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Study Title

TENNESSEE RIVER VALLEY SAMPLES

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Revised Report

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Performing Laboratory

3M Environmental Laboratory

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Experimental Dates

Sample Analysis Initiation: 26 June 2002
Sample Analysis Completion: 12 November 2002

Location of Archives

All original raw data and the report have been archived at the 3M Environmental Laboratory according to 3M Standard Operating Procedures. Remaining specimens pertaining to the analytical phase of this study will be archived at the 3M Environmental Laboratory for as long as the quality of the preparation affords evaluation.

SUMMARY

Fish, river water, and river sediment samples were collected from three locations in the Tennessee River near the 3M Decatur, Alabama facility. The samples were analyzed for perfluorobutane sulfonate (PFBS), perfluorohexane sulfonate (PFHS), perfluorooctanoate (PFOA), perfluorooctane sulfonylamide (FOSA), and perfluorooctane sulfonate (PFOS). The analyses were accomplished by extracting the samples using Solid Phase Extraction (SPE) and then analyzing them using HPLC-Electrospray/Mass Spectrometry (HPLC/ES/MS).

Sampling Location 1 (SL-1) was located downstream of the 3M facility near Fox Creek at river mile 296. Sampling Location 2 (SL-2) was across the river from the 3M facility at river mile 301. Sampling location 3 (SL-3) was upstream from the 3M facility at river mile 307.5.

Analytical results are presented in Table 1:

Table 1. Sample Location, Sample Type, and Analytical Data Summary.

Sampling Location & Species Sampled	Fish Tissue				
	PFBS (ng/g)	PFHS (ng/g)	PFOA (ng/g)	FOSA (ng/g)	PFOS (ng/g)
SL-1, C (n=6)	<LLOQ	<LLOQ	<LLOQ	60.9 (6/6) ²	113 (6/6) ²
SL-2, C (n=7)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
SL-3, C (n=6)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	15.2 (4/6) ²
SL-1, LM (n=6)	<LLOQ	<LLOQ	<LLOQ ¹	<LLOQ	553 (6/6) ²
SL-2, LM (n=4)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	169 (2/4) ²
SL-3, LM (n=7)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
SL-3, SM (n=1)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
	River Water				
	PFBS (pg/mL)	PFHS (pg/mL)	PFOA (pg/mL)	FOSA (pg/mL)	PFOS (pg/mL)
SL-1, RW	84	196	550	25	491
SL-2, RW	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
SL-3, RW	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
	River Sediments				
	PFBS (pg/g)	PFHS (pg/g)	PFOA (pg/g)	FOSA (pg/g)	PFOS (pg/g)
SL-1, RS	577	130	732	1440	3130
SL-2, RS	437	<LLOQ	<LLOQ	141	457
SL-3, RS	452	<LLOQ	127	68	416

C = Catfish, LM = Large mouth bass, SM = Small mouth bass, RW = River water, and RS = River Sediments. ¹High triplicate value was statistically eliminated using Dixon's Q-Test.
²(Number of Fish > LLOQ / Number of Fish Analyzed). Only one River Water and one River Sediment sample were collected from each sampling location.

PURPOSE

The purpose of this study is to perform quantitative screening for PFBS, PFHS, PFOA, FOSA, and PFOS in sport-caught fish, river water, and river sediments from three sampling locations of the Tennessee River near Decatur, Alabama.

TEST AND ANALYTICAL REFERENCE SUBSTANCES

Table 2: Characterization of the Test and Analytical Reference Substances.

TEST AND ANALYTICAL REFERENCE SUBSTANCE		PFHS	FOSA	PFOA
Compound		PFHS, Perfluorohexanesulfonate	FOSA, Perfluorooctanesulfon- amide	PFOA, Perfluorooctanoate Ammonium
Source		3M Specialty Materials, Bldg. 236-2B-11	3M Specialty Materials, Bldg. 236-1B-10	3M Specialty Materials, Bldg. 236-1B-10
Storage Conditions		Frozen	Frozen	Frozen
3M Laboratory Identification Number		TCR-083	TCR-029	TCR-123
Physical Description		White Powder	Light yellow waxy solid	White Powder
Purity		98.6%	Undetermined	95.0%
TEST AND ANALYTICAL REFERENCE SUBSTANCE		PFBS	PFOS	
Compound		PFBS, Potassium Perfluorobutane Sulfonate	PFOS, Potassium Perfluorooctanesulfonate	
Source		Wildlife International	3M Specialty Materials, Bldg. 236-1B-10	
Storage Conditions		Frozen	Frozen	
3M Laboratory Identification Number		TCR-359	TCR-129	
Physical Description		White crystals	White Powder	
Purity		97.3%	Undetermined	

TEST SYSTEMS

Table 3a. Description of Fish Tissue Analyzed in this Study

FISH TISSUE	
Source	Tennessee River
*Types	Catfish Large Mouth Bass Small Mouth Bass
Storage Conditions	Frozen
Location 1	Downstream from the 3M facility near Fox Creek (river mile 296)
Location 2	Across the river from the 3M facility (river mile 301)
Location 3	Upstream of the 3M facility (river mile 307.5)

- The fish were filleted and representative aliquots of the fillets were analyzed.

Table 3b. Description of River Water Analyzed in this Study

RIVER WATER	
Source	Tennessee River
Storage Conditions	Chilled (approximately 4° C.)
Location 1	Downstream from the 3M facility near Fox Creek (river mile 296)
Location 2	Across the river from the 3M facility (river mile 301)
Location 3	Upstream of the 3M facility (river mile 307.5)

Table 3c. Description of River Sediments Analyzed in this Study

RIVER SEDIMENTS	
Source	Tennessee River
Storage Conditions	Chilled (approximately 4° C.)
Location 1	Downstream from the 3M facility near Fox Creek (river mile 296)
Location 2	Across the river from the 3M facility (river mile 301)
Location 3	Upstream of the 3M facility (river mile 307.5)

METHOD SUMMARIES

The concentrations of PFBS, PFHS, PFOA, FOSA, and PFOS in Fish Tissue, River Water, and River Sediments were determined by using Solid Phase Extraction (SPE) and High Performance Liquid Chromatography-Electrospray/Mass Spectrometry (HPLC/ES/MS).

PREPARATORY METHODS

- The following tables describe the sample preparation methods for the Fish Tissue, River Water, and River Sediment samples. Data Quality Objectives (DQO) are also given for each sample preparation method.
- Fish Tissue Sample Preparation Method**

Table 4a. Fish Tissue Sample Preparation Method

STEP	FISH TISSUE SAMPLE PREPARATION METHOD
1	Approximately 2 g of Fish Tissue and 8 mL of ASTM Type 1 Water were homogenized.
2	The homogenate was centrifuged to eliminate the foam and then shaken/vortexed to re-suspend the homogenate.
3	Each homogenate was aliquoted into triplicate samples. This was accomplished by transferring 1.0 mL of homogenate to 3 separate 15 mL centrifuge tubes.
4	Matrix spikes (MS) were prepared for every other homogenate. In this case, an additional (4 th) 1.0 mL of homogenate was transferred to another 15 mL centrifuge tube. The MS's were spiked with 100 μ L of a 100 μ g/mL spike solution containing each of the test substances.
5	5.0 mL of acetonitrile was then added to the centrifuge tubes. The tubes were capped and shaken for 20 min at 300 rpm.
6	After mixing, the samples were centrifuged at 3000 rcf for 10 minutes to clarify the supernatant.
7	The supernatant was decanted into new 50 mL centrifuge tubes and diluted with 40 mL of water.
8	Waters C-18 Tri-functional, Sep-Pak 1g, 6cc SPE columns with attached 70 mL reservoirs were placed onto vacuum manifolds and pre-conditioned in the following manner. Approximately 10 mL of methanol was added to the columns and the vacuum was applied. Once most of the methanol had been pulled through, ASTM Type 1 Water was added (5-10 mL). When most of this was pulled through, more water was added (5-10mL). When there was only a small amount of water left in the reservoir, the stopcock was turned to stop the vacuum to the column. The columns were not allowed to go dry.
9	The supernates from step 7 were passed through the pre-conditioned SPE columns. The aqueous eluent was not collected. The columns were allowed to dry for at least 3 minutes.
10	The analytes were eluted from the SPE columns with 2.0 mL of methanol into autovials.

See the preparation worksheets for other exact amounts, times, speeds, etc.

Table 4b. Preparation of Extracted Calibration Curves for the Fish Tissue.

STEP	PREPARATION OF EXTRACTED CALIBRATION CURVES FOR THE FISH TISSUE
	There were two extracted Fish Tissue calibration curves: Large Mouth Bass and CatFish. Rangefinding experiments were done to determine which Fish Tissues had the lowest endogenous levels of the analytes. Then, one Large Mouth Bass and one CatFish sample containing the least amount of endogenous test substances were selected as the matrix to construct the calibration curves. The Small Mouth Bass was analyzed using the Large Mouth Bass calibration curve. The procedure for preparing the extracted calibration curves is the same as the Fish Tissue sample preparation, except the volumes were scaled-up to provide a homogeneous batch of fish tissue matrix. The differences are as follows:
1	Approximately 10 g of Fish Tissue and 40 mL of ASTM Type 1 Water were combined and homogenized.
2	1.0 mL of homogenate was transferred to the appropriate number of tubes.
3	Each tube was spiked with the predetermined amount of spike solution.

Table 4c. Fish Tissue Analytical Data Quality Objectives.

STEP	FISH TISSUE ANALYTICAL DATA QUALITY OBJECTIVES
1	All samples were prepared in triplicate. The %RSD should be $\leq 25\%$
2	Matrix spikes were performed on half of the fish of each type from each sampling location. Recovery should be within $\pm 30\%$ from expected values. A total of 18 matrix spikes were prepared for the Fish Tissue samples.
3	Water blanks, consisting of an aliquot of water run through the entire sample preparation and extraction process were prepared with samples from each sampling location. Water blanks containing $< \frac{1}{2}$ LLOQ of each analyte for the data set in which they were run were considered acceptable.
4	Extraction blanks, consisting of an aliquot of methanol run through a pre-conditioned SPE cartridge, were prepared for each sampling location. Extraction blanks containing $< \frac{1}{2}$ LLOQ of each analyte for the data set in which they were run were considered acceptable.
5	Mid-level calibration curve points were used as CCV's.

- River Water Sample Preparation Method**

Table 4d. River Water Sample Preparation Method

STEP	RIVER WATER SAMPLE PREPARATION METHOD
1	Waters C-18 Tri-functional, Sep-Pak 1g, 6cc SPE columns with attached 70 mL reservoirs were placed onto vacuum manifolds and pre-conditioned in the following manner. Approximately 10 mL of methanol was added to the columns and the vacuum was applied. Once most of the methanol had been pulled through, ASTM Type 1 Water was added (5-10 mL). When most of this was pulled through, more water was added (5-10mL). When there was only a small amount of water left in the reservoir, the stopcock was turned to stop the vacuum to the column. The columns were not allowed to go dry.
2	40 mL of the River Water was passed through a pre-conditioned SPE column. The columns were allowed to dry for at least 3 minutes.

Table 4d. River Water Sample Preparation Method

STEP	RIVER WATER SAMPLE PREPARATION METHOD
3	The analytes were eluted from the columns with 2.0 mL of methanol into autovials.

Table 4e. River Water Sample Data Quality Objectives

STEP	RIVER WATER SAMPLE DATA QUALITY OBJECTIVES
1	Water blanks, consisting of an aliquot of water run through the entire preparation and extraction process, were prepared with samples each day samples were extracted. Water blanks containing < ½ LLOQ of each analyte for the data set in which they were run were considered acceptable.
2	A non-extracted solvent calibration curve was used to quantitate the River Water samples. No extracted CCVs were prepared, a mid-level calibration curve point was used for this purpose.
3	No matrix spikes were performed during the sample preparation of the River Water samples.

- River Sediment Sample Preparation Method**

Table 4f. River Sediment Sample Preparation Method

STEP	RIVER SEDIMENT SAMPLE PREPARATION METHOD
	There were 3 River Sediment samples, one from each sampling location. Triplicate samples plus a matrix spike were prepared for each location.
1	Initially, sediment was transferred to 50 mL centrifuge tubes and centrifuged at 6000 RCF for 20 min. The liquid was decanted off and the remaining sediment was used for the sample preparation
2	Approximately 20g of sediment and 35mL of 1% Acetic Acid (aqueous) were combined into 50mL centrifuge tubes.
3	Matrix spikes were prepared by adding 100 uL of 100 ug/mL spike solution to the predetermined MS tubes.
4	The tubes were capped, vortexed, and then shaken for 60 min at 300 RPM.
5	They were then centrifuged at 6000 RCF for 20 minutes.
6	Waters C-18 Tri-functional, Sep-Pak 1g, 6cc SPE columns with attached 70 mL reservoirs were placed onto vacuum manifolds and pre-conditioned in the following manner. Approximately 10 mL of methanol was added to the columns and the vacuum was applied. Once most of the methanol had been pulled through, ASTM Type 1 Water was added (5-10 mL). When most of this was pulled through, more water was added (5-10mL). When there was only a small amount of water left in the reservoir, the stopcock was turned to stop the vacuum to the column. The columns were not allowed to go dry.
7	The aqueous solutions from step #5 were decanted from the samples and passed through pre-conditioned SPE cartridges. The aqueous eluates were discarded.
8	20 mL of methanol was then added to the sediment samples. The samples were vortexed, shaken for 30 min at 300 RPM, and then centrifuged at 6000 RCF for 20 minutes.
9	The methanol was decanted, passed through the SPE cartridge and collected. An additional 4 mL of methanol was used to wash the reservoir and the column.
10	The collected methanol was then added to approximately 200mL of ASTM Type 1 Water.
11	This solution was then passed through a new pre-conditioned SPE cartridge. The aqueous eluate was discarded.
12	The analytes were eluted from the SPE cartridges with 2.0 mL of methanol into autovials.

Table 4g. River Sediment Sample Data Quality Objectives

STEP	RIVER SEDIMENT SAMPLE DATA QUALITY OBJECTIVES
1	All samples were prepared in triplicate. The %RSD should be $\leq 25\%$
2	Matrix spikes were performed on each sample. Recovery should be within $\pm 30\%$ of expected values.
3	Two lab control samples, consisting of spiked water carried through the entire extraction process and analyzed with the samples, were prepared. However, the information was not used because the data suggested it was impossible to recover spiked analytes from acidified water when river sediment was not present.
4	Water blanks, consisting of an aliquot of water run through the entire preparation and extraction process, were prepared. Acceptable values were $< \frac{1}{2}$ LLOQ for the data set in which they were run.
5	The River Sediment samples were quantitated using a non-extracted solvent calibration curve. Mid-level calibration curve points were used as CCV's.

SAMPLE ANALYSIS

The samples were analyzed using HPLC/ES/MS. The analytical method was based on the 3M Environmental Laboratory Method ETS-8-155.1 "Analysis of Waste Stream, Water Extracts or Other Systems Using HPLC-Electrospray/Mass Spectrometry".

The following table details sample run information, including the sequence and the run start date of each sample.

Table 5. Sample Analysis Information.

	SAMPLE	LOCATION	SEQUENCE	DATE SEQUENCE WAS STARTED
1	Catfish	SL-1	D020629	29 Jun 02
		SL-2	D020629	29 Jun 02
		SL-3	D020702	02 Jul 02
2	Large Mouth Bass	SL-1	D020626	26 Jun 02
		SL-2	D020628	28 Jun 02
		SL-3	D020628	28 Jun 02
3	Small Mouth Bass	SL-3	D020628	28 Jun 02
4	River Water	SL-1	D020812	12 Aug 02
		SL-2	D020812	12 Aug 02
		SL-3	D020812	12 Aug 02
5	River Sediments	SL-1	I021112	12 Nov 02
		SL-2	I021112	12 Nov 02
		SL-3	I021112	12 Nov 02

ANALYTICAL METHOD

- Sample analysis was based on ETS-8-155.1 "Analysis of Waste Stream, Water Extracts Or Other Systems Using HPLC-Electrospray/Mass Spectrometry". Methanol extracts were analyzed using HPLC/ES/MS in the negative ion mode. PFBS, PFHS, PFOA, FOSA and PFOS levels were evaluated versus calibration standards ranging in concentration from 1-1000 ng analyte/mL. The target ions were as follows: $m/z = 299$ (PFBS), $m/z = 399$ (PFHS), $m/z = 413$ (PFOA), $m/z = 498$ (FOSA), and $m/z = 499$ (PFOS). The analytical method used for analysis is presented below; modifications may be necessary to optimize the method for individual instruments.

Analytical Equipment

Liquid Chromatograph: Agilent/Hewlett-Packard® Series 1100 Liquid Chromatograph system

Analytical column: Keystone® Betasil™ C₁₈ 2x50mm, 5µm particle size

Column temperature: 30 °C

Cycle Time: 9.5 minutes

Flow rate: 300µL/min

Injection volume: 4 to 20µL

Mobile phase components:

Solvent A: 2.0 mM ammonium acetate in water

Solvent B: HPLC Grade Methanol

Solvent Gradient:	<u>Time</u>	<u>% B</u>
	0.00	10 %
	0.50	10 %
	0.80	60 %
	3.50	100 %
	5.50	100 %
	6.50	10 %
	9.50	10 %

Mass Spectrometer: Agilent/Hewlett-Packard® Series 1100 API/Mass Spectrometer Detector

Software: Agilent ChemStation™ A.08.03

Fragmentor Voltage: m/z 299 = 100V

m/z 399 = 120V

m/z 413 = 100V

m/z 498 = 80V

m/z 499 = 140V

Capillary Voltage: 4000 V

Gain = 1.0 EMV

Mode: Electrospray Negative

Gas Temperature: 350 °C

Drying Gas: 8.0 L /min.

Nebulizer Pressure: 30 psig

Analysis Type: Single Ion Monitoring (SIM)

ANALYTICAL RESULTS

Data quality objectives outlined in the Preparation Methods section were met.

- **Regressions.** Quadratic curve fit was applied to calibration standards and sample data to improve quantitation over the concentration range appropriate to the data. All calibration curves had least-square fits of 0.990 or greater.
- **Calibration Standards.** Standards ranging in concentration from approximately 1.0 to 1000 ng/mL were used for the calibration curves. The standard curve points had an injection volume of 10 μ L. In some instances, the 1.0 ng/mL standard was injected at smaller volumes (1, 2, and 5 μ L), this was done to extend the low end of the calibration curve. Calibration curves were run before every analytical sequence. Percent deviations of each calibration standard were calculated. High-end curve points that were outside the $\pm 20\%$ criteria of the target concentration were excluded from the curve calculations. Low-end curve points that were outside the $\pm 20\%$ criteria were included in the curve calculations but excluded from the Lower Limit of Quantitation (LLOQ).
- **Continuing Calibration Verification (CCV).** For quantitative determinations, a mid-level matrix calibration check was analyzed at least every ten samples to monitor instrumental drift, with a limit of $\pm 20\%$ deviation of the target concentrations.
- **Lower Limit of Quantitation (LLOQ).** The LLOQ was equal to the lowest standard in the calibration curve, with a level of accuracy within $\pm 20\%$, that demonstrated a response greater than two times the response of analyte in the blank samples.
- **System Suitability.** Five system-suitability standards were analyzed before each initial calibration curve to measure the precision of the retention times and peak area. The precision criterion of $\pm 5\%$ for the mean area recovery was achieved.
- **Lab Control Spikes (LCS).** LCSs were performed for the River Sediments. However, the information was not used because the data suggested it was impossible to recover spiked analytes from acidified water when river sediment was not present.
- **Matrix Spikes (MS).** Matrix spikes were performed for the Fish Tissue and the River Sediment samples. Desirable matrix spike recoveries are $\pm 30\%$. Not all matrix spikes met this criteria.

The Fish Tissue data was quantitated using an extracted calibration curve while the River Water and River Sediment samples were quantitated using unextracted calibration curves. The calibration curve range that was injected was from 1 ng/mL to 1000 ng/mL, but the range used differed. The tables that follow contain either the calibration standard or the sample preparation method Lower Limit of Quantitation (LLOQ) for the analytes for each sample at each location along with batch used and the analysis date. The sample preparation method LLOQs will be annotated in the tables.

Table 6a. PFOS Calibration Standard Reprocessing Summary

PFOS CONCENTRATION		
SAMPLE TYPE AND LOCATION	BATCH AND ANALYSIS DATE	LOWER LIMIT OF QUANTITATION (LLOQ)
Catfish, SL-1	D020629, 29 Jun 02	2.5 ng/g
Catfish, SL-2	D020629, 29 Jun 02	2.5 ng/g
Catfish, SL-3	D020702, 02 Jul 02	1.0 ng/g
Large Mouth Bass, SL-1	D020626, 26 Jun 02	1.0 ng/g
Large Mouth Bass, SL-2	D020628, 28 Jun 02	2.5 ng/g
Large Mouth Bass, SL-3	D020628, 28 Jun 02	2.5 ng/g
Small Mouth Bass, SL-3	D020628, 28 Jun 02	2.5 ng/g
River Water, SL-1	D020812A, 12 Aug 02	125 pg/mL*
River Water, SL-2	D020812A, 12 Aug 02	125 pg/mL*
River Water, SL-3	D020812A, 12 Aug 02	125 pg/mL*
River Water, SL-1	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-2	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-3	D020812B, 12 Aug 02	1.25 ng/mL*
River Sediment, SL-1	I021112, 12 Nov 02	250 pg/g*
River Sediment, SL-2	I021112, 12 Nov 02	250 pg/g*
River Sediment, SL-3	I021112, 12 Nov 02	250 pg/g*

* Denotes sample preparation method LLOQ. Method LLOQ = Instrument LLOQ/Method Concentration Factor.

Table 6b. FOSA Calibration Standard Reprocessing Summary

FOSA CONCENTRATION		
SAMPLE TYPE AND LOCATION	BATCH AND ANALYSIS DATE	LOWER LIMIT OF QUANTITATION (LLOQ)
Catfish, SL-1	D020629, 29 Jun 02	2.5 ng/g
Catfish, SL-2	D020629, 29 Jun 02	2.5 ng/g
Catfish, SL-3	D020702, 02 Jul 02	2.5 ng/g
Large Mouth Bass, SL-1	D020626, 26 Jun 02	5.0 ng/g
Large Mouth Bass, SL-2	D020628, 28 Jun 02	5.0 ng/g
Large Mouth Bass, SL-3	D020628, 28 Jun 02	5.0 ng/g
Small Mouth Bass, SL-3	D020628, 28 Jun 02	5.0 ng/g
River Water, SL-1	D020812A, 12 Aug 02	25 pg/mL*
River Water, SL-2	D020812A, 12 Aug 02	25 pg/mL*
River Water, SL-3	D020812A, 12 Aug 02	25 pg/mL*
River Water, SL-1	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-2	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-3	D020812B, 12 Aug 02	1.25 ng/mL*
River Sediment, SL-1	I021112, 12 Nov 02	50 pg/g*
River Sediment, SL-2	I021112, 12 Nov 02	50 pg/g*
River Sediment, SL-3	I021112, 12 Nov 02	50 pg/g*

* Denotes sample preparation method LLOQ. Method LLOQ = Instrument LLOQ/Method Concentration Factor.

Table 6c. PFOA Calibration Standard Reprocessing Summary

PFOA CONCENTRATION		
SAMPLE TYPE AND LOCATION	BATCH AND ANALYSIS DATE	LOWER LIMIT OF QUANTITATION (LLOQ)
Catfish, SL-1	D020629, 29 Jun 02	5.0 ng/g
Catfish, SL-2	D020629, 29 Jun 02	5.0 ng/g
Catfish, SL-3	D020702, 02 Jul 02	5.0 ng/g
Large Mouth Bass, SL-1	D020626, 26 Jun 02	2.5 ng/g
Large Mouth Bass, SL-2	D020628, 28 Jun 02	5.0 ng/g
Large Mouth Bass, SL-3	D020628, 28 Jun 02	5.0 ng/g
Small Mouth Bass, SL-3	D020628, 28 Jun 02	5.0 ng/g
River Water, SL-1	D020812A, 12 Aug 02	50 pg/mL*
River Water, SL-2	D020812A, 12 Aug 02	50 pg/mL*
River Water, SL-3	D020812A, 12 Aug 02	50 pg/mL*
River Water, SL-1	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-2	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-3	D020812B, 12 Aug 02	1.25 ng/mL*
River Sediment, SL-1	I021112, 12 Nov 02	250 pg/g*
River Sediment, SL-2	I021112, 12 Nov 02	250 pg/g*
River Sediment, SL-3	I021112, 12 Nov 02	250 pg/g*

* Denotes sample preparation method LLOQ. Method LLOQ = Instrument LLOQ/Method Concentration Factor.

Table 6d. PFHS Calibration Standard Reprocessing Summary

PFHS CONCENTRATION		
SAMPLE TYPE AND LOCATION	BATCH AND ANALYSIS DATE	LOWER LIMIT OF QUANTITATION (LLOQ)
Catfish, SL-1	D020629, 29 Jun 02	2.5 ng/g
Catfish, SL-2	D020629, 29 Jun 02	2.5 ng/g
Catfish, SL-3	D020702, 02 Jul 02	2.5 ng/g
Large Mouth Bass, SL-1	D020626, 26 Jun 02	1.0 ng/g
Large Mouth Bass, SL-2	D020628, 28 Jun 02	1.0 ng/g
Large Mouth Bass, SL-3	D020628, 28 Jun 02	1.0 ng/g
Small Mouth Bass, SL-3	D020628, 28 Jun 02	1.0 ng/g
River Water, SL-1	D020812A, 12 Aug 02	25 pg/mL*
River Water, SL-2	D020812A, 12 Aug 02	25 pg/mL*
River Water, SL-3	D020812A, 12 Aug 02	25 pg/mL*
River Water, SL-1	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-2	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-3	D020812B, 12 Aug 02	1.25 ng/mL*
River Sediment, SL-1	I021112, 12 Nov 02	100 pg/g*
River Sediment, SL-2	I021112, 12 Nov 02	100 pg/g*
River Sediment, SL-3	I021112, 12 Nov 02	100 pg/g*

* Denotes sample preparation method LLOQ. Method LLOQ = Instrument LLOQ/Method Concentration Factor.

Table 6e. PFBS Calibration Standard Reprocessing Summary

PFBS CONCENTRATION		
SAMPLE TYPE AND LOCATION	BATCH AND ANALYSIS DATE	LOWER LIMIT OF QUANTITATION (LLOQ)
Catfish, SL-1	D020629, 29 Jun 02	5.0 ng/g
Catfish, SL-2	D020629, 29 Jun 02	5.0 ng/g
Catfish, SL-3	D020702, 02 Jul 02	5.0 ng/g
Large Mouth Bass, SL-1	D020626, 26 Jun 02	1.0 ng/g
Large Mouth Bass, SL-2	D020628, 28 Jun 02	2.5 ng/g
Large Mouth Bass, SL-3	D020628, 28 Jun 02	2.5 ng/g
Small Mouth Bass, SL-3	D020628, 28 Jun 02	2.5 ng/g
River Water, SL-1	D020812A, 12 Aug 02	50 pg/mL*
River Water, SL-2	D020812A, 12 Aug 02	50 pg/mL*
River Water, SL-3	D020812A, 12 Aug 02	50 pg/mL*
River Water, SL-1	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-2	D020812B, 12 Aug 02	1.25 ng/mL*
River Water, SL-3	D020812B, 12 Aug 02	1.25 ng/mL*
River Sediment, SL-1	I021112, 12 Nov 02	100 pg/g*
River Sediment, SL-2	I021112, 12 Nov 02	100 pg/g*
River Sediment, SL-3	I021112, 12 Nov 02	100 pg/g*

* Denotes sample preparation method LLOQ. Method LLOQ = Instrument LLOQ/Method Concentration Factor.

Blanks.

- Method blanks, Milli-Q water taken through the solid phase extraction process, provided a measure of method background. In this experiment, they were labeled as "WB". One set was prepared for each location. In the Fish Tissue portion of the experiment, they were run with the Catfish samples. Acceptable values for the blanks were less than 50% of the Lower Limit Of Quantitation (LLOQ). All method blanks in this study met this criterion.
- The Fish Tissue segment of the experiment also contained method blanks for the SPE cartridges. These were labeled as "SB" and consisted of methanol that was used to extract pre-conditioned columns that did not have any sample added. All of these method blanks met the previous criterion.
- Solvent blanks/Methanol blanks (methanol injections) provided a measure of instrument contamination. Acceptable solvent blanks must contain levels of target analyte less than 50% of the Lower Limit Of Quantitation (LLOQ). All of the solvent blanks in this study met this criterion except the following:

Note - Solvent Blanks that were before the System Suitability injections and did not pass the criteria are not recorded below.

D020626 extracted samples 0050 (PFBS, PFHS, and PFOA) and 0051 (PFHS). These were caused by carryover from higher level standard curve points. The solvent blanks that were run after these points showed minimal carryover.

D020628 sample 0051 (PFBS, PFHS, and PFOA), 0052 (PFHS), and 0053 (PFHS). This was caused by carryover from the high-level standard curve point. The solvent blanks that were run after showed minimal carryover.

D020629 samples 0059 (PFHS, PFOA, FOSA, and PFOS), 0060 (PFOS), and 0061 (PFHS, PFOA, and PFOS). This was caused by carryover from high-level standard curve points. The 0061 Methanol Blank had a significant level of analytes but this had no effect on the quality of the data. The next sample had trace amounts of analyte and was below the LLOQ for all analytes. Therefore, the 0061 Methanol Blank did not influence the sample. The next solvent blank (0067) had nominal analyte concentration.

D020702 samples 0042 (PFOS), 0059 (PFHS and PFOS), 0060 (PFOS), and 0061 (PFOS). This was caused by carryover from the high-level standard curve point. The solvent blanks that were run after showed minimal carryover.

D020812(A) samples 0016 (PFOA and FOSA) and 0031 (PFOA). These were caused by carryover from higher level standard curve points or system suitability points. The solvent blanks that were run after these points showed minimal carryover. Samples 0037 (PFOA) and 0039 (PFBS, PFHS, and PFOA) had carry-over from samples. Subsequent blanks showed minimal contamination.

I021112 samples 012 (PFBS, PFOA, and FOSA), 027 (PFBS, PFOA, and FOSA), 039(FOSA), 066, (PFOA and FOSA), 068 (FOSA), and 071 (FOSA). All of these can be attributed to carryover from high-level standards or samples.

DATA SUMMARY

Tables 7a, 7b, 7c, and 7d present the data for individual samples. Table 8 summarizes the average data for sample groups. Representative chromatograms are presented in Attachment C. Tables 7a, 7b, 7c, and 7d display the on-column and corrected concentrations for individual samples. Also included are the average concentrations for each set of samples standard deviation, and % Coefficient of Variation, when applicable. The final values reported are corrected for dilution/concentration factors introduced during sample preparation and by injection volume differences. The reported values were not adjusted for Matrix Spike Recoveries. When some of the samples within a group were < LLOQ, the average value for the group was calculated using the reported analytical value for samples > LLOQ and the LLOQ value for samples < LLOQ. The abbreviations are as follows: SL – Sample Location, C – Catfish, LM – Large mouth bass, SM – Small mouth bass, RW – River Water, and RS – River Sediment.

Table 7a. Catfish Analytical Data.

LIMS #	Sample Name	PFBS (ng/g)	PFHS (ng/g)	PFOA (ng/g)	FOSA On-column (ng/g)	FOSA Corr for Smp1 Prep (ng/g)	Ave. Std. D and %C.V.	PFOS On-column (ng/g)	PFOS Corr for Smp1 Prep (ng/g)	Ave. Std. D and %C.V.
42777	SL-1; C-1-1	<LLOQ	<LLOQ	<LLOQ	5.9	58.7	54.7	11.2	112.1	106
	SL-1; C-1-2	<LLOQ	<LLOQ	<LLOQ	5.3	53.5	3.49	10.5	104.7	6.00
	SL-1; C-1-3	<LLOQ	<LLOQ	<LLOQ	5.2	52.0	6.4%	10.0	100.3	5.7%
42778	SL-1; C-2-1	<LLOQ	<LLOQ	<LLOQ	4.4	44.5	41.8	9.8	97.6	91.8
	SL-1; C-2-2	<LLOQ	<LLOQ	<LLOQ	4.2	41.7	2.67	9.2	91.8	5.77
	SL-1; C-2-3	<LLOQ	<LLOQ	<LLOQ	3.9	39.1	6.4%	8.6	86.1	6.3%
42779	SL-1; C-3-1	<LLOQ	<LLOQ	<LLOQ	7.0	70.5	71.7	16.1	161.2	178
	SL-1; C-3-2	<LLOQ	<LLOQ	<LLOQ	7.1	70.8	1.85	17.9	179.4	15.67
	SL-1; C-3-3	<LLOQ	<LLOQ	<LLOQ	7.4	73.8	2.6%	19.2	192.4	8.8%
42780	SL-1; C-4-1	<LLOQ	<LLOQ	<LLOQ	3.9	39.3	38.1	17.1	171.5	166
	SL-1; C-4-2	<LLOQ	<LLOQ	<LLOQ	3.7	36.7	1.30	16.2	161.9	4.82
	SL-1; C-4-3	<LLOQ	<LLOQ	<LLOQ	3.8	38.2	3.4%	16.6	165.8	2.9%
42781	SL-1; C-5-1	<LLOQ	<LLOQ	<LLOQ	9.1	91.0	89.8	8.1	80.8	79.5
	SL-1; C-5-2	<LLOQ	<LLOQ	<LLOQ	9.1	90.7	1.95	8.0	80.2	1.74
	SL-1; C-5-3	<LLOQ	<LLOQ	<LLOQ	8.8	87.5	2.2%	7.8	77.5	2.2%
42782	SL-1; C-6-1	<LLOQ	<LLOQ	<LLOQ	7.0	69.8	69.5	5.9	58.8	59.1
	SL-1; C-6-2	<LLOQ	<LLOQ	<LLOQ	6.9	69.1	0.41	6.0	59.7	0.57
	SL-1; C-6-3	<LLOQ	<LLOQ	<LLOQ	7.0	69.8	0.6%	5.9	58.7	1.0%
42783	SL-2; C-1-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-1-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-1-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42784	SL-2; C-2-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-2-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-2-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42785	SL-2; C-3-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-3-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-3-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42786	SL-2; C-4-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-4-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-4-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42789	SL-2; C-5-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-5-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-5-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42790	SL-2; C-6-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-6-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-6-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42791	SL-2; C-7-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-7-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-2; C-7-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42792	SL-3; C-1-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			1.9	18.8	17
	SL-3; C-1-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			1.9	18.7	2.75
	SL-3; C-1-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			1.4	14.0	16.0%
42793	SL-3; C-2-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			1.2	11.5	11.7
	SL-3; C-2-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			1.1	11.5	0.44
	SL-3; C-2-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			1.2	12.2	3.7%
42794	SL-3; C-3-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-3; C-3-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-3; C-3-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42795	SL-3; C-4-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			3.7	36.9	37.4
	SL-3; C-4-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			3.5	35.1	2.72
	SL-3; C-4-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			4.0	40.4	7.3%
42796	SL-3; C-5-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-3; C-5-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
	SL-3; C-5-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		
42797	SL-3; C-6-1	<LLOQ	<LLOQ	<LLOQ	<LLOQ			<LLOQ		23.3
	SL-3; C-6-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ			2.3	23.5	
	SL-3; C-6-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ			2.3	23.2	

Table 7b. Large mouth and Small mouth Bass Analytical Data.

LIMS #	Sample Name	PFBS (ng/g)	PFHS (ng/g)	PFOA (ng/g)	PFOA Corrected for Smpl Prep (ng/g)	FOSA Corrected (ng/g)	PFOS On- column (ng/g)	PFOS Corrected for Smpl Prep (ng/g)	Average, Std. Dev., and %C.V. (ng/g)
42798	SL-1; LM-1-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	18.5	185.5	152
	SL-1; LM-1-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	13.0	130.0	29.61
	SL-1. LM-1-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	14.0	139.7	19.5%
42799	SL-1. LM-2-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	63.6	635.5	607
	SL-1. LM-2-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	61.4	614.0	32.49
	SL-1. LM-2-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	57.2	571.7	5.4%
42800	SL-1. LM-3-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	73.2	732.1	788
	SL-1. LM-3-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	80.8	807.7	49.18
	SL-1. LM-3-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	82.4	824.4	6.2%
42801	SL-1. LM-4-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	68.8	688.4	700
	SL-1. LM-4-2	<LLOQ	<LLOQ	6.4	64.3 (Eliminated via Q-Test)	<LLOQ	75.7	757.0	52.70
	SL-1. LM-4-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	65.3	653.3	7.5%
42802	SL-1. LM-5-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	46.6	465.5	423
	SL-1. LM-5-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	41.5	415.0	39.03
	SL-1. LM-5-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	38.9	388.7	9.2%
42803	SL-1. LM-6-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	69.3	693.2	651
	SL-1. LM-6-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	59.9	599.1	47.78
	SL-1. LM-6-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	66.0	660.2	7.3%
42804	SL-2; LM-1-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-2; LM-1-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-2. LM-1-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42805	SL-2. LM-2-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	2.6	25.6	
	SL-2. LM-2-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-2. LM-2-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42806	SL-2. LM-3-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	9.7	96.7	100
	SL-2. LM-3-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	11.8	117.6	16.68
	SL-2. LM-3-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	8.5	84.7	16.7%
42807	SL-2. LM-4-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	53.1	530.8	547
	SL-2. LM-4-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	54.1	540.9	20.02
	SL-2. LM-4-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	56.9	569.4	3.7%
42808	SL-3; LM-1-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3; LM-1-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-1-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42809	SL-3. LM-2-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-2-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-2-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42810	SL-3. LM-3-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-3-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-3-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42811	SL-3. LM-4-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-4-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-4-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42812	SL-3. LM-5-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-5-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-5-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42813	SL-3. LM-6-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-6-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-6-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42814	SL-3. LM-7-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-7-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. LM-7-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
42815	SL-3. SM-1-1	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. SM-1-2	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	
	SL-3. SM-1-3	<LLOQ	<LLOQ	<LLOQ		<LLOQ	<LLOQ	<LLOQ	

Table 7c. River Water Analytical Data.

LIMS #	Sample Name	PFBS (ng/mL)	Adjusted for Inj. Vol. (ng/mL)	Adjusted for Sample Prep (pg/mL)	Average (pg/mL)
38025	SW01	3.0	1.50	75	84
38026	SW01-Dup	3.7	1.85	93	
38033	SW03	<LLOQ			<LLOQ
38034	SW03-Dup	<LLOQ			
38037	SW02	<LLOQ			<LLOQ
38038	SW02-Dup	<LLOQ			
LIMS #	Sample Name	PFHS (ng/mL)	Adjusted for Inj. Vol. (ng/mL)	Adjusted for Sample Prep. (pg/mL)	Average (pg/mL)
38025	SW01	7.7	3.86	193	196
38026	SW01-Dup	8.0	3.98	199	
38033	SW03	<LLOQ			<LLOQ
38034	SW03-Dup	<LLOQ			
38037	SW02	<LLOQ			<LLOQ
38038	SW02-Dup	<LLOQ			
LIMS #	Sample Name	PFOA (ng/mL)	Adjusted for Inj. Vol. (ng/mL)	Adjusted for Sample Prep (pg/mL)	Average (pg/mL)
38025	SW01	21.3	10.66	533	550
38026	SW01-Dup	22.7	11.33	566	
38033	SW03	<LLOQ			<LLOQ
38034	SW03-Dup	<LLOQ			
38037	SW02	<LLOQ			<LLOQ
38038	SW02-Dup	<LLOQ			
LIMS #	Sample Name	FOSA (ng/mL)	Adjusted for Inj. Vol. (ng/mL)	Adjusted for Sample Prep. (pg/mL)	Average (pg/mL)
38025	SW01	1.0	0.48	24	25
38026	SW01-Dup	1.0	0.51	26	
38033	SW03	<LLOQ			<LLOQ
38034	SW03-Dup	<LLOQ			
38037	SW02	<LLOQ			<LLOQ
38038	SW02-Dup	<LLOQ			
LIMS #	Sample Name	PFOS (ng/mL)	Adjusted for Inj. Vol. (ng/mL)	Adjusted for Sample Prep. (pg/mL)	Average (pg/mL)
38025	SW01	18.5	9.25	462	491
38026	SW01-Dup	20.8	10.40	520	
38033	SW03	<LLOQ			<LLOQ
38034	SW03-Dup	<LLOQ			
38037	SW02	<LLOQ			<LLOQ
38038	SW02-Dup	<LLOQ			

The sample extracts were analyzed several times using different sized injection volumes in order to match the appropriate analytical ranges for extracted samples, matrix spikes, and calibration curves. Table 7c incorporates data using 20 uL extracted sample injection volumes, 2 uL matrix spike injection volumes, and 10 uL calibration curve injection volumes.

Table 7d. River Sediment Analytical Data.

LIMS #	Sample Name	On Column PFBS (ng/g)	Adjusted for Inj Vol. (ng/g)	Adjusted for Sample Prep. (pg/g)	Average, Std. Dev., and %C.V. (pg/g)
38044	38044-1, SL-1	10.6	5.3	530	577
38044	38044-2, SL-1	10.6	5.3	530	84
38044	38044-3, SL-1	13.5	6.7	674	14%
38045	38045-1, SL-3	8.9	4.4	444	452
38045	38045-2, SL-3	8.3	4.1	415	44
38045	38045-3, SL-3	10.0	5.0	502	10%
38046	38046-1, SL-2	8.9	4.5	447	437
38046	38046-2, SL-2	6.2	3.1	309	137
38046	38046-3, SL-2	11.7	5.8	583	31%
LIMS #	Sample Name	On Column PFHS (ng/g)	Adjusted for Inj Vol. (ng/g)	Adjusted for Sample Prep. (pg/g)	Average, Std. Dev., and %C.V. (pg/g)
38044	38044-1, SL-1	2.7	1.4	136	130
38044	38044-2, SL-1	2.6	1.3	132	6
38044	38044-3, SL-1	2.5	1.2	124	5%
38045	38045-1, SL-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38045	38045-2, SL-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38045	38045-3, SL-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38046	38046-1, SL-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38046	38046-2, SL-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38046	38046-3, SL-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ
LIMS #	Sample Name	On Column PFOA (ng/g)	Adjusted for Inj Vol. (ng/g)	Adjusted for Sample Prep. (pg/g)	Average, Std. Dev., and %C.V. (pg/g)
38044	38044-1, SL-1	16.2	8.1	810	732
38044	38044-2, SL-1	14.1	7.1	705	67
38044	38044-3, SL-1	13.7	6.9	686	9%
38045	38045-1, SL-3	<LLOQ	<LLOQ	<LLOQ	131
38045	38045-2, SL-3	2.6	1.3	131	<LLOQ
38045	38045-3, SL-3	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38046	38046-1, SL-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38046	38046-2, SL-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ
38046	38046-3, SL-2	<LLOQ	<LLOQ	<LLOQ	<LLOQ
LIMS #	Sample Name	On Column FOSA (ng/g)	Adjusted for Inj Vol. (ng/g)	Adjusted for Sample Prep. (pg/g)	Average, Std. Dev., and %C.V. (pg/g)
38044	38044-1, SL-1	29.7	14.8	1484	1439
38044	38044-2, SL-1	32.4	16.2	1618	201
38044	38044-3, SL-1	24.5	12.2	1223	14%
38045	38045-1, SL-3	1.2	0.6	62	68
38045	38045-2, SL-3	1.2	0.6	60	12
38045	38045-3, SL-3	1.7	0.8	83	18%
38046	38046-1, SL-2	2.9	1.5	146	141
38046	38046-2, SL-2	2.5	1.3	126	17
38046	38046-3, SL-2	3.2	1.6	161	12%
LIMS #	Sample Name	On Column PFOS (ng/g)	Adjusted for Inj Vol. (ng/g)	Adjusted for Sample Prep. (pg/g)	Average, Std. Dev., and %C.V. (pg/g)
38044	38044-1, SL-1	67.7	33.8	3383	3132
38044	38044-2, SL-1	70.3	35.1	3513	541
38044	38044-3, SL-1	50.4	25.2	2518	17%
38045	38045-1, SL-3	9.1	4.5	454	416
38045	38045-2, SL-3	6.8	3.4	342	65
38045	38045-3, SL-3	9.1	4.6	456	16%
38046	38046-1, SL-2	9.0	4.5	452	457
38046	38046-2, SL-2	8.5	4.2	425	52
38046	38046-3, SL-2	10.5	5.3	525	11%

Summaries for the average analyte concentration per sampling group and location are given below.

Table 8. Sample Location, Sample Type, and Analytical Data Summary.

Sampling Location & Species Sampled	Fish Tissue				
	PFBS (ng/g)	PFHS (ng/g)	PFOA (ng/g)	FOSA (ng/g)	PFOS (ng/g)
SL-1, C (n=6)	<LLOQ	<LLOQ	<LLOQ	60.9 (6/6) ²	113 (6/6) ²
SL-2, C (n=7)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
SL-3, C (n=6)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	15.2 (4/6) ²
SL-1, LM (n=6)	<LLOQ	<LLOQ	<LLOQ ¹	<LLOQ	553 (6/6) ²
SL-2, LM (n=4)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	169 (2/4) ²
SL-3, LM (n=7)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
SL-3, SM (n=1)	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
	River Water				
	PFBS (pg/mL)	PFHS (pg/mL)	PFOA (pg/mL)	FOSA (pg/mL)	PFOS (pg/mL)
SL-1, RW	84	196	550	25	491
SL-2, RW	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
SL-3, RW	<LLOQ	<LLOQ	<LLOQ	<LLOQ	<LLOQ
	River Sediments				
	PFBS (pg/g)	PFHS (pg/g)	PFOA (pg/g)	FOSA (pg/g)	PFOS (pg/g)
SL-1, RS	577	130	732	1440	3130
SL-2, RS	437	<LLOQ	<LLOQ	141	457
SL-3, RS	452	<LLOQ	127	68	416

C = Catfish, LM = Large mouth bass, SM = Small mouth bass, RW = River water, and RS = River Sediments.
¹High triplicate value was statistically eliminated using Dixon's Q-Test.
²(Number of Fish > LLOQ / Number of Fish Analyzed). Only one River Water and one River Sediment sample were collected from each sampling location.

Attachment B contains additional data summary tables.

STATISTICAL METHODS

Statistical methods were limited to calculating averages, standard deviations, % coefficient of variation and statistical examination of outlying data points using Dixon's Q-Test.

STATEMENT OF CONCLUSION

Fish Tissue:

Fish tissue obtained from Sample Location 1 contained quantifiable levels of FOSA and PFOS. Fish tissue obtained from Sample Locations 2 and 3 contained quantifiable levels of PFOS only.

River Water:

Water from Sampling Location 1 contained quantifiable levels of PFBS, PFHS, PFOA, FOSA, and PFOS. Water obtained from sample Locations 2 and 3 did not contain quantifiable levels of analytes.

River Sediments:

River Sediment obtained at Sample Location 1 contained quantifiable levels of PFBS, PFHS, PFOA, FOSA, and PFOS. River Sediment obtained at sample Location 2 contained quantifiable levels of PFBS, FOSA, and PFOS. River Sediment obtained at sample Location 3 contained quantifiable levels of PFBS, PFOA, FOSA, and PFOS.

REFERENCES

1. 3M Environmental Method ETS-8-155.1 "Analysis of Waste Stream, Water Extracts Or Other Systems Using HPLC-Electrospray/Mass Spectrometry".

LIST OF ATTACHMENTS

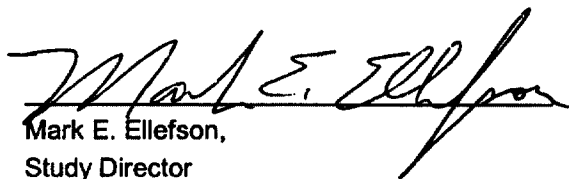
- Attachment A: Analytical Method and SOP Deviations
- Attachment B: Data Summary Tables
- Attachment C: Sample Chromatograms
- Attachment D: Sample Prep Sheets, Test Substance, and Test System Information
- Attachment E: Notes to File

REPORT REVISIONS

Typographical errors for the unit designators for Tables 1, 6a-e, 7a, 7b, 7d, and 8 were corrected. The number of fish sampled at each location was also added to Tables 1 and 8. The descriptions of the sampling locations were adjusted in the summary and in tables 3a, 3b, and 3c to reflect those reported in the Entrix report, July, 2003 (project #178401). Removed two values for PFHS in river water in tables 1 and 8 because they were <LLOQ. Re-calculated average values for PFOS in fish at sampling locations 2 and 3 and PFOA in sediment at sampling location 3 in tables 1 and 8 using LLOQ values for samples < LLOQ.

SIGNATURE PAGE

We certify that this report is a true and complete representation of the data for this study:


Mark E. Ellefson,
Study Director

09/12/03
Date


William K. Reagen,
Testing Facility Management

09/12/03
Date

ATTACHMENT A: ANALYTICAL METHOD AND SOP DEVIATIONS

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3M ENVIRONMENTAL LABORATORY

METHOD

ANALYSIS OF WASTE STREAM, WATER EXTRACTS OR OTHER SYSTEMS USING HPLC-ELECTROSPRAY/MASS SPECTROMETRY

Method Number: ETS-8-155.1

Adoption Date: 11/10/00

Revision Date: 5/30/01

Author: Mark L. Anderson, Mark E. Ellefson

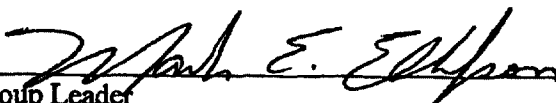
Approved By:



Laboratory Manager

5/30/01

Date



Group Leader

5/30/01

Date

Document may be used, if current, for 14 days from 11/21/2002

1.0 SCOPE AND APPLICATION

- 1.1 Scope:** This method describes the analysis of waste stream, water samples or other systems using HPLC-electrospray/mass spectrometry.
- 1.1.1** Specific analytes, ions, matrices, solvents, solutions, quality controls, internal standard(s) and other parameters will be defined in the protocol or the sample preparation worksheet(s).
- 1.2 Applicable Compounds:** Electrospray ionizable compounds.
- 1.3 Matrices:**
- 1.3.1** Waste Streams and other systems may consist of aqueous and/or organic solvent systems or as designated in the protocol or sample preparation worksheet(s).
- 1.3.2** Water Samples include tap water, ground water, wastewater and other aqueous solutions. The matrix will be defined by the protocol or sample preparation worksheet(s).

2.0 SUMMARY OF METHOD

- 2.1** This method describes the analysis of electrospray ionizable compounds, using HPLC-electrospray mass spectrometry (HPLC-ES/MS). The analysis is performed by the mass selection of a single ion characteristic of a particular compound.

3.0 DEFINITIONS

- 3.1 Atmospheric Pressure Ionization (API):** Commercially available HPLC-ES/MS single quadrupole systems allow for various methods of ionization by utilizing a variety of sources, probes, and interfaces. These include but are not limited to: Electrospray Ionization (ESI), Atmospheric Pressure chemical Ionization (APCI), Thermospray, etc. The ionization in these processes occurs at atmospheric pressure (i.e., not under a vacuum).
- 3.2 Electrospray Ionization (ES, ESI):** A method of ionization performed at atmospheric pressure, whereby ions in solution are transferred to the gas phase via tiny charged droplets. These droplets are produced by the application of a strong electrical field.
- 3.3 Mass Spectrometer (MS):** Commercially manufactured MS systems are equipped with single quadrupole mass selective detectors. Ions are selected on the basis of mass to charge ratio (m/z) and subsequently detected.
- 3.4 Micromass MassLynx / HP ChemStation Software:** System software designed for the specific operation of an HPLC-ES/MS. Please refer to the manual for the specific instrument software.

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4.0 WARNINGS AND CAUTIONS

4.1 Health and Safety Warnings:

- 4.1.1 Use caution with the voltage cables for the electrospray probe. When engaged, the probe employs a voltage of approximately 5000 Volts.
- 4.1.2 When handling samples or solvents wear appropriate protective clothing, gloves, and eyewear.

4.2 Cautions:

- 4.2.1 Operate solvent pumps below a backpressure of 400 bar (5800 psi). If the backpressure exceeds 400 bar, the HP1100 will initiate automatic shutdown.
- 4.2.2 Do not run solvent pumps to dryness.

5.0 INTERFERENCES

- 5.1 To minimize interferences when analyzing samples, Teflon should not be used for sample storage or any part of instrumentation that comes in contact with the sample or extract.

6.0 EQUIPMENT

- 6.1 Equipment listed below may be modified in order to optimize the system. Document any modifications in the raw data as method deviations.

- 6.1.1 Micromass Platform LCZ Mass Spectrometer (or equivalent) equipped with an electrospray ionization source.
- 6.1.2 HP1100 low pulse solvent pump, solvent degasser, column compartment, and autosampler or equivalent HPLC system.

7.0 SUPPLIES AND MATERIALS

7.1 Supplies

- 7.1.1 High purity grade nitrogen gas regulated to approximately 100 psi (or house air system.).
- 7.1.2 HPLC analytical column, such as a Betasil C18 column (50x2mm, 5 μ m particle size) or equivalent.
- 7.1.3 Capped autovials or capped 15 mL centrifuge tubes.

8.0 REAGENTS AND STANDARDS

8.1 Reagents:

- 8.1.1 Methanol, HPLC grade or equivalent.

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8.1.2 Milli-Q™ water (ASTM type I), all water used in this method should be Milli-Q™ water or equivalent, and may be provided by a Milli-Q TOC Plus system or another vendor.

8.1.3 Ammonium acetate, reagent grade or equivalent.

8.1.3.1 When preparing different amounts than those listed, adjust accordingly.

8.1.3.2 2.0 mM ammonium acetate solution: Weigh approximately 0.300 g ammonium acetate. Pour into a 2000 L volumetric flask, add the appropriate volume of Milli-Q water, mix until all solids are dissolved. Store at room temperature.

8.1.4 Other solvents and solutions may be used as stated in the protocol or the sample preparation worksheet.

8.2 Calibration Standards:

8.2.1 Typically two method blanks (Milli-Q water), two matrix blanks, and a minimum of 5 solvent standards are analyzed with each group of samples.

9.0 SAMPLE HANDLING

9.1 Standards and prepared samples may be stored in capped autovials, capped 15 mL centrifuge tubes or other suitable containers until analysis.

9.2 If analysis will be delayed, standards and prepared samples may be refrigerated at approximately 4° C until analyses can be performed (refrigerator temperatures may have a detrimental affect on the solubility of saturated solutions).

10.0 QUALITY CONTROL

10.1 Blanks:

10.1.1 Solvent blanks, method blanks, and matrix blanks are prepared and analyzed with each sample set to determine contamination or carryover.

10.1.1.1 When the study matrices consist of highly purified solvents such as Type 1 water or HPLC grade organic solvents, the method and matrix blanks may be represented by a single solvent blank.

10.1.2 Solvent blanks should be analyzed prior to each calibration curve. Method blanks and matrix blanks should be analyzed after the initial calibration curve but prior to the study samples. If carryover is a problem, consecutive solvent blanks may be necessary.

10.2 Matrix Spikes:

10.2.1 Matrix spikes may be prepared for each set of extracted samples (if applicable to the study) and analyzed to determine extraction efficiency.

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10.2.2 Matrix spike duplicates may be prepared periodically to measure the precision associated with the analysis.

10.2.3 Analyze the matrix spike and matrix spike duplicate (if prepared) in the same run as the original sample.

10.2.4 Matrix spike and matrix spike duplicate concentrations should fall in the mid-range of the initial calibration curve or should be prepared at 1.5-5 times the endogenous concentration of the analyte. Spike concentrations should fall in the low-range of the initial calibration curve if extremely low levels are expected.

10.3 Continuing Calibration Verifications:

10.3.1 Continuing calibration verifications (CCV) are analyzed to verify the continued accuracy of the calibration curve.

10.3.2 Analyze a mid-range calibration standard after every tenth sample, with a minimum of one per sample set.

10.4 Internal Standard/Surrogate Standard:

10.4.1 An internal standard (IS) may be used to quantify the target analytes by establishing a relationship between the ratio of analyte response to IS response and a known concentration of the analyte of interest. The IS should be spiked at an amount that will fall within the mid-range of the calibration curve. The IS should be added after the extraction process and before analysis.

10.4.2 A surrogate standard may be used for quality control. The surrogate is used to quantitatively evaluate the entire analytical procedure including sample preparation and analysis. The surrogate should be spiked at the beginning of the sample preparation and should fall within the low to mid-range of the calibration curve.

11.0 CALIBRATION AND STANDARDIZATION

11.1 Analyze the standard curves prior to and following each set of samples. The average of two standard curves may be plotted by linear regression ($y = mx + b$) weighted $1/x$, or quadratic fit ($y = ax^2 + bx + c$) using MassLynx or other suitable software. The calibration curves should not be forced through zero.

11.1.1 The closing calibration curve may be excluded if the CCV's meet acceptable criteria. If only the first curve is used, the calibration and standardization parameters are the same.

11.2 If the initial calibration curve does not meet acceptance criteria perform routine maintenance or prepare a new standard curve (if necessary) and reanalyze.

11.3 For purposes of accuracy when quantitating low levels of analyte, it may be necessary to use the low end of the calibration curve rather than the full range. Example: when

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attempting to quantitate approximately 10 ppb of analyte, generate a calibration curve consisting of the standards from 5 ppb to 100 ppb rather than the full range of the curve (5 ppb to 1000 ppb). This will reduce inaccuracy attributed to linear regression weighting of high concentration standards.

- 11.4** High and/or low points may be excluded from the calibration curves to provide a better fit over the linear range appropriate to the data or because they did not meet the pre-determined acceptance criteria. Low-level curve points should also be excluded if their area counts are not at least twice that of the method blanks. Justification for exclusion of calibration curve points will be noted in the raw data.

11.4.1 A minimum of 5 points will be used to construct the calibration curve.

12.0 PROCEDURES

- 12.1** Acquisition set-up – please reference the SOP that pertains to the specific instrument. Actual parameters will be recorded on the instrument printouts.

12.1.1 Set up the sample list.

12.1.1.1 Assign a sample list filename using the first letter of the name of the instrument (T for Tucker), the year (00 for 2000), the month (04 for April), and the day (T001012 for October 12, 2000 on Tucker). If more than one list is made on the same day, use increasing letters of the alphabet starting with A at the end of the list.

12.1.1.2 Assign a method (MS) file.

12.1.1.3 Assign an HPLC program (Inlet file).

12.1.1.4 Type in sample descriptions and vial position numbers.

12.1.2 To create a method, click on method in the Acquisition control panel then mass spectrometer headings and select SIR. Set ionization mode as appropriate and mass to 499 or other appropriate masses. A full scan is usually collected in addition to the SIRs. Save acquisition method. See the Micromass MassLynx GUIDE TO DATA ACQUISITION for additional information.

12.1.3 Typically the analytical batch run sequence begins and ends with a set of solvent standards.

12.1.4 Samples are analyzed with a continuing calibration verification (CCV) injected after every tenth sample. Solvent blanks should be analyzed periodically to monitor for possible analyte carryover.

12.2 Using the Autosampler/Column Heater

12.2.1 Place sample vials into the sample tray according to the sample list prepared in Section 12.1.1.

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12.2.2 Attach the proper analytical column in the column heater compartment. If using the switching valve, ensure that the tubing is run to the appropriate ports.

12.3 Using the Inlet Editor

12.3.1 Set-up the HP1100 using the following conditions or at conditions the analyst considers appropriate for optimal response. Record actual conditions in the instrument logbook:

12.3.1.1 Sample size = 10 µL injection

12.3.1.2 Flow rate = 300 µL/min.

12.3.1.3 Cycle time = 10.0 minutes

12.3.1.4 Mobile phase components:

Solvent A: 2.0 mM Ammonium Acetate in Water

Solvent B: Methanol (MeOH)

Solvent Gradient:	<u>Time (min.)</u>	<u>% B</u>
	0.00	5.00 %
	1.00	5.00 %
	4.50	95.0 %
	8.00	95.0 %
	8.50	5.00 %
	10.0	Stop

12.4 Instrument Set-up

12.4.1 Refer to the Platform LCZ User's Guide, the MassLynx NT User's Guide, the ETS-9-36, "Operation and Maintenance of the Micromass Platform LCZ Electrospray/Mass Spectrometer", or the SOP that pertains to the specific instrument.

12.4.2 Check the solvent level in reservoirs and refill if necessary.

12.4.3 Check the tip of the stainless steel capillary at the end of the probe with an eyepiece. The tip should be flat with no jagged edges. If the tip is found to be unsatisfactory, disassemble the probe and replace the stainless steel capillary.

12.4.4 Turn on the nebulizing gas.

12.4.5 Open the tune page. Click on 'Operate' to initiate the desolvation heaters.

12.4.6 Open the Inlet Editor.

12.4.6.1 Set HPLC pump to "On".

12.4.6.2 Set the solvent flow to the desired flow rate.

12.4.6.3 Observe droplets coming out of the tip of the probe. A fine mist should be expelled with no nebulizing gas leaking around the tip of the probe. Readjust the tip of the probe if no mist is observed.

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12.4.6.4 Allow to equilibrate for at least 10 minutes.

12.4.7 The instrument uses these parameters at the following settings. These settings may change in order to optimize the response. Actual parameters will be recorded on the instrument printouts.

12.4.7.1 Drying gas 250-425 liters/hour

12.4.7.2 ESI nebulizing gas 10-15 liters/hour

12.4.7.3 HPLC constant flow mode, flow rate 10 – 500 µL/min

12.4.7.4 Pressure <400 bar (This parameter is not set, it is a guide to ensure the HPLC is operating correctly.)

12.4.7.5 Source Block temperature 150°.

12.4.7.6 Desolvation temperature 250°.

12.4.8 Print the tune page with its parameters, the Inlet page, sample list, mass spectrometer information, and all other applicable information and store it in the study binder with copies taped into the instrument run logbook.

12.4.8.1 All copies must be initialed and dated.

12.4.9 Click on start button on the MassLynx toolbar. Ensure beginning and ending sample numbers encompass all samples to be analyzed.

13.0 DATA ANALYSIS AND CALCULATIONS

13.1 Calculations (including, but not limited to):

13.1.1 Calculate matrix spike percent recoveries using the following equation:

$$\% \text{ Recovery} = \frac{\text{Observed Result} - \text{Background Result}}{\text{Expected Result}} \times 100$$

13.1.2 Calculate percent difference using the following equation:

$$\% \text{ Difference} = \frac{\text{Expected Conc.} - \text{Calculated Conc.}}{\text{Expected Conc.}} \times 100$$

13.1.3 Calculate actual concentration of analyte in matrix (µg/mL):

$$\text{On-Column Concentration (µg/mL)} \times \text{Dilution Factors} = \text{Calculated Concentration}$$

14.0 METHOD PERFORMANCE

14.1 The Limit of Quantitation (LOQ) is method, analyte, and matrix specific. For many analytes, the LOQ concentration is selected as the lowest acceptable non-zero standard in the calibration curve.

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- 14.2 Solvent and method blank area counts must be $< \frac{1}{2}$ that of the lowest standard used in the calibration curve.
- 14.3 The coefficient of determination (r^2) value for the calibration curve must be greater than or equal to 0.980.
- 14.4 Continuing Calibration Verification (CCV) percent recoveries must be $\pm 30\%$ of the standard concentration.
- 14.5 Internal Standard recoveries should be within $\pm 50\%$ of the spiked concentration.
- 14.6 If criteria listed in this method performance section are not met, maintenance may be performed on the system and samples reanalyzed or other actions as determined by the analyst. Document all actions in the raw data.
- 14.7 If data is to be reported when performance criteria have not been met, the data must be footnoted on tables and discussed in the text of the report.

15.0 POLLUTION PREVENTION AND WASTE MANAGEMENT

- 15.1 Sample extract waste and flammable solvent is disposed in high BTU containers, and glass pipette waste is disposed in broken glass containers located in the laboratory.

16.0 RECORDS

- 16.1 Each page generated for a study must have the following information included either in the header or hand written on the page: study or project number, acquisition method, integration method, sample name, extraction date, dilution factor (if applicable), and analyst.
- 16.2 Print the tune page, sample list, acquisition method and all other applicable information to include in the appropriate study folder. Copy these pages and tape into the instrument run logbook.
- 16.3 Plot the calibration curve then print these graphs and store in the study folder.
- 16.4 Print data integration summary, integration method, and chromatograms and file in the study binder.
- 16.5 Summarize data using suitable software and store in the study binder.
- 16.6 Back-up electronic data to appropriate medium. Record the file names and location of backed-up electronic data in the study binder.
- 16.7 Documentation of analyte(s) and all reference substances will include trace numbers, lot #'s, purity, expiration, and storage conditions.

17.0 ATTACHMENTS

- 17.1 None

Document may be used, if current, for 14 days from 11/21/2002

18.0 REFERENCES

- 18.1 Platform LCZ User's Guide, Micromass UK Limited, Tudor Road, Altrincham, WA14 5RZ; or Floats Road, Wythenshawe M23 9LZ; United Kingdom.
- 18.2 MassLynx NT User's Guide, Micromass UK Limited, Tudor Road, Altrincham, WA14 5RZ; or Floats Road, Wythenshawe M23 9LZ; United Kingdom.
- 18.3 MassLynx NT Guide To Data Acquisition, Micromass UK Limited, Tudor Road, Altrincham, WA14 5RZ; or Floats Road, Wythenshawe M23 9LZ; United Kingdom.
- 18.4 ETS-9-34.0, "Operation and Maintenance of Hewlett Packard HPLC 1100 System Equipped with a Mass Spectrometer Detector and/or a Photo Diode Array Detector".
- 18.5 ETS-9-36.0, "Operation and Maintenance of the Micromass Platform LCZ Electrospray/Mass Spectrometer".

19.0 AFFECTED DOCUMENTS

- 19.1 None

20.0 REVISIONS

<u>Revision Number</u>	<u>Reason For Revision</u>	<u>Revision Date</u>
1	Title Change Section 1: Enlarged the scope of the method by including additional matrices. Also added comments about specific parameters will be defined in the protocol or prep sheets. Sections 1 and 2: Removed references to specific compounds. Section 3: Removed paragraph on Conventional vs. Z-Spray probe interface. Section 3: Changed to allow different systems and software. Section 8: Added paragraph allowing for the use of alternative solvents and solutions. Section 9: Broadened the types of storage containers and conditions. Section 10: Added comments to allow for flexibility in quality controls for different types of studies and applicability. Section 11: Added a paragraph allowing for the excluding of the second curve. Section 11: Added a paragraph (11.4) allowing for the dropping of curve points and minimum number of curve points needed. Section 12: Added comments to reference the specific SOP's for set-up. Section 12: Corrected numbering. Section 16: Added paragraph on records of analytes and substances. Section 18: Added reference to the method for the Hewlett-Packard LC/MS.	09 May 01

Record of Deviation

I. Identification

Study / Project No.

TN River Valley E02-0443

Deviation Type: ☐ SOP ☒ Method ☐ Equipment Procedure
(Check one) ☐ Protocol ☐ Other:

Document Number: ETS-4-04.0

Date(s) of occurrence:

17 June 2003 - 18 Oct 2002

II. Description:

Required Procedure/process: ETS-4-04.0 section 4 states, “It is the responsibility of anyone handling samples to record the movement of those samples on the internal chain of custody form.”

Actual Procedure/process: The internal chain of custody forms were not generated or used in the course of this study.

III. Actions Taken:

(such as amendment issued, SOP revision, etc.)

No additional action will be taken, as the information cannot be recalled so long after the fact.

Recorded By:

Date:

Cardi (Carlin) IV.

17 Dec 02

IV. Impact on Study / Project

This deviation does not adversely affect the quality of the data.

Authorized By: (Study Director / Project Lead)

Date:

12/17/02

ATTACHMENT B: DATA SUMMARY TABLES

D020628
Large Mouth, Extracted Curve
Sample Locations 2 and 3

Sample Name			Sample Info			PFBS (288)			PFBS (388)			PFOS (419)			FOXA (486)			PFOS (488)		
SampleType	File	Sample Name	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%
SAMPLE	DUDE0001.D	MeOH Blank	50559	BLOQ					18058	BLOQ		94045	BLOQ		12388	BLOQ		1805008	17.9	
SAMPLE	DUDE0002.D	MeOH Blank	8821	BLOQ		2881	BLOQ		10393	BLOQ		1852	BLOQ		158942	BLOQ				
SAMPLE	DUDE0003.D	MeOH Blank	6577	BLOQ		1148	BLOQ		7681	BLOQ		0	BLOQ		125861	BLOQ				
SAMPLE	DUDE0004.D	MeOH Blank	6408	BLOQ		1491	BLOQ		7328	BLOQ		0	BLOQ		100068	BLOQ				
SAMPLE	DUDE0005.D	MeOH Blank	7521	BLOQ		821	BLOQ		5039	BLOQ		0	BLOQ		89186	BLOQ				
SAMPLE	DUDE0006.D	2003-50-07	2097416	96.8		2466603	70.4		1089189	60.1		2504387	86.1		2503782	35.6				
SAMPLE	DUDE0007.D	2003-50-07	2113063	97.7		2524852	72.2		1122472	62.2		2553024	88.0		2378213	37.1				
SAMPLE	DUDE0008.D	2003-50-07	2096875	96.7		2488024	71.0		1115770	61.8		2539110	87.4		2357322	36.4				
SAMPLE	DUDE0009.D	2003-50-07	2134843	99.0		2519529	72.0		1118686	62.0		2531163	86.8		2379387	37.0				
SAMPLE	DUDE0010.D	2003-50-07	2182818	102.5		2611528	75.0		1165448	64.9		2537387	87.0		2450995	39.9				
SAMPLE	DUDE0011.D	MeOH Blank	12104	BLOQ		7369	BLOQ		10027	BLOQ		110224	BLOQ		110224	BLOQ				
SAMPLE	DUDE0012.D	MeOH Blank	10360	BLOQ		3422	BLOQ		9848	BLOQ		11484	BLOQ		11484	BLOQ				
SAMPLE	DUDE0013.D	MeOH Blank	9357	BLOQ		2233	BLOQ		9309	BLOQ		14084	BLOQ		14084	BLOQ				
SAMPLE	DUDE0014.D	2003-50-01	40586	BLOQ		36790	BLOQ		21868	BLOQ		144249	BLOQ		144249	BLOQ				
SAMPLE	DUDE0015.D	2003-50-02	78632	BLOQ		88911	BLOQ		43348	BLOQ		190043	BLOQ		190043	BLOQ				
SAMPLE	DUDE0016.D	2003-50-03	147223	4.7		170108	4.1		76384	BLOQ		135045	BLOQ		135045	BLOQ				
SAMPLE	DUDE0017.D	2003-50-04	278769	10.0		332093	8.4		267223	8.4		262708	BLOQ		262708	BLOQ				
SAMPLE	DUDE0018.D	2003-50-05	648125	25.2		781797	20.8		612327	16.5		399450	BLOQ		399450	BLOQ				
SAMPLE	DUDE0019.D	2003-50-06	1182803	49.1		1446674	38.4		1224481	31.2		851138	BLOQ		851138	BLOQ				
SAMPLE	DUDE0020.D	2003-50-07	2213077	103.7		2681369	78.6		1224481	31.2		2531468	43.5		2531468	43.5				
SAMPLE	DUDE0021.D	2003-50-08	487293	0.0		5544528	180.7		2680301	178.5		6102027	145.7		6102027	145.7				
SAMPLE	DUDE0022.D	2003-50-09	8112712	0.0		8881179	0.0		4968991	0.0		10742675	313.3		89902026	313.3				
SAMPLE	DUDE0023.D	2003-50-10	10864737	0.0		12472035	0.0		5888496	0.0		14865326	467.1		14865326	467.1				
SAMPLE	DUDE0024.D	2003-50-11	13987277	0.0		16523761	0.0		7596053	0.0		15184442	527.0		15184442	527.0				
SAMPLE	DUDE0025.D	MeOH Blank	54355	BLOQ		17182	BLOQ		37974	BLOQ		73021	BLOQ		165191	BLOQ				
SAMPLE	DUDE0026.D	MeOH Blank	22742	BLOQ		21172	BLOQ		19431	BLOQ		128816	BLOQ		128816	BLOQ				
SAMPLE	DUDE0027.D	MeOH Blank	15701	BLOQ		14497	BLOQ		14944	BLOQ		120863	BLOQ		120863	BLOQ				
SAMPLE	DUDE0028.D	MeOH Blank	9258	BLOQ		6054	BLOQ		14944	BLOQ		120863	BLOQ		120863	BLOQ				
SAMPLE	DUDE0029.D	2003-52-07	2136951	99.1		3288922	98.1		1630045	100.1		3057430	107.0		4340857	107.6				
SAMPLE	DUDE0030.D	2003-52-07	2150469	99.9		3297998	98.0		1663714	98.1		2998627	104.8		4284289	105.5				
SAMPLE	DUDE0031.D	2003-52-07	2186989	101.0		3299591	98.0		1633818	98.2		4283099	105.5		4283099	105.5				
SAMPLE	DUDE0032.D	2003-52-07	2173663	101.3		3303476	98.2		1678355	98.1		4274715	105.2		4274715	105.2				
SAMPLE	DUDE0033.D	2003-52-07	2189627	101.1		3321331	98.5		1675555	98.9		4287052	105.6		4287052	105.6				
SAMPLE	DUDE0034.D	MeOH Blank	17989	BLOQ		16156	BLOQ		15186	BLOQ		122043	BLOQ		122043	BLOQ				
SAMPLE	DUDE0035.D	MeOH Blank	14849	BLOQ		10401	BLOQ		12972	BLOQ		11953	BLOQ		11953	BLOQ				
SAMPLE	DUDE0036.D	MeOH Blank	10374	BLOQ		4825	BLOQ		10380	BLOQ		109078	BLOQ		109078	BLOQ				
SAMPLE	DUDE0037.D	MeOH Blank	8462	BLOQ		3295	BLOQ		6851	BLOQ		97874	BLOQ		97874	BLOQ				
SAMPLE	DUDE0038.D	MeOH Blank	8892	BLOQ		2767	BLOQ		6723	BLOQ		96223	BLOQ		96223	BLOQ				
CALIB 1	DUDE0039.D	2003-52-12	21097	569.3		10699	786.2		17681	815.7		94773	0.6		126398	0.4				
CALIB 2	DUDE0040.D	2003-52-01	50138	1.3		65215	1.1		60038	0.9		126484	1.5		1278724	0.3				
CALIB 3	DUDE0041.D	2003-52-02	91287	2.5		112819	2.6		100860	3.1		167037	3.0		1341550	2.3				
CALIB 4	DUDE0042.D	2003-52-03	167059	5.5		218546	5.3		146028	3.6		233969	5.3		1411890	4.8				
CALIB 5	DUDE0043.D	2003-52-04	282320	10.8		391865	10.0		216321	9.3		326566	9.2		176936	6.8				
CALIB 6	DUDE0044.D	2003-52-05	658115	25.7		959111	25.4		101075	25.2		2042467	25.3		2042467	25.3				
CALIB 7	DUDE0045.D	2003-52-06	1060200	44.8		1737156	47.9		898782	48.3		2752653	50.1		2752653	50.1				
CALIB 8	DUDE0046.D	2003-52-07	2216763	103.9		3395481	101.4		1709568	101.3		3008070	106.2		3008070	106.2				
CALIB 9	DUDE0047.D	2003-52-08	3634489	248.1		6538174	248.7		3386780	248.8		6431172	247.8		6431172	247.8				
CALIB 10	DUDE0048.D	2003-52-09	8724285	0.0		10427555	0.0		5372537	0.0		10631270	500.5		10631270	500.5				
CALIB 11	DUDE0049.D	2003-52-10	8377812	0.0		13413127	0.0		6707617	0.0		14892960	0.0		14892960	0.0				
CALIB 12	DUDE0050.D	2003-52-11	10572544	0.0		16208147	0.0		8094275	0.0		17039800	0.0		17039800	0.0				
SAMPLE	DUDE0051.D	MeOH Blank	136270	4.3		192927	4.7		98235	BLOQ		70840	BLOQ		70840	BLOQ				
SAMPLE	DUDE0052.D	MeOH Blank	40832	BLOQ		19145	BLOQ		39500	BLOQ		39081	BLOQ		39081	BLOQ				
SAMPLE	DUDE0053.D	MeOH Blank	21087	BLOQ		28251	BLOQ		23914	BLOQ		142290	BLOQ		142290	BLOQ				
SAMPLE	DUDE0054.D	MeOH Blank	10067	BLOQ		5192	BLOQ		8530	BLOQ		104084	BLOQ		104084	BLOQ				
SAMPLE	DUDE0055.D	SL-2; LM-1-1	21135	BLOQ		15154	BLOQ		103159	BLOQ		105159	BLOQ		1163997	BLOQ				
SAMPLE	DUDE0056.D	SL-2; LM-1-1	20629	BLOQ		14180	BLOQ		41809	BLOQ		107489	BLOQ		1187256	BLOQ				
SAMPLE	DUDE0057.D	SL-2; LM-1-3	18393	BLOQ		17941	BLOQ		59954	BLOQ		101169	BLOQ		1190911	BLOQ				
SAMPLE	DUDE0058.D	SL-2; LM-2-1	15144	BLOQ		10047	BLOQ		25432	BLOQ		65904	BLOQ		1348329	2.6				
SAMPLE	DUDE0059.D	SL-2; LM-2-2	18592	BLOQ		8804	BLOQ		69604	BLOQ		128827	BLOQ		1348329	2.6				
SAMPLE	DUDE0060.D	MeOH Blank	12113	BLOQ		8540	BLOQ		11928	BLOQ		62964	BLOQ		62964	BLOQ				
SAMPLE	DUDE0061.D	SL-2; LM-2-3	15081	BLOQ		7449	BLOQ		29311	BLOQ		1291957	BLOQ		1291957	BLOQ				
SAMPLE	DUDE0062.D	SL-2; LM-2-4S	1158039	46.5		1675643	43.1		797091	42.5		1451578	47.0		1451578	47.0				

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D020628
Large Mouth, Extracted Curve
Sample Locations 2 and 3

SampType	File	Sample Name	Sample Info	PFBS (289)	PFHS (308)	PCPA (413)	POSA (488)	PPOS (489)
				Area ng/mL	% Amount	Area ng/mL	% Amount	Area ng/mL
SAMPLE	DUDE0063.D	SL-2 LM-3-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	27842	BLOQ	69068	BLOQ	98008
SAMPLE	DUDE0064.D	SL-2 LM-3-2	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	22037	BLOQ	177053	BLOQ	1527787
SAMPLE	DUDE0065.D	SL-2 LM-3-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	27868	BLOQ	33770	BLOQ	98839
SAMPLE	DUDE0066.D	02003-SZ-07	Extracted LM Fish Curve, 02003-SZ-07, 100ppm, MIA/CNCMCEE, 21 Jun 02	2135701	99.0	1733363	103.0	4337601
SAMPLE	DUDE0067.D	MOCH Blank	MOCH Blank TNA-A-08115; 05 Jan 02(pps), MIAMEE	18250	BLOQ	14247	BLOQ	5894
SAMPLE	DUDE0068.D	SL-2 LM-4-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	18688	BLOQ	27338	BLOQ	114107
SAMPLE	DUDE0069.D	SL-2 LM-4-2	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	19300	BLOQ	9478	BLOQ	2839052
SAMPLE	DUDE0070.D	SL-2 LM-4-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	13968	BLOQ	10655	BLOQ	181225
SAMPLE	DUDE0071.D	SL-2 LM-4-MS	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	1218916	86.7	1888038	44.8	2490414
SAMPLE	DUDE0072.D	MOCH Blank	MOCH Blank TNA-A-08115; 05 Jan 02(pps), MIAMEE	110927	BLOQ	62609	BLOQ	44343
SAMPLE	DUDE0073.D	SL-3 LM-1-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	12072	BLOQ	10367	BLOQ	115395
SAMPLE	DUDE0074.D	MOCH Blank	MOCH Blank TNA-A-08115; 05 Jan 02(pps), MIAMEE	12072	BLOQ	6304	BLOQ	79113
SAMPLE	DUDE0075.D	SL-3 LM-1-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	18686	BLOQ	61587	BLOQ	113602
SAMPLE	DUDE0076.D	SL-3 LM-1-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	17968	BLOQ	16875	BLOQ	721142
SAMPLE	DUDE0077.D	SL-3 LM-2-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	18608	BLOQ	14138	BLOQ	74542
SAMPLE	DUDE0078.D	SL-3 LM-2-2	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	20045	BLOQ	12251	BLOQ	553530
SAMPLE	DUDE0079.D	SL-3 LM-2-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	13365	BLOQ	12807	BLOQ	24237
SAMPLE	DUDE0080.D	02003-SZ-07	Extracted LM Fish Curve, 02003-SZ-07, 100ppm, MIA/CNCMCEE, 21 Jun 02	215827	103.9	1716035	102.0	570044
SAMPLE	DUDE0081.D	MOCH Blank	MOCH Blank TNA-A-08115; 05 Jan 02(pps), MIAMEE	12223	BLOQ	7884	BLOQ	28165
SAMPLE	DUDE0082.D	SL-3 LM-2-MS	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	1841313	44.4	1768288	47.1	570851
SAMPLE	DUDE0083.D	SL-3 LM-3-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	17135	BLOQ	17754	BLOQ	690726
SAMPLE	DUDE0084.D	SL-3 LM-3-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	15125	BLOQ	9758	BLOQ	518145
SAMPLE	DUDE0085.D	SL-3 LM-3-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	17392	BLOQ	2170	BLOQ	587130
SAMPLE	DUDE0086.D	SL-3 LM-4-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	12907	BLOQ	3194	BLOQ	498253
SAMPLE	DUDE0087.D	MOCH Blank	MOCH Blank TNA-A-08115; 05 Jan 02(pps), MIAMEE	12351	BLOQ	10452	BLOQ	988184
SAMPLE	DUDE0088.D	SL-3 LM-4-2	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	1474	BLOQ	5738	BLOQ	104811
SAMPLE	DUDE0089.D	SL-3 LM-4-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	12596	BLOQ	29408	BLOQ	318
SAMPLE	DUDE0090.D	SL-3 LM-4-MS	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	1178916	48.8	7393	BLOQ	1013003
SAMPLE	DUDE0091.D	SL-3 LM-5-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	17423	BLOQ	4025	BLOQ	1029081
SAMPLE	DUDE0092.D	SL-3 LM-5-2	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	10423	BLOQ	4378	BLOQ	2813282
SAMPLE	DUDE0093.D	02003-SZ-07	Extracted LM Fish Curve, 02003-SZ-07, 100ppm, MIA/CNCMCEE, 21 Jun 02	2191355	102.4	174154	103.2	451386
SAMPLE	DUDE0094.D	MOCH Blank	MOCH Blank TNA-A-08115; 05 Jan 02(pps), MIAMEE	13212	BLOQ	3341780	98.5	653180
SAMPLE	DUDE0095.D	SL-3 LM-5-3	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	14456	BLOQ	11521	BLOQ	2567800
SAMPLE	DUDE0096.D	SL-3 LM-6-1	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	11345	BLOQ	7308	BLOQ	12814
SAMPLE	DUDE0097.D	SL-3 LM-6-2	Tenn. River Valley Fish, Prep-17 Jun 02 CACMILA, 20 Jun 02	13347	BLOQ	5175	BLOQ	

D020629
Catfish, Extracted Curve
 Sample Locations 1 and 2

Sample Type	File	Sample Name	Sample Info	PFOS (188)	PFOS (189)	PFOS (190)	PFOS (191)	PFOS (192)	PFOS (193)	PFOS (194)	PFOS (195)
				Area	Amount	%	Area	Amount	%	Area	Amount
SAMPLE	D0206001.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	2143	BLQ	BLQ	3638	BLQ	BLQ	6318	BLQ
SAMPLE	D0206002.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	8182	BLQ	BLQ	20797	BLQ	BLQ	5412	BLQ
SAMPLE	D0206003.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	8791	BLQ	BLQ	20882	BLQ	BLQ	4337	BLQ
SAMPLE	D0206004.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	8547	BLQ	BLQ	20772	BLQ	BLQ	4418	BLQ
SAMPLE	D0206005.D	Blank Inject	Blank Inject	8547	BLQ	BLQ	20772	BLQ	BLQ	4418	BLQ
SAMPLE	D0206006.D	02003-50-04; 10 Opps Fish Curves; CMC; 20 Jun 02	02003-50-04; 10 Opps Fish Curves; CMC; 20 Jun 02	282738	9.6	330865	176702	8.9	218118	181118	13.5
SAMPLE	D0206007.D	02003-50-06; 500 Opps Fish Curves; CMC; 20 Jun 02	02003-50-06; 500 Opps Fish Curves; CMC; 20 Jun 02	8652603	0.0	0.0	4547064	0.0	8238689	8775886	431.7
SAMPLE	D0206008.D	02003-50-09	02003-50-09	13788828	0.0	15083171	7298979	0.0	18878522	18878522	0.0
SAMPLE	D0206009.D	02003-50-11	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	86004	BLQ	BLQ	74865	BLQ	BLQ	8252	BLQ
SAMPLE	D0206010.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	25648	BLQ	BLQ	33755	BLQ	BLQ	22340	BLQ
SAMPLE	D0206011.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	18731	BLQ	BLQ	14228	BLQ	BLQ	14866	BLQ
SAMPLE	D0206012.D	Blank Inject	Blank Inject	8078	BLQ	BLQ	18731	BLQ	BLQ	14866	BLQ
SAMPLE	D0206013.D	02003-50-07; 100 Opps Fish Curves; CMC; 20 Jun 02	02003-50-07; 100 Opps Fish Curves; CMC; 20 Jun 02	2055000	127.9	2433951	1157202	69.7	2512031	107.0	BLQ
SAMPLE	D0206014.D	02003-50-07	02003-50-07	2119519	132.3	2475862	1142621	68.8	2512110	108.9	BLQ
SAMPLE	D0206015.D	02003-50-07	02003-50-07	2120989	132.4	2465748	1152133	68.8	2505750	108.2	BLQ
SAMPLE	D0206016.D	02003-50-07	02003-50-07	2125097	132.8	2505597	1157862	68.7	2505750	108.9	BLQ
SAMPLE	D0206017.D	02003-50-07	02003-50-07	2112586	131.8	2511928	1178206	71.0	2517183	108.7	BLQ
SAMPLE	D0206018.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	18480	BLQ	BLQ	17338	BLQ	BLQ	18284	BLQ
SAMPLE	D0206019.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10291	BLQ	BLQ	10918	BLQ	BLQ	18284	BLQ
SAMPLE	D0206020.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10236	BLQ	BLQ	8641	BLQ	BLQ	18284	BLQ
SAMPLE	D0206021.D	Blank Inject	Blank Inject	8258	BLQ	BLQ	20307	BLQ	BLQ	18284	BLQ
SAMPLE	D0206022.D	02003-50-01	02003-50-01	78944	BLQ	BLQ	4112	BLQ	BLQ	18284	BLQ
SAMPLE	D0206023.D	02003-50-02	02003-50-02	34573	BLQ	BLQ	4112	BLQ	BLQ	18284	BLQ
SAMPLE	D0206024.D	02003-50-03	02003-50-03	42660	2.3	81186	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206025.D	02003-50-04	02003-50-04	187718	4.7	145807	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206026.D	02003-50-05	02003-50-05	284345	12.2	322756	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206027.D	02003-50-06	02003-50-06	628228	33.5	757279	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206028.D	02003-50-07	02003-50-07	1187740	67.5	1407418	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206029.D	02003-50-08	02003-50-08	2148664	80.7	2544814	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206030.D	02003-50-09	02003-50-09	4552684	33.9	5323853	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206031.D	02003-50-10	02003-50-10	7697751	0.0	8831013	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206032.D	02003-50-11	02003-50-11	10577855	0.0	12350272	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206033.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	12913092	0.0	14504861	119806	7.8	13497	2.2	BLQ
SAMPLE	D0206034.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	78281	BLQ	BLQ	7111385	0.0	18114018	0.0	BLQ
SAMPLE	D0206035.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	27121	BLQ	BLQ	32303	BLQ	BLQ	147374	BLQ
SAMPLE	D0206036.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	13608	BLQ	BLQ	28914	BLQ	BLQ	115206	BLQ
SAMPLE	D0206037.D	Blank Inject	Blank Inject	10338	BLQ	BLQ	10864	BLQ	BLQ	115206	BLQ
SAMPLE	D0206038.D	02003-45-07; 100 Opps Catfish Curves; MLAC/MC/MEE; 21 Jun 02	02003-45-07; 100 Opps Catfish Curves; MLAC/MC/MEE; 21 Jun 02	1585818	95.5	181058	10586	10.4	19118	112.0	BLQ
SAMPLE	D0206039.D	02003-45-07	02003-45-07	1817572	97.0	2099444	10586	10.4	2099444	112.0	BLQ
SAMPLE	D0206040.D	02003-45-07	02003-45-07	1865832	99.2	2122043	10586	10.4	2097222	112.0	BLQ
SAMPLE	D0206041.D	02003-45-07	02003-45-07	1817608	97.0	2099444	10586	10.4	2097222	112.0	BLQ
SAMPLE	D0206042.D	02003-45-07	02003-45-07	1865832	99.2	2122043	10586	10.4	2097222	112.0	BLQ
SAMPLE	D0206043.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	15789	BLQ	BLQ	1659744	105.8	2097222	112.0	BLQ
SAMPLE	D0206044.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10283	BLQ	BLQ	20727	BLQ	BLQ	117753	BLQ
SAMPLE	D0206045.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	8674	BLQ	BLQ	1899	BLQ	BLQ	10218	BLQ
SAMPLE	D0206046.D	Blank Inject	Blank Inject	7733	BLQ	BLQ	7788	BLQ	BLQ	8642	BLQ
SAMPLE	D0206047.D	02003-45-12; 10 Opps Catfish Curves; MLAC/MC/MEE; 21 Jun 02	02003-45-12; 10 Opps Catfish Curves; MLAC/MC/MEE; 21 Jun 02	11364	BLQ	BLQ	1768	BLQ	BLQ	8642	BLQ
SAMPLE	D0206048.D	02003-45-01	02003-45-01	34877	BLQ	BLQ	50022	1.8	45944	1.2	BLQ
SAMPLE	D0206049.D	02003-45-02	02003-45-02	88328	0.7	100477	77775	3.4	1385	77349	2.8
SAMPLE	D0206050.D	02003-45-03	02003-45-03	131085	4.3	185046	10842	5.1	1024	133001	4.8
SAMPLE	D0206051.D	02003-45-04	02003-45-04	477632	28.8	589660	208615	10.4	251428	9.8	BLQ
SAMPLE	D0206052.D	02003-45-05	02003-45-05	840536	52.8	1061787	2337	23.7	578738	23.3	BLQ
SAMPLE	D0206053.D	02003-45-06	02003-45-06	140536	10.4	1632354	46.2	62%	1153868	48.9	BLQ
SAMPLE	D0206054.D	02003-45-07	02003-45-07	1867208	100.4	2132057	103.4	103%	2581832	108.7	BLQ
SAMPLE	D0206055.D	02003-45-08	02003-45-08	3502330	247.1	4032058	248.3	100%	5518787	248.1	BLQ
SAMPLE	D0206056.D	02003-45-09	02003-45-09	8555025	502.1	9999	4733527	0.0	8917884	487.8	BLQ
SAMPLE	D0206057.D	02003-45-10	02003-45-10	8555025	502.1	9999	4733527	0.0	8917884	487.8	BLQ
SAMPLE	D0206058.D	02003-45-11	02003-45-11	8555025	502.1	9999	4733527	0.0	8917884	487.8	BLQ
SAMPLE	D0206059.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	81007	BLQ	BLQ	74414	BLQ	BLQ	1542168	1208.4
SAMPLE	D0206060.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	15986	BLQ	BLQ	28037	BLQ	BLQ	201434	BLQ
SAMPLE	D0206061.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	14755	BLQ	BLQ	21183	BLQ	BLQ	158711	BLQ
SAMPLE	D0206062.D	SL-1; C-1-1	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	14755	BLQ	BLQ	21183	BLQ	BLQ	158711	BLQ
SAMPLE	D0206063.D	SL-1; C-1-1	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	14755	BLQ	BLQ	21183	BLQ	BLQ	158711	BLQ
SAMPLE	D0206064.D	SL-1; C-1-3	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	12710	BLQ	BLQ	23337	BLQ	BLQ	532073	11.2
SAMPLE	D0206065.D	SL-1; C-1-3	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	12710	BLQ	BLQ	23337	BLQ	BLQ	532073	11.2
SAMPLE	D0206066.D	SL-1; C-2-2	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	12653	BLQ	BLQ	20779	BLQ	BLQ	485460	10.8
SAMPLE	D0206067.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	8773	BLQ	BLQ	18629	BLQ	BLQ	472057	9.8
SAMPLE	D0206068.D	SL-1; C-2-3	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	8773	BLQ	BLQ	18629	BLQ	BLQ	472057	9.8
SAMPLE	D0206069.D	SL-1; C-2-3	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	8773	BLQ	BLQ	18629	BLQ	BLQ	472057	9.8
SAMPLE	D0206070.D	SL-1; C-3-1	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	112594	64.4	1452300	5912	BLQ	BLQ	433569	8.5
SAMPLE	D0206071.D	SL-1; C-3-1	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	14320	BLQ	BLQ	8822	BLQ	BLQ	181507	51.7
SAMPLE	D0206072.D	SL-1; C-3-2	Tenn. River Valley Fish. Prep-17 Jun 02; CMC/MLA; 20 Jun 02	13500	BLQ	BLQ	20288	BLQ	BLQ	982430	16.1
SAMPLE	D0206073.D	02003-45-07	02003-45-07	181553	98.8	214718	34137	BLQ	BLQ	744237	17.8
SAMPLE	D0206074.D	02003-45-07	02003-45-07	181553	98.8	214718	34137	BLQ	BLQ	744237	17.8
SAMPLE	D0206075.D	02003-45-07	02003-45-07	181553	98.8	214718	34137	BLQ	BLQ	744237	17.8

3M Environmental Laboratory

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D020629
CatFish, Extracted Curve
Sample Locations 1 and 2

[illegible]

D020702

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D020702
CatFish, Extracted Curve
Sample Location 3

Sample Type	File	Sample Name	Sample Info	Area	Amount ng/mL	%	PFBS (298)	Area	Amount ng/mL	%	PFBS (298)	Area	Amount ng/mL	%	PFBS (298)	Area	Amount ng/mL	%
SAMPLE	DUDE0068.D	SL-3, C-3-M5	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	1991307	64.8	129%	2282593	47.0	84%	1064728	43.3	87%	1763385	48.8	100%	2201220	48.1	92%
SAMPLE	DUDE0070.D	SL-3, C-3-1	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	24320	BLOQ		8020	BLOQ		21977	BLOQ		28327	BLOQ		164262	BLOQ	
SAMPLE	DUDE0071.D	SL-3, C-3-2	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	18648	BLOQ		5276	BLOQ		14365	BLOQ		22832	BLOQ		165052	BLOQ	
SAMPLE	DUDE0072.D	SL-3, C-3-3	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	24807	BLOQ		3605	BLOQ		13688	BLOQ		25528	BLOQ		159639	BLOQ	
SAMPLE	DUDE0073.D	02003-45-07: 100ppb Catfish curve, MIA&CM&M&E, 21 Jun 02		2333962	99.4	98%	4563714	101.3	101%	2255277	100.0	100%	3638635	104.0	104%	4758706	103.1	103%
SAMPLE	DUDE0074.D	MeOH Blank		16002	BLOQ		12313	BLOQ		11890	BLOQ		10892	BLOQ		93159	BLOQ	
SAMPLE	DUDE0075.D	SL-3, C-4-1	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	17185	BLOQ		5788	BLOQ		11633	BLOQ		28647	BLOQ		316812	3.7	
SAMPLE	DUDE0076.D	SL-3, C-4-2	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	21375	BLOQ		3985	BLOQ		9130	BLOQ		20687	BLOQ		307947	3.5	
SAMPLE	DUDE0077.D	SL-3, C-4-3	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	18443	BLOQ		3417	BLOQ		9515	BLOQ		28620	BLOQ		333790	4.0	
SAMPLE	DUDE0078.D	SL-3, C-4-M5	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	1918218	61.4	123%	2210138	45.4	91%	1068147	48.8	92%	2019128	46.8	113%	2465588	48.4	97%
SAMPLE	DUDE0079.D	SL-3, C-5-1	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	18806	BLOQ		7747	BLOQ		12540	BLOQ		18677	BLOQ		132232	BLOQ	
SAMPLE	DUDE0080.D	MeOH Blank		11190	BLOQ		3071	BLOQ		10898	BLOQ		5463	BLOQ		81061	BLOQ	
SAMPLE	DUDE0081.D	SL-3, C-5-2	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	18291	BLOQ		3303	BLOQ		19138	BLOQ		12319	BLOQ		136308	BLOQ	
SAMPLE	DUDE0082.D	SL-3, C-5-3	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	18727	BLOQ		3600	BLOQ		11772	BLOQ		11964	BLOQ		137529	BLOQ	
SAMPLE	DUDE0083.D	SL-3, C-5-1	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	0	BLOQ		0	BLOQ		0	BLOQ		0	BLOQ		0	BLOQ	
SAMPLE	DUDE0084.D	SL-3, C-5-2	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	13227	BLOQ		2199	BLOQ		21286	BLOQ		22650	BLOQ		251768	2.3	
SAMPLE	DUDE0085.D	SL-3, C-5-3	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	12338	BLOQ		2077	BLOQ		12182	BLOQ		18078	BLOQ		250488	2.3	
SAMPLE	DUDE0086.D	02003-45-07: 100ppb Catfish curve, MIA&CM&M&E, 21 Jun 02		2300098	97.8	99%	4413612	97.4	97%	2239179	98.2	99%	3537761	100.9	101%	4642553	100.4	100%
SAMPLE	DUDE0087.D	MeOH Blank		18148	BLOQ		11187	BLOQ		15788	BLOQ		8243	BLOQ		85525	BLOQ	
SAMPLE	DUDE0088.D	SL-3, C-6-M5	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	1997599	64.3	129%	2023286	41.4	83%	1111857	48.4	91%	1828222	51.8	104%	2223884	44.4	89%
SAMPLE	DUDE0089.D	SL-3, WB-1	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	25327	BLOQ		7877	BLOQ		14443	BLOQ		5535	BLOQ		82445	BLOQ	
SAMPLE	DUDE0090.D	SL-3, WB-2	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	20971	BLOQ		3347	BLOQ		15176	BLOQ		4520	BLOQ		81065	BLOQ	
SAMPLE	DUDE0091.D	SL-3, SB-1	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	19148	BLOQ		3074	BLOQ		14720	BLOQ		5445	BLOQ		75775	BLOQ	
SAMPLE	DUDE0092.D	SL-3, SB-2	Tenn. River Valley Fish, Prep-17 Jun 02, CMC&MA, 20 Jun 02	17484	BLOQ		1442	BLOQ		17889	BLOQ		8879	BLOQ		76580	BLOQ	
SAMPLE	DUDE0093.D	02003-45-07: 100ppb Catfish curve, MIA&CM&M&E, 21 Jun 02		2317863	98.7	99%	4430260	97.8	98%	2267807	100.7	101%	3633388	103.0	103%	4894082	101.6	102%

D020812A
River Water Samples
 Sample Locations 1, 2, and 3. Low end of curve.

E02-0443
 Tenn. River Valley Water Samples

Sample Type	File	Sample Name	Sample Info	Imp. Val. (uL)	PFBS (388) Area	PFBS (388) Amount ng/mL	%	PFOS (389) Area	PFOS (389) Amount ng/mL	%	PFOS (389) Area	PFOS (389) Amount ng/mL	%
SAMPLE	D020001.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	40981	BLOQ		15686	BLOQ		260028	18.3	
SAMPLE	D020002.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	3709	BLOQ		0	BLOQ		15700	BLOQ	
SAMPLE	D020003.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	4785132	0.0		4825533	0.0		2222081	0.0	
SAMPLE	D020004.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	8129442	0.0		8434014	0.0		3801548	0.0	
SAMPLE	D020005.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11194846	0.0		11641428	0.0		5482222	0.0	
SAMPLE	D020006.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	72835	2.1		80009	2.5		45568	2.4	
SAMPLE	D020007.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	30161	BLOQ		22991	0.7		23225	BLOQ	
SAMPLE	D020008.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	20158	BLOQ		11164	BLOQ		18017	BLOQ	
SAMPLE	D020009.D	Blank Inject	Blank Inject	10	12084	BLOQ		2749	BLOQ		8745	BLOQ	
SAMPLE	D020010.D	Blank Inject	Blank Inject	10	12035	BLOQ		2146	BLOQ		8821	BLOQ	
SAMPLE	D020011.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	2323587	101.7	103.2	2517160	105.4	108.7	8821	BLOQ	
SAMPLE	D020012.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	2346180	102.8	49%	2533018	106.5	49%	8821	BLOQ	
SAMPLE	D020013.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	2316113	101.1	108.4	2512307	105.1	112.0	8821	BLOQ	
SAMPLE	D020014.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	2382409	105.9	8%	2578744	106.8	8%	8821	BLOQ	
SAMPLE	D020015.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	2380980	104.9	88.1	2538146	106.8	101.4	8821	BLOQ	
SAMPLE	D020016.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	15485	BLOQ		7489	BLOQ		12589	BLOQ	
SAMPLE	D020017.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	13883	BLOQ		3871	BLOQ		10727	BLOQ	
SAMPLE	D020018.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	13734	BLOQ		2295	BLOQ		10586	BLOQ	
SAMPLE	D020019.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12581	BLOQ		1485	BLOQ		9187	BLOQ	
SAMPLE	D020020.D	Blank Inject	Blank Inject	10	11215	BLOQ		1223	BLOQ		7058	BLOQ	
SAMPLE	D020021.D	Blank Inject	Blank Inject	10	11139	BLOQ		0	BLOQ		7058	BLOQ	
SAMPLE	D020022.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	16287	0.08	80%	4887	0.15	145%	10048	0.14	141%
SAMPLE	D020023.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	19335	0.20	88%	7882	0.25	115%	11567	0.20	101%
SAMPLE	D020024.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	28774	0.53	109%	11073	0.62	104%	11567	0.20	101%
SAMPLE	D020025.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	44778	1.08	109%	33124	1.01	101%	11567	0.20	101%
SAMPLE	D020026.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	82135	2.41	88%	78386	2.40	86%	11567	0.20	101%
SAMPLE	D020027.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	151709	4.86	88%	158905	4.80	87%	11567	0.20	101%
SAMPLE	D020028.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	283880	10.0	100%	320769	10.0	100%	11567	0.20	101%
SAMPLE	D020029.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	89128	25.0	100%	78758	25.0	100%	11567	0.20	101%
SAMPLE	D020030.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	127324	50.0	100%	127383	50.0	100%	11567	0.20	101%
SAMPLE	D020031.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	14538	BLOQ		5446	BLOQ		12766	BLOQ	
SAMPLE	D020032.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	13982	BLOQ		2301	BLOQ		11351	BLOQ	
SAMPLE	D020033.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11891	BLOQ		0	BLOQ		3628	BLOQ	
SAMPLE	D020034.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	10174	BLOQ		337	BLOQ		3628	BLOQ	
SAMPLE	D020035.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11328	BLOQ		1117	BLOQ		3628	BLOQ	
SAMPLE	D020036.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	77013	2.3		131330	4.0		15916	BLOQ	
SAMPLE	D020037.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	16320	BLOQ		7894	BLOQ		12473	BLOQ	
SAMPLE	D020038.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	76373	2.2		134716	4.2		171533	18.8	
SAMPLE	D020039.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	26828	BLOQ		10424	BLOQ		13864	BLOQ	
SAMPLE	D020040.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	61166	1.7		202744	6.3		206265	13.2	
SAMPLE	D020041.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	14829	BLOQ		3071	BLOQ		11284	BLOQ	
SAMPLE	D020042.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	34420	1.8		131319	4.0		171870	10.8	
SAMPLE	D020043.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	17103	BLOQ		6380	BLOQ		11819	BLOQ	
SAMPLE	D020044.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	21417	BLOQ		65994	2.8		48142	2.4	
SAMPLE	D020045.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11881	BLOQ		2478	BLOQ		11020	BLOQ	
SAMPLE	D020046.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12868	BLOQ		5944	BLOQ		8820	BLOQ	
SAMPLE	D020047.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	20207	BLOQ		1827	BLOQ		10632	BLOQ	
SAMPLE	D020048.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11980	BLOQ		4678	BLOQ		12082	BLOQ	
SAMPLE	D020049.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	20884	BLOQ		1063	BLOQ		10121	BLOQ	
SAMPLE	D020050.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12415	BLOQ		84878	2.8		48413	2.7	
SAMPLE	D020051.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	23252	BLOQ		7184	BLOQ		10339	BLOQ	
SAMPLE	D020052.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	71828	26.1	104%	797390	28.1	104%	11379	BLOQ	
SAMPLE	D020053.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	13214	BLOQ		3059	BLOQ		36226	28.5	108%
SAMPLE	D020054.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	24604	BLOQ		5490	BLOQ		11962	BLOQ	
SAMPLE	D020055.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12375	BLOQ		1483	BLOQ		12087	BLOQ	
SAMPLE	D020056.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	21277	BLOQ		81587	2.8		10630	BLOQ	
SAMPLE	D020057.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12217	BLOQ		0	BLOQ		48413	2.8	
SAMPLE	D020058.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	23581	BLOQ		83178	2.8		10738	BLOQ	
SAMPLE	D020059.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12381	BLOQ		0	BLOQ		47821	2.8	
SAMPLE	D020060.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	21507	BLOQ		8876	BLOQ		10098	BLOQ	
SAMPLE	D020061.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11663	BLOQ		0	BLOQ		8910	BLOQ	
SAMPLE	D020062.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	23124	BLOQ		3098	BLOQ		8820	BLOQ	
SAMPLE	D020063.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	13884	BLOQ		0	BLOQ		10770	BLOQ	
SAMPLE	D020064.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	28174	BLOQ		5192	BLOQ		9178	BLOQ	
SAMPLE	D020065.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	54510	1.4		4219	BLOQ		11746	BLOQ	
SAMPLE	D020066.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	9838	BLOQ		21750	BLOQ		27849	21.3	
SAMPLE	D020067.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	16086	BLOQ		3237	BLOQ		11340	BLOQ	
SAMPLE	D020068.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	11957	BLOQ		25586	8.0		34081	22.7	
SAMPLE	D020069.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12416	BLOQ		0	BLOQ		11011	BLOQ	
SAMPLE	D020070.D	MeOH Blank	MeOH Blank: TN-A-08115; 05 Jun 02 (pp); MLANEE	10	12416	BLOQ		0	BLOQ		2184	BLOQ	

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D020812A
River Water Samples
 Sample Locations 1, 2, and 3. Low end of curve.

E02-0443
 Tenn. River Valley Water Samples

Sample Type	File	Sample Name	Sample Info	Inj. Vol. (uL)	PFBS (289)			PFHS (389)			PROA (413)			FOXA (488)			PFOS (489)		
					Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%
SAMPLE	DUDE0071.D	38027	E02-0443-38027; Water Samples; non-GLP; 7/17/02; OK	20	102829	3.1		405693	12.8		412129	28.9		121332	4.0		805339	28.8	
SAMPLE	DUDE0072.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	13005	BLOQ		2735	BLOQ		11372	BLOQ		2586	BLOQ		31365	BLOQ	
SAMPLE	DUDE0073.D	38029	E02-0443-38029; Water Samples; non-GLP; 8/20/02; OK	20	89492	2.7		252177	7.9		328651	21.8		34000	1.1		631568	29.2	
SAMPLE	DUDE0074.D	02003-50-05	02003-50-05; 25 Dpple Fish Curves; CMC; 20 Jun 02	10	745200	26.3	105%	812476	26.8	105%	413005	28.0	112%	780482	26.2	105%	813599	28.8	107%
SAMPLE	DUDE0075.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	13620	BLOQ		3194	BLOQ		11820	BLOQ		3678	BLOQ		30284	BLOQ	
SAMPLE	DUDE0076.D	38032	E02-0443-38032; Water Samples; non-GLP; 8/20/02; OK	20	18361	BLOQ		157286	4.9		84180	4.9		138473	4.8		180157	8.2	
SAMPLE	DUDE0077.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	11442	BLOQ		0	BLOQ		10578	BLOQ		2582	BLOQ		28764	BLOQ	
SAMPLE	DUDE0078.D	38033	E02-0443-38033; Water Samples; non-GLP; 8/20/02; OK	20	26600	BLOQ		6665	BLOQ		11537	BLOQ		5487	BLOQ		35068	BLOQ	
SAMPLE	DUDE0079.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	12025	BLOQ		666	BLOQ		10246	BLOQ		2219	BLOQ		28273	BLOQ	
SAMPLE	DUDE0080.D	38034	E02-0443-38034; Water Samples; non-GLP; 8/20/02; OK	20	28018	BLOQ		8673	BLOQ		17031	BLOQ		8747	BLOQ		51049	BLOQ	
SAMPLE	DUDE0081.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	15109	BLOQ		0	BLOQ		10432	BLOQ		2137	BLOQ		29174	BLOQ	
SAMPLE	DUDE0082.D	38035	E02-0443-38035; Water Samples; non-GLP; 8/20/02; OK	20	28791	BLOQ		169441	8.2		83960	8.8		108416	3.8		182208	4.9	
SAMPLE	DUDE0083.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	12285	BLOQ		1155	BLOQ		10273	BLOQ		1871	BLOQ		29491	BLOQ	
SAMPLE	DUDE0084.D	38037	E02-0443-38037; Water Samples; non-GLP; 8/20/02; OK	20	32548	BLOQ		12978	BLOQ		14081	BLOQ		8547	BLOQ		43651	BLOQ	
SAMPLE	DUDE0085.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	12779	BLOQ		0	BLOQ		9659	BLOQ		1784	BLOQ		28142	BLOQ	
SAMPLE	DUDE0086.D	38038	E02-0443-38038; Water Samples; non-GLP; 8/20/02; OK	20	34896	BLOQ		8214	BLOQ		15139	BLOQ		3452	BLOQ		44198	BLOQ	
SAMPLE	DUDE0087.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	12019	BLOQ		0	BLOQ		9835	BLOQ		2043	BLOQ		28231	BLOQ	
SAMPLE	DUDE0088.D	38039	E02-0443-38039; Water Samples; non-GLP; 8/20/02; OK	20	38873	BLOQ		160575	8.0		88104	8.1		146553	4.8		170540	4.8	
SAMPLE	DUDE0089.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	12390	BLOQ		0	BLOQ		10459	BLOQ		2297	BLOQ		28058	BLOQ	
SAMPLE	DUDE0090.D	38041	E02-0443-38041; Water Samples; non-GLP; 8/20/02; OK	20	41548	BLOQ		163887	8.1		90881	8.4		147415	4.8		199423	8.5	
SAMPLE	DUDE0091.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	12372	BLOQ		0	BLOQ		10993	BLOQ		2080	BLOQ		28951	BLOQ	
SAMPLE	DUDE0092.D	38043	E02-0443-38043; Water Samples; non-GLP; 8/20/02; OK	20	32848	BLOQ		16543	BLOQ		9481	BLOQ		6471	BLOQ		30651	BLOQ	
SAMPLE	DUDE0093.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	13840	BLOQ		0	BLOQ		10932	BLOQ		1571	BLOQ		28400	BLOQ	
SAMPLE	DUDE0094.D	38047	E02-0443-38047; Water Samples; non-GLP; 8/20/02; OK	20	35842	BLOQ		6381	BLOQ		10690	BLOQ		5864	BLOQ		33414	BLOQ	
SAMPLE	DUDE0095.D	02003-50-05	02003-50-05; 25 Dpple Fish Curves; CMC; 20 Jun 02	10	71184	26.2	105%	806664	26.4	105%	413658	28.1	112%	803001	28.0	108%	826526	27.2	108%
SAMPLE	DUDE0096.D	MeOH Blank	MeOH Blank; TN-A-08115; 05 Jun 02(p); MLANEE	10	15210	BLOQ		2279	BLOQ		10747	BLOQ		3082	BLOQ		23397	BLOQ	

Samples were injected at two different injection volumes: 10 and 20 uL. Only the 20 uL injections were used for reporting.

D020812B
River Water Samples
Sample Locations 1, 2, and 3. High end of curve.

E02-0443

Tenn. River Valley Water Samples

Sample Type	File	Sample Name	Sample Info	Inj. Vol. (uL)	PFBS (298)			PFBS (338)			PFDA (413)			FOXA (488)			PFOS (488)					
					Area	Amount ng/mL	% or Int. Adjusted Conc.	Area	Amount ng/mL	% or Int. Adjusted Conc.	Area	Amount ng/mL	% or Int. Adjusted Conc.	Area	Amount ng/mL	% or Int. Adjusted Conc.	Area	Amount ng/mL	% or Int. Adjusted Conc.			
SAMPLE	D02081007.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	13537	BLOQ	1420	BLOQ	2808.1	56163%	10321	BLOQ	2138	BLOQ	28381	BLOQ	186527	3063.3	61260%			
CALIB 1	D02081008.D	02003-50-03	02003-50-03; 5.0ppb Fish Curves; CMC; 20 Jun 02	10	163033	3.28	100%	168094	2808.1	56163%	12543	2679.3	53586%	156481	0.1	1%	186527	3063.3	61260%			
CALIB 2	D02081009.D	02003-50-04	02003-50-04; 10.0ppb Fish Curves; CMC; 20 Jun 02	10	307014	3.3	33%	307014	3.3	33%	175543	0.9	9%	318034	5.8	58%	318034	5.8	58%			
CALIB 3	D02081010.D	02003-50-05	02003-50-05; 25.0ppb Fish Curves; CMC; 20 Jun 02	10	715666	22.6	80%	802666	22.2	89%	761870	22.7	91%	803338	23.2	93%	819381	22.5	90%			
CALIB 4	D02081011.D	02003-50-06	02003-50-06; 50.0ppb Fish Curves; CMC; 20 Jun 02	10	1354071	53.3	107%	1519177	54.8	110%	141675	54.9	110%	1578162	51.2	102%	1529879	53.2	105%			
CALIB 5	D02081012.D	02003-50-07	02003-50-07; 100.0ppb Fish Curves; CMC; 20 Jun 02	10	2554662	113.0	113%	2804446	118.1	117%	1384454	114.8	108%	3206093	104.3	105%	3218068	111.0	111%			
CALIB 6	D02081013.D	02003-50-08	02003-50-08; 250.0ppb Fish Curves; CMC; 20 Jun 02	10	5338247	262.8	105%	5746653	268.2	107%	2852313	269.4	108%	7095219	269.2	105%	6991082	269.2	108%			
CALIB 7	D02081014.D	02003-50-09	02003-50-09; 500.0ppb Fish Curves; CMC; 20 Jun 02	10	8019153	465.9	99%	9447549	465.3	99%	4653876	468.0	100%	12550274	503.5	101%	10710166	498.8	100%			
CALIB 8	D02081015.D	02003-50-10	02003-50-10; 750.0ppb Fish Curves; CMC; 20 Jun 02	10	11689162	724.4	97%	12271679	712.4	95%	5918308	704.0	94%	19857715	723.3	96%	15718129	710.9	95%			
CALIB 9	D02081016.D	02003-50-11	02003-50-11; 1000.0ppb Fish Curves; CMC; 20 Jun 02	10	14429586	1022.8	102%	15940750	1035.8	104%	7229176	1046.6	105%	21539837	1016.2	102%	19441005	1031.1	103%			
SAMPLE	D02081017.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	80033	BLOQ	87224	BLOQ	32748	BLOQ	21486	BLOQ	19623	BLOQ	113670	BLOQ	95863	BLOQ	95863	BLOQ		
SAMPLE	D02081018.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	20295	BLOQ	10205	BLOQ	14868	BLOQ	10272	BLOQ	11561	BLOQ	31172	BLOQ	36993	BLOQ	36993	BLOQ		
SAMPLE	D02081019.D	Blank Inject	Blank Inject	0	13177	BLOQ	4953	BLOQ	27124	BLOQ	2345774	213.6	2138	25847	184.5	1665	4592687	194.8	1940			
SAMPLE	D02081020.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	14141	BLOQ	27124	BLOQ	25974	BLOQ	17513	BLOQ	37253	BLOQ	46479	BLOQ	46479	BLOQ	46479	BLOQ		
SAMPLE	D02081021.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	105342	BLOQ	4822944	233.7	2237	2488196	228.6	2290	22344	BLOQ	46479	BLOQ	46479	BLOQ	46479	BLOQ		
SAMPLE	D02081022.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	20295	BLOQ	95297	BLOQ	92865	BLOQ	51875	BLOQ	54082	BLOQ	92565	BLOQ	92565	BLOQ	92565	BLOQ		
SAMPLE	D02081023.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	20694	BLOQ	57451	BLOQ	37471	BLOQ	37471	BLOQ	38298	BLOQ	86188	BLOQ	86188	BLOQ	86188	BLOQ		
SAMPLE	D02081024.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	11260	BLOQ	465890	223.3	2237	2378333	217.1	2171	4590279	184.1	1641	4601514	184.9	1949				
SAMPLE	D02081025.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	13577	BLOQ	3213	BLOQ	8156	BLOQ	13975	BLOQ	25454	BLOQ	37248	BLOQ	37248	BLOQ	37248	BLOQ		
SAMPLE	D02081026.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	105263	BLOQ	4975150	220.3	2212	2407600	228.3	2203	4294167	182.3	1623	4294167	182.3	1623	4294167	182.3	1623	
SAMPLE	D02081027.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	12917	BLOQ	21623	BLOQ	14493	BLOQ	14493	BLOQ	17545	BLOQ	37253	BLOQ	37253	BLOQ	37253	BLOQ		
SAMPLE	D02081028.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	100848	BLOQ	5110368	233.7	2337	2549871	234.8	2356	4540362	182.2	1622	4540362	182.2	1622	4540362	182.2	1622	
SAMPLE	D02081029.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	12849	BLOQ	26860	BLOQ	4884	BLOQ	9895	BLOQ	9449	BLOQ	30993	BLOQ	30993	BLOQ	30993	BLOQ		
SAMPLE	D02081030.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	11211	BLOQ	3213	BLOQ	7614701	392.8	1963	3948302	384.4	1942	8025349	392.1	1511	8025349	384.4	1942		
SAMPLE	D02081031.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	155308	BLOQ	3213	BLOQ	7614701	392.8	1963	3948302	384.4	1942	8025349	392.1	1511	8025349	384.4	1942		
SAMPLE	D02081032.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	21400	BLOQ	7614701	392.8	1963	3948302	384.4	1942	8025349	392.1	1511	8025349	384.4	1942	8025349	384.4	1942	
SAMPLE	D02081033.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	18673	BLOQ	50361	BLOQ	45218	BLOQ	45218	BLOQ	41487	BLOQ	50361	BLOQ	50361	BLOQ	50361	BLOQ		
SAMPLE	D02081034.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	17441	BLOQ	5397150	434.9	2124	4152125	437.8	2139	7680357	389.2	1501	8914428	433.7	2118	8914428	433.7	2118	
SAMPLE	D02081035.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	28200	BLOQ	191270	BLOQ	66923	BLOQ	66923	BLOQ	65487	BLOQ	70072	BLOQ	70072	BLOQ	70072	BLOQ		
SAMPLE	D02081036.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	18531	BLOQ	51072	BLOQ	36510	BLOQ	36510	BLOQ	25287	BLOQ	141070	BLOQ	141070	BLOQ	141070	BLOQ		
SAMPLE	D02081037.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	202033	BLOQ	9071912	494.9	2024	3927038	384.5	1992	8556553	334.6	1623	7680357	389.2	1501	8556553	334.6	1623	
SAMPLE	D02081038.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	14368	BLOQ	49037	BLOQ	48866	BLOQ	48866	BLOQ	34164	BLOQ	67256	BLOQ	67256	BLOQ	67256	BLOQ		
SAMPLE	D02081039.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	13650	BLOQ	8248279	416.9	2079	3997548	407.8	2038	7855892	384.2	1499	77602025	384.2	1499	77602025	384.2	1499	
SAMPLE	D02081040.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	200230	BLOQ	43865	BLOQ	20233	BLOQ	21275	BLOQ	43038	BLOQ	61357	BLOQ	61357	BLOQ	61357	BLOQ		
SAMPLE	D02081041.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	12370	BLOQ	5202636	413.1	2068	4059987	416.9	2068	44280	BLOQ	986220	428.8	2154	986220	428.8	2154		
SAMPLE	D02081042.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	9841	BLOQ	56276	BLOQ	18159	BLOQ	18447	BLOQ	15698	BLOQ	40527	BLOQ	40527	BLOQ	40527	BLOQ		
SAMPLE	D02081043.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	12340	BLOQ	19159	BLOQ	4648	BLOQ	872	BLOQ	10491	BLOQ	27555	BLOQ	27555	BLOQ	27555	BLOQ		
SAMPLE	D02081044.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	5125597	250.7	100%	9574946	264.3	109%	2623547	266.1	109%	7114505	264.5	108%	9929654	260.9	104%			
SAMPLE	D02081045.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	390873	BLOQ	13080342	783.8	1985	6281508	777.2	1944	74173079	812.9	1531	13071939	762.1	1755	13071939	762.1	1755	
SAMPLE	D02081046.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	14720	BLOQ	92229	BLOQ	84341	BLOQ	54716	BLOQ	84341	BLOQ	97537	BLOQ	97537	BLOQ	97537	BLOQ		
SAMPLE	D02081047.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	17547	BLOQ	89339	BLOQ	40215	BLOQ	40215	BLOQ	26868	BLOQ	47918	BLOQ	47918	BLOQ	47918	BLOQ		
SAMPLE	D02081048.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	346973	BLOQ	1312508	868.9	2017	1436753	911.6	1479	1436753	911.6	1479	1436753	911.6	1479	1436753	911.6	1479	
SAMPLE	D02081049.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	21103	BLOQ	231167	BLOQ	104850	BLOQ	88744	BLOQ	88744	BLOQ	152480	BLOQ	152480	BLOQ	152480	BLOQ		
SAMPLE	D02081050.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	18291	BLOQ	104850	BLOQ	88744	BLOQ	88744	BLOQ	88744	BLOQ	152480	BLOQ	152480	BLOQ	152480	BLOQ		
SAMPLE	D02081051.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	371887	BLOQ	12868791	778.1	1983	15224141	438.8	1589	15224141	438.8	1589	12877767	447.1	1718	12877767	447.1	1718	
SAMPLE	D02081052.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	16975	BLOQ	135505	BLOQ	45364	BLOQ	77351	BLOQ	77351	BLOQ	82185	BLOQ	82185	BLOQ	82185	BLOQ		
SAMPLE	D02081053.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	14079	BLOQ	13050055	782.9	1982	38037	BLOQ	14255819	584.2	1465	12592326	668.4	1654	12592326	668.4	1654		
SAMPLE	D02081054.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	376202	BLOQ	92308	BLOQ	14255819	584.2	1465	12592326	668.4	1654	12592326	668.4	1654	12592326	668.4	1654		
SAMPLE	D02081055.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	13362	BLOQ	54011	BLOQ	74727	BLOQ	32030	BLOQ	46906	BLOQ	46906	BLOQ	46906	BLOQ	46906	BLOQ		
SAMPLE	D02081056.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	32321	BLOQ	26830	BLOQ	74162	BLOQ	69093	BLOQ	74162	BLOQ	94980	BLOQ	94980	BLOQ	94980	BLOQ		
SAMPLE	D02081057.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	432602	BLOQ	32754	BLOQ	14873438	897.3	1518	14873438	897.3	1518	14873438	897.3	1518	14873438	897.3	1518		
SAMPLE	D02081058.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	13371	BLOQ	107568	BLOQ	31978	BLOQ	695671	258.1	103%	695671	258.1	103%	695671	258.1	103%	695671	258.1	103%
SAMPLE	D02081059.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	503989	245.4	98%	552456	256.2	102%	37223	BLOQ	14724	BLOQ	30632	BLOQ	30632	BLOQ	30632	BLOQ		
SAMPLE	D02081060.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	22621	BLOQ	59533	BLOQ	40207	BLOQ	13121	BLOQ	13121	BLOQ	30632	BLOQ	30632	BLOQ	30632	BLOQ		
SAMPLE	D02081061.D	MeOH Blank	TNA-06115; 05 Jun 02 (ps); MLANEE	10	14879	BLOQ	11675	BLOQ	14724	BLOQ	14724	BLOQ	14724	BLOQ	30632	BLOQ	30632	BLOQ	30632	BLOQ		

The samples were injected at three different levels: 1, 2, and 4 uL. Only the 2 uL injections were used for reporting.

1021112
River Sediments
Sample Locations 1, 2, and 3.

Sample Type	File	Int. Vol (uL)	Sample Name	Sample Info	PFBS (38)	PFOS (38)	PFDA (38)	PFOS (38)	PFOS (38)					
Area	Amount	%	Area	Amount	%	Area	Amount	%	Area	Amount	%			
SAMPLE	ITCHY001.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	50659	16982	3.7	1261738	80.6	15342	0	3153658	77.3	
SAMPLE	ITCHY002.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	21360	1830	BLOQ	34022	BLOQ	0	70108	BLOQ		
SAMPLE	ITCHY003.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	19017	1360	BLOQ	27881	BLOQ	0	43874	BLOQ		
SAMPLE	ITCHY004.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	19816	1432	BLOQ	23447	BLOQ	0	38465	BLOQ		
SAMPLE	ITCHY005.D	10	Blank Inject	Blank Inject	15214	1480	BLOQ	13605	BLOQ	0	32248	BLOQ		
SAMPLE	ITCHY006.D	10	Blank Inject	Blank Inject	15582	1317	BLOQ	14484	BLOQ	0	32248	BLOQ		
SAMPLE	ITCHY007.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	3118444	99.5	104.1	1577603	101.1	4014481	96.9	3878456	99.4	
SAMPLE	ITCHY008.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	3220155	103.5	103.5	188427	102.5	3995743	98.9	3995743	98.9	
SAMPLE	ITCHY009.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	3294394	105.7	105.7	188427	102.5	3995743	98.9	3995743	98.9	
SAMPLE	ITCHY010.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	3295487	105.7	105.7	188427	102.5	3995743	98.9	3995743	98.9	
SAMPLE	ITCHY011.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	28625	104.1	104.1	1577603	101.1	4014481	96.9	3878456	99.4	
SAMPLE	ITCHY012.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	20057	103.3	103.3	188427	102.5	3995743	98.9	3995743	98.9	
SAMPLE	ITCHY013.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	14798	103.3	103.3	188427	102.5	3995743	98.9	3995743	98.9	
SAMPLE	ITCHY014.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	15091	103.3	103.3	188427	102.5	3995743	98.9	3995743	98.9	
SAMPLE	ITCHY015.D	10	Blank Inject	Blank Inject	14798	BLOQ	BLOQ	13047	BLOQ	0	31853	BLOQ		
SAMPLE	ITCHY016.D	10	Blank Inject	Blank Inject	22011	0.1	95%	6287	0.2	157%	3603	0.2	206%	0.2
SAMPLE	ITCHY017.D	1	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	25188	0.2	95%	6287	0.2	157%	3603	0.2	206%	0.2
SAMPLE	ITCHY018.D	2	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	36250	0.5	101%	24660	0.6	123%	23462	0.5	106%	0.6
SAMPLE	ITCHY019.D	5	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	54827	1.0	104%	47829	1.1	111%	32917	1.1	107%	1.1
SAMPLE	ITCHY020.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	105678	2.5	102%	110003	2.4	99%	80729	2.4	98%	2.4
SAMPLE	ITCHY021.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	195112	5.1	102%	227088	4.9	99%	101209	4.9	98%	4.9
SAMPLE	ITCHY022.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	386155	10.1	101%	448863	9.8	99%	180113	9.8	98%	9.8
SAMPLE	ITCHY023.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	852340	24.6	99%	1118227	24.6	99%	438154	24.6	98%	24.6
SAMPLE	ITCHY024.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	1677041	50.3	101%	2235317	50.4	101%	847701	50.3	101%	50.3
SAMPLE	ITCHY025.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	3178859	99.9	100%	4223832	99.9	100%	1552778	99.9	100%	99.9
SAMPLE	ITCHY026.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	30131	BLOQ	BLOQ	30743	BLOQ	BLOQ	12135	BLOQ	BLOQ	
SAMPLE	ITCHY027.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	24605	BLOQ	BLOQ	24724	BLOQ	BLOQ	3012	BLOQ	BLOQ	
SAMPLE	ITCHY028.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	19172	BLOQ	BLOQ	21368	BLOQ	BLOQ	37317	BLOQ	BLOQ	
SAMPLE	ITCHY029.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	18797	BLOQ	BLOQ	22778	BLOQ	BLOQ	37240	BLOQ	BLOQ	
SAMPLE	ITCHY030.D	10	Blank Inject	Blank Inject	14468	BLOQ	BLOQ	14388	BLOQ	BLOQ	33624	BLOQ	BLOQ	
SAMPLE	ITCHY031.D	10	Blank Inject	Blank Inject	14628	BLOQ	BLOQ	13844	BLOQ	BLOQ	33645	BLOQ	BLOQ	
SAMPLE	ITCHY032.D	10	Blank Inject	Blank Inject	19375	BLOQ	BLOQ	22413	BLOQ	BLOQ	33645	BLOQ	BLOQ	
SAMPLE	ITCHY033.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	37874	BLOQ	BLOQ	13412	BLOQ	BLOQ	1627	BLOQ	BLOQ	
SAMPLE	ITCHY034.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	32544	BLOQ	BLOQ	14922	BLOQ	BLOQ	2453	BLOQ	BLOQ	
SAMPLE	ITCHY035.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	263855	7.1	14%	22317	BLOQ	BLOQ	1647306	39.3	79%	79%
SAMPLE	ITCHY036.D	10	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	42168	13.5	27%	240825	5.3	11%	1648667	39.3	79%	79%
SAMPLE	ITCHY037.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	393859	10.6	100%	205590	16.2	100%	1250415	29.7	2185277	97.7
SAMPLE	ITCHY038.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	20291	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY039.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	383608	10.8	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY040.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	19021	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY041.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	482034	13.5	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY042.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	171235	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY043.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	21235	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY044.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	173477	40.8	81%	138151	30.7	61%	809960	38.4	77%	77%
SAMPLE	ITCHY045.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	23305	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY046.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	21014	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY047.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	305101	8.3	99%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY048.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	1847859	48.4	99%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY049.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	23148	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY050.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	364688	10.0	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY051.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	18743	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY052.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	1847859	48.4	99%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY053.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	20665	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY054.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	373780	8.9	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY055.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	18989	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY056.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	202740	6.2	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY057.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	18841	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY058.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	420070	11.7	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY059.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	18994	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY060.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	1325851	38.3	79%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY061.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	21141	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY062.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	33161	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY063.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	17365	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY064.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	37815	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY065.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	17738	BLOQ	BLOQ	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY066.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	452651	12.6	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	
SAMPLE	ITCHY067.D	20	MeOH Blank	MeOH Blank: TNA-06264; 12 Sept 02 (ps); MLAMEE	452651	12.6	100%	21643	BLOQ	BLOQ	11137	BLOQ	BLOQ	

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River Sediments
Sample Locations 1, 2, and 3.

Sample Type	File	Sample Name	Sample Info	PFBS (288)			PFOS (288)			PFOS (483)			PFOS (489)		
				Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%	Area	Amount ng/mL	%
SAMPLE	ITCH07068.D	MeOH Blank	MeOH Blank	18871	BLQ		2077	BLQ		2439	BLQ		57188	BLQ	
SAMPLE	ITCH07069.D	E02-0443-38045-4; SL-3; MeOH Extract; 21 Oct 02; M/LA		330710	BLQ		31122	BLQ		46837	BLQ		27185	BLQ	
SAMPLE	ITCH07070.D	E02-0443-38045-4; SL-3; MeOH Extract; 21 Oct 02; M/LA		1617680	BLQ	97%	2126881	BLQ	98%	23622	BLQ	1.0	1804260	BLQ	47.2
SAMPLE	ITCH07071.D	MeOH Blank	MeOH Blank	21337	BLQ		9759	BLQ		77571	BLQ		11474	BLQ	
SAMPLE	ITCH07072.D	E04-33045-M5(4) E02-0443-38045-M5(4); SL-3; MeOH Extract; 21 Oct 02; M/LA		456655	12.7	25%	1845453	41.3	83%	76882	BLQ	94%	1844381	BLQ	87%
SAMPLE	ITCH07073.D	MeOH Blank	MeOH Blank	18298	BLQ		2720	BLQ		23271	BLQ		37879	BLQ	
SAMPLE	ITCH07074.D	E04-33045-M5(4) E02-0443-38045-M5(4); SL-3; MeOH Extract; 21 Oct 02; M/LA		1030860	47.9	98%	2143465	48.3	97%	615469	35.5	71%	1586356	BLQ	76%
SAMPLE	ITCH07075.D	MeOH Blank	MeOH Blank	20045	BLQ		8552	BLQ		25074	BLQ		39305	BLQ	
SAMPLE	ITCH07076.D	E04-33045-M5(4) E02-0443-38045-M5(4); SL-3; MeOH Extract; 21 Oct 02; M/LA		22710	BLQ		28672	BLQ		24197	BLQ		40249	BLQ	
SAMPLE	ITCH07077.D	MeOH Blank	MeOH Blank	17405	BLQ		1925	BLQ		22877	BLQ		368984	BLQ	
SAMPLE	ITCH07078.D	E04-33045-M5(4) E02-0443-38045-M5(4); SL-3; MeOH Extract; 21 Oct 02; M/LA		497463	13.9		105333	2.3		1307814	31.1		35140	BLQ	
SAMPLE	ITCH07079.D	MeOH Blank	MeOH Blank	20039	BLQ		2396	BLQ		22052	BLQ		41633	BLQ	
SAMPLE	ITCH07080.D	E02-0443-38045-5; SL-3; MeOH Extract; 21 Oct 02; M/LA		369693	10.2		29844	BLQ		51340	BLQ	1.4	473215	BLQ	
SAMPLE	ITCH07081.D	MeOH Blank	MeOH Blank	18740	BLQ		1798	BLQ		22796	BLQ		36038	BLQ	
SAMPLE	ITCH07082.D	E02-0443-38046-5; SL-3; MeOH Extract; 21 Oct 02; M/LA		436046	12.1		18886	BLQ		51651	BLQ	3.3	497175	BLQ	
SAMPLE	ITCH07083.D	MeOH Blank	MeOH Blank	19499	BLQ		157830	BLQ		18224	BLQ		34879	BLQ	
SAMPLE	ITCH07084.D	E04-33045-M5(5) E02-0443-38046-M5(5); SL-3; MeOH Extract; 21 Oct 02; M/LA		1905166	48.0	98%	187670	35.1	70%	1102535	26.1	52%	1949205	BLQ	93%
SAMPLE	ITCH07085.D	MeOH Blank	MeOH Blank	1590980	47.5	95%	2065232	41.3	94%	182750	BLQ	82%	1860906	BLQ	94%
SAMPLE	ITCH07086.D	E02-0443-38046-5; SL-3; MeOH Extract; 21 Oct 02; M/LA		245950	BLQ		2396	BLQ		22523	BLQ		36534	BLQ	
SAMPLE	ITCH07087.D	MeOH Blank	MeOH Blank	119988	BLQ		3852	BLQ		0	BLQ		33898	BLQ	
SAMPLE	ITCH07088.D	MeOH Blank	MeOH Blank	22823	BLQ		2217	BLQ		23535	BLQ		34087	BLQ	

injections ITCHY083 to ITCHY088 are not reported, they are for method development only.

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River Sediments
Sample Locations 1, 2, and 3.

Inj. Vol (uL)	Sample Name	Sample Info	PFBS (299)					Average, Std D and %CV (pg/mL)
			Area	On-Column Amount (ng/mL)	On-Column Average (ng/mL)	Corrected for Inj. Vol (ng/mL)	Corrected for Sample Prep. (pg/mL)	
20	0443-38044-1	E02-0443-38044-1; SL-1;	383859	10.8	11.6	5.3	529	577
20	0443-38044-2	E02-0443-38044-2; SL-1;	383808	10.8		5.3	529	83
20	0443-38044-3	E02-0443-38044-3; SL-1;	482034	13.5		8.7	673	14%
20	0453-38045-1	E02-0443-38045-1; SL-3;	325254	8.9	9.1	4.4	443	452
20	0453-38045-2	E02-0443-38045-2; SL-3;	305101	8.3		4.1	413	44
20	0453-38045-3	E02-0443-38045-3; SL-3;	364688	10.0		5.0	500	10%
20	0463-38046-1	E02-0443-38046-1; SL-2;	327380	8.9	8.9	4.5	438	437
20	0463-38046-2	E02-0443-38046-2; SL-2;	232749	6.2		3.1	302	134
20	0463-38046-3	E02-0443-38046-3; SL-2;	420079	11.7		5.8	571	31%

PFHS (399)								
20	0443-38044-1	E02-0443-38044-1; SL-1;	122635	2.7	2.6	1.4	138	130
20	0443-38044-2	E02-0443-38044-2; SL-1;	118901	2.6		1.3	132	6
20	0443-38044-3	E02-0443-38044-3; SL-1;	111724	2.5		1.2	124	5%
20	0453-38045-1	E02-0443-38045-1; SL-3;	13341	BLOQ	BLOQ	BLOQ	BLOQ	BLOQ
20	0453-38045-2	E02-0443-38045-2; SL-3;	11489	BLOQ	BLOQ	BLOQ	BLOQ	BLOQ
20	0453-38045-3	E02-0443-38045-3; SL-3;	12125	BLOQ	BLOQ	BLOQ	BLOQ	BLOQ
20	0463-38046-1	E02-0443-38046-1; SL-2;	17353	BLOQ	BLOQ	BLOQ	BLOQ	BLOQ
20	0463-38046-2	E02-0443-38046-2; SL-2;	18434	BLOQ		BLOQ	BLOQ	BLOQ
20	0463-38046-3	E02-0443-38046-3; SL-2;	25494	BLOQ		BLOQ	BLOQ	BLOQ

PFOA (413)								
20	0443-38044-1	E02-0443-38044-1; SL-1;	295590	18.2	14.7	8.1	808	732
20	0443-38044-2	E02-0443-38044-2; SL-1;	280003	14.1		7.1	704	66
20	0443-38044-3	E02-0443-38044-3; SL-1;	253343	13.7		6.9	685	9%
20	0453-38045-1	E02-0443-38045-1; SL-3;	48046	BLOQ	2.6	BLOQ	BLOQ	131
20	0453-38045-2	E02-0443-38045-2; SL-3;	60231	2.6		1.3	131	BLOQ
20	0453-38045-3	E02-0443-38045-3; SL-3;	54999	BLOQ		BLOQ	BLOQ	BLOQ
20	0463-38046-1	E02-0443-38046-1; SL-2;	53375	BLOQ	BLOQ	BLOQ	BLOQ	BLOQ
20	0463-38046-2	E02-0443-38046-2; SL-2;	35197	BLOQ		BLOQ	BLOQ	BLOQ
20	0463-38046-3	E02-0443-38046-3; SL-2;	40917	BLOQ		BLOQ	BLOQ	BLOQ

FOSA (498)								
20	0443-38044-1	E02-0443-38044-1; SL-1;	1250415	29.7	28.8	14.8	1481	1439
20	0443-38044-2	E02-0443-38044-2; SL-1;	1381450	32.4		16.2	1615	200
20	0443-38044-3	E02-0443-38044-3; SL-1;	1033771	24.5		12.2	1221	14%
20	0453-38045-1	E02-0443-38045-1; SL-3;	48310	1.2	1.4	0.6	62	68
20	0453-38045-2	E02-0443-38045-2; SL-3;	46172	1.2		0.6	60	12
20	0453-38045-3	E02-0443-38045-3; SL-3;	65788	1.7		0.8	82	18%
20	0463-38046-1	E02-0443-38046-1; SL-2;	120487	2.9	2.9	1.5	143	141
20	0463-38046-2	E02-0443-38046-2; SL-2;	103503	2.5		1.3	124	17
20	0463-38046-3	E02-0443-38046-3; SL-2;	133252	3.2		1.6	157	12%

PFOS (499)								
20	0443-38044-1	E02-0443-38044-1; SL-1;	2785277	67.7	62.8	33.8	3377	3132
20	0443-38044-2	E02-0443-38044-2; SL-1;	2885124	70.3		35.1	3508	540
20	0443-38044-3	E02-0443-38044-3; SL-1;	2109105	50.4		25.2	2514	17%
20	0453-38045-1	E02-0443-38045-1; SL-3;	418454	9.1	8.3	4.5	452	416
20	0453-38045-2	E02-0443-38045-2; SL-3;	323943	8.8		3.4	341	65
20	0453-38045-3	E02-0443-38045-3; SL-3;	420485	9.1		4.6	455	16%
20	0463-38046-1	E02-0443-38046-1; SL-2;	417236	9.0	9.3	4.5	443	457
20	0463-38046-2	E02-0443-38046-2; SL-2;	393650	8.5		4.2	415	51
20	0463-38046-3	E02-0443-38046-3; SL-2;	478587	10.5		5.3	514	11%

Sample Wt. (g)

38044	20.0
38044-MS	20.01
38045	20.1
38045-MS	20.30
38046	20.4
38046-MS	19.98

Regular samples are averages of the three weights.

On-Column Average

= Average of triplicates

Corrected for Inj. Vol.

= On-Col Amount * 0.5

Corrected for Sample Prep

= On-Col Amount * 0.5 * 2 * 1000

Sample Weight (Ave)

"2" is the Final Vol of the Extract (mL)

E02-0443

Combined Large Mouth Bass Data Table

LIMS #	Sample Name	PFBS (299)	PFHS (399)	PFOA (413)		FOSA (498)	PFOS (499)		Ave, Stnd Dev, and %CV
		Amount ng/mL	Amount ng/mL	Amount ng/mL	Corrected for Smpl Prep (ng/mL)	Amount ng/mL	Amount ng/mL	Corrected for Smpl Prep (ng/mL)	
42798	SL-1; LM-1-1	BLOQ	BLOQ	BLOQ		BLOQ	18.5	185.5	152
	SL-1; LM-1-2	BLOQ	BLOQ	BLOQ		BLOQ	13.0	130.0	29.61
	SL-1; LM-1-3	BLOQ	BLOQ	BLOQ		BLOQ	14.0	139.7	19.5%
42799	SL-1; LM-2-1	BLOQ	BLOQ	BLOQ		BLOQ	63.6	635.5	607
	SL-1; LM-2-2	BLOQ	BLOQ	BLOQ		BLOQ	61.4	614.0	32.49
	SL-1; LM-2-3	BLOQ	BLOQ	BLOQ		BLOQ	57.2	571.7	5.4%
42800	SL-1; LM-3-1	BLOQ	BLOQ	BLOQ		BLOQ	73.2	732.1	788
	SL-1; LM-3-2	BLOQ	BLOQ	BLOQ		BLOQ	80.8	807.7	49.18
	SL-1; LM-3-3	BLOQ	BLOQ	BLOQ		BLOQ	82.4	824.4	6.2%
42801	SL-1; LM-4-1	BLOQ	BLOQ	BLOQ		BLOQ	68.8	688.4	700
	SL-1; LM-4-2	BLOQ	BLOQ	6.4	64.3	BLOQ	75.7	757.0	52.70
	SL-1; LM-4-3	BLOQ	BLOQ	BLOQ		BLOQ	65.3	653.3	7.5%
42802	SL-1; LM-5-1	BLOQ	BLOQ	BLOQ		BLOQ	46.6	465.5	423
	SL-1; LM-5-2	BLOQ	BLOQ	BLOQ		BLOQ	41.5	415.0	39.03
	SL-1; LM-5-3	BLOQ	BLOQ	BLOQ		BLOQ	38.9	388.7	9.2%
42803	SL-1; LM-6-1	BLOQ	BLOQ	BLOQ		BLOQ	69.3	693.2	651
	SL-1; LM-6-2	BLOQ	BLOQ	BLOQ		BLOQ	59.9	599.1	47.78
	SL-1; LM-6-3	BLOQ	BLOQ	BLOQ		BLOQ	66.0	660.2	7.3%
42804	SL-2; LM-1-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-2; LM-1-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-2; LM-1-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42805	SL-2; LM-2-1	BLOQ	BLOQ	BLOQ		BLOQ	2.6	25.6	
	SL-2; LM-2-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-2; LM-2-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42806	SL-2; LM-3-1	BLOQ	BLOQ	BLOQ		BLOQ	9.7	96.7	100
	SL-2; LM-3-2	BLOQ	BLOQ	BLOQ		BLOQ	11.8	117.6	16.68
	SL-2; LM-3-3	BLOQ	BLOQ	BLOQ		BLOQ	8.5	84.7	16.7%
42807	SL-2; LM-4-1	BLOQ	BLOQ	BLOQ		BLOQ	53.1	530.8	547
	SL-2; LM-4-2	BLOQ	BLOQ	BLOQ		BLOQ	54.1	540.9	20.02
	SL-2; LM-4-3	BLOQ	BLOQ	BLOQ		BLOQ	56.9	569.4	3.7%
42808	SL-3; LM-1-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-1-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-1-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42809	SL-3; LM-2-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-2-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-2-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42810	SL-3; LM-3-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-3-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-3-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42811	SL-3; LM-4-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-4-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-4-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42812	SL-3; LM-5-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-5-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-5-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42813	SL-3; LM-6-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-6-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-6-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42814	SL-3; LM-7-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-7-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; LM-7-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
42815	SL-3; SM-1-1	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; SM-1-2	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		
	SL-3; SM-1-3	BLOQ	BLOQ	BLOQ		BLOQ	BLOQ		

Corrected for sample prep.

= Amount (ng/mL) * 10

	SL-1, LM	
	PFOA	PFOS
Average (ppb) :	64.3	553.4
Stnd. D. :	NA	220

	SL-2, LM	
	PFOS	
Average (ppb) :	280.8	
Stnd. D. :	251	

E02-0443 Combined CatFish Data Table

LIMS #	Sample Name	PFBS (299)	PFHS (399)	PFOA (413)	FOSA (498)			PFOS (499)		
		Amount ng/mL	Amount ng/mL	Amount ng/mL	Amount ng/mL	Corrected for Smpl Prep (ng/mL)	Ave, Stnd Dev, and %CV	Amount ng/mL	Corrected for Smpl Prep (ng/mL)	Ave, Stnd Dev, and %CV
42777	SL-1; C-1-1	BLOQ	BLOQ	BLOQ	5.9	58.7	54.7	11.2	112.1	106
	SL-1; C-1-2	BLOQ	BLOQ	BLOQ	5.3	53.5	3.49	10.5	104.7	6.00
	SL-1; C-1-3	BLOQ	BLOQ	BLOQ	5.2	52.0	6.4%	10.0	100.3	5.7%
42778	SL-1; C-2-1	BLOQ	BLOQ	BLOQ	4.4	44.5	41.8	9.8	97.6	91.8
	SL-1; C-2-2	BLOQ	BLOQ	BLOQ	4.2	41.7	2.67	9.2	91.8	5.77
	SL-1; C-2-3	BLOQ	BLOQ	BLOQ	3.9	39.1	6.4%	8.8	86.1	6.3%
42779	SL-1; C-3-1	BLOQ	BLOQ	BLOQ	7.0	70.5	71.7	16.1	161.2	178
	SL-1; C-3-2	BLOQ	BLOQ	BLOQ	7.1	70.8	1.85	17.9	179.4	15.67
	SL-1; C-3-3	BLOQ	BLOQ	BLOQ	7.4	73.8	2.6%	19.2	192.4	8.8%
42780	SL-1; C-4-1	BLOQ	BLOQ	BLOQ	3.9	39.3	38.1	17.1	171.5	166
	SL-1; C-4-2	BLOQ	BLOQ	BLOQ	3.7	36.7	1.30	16.2	161.9	4.82
	SL-1; C-4-3	BLOQ	BLOQ	BLOQ	3.8	38.2	3.4%	16.6	165.8	2.9%
42781	SL-1; C-5-1	BLOQ	BLOQ	BLOQ	9.1	91.0	89.8	8.1	80.8	79.5
	SL-1; C-5-2	BLOQ	BLOQ	BLOQ	9.1	90.7	1.95	8.0	80.2	1.74
	SL-1; C-5-3	BLOQ	BLOQ	BLOQ	8.8	87.5	2.2%	7.8	77.5	2.2%
42782	SL-1; C-6-1	BLOQ	BLOQ	BLOQ	7.0	69.8	69.5	5.9	58.8	59.1
	SL-1; C-6-2	BLOQ	BLOQ	BLOQ	6.9	69.1	0.41	6.0	59.7	0.57
	SL-1; C-6-3	BLOQ	BLOQ	BLOQ	7.0	69.8	0.6%	5.9	58.7	1.0%
42783	SL-2; C-1-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-1-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-1-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42784	SL-2; C-2-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-2-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-2-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42785	SL-2; C-3-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-3-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-3-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42786	SL-2; C-4-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-4-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-4-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42789	SL-2; C-5-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-5-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-5-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42790	SL-2; C-6-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-6-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-6-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42791	SL-2; C-7-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-7-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-2; C-7-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42792	SL-3; C-1-1	BLOQ	BLOQ	BLOQ	BLOQ			1.9	18.8	17.21
	SL-3; C-1-2	BLOQ	BLOQ	BLOQ	BLOQ			1.9	18.7	2.75
	SL-3; C-1-3	BLOQ	BLOQ	BLOQ	BLOQ			1.4	14.0	16.0%
42793	SL-3; C-2-1	BLOQ	BLOQ	BLOQ	BLOQ			1.2	11.5	11.73
	SL-3; C-2-2	BLOQ	BLOQ	BLOQ	BLOQ			1.1	11.5	0.44
	SL-3; C-2-3	BLOQ	BLOQ	BLOQ	BLOQ			1.2	12.2	3.7%
42794	SL-3; C-3-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-3; C-3-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-3; C-3-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42795	SL-3; C-4-1	BLOQ	BLOQ	BLOQ	BLOQ			3.7	36.9	37.45
	SL-3; C-4-2	BLOQ	BLOQ	BLOQ	BLOQ			3.5	35.1	2.72
	SL-3; C-4-3	BLOQ	BLOQ	BLOQ	BLOQ			4.0	40.4	7.3%
42796	SL-3; C-5-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-3; C-5-2	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
	SL-3; C-5-3	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		
42797	SL-3; C-6-1	BLOQ	BLOQ	BLOQ	BLOQ			BLOQ		23.32
	SL-3; C-6-2	BLOQ	BLOQ	BLOQ	BLOQ			2.3	23.5	0.19
	SL-3; C-6-3	BLOQ	BLOQ	BLOQ	BLOQ			2.3	23.2	0.8%

Corrected for sample prep.
= Amount (ng/mL) * 10

	SL-1, C	
	FOSA	PFOS
Average (ppb) :	60.9	113.4
Std. D.:	18.6	45.6

	SL-3, C	
	PFOS	
Average (ppb) :	22.3	
Std. D.:	10.6	

E02-0443 Fish Tissue Matrix Spike % Recoveries

Sample Name	Sample Info	PFBS (299)			PFHx (319)			PFOS (413)			FOA (488)			PFOS (489)		
		On-Column Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	On-Column Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	On-Column Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	On-Column Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	On-Column Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery
L-1, LM-2 Average	Sample Location 1, Large Mouth 2 Average	38.9	BLOQ	80%	48.5	BLOQ	93%	48.2	BLOQ	92%	41.3	BLOQ	83%	105.1	60.7	89%
L-1, LM-2 MS	Sample Location 1, Large Mouth 2															
L-1, LM-4 Average	Sample Location 1, Large Mouth 4 Average	47.1	BLOQ	84%	46.7	BLOQ	93%	48.0	BLOQ	83%	46.7	BLOQ	93%	104.9	70.0	70%
L-1, LM-4 MS	Sample Location 1, Large Mouth 4															
L-1, LM-6 Average	Sample Location 1, Large Mouth 6 Average	50.0	BLOQ	100%	47.4	BLOQ	95%	46.7	BLOQ	93%	50.4	BLOQ	101%	104.3	65.1	78%
L-1, LM-6 MS	Sample Location 1, Large Mouth 6															
L-2, LM-2 Average	Sample Location 2, Large Mouth 2 Average	48.5	BLOQ	93%	43.1	BLOQ	90%	42.5	BLOQ	85%	47.0	BLOQ	94%	50.0	2.6	95%
L-2, LM-2 MS	Sample Location 2, Large Mouth 2															
L-2, LM-4 Average	Sample Location 2, Large Mouth 4 Average	50.7	BLOQ	101%	46.8	BLOQ	94%	44.2	BLOQ	88%	54.6	BLOQ	109%	104.0	54.7	99%
L-2, LM-4 MS	Sample Location 2, Large Mouth 4															
L-3, LM-2 Average	Sample Location 3, Large Mouth 2 Average	44.4	BLOQ	89%	47.1	BLOQ	94%	48.0	BLOQ	98%	37.7	BLOQ	75%	27.5	BLOQ	55%
L-3, LM-2 MS	Sample Location 3, Large Mouth 2															
L-3, LM-4 Average	Sample Location 3, Large Mouth 4 Average	48.8	BLOQ	98%	46.7	BLOQ	95%	47.6	BLOQ	95%	52.7	BLOQ	105%	45.2	BLOQ	90%
L-3, LM-4 MS	Sample Location 3, Large Mouth 4															
L-3, LM-6 Average	Sample Location 3, Large Mouth 6 Average	42.4	BLOQ	85%	44.2	BLOQ	88%	42.9	BLOQ	89%	45.6	BLOQ	81%	35.5	BLOQ	71%
L-3, LM-6 MS	Sample Location 3, Large Mouth 6															
L-3, SM-1 Average	Sample Location 3, Small Mouth 1 Average	44.6	BLOQ	89%	48.6	BLOQ	97%	47.0	BLOQ	94%	33.8	BLOQ	68%	24.8	BLOQ	49%
L-3, SM-1 MS	Sample Location 3, Small Mouth 1															
L-1, C-2 Average	Sample Location 1, Catfish 2 Average	64.4	BLOQ	129%	43.8	BLOQ	88%	41.4	BLOQ	83%	52.4	4.2	96%	51.7	9.2	85%
L-1, C-2 MS	Sample Location 1, Catfish 2															
L-1, C-4 Average	Sample Location 1, Catfish 4 Average	66.6	BLOQ	139%	47.3	BLOQ	95%	44.3	BLOQ	89%	60.4	36.1	45%	59.2	16.6	85%
L-1, C-4 MS	Sample Location 1, Catfish 4															
L-2, C-2 Average	Sample Location 2, Catfish 2 Average	65.8	BLOQ	132%	45.1	BLOQ	90%	43.1	BLOQ	86%	62.4	7.0	111%	50.5	5.9	89%
L-2, C-2 MS	Sample Location 2, Catfish 2															
L-2, C-4 Average	Sample Location 2, Catfish 4 Average	68.0	BLOQ	136%	46.7	BLOQ	93%	45.0	BLOQ	90%	46.3	BLOQ	93%	48.0	BLOQ	96%
L-2, C-4 MS	Sample Location 2, Catfish 4															
L-3, C-2 Average	Sample Location 3, Catfish 2 Average	67.8	BLOQ	136%	47.0	BLOQ	94%	44.8	BLOQ	90%	57.6	BLOQ	115%	47.5	BLOQ	95%
L-3, C-2 MS	Sample Location 3, Catfish 2															
L-3, C-4 Average	Sample Location 3, Catfish 4 Average	64.6	BLOQ	130%	48.0	BLOQ	96%	46.5	BLOQ	93%	59.3	BLOQ	119%	50.7	BLOQ	101%
L-3, C-4 MS	Sample Location 3, Catfish 4															
L-3, C-6 Average	Sample Location 3, Catfish 6 Average	64.6	BLOQ	129%	47.0	BLOQ	94%	43.3	BLOQ	87%	48.9	BLOQ	100%	46.1	1.2	90%
L-3, C-6 MS	Sample Location 3, Catfish 6															
L-3, C-8 Average	Sample Location 3, Catfish 8 Average	61.4	BLOQ	123%	45.4	BLOQ	91%	40.8	BLOQ	82%	56.6	BLOQ	113%	48.4	3.7	89%
L-3, C-8 MS	Sample Location 3, Catfish 8															
L-3, C-10 Average	Sample Location 3, Catfish 10 Average	64.5	BLOQ	129%	41.4	BLOQ	83%	45.4	BLOQ	91%	51.9	BLOQ	104%	44.4	2.3	84%
L-3, C-10 MS	Sample Location 3, Catfish 10															

Calculated that concentrations of 100 ng/mL are targeted to 50 ng/mL.

Triplicate averages are from the Combined Large Mouth or Catfish Data Tables and are divided by 10 to give the On-Column (ng/mL) Triplicate Average.

Corrected MS Recoveries = if the Triplicate Average is BLOQ, then

= On-Column Amount (ng/mL)

50 ng/mL Final Conc. Spike

else:

= $\frac{\text{On-Column Amount (ng/mL)} \times \text{Triplicate Average (ng/mL)}}{50 \text{ ng/mL Final Conc. Spike}}$

1021112

Condensed River Sediments Data Table

Sample Name	Inj. Vol	Description	On-Column (ng/mL)	On-Col. Corrected for Inj. Vol. (ng/mL)	Conc. Corrected for Inj. Vol. and Dilution (ng/mL)	Spike or MS % Recovery	MS - Endogenous = Corrected MS % Recovery
PFBS (299)							
0443-WB	10	Water Blank	BLOQ				
0443-38044	20	Site #1	11.6	5.8	11.6		
0443-38044-MS(3)	10	Site #1 MS	40.6	40.6	40.6	577	
0453-38045	20	Site #3	9.1	4.5	9.1	4082	70%
0453-38045-MS(3)	10	Site #3 MS	45.9	45.9	45.9	452	
0463-38046	20	Site #2	8.9	4.5	8.9	3779	83%
0463-38046-MS(3)	10	Site #2 MS	39.2	39.2	39.2	437	
0443-WB	10	Water Blank	BLOQ				
0443-38044	20	Site #1	2.6	1.3	2.6	3913	89%
0443-38044-MS(3)	10	Site #1 MS	30.7	30.7	30.7	BLOQ	
0453-38045	20	Site #3	BLOQ				
0453-38045-MS(3)	10	Site #3 MS	37.8	37.8	37.8	610	59%
0463-38046	20	Site #2	BLOQ				
0463-38046-MS(3)	10	Site #2 MS	36.7	36.7	36.7	73%	
PFOA (413)							
0443-WB	10	Water Blank	BLOQ				
0443-38044	20	Site #1	14.7	7.3	14.7	732	62%
0443-38044-MS(3)	10	Site #1 MS	38.4	38.4	38.4	3834	
0453-38045	20	Site #3	2.6	1.3	2.6	131	78%
0453-38045-MS(3)	10	Site #3 MS	40.3	40.3	40.3	4026	
0463-38046	20	Site #2	BLOQ				
0463-38046-MS(3)	10	Site #2 MS	41.1	41.1	41.1	4103	82%
FOSA (498)							
0443-WB	10	Water Blank	BLOQ				
0443-38044	20	Site #1	28.8	14.4	28.8	1439	35%
0443-38044-MS(3)	10	Site #1 MS	32.0	32.0	32.0	3194	
0453-38045	20	Site #3	1.4	0.7	1.4	68	50%
0453-38045-MS(3)	10	Site #3 MS	25.9	25.9	25.9	2587	
0463-38046	20	Site #2	2.9	1.4	2.9	141	54%
0463-38046-MS(3)	10	Site #2 MS	25.9	25.9	25.9	2663	
PFOS (499)							
0443-WB	10	Water Blank	BLOQ				
0443-38044	20	Site #1	1.1	1.1	2.2	2182	
0443-38044-MS(3)	10	Site #1 MS	62.8	31.4	62.8	3132	41%
0453-38045	20	Site #3	8.3	4.2	103.9	5193	
0453-38045-MS(3)	10	Site #3 MS	29.9	29.9	58.8	2990	51%
0463-38046	20	Site #2	9.3	4.7	9.3	457	62%
0463-38046-MS(3)	10	Site #2 MS	30.9	30.9	61.8	3066	

* Are averages except for the MS unless noted.

BLOQ = Below Limit of Quantitation

0453-38045, PFOA is a single point.

Final Extract Volume (mL)

2.0

Sample Wt. (g)

38044 20.0

38044-MS 20.01

38045 20.1

38045-MS 20.30

38046 20.4

38046-MS 19.98

Regular samples are averages of the three weights.

On-Col. Corrected for Inj. Vol. (ng/mL)

= On-Column * 0.5 The Inject Vol factor is only for the regular samples.
0.5 is the Inj. Vol factor.

Conc. Corrected for Inj. Vol. And Dilution (ng/mL)

= On-Column * 0.5 * Final Extract Vol.

Conc. Corrected for Inj. Vol., Dilution, and Sample Wt. (ng/mL)

= On-Column * 0.5 * Final Extract Vol. * 1000
Sample Wt.

Spike or MS % Recovery

= On-Column MS

50

MS - Endogenous = Corrected MS % Recovery

= On-Column MS - On-Col. Corrected for Inj. Vol. Spkg.

50

Full list of sample wt. (g) Average (g)

38044-1 20.04

38044-2 20.08

38044-3 20.00

38044-MS 20.01

38045-1 20.08

38045-2 20.04

38045-3 20.07

38045-MS 20.30

38046-1 20.13

38046-2 20.88

38046-3 20.21

38046-MS 19.98

E02-0443 **River Sediments Matrix Spike % Recoveries**

Sample Name	Sample Info	PFBS (29)			PFHS (39)			PFOA (41)			FOBA (48)			PFOS (49)		
		Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery	Amount (ng/mL)	Triplicate Average (ng/mL)	Corrected MS % Recovery
0443-38044	Sample Location 1, River Sediments Average	40.6	5.8	70%	30.7	1.3	59%	38.4	7.3	62%	32.0	14.4	35%	51.9	31.4	41%
0443-38044-MS(3)	Sample Location 1, River Sediments					BLOQ			1.3	78%		0.7		4.2		
0453-38045	Sample Location 3, River Sediments Average	45.9	4.5	83%	37.8		78%	40.3			25.9	1.4	50%	29.9	4.7	51%
0453-38045-MS(3)	Sample Location 3, River Sediments					BLOQ			BLOQ	82%				30.9		52%
0463-38046	Sample Location 2, River Sediments Average	39.2	4.5	69%	36.7		73%	41.1			28.6		64%			
0463-38046-MS(3)	Sample Location 2, River Sediments															

Calculated final concentrations of MSs targeted to 50 ng/mL.

Triplicate averages are from the Condensed River Sediments Data Tables.

Corrected MS Recoveries = If the Triplicate Average is BLOQ, then

$$= \frac{\text{Amount (ng/mL)}}{50 \text{ ng/mL Final Conc. Spike}}$$

else:

$$= \frac{\text{Amount (ng/mL)} - \text{Triplicate Average (ng/mL)}}{50 \text{ ng/mL Final Conc. Spike}}$$

Amount (ng/mL) has been corrected for the injection volume.

These calculations are found on the Condensed River Sediments Data Table.

E02-0443
Combined River Water Data Table

Sequence	File	LIMS #	Description	Inj. Vol. (μ L)	PFBS (299)		PFHS (398)		PFOA (413)		FOXA (488)		PFOS (499)	
					Amount On-Column ng/mL	Adjusted for Inj. Vol. ng/mL	Amount On-Column ng/mL	Adjusted for Inj. Vol. ng/mL	Amount On-Column ng/mL	Adjusted for Inj. Vol. ng/mL	Amount On-Column ng/mL	Adjusted for Inj. Vol. ng/mL	Amount On-Column ng/mL	Adjusted for Inj. Vol. ng/mL
D020812	DUDE0067.D	38025	SW01	20	3.0	1.50	7.7	3.86	21.3	10.66	1.0	0.48	18.6	9.25
D020812	DUDE0069.D	38028	SW01-Dup	20	3.7	1.85	8.0	3.98	22.7	11.33	1.0	0.51	20.8	10.40
D020812	DUDE0071.D	38027	SW01-Low	20	3.1	1.57	12.8	6.40	28.0	13.96	4.0	2.00	26.6	13.28
D020812	DUDE0073.D	38029	FCS01-Low	20	2.7	1.33	7.9	3.93	21.8	10.92	1.1	0.56	20.2	10.08
D020812	DUDE0076.D	38032	FB02	20	BLOQ		4.9	2.43	4.9	2.47	4.8	2.28	5.2	2.59
D020812	DUDE0078.D	38033	SW03	20	BLOQ		BLOQ		BLOQ		BLOQ		BLOQ	
D020812	DUDE0080.D	38034	SW03-Dup	20	BLOQ		0.3	0.13	BLOQ		BLOQ		BLOQ	
D020812	DUDE0082.D	38035	SW03-Low	20	BLOQ		5.2	2.60	5.8	2.80	3.8	1.79	4.9	2.47
D020812	DUDE0084.D	38037	SW02	20	BLOQ		0.4	0.20	BLOQ		BLOQ		BLOQ	
D020812	DUDE0086.D	38038	SW02-Dup	20	BLOQ		0.2	0.12	BLOQ		BLOQ		BLOQ	
D020812	DUDE0088.D	38039	SW02-Low	20	BLOQ		5.0	2.48	5.1	2.54	4.8	2.42	4.8	2.28
D020812	DUDE0090.D	38041	FSC02-Low	20	BLOQ		5.1	2.53	5.4	2.69	4.9	2.43	5.5	2.73
D020812	DUDE0092.D	38043	Trip Blank #1	20	BLOQ		BLOQ		BLOQ		BLOQ		BLOQ	
D020812	DUDE0094.D	38047	Trip Blank #2	20	BLOQ		BLOQ		BLOQ		BLOQ		BLOQ	
D020812	DUDE0127.D	38028	SW01-Med	2	BLOQ		382.6	1963	388.4	1942	302.1	1511	361.8	1809
D020812	DUDE0130.D	38030	FSC01-Med	2	BLOQ		424.9	2124	427.9	2139	300.2	1501	423.7	2118
D020812	DUDE0133.D	38036	SW03-Med	2	BLOQ		404.9	2024	398.5	1982	324.5	1623	365.3	1826
D020812	DUDE0136.D	38040	SW02-Med	2	BLOQ		415.9	2079	407.6	2038	299.2	1496	358.0	1790
D020812	DUDE0138.D	38042	FSC02-Med	2	BLOQ		413.1	2068	416.9	2085	308.3	1542	426.8	2134

E02-0443
Condensed River Water Data Table

PFBS (299)						
LIMS #	Sample Name	Inj. Vol. (uL)	Amount On-Column (ng/mL)	Adjusted for Inj. Vol. (ng/mL)	Adjusted for Sample Prep. (pg/mL)	Average (pg/mL)
38025	SW01	20	3.0	1.50	75	84
38026	SW01-Dup	20	3.7	1.85	83	
38033	SW03	20	<LOQ			<LOQ
38034	SW03-Dup	20	<LOQ			
38037	SW02	20	<LOQ			<LOQ
38038	SW02-Dup	20	<LOQ			
38028	SW01-Med	2	<LOQ			
38030	FSC01-Med	2	<LOQ			
38036	SW03-Med	2	<LOQ			
38040	SW02-Med	2	<LOQ			
38042	FSC02-Med	2	<LOQ			
PFHS (399)						
38025	SW01	20	7.7	3.86	193	198
38026	SW01-Dup	20	8.0	3.98	199	
38033	SW03	20	<LOQ			6.5
38034	SW03-Dup	20	0.3	0.13	6.5	
38037	SW02	20	0.4	0.20	9.8	8.0
38038	SW02-Dup	20	0.2	0.12	6.2	
38028	SW01-Med	2	382.8	1963		
38030	FSC01-Med	2	424.9	2124		
38036	SW03-Med	2	404.9	2024		
38040	SW02-Med	2	415.9	2079		
38042	FSC02-Med	2	413.1	2068		
PFOA (413)						
38025	SW01	20	21.3	10.66	533	550
38026	SW01-Dup	20	22.7	11.33	566	
38033	SW03	20	<LOQ			<LOQ
38034	SW03-Dup	20	<LOQ			
38037	SW02	20	<LOQ			<LOQ
38038	SW02-Dup	20	<LOQ			
38028	SW01-Med	2	388.4	1942		
38030	FSC01-Med	2	427.9	2139		
38036	SW03-Med	2	398.5	1992		
38040	SW02-Med	2	407.8	2038		
38042	FSC02-Med	2	416.9	2085		
FOSA (498)						
38025	SW01	20	1.0	0.48	24	25
38026	SW01-Dup	20	1.0	0.51	26	
38033	SW03	20	<LOQ			<LOQ
38034	SW03-Dup	20	<LOQ			
38037	SW02	20	<LOQ			<LOQ
38038	SW02-Dup	20	<LOQ			
38028	SW01-Med	2	302.1	1511		
38030	FSC01-Med	2	300.2	1501		
38036	SW03-Med	2	324.5	1623		
38040	SW02-Med	2	289.2	1486		
38042	FSC02-Med	2	308.3	1542		
PFOS (499)						
38025	SW01	20	18.5	9.25	462	491
38026	SW01-Dup	20	20.8	10.40	520	
38033	SW03	20	<LOQ			<LOQ
38034	SW03-Dup	20	<LOQ			
38037	SW02	20	<LOQ			<LOQ
38038	SW02-Dup	20	<LOQ			
38028	SW01-Med	2	381.8	1809		
38030	FSC01-Med	2	423.7	2118		
38036	SW03-Med	2	365.3	1828		
38040	SW02-Med	2	358.0	1790		
38042	FSC02-Med	2	426.8	2134		

Adjusted for Inj. Vol (ng/mL)

For 20 uL injections
 = Amount / 2

For 2 uL injections
 = Amount * 5

Adjusted for Sample Prep (pg/mL)

= (Adjusted for Inj. Vol. / 20) * 1000

20 is the factor of original concentration
 1000 is the conversion from ng to pg.

E02-0443

Tenn. River Valley Samples

Summary Table

Location Averages					
	PFBS (ng/mL)	PFHS (ng/mL)	PFOA (ng/mL)	FOSA (ng/mL)	PFOS (ng/mL)
Catfish, Sample Location 1	<LOQ	<LOQ	<LOQ	60.9	113
Catfish, Sample Location 2	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
Catfish, Sample Location 3	<LOQ	<LOQ	<LOQ	<LOQ	22.3
Large Mouth, Sample Location 1	<LOQ	<LOQ	64.3	<LOQ	553
Large Mouth, Sample Location 2	<LOQ	<LOQ	<LOQ	<LOQ	281
Large Mouth, Sample Location 3	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
Small Mouth, Sample Location 1	<LOQ	<LOQ	<LOQ	<LOQ	<LOQ
	PFBS (pg/mL)	PFHS (pg/mL)	PFOA (pg/mL)	FOSA (pg/mL)	PFOS (pg/mL)
River Water, Sample Location 1	84	196	550	25	491
River Water, Sample Location 2	<LOQ	8	<LOQ	<LOQ	<LOQ
River Water, Sample Location 3	<LOQ	7	<LOQ	<LOQ	<LOQ
	PFBS (ng/mL)	PFHS (ng/mL)	PFOA (ng/mL)	FOSA (ng/mL)	PFOS (ng/mL)
River Sediments, Sample Location 1	576.9	130.5	732.4	1439.0	3132.3
River Sediments, Sample Location 2	436.9	<LOQ	<LOQ	141.4	457.3
River Sediments, Sample Location 3	452.0	<LOQ	130.5	68.0	416.2

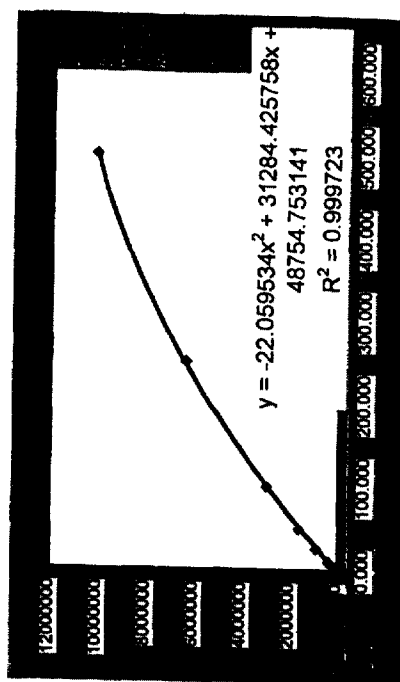
The Fish Tissue results are calculated by taking the average of the averages.
Please refer to Combined Large Mouth and Catfish Data Tables for averages of samples.

D020626Extracted CCV Calculation PFHS

Solvent Curve: 02003-50
Sequence: D020626Extracted

File	Curve	1	1	41647	1	1.000	41647	-0.23	0.0
DUDE0013	1	1	1	41647	1	1.000	41647	-0.23	0.0
DUDE0014	2.5	1	1	98392	1	2.500	98392	-1.59	0.0
DUDE0015	5	1	1	191729	1	5.000	191729	-4.58	0.0
DUDE0016	10	1	1	377027	1	10.000	377027	-10.57	0.0
DUDE0017	25	1	1	909371	1	25.000	909371	-28.06	0.0
DUDE0018	50	1	1	1648232	1	50.000	1648232	-63.12	0.0
DUDE0019	100	1	1	2989062	1	100.000	2989062	-101.21	0.0
DUDE0020	250	1	1	6420285	1	250.000	6420285	-246.52	0.0
DUDE0021	500	1	1	10191360	1	500.000	10191360	-501.66	0.0
DUDE0022		1	1		1	0.000	0	-1.56	0.0
DUDE0023		1	1		1	0.000	0	-1.56	0.0
					1				
					0				0.00

a	-2.21E+01
b	31284.4258
c	48754.7531



File	Curve	1	1	103.24	100	103%
DUDE0065	3043966	1	1	103.24	100	103%
DUDE0078	3045749	1	1	103.33	100	103%
DUDE0081	3008932	1	1	101.95	100	102%
		1	1	-1.56	0	0
		1	1	-1.56	0	0
		1	1	-1.56	0	0
		1	1	-1.56	0	0
		1	1	-1.56	0	0
		1	1	-1.56	0	0

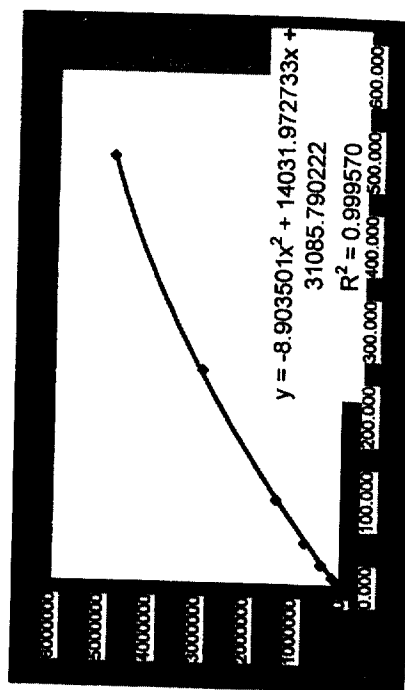
**D020626Extracted
CCV Calculation
PFOA**

Solvent Curve: 02003-50

Sequence: D020626Extracted

DUDE0013	1	1	25542	1	1,000	25542	-0.39	0.0
DUDE0014	2.5	1	51665	1	2,500	51665	1.47	0.0
DUDE0015	5	1	94999	1	5,000	94999	4.57	0.0
DUDE0016	10	1	182546	1	10,000	182546	18.25	0.0
DUDE0017	25	1	422134	1	25,000	422134	20.88	0.0
DUDE0018	50	1	765880	1	50,000	765880	54.23	0.0
DUDE0019	100	1	1368745	1	100,000	1368745	101.92	0.0
DUDE0020	250	1	2938643	1	250,000	2938643	245.43	0.0
DUDE0021	500	1	4830576	1	500,000	4830576	501.83	0.0
DUDE0022		1		1	0,000	0	-2.21	0.0
DUDE0023		1		1	0,000	0	-2.21	0.0
				1				0.00
				0				0.00

a	-8.90E+00
b	14031.9727
c	31085.7902

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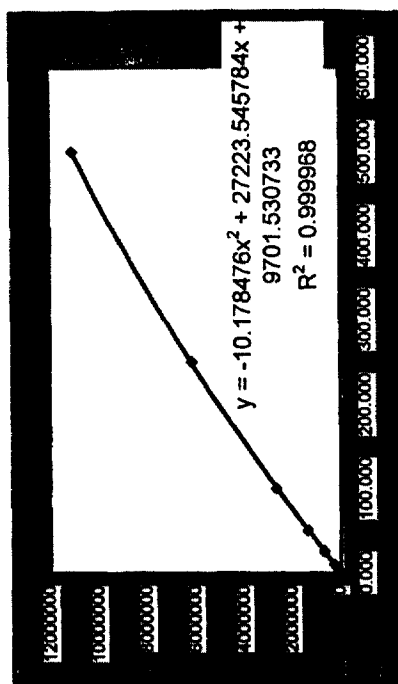
**D020626Extracted
CCV Calculation
FOSA**

Solvent Curve: 02003-50

Sequence: D020626Extracted

Sequence	DUZ0528	Extracted	1	1	29811	1	1,000	29811	0.73	0.0
DUDE0013	1	1	29811	1	1,000	29811	0.73	0.0		
DUDE0014	2.5	1	71308	1	2,500	71308	2.26	-9.4	0.0	
DUDE0015	5	1	138118	1	5,000	138118	4.65	-7.0	0.0	
DUDE0016	10	1	275178	1	10,000	275178	9.79	-2.1	0.0	
DUDE0017	25	1	693598	1	25,000	693598	25.36	1.4	0.0	
DUDE0018	50	1	1376588	1	50,000	1376588	51.19	2.4	0.0	
DUDE0019	100	1	2665321	1	100,000	2665321	101.39	1.4	0.0	
DUDE0020	250	1	6144958	1	250,000	6144958	248.44	-0.6	0.0	
DUDE0021	500	1	11083740	1	500,000	11083740	500.40	0.1	0.0	
DUDE0022		1		1	0,000	0	-0.36		0.0	
DUDE0023		1		1	0,000	0	-0.36		0.0	
				1						0.00
				0						0.00

a	-1.02E+01
b	27223.5458
c	9701.53073

[illegible]

ATTACHMENT C: SAMPLE CHROMATOGRAMS

Data File: DUDE0056.D
Report Date: 27-Aug-2002 13:27

Page 1

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\DUDE0056.D
Lab Smp Id: SL-1. LM-1-3
Inj Date : 26-JUN-2002 23:16
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\D020626extra
Meth Date : 27-Aug-2002 13:22 dudejr.i Quant Type: ESTD
Cal Date : 26-JUN-2002 22:00 Cal File: DUDE0049.D
Als bottle: 43
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: dudejr.i

Quant Type: ESTD

Cal File: DUDE0049.D

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

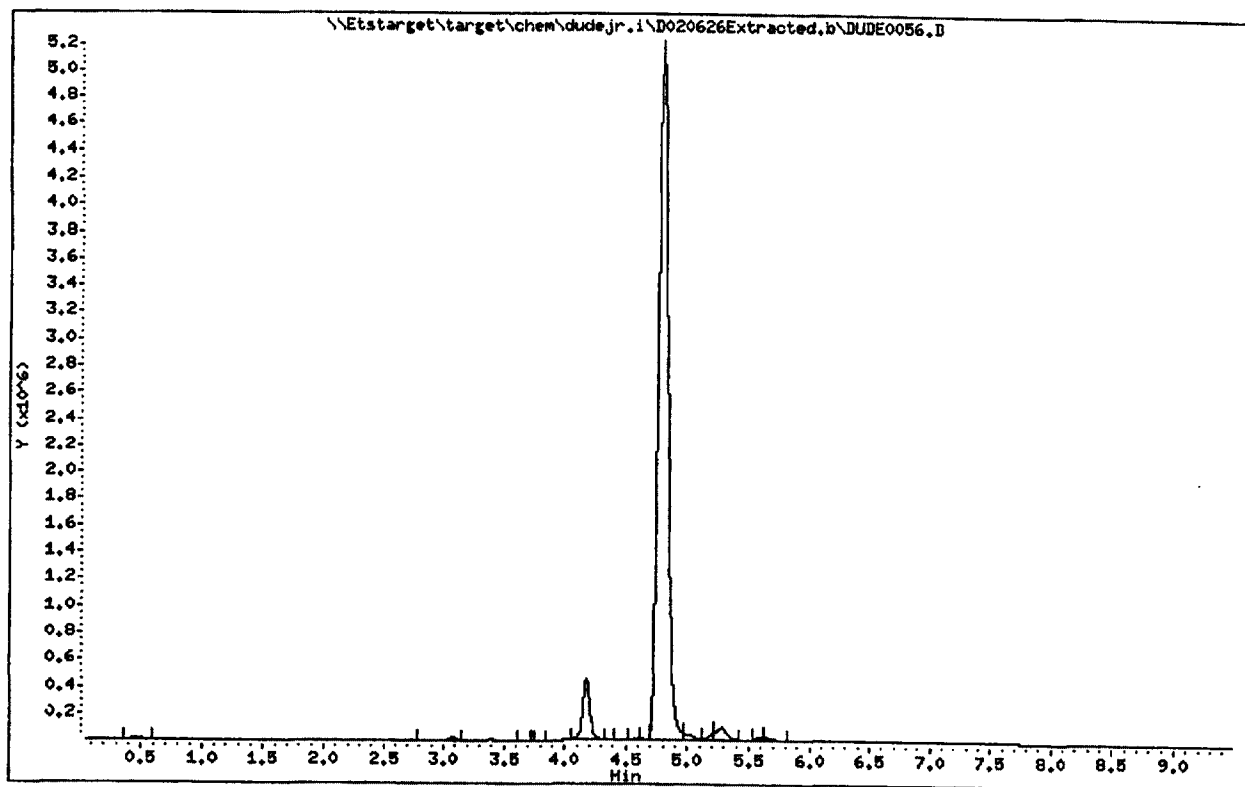
Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007	11884	553.334	553
	299	3.176	3.381	-0.205	2064	553.695	554
	299	3.723	3.381	0.342	1527	553.714	554
20 PFHS (399)	399	3.805	3.792	0.013	9981	809.355	809
	399	3.401	3.792	-0.391	4708	809.488	809
	399	3.976	3.792	0.184	4267	809.499	809
21 PFOA (413)	413	4.003	3.990	0.013	15342	837.253	837
	413	3.873	3.990	-0.117	5385	837.750	838
22 FOSA (498)	498	4.755	4.762	-0.007	85375	0.11598	0.116
	498	4.441	4.762	-0.321	984	1917.31	1920
23 PPOS (499)	499	4.174	4.174	0.000	1903432	13.9702	14.0
	499	4.605	4.174	0.431	19079	1680.28	1680

Exact Copy of Original

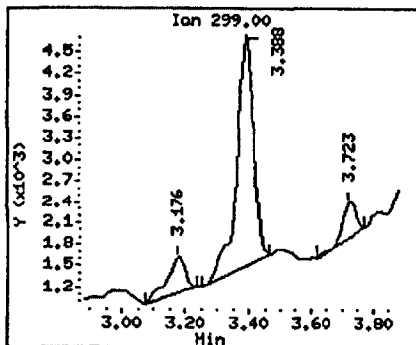
Initial Date

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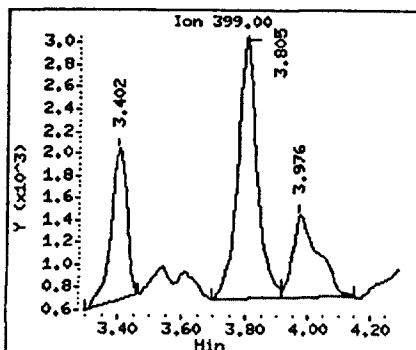
Page 2



18 PFBS (299)



20 PFBS (399)



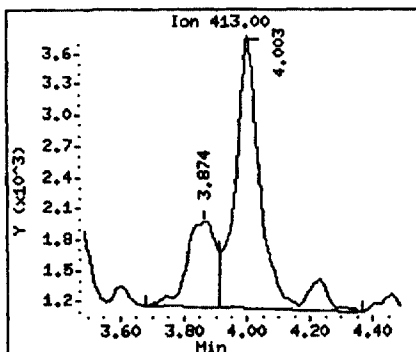
Exact Copy of Original

Initial LMC Date 12/10/02

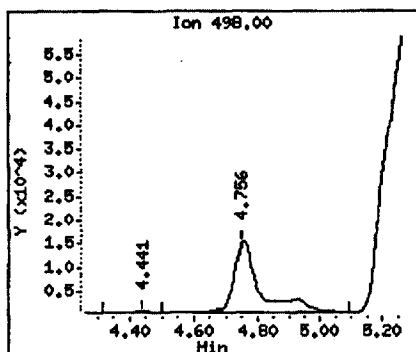
Data File: \\Etstarget\target\chem\dudefr.i\0020626Extracted.b\DUDE0056.D

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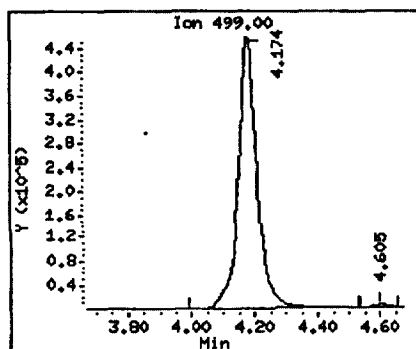
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

CWK 12/16/01
Initial Date

Data File: DUDE0058.D
Report Date: 27-Aug-2002 13:27

Page 1

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\DUDE0058.D
Lab Smp Id: SL-1. LM-2-2
Inj Date : 26-JUN-2002 23:38
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\D020626extra
Meth Date : 27-Aug-2002 13:22 dudejr.i Quant Type: ESTD
Cal Date : 26-JUN-2002 22:00 Cal File: DUDE0049.D
Als bottle: 45
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: dudejr.i

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

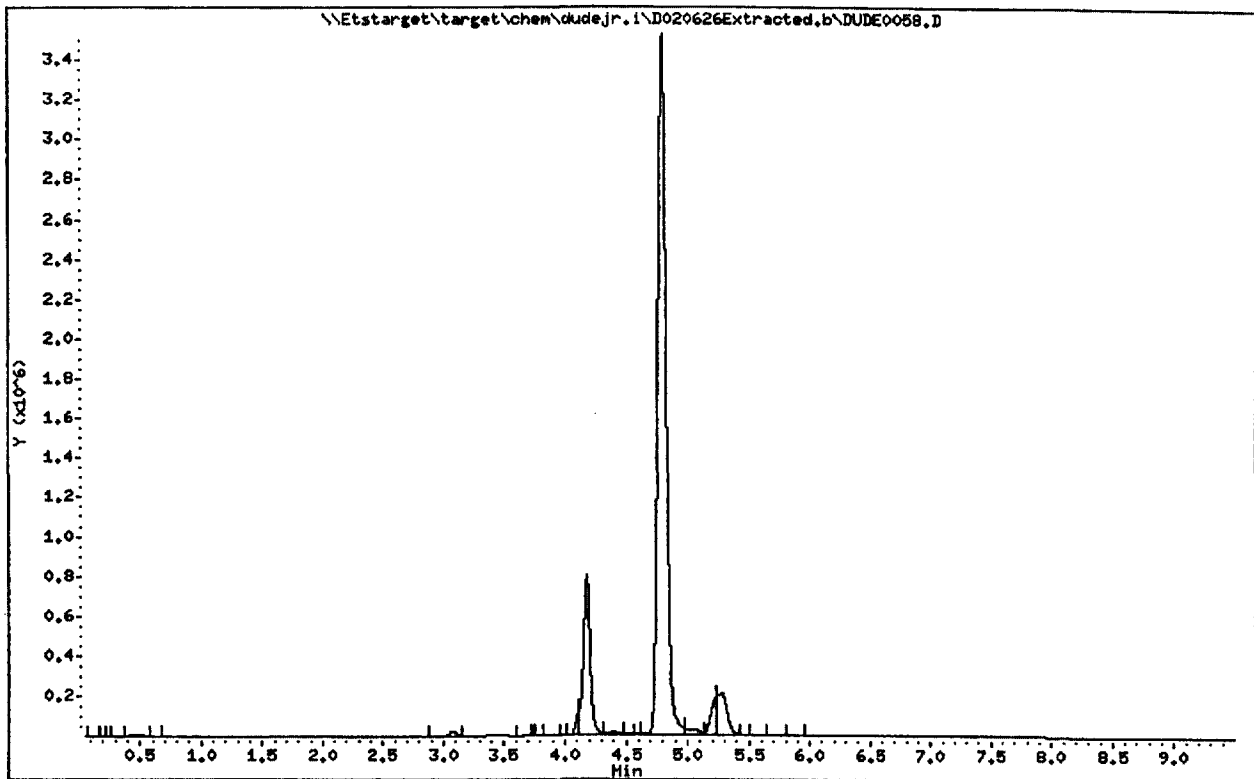
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN FINAL (ng/mL) (ng/mL)
-----	----	-----	-----	-----	-----	-----	-----
18 PFBS (299)	299	3.388	3.381	0.007		11577	553.345 553
	299	3.190	3.381	-0.191		4980	553.588 554
	299	3.306	3.381	-0.075		5158	553.581 554
	299	3.723	3.381	0.342		2027	553.696 554
20 PFHS (399)	399	3.805	3.792	0.013		13422	809.269 809
	399	3.545	3.792	-0.247		2338	809.548 810
21 PFOA (413)	413	3.867	3.990	-0.123		47254	0.65557 0.656
	413	4.229	3.990	0.239		2483	837.894 838
22 FOSA (498)	498	4.762	4.762	0.000		142853	1.96576 1.96
23 PFOS (499)	499	4.174	4.174	0.000		3385486	61.4006 61.4
	499	4.605	4.174	0.431		16466	1680.36 1680

Exact Copy of Original

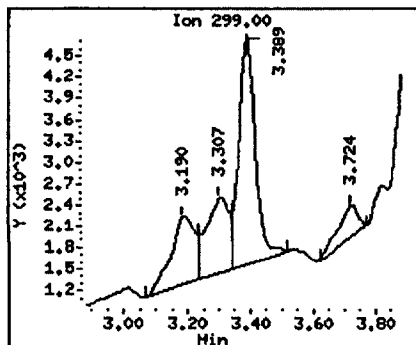
CMC 10/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020626Extracted.b\DUDE0058.D

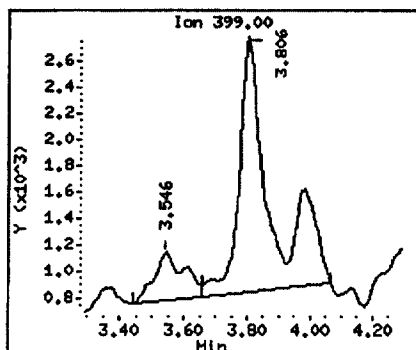
Page 2



18 PFBS (299)



20 PFBS (399)



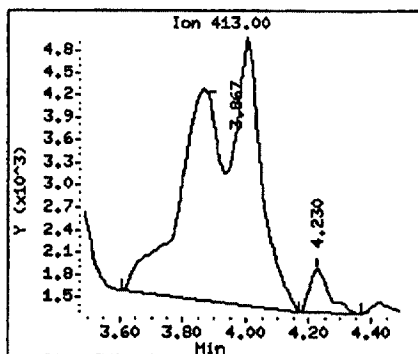
Exact Copy of Original

CIM 12/10/02
Initial Date

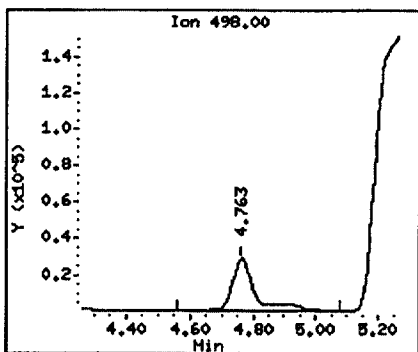
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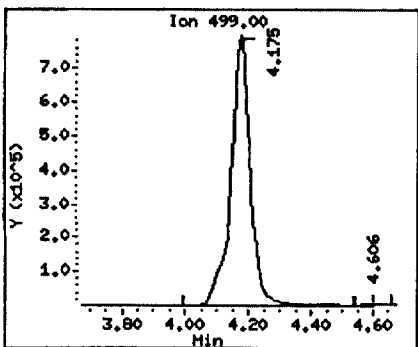
21 PFDA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

cmc 12/10/02
Initial Date

Data File: DUDE0063.D
Report Date: 27-Aug-2002 13:27

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3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\DUDE0063.D
Lab Smp Id: SL-1. LM-3-2
Inj Date : 27-JUN-2002 00:33
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\D020626extra
Meth Date : 27-Aug-2002 13:22 dudejr.i Quant Type: ESTD
Cal Date : 26-JUN-2002 22:00 Cal File: DUDE0049.D
Als bottle: 49
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

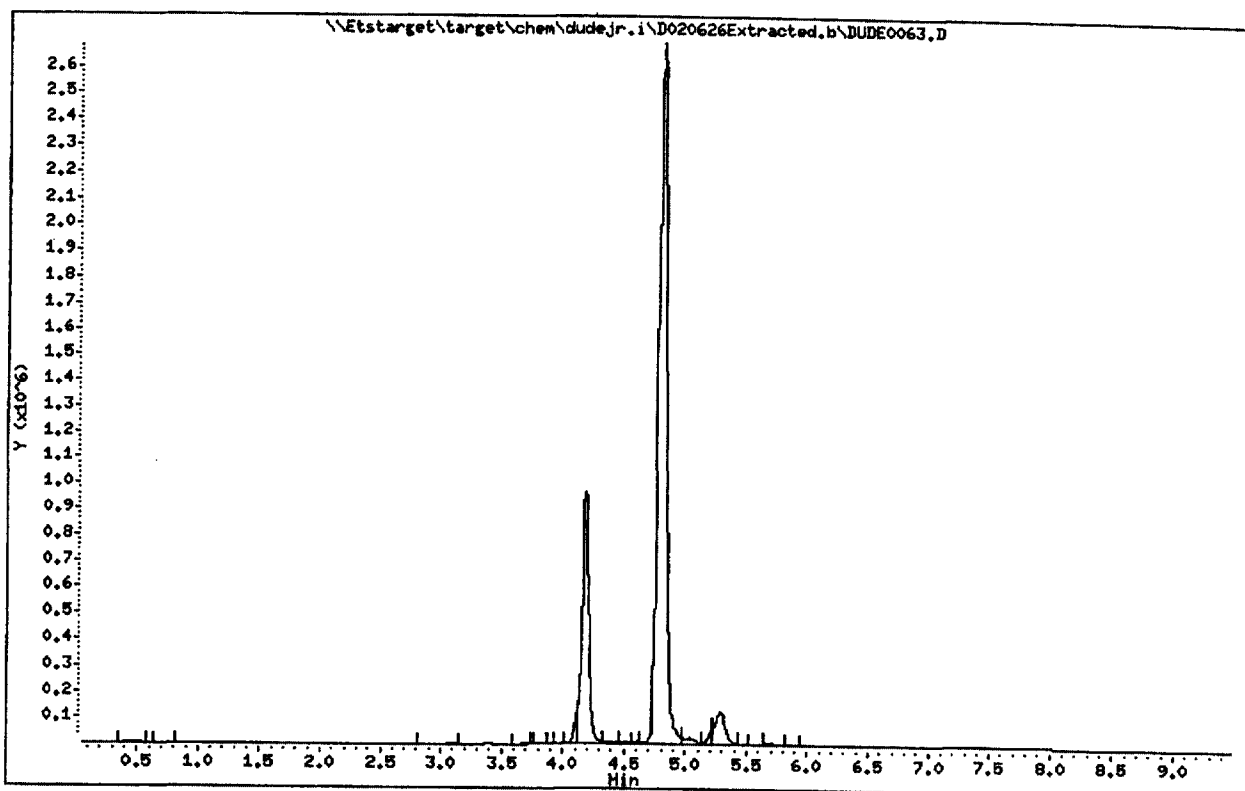
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN FINAL (ng/mL) (ng/mL)
-----	----	-----	----	-----	-----	-----	-----
18 PFBS (299)	299	3.388	3.381	0.007	11469	553.349	553
	299	3.176	3.381	-0.205	2575	553.676	554
	299	3.723	3.381	0.342	1432	553.718	554
	299	3.812	3.381	0.431	378	553.756	554
20 PFHS (399)	399	3.798	3.792	0.006	9750	809.361	809
	399	3.545	3.792	-0.247	3036	809.530	810
	399	3.976	3.792	0.184	4357	809.497	809
21 PFOA (413)	413	3.997	3.990	0.007	15533	837.243	837
	413	3.853	3.990	-0.137	5478	837.745	838
22 POSA (498)	498	4.762	4.762	0.000	236312	4.98115	4.98
	498	4.414	4.762	-0.348	970	1917.31	1920
23 PFOS (499)	499	4.174	4.174	0.000	3964776	80.7677	80.8
	499	4.605	4.174	0.431	26340	1680.07	1680

Exact Copy of Original

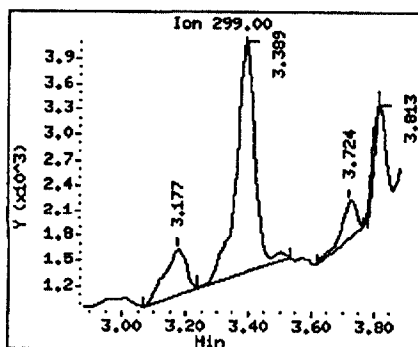
CRY 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020626Extracted.b\DUDE0063.D

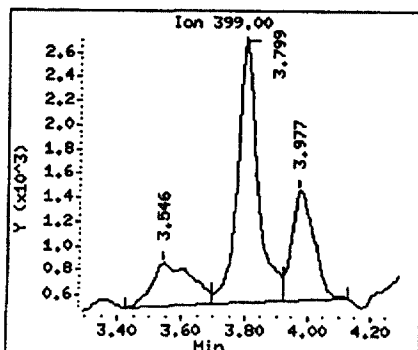
Page 2



18 PFBS (299)



20 PFBS (399)



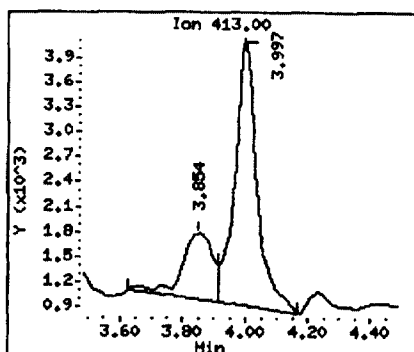
Exact Copy of Original

Cur Initial 12/10/02 Date

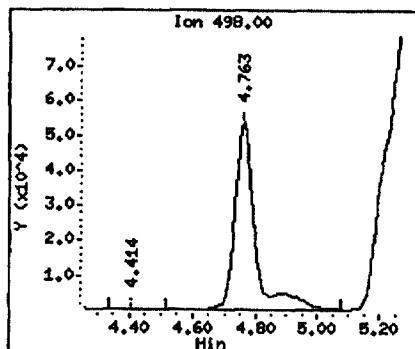
Data File: \\Etstarget\target\chem\dudejr.i\DO20626Extracted.b\DUDE0063.D

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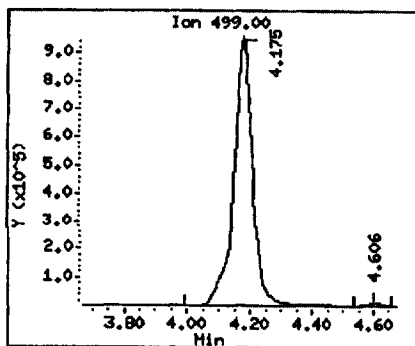
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original
cmc 12/10/02
Initial Date

Data File: DUDE0068.D
Report Date: 27-Aug-2002 13:27

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3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\DUDE0068.D
Lab Smp Id: SL-1. LM-4-2
Inj Date : 27-JUN-2002 01:28
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020626Extracted.b\D020626extra
Meth Date : 27-Aug-2002 13:22 dudejr.i Quant Type: ESTD
Cal Date : 26-JUN-2002 22:00 Cal File: DUDE0049.D
Als bottle: 52
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

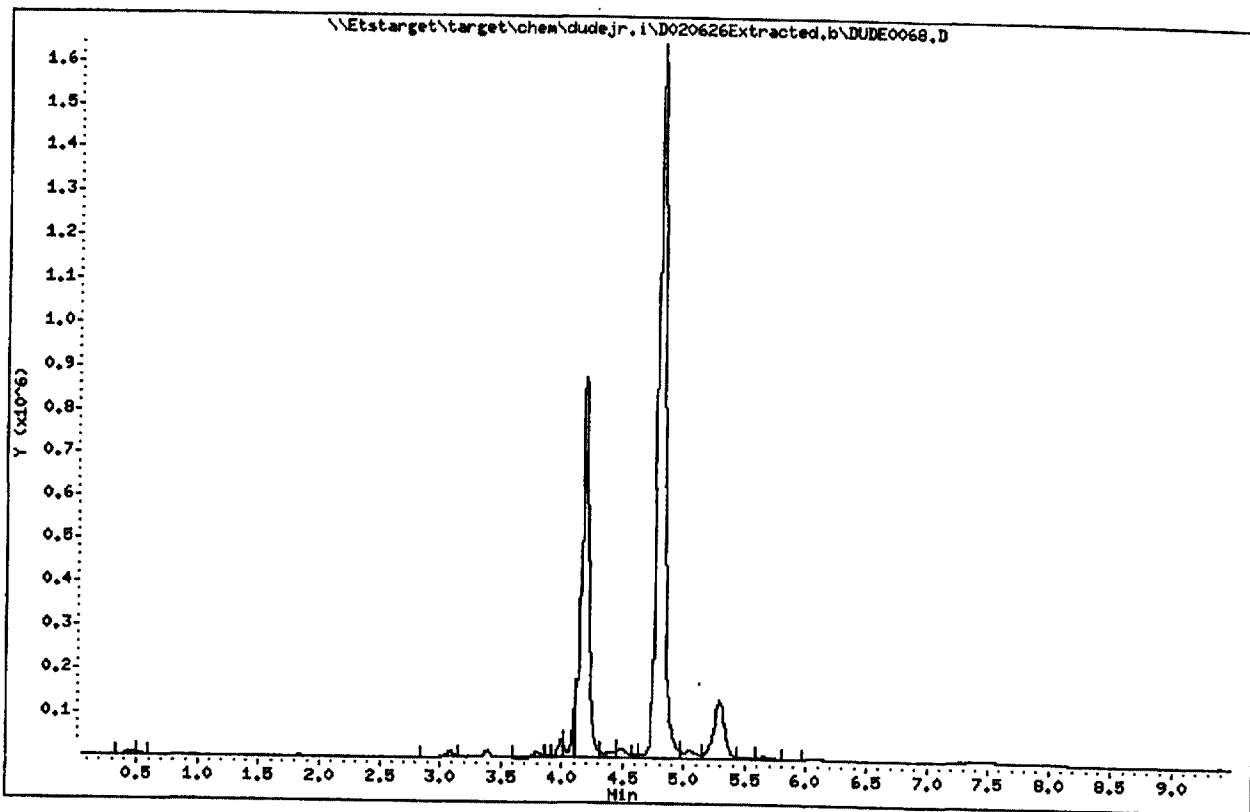
Compounds	QUANT SIG				RESPONSE	CONCENTRATIONS	
	MASS	RT	EXP RT	DLT RT		ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007	51072	0.83331	0.833
	299	3.183	3.381	-0.198	2350	553.684	554
	299	3.723	3.381	0.342	1509	553.715	554
20 PFBS (399)	399	3.798	3.792	0.006	49154	0.63726	0.637
	399	3.354	3.792	-0.438	415	809.596	810
	399	3.559	3.792	-0.233	3064	809.529	810
21 PFOA (413)	413	3.997	3.990	0.007	161661	6.42649	6.43
22 FOSA (498)	498	4.762	4.762	0.000	97875	0.51796	0.518
23 PPOS (499)	499	4.174	4.174	0.000	3814537	75.6964	75.7
	499	3.867	4.174	-0.307	1528	1680.79	1680
	499	4.605	4.174	0.431	16518	1680.35	1680

Exact Copy of Original

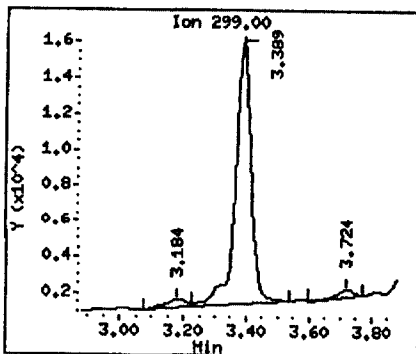
CMV 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr,i\D020626Extracted,b\DUDE0068.D

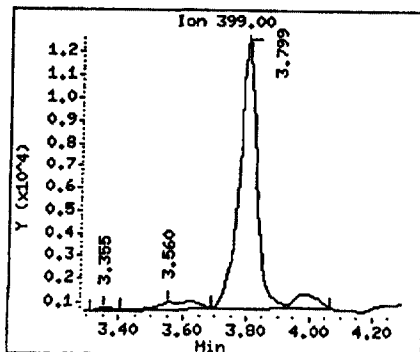
Page 2



18 PFBS (299)



20 PFBS (399)



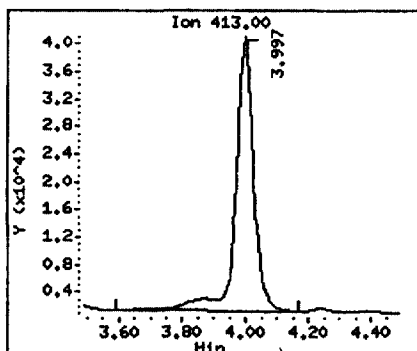
Exact Copy of Original

CML 12/10/02
Initial Date

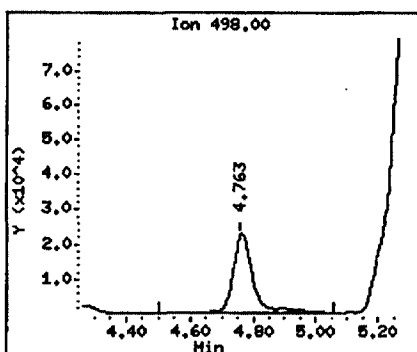
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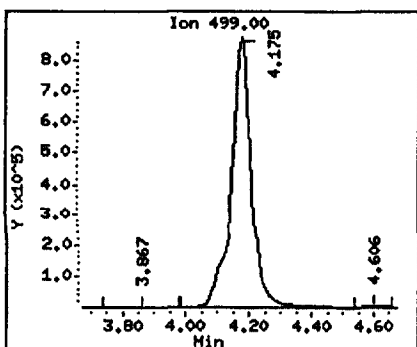
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original
Cmc 12/10/12
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0058.D Page 1
Report Date: 09-Dec-2002 13:07

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0058.D
Lab Smp Id: SL-2. LM-2-1
Inj Date : 29-JUN-2002 02:15
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	-----	-----	-----	-----	-----	-----	-----	-----
18 PFBS (299)	299	3.388	3.388	0.000		15144	569.524	570
	299	3.183	3.388	-0.205		2946	569.996	570
	299	3.757	3.388	0.369		2208	570.025	570
20 PFHS (399)	399	3.805	3.798	0.007		10047	786.229	786
	399	3.545	3.798	-0.253		540	786.477	786
21 PFOA (413)	413	4.004	3.997	0.007		25432	815.277	815 (M)
22 FOSA (498)	498	4.776	4.769	0.007		65904	1885.85	1880
23 PFOS (499)	499	4.181	4.174	0.007		1348329	2.56372	2.56
	499	4.605	4.174	0.431		20726	1659.69	1660

QC Flag Legend

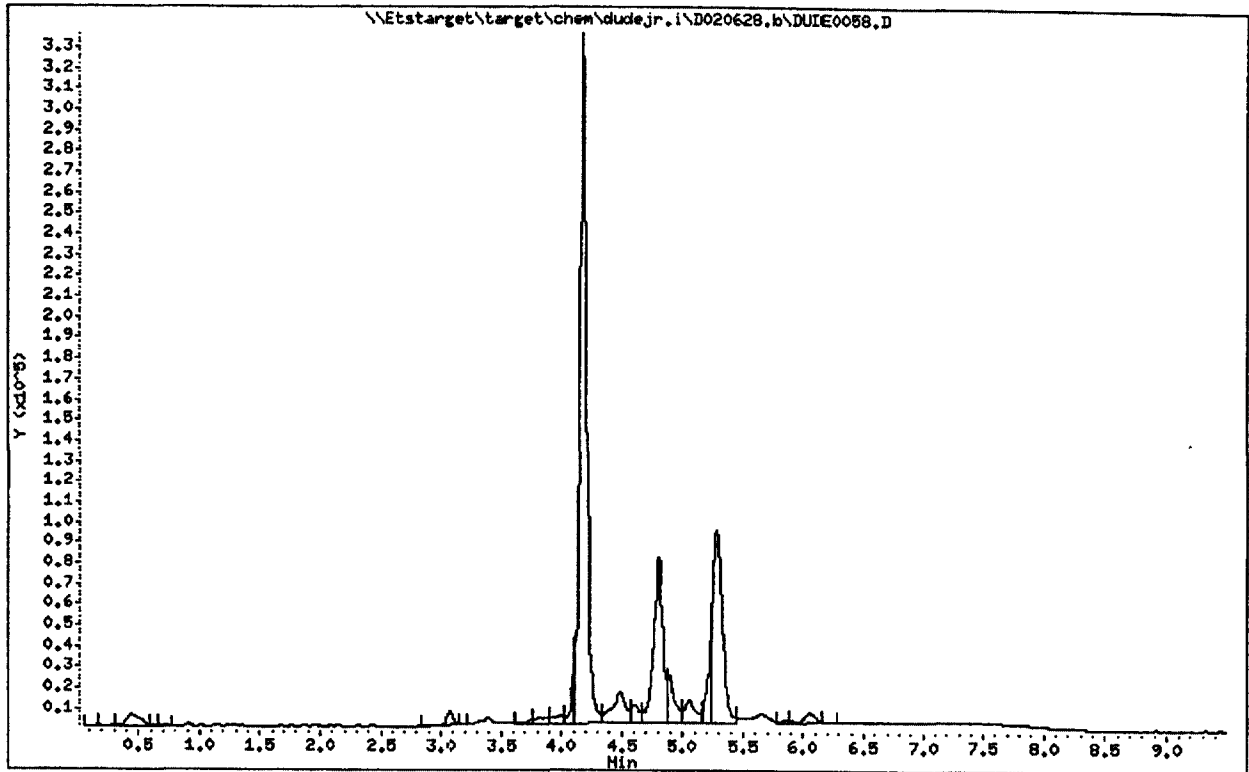
M - Compound response manually integrated.

Exact Copy of Original

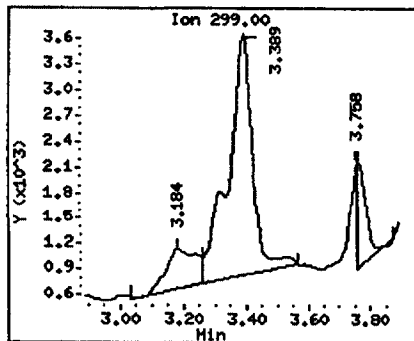
Inc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudej.r.i\020628.b\DUDE0058.D

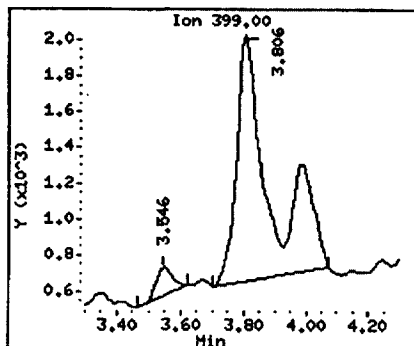
Page 2



18 PFBS (299)



20 PFBS (399)



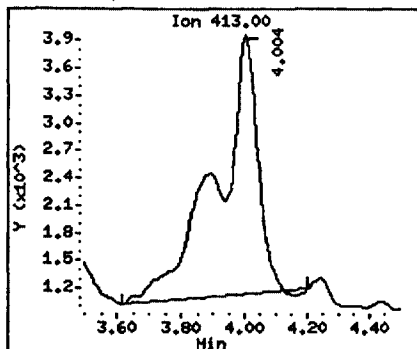
Exact Copy of Original

cmc 12/10/02
Initial Date

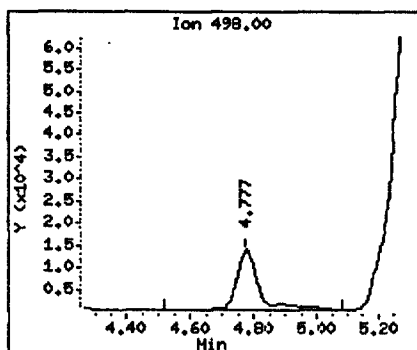
Data File: \\Etstarget\target\chem\dudejr.1\DUDE0058.D

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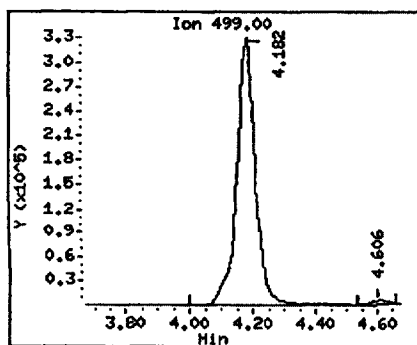
21 PFDA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

CML 12/10/00
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0064.D Page 1
Report Date: 09-Dec-2002 13:07

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0064.D
Lab Smp Id: SL-2. LM-3-2
Inj Date : 29-JUN-2002 03:21
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
Als bottle: 33
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	----	----	-----	-----	-----	-----	-----
18 PFBS (299)	299	3.401	3.388	0.013	22037	569.257	569
	299	3.210	3.388	-0.178	3476	569.976	570
	299	3.771	3.388	0.383	3793	569.964	570
20 PFHS (399)	399	3.818	3.798	0.020	17063	0.08850	0.0885 (M)
21 PFOA (413)	413	4.017	3.997	0.020	38939	814.559	814 (M)
22 FOSA (498)	498	4.789	4.769	0.020	98985	0.72476	0.725
23 PFOS (499)	499	4.194	4.174	0.020	1627015	11.7650	11.8
	499	4.625	4.174	0.451	1774	1660.28	1660

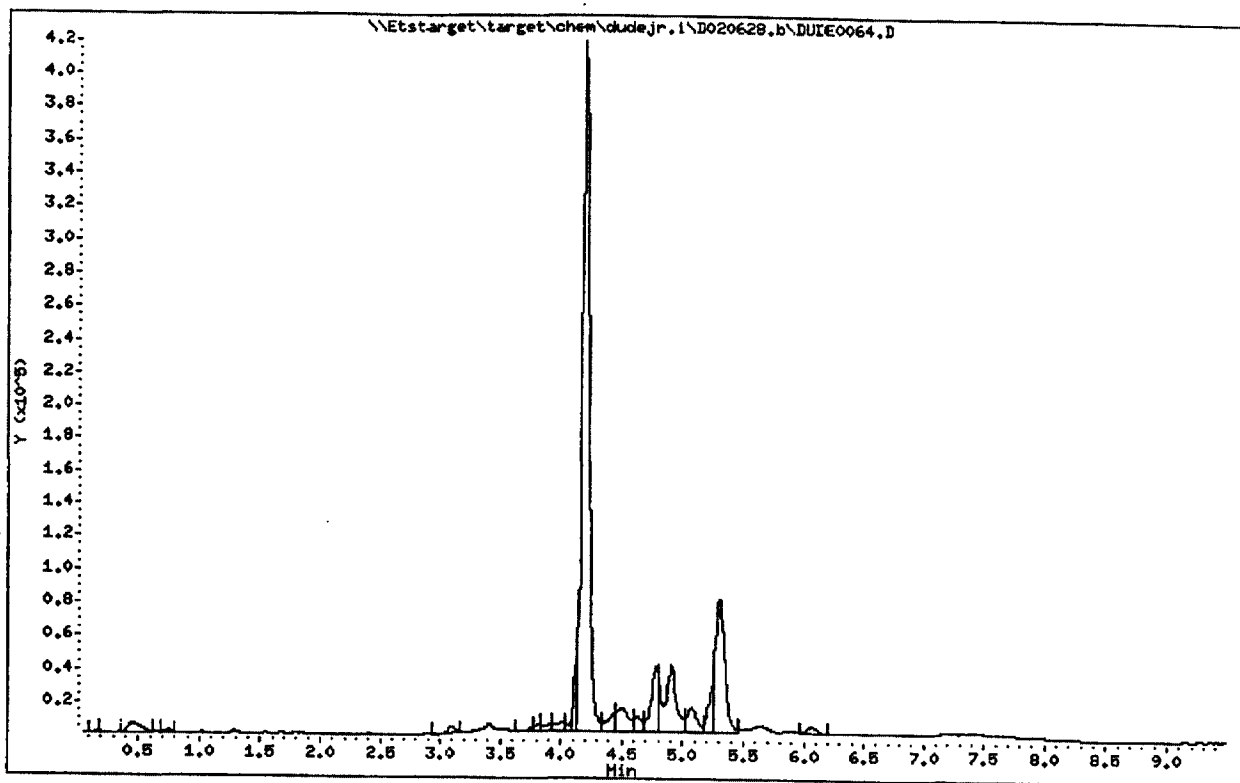
QC Flag Legend

M - Compound response manually integrated.

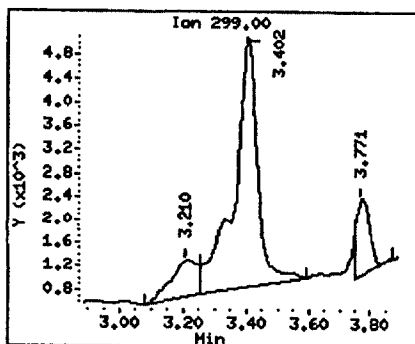
Exact Copy of Original
Initial Date
12/10/02

Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUDE0064.D

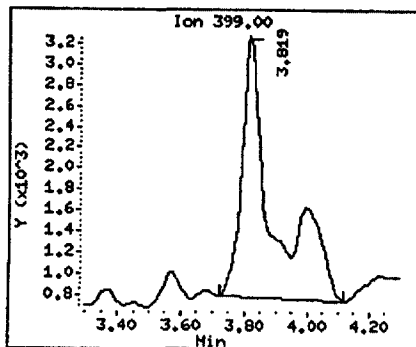
Page 2



18 PFBS (299)



20 PFBS (399)



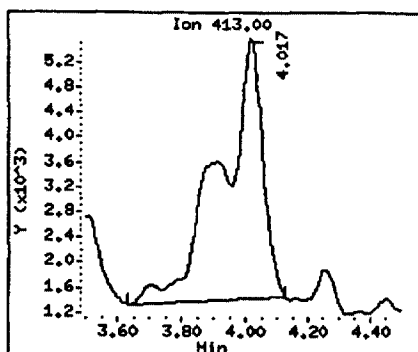
Exact Copy of Original

CMM Initial 12/10/01 Date

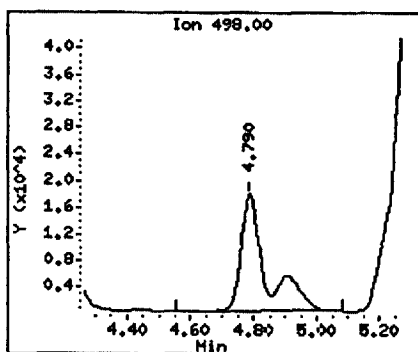
Data File: \\Etstarget\target\chem\dudejr,i\020628.b\DUDE0064.D

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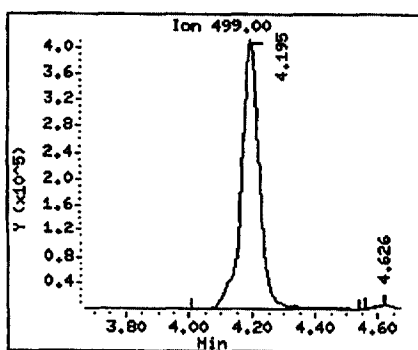
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original:

CML 12/6/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0070.D Page 1
Report Date: 09-Dec-2002 13:07

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0070.D
Lab Smp Id: SL-2. LM-4-3
Inj Date : 29-JUN-2002 04:26
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	----	----	-----	-----	-----		-----	-----
18 PFBS (299)	299	3.388	3.388	0.000	13695		569.580	570
	299	3.183	3.388	-0.205	1232		570.062	570
	299	3.757	3.388	0.369	1592		570.049	570
20 PFHS (399)	399	3.805	3.798	0.007	10665		786.213	786 (M)
21 PFOA (413)	413	4.003	3.997	0.006	23745		815.366	815 (M)
22 FOSA (498)	498	4.776	4.769	0.007	120542		1.45583	1.46
23 PFOS (499)	499	4.174	4.174	0.000	2949014		56.9432	56.9
	499	3.805	4.174	-0.369	2773		1660.25	1660
	499	4.605	4.174	0.431	32944		1659.31	1660

QC Flag Legend

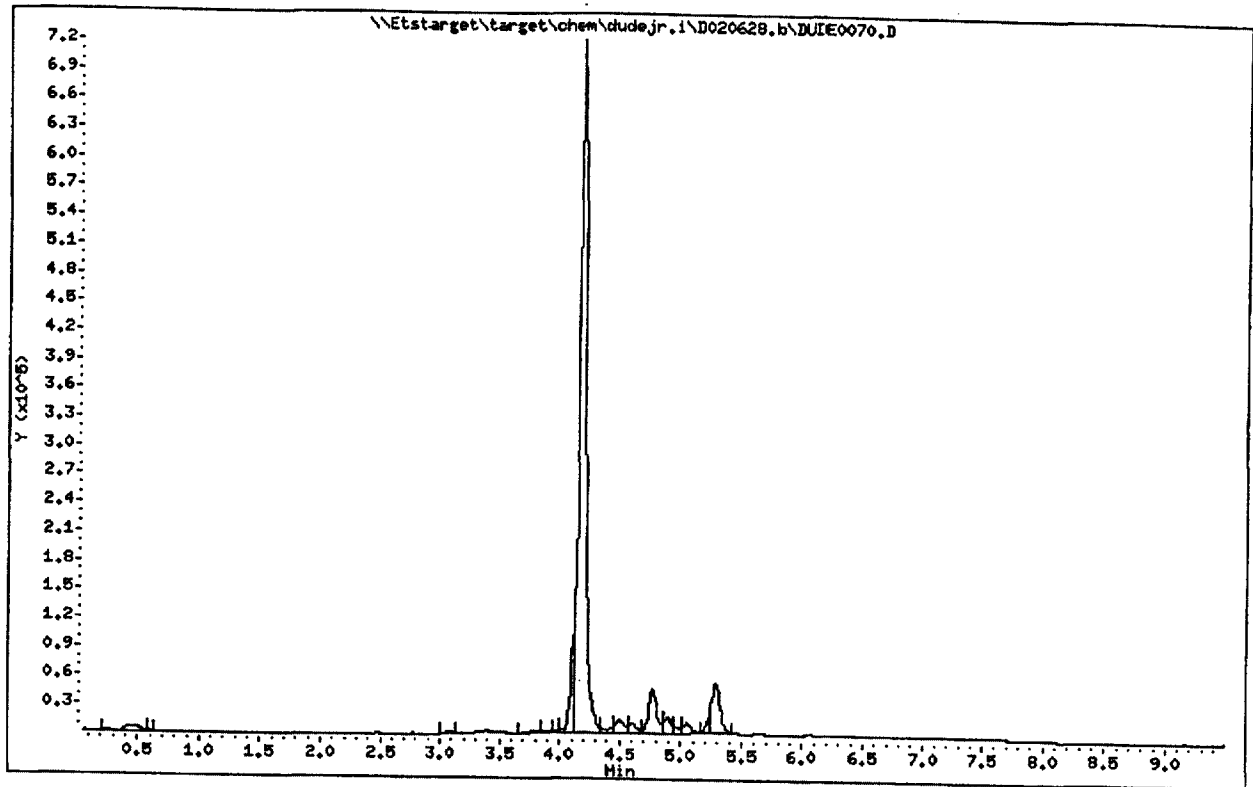
M - Compound response manually integrated.

Exact Copy of Original

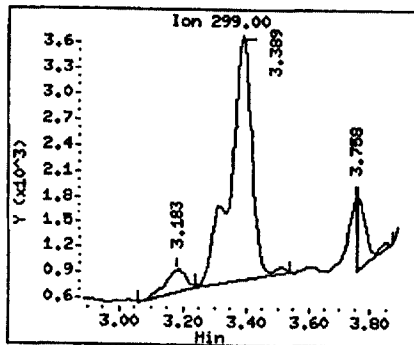
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUDE0070.D

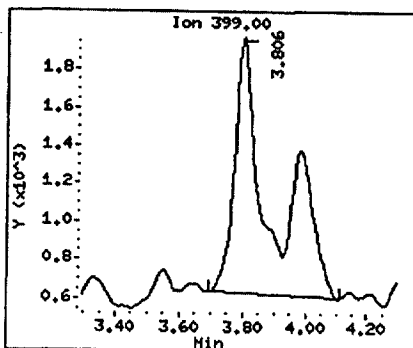
Page 2



18 PFBS (299)



20 PFBS (399)

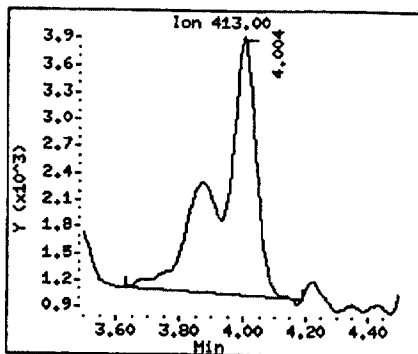


Exact Copy of Original
CMC 12/10/02
Initial Date

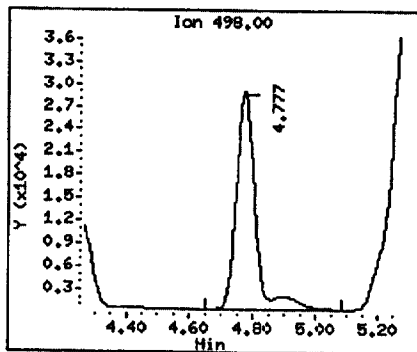
Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUDE0070.D

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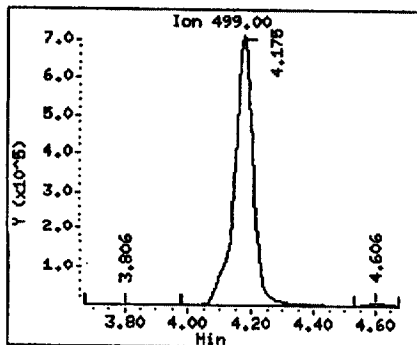
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

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Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0076.D Page 1
 Report Date: 09-Dec-2002 13:08

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0076.D
 Lab Smp Id: SL-3. LM-1-3
 Inj Date : 29-JUN-2002 05:32
 Operator : mla Inst ID: dudejr.i
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
 Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
 Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
 Als bottle: 42
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12
 Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.388	0.000	17998		569.414	569
	299	3.189	3.388	-0.199	3724		569.966	570
	299	3.764	3.388	0.376	1836		570.039	570
20 PFHS (399)	399	3.805	3.798	0.007	16875		0.08359	0.0836
	399	3.559	3.798	-0.239	3229		786.407	786
21 PFOA (413)	413	3.996	3.997	-0.001	60835		0.95299	0.953 (M)
22 FOSA (498)	498	4.899	4.769	0.130	78316		0.02433	0.0243 (M)
23 PFOS (499)	499	4.174	4.174	0.000	716542		1637.71	1640
	499	4.611	4.174	0.437	12921		1659.94	1660

QC Flag Legend

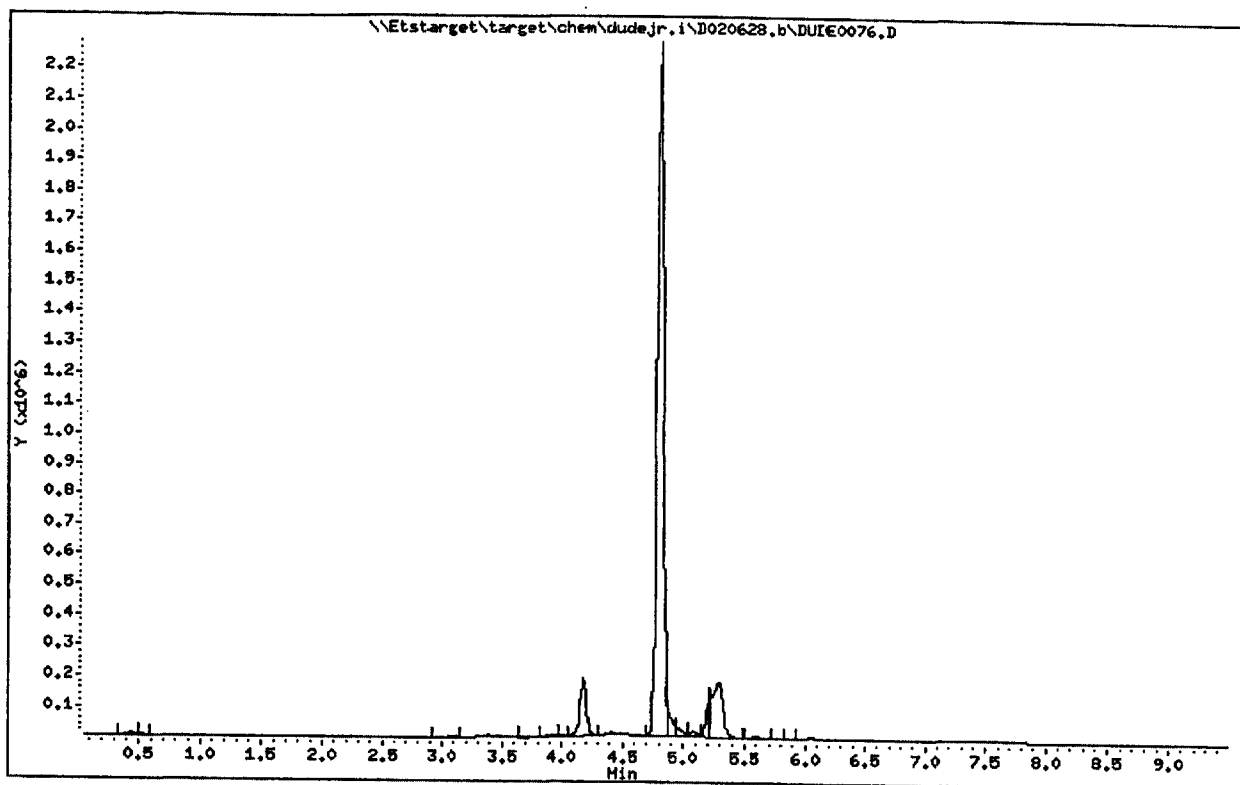
M - Compound response manually integrated.

Exact Copy of Original

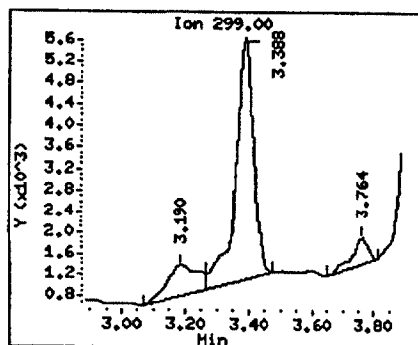
CMC 12/10/02
 Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUDE0076.D

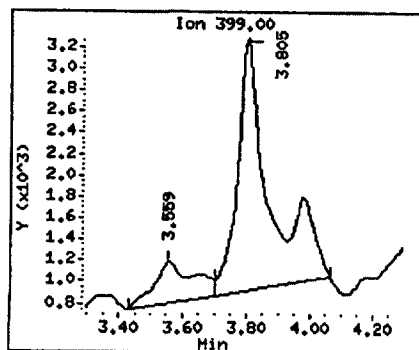
Page 2



18 PFBS (299)



20 PFBS (399)

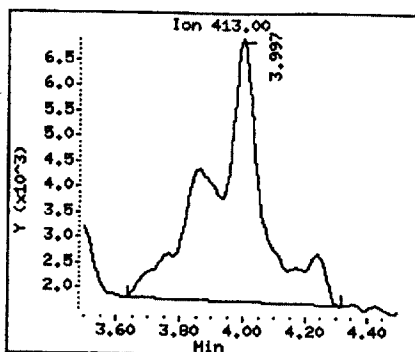


Exact Copy of Original
Cmc 12/10/02
Initial Date

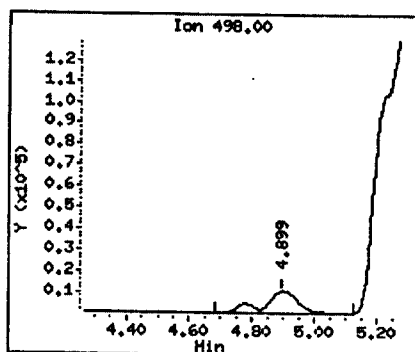
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Page 3

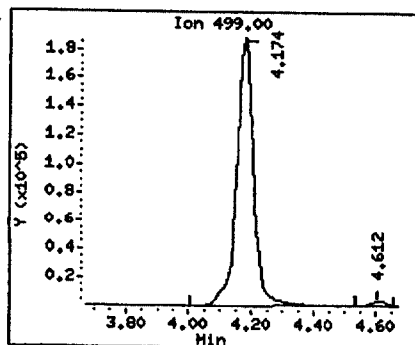
21 PFDA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

CNC 12/10/01
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0089.D Page 1
 Report Date: 09-Dec-2002 13:08

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0089.D
 Lab Smp Id: SL-3. LM-4-3
 Inj Date : 29-JUN-2002 07:55
 Operator : mla
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
 Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
 Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
 Als bottle: 52
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	-----	-----	-----	-----	-----		-----	-----
18 PFBS (299)	299	3.395	3.388	0.007	12936		569.610	570
	299	3.190	3.388	-0.198	3732		569.966	570
	299	3.757	3.388	0.369	1991		570.033	570
20 PFHS (399)	399	3.805	3.798	0.007	7393		786.298	786
	399	3.552	3.798	-0.246	2451		786.427	786
21 PFOA (413)	413	4.003	3.997	0.006	24746		815.313	815 (M)
22 FOSA (498)	498	4.769	4.769	0.000	64726		1885.89	1880
23 PFOS (499)	499	4.174	4.174	0.000	1029081		1627.64	1630
	499	4.605	4.174	0.431	18761		1659.75	1660

QC Flag Legend

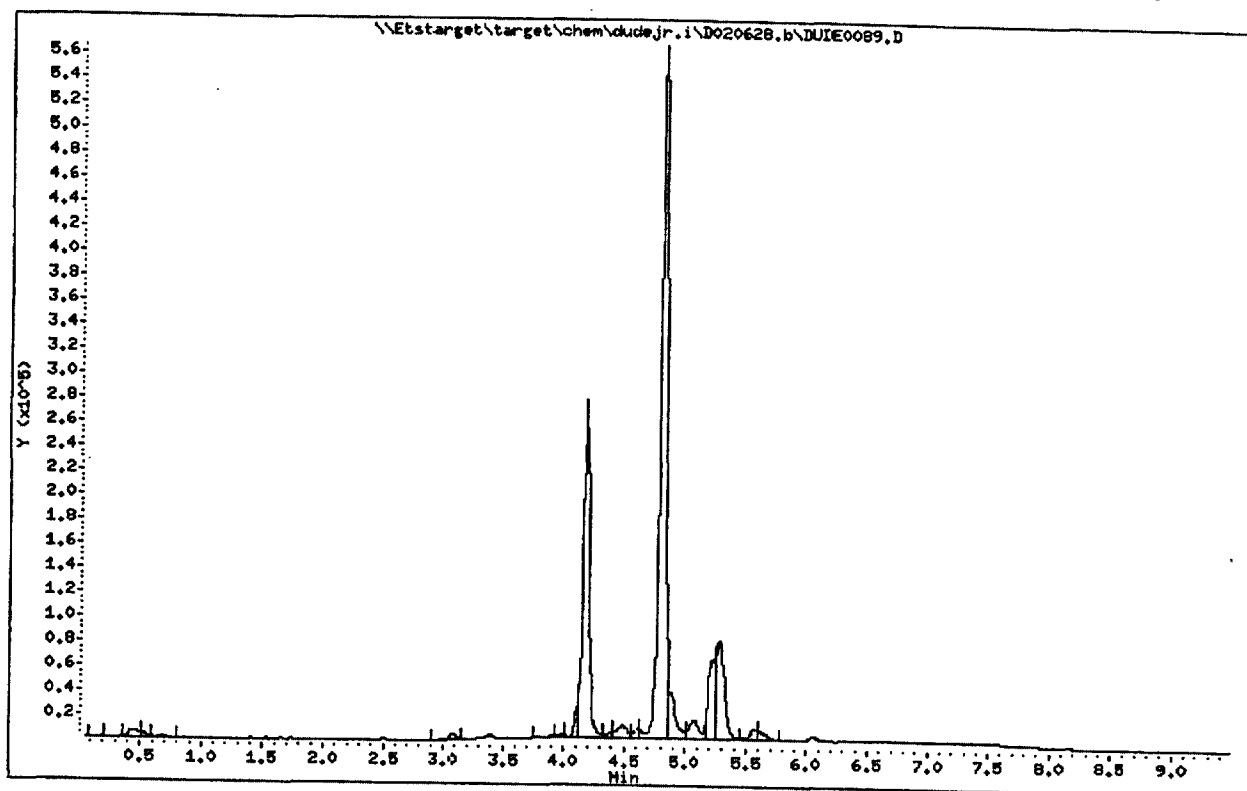
M - Compound response manually integrated.

Exact Copy of Original

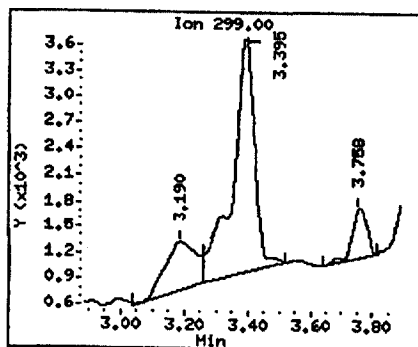
Initial Date
 12/10/02

Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUDE0089.D

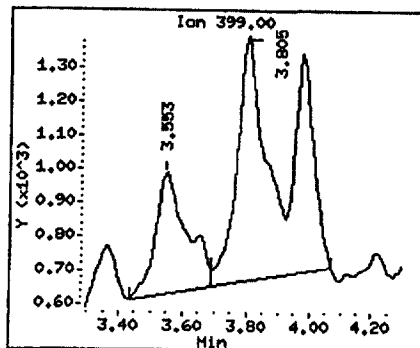
Page 2



18 PFBS (299)



20 PFBS (399)



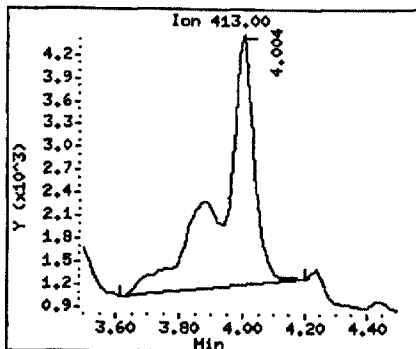
Exact Copy of Original

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Initial Date

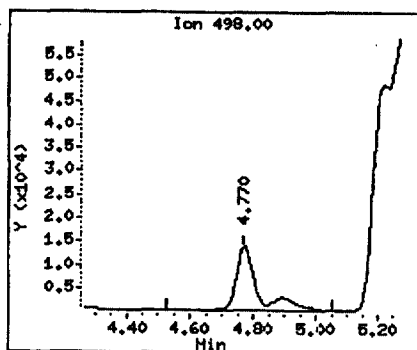
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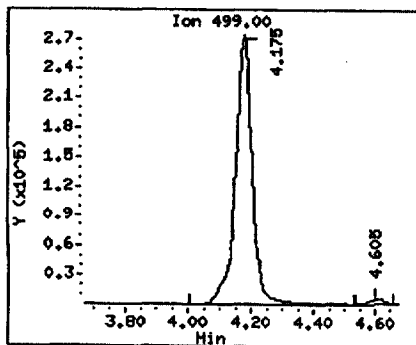
21 PFDA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original
Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0102.D Page 1
 Report Date: 09-Dec-2002 13:08

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0102.D
 Lab Smp Id: SL-3. LM-7-2
 Inj Date : 29-JUN-2002 10:18
 Operator : mla
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
 Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
 Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
 Als bottle: 62
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
		-----	----	-----	-----	-----	(ng/mL)	(ng/mL)
18 PFBS (299)	299	3.388	3.388	0.000	24706	569.154	569	
	299	3.176	3.388	-0.212	1376	570.057	570	
	299	3.757	3.388	0.369	1023	570.071	570	
20 PFBS (399)	399	3.799	3.798	0.001	9487	786.244	786 (M)	
21 PFOA (413)	413	3.997	3.997	0.000	62864	1.06124	1.06	
22 FOSA (498)	498	4.769	4.769	0.000	23637	1887.28	1890	
	498	4.441	4.769	-0.328	779	1888.05	1890	
23 PFOS (499)	499	4.175	4.174	0.001	906705	1631.60	1630	
	499	4.598	4.174	0.424	29289	1659.43	1660	

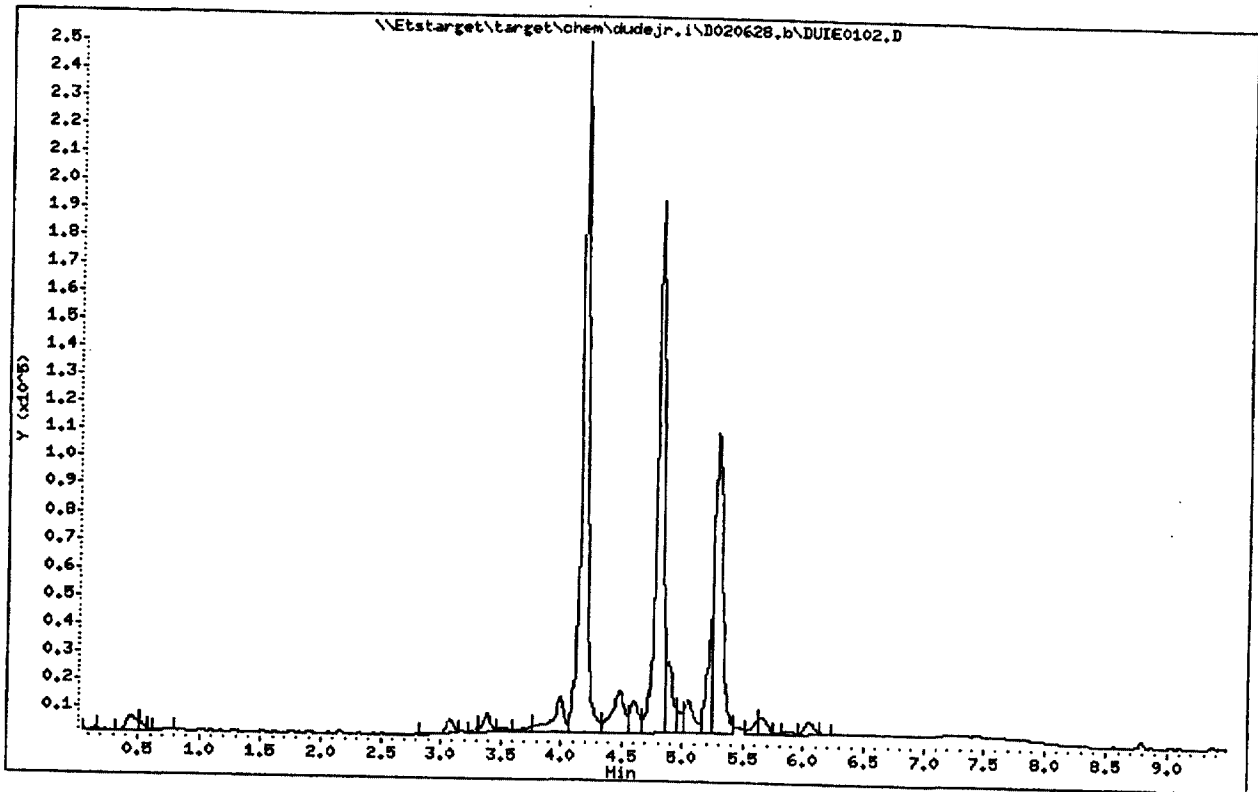
QC Flag Legend

M - Compound response manually integrated.

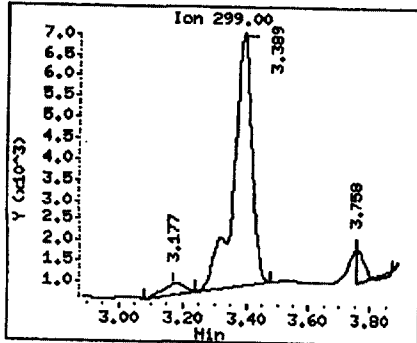
Exact Copy of Original
 Cmc 12/10/02
 mla

Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUIE0102.D

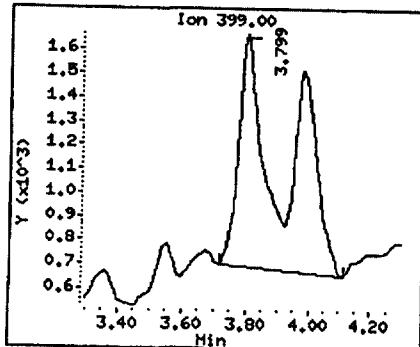
Page 2



18 PFBS (299)



20 PFBS (399)



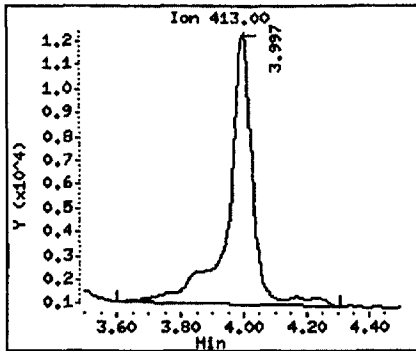
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Cinc Initial 12/10/10 Date

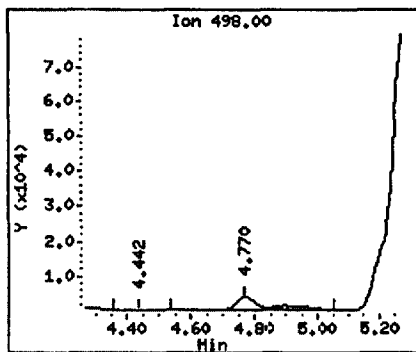
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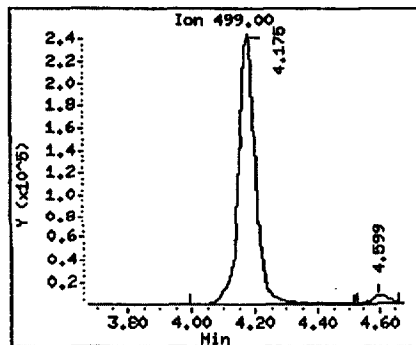
21 PFOS (413)



22 FDSA (498)



23 PFOS (499)



Exact Copy of Original:

Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0104.D Page 1
 Report Date: 09-Dec-2002 13:08

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0104.D
 Lab Smp Id: SL-3. SM-1-1
 Inj Date : 29-JUN-2002 10:40
 Operator : mla Inst ID: dudejr.i
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
 Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
 Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
 Als bottle: 65
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN FINAL (ng/mL) (ng/mL)
18 PFBS (299)		299	3.388	3.388	0.000	10955	569.686
		299	3.190	3.388	-0.198	2138	570.027
		299	3.757	3.388	0.369	1256	570.062
		299	3.812	3.798	0.014	11252	786.197
20 PFHS (399)		399	3.566	3.798	-0.232	5688	786.343
		399	4.174	3.798	0.376	975	786.466
		399	4.174	3.798	0.376	975	786.466
		399	4.174	3.798	0.376	975	786.466
21 PFOA (413)		413	3.996	3.997	-0.001	55673	0.67774
22 FOSA (498)		498	4.769	4.769	0.000	41082	1886.69
23 PPOS (499)		499	4.174	4.174	0.000	429027	1646.86
		499	4.605	4.174	0.431	15813	1659.85

QC Flag Legend

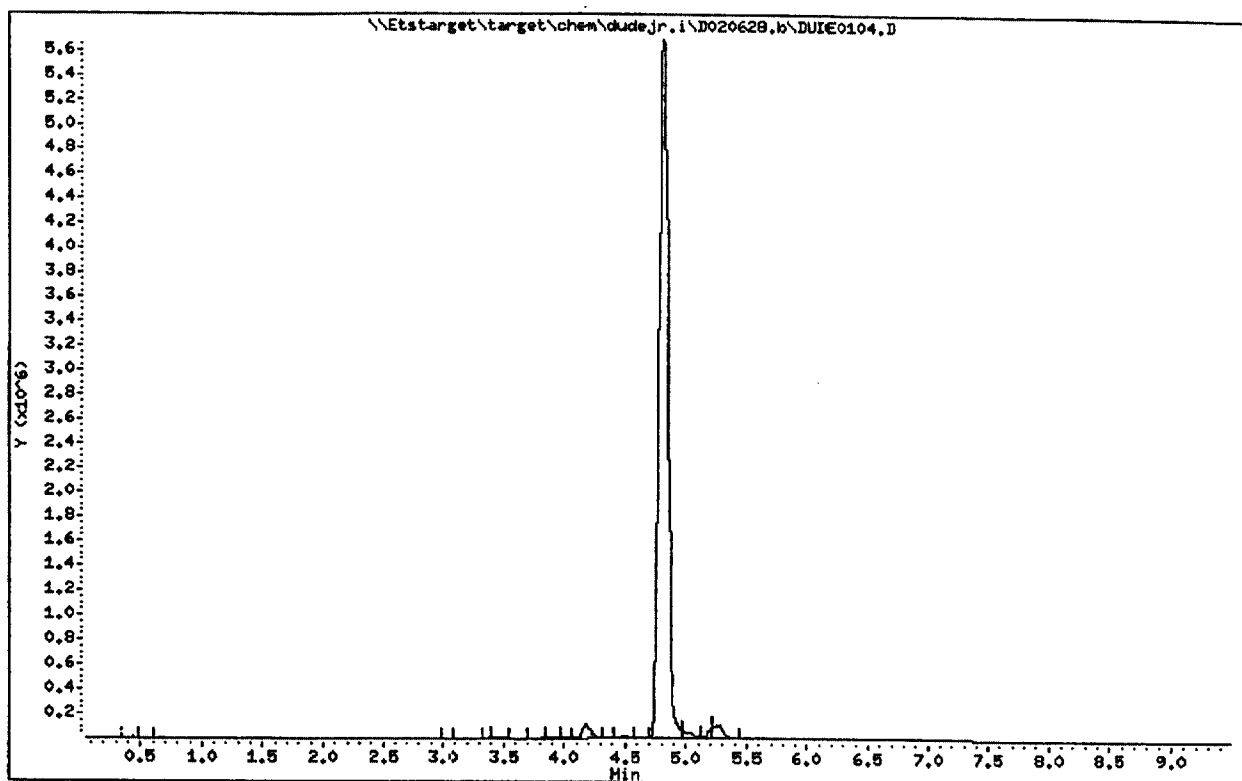
M - Compound response manually integrated.

Exact Copy of Original

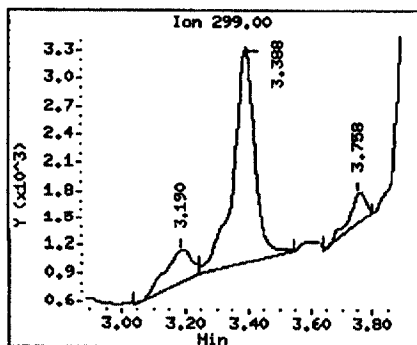
CMC 12/10/02
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Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DUDE0104.D

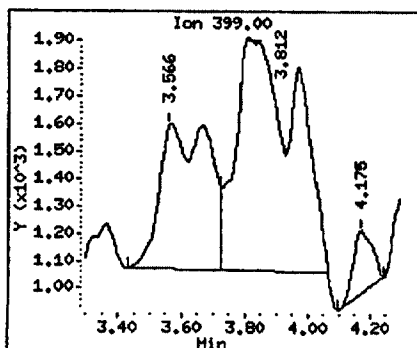
Page 2



18 PFBS (299)



20 PFBS (399)



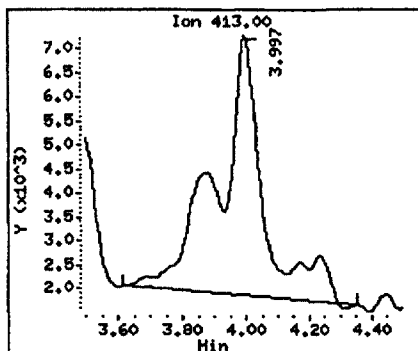
Exact Copy of Original

LMC 12/10/02
Initial Date

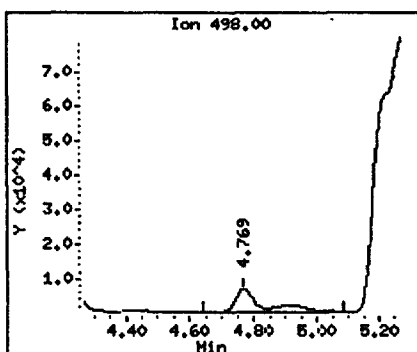
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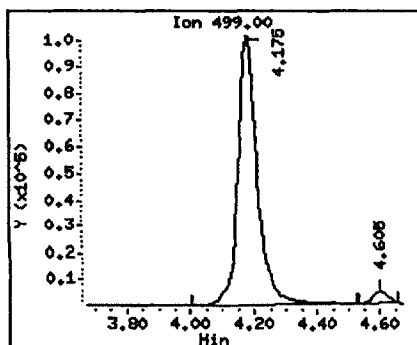
21 PFDA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

LM 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0105.D Page 1
Report Date: 09-Dec-2002 13:08

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0105.D
Lab Smp Id: SL-3. SM-1-2
Inj Date : 29-JUN-2002 10:51
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
Als bottle: 66
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	----	----	-----	-----	-----		-----	-----
18 PFBS (299)	299	3.388	3.388	0.000	11225		569.676	570
	299	3.182	3.388	-0.206	1896		570.037	570
	299	3.764	3.388	0.376	1126		570.067	570
20 PFHS (399)	399	3.825	3.798	0.027	12780		786.158	786
	399	3.552	3.798	-0.246	6122		786.331	786
	399	4.194	3.798	0.396	930		786.467	786
21 PFOA (413)	413	3.996	3.997	-0.001	52802		0.52474	0.525 (M)
22 FOSA (498)	498	4.769	4.769	0.000	40143		1886.72	1890 (M)
23 PFOS (499)	499	4.174	4.174	0.000	469574		1645.58	1640
	499	4.605	4.174	0.431	14246		1659.89	1660

QC Flag Legend

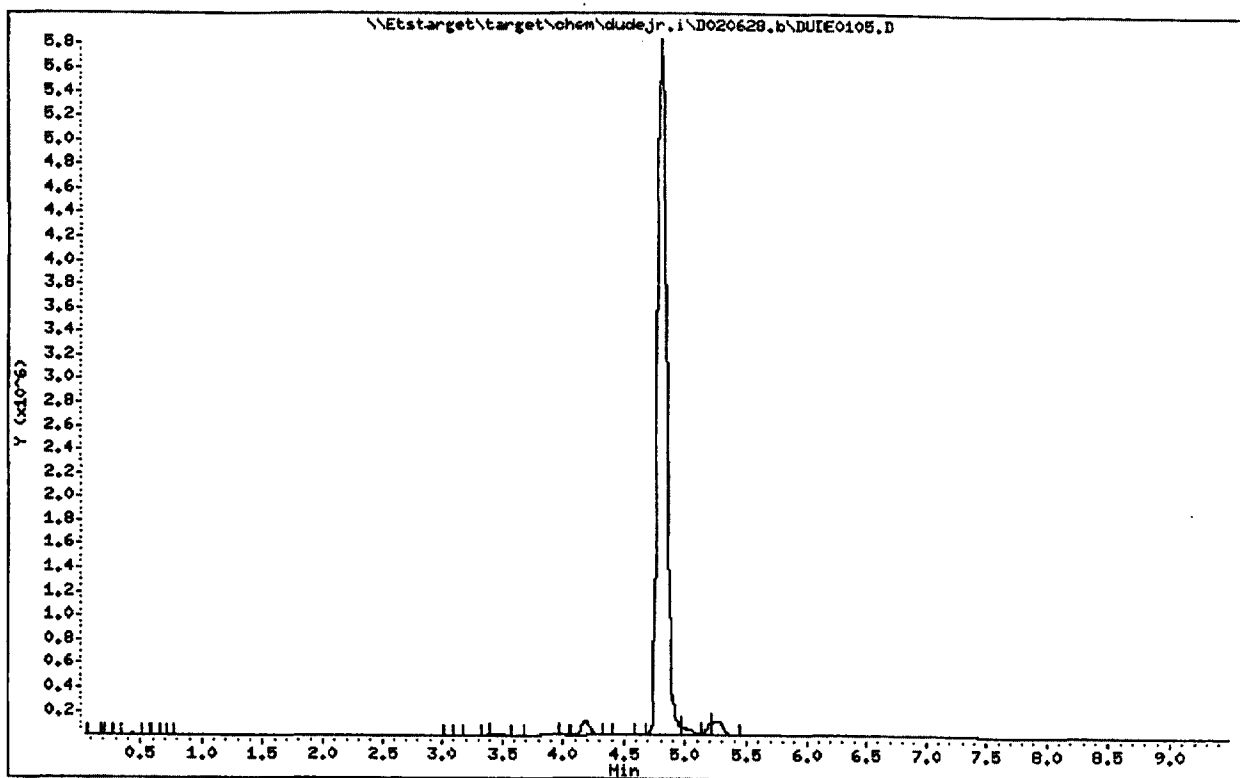
M - Compound response manually integrated.

Exact Copy of Original

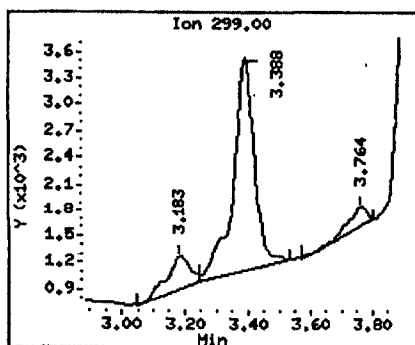
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020628.b\DU1E0105.D

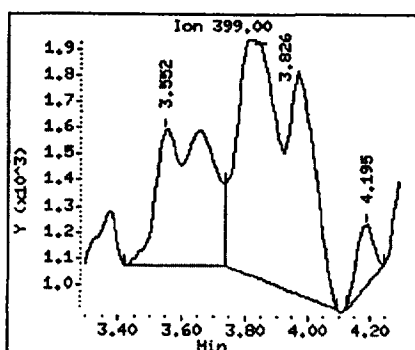
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18 PFBS (299)



20 PFBS (399)



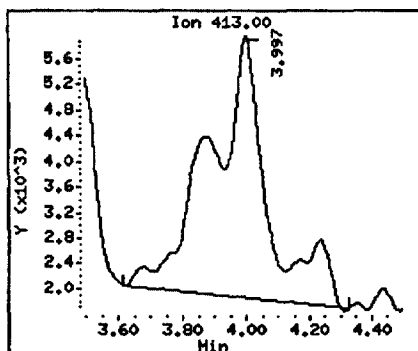
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CMC 12/10/02
Initial Date

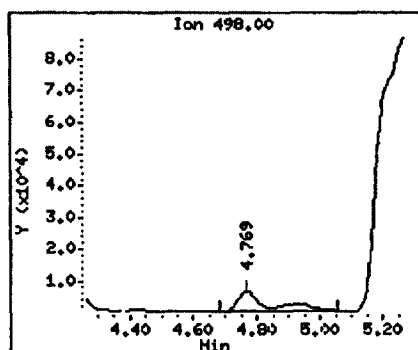
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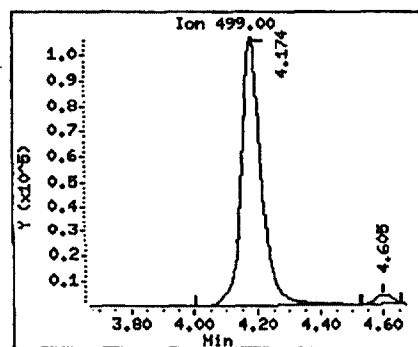
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0108.D Page 1
Report Date: 09-Dec-2002 13:08

3M Environmental Laboratory

E02-0443 Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020628.b\DUDE0108.D
Lab Smp Id: SL-3. SM-1-3
Inj Date : 29-JUN-2002 11:25
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020628.b\D020628.m
Meth Date : 09-Dec-2002 13:01 dudejr.i Quant Type: ESTD
Cal Date : 29-JUN-2002 00:48 Cal File: DUDE0050.D
Als bottle: 67
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	----	----	-----	-----	-----		-----	-----
18 PFBS (299)	299	3.388	3.388	0.000	16091		569.488	569
	299	3.183	3.388	-0.205	2727		570.005	570
	299	3.764	3.388	0.376	1588		570.049	570
20 PFHS (399)	399	3.798	3.798	0.000	13195		786.147	786 (M)
21 PFOA (413)	413	3.996	3.997	-0.001	54265		0.60270	0.603 (M)
22 POSA (498)	498	4.762	4.769	-0.007	44388		1886.57	1890 (M)
23 PFOS (499)	499	4.174	4.174	0.000	458983		1645.91	1640
	499	4.598	4.174	0.424	15684		1659.85	1660

QC Flag Legend

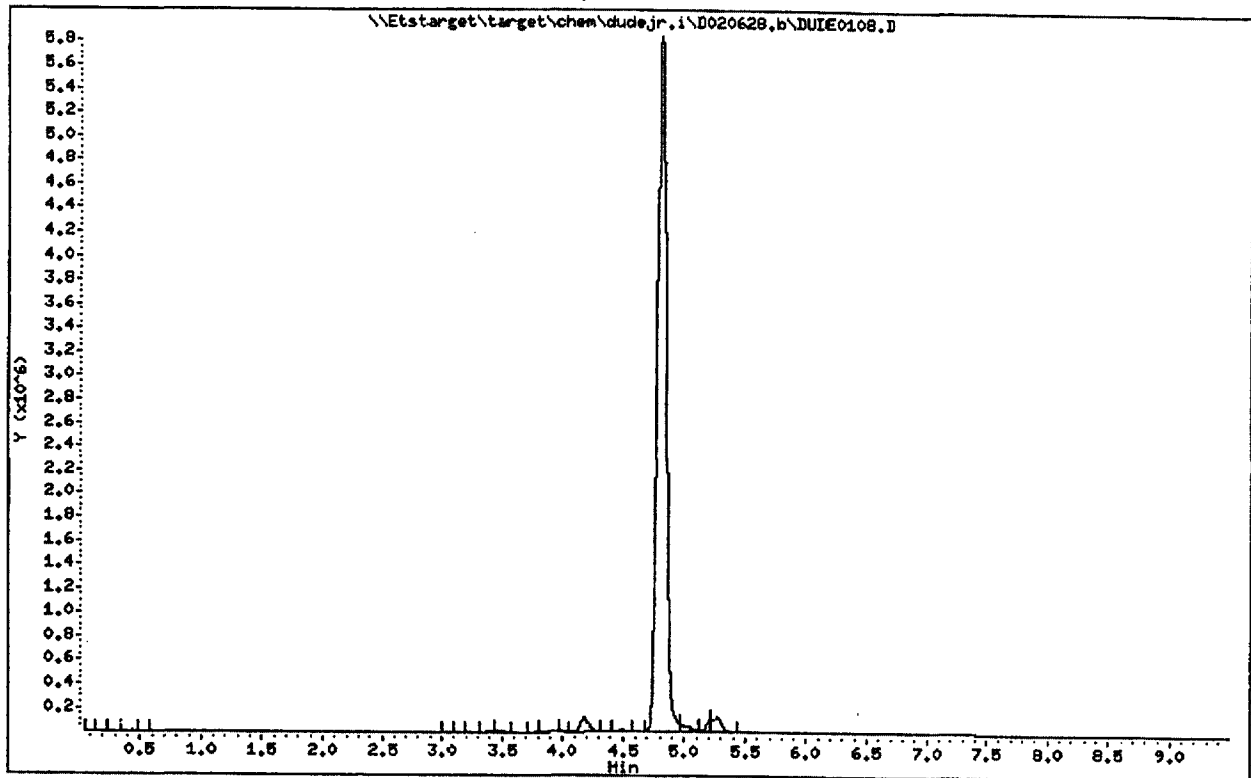
M - Compound response manually integrated.

Exact Copy of Original

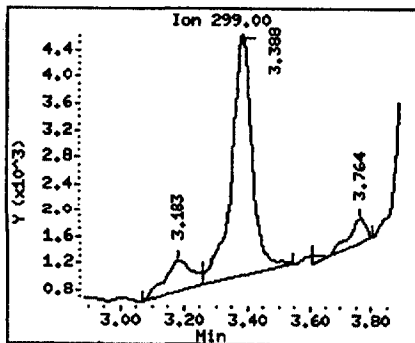
LMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\0020628.b\DUDE0108.D

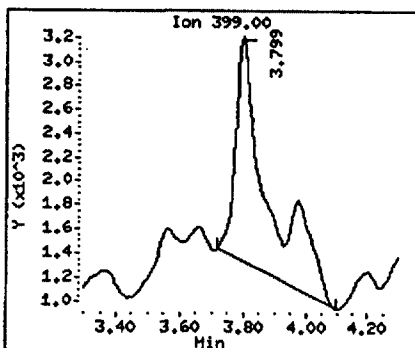
Page 2



18 PFBS (299)



20 PFBS (399)

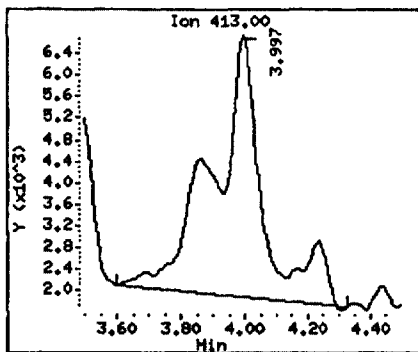


Exact Copy of Original
Line 12/10/02
Initial Date

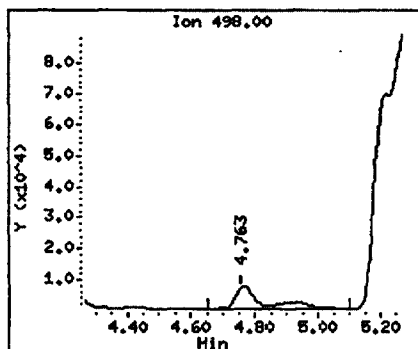
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Page 3

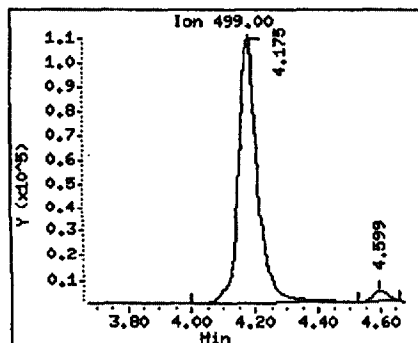
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



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Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0089.D Page 1
Report Date: 27-Aug-2002 10:06

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0089.D
Lab Smp Id: SL-1. WB-1
Inj Date : 01-JUL-2002 04:25
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
Als bottle: 47
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

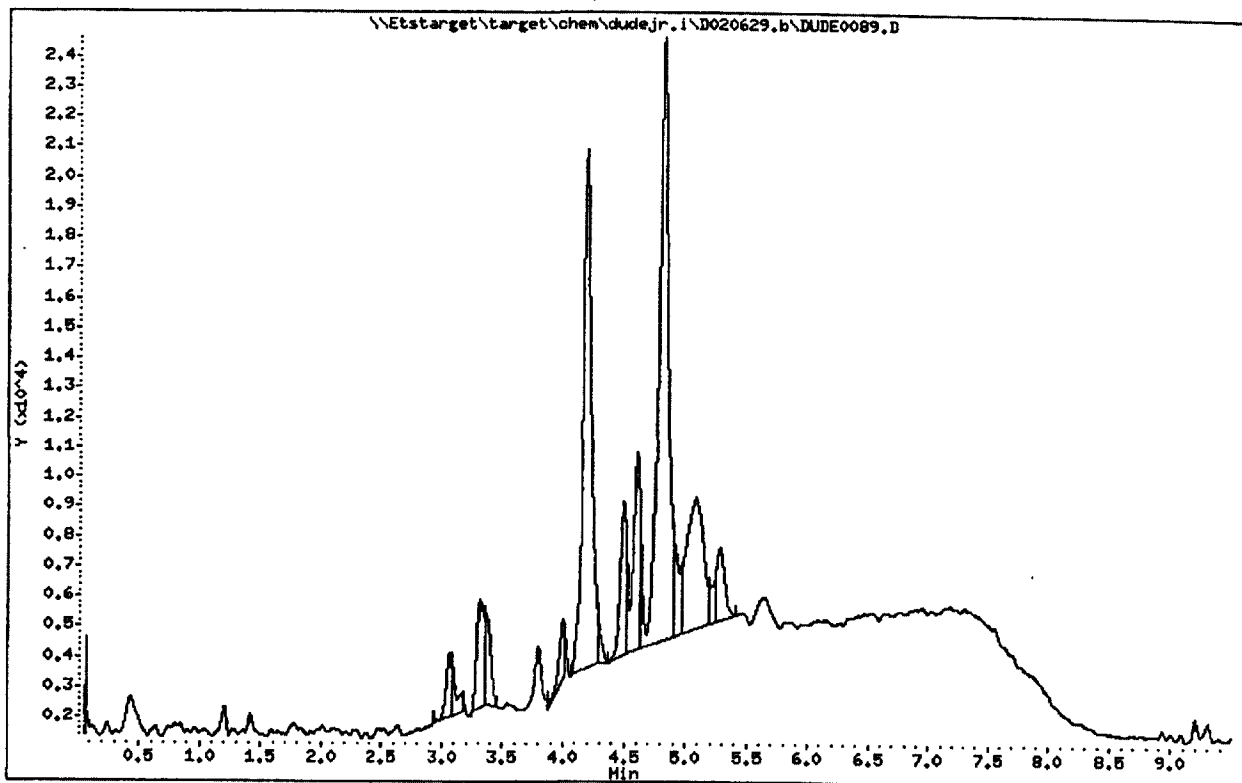
Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN	FINAL
								(ng/mL)	(ng/mL)
18 PFBS (299)	299	3.213	3.381	-0.068	23577	1223.22	1220		
	299	2.944	3.381	-0.437	478	1224.54	1220		
	299	3.163	3.381	-0.218	2981	1224.39	1220		
20 PFHS (399)	399	3.798	3.792	0.006	8170	0.16435	0.164		
21 PFOA (413)	413	4.004	3.990	0.014	10932	819.144	819		
22 FOSA (498)	498	4.776	4.756	0.020	7649	2744.00	2740		
23 PFOS (499)	499	4.188	4.168	0.020	96922	1274.91	1270		
	499	4.605	4.168	0.437	22825	1277.09	1280		

Exact Copy of Original

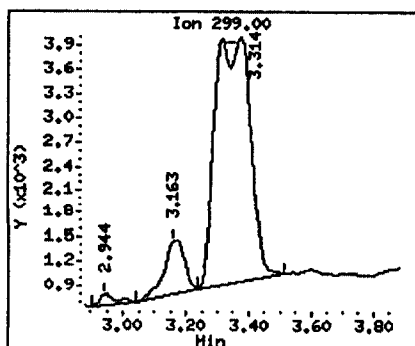
Lark 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020629.b\DUDE0089.D

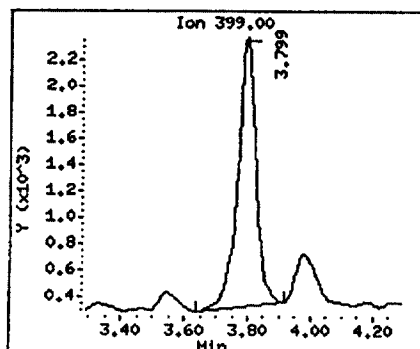
Page 2



18 PFBS (299)



20 PFBS (399)



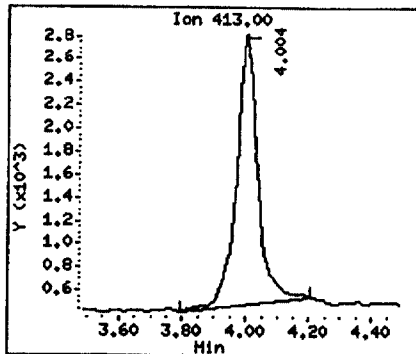
Exact Copy of Original

cmc 12/10/02
Initial Date

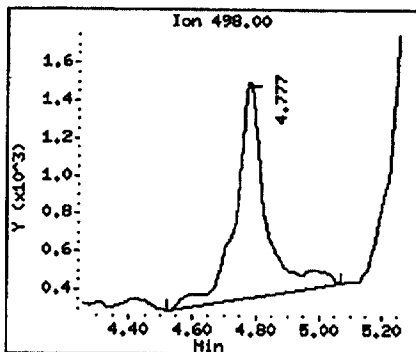
Data File: \\Etstarget\target\chem\dudejr,i\020629,b\DUDE0089.D

Page 3

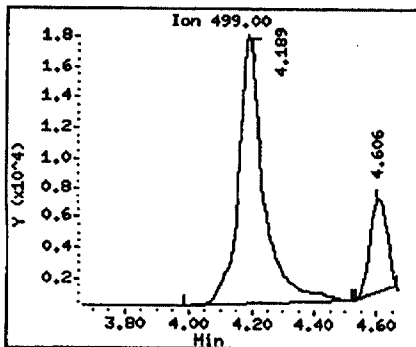
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

Line 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0127.D Page 1
Report Date: 27-Aug-2002 10:07

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0127.D
Lab Smp Id: SL-2. WB-1
Inj Date : 01-JUL-2002 11:23
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 03
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
Als bottle: 76
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

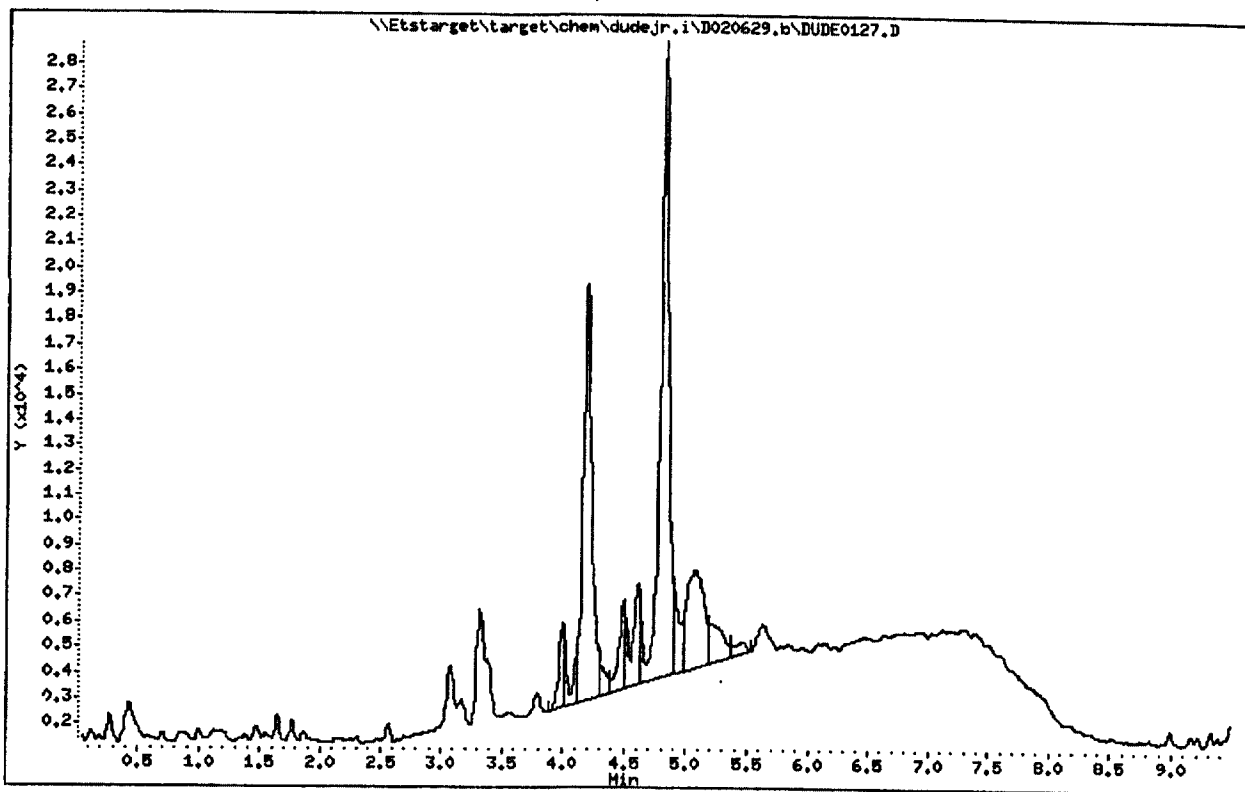
Compounds	QUANT SIG					CONCENTRATIONS	
	MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	----	----	-----	-----	-----	-----	-----
18 PFBS (299)	299	3.319	3.381	-0.062	21873	1223.32	1220
	299	3.176	3.381	-0.205	3784	1224.35	1220
20 PFHS (399)	399	3.791	3.792	-0.001	3614	0.03478	0.0348
	399	3.982	3.792	0.190	1921	797.168	797
21 PFOA (413)	413	3.996	3.990	0.006	12881	819.035	819
22 FOSA (498)	498	4.776	4.756	0.020	3433	2744.18	2740
23 PFOS (499)	499	4.188	4.168	0.020	86874	1275.20	1280
	499	4.598	4.168	0.430	12403	1277.40	1280

Exact Copy of Original

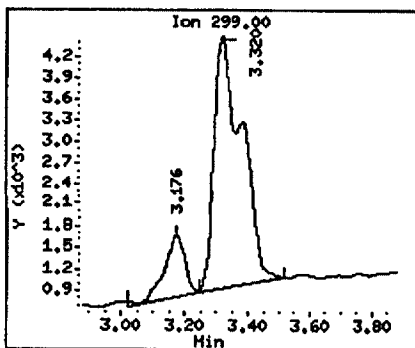
Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr,i\020629,b\DUDE0127.D

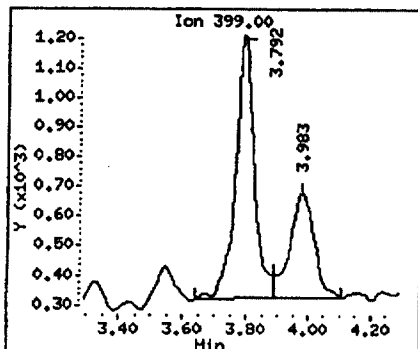
Page 2



18 PFBS (299)



20 PFBS (399)

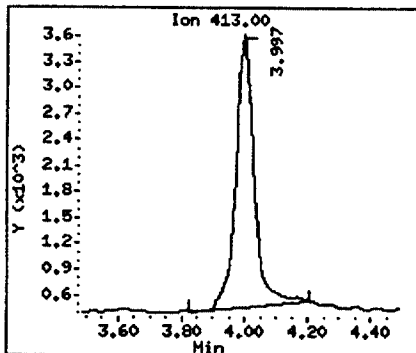


Extraction: 12/10/02
 CMC
 Initial: Date:

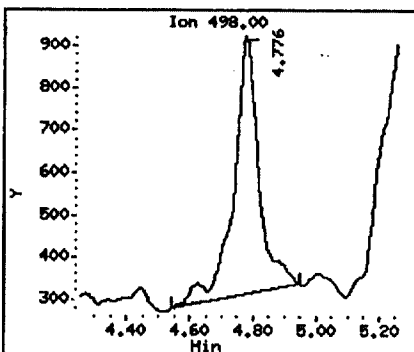
Data File: \\Etstarget\target\chem\dudej.r.i\020629.b\DUDE0127.D

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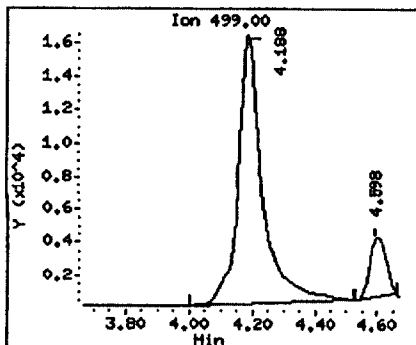
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

CHK 12/10/02
Initial Date

Data File: DUDE0089.D
Report Date: 27-Aug-2002 11:06

Page 1

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
Data file : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\DUDE0089.D
Lab Smp Id: SL-3. WB-1
Inj Date : 03-JUL-2002 07:02
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\D020702.m
Meth Date : 27-Aug-2002 11:01 dudejr.i Quant Type: ESTD
Cal Date : 03-JUL-2002 01:21 Cal File: DUDE0058.D
Als bottle: 72
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.326	3.387	-0.061	25327	1219.58	1220
	299	3.183	3.387	-0.204	3226	1220.47	1220
	299	3.777	3.387	0.390	498	1220.58	1220
20 PFHS (399)	399	3.825	3.791	0.034	7877	0.25845	0.258
	399	3.545	3.791	-0.246	937	0.12420	0.124
21 PFOA (413)	413	4.010	3.989	0.021	14443	795.103	795 (M)
22 FOXA (498)	498	4.803	4.748	0.055	5535	2854.35	2850 (M)
23 PFOS (499)	499	4.194	4.167	0.027	82445	1323.02	1320
	499	4.591	4.167	0.424	22937	1324.24	1320

QC Flag Legend

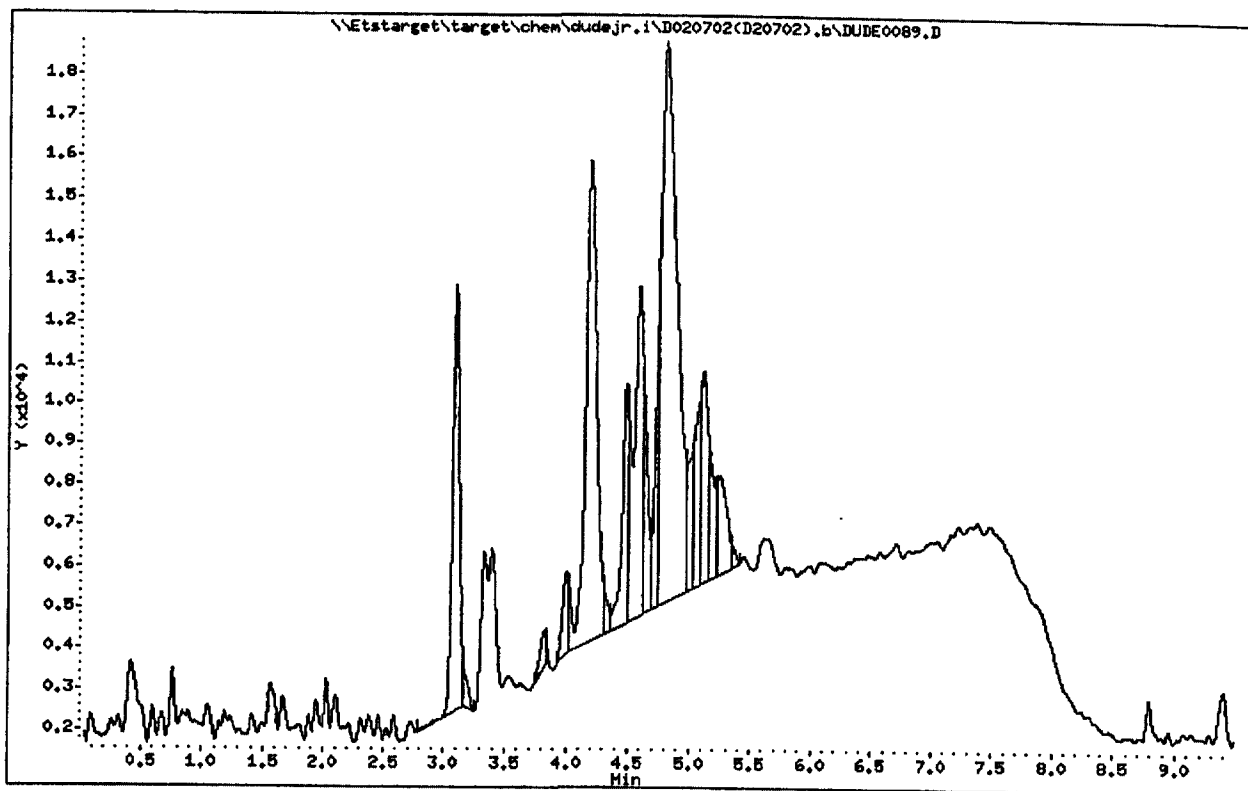
M - Compound response manually integrated.

Exact Copy of Original

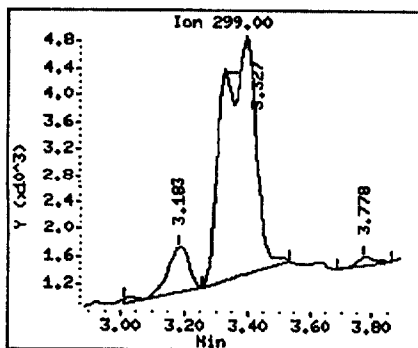
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020702(020702).b\DUDE0089.D

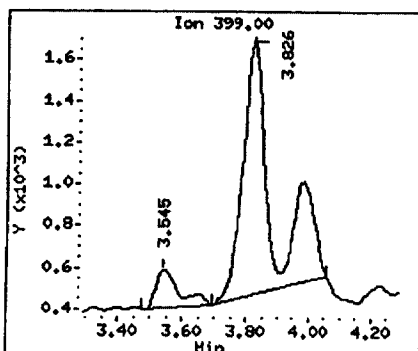
Page 2



18 PFBS (299)



20 PFBS (399)



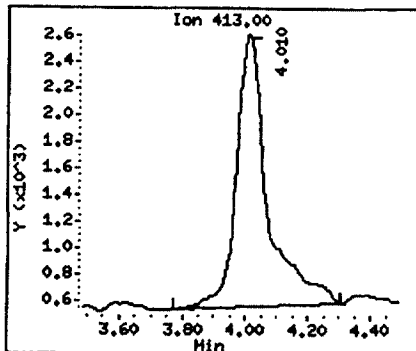
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CNC 12/10/02
Initial Date

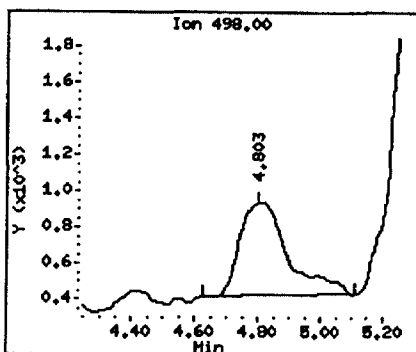
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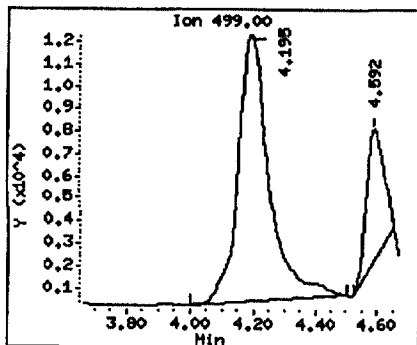
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0064.D Page 1
Report Date: 27-Aug-2002 10:05

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0064.D
Lab Smp Id: SL-1. C-1-3
Inj Date : 30-JUN-2002 23:51
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)
							FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007		12710	1223.84
	299	3.176	3.381	-0.205		3939	1224.34
	299	3.751	3.381	0.370		2555	1224.42
20 PFBS (399)	399	3.798	3.792	0.006		7182	0.13625
21 PFOA (413)	413	3.997	3.990	0.007		23937	0.38259
22 PFOA (498)	498	4.756	4.756	0.000		140625	5.20388
23 PFOS (499)	499	4.175	4.168	0.007		480864	10.0262
	499	4.434	4.168	0.266		5778	1277.60
	499	4.605	4.168	0.437		16925	1277.27

QC Flag Legend

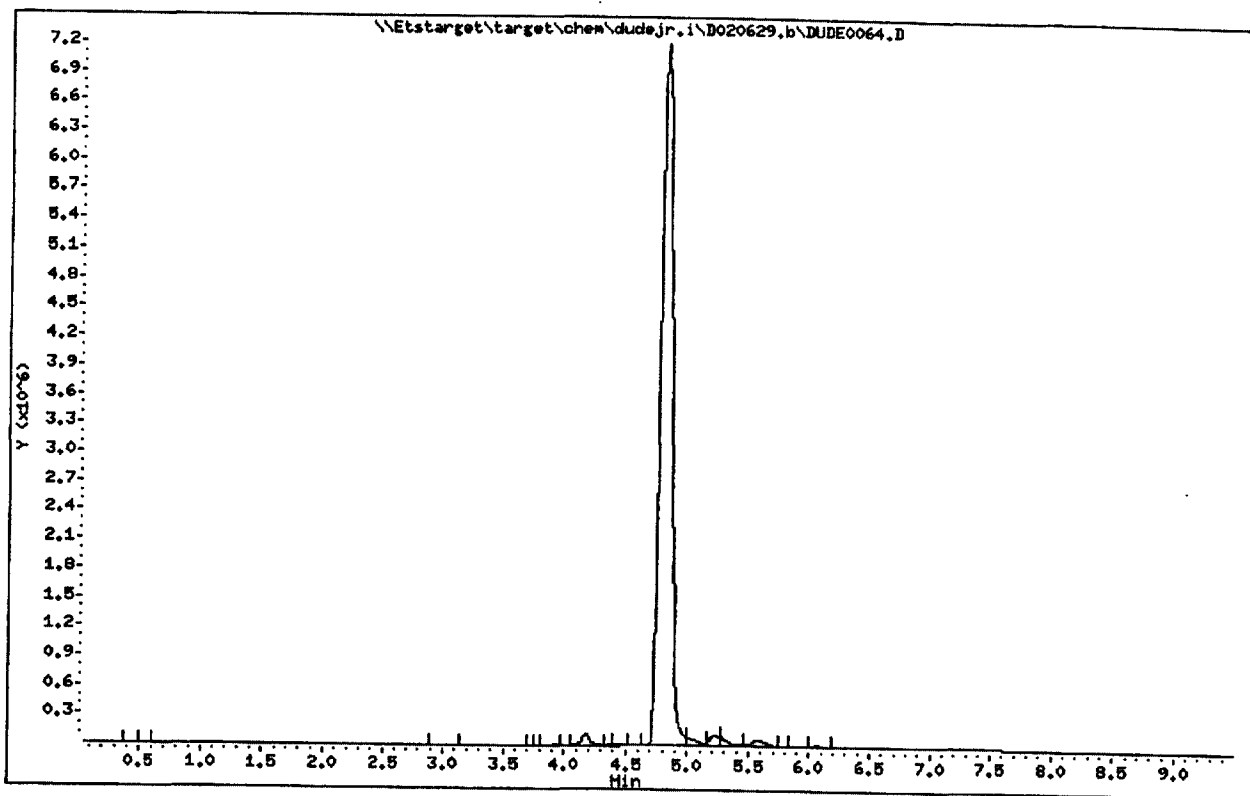
M - Compound response manually integrated.

Exact Copy of Original

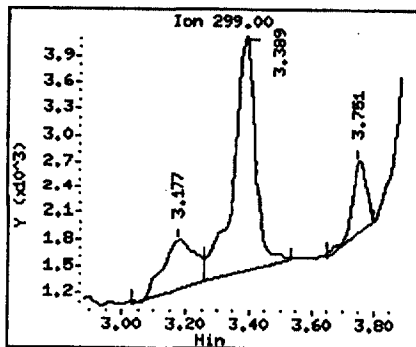
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\B020629.b\DUDE0064.D

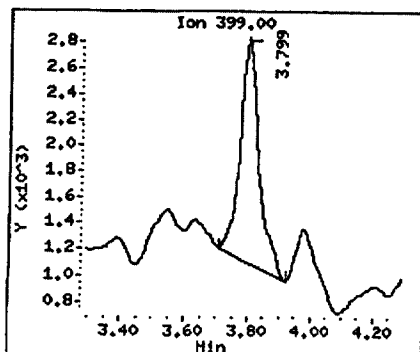
Page 2



18 PFBS (299)



20 PFBS (399)



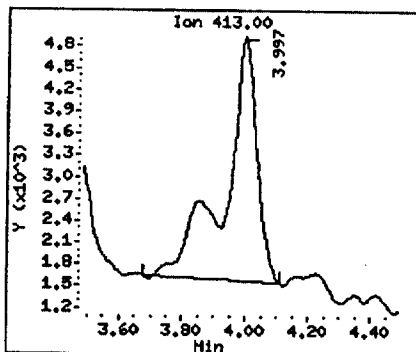
Exact Copy of Original

CNC 12/10/02
(Initial) Date

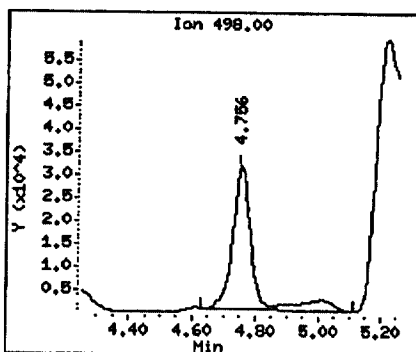
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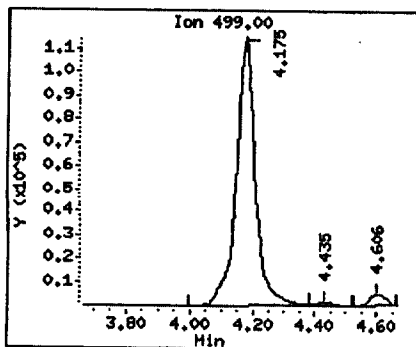
21 PF0A (413)



22 F08A (498)



23 PF0S (499)



Exact Copy of Original

CHK Initial 12/10/02

Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0065.D Page 1
Report Date: 27-Aug-2002 10:05

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0065.D
Lab Smp Id: SL-1. C-2-1
Inj Date : 01-JUL-2002 00:02
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
Als bottle: 29
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Inst ID: dudejr.i
Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007	13624	1223.79	1220
	299	3.169	3.381	-0.212	2806	1224.40	1220
	299	3.751	3.381	0.370	1621	1224.47	1220
20 PFHS (399)	399	3.798	3.792	0.006	10531	0.23151	0.232
	399	3.402	3.792	-0.390	1006	797.194	797
	399	3.539	3.792	-0.253	2533	0.00404	0.00404
21 PFOA (413)	413	3.997	3.990	0.007	26775	0.54153	0.542 (M)
22 POSA (498)	498	4.763	4.756	0.007	122304	4.44736	4.45
23 PFOS (499)	499	4.175	4.168	0.007	472057	9.76111	9.76
	499	3.792	4.168	-0.376	2335	1277.70	1280
	499	4.605	4.168	0.437	21371	1277.14	1280

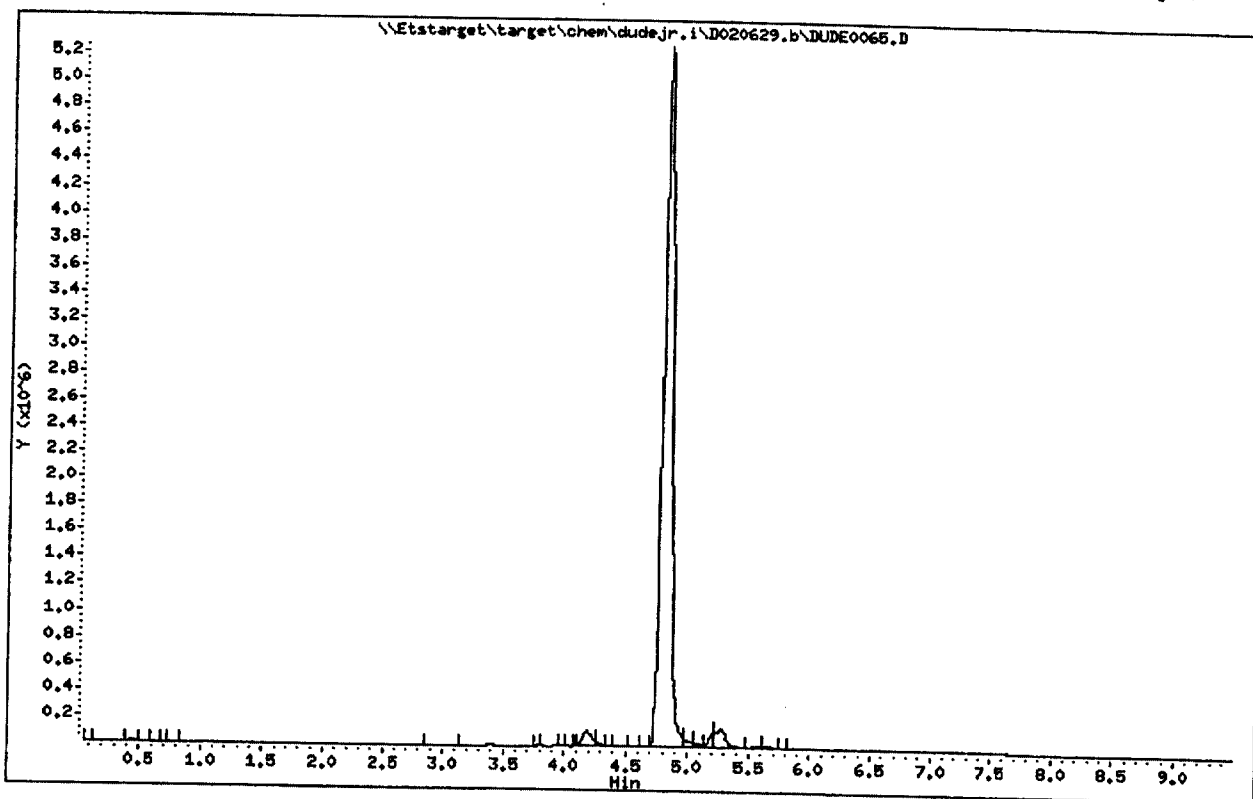
QC Flag Legend

M - Compound response manually integrated.

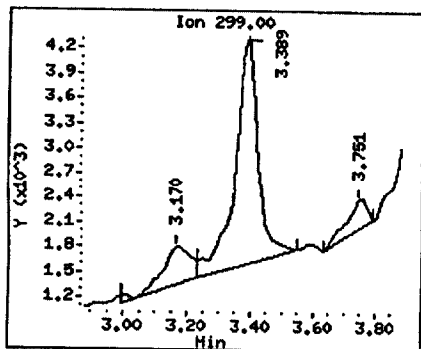
Exact Copy of Original
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020629.b\DUDE0065.D

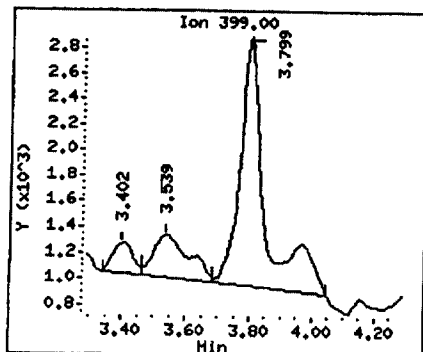
Page 2



18 PFBS (299)



20 PFBS (399)



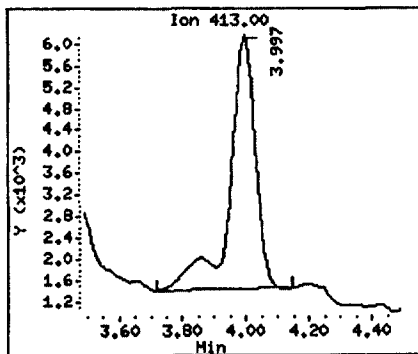
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cmc 12/10/02
Initial Date

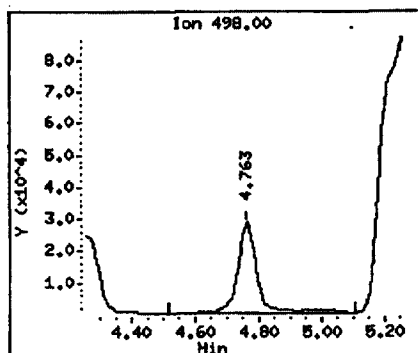
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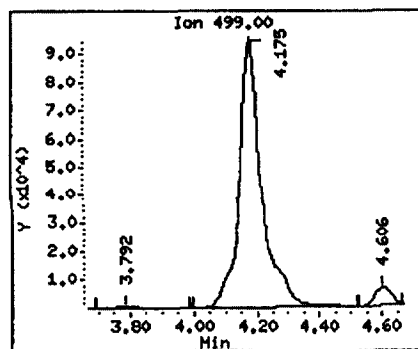
21 PF0A (413)



22 F0SA (498)



23 PF0S (499)



Exact Copy of Original

LMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0071.D Page 1
 Report Date: 27-Aug-2002 10:05

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
 Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0071.D
 Lab Smp Id: SL-1. C-3-2
 Inj Date : 01-JUL-2002 01:08
 Operator : mla Inst ID: dudejr.i
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
 Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
 Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
 Als bottle: 34
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: all.sub
 Target Version: 4.12

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN	FINAL
								(ng/mL)	(ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007	15305	1223.69	1220		
	299	3.176	3.381	-0.205	2054	1224.45	1220		
	299	3.750	3.381	0.369	1430	1224.48	1220		
20 PFHS (399)	399	3.798	3.792	0.006	12488	0.28719	0.287 (M)		
21 PFOA (413)	413	3.997	3.990	0.007	20288	0.17834	0.178 (M)		
22 POSA (498)	498	4.762	4.756	0.006	185959	7.07763	7.08		
	498	5.009	4.756	0.253	9781	2743.92	2740		
23 PFOS (499)	499	4.174	4.168	0.006	742237	17.9441	17.9		
	499	4.605	4.168	0.437	20176	1277.17	1280		

QC Flag Legend

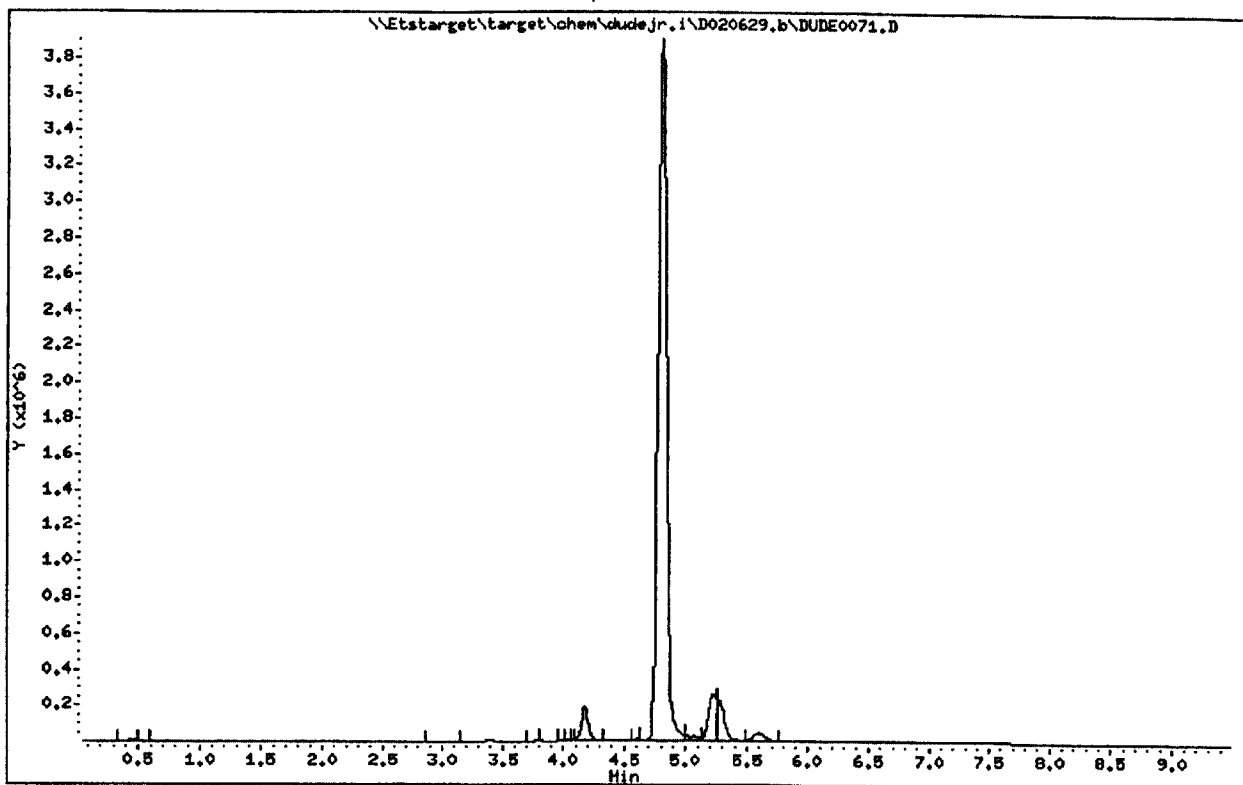
M - Compound response manually integrated.

Exact Copy of Original

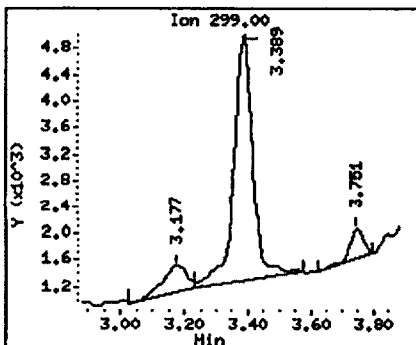
LMC 12/10/02
 Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\DO20629.b\DUDE0071.D

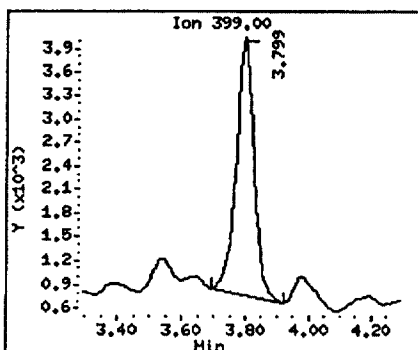
Page 2



18 PFBS (299)



20 PFBS (399)



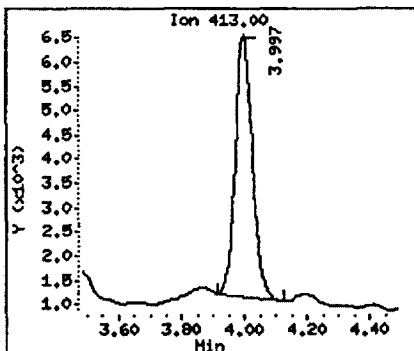
Exact Copy of Original

LWJ 12/10/01
Initial Date

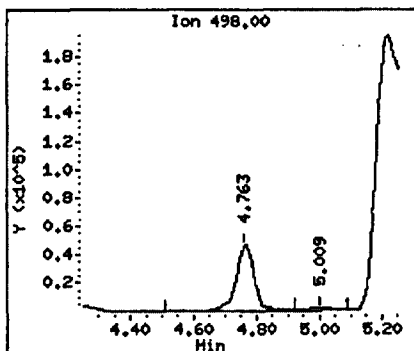
Data File: \\Etstarget\target\chem\dudej.r.1\020629.b\DUDE0071.D

Page 3

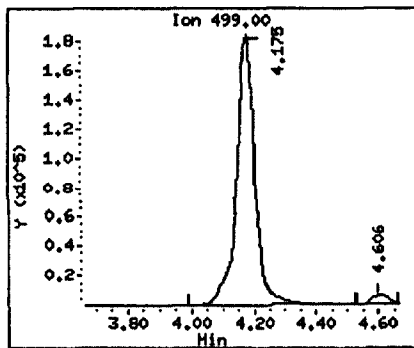
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original
CINC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0076.D Page 1
Report Date: 27-Aug-2002 10:06

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0076.D
Lab Smp Id: SL-1. C-4-2
Inj Date : 01-JUL-2002 02:03
Operator : mla Inst ID: dudejr.i
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.381	3.381	0.000	13243	1223.81	1220
	299	3.224	3.381	-0.157	2813	1224.40	1220
	299	3.750	3.381	0.369	629	1224.53	1220
20 PFBS (399)	399	3.792	3.792	0.000	5712	0.09444	0.0944 (M)
21 PFOA (413)	413	3.997	3.990	0.007	11767	819.097	819 (M)
22 FOSA (498)	498	4.769	4.756	0.013	103527	3.67245	3.67
23 PFOS (499)	499	4.174	4.168	0.006	684549	16.1878	16.2
	499	3.785	4.168	-0.383	516	1277.75	1280
	499	4.434	4.168	0.266	11460	1277.43	1280
	499	4.605	4.168	0.437	20829	1277.15	1280

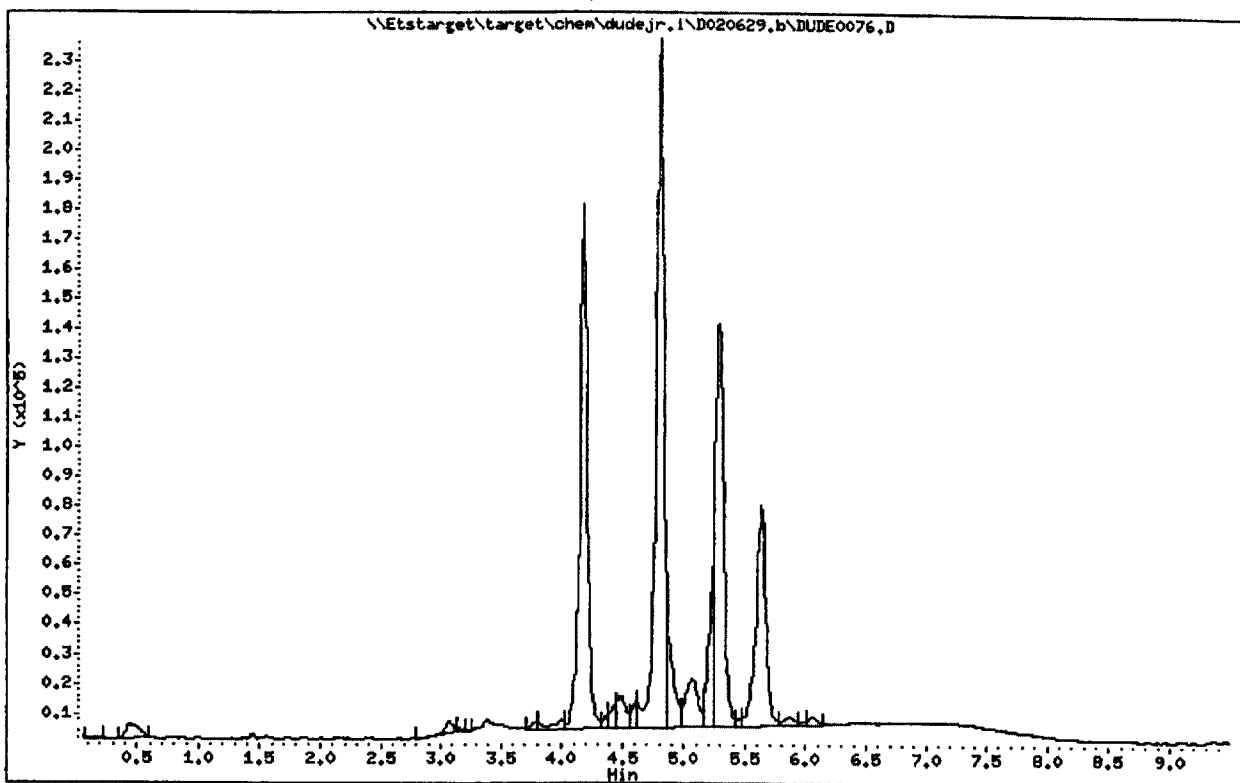
QC Flag Legend

M - Compound response manually integrated.

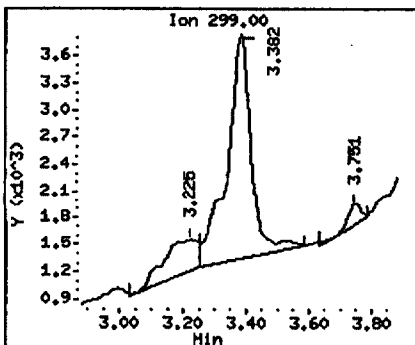
Excess Cop
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020629.b\DUDE0076.D

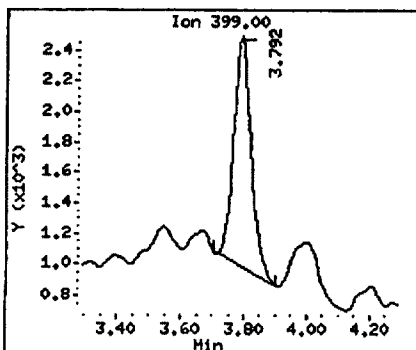
Page 2



18 PFBS (299)



20 PFBS (399)

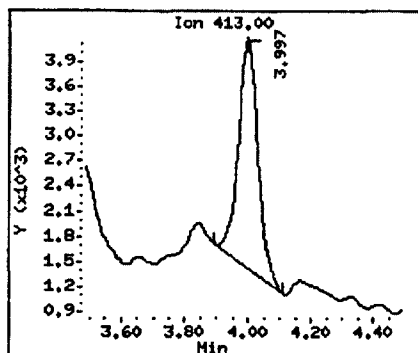


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Initial

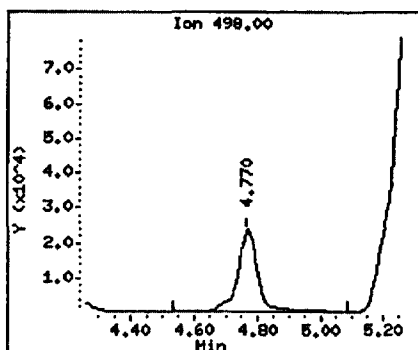
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Page 3

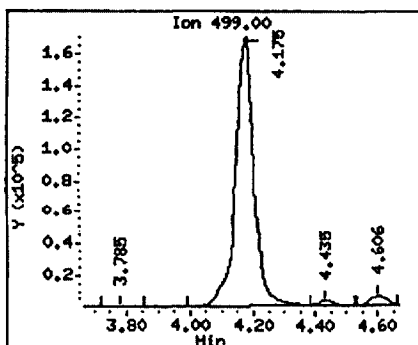
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original
CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0097.D Page 1
Report Date: 27-Aug-2002 10:06

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0097.D
Lab Smp Id: SL-2. C-1-3
Inj Date : 01-JUL-2002 05:53
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
Als bottle: 54
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.387	3.381	0.006	11345	1223.92	1220
	299	3.169	3.381	-0.212	2189	1224.44	1220
	299	3.750	3.381	0.369	1134	1224.50	1220
20 PFHS (399)	399	3.798	3.792	0.006	3692	0.03700	0.0370
	399	3.394	3.792	-0.398	1197	797.188	797
	399	3.558	3.792	-0.234	8611	0.17689	0.177
	399	3.982	3.792	0.190	1879	797.169	797
21 PFOA (413)	413	3.996	3.990	0.006	12700	819.045	819(M)
22 POSA (498)	498	4.762	4.756	0.006	14954	0.02301	0.0230(M)
23 PFOS (499)	499	4.180	4.168	0.012	126853	1274.02	1270
	499	4.611	4.168	0.443	11361	1277.43	1280

QC Flag Legend

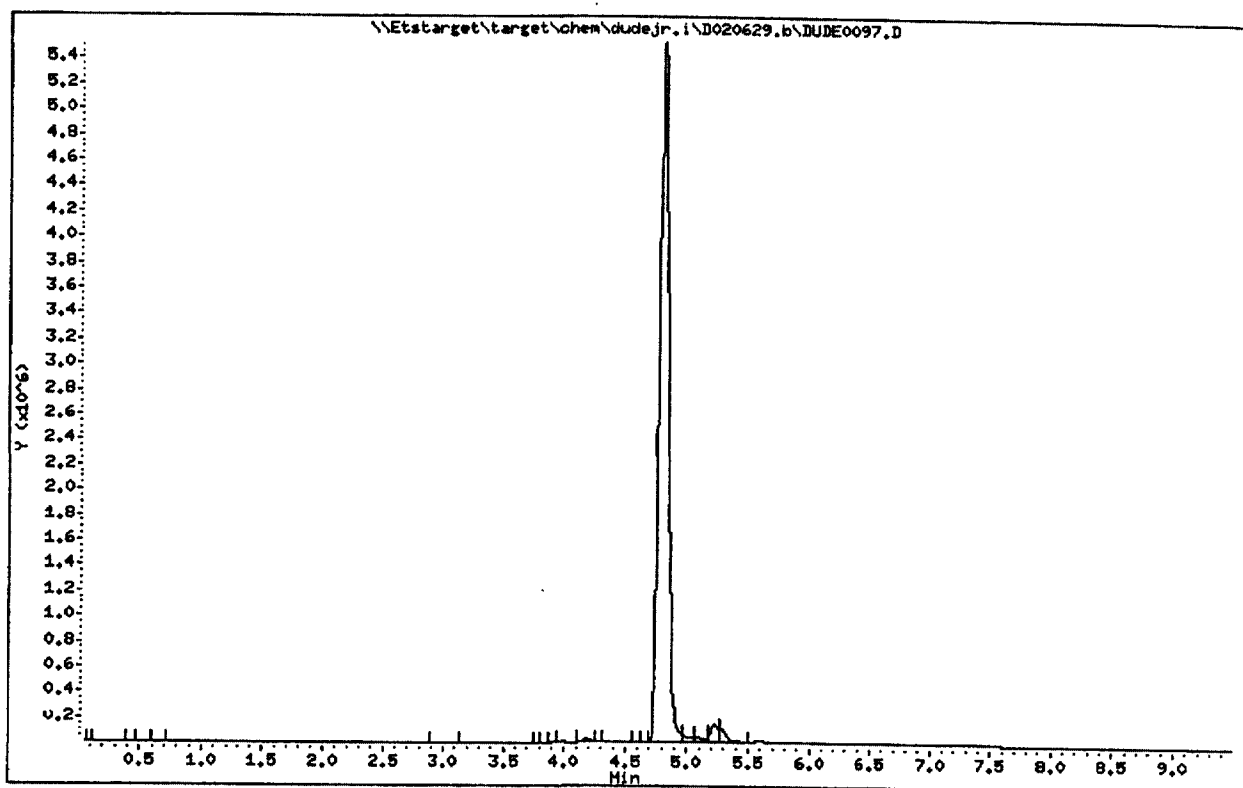
M - Compound response manually integrated.

Exact Copy of Data

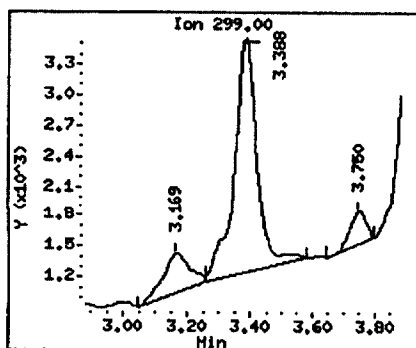
CMC 12/10/02
Initial

Data File: \\Etstarget\target\chem\dudejr.i\020629.b\DUDE0097.D

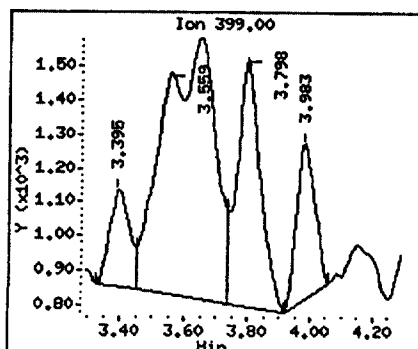
Page 2



18 PFBS (299)



20 PFBS (399)

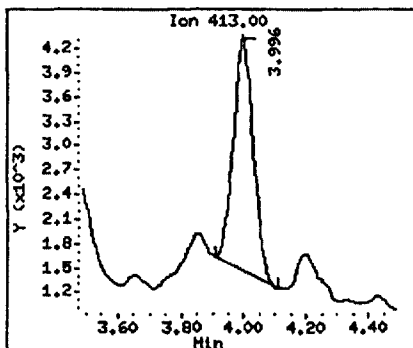


Exact Conc.
GMC 12/10/02
1000

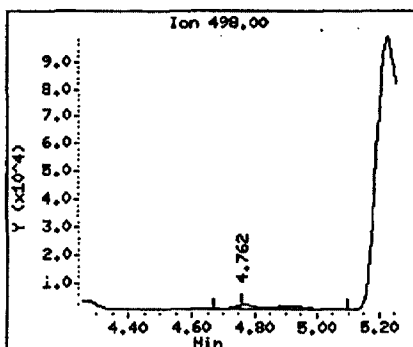
Data File: \\Etstarget\target\chem\dudejr.i\020629.b\DUDE0097.D

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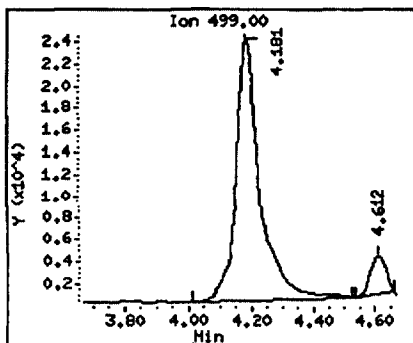
21 PFOS (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original
Initial Date
12/10/02

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0105.D Page 1
 Report Date: 27-Aug-2002 10:06

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
 Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0105.D
 Lab Smp Id: SL-2. C-3-2
 Inj Date : 01-JUL-2002 07:21
 Operator : mla Inst ID: dudejr.i
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
 Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
 Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
 Als bottle: 60
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12
 Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007		9238		1224.04	1220
	299	3.162	3.381	-0.219		1696		1224.47	1220
	299	3.750	3.381	0.369		2638		1224.41	1220
20 PFHS (399)	399	3.798	3.792	0.006		3298		0.02579	0.0258
	399	3.545	3.792	-0.247		4903		0.07143	0.0714
	399	3.976	3.792	0.184		3370		0.02784	0.0278
21 PFOA (413)	413	3.996	3.990	0.006		8771		819.264	819 (M)
22 FOSA (498)	498	4.769	4.756	0.013		20521		0.25210	0.252
	498	4.427	4.756	-0.329		1466		2744.26	2740
23 PFOS (499)	499	4.174	4.168	0.006		178402		0.98662	0.987
	499	4.434	4.168	0.266		85700		1275.24	1280
	499	4.605	4.168	0.437		19533		1277.19	1280

QC Flag Legend

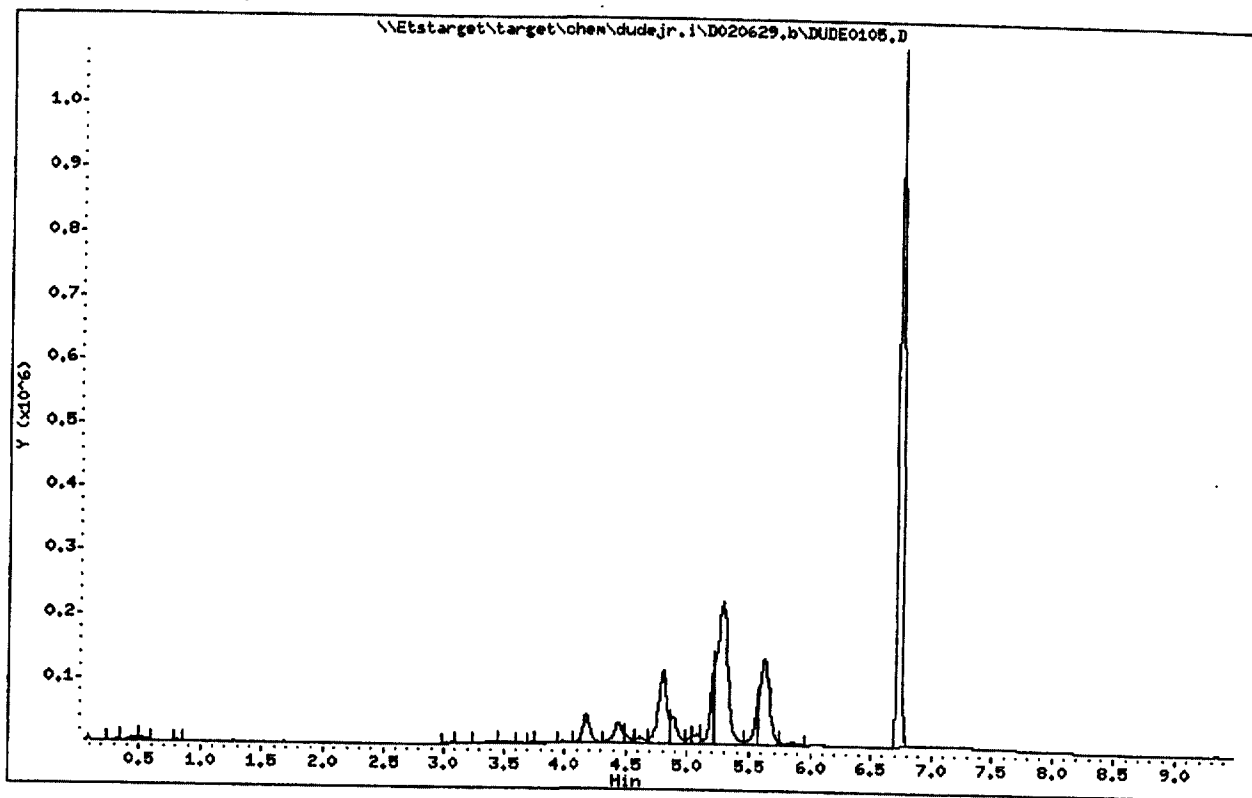
M - Compound response manually integrated.

Exact Copy of Original

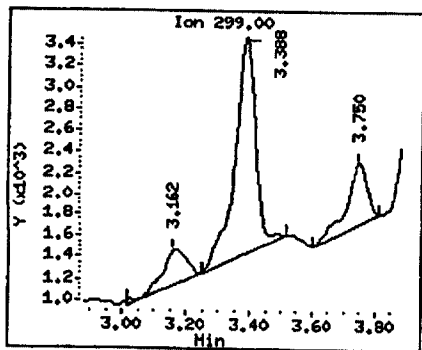
Initial Date
 LMK 12/10/02

Data File: \\Etstarget\target\chem\dudej.r.i\020629.b\DUDE0105.D

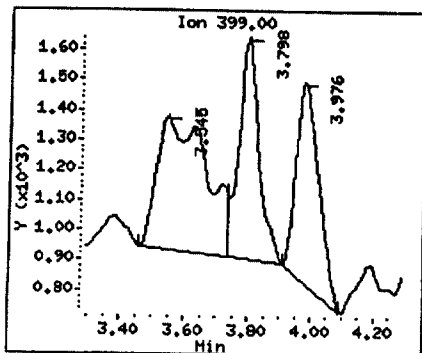
Page 2



18 PFBS (299)



20 PFHS (399)

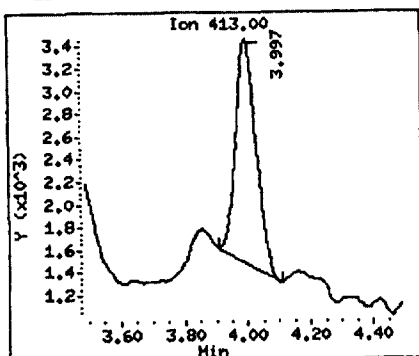


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GMC Initial 12/10/02
Date

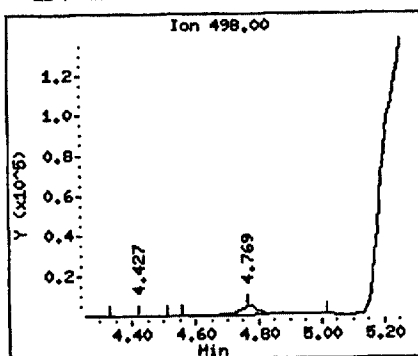
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Page 3

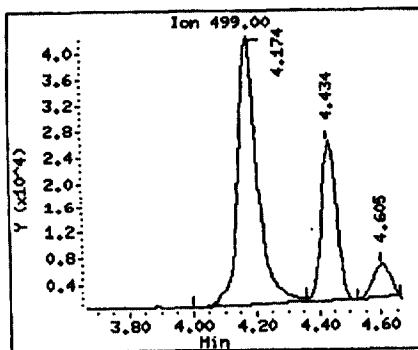
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



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CVMC 12/10/02
Initial J.E.

Data File: \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0117.D Page 1
 Report Date: 27-Aug-2002 10:07

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020629.b\DUDE0117.D
 Lab Smp Id: SL-2. C-6-1
 Inj Date : 01-JUL-2002 09:33
 Operator : mla
 Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020629.b\D020629.m
 Meth Date : 27-Aug-2002 09:59 dudejr.i Quant Type: ESTD
 Cal Date : 30-JUN-2002 22:46 Cal File: DUDE0058.D
 Als bottle: 69
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
 Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.388	3.381	0.007	9473	1224.02	1220
	299	3.176	3.381	-0.205	1418	1224.48	1220
	299	3.750	3.381	0.369	545	1224.53	1220
20 PFBS (399)	399	3.798	3.792	0.006	2433	0.00120	0.00120 (M)
21 PFOA (413)	413	3.996	3.990	0.006	8100	819.302	819 (M)
22 POSA (498)	498	4.769	4.756	0.013	22417	0.33013	0.330
23 PFOS (499)	499	4.181	4.168	0.013	221283	2.26035	2.26
	499	4.605	4.168	0.437	22665	1277.10	1280

QC Flag Legend

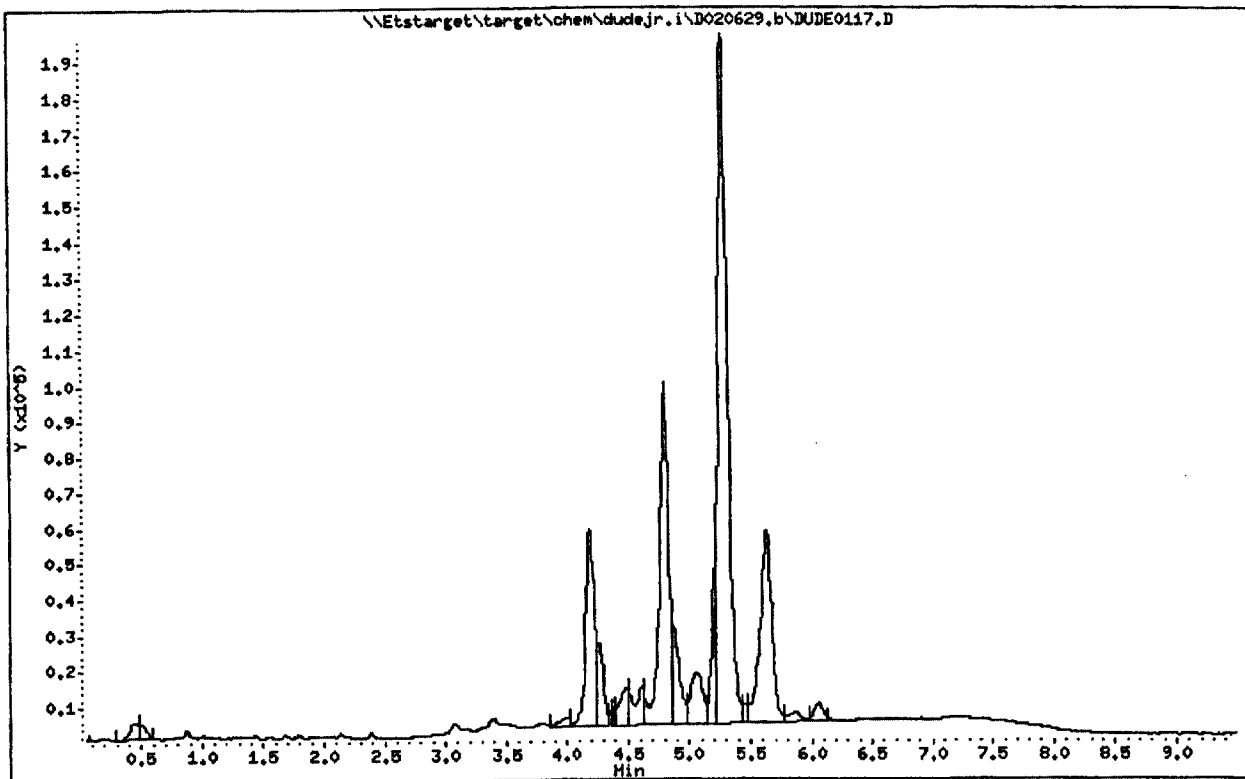
M - Compound response manually integrated.

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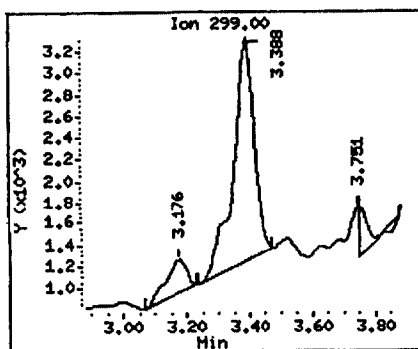
CMC 12/10/02
 Initial Date

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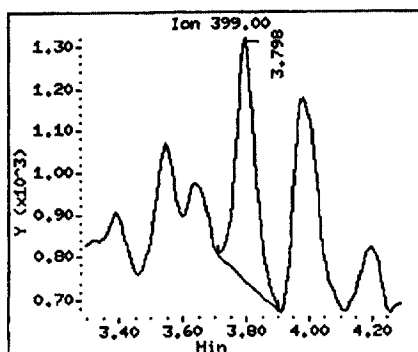
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18 PFBS (299)



20 PFBS (399)

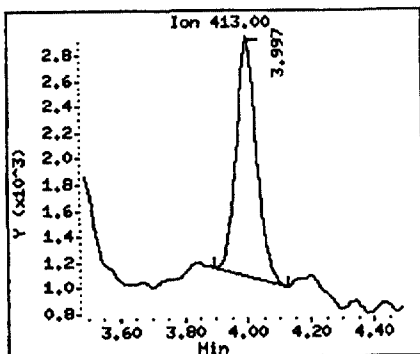


Exact Copy of Original
CMLK 12/10/02
Initial Date

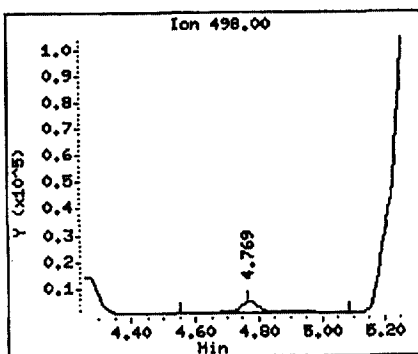
Data File: \\Etstarget\target\chem\dudejr.i\0020629.b\DUDE0117.D

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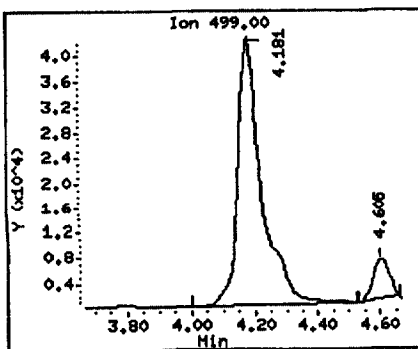
21 PFOA (413)



22 FOSA (498)



23 PFOS (499)



Exact Copy of Original

CML 12/10/02
Initial Date

Data File: DUDE0066.D
Report Date: 27-Aug-2002 11:05

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3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
Data file : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\DUDE0066.D
Lab Smp Id: SL-3. C-2-2
Inj Date : 03-JUL-2002 02:49
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\D020702.m
Meth Date : 27-Aug-2002 11:01 dudejr.i Quant Type: ESTD
Cal Date : 03-JUL-2002 01:21 Cal File: DUDE0058.D
Als bottle: 55
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG							CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN	FINAL	(ng/mL)	(ng/mL)
18 PFBS (299)	299	3.395	3.387	0.008	14872	1220.00	1220		
	299	3.183	3.387	-0.204	3040	1220.48	1220		
	299	3.757	3.387	0.370	2236	1220.51	1220		
20 PFHS (399)	399	3.819	3.791	0.028	5059	0.20394	0.204 (M)		
21 PFOA (413)	413	4.003	3.989	0.014	22949	0.27074	0.271 (M)		
22 FOSA (498)	498	4.803	4.748	0.055	23838	0.43108	0.431		
23 PFOS (499)	499	4.181	4.167	0.014	193614	1.14537	1.14		
	499	4.591	4.167	0.424	23954	1324.22	1320		

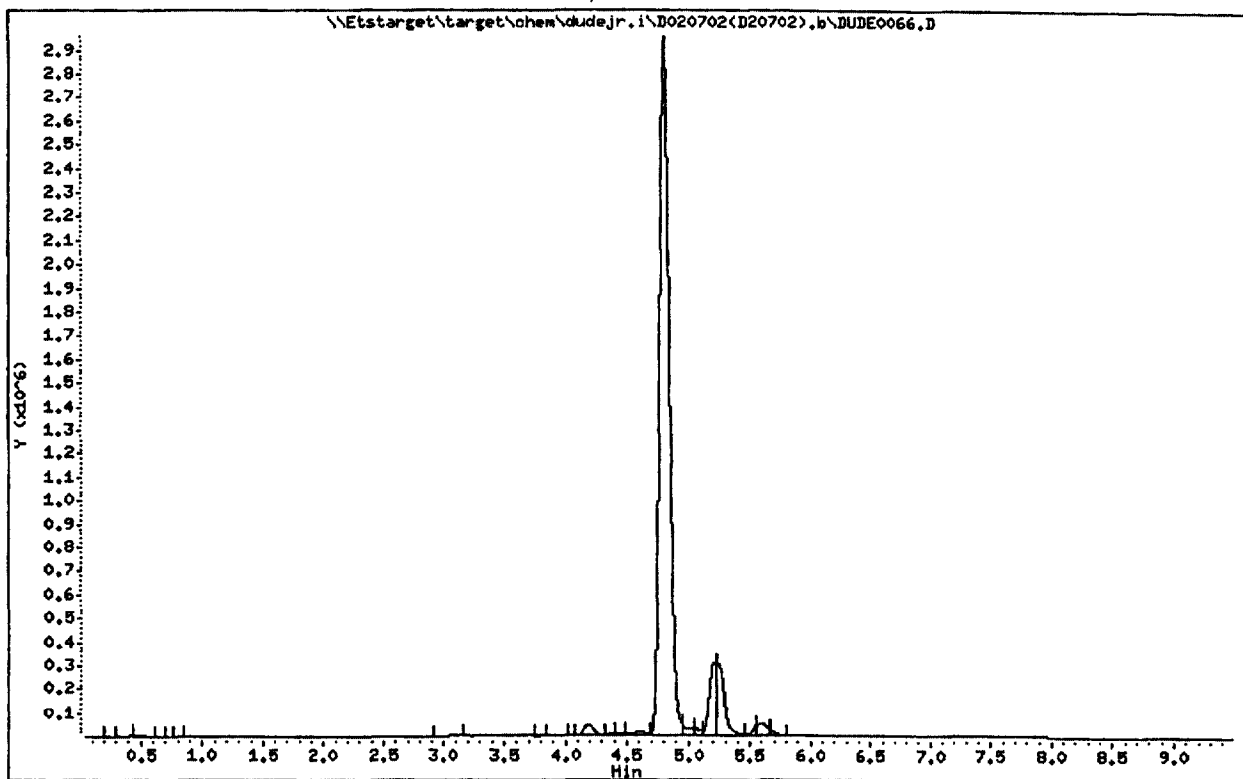
QC Flag Legend

M - Compound response manually integrated.

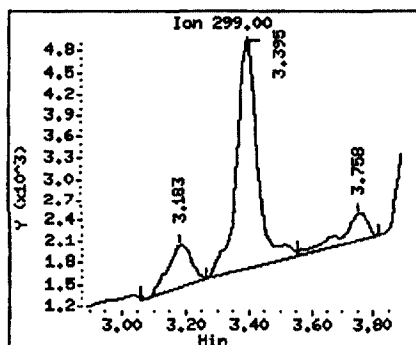
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CHK 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\B020702(D20702).b\DUDE0066.D

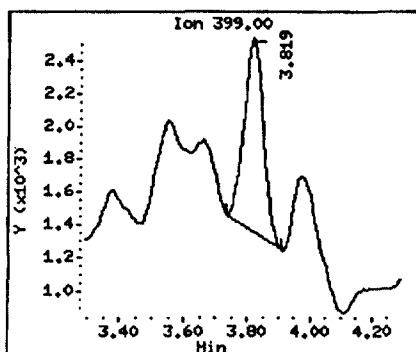
Page 2



18 PFBS (299)



20 PFBS (399)



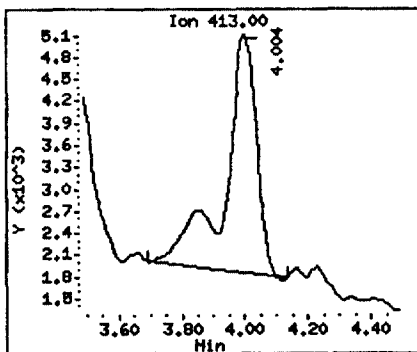
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Cinc 12/10/02
Initial Date

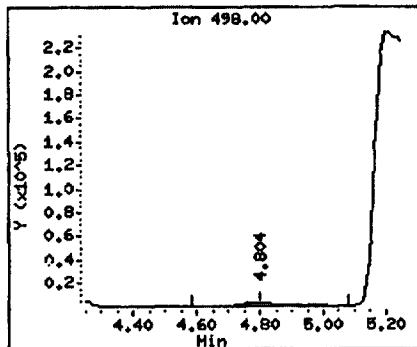
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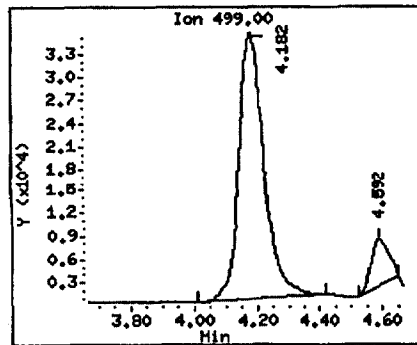
21 PF0A (413)



22 F06A (498)



23 PF0S (499)



Exact Copy of Original

CINC 12/10/02
Initial Date

Data File: DUDE0076.D
Report Date: 27-Aug-2002 11:06

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3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\DUDE0076.D
Lab Smp Id: SL-3. C-4-2
Inj Date : 03-JUL-2002 04:39
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\D020702.m
Meth Date : 27-Aug-2002 11:01 dudejr.i Quant Type: ESTD
Cal Date : 03-JUL-2002 01:21 Cal File: DUDE0058.D
Als bottle: 62
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: dudejr.i

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
18 PFBS (299)	299	3.394	3.387	0.007	21375	1219.74	1220
	299	3.182	3.387	-0.205	2087	1220.52	1220
	299	3.770	3.387	0.383	1284	1220.55	1220
20 PFHS (399)	399	3.825	3.791	0.034	3965	0.18277	0.183
	399	3.572	3.791	-0.219	3286	0.16964	0.170
	399	4.010	3.791	0.219	3291	0.16973	0.170
21 PFQA (413)	413	4.010	3.989	0.021	9130	795.310	795(M)
22 FOSA (498)	498	4.769	4.748	0.021	20987	0.35235	0.352
23 PFOS (499)	499	4.187	4.167	0.020	107947	3.50667	3.51
	499	3.811	4.167	-0.356	1247	1324.68	1320
	499	4.591	4.167	0.424	20381	1324.29	1320

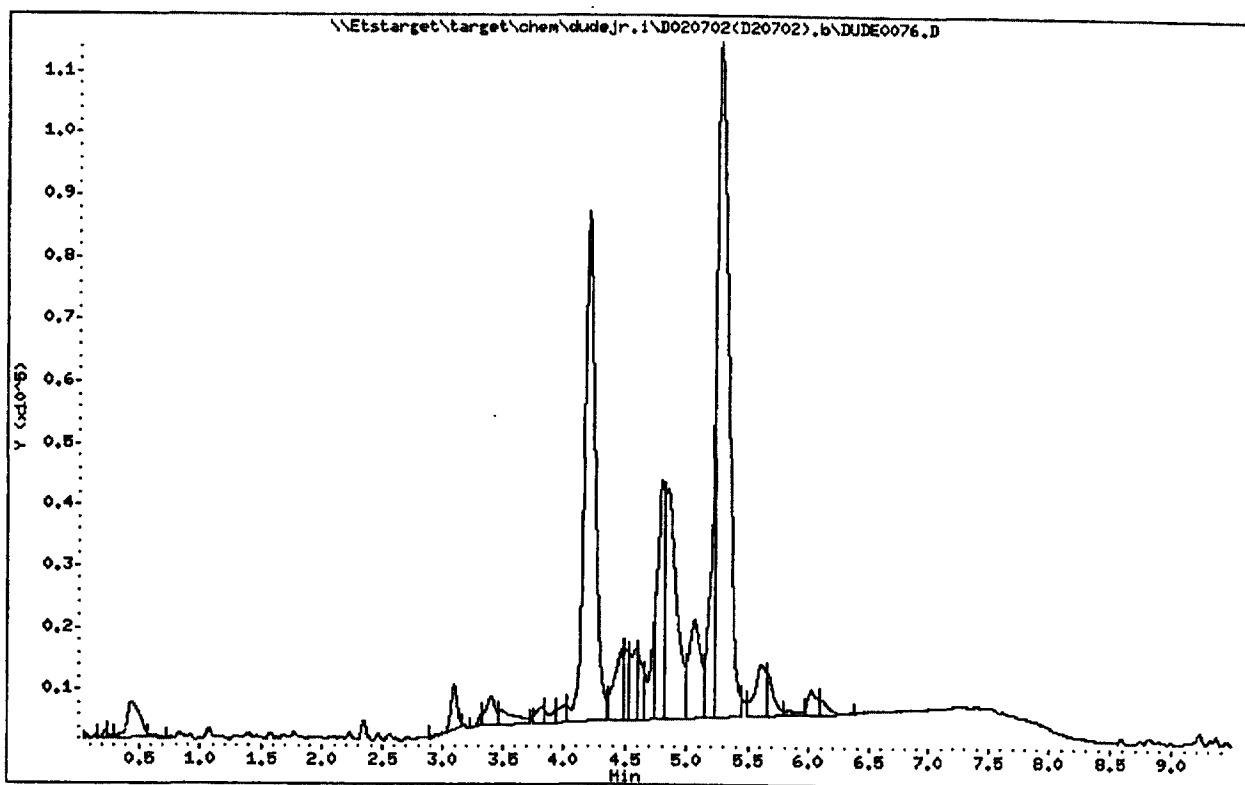
QC Flag Legend

M - Compound response manually integrated.

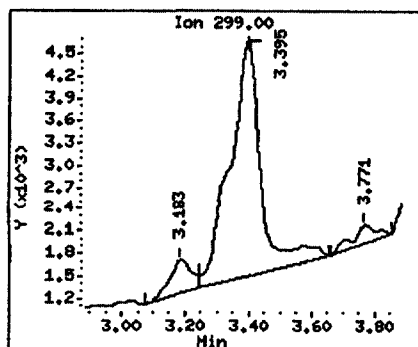
Exact Copy of Original
Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\B020702(D20702).b\DUDE0076.D

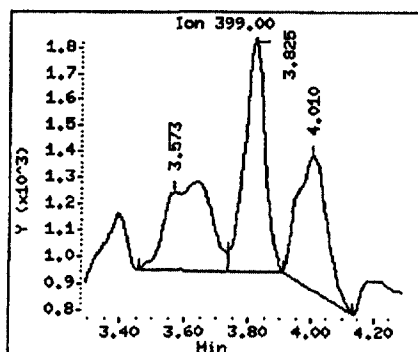
Page 2



18 PFBS (299)



20 PFBS (399)

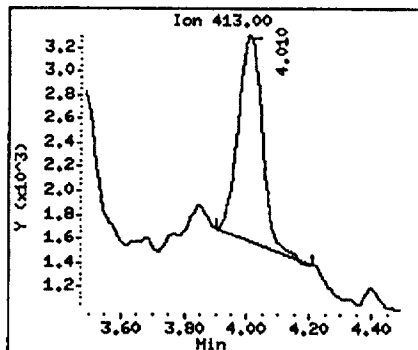


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CHX 12/10/02
Initial Date

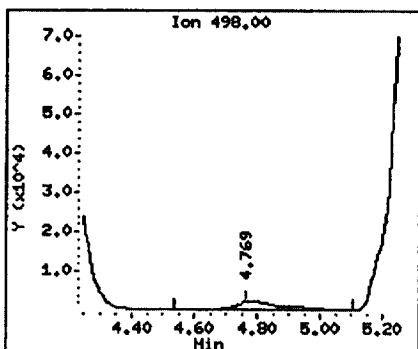
Data File: \\Etstarget\target\chem\dudejr.i\0020702(D20702).b\DUDE0076.D

Page 3

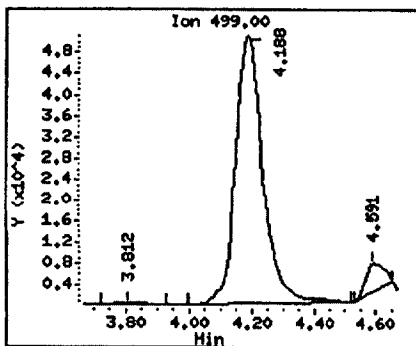
21 PFDA (413)



22 FOSA (498)



23 PFOS (499)



True Copy of Original

Cmc 12/10/02
Date

Data File: DUDE0083.D
Report Date: 27-Aug-2002 11:06

Page 1

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\DUDE0083.D
Lab Smp Id: SL-3. C-6-1
Inj Date : 03-JUL-2002 05:56
Operator : mla
Smp Info : Tenn. River Valley Fish. Prep-17 Jun 02. CMC/MLA. 20 Jun 02
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020702(D20702).b\D020702.m
Meth Date : 27-Aug-2002 11:01 dudejr.i Quant Type: ESTD
Cal Date : 03-JUL-2002 01:21 Cal File: DUDE0058.D
Als bottle: 68
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: dudejr.i

Compound Sublist: all.sub

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

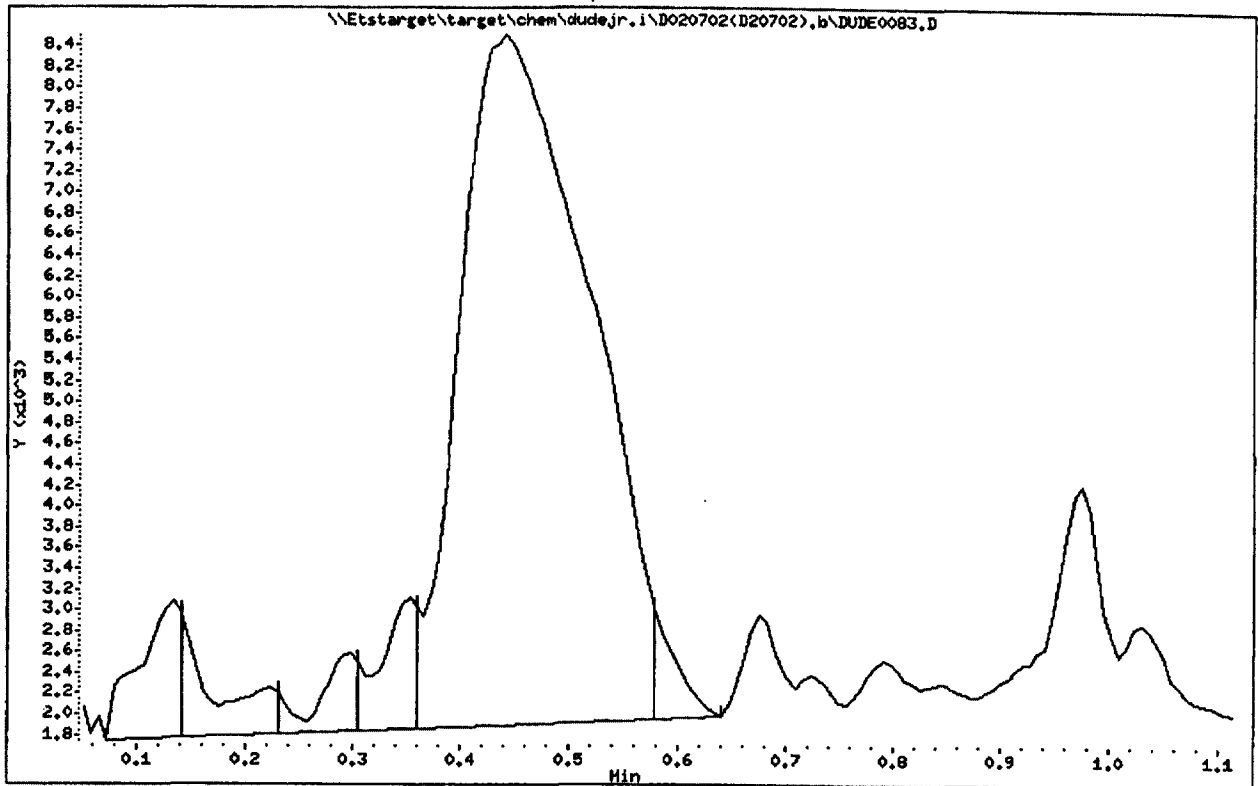
Compounds	QUANT SIG	CONCENTRATIONS	
		ON-COLUMN	FINAL
	MASS	(ng/mL)	(ng/mL)
18 PFBS (299)	299	Compound Not Detected.	
20 PFHS (399)	399	Compound Not Detected.	
21 PFOA (413)	413	Compound Not Detected.	
22 FOA (498)	498	Compound Not Detected.	
23 PFOS (499)	499	Compound Not Detected.	

Exact Copy of Original

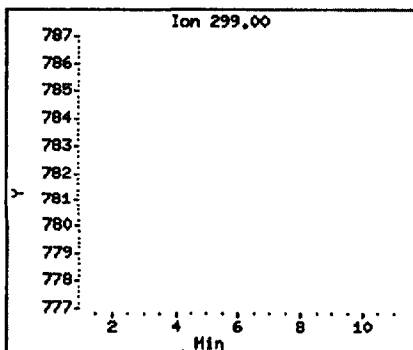
CMC 12/10/02
Date

Data File: \\Etstarget\target\chem\dudejr.i\020702(020702).b\DUDE0083.D

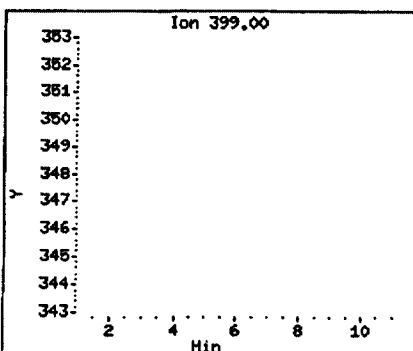
Page 2



18 PFBS (299) (Undetected)



20 PFBS (399) (Undetected)



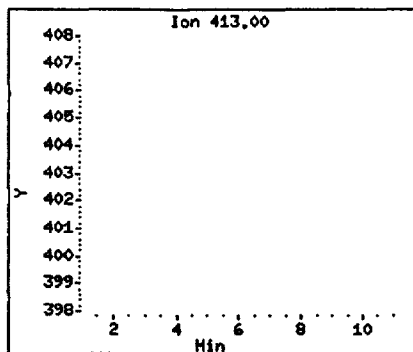
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CINC 12/10/02
Initial Date

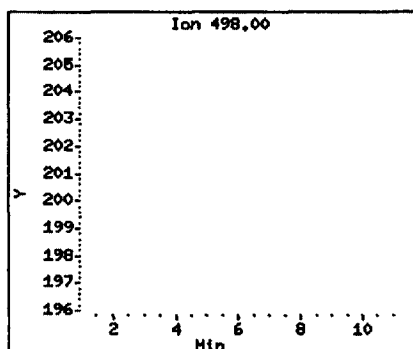
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Page 3

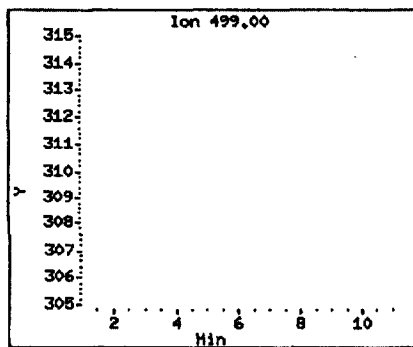
21 PFDA (413) (Undetected)



22 FOSA (498) (Undetected)



23 PFOS (499) (Undetected)



Exact Copy of Original

CMK 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0065.D Page 1
 Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0065.D
 Lab Smp Id: Water Blank-1
 Inj Date : 12-AUG-2002 23:11
 Operator : mla Inst ID: dudejr.i
 Smp Info : E02-0443 Water Blank Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 20
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12
 Compound Sublist: all.sub

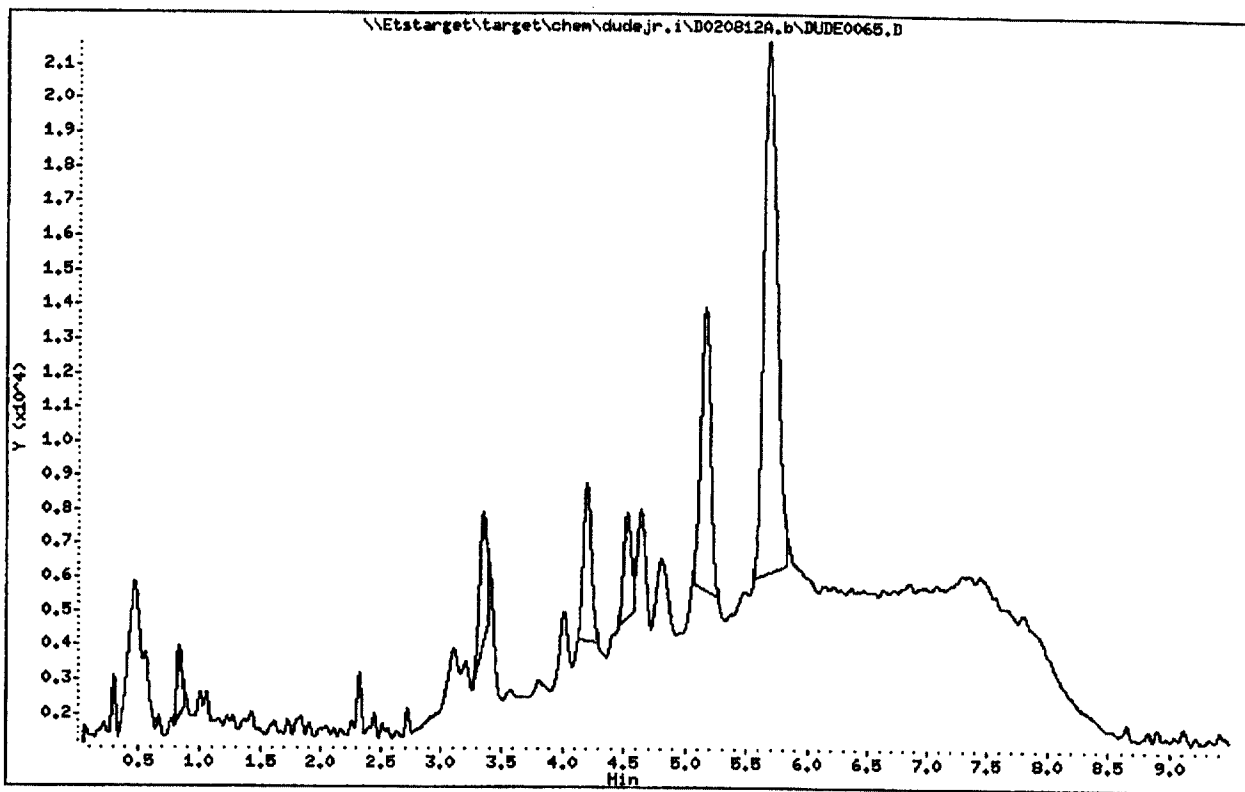
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)
							FINAL (ng/mL)
1 PFBS (299)	299	3.353	3.394	-0.041	29174	0.54141	0.541
	299	3.209	3.394	-0.185	5546	503.660	504
	299	4.201	3.394	0.807	1904	503.788	504
2 PFHS (399)	399	3.804	3.791	0.013	5192	0.15468	0.155
	399	3.565	3.791	-0.226	1012	0.02703	0.0270
3 PFOA (413)	413	4.016	3.982	0.034	9179	0.04921	0.0492
4 POSA (498)	498	4.809	4.768	0.041	3390	0.10549	0.105
5 PPOS (499)	499	4.201	4.160	0.041	34010	0.16998	0.170

Exact Copy of Original

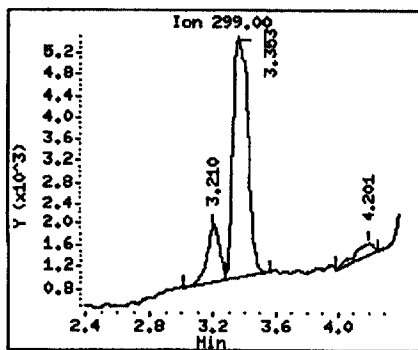
CLMC 12/10/02
 Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\B020812A.b\DUDE0065.D

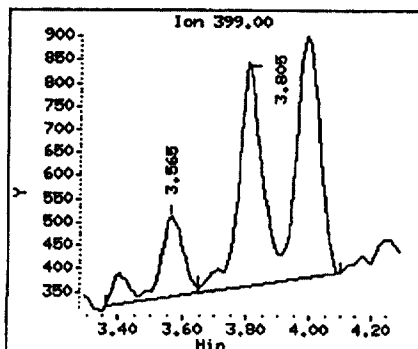
Page 2



1 PFBS (299)



2 PFBS (399)



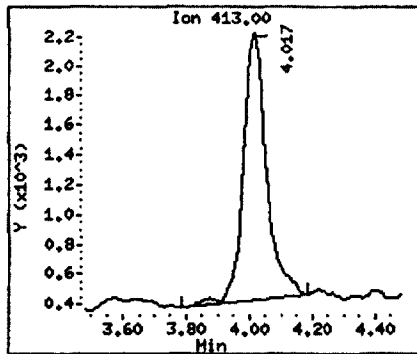
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Cmc 12/10/02
Initial Date

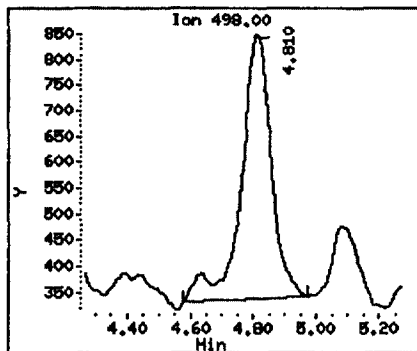
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Page 3

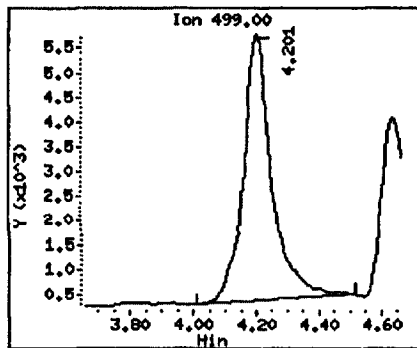
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



Exact Copy of Original
CINC 12/12/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0066.D Page 1
Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0066.D
Lab Smp Id: Water Blank-2
Inj Date : 12-AUG-2002 23:22
Operator : mla Inst ID: dudejr.i
Smp Info : E02-0443 Water Blank Water Samples; non-GLP; 7/17/02; OK
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

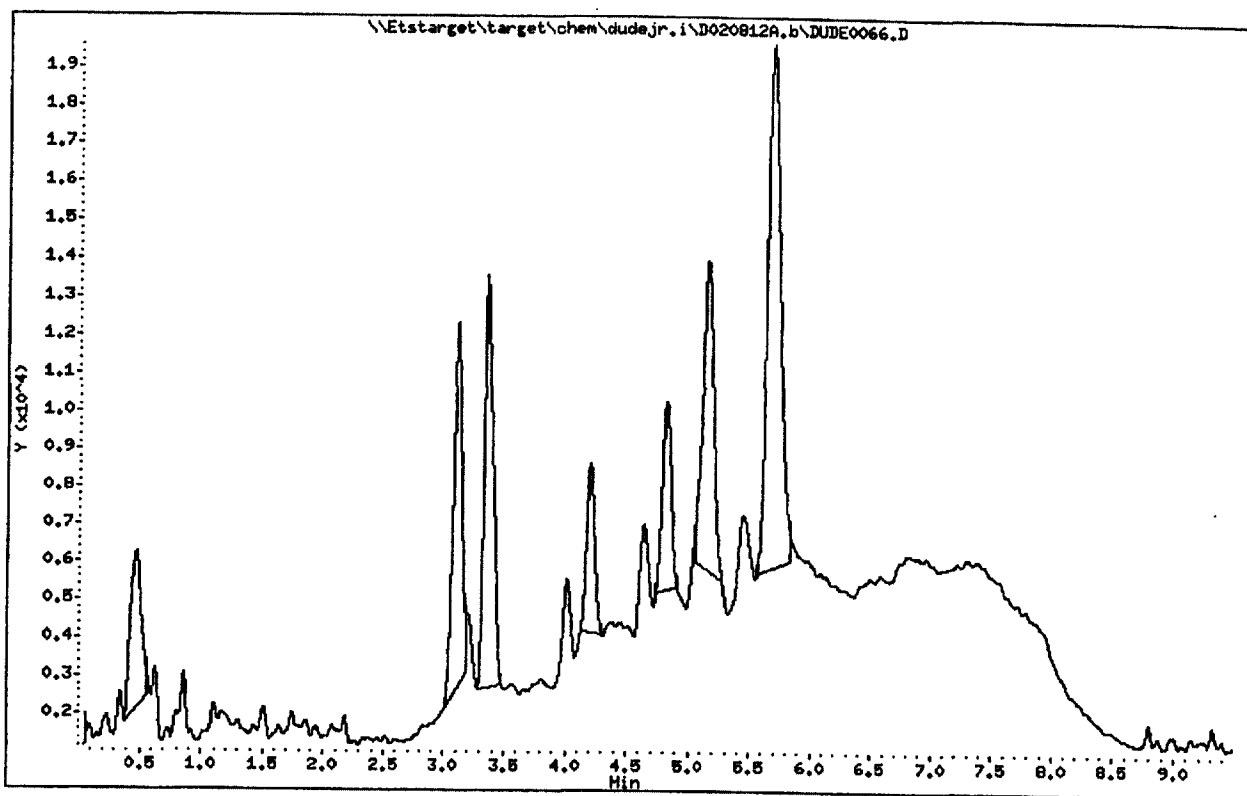
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)
1 PFBS (299)	299	3.354	3.394	-0.040	54510	1.43376	1.43
	299	3.210	3.394	-0.184	10619	503.482	503
	299	3.743	3.394	0.349	1176	503.813	504
	299	4.195	3.394	0.801	3650	503.727	504
2 PFHS (399)	399	3.805	3.791	0.014	4219	0.12496	0.125
3 PFOA (413)	413	4.010	3.982	0.028	11746	0.21476	0.215
	413	4.359	3.982	0.377	1069	401.976	402
4 FOSA (498)	498	4.810	4.768	0.042	3371	0.10487	0.105
5 PFOS (499)	499	4.201	4.160	0.041	33607	0.15720	0.157

Exact Copy of Original

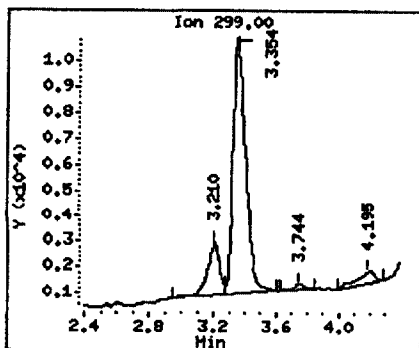
Cmc 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0066.D

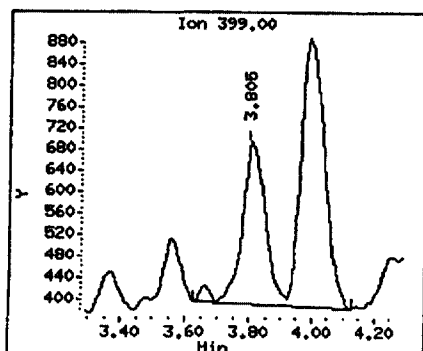
Page 2



1 PFBS (299)



2 PFBS (399)

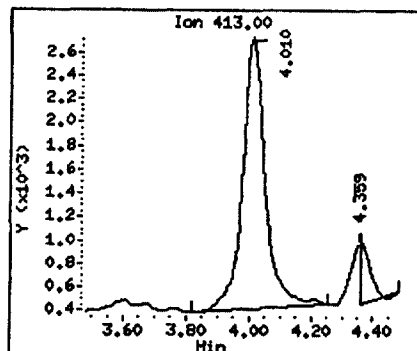


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Cmc 12/10/02
Initial Date

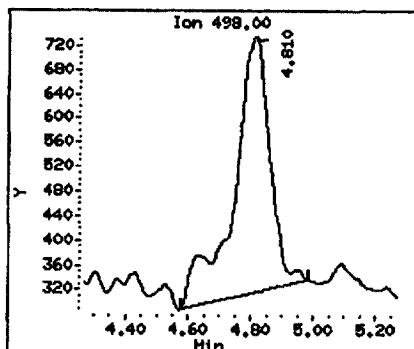
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Page 3

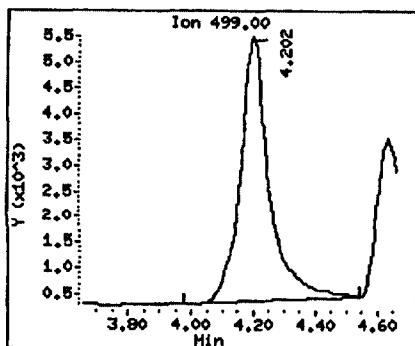
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



Exact Copy of Original
CNC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0076.D Page 1
 Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0076.D
 Lab Smp Id: 38032
 Inj Date : 13-AUG-2002 01:12
 Operator : mla
 Smp Info : E02-0443-38032; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 26
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

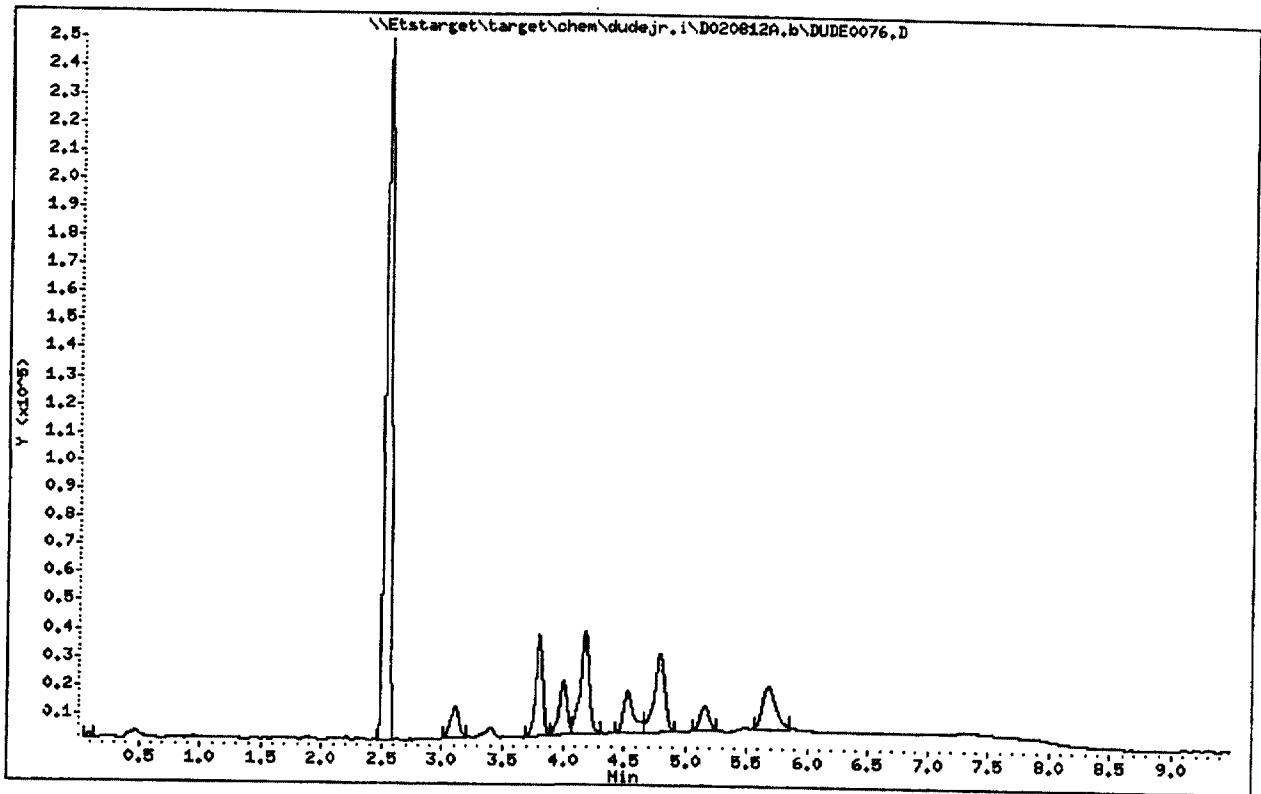
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)
-----	-----	-----	-----	-----	-----	-----	FINAL (ng/mL)
1 PFBS (299)	299	3.401	3.394	0.007	19361	0.19664	0.197
	299	2.540	3.394	-0.854	147211	4.72622	4.73
	299	3.203	3.394	-0.191	1966	503.785	504
	299	3.818	3.394	0.424	2962	503.751	504
	299	4.044	3.394	0.650	758	503.828	504
	299	4.215	3.394	0.821	777	503.827	504
2 PFHS (399)	399	3.805	3.791	0.014	157296	4.85808	4.86
3 PFOA (413)	413	4.003	3.982	0.021	84190	4.94452	4.94
4 POSA (498)	498	4.789	4.768	0.021	138473	4.56920	4.57
5 PFOS (499)	499	4.181	4.160	0.021	190157	5.18981	5.19

Exact Copy of Report

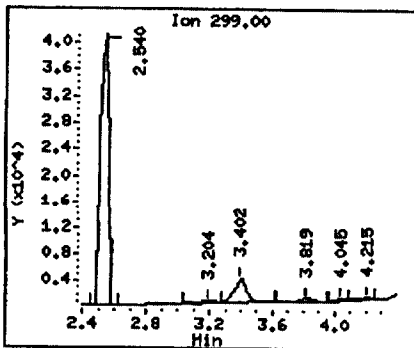
cmc 12/10/02
 Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0076.D

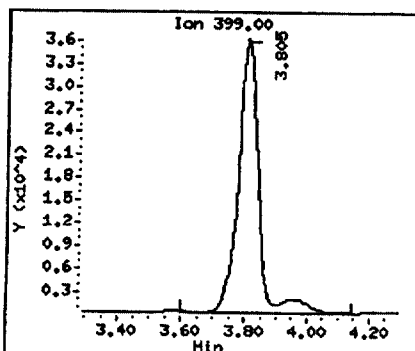
Page 2



1 PFBS (299)



2 PFBS (399)



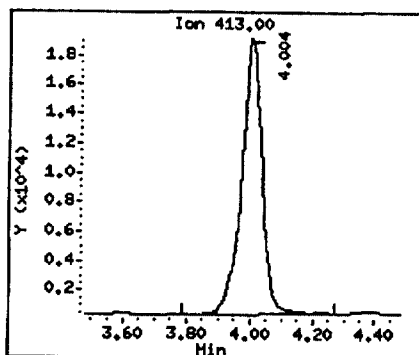
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CINC 12/10/02
Initial Date

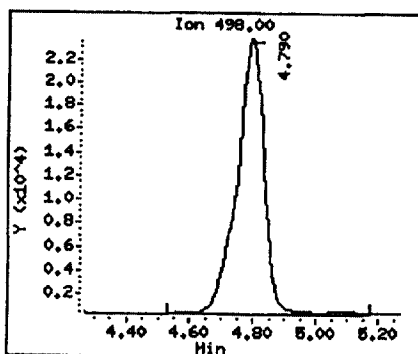
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Page 3

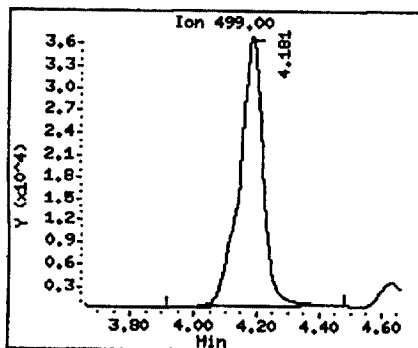
3 PF0A (413)



4 FDSA (498)



5 PFOS (499)



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CINC 12/10/02
JCL

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0073.D Page 1
 Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0073.D
 Lab Smp Id: 38029
 Inj Date : 13-AUG-2002 00:39
 Operator : mla Inst ID: dudejr.i
 Smp Info : E02-0443-38029; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 25
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.408	3.394	0.014	89092		2.65691	2.66 (M)
2 PFBS (399)	399	3.811	3.791	0.020	252177		7.85210	7.85
3 PFOA (413)	413	4.009	3.982	0.027	328881		21.8421	21.8
4 POSA (498)	498	4.796	4.768	0.028	34000		1.11439	1.11 (M)
5 PFOS (499)	499	4.187	4.160	0.027	631588		20.1841	20.2
	499	4.467	4.160	0.307	131570		3.29049	3.29

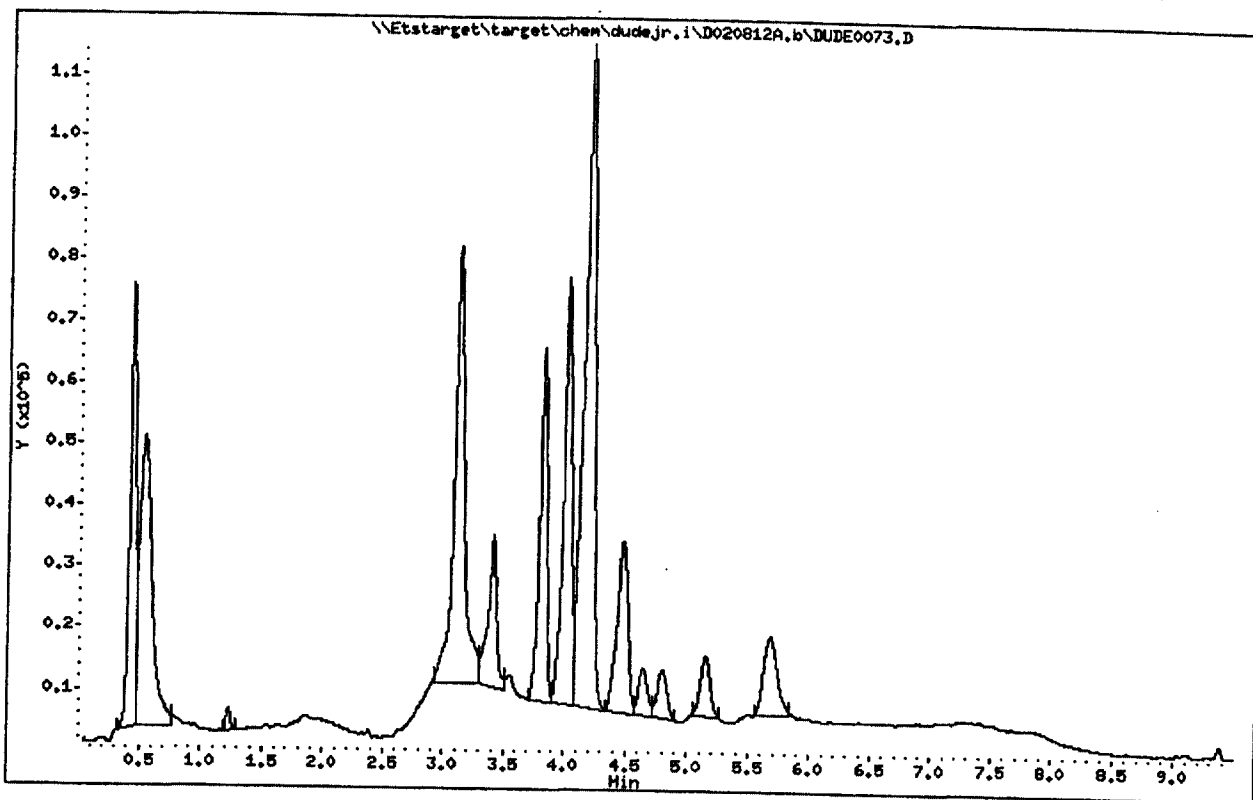
QC Flag Legend

M - Compound response manually integrated.

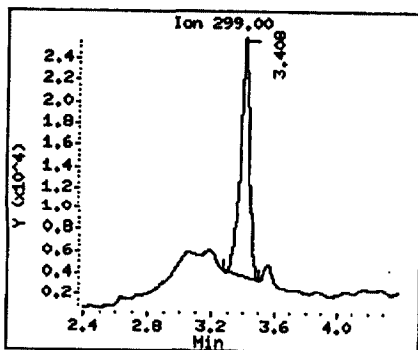
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 CMC 12/10/02
 Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0073.D

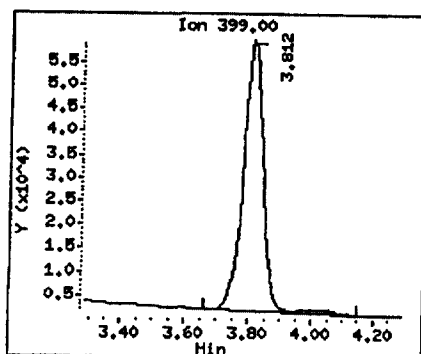
Page 2



1 PFBS (299)



2 PFHS (399)

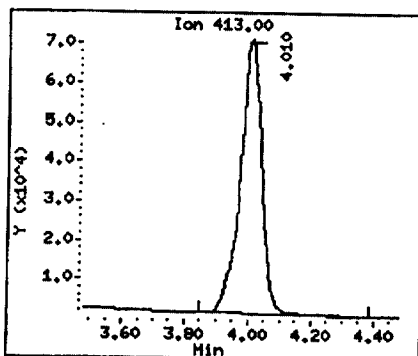


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Initial

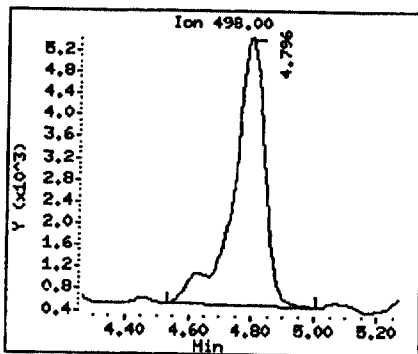
Data File: \\Etstarget\target\chem\dudejr,i\0020812A,b\DUDE0073.D

Page 3

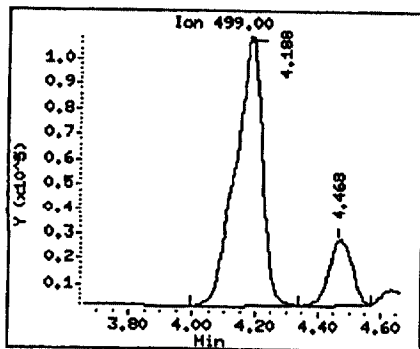
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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CML 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0130.D Page 1
Report Date: 29-Aug-2002 07:12

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0130.D
Lab Smp Id: 38030
Inj Date : 13-AUG-2002 11:08
Operator : mla
Smp Info : E02-0443-38030; Water Samples; non-GLP; 7/17/02; OK
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020812B.b\D020812B.m
Meth Date : 29-Aug-2002 07:08 dudejr.i Quant Type: ESTD
Cal Date : 13-AUG-2002 06:44 Cal File: DUDE0106.D
Als bottle: 42
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: dudejr.i

Compound Sublist: all.sub

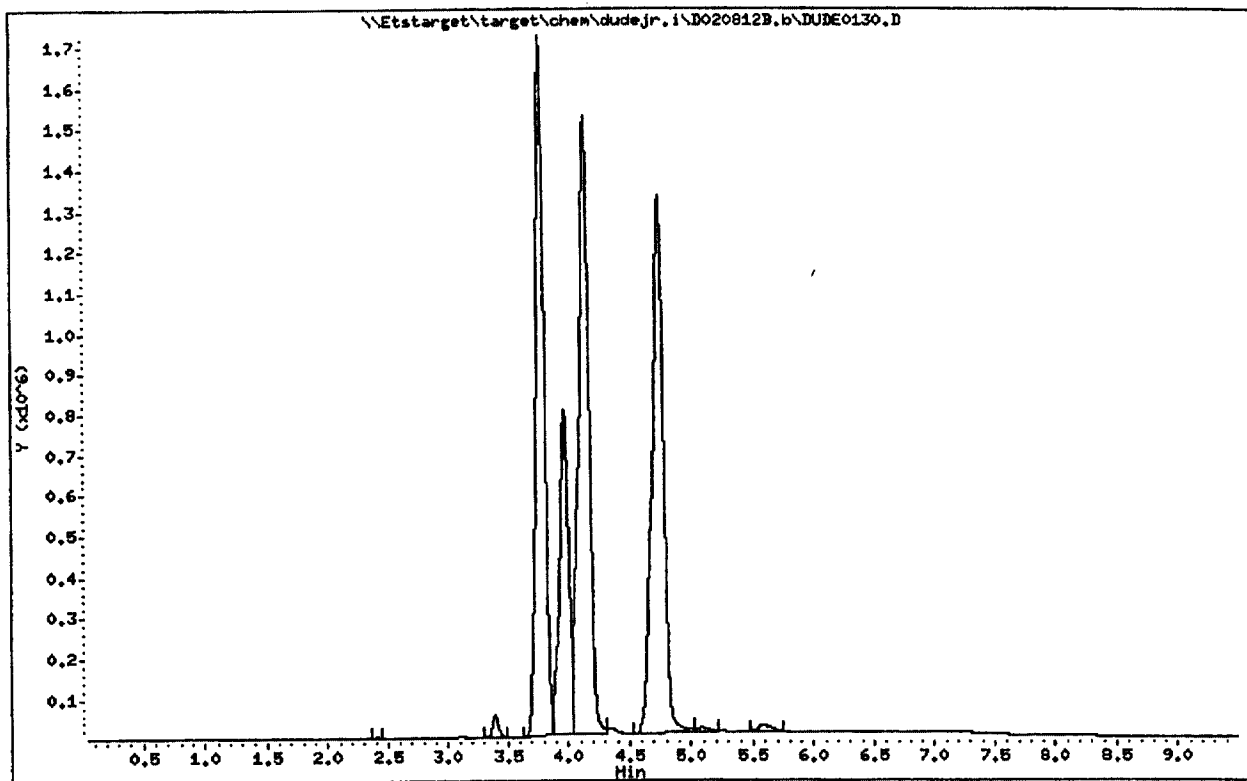
Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.387	3.394	-0.007	197441	2926.50	2930
	299	2.498	3.394	-0.896	1231	2935.66	2940
	299	3.203	3.394	-0.191	2246	2935.62	2940
	299	3.777	3.394	0.383	11268	2935.20	2940
2 PFBS (399)	399	3.777	3.791	-0.014	8387299	424.865	425
3 PFOA (413)	413	3.968	3.982	-0.014	4152125	427.860	428
4 FOSA (498)	498	4.741	4.768	-0.027	7980357	300.226	300
5 PFOS (499)	499	4.139	4.160	-0.021	8914428	423.673	424

Exact Copy of Original

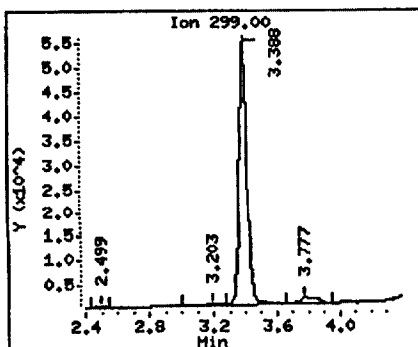
CWC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020812B.b\DUDE0130.D

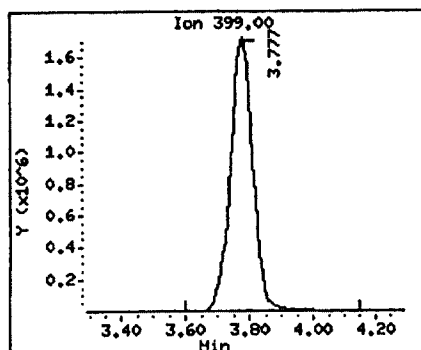
Page 2



1 PFBS (299)



2 PFBS (399)

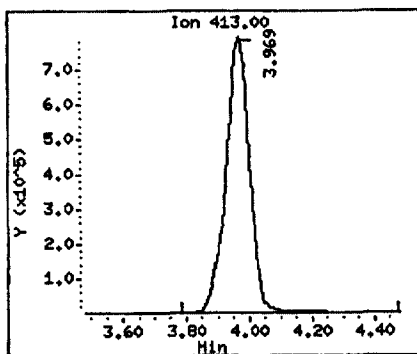


Exact Copy of Original
CNC 12/10/02
Initial: Date:

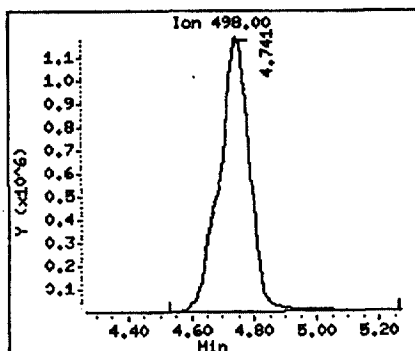
Data File: \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0130.D

Page 3

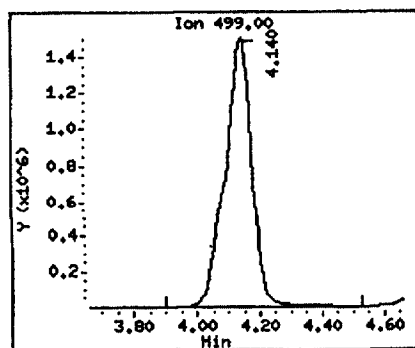
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



Exact Copy of Original

CMK 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0092.D Page 1
Report Date: 27-Aug-2002 14:12

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0092.D
Lab Smp Id: 38043
Inj Date : 13-AUG-2002 04:09
Operator : mla
Smp Info : E02-0443-38043; Water Samples; non-GLP; 6/20/02; OK
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
Meth Date : 27-Aug-2002 14:06 dudejr.i
Cal Date : 12-AUG-2002 16:13
Als bottle: 34
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: dudejr.i

Quant Type: ESTD

Cal File: DUDE0027.D

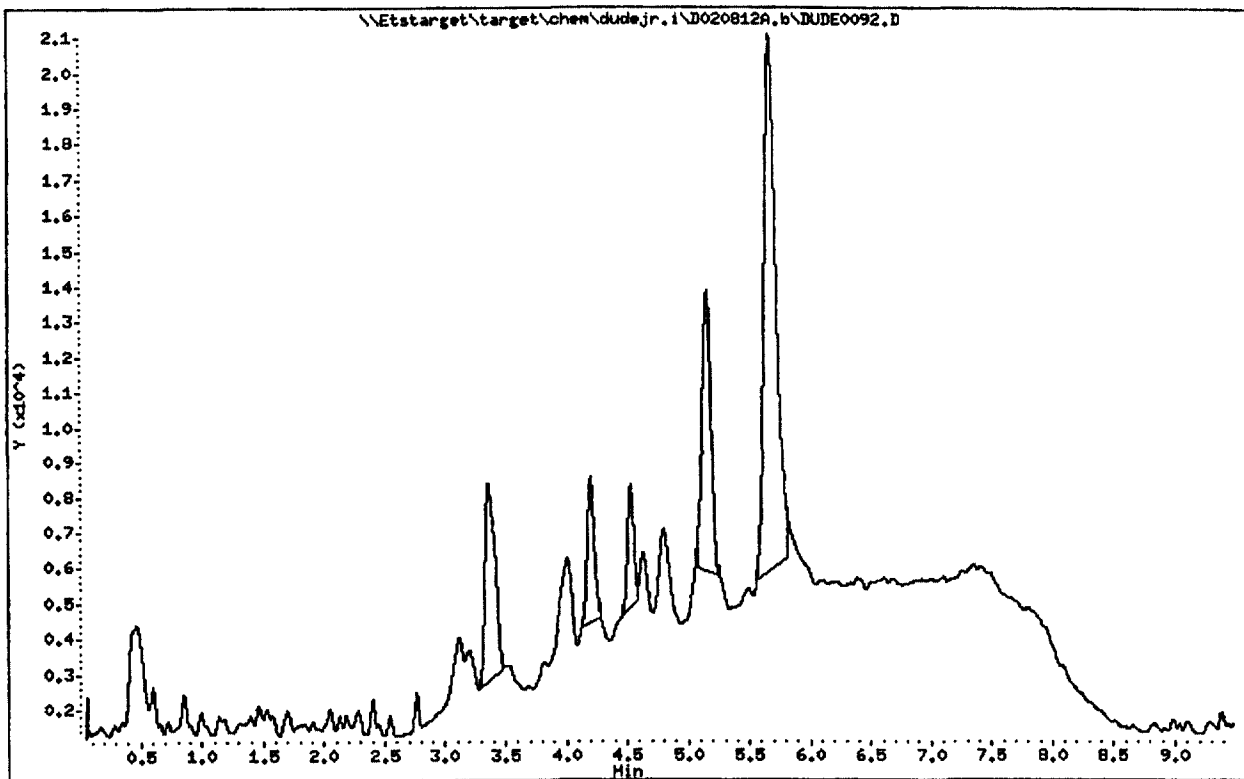
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.354	3.394	-0.040	32848	0.67061	0.671
	299	2.451	3.394	-0.943	739	503.829	504
	299	3.210	3.394	-0.184	6286	503.634	504
	299	3.818	3.394	0.424	1244	503.811	504
	299	4.037	3.394	0.643	1953	503.786	504
2 PFHS (399)	399	3.962	3.791	0.171	16543	0.50173	0.502
3 PFOA (413)	413	4.010	3.982	0.028	9481	0.06868	0.0687
4 POSA (498)	498	4.796	4.768	0.028	6471	0.20698	0.207
5 PFOS (499)	499	4.195	4.160	0.035	30951	0.07297	0.0730

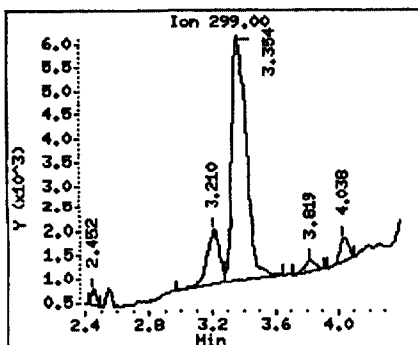
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CNC 12/12/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0092.D

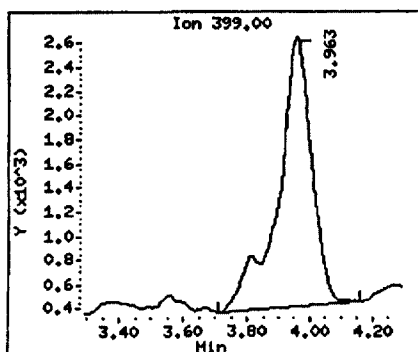
Page 2



1 PFBS (299)



2 PFHS (399)

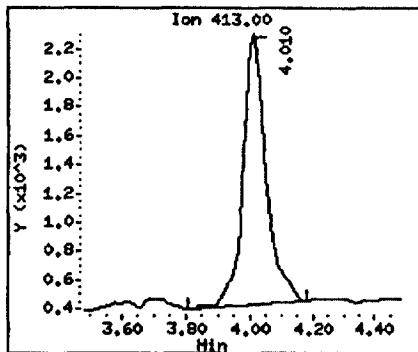


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CML 12/10/02
Initial Date

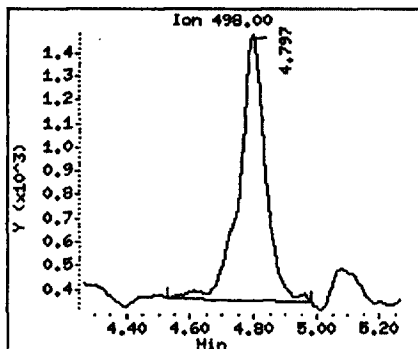
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Page 3

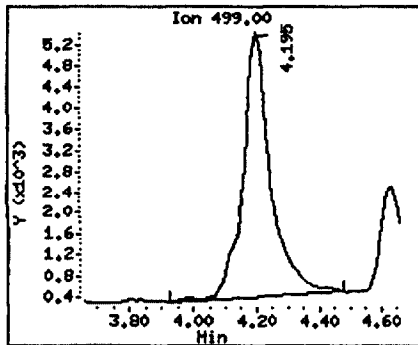
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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[initials]

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0067.D Page 1
Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0067.D
Lab Smp Id: 38025
Inj Date : 12-AUG-2002 23:33
Operator : mla Inst ID: dudejr.i
Smp Info : E02-0443-38025; Water Samples; non-GLP; 6/20/02; OK
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.401	3.394	0.007	98538	2.99206	2.99 (M)
2 PFHS (399)	399	3.812	3.791	0.021	247750	7.71134	7.71
3 PFOA (413)	413	4.003	3.982	0.021	321649	21.3198	21.3
4 POBA (498)	498	4.796	4.768	0.028	29388	0.96228	0.962 (M)
5 PPOS (499)	499	4.181	4.160	0.021	583658	18.4924	18.5
	499	4.468	4.160	0.308	135043	3.40254	3.40

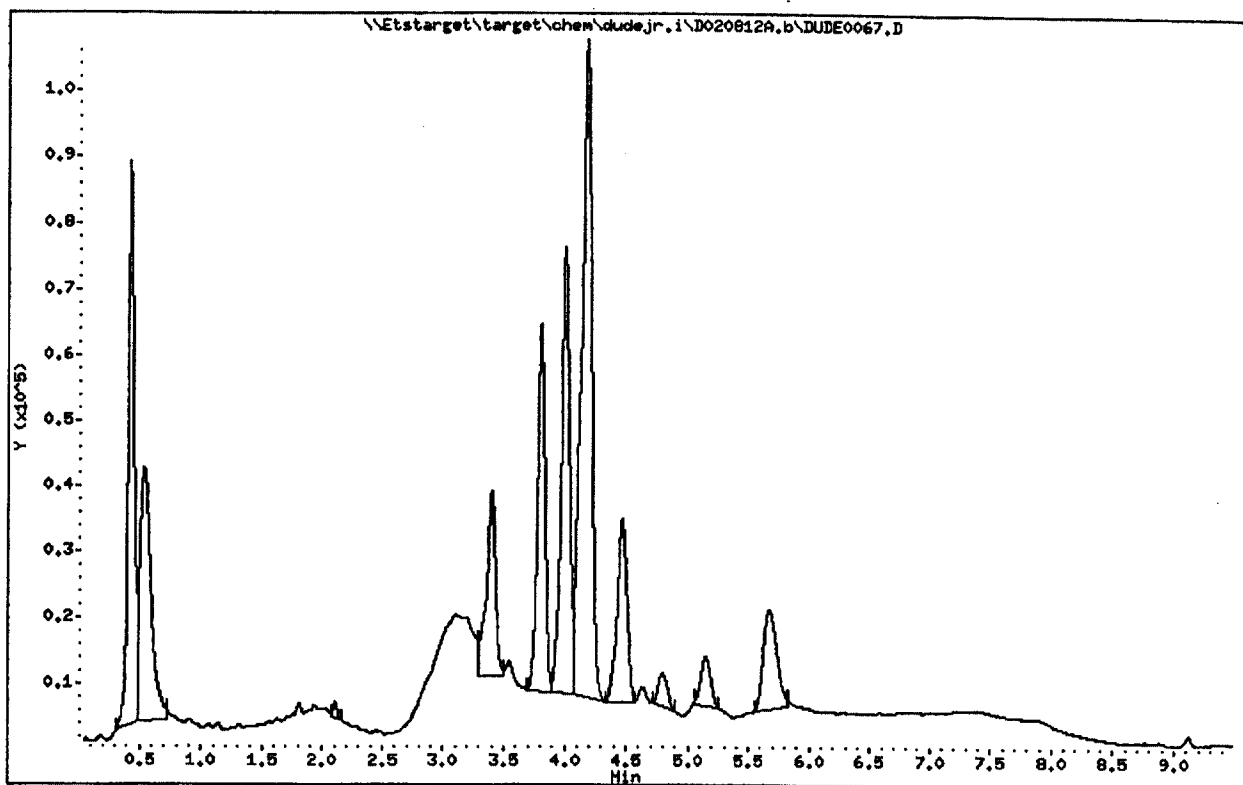
QC Flag Legend

M - Compound response manually integrated.

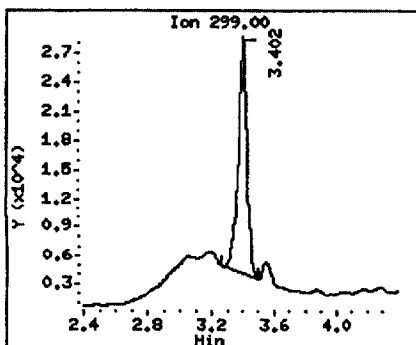
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CNC 12/10/02
Initial

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0067.D

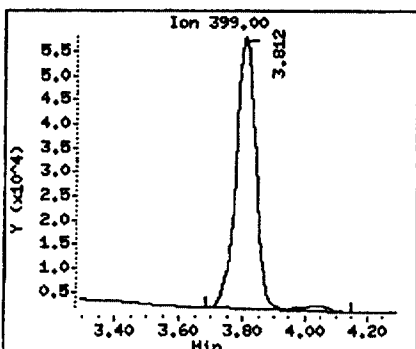
Page 2



1 PFBS (299)



2 PFBS (399)

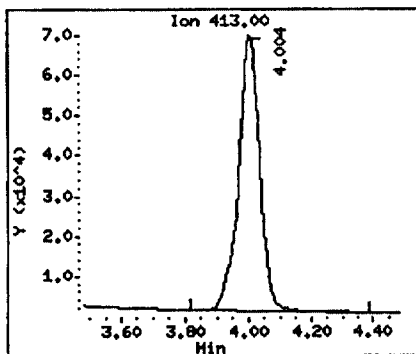


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CME 12/10/02

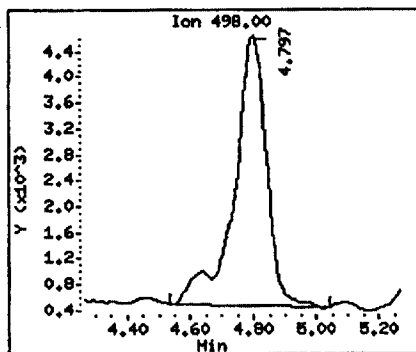
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Page 3

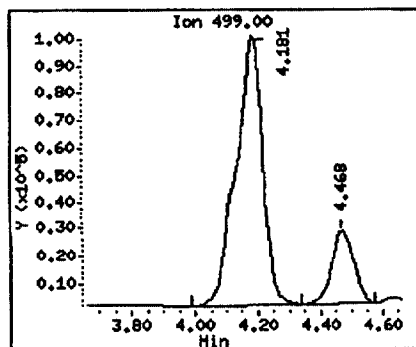
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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LMC Initial 12/10/02 Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0069.D Page 1
 Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0069.D
 Lab Smp Id: 38026
 Inj Date : 12-AUG-2002 23:55
 Operator : mla Inst ID: dudejr.i
 Smp Info : E02-0443-38026; Water Samples; non-GLP; 7/17/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 23
 Dil Factor: 1.00000
 Integrator: Falcon Compound Sublist: all.sub
 Target Version: 4.12

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.401	3.394	0.007	118567		3.70420	3.70 (M)
2 PFHS (399)	399	3.811	3.791	0.020	255866		7.96948	7.97
3 PFOA (413)	413	4.003	3.982	0.021	340061		22.6524	22.6
4 FOSA (498)	498	4.789	4.768	0.021	31162		1.02079	1.02 (M)
5 PFOS (499)	499	4.180	4.160	0.020	648655		20.7906	20.8
	499	4.467	4.160	0.307	140168		3.56801	3.57

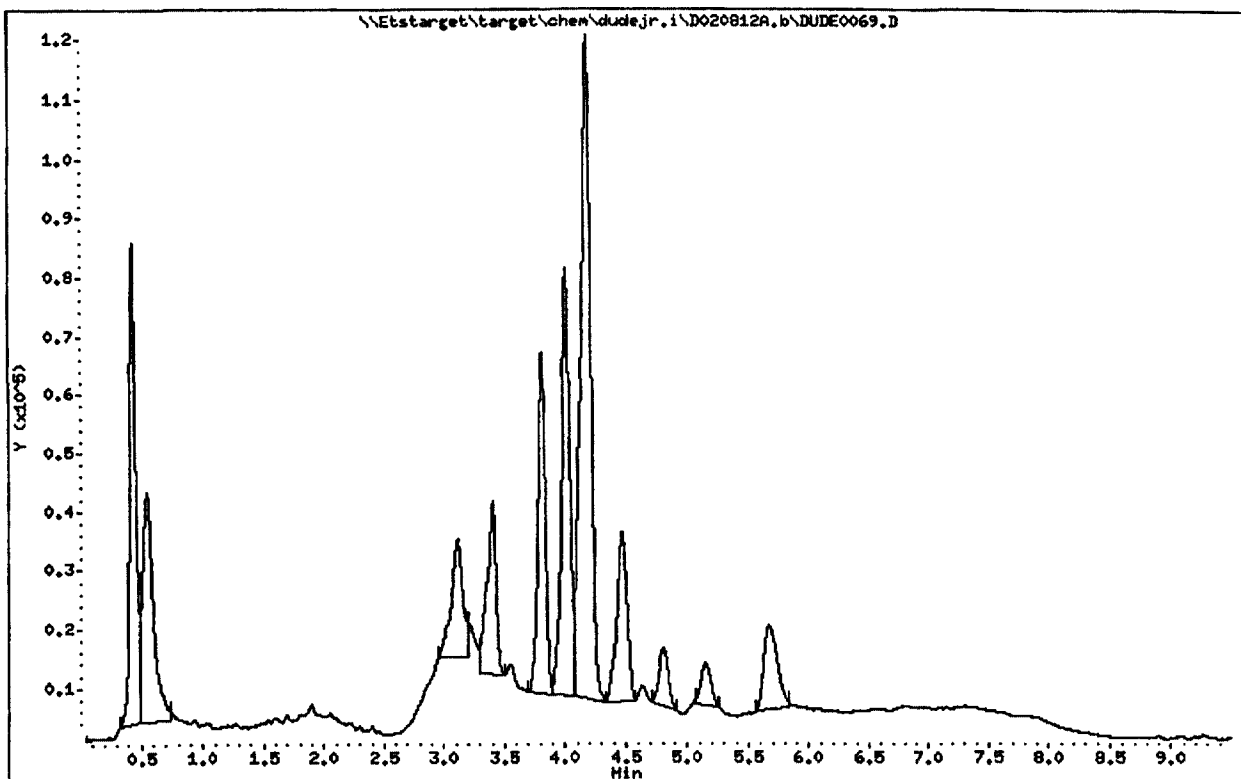
QC Flag Legend

M - Compound response manually integrated.

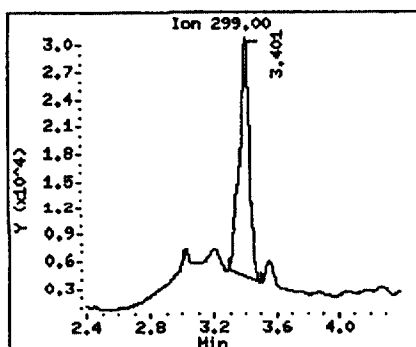
Final Supp
 CMC 12/18/02

Data File: \\Etstarget\target\chem\dudejr.i\DO20812A.b\DUDE0069.D

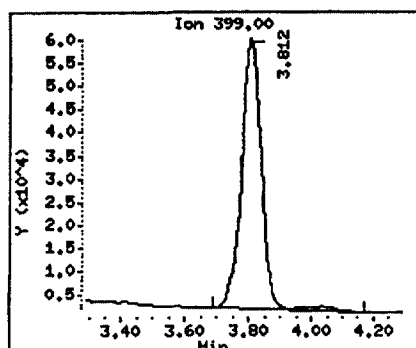
Page 2



1 PFBS (299)



2 PFBS (399)

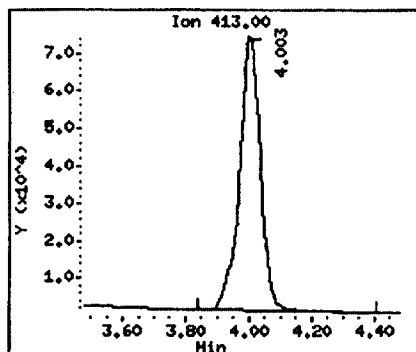


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CMP 12/10/02
Initial Date

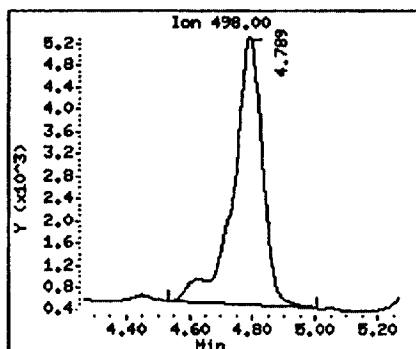
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Page 3

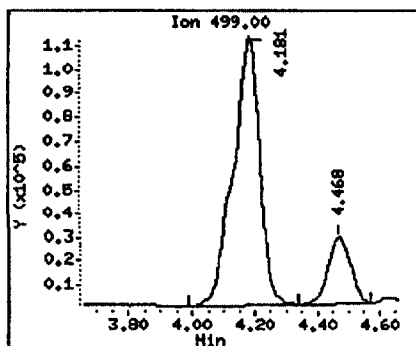
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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Initial

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0071.D Page 1
Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0071.D
Lab Smp Id: 38027
Inj Date : 13-AUG-2002 00:17
Operator : mla Inst ID: dudejr.i
Smp Info : E02-0443-38027; Water Samples; non-GLP; 7/17/02; OK
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.401	3.394	0.007	102029		3.14446	3.14 (M)
2 PFHS (399)	399	3.811	3.791	0.020	405593		12.7977	12.8
3 PFOA (413)	413	4.002	3.982	0.020	412129		27.9672	28.0
4 POSA (498)	498	4.796	4.768	0.028	121332		4.00125	4.00
5 PFOS (499)	499	4.180	4.160	0.020	808339		26.5743	26.6
	499	3.866	4.160	-0.294	4108		379.787	380
	499	4.467	4.160	0.307	85093		1.79743	1.80

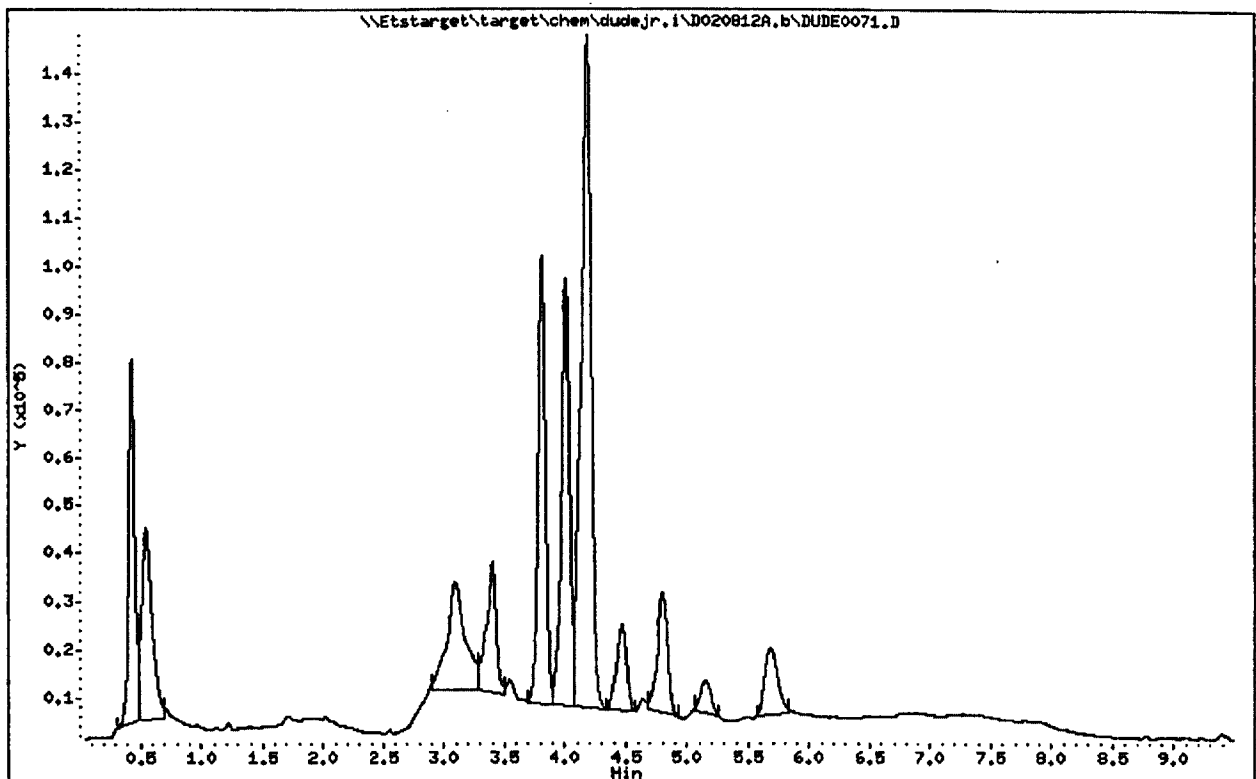
QC Flag Legend

M - Compound response manually integrated.

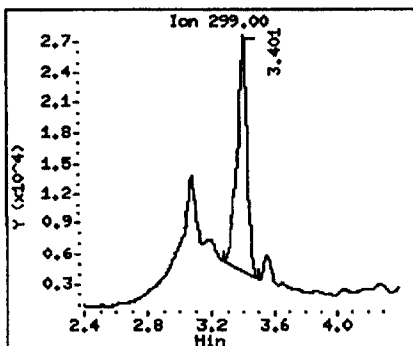
Final Conc. 12/10/02
CLMC

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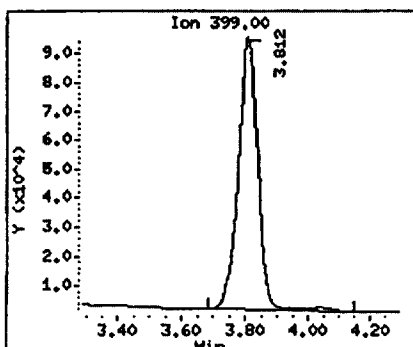
Page 2



1 PFBS (399)



2 PFBS (399)

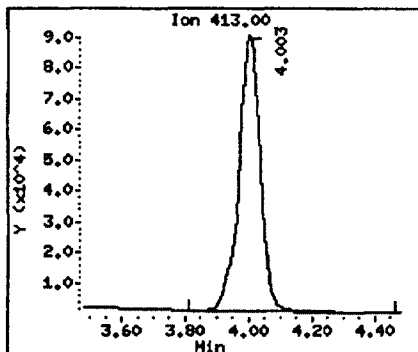


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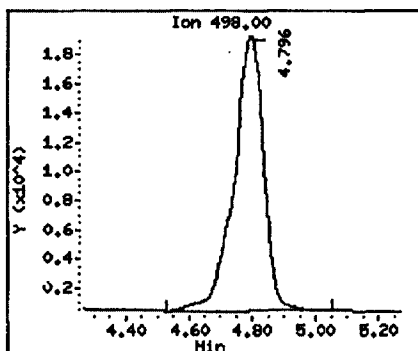
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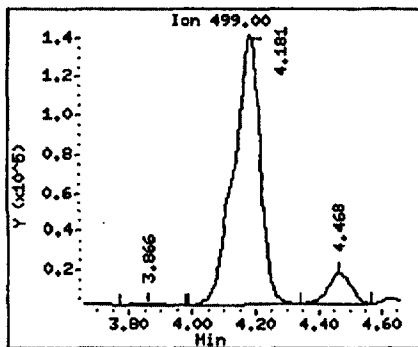
3 PFOA (413)



4 FDCA (498)



5 PFOS (499)



CMC 12/10/02

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0078.D Page 1
 Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0078.D
 Lab Smp Id: 38033
 Inj Date : 13-AUG-2002 01:34
 Operator : mla Inst ID: dudejr.i
 Smp Info : E02-0443-38033; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 27
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

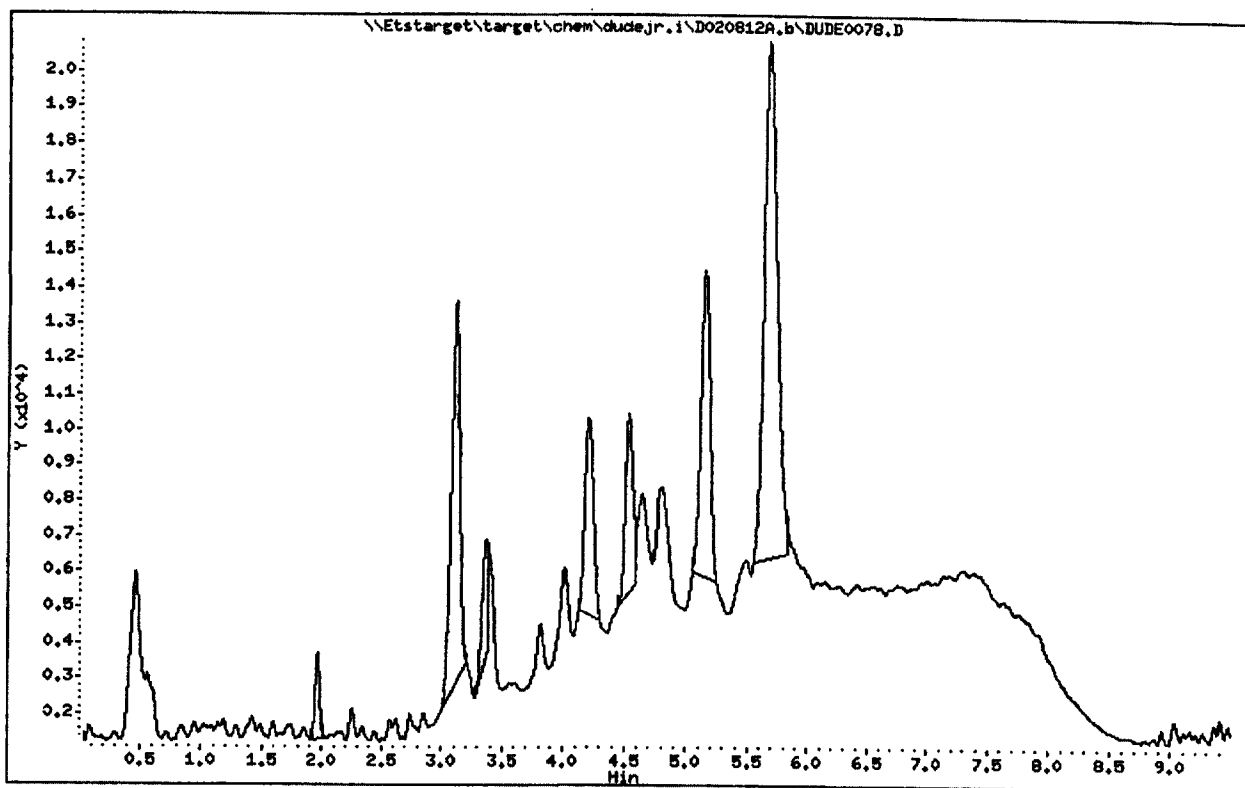
Compound Sublist: all.sub

Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.360	3.394	-0.034	26600		0.45093	0.451
	299	3.210	3.394	-0.184	4235		503.706	504
	299	3.818	3.394	0.424	1671		503.796	504
	299	4.058	3.394	0.664	634		503.832	504
2 PFBS (399)	399	3.812	3.791	0.021	5685		0.16974	0.170
	399	3.969	3.791	0.178	5436		0.16213	0.162
3 PFOA (413)	413	4.010	3.982	0.028	11537		0.20128	0.201
4 POSA (498)	498	4.796	4.768	0.028	5487		0.17456	0.174
5 PFOS (499)	499	4.194	4.160	0.034	35066		0.20349	0.203

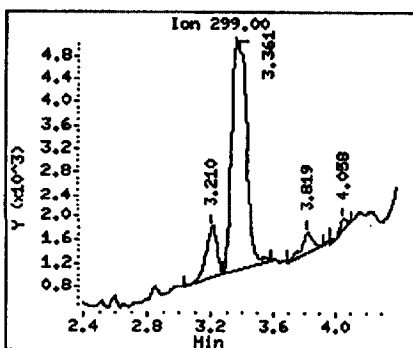
Handwritten signature: *C. K. S.*
 Initials: *C. K. S.*
 Date: *12/10/02*

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0078.D

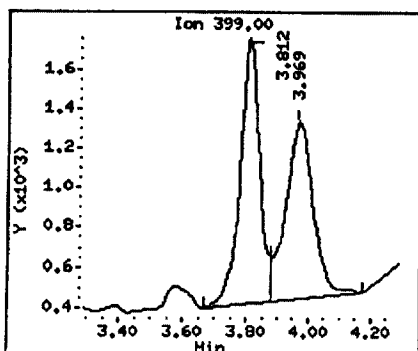
Page 2



1 PFBS (299)



2 PFBS (399)



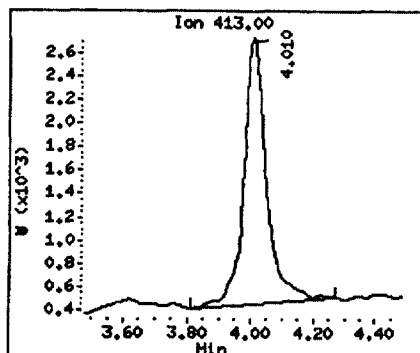
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Initial Date

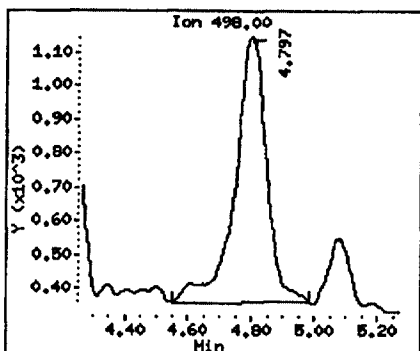
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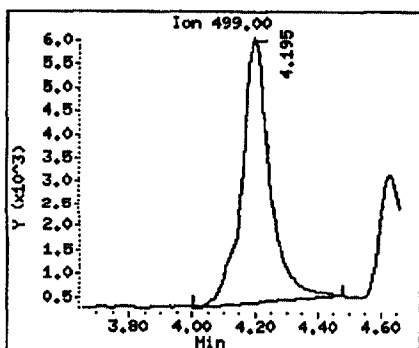
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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[Signature]

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0080.D Page 1
Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0080.D
Lab Smp Id: 38034
Inj Date : 13-AUG-2002 01:57
Operator : mla
Smp Info : E02-0443-38034; Water Samples; non-GLP; 6/20/02; OK
Misc Info :
Comment :
Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
Als bottle: 28
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299		3.401	3.394	0.007	28016		0.50070	0.501 (M)
2 PFBS (399)	399		3.812	3.791	0.021	8673		0.26104	0.261
3 PFOA (413)	413		4.010	3.982	0.028	17031		0.55603	0.556
4 PFOA (498)	498		4.796	4.768	0.028	6747		0.21607	0.216
	498		5.090	4.768	0.322	276		0.00294	0.00294
5 PFOS (499)	499		4.194	4.160	0.034	51049		0.71127	0.711

QC Flag Legend

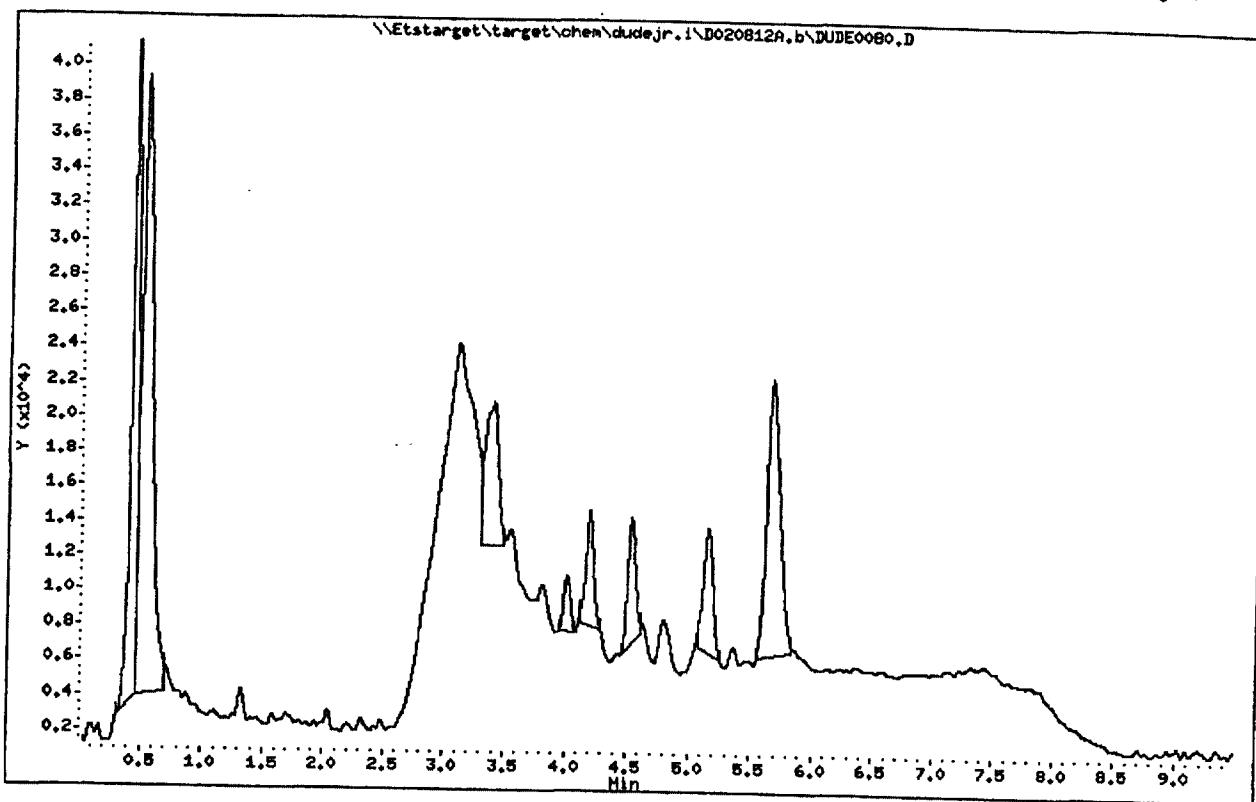
M - Compound response manually integrated.

Handwritten: 12/10/02

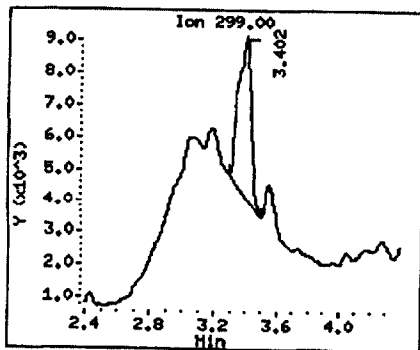
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Data File: \\Etstarget\target\chem\dudejr.i\B020812A.b\DUDE0080.D

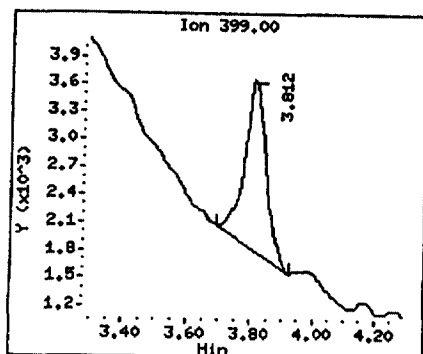
Page 2



1 PFBS (299)



2 PFBS (399)

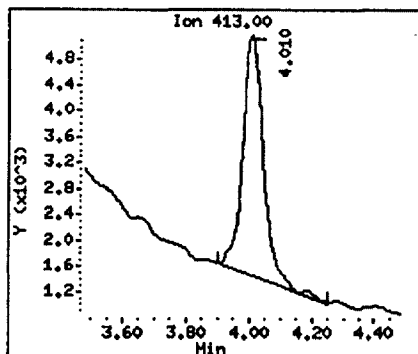


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 Initial Date

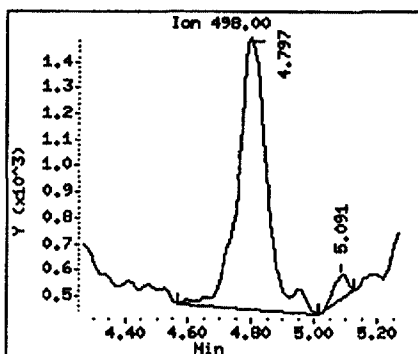
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Page 3

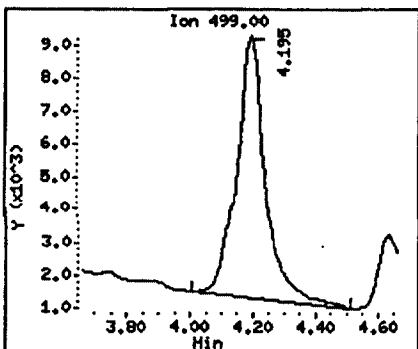
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



Xerox Copy of Original

CMC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0084.D Page 1
 Report Date: 27-Aug-2002 14:11

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0084.D
 Lab Smp Id: 38037
 Inj Date : 13-AUG-2002 02:41
 Operator : mla Inst ID: dudejr.i
 Smp Info : E02-0443-38037; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 30
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG MASS						CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.353	3.394	-0.041	32546		0.65999	0.660(M)
2 PFHS (399)	399	3.805	3.791	0.014	12978		0.39267	0.393
3 PFOA (413)	413	4.010	3.982	0.028	14081		0.36547	0.365
4 POSA (498)	498	4.796	4.768	0.028	6547		0.20948	0.209
5 PFOS (499)	499	4.188	4.160	0.028	43651		0.47606	0.476

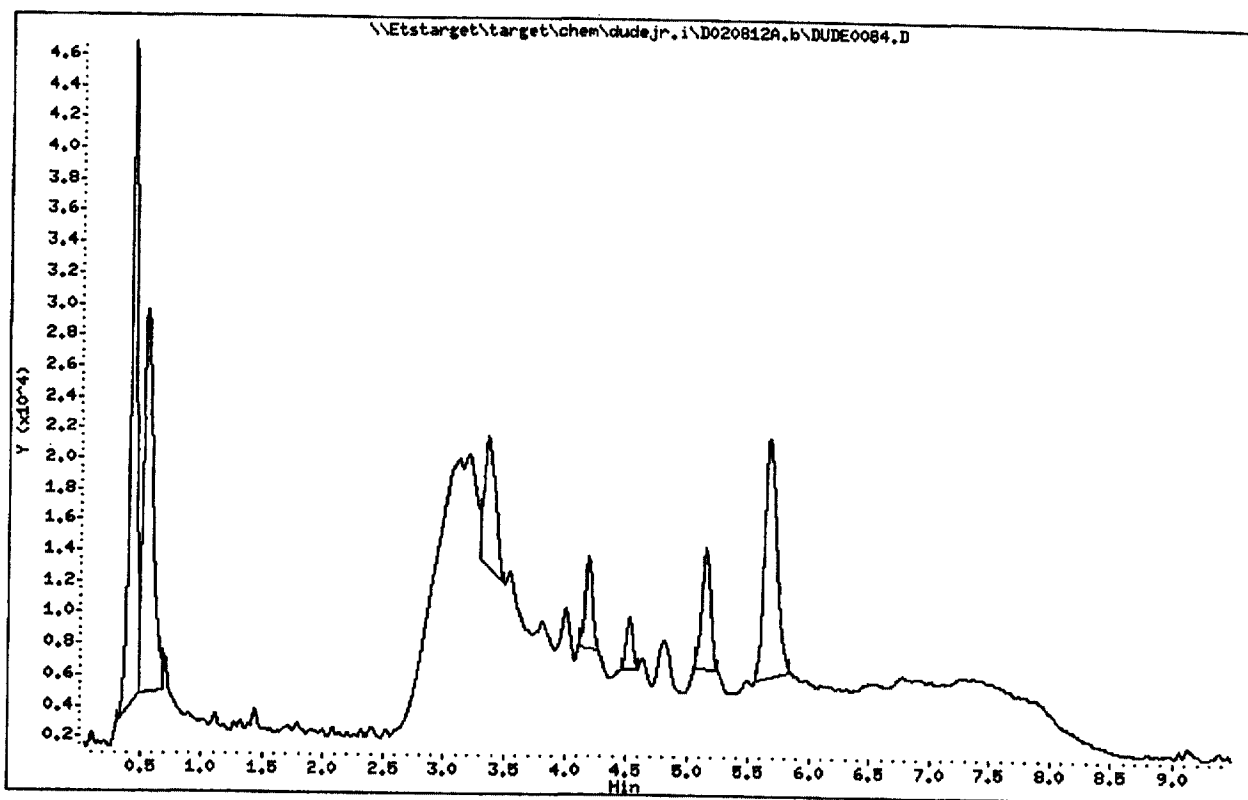
QC Flag Legend

M - Compound response manually integrated.

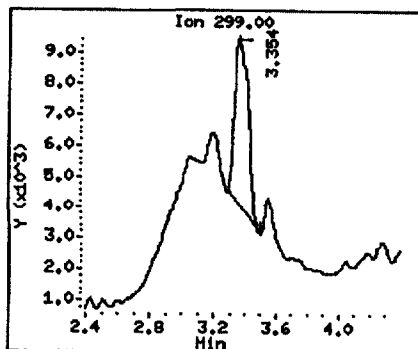
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 Date: 12/10/02

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0084.D

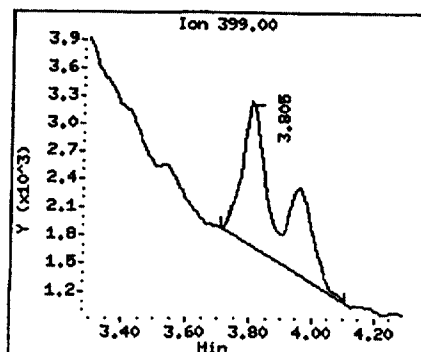
Page 2



1 PFBS (299)



2 PFBS (399)

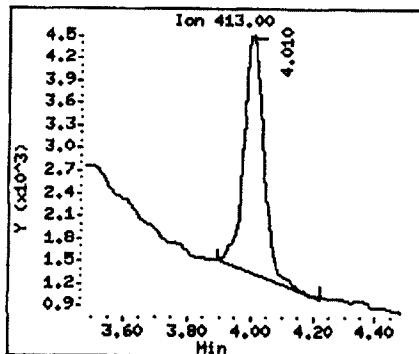


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CINC 12/10/02
(Initial) Date

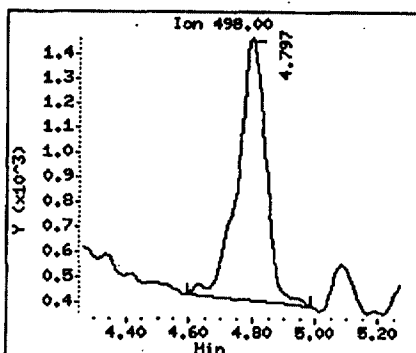
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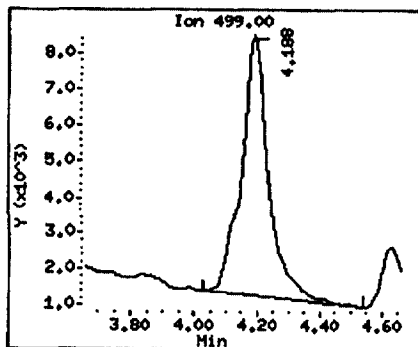
3 PFOA (413)



4 FOXA (498)



5 PFOS (499)



DUDE0084.D
CML 12/10/02
12/10/02

Data File: \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0086.D Page 1
 Report Date: 27-Aug-2002 14:12

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
 Data file : \\Etstarget\target\chem\dudejr.i\D020812A.b\DUDE0086.D
 Lab Smp Id: 38038
 Inj Date : 13-AUG-2002 03:03
 Operator : mla Inst ID: dudejr.i
 Smp Info : E02-0443-38038; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812A.b\D020812A.m
 Meth Date : 27-Aug-2002 14:06 dudejr.i Quant Type: ESTD
 Cal Date : 12-AUG-2002 16:13 Cal File: DUDE0027.D
 Als bottle: 31
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG MASS					CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.353	3.394	-0.041	34896	0.74266	0.743 (M)
2 PFHS (399)	399	3.812	3.791	0.021	8214	0.24701	0.247
3 PFOA (413)	413	4.003	3.982	0.021	15139	0.43379	0.434
4 POSA (498)	498	4.796	4.768	0.028	3452	0.10754	0.108
5 PPOS (499)	499	4.188	4.160	0.028	44196	0.49338	0.493

QC Flag Legend

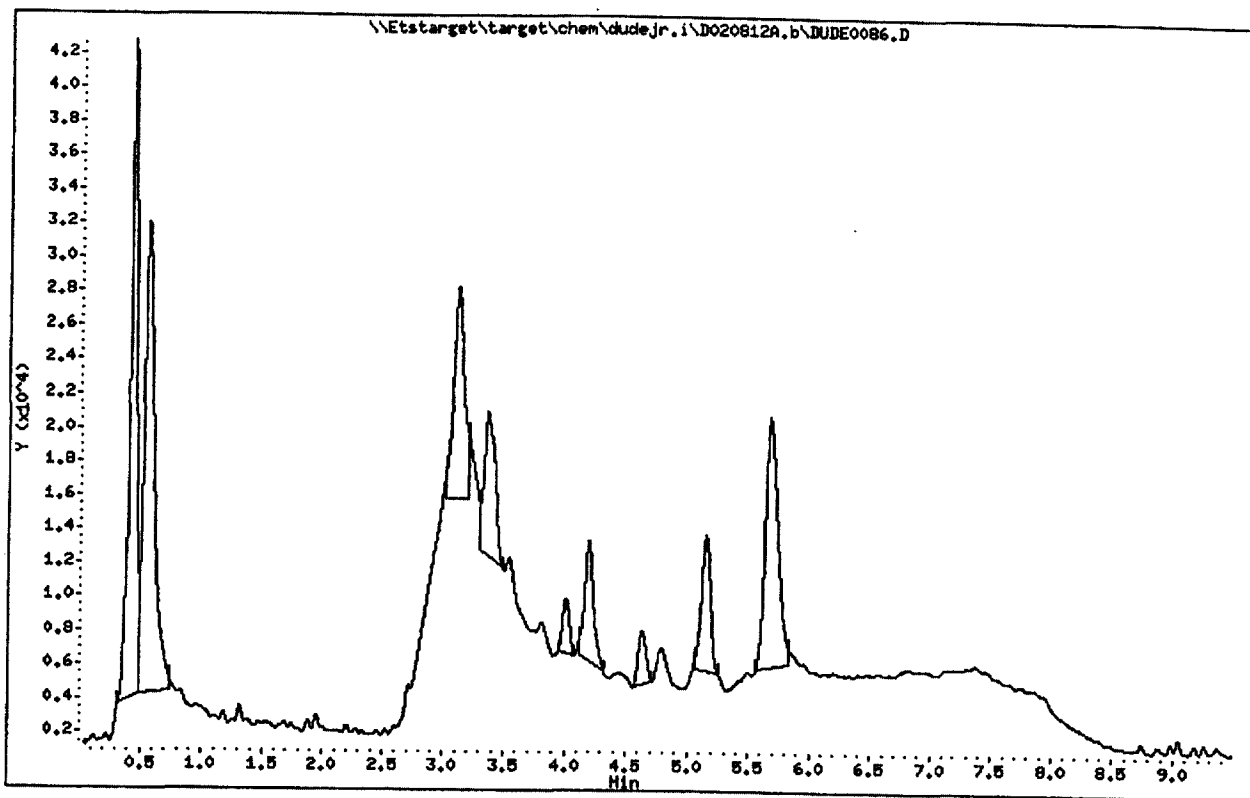
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Exact Copy of Original

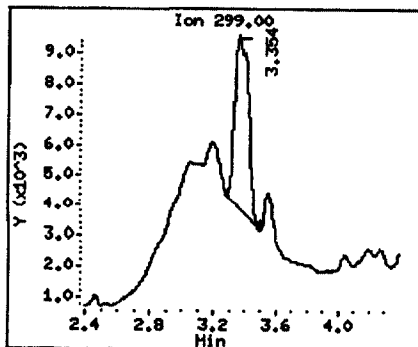
Civil 12/10/02
 Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\020812A.b\DUDE0086.D

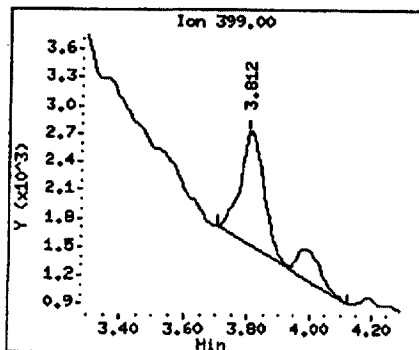
Page 2



1 PFBS (299)



2 PFBS (399)

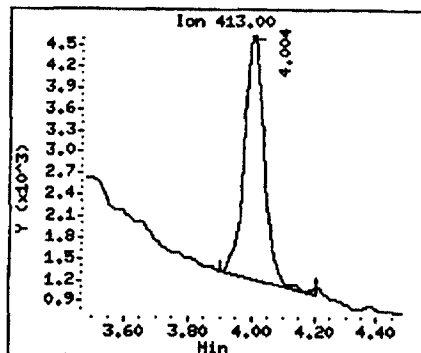


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Cinc 12/10/02
 Initial Date

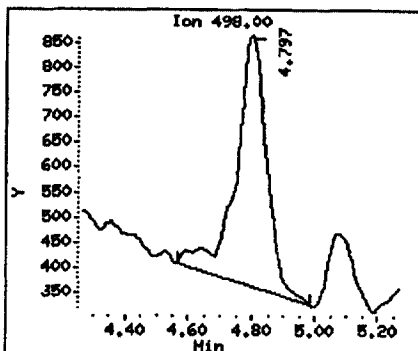
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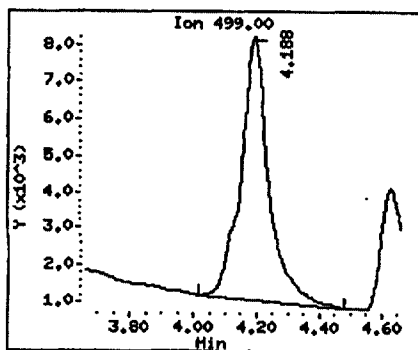
3 PFDA (413)



4 FDSA (498)



5 PFDS (499)



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CWC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0127.D Page 1
 Report Date: 29-Aug-2002 07:12

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0127.D
 Lab Smp Id: 38028
 Inj Date : 13-AUG-2002 10:35
 Operator : cmc
 Smp Info : E02-0443-38028; Water Samples; non-GLP; 7/17/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812B.b\D020812B.m
 Meth Date : 29-Aug-2002 07:08 dudejr.i Quant Type: ESTD
 Cal Date : 13-AUG-2002 06:44 Cal File: DUDE0106.D
 Als bottle: 41
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Compound Sublist: all.sub

Compounds	QUANT SIG MASS					CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.388	3.394	-0.006	195308	2926.60	2930
	299	2.697	3.394	-0.697	963	2935.68	2940
	299	3.073	3.394	-0.321	9274	2935.29	2940
	299	3.777	3.394	0.383	8460	2935.33	2940
	299	4.085	3.394	0.691	602	2935.69	2940
	299	4.249	3.394	0.855	439	2935.70	2940
2 PFHS (399)	399	3.777	3.791	-0.014	7874701	392.569	392
3 PFOA (413)	413	3.962	3.982	-0.020	3848302	388.428	388
4 FOSA (498)	498	4.741	4.768	-0.027	8025349	302.105	302
5 PFOS (499)	499	4.140	4.160	-0.020	7827644	361.783	362

First Copy of Original

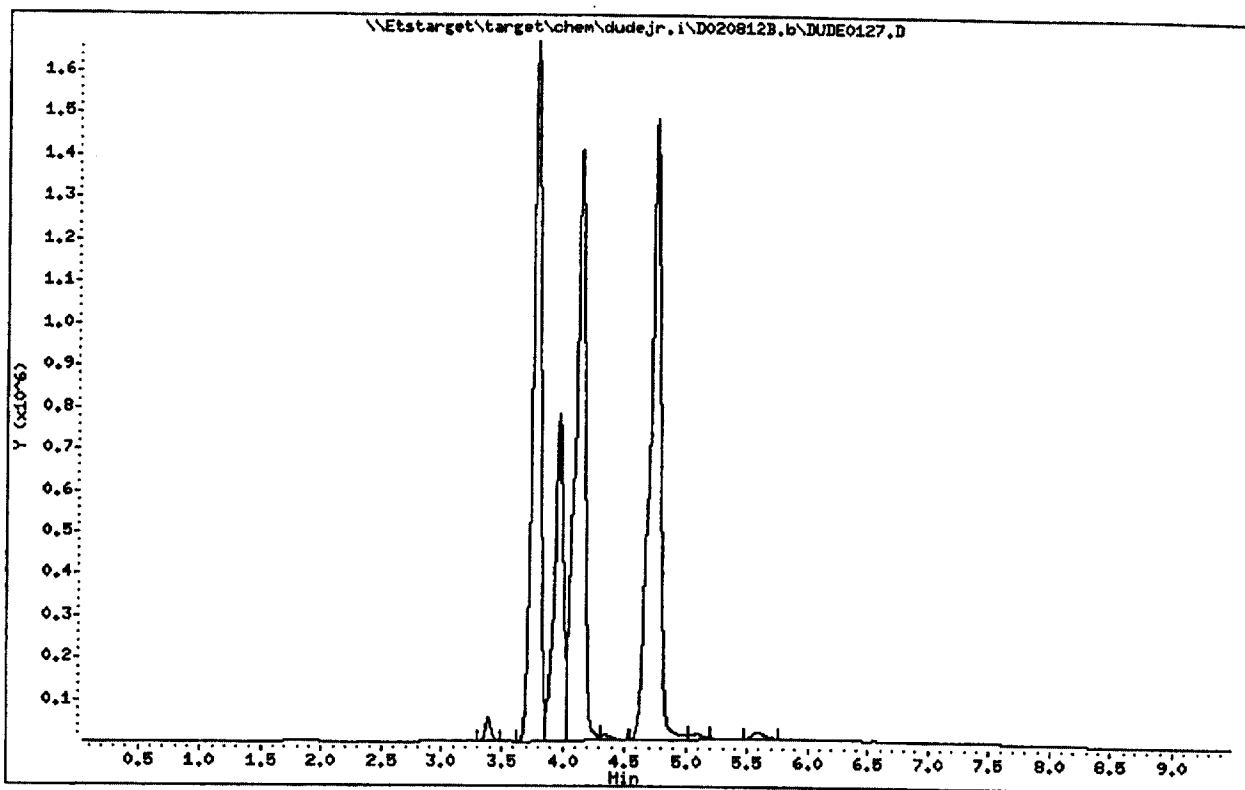
Circ 12/10/02

Date

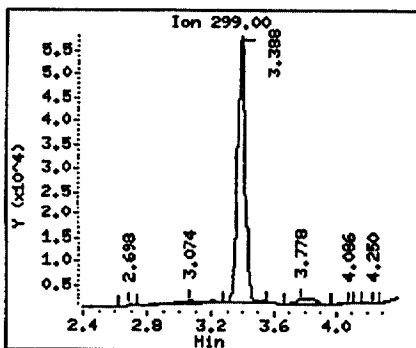
Date

Data File: \\Etstarget\target\chem\dudejr.i\020812B.b\DUDE0127.D

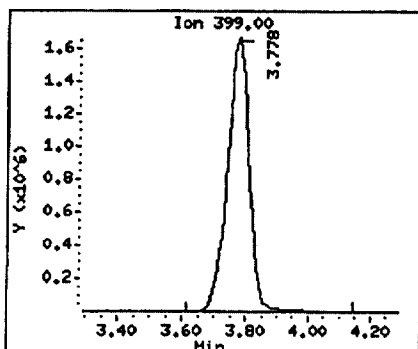
Page 2



1 PFBS (299)



2 PFBS (399)



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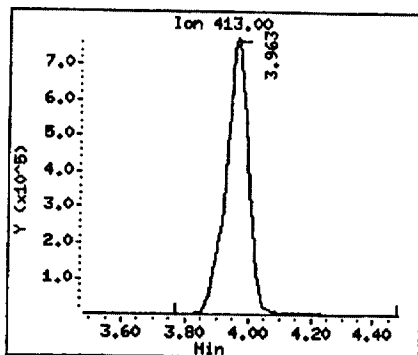
CMC 12/21/02

Initial Date

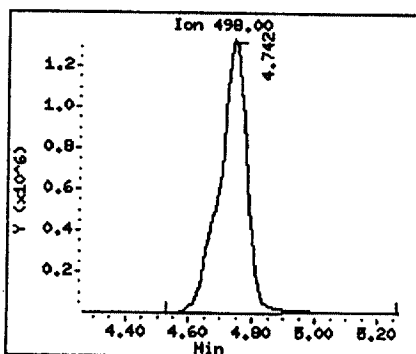
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Page 3

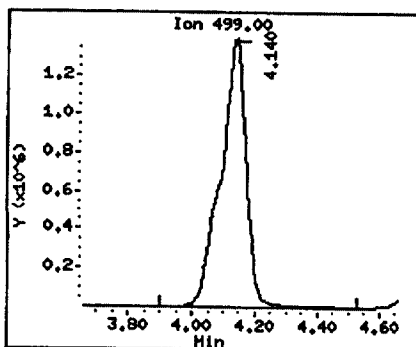
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



Exact Copy of Original
CML 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0133.D Page 1
 Report Date: 29-Aug-2002 07:12

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples
 Data file : \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0133.D
 Lab Smp Id: 38036
 Inj Date : 13-AUG-2002 11:41
 Operator : mla
 Smp Info : E02-0443-38036; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812B.b\D020812B.m
 Meth Date : 29-Aug-2002 07:08 dudejr.i
 Cal Date : 13-AUG-2002 06:44
 Als bottle: 43
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Inst ID: dudejr.i
 Quant Type: ESTD
 Cal File: DUDE0106.D

Compound Sublist: all.sub

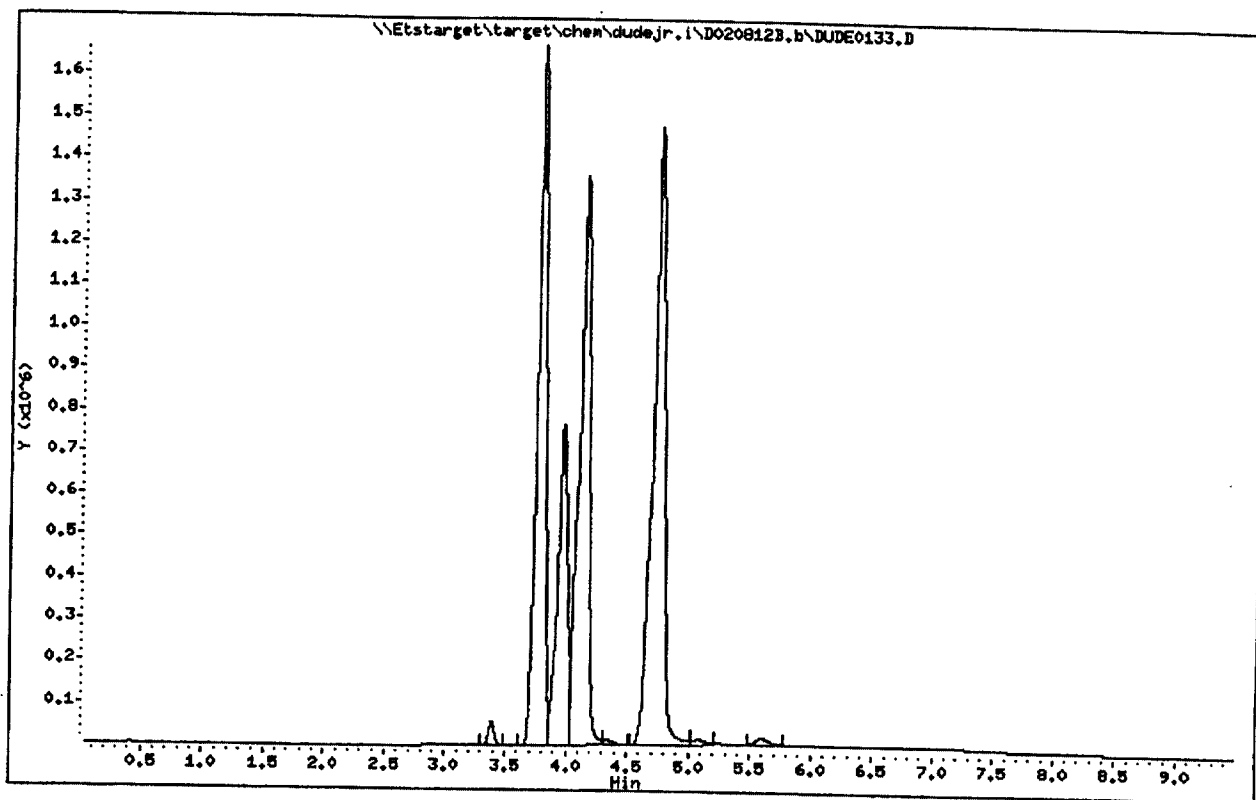
Compounds	QUANT SIG	CONCENTRATIONS					
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)
=====	----	-----	-----	-----	-----	-----	-----
1 PFBS (299)	299	3.388	3.394	-0.006	202053	2926.29	2930
	299	3.073	3.394	-0.321	18005	2934.88	2930
	299	3.777	3.394	0.383	9508	2935.28	2940
	299	4.085	3.394	0.691	820	2935.68	2940
	299	4.242	3.394	0.848	817	2935.68	2940
2 PFBS (399)	399	3.771	3.791	-0.020	8071912	404.870	405
3 PFOA (413)	413	3.962	3.982	-0.020	3927038	398.487	398
4 PFOA (498)	498	4.735	4.768	-0.033	8558553	324.535	324
5 PFOA (499)	499	4.133	4.160	-0.027	7890357	365.265	365
	499	3.832	4.160	-0.328	906	3071.25	3070

Exact Copy of Original

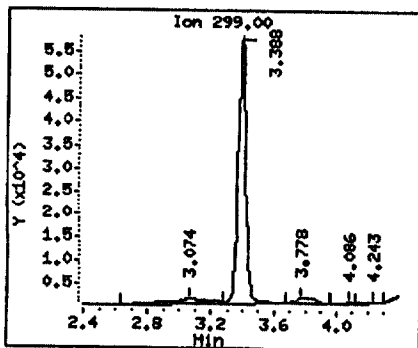
CINC 12/10/02
 Initial Date

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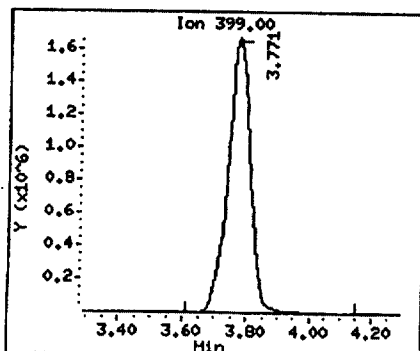
Page 2



1 PFBS (299)



2 PFBS (399)



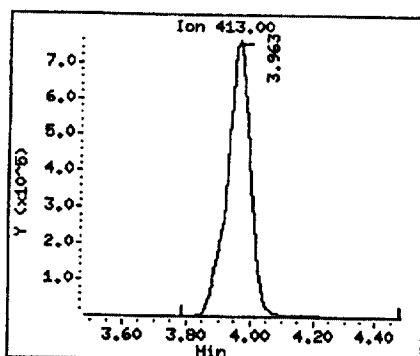
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CWC 12/10/02
Initial Date

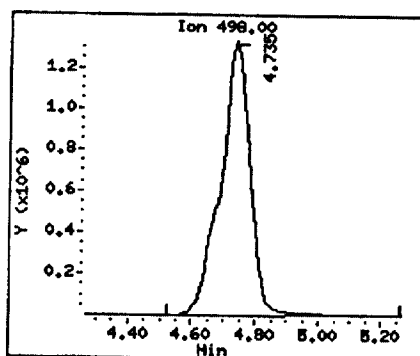
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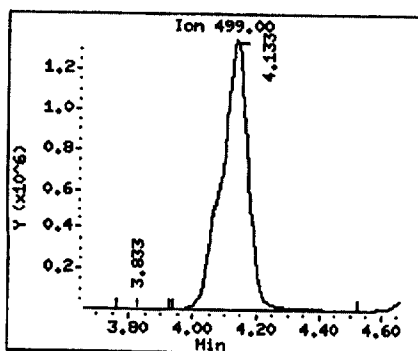
3 PF0A (413)



4 F0SA (498)



5 PF0S (499)



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[Initial] Date

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 Report Date: 29-Aug-2002 07:12

3M Environmental Laboratory

E02-0443, Tenn. River Valley Samples

Data file : \\Etstarget\target\chem\dudejr.i\D020812B.b\DUDE0136.D
 Lab Smp Id: 38040
 Inj Date : 13-AUG-2002 12:14
 Operator : mla
 Smp Info : E02-0443-38040; Water Samples; non-GLP; 6/20/02; OK
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\dudejr.i\D020812B.b\D020812B.m
 Meth Date : 29-Aug-2002 07:08 dudejr.i Quant Type: ESTD
 Cal Date : 13-AUG-2002 06:44 Cal File: DUDE0106.D
 Als bottle: 44
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

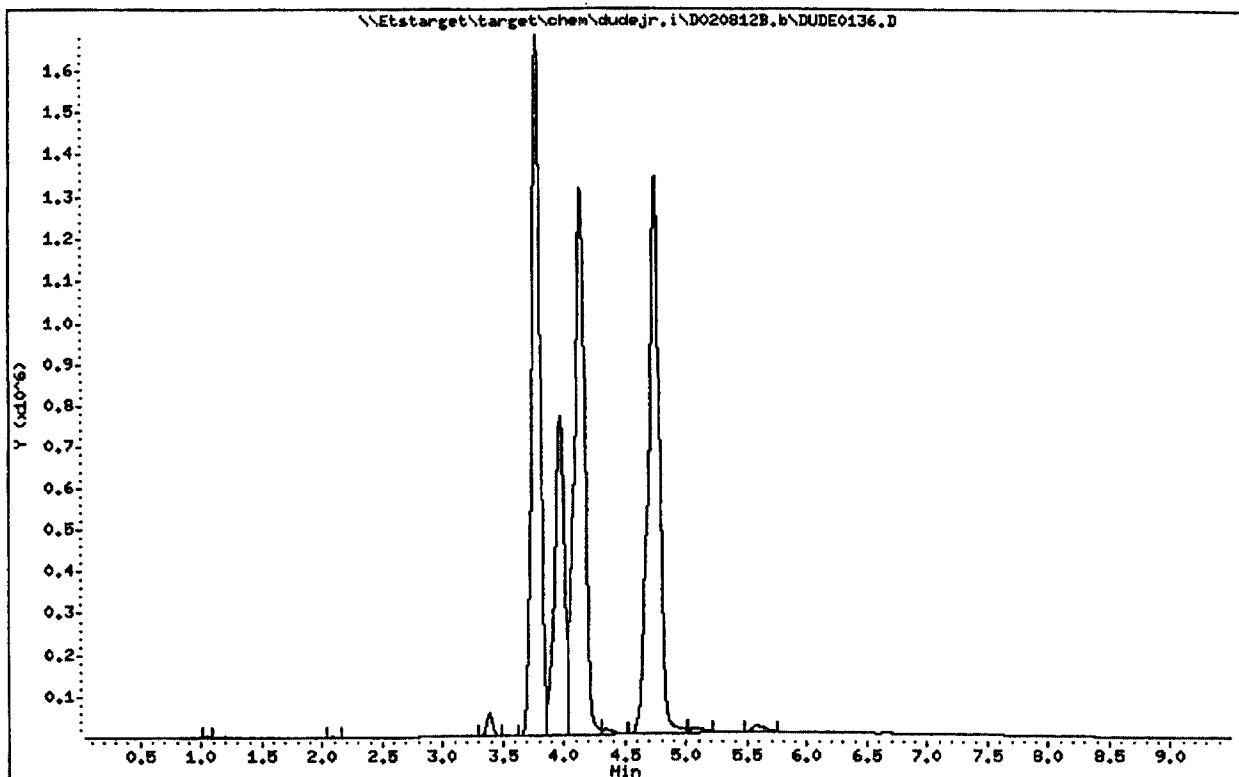
Compound Sublist: all.sub

Compounds	QUANT SIG						CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	----	-----	-----	-----	-----	-----	-----	-----
1 PFBS (299)		299	3.387	3.394	-0.007	200230	2926.37	2930
		299	2.936	3.394	-0.458	5425	2935.47	2940
		299	3.073	3.394	-0.321	13185	2935.11	2940
		299	3.832	3.394	0.438	10649	2935.23	2940
		299	4.023	3.394	0.629	485	2935.70	2940
2 PFBS (399)		399	3.777	3.791	-0.014	8246279	415.875	416
3 PFOA (413)		413	3.961	3.982	-0.021	3997548	407.589	408
4 PFOA (498)		498	4.741	4.768	-0.027	7955892	299.205	299
5 PFOS (499)		499	4.132	4.160	-0.028	7760025	358.040	358

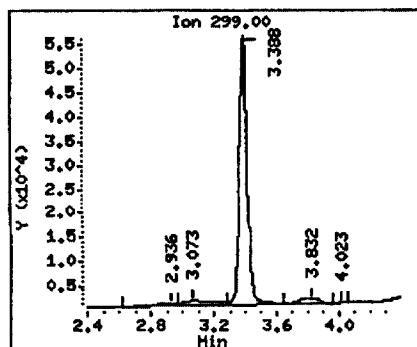
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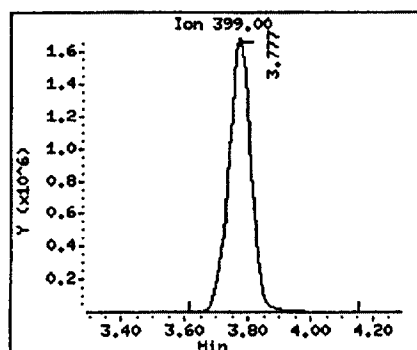
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1 PFBS (299)



2 PFBS (399)

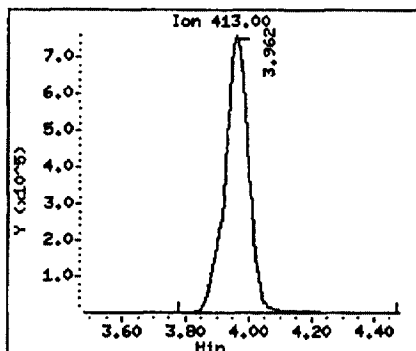


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Initial Date

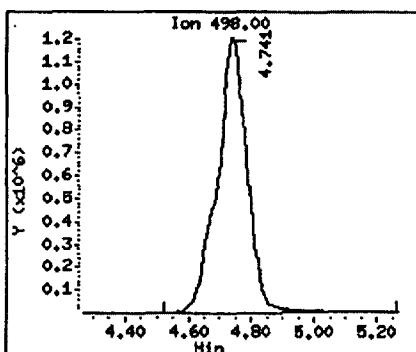
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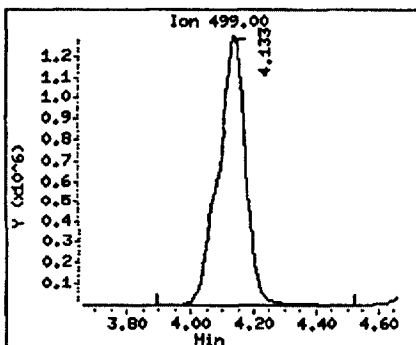
3 PFOA (413)



4 PFBA (498)



5 PFOS (499)



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Initial

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Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY034.D
Lab Smp Id: 0443-WB-1
Inj Date : 12-NOV-2002 13:40
Operator : mla
Smp Info : E02-0443-WB-1; Water Blank; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i
Cal Date : 12-NOV-2002 12:14
Als bottle: 21
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

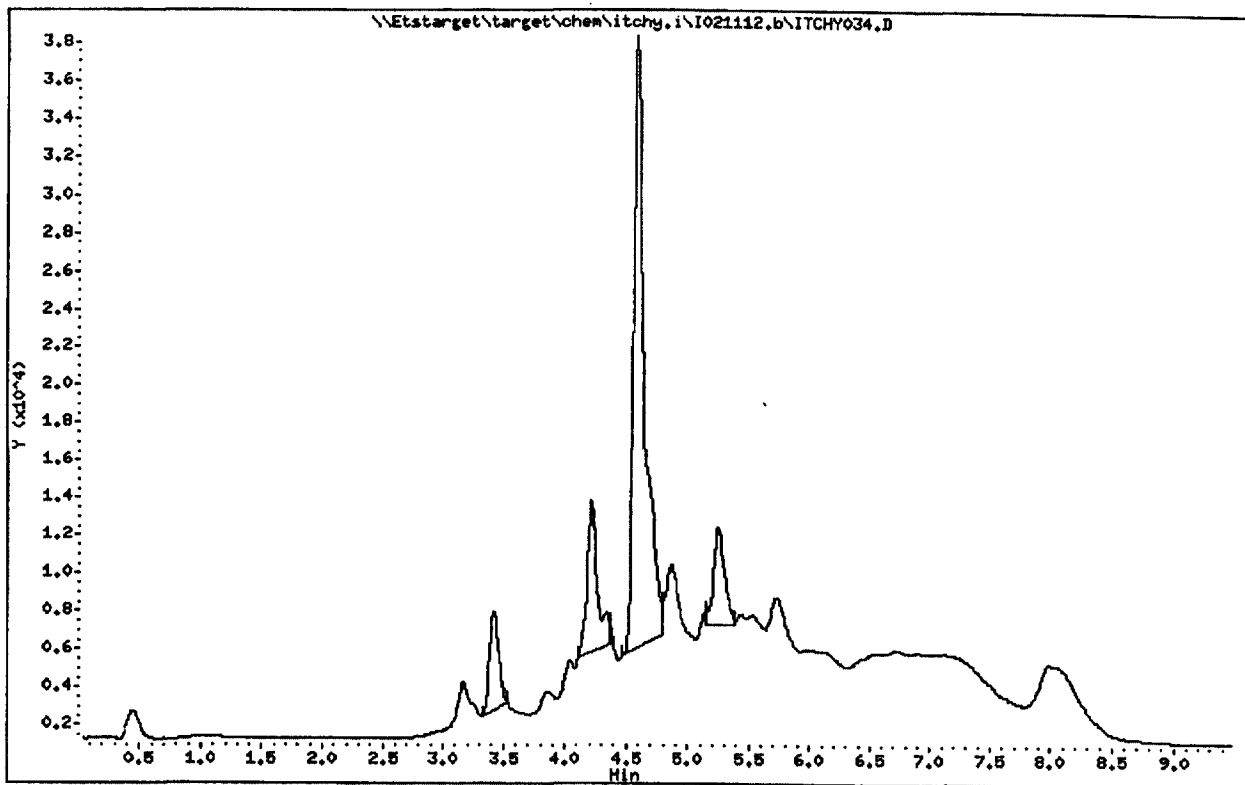
Inst ID: itchy.i
Quant Type: ESTD
Cal File: ITCHY026.D
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.421	3.422	-0.001	37874	0.55035	0.550
	299	3.252	3.422	-0.170	7026	933.500	933
	299	4.129	3.422	0.707	7366	933.490	933
2 PFHS (399)	399	3.840	3.830	0.010	2541	0.13306	0.133
3 PFOA (413)	413	4.039	4.020	0.019	13412	744.874	745
	413	4.348	4.020	0.328	10274	745.050	745
4 FOSA (498)	498	4.867	4.867	0.000	1927	0.17216	0.172
5 PFOS (499)	499	4.209	4.199	0.010	78922	1.09119	1.09

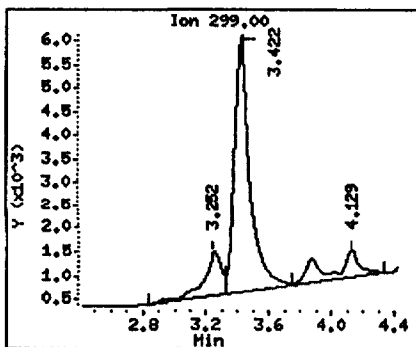
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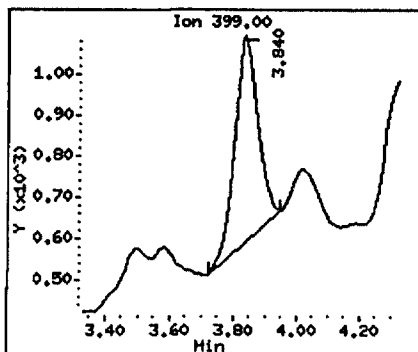
Page 2



1 PFBS (299)



2 PFBS (399)

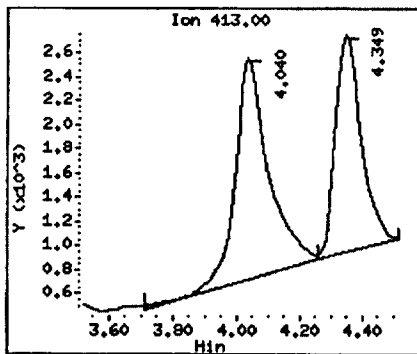


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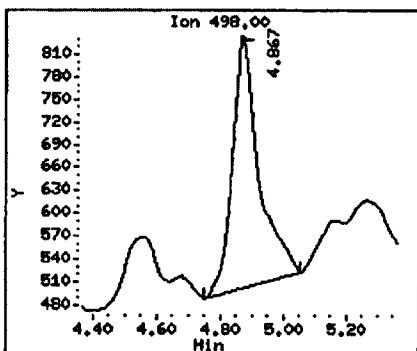
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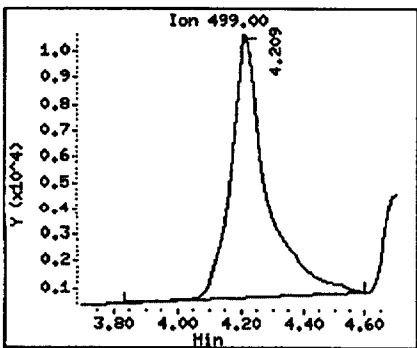
3 PFDA (413)



4 FOSA (498)



5 PFOS (499)



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CMX 12/10/02
Date

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY035.D Page 1
Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY035.D
Lab Smp Id: 0443-WB-2
Inj Date : 12-NOV-2002 13:51
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-WB-2; Water Blank; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

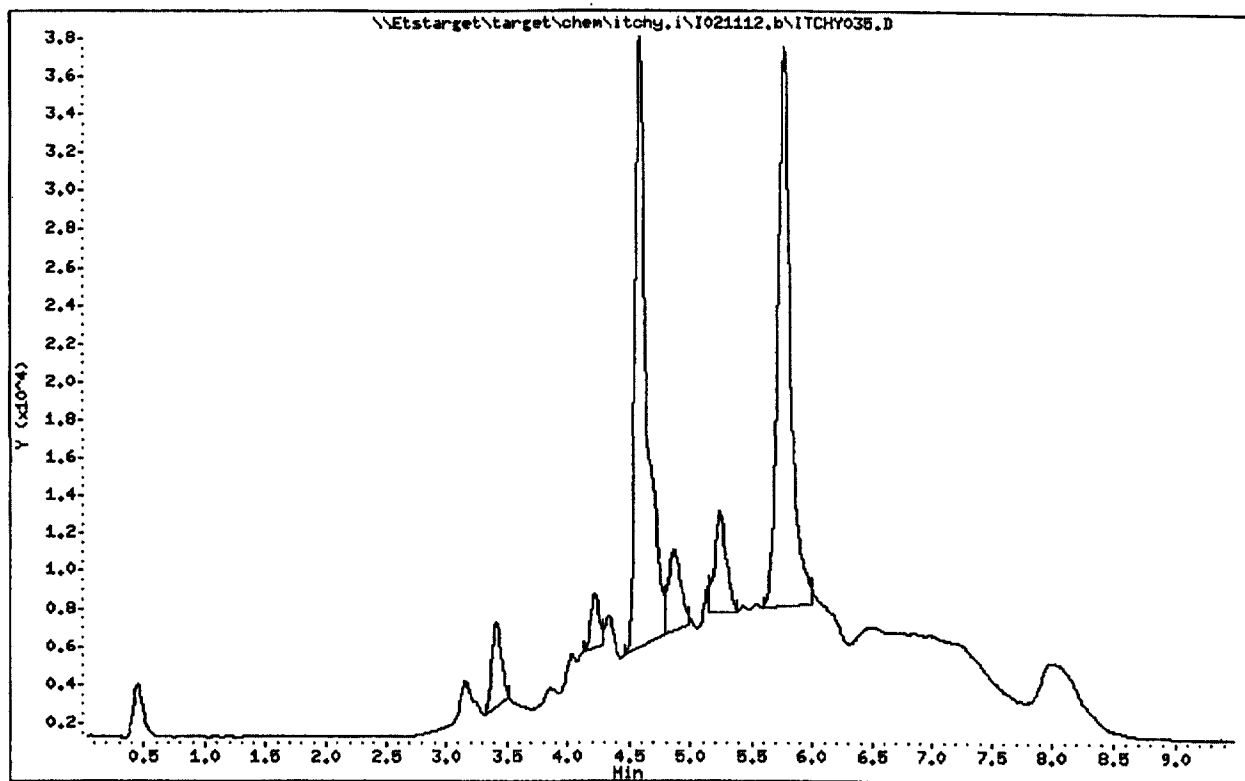
Compounds	QUANT SIG						CONCENTRATIONS	
	MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)

1 PFBS (299)	299	3.411	3.422	-0.011	32544		0.39726	0.397
	299	3.252	3.422	-0.170	5958		933.530	934
	299	4.119	3.422	0.697	3285		933.607	934
2 PFHS (399)	399	3.830	3.830	0.000	3628		0.15642	0.156
	399	3.491	3.830	-0.339	1344		0.10734	0.107
3 PFOA (413)	413	4.029	4.020	0.009	14592		0.04324	0.0432
	413	4.348	4.020	0.328	12065		744.949	745
4 FOSA (498)	498	4.867	4.867	0.000	2453		0.18434	0.184
5 PPOS (499)	499	4.219	4.199	0.020	42341		0.23630	0.236

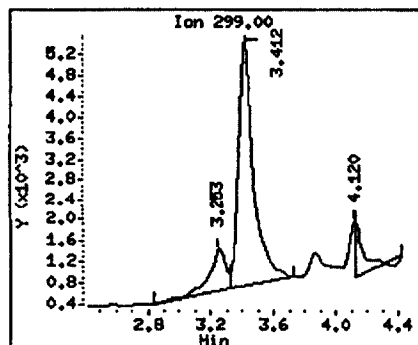
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CML 12/10/02
Initial Date

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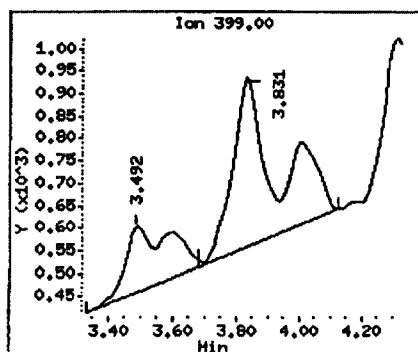
Page 2



1 PFBS (299)



2 PFBS (399)

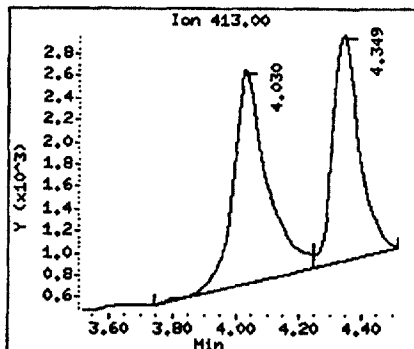


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CINC 12/10/02
Initial Date

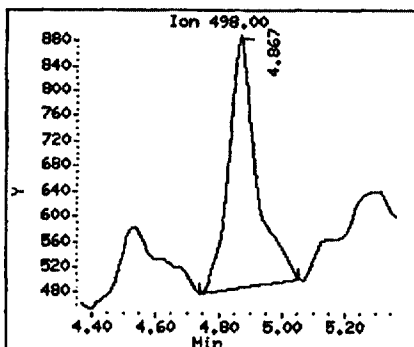
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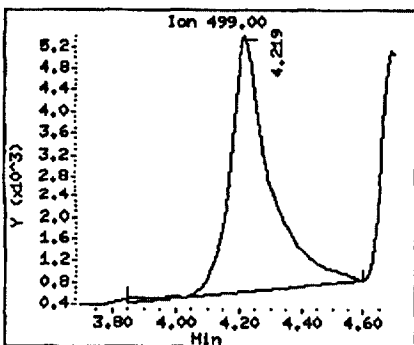
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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CINC 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY038.D Page 1
 Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY038.D
 Lab Smp Id: 0443-38044-1
 Inj Date : 12-NOV-2002 14:23
 Operator : mla Inst ID: itchy.i
 Smp Info : E02-0443-38044-1; SL-1; MeOH Extract; 21 Oct 02; MLA
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
 Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
 Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
 Als bottle: 25
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12
 Compound Sublist: all.sub

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.511	3.422	0.089	383859	10.5978		10.6	
	299	3.970	3.422	0.548	2593	933.627		934	
	299	4.309	3.422	0.887	4148	933.582		934	
2 PFHS (399)	399	3.840	3.830	0.010	122635	2.71999		2.72	
	399	3.432	3.830	-0.398	18909	0.48492		0.485	
3 PFOA (413)	413	4.040	4.020	0.020	295590	16.1949		16.2	
	413	3.701	4.020	-0.319	8211	745.166		745	
4 POSA (498)	498	4.887	4.867	0.020	1250415	29.6711		29.7 (M)	
5 PPOS (499)	499	4.219	4.199	0.020	2785277	67.6562		67.6 (M)	

QC Flag Legend

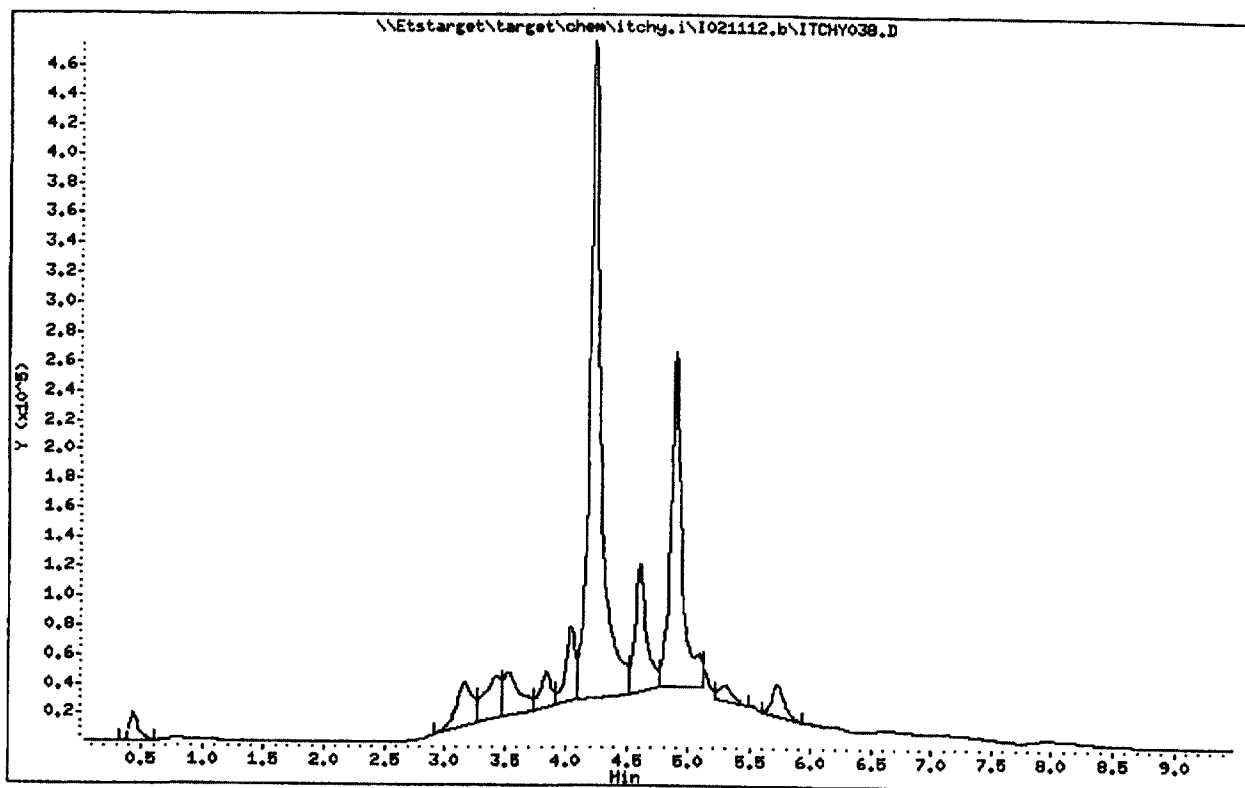
M - Compound response manually integrated.

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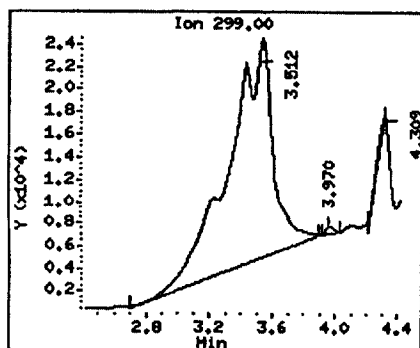
Circ 12/10/02
 Initial Date

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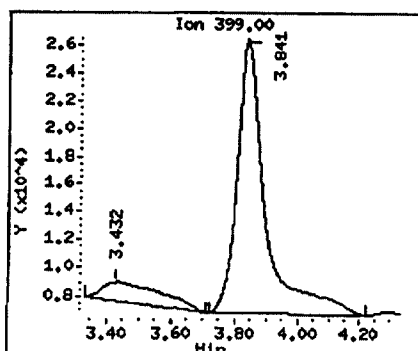
Page 2



1 PFBS (299)



2 PFBS (399)

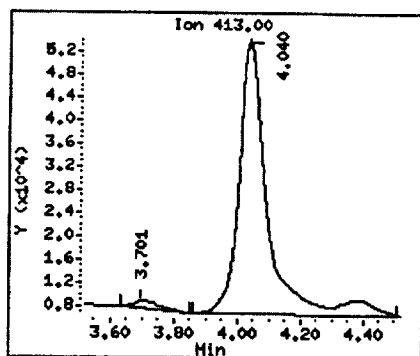


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CMC 12/10/02
Initial Date

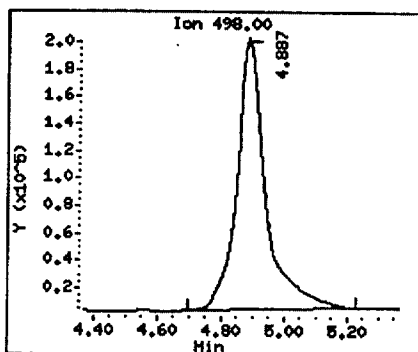
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Page 3

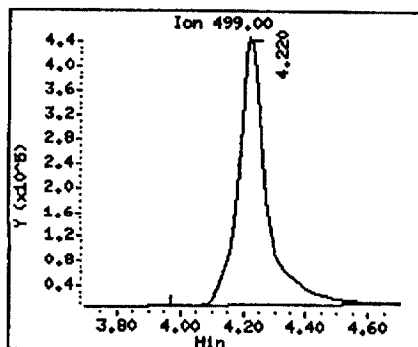
3 PF0A (413)



4 F0SA (498)



5 PF0S (499)



Exact Copy of Original

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initial

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY040.D Page 1
 Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY040.D
 Lab Smp Id: 0443-38044-2
 Inj Date : 12-NOV-2002 14:45
 Operator : mla
 Smp Info : E02-0443-38044-2; SL-1; MeOH Extract; 21 Oct 02; MLA
 Misc Info :
 Comment :
 Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
 Meth Date : 13-Nov-2002 09:16 itchy.i
 Cal Date : 12-NOV-2002 12:14
 Als bottle: 26
 Dil Factor: 1.00000
 Integrator: Falcon
 Target Version: 4.12

Inst ID: itchy.i
 Quant Type: ESTD
 Cal File: ITCHY026.D
 Compound Sublist: all.sub

Compounds	QUANT SIG						CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====
1 PFBS (299)	299	3.432	3.422	0.010	383608	10.5904	10.6	
	299	3.970	3.422	0.548	1970	933.645	934	
	299	4.309	3.422	0.887	62861	1.26871	1.27	
2 PFHS (399)	399	3.840	3.830	0.010	118901	2.63937	2.64	
	399	3.432	3.830	-0.398	13878	0.37675	0.377	
3 PFOA (413)	413	4.040	4.020	0.020	260003	14.1091	14.1	
	413	3.711	4.020	-0.309	9504	745.093	745	
4 FOSA (498)	498	4.887	4.867	0.020	1361450	32.3550	32.4	
5 PFOS (499)	499	4.219	4.199	0.020	2885124	70.2517	70.2 (M)	

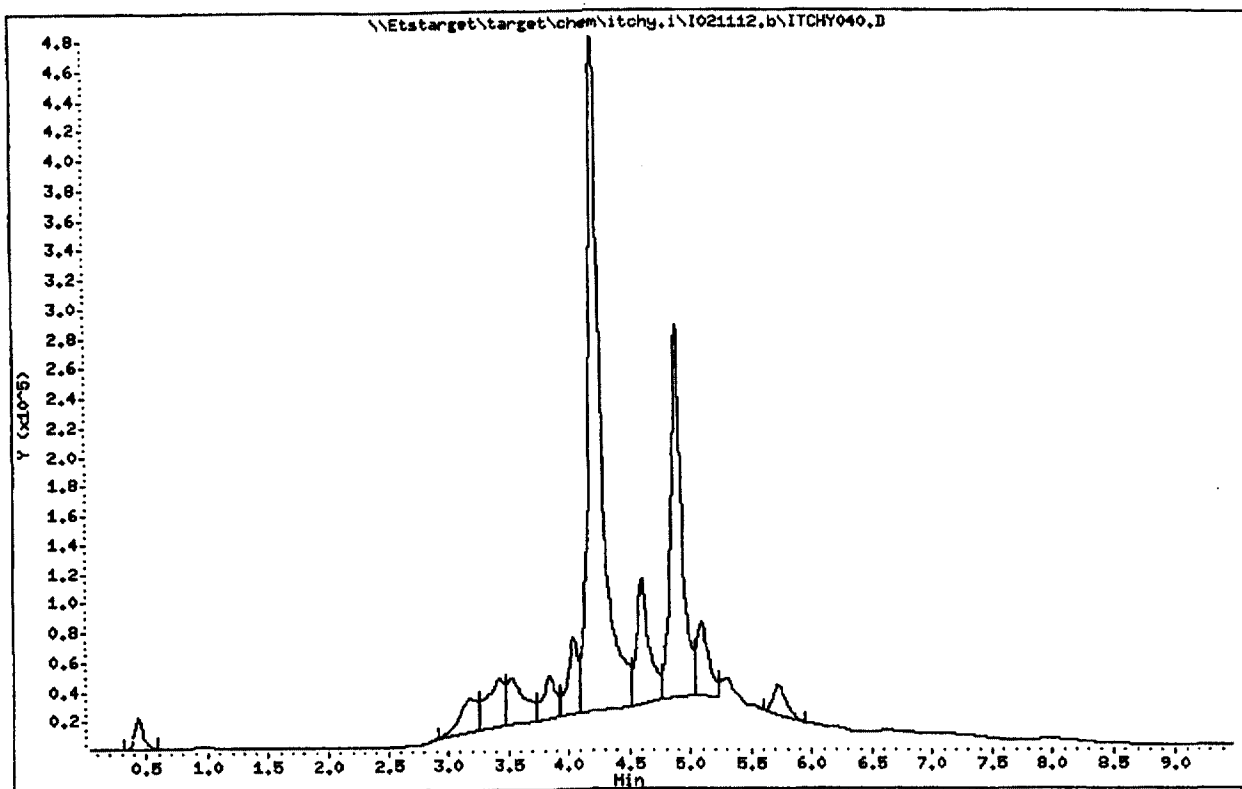
QC Flag Legend

M - Compound response manually integrated.

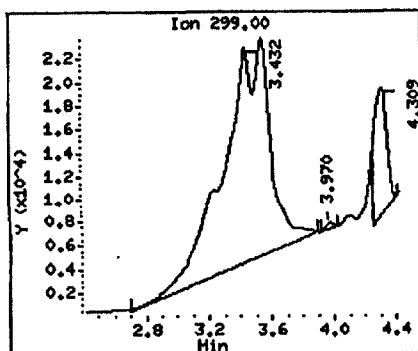
12/10/02
 CMC

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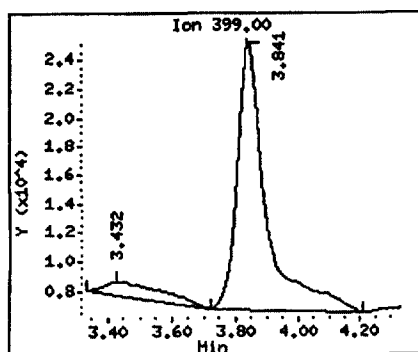
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1 PFBS (299)



2 PFBS (399)



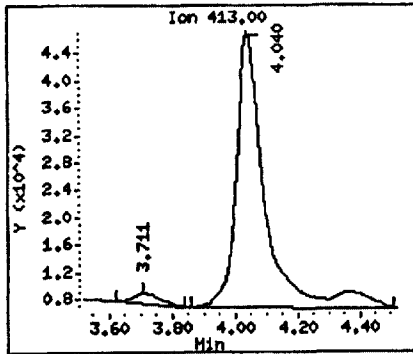
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CMC 12/12/02
(Initial) Date

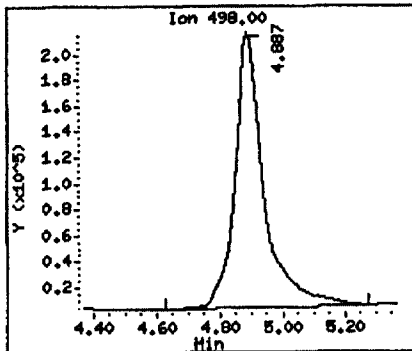
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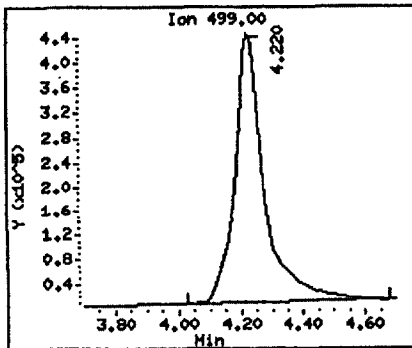
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)

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CINC 12/10/02

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY042.D Page 1
Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY042.D
Lab Smp Id: 0443-38044-3
Inj Date : 12-NOV-2002 15:07
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-38044-3; SL-1; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 27
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN	FINAL
								(ng/mL)	(ng/mL)
1 PFBS (299)	299	3.531	3.422	0.109	482034	13.4894	13.5		
	299	4.299	3.422	0.877	50026	0.89957	0.900		
2 PFHS (399)	399	3.840	3.830	0.010	111724	2.48445	2.48		
	399	3.432	3.830	-0.398	19590	0.49957	0.500		
3 PFOA (413)	413	4.040	4.020	0.020	253343	13.7201	13.7		
	413	3.701	4.020	-0.319	8515	745.149	745		
4 POSA (498)	498	4.887	4.867	0.020	1033771	24.4638	24.5 (M)		
5 PPOS (499)	499	4.219	4.199	0.020	2109105	50.3621	50.4		

QC Flag Legend

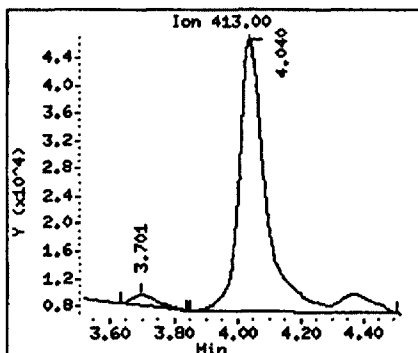
M - Compound response manually integrated.

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CME 12/10/02
CME

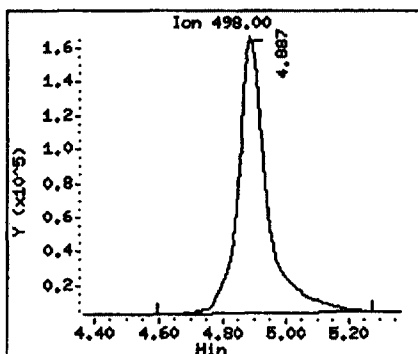
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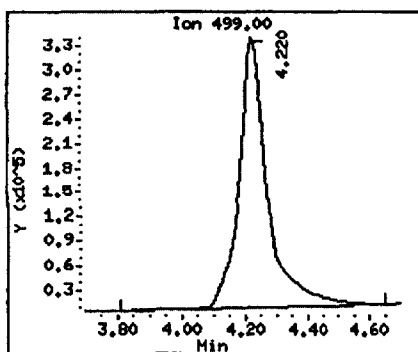
3 PFDA (413)



4 FOSA (498)



5 PFOS (499)



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Cmc 12/10/02
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Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY046.D Page 1
Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY046.D
Lab Smp Id: 0453-38045-1
Inj Date : 12-NOV-2002 15:50
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-38045-1; SL-3; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 31
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

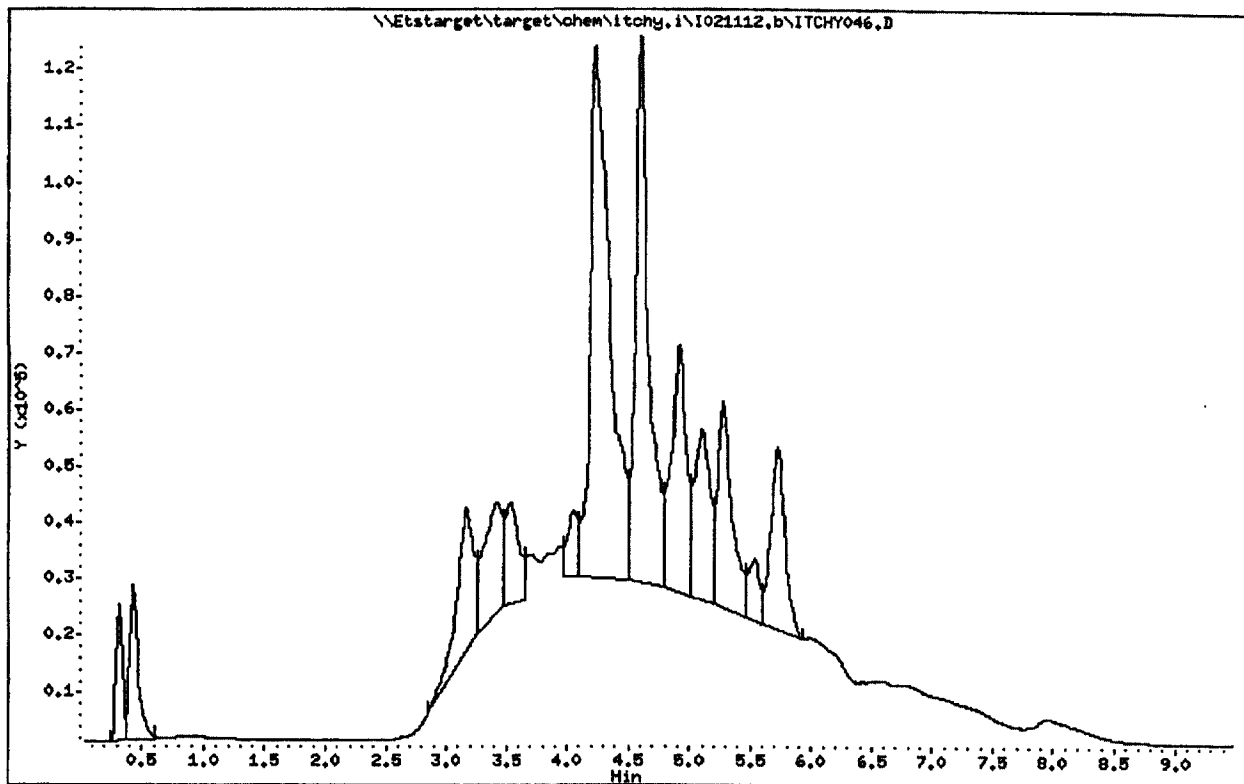
Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.412	3.422	-0.010	325254	8.88037	8.88
	299	3.950	3.422	0.528	2272	933.636	934
	299	4.309	3.422	0.887	17131	933.210	933
2 PFBS (399)	399	3.840	3.830	0.010	13341	0.36520	0.365
	399	3.442	3.830	-0.388	8750	0.26651	0.266
3 PFOA (413)	413	4.040	4.020	0.020	48048	1.92935	1.93
	413	3.711	4.020	-0.309	9113	745.115	745
	413	4.379	4.020	0.359	7941	745.181	745
4 POSA (498)	498	4.887	4.867	0.020	48310	1.24672	1.25
	498	4.598	4.867	-0.269	5183	0.24754	0.248
5 PFOS (499)	499	4.219	4.199	0.020	418454	9.07817	9.08
	499	4.568	4.199	0.369	11802	1354.25	1350

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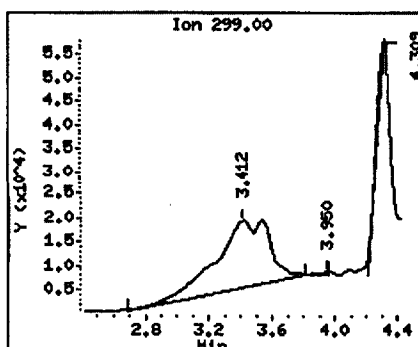
Cmc. 12/10/02
Date

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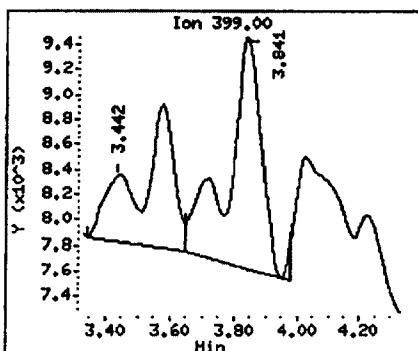
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1 PFBS (299)



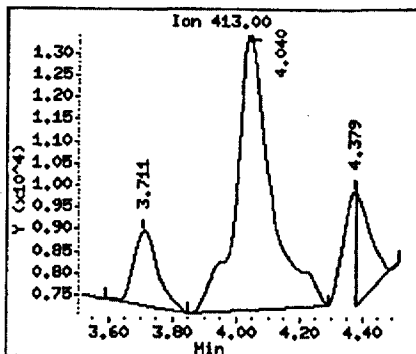
2 PFBS (399)

Original
CWC 12/10/02

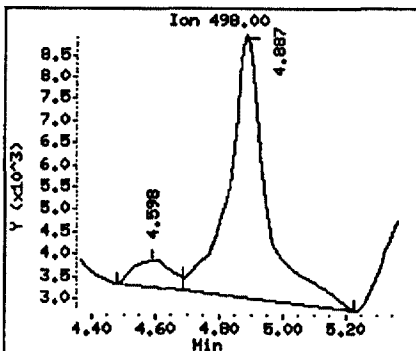
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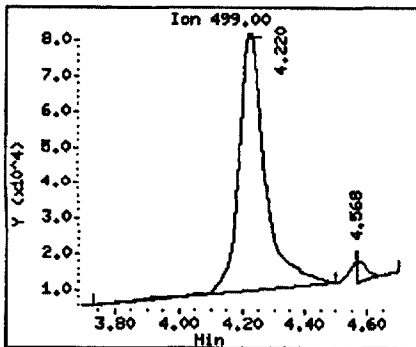
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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CWC 12/10/02
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Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY048.D Page 1
Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY048.D
Lab Smp Id: 0453-38045-2
Inj Date : 12-NOV-2002 16:12
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-38045-2; SL-3; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 32
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

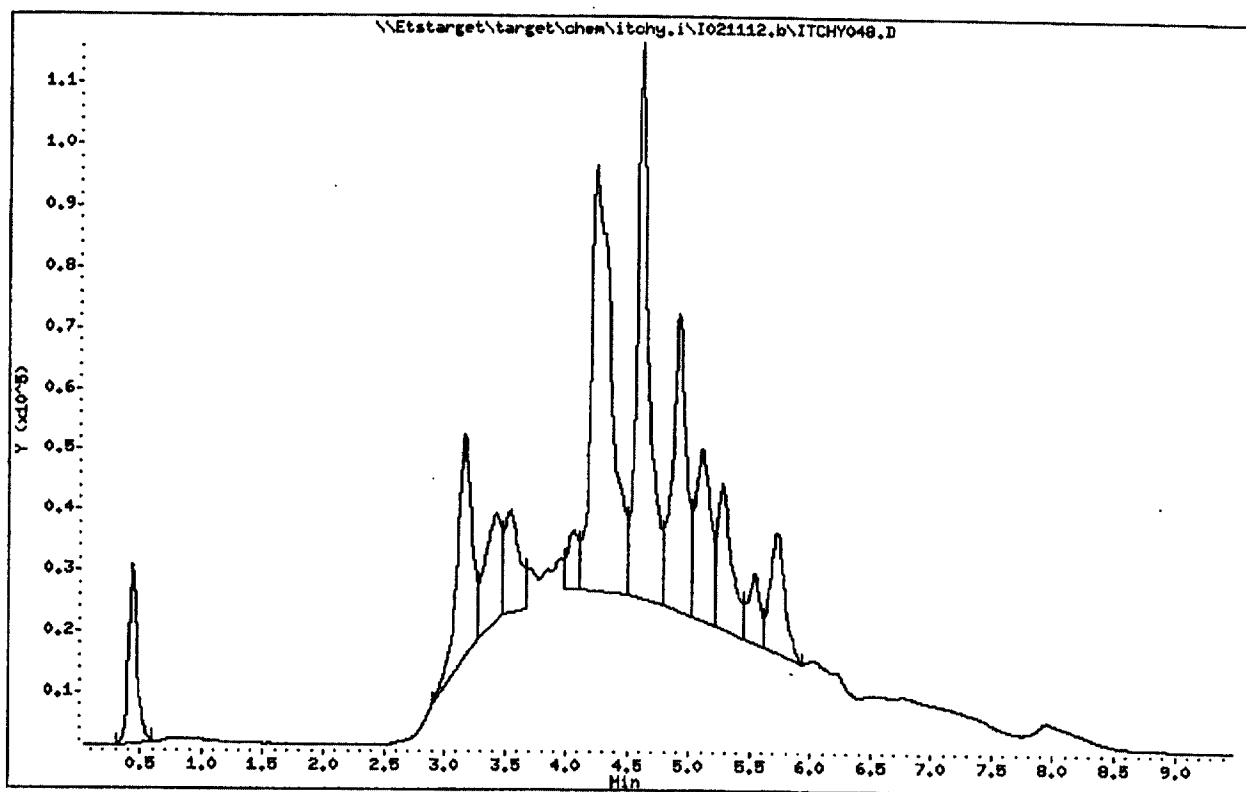
Compound Sublist: all.sub

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	-----	-----	-----	-----	-----	-----	-----	-----	-----
	299	3.421	3.422	-0.001	305101	8.29128	8.29		
	299	3.960	3.422	0.538	7189	933.495	933		
	299	4.318	3.422	0.896	12829	933.333	933		
2 PFHS (399)	399	3.840	3.830	0.010	11469	0.32496	0.325		
	399	3.441	3.830	-0.389	18109	0.46772	0.468		
	399	4.029	3.830	0.199	10665	0.30767	0.308		
3 PFQA (413)	413	4.049	4.020	0.029	60231	2.61856	2.62		
	413	3.710	4.020	-0.310	8754	745.135	745		
4 FOSA (498)	498	4.886	4.867	0.019	46172	1.19716	1.20		
	498	4.617	4.867	-0.250	4067	0.22171	0.222		
5 PPOS (499)	499	4.229	4.199	0.030	323943	6.84538	6.84		
	499	4.568	4.199	0.369	6825	1354.37	1350		

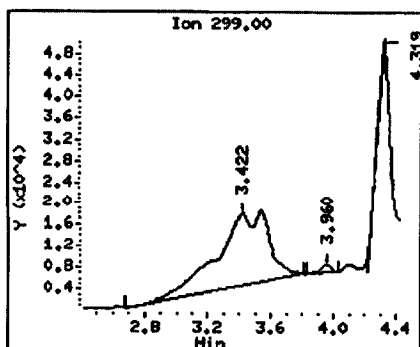
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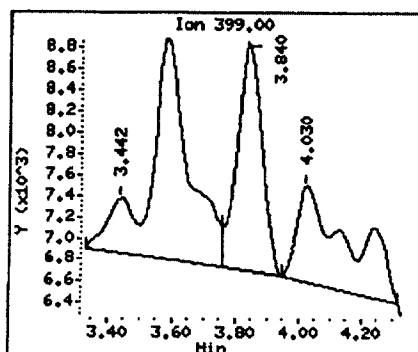
Page 2



1 PFBS (299)



2 PFBS (399)

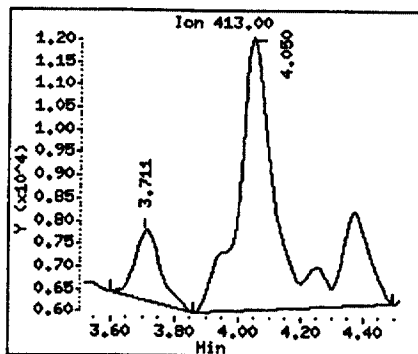


Printed On: 12/10/02
CNC
Initial Date

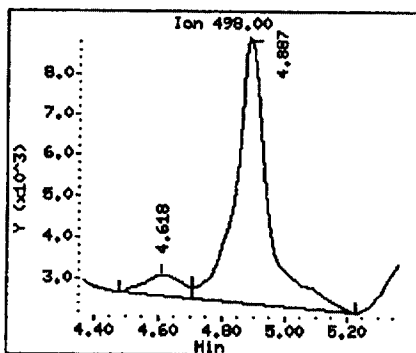
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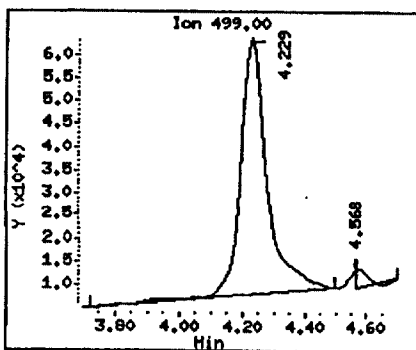
3 PF0A (413)



4 F0SA (498)



5 PF0S (499)



Franklin
C/nc 12/10/02
(cnc)

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY051.D Page 1
Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY051.D
Lab Smp Id: 0453-38045-3
Inj Date : 12-NOV-2002 16:44
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-38045-3; SL-3; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 33
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

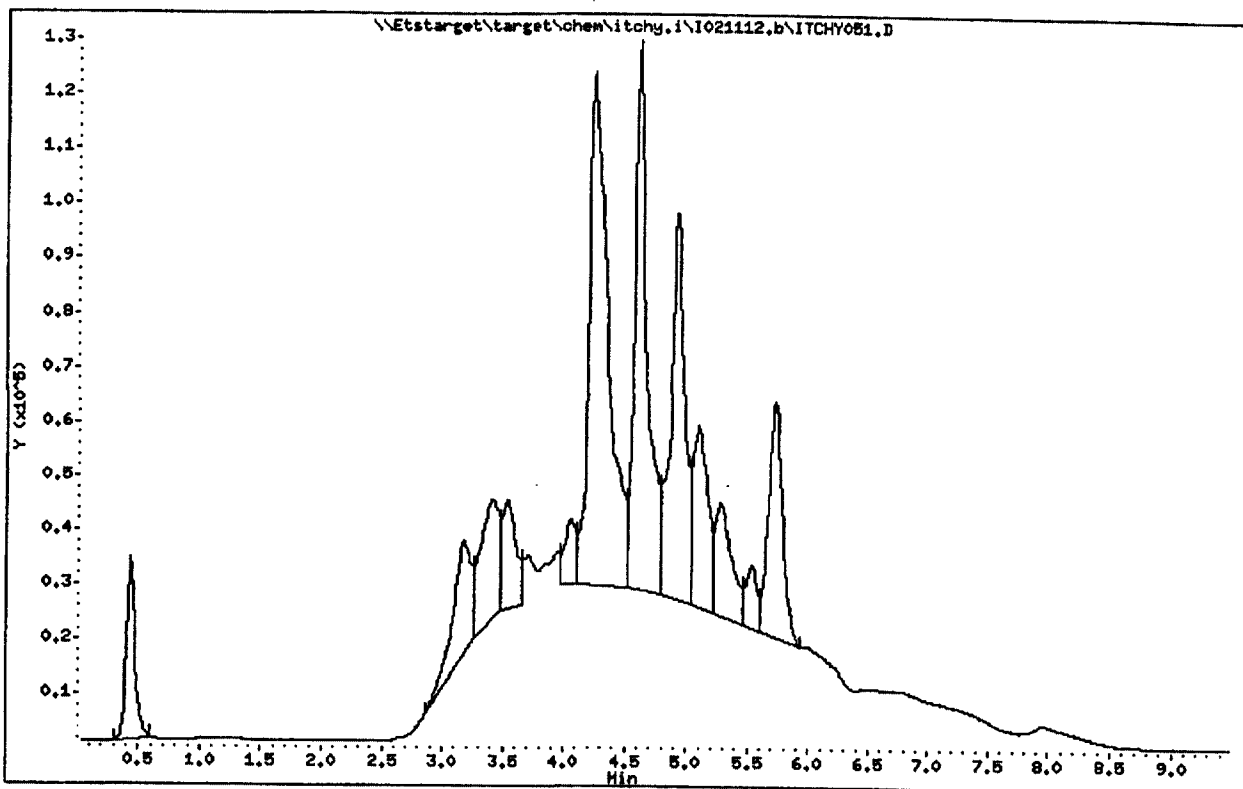
Compounds	QUANT SIG	CONCENTRATIONS					
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.402	3.422	-0.020	364688	10.0353	10.0
	299	3.950	3.422	0.528	2069	933.642	934
	299	4.309	3.422	0.887	18856	0.00434	0.00434
2 PFHS (399)	399	3.720	3.830	-0.110	12125	0.33906	0.339
	399	3.431	3.830	-0.399	2424	0.13055	0.130
	399	4.039	3.830	0.209	11470	0.32498	0.325
3 PFOA (413)	413	4.049	4.020	0.029	54999	2.32242	2.32
	413	3.711	4.020	-0.309	12405	744.930	745
	413	4.388	4.020	0.368	12668	744.915	745
4 POSA (498)	498	4.897	4.867	0.030	65768	1.65158	1.65
	498	4.588	4.867	-0.279	4044	0.22117	0.221
5 PFOS (499)	499	4.229	4.199	0.030	420485	9.12623	9.13
	499	3.930	4.199	-0.269	4504	1354.43	1350

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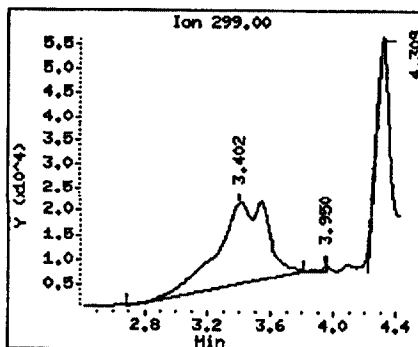
CRC 12/10/02
Initial Date

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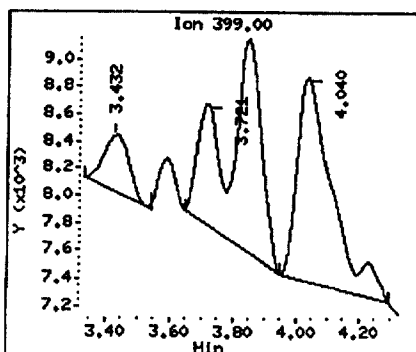
Page 2



1 PFBS (299)



2 PFBS (399)

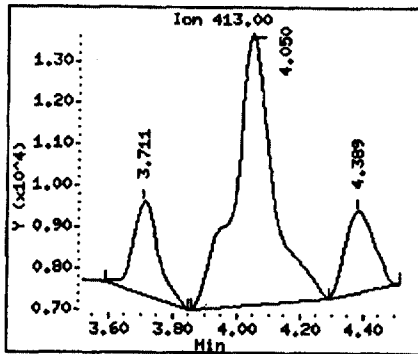


CINC 12/10/02

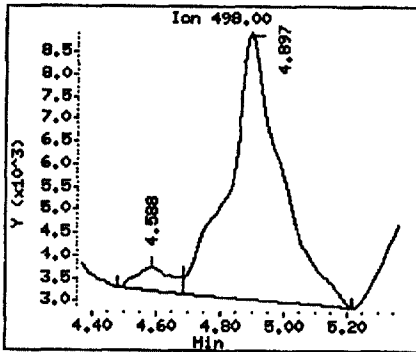
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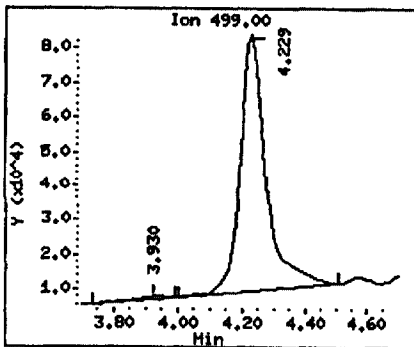
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)

10/2/01
CME 12/10/02

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY053.D Page 1
Report Date: 19-Nov-2002 14:49

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY053.D
Lab Smp Id: 0453-38045-MS(3)
Inj Date : 12-NOV-2002 17:06
Operator : mla
Smp Info : E02-0443-38045-MS(3); SL-3; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i
Cal Date : 12-NOV-2002 12:14
Als bottle: 34
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

Inst ID: itchy.i
Quant Type: ESTD
Cal File: ITCHY026.D

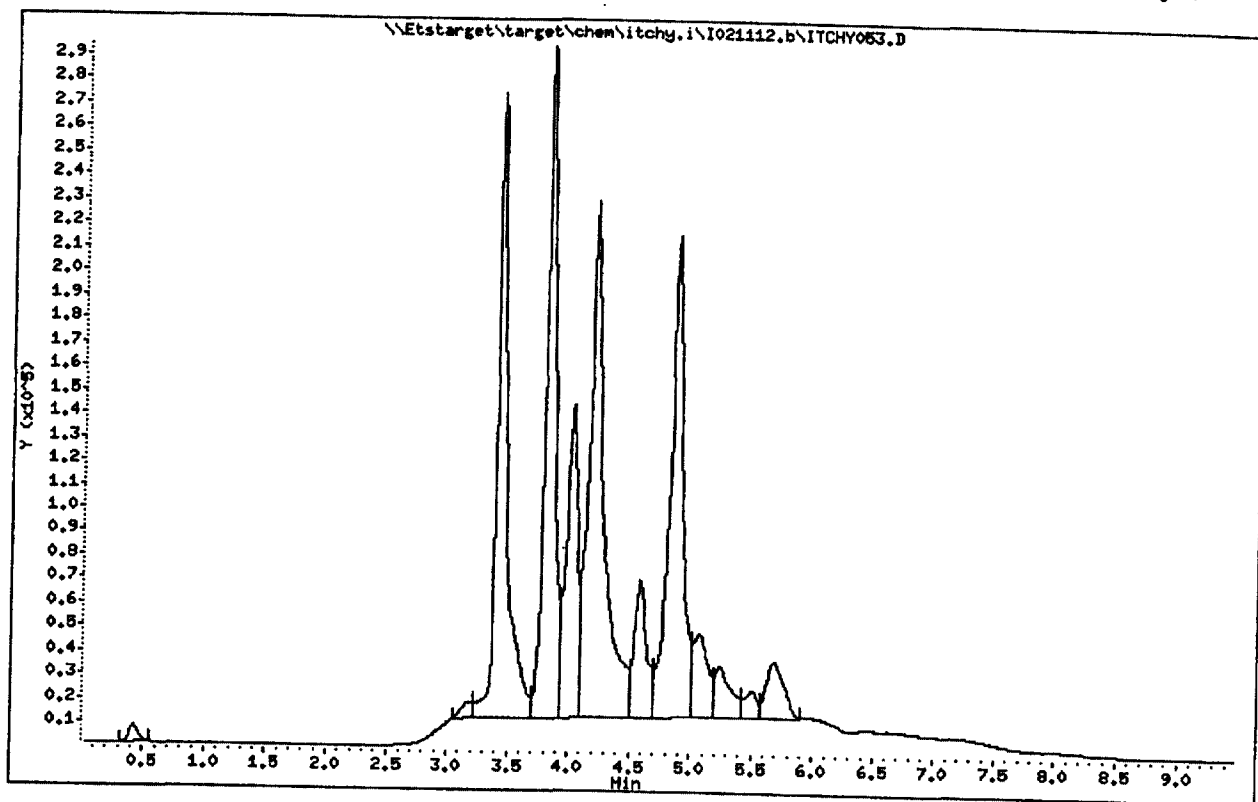
Compound Sublist: all.sub

Compounds	QUANT SIG						CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
=====	=====	=====	=====	=====	=====	=====	=====	=====
1 PFBS (299)	299	3.422	3.422	0.000	1540798	45.9348		45.9
	299	3.940	3.422	0.518	6713	933.509		934
	299	4.289	3.422	0.867	118796	2.88083		2.88
2 PFHS (399)	399	3.820	3.830	-0.010	1695558	37.8097		37.8
3 PFOA (413)	413	4.020	4.020	0.000	691396	40.2752		40.3
	413	3.691	4.020	-0.329	6716	745.250		745
4 FOSA (498)	498	4.867	4.867	0.000	1092819	25.8793		25.9
5 PFOS (499)	499	4.199	4.199	0.000	1285365	29.9181		29.9
	499	3.920	4.199	-0.279	2917	1354.46		1350

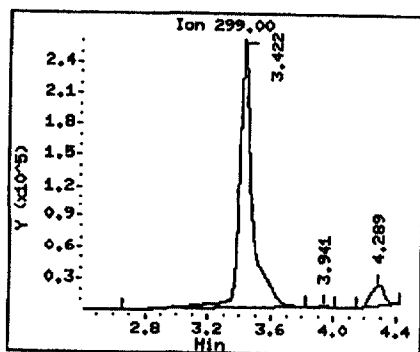
1. Copy of Original
CME 12/10/02
Date

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY053.D

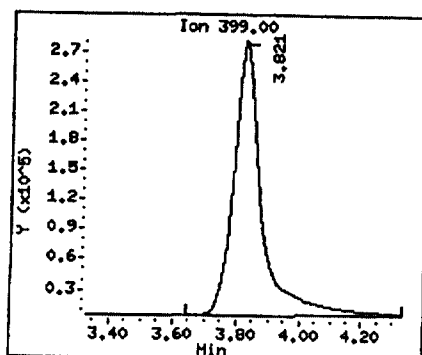
Page 2



1 PFHS (299)



2 PFHS (399)

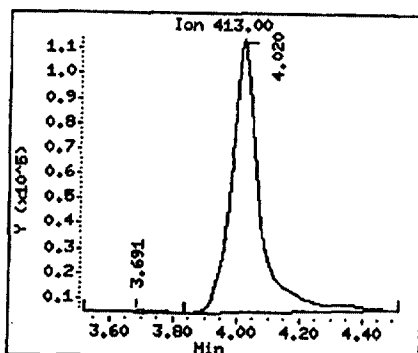


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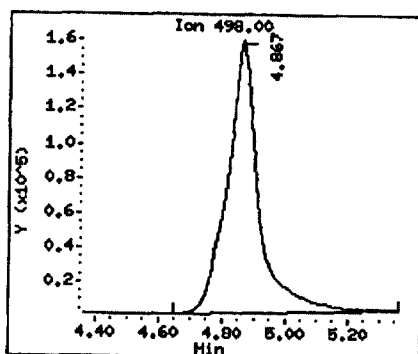
Data File: \\Etstarget\target\chem\itchy.1\1021112.b\ITCHY053.D

Page 3

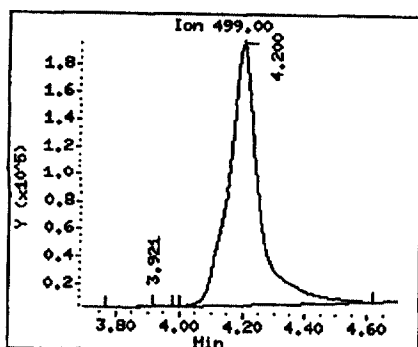
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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CMC 12/10/02
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Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY055.D Page 1
Report Date: 19-Nov-2002 14:50

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY055.D
Lab Smp Id: 0463-38046-1
Inj Date : 12-NOV-2002 17:28
Operator : mla
Smp Info : E02-0443-38046-1; SL-2; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i
Cal Date : 12-NOV-2002 12:14
Als bottle: 41
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12

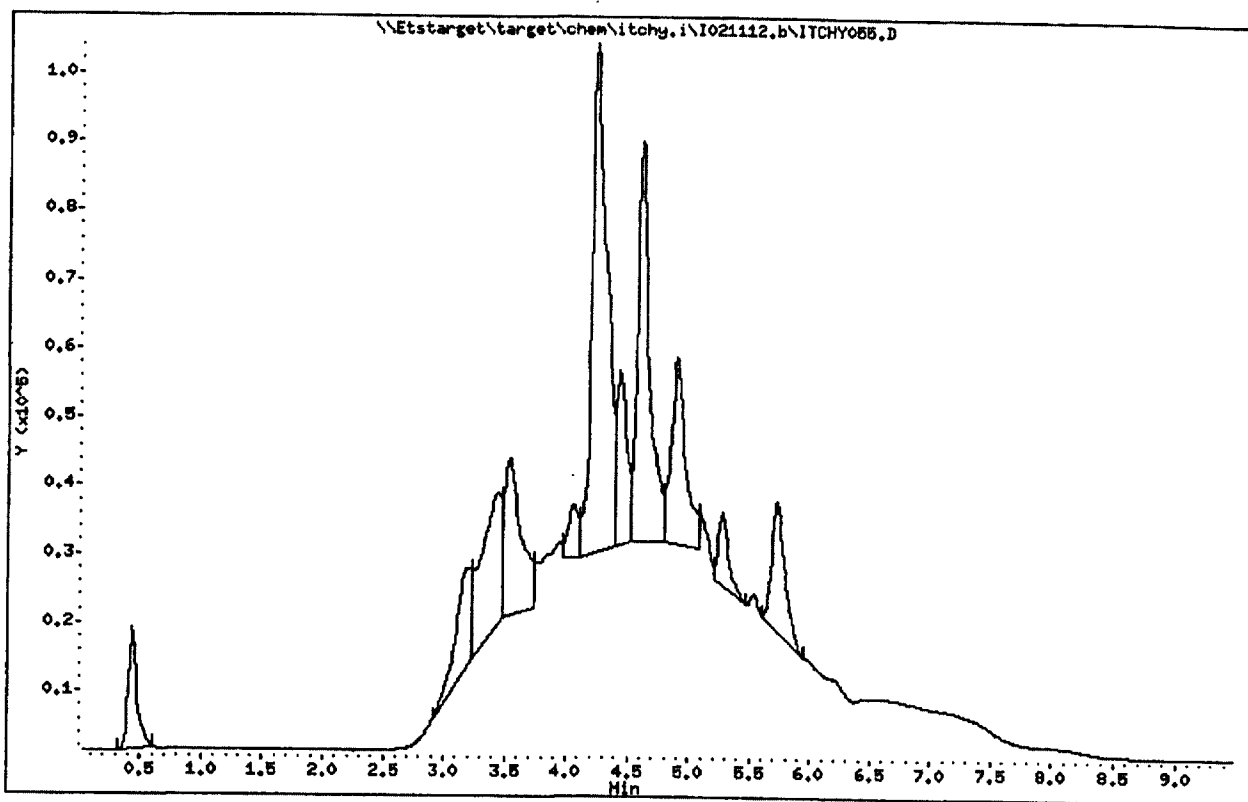
Inst ID: itchy.i
Quant Type: ESTD
Cal File: ITCHY026.D
Compound Sublist: all.sub

Compounds	QUANT SIG	CONCENTRATIONS						
		MASS	RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
-----	-----	-----	-----	-----	-----	-----	-----	-----
1 PFBS (299)	299	3.531	3.422	0.109	327380	8.94256	8.94	
	299	4.089	3.422	0.667	5006	933.558	934	
	299	4.319	3.422	0.897	8043	933.471	933	
2 PFHS (399)	399	3.840	3.830	0.010	17353	0.45146	0.451	
	399	3.422	3.830	-0.408	14192	0.38350	0.383	
3 PFOA (413)	413	4.040	4.020	0.020	53375	2.23055	2.23	
	413	3.711	4.020	-0.309	7259	745.219	745	
4 POSA (498)	498	4.887	4.867	0.020	120467	2.92155	2.92	
5 PPOS (499)	499	4.219	4.199	0.020	417236	9.04935	9.05	
	499	3.930	4.199	-0.269	11862	1354.25	1350	

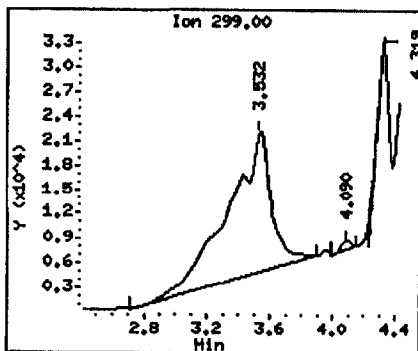
Enter Copy of Original
CML 12/12/02
Date

Data File: \\Etstarget\target\chem\itchy,i\I021112,b\ITCHY055.D

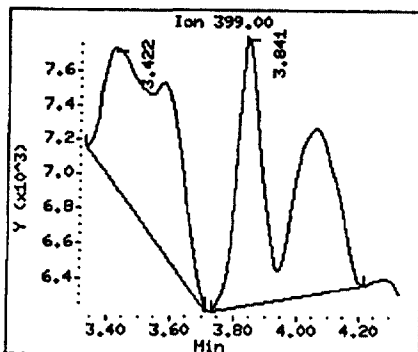
Page 2



1 PFBS (299)



2 PFBS (399)

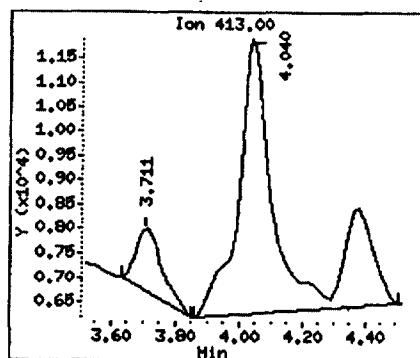


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Initial Date

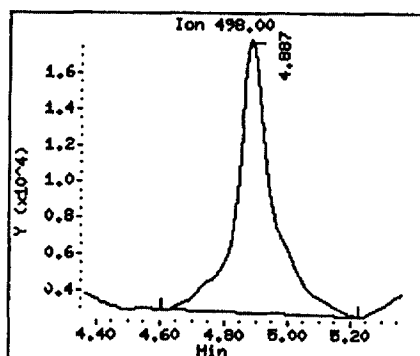
Data File: \\etstarget\target\chem\itohy.i\I021112.b\ITCHY065.D

Page 3

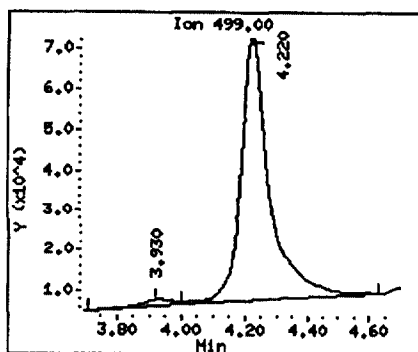
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY057.D Page 1
Report Date: 19-Nov-2002 14:50

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY057.D
Lab Smp Id: 0463-38046-2
Inj Date : 12-NOV-2002 17:50
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-38046-2; SL-2; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 42
Dil Factor: 1.00000
Integrator: Falcon
Target Version: 4.12
Compound Sublist: all.sub

Compounds	QUANT SIG							CONCENTRATIONS	
		MASS	RT	EXP RT	DLT RT	RESPONSE		ON-COLUMN	FINAL
								(ng/mL)	(ng/mL)
1 PFBS (299)	299	3.511	3.422	0.089	232749	6.18256	6.18		
	299	3.960	3.422	0.538	2658	933.625	934		
	299	4.089	3.422	0.667	5270	933.550	934		
	299	4.319	3.422	0.897	7437	933.488	933		
2 PFBS (399)	399	3.840	3.830	0.010	18434	0.47471	0.475		
	399	3.432	3.830	-0.398	10544	0.30507	0.305		
3 PFOA (413)	413	4.040	4.020	0.020	35197	1.20373	1.20		
	413	3.711	4.020	-0.309	7629	745.199	745		
	413	4.369	4.020	0.349	12091	744.948	745		
4 FOBA (498)	498	4.887	4.867	0.020	103503	2.52745	2.53 (M)		
5 PFOS (499)	499	4.229	4.199	0.030	393650	8.49146	8.49		
	499	3.930	4.199	-0.269	12978	1354.23	1350		

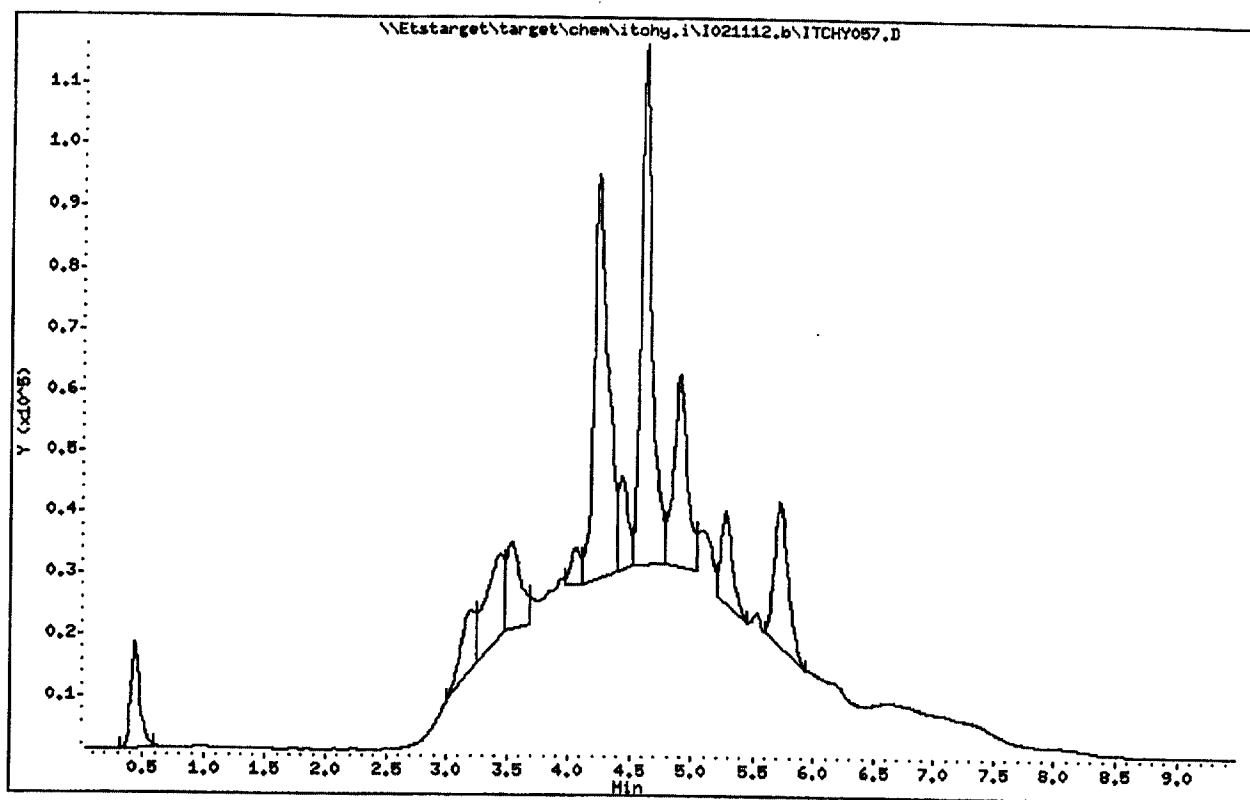
QC Flag Legend

M - Compound response manually integrated.

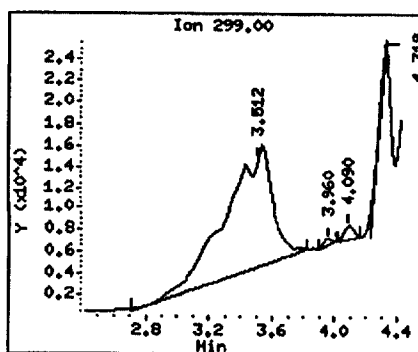
12/10/02
CML
Data

Data File: \\Etstarget\target\chem\itohy.i\1021112.b\ITCHY057.D

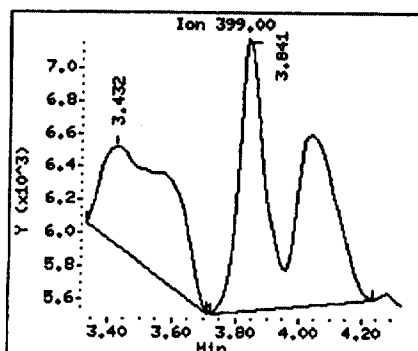
Page 2



1 PFBS (299)



2 PFBS (399)

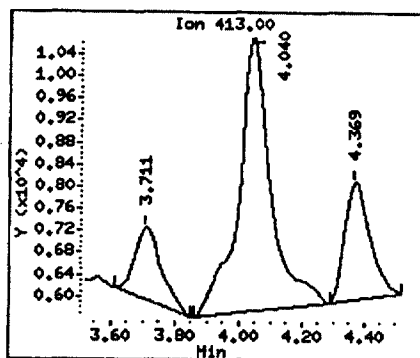


Cinc 12/10/02

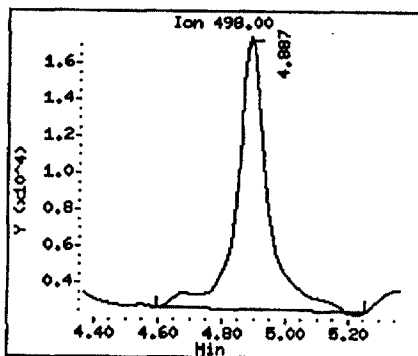
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Page 3

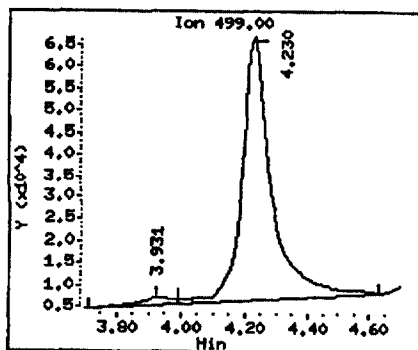
3 PF0A (413)



4 F0SA (498)



5 PF0S (499)



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Initial Date

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY059.D Page 1
Report Date: 19-Nov-2002 14:50

3M Environmental Laboratory

Data file : \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY059.D
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Inj Date : 12-NOV-2002 18:12
Operator : mla Inst ID: itchy.i
Smp Info : E02-0443-38046-3; SL-2; MeOH Extract; 21 Oct 02; MLA
Misc Info :
Comment :
Method : \\Etstarget\target\chem\itchy.i\I021112.b\I021112.m
Meth Date : 13-Nov-2002 09:16 itchy.i Quant Type: ESTD
Cal Date : 12-NOV-2002 12:14 Cal File: ITCHY026.D
Als bottle: 43
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12

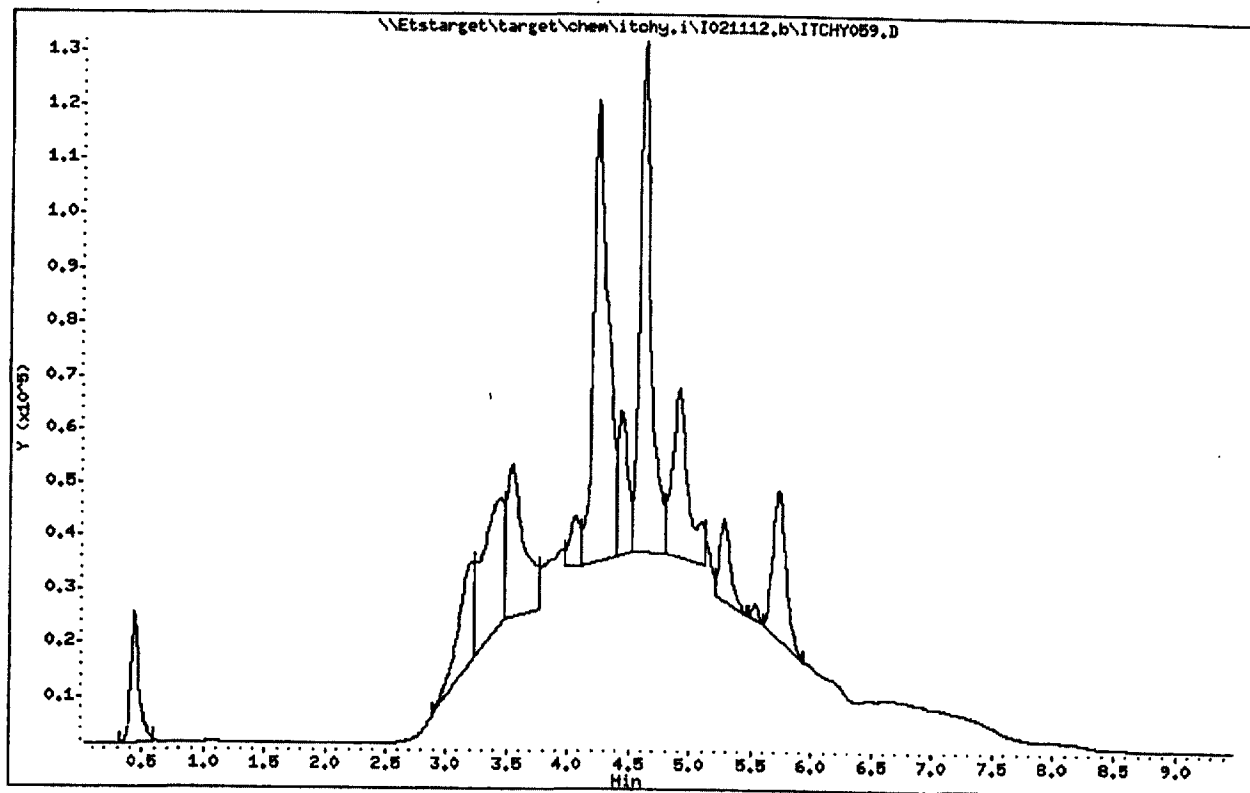
Compounds	QUANT SIG MASS					CONCENTRATIONS	
		RT	EXP RT	DLT RT	RESPONSE	ON-COLUMN (ng/mL)	FINAL (ng/mL)
1 PFBS (299)	299	3.541	3.422	0.119	420079	11.6624	11.7
	299	4.090	3.422	0.668	6904	933.503	934
	299	4.319	3.422	0.897	11582	933.369	933
2 PFHS (399)	399	3.850	3.830	0.020	25494	0.62654	0.626
	399	3.432	3.830	-0.398	17014	0.44417	0.444
3 PFOA (413)	413	4.040	4.020	0.020	40917	1.52653	1.53
	413	3.711	4.020	-0.309	8580	745.145	745
	413	4.369	4.020	0.349	11804	744.964	745
4 POSA (498)	498	4.887	4.867	0.020	133252	3.21870	3.22
5 PFOS (499)	499	4.229	4.199	0.030	470587	10.5027	10.5
	499	3.930	4.199	-0.269	14760	1354.19	1350

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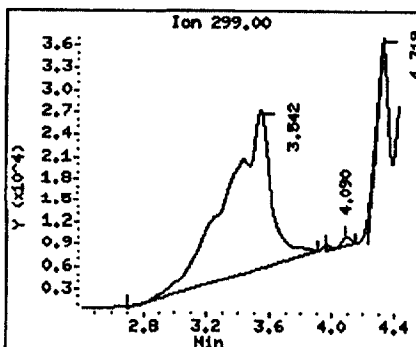
CML 12/10/02
Initial Date

Data File: \\Etstarget\target\chem\itchy.i\I021112.b\ITCHY059.D

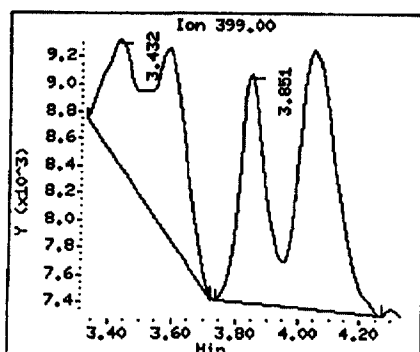
Page 2



1 PFBS (299)



2 PFBS (399)

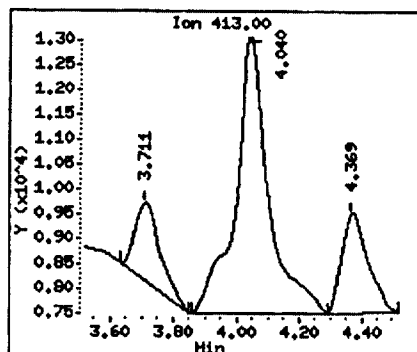


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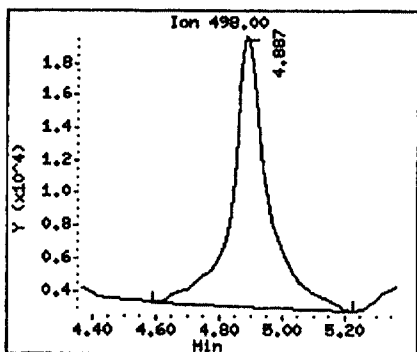
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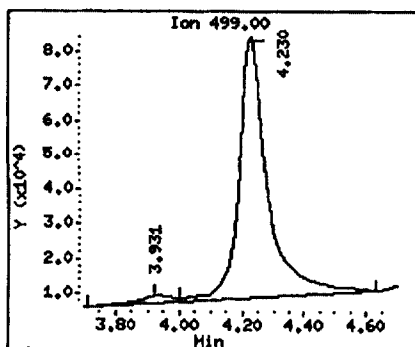
3 PFOA (413)



4 FOSA (498)



5 PFOS (499)



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Cmc 12/10/02

**ATTACHMENT D: SAMPLE PREP SHEETS, TEST SUBSTANCE, AND TEST
SYSTEM INFORMATION**

Tennessee River Valley Samples

Sample Location 1, Large Mouth

 Lab Request: E02-0443
(6) MW 11 Dec 02

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then shake	Transfer 1.0mL of Homogenate to 15 mL Centrifuge Tube	Spillo Homogenate with Test Mix, if appropriate	Add 5.0mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 300rpm for 20min.	Centrifuge at 3000rcf for 10min.	Decant Supernatant into a new 50mL Centrifuge Tube	Add 40mL of Water to Centrifuge Tube	Press Sample through Pre-Conditioned C18 Cartridge	Elute Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-1, LM-1-1	2.0457	9	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-1-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-1-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-2-1	1.9969	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-2-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-2-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-2-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-3-1	2.0362	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-3-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-3-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-4-1	2.0547	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-4-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-4-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-4-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-5-1	2.0359	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-5-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-5-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-6-1	2.0530	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-6-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-6-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-1, LM-6-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	

Col 2 T/DN 0955 17 Dec 02 MWBalance ID 914 Tube type/size 50mL polypropyleneCol 3 T/DN 12:40pm 6/17/02 cncWater ID Milli-Q TOC PlusCol 4 T/DN 1:35pm 6/17/02 cnc Speed/setting 6Col 5 T/DN 7:20am 6/18/02 cncCentrifuge ID: TazRCF/PRM Readout: 3000 Minutes 2 Temp °C 17Col 6 T/DN 9:30am 6/18/02 cncCol 7 Spiking Standard ID # 02020-77Approximate Conc. 1 ppm Amount added 100 µLT/DN 11:00am 6/18/02 cncCol 8: TNA-4465
9:30am 6/18/02 cnc
3M Environmental LaboratoryCol 9 Shaker ID 02R6Equil Start T/DN 11:00am 6/18/02 cncEquil Stop T/DN 11:50am 6/18/02 cncCol 10 T/DN 12:12pm 6/18/02 cncCentrifuge ID: TazRCF/PRM Readout: 3000 Minutes 10 Temp °C 20Col 11 T/DN 12:12pm 6/18/02 cncCol 12 T/DN 11:55am 6/18/02 cncWater ID Milli-Q TOC PlusCol 13 T/DN 10:40am 6/19/02 cncCol 14 T/DN 10:25am 6/19/02 cncMeOH ID: TNA-4530 Vol Used - 2mL 6/19/02(1) Only -MS² samples were spiked for Step 7. MW 11 Dec 02

(2) Triplicate samples (w/MS) are not entered until Step 6 (using

the homogenate) - MW 11 Dec 02

(3) W. Tera C-18, Sep. PK, 1g, 6cc - MW 11 Dec 02

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Tennessee River Valley Samples

Sample Location 1, Catfish

 Lab Request: E02-0443
(E) 74, 110, 112

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then spike	Transfer 1.0 mL of Homogenate to 15 mL Centrifuge Tube	Spike Homogenate with Test Mix, if appropriate	Add 5.0 mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 300 rpm for 20 min.	Centrifuge at 3000 rpm for 10 min.	Decant Supernatant into a new 50 mL Centrifuge Tube	Add 40 mL of Water to Centrifuge Tube	Pass Sample through Pre-conditioned C18 Cartridge	Elute Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-1, C-1-1	2.0514	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
SL-1, C-1-2	---													
SL-1, C-1-3	---													
SL-1, C-2-1	2.0359													
SL-1, C-2-2	---													
SL-1, C-2-3	---													
SL-1, C-2-MS	---													
SL-1, C-3-1	2.0035													
SL-1, C-3-2	---													
SL-1, C-3-3	---													
SL-1, C-4-1	2.0122													
SL-1, C-4-2	---													
SL-1, C-4-3	---													
SL-1, C-4-MS	---													
SL-1, C-5-1	2.0830													
SL-1, C-5-2	---													
SL-1, C-5-3	---													
SL-1, C-6-1	2.0840													
SL-1, C-6-2	---													
SL-1, C-6-3	---													
SL-1, C-6-MS	---													
SL-1, WB-1	---													
SL-1, WB-2	---													
SL-1, SB-1	---													
SL-1, SB-2	---													

 Col 2 T/DN 2:1000 6/17/02 by CMC MA
 Balance ID 900 914 Tube type/size Poly/Prp/50 mL

 Col 3 T/DN 12:40pm 6/17/02 CMC

 Water ID Milli-Q TOC Plus

 Col 4 T/DN 1:35pm 6/18/02 CMC Speed/setting 6

 Col 5 T/DN 7:20am 6/18/02 CMC

 Centrifuge ID: Taz

 RCF/PRM Readout: 3000 Minutes 2 Temp °C 17

 Col 6 T/DN 9:30am 6/18/02 CMC

 Col 7 Spiking Standard ID # 02022-77

 Approximate Conc. 1 ppm Amount added 100 µL

 T/DN 11:00am 6/18/02 CMC

 Col 8: TNA-4465
9:30am 6/18/02 CMC

3M Environmental Laboratory

 Col 9 Shaker ID 0286

 Equil Start T/DN 11:00am 6/18/02 CMC

 Equil Stop T/DN 11:50am 6/18/02 CMC

 Col 10 T/DN 12:35pm 6/18/02 CMC

 Centrifuge ID: Taz

 RCF/PRM Readout: 3000 Minutes 10 Temp °C 23

 Col 11 T/DN 12:35pm 6/18/02 CMC

 Col 12 T/DN 12:40pm 6/18/02 CMC

 Water ID Milli-Q TOC Plus

 Col 13 T/DN 1:10pm 6/19/02 CMC

 Col 14 T/DN 1:10pm 6/19/02 CMC

 MeOH ID: TNA-4520 Vol Used 2 mL (2nd)

① Late entry - MHA did the prep work for 10/2 - MHA-040000

Page 2 of 6 ③ The " " that are in SL-1, SB-1a-2 columns 4-7/4

③ Only "MS" samples were spiked for step 7 - MHA-110000

 ④ Triplicate MS samples were not created from the homogenate run step 6 - MHA-110000
 ⑤ Only Waters C-18, Sephadex, 1g, 6cc column - MHA-110000

Tennessee River Valley Samples

Lab Request: L02-0443

Sample Location 2- Large Mouth & Location 3-Small Mouth

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then shake	Transfer 1 mL of Homogenate to 15 mL Centrifuge Tube	Spike Homogenate with Test Mix, if appropriate	Add 5 mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 300rpm for 20min.	Centrifuge at 3000rcf for 10min.	Decant Supernatant into a new 50mL Centrifuge Tube	Add 40mL of Water to Centrifuge Tube	Pass Sample through Pre-Conditioned C18 Cartridge	Elute Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-2, LM-1-1	20873g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-1-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-1-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-2-1	29879g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-2-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-2-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-2-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-3-1	20627g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-3-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-3-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-4-1	20078g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-4-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-4-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-2, LM-4-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, LM-1-1	20364g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, LM-1-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, LM-1-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, LM-1-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	

Col 2 T/D/I: 12:12pm 6/17/02 CMCBalance ID: 900 Tube type/size: polyprop/50mLCol 3 T/D/I: 12:40pm 6/17/02 CMCWater ID: Milli-Q TOC PlusCol 4 T/D/I: 2:00pm 6/17/02 CMC Speed/setting: 6Col 5 T/D/I: 7:23pm 6/18/02 CMCCentrifuge ID: T02RCF/PRM Readout: 3000 Minutes: 2 Temp °C: 17Col 6 T/D/I: 9:30am 6/18/02 CMCCol 7 Spiking Standard ID #: 02022-77Approximate Conc.: 1ppm Amount added: 100µLT/D/I: 11:10am 6/18/02 CMC

① R2 CMC 6/17/02

Col 8: TNA-4465

9:30am 6/18/02 CMC

3M Environmental Laboratory

Col 9 Shaker ID: 05-2Equil Start T/D/I: 11:10am 6/18/02 CMCEquil Stop T/D/I: 1:50pm 6/18/02 CMCCol 10 T/D/I: 12:55pm 6/18/02 CMCCentrifuge ID: T02RCF/PRM Readout: 3000 Minutes: 10 Temp °C: 22Col 11 T/D/I: 12:55pm 6/18/02 CMCCol 12 T/D/I: 1300 6/18/02 MUAWater ID: Milli-Q TOC PlusCol 13 T/D/I: 8:1330 6/19/02 CMC/MUACol 14 T/D/I: 8:1330 6/19/02 CMC/MUAMeOH ID: TNA-4520 Vol: 0.5µL-2mL MUA 6/18/02

① Late Entry, prep done by MUA

MUA-04Dec02

③ Late entry, prep done by both CMC/MUA

- MUA-04Dec02

④ Only "MS" samples were spiked in Step 7 - MUA-11Dec02

Page 3 of 5

Tennessee River Valley Samples
Sample Location 2, Catfish

Lab Request: E02-0443
(5/14/10) 02

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then	Transfer 1.0mL of Homogenate to 15 mL Centrifuge Tube	Splice Homogenate with Test Mix, if appropriate	Add 5.0mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 300rpm for 20min.	Centrifuge at 3000rpm for 10min.	Decant Supernatant into a new 50mL Centrifuge Tube	Add 40mL of Water to Centrifuge Tube	Pass Sample through 0.7µm-conditioned C18 Cartridge	Elute Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-2, C-1-1	20937g													
SL-2, C-1-2														
SL-2, C-1-3														
SL-2, C-2-1	20547g													
SL-2, C-2-2														
SL-2, C-2-3														
SL-2, C-2-MS														
SL-2, C-3-1	1.9711g													
SL-2, C-3-2														
SL-2, C-3-3														
SL-2, C-4-1	2.0877													
SL-2, C-4-2														
SL-2, C-4-3														
SL-2, C-4-MS														
SL-2, C-5-1	2.0066													
SL-2, C-5-2														
SL-2, C-5-3														
SL-2, C-6-1	20363g													
SL-2, C-6-2														
SL-2, C-6-3														
SL-2, C-6-MS														
SL-2, C-7-1	2.0553													
SL-2, C-7-2														
SL-2, C-7-3														
SL-2, WB-1														
SL-2, WB-2														
SL-2, SB-1														
SL-2, SB-2														

Col 2 T/DN 6/17/02 CMC
Balance ID 700 Tube type/size polyprop/50mL

Col 3 T/DN 12:40pm 6/17/02 CMC
Water ID Milli-Q TOC Plus
Col 4 T/DN 2:00pm 6/17/02 CMC Speed/setting 6

Col 5 T/DN 7:25am 6/18/02 CMC
Centrifuge ID: Taz
RCF/PRM Readout: 300 Minutes 2 Temp °C 18

Col 6 T/DN 9:30am 6/18/02 CMC
Col 7 Spiking Standard ID # 02020-77

Approximate Conc. 1ppm Amount added 100µL
T/DN 11:00am 6/18/02 CMC

Col 8: TNA-4465
9:30am 6/18/02 CMC
3M Environmental Laboratory

Col 9 Shaker ID 05-2
Equil Start T/DN 11:00am 6/18/02 CMC

Equil Stop T/DN 11:50am 6/18/02 CMC
Col 10 T/DN 1:15pm 6/18/02 CMC

Centrifuge ID: Taz
RCF/PRM Readout: 3000 Minutes 10 Temp °C 22

Col 11 T/DN 1:15pm 6/18/02 CMC
Col 12 T/DN 1:30 6/18/02

Water ID Milli-Q TOC Plus

Col 13 T/DN 2:30 6/19/02 J. J. L. A. V.

Col 14 T/DN 2:35pm 6/19/02 J. J. L. A. V.
MeOH ID: TNA-4520 Vol 100µL - 2mL 11/11/02

① Late entry. 11:50, added water to these tubes (SB's) but they were not mixed. - MVA 11/11/02
② Late entry 2-1 - MVA 04/24/02

③ Only "MS" samples were spiked in Step 7 - MVA, 11 Dec 02
④ Triplicate MS samples were not created from the homogenate until Step 6 - MVA 11 Dec 02
⑤ Used Waters C-18 Sep. Pak, back column - MVA - 11 Dec 02

Tennessee River Valley Samples

Sample Location 3, Large Mouth

 Lab Request: E02-0443
6/11/02

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then shake	Transfer 1.0mL of Homogenate to 15 mL Centrifuge Tube	Spike Homogenate with Test Mix, if appropriate	Add 5.0mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 300rpm for 20min.	Centrifuge at 3000rpm for 10min.	Decant Supernatant into a new 40mL Centrifuge Tube	Add 40mL of Water to Centrifuge Tube	Pass Sample through Pre-Conditioned C18 Cartridge	Shake Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-3, LM-1-1	2.0233g													
SL-3, LM-1-2	—													
SL-3, LM-1-3	—													
SL-3, LM-2-1	2.0271g													
SL-3, LM-2-2	—													
SL-3, LM-2-3	—													
SL-3, LM-2-MS	—													
SL-3, LM-3-1	2.0965g													
SL-3, LM-3-1	—													
SL-3, LM-3-1	—													
SL-3, LM-4	2.0843g													
SL-3, LM-4	—													
SL-3, LM-4	—													
SL-3, LM-4-MS	—													
SL-3, LM-5-1	2.0189g													
SL-3, LM-5-2	—													
SL-3, LM-5-3	—													
SL-3, LM-6-1	1.9908g													
SL-3, LM-6-2	—													
SL-3, LM-6-3	—													
SL-3, LM-6-MS	—													
SL-3, LM-7-1	2.0685g													
SL-3, LM-7-2	—													
SL-3, LM-7-3	—													

Col 2 T/DN 9:48 am 6/17/02 CMCBalance ID 900 Tube type/size Polydrip / 50mLCol 3 T/DN 12:40 pm 6/17/02 CMCWater ID Milli-Q TOC PlusCol 4 T/DN 7:00 am 6/18/02 CMC Speed/setting 6Col 5 T/DN 7:28 am 6/18/02 CMCCentrifuge ID: TazRCF/PRM Readout: 3000 Minutes 2 Temp °C 19Col 6 T/DN 9:30 am 6/18/02 CMCCol 7 Spiking Standard ID # 62022-77Approximate Conc. 1 ppm Amount added 100 µLT/DN 11:20 am 6/18/02 CMCCol 8: TNA AA65
9:30 am 6/18/02 CMC
3M Environmental LaboratoryCol 9 Shaker ID 0286Equil Start T/DN 11:30 am 6/18/02 CMCEquil Stop T/DN 11:50 am 6/18/02 CMCCol 10 T/DN 1:45 pm 6/18/02 CMCCentrifuge ID: TazRCF/PRM Readout: 3000 Minutes 10 Temp °C 23Col 11 T/DN 1:45 pm 6/18/02 CMCCol 12 T/DN 1:31 S 6/18/02Water ID Milli-Q TOC PlusCol 13 T/DN 1:50 19 Jun 02 M/LCol 14 T/DN 1:54 S 19 Jun 02 M/LMeOH ID: TNA 4520 Vol 10 µL - 2nd 11/18/02

① Only "-MS" samples were spiked in Step 7 - M/L-11/18/02
 ② Triplicate MS samples were not created from homogenate until Step 6 - M/L-11/18/02

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Tennessee River Valley Samples

Sample Location 3, Catfish

Lab Request: E02-0443
15 Jul 11 Dec 01

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then	Transfer 1 mL of Homogenate to 15 mL Centrifuge Tube	Spoke Homogenate with Test Mix, if appropriate	Add 5 mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 1000rpm for 20min.	Centrifuge at 3000rpm for 10min.	Decant Supernatant into a new 50mL Centrifuge Tube	Add 40mL of Water to Centrifuge Tube	Pass Sample through Pre-conditioned C18 Cartridge	Elute Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-3, C-1-1	1.9931g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-1-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-1-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-2-1	1.7654g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-2-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-2-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-2-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-3-1	1.9931g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-3-1	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-3-1	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-4	2.0999g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-4	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-4	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-4-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-5-1	2.0014g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-5-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-5-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-6-1	1.9901g	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-6-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-6-3	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, C-6-MS	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, WB-1	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, WB-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, SB-1	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	
SL-3, SB-2	—	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	

Col 2 T/DN 7:57am 6/17/02 CMCBalance ID 900 Tube type/size July Prep / 50mLCol 3 T/DN 12:40pm 6/17/02 CMCWater ID Milli-Q TOC PlusCol 4 T/DN 7:00am 6/18/02 CMC Speed/setting 6Col 5 T/DN 7:34am 6/18/02 CMCCentrifuge ID: TazRCF/PRM Readout: 3000 Minutes 2 Temp °C 20Col 6 T/DN 9:30am 6/18/02 CMCCol 7 Spiking Standard ID # 02022-77Approximate Conc. 1ppm Amount added 10µLT/DN 11:20am 6/18/02 CMCCol 8: TNA 4465

9:30am 6/18/02 CMC

3M Environmental Laboratory

Col 9 Shaker ID 0286Equil Start T/DN 11:20am 6/18/02 CMCEquil Stop T/DN 11:50am 6/18/02 CMCCol 10 T/DN 2:00pm 6/18/02 CMCCentrifuge ID: Taz(RCF/PRM Readout: 3000 Minutes 10 Temp °C 22)Col 11 T/DN 3:00pm 6/18/02 CMCCol 12 T/DN 13:00 18 Jun 02Water ID Milli-Q Plus (TOC Plus)Col 13 T/DN 09:00 20 Jun 02Col 14 T/DN 09:00 20 Jun 02MeOH ID: TNA 4520 / Vol Used 2mL (CMU 11 Dec 02)

① Labeled entry "AM" - MU 04/01/02

② Labeled entry "—" - MU 04/01/02

③ Only "MS" samples were spiked in Step 7 - MU 11 Dec 02

④ Triplicate MS samples were not created from the homogenate until Step 6 - MU 11 Dec 02
⑤ Used Waters C-18 Sup-Pak, 1g, 6cc columns - MU 11 Dec 02

Soil Extraction Worksheet

Date Started: 15-Oct-02
 Study Number: E02-0443
 Method Used:

Study Title: Tenn. River Valley Sediments.

Notes:

Removed Bottles 2 of 4 for each location from the refrigerator. Placed them on a shaker at ambient temperature at 200 rpm. Caps were taped before placed on shaker. - MV-15 Oct 02
 Added 66.3g of 38044 to each cent. tube, added 66.3g of 38045 to each cent. tube. Added 64.0g of 38046 to each cent. tube. 3 tubes for each location.
 Centrifuge C6000 RCFs for 20 min using TAP. - 16 Oct 02 / 0930 → 1100 / MV-15 Oct 02
 Made 2 more tubes for each location. Weight: 38044-62g, 38045-269.5g, 38046-70.0g.
 Centrifuge C6000 RCFs for 20 min using TAP. - Controlled Temp = 23°C (for all centrifuges)
 Decanted the liquid into separate, labeled 50ml cent. tubes. - MV-16 Oct 02
 Weighed samples (from 15 Oct 02) were placed into the fridge. B-4 for storage at 17°C + 0.2°C
 @ 7:00 - 11:00 MV-15 Oct 02
 Samples removed from B-4 on 18 Oct 02 @ 8:00 AM, allowed to warm to RT - MV-18 Oct 02
 The weighed-out samples along w/ the initial samples were put into B-4 for the weekend @ 12:50. The weighed-out samples are from Step 3" on the prep page - MV-18 Oct 02
 (5) Used 4ml of MeOH to wash the reservoir and SPE column - TN-A-06311 - MV-22 Oct 02
 (6) 200ml of MeOH - TN-A-06311 - The MeOH from the samples was SPE'd (see 10-13) and collected. Then it was added to 200ml Milli-Q to c plus water. It then sat ~1 hr.
 New SPE columns were then used to concentrate the solution (except for the Strata C-18 samples)
 The columns were then eluted w/ 2ml of MeOH (TN-A-06311) - MV-23 Oct 02
 (7) These column types should be switched - MV-23 Oct 02
 (8) Step 11 is identical to Step 6, except for a shorter shake time. Only the shake time is different - 30 mins instead of 60 min. This is due to the possible loss of MeOH through the cap threads.

Exact Copy of Original

MVA 17-10-02

Initial Date

Tennessee River Valley Samples

Lab Request: E02-0443
CEMU 110 Dec 02

Extracted Curve Information

Sample ID	Weight of Sample, g	Amount of water added, mL	Homogenize Sample	Centrifuge and then shake	Transfer 1.0mL of Homogenate to 15 mL Centrifuge Tube	Splice Homogenate with Test Mix, if appropriate	Add 8.0mL of Acetonitrile to Centrifuge Tube	Cap and Shake at 300rpm for 20min.	Centrifuge at 3000rcf for 10min.	Decant Supernatant into a new 50mL Centrifuge Tube	Add 40mL of Water to Centrifuge Tube	Pass Sample through Pre-conditioned C18 Cartridge	Elute Sample with Methanol	Comments
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SL-2, (A-01)	9.9947	40mL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Used whole C-18 tri-func
														Sep. Pak, 1g, 6cc
														Cartridges for the
SL-2, LM-01	10.0044	40mL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	extraction - CEMU 110 Dec 02
All CEMU 110 Dec 02														

Col 2 T/DN 0910 21 Jun 02 MLBalance ID 900 Tube type/size 250mLCol 3 T/DN 0910 21 Jun 02 MLWater ID Mili-Q TOC PlusCol 4 T/DN 0955 21 Jun 02 ML Speed/setting 87 ^{RF}Col 5 T/DN 1000 21 Jun 02Centrifuge ID: 021188-SSRCF/PRM Readout: RF Minutes 3.00 Temp °C 4.6 ^{RF} 133Col 6 T/DN 1100 21 Jun 02 MLCol 7 Spiking Standard ID # 02022-079 02022-079Approximate Conc. see multi-level prep log Amount added 02003-030, 053, 054-055T/DN 1300 21 Jun 02 MLCol 8 T/DN 1330 21 Jun 02 MLA/N ID: TV-A 4465
3M Environmental LaboratoryCol 9 Shaker ID Apollo 1 ^{CEMU} 110 Dec 02Equl Start T/DN 1350 21 Jun 02 MLEqul Stop T/DN 1410 21 Jun 02 MLCol 10 T/DN 1530 21 Jun 02 MLCentrifuge ID: TARRCF/PRM Readout: 3000 Minutes 10 Temp °C 23Col 11 T/DN 1545 21 Jun 02 MLCol 12 T/DN exact time 21 Jun 02 ML
unknown 02022-079Water ID Mili-Q TOC PlusCol 13 T/DN 1550 25 Jun 02 MLCol 14 T/DN 1530 25 Jun 02 MLMeOH ID: TN-A 06206 1/1/03 2mL ^{CEMU} 110 Dec 02Exact Copy of Original
ML 17 Dec 02
Initial Date

Non GLP SPE Columns Extraction Worksheet

Prep Date: 6/20/2002
 Analysts initials: OK

Method Revision: ETS-8-154.0
 Study Number: E02-0443

① no ETS method used.
 MU-118.02

Sample Number or description	Volume of sample filtered	Type of column used	Amount and spike mix used	Elution solvent and volume	Comments
water blank	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38025	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38026	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38027	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38028	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38029	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38030	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38032	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38033	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38034	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38035	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38036	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38037	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38038	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38039	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38040	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38041	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38042	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38043	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
E02-0443-38047	40 ml	1g, 6ml, C18 lot 2057B2	NA	MeOH TN-A- 6116 2ml	
<i>MA 11 Per ML</i>					

Extraction Steps (initial when/if done):

OK condition column with MeOH; OK wash with millic; OK filter sample;
OK vacuum dry the column; OK elute column with solvent; OK transfer extract into an autovial

Additional comments:

samples were not dechlorinated, & final volume is 2.0ml, MeOH.

① Extraction was based off of an ETS method, but it was only used as a guideline. MU-118.02

Exact Copy of Original
MA *17 Dec 02*
 Initial Date

Non GLP SPE Columns Extraction Worksheet

Prep Date: 7/17/2002
Analysts initials: OK

Method Revision: ETS-8-154.0 ^(M) no ETS method used
Study Number: E02-0443 - not a HREC

[illegible]

Extraction Steps (initial when/if done):

OK condition column with MeOH; OK wash with milliq; OK filter sample;
OK vacuum dry the column; OK elute column with solvent; DIS transfer extract into an autovial

Additional comments:

① ~~2~~ TN-A-6208 OK 7.17.02

Exact Copy of [illegible]
MA 17 Dec 02
 Initial Date

Re-extraction of samples.

② Extraction was based off of an ETS method, but it was only used as a guideline. MIA-11 Dec 85

MULTI-LEVEL PREPARATION LOG

Book No. 02 003
Page No. 52Description: Extracted LM Fish Curve
Date Prepared: 21 Jun 02
Prepared By: MLAStorage Location: 3rd
Expiration Date: 07-08-02Solvent: MeOH
3M Traces #: 3

Component Standards				Amount of Component Standard Added							
Description	ID #	Conc	Expiration Date	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7	Std 8
1ppm Spike Mix	02022-033	1ppm	11/23/02	2uL	5uL	10uL	20uL	50uL	100uL	—	—
100ppm Spike Mix	02022-033	100ppm	11/23/02	—	—	—	—	—	—	2uL	5uL
—	—	—	—	—	—	—	—	—	—	—	—
Final Volume (mL)				2	2	2	2	2	2	2	2
Final Concentration (ppb)				1	2.5	5	10	25	50	100	250

Standard ID #				02 003-52-9	02 003-52-10	02 003-52-11	02 003-52-12	02 003-52-13	02 003-52-14	02 003-52-15	02 003-52-16
Description (ppb)				500	750	1000	0	—	—	—	—
Component Standards				Amount of Component Standard Added							
Description	ID #	Conc	Expiration Date	Std 9	Std 10	Std 11	Std 12	Std 13	Std 14	Std 15	Std 16
100 ppm Spike Mix	02022-033	100 ppm	11/23/02	10uL	15uL	20uL	0uL	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
Final Volume (mL)				2	2	2	3	2	2	—	—
Final Concentration (ppb)				500	750	1000	0	—	—	—	—

① Exp: 11/23/02 - 11/23/02
 ② Laboratory TNA-6115 Conc 8/1/02

Exact Copy of Original

Reviewed by: Cindy Carlson

Signature

Date: 9 July 02

Initial

Date

MULTI-LEVEL PREPARATION LOG

Book No. 02 003
Page No. 54

Description: Extracted Cat Fish Liver
 Date Prepared: 21 Jun 02
 Prepared By: MA
 Storage Location: 3rd Flr
 Expiration Date: 01 Dec 02
 Solvent: MeOH
 3M Trace # 2

Prepared By: JLV

Expiration Date: 01/22/02

Standard ID #	02 003-54-1	02 003-54-2	02 003-54-3	02 003-54-4	02 003-54-5	02 003-54-6	02 003-54-7	02 003-54-8
Description (ppb)	1	2.5	5	10	25	50	100	250

Component Standards				Amount of Component Standard Added							
Description	ID #	Conc	Expiration Date	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7	Std 8
1 ppm Spike Mix in MeOH	02002-079	1 ppm	11/23/02	2 uL	5 uL	10 uL	20 uL	50 uL	100 uL	—	—
100 ppm Spike Mix in MeOH	02002-033	100 ppm	11/23/02	—	—	—	—	—	—	2 uL	5 uL
—	—	—	—	—	—	—	—	—	—	—	—
Final Volume	(mL)			2	2	2	2	2	2	2	2
Final Concentration	(mg/mL)			1	2.5	5	10	25	50	100	250

Component Standards				Amount of Component Standard Added									
Description	ID #	Conc	Expiration Date	Std 9	Std 10	Std 11	Std 12	Std 13	Std 14	Std 15	Std 16		
100 ppm Spike Mix in MeOH	02002-033	100 ppm	11/23/02	10 uL	15 uL	20 uL	0 uL	—	—	—	—		
—	—	—	—	—	—	—	—	—	—	—	—		
—	—	—	—	—	—	—	—	—	—	—	—		
Final Volume (mL)				2	2	2	2	—	—	—	—		
Final Concentration (mg/mL)				500	750	1000	0	—	—	—	—		

50% duplicate of Original
 Date: 24 June
 Initial: MA
 Reviewed by: Cindy Cardozo Date: 28 Aug 02
 Signature: [Signature]

© Lake City TNM-6115 emc 8/18/02

MULTI-LEVEL PREPARATION LOG

Book No. 02 003
Page No. 50Description: Fish Curve
Date Prepared: 20 June 02
Prepared By: CALC
Storage Location: 2nd
Expiration Date: 11/23/02
Solvent: MeOH
3M Trace #: TNA-4520

Component Standards		Amount of Component Standard Added											
Description	ID #	Conc	Expiration Date	Std 1	Std 2	Std 3	Std 4	Std 5	Std 6	Std 7	Std 8		
1ppm Mix	02002-79	1ppm	11/23/02	10µL	25µL	50µL	100µL	250µL	500µL	1000µL	2500µL	5000µL	25000µL
100ppm Mix	02002-33	100ppm	11/23/02	—	—	—	—	—	—	—	—	—	—
Final Volume				10mL	2.5	5.0	10	25	50	100	250		
Final Concentration, ppb				1.0	2.5	5.0	10	25	50	100	250		

Component Standards		Amount of Component Standard Added											
Description	ID #	Conc	Expiration Date	Std 9	Std 10	Std 11	Std 12	Std 13	Std 14	Std 15	Std 16		
1ppm Mix	02002-79	1ppm	11/23/02	—	—	—	—	—	—	—	—	—	—
100ppm Mix	02002-33	100ppm	11/23/02	50µL	75µL	100µL	—	—	—	—	—	—	—
Final Volume				10mL	750	1000	—	—	—	—	—		
Final Concentration, ppb				500	750	1000	—	—	—	—	—		

Exact Copy of Original

Initial ML Date 04 Dec 02Reviewed by: Mark Miller Date 03 Jul 02
Signature

Book No: 02 003
Page No: 50

Exact concentration of every point of every analyte

Prep date: 20 June Solvent & TNA #: Meth TNA - 4530
Analyst: CMC Final Volume of each point: 10 mLTarget analytes: PFHS, FOSA, PFOA, PFBS, PFOSStandard mix used for preparing the curve: See reverse

Curve point number	Amount of mix used	Analyte concentration in every point <u>ppb</u>				
		PFHS	FOSA	PFOA	PFBS	PFOS
02 003-50-1	<u>See reverse</u>	1.00	1.00	1.00	1.00	1.00
02 003-50-2		2.50	2.50	2.51	2.49	2.49
02 003-50-3		5.00	5.00	5.02	4.99	4.99
02 003-50-4		10.00	10.00	10.04	9.98	9.97
02 003-50-5		24.99	25.00	25.10	24.94	24.94
02 003-50-6		49.98	50.00	50.20	49.88	49.87
02 003-50-7		99.95	100.00	100.40	99.75	99.74
02 003-50-8		249.9	250.0	251.0	249.4	249.4
02 003-50-9		499.8	500.0	502.0	498.8	498.7
02 003-50-10		749.6	750.0	753.0	748.1	748.1
02 003-50-11		999.5	1000.0	1004.0	997.5	997.4
02 003-50-12						
02 003-50-13						
02 003-50-14						
02 003-50-15						
02 003-50-16						

Exact Copy of Original

11/4 04/24/02
 Initial Date
Reviewed by: _____
Signature,

Date

SINGLE COMPONENT PREPARATION LOG

Date: 21 Oct 02 Book No. 02 050
Analyst: MLJ Page No. 34
Description: 1 ppm Spike Mix in Water: PFHs, FOA, PFBs, PFOA - PFOS
Stock Number: 02002-033
Weight or Volume Used: 100 uL Balance ID: NA
Concentration or Purity: 100 ppm Other Correction Factors: —
Corrected Weight: — Solvent and TN-A Number: ASEM Type 1 Water
(Milli-Q TOC Plus)
Final Volume: 10 mL Final Concentration: 1 ppm
Storage Location: 2nd Flr Expiration Date: 23 Nov 02

Exact Copy of Original

MLJ 01 Dec 02
Initial Date

Reviewed by:

Signature,

Date

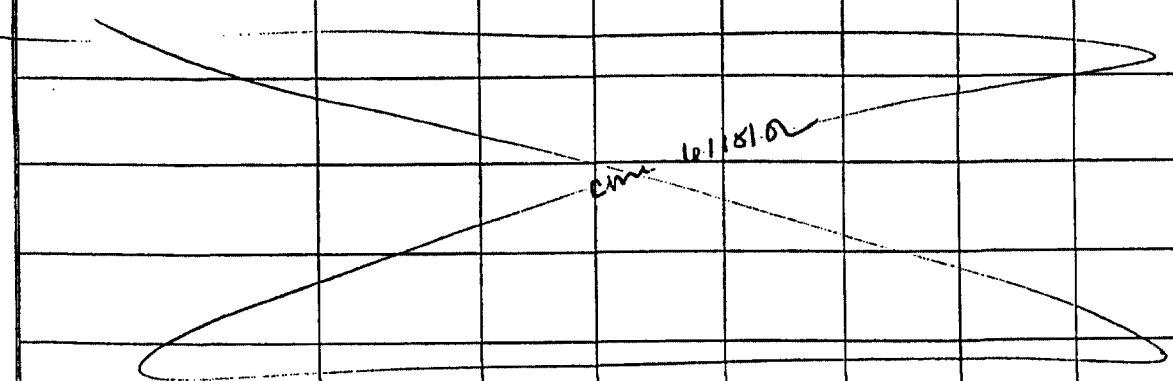
MULTI-COMPONENT PREPARATION LOG

Book No. 02 002

Page No. 33

Description: Fish Spike
 Date Prepared: 6/18/02
 Prepared By: CMC
 Storage Location: 2nd
 Expiration Date: 11/23/02

Solvent: MeOH
 3M Trace #: TN-A-6116

Component Standard						Corrected Weight	Final Concentration
Description	ID #	Conc. or Purity	Expiration Date	Weight or Volume	Balance ID		
PFHS	02001-17	3175 ppm	1/10/03	187 μ L	NA	NA	78.7 ppm ~~99.45 ppm~~
FOSA	02001-19	4708 ppm	1/10/03	53 μ L			100.0 ppm
PFOA	02001-085	21820 ppm	2/28/03	115 μ L			100.4 ppm
PFBS	02022-66	19792 ppm	11/23/02	126 μ L			~~99.74 ppm~~ 99.75
PFOS	02001-84	23304 ppm	2/28/03	107 μ L			99.74 ppm
							
Final Volume				25 mL	Approximate Concentration of the mix		100 ppm

Exact Copy of Original

Initial MLA Date 6/18/02

Reviewed by:

Signature,

Date

SINGLE COMPONENT PREPARATION LOG

Date: 6/18/02Book No. 02 022Analyst: CMLPage No. 77Description: 1ppm Spike MixStock Number: 02072-33
*(RE) "D" - 12 Dec 02*Weight or Volume Used: 250µL

ce ID: _____

Concentration or Purity: 100ppm*Need to change
in the database
and get a
new copy
12 Dec 02*

n: _____

Corrected Weight: _____

Solvent and TN-A Number: Milli-Q TOC PlusFinal Volume: 25mL Final Concentration: 1ppmStorage Location: 2nd Expiration Date: 11/23/02

Exact Copy of Original

MLA 04 Dec 02
Initial DateReviewed by: Mark Walker 18 June 02

Signature

Date

SINGLE COMPONENT PREPARATION LOG

Date: 11 Sep 02 Book No. 02 040
Analyst: MIA Page No. 80
Description: 1% Acetic Acid in Milli-Q
Stock Number: 02022-033 (RE) MIA - 11 Sep 02
TN-A-5197
Weight or Volume Used: 20 mL Balance ID: NA
Concentration or Purity: 99.99% Other Correction Factors: NA
Corrected Weight: NA Solvent and TN-A Number: Milli-Q TOC Plus
Final Volume: 2 L Final Concentration: 1%
Storage Location: 2nd Flr Prep Expiration Date: 02 Nov 02

Exact Copy of Original
MIA 04 Dec 02 (RE) MIA - 04 Dec 02
Initial Date "02"

Reviewed by: Te-Ent 9/30/02
Signature Date

SINGLE COMPONENT PREPARATION LOG

Date: 1-10-02Book No. 02 001Analyst: OKPage No. 17Description: TFHSStock Number: SE-036Weight or Volume
Used: 0.0805gBalance ID: 914Concentration or
Purity: 98.6%Other Correction
Factors: NACorrected Weight: NASolvent and TN-A
Number: MeOH / TN-A-5552-3Final Volume: 25ml Final Concentration: 3175 ppmStorage Location: 2nd floor Expiration Date: 1-10-03Exact Copy of Original
Initial MA Date 1/10/02Reviewed by: Cindy Barker 1/10/02
Signature Date

SINGLE COMPONENT PREPARATION LOG

Date: 1-10-02 Book No. 02 001
Analyst: OK Page No. 19
Description: PFOSA
Stock Number: SD 029
Weight or Volume Used: 0.1177g Balance ID: 914
Concentration or Purity: neat Other Correction Factors: NA
Corrected Weight: NA Solvent and TN-A Number: MeOH / TN-A-5552-3
Final Volume: 25 ml Final Concentration: 4708 ppm
Storage Location: 2nd floor Expiration Date: 1-10-03

Exact Copy of Original
ML 01/10/02
Initial Date

Reviewed by:

Signature

Date

SINGLE COMPONENT PREPARATION LOG

Date: 28 Feb 02Book No. 02 001Page No. 84Analyst: MIADescription: FC 95 PFOSStock Number: 99030-036Weight or Volume
Used: 0.5826gBalance ID: 914Concentration or
Purity: —Other Correction
Factors: —Corrected Weight: —Solvent and TN-A
Number: MeOH, TN-A-6007
Acetone, TN-A-5047-2 (RE) ^{MIA} 28 Feb 02Final Volume: 25mL Final Concentration: 23304ppmStorage Location: 2nd Flr Expiration Date: 28 Feb 03

Exact Copy of Original

MIA 04 Feb 02
Initial DateReviewed by: Airly Carlson 3/1/02

Signature:

Date

SINGLE COMPONENT PREPARATION LOG

Date: 28 Feb 02 Book No. 02 001
Analyst: MA Page No. 85
Description: EC-143 / PFOA
Stock Number: 99030-030
Weight or Volume Used: 0.5742g Balance ID: 914
Concentration or Purity: 95% Other Correction Factors: —
Corrected Weight: 0.5455g Solvent and TN-A Number: MeOH/TN-A-6007
Final Volume: 25mL Final Concentration: 21,820ppm
Storage Location: 2nd Flr Expiration Date: 28 Feb 03

Exact Copy of Original

MA-2002 Dec 4th
Initial Date

Reviewed by:

Cindy Carlson 3/2/02
Signature Date

SINGLE COMPONENT PREPARATION LOG

Date: 23 May 02Book No. 02 022Analyst: MIAPage No. 66Description: PFBS / L-7038, Lot 2 (C₄F₉SO₃K)Stock Number: TCR-00017-071 / TCR-359 (old/new)Weight or Volume
Used: 0.5085gBalance ID: 914Concentration or
Purity: 97.3%Other Correction
Factors: Corrected Weight: 0.4948gSolvent and TN-A
Number: MeOH, TN-A-06115Final Volume: 25mL Final Concentration: 19,792 µg/mLStorage Location: 2nd Flr Expiration Date: 23 Nov 02Exact Copy of Original
MIA 04 Dec 02
Initial DateReviewed by: Cindy Cardow 23 May 02
Signature Date

SINGLE COMPONENT PREPARATION LOG

Date: 20 June 02 Book No. 02 022
Analyst: CMC Page No. 79
Description: EC mix, 1ppm
Stock Number: 02022-33 (RE "02002" - MIA. 03 Jul 02)
Weight or Volume Used: 100 μ L Balance ID: NA
Concentration or Purity: 100 ppm Other Correction Factors: —
Corrected Weight: — Solvent and TN-A Number: MeOH, TNA - 4520
Final Volume: 10 mL Final Concentration: 1 ppm
Storage Location: 2nd Expiration Date: 11/23/02

Exact Copy of Original
MIA 05 Dec 02
Initial Date

Reviewed by: [Signature] 20 Jun 02
Signature Date

TCR Receipt & General Information			
TCR #	TCR-83	TCR Substance #	SE036
Substance trade name or reference #: 2721			
Substance/chemical name: Perfluorohexanesulfonate Primary std		Received from: George Moore	
Lot/batch #:		Date Received: 09/03/1999	
Location of synthesis, fabrication, or derivation records:		Amount received (wt. or vol): 154 g, 277.38 g gross wt.	
Molecular Formula: C6F13SO3-K+		Number/size of containers: 1/150 mL glass container	
Condition: white powder		Shipper: Courler	
Expiration date: 10/18/2006		MSDS (y/n) ☒ Y ☐ N	
Purity: 98.6% LAC 01/17/01		Records received: MSDS, NMR Characterization Request #59085 Interim final report from Centre and Certificate of Analysis. LAC 04/26/01	
3M # NB 120067-69			
Entered by (Initials)		Date Entered	
LAC		09/03/1999	
Std Location/Storage		Date	
F19, Frozen		Checked by (Initial/Date)	
Amount of Retain		Date	
0.3610 g		10/19/1999	

Comments	Initials	Date	Checked By	Date
Standard has been moved to Freezer 19 in room 347 KJD 06/06/00 Sent to Centre Analytical for Certificate of Analysis Analysis on 07/06/00 LAC 07/31/00 Standard was stored at room temperature prior to 06/06/00. LAC 12/19/00 Shipping Codes: 41-2600-9459-8. LAC 06/14/01 Original label - 8/4/99 RWW-11/2/01 Shipping comments: NOT REGULATED, 3M shipping ID: 41-2700-4547-3. LAC 01/10/02				
Attachments				
  se036msds.pdf se036nmrreq59085.pdf  E00-1878-COA-SE036-PFHS-R				

☐ Archived/Substance Not Available

Exact Copy of Original
MIA Initial 04 Dec 02
Date

TCR Receipt & General Information			
TCR #	TCR-29	TCR Substance #	15709
Substance trade name or reference #:	PFOSA		
Substance/chemical name:	Perfluorooctane sulfonyl amide or Perfluorooctanesulfonamide AC KJD 7/24/00	Received from:	R. Buckanin
Lot/batch #:	L-15709	Date Received:	04/20/1999
Location of synthesis, fabrication, or derivation records:	Building 236	Amount received (wt. or vol):	124.98g gross wt.
Molecular Formula:	C ₈ F ₁₇ SO ₂ NH ₂	Number/size of containers:	1/100 mL glass container
Condition:	light yellow waxy solid MCH 07/22/99	Shipper:	Road Runner
Expiration date:	10/31/2006	MSDS (y/n)	Y () N
Purity:	TBD, KJD 05/05/00	Records received:	MSDS, summary page of FID analysis #57915
3M #	NA		
Entered by (Initials)	Date Entered	Checked By	Date
LAC			
Std Location/Storage	Initials	Date	Checked by (Initial/Date)
F19, Frozen			
Amount of Retain	Initials	Date	Checked by (Initial/Date)
0.2233g		10/18/1999	

Comments	Initials	Date	Checked By	Date
Gross weight difference due to removal of parafilm LAC 04/28/99 Standard has been moved to Freezer 19 in room 347 KJD 06/06/00 Standard was stored at room temperature prior to 06/06/00. LAC 12/19/00 The expiration date was assigned based on hydrolysis study EL-1132 and photolysis study W2783 which showed this compound to be stable. LAC 10/31/01 Original label dated 3/18/97 - RWW 10/26/01 Shipping Comments: NOT REGULATED, shipping code - LB-1000-1570-9, L-15709. LAC 01/08/02				
Attachments				
 sd029msds.pd  sd029fid57915.p				

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Exact Copy of Original
 04 Dec 01
 Initial Date

TCR Receipt & General Information			
TCR #	TCR-123	TCR Substance #	TCR-99030-030
Substance trade name or reference #:	PFOA (POAA)		
Substance/chemical name:	FC-143 Ammonium Perfluorooctanoate (Primary Std)	Received from:	N/A
Lot/batch #:	332	Date Received:	02/02/2000
Location of synthesis, fabrication, or derivation records:	3M	Amount received (wt. or vol):	278.20 g gross wt.
Molecular Formula:	C7F15COO-NH4+	Number/size of containers:	1/ ~200 mL glass bottle
Condition:	White powder KJD-2/2/00	Shipper:	Unknown
Expiration date:	10/31/2006	MSDS (y/n)	● Y () N
Purity:	95.0% LAC 01/17/01	Records received:	MSDS Interim final report from Centre and Certificate of Analysis. LAC 04/26/01
3M #	N/A		
Entered by (Initials)	Date Entered	Checked By	Date
KJD			
Std Location/Storage	Initials	Date	Checked by (Initial/Date)
F19, Frozen			
Amount of Retain	Initials	Date	Checked by (Initial/Date)
0.2737 g		02/17/2000	

Comments	Initials	Date	Checked By	Date
Was originally TN-A-2143, KJD 2/21/00 Standard has been moved to Freezer 19 in room 347 KJD 6/6/00 * standard was weighed on 9/28/00. Standard was stored frozen at -20C +/- 10C until shipment on 10/03/00. LAC 10/03/00 Shipping Codes: 98-0211-0891-9/FC-S000-0192-0 (<30 g on dry ice) LAC 06/14/01 Standard stored at room temperature prior to 6/6/00 LAC-12/26/00 Label - recorded-10/98 RWW-11/6/01 Shipping comments: REGULATED-TOXIC Dangerous goods in excepted quantity of Class 6, UN2811. 3M Shipping ID: 98-0211-7394-7, (4 lb. carton) fully regulated. LAC 01/09/02				
Attachments  tcr99030-30msds.pdf  E00-1763-COA-99030-30-PFOA-R				

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Exact Copy of Original
 MIA Initial 04/26/01 Date

TCR Receipt & General Information			
TCR #	TCR-129	TCR Substance #	TCR-99030-032
Substance trade name or reference #:	PFOS		
Substance/chemical name:	FC-95 Potassium perfluorooctanesulfonate AC KJD 7/24/00	Received from:	N/A
Lot/batch #:	215	Date Received:	02/02/2000
Location of synthesis, fabrication, or derivation records:	N/A	Amount received (wt. or vol):	40.1441 g gross wt.
Molecular Formula:	C8F17SO3-K+	Number/size of containers:	1/ 60ml nalgene bottle
Condition:	white powder	Shipper:	N/A
Expiration date:	12/01/2010	MSDS (y/n)	Y () N
Purity:	TBD, KJD 5/5/00	Records received:	MSDS
3M #	N/A		
Entered by (Initials)	Date Entered	Checked By	Date
KJD			
Std Location/Storage	Initials	Date	Checked by (Initial/Date)
F19, Frozen			
Amount of Retain	Initials	Date	Checked by (Initial/Date)
0.1867 g		02/17/2000	

Comments	Initials	Date	Checked By	Date
Was originally TN-A-2144, KJD 2/21/00 Standard has been moved to Freezer 19 in room 347 KJD 6/6/00 Shipping Codes: FC-S000-0185-6(<30 g on dry ice) LAC 06/14/01 Standard was stored at room temperature prior to 6/6/00 LAC 12/26/00 Received 5/96 RWW 11/6/01 Shipping Comments: Dangerous goods in excepted quantity of Class 6, UN2811. REGULATED-TOXIC 98-0211-0888-6 (>30 g (1 oz sample)) Not on dry ice. LAC 01/08/02				
Attachments  tcr99030-36msds.pdf				

☐ Archived/Substance Not Available

Exact Copy of Original
 MA- 04 Dec 02
 Initial Date

TCR Receipt & General Information			
TCR #	TCR-312	TCR Substance #	TCR-00017-071
Substance trade name or reference #:	PFBS		
Substance/chemical name:	Potassium perfluorobutane sulfonate	Received from:	Wildlife
Lot/batch #:	2	Date Received:	06/30/2000
Location of synthesis, fabrication, or derivation records:	Wildlife	Amount received (wt. or vol):	~100 g, 121.5285 g gross wt.
Molecular Formula:	C ₄ F ₉ SO ₃ -K+	Number/size of containers:	1/ ~100 mL plastic container
Condition:	good/ fluffy white crystals	Shipper:	unknown
Expiration date:	01/17/2007	MSDS (y/n)	● Y () N
Purity:	97.3% LAC 04/26/01	Records received:	MSDS Interim final report from Centre and Certificate of Analysis. LAC 04/26/01
3M #	L-7038 LAC 01/03/01		
Entered by (Initials)	Date Entered	Checked By	Date
KJD			
Std Location/Storage	Initials	Date	Checked by (Initial/Date)
Freezer F-19, frozen			
Amount of Retain	Initials	Date	Checked by (Initial/Date)
0.2826 g		06/30/2000	

Comments	Initials	Date	Checked By	Date
Wildlife International Number 5292 KJD 6/30/00 Standard is being stored in Freezer F-19 at -20C KJD 7/17/00 Formula added on 07/24/00 by KJD Sent to Centre Analytical for Certificate of Analysis Analysis on 07/05/00 LAC 07/31/00 By F-11926 process LAC 01/03/01 Shipping comments: NOT REGULATED, (based on shipping code of LB-1000-0703-8). LAC 01/10/02 Attachments   tcr00017-71msds.pdf tcr00017-71lotinfo.  E00-1877-COA-00017-71-PFBS-R				

☐ Archived/Substance Not Available

Exact Copy of Original

 Initial Date

SAMPLES IN R-2 (MC) NWS 4/12/02

E02-0443

E N T R Y

☐ Atlanta
☐ Goleta
☐ Wilmington

☐ Boston
☐ Houston
☐ _____

☐ Dallas
☐ Okemos
☐ Walnut Creek

☐ Dearborn
☐ Olympia

☐ East Greenwich
☐ Sacramento

☐ Edmond
☐ Tacoma

☐ Gig Harbor
☐ Ventura

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 1 of 2

ANALYTICAL REQUEST

713-662-1908

Site: Tennessee R. Decatur, AL Entrix Contact: Barry GillespieClient: 3M Project No. 178401Sampler(s) Matthew, R.H. RRB Airbill No. _____

Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Comments
SW01	4/15/02	1145		X	1	Water	38025
SW01-Dup	"	"		X	1	"	38026
SW01-Low	"	"		X	1	"	38027
SW01-Med	"	"		X	1	"	38028
FSC01-Low	"	"		X	1	"	38029
FSC01-Med	"	"		X	1	"	38030
~~SW01-High~~	~~"~~	~~"~~	~~X~~	~~X~~	~~1~~	~~Water~~	~~38031~~
FB01	"	1430			1	Dir	38031
FB02	"	"			1	Water	38032
SW03	4/16/02	0800		X	1	Water	38033
Total Number of Containers						9	

Exact Copy of Original

Initial Date

Time

Date

Date

Initial

Received By

Time

Date

Relinquished By

Date

Time

Date

E02-0443 SAMPLES IN R-2

- ☐ Atlanta ☐ Boston ☐ Dallas ☐ Dearborn ☐ East Greenwich ☐ Edmond ☐ Gig Harbor
☐ Goleta ☐ Houston ☐ Okemos ☐ Olympia ☐ Sacramento ☐ Tacoma ☐ Ventura
☐ Wiliminton ☐ Walnut Creek

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 2 of 2

ANALYTICAL REQUEST						
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media
SW03-Dup	3/4/02	0800		X	1	Water
SW03-Low	4/16/02	"		X	1	"
SW03-Med	"	"		X	1	"
SW02	"	1020		X	1	"
SW02-Dup	"	"		X	1	"
SW02-Low	"	"		X	1	"
SW02-Med	"	"		X	1	"
FSC02-Low	"	"		X	1	"
FSC02-Med	"	"		X	1	"
Trip blank #1	"	"			1	"
Total Number of Containers						10
Relinquished By		Date		Time		Received By
M. Williams		4/16/02		1300		R. Lohd (Jax) 13M

Site: Tennessee R., Decatur, AL Entrix Contact: Barry Gillespie 713-612-1908
 Client: 3M Project No. 178401 Airbill No. _____
 Sampler(s) Signature: M. Williams, R.R.B., R.H.

Comments: 38034, 38035, 38036, 38037, 38038, 38039, 38040, 38041, 38042, 38043

E02-0443 SAMPLES IN R-R

ENTRIX

- ☐ Atlanta ☐ Boston ☐ Dallas ☐ Dearborn ☐ East Greenwich ☐ Edmond ☐ Gig Harbor
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CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 1 of 1

ANALYTICAL REQUEST									
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Comments	Relinquished By	Received By
SD01	4/15/02	1445		X	4	Sed.	38044		
SD03	4/16/02	0800		X	4		38045		
SD02	" "	1020		X	4		38046		
Tip Blank #2					1	Water	38047		
Total Number of Containers							13	Exact Copy of Original	
Relinquished By							Date		Time
Matthew B. G. R. R.							4/16/02		15:00
Received By							Date		Time
Richard C. Sones							4/17/02		17:00

E02-0349

E N T R I X

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Page 1 of 2

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ANALYTICAL REQUEST									
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Comments	Initial	Date
SL01-LM01	11/15/02			X	1	Tissue	410 mm, 1 lb. 15 oz		
SL01-LM02	"				1		360 mm, 1 lb. 6 oz		
SL01-LM03	4/16/03				1		34 mm, 1 lb. 0 oz		
SL01-LM04					1		332 mm, 1 lb. 3 oz		
SL01-LM05					1		445 mm, 2 lb. 10 oz		
SL01-LM06					1		312 mm, 1 lb. 1 oz		
SL01-CAT01					1		610 mm, 4 lb. 15 oz		
SL01-CAT02					1		625 mm, 7 lb. 0 oz		
SL01-CAT03					1		621 mm, 6 lb. 3 oz		
SL01-CAT04					1		741 mm, 13 lb. 2 oz		
Total Number of Containers						10			
Relinquished By		Date		Time		Received By		Date	
Matt Lee		4/17/02		13:00		Ryan Nolan		4/20/02 16:00	
						Richard C. Sinner		4/20/02 12:00	

FORM # ENT-131

E02-0347

EMILIO X

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☐ Wilmington

Page 2 of 2

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ANALYTICAL REQUEST

8061-299-312

Site: Tennessee R. Death Al. Entrix Contact: Barth Gillespie 715-600

Client: 3M Project No. 178401

Sampler(s) M. L. L. L., R.H., R.R.
Signature: _____ Airbill No. _____

Airbill No

Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Priority	Comments
SLOI-CAT05	4/16/02			X	1	tissue	X	38422 535 $\pm$ 16. 14% E.
SLOI-CAT06	"			X	1	"	X	38424 535 $\pm$ 16. 8% E.
Total Number of Containers						2		

Total Number of Containers

Relinquished By	Date	Time	Received By	Date	Time
John L. B. L.	4/17/02	13:00	John L. B. L.	4/20/02	16:00
			Richard C. Jones	4/30/02	12:00

FORM # ENT-131

E02-0347

E N T R I X

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CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 1 of 1

ANALYTICAL REQUEST						
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media
SLO3-CAT01	4/17/02			X	1	tissue
SLO3-CAT02					1	
SLO3-LM01					1	
SLO3-LM02					1	
SLO3-LM03					1	
Total Number of Containers 5						
Relinquished By: <u>Matthew R. H. RR</u> Date: <u>4/17/02</u> Time: <u>1300</u> Received By: <u>Michael C. Soper</u> Date: <u>4/20/02</u> Time: <u>1600</u>						

Site: Tennessee R, Decatur, AL Entrix Contact: Barry Gillespie 713-662-1908
 Client: 3M Project No. 178401
 Sampler(s) Signature: Matthew R. H. RR Airbill No. _____

Comments: 382mm, 1 lb. Pore
38426
38428
38430
38432
38434

Exact Copy of Original: MAK 16 Dec 00

E02-0344

E N T R I X

- ☐ Atlanta ☐ Boston ☐ Dallas ☐ Dearborn ☐ East Greenwich ☐ Edmond ☐ Gig Harbor
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☐ Wilmington ☐ Walnut Creek ☐ Walnut Creek

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 1 of 1

ANALYTICAL REQUEST									
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Comments	Relinquished By	Received By
SLO3-CAT03	4/18/02			X	1	43522	38436		
SLO3-CAT04	"			X	1	"	38438		
SLO3-CAT05	"			X	1	"	38440		
SLO3-CAT06	"			X	1	"	38442		
Total Number of Containers <u>4</u>									
Site: <u>Tennessee R. Decatur, AL</u> Entrix Contact: <u>Barry Gillespie</u> 713-662-1766 Client: <u>3M</u> Project No. <u>178401</u> Airbill No. _____ Sampler(s) Signature: <u>[Signature]</u> Date: <u>4/18/02</u>								Exact Copy of Original <u>Initial</u> <u>Date</u> <u>MA</u> <u>6/20/02</u>	
Relinquished By: <u>[Signature]</u> Date: <u>4/18/02</u> Time: <u>11:30</u>								Received By: <u>[Signature]</u> Date: <u>4/20/02</u> Time: <u>12:00</u>	
Relinquished By: <u>[Signature]</u> Date: <u>4/30/02</u> Time: <u>12:00</u>								Received By: <u>[Signature]</u> Date: <u>4/30/02</u> Time: <u>12:00</u>	

E02-0344

E N T R I X

- ☐ Atlanta ☐ Boston ☐ Dallas ☐ Dearborn ☐ East Greenwich ☐ Edmond ☐ Gig Harbor
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CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 1 of 2

ANALYTICAL REQUEST									
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Comments	Received By	Date
SLO3-LM04	4-17-02			X	1	His. Jug	412 mm, 2 lb. 2 oz.		4/20/02 16:00
SLO3-LM06	"				1	"	360 mm, 1 lb. 6 oz.		4/20/02 16:00
SLO3-LM05	"				1	"	297 mm, 0 lb. 10 oz.		
SLO3-SM01	"				1	"	385 mm, 1 lb. 4 oz.		
SLO3-LM07	"				1	"	420 mm, 1 lb. 10 oz.		
SLO2-CAT01	4-18-02				1	"	570 mm, 4 lb. 12 oz.		
SLO2-CAT02	"				1	"	510 mm, 3 lb. 1 oz.		
SLO2-CAT03	"				1	"	595 mm, 4 lb. 8 oz.		
SLO2-CAT04	"				1	"	575 mm, 4 lb. 0 oz.		
SLO2-CAT05	"				1	"	640 mm, 7 lb. 2 oz.		
Total Number of Containers						10			
Relinquished By		Date		Time		Received By		Date	
[Signature]		4/18/02		1500		Ryan Holcomb		4/20/02 16:00	
						Richard C. [Signature]		4/20/02 16:00	

Exact Copy of Original

M/V 160000

E02-0349

E N T R Y

- ☐ Atlanta ☐ Boston ☐ Dallas ☐ Dearborn ☐ East Greenwich ☐ Edmond ☐ Gig Harbor
☐ Goleta ☐ Houston ☐ Okemos ☐ Olympia ☐ Sacramento ☐ Tacoma ☐ Ventura
☐ Wilmington ☐ Walnut Creek

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Page 2 of 2

ANALYTICAL REQUEST							
Sample ID	Date	Time	Comp	Grab	No. of Cont.	Sample Media	Comments
SLO2-CAT06	4-18-02			X	1	tissue	535 mm, 3 lb. 6 oz.
SLO2-CAT07	"				1		530 mm, 3 lb. 6 oz.
SLO2-LM01	"				1		300 mm, 1 lb. 0 oz.
SLO2-LM02	"				1		455 mm, 2 lb. 7 oz.
SLO2-LM03	"				1		330 mm, 1 lb. 2 oz.
SLO2-LM04	"				1		330 mm, 1 lb. 3 oz.
Total Number of Containers							6
Relinquished By		Date		Time		Received By	
Michael		4/18/02		1500		Karin Holen	
						Michael C. Soer	

Site: Tennessee R., Decatur, AL Entrix Contact: Barry Gillespie Project No. 178401 Airbill No. 713-662-1908
 Client: 3M
 Sampler(s): Matthew R. R. R. R. R.
 Signature: [Signature]

ATTACHMENT E: NOTES TO FILE

3M ENVIRONMENTAL LABORATORY

Note to File

Project or Study Number: E02-0443
LIMS Number: NA
Affected Data: D020626Extracted, D020628, D020629, and D020702 (Fish Tissue)

1.

The following samples were mislabeled in their respective sequences. They were all labeled as "-1-1" when they should have been labeled as "-1-2". The list is as follows:

D020626Extracted: DUDE0055,

D020628: DUDE0056 and DUDE0075,

D020629: DUDE0063 and DUDE0096,

and

D020702: DUDE0062.

2.

All of the fish tissue sample preparation was done at the same time; therefore, Water Blanks (WB) and Solvent Blanks (SB) were done with each Sample Location, not with each different type of fish from each location. This was done since the WBs and SBs are for examining the sample preparation process and are independent of the species of fish being analyzed. The WBs and SBs were analyzed with the Catfish samples. For this reason, there are not any WB or SB data contained within the Large Mouth or Small Mouth analytical sequences.

3.

The fish tissue samples were analyzed in triplicate. Each fish tissue parent sample was first weighed out into a container (Column 2), had water added (Column 3), and then homogenized (Column 4) before it was separated into triplicates. The weight are recorded in the "-1" rows of the Fish Tissue prep sheets. It is not until Column 6 that the triplicates are generated from the homogenate (MSs are also generated at this time). The samples that were labeled with "-MS" were spiked with the spike solution in Column 7.

4.

The fish tissue that was used in the extracted fish curves was from the fish tissue sample with the lowest amount of endogenous analyte concentration. This was determined during a preliminary range-finding experiment.

5.

The extracted fish tissue standard curves had a 0 ppb curve point. This point was part of the calibration curve and was "Enabled" in the quantitation software, but it was not calculated as part of the curve.

6.

The 10 ng/mL standard curve point in the Extracted Large Mouth Standard Curve had 21% and 22% deviations, exceeding the criteria by 1% and 2%. These points were not excluded from the curves and their inclusion had no negative effect on the data quality due to the point being surrounded by at least two passing calibration points on both sides.

Recorded By: 	Date: 17 Dec 02
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3M ENVIRONMENTAL LABORATORY**Note to File**

Project or Study Number: E02-0443
LIMS Number: NA
Affected Data: I021112/River Sediments

1.
Lab Control Samples (LCS) were performed for the River Sediments. However, the information was not used because the data suggested it was impossible to recover spiked analytes from acidified water when river sediment was not present.
2.
The injection files from the sequence I021112 that are after file Itchy062 are not part of the reportable analyses. These samples were method development only.

Recorded By: 	Date: 17 Dec 02
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3M ENVIRONMENTAL LABORATORY**Note to File****Project or Study Number: E02-0443****LIMS Number: NA****Affected Data: D020812A and D020812B.**

1.

All data that is in D020812A and D020812B are from one original sequence: D020812. The D020812 parent sequence is made up of 161 injections/files. Files DUDE0001 to DUDE0096 are found in the sub-sequence D020812A. Files DUDE0097 to DUDE 0161 are in sub-sequence D020812B. The parent sequence was broken up into two separate sub-sequences after LC/MS analysis to simplify data analysis.

Low concentration samples that fall in the bottom end of the standard calibration curve (0.1 ng/mL to 50 ng/mL) are in sub-sequence D020812A.

Very high concentration samples that required small injection volumes that fall in the top end of the curve (5 ng/mL to 1000 ng/mL) are in sub-sequence D020812B.

There are not any files that are contained in both sub-sequences.

2

There are two different extraction dates for the samples: 20 Jun 02 and 17 Jul 02. This is due to a re-extraction of 5 samples whose results were questionable.

3.

The following are the LIMS numbers and the sample names of the samples and their associated duplicates and matrix spikes:

38025	SW01	SW=Sample Water(Sample Location)
38026	SW01-Dup	FSC=Field Sample Control
38027	SW01-Low	FB= Field Blank
38028	SW01-Med	Low=Low Field Spike
38029	FSC01-Low	Med=Medium Field Spike
38030	FSC01-Med	
38032	FB02	
38033	SW03	
38034	SW03-Dup	
38035	SW03-Low	
38036	SW03-Med	
38037	SW02	
38038	SW02-Dup	
38039	SW02-Low	
38340	SW02-Med	
38041	FCS02-Low	
38042	FCS02-Med	
38043	Trip Blank #1	
and		
38047	Trip Blank #2	

Recorded By:



Date:

17 Dec 02

3M ENVIRONMENTAL LABORATORY**Note to File**

Project or Study Number: E02-0443
LIMS Number: NA
Affected Data: D020626Extracted

1.

In the D020626Extracted sequence there were not any Extracted CCV curve points run. All subsequent Fish Tissue sequences had extracted CCVs included. The unextracted CCVs were quantitated against the unextracted fish curve, 02003-050, using an Excel spreadsheet. All of the unextracted CCVs passed and the results are found in Appendix B: Data Summary Tables.

Recorded By: 	Date: 17 Dec 02
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3M ENVIRONMENTAL LABORATORY**Note to File**

Project or Study Number: E02-0443
LIMS Number: NA
Affected Data: All Data

Note: This is to explain how the quantitation was performed on the data.

1.

The entire calibration curve was entered into the quantitation software and the curve was then analyzed. In many cases, high level curve points were "Disabled" in the software and were removed from the curve calculation. In all instances in which this was done, the disabled curve points show a recovery of 0%.

Low end curve points that had % Recoveries that exceeded the criteria or were $<2X$ the solvent blanks levels were not used. These points were still included in the calibration curve calculations, however, they were not used in the determination of the LOQ.

2.

In the raw data that comes from the Target software, concentrations that would normally be quantitated as a very low or a negative value are assigned an extreme positive value. These values are easily noticed due to their abnormally large values along with very small area counts. These values, along with values that are below the limit of quantitation, are changed to "BLOQ" to eliminate any possible confusion.

Recorded By: 	Date: 17 Dec 01
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3M ENVIRONMENTAL LABORATORY**Note to File**

Project or Study Number: E02-0443
LIMS Number: NA
Affected Data: Fish Tissue

1.

In the sample preparation process of the fish tissue, after the homogenization process (Step 4), the homogenate is centrifuged for a short time and then shaken (Step 5). The centrifugation was done to eliminate the foam that developed during the homogenization process. The homogenate was then shaken/vortexed to make the solution homogenous again.

Recorded By: 	Date: 17 Dec 01
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