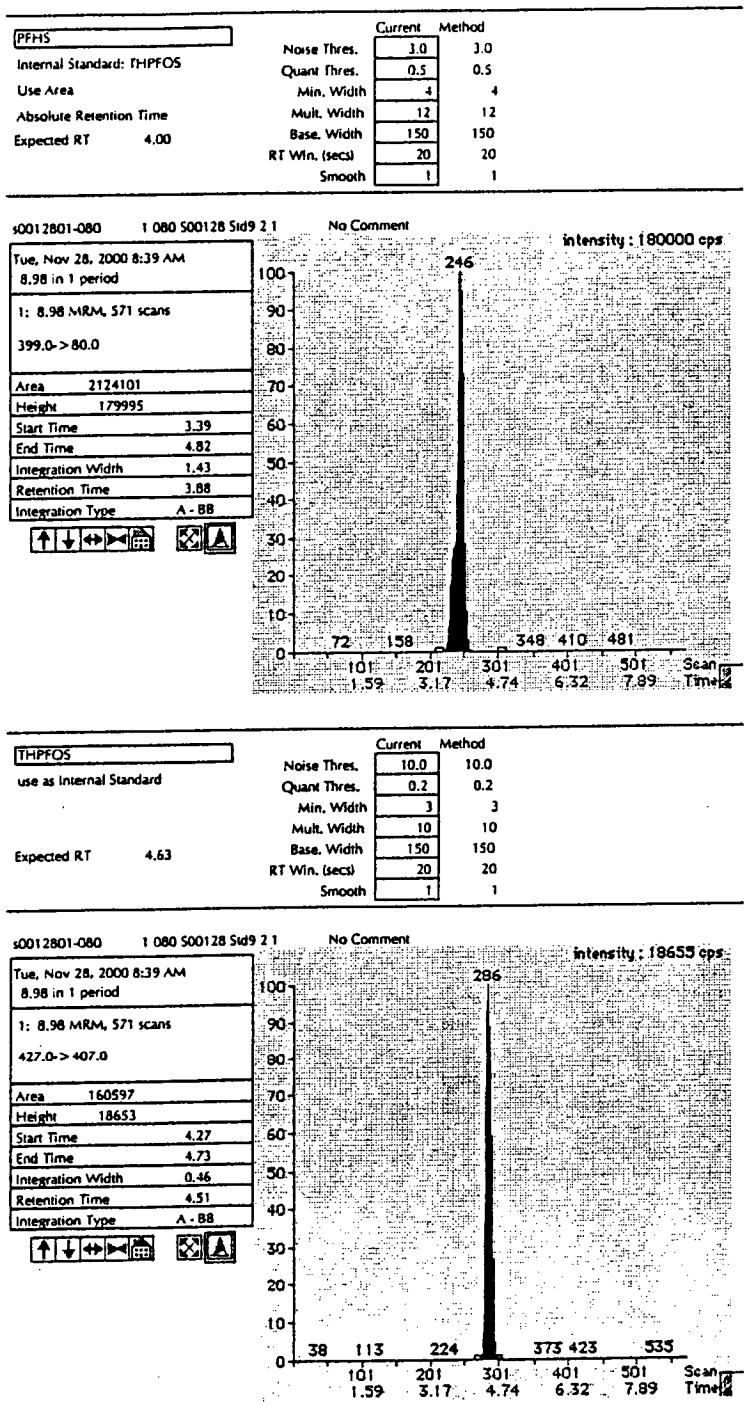

Figure 31. High Standard for PFOA

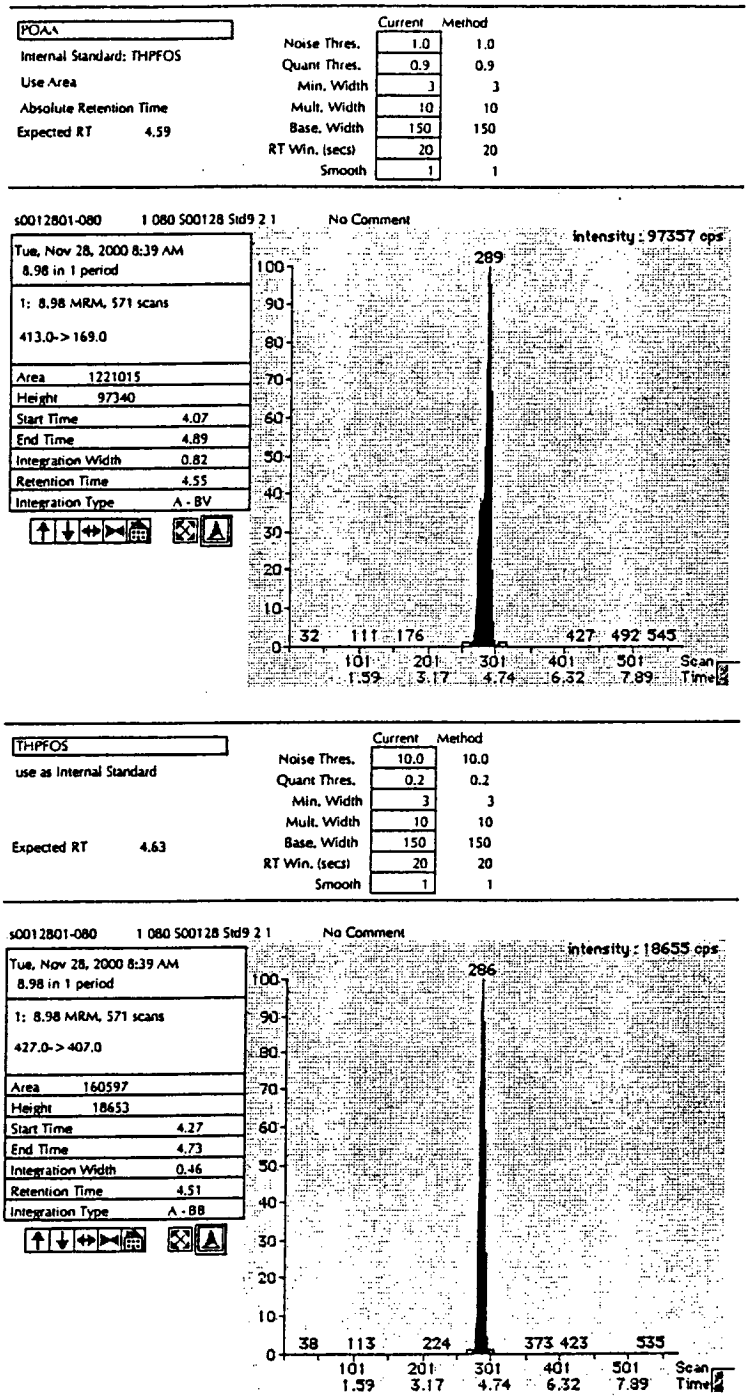

Figure 32. High Standard for PFOSAA

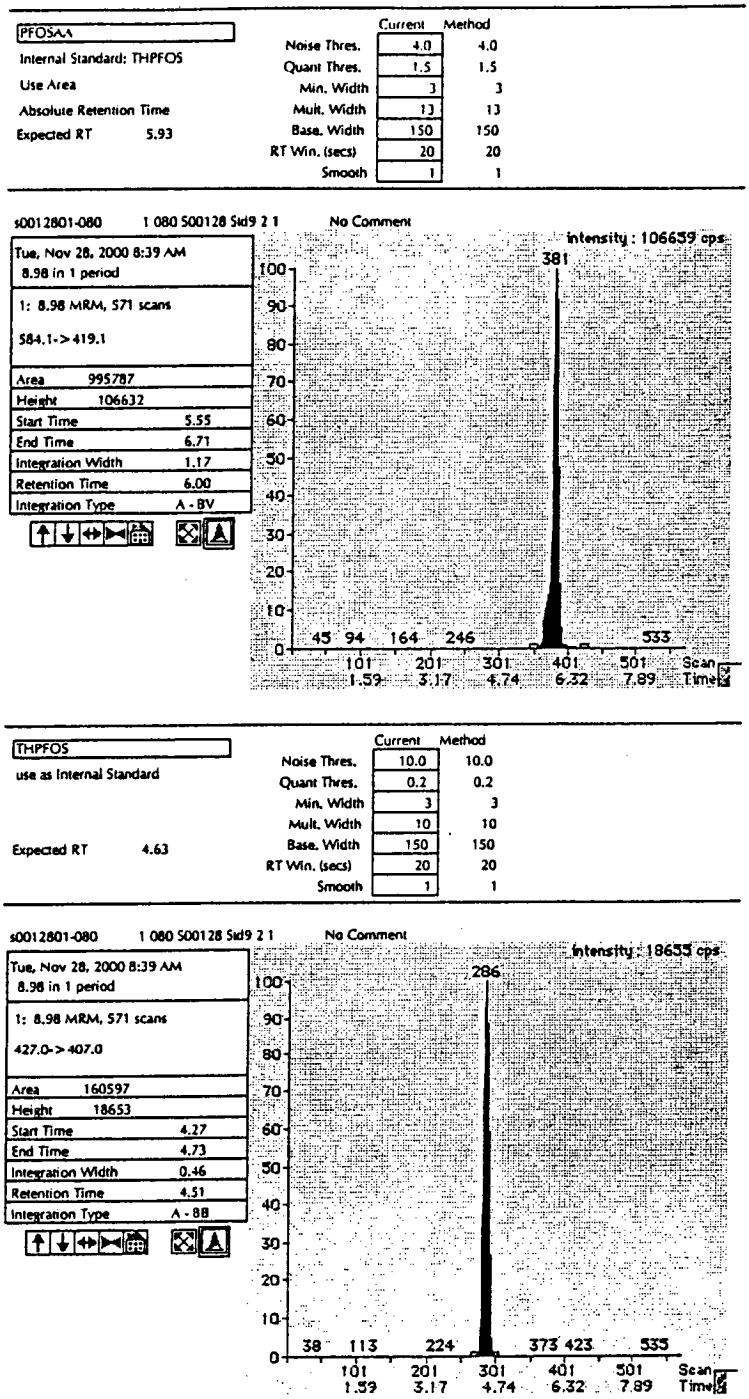

Figure 33. High Standard for PFOSA

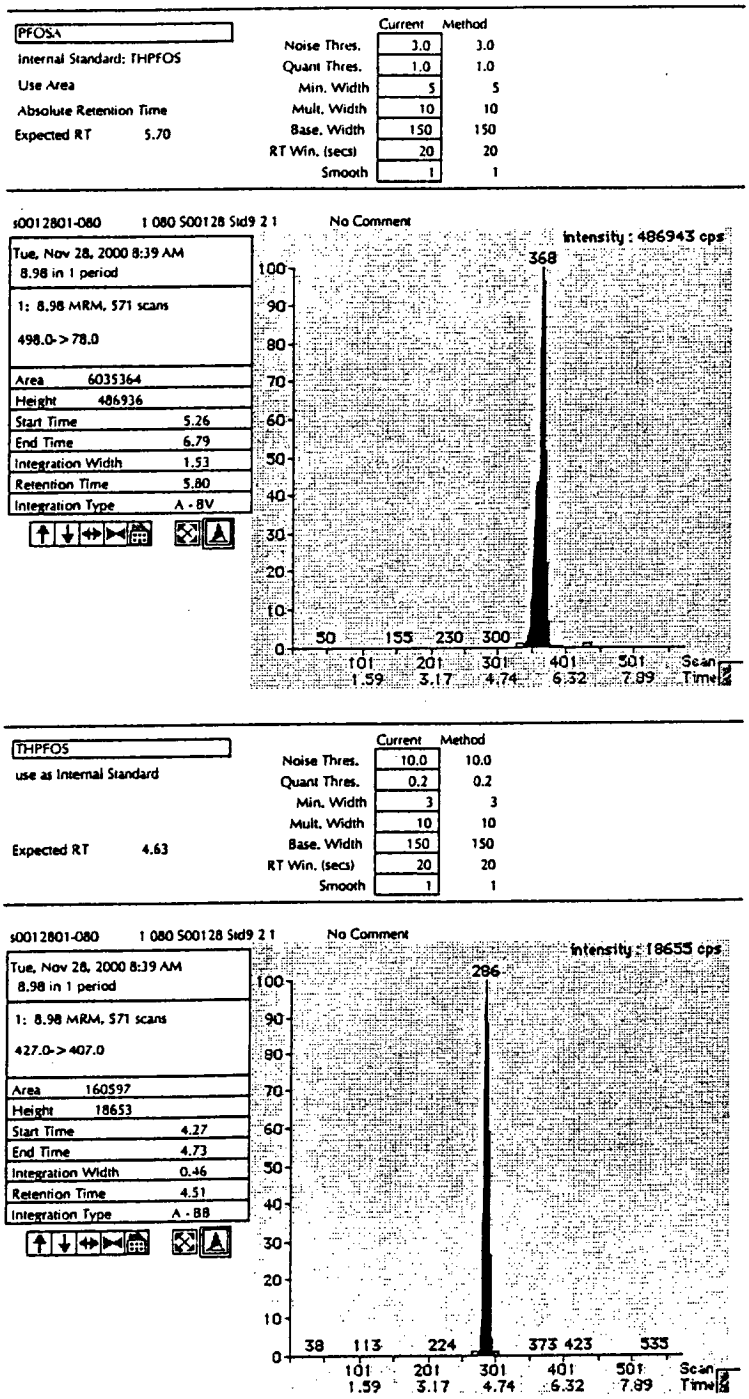

Figure 34. High Standard for M556

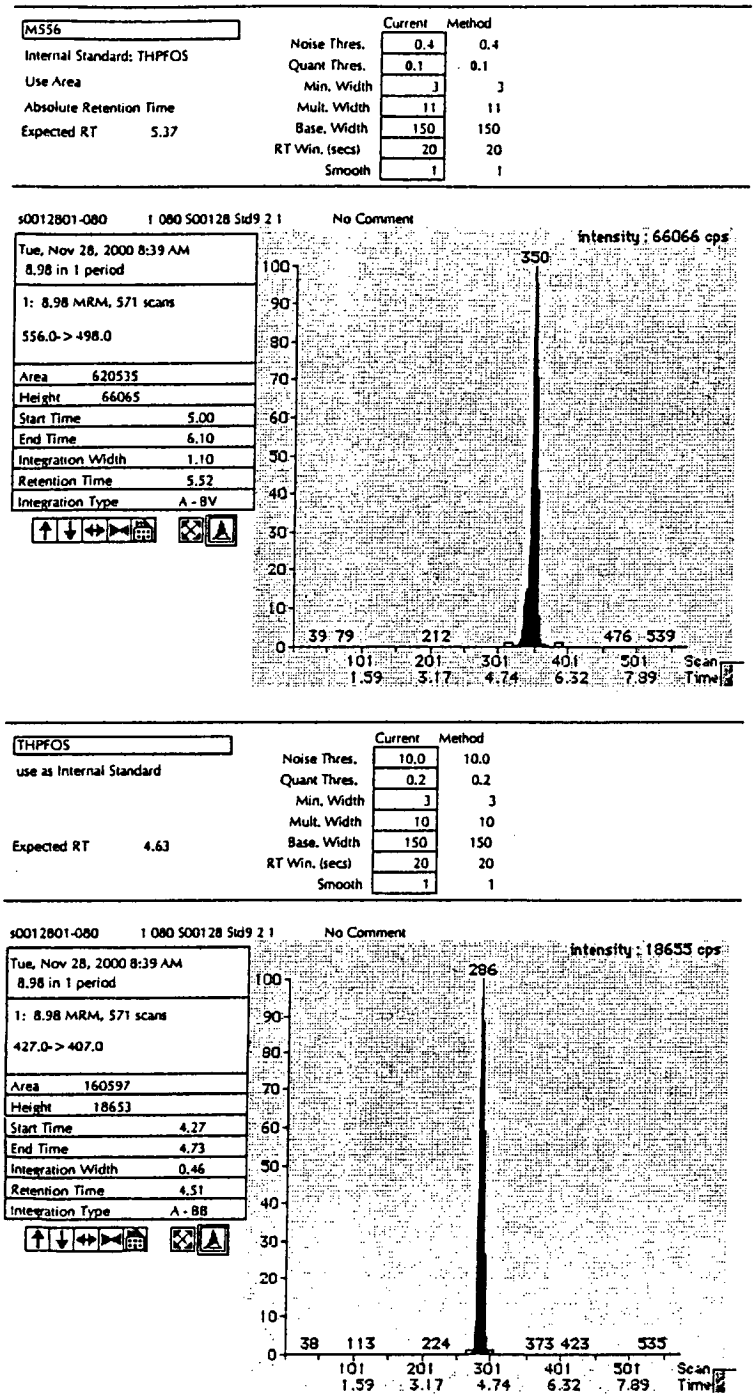

Figure 35. High Standard for M570