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TRIANGLE LABS

9704.806

CASE NARRATIVE

Analysis of Samples for the Presence of Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by High-Resolution Chromatography / High-Resolution Mass Spectrometry

Method 8290 Rev. 0 (9/94)

Date:	May 15, 1997
Client ID:	EIS Environmental & Engineering
P.O. Number:	1236
TLI Project Number:	41521r1

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Rev. 05/08/97

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Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in the Triangle Laboratories' Data User's Manual (Rev. 12/92-LLW-7-AH-2/93). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Quality Control Samples

A laboratory method blank, identified as the TLI Sediment Blank, was prepared along with the samples.

Quality Control Remarks

This release of this particular set of EIS Environmental & Engineering analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Please consult Triangle Laboratories' Data User's Manual for further details. Specific QC issues associated with this particular project are:

Sample receipt: Four sediment samples were received from EIS Environmental & Engineering at 6 °C in good condition on April 23, 1997 and were stored in a refrigerator at 4°C. Only two sediment samples are reported in this data package.

Sample Preparation Laboratory: Samples F302 and F305 were reprocessed under this TLI project number along with a method blank. This is due to contamination of the clean-up blank during the original analysis.

Mass Spectrometry: None

Data Review: Sample F302 was diluted due to the presence of saturated analyte signals (signals outside the dynamic range of the instrument) for HpCDD, HpCDF, OCDD, and OCDF. The original and diluted analyses for this sample are reported in the data package. Only the analytes that are saturated in the original analysis are reported from the diluted analysis.

Other Comments: Any analytes found in the TLI Sediment Blank are detected at a level equal to or less than the Target Detection Limit. This level of contamination is acceptable as per TLI guidelines.

Average continuing calibration (Concal) response factors are used instead of average initial calibration (Ical) response factors for all analyte and labeled standard calculations in sample(s) with a beginning and ending calibration listed on the quantitation report. Average response factors are used when the ending Concal meets Method 8290 ending Concal requirements but not beginning Concal requirements. The average response factor is an average of the factors from the beginning and ending Concals.

Sample Calculations:

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated current for the characteristic ions of the analyte,

A_β is the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The area of the analyte is replaced by the noise level measured in a region of the chromatogram clear of genuine GC signals multiplied by an empirically

determined factor. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2 * 2.5 * (F * H) * Q_{\beta}}{A_{\beta} * RRF_{(\sigma)} * W}$$

Where:

$DL_{(\sigma)}$ is the estimated detection limit for a target analyte,

2.5 is the minimum response required for a GC signal,

F is an empirical number that approximates the area to height ratio for a GC signal. This number is 5 for the DB-5 GC column and 3.5 for the DB-225 GC column,

H is the height of the noise

A_{β} is the integrated current of the characteristic ions of the corresponding internal standard,

Q_{β} represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Other sample calculations may be found in the Triangle Laboratories Data User's Manual.

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports, as discussed in Triangle Laboratories' Method 8290 Data User's Manual. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the tetra-

through hepta-CDD/CDF levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples. If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An **'E'** flag is used to indicate that an PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences. Affected analytes may be overestimated or underestimated as a result of this interference. A peak is flagged 'Q' only if it is affected by a QC ion deviation greater than 20% full scale as determined relative to the labeled standard against which it is quantitated. Total PCDF/PCDF quantitations will be flagged 'Q' if the interferences affect ten percent or more of the total PCDD/PCDF peak areas.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

A **'U'** flag is used to indicate that a specific (2,3,7,8-substituted) isomer cannot be resolved from a large, coeluting interferent GC peak. The specific isomer is reported as

not detected as a valid concentration/amount cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A **'V'** flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8290 Rev. 0 (9/94) and Triangle Laboratories' Method 8290 Data User's Manual. Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should EIS Environmental & Engineering have any questions regarding this data package, please feel free to contact our Project Scientist, Mary McDonald, at 919/544-5729 ext. 269.

For Triangle Laboratories, Inc.,

Report Preparation	Quality Control
Girgis Mikhael Report Preparation Chemist	Sheila A. Lee-Lewis Report Preparation Chemist

The total number of pages in the data package is : 33 .

CHAIN OF CUSTODY RECORD

CLIENT NO.	PROJECT NO.	PROJECT NAME

SAMPLERS: (SIGNATURE)

SEE REVERSE SIDE FOR INSTRUCTIONS

DATE AND TIME OF COMPOSITE	DATE AND TIME OF GRAB	PRIMARY SAMPLE DESCRIPTION	NO. OF CONTAINERS	ANALYSIS OR CONTAINER TYPES: Dioxins & Furans 8290	REMARKS	EIS LAB USE ONLY: EIS LAB NO.	SAMPLE STATE	TEMP COOLER BLANK
	4-18-97	F 301 Sediment	1	X				
	4-18-97	F 302	1	X				
	4-18-97	F 305	1	X				
	4-18-97	F 307	1	X				

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Bill Davis	4-22-97	16:30	UPS		4/23/97	1600	[illegible]
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

SAMPLE STATE: C = COLD, N = NOT COLD, I = INTACT, B = BROKEN

SHIPPING CHARGE

MODE OF TRANSPORTATION

EIS VEHICLE # | PUBLIC

FIELD NOTES: P.O # 1236

Custody Seal : Absent	Sample Seals: Absent	TLI Project Number 41521	Book
Chain of Custody : Present	Container...: Intact	Client: EIS04 - EIS Environmental & Engineering	165
Sample Tags : Absent			
Sample Tag Numbers: Not Listed on Chain of Custody			
SMC Forms : N/A		Date Received 04/23/97 By [illegible]	Page
Styro Cooler ICE PACKS Temp 6.0 C		Carrier and Number UPS	74

TLI Number.. ....Client Sample ID..... .....Matrix mR/H:CPM. .....Client COC ID.....* Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To ARCHIVE Date/Init	DISPOSED Date/Init
165-74-1 F301 SEDIMENT F301 C02	4/23/97		IF 4/27/97	IF 4/27/97		
165-74-2 F302 SEDIMENT F302 C02						
165-74-3 F305 SEDIMENT F305 C02						
165-74-4 F307 SEDIMENT F307 C02						
	IF 5/6/97	IF 5/6/97				
	extracted on 5/6/97					

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES, INC.--LOG IN RECORD/CHAIN OF CUSTODY--REVISED 02/27/1997

TRIANGLE LABORATORIES OF RTP, INC.
Sample Result Summary for Project 41521r1
Method 8290X Full Screen Analyses (DB-5)

05/13/97

Data File	T973240	T973246	T973326	T973247
Sample ID	TLI Sediment Blank	F302	F302	F305
Units	ppt	ppt	ppt	ppt
Extraction Date	05/06/97	05/06/97	05/06/97	05/06/97
Analysis Date	05/10/97	05/10/97	05/12/97	05/10/97
Instrument	T	T	T	T
Matrix	SAND	SEDIMENT	SEDIMENT	SEDIMENT
Extraction Type	Soxhlet	Soxhlet	Soxhlet	Soxhlet
Analytes				
2378-TCDD	(0.8)	26.1		2.5
12378-PeCDD	(1.1)	32.9		{4.3}
123478-HxCDD	(1.2)	59.7		9.3
123678-HxCDD	(1.1)	497		43.7
123789-HxCDD	(1.0)	157		19.3
1234678-HpCDD	(1.5)		16220	1350
OCDD	(2.0)		136980	11590
2378-TCDF	(0.7)	176		12.4
12378-PeCDF	(0.8)	27.9 PR		3.0 PR
23478-PeCDF	(0.8)	63.0		5.5
123478-HxCDF	(0.9)	{504} E		{41.0} E
123678-HxCDF	(0.8)	86.3		11.8
234678-HxCDF	(0.9)	178		14.0 PR
123789-HxCDF	(1.0)	7.1		0.96 PR
1234678-HpCDF	(0.8)		8260	609
1234789-HpCDF	(1.3)		836	45.3
OCDF	(1.7)		65480	5190
TOTAL TCDD	(0.8)	1820		73.5
TOTAL PeCDD	(1.1)	305		45.8
TOTAL HxCDD	(1.1)	3140		289
TOTAL HpCDD	(1.5)		30010	2490
TOTAL TCDF	(0.7)	1630		129
TOTAL PeCDF	(0.8)	2210		219 E
TOTAL HxCDF	(0.9)	6320		582
TOTAL HpCDF	(1.0)		43590	2720
Other Standards Percent Recovery Summary (% Rec)				
37Cl-TCDD	46.3	83.0		52.2
13C12-PeCDF 234	46.9	71.0		49.7
13C12-HxCDF 478	58.0	90.8		65.0
13C12-HxCDD 478	64.2	89.3		68.9
13C12-HpCDF 789	59.8		113	69.7
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	64.3	89.0		72.1
13C12-HxCDF 234	59.8	84.8		65.1
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	46.6	75.0		58.2
13C12-2378-TCDD	43.4	70.9		50.6
13C12-PeCDF 123	39.4 V	64.6		47.9
13C12-PeCDD 123	45.6	66.4		49.7

Data File	T973240	T973246	T973326	T973247
Sample ID	TLI Sediment Blank	F302	F302	F305
Units	ppt	ppt	ppt	ppt
Extraction Date	05/06/97	05/06/97	05/06/97	05/06/97
Analysis Date	05/10/97	05/10/97	05/12/97	05/10/97
Instrument	T	T	T	T
Matrix	SAND	SEDIMENT	SEDIMENT	SEDIMENT
Extraction Type	Soxhlet	Soxhlet	Soxhlet	Soxhlet
Internal Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 678	54.7	82.9		63.9
13C12-HxCDD 678	67.4	89.6		69.9
13C12-HpCDF 678	57.0		85.8	66.0
13C12-HpCDD 678	61.2		108	62.3
13C12-OCDD	55.0		114	58.1

{Estimated Maximum Possible Concentration}, (Detection Limit).

Data File	X971253	P972355
Sample ID	F302	F305
Units	ppt	ppt
Extraction Date	05/06/97	05/06/97
Analysis Date	05/10/97	05/14/97
Instrument	X	P
Matrix	SEDIMENT	SEDIMENT
Extraction Type	Soxhlet	Soxhlet
Analytes		
2378-TCDF	49.7	4.6
Internal Standards Percent Recovery Summary (% Rec)		
13C12-2378-TCDF	62.3	59.7

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TLI Project: **41521r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **TLI Sediment Blank** Analysis File: **T973240**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SAND**	Date Received:	/ /	Spike File:	**SPX2372S**
TLI ID:	**TLI Blank**	Date Extracted:	**05/06/97**	ICal:	**TF53286**
		Date Analyzed:	**05/10/97**	ConCal:	**T973236**
Sample Size:	**10.020 g**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**T973240**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**BB**	% Solids:	**n/a**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.8				—
1,2,3,7,8-PeCDD	ND	1.1				—
1,2,3,4,7,8-HxCDD	ND	1.2				—
1,2,3,6,7,8-HxCDD	ND	1.1				—
1,2,3,7,8,9-HxCDD	ND	1.0				—
1,2,3,4,6,7,8-HpCDD	ND	1.5				—
1,2,3,4,6,7,8,9-OCDD	ND	2.0				—
2,3,7,8-TCDF	ND	0.7				—
1,2,3,7,8-PeCDF	ND	0.8				—
2,3,4,7,8-PeCDF	ND	0.8				—
1,2,3,4,7,8-HxCDF	ND	0.9				—
1,2,3,6,7,8-HxCDF	ND	0.8				—
2,3,4,6,7,8-HxCDF	ND	0.9				—
1,2,3,7,8,9-HxCDF	ND	1.0				—
1,2,3,4,6,7,8-HpCDF	ND	0.8				—
1,2,3,4,7,8,9-HpCDF	ND	1.3				—
1,2,3,4,6,7,8,9-OCDF	ND	1.7				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		0.8		—
Total PeCDD	ND		1.1		—
Total HxCDD	ND		1.1		—
Total HpCDD	ND		1.5		—
Total TCDF	ND		0.7		—
Total PeCDF	ND		0.8		—
Total HxCDF	ND		0.9		—
Total HpCDF	ND		1.0		—

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TLI Project: **41521r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **TLI Sediment Blank** Analysis File: **T973240**

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	93.1	46.6	40%-130%	0.76	20:52	___
$^{13}C_{12}$-2,3,7,8-TCDD	86.6	43.4	40%-130%	0.83	21:39	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	78.7	39.4	40%-130%	1.47	25:04	V___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	90.9	45.6	40%-130%	1.47	26:10	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	109	54.7	40%-130%	0.51	28:44	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	134	67.4	40%-130%	1.23	29:27	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	114	57.0	25%-130%	0.44	31:25	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	122	61.2	25%-130%	1.04	32:15	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	219	55.0	25%-130%	0.88	34:43	___

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	9.2	46.3	40%-130%		21:40	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	93.7	46.9	40%-130%	1.51	25:48	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	116	58.0	40%-130%	0.51	28:39	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	128	64.2	40%-130%	1.21	29:22	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	119	59.8	25%-130%	0.40	32:36	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	128	64.3	40%-130%	0.51	29:57	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	119	59.8	40%-130%	0.52	29:15	___

Recovery Standards				Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD				0.82	21:27	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD				1.24	29:45	___

Data Reviewer: _____ 05/12/97

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TLI Project: 41521r1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: F302 — Analysis File: T973246

Client Project:	Dioxins/Furans				
Sample Matrix:	SEDIMENT	Date Received:	04/23/97	Spike File:	SPX2372S
TLI ID:	165-74-2	Date Extracted:	05/06/97	ICal:	TF53286
		Date Analyzed:	05/10/97	ConCal:	T973236
Sample Size:	20.300 g	Dilution Factor:	n/a	% Moisture:	50.5
Dry Weight:	10.049 g	Blank File:	T973240	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	49.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	26.1			0.80	21:39	___
1,2,3,7,8-PeCDD	32.9			1.51	26:09	___
1,2,3,4,7,8-HxCDD	59.7			1.24	29:22	___
1,2,3,6,7,8-HxCDD	497			1.23	29:26	___
1,2,3,7,8,9-HxCDD	157			1.19	29:44	___
2,3,7,8-TCDF	176			0.81	20:53	___
1,2,3,7,8-PeCDF	27.9			1.68	25:03	PR_
2,3,4,7,8-PeCDF	63.0			1.54	25:48	___
1,2,3,4,7,8-HxCDF	EMPC		504			E__
1,2,3,6,7,8-HxCDF	86.3			1.28	28:44	___
2,3,4,6,7,8-HxCDF	178			1.23	29:12	___
1,2,3,7,8,9-HxCDF	7.1			1.24	29:57	___

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	1820	8		1900	___
Total PeCDD	305	7		1500	___
Total HxCDD	3140	8		4380	___
Total TCDF	1630	16		1640	___
Total PeCDF	2210	14		2440	___
Total HxCDF	6320	8		6870	___

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	149	75.0	40%-130%	0.75	20:50	___
$^{13}C_{12}$-2,3,7,8-TCDD	141	70.9	40%-130%	0.82	21:37	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	129	64.6	40%-130%	1.42	25:02	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	132	66.4	40%-130%	1.48	26:09	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	165	82.9	40%-130%	0.51	28:43	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	178	89.6	40%-130%	1.20	29:26	___

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TLI Project: 41521r1 Method 8290 PCDD/PCDF Analysis (b)
Client Sample: F302 Analysis File: T973246

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	16.5	83.0	40%-130%		21:39	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	141	71.0	40%-130%	1.51	25:47	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	181	90.8	40%-130%	0.48	28:37	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	178	89.3	40%-130%	1.21	29:21	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	177	89.0	40%-130%	0.51	29:56	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	169	84.8	40%-130%	0.50	29:13	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	21:26	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	29:43	___

Data Reviewer: _____ 05/13/97

X237_PSR v2.00, LARS 6.09.01

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TLI Project: **41521r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F302** Analysis File: **T973326**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPX2372S**
TLI ID:	**165-74-2**	Date Extracted:	**05/06/97**	ICal:	**TF53286**
		Date Analyzed:	**05/12/97**	ConCal:	**T973316**
Sample Size:	**20.300 g**	Dilution Factor:	**20X**	% Moisture:	**50.5**
Dry Weight:	**10.049 g**	Blank File:	**T973240**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**KAS**	% Solids:	**49.5**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	16220			1.03	32:16	___
1,2,3,4,6,7,8,9-OCDD	136980			0.84	34:45	___
1,2,3,4,6,7,8-HpCDF	8260			1.05	31:26	___
1,2,3,4,7,8,9-HpCDF	836			1.11	32:38	___
1,2,3,4,6,7,8,9-OCDF	65480			0.88	34:52	___

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	30010	2			___
Total HpCDF	43590	3		43660	___

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	171	85.8	25%-130%	0.46	31:25	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	215	108	25%-130%	1.03	32:16	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	453	114	25%-130%	1.02	34:45	___

Surrogate Standard (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	226	113	25%-130%	0.41	32:37	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	29:46	___

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TLI Project: **41521r1** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **F302** Analysis File: **X971253**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPC2NF2S**
TLI ID:	**165-74-2**	Date Extracted:	**05/06/97**	ICal:	**XF21266**
		Date Analyzed:	**05/10/97**	ConCal:	**X971249**
Sample Size:	**20.300 g**	Dilution Factor:	**n/a**	% Moisture:	**50.5**
Dry Weight:	**10.049 g**	Blank File:	**T973240**	% Lipid:	**n/a**
GC Column:	**DB-225**	Analyst:	**GG**	% Solids:	**49.5**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	49.7			0.75	23:20	___

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	124	62.3	40%-130%	0.77	23:18	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	22:14	___

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TLI Project: **41521r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F305** Analysis File: **T973247**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPX2372S**
TLI ID:	**165-74-3**	Date Extracted:	**05/06/97**	ICal:	**TF53286**
		Date Analyzed:	**05/10/97**	ConCal:	**T973236**
Sample Size:	**15.830 g**	Dilution Factor:	**n/a**	% Moisture:	**36.9**
Dry Weight:	**9.989 g**	Blank File:	**T973240**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**BB**	% Solids:	**63.1**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	2.5			0.71	21:40	___
1,2,3,7,8-PeCDD	EMPC		4.3			___
1,2,3,4,7,8-HxCDD	9.3			1.23	29:23	___
1,2,3,6,7,8-HxCDD	43.7			1.26	29:28	___
1,2,3,7,8,9-HxCDD	19.3			1.22	29:45	___
1,2,3,4,6,7,8-HpCDD	1350			1.05	32:16	___
1,2,3,4,6,7,8,9-OCDD	11590			0.83	34:44	___
2,3,7,8-TCDF	12.4			0.84	20:53	___
1,2,3,7,8-PeCDF	3.0			1.52	25:04	PR_
2,3,4,7,8-PeCDF	5.5			1.53	25:49	___
1,2,3,4,7,8-HxCDF	EMPC		41.0			E__
1,2,3,6,7,8-HxCDF	11.8			1.24	28:45	___
2,3,4,6,7,8-HxCDF	14.0			1.30	29:15	PR_
1,2,3,7,8,9-HxCDF	0.96			1.05	29:58	PR_
1,2,3,4,6,7,8-HpCDF	609			1.05	31:25	___
1,2,3,4,7,8,9-HpCDF	45.3			1.09	32:36	___
1,2,3,4,6,7,8,9-OCDF	5190			0.90	34:51	___

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	73.5	9		84.4	___
Total PeCDD	45.8	5		160	___
Total HxCDD	289	7		436	___
Total HpCDD	2490	2			___
Total TCDF	129	15		132	___
Total PeCDF	219	10		266	E__
Total HxCDF	582	8		631	___
Total HpCDF	2720	3			___

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TLI Project: **41521r1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F305** Analysis File: **T973247**

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	117	58.2	40%-130%	0.76	20:52	___
$^{13}C_{12}$-2,3,7,8-TCDD	101	50.6	40%-130%	0.83	21:39	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	95.8	47.9	40%-130%	1.50	25:04	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	99.4	49.7	40%-130%	1.48	26:10	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	128	63.9	40%-130%	0.52	28:44	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	140	69.9	40%-130%	1.21	29:27	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	132	66.0	25%-130%	0.44	31:24	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	125	62.3	25%-130%	1.00	32:15	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	233	58.1	25%-130%	0.87	34:44	___

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	10.4	52.2	40%-130%		21:40	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	99.4	49.7	40%-130%	1.49	25:49	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	130	65.0	40%-130%	0.50	28:39	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	138	68.9	40%-130%	1.22	29:22	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	140	69.7	25%-130%	0.43	32:36	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	144	72.1	40%-130%	0.52	29:57	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	130	65.1	40%-130%	0.51	29:15	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	21:27	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	29:45	___

Data Reviewer: _____ 05/13/97

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TLI Project: **41521r1** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **F305** Analysis File: **P972355**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPC2NF2S**
TLI ID:	**165-74-3**	Date Extracted:	**05/06/97**	ICal:	**PF22206**
		Date Analyzed:	**05/14/97**	ConCal:	**P972343**
Sample Size:	**15.830 g**	Dilution Factor:	**n/a**	% Moisture:	**36.9**
Dry Weight:	**9.989 g**	Blank File:	**T973240**	% Lipid:	**n/a**
GC Column:	**DB-225**	Analyst:	**BB**	% Solids:	**63.1**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	4.6			0.71	21:39	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	120	59.7	40%-130%	0.80	21:37	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	20:38	—

Data Reviewer: Shu-Lewis 05/15/97

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CALIBRATION DATA

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Date: 05/12/97 TRIANGLE LABORATORIES, INC.

Continuing Calibration for T973316

Analysis Date....: 05/12/97 Method.....: M237
Operator.....: BR Instrument..: T
Init Calibration.: TF53286 Std.Conc....: 50.00
ICal Date.....: 03/28/96

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		0:53 14:53			1.365	-1.365	100.0%
Total MCDD	0.000		1:40 15:40			1.734	-1.734	100.0%
Total DCDF	0.000		7:53 15:53			0.598	-0.598	100.0%
Total DCDD	0.000		8:40 16:40			1.188	-1.188	100.0%
Total TriCDF	0.000		11:53 18:53			0.594	-0.594	100.0%
Total TriCDD	0.000		13:40 19:40			0.289	-0.289	100.0%
2378-TCDF	1.071	0.81	16:53 24:53	20:55	1.0016	1.090	-0.019	-1.8%
TOTAL TCDF	1.071	0.81				1.090	-0.019	-1.8%
2378-TCDD	1.116	0.79	17:40 25:40	21:42	1.0015	1.206	-0.090	-7.4%
TOTAL TCDD	1.116	0.79				1.206	-0.090	-7.4%
12378-PeCDF	1.075	1.53	21:05 29:05	25:06	1.0007	1.086	-0.011	-1.0%
23478-PeCDF	1.063	1.49		25:50	1.0299	1.122	-0.059	-5.3%
TOTAL PeCDF	1.069	1.51				1.104	-0.035	-3.2%
12378-PeCDD	1.196	1.54	22:11 30:11	26:12	1.0006	1.251	-0.055	-4.4%
TOTAL PeCDD	1.196	1.54				1.251	-0.055	-4.4%
123478-HxCDF	1.115	1.37	24:46 32:46	28:41	0.9971	1.088	0.027	2.5%
123678-HxCDF	1.430	1.36		28:46	1.0000	1.353	0.077	5.7%
234678-HxCDF	1.125	1.33		29:17	1.0180	1.094	0.031	2.8%
123789-HxCDF	1.053	1.37		29:59	1.0423	0.985	0.068	7.0%
TOTAL HxCDF	1.181	1.35				1.130	0.051	4.5%
123478-HxCDD	0.830	1.24	25:28 33:28	29:24	0.9977	0.914	-0.084	-9.2%
123678-HxCDD	1.032	1.25		29:29	1.0006	1.000	0.032	3.2%

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123789-HxCDD	0.961	1.24		29:47	1.0107	1.036	-0.075	-7.2%
TOTAL HxCDD	0.941	1.24				0.983	-0.042	-4.3%
1234678-HpCDF	1.521	1.09	27:26 35:26	31:26	1.0000	1.764	-0.243	-13.8%
1234789-HpCDF	1.177	1.11		32:38	1.0382	1.132	0.045	4.0%
TOTAL HpCDF	1.349	1.10				1.448	-0.099	-6.8%
1234678-HpCDD	0.980	1.03	28:16 36:16	32:17	1.0005	0.961	0.019	1.9%
TOTAL HpCDD	0.980	1.03				0.961	0.019	1.9%
OCDF	1.367	0.89	30:45 38:45	34:52	1.0034	1.180	0.187	15.8%
OCDD	1.068	0.84	30:45 38:45	34:46	1.0005	1.017	0.051	5.0%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.933		19:40 23:40	21:42	1.0015	0.934	-0.001	-0.1%
13C12-PeCDF 234	0.933	1.53	21:05 29:05	25:49	1.0292	1.018	-0.085	-8.3%
13C12-HxCDF 478	0.919	0.51		28:40	0.9965	0.933	-0.014	-1.5%
13C12-HxCDF 234	0.886	0.51		29:16	1.0174	0.949	-0.063	-6.6%
13C12-HxCDF 789	0.812	0.50		29:59	1.0423	0.772	0.040	5.1%
13C12-HxCDD 478	0.842	1.20		29:23	0.9972	0.899	-0.057	-6.4%
13C12-HpCDF 789	0.790	0.41	29:26 35:26	32:37	1.0376	0.789	0.001	0.1%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.293	0.73	19:53 21:53	20:53	1.0000	1.266	0.027	2.1%
13C12-2378-TCDD	0.995	0.82	19:40 23:40	21:40	1.0000	1.049	-0.054	-5.2%
13C12-PeCDF 123	0.950	1.51	21:05 29:05	25:05	1.0000	1.207	-0.257	-21.3%
13C12-PeCDD 123	0.567	1.48	22:11 30:11	26:11	1.0000	0.709	-0.142	-20.0%
13C12-HxCDF 678	1.240	0.50	24:46 32:46	28:46	1.0000	1.207	0.033	2.7%
13C12-HxCDD 678	1.087	1.20	28:28 30:28	29:28	1.0000	0.943	0.144	15.2%

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Continuing Calibration for T973316

13C12-HpCDF 678	0.798	0.42	29:26 35:26	31:26	1.0000	0.821	-0.023	-2.8%
13C12-HpCDD 678	0.751	1.01	31:16 33:16	32:16	1.0000	0.770	-0.019	-2.5%
13C12-OCDD	0.513	0.91	32:45 36:45	34:45	1.0000	0.602	-0.089	-14.8%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.81		21:29	0.9915	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.18		29:46	1.0102	1.000	0.000	0.0%

QC Front End Check: 2.1257

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Concluding Calibration for X97249

Analysis Date....: 05/10/97 Method.....: C2NF
Operator.....: BJG Instrument..: X
Init Calibration.: XF21266 Std.Conc....: 5.00
ICal Date.....: 01/26/96
Analysis Time....: 09:55 GC Column...: DB-225

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
2378-TCDF	0.943	0.79	18:37 25:45	23:19	1.0000	1.123	-0.180	-16.1%
TOTAL TCDF	0.943	0.79				1.123	-0.180	-16.1%
2378-TCDD	1.077	0.77	19:27 24:57	21:57	1.0008	0.947	0.130	13.8%
TOTAL TCDD	1.077	0.77				0.947	0.130	13.8%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.987		19:56 23:56	21:57	1.0008	1.003	-0.016	-1.6%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.195	0.78	22:19 24:19	23:19	1.0000	1.387	-0.192	-13.9%
13C12-2378-TCDD	0.951	0.77	19:56 23:56	21:56	1.0000	1.057	-0.106	-10.1%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.79		22:13	1.0129	1.000	0.000	0.0%

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Continuing Calibration for P972343

Analysis Date....: 05/14/97 Method.....: C2NF
Operator.....: WK Instrument..: P
Init Calibration.: PF22206 Std.Conc....: 5.00
ICal Date.....: 02/20/96
Analysis Time....: 14:20 GC Column...: DB-225

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
2378-TCDF	1.040	0.71	17:10 23:50	21:41	1.0008	1.040	0.000	0.0%
TOTAL TCDF	1.040	0.71				1.040	0.000	0.0%
2378-TCDD	1.109	0.81	17:59 23:11	20:27	1.0008	0.992	0.117	11.8%
TOTAL TCDD	1.109	0.81				0.992	0.117	11.8%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.952		18:26 22:26	20:26	1.0000	1.014	-0.062	-6.1%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.339	0.74	20:40 22:40	21:40	1.0000	1.388	-0.049	-3.5%
13C12-2378-TCDD	1.073	0.81	18:26 22:26	20:26	1.0000	1.067	0.006	0.6%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.83		20:39	1.0106	1.000	0.000	0.0%

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Continuing Calibration for T973236

Analysis Date....: 05/09/97 Method.....: M237
Operator.....: BB Instrument..: T
Init Calibration.: TF53286 Std.Conc....: 50.00
ICal Date.....: 03/28/96

final

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		0:50 14:50			1.365	-1.365	100.0%
Total MCDD	0.000		1:37 15:37			1.734	-1.734	100.0%
Total DCDF	0.000		7:50 15:50			0.598	-0.598	100.0%
Total DCDD	0.000		8:37 16:37			1.188	-1.188	100.0%
Total TriCDF	0.000		11:50 18:50			0.594	-0.594	100.0%
Total TriCDD	0.000		13:37 19:37			0.289	-0.289	100.0%
2378-TCDF	1.252	0.82	17:15 22:52	20:51	1.0008	1.090	0.162	14.8%
TOTAL TCDF	1.252	0.82				1.090	0.162	14.8%
2378-TCDD	1.303	0.80	18:41 22:52	21:39	1.0015	1.206	0.097	8.0%
TOTAL TCDD	1.303	0.80				1.206	0.097	8.0%
12378-PeCDF	1.145	1.54	22:48 26:57	25:03	1.0007	1.086	0.059	5.4%
23478-PeCDF	1.195	1.55		25:48	1.0306	1.122	0.073	6.5%
TOTAL PeCDF	1.170	1.54				1.104	0.066	6.0%
12378-PeCDD	1.244	1.59	24:08 26:49	26:10	1.0006	1.251	-0.007	-0.5%
TOTAL PeCDD	1.244	1.59				1.251	-0.007	-0.5%
123478-HxCDF	1.081	1.28	27:30 30:12	28:38	0.9971	1.088	-0.007	-0.6%
123678-HxCDF	1.455	1.27		28:44	1.0006	1.353	0.102	7.5%
234678-HxCDF	1.079	1.25		29:14	1.0180	1.094	-0.015	-1.3%
123789-HxCDF	0.921	1.28		29:57	1.0429	0.985	-0.064	-6.5%
TOTAL HxCDF	1.134	1.27				1.130	0.004	0.4%
123478-HxCDD	0.810	1.23	28:00 29:53	29:22	0.9977	0.914	-0.104	-11.4%
123678-HxCDD	1.077	1.22		29:27	1.0006	1.000	0.077	7.7%

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Printed: 00:05 05/10/97

123789-HxCDD	0.985	1.24		29:44	1.0102	1.036	-0.051	-4.9%
TOTAL HxCDD	0.957	1.23				0.983	-0.026	-2.6%
1234678-HpCDF	1.480	1.04	31:15 32:46	31:24	1.0005	1.764	-0.284	-16.1%
1234789-HpCDF	1.068	1.07		32:35	1.0382	1.132	-0.064	-5.6%
TOTAL HpCDF	1.274	1.05				1.448	-0.174	-12.0%
1234678-HpCDD	1.040	1.02	31:29 32:25	32:15	1.0005	0.961	0.079	8.2%
TOTAL HpCDD	1.040	1.02				0.961	0.079	8.2%
OCDF	1.312	0.90	30:43 38:43	34:50	1.0034	1.180	0.132	11.2%
OCDD	1.024	0.84	30:43 38:43	34:43	1.0000	1.017	0.007	0.7%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	1.010		19:37 23:37	21:39	1.0015	0.934	0.076	8.1%
13C12-PeCDF 234	0.986	1.48	21:02 29:02	25:47	1.0300	1.018	-0.032	-3.1%
13C12-HxCDF 478	0.889	0.50		28:38	0.9971	0.933	-0.044	-4.7%
13C12-HxCDF 234	0.840	0.51		29:14	1.0180	0.949	-0.109	-11.5%
13C12-HxCDF 789	0.702	0.51		29:56	1.0424	0.772	-0.070	-9.0%
13C12-HxCDD 478	0.858	1.21		29:21	0.9972	0.899	-0.041	-4.6%
13C12-HpCDF 789	0.713	0.43	29:23 35:23	32:35	1.0382	0.789	-0.076	-9.6%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.617	0.77	19:50 21:50	20:50	1.0000	1.266	0.351	27.7%
13C12-2378-TCDD	1.064	0.82	19:37 23:37	21:37	1.0000	1.049	0.015	1.4%
13C12-PeCDF 123	0.991	1.48	21:02 29:02	25:02	1.0000	1.207	-0.216	-17.9%
13C12-PeCDD 123	0.567	1.53	22:09 30:09	26:09	1.0000	0.709	-0.142	-20.1%
13C12-HxCDF 678	1.480	0.50	24:43 32:43	28:43	1.0000	1.207	0.273	22.6%
13C12-HxCDD 678	1.134	1.22	28:26 30:26	29:26	1.0000	0.943	0.191	20.3%

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Continuing Calibration for T973236

13C12-HpCDF 678	0.828	0.44	29:23 35:23	31:23	1.0000	0.821	0.007	0.9%
13C12-HpCDD 678	0.663	1.02	31:14 33:14	32:14	1.0000	0.770	-0.107	-13.8%
13C12-OCDD	0.425	0.85	34:33 34:53	34:43	1.0000	0.602	-0.177	-29.5%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.83		21:25	0.9907	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.24		29:44	1.0102	1.000	0.000	0.0%

QC Front End Check: 2.0430

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Analysis Date....: 02/20/96 Method.....: CCDF
Instrument.....: F GC Column...: DB-225

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
2378-TCDF	1.040	0.109	10%	21:32	14:31	25:31	0.767		10
TOTAL TCDF	1.040	0.109	10%				0.767		10
2378-TCDD	0.992	0.101	10%	20:12	16:11	24:11	0.782		10
TOTAL TCDD	0.992	0.101	10%				0.782		10

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	1.014	0.048	5%	20:12	18:11	22:11			10

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.388	0.062	4%	21:31	20:31	22:31	0.758		10
13C12-2378-TCDD	1.067	0.036	3%	20:11	18:11	22:11	0.786		10

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	20:27			0.794		10

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Printed: 23:10 02/20/96

Analysis Date....: 03/28/96 Method.....: M237
Instrument.....: T

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
Total MCDF	1.365	0.000	0%	8:41	0:39	14:39	2.731		1
Total MCDD	1.558	0.000	0%	9:09	1:27	15:27	2.930		1
Total DCDF	0.598	0.000	0%	11:10	7:39	15:39	6.138		1
Total DCDD	1.067	0.000	0%	11:42	8:27	16:27	1.530		1
Total TriCDF	0.594	0.000	0%	14:42	11:39	18:39	1.051		1
Total TriCDD	0.260	0.000	0%	14:46	13:27	19:27	1.122		1
2378-TCDF	1.090	0.079	7%	20:40	16:39	24:39	0.780		5
TOTAL TCDF	1.090	0.079	7%				0.780		5
2378-TCDD	1.182	0.130	11%	21:28	17:27	25:27	0.725		5
TOTAL TCDD	1.182	0.130	11%				0.725		5
12378-PeCDF	1.086	0.072	7%	24:55	20:54	28:54	1.512		5
23478-PeCDF	1.122	0.048	4%	25:39			1.514		5
TOTAL PeCDF	1.104	0.059	5%				1.513		5
12378-PeCDD	1.251	0.052	4%	26:02	22:01	30:01	1.573		5
TOTAL PeCDD	1.251	0.052	4%				1.573		5
123478-HxCDF	1.088	0.050	5%	28:31	24:36	32:36	1.246		5
123678-HxCDF	1.353	0.080	6%	28:37			1.252		5
234678-HxCDF	1.094	0.092	8%	29:07			1.238		5
123789-HxCDF	0.985	0.051	5%	29:50			1.242		5
TOTAL HxCDF	1.130	0.067	6%				1.245		5
123478-HxCDD	0.914	0.060	7%	29:15	25:19	33:19	1.221		5
123678-HxCDD	1.000	0.051	5%	29:20			1.230		5
123789-HxCDD	1.036	0.068	7%	29:37			1.216		5
TOTAL HxCDD	0.983	0.058	6%				1.223		5
1234678-HpCDF	1.764	0.090	5%	31:17	27:17	35:17	1.058		5
1234789-HpCDF	1.132	0.033	3%	32:28			1.030		5
TOTAL HpCDF	1.448	0.057	4%				1.047		5
1234678-HpCDD	0.961	0.028	3%	32:08	28:08	36:08	1.025		5
TOTAL HpCDD	0.961	0.028	3%				1.025		5
OCDF	1.180	0.036	3%	34:42	30:36	38:36	0.894		5
OCDD	1.017	0.027	3%	34:36	30:36	38:36	0.834		5

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	0.913	0.018	2%	21:28	19:27	23:27			5
13C12-PeCDF 234	1.018	0.016	2%	25:39	22:54	26:54	1.475		5
13C12-HxCDF 478	0.933	0.040	4%	28:30			0.513		5
13C12-HxCDF 234	0.949	0.042	4%	29:07			0.501		5
13C12-HxCDF 789	0.772	0.037	5%	29:49			0.507		5
13C12-HxCDD 478	0.899	0.067	7%	29:15			1.213		5
13C12-HpCDF 789	0.789	0.027	3%	32:28	29:17	35:17	0.433		5

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.292	0.017	1%	20:39	19:39	21:39	0.736		5
13C12-2378-TCDD	1.092	0.015	1%	21:27	19:27	23:27	0.791		5
13C12-PeCDF 123	1.233	0.063	5%	24:54	20:54	28:54	1.473		5

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Printed: 13:47 04/03/96

Calibration Summary for 1253286

13C12-PeCDD 123	0.724	0.039	5%	26:01	22:01	30:01	1.488		5
13C12-HxCDF 678	1.207	0.058	5%	28:36	24:36	32:36	0.515		5
13C12-HxCDD 678	0.943	0.047	5%	29:19	28:19	30:19	1.206		5
13C12-HpCDF 678	0.821	0.015	2%	31:17	29:17	35:17	0.431		5
13C12-HpCDD 678	0.770	0.032	4%	32:08	31:08	33:08	1.019		5
13C12-OCDD	0.602	0.028	5%	34:36	32:36	36:36	0.864		5

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	21:15			0.797		5
13C12-HxCDD 789	1.000	0.000	0%	29:37			1.207		5

*** End of Report ***

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Printed: 13:47 04/03/96

Calibration Summary for XF21266

Analysis Date....: 01/26/96
Instrument.....: X

Method.....: C2NF
GC Column...: DB-225

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
2378-TCDF	1.123	0.028	2%	22:26	15:25	26:25	0.806		10
TOTAL TCDF	1.123	0.028	2%				0.806		10
2378-TCDD	0.947	0.023	2%	21:04	17:03	25:03	0.777		10
TOTAL TCDD	0.947	0.023	2%				0.777		10

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	1.003	0.019	2%	21:05	19:03	23:03			10

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.387	0.038	3%	22:25	21:25	23:25	0.795		10
13C12-2378-TCDD	1.057	0.014	1%	21:03	19:03	23:03	0.774		10

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	21:19			0.777		10

*** End of Report ***

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EIS Environmental & Engineering

TLI Project: **41521** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F307** Analysis File: **S973015**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPX2372S**
TLI ID:	**165-74-4**	Date Extracted:	**04/27/97**	ICal:	**SF52067**
		Date Analyzed:	**05/05/97**	ConCal:	**S973006**
Sample Size:	**14.430 g**	Dilution Factor:	**n/a**	% Moisture:	**30.8**
Dry Weight:	**9.986 g**	Blank File:	**S972991**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**ADP**	% Solids:	**69.2**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.6				__
1,2,3,7,8-PeCDD	ND	0.8				__
1,2,3,4,7,8-HxCDD	ND	1.4				__
1,2,3,6,7,8-HxCDD	EMPC		3.3			__
1,2,3,7,8,9-HxCDD	3.0			1.26	28:02	__
1,2,3,4,6,7,8-HpCDD	53.0			0.99	30:38	__
1,2,3,4,6,7,8,9-OCDD	599			0.81	33:03	__
2,3,7,8-TCDF	3.4			0.80	17:56	__
1,2,3,7,8-PeCDF	ND	0.6				__
2,3,4,7,8-PeCDF	EMPC		1.2			__
1,2,3,4,7,8-HxCDF	EMPC		4.5			E__
1,2,3,6,7,8-HxCDF	1.2			1.20	26:58	__
2,3,4,6,7,8-HxCDF	1.4			1.09	27:29	__
1,2,3,7,8,9-HxCDF	ND	1.0				__
1,2,3,4,6,7,8-HpCDF	21.2			0.96	29:46	__
1,2,3,4,7,8,9-HpCDF	ND	1.3				__
1,2,3,4,6,7,8,9-OCDF	49.8			0.84	33:07	__

Totals	Conc. (ppt)	Number	DL	EMPC			Flags
Total TCDD	17.1	5		25.0			__
Total PeCDD	21.8	5		28.9			__
Total HxCDD	19.2	3		36.9			__
Total HpCDD	105	2					__
Total TCDF	18.7	9		25.4			E__
Total PeCDF	8.8	2		31.8			E__
Total HxCDF	18.4	4		25.6			E__
Total HpCDF	55.7	2					__

X237_PSR v2.00, LARS 6.09.01

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Printed: 01:40 05/09/97

EIS Environmental & Engineering

TLI Project: **41521** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F307** Analysis File: **S973015**

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	84.9	42.4	40%-130%	0.75	17:56	___
$^{13}C_{12}$-2,3,7,8-TCDD	77.5	38.7	40%-130%	0.83	18:54	V___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	79.2	39.5	40%-130%	1.45	22:54	V___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	98.4	49.2	40%-130%	1.46	24:11	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	78.3	39.1	40%-130%	0.48	26:57	V___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	85.9	42.9	40%-130%	1.22	27:43	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	80.3	40.1	25%-130%	0.42	29:45	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	102	51.1	25%-130%	0.97	30:38	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	214	53.5	25%-130%	0.82	33:02	___

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	6.9	34.6	40%-130%		18:55	V___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	84.8	42.4	40%-130%	1.43	23:45	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	85.8	42.8	40%-130%	0.49	26:50	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	85.8	42.9	40%-130%	1.20	27:38	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	89.2	44.5	25%-130%	0.39	30:58	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	89.4	44.6	40%-130%	0.48	28:12	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	83.7	41.8	40%-130%	0.49	27:29	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.84	18:38	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.21	28:01	___

Data Reviewer: S.A. 05/09/97

X237_PSR v2.00, LARS 6.09.01

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Printed: 01:40 05/09/97

Initial ....Date...

Data Review By: SAV 05/09/97 Calculated Noise Area: 0.85

The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of S973015B.dbf
05/09/97 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC	Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDF					0.65-0.89						0.815-1.132			
304-306		DC	NL		0:00		0.74	0.33			0.000			
					14:50	RO	0.58	3.26	1.42	2.45	0.827			
					15:15		0.82	4.98	2.24	2.74	0.850			
					15:27		0.77	13.22	5.75	7.47	0.862			
	M				15:49		0.88	10.16	4.76	5.40	0.882			
					16:04		0.72	12.17	5.11	7.06	0.896			
	A				16:28	RO	1.16	8.43	5.53	4.76	0.918			
					16:46		0.88	9.68	4.52	5.16	0.935			
	M				17:01	RO	0.98	3.15	1.75	1.78	0.949			
					17:27		0.78	7.09	3.10	3.99	0.973			
					17:42		0.87	4.13	1.92	2.21	0.987			
	AN				17:56		0.80	15.39	6.84	8.55	1.000	2378-TCDF	AN	
	A				18:30		0.83	7.40	3.36	4.04	1.032			
		DC	SN		18:47		0.81	2.60			1.047			
		DC	SN		19:09		0.84	1.42			1.068			
	E		E		19:34	RO	0.80	8.96	4.03	5.06	1.091			
	EK		E		19:57	RO	0.64	6.32	2.75	4.31	1.112			
304-306			14	Peaks				114.34						
13C12-TCDF					0.65-0.89						0.944-1.056			
316-318		DC	NL		0:00	RO	0.22	0.34			0.000			
		DC	WL		15:51	RO	1.24	0.66			0.884			
		DC	WL		16:22	RO	0.21	0.73			0.913			
					17:56		0.75	801.32	343.47	457.85	1.000	13C12-2378-TCDF	ISO	
		DC	SN		18:40	RO	0.60	2.49			1.041			
		DC	SN		18:54	RO	0.50	1.69			1.054			
316-318			1	Peak				801.32						

---------- Above: TCDF / TCDD Follows ----------

TCDD					0.65-0.89						0.835-1.076			
320-322		DC	NL		0:00	RO	0.60	0.21			0.000			
					16:00		0.84	22.85	10.42	12.43	0.847			
					16:21		0.78	12.28	5.40	6.88	0.865			
		DC	SN		16:50	RO	0.11	0.19			0.891			
		DC	SN		17:00		0.87	0.43			0.899			
		DC	SN		17:11	RO	1.55	0.19			0.909			
	A				17:25		0.77	8.67	3.76	4.91	0.922			
		DC	SN		17:37	RO	1.97	1.64			0.932			
	D	D	SN		17:44		0.67	7.10			0.938			
		DC	SN		17:56	RO	1.80	0.96			0.949			
					18:13	RO	0.94	6.86	3.64	3.88	0.964			
					18:34	RO	1.10	9.99	6.22	5.63	0.982			

Compound/ M_Z....	QC	Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	A				18:47		0.79	1.36	0.60	0.76	0.994			
		DC	SN		18:55	RO	1.29	1.15			1.001	2378-TCDD	AN	
	K				19:23	RO	1.13	5.01	3.19	2.83	1.026			
	A				19:42	RO	0.63	5.47	2.38	3.77	1.042			
		DC	SN		19:58	RO	0.09	0.07			1.056			
					20:12		0.77	13.60	5.90	7.70	1.069			
		DC	WH		20:32	RO	0.64	0.16			1.086			
320-322				9	Peaks			86.09						
37Cl-TCDD											0.894-1.106			
328		DC	NL		0:00			0.13			0.000			
		DC	WL		15:47			0.33			0.835			
		DC	WL		15:59			0.12			0.846			
		DC	WL		16:06			0.15			0.852			
		DC	WL		16:17			3.54			0.862			
		DC	WL		16:21			0.74			0.865			
		DC	WL		16:24			3.63			0.868			
		DC	WL		16:36			0.12			0.878			
		DC	WL		16:45			0.73			0.886			
		DC	WL		16:50			0.18			0.891			
		DC	SN		17:05			0.51			0.904			
					17:14			282.58	282.58		0.912			
		DC	SN		17:48			0.62			0.942			
		DC	SN		17:55			0.26			0.948			
		DC	SN		18:03			0.13			0.955			
		DC	SN		18:21			0.77			0.971			
		DC	SN		18:30			0.58			0.979			
		DC	SN		18:39			0.10			0.987			
		DC	SN		18:39			0.15			0.987			
					18:55			50.20	50.20		1.001	37Cl-TCDD	SUR1	
		DC	SN		19:13			0.25			1.017			
					19:30			9.74	9.74		1.032			
		DC	SN		19:43			0.36			1.043			
		DC	SN		19:45			0.21			1.045			
		DC	SN		19:54			0.58			1.053			
		DC	SN		20:03			0.14			1.061			
		DC	SN		20:19			0.34			1.075			
		DC	SN		20:28			0.16			1.083			
		DC	SN		20:34			0.36			1.088			
328				3	Peaks			342.52						
13C12-TCDD							0.65-0.89				0.894-1.106			
332-334		DC	NL		0:00	RO	10.22	0.32			0.000			
					18:38		0.84	1,314.20	599.61	714.59	0.986	13C12-1234-TCDD	RS1	
					18:54		0.83	574.89	261.24	313.65	1.000	13C12-2378-TCDD	IS1	
					19:21	RO	1.19	8.23	5.54	4.64	1.024			
332-334				3	Peaks			1,897.32						

---------- Above: TCDD / PeCDF Follows ----------

PeCDF							1.32-1.78				0.887-1.089			
340-342		DC	NL		0:00	RO	1.23	0.26			0.000			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				20:34	RO	2.21	22.76	19.73	8.92	0.898			
		DC	SN	21:29	RO	11.63	0.20			0.938			
		DC	SN	21:36		1.69	0.78			0.943			
				21:55		1.78	22.91	14.68	8.23	0.957			
		DC	SN	22:06		1.58	1.99			0.965			
		DC	SN	22:17	RO	1.06	0.31			0.973			
		DC	SN	22:24	RO	2.30	0.69			0.978			
				22:33	RO	1.28	7.12	4.33	3.37	0.985			
		DC	SN	22:52		1.55	2.50			0.999			
		DC	SN	22:57	RO	1.12	2.09			1.002	12378-PeCDF	AN	
	E		E	23:12	RO	1.46	12.90	7.84	5.36	1.013			
		DC	SN	23:28	RO	1.18	0.64			1.025			
				23:45	RO	1.84	4.03	2.90	1.58	1.037	23478-PeCDF	AN	
				23:57		1.36	5.86	3.38	2.48	1.046			
		DC	SN	24:08		1.76	1.85			1.054			
		DC	SN	24:14	RO	1.10	0.56			1.058			
		DC	SN	24:25	RO	0.90	0.43			1.066			
	E		E	24:46	RO	1.45	29.00	17.63	12.15	1.082			
		DC	WH	25:07	RO	2.32	0.48			1.097			
340-342			7	Peaks			104.58						
13C12-PeCDF				1.32-1.78					0.826-1.174				
352-354		DC	NL	0:00	RO	1.00	0.25			0.000			
		DC	SN	21:25	RO	2.04	0.66			0.935			
		DC	SN	21:44	RO	0.90	0.74			0.949			
				21:53	RO	0.97	8.12	4.93	5.10	0.956			
				22:31	RO	0.91	2.72	1.65	1.82	0.983			
				22:54		1.45	620.21	366.76	253.45	1.000	13C12-PeCDF 123	IS2	
				23:06		1.33	3.00	1.71	1.29	1.009			
				23:16		1.33	4.40	2.51	1.89	1.016			
				23:45		1.43	634.12	372.79	261.33	1.037	13C12-PeCDF 234	SUR2	
		DC	SN	24:00	RO	0.32	0.44			1.048			
		DC	SN	24:49	RO	2.56	1.10			1.084			
		DC	SN	25:19		1.48	0.72			1.106			
352-354			6	Peaks			1,272.57						

---------- Above: PeCDF / PeCDD Follows ----------

PeCDD				1.32-1.78					0.906-1.028				
356-358		DC	NL	0:00		1.55	0.28			0.000			
				22:07	RO	0.25	16.14	9.89	39.15	0.915			
				22:41		1.60	4.66	2.87	1.79	0.938			
				22:59		1.44	7.13	4.21	2.92	0.950			
				23:08		1.69	4.63	2.91	1.72	0.957			
				23:19		1.64	5.56	3.45	2.11	0.964			
				23:36		1.55	36.76	22.37	14.39	0.976			
				23:51	RO	1.27	2.91	1.77	1.39	0.986			
		DC	SN	24:01		1.64	1.03			0.993			
		DC	SN	24:04	RO	0.51	0.67			0.995			
		DC	SN	24:11	RO	2.56	2.37			1.000	12378-PeCDD	AN	
	D	D	SN	24:21		1.48	3.30			1.007			
	D	D	SN	24:44	RO	1.91	3.49			1.023			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
356-358			7 Peaks				77.79						
13C12-PeCDD				1.32-1.78						0.835-1.165			
368-370	DC	NL		0:00	RO	0.82	0.23			0.000			
	DC	SN		23:30		1.38	0.50			0.972			
	DC	SN		23:48		1.77	0.36			0.984			
				24:11		1.46	417.94	248.24	169.70	1.000	13C12-PeCDD 123	IS3	
				24:20		1.34	35.47	20.31	15.16	1.006			
	DC	SN		24:26	RO	6.72	0.46			1.010			
				24:40	RO	1.29	2.83	1.72	1.33	1.020			
	DC	SN		24:55	RO	2.17	0.76			1.030			
368-370			3 Peaks				456.24						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.951-1.056			
374-376	DC	NL		0:00		1.28	1.23			0.000			
				25:48	RO	1.01	6.59	3.65	3.61	0.957			
				25:57		1.30	22.62	12.80	9.82	0.963			
	DC	SN		26:05	RO	1.73	0.83			0.968			
				26:27		1.16	16.42	8.81	7.61	0.981			
	DC	SN		26:35		1.26	0.70			0.986			
E		E		26:52	RO	1.17	10.69	5.92	5.05	0.997	123478-HxCDF	AN	
				26:58		1.20	3.91	2.13	1.78	1.001	123678-HxCDF	AN	
	DC	SN		27:18	RO	0.80	1.39			1.013			
M				27:29		1.09	3.33	1.74	1.59	1.020	234678-HxCDF	AN	
	DC	SN		28:18	RO	2.52	1.43			1.050			
	DC	SN		28:25	RO	2.94	1.05			1.054			
	DC	WH		28:35	RO	0.68	0.42			1.061			
374-376			6 Peaks				63.56						
13C12-HxCDF				0.43-0.59						0.852-1.148			
384-386	DC	NL		0:00		0.43	0.53			0.000			
				25:47		0.56	5.76	2.07	3.69	0.957			
				25:56		0.43	6.83	2.05	4.78	0.962			
				26:50		0.49	449.26	148.40	300.86	0.996	13C12-HxCDF 478	SUR3	
				26:57		0.48	470.69	153.62	317.07	1.000	13C12-HxCDF 678	IS4	
	DC	SN		27:04	RO	0.63	1.32			1.004			
	DC	SN		27:11	RO	0.74	1.48			1.009			
	DC	SN		27:18	RO	0.32	0.68			1.013			
				27:29		0.49	416.28	136.21	280.07	1.020	13C12-HxCDF 234	ALT2	
	DC	SN		27:39	RO	0.27	1.23			1.026			
	DC	SN		27:43	RO	1.22	0.69			1.028			
	DC	SN		27:48	RO	0.18	0.30			1.032			
	DC	SN		27:53	RO	0.41	0.59			1.035			
	DC	SN		27:58	RO	0.63	0.48			1.038			
	DC	SN		28:03		0.48	0.96			1.041			
				28:12		0.48	391.14	127.56	263.58	1.046	13C12-HxCDF 789	ALT1	
	DC	SN		28:29	RO	1.47	0.57			1.057			
384-386			6 Peaks				1,739.96						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD				1.05-1.43						0.945-1.015			
390-392	DC	NL		0:00		1.41	1.06			0.000			
	DC	SN		26:16	RO	0.63	1.44			0.948			
				26:22	RO	1.01	26.57	14.69	14.58	0.951			
				26:51		1.20	9.26	5.06	4.20	0.969			
				27:06		1.20	20.26	11.04	9.22	0.978			
	DC	SN		27:14	RO	0.66	1.21			0.983			
	DC	SN		27:29	RO	6.09	0.51			0.992			
D	D	SN		27:38	RO	0.92	3.16			0.997	123478-HxCDD		AN
				27:43	RO	1.00	6.81	3.77	3.76	1.000	123678-HxCDD		AN
	DC	SN		27:53		1.07	1.39			1.006			
M				28:02		1.26	5.48	3.06	2.42	1.011	123789-HxCDD		AN
	DC	WH		28:12	RO	3.71	0.78			1.017			
	DC	WH		28:25	RO	0.97	1.19			1.025			
	DC	WH		28:28	RO	0.33	0.43			1.027			
390-392			5	Peaks			68.38						
13C12-HxCDD				1.05-1.43						0.964-1.036			
402-404	DC	NL		0:00		1.30	0.53			0.000			
				27:03		1.23	2.63	1.45	1.18	0.976			
				27:38		1.20	323.80	176.93	146.87	0.997	13C12-HxCDD 478		SUR4
				27:43		1.22	388.99	213.95	175.04	1.000	13C12-HxCDD 678		IS5
				28:01		1.21	827.59	453.80	373.79	1.011	13C12-HxCDD 789		RS2
	DC	SN		28:19	RO	1.96	1.23			1.022			
402-404			4	Peaks			1,543.01						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF				0.88-1.20						0.994-1.046			
408-410	DC	NL		0:00	RO	3.00	0.29			0.000			
	DC	SN		29:36	RO	1.81	0.96			0.995			
				29:46		0.96	42.78	21.00	21.78	1.001	1234678-HpCDF		AN
D	D	SN		29:58		1.15	3.09			1.007			
				30:06		1.07	62.37	32.24	30.13	1.012			
	DC	SN		30:17	RO	3.04	0.49			1.018			
	DC	SN		30:26	RO	1.93	0.59			1.023			
	DC	SN		30:38	RO	0.32	0.69			1.030			
D	D	SN		30:58	RO	0.34	4.08			1.041	1234789-HpCDF		AN
	DC	WH		31:12	RO	0.68	5.86			1.049			
	DC	WH		31:25	RO	0.49	3.17			1.056			
408-410			2	Peaks			105.15						
13C12-HpCDF				0.37-0.51						0.933-1.134			
418-420	DC	NL		0:00	RO	1.23	0.19			0.000			
				29:45		0.42	297.47	87.39	210.08	1.000	13C12-HpCDF 678		IS6
	DC	SN		30:06	RO	0.87	0.86			1.012			
	DC	SN		30:22		0.42	0.91			1.021			
	DC	SN		30:43	RO	0.88	0.80			1.032			
				30:58		0.39	261.53	73.30	188.23	1.041	13C12-HpCDF 789		SUR5
	DC	SN		31:19		0.48	2.08			1.053			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC		SN	31:29	RO	2.09	0.50			1.058			
418-420			2	Peaks			559.00						

---------- Above: HpCDF / HpCDD Follows ----------

HpCDD				0.88-1.20						0.974-1.005			
424-426	DC	NL		0:00	RO	0.62	1.06			0.000			
				30:01		0.97	84.26	41.54	42.72	0.980			
	DC	SN		30:20	RO	0.62	0.57			0.990			
	DC	SN		30:31	RO	2.22	0.55			0.996			
				30:38		0.99	85.81	42.75	43.06	1.000	1234678-HpCDD		AN
	DC	WH		30:57		1.14	5.51			1.010			
424-426			2	Peaks			170.07						
13C12-HpCDD				0.88-1.20						0.967-1.033			
436-438	DC	NL		0:00	RO	1.47	0.31			0.000			
	DC	SN		29:53	RO	5.11	0.18			0.976			
				30:01	RO	1.68	2.57	2.12	1.26	0.980			
	DC	SN		30:29	RO	0.35	0.37			0.995			
				30:38		0.97	316.07	155.42	160.65	1.000	13C12-HpCDD 678		IS7
	DC	SN		30:51	RO	2.32	1.53			1.007			
436-438			2	Peaks			318.64						

---------- Above: HpCDD / Octa-CDD and CDF Follows ----------

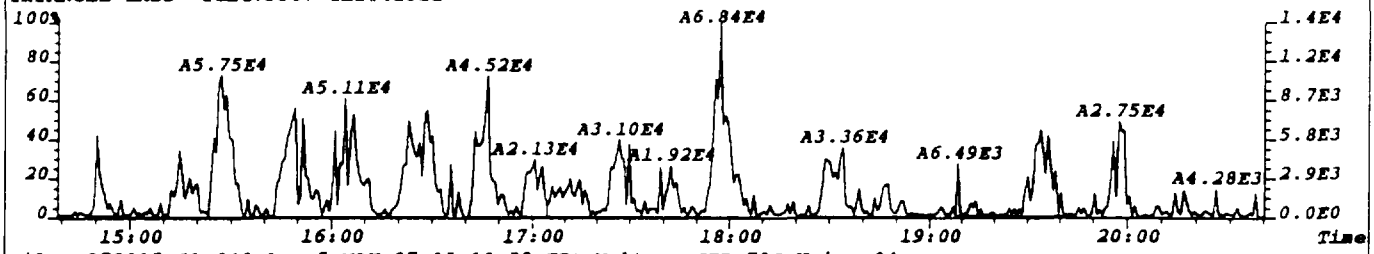
OCDF				0.76-1.02						0.879-1.121			
442-444	DC	NL		0:00		0.87	0.28			0.000			
	DC	WL		29:01	RO	0.74	0.55			0.878			
	DC	SN		29:18		0.85	0.74			0.887			
	DC	SN		29:34	RO	1.31	0.49			0.895			
	DC	SN		29:56	RO	0.31	0.19			0.906			
	DC	SN		30:17	RO	0.54	0.30			0.917			
	DC	SN		30:51	RO	0.21	0.17			0.934			
	DC	SN		30:59	RO	2.84	2.06			0.938			
				31:21	RO	0.43	10.88	5.12	11.92	0.949			
				31:29	RO	0.65	3.51	1.65	2.54	0.953			
	DC	SN		31:40	RO	0.63	0.85			0.959			
	DC	SN		32:18		0.90	0.59			0.978			
	DC	SN		32:42	RO	1.35	0.92			0.990			
	DC	SN		32:48	RO	0.30	0.57			0.993			
				33:07		0.84	96.37	44.05	52.32	1.003	OCDF		AN
	DC	SN		33:22	RO	0.21	0.27			1.010			
	DC	SN		33:43	RO	0.12	0.13			1.021			
	DC	SN		33:58	RO	0.55	0.93			1.028			
	DC	SN		34:07	RO	1.66	0.83			1.033			
	DC	SN		34:26	RO	1.59	0.51			1.042			
	DC	SN		34:38		0.92	0.48			1.048			
	DC	SN		34:42	RO	2.25	0.23			1.050			
	DC	SN		34:59	RO	1.17	0.78			1.059			
	DC	SN		35:27		0.76	0.86			1.073			
	DC	SN		35:35	RO	1.92	0.45			1.077			
442-444			3	Peaks			110.76						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
OCDD						0.76-1.02				0.879-1.121			
458-460	DC	NL		0:00	RO	0.65	0.28			0.000			
				33:03		0.81	917.11	409.05	508.06	1.001	OCDD		AN
	DC	SN		33:14	RO	1.79	2.13			1.006			
	DC	SN		33:25	RO	0.52	1.26			1.012			
458-460			1	Peak			917.11						
13C12-OCDD						0.76-1.02				0.995-1.005			
470-472	DC	NL		0:00	RO	1.13	0.28			0.000			
				33:02		0.82	589.53	266.27	323.26	1.000	13C12-OCDD		IS8
	DC	WH		33:29	RO	1.67	0.68			1.014			
470-472			1	Peak			589.53						

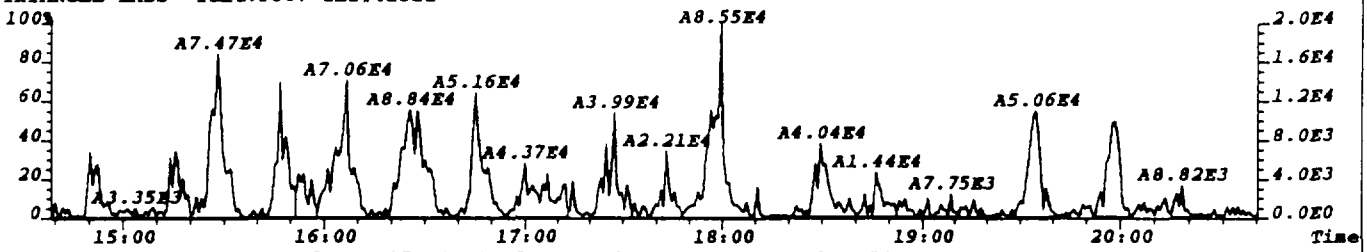
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

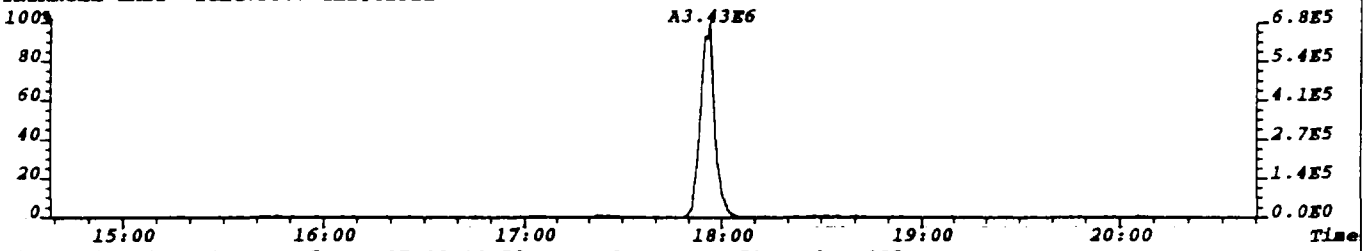
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:71
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



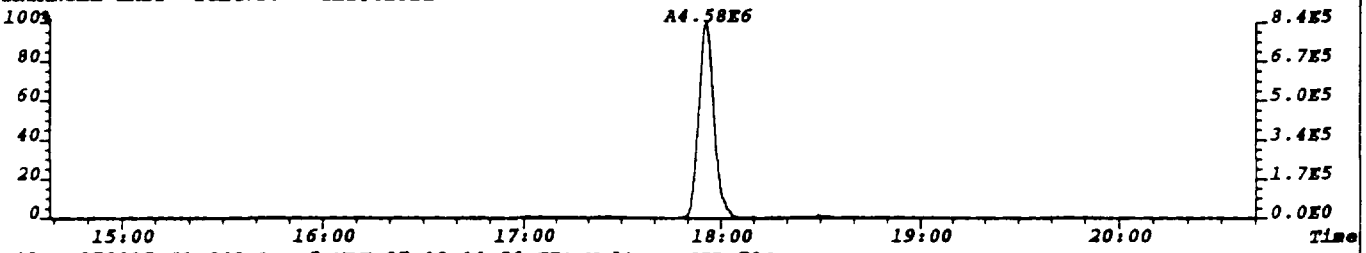
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:94
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,376.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



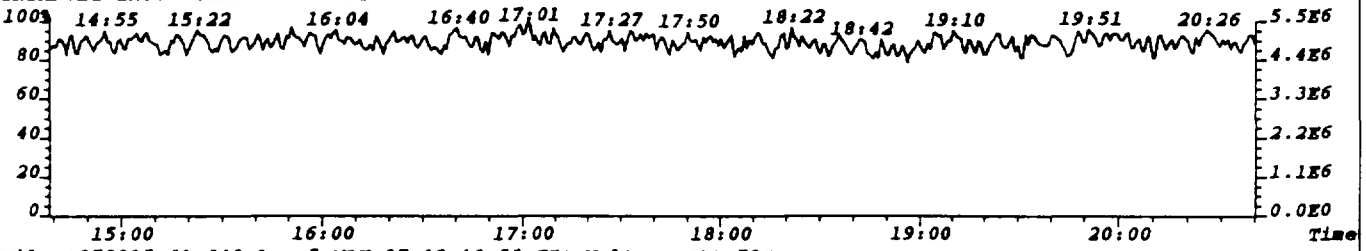
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:76
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



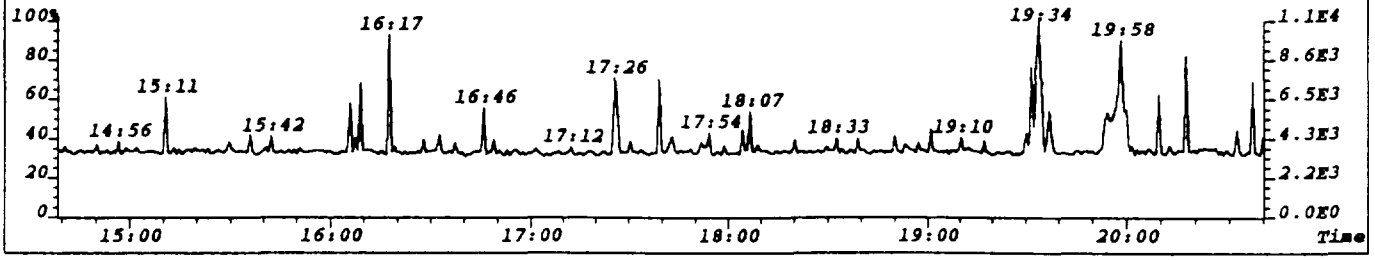
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:335
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1340.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



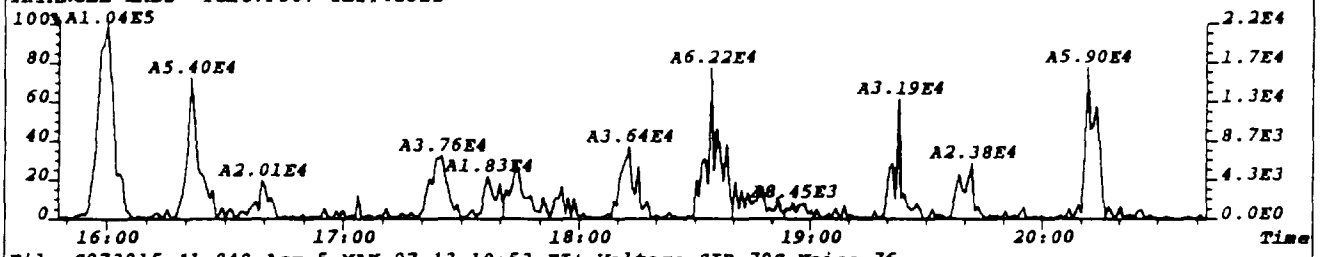
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



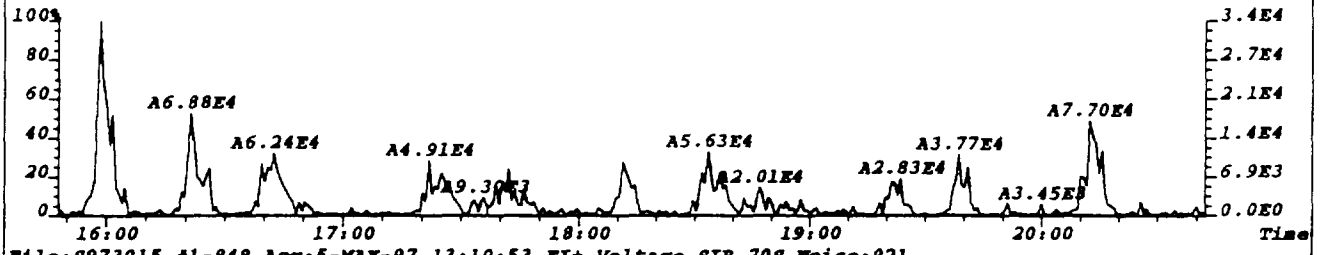
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



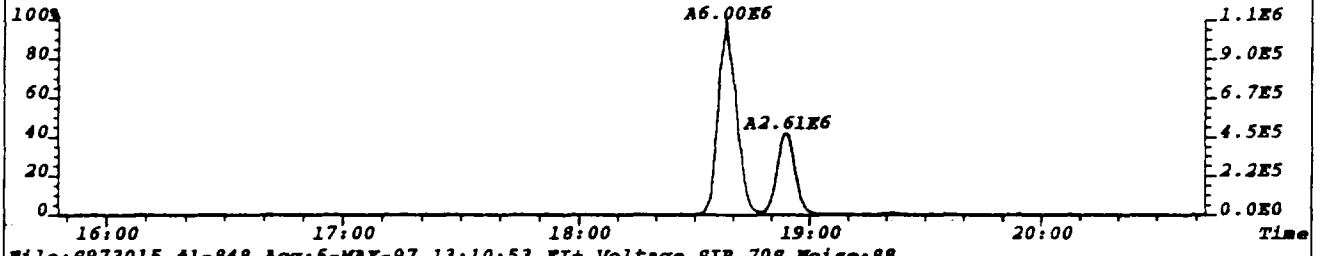
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:45
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



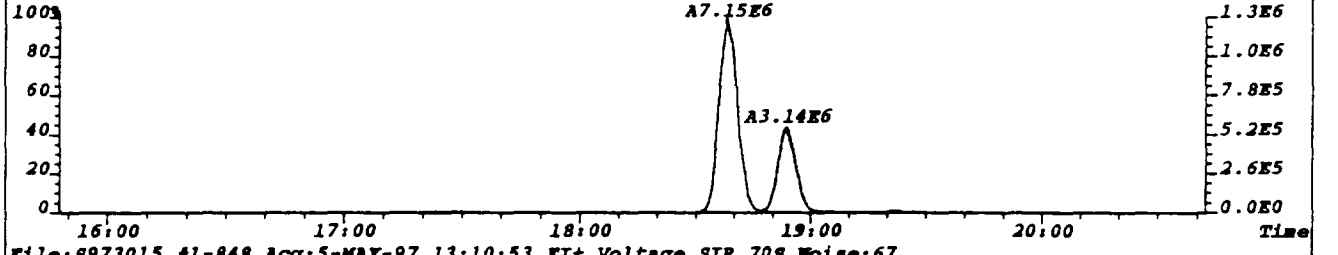
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:76
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



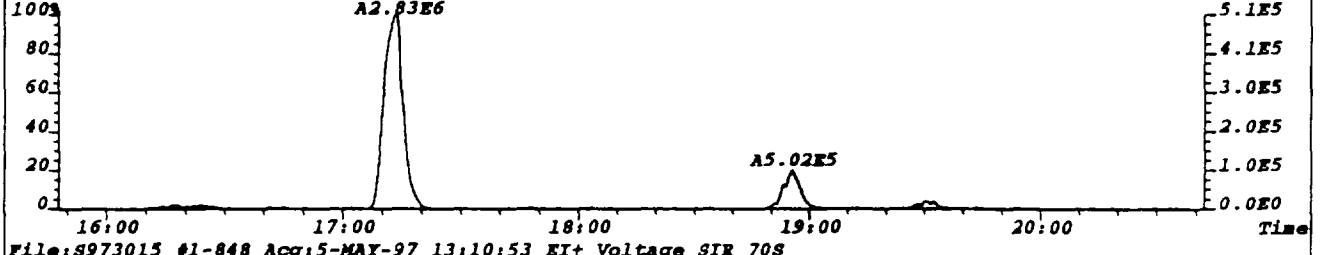
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:921
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3684.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



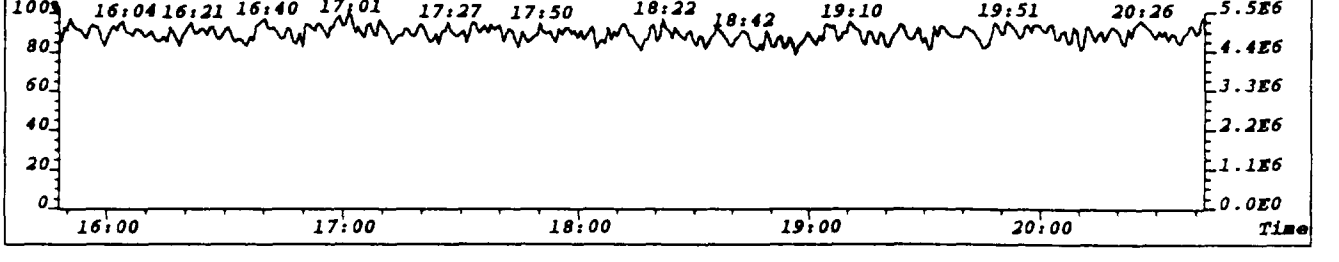
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:88
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



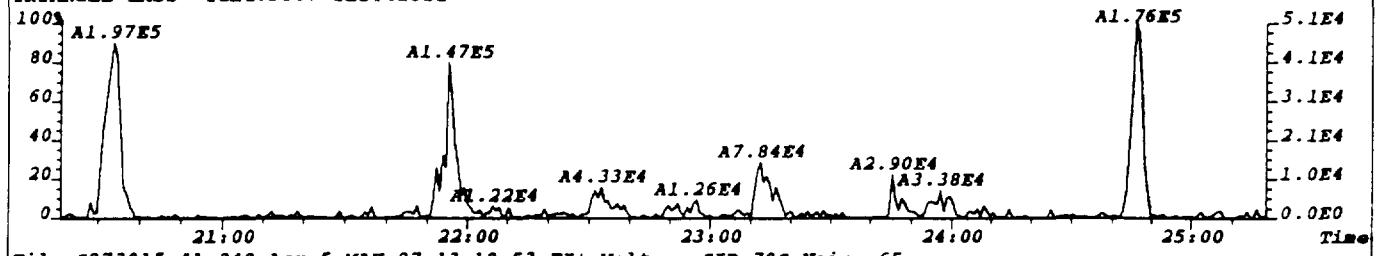
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:67
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



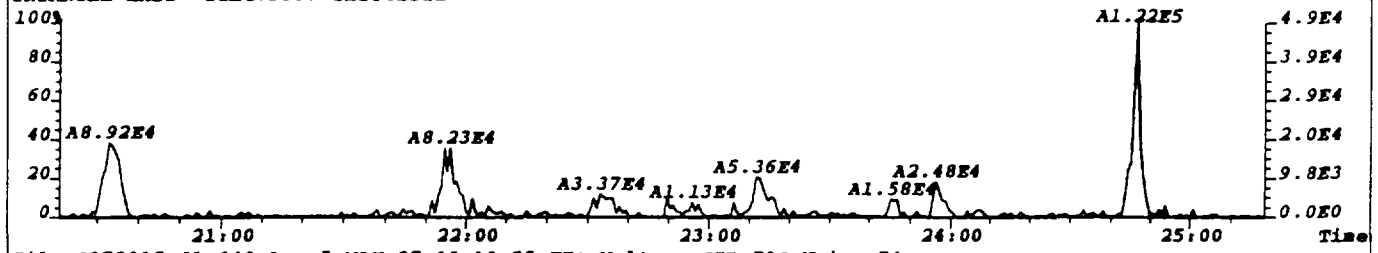
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



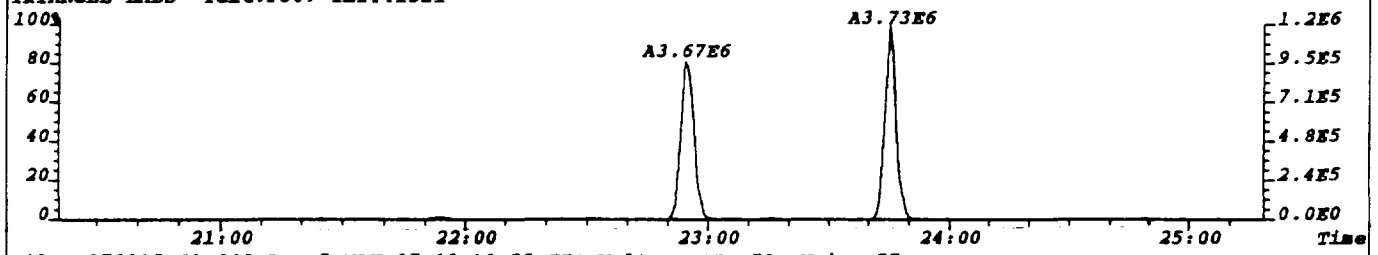
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:79
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,316.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



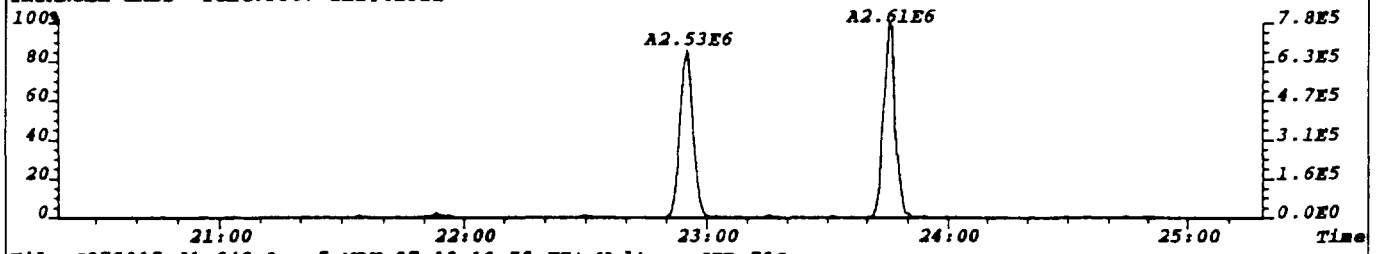
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:65
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,260.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



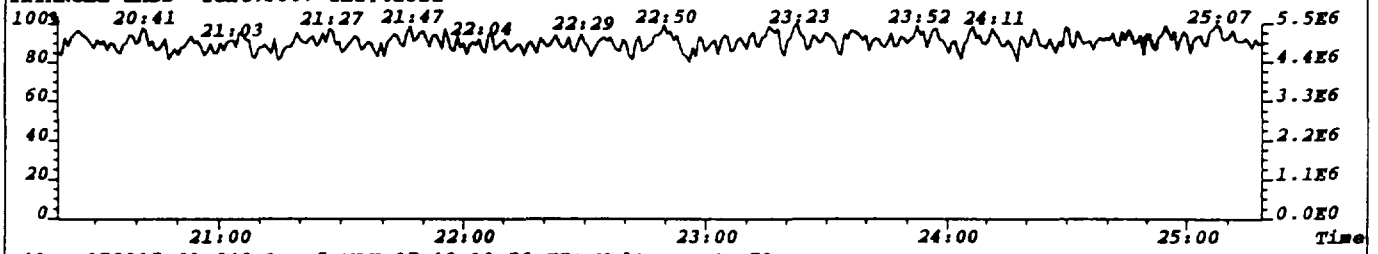
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:74
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



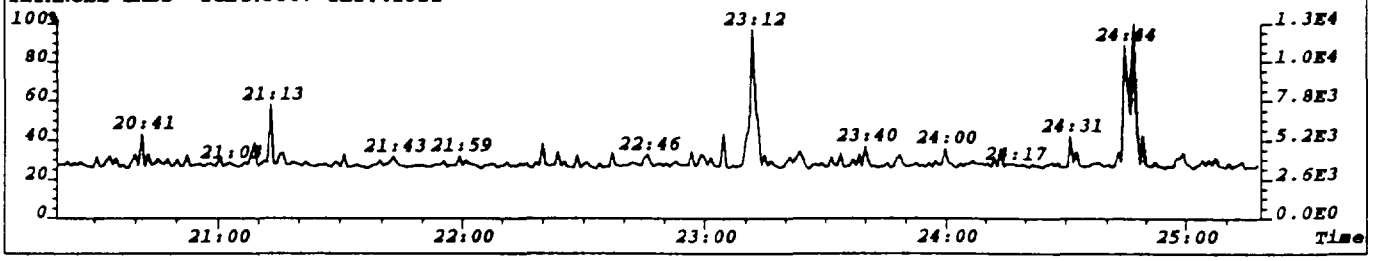
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:77
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,308.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



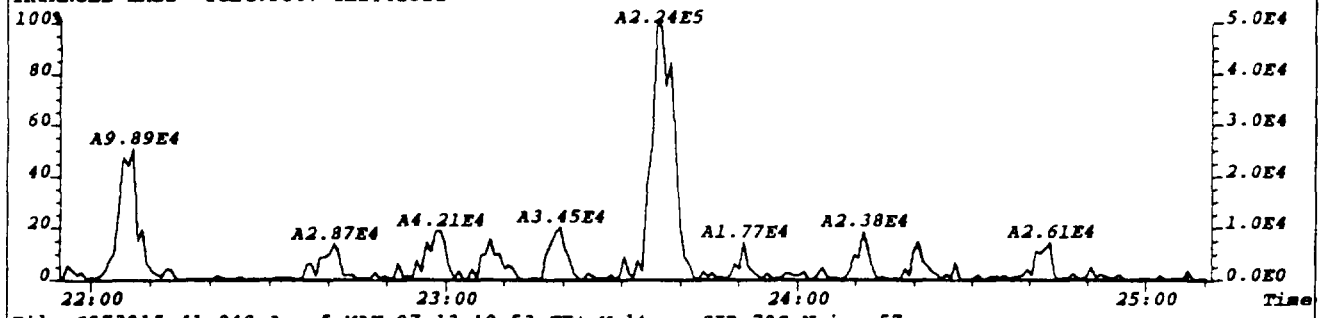
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



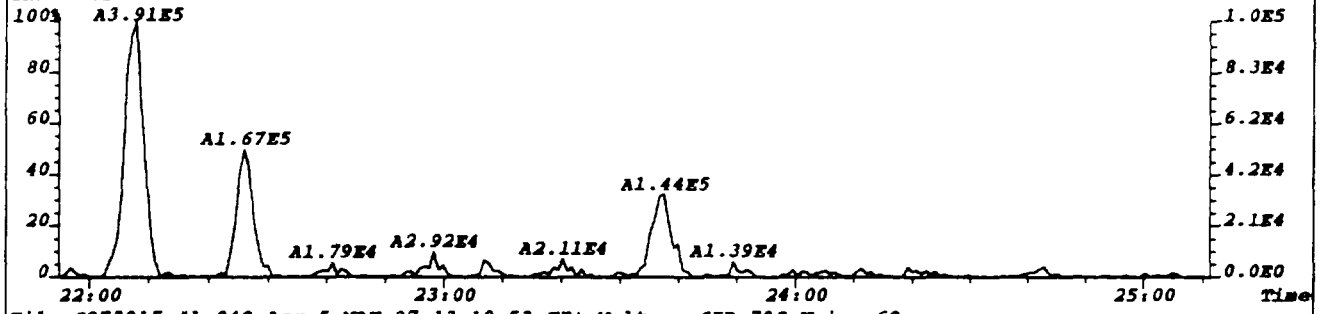
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



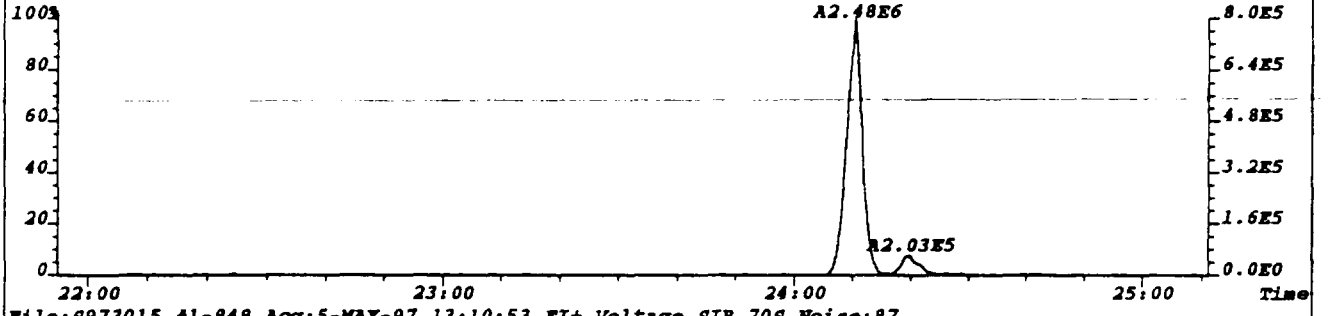
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:84
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,336.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



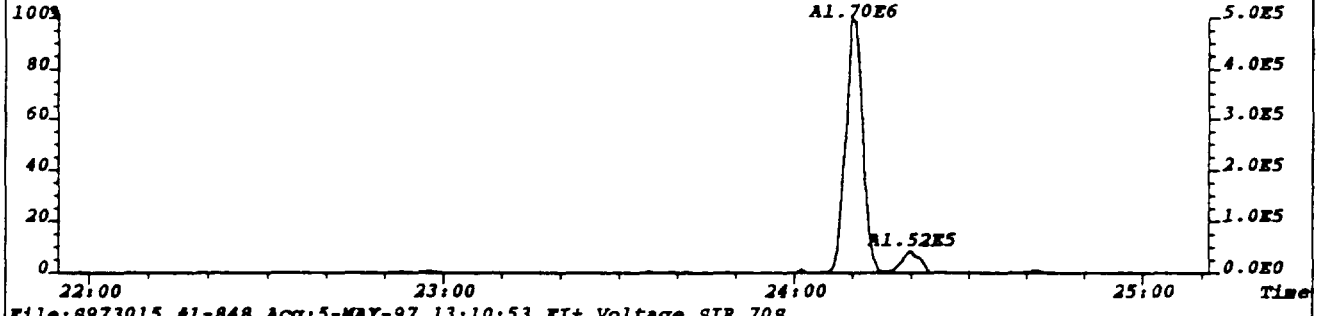
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:57
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



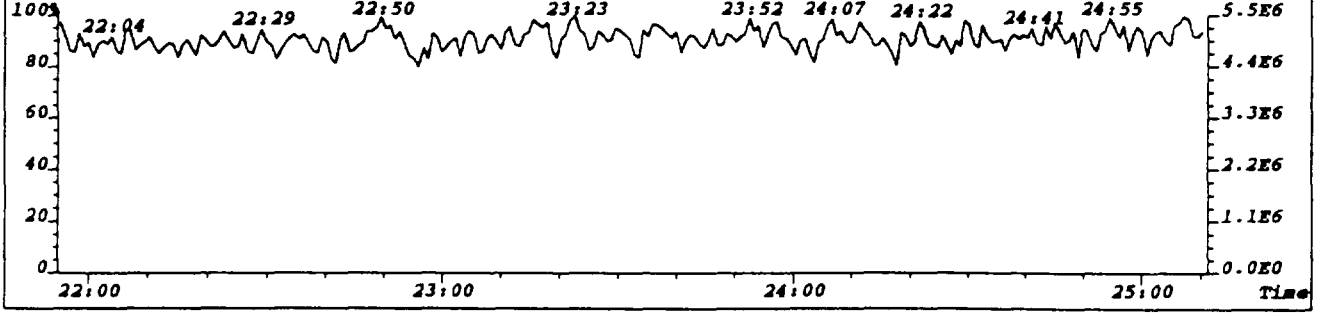
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:68
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,272.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



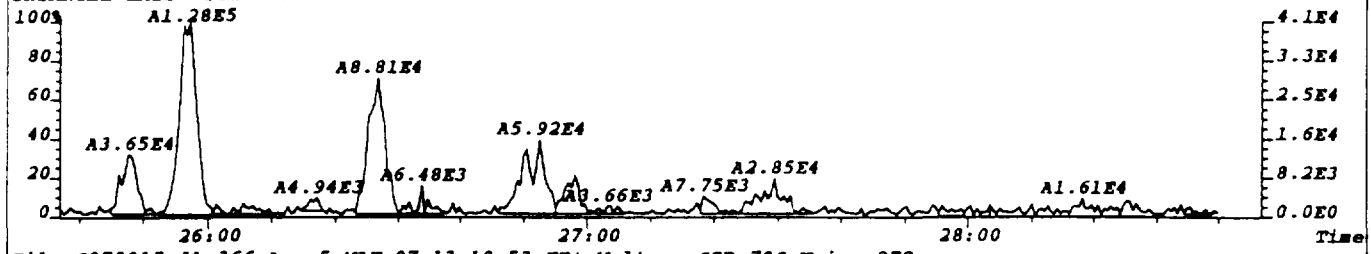
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:87
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



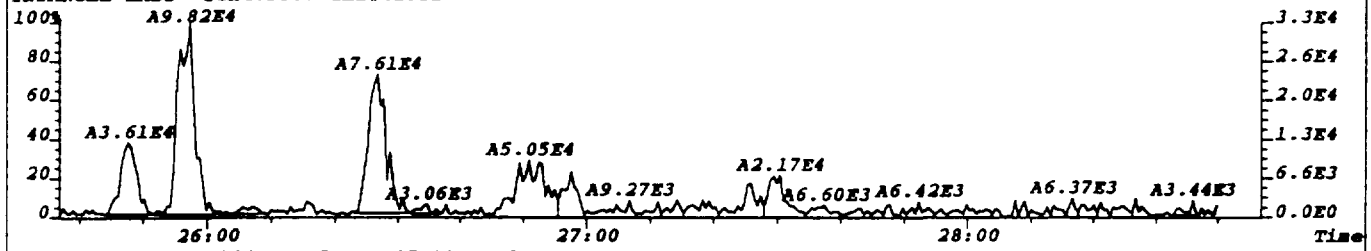
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



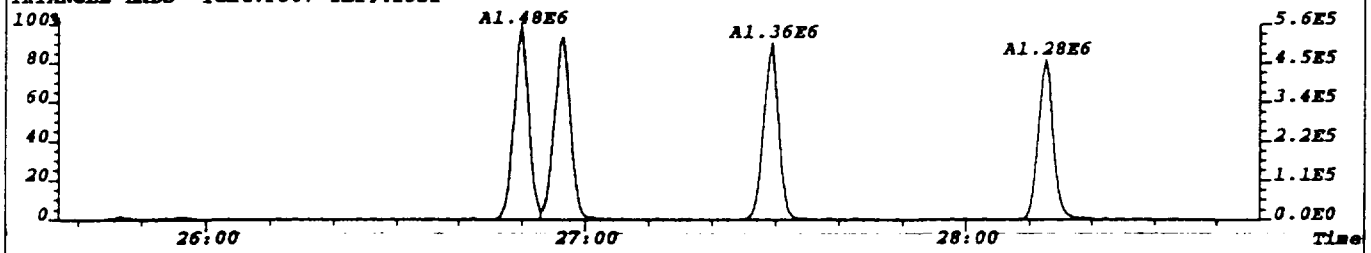
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:347
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1388.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



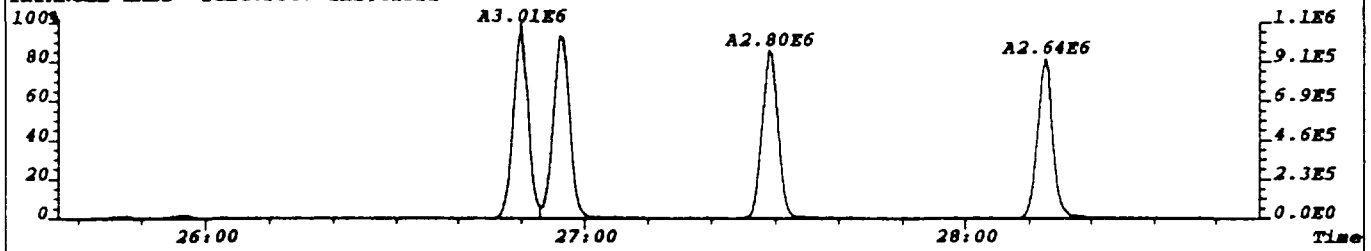
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:272
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1088.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



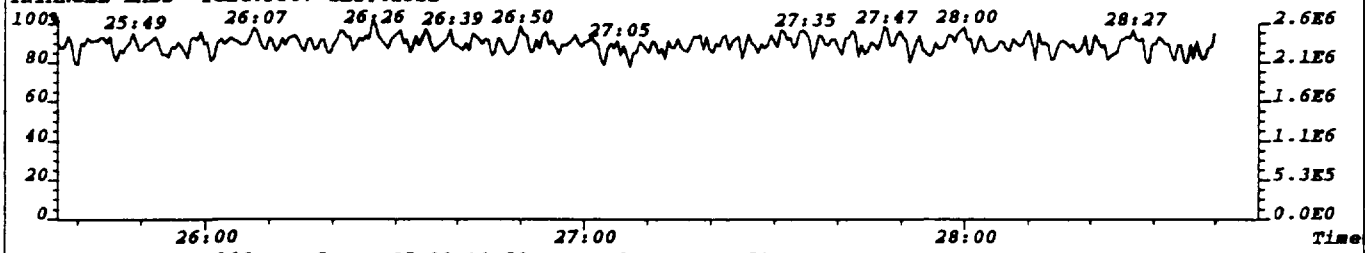
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:78
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,312.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



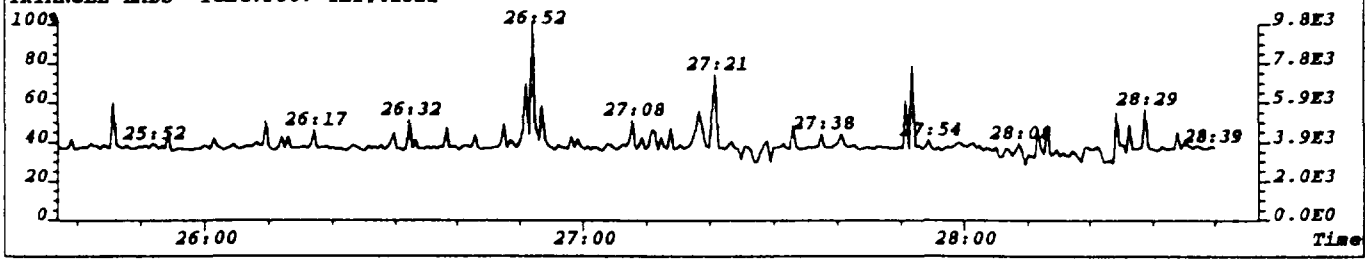
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:186
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,744.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



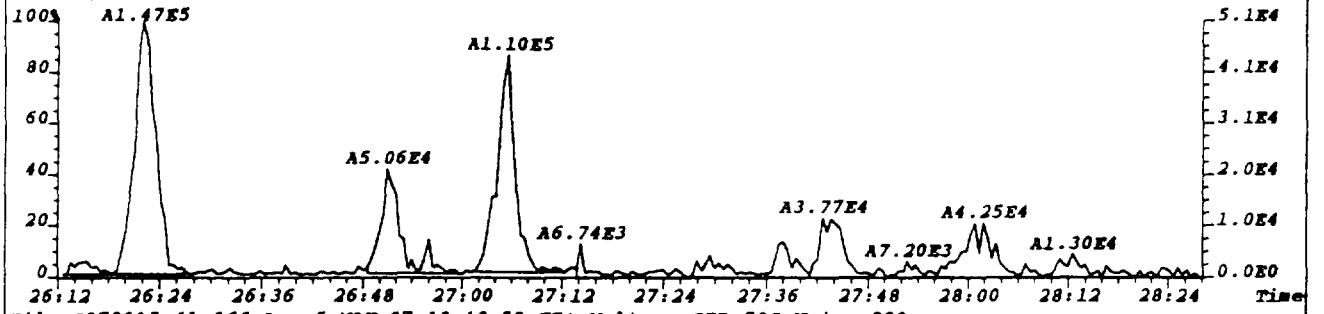
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



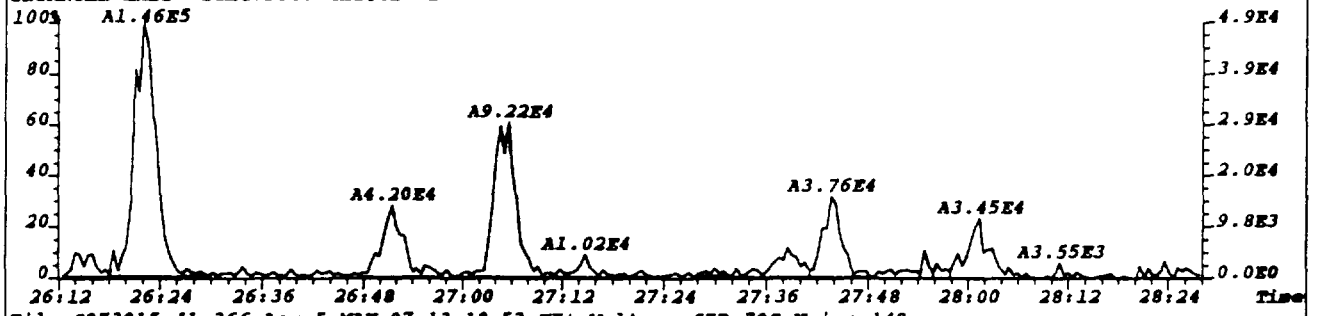
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



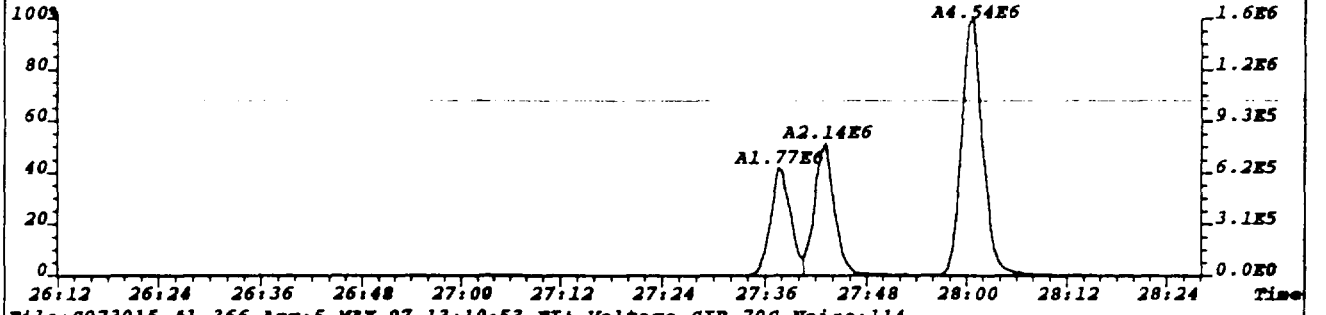
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:310
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



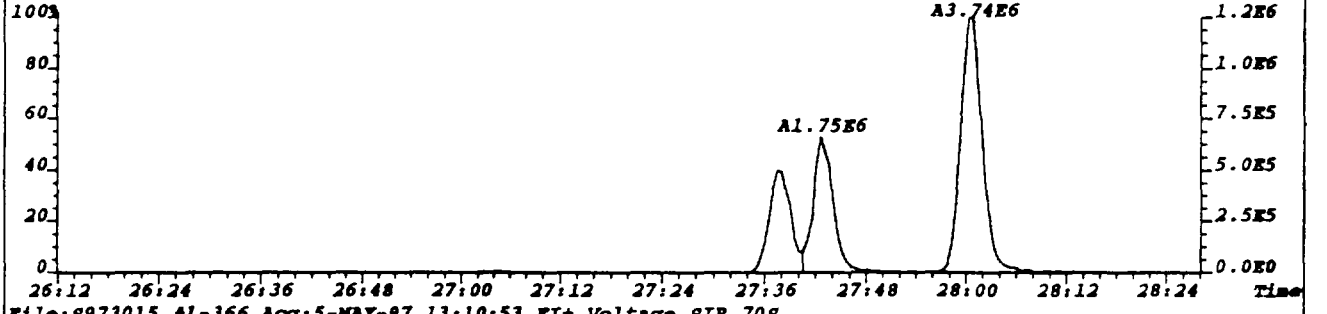
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:220
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,880.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



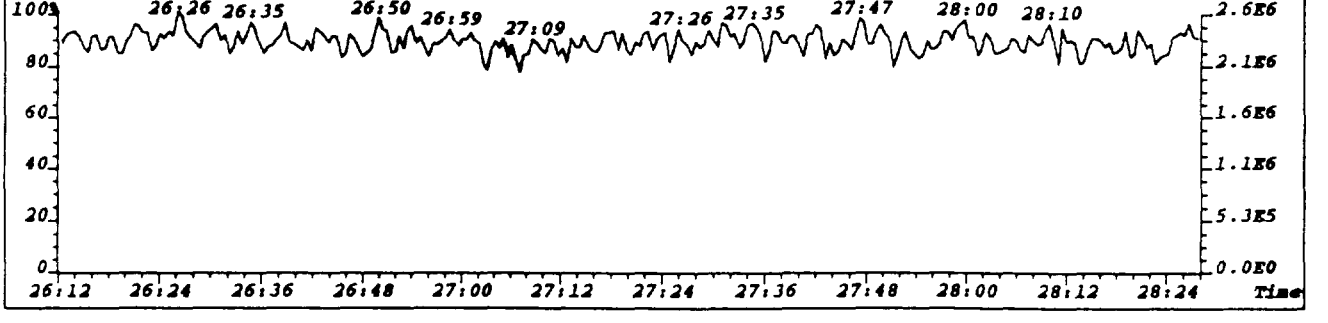
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:149
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,596.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



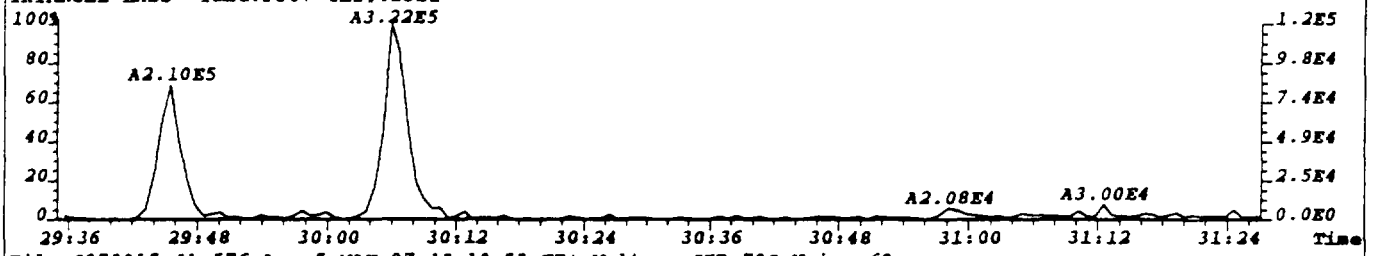
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:114
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,456.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



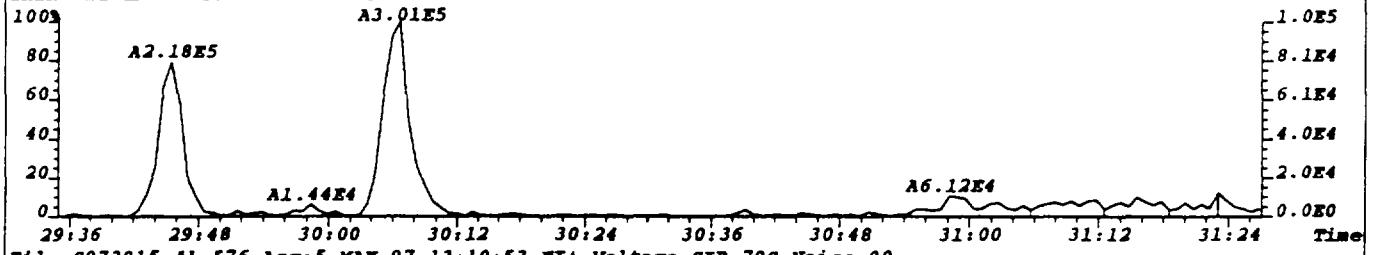
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



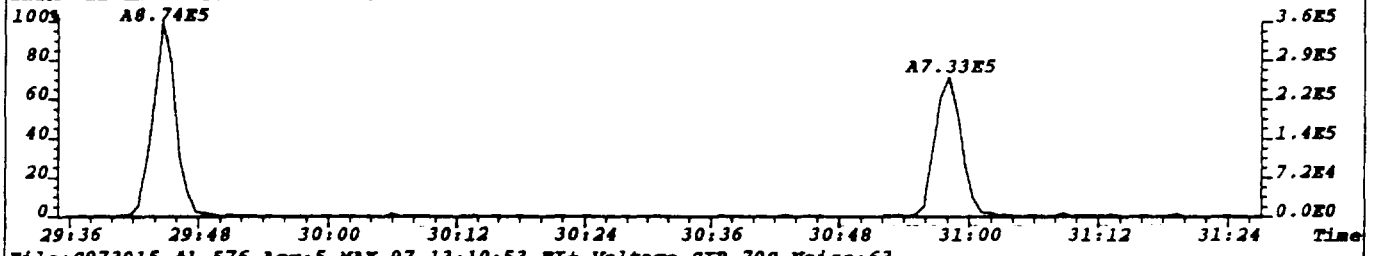
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:212
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,848.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



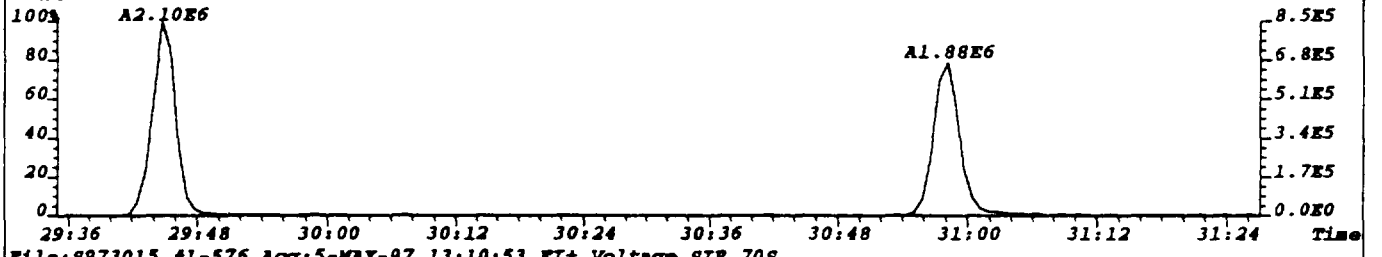
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:69
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



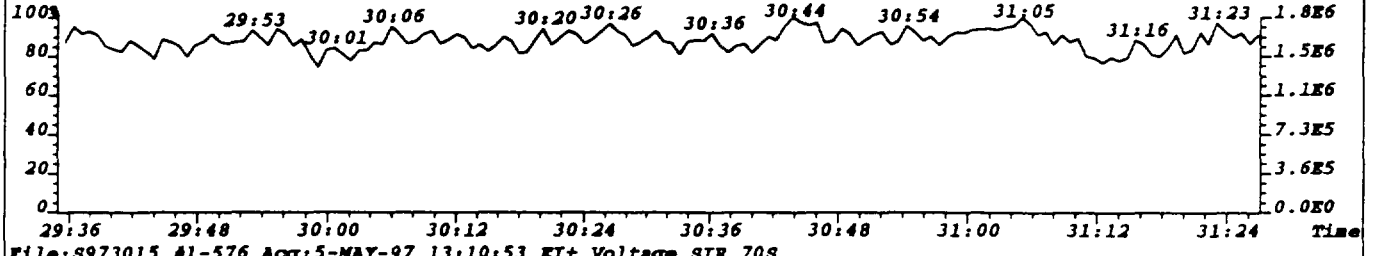
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:80
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,320.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



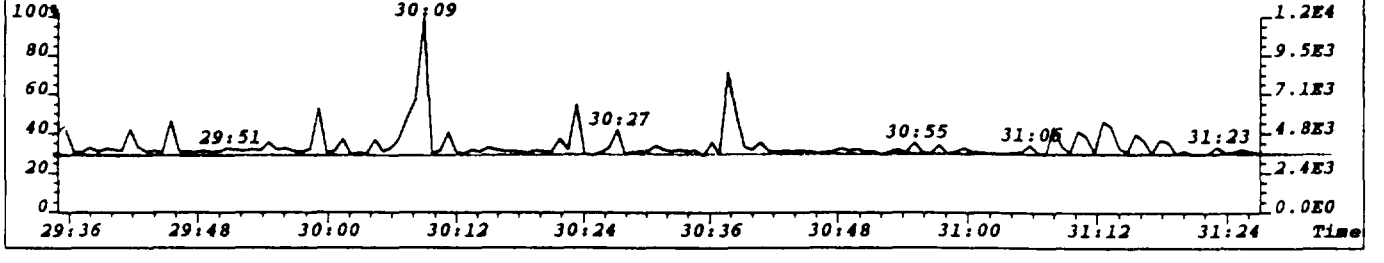
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:63
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



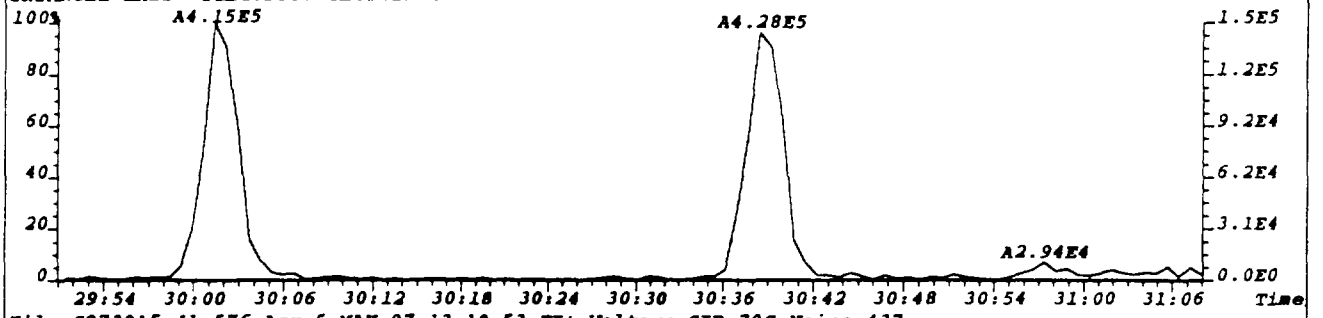
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



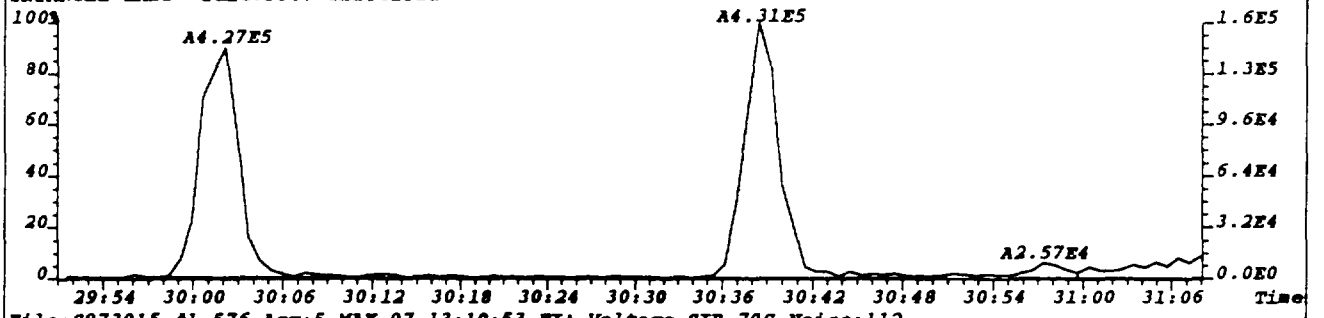
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



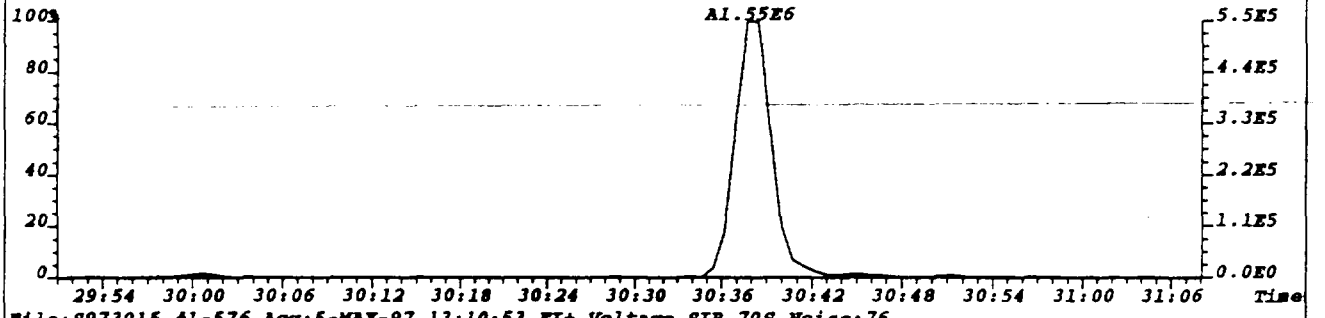
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:269
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1076.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



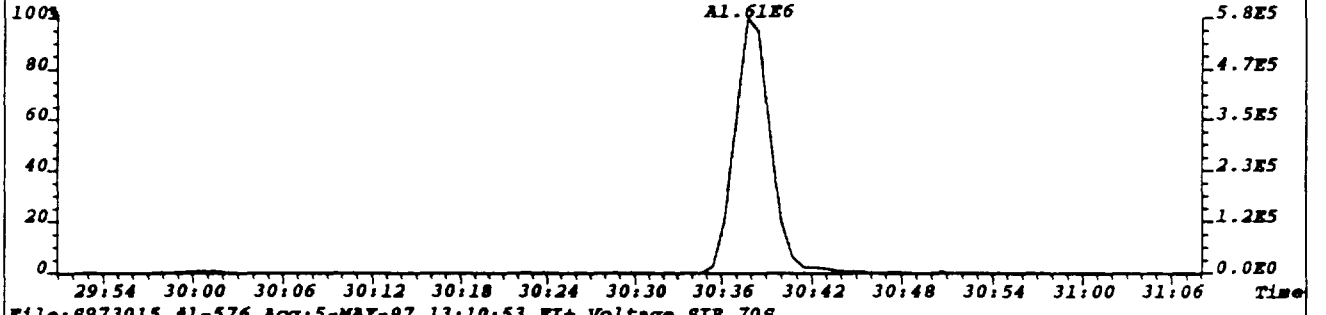
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:437
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1748.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



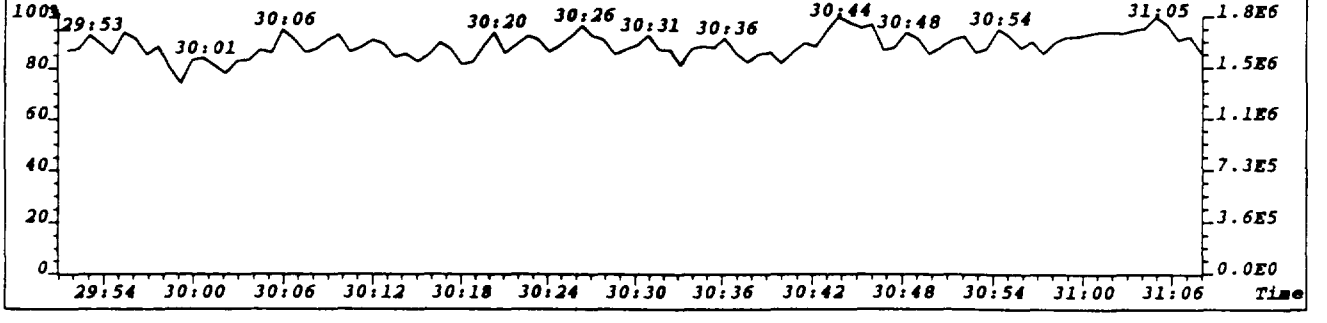
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:112
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,448.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



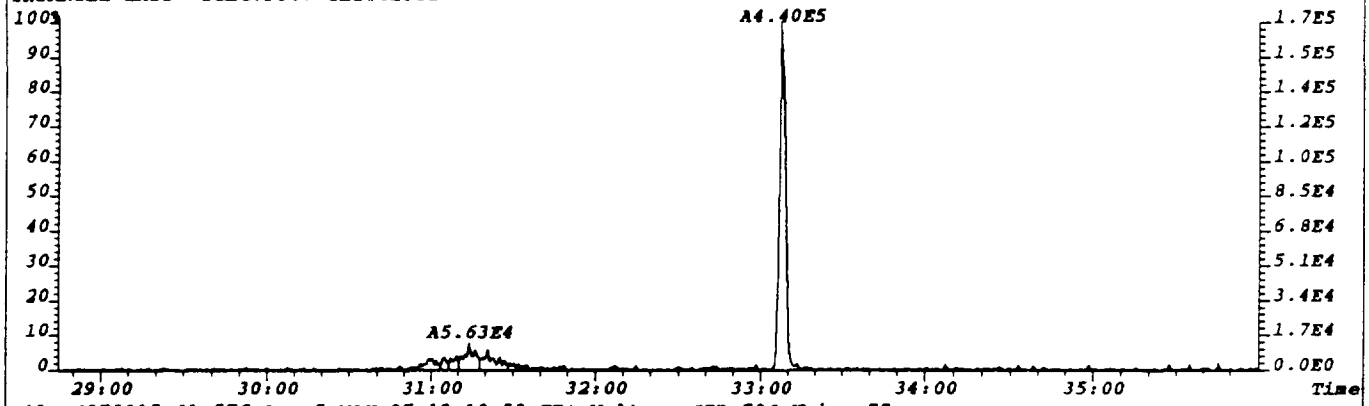
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:76
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



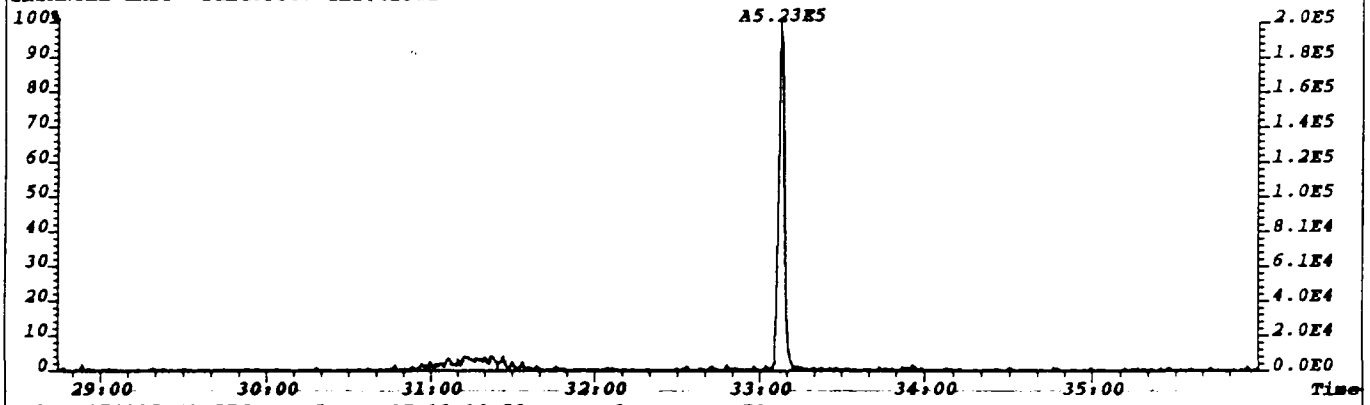
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



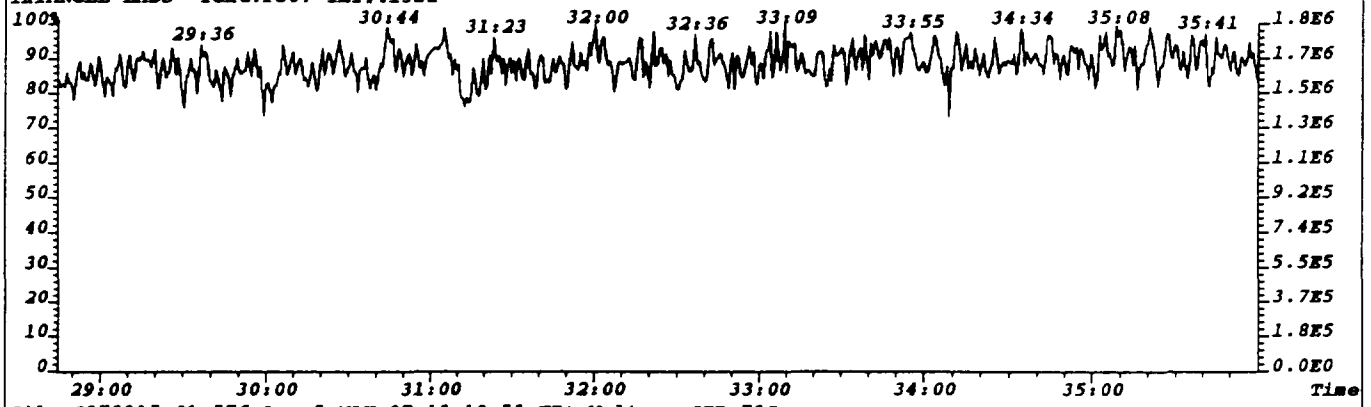
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:63
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



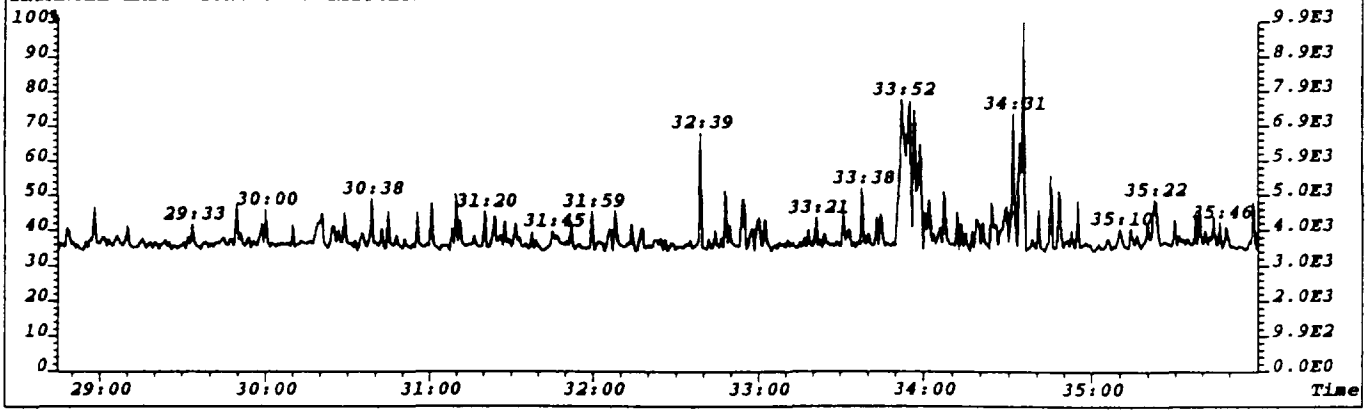
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:75
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,300.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



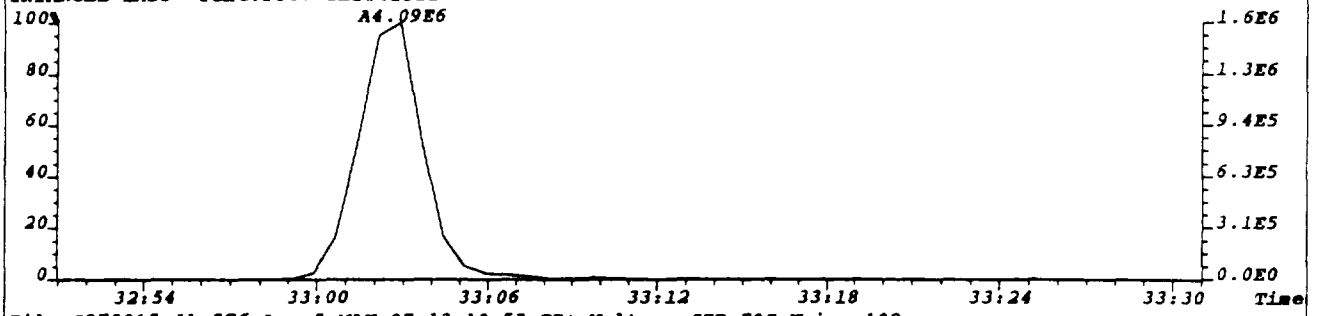
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



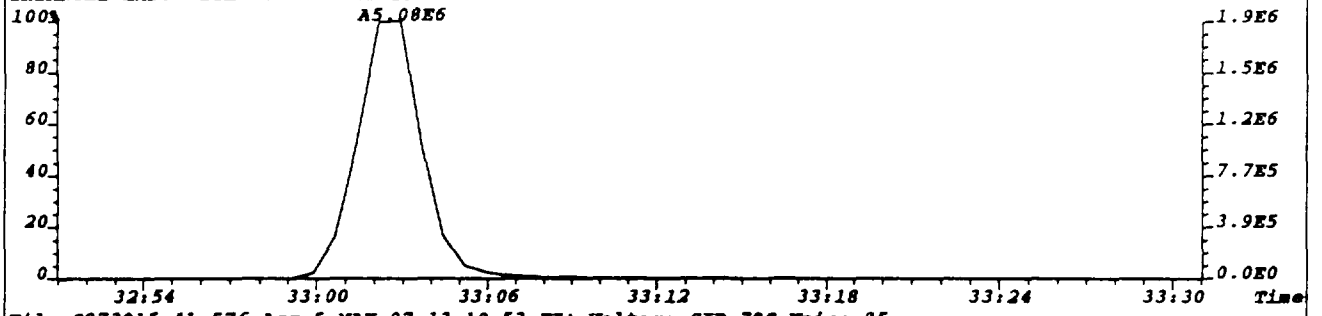
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



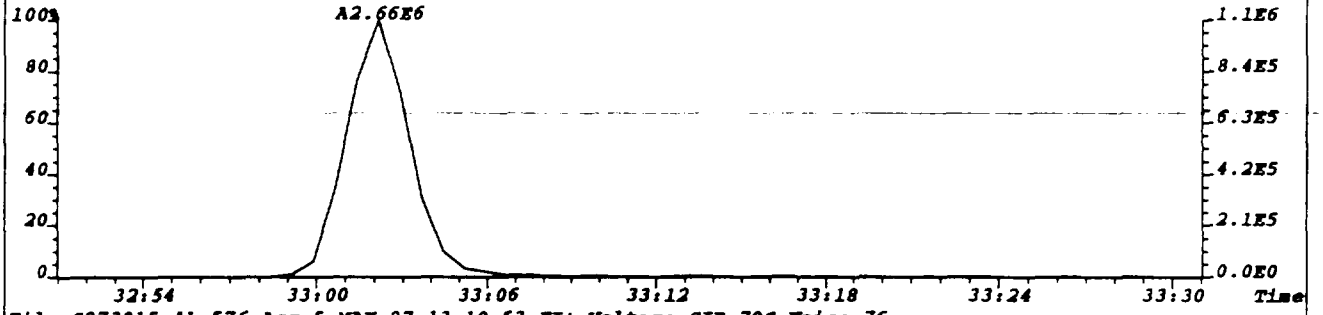
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:67
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



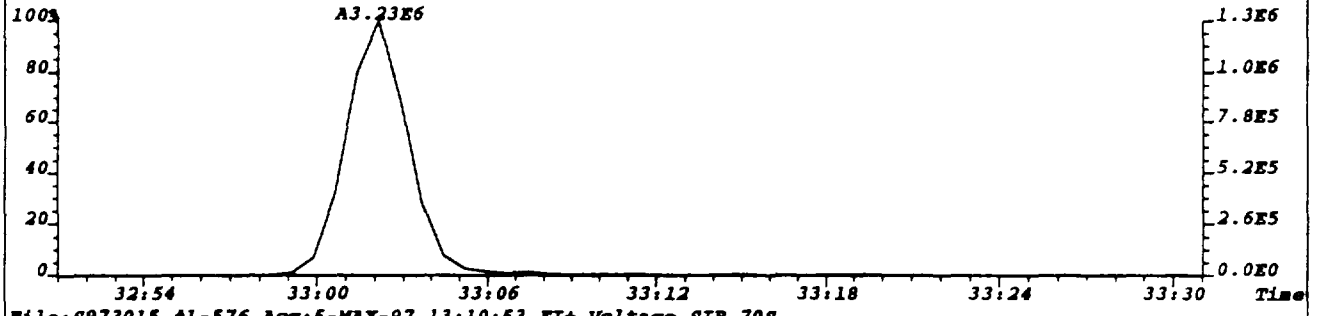
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:102
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,408.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



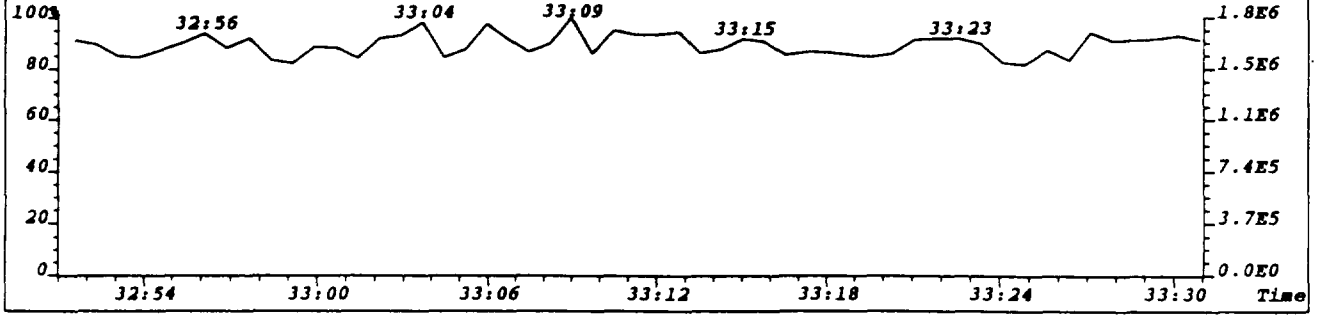
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:85
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,340.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521

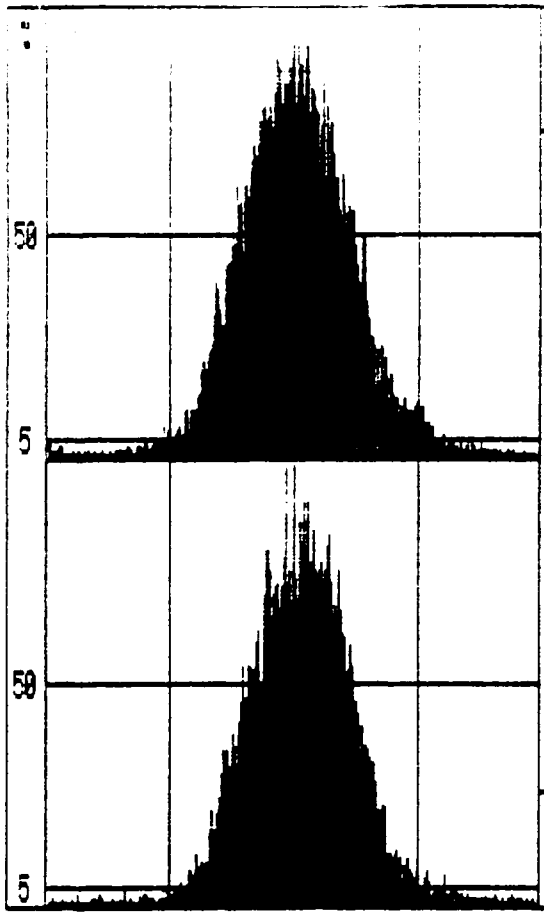


File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S Noise:76
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521



File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F307 TLI#41521





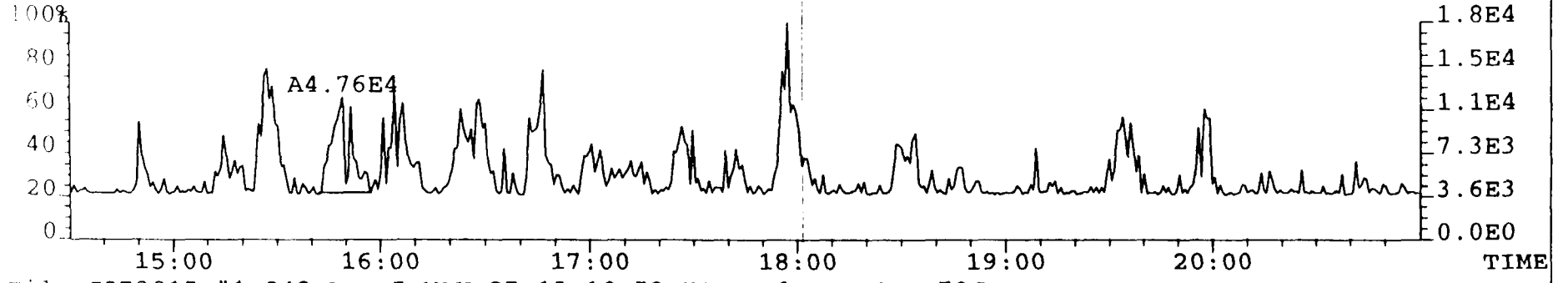
Ref. mass 292.3825 Peak top
Height 1.23 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S973015
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.3825, 416.9760

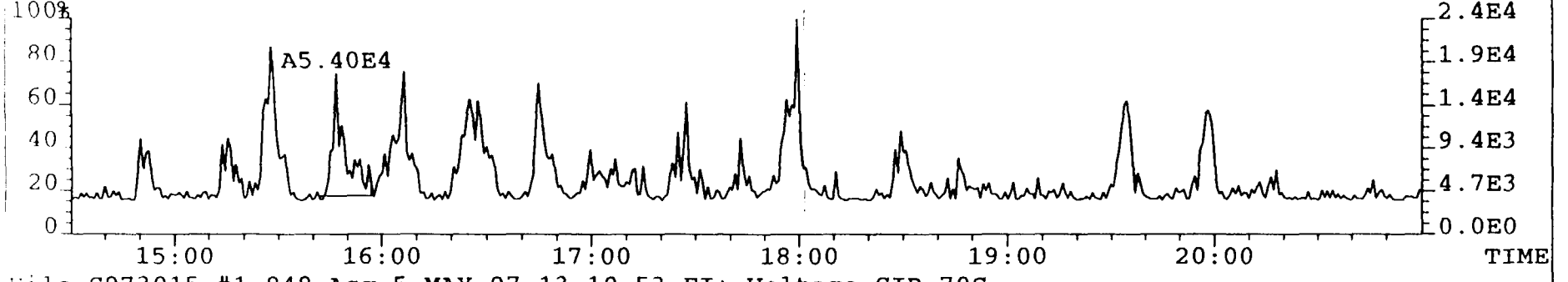
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 1.19 volts Span 200 ppm

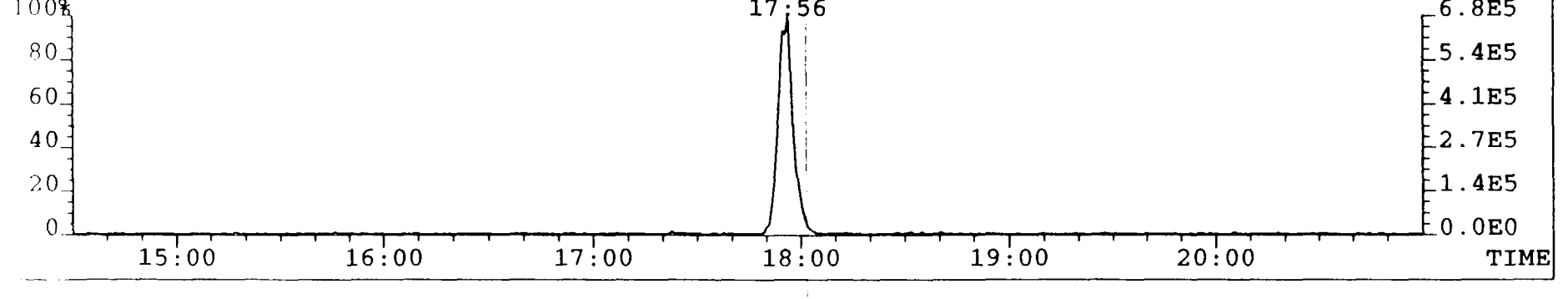
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



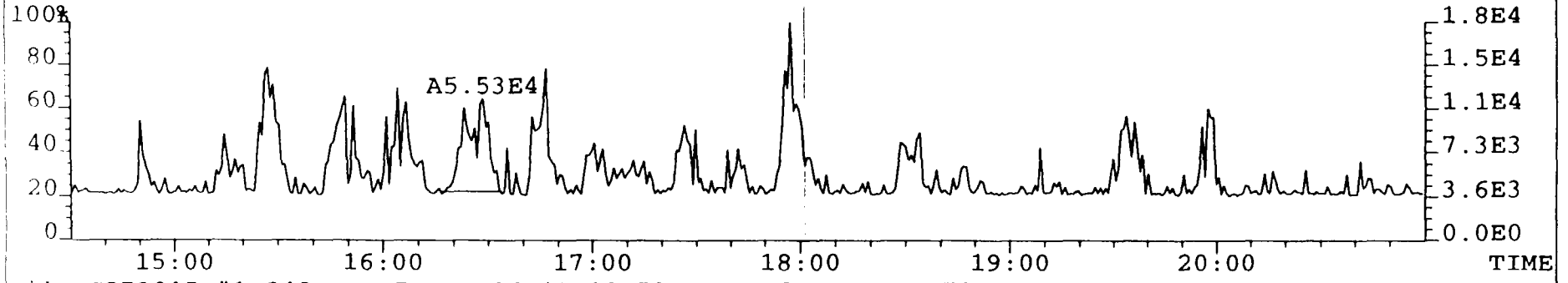
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



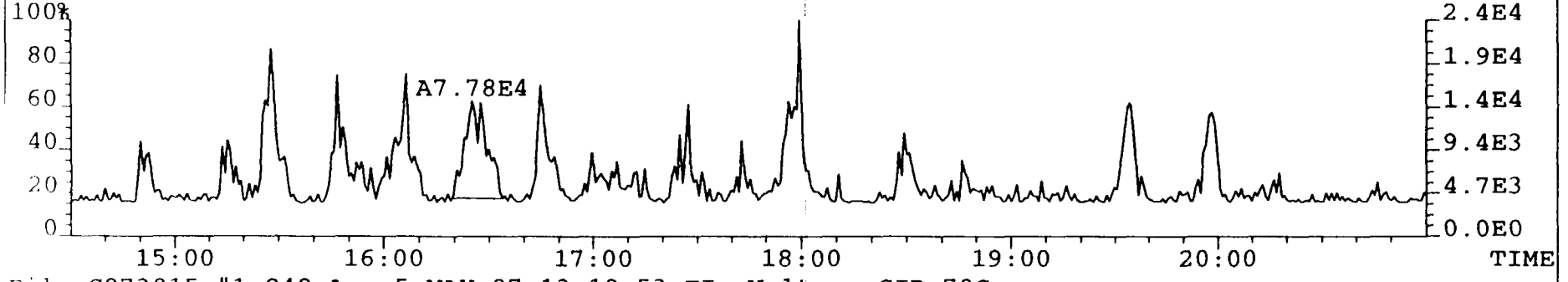
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



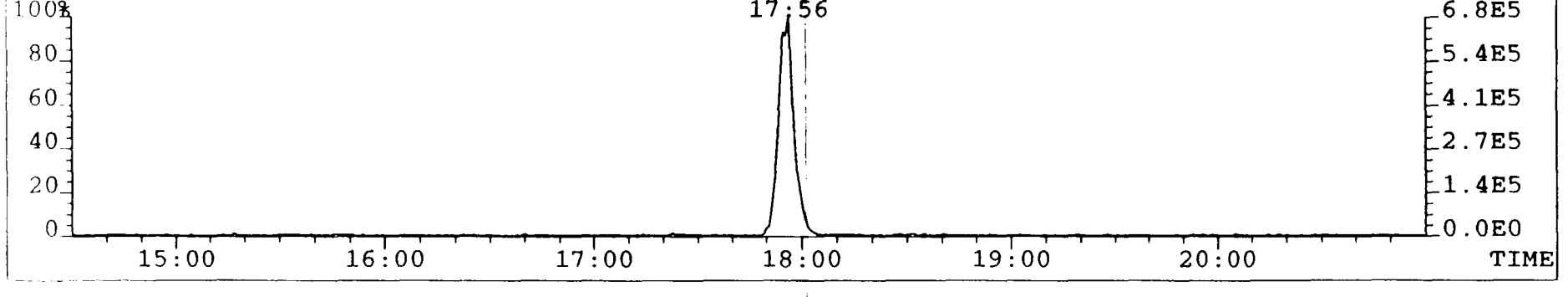
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



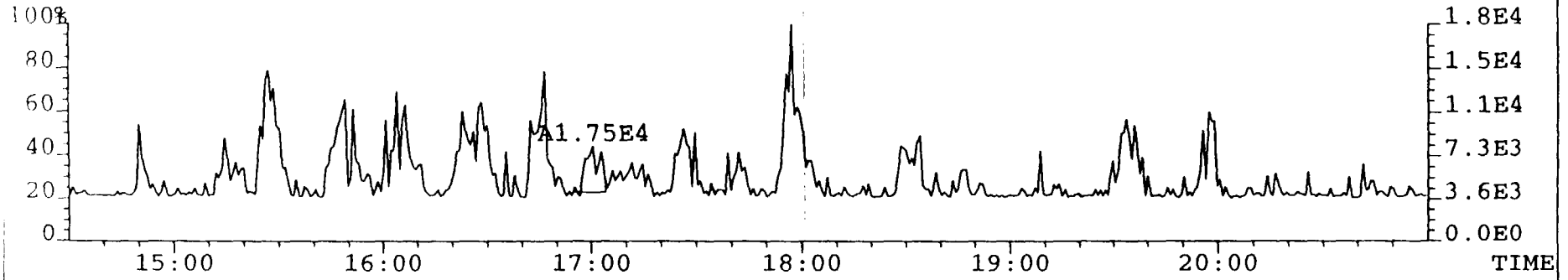
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



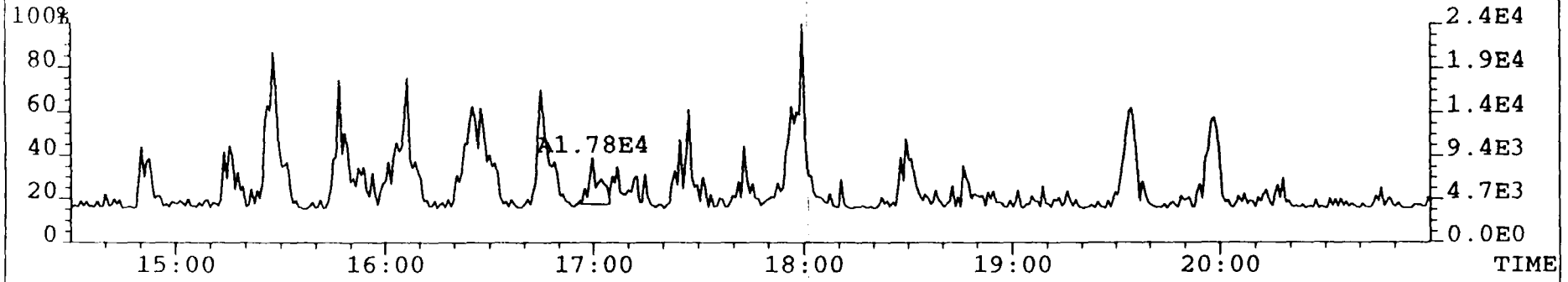
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



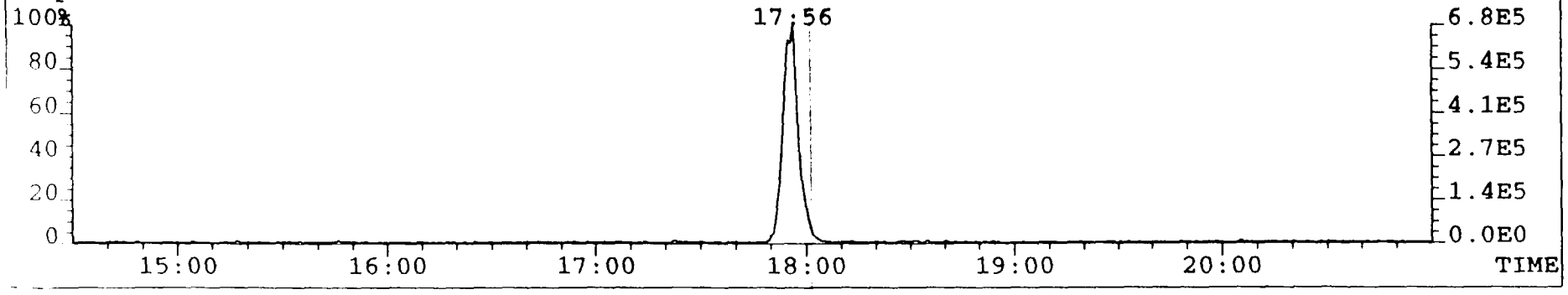
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



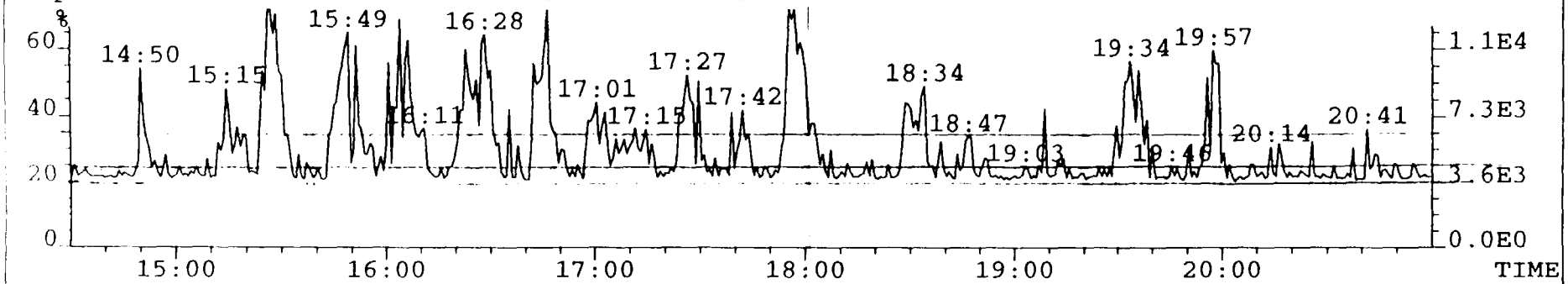
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



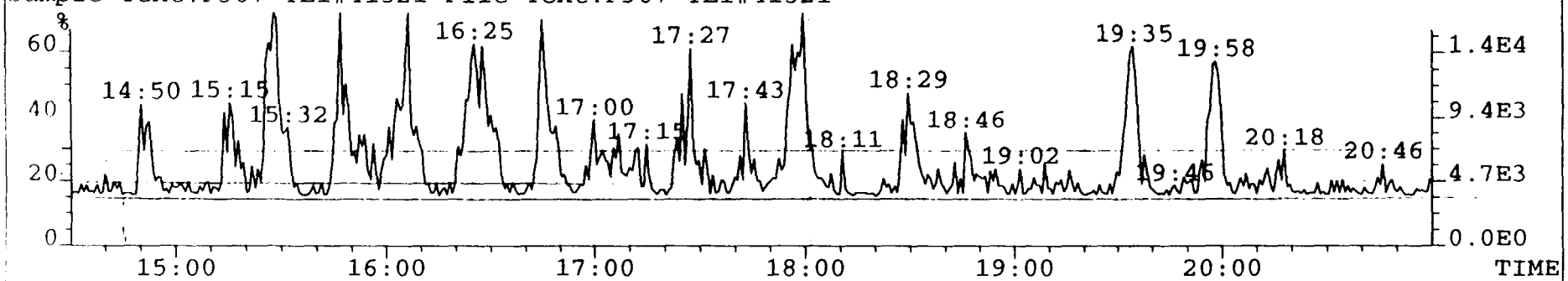
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



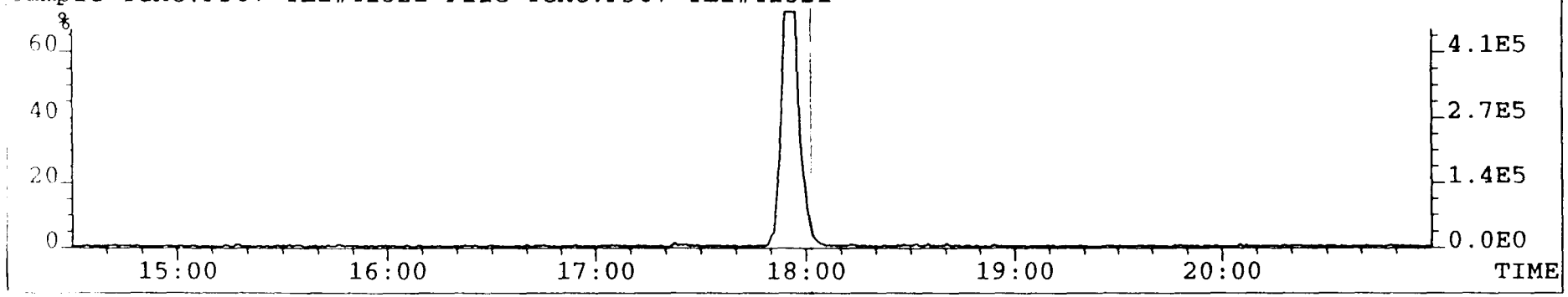
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



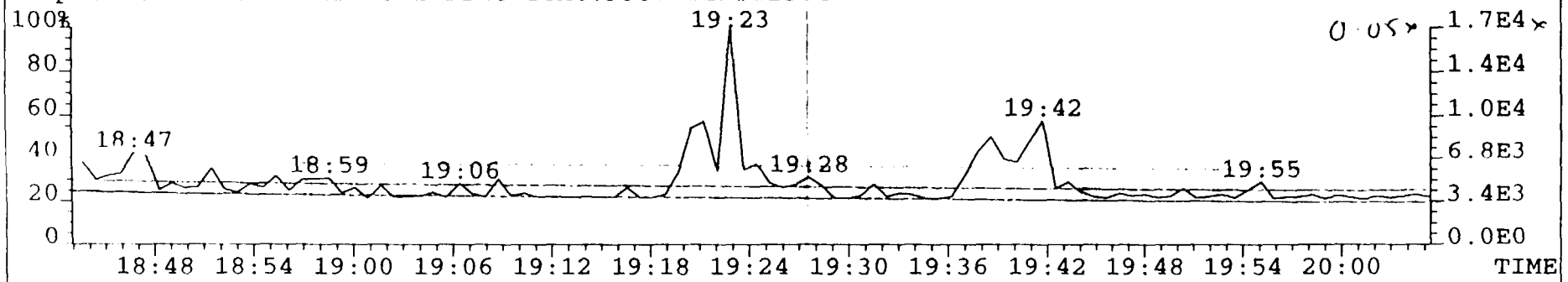
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

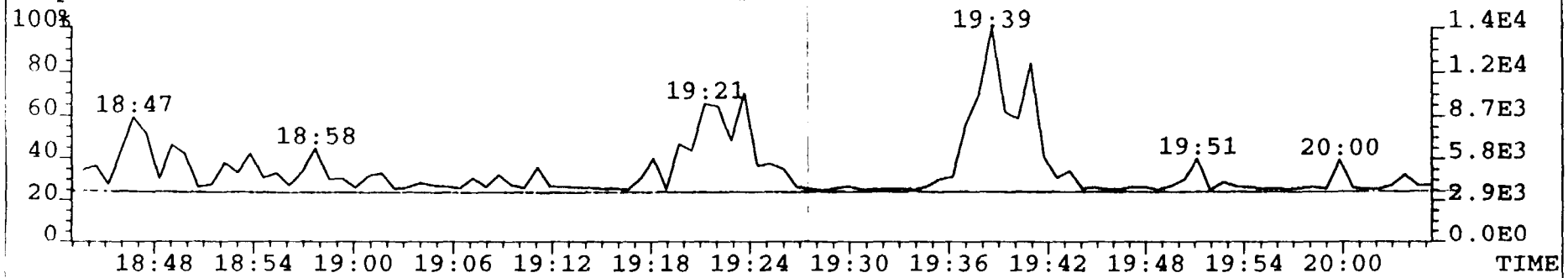


File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

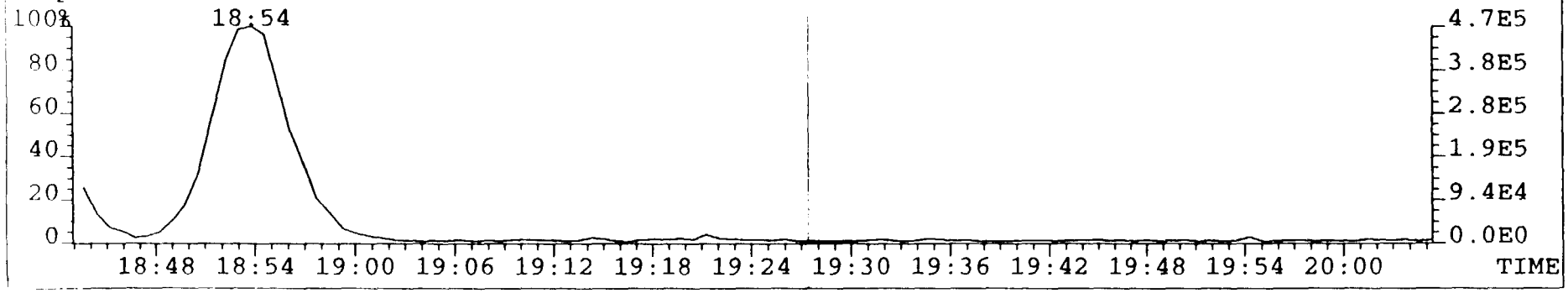


0.05x 2+5= 0.85 SM 05/05/97

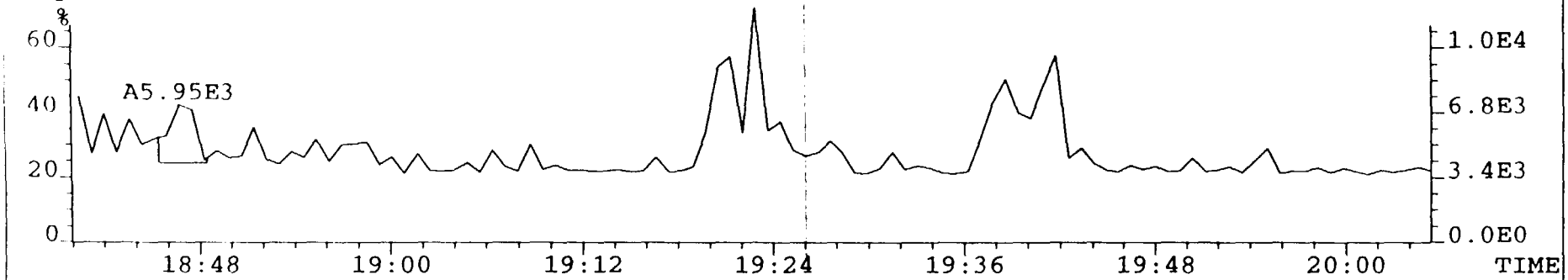
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



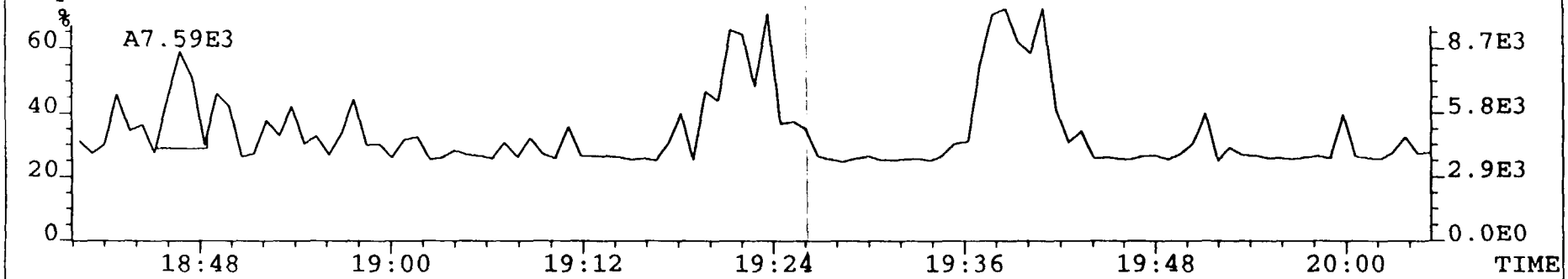
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



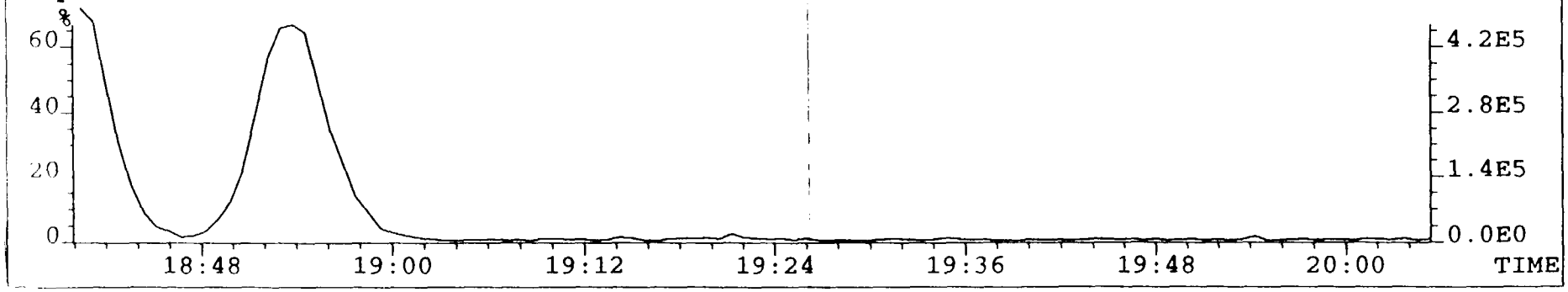
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

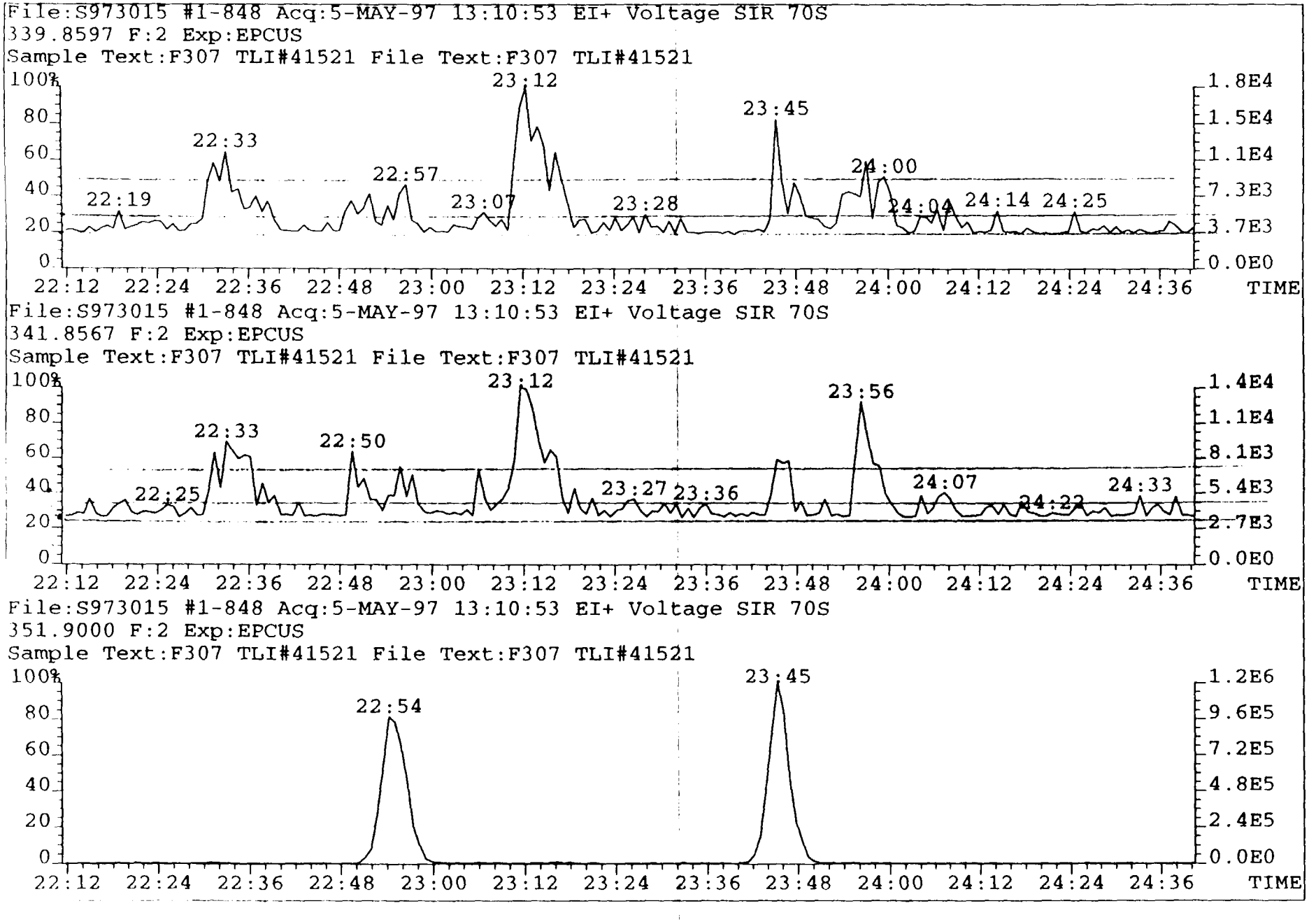


File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

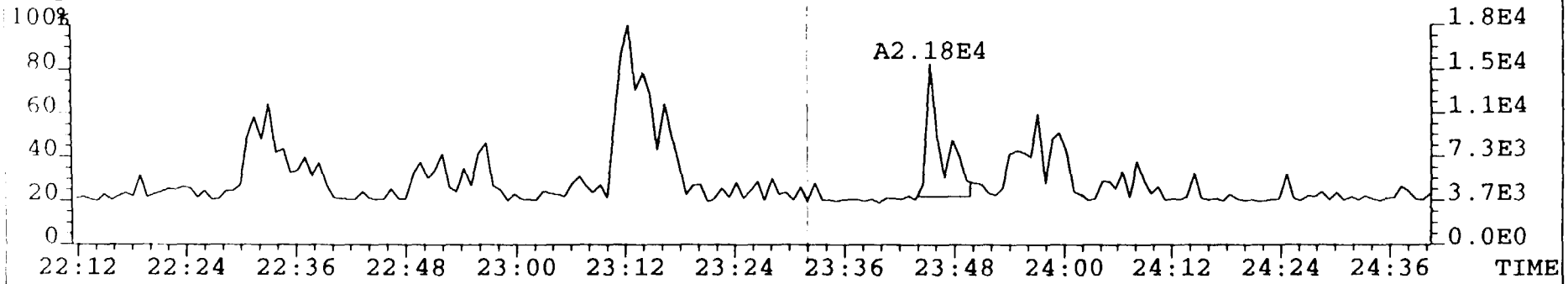


File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

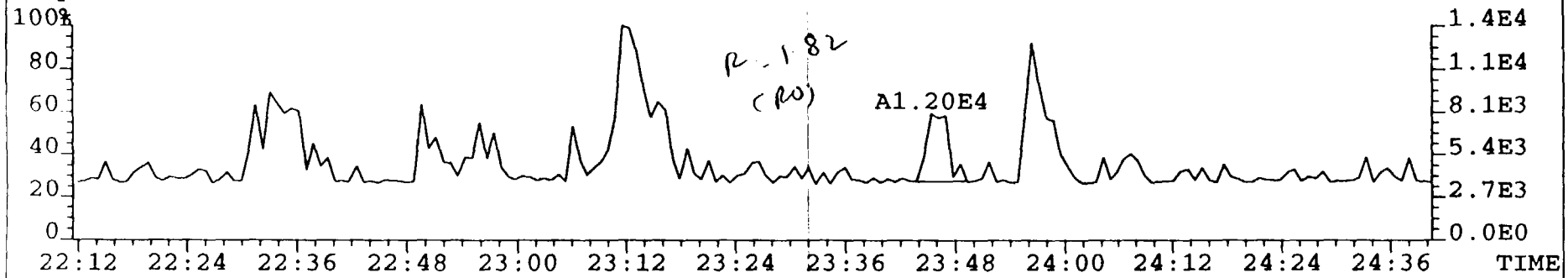



File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
339.8597 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
22:19
22:33
22:57
23:07
23:12
23:28
23:45
24:00
24:04
24:14
24:25
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
341.8567 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
22:25
22:33
22:50
23:12
23:27
23:36
23:56
24:07
24:22
24:33
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
351.9000 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
22:54
23:45
TIME

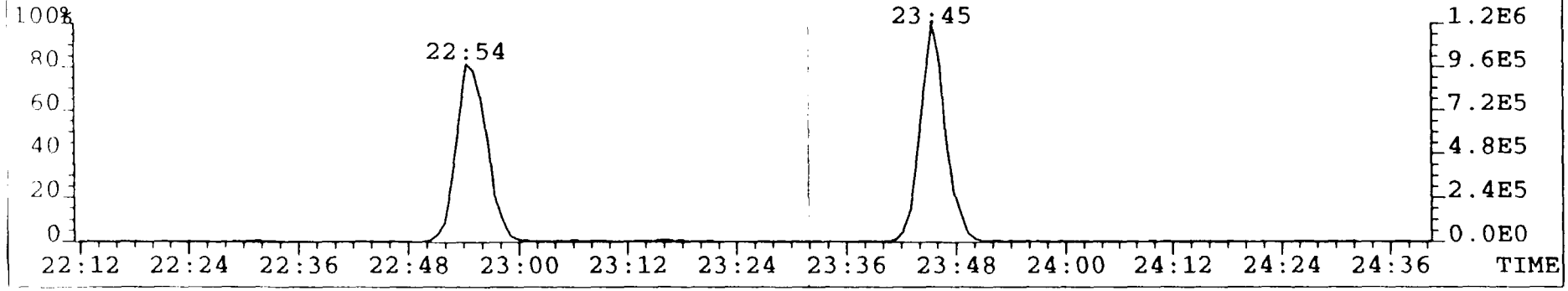
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
339.8597 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

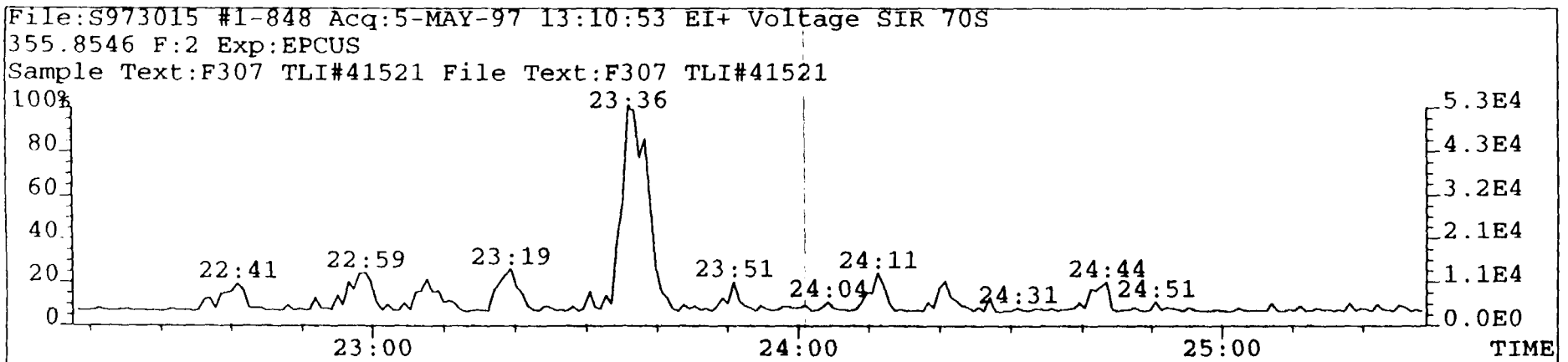


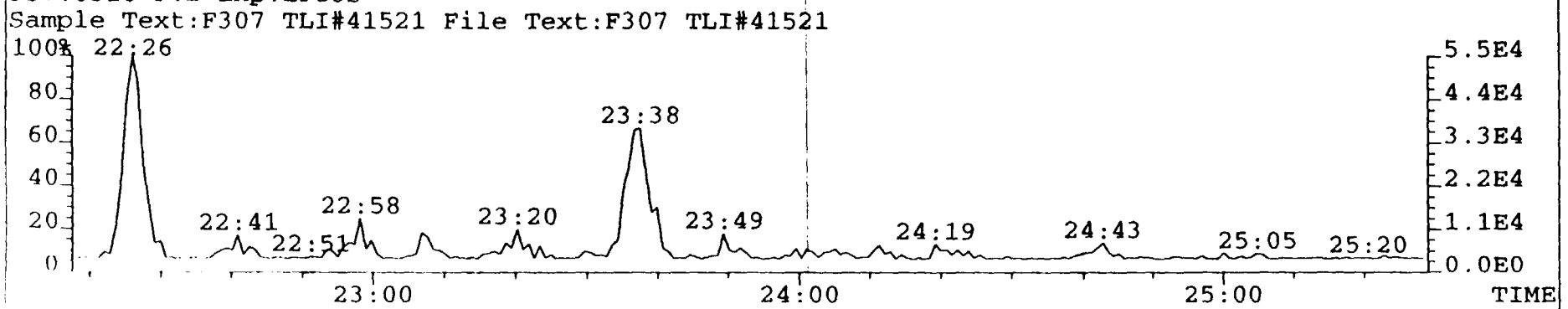
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
341.8567 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

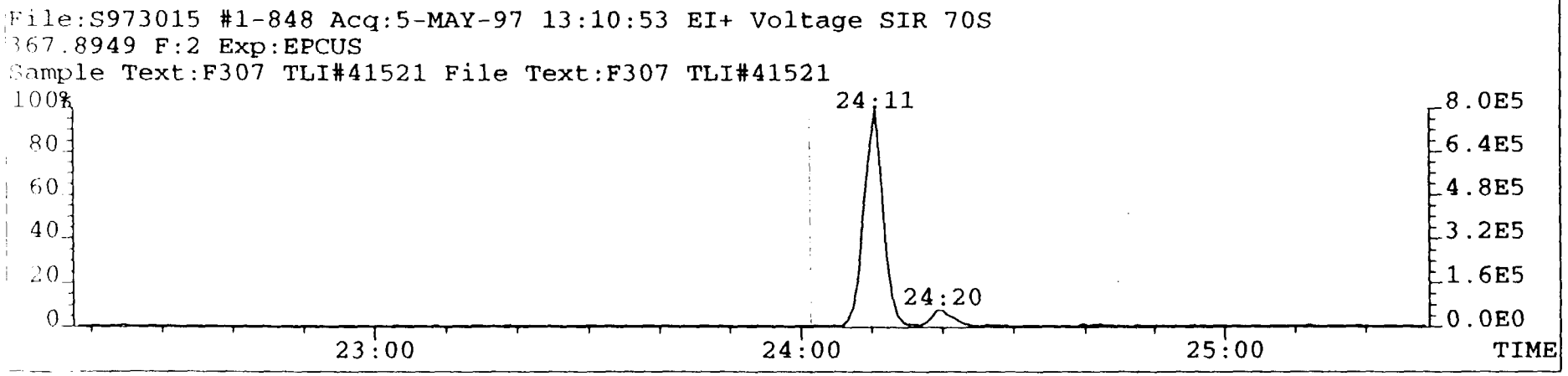


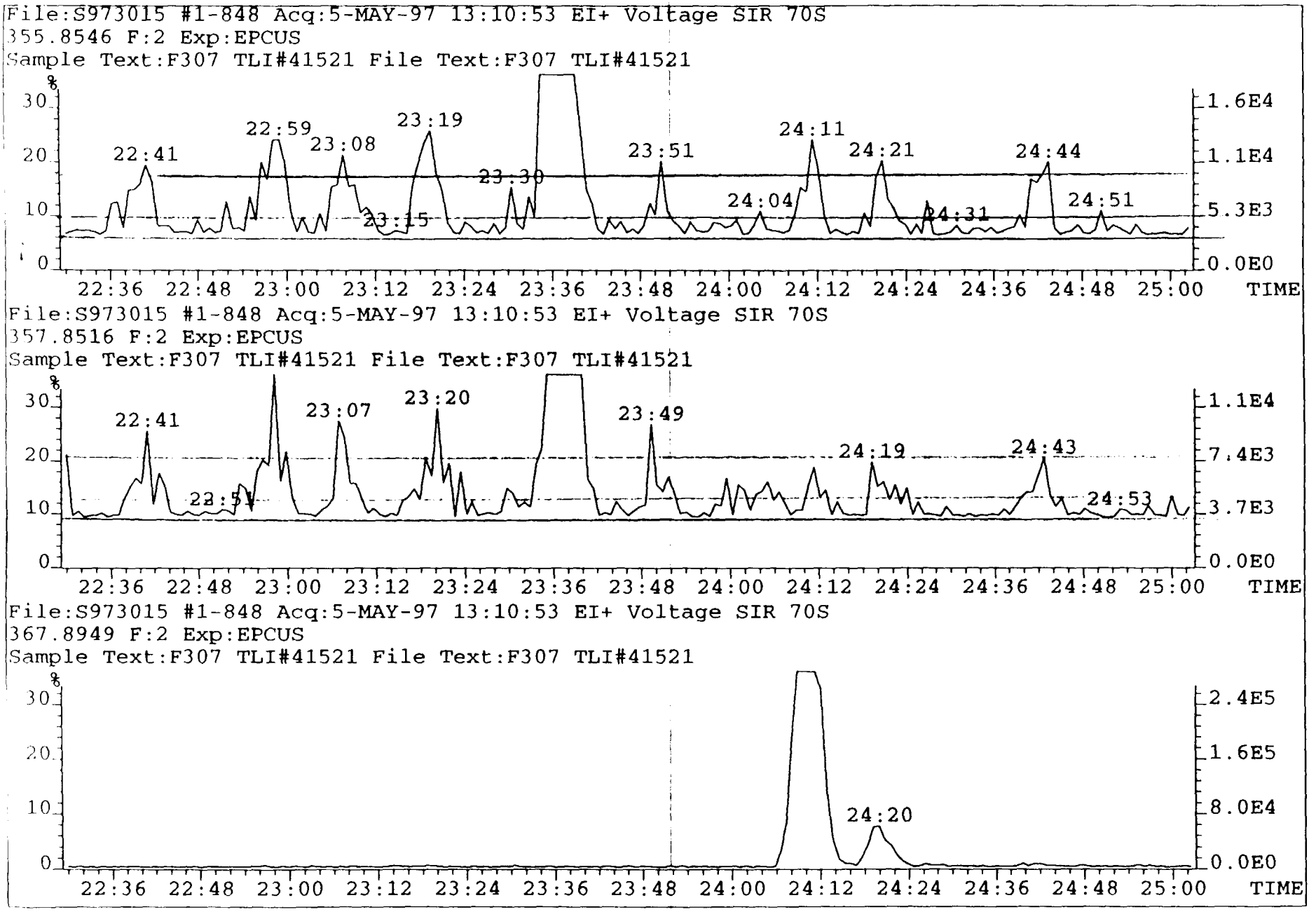
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
351.9000 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

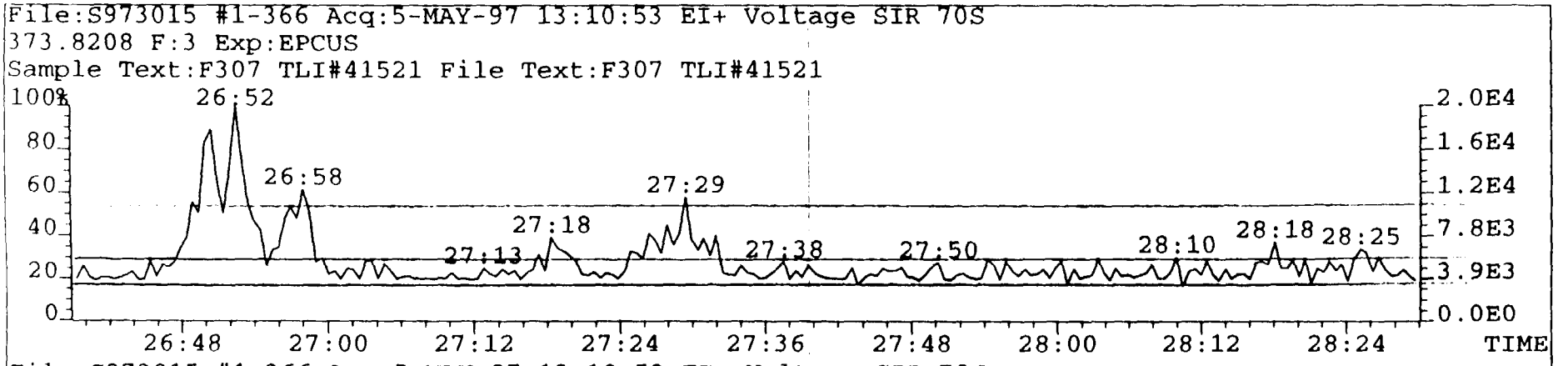


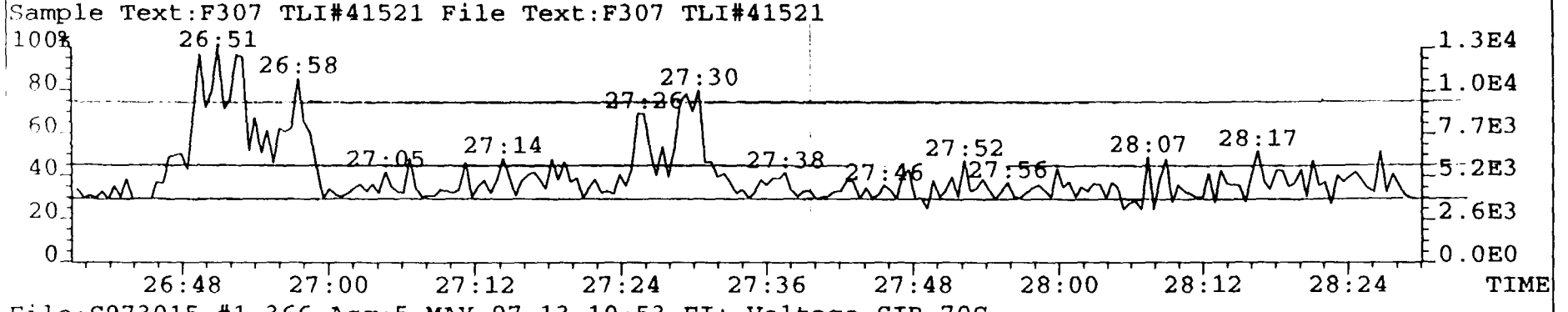

File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
355.8546 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
23:36
22:41
22:59
23:19
23:51
24:04
24:11
24:31
24:44
24:51
5.3E4
4.3E4
3.2E4
2.1E4
1.1E4
0.0E0
23:00
24:00
25:00
TIME

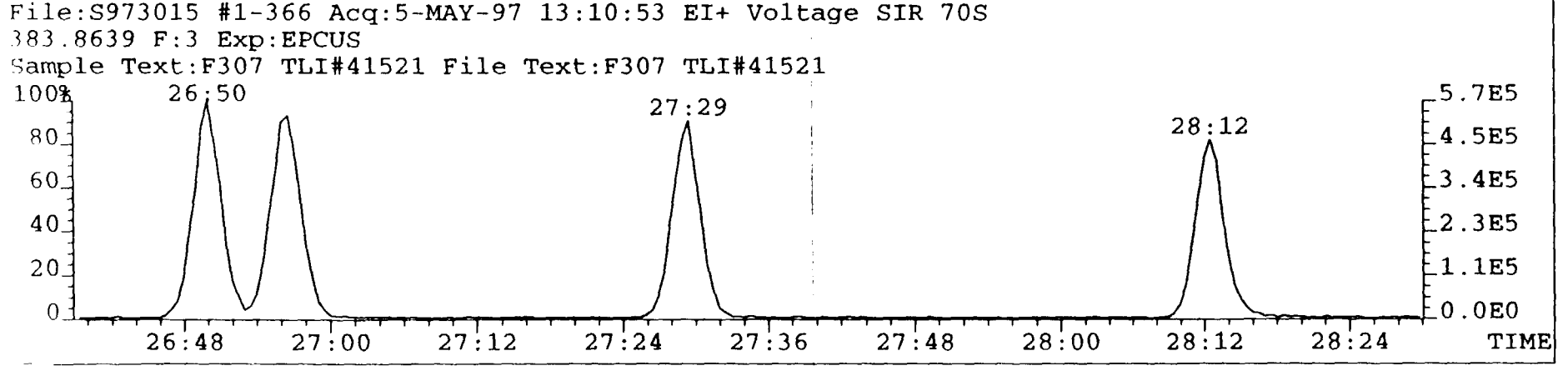

File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
357.8516 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
22:26
22:41
22:51
22:58
23:20
23:38
23:49
24:19
24:43
25:05
25:20
5.5E4
4.4E4
3.3E4
2.2E4
1.1E4
0.0E0
23:00
24:00
25:00
TIME


File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
367.8949 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
24:11
24:20
8.0E5
6.4E5
4.8E5
3.2E5
1.6E5
0.0E0
23:00
24:00
25:00
TIME

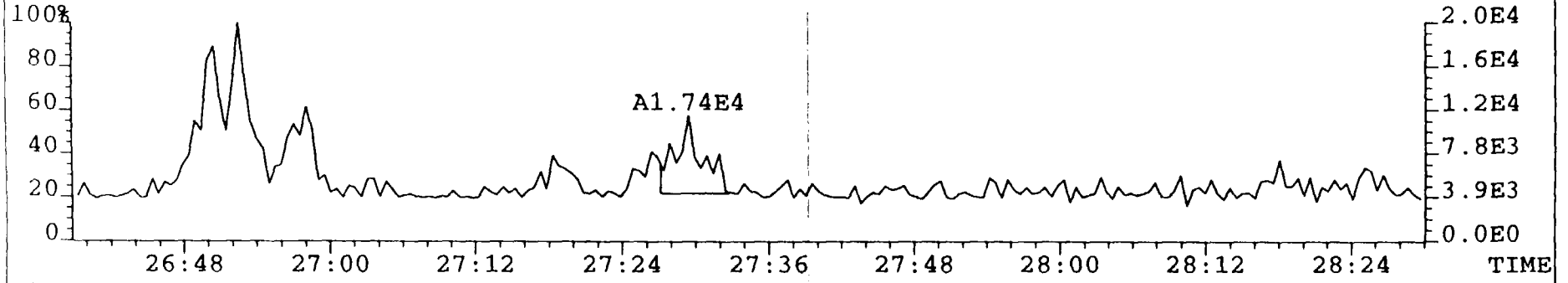

File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
355.8546 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
%
30
20
10
0
22:41
22:59
23:08
23:19
23:15
23:30
23:51
24:04
24:11
24:21
24:31
24:44
24:51
1.6E4
1.1E4
5.3E3
0.0E0
22:36 22:48 23:00 23:12 23:24 23:36 23:48 24:00 24:12 24:24 24:36 24:48 25:00 TIME
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
357.8516 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
%
30
20
10
0
22:41
23:07
23:20
23:49
24:19
24:43
24:53
1.1E4
7.4E3
3.7E3
0.0E0
22:36 22:48 23:00 23:12 23:24 23:36 23:48 24:00 24:12 24:24 24:36 24:48 25:00 TIME
File:S973015 #1-848 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
367.8949 F:2 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
%
30
20
10
0
24:20
2.4E5
1.6E5
8.0E4
0.0E0
22:36 22:48 23:00 23:12 23:24 23:36 23:48 24:00 24:12 24:24 24:36 24:48 25:00 TIME


File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
26:52
26:58
27:13
27:18
27:29
27:38
27:50
28:10
28:18
28:25
2.0E4
1.6E4
1.2E4
7.8E3
3.9E3
0.0E0
26:48
27:00
27:12
27:24
27:36
27:48
28:00
28:12
28:24
TIME

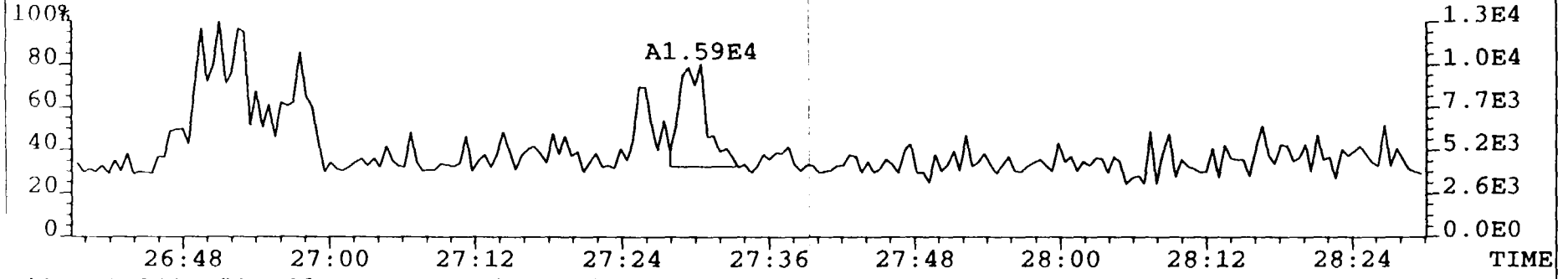

File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
26:51
26:58
27:05
27:14
27:26
27:30
27:38
27:46
27:52
27:56
28:07
28:17
1.3E4
1.0E4
7.7E3
5.2E3
2.6E3
0.0E0
26:48
27:00
27:12
27:24
27:36
27:48
28:00
28:12
28:24
TIME


File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
383.8639 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
26:50
27:29
28:12
5.7E5
4.5E5
3.4E5
2.3E5
1.1E5
0.0E0
26:48
27:00
27:12
27:24
27:36
27:48
28:00
28:12
28:24
TIME

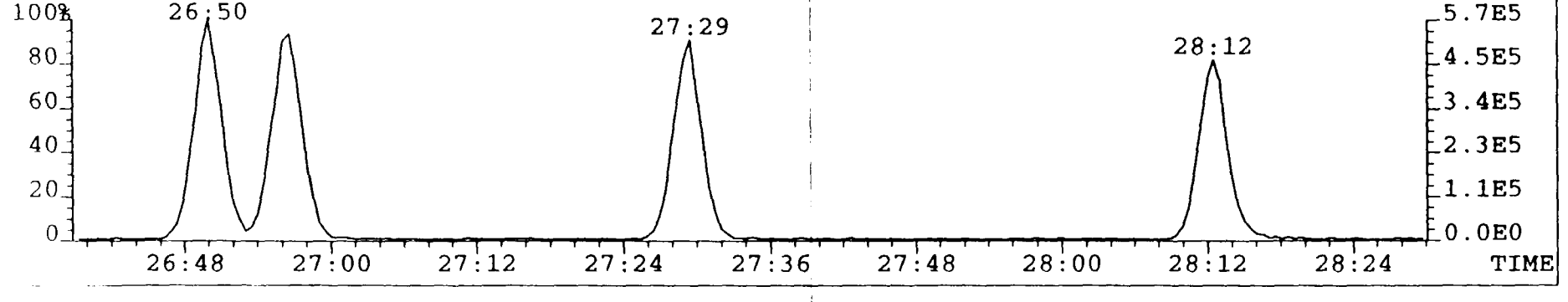
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

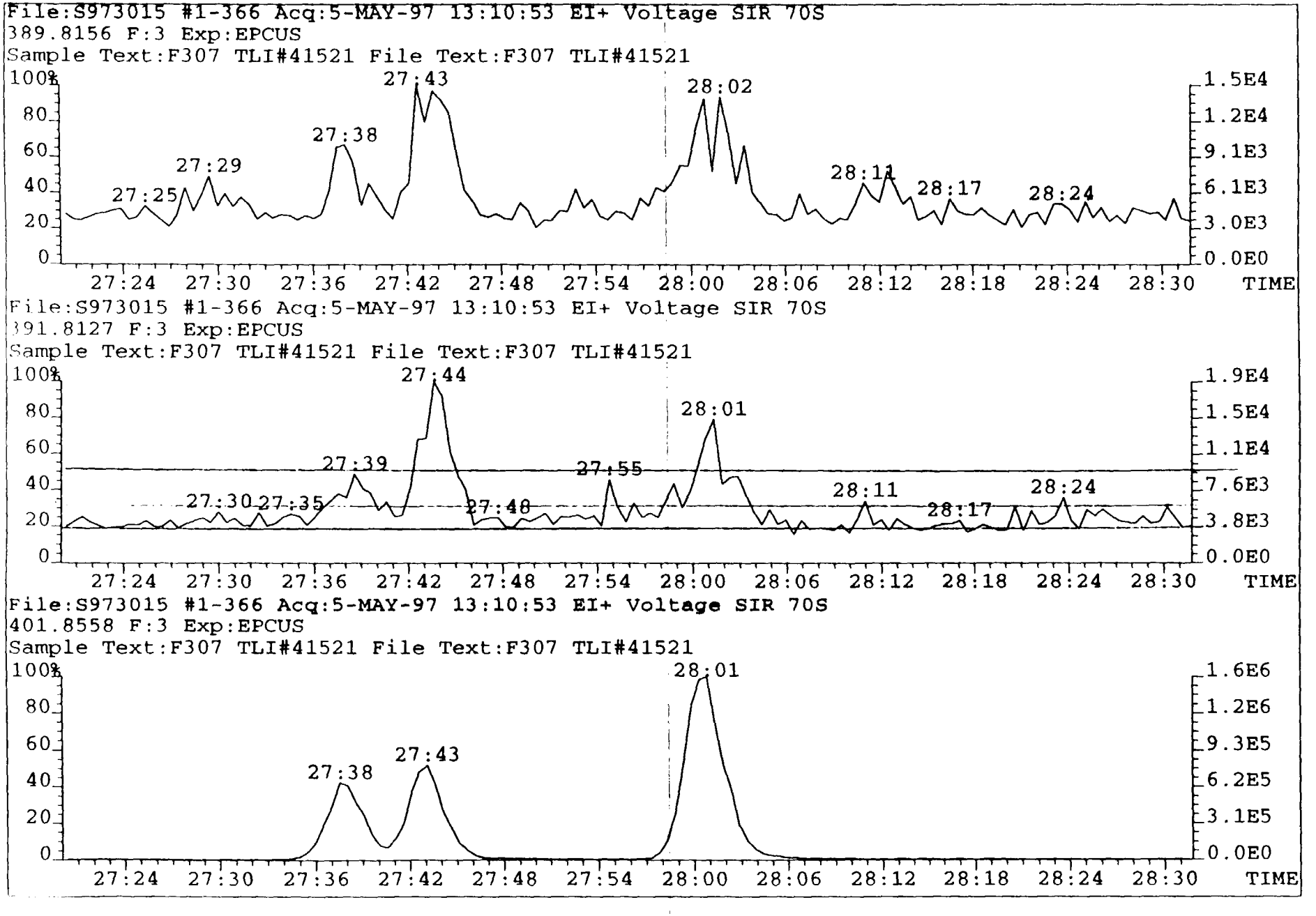


File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

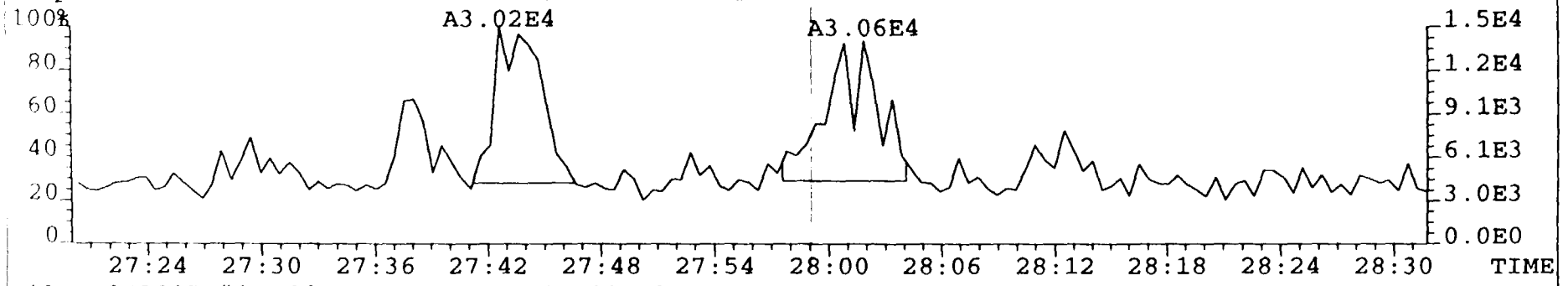


File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
383.8639 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

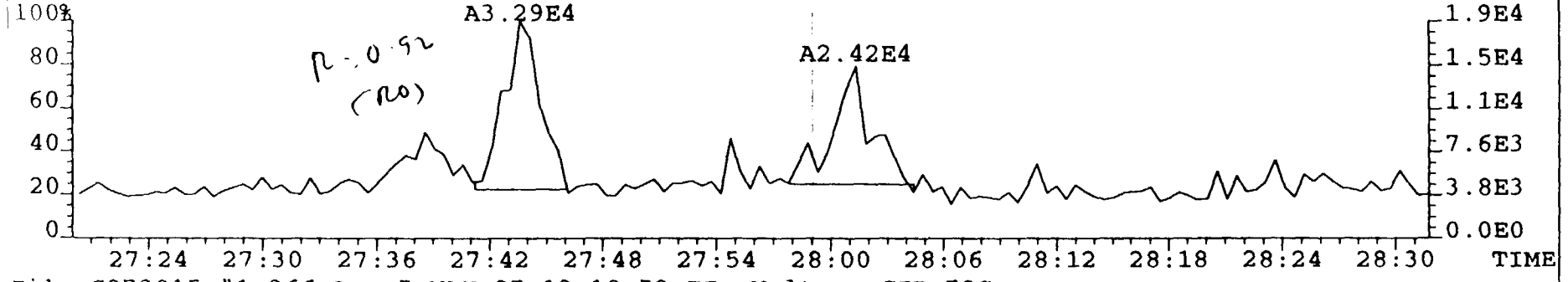



File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
389.8156 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
27:25
27:29
27:38
27:43
28:02
28:11
28:17
28:24
TIME
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
391.8127 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
27:30
27:35
27:39
27:44
27:48
27:55
28:01
28:11
28:17
28:24
TIME
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
401.8558 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
27:38
27:43
28:01
TIME

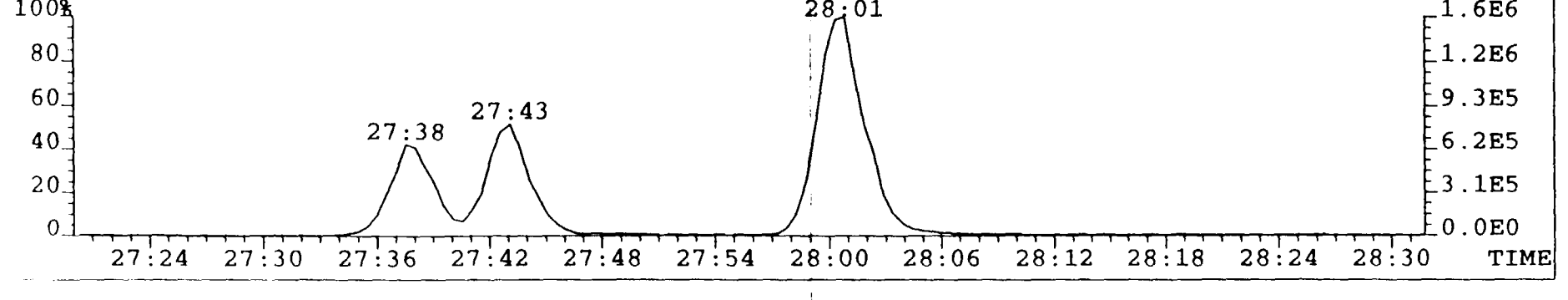
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
389.8156 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521

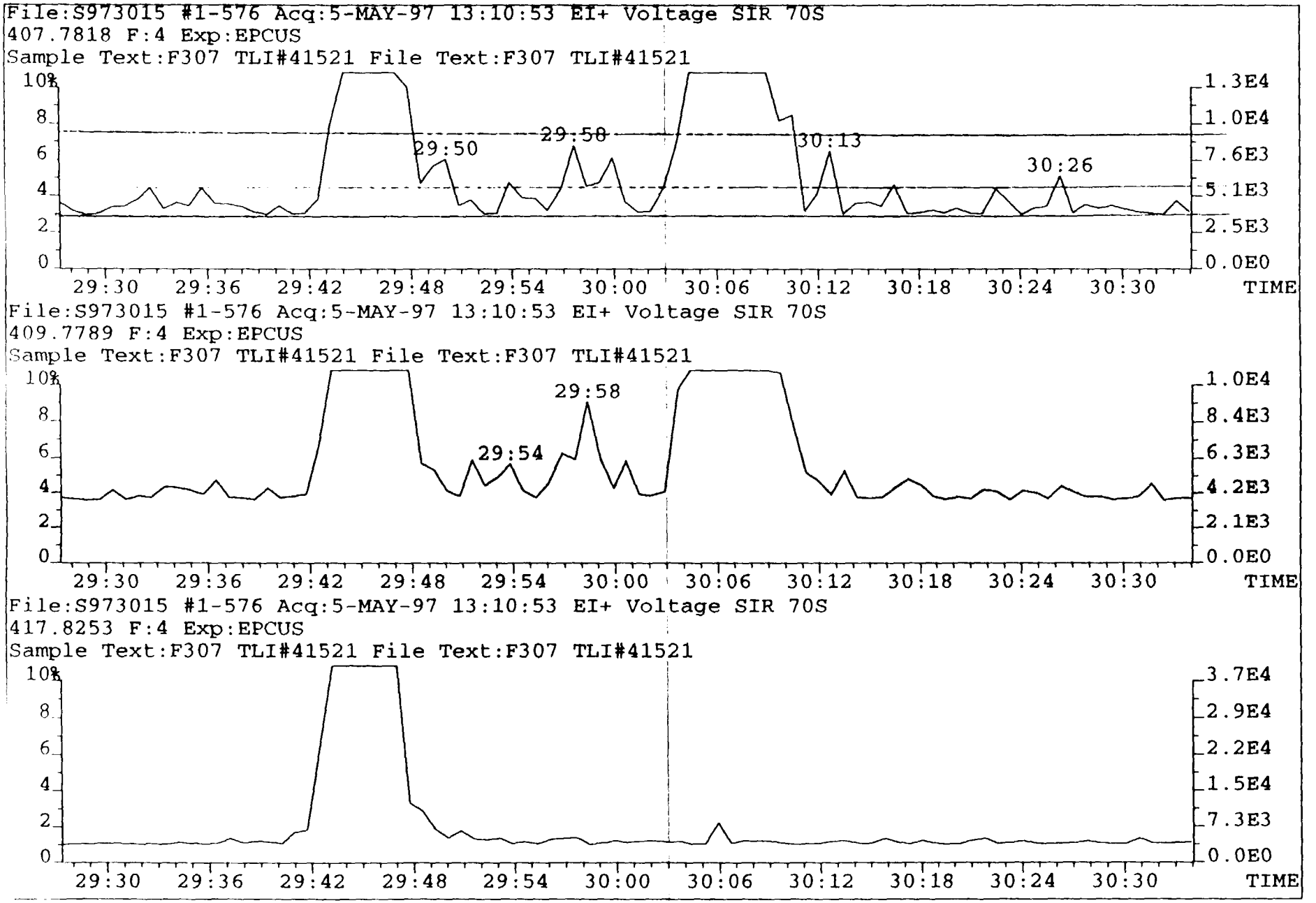


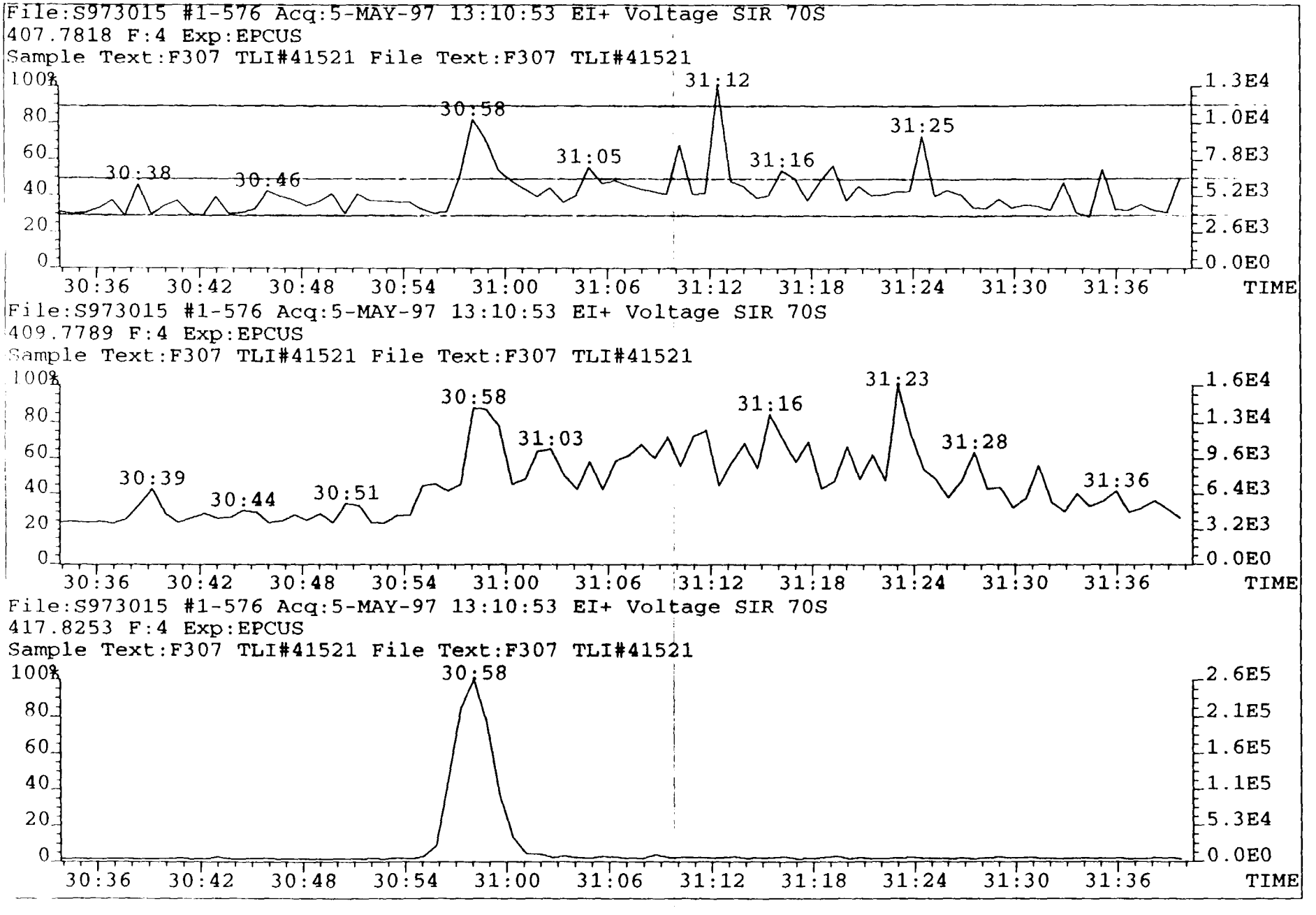
File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
391.8127 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



File:S973015 #1-366 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
401.8558 F:3 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521




File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
407.7818 F:4 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
29:50
29:58
30:13
30:26
1.3E4
1.0E4
7.6E3
5.1E3
2.5E3
0.0E0
29:30 29:36 29:42 29:48 29:54 30:00 30:06 30:12 30:18 30:24 30:30
TIME
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
409.7789 F:4 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
29:58
29:54
1.0E4
8.4E3
6.3E3
4.2E3
2.1E3
0.0E0
29:30 29:36 29:42 29:48 29:54 30:00 30:06 30:12 30:18 30:24 30:30
TIME
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
417.8253 F:4 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
3.7E4
2.9E4
2.2E4
1.5E4
7.3E3
0.0E0
29:30 29:36 29:42 29:48 29:54 30:00 30:06 30:12 30:18 30:24 30:30
TIME


File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
407.7818 F:4 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
30:38
30:46
30:58
31:05
31:12
31:16
31:25
1.3E4
1.0E4
7.8E3
5.2E3
2.6E3
0.0E0
30:36 30:42 30:48 30:54 31:00 31:06 31:12 31:18 31:24 31:30 31:36
TIME
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
409.7789 F:4 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
30:39
30:44
30:51
30:58
31:03
31:16
31:23
31:28
31:36
1.6E4
1.3E4
9.6E3
6.4E3
3.2E3
0.0E0
30:36 30:42 30:48 30:54 31:00 31:06 31:12 31:18 31:24 31:30 31:36
TIME
File:S973015 #1-576 Acq:5-MAY-97 13:10:53 EI+ Voltage SIR 70S
417.8253 F:4 Exp:EPCUS
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521
100%
80
60
40
20
0
30:58
2.6E5
2.1E5
1.6E5
1.1E5
5.3E4
0.0E0
30:36 30:42 30:48 30:54 31:00 31:06 31:12 31:18 31:24 31:30 31:36
TIME

TLI Project: **41521** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F301** Analysis File: **S973012**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPX2372S**
TLI ID:	**165-74-1**	Date Extracted:	**04/27/97**	ICal:	**SF52067**
		Date Analyzed:	**05/05/97**	ConCal:	**S973006**
Sample Size:	**16.240 g**	Dilution Factor:	**n/a**	% Moisture:	**38.4**
Dry Weight:	**10.004 g**	Blank File:	**S972991**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**ADP**	% Solids:	**61.6**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.7				__
1,2,3,7,8-PeCDD	EMPC		1.4			__
1,2,3,4,7,8-HxCDD	4.1			1.07	27:38	__
1,2,3,6,7,8-HxCDD	8.3			1.25	27:44	__
1,2,3,7,8,9-HxCDD	7.9			1.11	28:01	__
1,2,3,4,6,7,8-HpCDD	213			1.14	30:38	__
1,2,3,4,6,7,8,9-OCDD	3250			0.80	33:02	__
2,3,7,8-TCDF	3.5			0.69	17:56	__
1,2,3,7,8-PeCDF	0.66			1.51	22:54	__
2,3,4,7,8-PeCDF	1.1			1.40	23:46	__
1,2,3,4,7,8-HxCDF	EMPC		9.2			E__
1,2,3,6,7,8-HxCDF	1.8			1.26	26:57	__
2,3,4,6,7,8-HxCDF	1.8			1.07	27:29	PR_
1,2,3,7,8,9-HxCDF	ND	1.2				__
1,2,3,4,6,7,8-HpCDF	210			0.90	29:45	__
1,2,3,4,7,8,9-HpCDF	12.5			0.91	30:58	__
1,2,3,4,6,7,8,9-OCDF	603			0.82	33:07	__

Totals	Conc. (ppt)	Number	DL	EMPC		Flags
Total TCDD	58.5	8		62.8		__
Total PeCDD	45.9	5		72.1		__
Total HxCDD	92.6	6		113		__
Total HpCDD	446	2				__
Total TCDF	33.0	11		37.7		E__
Total PeCDF	24.3	6		39.2		E__
Total HxCDF	82.7	6		96.3		E__
Total HpCDF	558	3				__

X237_PSR v2.00, LARS 6.09.01

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Printed: 00:57 05/09/97

EIS Environmental & Engineering

TLI Project: **41521** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **F301** Analysis File: **S973012**

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	155	77.4	40%-130%	0.76	17:55	___
$^{13}C_{12}$-2,3,7,8-TCDD	150	74.8	40%-130%	0.73	18:53	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	163	81.4	40%-130%	1.46	22:54	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	180	89.9	40%-130%	1.57	24:10	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	137	68.3	40%-130%	0.48	26:57	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	163	81.4	40%-130%	1.21	27:43	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	177	88.3	25%-130%	0.39	29:45	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	186	93.1	25%-130%	1.01	30:38	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	378	94.6	25%-130%	0.87	33:02	___

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	14.6	73.0	40%-130%		18:54	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	157	78.4	40%-130%	1.48	23:45	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	151	75.3	40%-130%	0.48	26:49	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	173	86.7	40%-130%	1.20	27:38	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	177	88.6	25%-130%	0.39	30:58	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	171	85.7	40%-130%	0.48	28:12	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	148	74.2	40%-130%	0.48	27:28	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.75	18:38	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	28:00	___

Data Reviewer: 3-A 05/09/97

XZ37_PSR v2.00, LARS 6.09.01

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Printed: 00:57 05/09/97

Initial ....Date...

Data Review By: SAM 05/05/97 Calculated Noise Area: 2.05

The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of S973012B.dbf
05/09/97 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDF				0.65-0.89						0.815-1.132			
304-306		DC	NL	0:00	RO	1.80	0.97			0.000			
				14:50		0.86	6.72	3.10	3.62	0.828			
				15:15		0.65	6.95	2.74	4.21	0.851			
				15:27		0.76	24.83	10.70	14.13	0.862			
	M			15:52		0.82	33.80	15.20	18.60	0.886			
				16:05		0.67	61.86	24.90	36.96	0.898			
	A			16:28		0.69	20.97	8.57	12.40	0.919			
				16:45		0.89	20.42	9.62	10.80	0.935			
	M			17:13		0.84	86.30	39.30	47.00	0.961			
				17:26		0.83	11.67	5.30	6.37	0.973			
	K			17:43	RO	0.62	3.82	1.66	2.67	0.989			
				17:56		0.69	32.59	13.30	19.29	1.001	2378-TCDF	AN	
	A			18:30		0.70	5.55	2.29	3.26	1.033			
	K			18:48	RO	0.52	3.03	1.32	2.56	1.049			
	E		E	19:32	RO	0.75	19.38	8.43	11.24	1.090			
	E		E	19:56	RO	0.67	17.72	7.71	11.48	1.113			
		DC	SN	20:12		0.79	2.60			1.127			
304-306			15	Peaks			355.61						
13C12-TCDF				0.65-0.89						0.944-1.056			
316-318		DC	NL	0:00	RO	0.38	1.18			0.000			
				17:23	RO	1.09	10.44	6.43	5.90	0.970			
				17:55		0.76	1,676.30	722.40	953.90	1.000	13C12-2378-TCDF	ISO	
		DC	SN	18:18	RO	1.17	0.95			1.021			
				18:29	RO	0.64	9.37	4.08	6.37	1.032			
316-318			3	Peaks			1,696.11						

---------- Above: TCDF / TCDD Follows ----------

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDD				0.65-0.89						0.835-1.076			
320-322		DC	NL	0:00	RO	0.45	0.87			0.000			
				15:59		0.84	87.90	40.20	47.70	0.846			
				16:21		0.87	14.23	6.64	7.59	0.866			
				17:23		0.81	35.53	15.90	19.63	0.921			
				17:43		0.81	33.48	15.00	18.48	0.938			
				18:11		0.74	35.69	15.22	20.47	0.963			
	M			18:38		0.89	116.70	54.80	61.90	0.987			
		DC	SN	18:54	RO	0.52	3.84			1.001	2378-TCDD	AN	
		DC	SN	19:04	RO	1.03	1.84			1.010			
				19:21	RO	0.90	32.69	16.59	18.50	1.025			
				19:39		0.72	30.09	12.59	17.50	1.041			
				20:12		0.77	92.66	40.23	52.43	1.070			
320-322			9	Peaks			478.97						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
37Cl-TCDD										0.894-1.106			
328	DC	NL		0:00			0.49			0.000			
	DC	WL		16:14			9.99			0.860			
	DC	WL		16:24			21.53			0.868			
	DC	WL		16:42			43.99			0.884			
				17:12			1,332.40	1,332.40		0.911			
				18:54			121.19	121.19		1.001	37Cl-TCDD		SUR1
				19:30			19.11	19.11		1.033			
	DC	SN		20:01			0.45			1.060			
328			3	Peaks			1,472.70						
13C12-TCDD					0.65-0.89					0.894-1.106			
332-334	DC	NL		0:00	RO	5.28	0.76			0.000			
	DC	WL		15:59	RO	2.40	1.20			0.846			
	DC	SN		16:54	RO	4.29	1.11			0.895			
				17:23	RO	1.74	6.58	6.46	3.72	0.921			
	DC	SN		18:20	RO	3.00	0.62			0.971			
				18:38		0.75	1,505.55	645.19	860.36	0.987	13C12-1234-TCDD	RS1	
				18:53		0.73	1,272.44	536.23	736.21	1.000	13C12-2378-TCDD	IS1	
				19:21		0.67	19.50	7.83	11.67	1.025			
	DC	SN		19:33	RO	0.53	1.80			1.035			
332-334			4	Peaks			2,804.07						

---------- Above: TCDD / PeCDF Follows ----------

PeCDF					1.32-1.78					0.887-1.089			
340-342	DC	NL		0:00	RO	1.07	0.74			0.000			
				20:32		1.41	74.83	43.77	31.06	0.897			
	DC	SN		20:51	RO	0.19	0.33			0.910			
	DC	SN		21:07	RO	3.67	0.54			0.922			
	DC	SN		21:24	RO	1.95	0.48			0.934			
	DC	SN		21:45	RO	1.88	2.93			0.950			
				21:55	RO	1.24	43.30	26.34	21.21	0.957			
K				22:07		1.69	6.03	3.79	2.24	0.966			
	DC	SN		22:20	RO	0.64	1.23			0.975			
				22:36		1.36	40.44	23.29	17.15	0.987			
M				22:50		1.38	53.30	30.90	22.40	0.997			
AN				22:54		1.51	5.12	3.08	2.04	1.000	12378-PeCDF	AN	
E		E		23:12	RO	1.43	22.57	13.72	9.60	1.013			
	DC	SN		23:23	RO	1.02	0.95			1.021			
	DC	SN		23:29	RO	0.88	0.72			1.025			
				23:46		1.40	8.76	5.11	3.65	1.038	23478-PeCDF	AN	
AN				23:55	RO	1.89	7.50	5.57	2.94	1.044			
	DC	SN		24:07		1.43	3.50			1.053			
	DC	SN		24:16	RO	0.95	0.95			1.060			
E		E		24:46	RO	1.41	42.97	26.12	18.50	1.082			
	DC	WH		25:23	RO	0.34	0.54			1.108			
340-342			10	Peaks			304.82						
13C12-PeCDF					1.32-1.78					0.826-1.174			
352-354	DC	NL		0:00	RO	0.84	0.59			0.000			
				21:34		1.51	19.49	11.74	7.75	0.942			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				21:51	RO	1.21	11.66	7.10	5.85	0.954			
				22:31	RO	1.18	6.15	3.74	3.17	0.983			
				22:54		1.46	1,463.46	868.26	595.20	1.000	13C12-PeCDF 123	IS2	
		DC	SN	23:05		1.70	5.39			1.008			
				23:15	RO	1.06	6.81	4.15	3.90	1.015			
				23:45		1.48	1,343.67	800.97	542.70	1.037	13C12-PeCDF 234	SUR2	
		DC	SN	24:47		1.69	4.49			1.082			
352-354			6	Peaks			2,851.24						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78					0.906-1.028				
356-358		DC	NL	0:00	RO	1.21	0.67			0.000			
				21:57	RO	0.55	25.89	15.78	28.57	0.908			
				22:06	RO	0.20	41.73	25.05	127.13	0.914			
				22:40	RO	1.23	18.77	11.42	9.27	0.938			
				22:58		1.49	15.94	9.54	6.40	0.950			
				23:07		1.44	13.89	8.20	5.69	0.957			
				23:19	RO	1.24	9.61	5.84	4.71	0.965			
				23:28	RO	0.55	6.09	3.71	6.72	0.971			
				23:37		1.41	129.46	75.79	53.67	0.977			
				23:49		1.57	85.03	51.89	33.14	0.986			
				24:05	RO	0.73	21.01	12.79	17.48	0.997			
				24:11	RO	1.02	8.12	4.93	4.84	1.001	12378-PeCDD	AN	
				24:22	RO	1.88	13.11	9.67	5.14	1.008			
	K			24:27	RO	1.93	4.28	3.25	1.68	1.012			
				24:41		1.35	15.45	8.87	6.58	1.021			
		DC	WH	25:07	RO	0.50	2.18			1.039			
356-358			14	Peaks			408.38						
13C12-PeCDD				1.32-1.78					0.835-1.165				
368-370		DC	NL	0:00	RO	1.12	0.77			0.000			
		DC	SN	21:56	RO	0.50	0.35			0.908			
				24:10		1.57	875.87	535.25	340.62	1.000	13C12-PeCDD 123	IS3	
				24:19		1.73	82.99	52.59	30.40	1.006			
368-370			2	Peaks			958.86						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43					0.951-1.056				
374-376		DC	NL	0:00	RO	0.99	3.94			0.000			
				25:47		1.11	48.28	25.35	22.93	0.957			
				25:57		1.19	140.89	76.69	64.20	0.963			
		DC	SN	26:16	RO	0.75	3.24			0.975			
				26:26		1.29	222.05	125.21	96.84	0.981			
		DC	SN	26:33		1.39	3.40			0.985			
	E		E	26:52	RO	1.14	46.10	25.52	22.29	0.997	123478-HxCDF	AN	
				26:57		1.26	12.14	6.78	5.36	1.000	123678-HxCDF	AN	
				27:14		1.05	6.34	3.25	3.09	1.011			
	E		E	27:19	RO	1.27	17.70	10.04	7.90	1.014			
	A			27:24	RO	1.54	5.73	3.93	2.56	1.017			
	M			27:29		1.07	8.68	4.48	4.20	1.020	234678-HxCDF	AN	PR

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
		DC	SN	27:36	RO	0.97	3.82			1.024			
		DC	SN	27:56		1.15	4.83			1.036			
		DC	SN	28:01	RO	2.00	1.01			1.040			
		DC	SN	28:13	RO	0.82	2.16			1.047	123789-HxCDF	AN	
		DC	SN	28:18	RO	0.95	4.19			1.050			
374-376			9	Peaks			507.91						
13C12-HxCDF				0.43-0.59					0.852-1.148				
384-386		DC	NL	0:00	RO	0.18	0.61			0.000			
				25:46		0.52	8.19	2.80	5.39	0.956			
				25:56		0.44	9.87	3.02	6.85	0.962			
				26:49		0.48	958.53	309.08	649.45	0.995	13C12-HxCDF 478	SUR3	
				26:57		0.48	998.07	322.58	675.49	1.000	13C12-HxCDF 678	IS4	
		DC	SN	27:09	RO	0.65	1.44			1.007			
		DC	SN	27:16	RO	0.87	1.44			1.012			
				27:28		0.48	897.48	292.63	604.85	1.019	13C12-HxCDF 234	ALT2	
		DC	SN	27:41	RO	0.30	1.77			1.027			
		DC	SN	27:44		0.43	2.67			1.029			
		DC	SN	27:52		0.50	1.14			1.034			
		DC	SN	28:00	RO	1.30	0.70			1.039			
				28:12		0.48	911.88	295.31	616.57	1.046	13C12-HxCDF 789	ALT1	
384-386			6	Peaks			3,784.02						

---------- Above: HxCDF / HxCDD Follows ----------

HxCDD				1.05-1.43					0.945-1.015				
390-392		DC	NL	0:00		1.35	2.99			0.000			
				26:15	RO	0.55	63.41	35.06	63.86	0.947			
				26:22		1.25	115.03	63.85	51.18	0.951			
				26:51		1.33	84.44	48.16	36.28	0.969			
				27:05		1.22	105.33	57.99	47.34	0.977			
		DC	SN	27:14		1.25	4.85			0.983			
				27:30	RO	0.92	6.09	3.38	3.66	0.992			
	M			27:38		1.07	14.84	7.68	7.16	0.997	123478-HxCDD	AN	
				27:44		1.25	40.25	22.37	17.88	1.001	123678-HxCDD	AN	
				27:54	RO	0.56	18.35	10.13	18.16	1.007			
				28:01		1.11	33.13	17.46	15.67	1.011	123789-HxCDD	AN	
		DC	WH	28:19		1.20	3.24			1.022			
		DC	WH	28:25	RO	1.03	1.26			1.025			
		DC	WH	28:28		1.05	0.88			1.027			
390-392			9	Peaks			480.87						
13C12-HxCDD				1.05-1.43					0.964-1.036				
402-404		DC	NL	0:00		1.38	0.31			0.000			
		DC	SN	27:04		1.32	5.10			0.977			
				27:38		1.20	795.38	433.99	361.39	0.997	13C12-HxCDD 478	SUR4	
				27:43		1.21	896.12	491.17	404.95	1.000	13C12-HxCDD 678	IS5	
				28:00		1.24	1,004.56	555.81	448.75	1.010	13C12-HxCDD 789	RS2	
		DC	SN	28:16	RO	2.69	0.58			1.020			
		DC	SN	28:20	RO	0.70	0.60			1.022			
		DC	SN	28:24	RO	0.38	0.32			1.025			
402-404			3	Peaks			2,696.06						

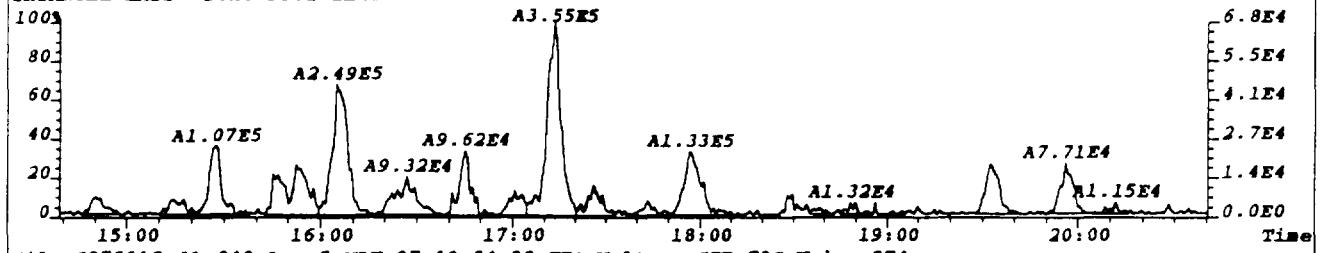
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF						0.88-1.20				0.994-1.046			
408-410		DC	NL	0:00		0.90	5.00			0.000			
	M			29:45		0.90	1,136.00	539.00	597.00	1.000	1234678-HpCDF	AN	
				30:06		0.96	1,625.23	796.63	828.60	1.012			
				30:58		0.91	53.42	25.52	27.90	1.041	1234789-HpCDF	AN	
		DC	WH	31:17	RO	2.21	2.35			1.052			
408-410				3 Peaks			2,814.65						
13C12-HpCDF						0.37-0.51				0.933-1.134			
418-420		DC	NL	0:00		0.48	1.48			0.000			
				29:45		0.39	795.66	221.33	574.33	1.000	13C12-HpCDF 678	IS6	
		DC	SN	30:13	RO	0.53	1.30			1.016			
		DC	SN	30:17		0.44	0.91			1.018			
		DC	SN	30:32	RO	1.04	0.82			1.026			
				30:58		0.39	631.39	178.09	453.30	1.041	13C12-HpCDF 789	SUR5	
		DC	SN	31:14	RO	0.03	0.29			1.050			
		DC	SN	31:19		0.48	1.72			1.053			
418-420				2 Peaks			1,427.05						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD						0.88-1.20				0.974-1.005			
424-426		DC	NL	0:00		0.94	4.63			0.000			
		DC	WL	29:49	RO	0.82	102.17			0.973			
				30:01		1.08	835.65	433.20	402.45	0.980			
		DC	SN	30:18	RO	1.85	1.78			0.989			
		DC	SN	30:26	RO	1.53	2.51			0.993			
				30:38		1.14	765.62	407.02	358.60	1.000	1234678-HpCDD	AN	
424-426				2 Peaks			1,601.27						
13C12-HpCDD						0.88-1.20				0.967-1.033			
436-438		DC	NL	0:00	RO	1.45	1.14			0.000			
				30:01	RO	0.82	5.40	2.75	3.36	0.980			
		DC	SN	30:12	RO	0.63	0.53			0.986			
				30:38		1.01	699.45	351.95	347.50	1.000	13C12-HpCDD 678	IS7	
		DC	SN	31:10	RO	3.25	0.65			1.017			
436-438				2 Peaks			704.85						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF						0.76-1.02				0.879-1.121			
442-444		DC	NL	0:00		0.90	1.71			0.000			
				33:07		0.82	2,511.12	1,134.43	1,376.69	1.003	OCDF	AN	
		DC	SN	33:25	RO	1.22	2.79			1.012			
		DC	SN	33:41	RO	2.98	2.66			1.020			
		DC	SN	33:51	RO	3.64	1.32			1.025			
				34:48		0.86	45.45	20.96	24.49	1.053			
		DC	SN	35:14	RO	1.54	4.69			1.067			
442-444				2 Peaks			2,556.57						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
OCDD						0.76-1.02				0.879-1.121			
458-460		DC	NL	0:00	RO	0.70	0.70			0.000			
				33:02		0.80	10,724.22	4,762.46	5,961.76	1.000	OCDD		AN
458-460			1	Peak			10,724.22						
13C12-OCDD						0.76-1.02				0.995-1.005			
470-472		DC	NL	0:00		0.98	0.81			0.000			
				33:02		0.87	1,265.49	588.37	677.12	1.000	13C12-OCDD		IS8
		DC	SN	33:12	RO	2.80	2.32			1.005			
		DC	WH	33:25	RO	0.37	0.64			1.012			
470-472			1	Peak			1,265.49						

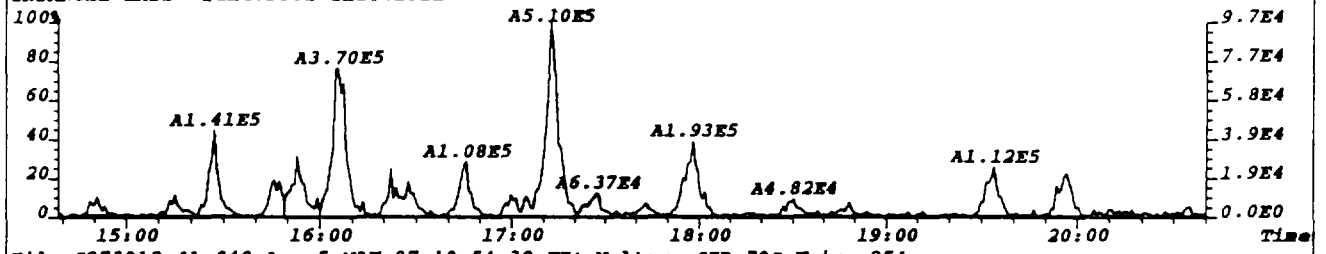
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

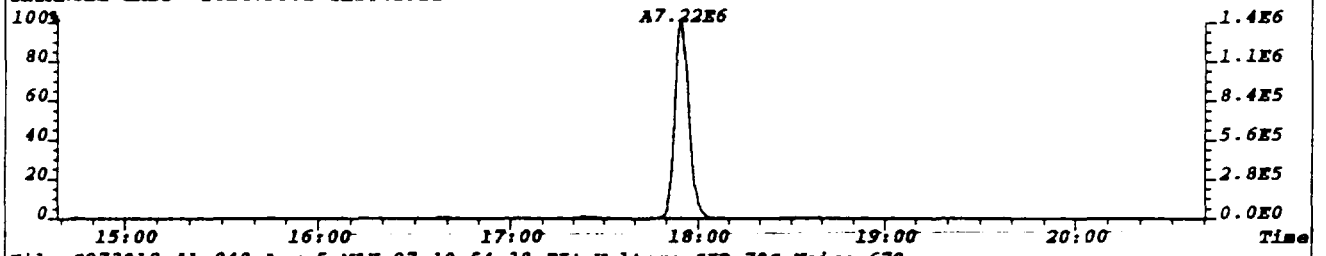
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:496
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1984.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



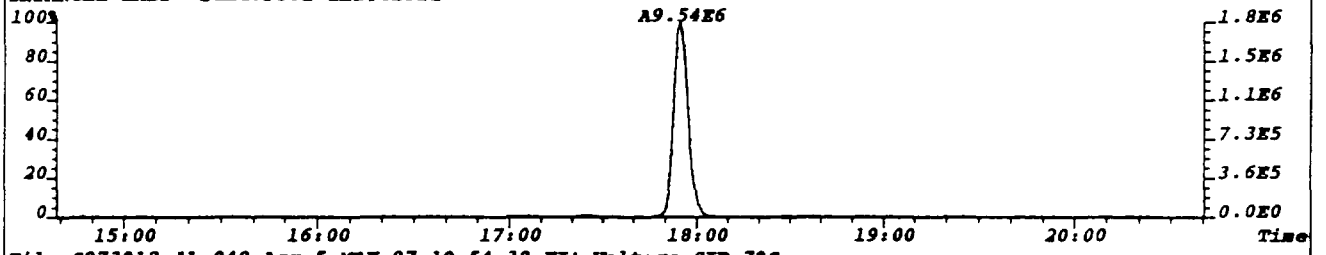
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:274
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1096.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



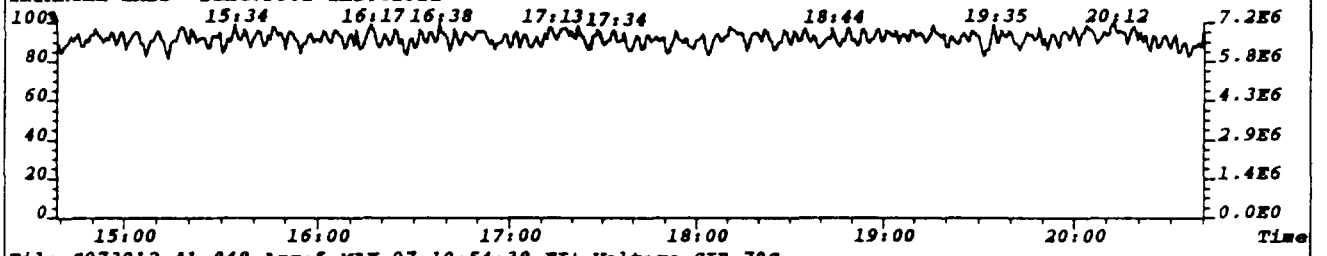
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:254
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1016.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



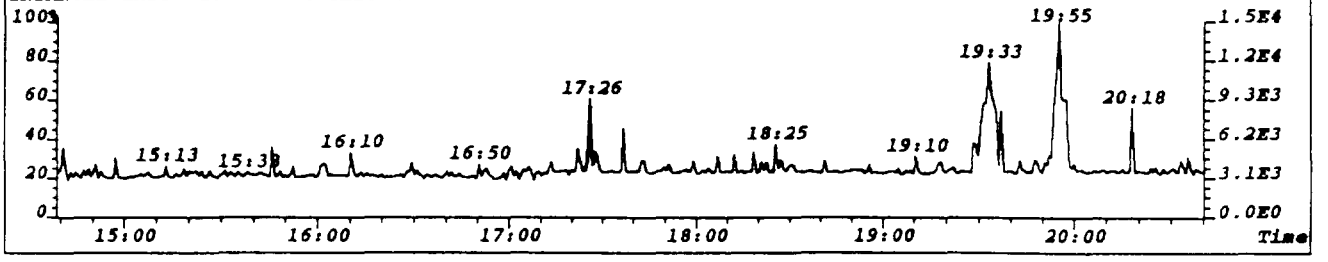
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:679
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2716.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



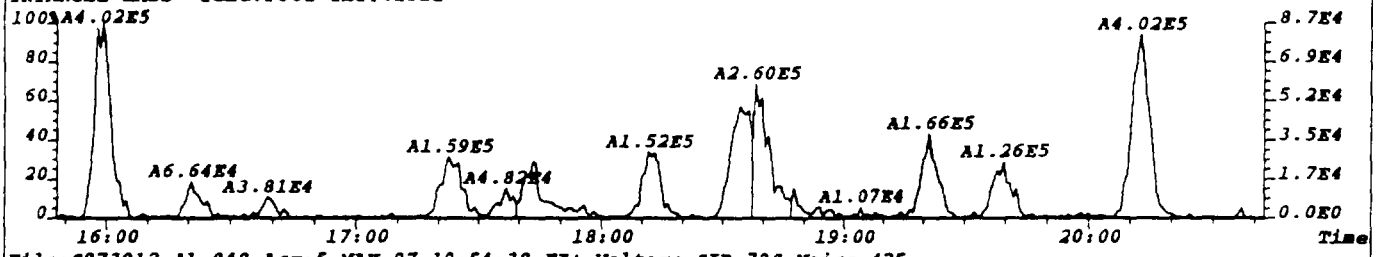
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



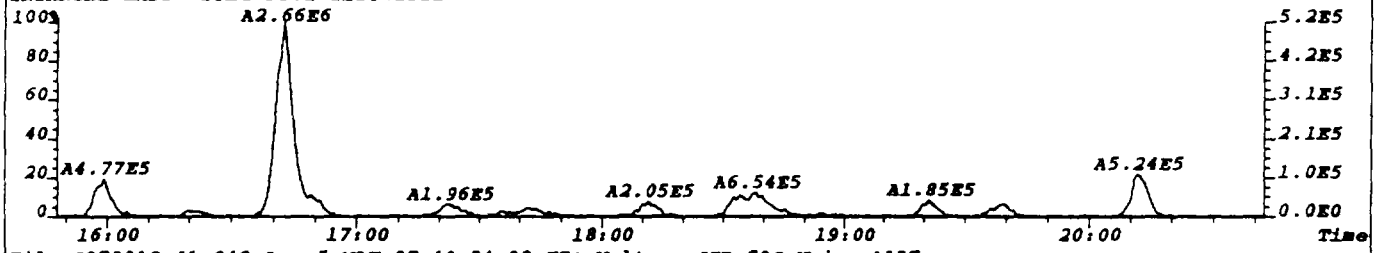
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



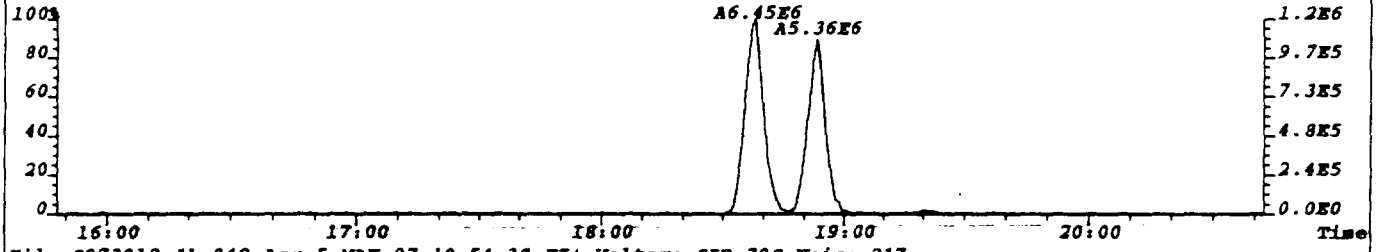
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:188
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,752.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



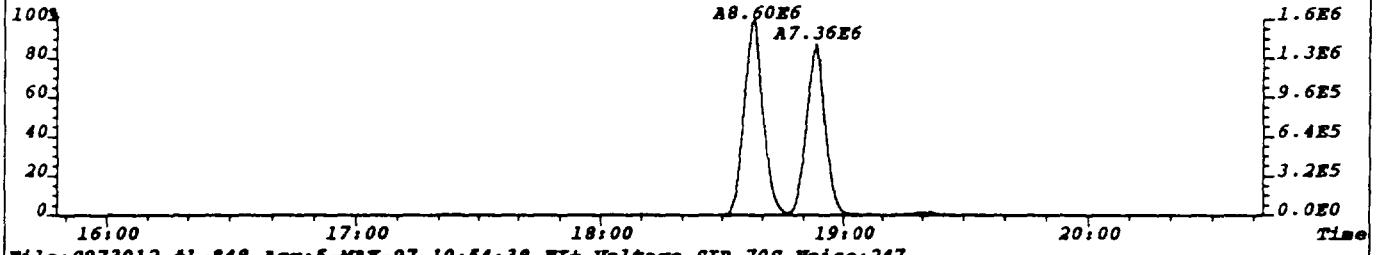
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:425
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1700.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



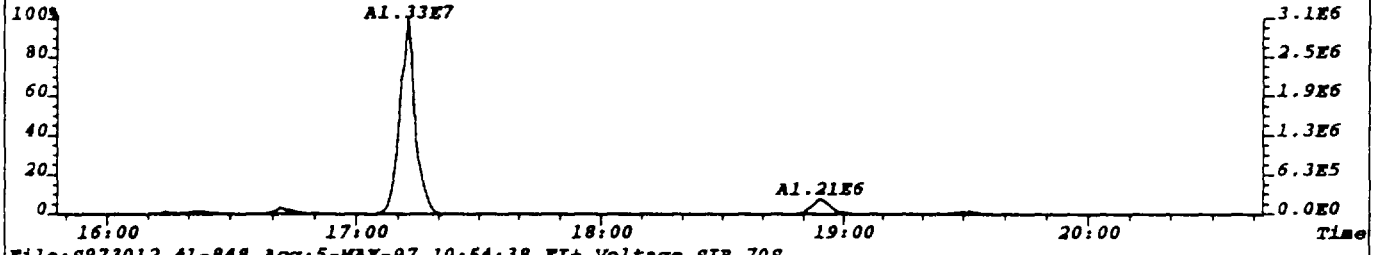
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1137
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4548.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



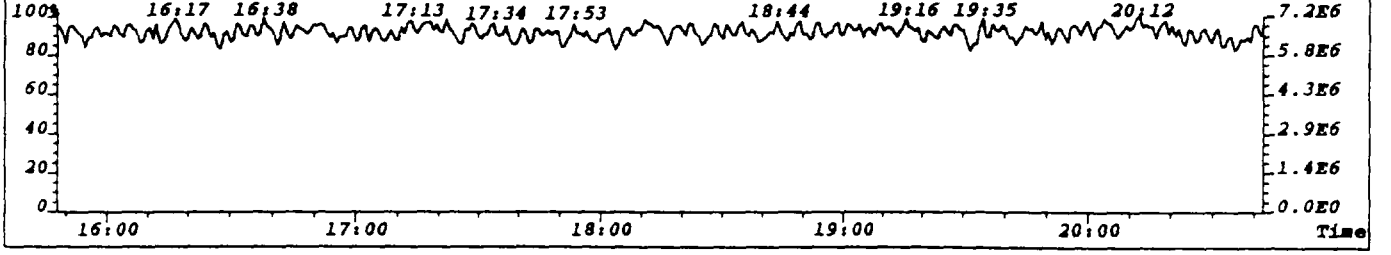
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:217
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,868.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



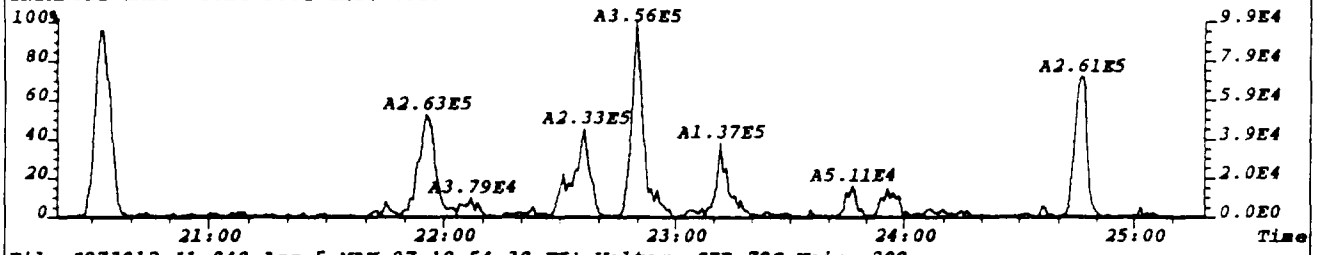
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:247
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,988.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



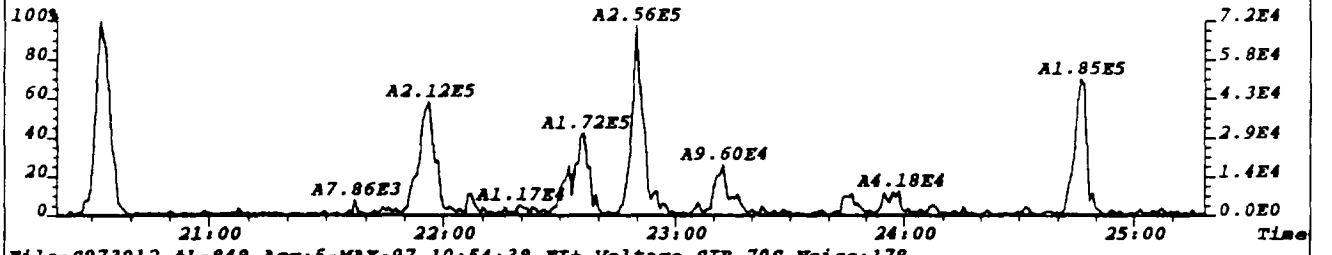
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



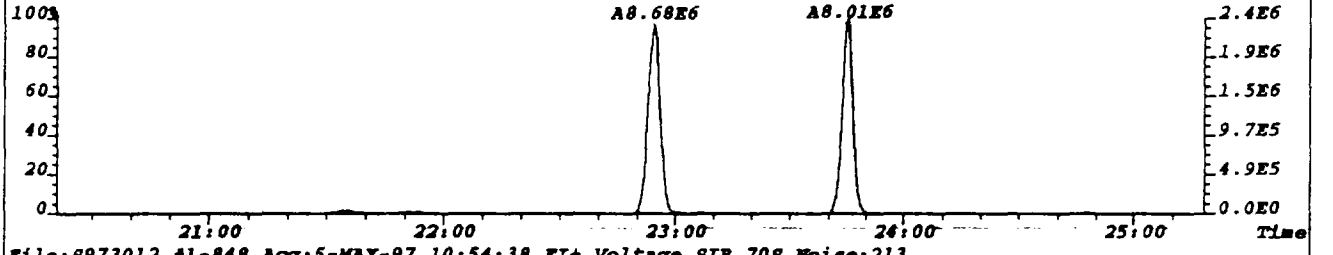
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:224
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,896.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



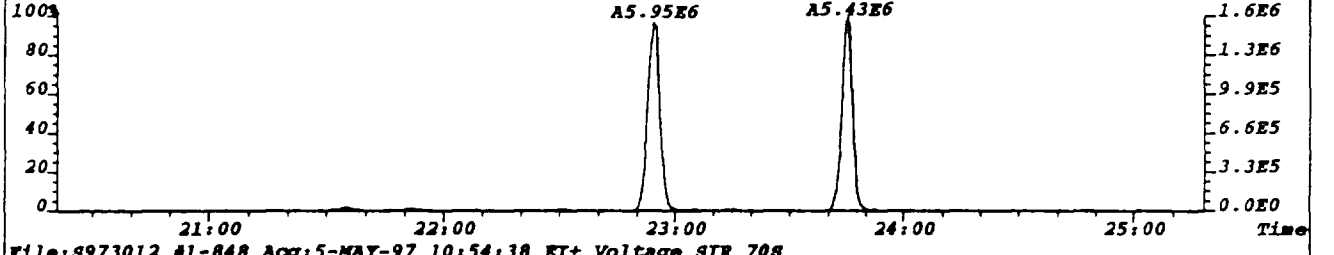
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:209
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,836.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



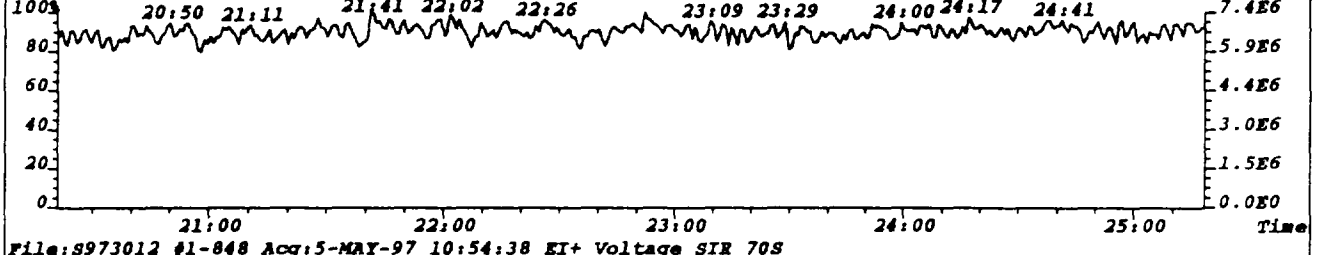
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:178
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,712.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



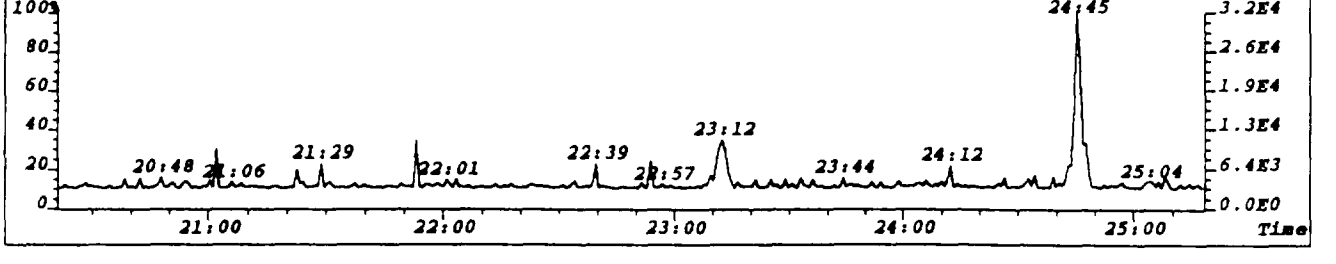
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:213
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,852.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



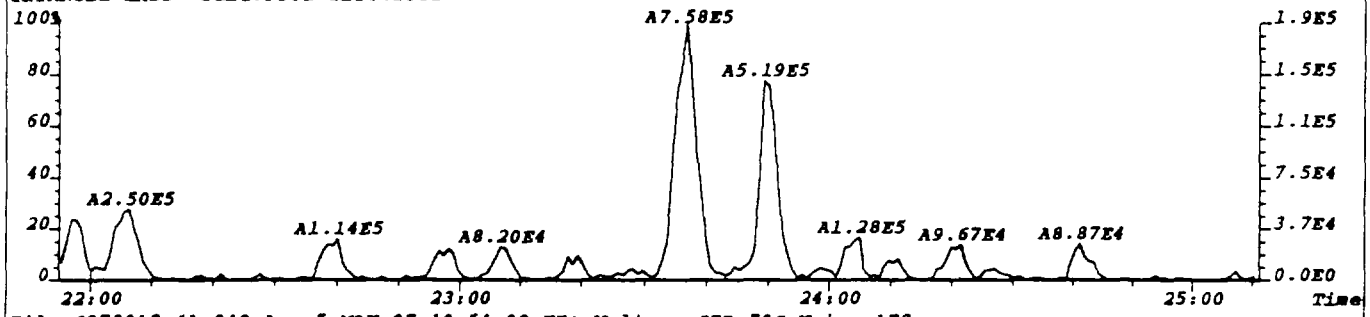
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



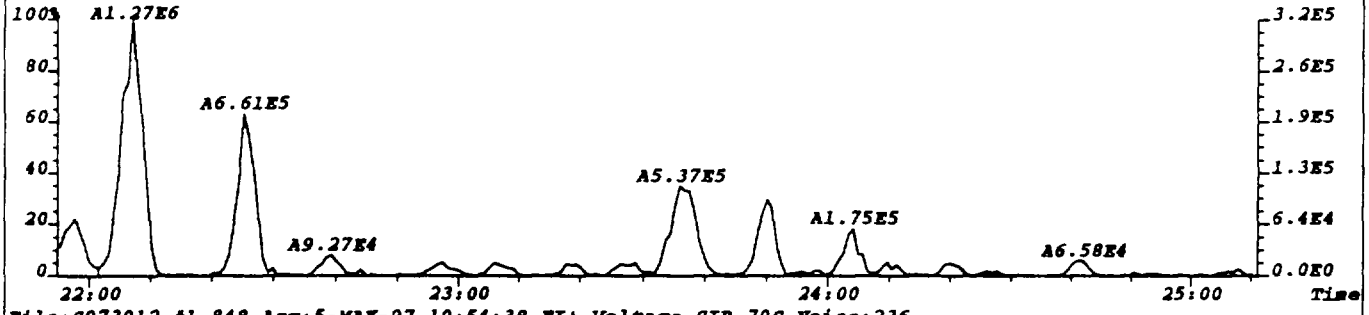
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



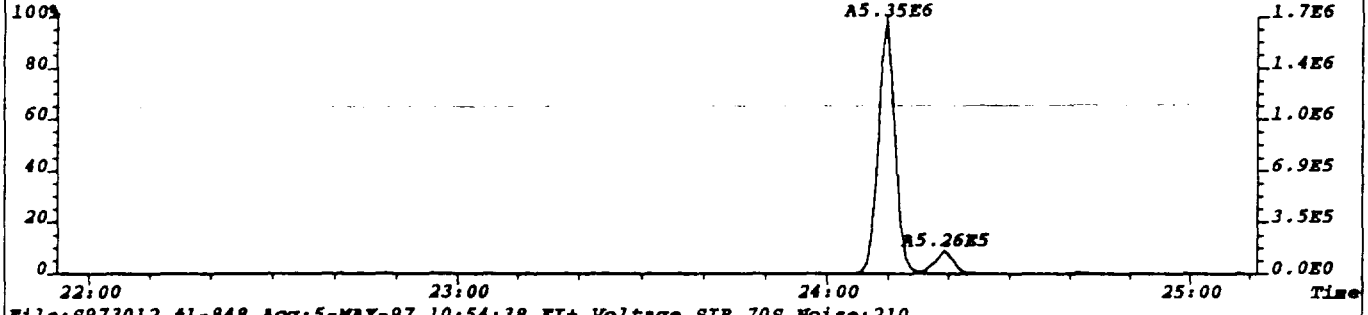
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:205
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,820.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



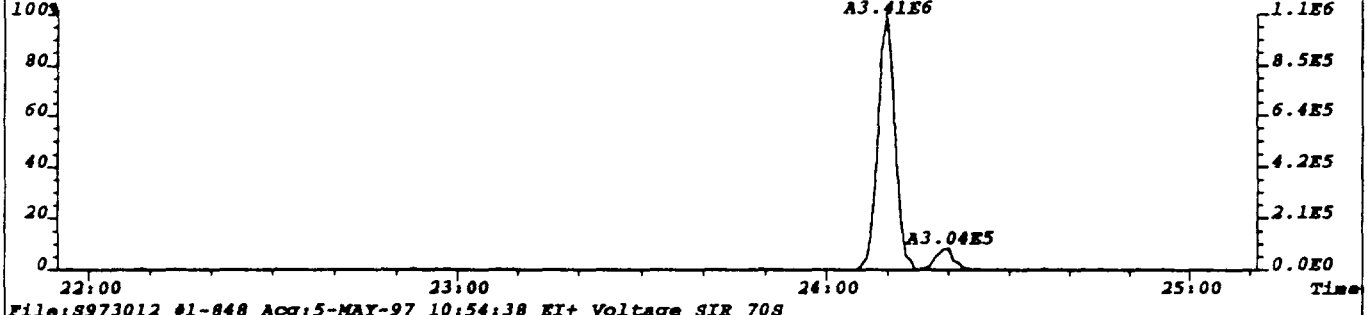
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:172
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,688.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



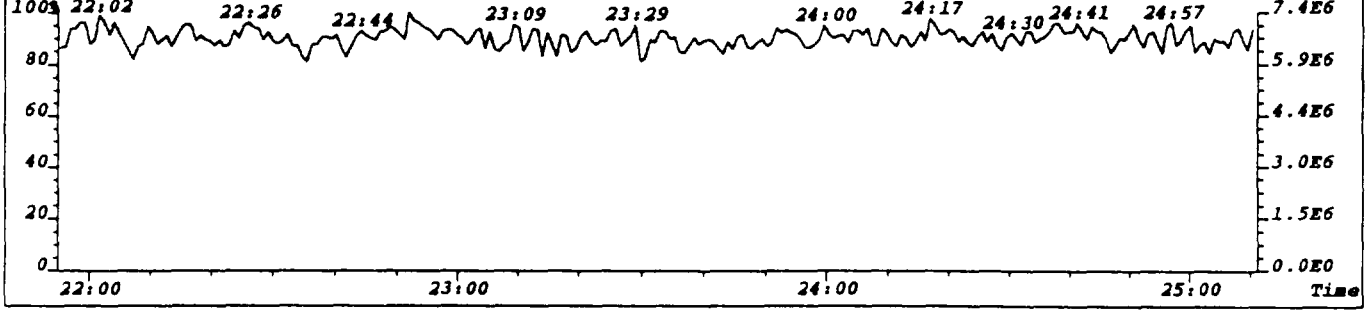
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:236
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,944.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



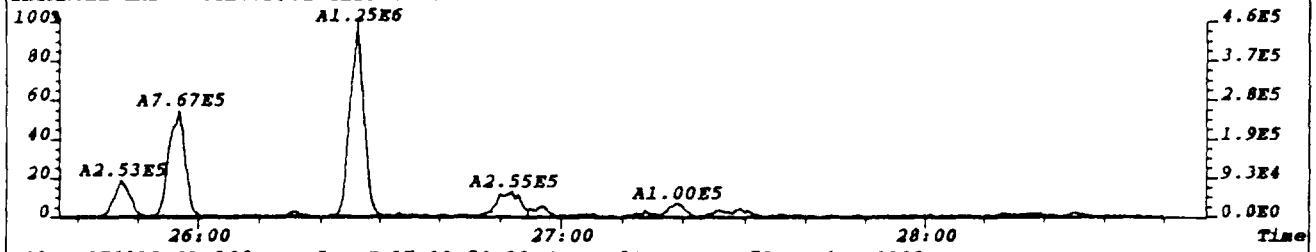
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:210
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,840.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



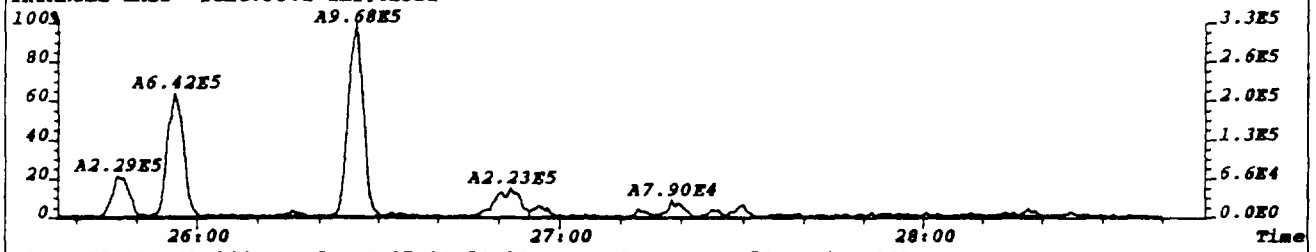
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



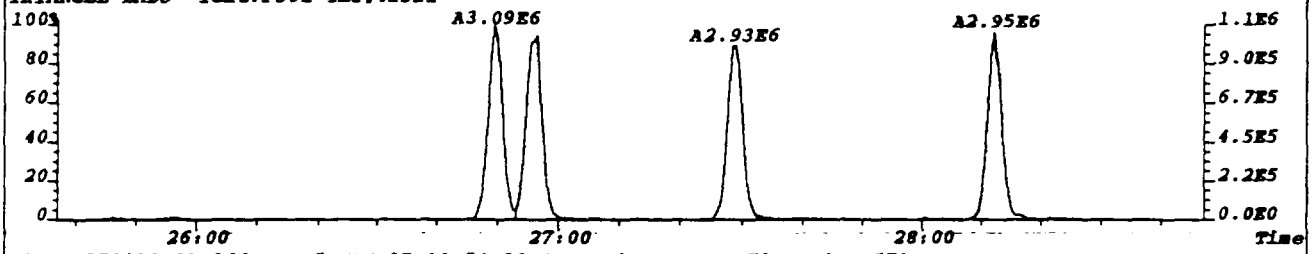
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1089
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4356.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



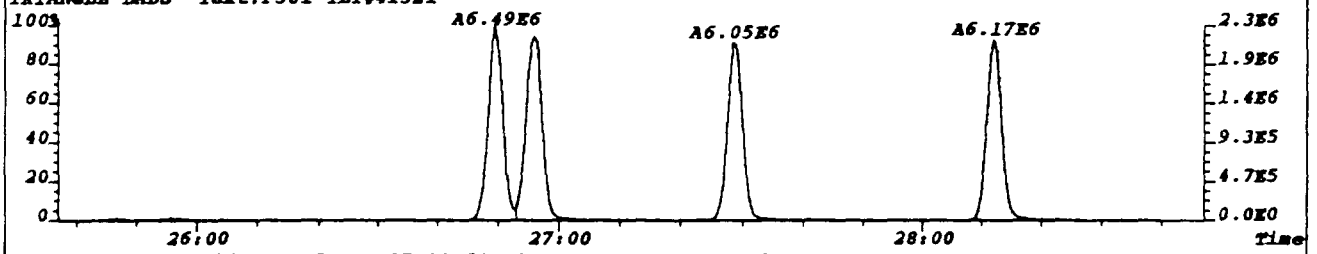
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1100
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4400.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



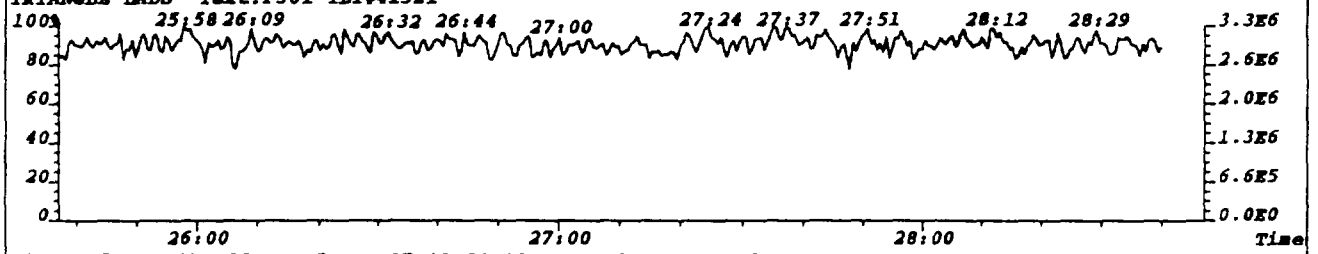
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:102
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,408.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



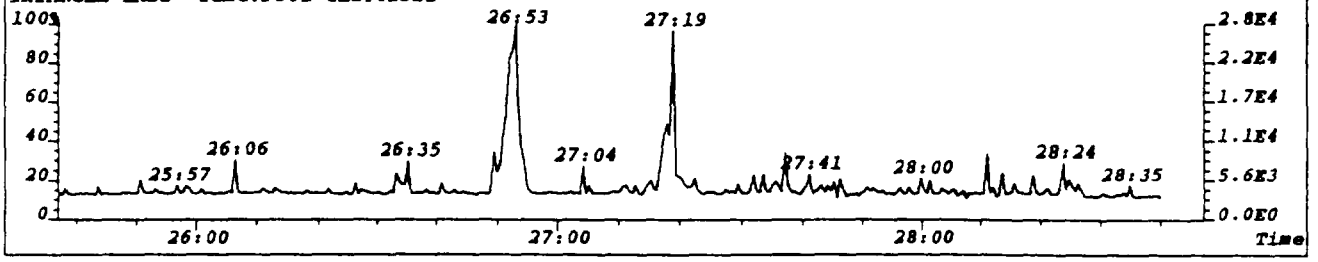
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:570
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2280.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



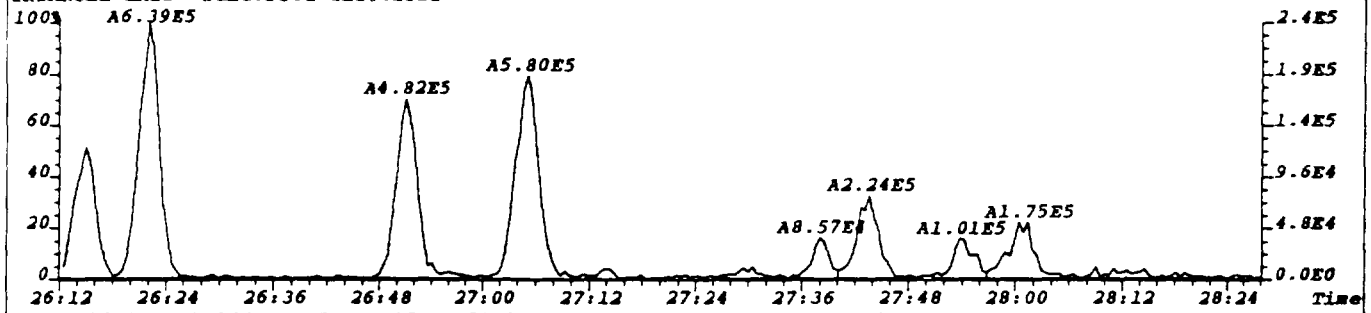
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



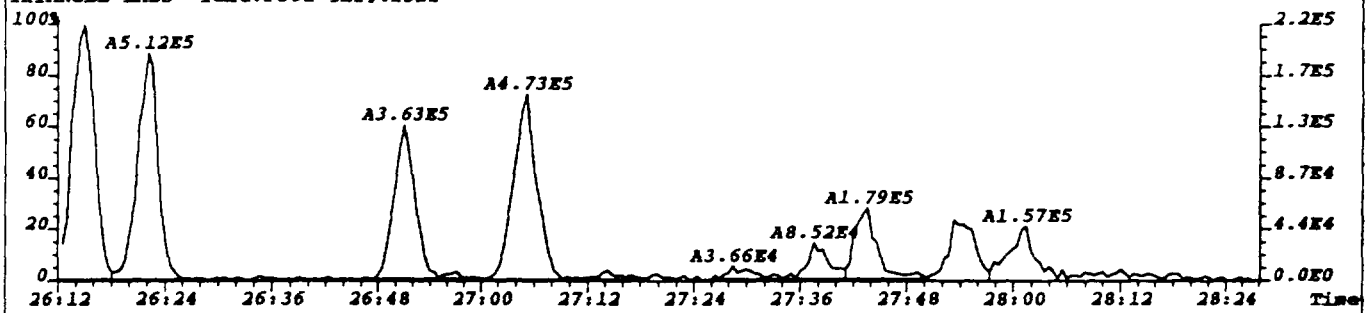
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



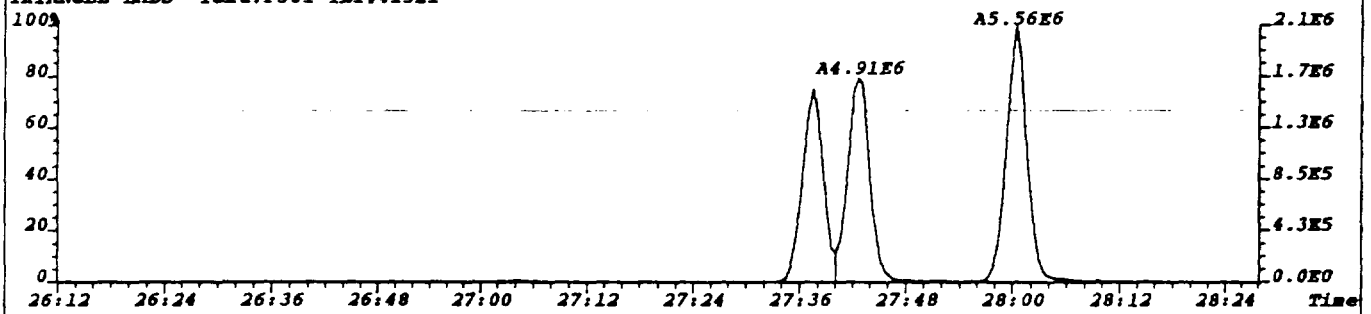
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:859
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3436.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



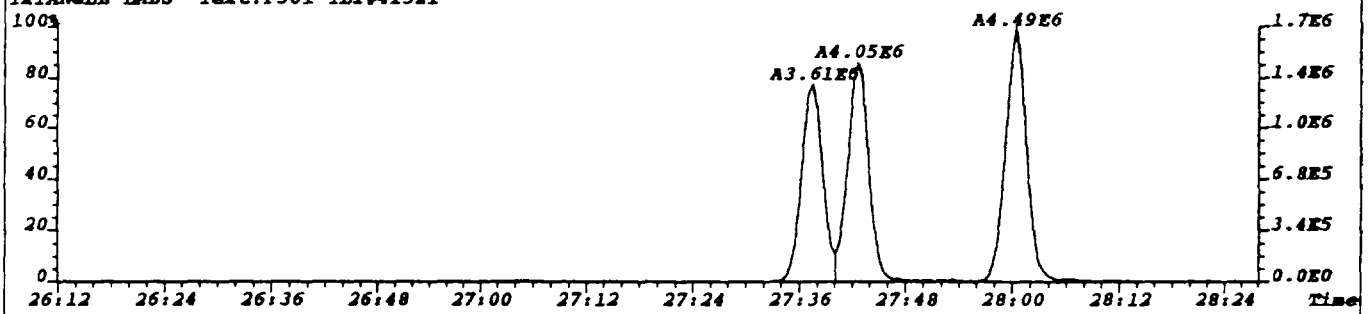
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:634
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2536.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



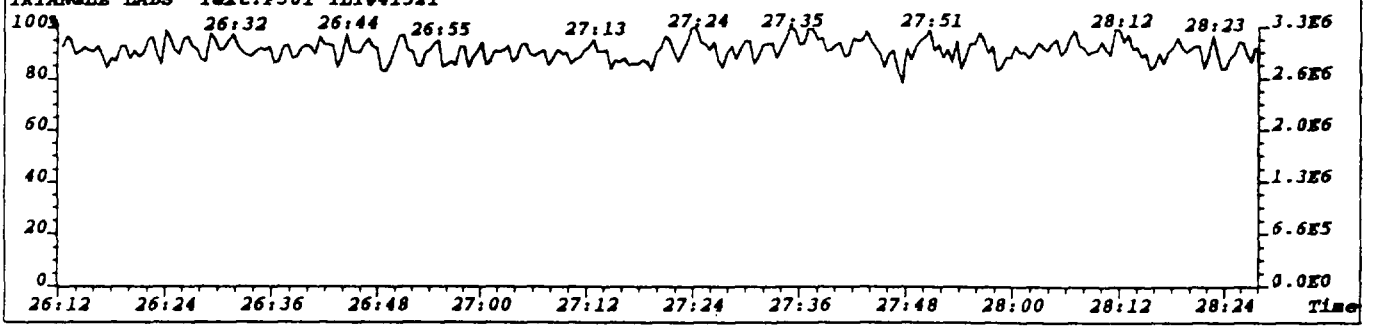
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:88
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



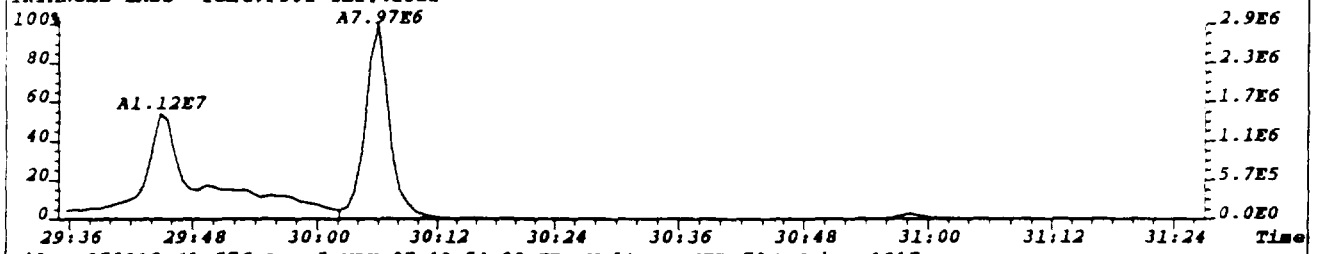
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:64
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,256.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



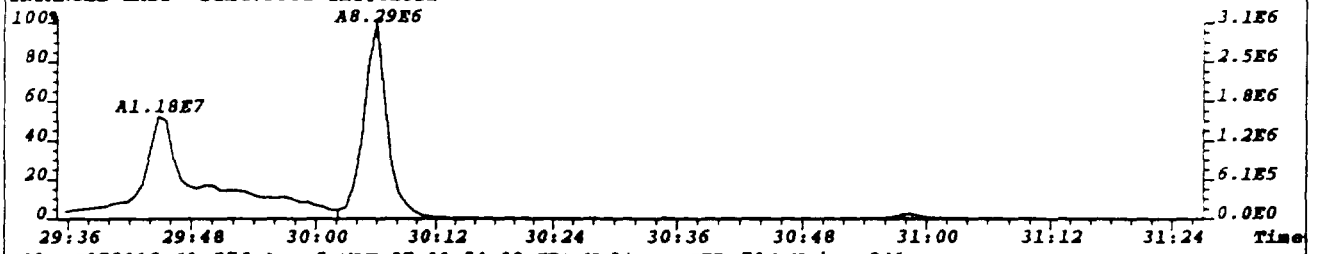
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



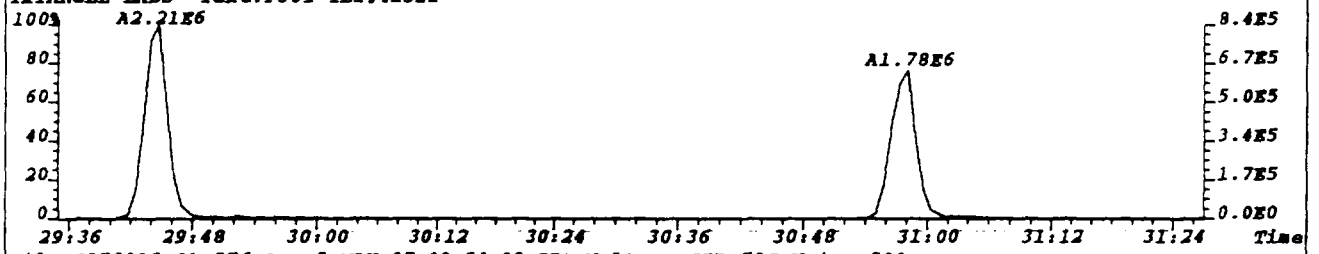
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1185
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4740.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



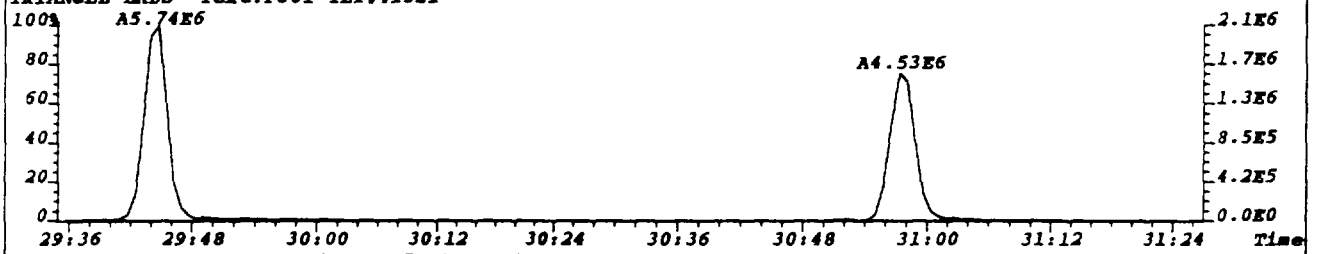
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1317
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,5268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



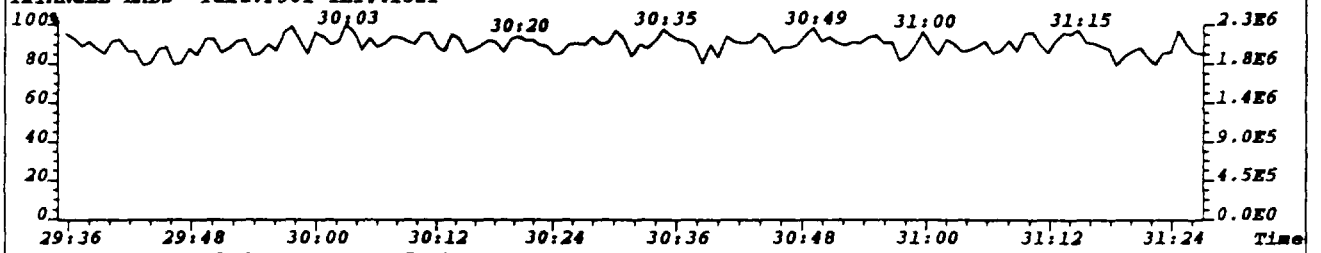
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:241
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,964.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



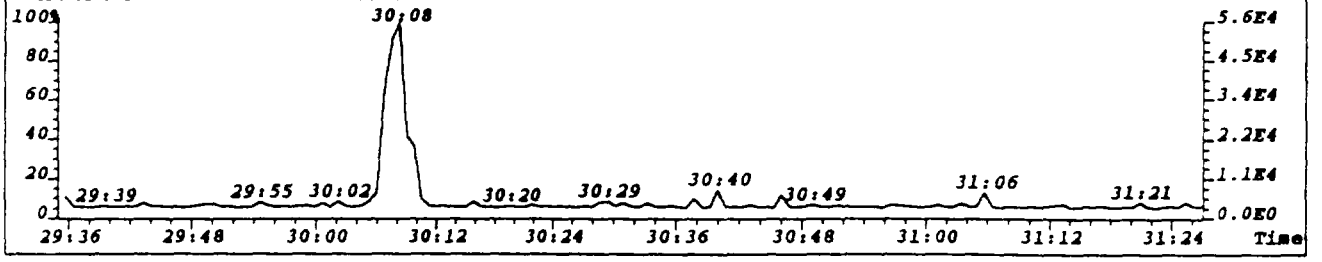
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:500
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2000.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



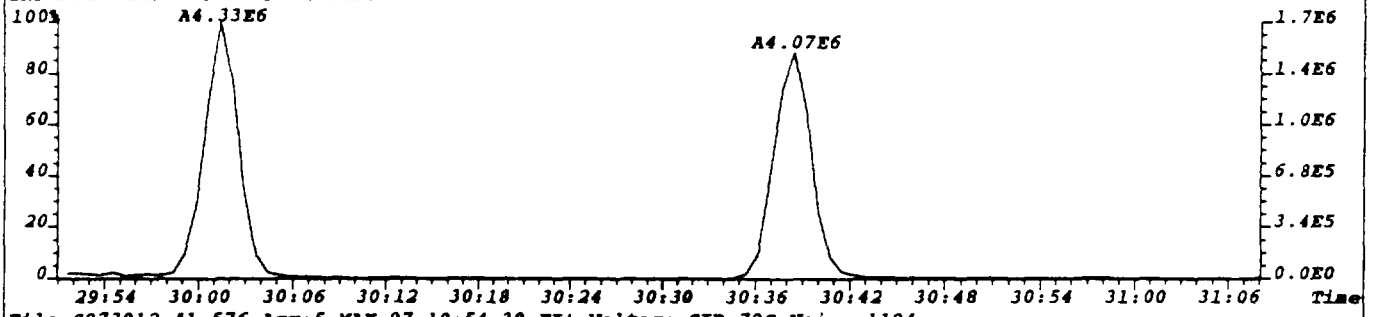
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



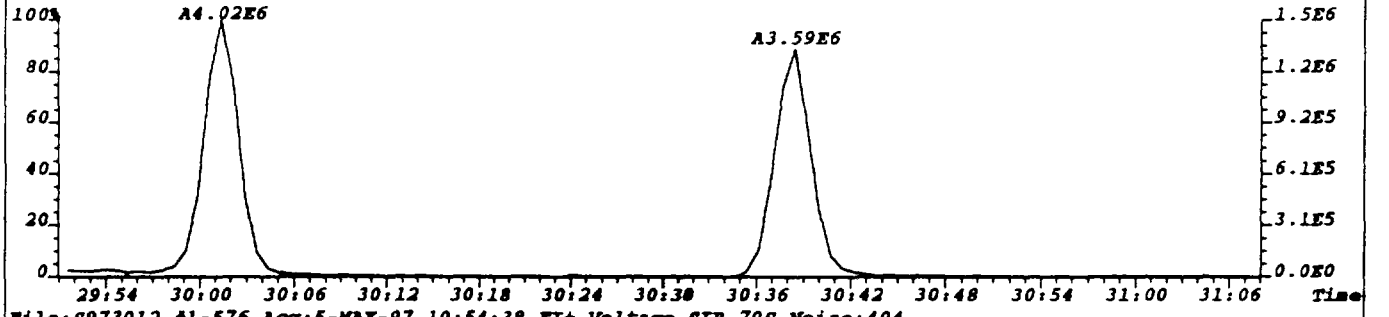
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



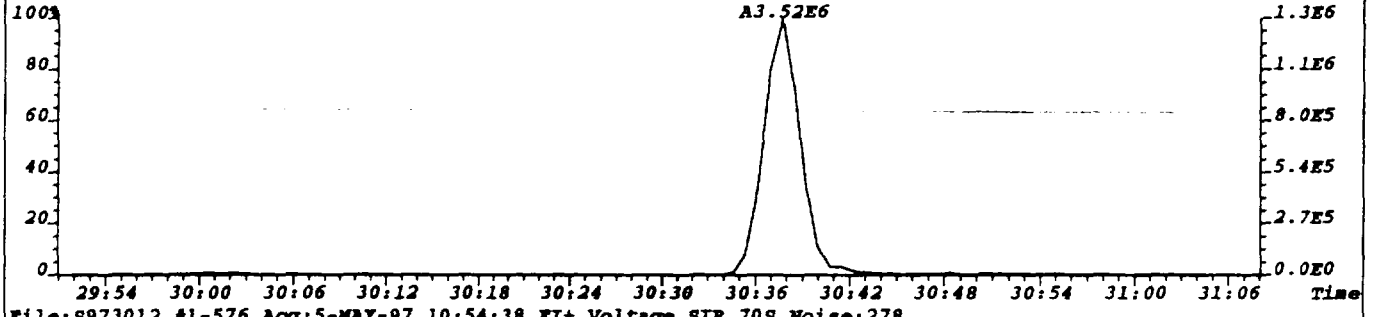
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1120
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4480.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



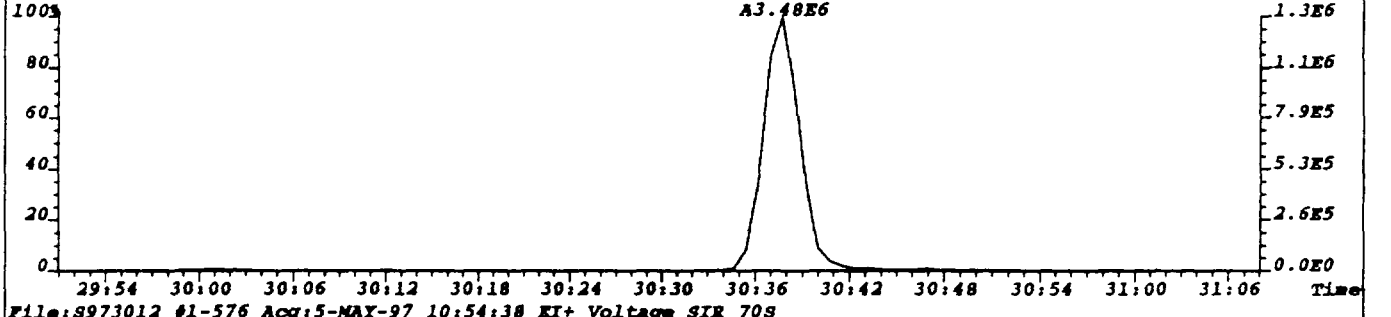
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:1194
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4776.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



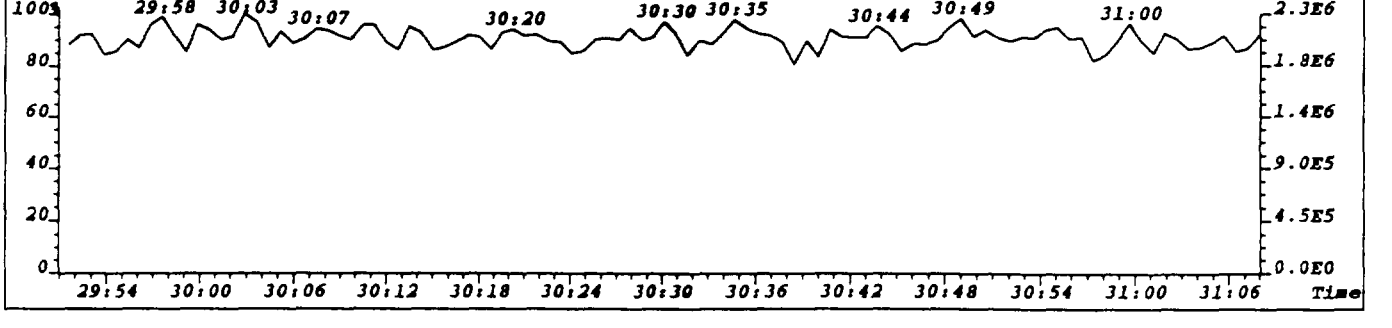
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:404
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1616.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



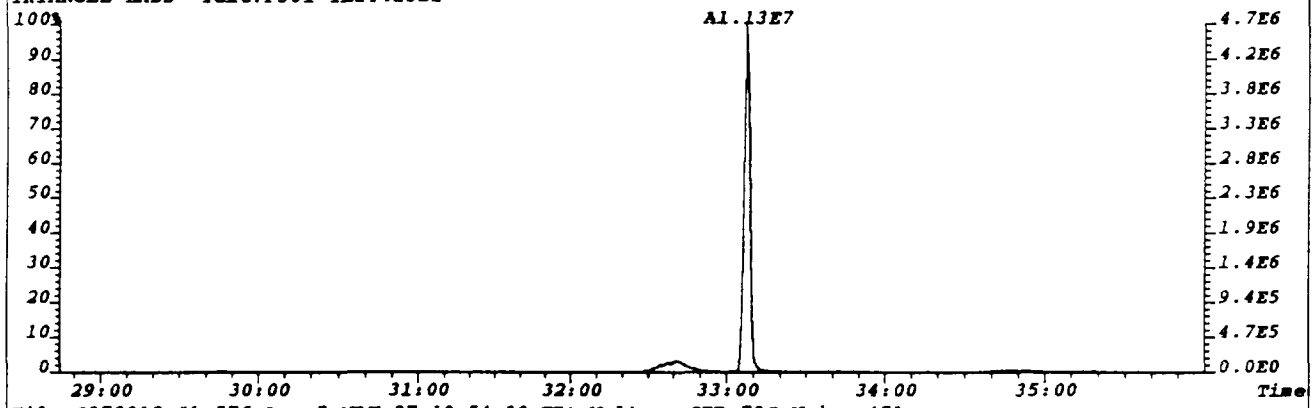
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:278
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1112.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521

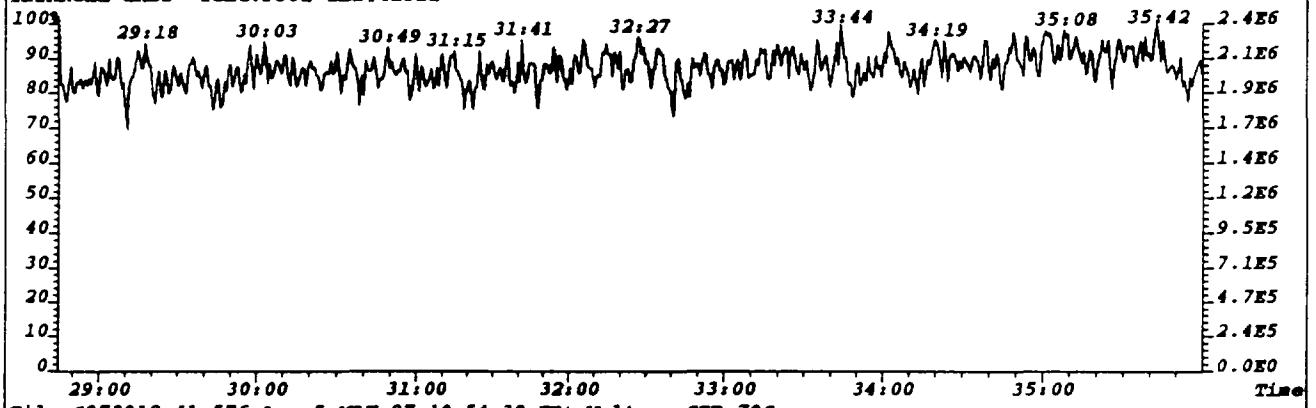


File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:405
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1620.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521

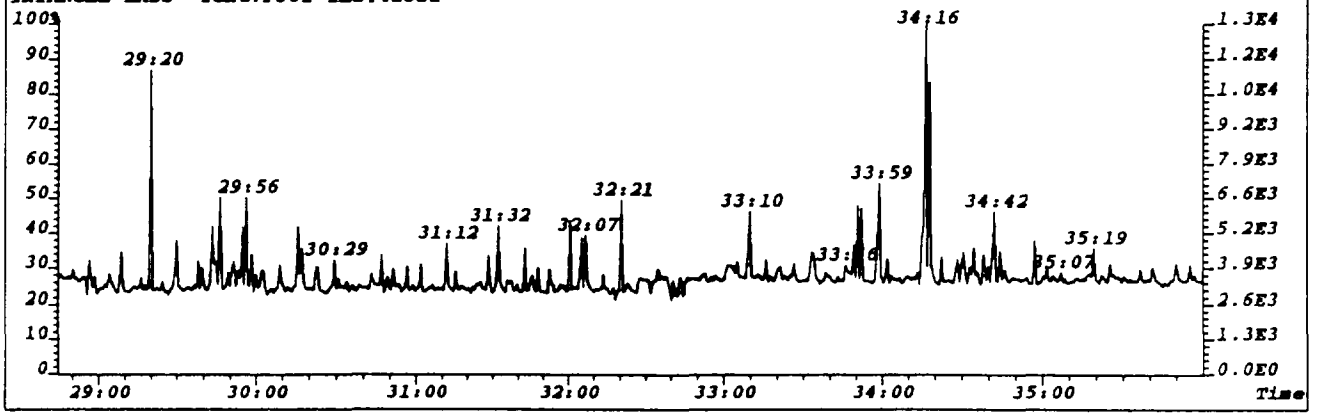


File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:451
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1804.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521

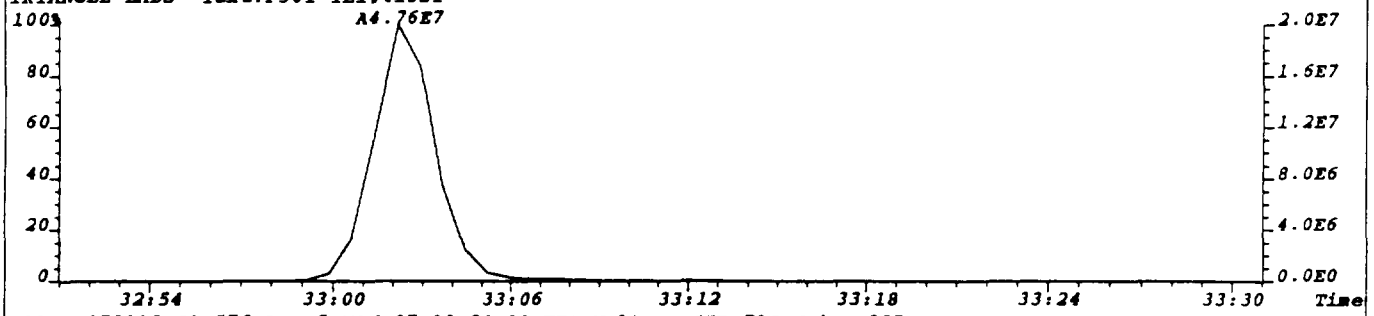
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



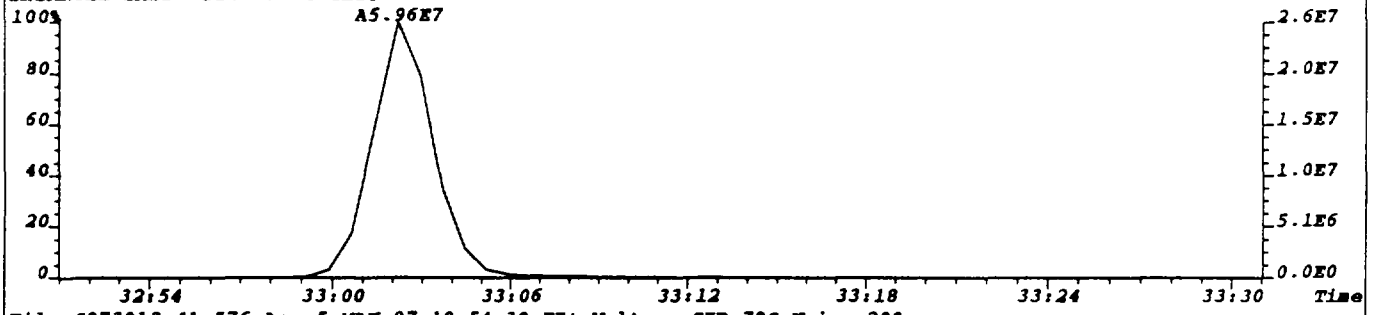
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



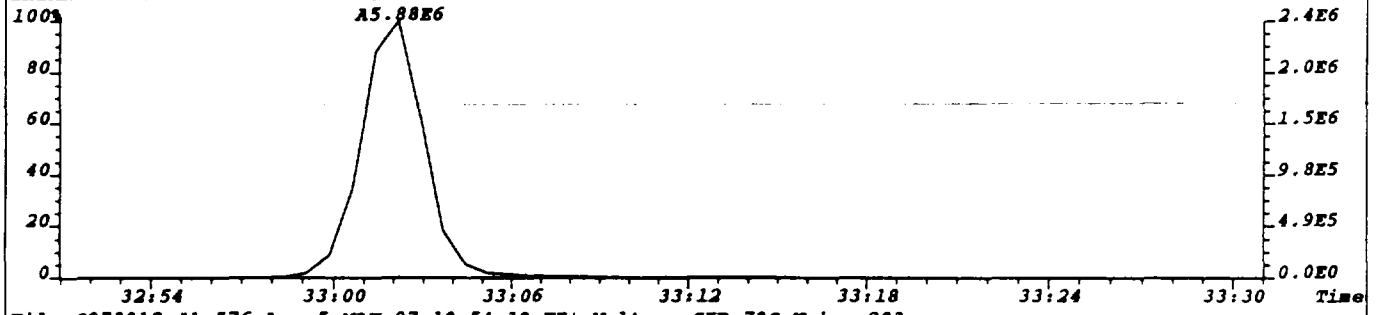
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:164
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,656.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



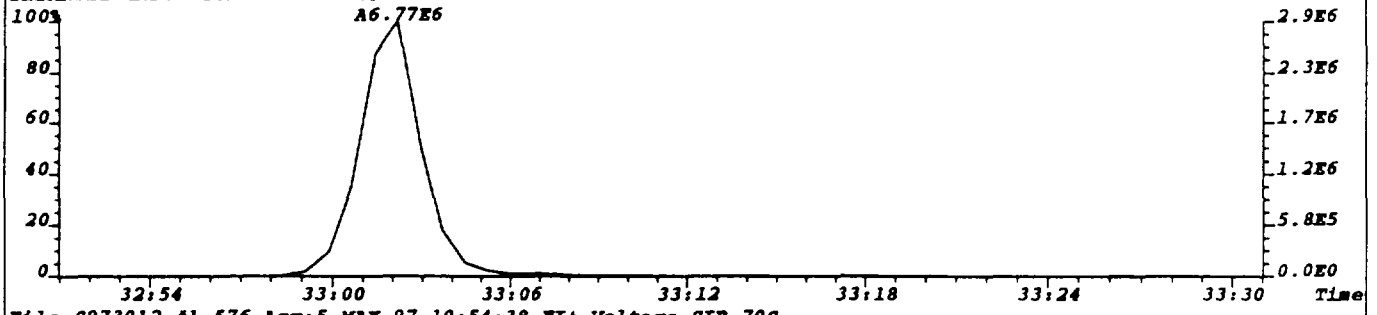
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:235
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,940.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



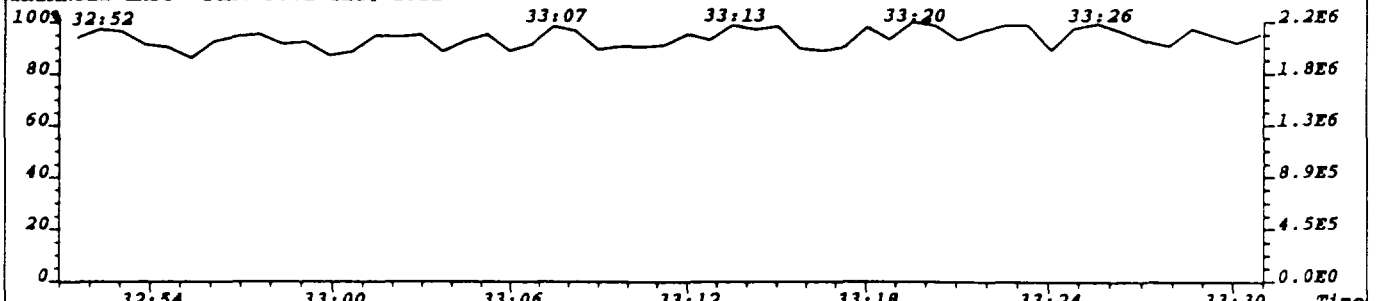
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:200
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,800.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521

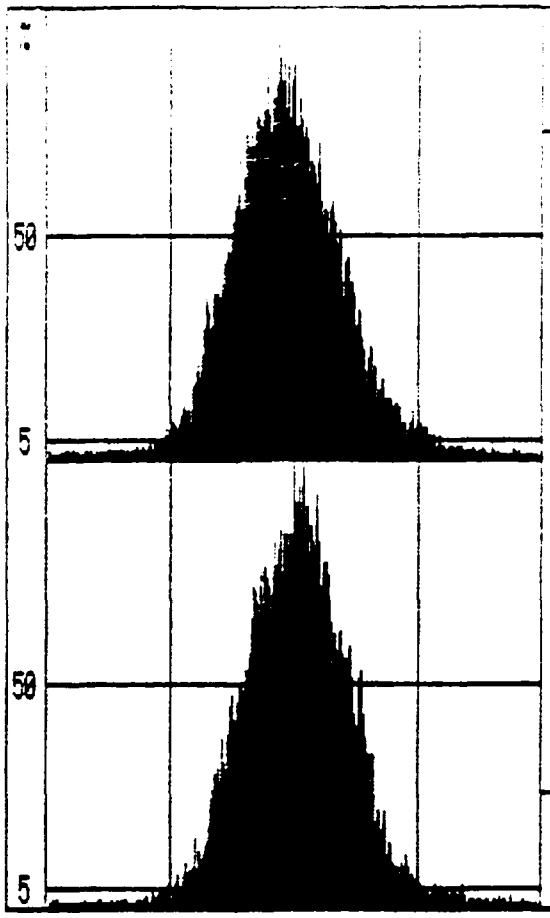


File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S Noise:203
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,812.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521



File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:F301 TLI#41521





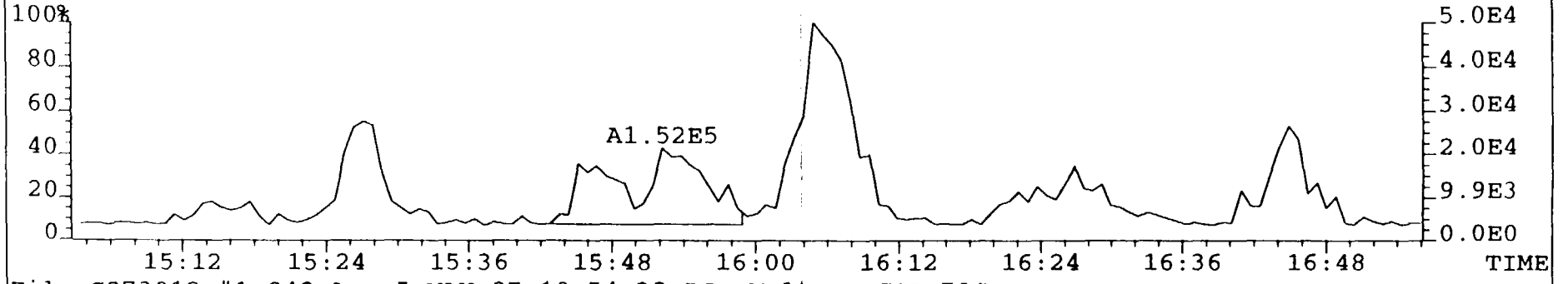
Ref. mass 292.9825 Peak top
Height 1.71 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S973012
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

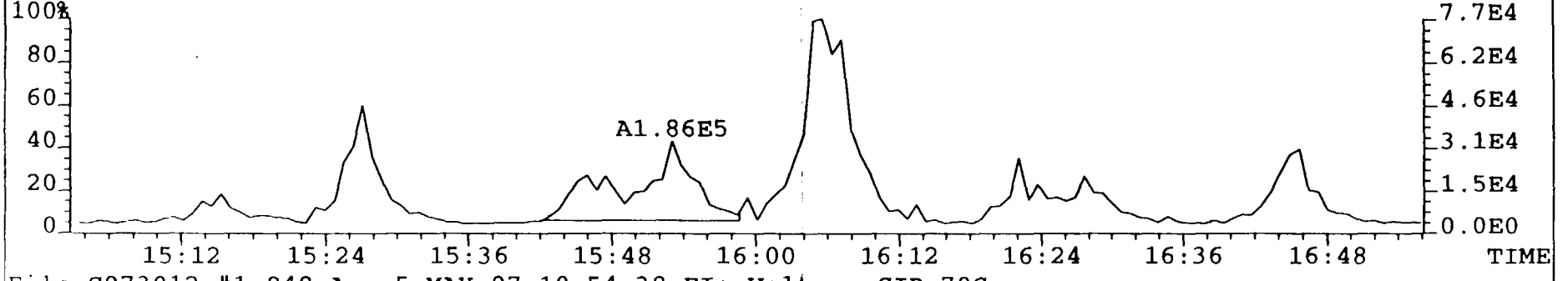
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 1.45 volts Span 200 ppm

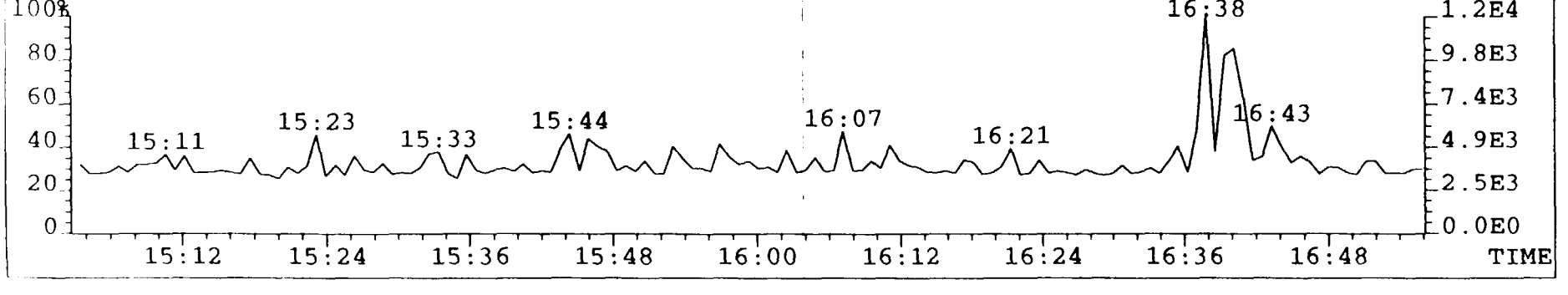
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

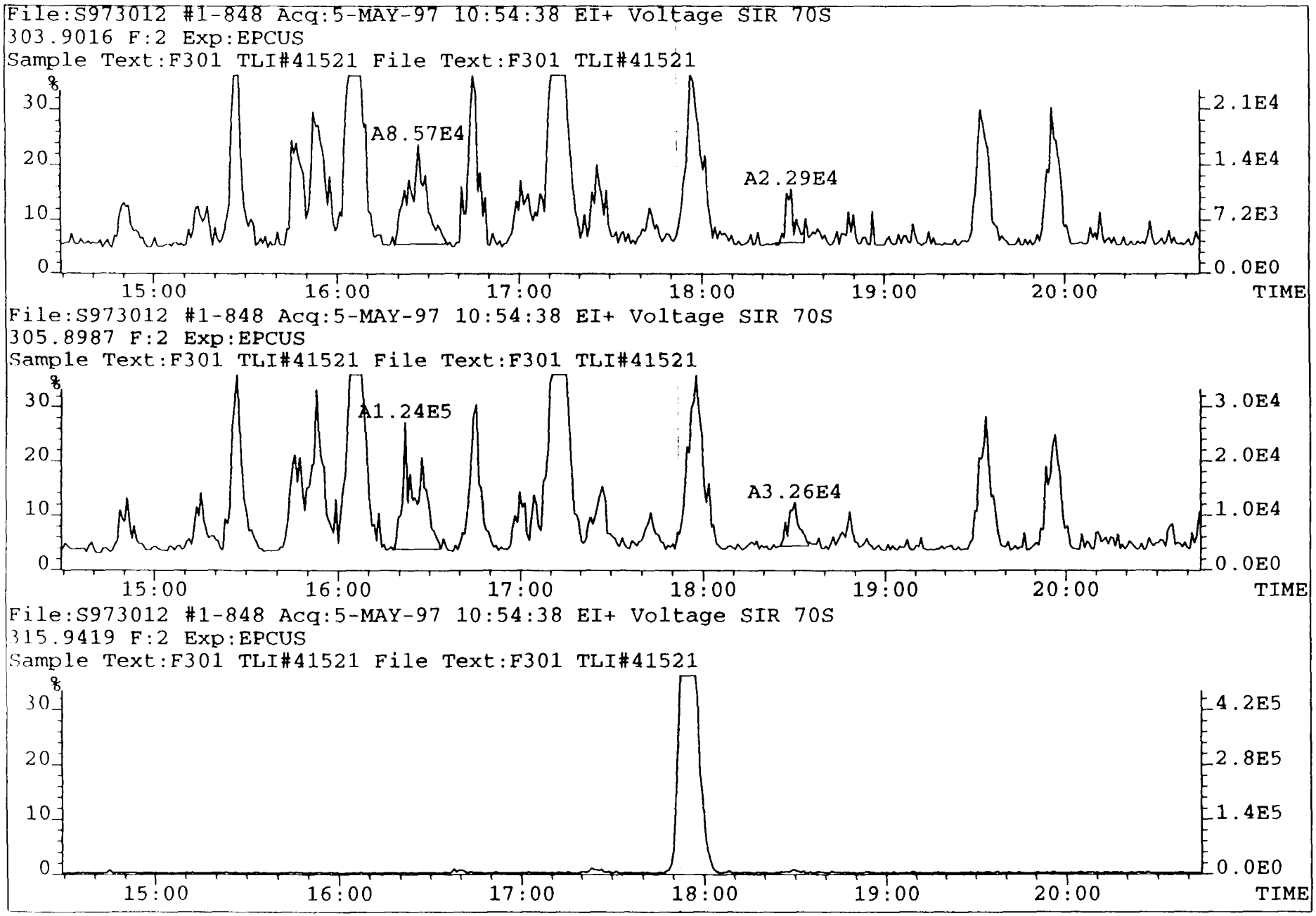


File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

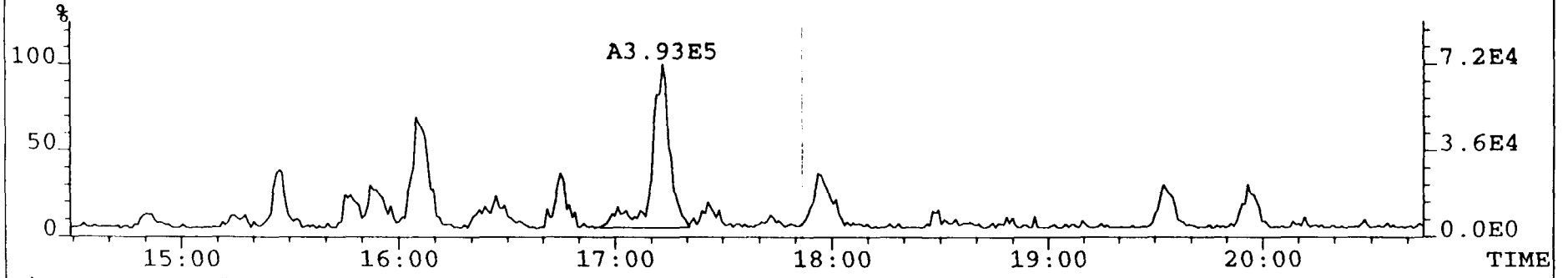


File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

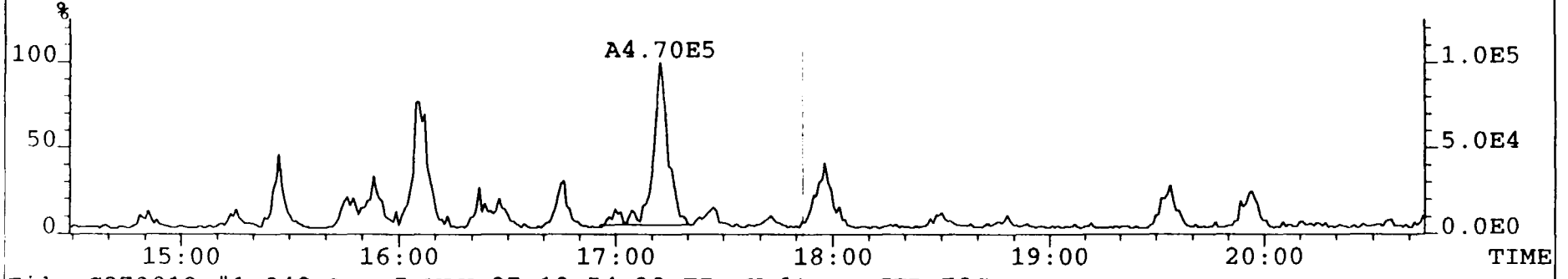



File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
A8.57E4
A2.29E4
2.1E4
1.4E4
7.2E3
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
A1.24E5
A3.26E4
3.0E4
2.0E4
1.0E4
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
4.2E5
2.8E5
1.4E5
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME

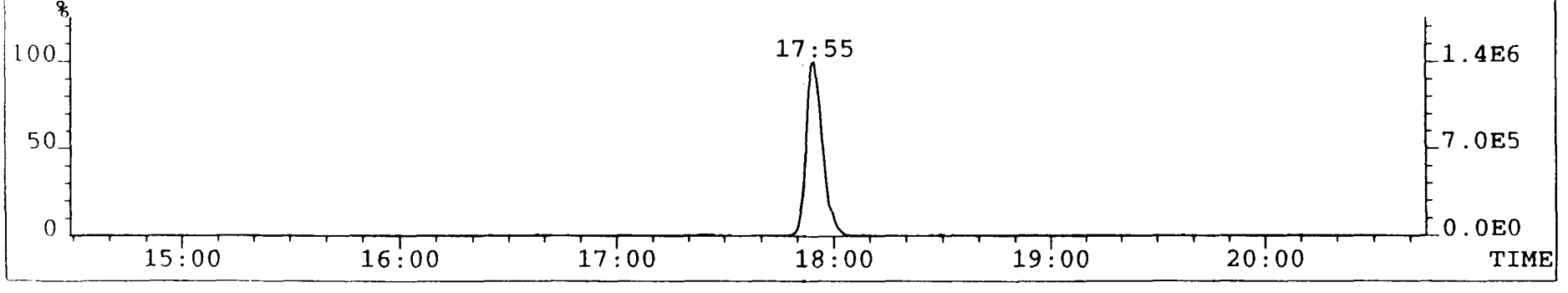
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



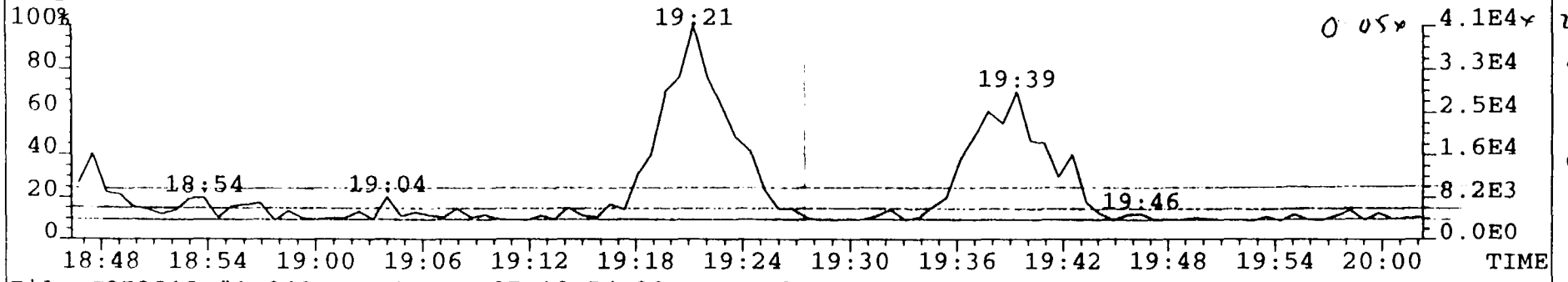
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



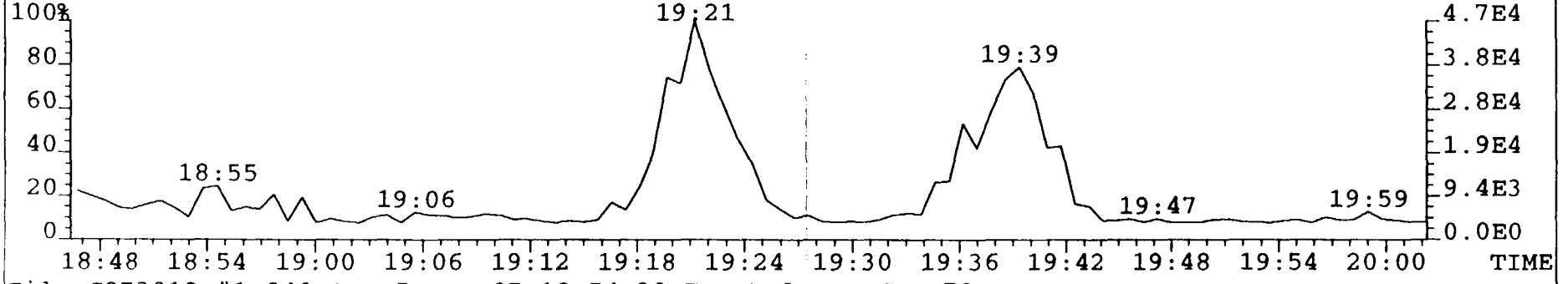
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



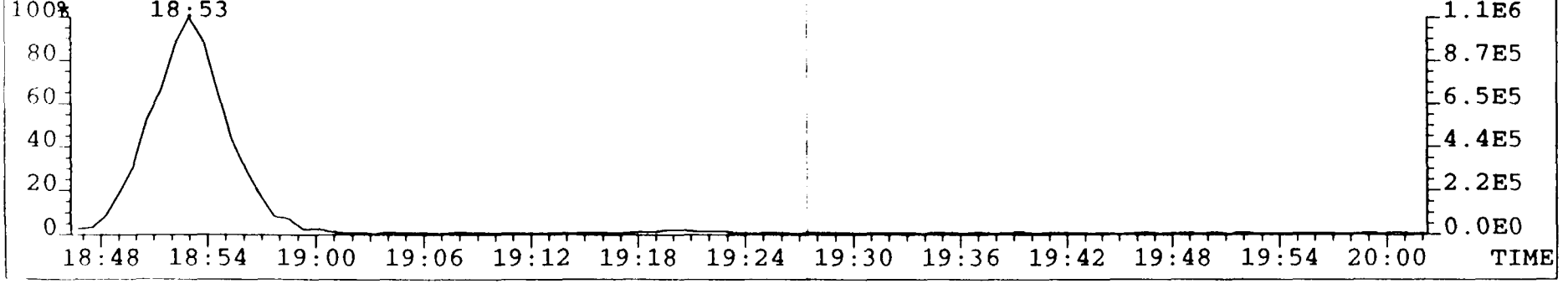
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



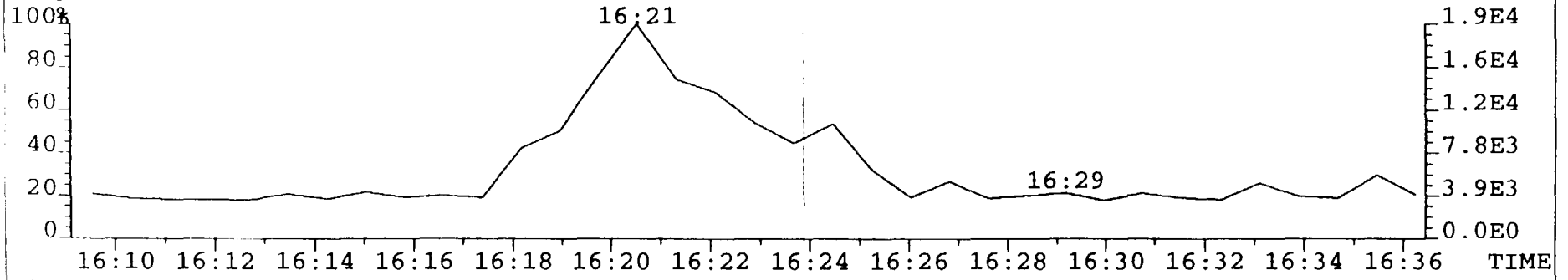
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

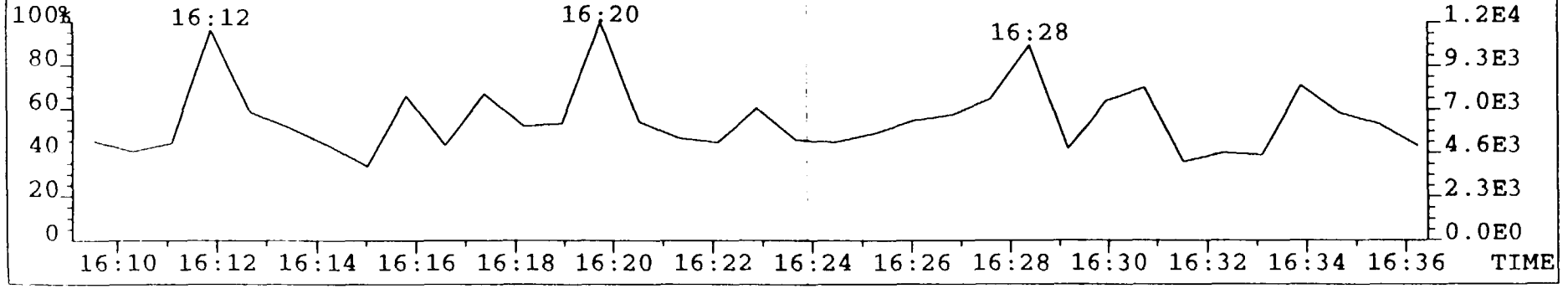


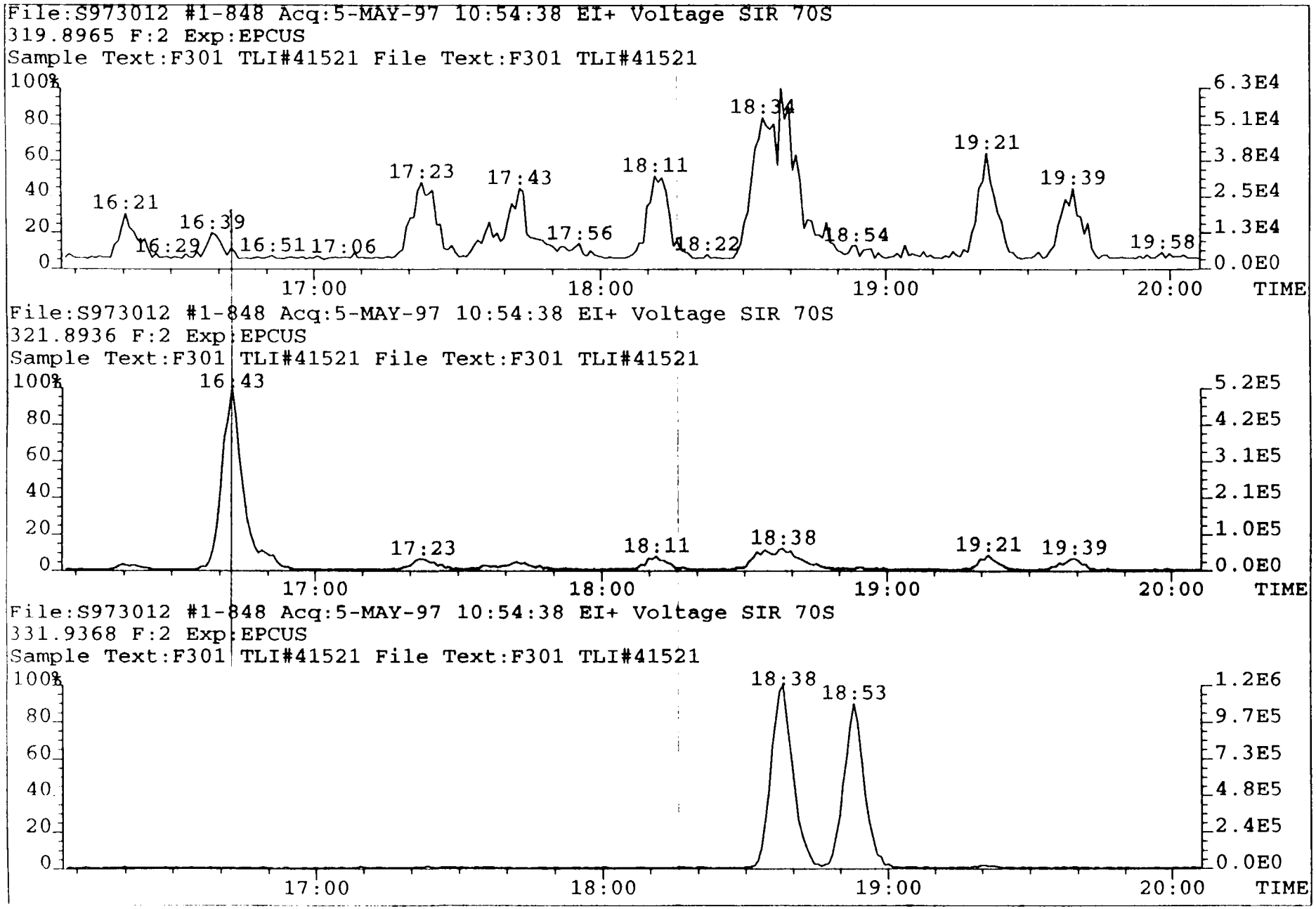
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



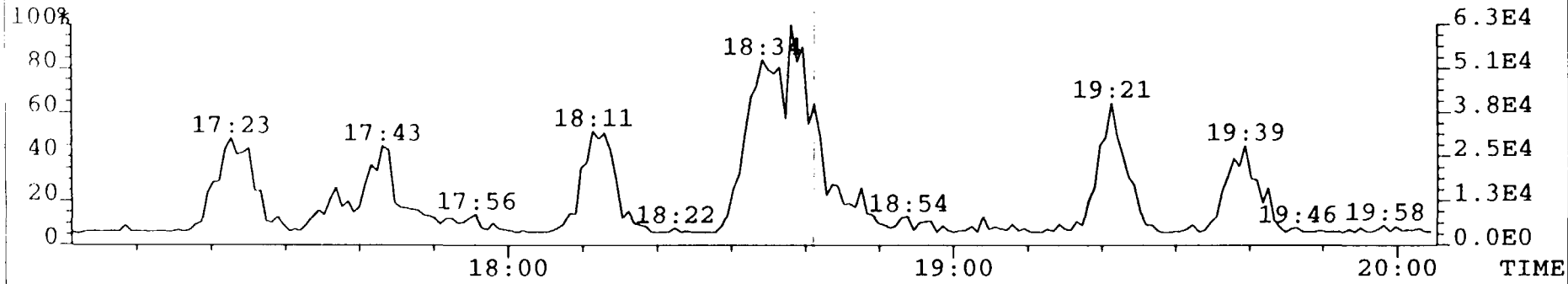
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

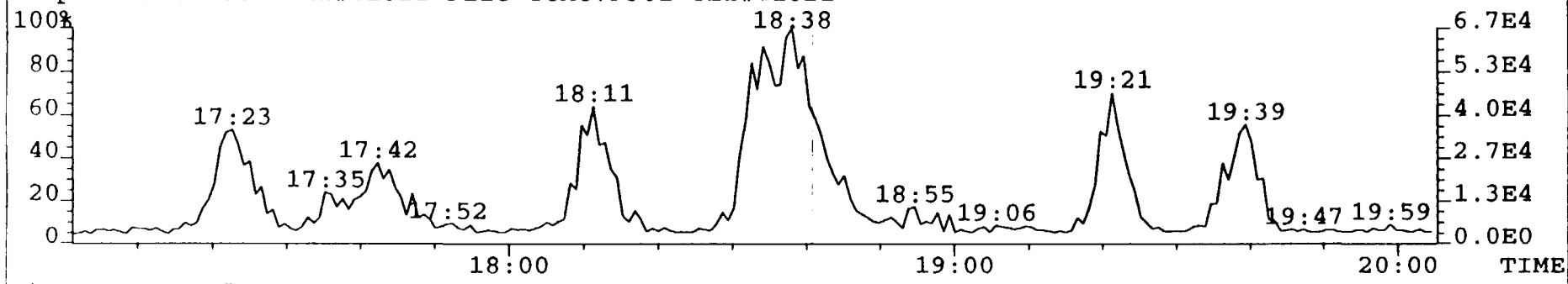



File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
100%
80
60
40
20
0
16:21
16:29
16:39
16:51
17:06
17:23
17:43
17:56
18:11
18:22
18:34
18:54
19:21
19:39
19:58
6.3E4
5.1E4
3.8E4
2.5E4
1.3E4
0.0E0
17:00
18:00
19:00
20:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
100%
80
60
40
20
0
16:43
17:23
18:11
18:38
19:21
19:39
5.2E5
4.2E5
3.1E5
2.1E5
1.0E5
0.0E0
17:00
18:00
19:00
20:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
100%
80
60
40
20
0
18:38
18:53
1.2E6
9.7E5
7.3E5
4.8E5
2.4E5
0.0E0
17:00
18:00
19:00
20:00
TIME

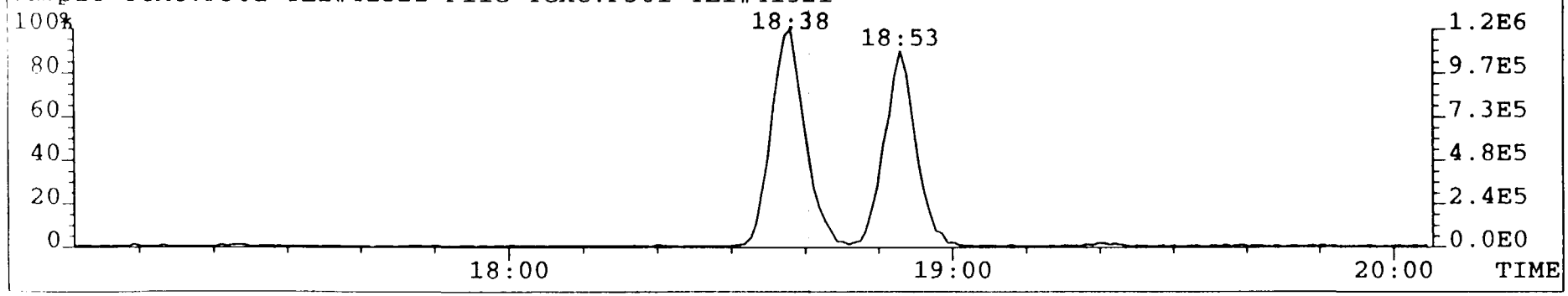
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



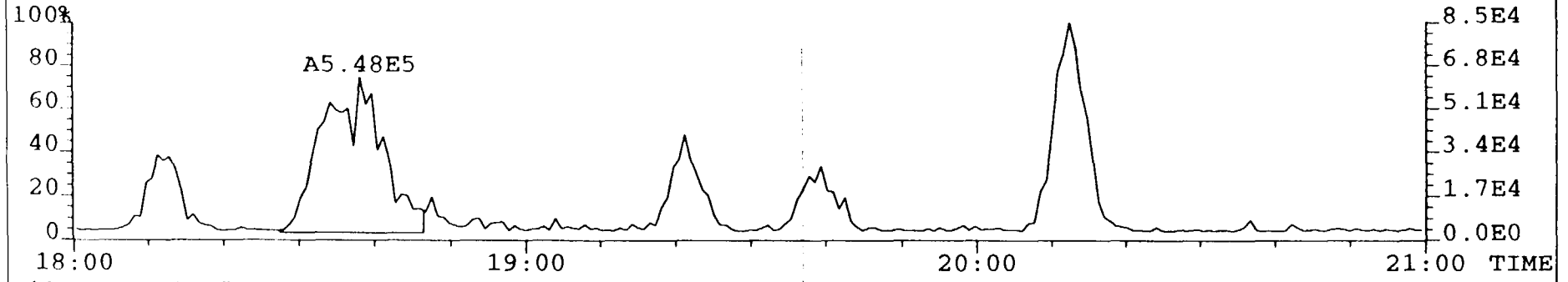
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



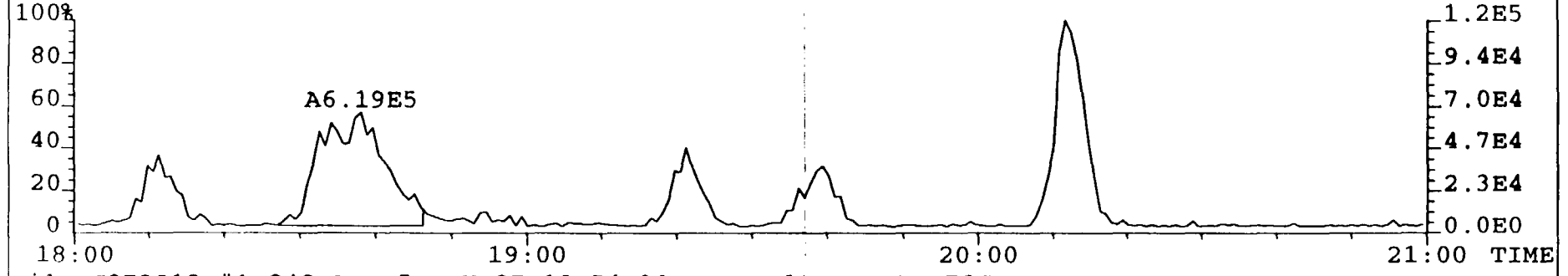
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



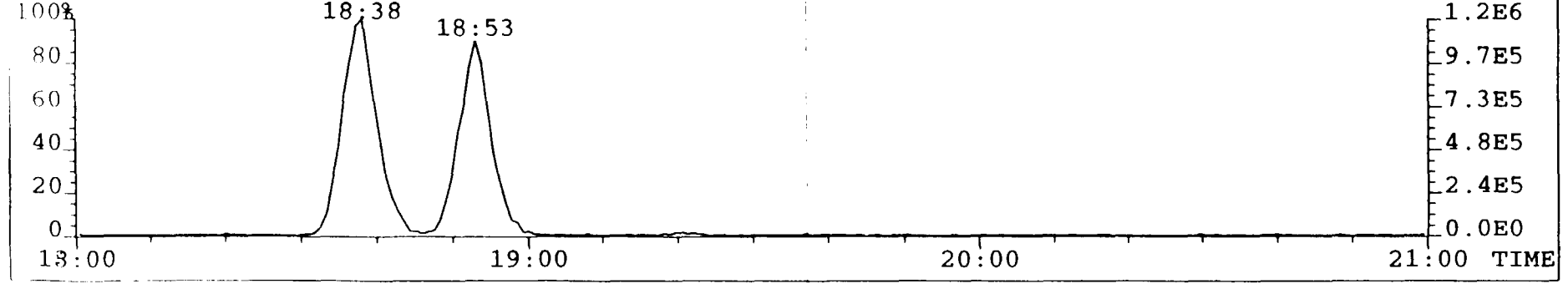
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

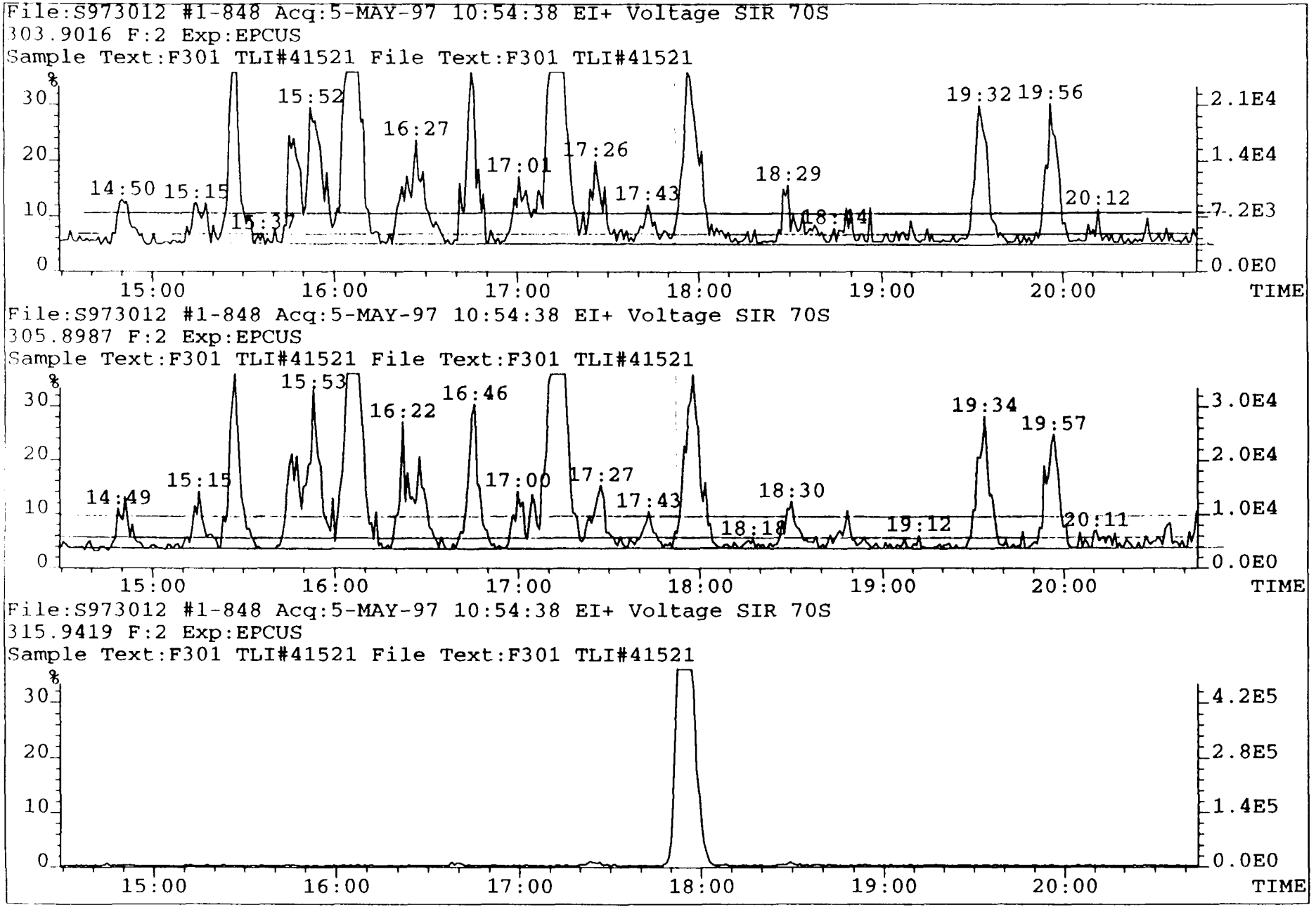


File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

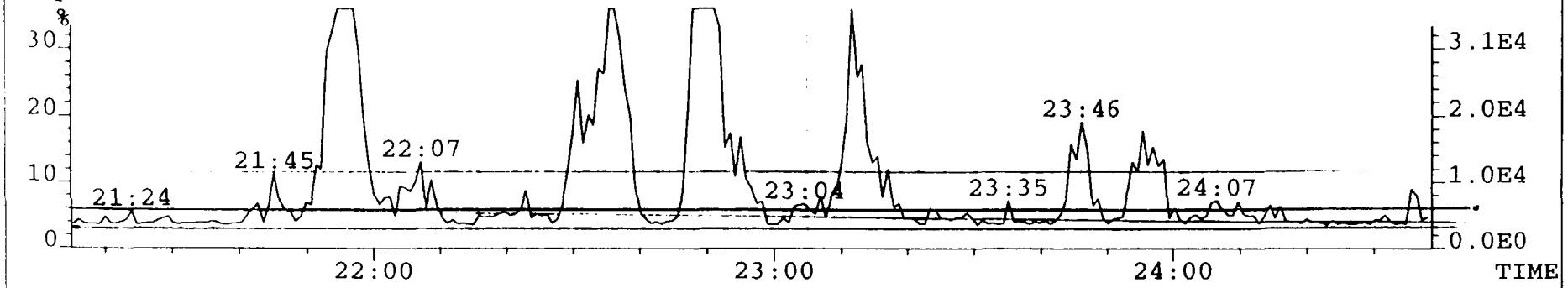


File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

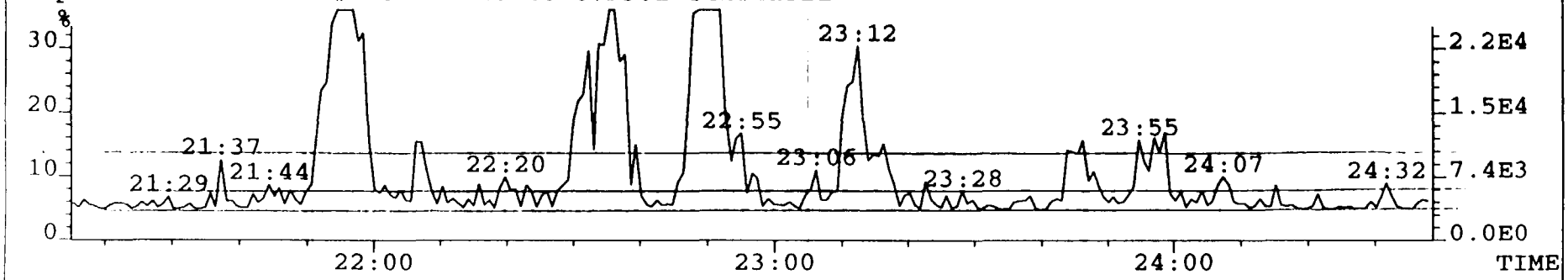



File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
14:50
15:15
15:37
15:52
16:27
17:01
17:26
17:43
18:29
18:44
19:32
19:56
20:12
2.1E4
1.4E4
7.2E3
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
14:49
15:15
15:53
16:22
16:46
17:00
17:27
17:43
18:18
18:30
19:12
19:34
19:57
20:11
3.0E4
2.0E4
1.0E4
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
4.2E5
2.8E5
1.4E5
0.0E0
15:00
16:00
17:00
18:00
19:00
20:00
TIME

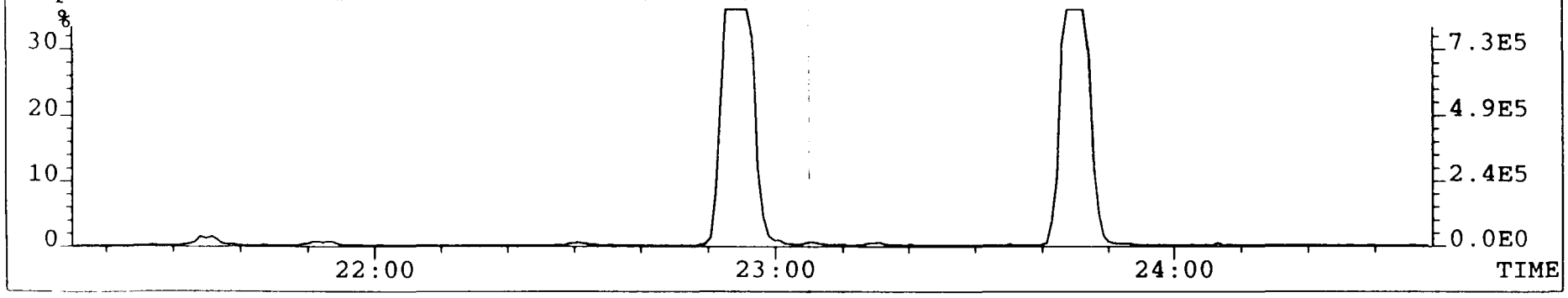
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
339.8597 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



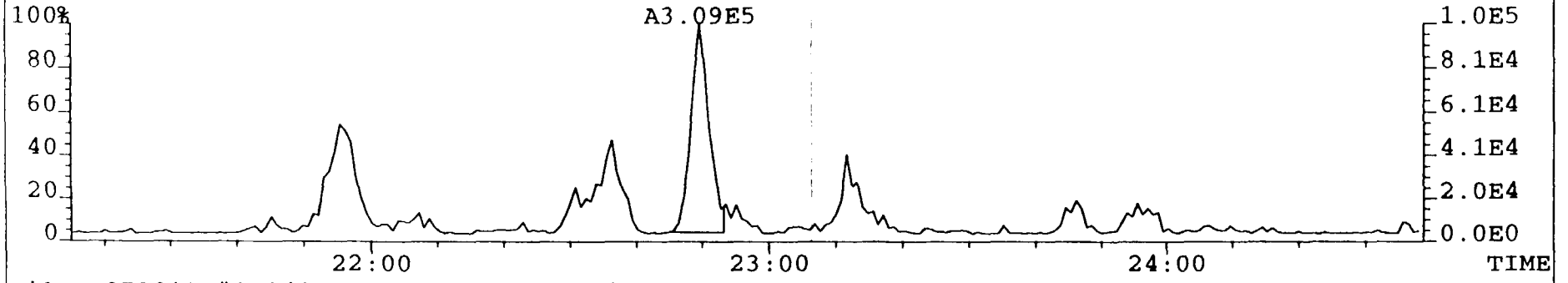
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
341.8567 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



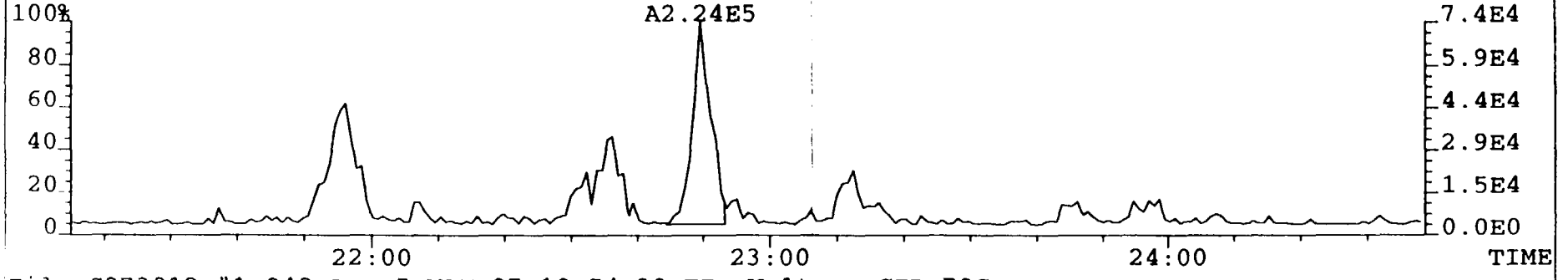
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
351.9000 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



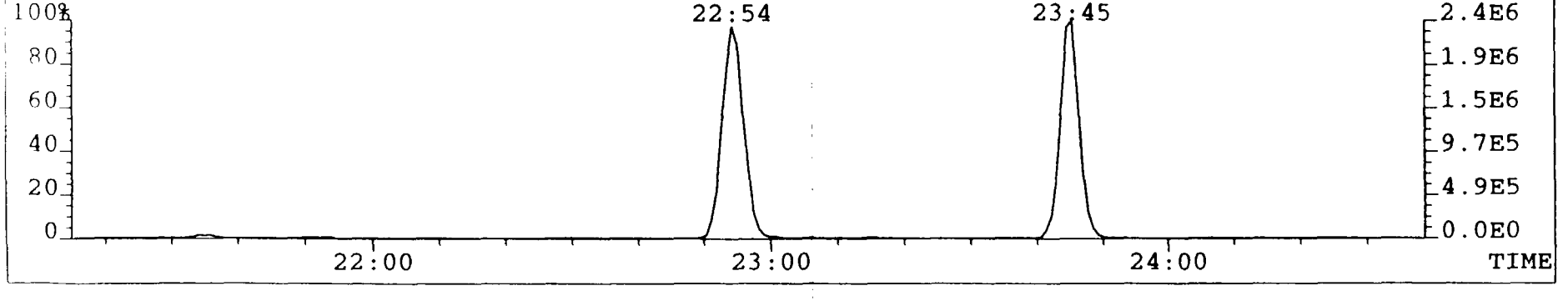
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
339.8597 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

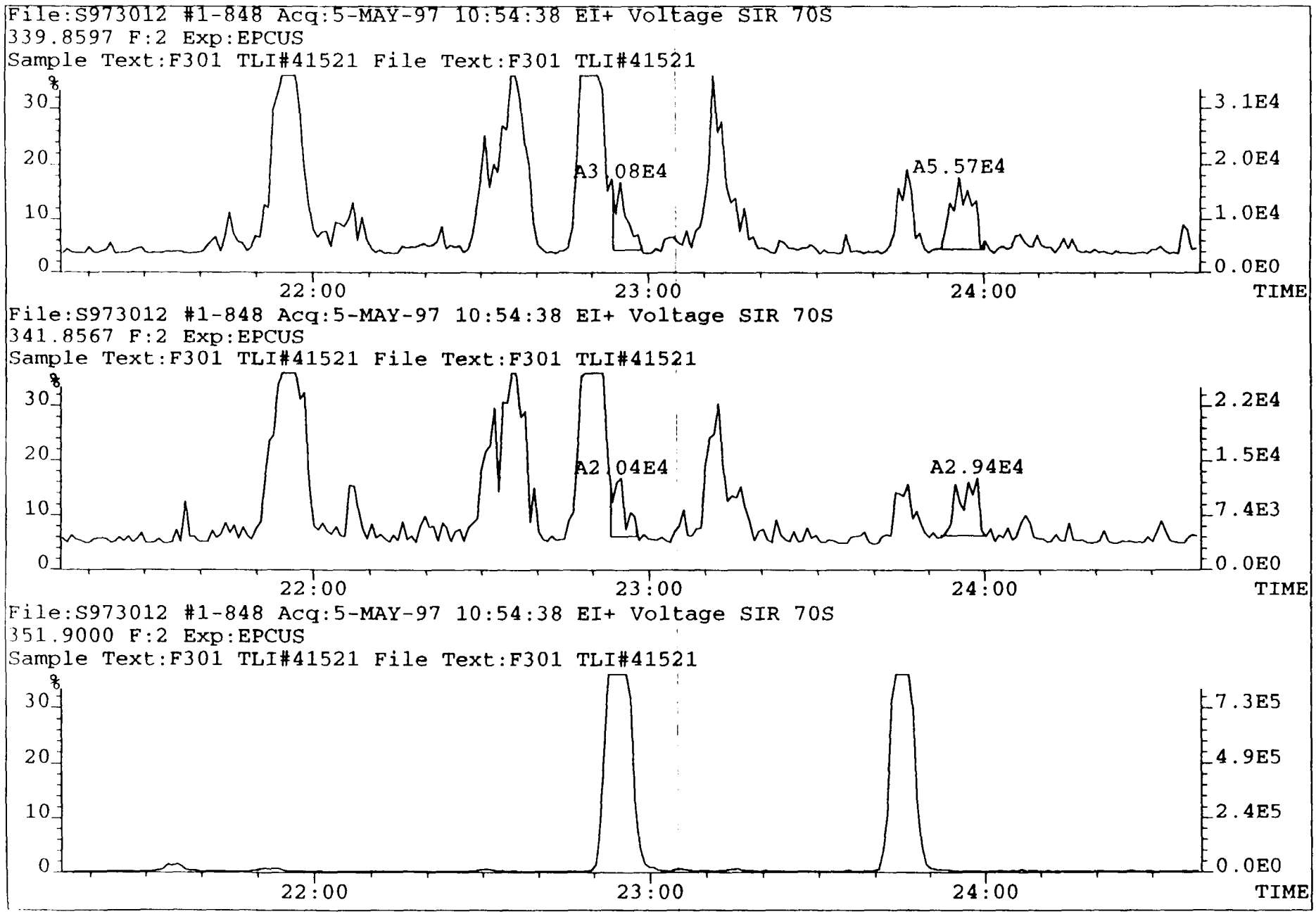


File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
341.8567 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

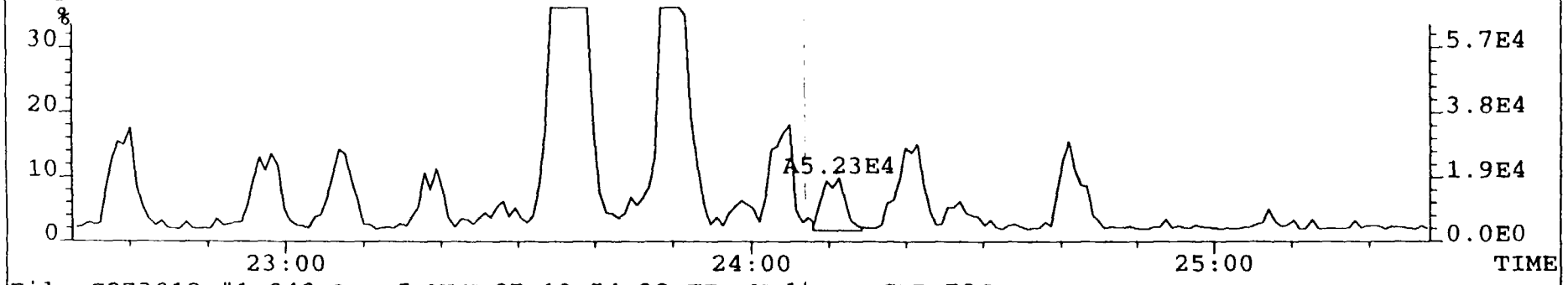


File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
351.9000 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

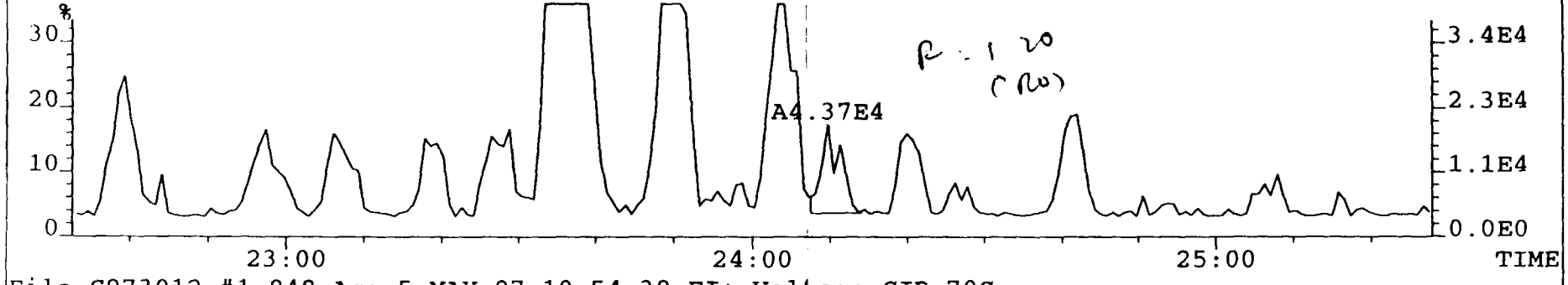



File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
339.8597 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
A3.08E4
A5.57E4
3.1E4
2.0E4
1.0E4
0.0E0
22:00
23:00
24:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
341.8567 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
A2.04E4
A2.94E4
2.2E4
1.5E4
7.4E3
0.0E0
22:00
23:00
24:00
TIME
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
351.9000 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
%
30
20
10
0
7.3E5
4.9E5
2.4E5
0.0E0
22:00
23:00
24:00
TIME

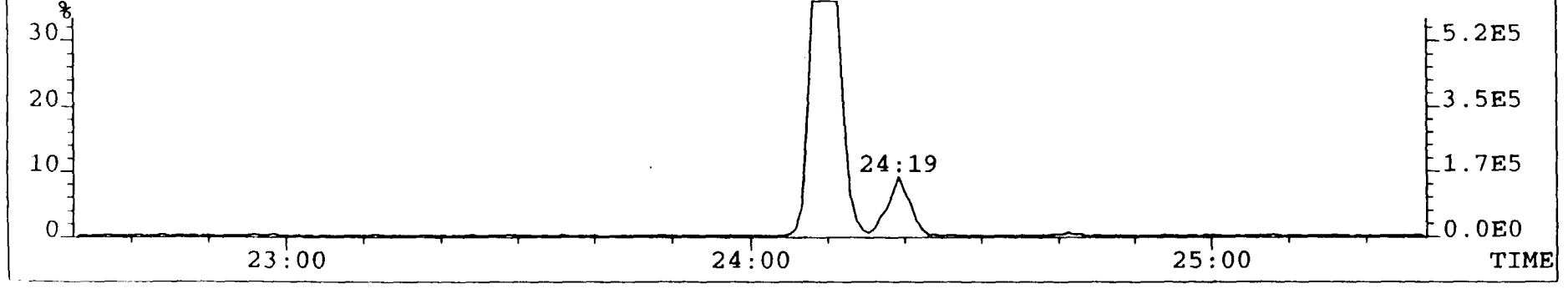
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
355.8546 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521

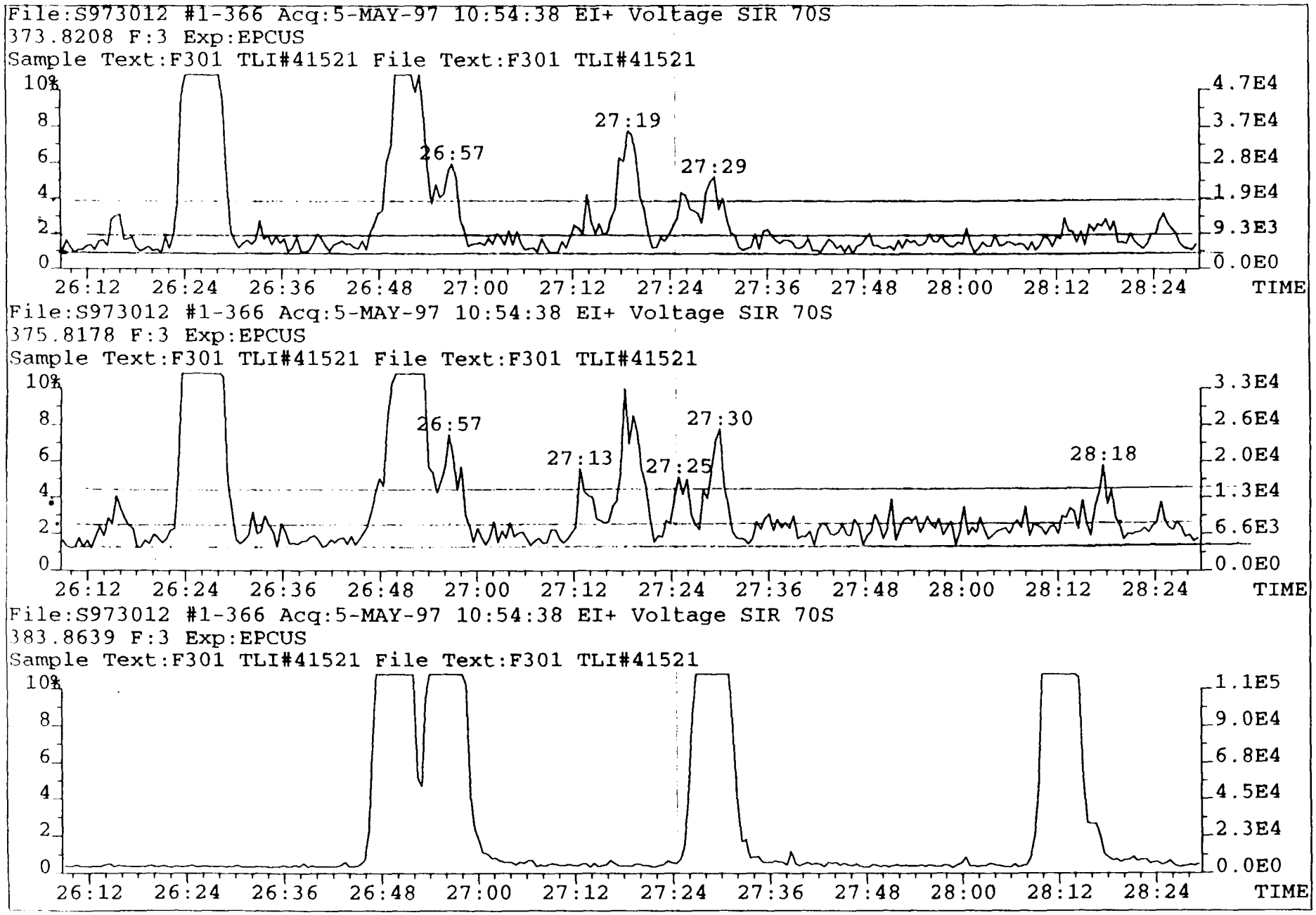


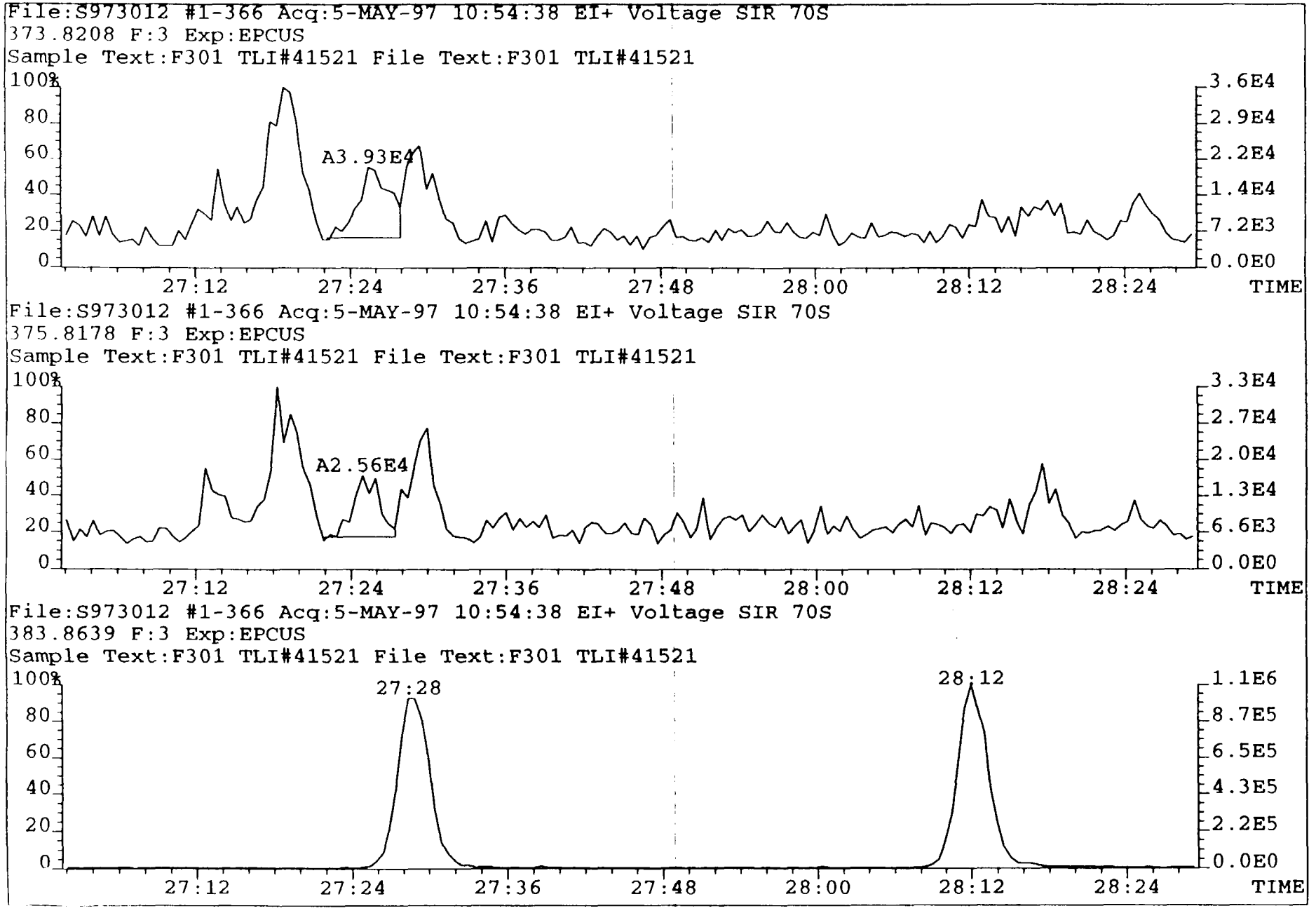
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
357.8516 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



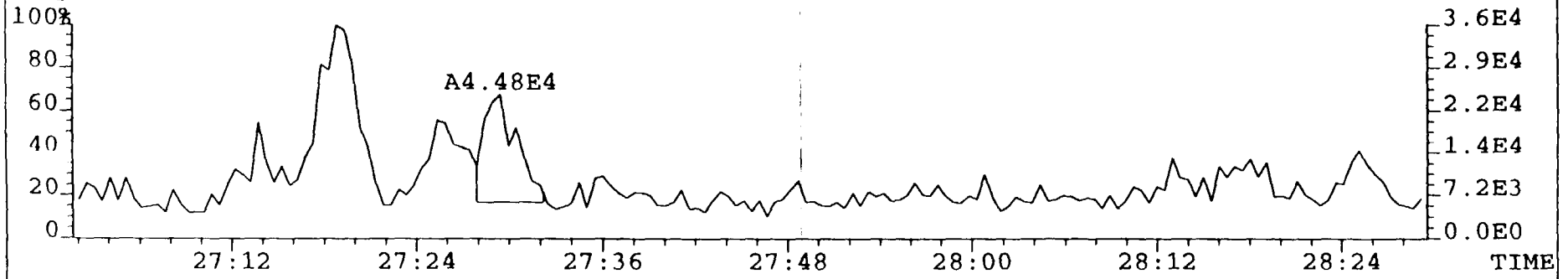
File:S973012 #1-848 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
367.8949 F:2 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



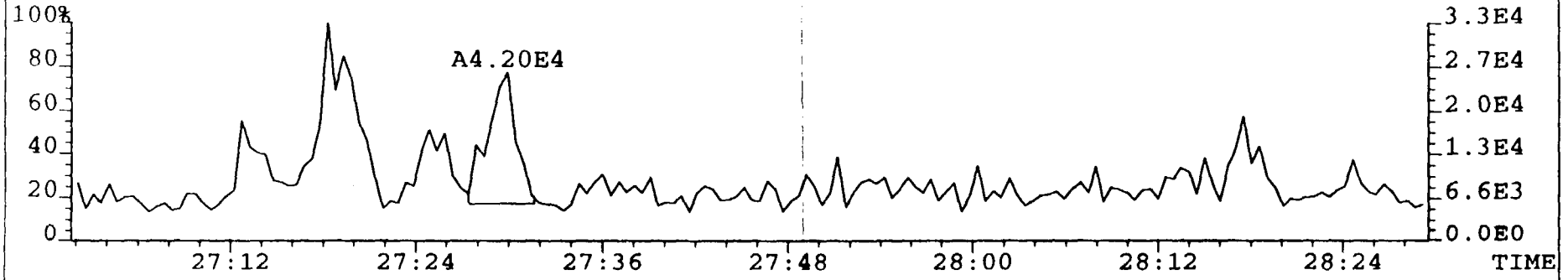

File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
10%
8
6
4
2
0
4.7E4
3.7E4
2.8E4
1.9E4
9.3E3
0.0E0
26:57
27:19
27:29
26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48 28:00 28:12 28:24
TIME
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
10%
8
6
4
2
0
3.3E4
2.6E4
2.0E4
1.3E4
6.6E3
0.0E0
26:57
27:13
27:25
27:30
28:18
26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48 28:00 28:12 28:24
TIME
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
383.8639 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
10%
8
6
4
2
0
1.1E5
9.0E4
6.8E4
4.5E4
2.3E4
0.0E0
26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48 28:00 28:12 28:24
TIME


File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
A3.93E4
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
A2.56E4
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
383.8639 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521
27:28
28:12
100%
80
60
40
20
0
3.6E4
2.9E4
2.2E4
1.4E4
7.2E3
0.0E0
3.3E4
2.7E4
2.0E4
1.3E4
6.6E3
1.1E6
8.7E5
6.5E5
4.3E5
2.2E5
27:12
27:24
27:36
27:48
28:00
28:12
28:24
TIME

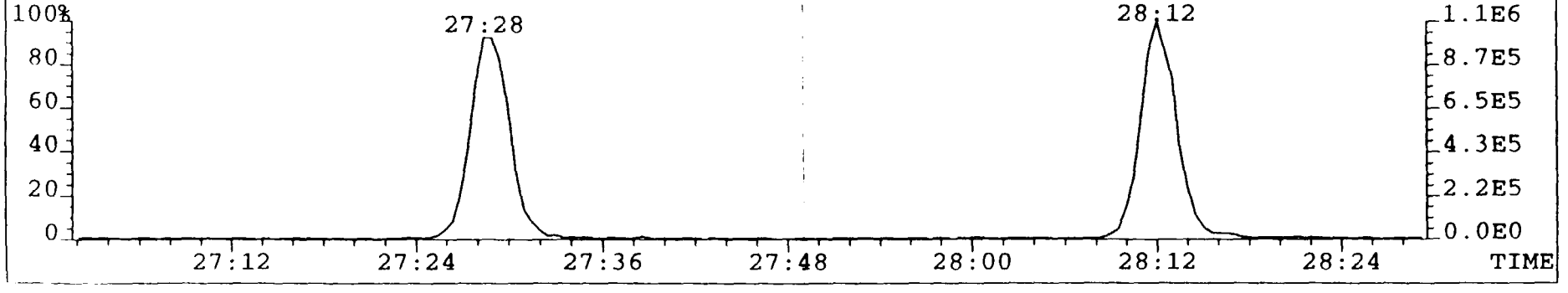
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



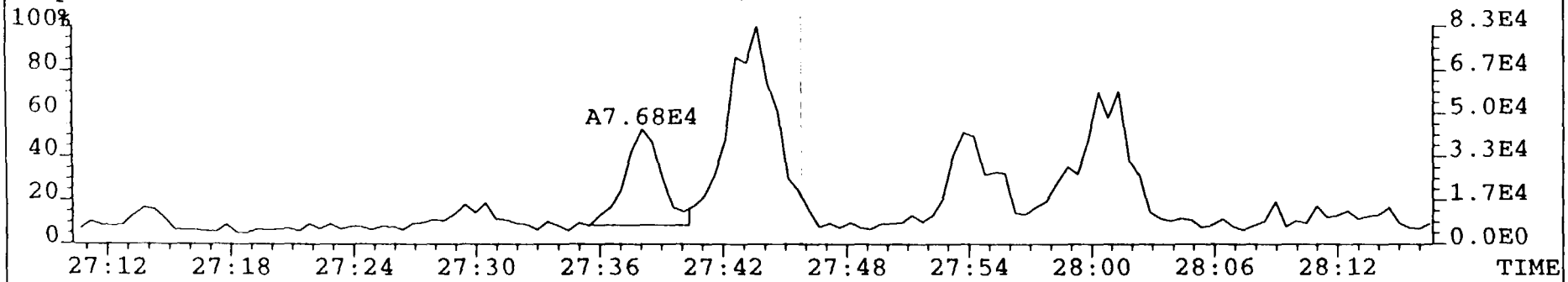
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



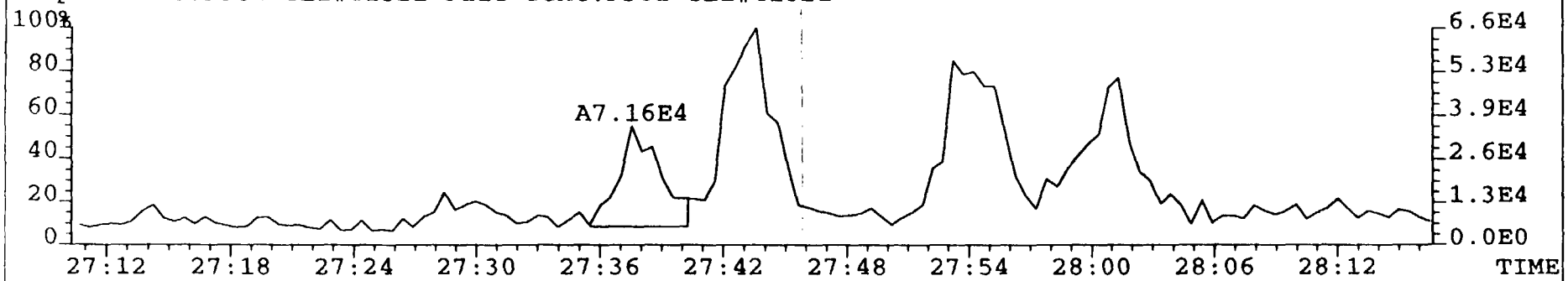
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
383.8639 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



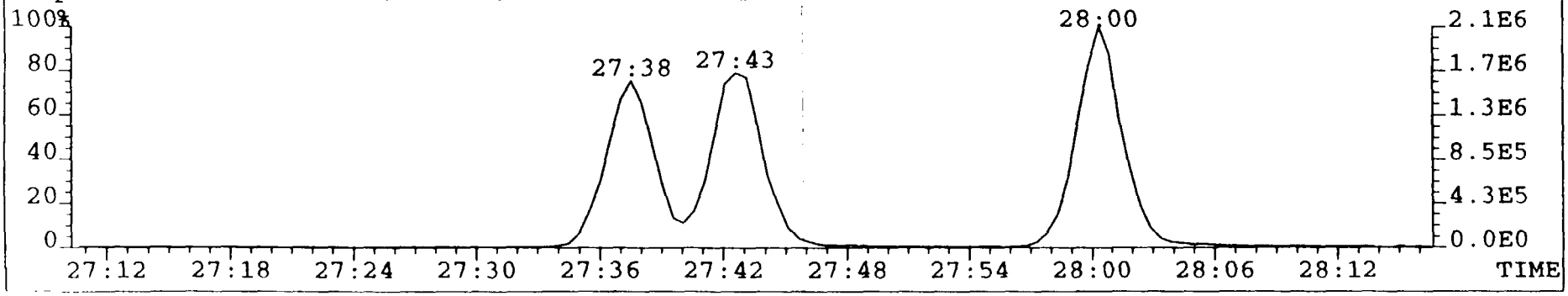
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
389.8156 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



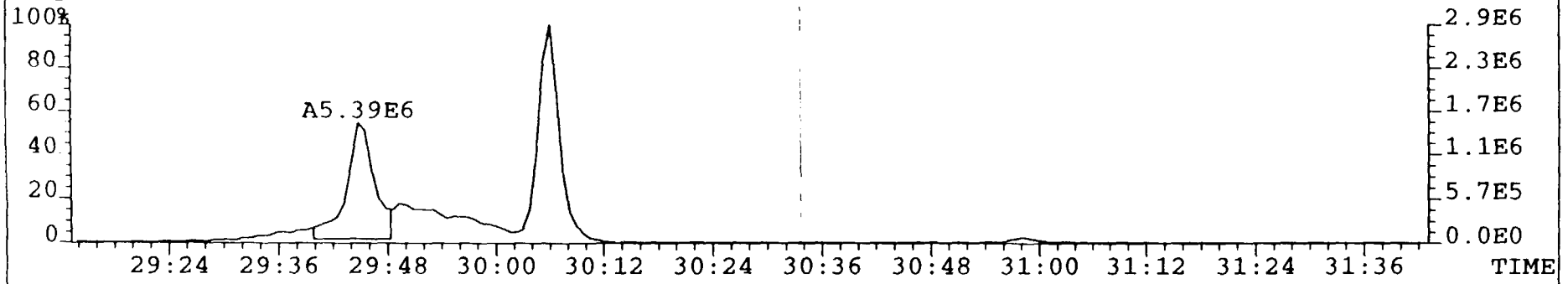
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
391.8127 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



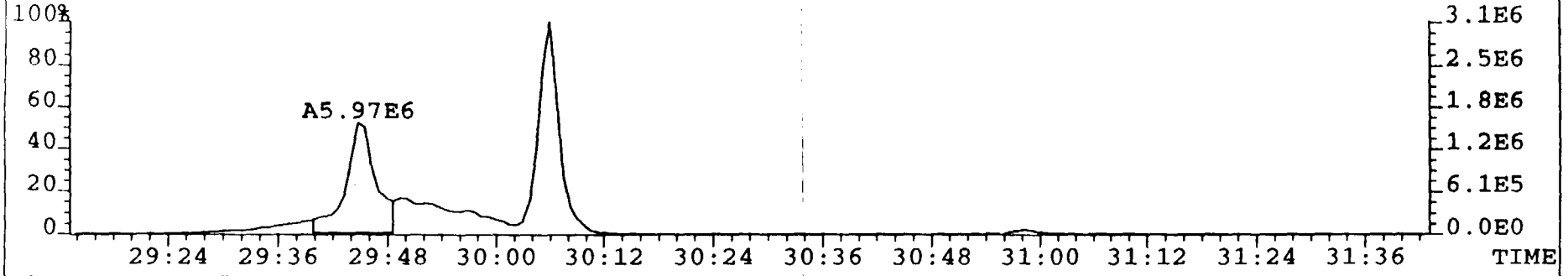
File:S973012 #1-366 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
401.8558 F:3 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



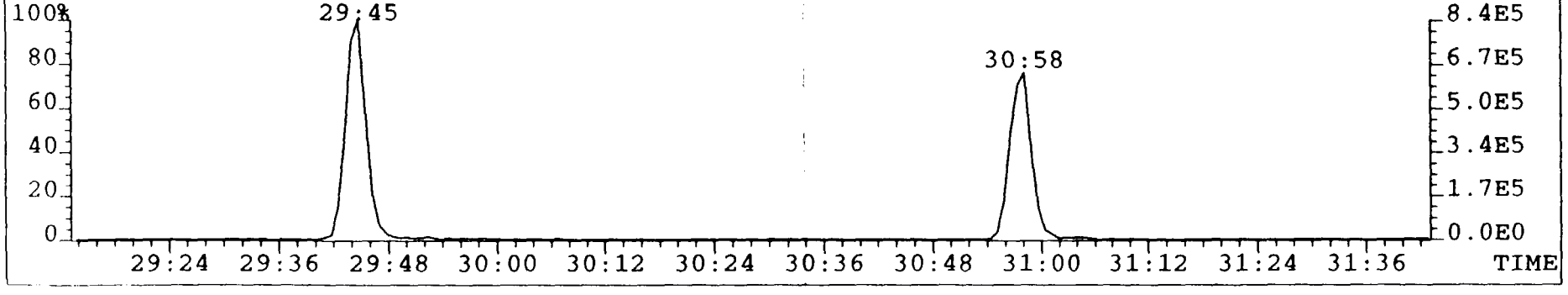
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
407.7818 F:4 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



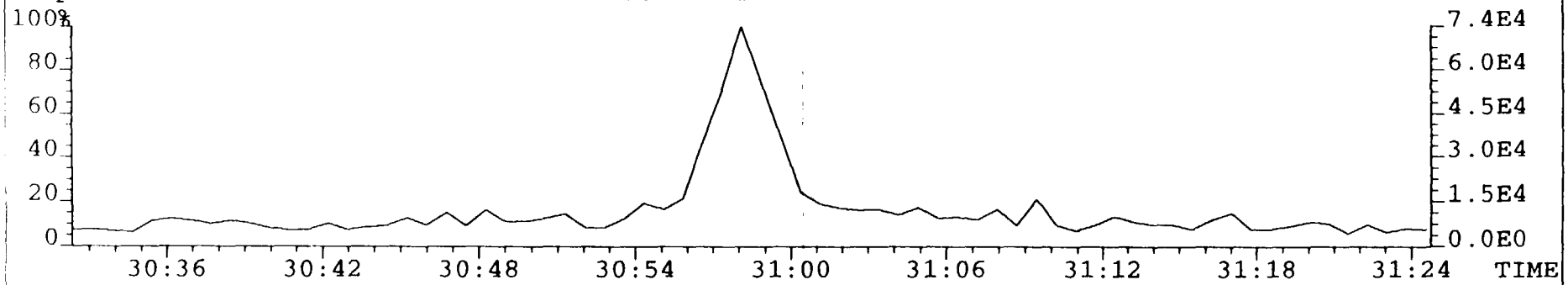
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
409.7789 F:4 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



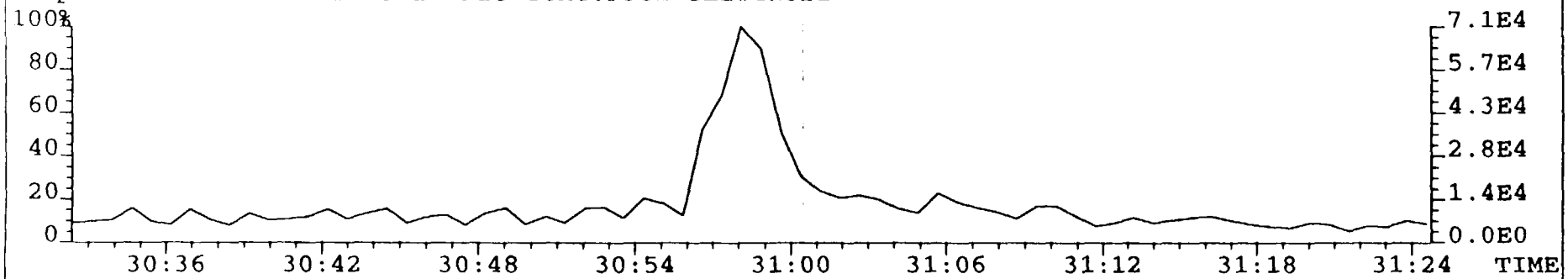
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
417.8253 F:4 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



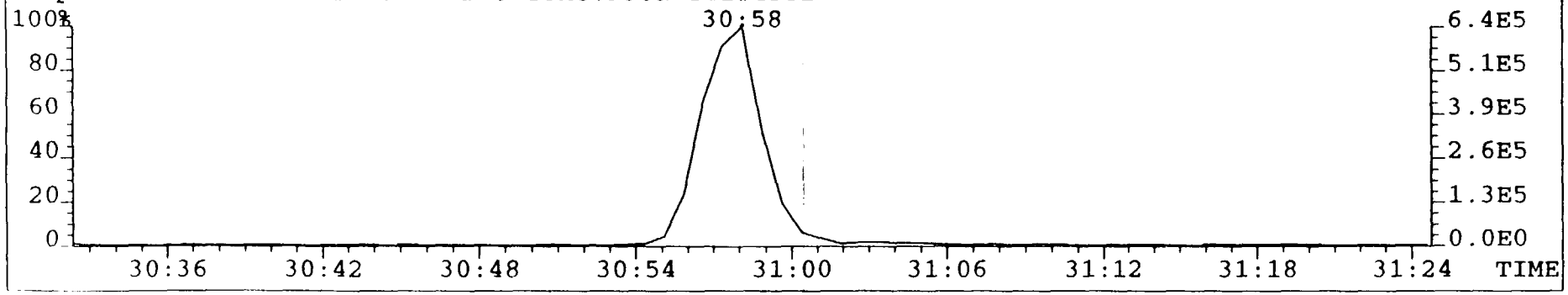
File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
407.7818 F:4 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
409.7789 F:4 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



File:S973012 #1-576 Acq:5-MAY-97 10:54:38 EI+ Voltage SIR 70S
417.8253 F:4 Exp:EPCUS
Sample Text:F301 TLI#41521 File Text:F301 TLI#41521



EIS Environmental & Engineering

TLI Project: **41521** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **F307** Analysis File: **P972260**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SEDIMENT**	Date Received:	**04/23/97**	Spike File:	**SPC2NF2S**
TLI ID:	**165-74-4**	Date Extracted:	**04/27/97**	ICal:	**PF22206**
		Date Analyzed:	**05/08/97**	ConCal:	**P972255**
Sample Size:	**14.430 g**	Dilution Factor:	**n/a**	% Moisture:	**30.8**
Dry Weight:	**9.986 g**	Blank File:	**S972991**	% Lipid:	**n/a**
GC Column:	**DB-225**	Analyst:	**MS**	% Solids:	**69.2**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	1.8			0.79	21:55	PR_

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	86.2	43.1	40%-130%	0.76	21:53	___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78	20:51	___

Data Reviewer: S.A. 05/09/97

C2NF_PSR v2.00, LARS 6.09.01

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
Phone: (919) 544-5729 • Fax: (919) 544-5491

Printed: 00:37 05/09/97

Initial ....Date...

Data Review By: BW 05/09/97 Calculated Noise Area: ~~0.67~~ nle

The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of P972260B.dbf
05/09/97 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDF				0.65-0.89						0.791-1.099			
304-306	DC	NL		0:00	RO	1.35	0.41			0.000			
	DC	SN		17:31	RO	0.32	0.76			0.800			
	DC	SN		17:47	RO	0.33	0.16			0.813			
	DC	SN		18:00	RO	4.78	0.16			0.823			
				18:28	RO	1.02	2.16	1.24	1.22	0.844			
	DC	SN		18:35	RO	0.60	1.45			0.849			
	DC	SN		18:53	RO	1.32	0.55			0.863			
	DC	SN		19:07	RO	0.09	0.21			0.874			
				19:18		0.78	4.79	2.10	2.69	0.882			
				19:28	RO	1.15	2.02	1.31	1.14	0.890			
				19:38		0.83	7.86	3.57	4.29	0.897			
				19:48		0.85	7.86	3.60	4.26	0.905			
				20:06		0.65	6.49	2.55	3.94	0.919			
				20:33		0.85	3.69	1.69	2.00	0.939			
				20:49		0.89	5.09	2.40	2.69	0.951			
				21:01	RO	0.63	2.93	1.27	2.03	0.960			
	DC	SN		21:14	RO	1.42	0.21			0.970			
				21:22		0.88	2.57	1.20	1.37	0.976			
				~~21:35~~	~~RO~~	~~0.61~~	~~4.73~~	~~2.05~~	~~3.38~~	~~0.986~~			
M				21:55		0.79	5.61	2.48	3.13	1.002	2378-TCDF	AN	PR
				22:06		0.85	2.18	1.00	1.18	1.010			
	DC	SN		22:24		0.86	0.95			1.024			
				22:33	RO	0.90	3.64	1.85	2.06	1.030			
	DC	SN		22:49	RO	0.44	0.27			1.043			
				23:15	RO	0.93	1.98	1.04	1.12	1.062			
				23:20		0.77	2.32	1.01	1.31	1.066			
	DC	SN		23:52		0.65	0.33			1.091			
	DC	SN		23:55	RO	0.39	0.34			1.093			
	DC	SN		24:03	RO	1.29	0.30			1.099			
	DC	WH		24:14		0.75	19.48			1.107			
304-306			16	Peaks			65.92						
13C12-TCDF				0.65-0.89						0.954-1.046			
316-318	DC	NL		0:00		0.86	0.67			0.000			
	DC	WL		17:27		0.87	0.28			0.797			
	DC	WL		17:45		0.66	1.11			0.811			
	DC	WL		18:43		0.65	0.33			0.855			
	DC	WL		19:19		0.71	0.36			0.883			
	DC	WL		19:27	RO	0.42	0.58			0.889			
	DC	WL		20:32		0.69	3.63			0.938			
	DC	WL		20:48	RO	0.62	0.87			0.950			
	DC	WL		20:52	RO	0.43	0.92			0.954			
				21:53		0.76	584.01	252.62	331.39	1.000	13C12-2378-TCDF	ISO	

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		22:04	RO	0.42	0.41			1.008			
	DC	SN		22:20	RO	1.43	0.41			1.021			
				22:30		0.75	2.69	1.15	1.54	1.028			
	DC	SN		22:46	RO	0.90	0.35			1.040			
	DC	WH		23:14	RO	2.82	0.39			1.062			
	DC	WH		23:30	RO	3.00	0.18			1.074			
	DC	WH		23:35	RO	0.35	0.39			1.078			
	DC	WH		23:55	RO	2.61	1.75			1.093			
	DC	WH		24:12	RO	1.71	0.50			1.106			
316-318			2 Peaks				586.70						

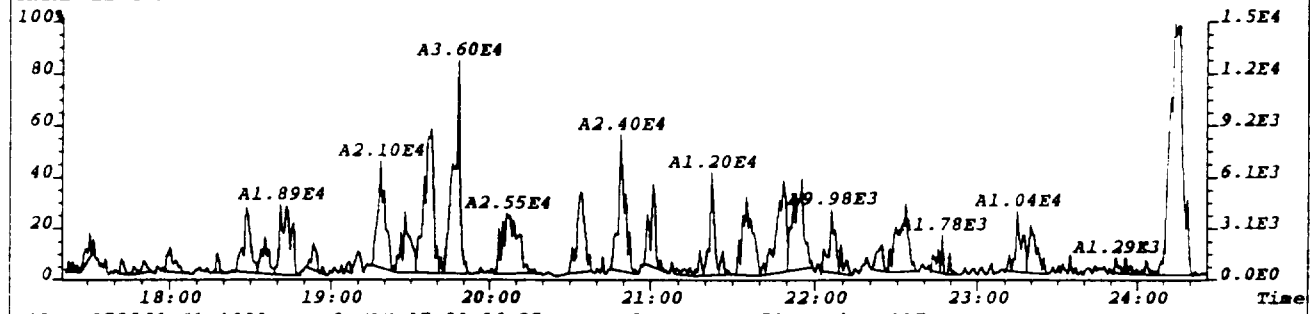
---------- Above: TCDF / TCDD Follows ----------

13C12-TCDD						0.65-0.89				0.903-1.097			
332-334	DC	NL		0:00	RO	2.35	0.60			0.000			
	DC	SN		19:31	RO	0.48	1.73			0.947			
				20:36		0.76	461.94	199.62	262.32	1.000	13C12-2378-TCDD	IS1	
				20:51		0.78	977.07	429.09	547.98	1.012	13C12-1234-TCDD	RS1	
				21:34		0.81	5.65	2.52	3.13	1.047			
332-334			3 Peaks				1,444.66						

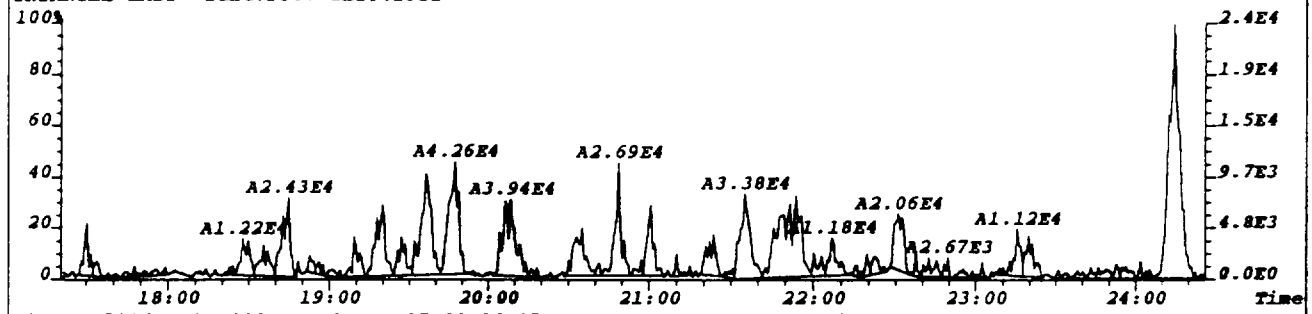
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P Noise:155
303.9016 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,620.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P Noise:117
305.8987 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,468.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



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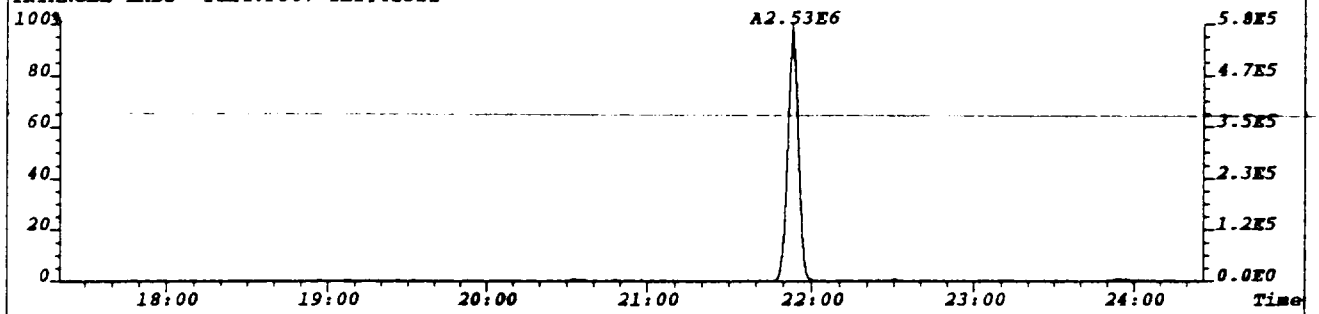
315.9419 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,612.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



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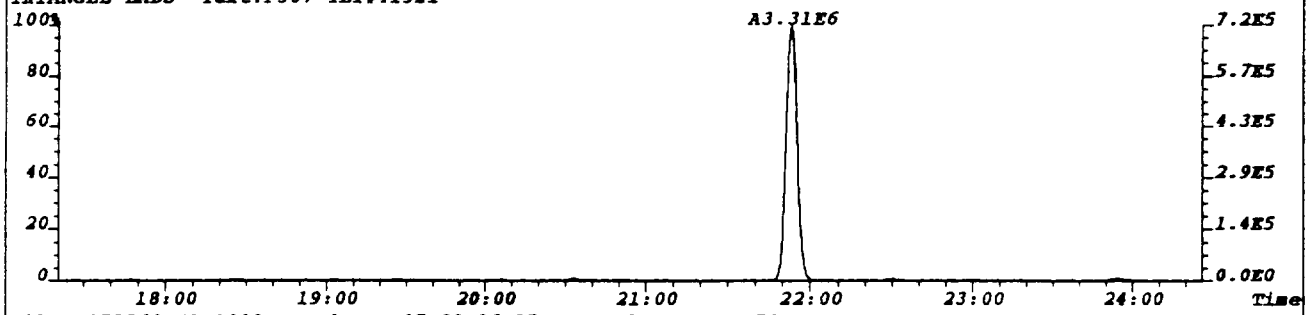
317.9389 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,720.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



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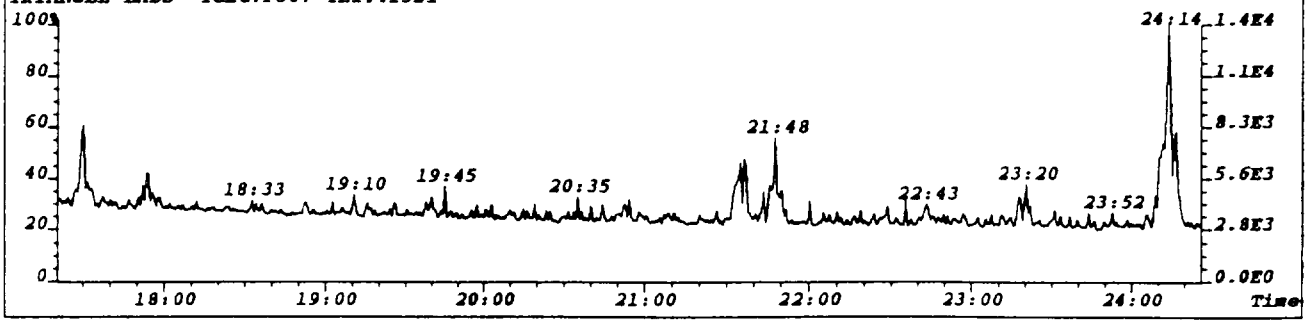
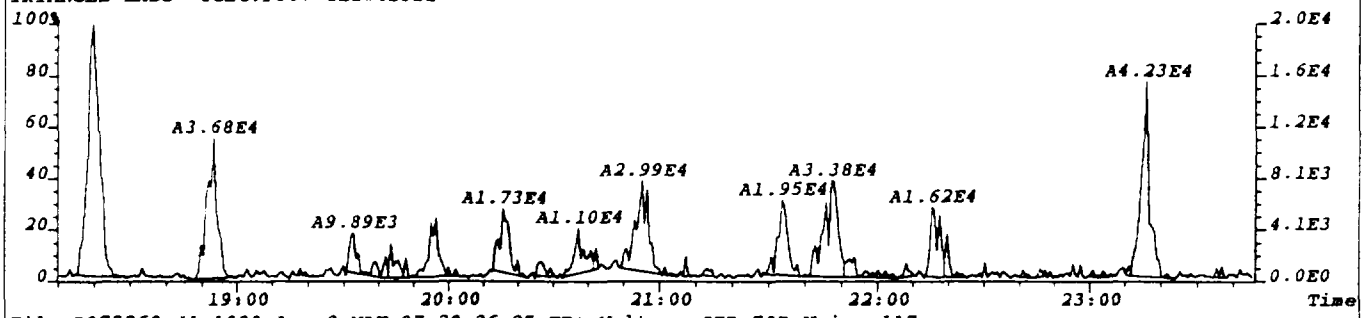
375.8364 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P Noise:139
319.8965 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,556.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



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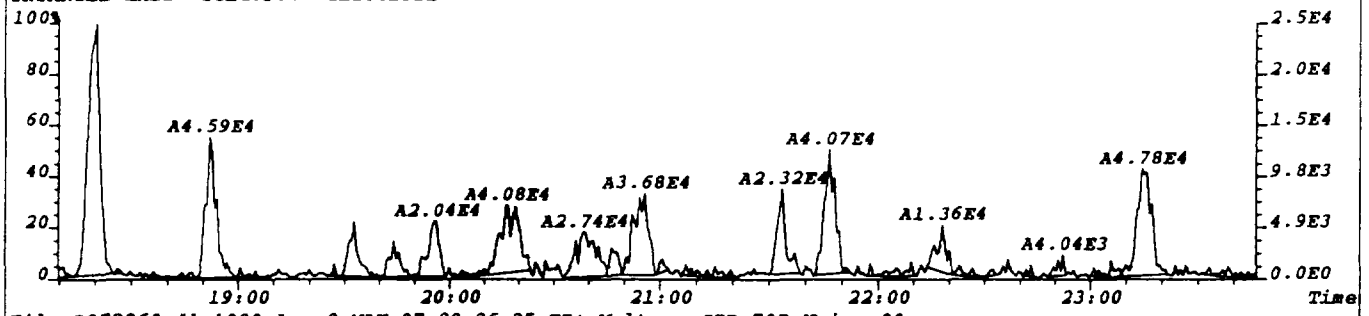
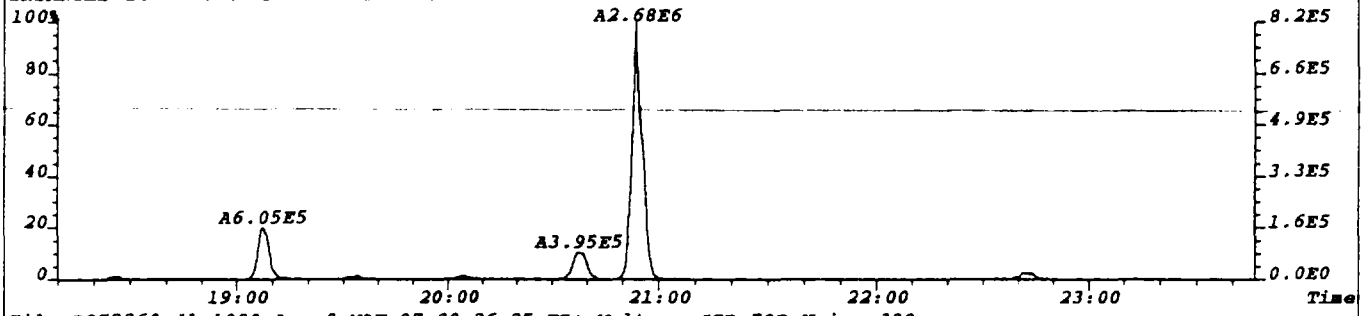
321.8936 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,468.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P Noise:80
327.8847 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,320.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P Noise:399
331.9368 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1596.0,0.00%,F,F) Exp:DB225
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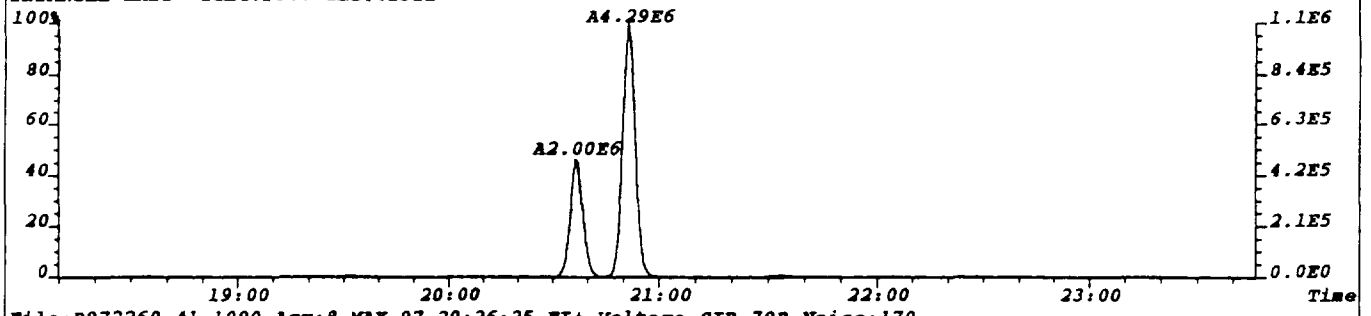
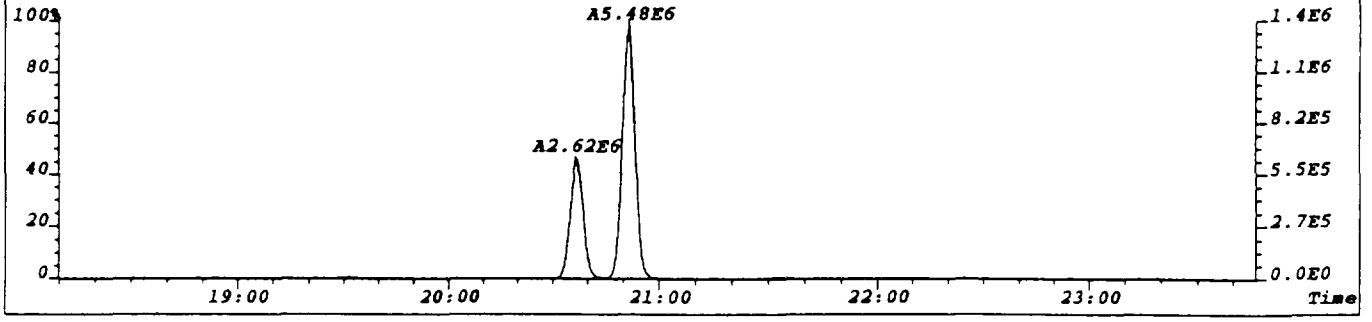
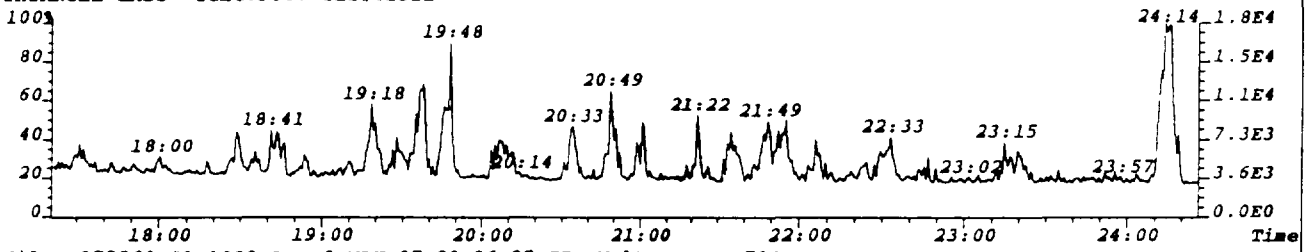


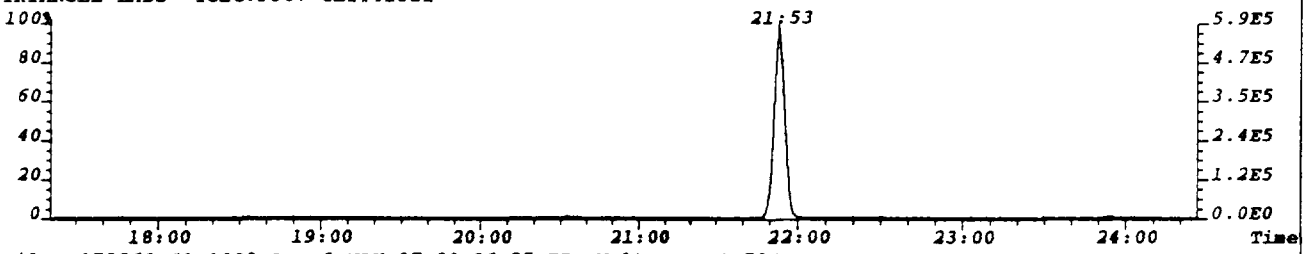
File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P Noise:170
333.9338 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,680.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
303.9016 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
315.9419 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



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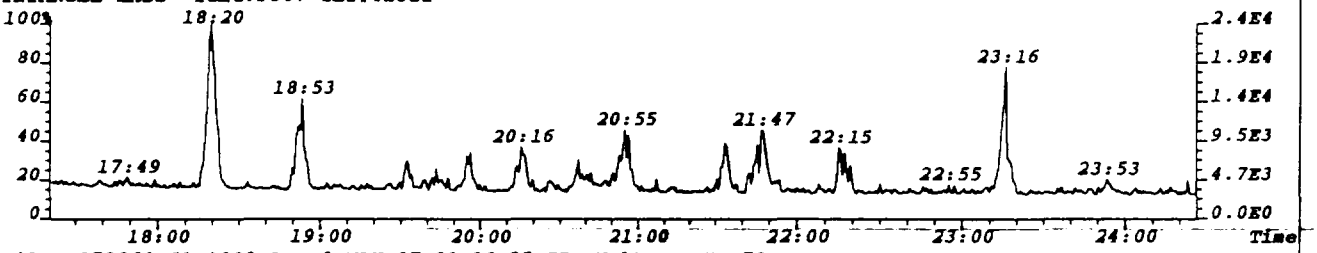
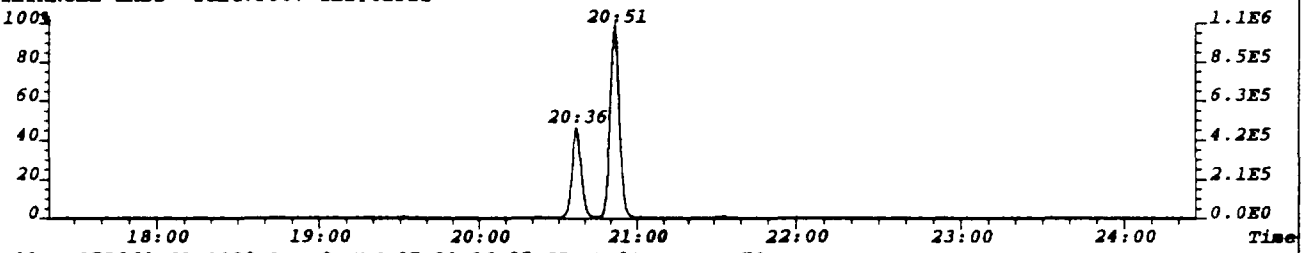
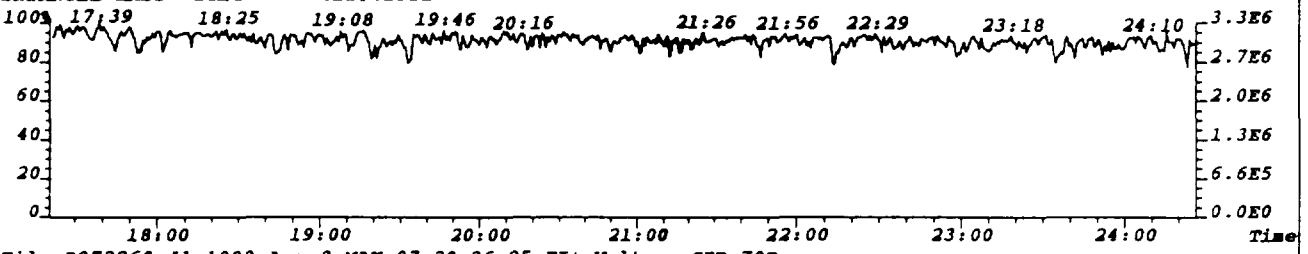
319.8965 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



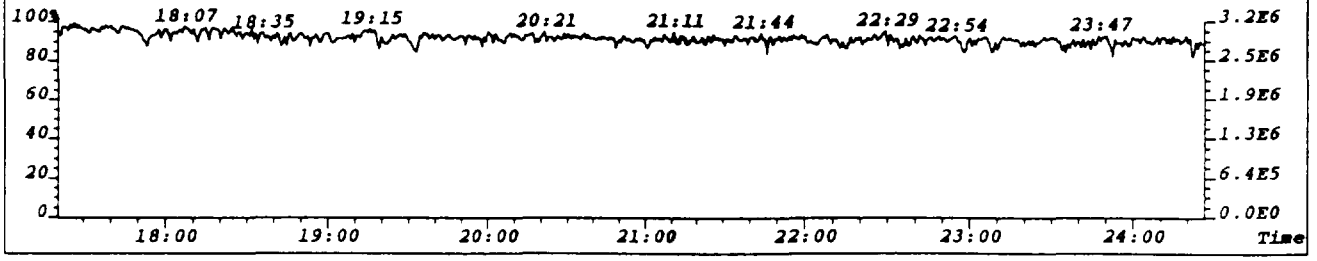
File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
331.9368 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521

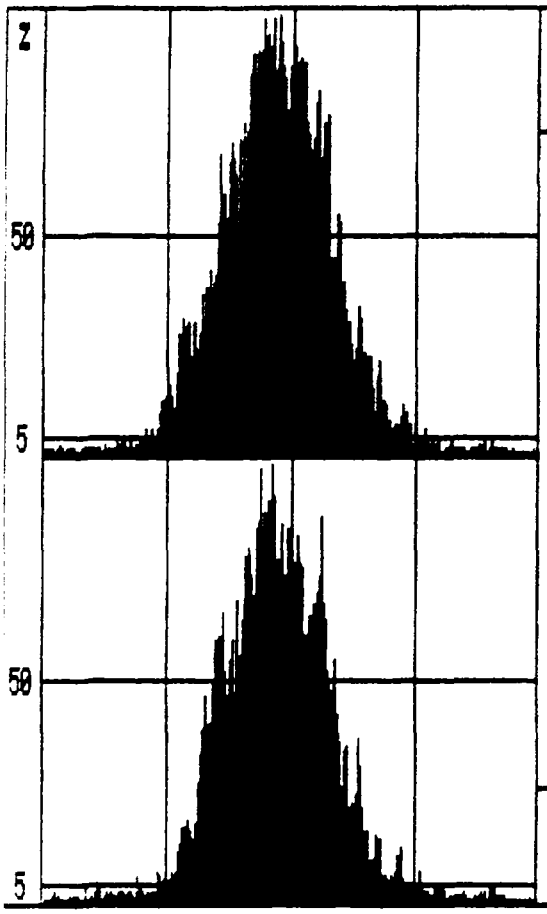


File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
292.9825 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
330.9792 Exp:DB225
TRIANGLE LABS Text:F307 TLI#41521





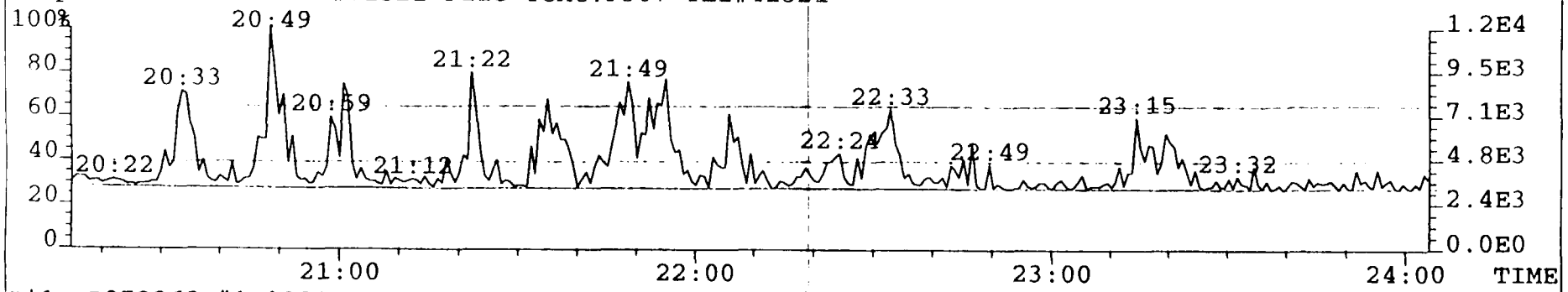
Ref. mass 292.9825 Peak top
Height .66 volts Span 200 ppm

System file name	D8225
Data file name	A:P972260
Resolution	10000
Group number	1
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 380.9761

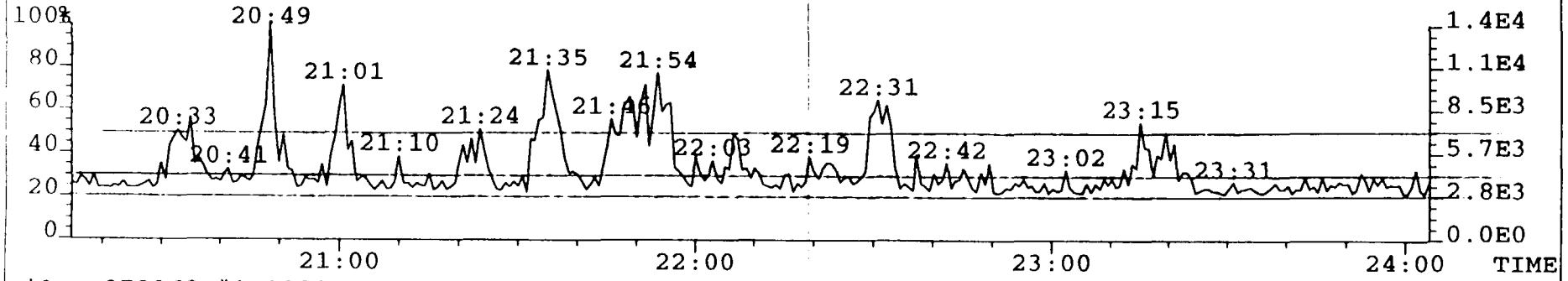
A	292.9825	J	330.9792
B	303.9016	K	331.9368
C	305.8987	L	333.9338
D	315.9419	M	375.8364
E	317.9389		
F	319.8965		
G	321.8936		
H	327.8847		
I	330.9792		

Channel I 330.9792 Peak top
Height .66 volts Span 200 ppm

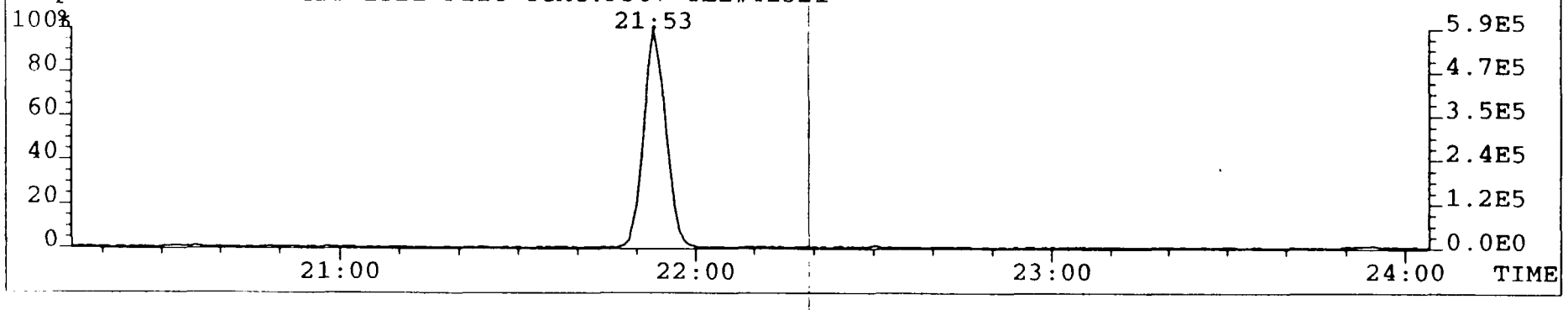
File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
303.9016 Exp:DB225
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



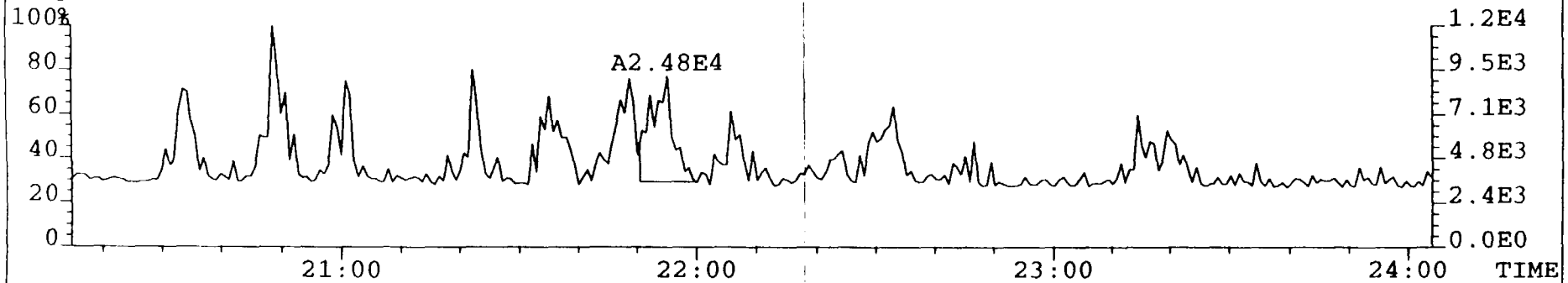
File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
305.8987 Exp:DB225
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
315.9419 Exp:DB225
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
303.9016 Exp:DB225
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



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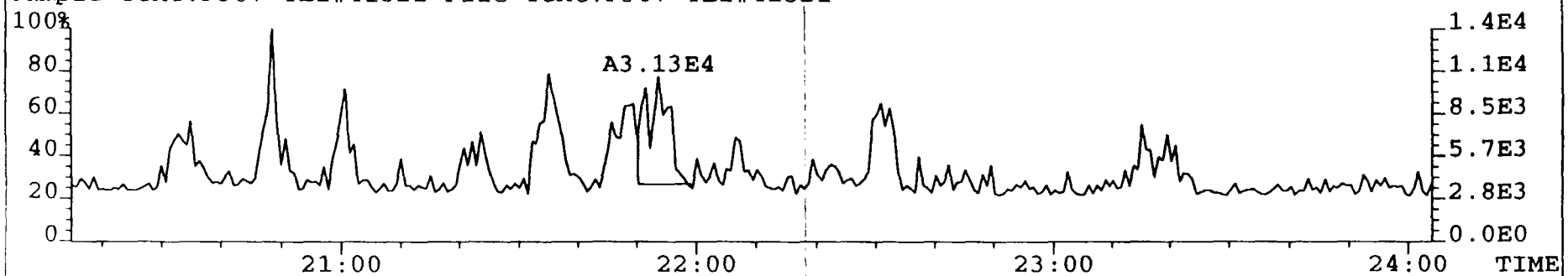
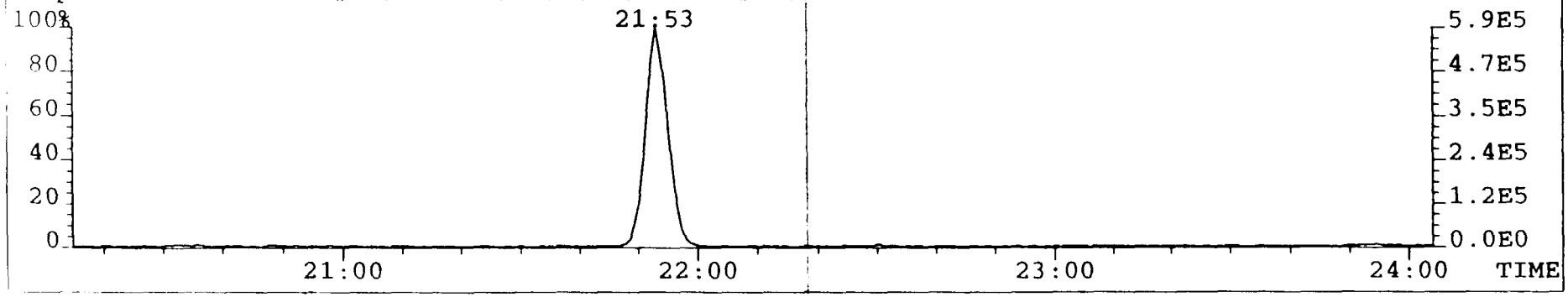
305.8987 Exp:DB225
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



File:P972260 #1-1090 Acq:8-MAY-97 20:26:25 EI+ Voltage SIR 70P
315.9419 Exp:DB225
Sample Text:F307 TLI#41521 File Text:F307 TLI#41521



EIS Environmental & Engineering

TLI Project: **41521** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **TLI Sediment Blank** Analysis File: **S972991**

Client Project:	**Dioxins/Furans**				
Sample Matrix:	**SAND**	Date Received:	/ /	Spike File:	**SPX2372S**
TLI ID:	**TLI Blank**	Date Extracted:	**04/27/97**	ICal:	**SF52067**
		Date Analyzed:	**05/04/97**	ConCal:	**S972990**
Sample Size:	**10.010 g**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**S972991**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**KAS**	% Solids:	**n/a**

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.9				—
1,2,3,7,8-PeCDD	ND	1.5				—
1,2,3,4,7,8-HxCDD	ND	2.4				—
1,2,3,6,7,8-HxCDD	ND	1.8				—
1,2,3,7,8,9-HxCDD	ND	2.1				—
1,2,3,4,6,7,8-HpCDD	ND	2.5				—
1,2,3,4,6,7,8,9-OCDD	4.0			0.90	33:03	—
2,3,7,8-TCDF	ND	0.7				—
1,2,3,7,8-PeCDF	ND	1.2				—
2,3,4,7,8-PeCDF	ND	1.2				—
1,2,3,4,7,8-HxCDF	ND	1.5				—
1,2,3,6,7,8-HxCDF	ND	1.1				—
2,3,4,6,7,8-HxCDF	ND	1.6				—
1,2,3,7,8,9-HxCDF	ND	1.8				—
1,2,3,4,6,7,8-HpCDF	ND	1.9				—
1,2,3,4,7,8,9-HpCDF	ND	2.4				—
1,2,3,4,6,7,8,9-OCDF	ND	2.5				—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		0.9		—
Total PeCDD	ND		1.5		—
Total HxCDD	ND		2.1		—
Total HpCDD	ND		2.5		—
Total TCDF	ND		0.7		—
Total PeCDF	ND		1.2		—
Total HxCDF	ND		1.5		—
Total HpCDF	ND		2.1		—

X237_PSR v2.00, LARS 6.09.01

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Printed: 00:18 05/09/97

TLI Project: **41521** Method 8290 PCDD/PCDF Analysis (b)

Client Sample: **TLI Sediment Blank** Analysis File: **S972991**

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	150	75.2	40%-130%	0.74	17:57	___
$^{13}C_{12}$-2,3,7,8-TCDD	130	64.9	40%-130%	0.68	18:56	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	104	52.1	40%-130%	1.27	22:57	RO___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	131	65.8	40%-130%	1.34	24:11	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	143	71.7	40%-130%	0.48	26:57	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	151	75.7	40%-130%	1.24	27:44	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	141	70.7	25%-130%	0.42	29:46	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	168	83.8	25%-130%	0.97	30:38	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	293	73.3	25%-130%	0.90	33:02	___

Surrogate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	12.1	60.4	40%-130%		18:58	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	111	55.4	40%-130%	1.30	23:46	RO___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	157	78.5	40%-130%	0.46	26:51	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	159	79.8	40%-130%	1.21	27:39	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	145	72.6	25%-130%	0.44	30:58	___

Alternate Standards (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	150	75.0	40%-130%	0.45	28:13	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	146	73.1	40%-130%	0.47	27:29	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.71	18:40	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	28:01	___

Data Reviewer: S. A. [illegible] 05/09/97

X237_PSR v2.00, LARS 6.09.01

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Printed: 00:18 05/09/97

Initial ....Date...

Data Review By: BM 05/09/97 Calculated Noise Area: 1.28

The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of S972991B.dbf
05/09/97 Matched GC Peaks / Ratio / Ret. Time

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDF				0.65-0.89						0.819-1.136			
304-306	DC	NL		0:00	RO	0.59	0.60			0.000			
	DC	SN		15:17	RO	0.44	1.00			0.851			
	DC	SN		15:33	RO	1.05	1.04			0.866			
	DC	SN		16:49	RO	1.00	1.36			0.937			
	DC	SN		18:31		0.80	1.55			1.032			
	DC	SN		19:39	RO	1.17	0.73			1.095			
304-306			0	Peaks			0.00						
13C12-TCDF				0.65-0.89						0.944-1.056			
316-318	DC	NL		0:00	RO	0.08	0.44			0.000			
				17:29	RO	0.41	5.63	2.43	5.99	0.974			
				17:57		0.74	839.62	357.56	482.06	1.000	13C12-2378-TCDF	ISO	
	DC	SN		18:51	RO	1.40	0.85			1.050			
316-318			2	Peaks			845.25						

---------- Above: TCDF / TCDD Follows ----------

TCDD				0.65-0.89						0.837-1.077			
320-322	DC	NL		0:00	RO	1.06	0.28			0.000			
	DC	SN		16:00	RO	2.67	0.32			0.845			
	DC	SN		16:35	RO	2.88	0.30			0.876			
	DC	SN		16:44	RO	0.93	0.53			0.884			
	DC	SN		17:10		0.73	0.38			0.907			
	DC	SN		17:20	RO	0.29	0.42			0.915			
	DC	SN		17:55	RO	5.32	0.73			0.946			
	DC	SN		18:41	RO	3.46	0.69			0.987			
	DC	SN		18:53	RO	0.50	0.64			0.997			
	DC	SN		18:59		0.75	0.77			1.003			
	DC	SN		19:17		0.85	0.85			1.018			
	DC	SN		19:27		0.71	0.72			1.027			
	DC	SN		19:44	RO	3.43	0.25			1.042			
	DC	SN		19:53	RO	3.94	0.28			1.050			
	DC	WH		20:46		0.89	1.17			1.097			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.894-1.106			
328	DC	NL		0:00			0.19			0.000			
	DC	WL		15:54			0.11			0.840			
	DC	WL		16:01			0.48			0.846			
	DC	WL		16:10			0.49			0.854			
	DC	WL		16:19			0.24			0.862			
	DC	WL		16:27			1.15			0.869			
	DC	WL		16:39			0.44			0.879			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	WL		16:50			0.57			0.889			
	DC	WL		16:55			0.20			0.893			
	DC	SN		16:57			0.18			0.895			
				17:16			2.67	2.67		0.912			
	DC	SN		17:28			0.32			0.923			
	DC	SN		17:32			0.15			0.926			
	DC	SN		17:36			0.19			0.930			
	DC	SN		17:41			0.19			0.934			
	DC	SN		17:49			0.18			0.941			
	DC	SN		17:52			0.15			0.944			
	DC	SN		17:56			0.60			0.947			
	DC	SN		18:13			0.29			0.962			
	DC	SN		18:13			0.08			0.962			
	DC	SN		18:15			0.31			0.964			
	DC	SN		18:32			0.56			0.979			
	DC	SN		18:40			0.87			0.986			
				18:58			51.73	51.73		1.002	37Cl-TCDD	SUR1	
	DC	SN		19:12			0.31			1.014			
	DC	SN		19:16			0.55			1.018			
	DC	SN		19:24			0.09			1.025			
	DC	SN		19:24			0.09			1.025			
	DC	SN		19:34			0.69			1.033			
	DC	SN		19:40			0.29			1.039			
	DC	SN		19:46			0.66			1.044			
	DC	SN		19:57			0.20			1.054			
	DC	SN		20:02			0.63			1.058			
	DC	SN		20:16			0.84			1.070			
	DC	SN		20:23			0.18			1.077			
	DC	SN		20:26			0.04			1.079			
	DC	SN		20:28			0.32			1.081			
	DC	SN		20:36			0.29			1.088			
	DC	SN		20:45			0.46			1.096			
328			2	Peaks			54.40						
13C12-TCDD					0.65-0.89					0.894-1.106			
332-334	DC	NL		0:00	RO	11.14	0.51			0.000			
	DC	WL		16:39	RO	1.74	0.74			0.879			
				17:25	RO	1.60	2.93	2.65	1.66	0.920			
	DC	SN		17:56	RO	4.31	0.97			0.947			
	DC	SN		18:16	RO	4.17	1.12			0.965			
				18:40		0.71	776.05	321.70	454.35	0.986	13C12-1234-TCDD	RS1	
				18:56		0.68	568.94	230.62	338.32	1.000	13C12-2378-TCDD	IS1	
				19:22	RO	0.95	11.71	6.27	6.63	1.023			
	DC	SN		19:52	RO	10.00	0.57			1.049			
	DC	SN		20:08	RO	6.33	0.64			1.063			
	DC	SN		20:16	RO	2.09	0.57			1.070			
332-334			4	Peaks			1,359.63						

---------- Above: TCDD / PeCDF Follows ----------

PeCDF					1.32-1.78					0.890-1.090			
340-342	DC	NL		0:00	RO	0.41	0.28			0.000			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		20:36		1.37	1.80			0.898			
	DC	SN		20:59	RO	1.05	0.67			0.914			
	DC	SN		21:14	RO	0.41	0.30			0.925			
	DC	SN		21:22	RO	0.93	0.66			0.931			
	DC	SN		21:29	RO	0.54	0.33			0.936			
	DC	SN		22:34	RO	0.17	0.35			0.983			
	DC	SN		23:02	RO	0.36	0.28			1.004			
	DC	SN		23:17	RO	0.66	0.54			1.015			
	DC	SN		23:28	RO	0.42	0.38			1.023			
	DC	SN		23:48	RO	1.05	0.97			1.037	23478-PeCDF		AN
	DC	SN		24:51	RO	0.53	0.33			1.083			
	DC	WH		25:13	RO	0.82	0.44			1.099			
340-342		0	Peaks				0.00						
13C12-PeCDF				1.32-1.78						0.826-1.174			
352-354	DC	NL		0:00	RO	1.13	0.30			0.000			
				21:55	RO	0.80	6.17	3.76	4.68	0.955			
				22:31	RO	0.96	3.33	2.02	2.11	0.981			
				22:57	RO	1.27	482.60	293.78	230.55	1.000	13C12-PeCDF 123	IS2	
				23:17	RO	1.07	4.99	3.03	2.84	1.015			
	DC	SN		23:27	RO	0.98	0.68			1.022			
				23:46	RO	1.30	489.49	297.62	228.78	1.036	13C12-PeCDF 234	SUR2	
	DC	SN		24:02	RO	1.00	0.90			1.047			
	DC	SN		24:58	RO	1.00	0.43			1.088			
352-354		5	Peaks				986.58						

---------- Above: PeCDF / PeCDD Follows ----------

PeCDD				1.32-1.78						0.908-1.029			
356-358	DC	NL		0:00	RO	2.19	0.41			0.000			
	DC	SN		22:07	RO	0.25	0.48			0.915			
	DC	SN		22:43	RO	0.41	0.69			0.939			
	DC	SN		22:55	RO	3.57	0.89			0.948			
	DC	SN		23:03	RO	2.33	0.46			0.953			
	DC	SN		23:26	RO	2.67	1.07			0.969			
	DC	SN		23:56	RO	11.38	0.20			0.990			
	DC	SN		24:21	RO	4.21	1.07			1.007			
	DC	SN		24:29		1.39	1.53			1.012			
	DC	SN		24:38	RO	2.69	0.33			1.019			
	DC	SN		24:44	RO	0.61	0.49			1.023			
	DC	WH		24:54	RO	2.41	0.43			1.030			
	DC	WH		25:09	RO	1.11	0.33			1.040			
356-358		0	Peaks				0.00						
13C12-PeCDD				1.32-1.78						0.835-1.165			
368-370	DC	NL		0:00	RO	1.28	0.38			0.000			
	DC	SN		22:01	RO	0.22	0.24			0.910			
	DC	SN		22:57		1.38	1.31			0.949			
	DC	SN		23:04	RO	1.18	1.10			0.954			
	DC	SN		23:30	RO	2.91	0.82			0.972			
	DC	SN		23:54		1.58	0.98			0.988			
				24:11		1.34	330.27	189.37	140.90	1.000	13C12-PeCDD 123	IS3	

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				24:21		1.66	28.29	17.65	10.64	1.007			
	DC	SN		24:42	RO	4.26	0.97			1.021			
368-370			2	Peaks			358.56						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.952-1.056			
374-376	DC	NL		0:00	RO	0.94	0.27			0.000			
	DC	SN		25:42	RO	1.94	0.40			0.954			
	DC	SN		26:01	RO	1.93	0.31			0.965			
	DC	SN		26:07	RO	0.80	0.22			0.969			
	DC	SN		26:12	RO	2.00	0.09			0.972			
	DC	SN		26:31	RO	3.64	0.25			0.984			
	DC	SN		26:37		1.22	0.20			0.988			
	DC	SN		26:44		1.29	0.16			0.992			
	DC	SN		26:50	RO	1.58	0.43			0.996	123478-HxCDF		AN
	DC	SN		26:53	RO	0.76	0.29			0.998			
	DC	SN		27:02	RO	0.71	0.44			1.003			
	DC	SN		27:07	RO	0.19	0.11			1.006			
	DC	SN		27:19	RO	0.69	0.36			1.014			
	DC	SN		27:31	RO	1.51	1.45			1.021	234678-HxCDF		AN
	DC	SN		27:38	RO	0.64	0.16			1.025			
	DC	SN		27:52	RO	2.00	0.27			1.034			
	DC	SN		28:01	RO	0.23	0.18			1.040			
	DC	SN		28:08		1.31	0.67			1.044			
	DC	SN		28:15	RO	0.66	0.38			1.048	123789-HxCDF		AN
	DC	SN		28:28	RO	0.63	0.22			1.056			
	DC	WH		28:40		1.38	0.38			1.064			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.852-1.148			
384-386	DC	NL		0:00		0.55	0.87			0.000			
	DC	SN		25:49		0.49	3.69			0.958			
				25:57		0.49	5.17	1.70	3.47	0.963			
	DC	SN		26:35	RO	0.12	0.18			0.986			
				26:51		0.46	393.92	124.45	269.47	0.996	13C12-HxCDF 478		SUR3
				26:57		0.48	412.82	133.28	279.54	1.000	13C12-HxCDF 678		IS4
	DC	SN		27:08	RO	0.42	1.10			1.007			
				27:29		0.47	348.09	110.84	237.25	1.020	13C12-HxCDF 234		ALT2
	DC	SN		27:41	RO	1.00	0.65			1.027			
	DC	SN		27:44		0.53	1.10			1.029			
	DC	SN		27:50	RO	0.07	0.36			1.033			
				28:13		0.45	314.68	98.31	216.37	1.047	13C12-HxCDF 789		ALT1
	DC	SN		28:26	RO	4.06	0.26			1.055			
384-386			5	Peaks			1,474.68						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD				1.05-1.43						0.945-1.015			
390-392	DC	NL		0:00		1.25	0.27			0.000			
	DC	SN		26:16	RO	0.62	0.32			0.947			
	DC	SN		26:23	RO	1.93	0.34			0.951			

Compound/ M_3....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		26:30	RO	0.38	0.14			0.956			
	DC	SN		26:36	RO	0.36	0.27			0.959			
	DC	SN		26:41	RO	0.79	0.40			0.962			
	DC	SN		26:50	RO	0.57	0.77			0.968			
	DC	SN		26:58	RO	3.10	0.65			0.972			
	DC	SN		27:12	RO	5.38	0.18			0.981			
	DC	SN		27:17	RO	0.24	0.22			0.984			
	DC	SN		27:27	RO	0.44	0.25			0.990			
	DC	SN		27:45	RO	1.00	0.22			1.001	123678-HxCDD	AN	
	DC	SN		27:59	RO	2.13	0.36			1.009			
	DC	SN		28:03	RO	0.90	0.33			1.011	123789-HxCDD	AN	
	DC	SN		28:06	RO	0.26	0.29			1.013			
	DC	WH		28:15	RO	0.73	0.34			1.019			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.964-1.036			
402-404	DC	NL		0:00	RO	0.72	0.47			0.000			
	DC	WL		26:20	RO	1.72	0.56			0.950			
	DC	WL		26:27	RO	0.65	0.47			0.954			
	DC	WL		26:31	RO	0.60	0.54			0.956			
	DC	WL		26:42	RO	0.31	0.35			0.963			
	DC	SN		26:50	RO	0.47	0.27			0.968			
	DC	SN		26:57	RO	0.54	0.58			0.972			
	DC	SN		27:02	RO	0.19	0.27			0.975			
	DC	SN		27:06		1.05	2.54			0.977			
	DC	SN		27:20	RO	0.30	0.38			0.986			
	DC	SN		27:24	RO	0.15	0.16			0.988			
				27:39		1.21	288.46	158.16	130.30	0.997	13C12-HxCDD 478	SUR4	
				27:44		1.24	328.58	181.93	146.65	1.000	13C12-HxCDD 678	IS5	
				28:01		1.26	395.98	220.54	175.44	1.010	13C12-HxCDD 789	RS2	
	DC	SN		28:11		1.19	2.32			1.016			
	DC	SN		28:18	RO	0.67	0.69			1.020			
	DC	SN		28:23		1.41	0.77			1.023			
	DC	SN		28:29	RO	0.24	0.18			1.027			
402-404			3	Peaks			1,013.02						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF				0.88-1.20						0.995-1.047			
408-410	DC	NL		0:00	RO	1.33	0.94			0.000			
D	D	SN		29:46		0.88	3.70			1.000	1234678-HpCDF	AN	
	DC	SN		31:00	RO	0.55	1.09			1.041	1234789-HpCDF	AN	
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.933-1.134			
418-420	DC	NL		0:00	RO	1.67	0.62			0.000			
	DC	SN		29:33	RO	1.88	0.85			0.993			
				29:46		0.42	251.23	74.30	176.93	1.000	13C12-HpCDF 678	IS6	
	DC	SN		29:58		0.49	1.67			1.007			
				30:58		0.44	204.08	62.35	141.73	1.040	13C12-HpCDF 789	SUR5	
	DC	SN		31:11		0.43	2.36			1.048			
	DC	SN		31:20		0.44	2.22			1.053			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		31:28	RO	1.67	0.60			1.057			
418-420			2 Peaks				455.31						

---------- Above: HpCDF / HpCDD Follows ----------

HpCDD				0.88-1.20						0.975-1.006			
424-426	DC	NL		0:00	RO	1.38	0.98			0.000			
	DC	SN		29:55	RO	0.79	0.61			0.977			
	DC	SN		30:38	RO	0.72	0.80			1.000	1234678-HpCDD	AN	
	DC	SN		30:45	RO	0.42	0.37			1.004			
	DC	WH		30:52		0.96	0.51			1.008			
	DC	WH		30:58		1.02	0.97			1.011			
	DC	WH		31:02	RO	0.36	0.23			1.013			
	DC	WH		31:09		0.94	0.93			1.017			
424-426			0 Peaks				0.00						
13C12-HpCDD				0.88-1.20						0.967-1.033			
436-438	DC	NL		0:00		1.10	1.30			0.000			
	DC	SN		30:03	RO	0.83	2.38			0.981			
				30:38		0.97	248.33	122.50	125.83	1.000	13C12-HpCDD 678	IS7	
	DC	SN		31:03	RO	0.21	0.33			1.014			
436-438			1 Peak				248.33						

---------- Above: HpCDD / Octa-CDD and CDF Follows ----------

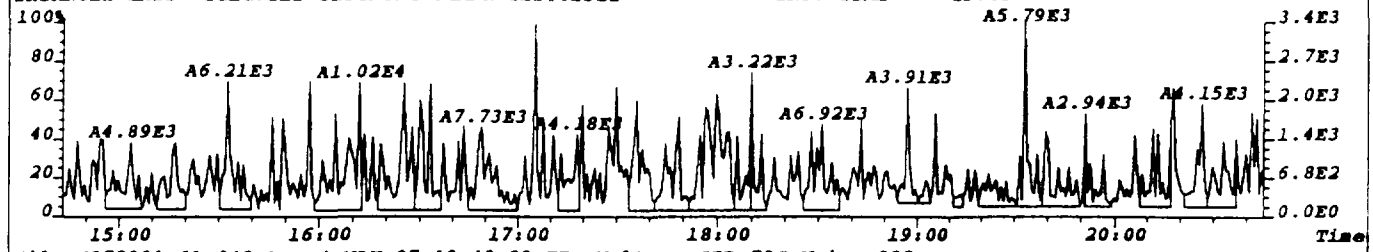
OCDF				0.76-1.02						0.879-1.121			
442-444	DC	NL		0:00		0.93	1.29			0.000			
	DC	SN		29:55	RO	1.71	0.40			0.906			
	DC	SN		30:48		0.80	1.24			0.932			
	DC	SN		31:07	RO	0.31	1.01			0.942			
	DC	SN		31:23	RO	3.04	0.44			0.950			
	DC	SN		31:26		0.85	0.48			0.952			
	DC	SN		31:49	RO	0.24	0.41			0.963			
	DC	SN		32:02	RO	1.17	0.89			0.970			
	DC	SN		32:09	RO	1.65	0.49			0.973			
	DC	SN		32:31	RO	2.00	0.34			0.984			
	DC	SN		32:31	RO	0.67	0.21			0.984			
	DC	SN		32:38		0.84	0.35			0.988			
	DC	SN		32:41		0.76	0.37			0.989			
	DC	SN		32:46	RO	2.40	0.38			0.992			
	DC	SN		32:56	RO	0.75	0.91			0.997			
	DC	SN		33:09	RO	0.63	2.27			1.004	OCDF	AN	
	DC	SN		33:26	RO	3.73	0.62			1.012			
	DC	SN		33:31	RO	0.41	0.91			1.015			
	DC	SN		34:28	RO	4.54	0.45			1.043			
	DC	SN		34:45	RO	3.13	1.46			1.052			
	DC	SN		35:58	RO	1.50	0.34			1.089			
442-444			0 Peaks				0.00						
OCDD				0.76-1.02						0.879-1.121			
458-460	DC	NL		0:00		0.82	1.13			0.000			
				33:03		0.90	3.98	1.88	2.10	1.001	OCDD	AN	

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
		DC	SN	33:10	RO	0.69	0.53			1.004			
458-460			1	Peak			3.98						
13C12-OCDD						0.76-1.02				0.994-1.005			
470-472		DC	NL	0:00		0.92	1.02			0.000			
				33:02		0.90	386.74	182.67	204.07	1.000	13C12-OCDD	IS8	
		DC	WH	33:15		0.91	3.10			1.007			
		DC	WH	33:21	RO	0.55	1.21			1.010			
470-472			1	Peak			386.74						

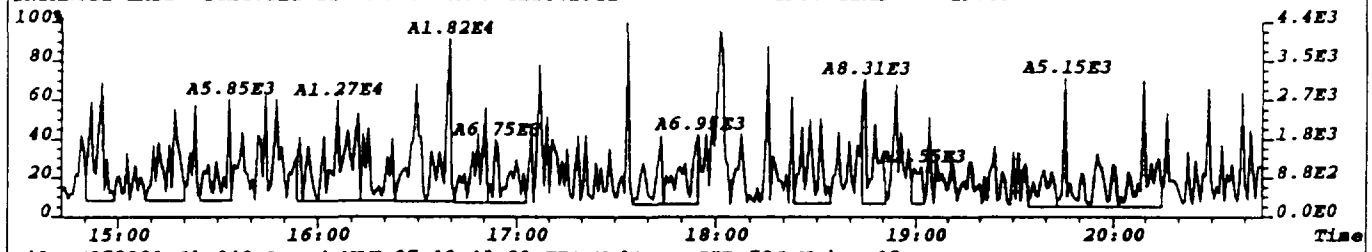
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside Limits	<M-Below Method Detection Limit	T-Time Changed
Rel.RT-Relative Retention Time	NL-Channel Specific Noise Level	M-Peak Area Changed
		N-Name Changed
		E-Ether Interference

*** End of Report ***

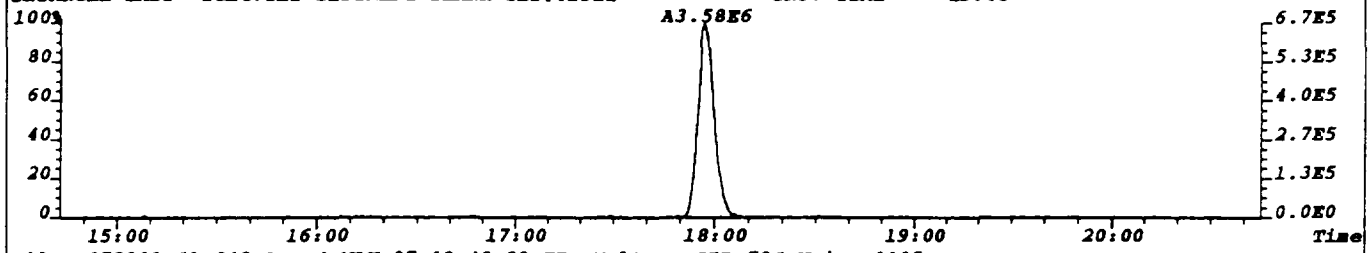
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:128
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,512.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



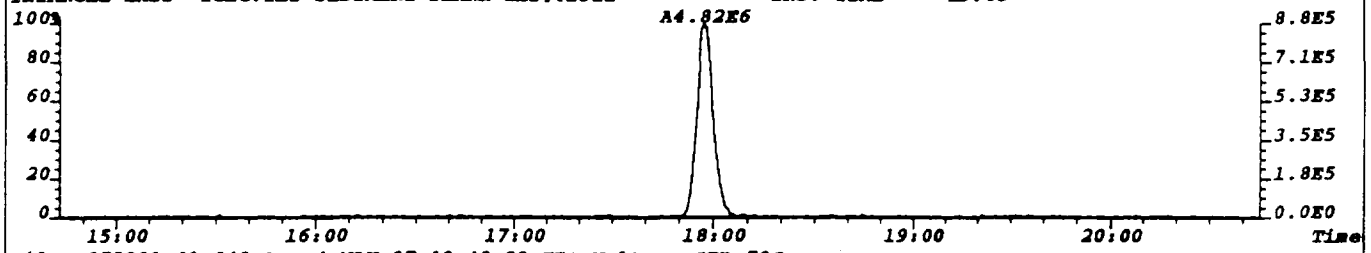
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:222
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,888.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



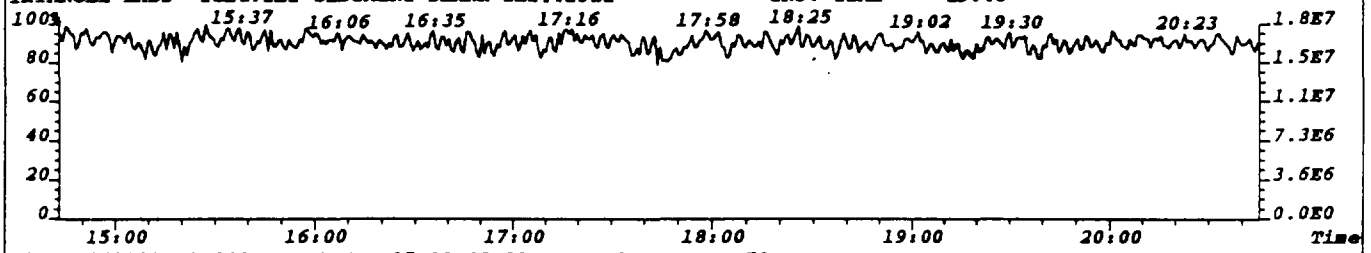
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:95
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,380.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



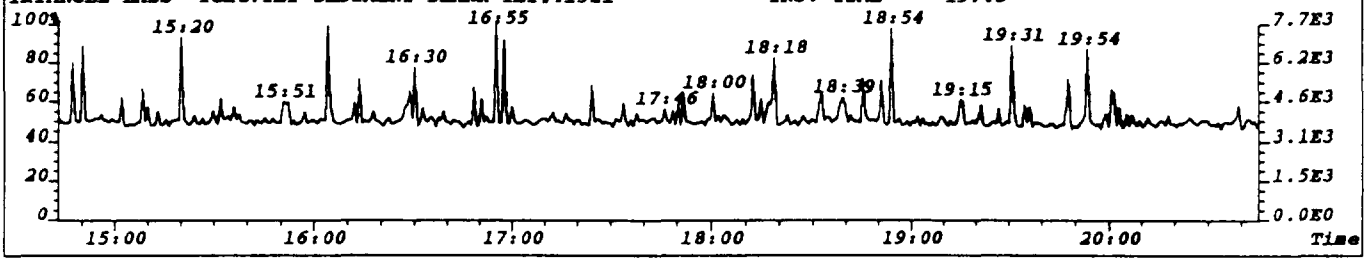
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:1195
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,4780.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



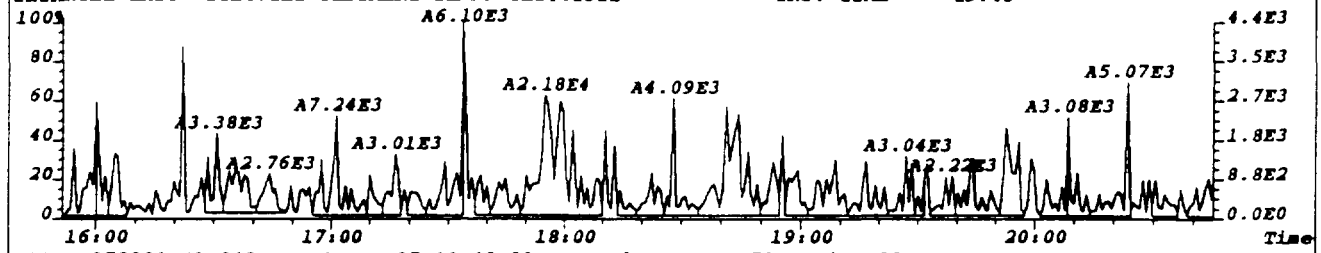
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



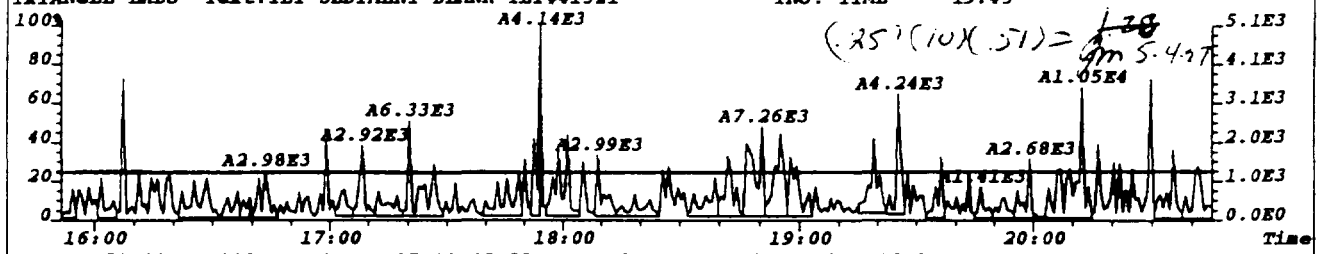
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:83
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,332.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



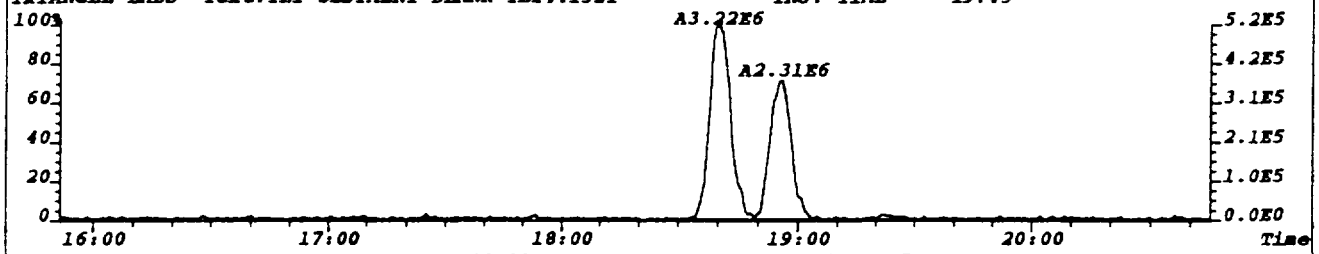
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:82
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45

1.28 SW 05/08/97 EE

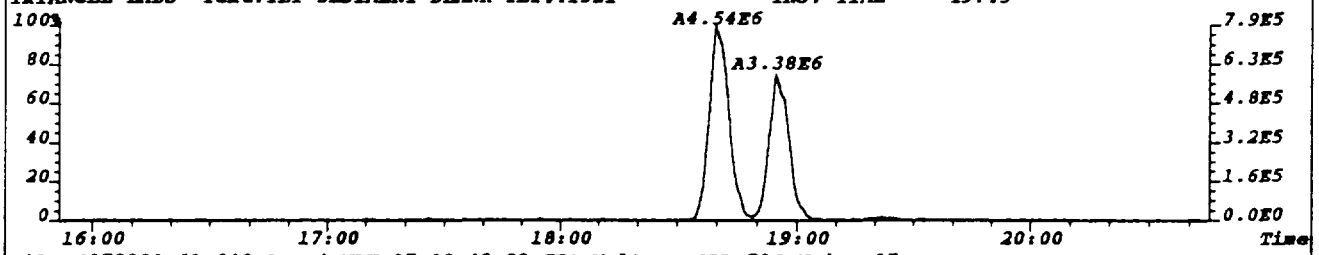
(.25)(10)(.51) = ~~1.28~~ gm 5.4 g



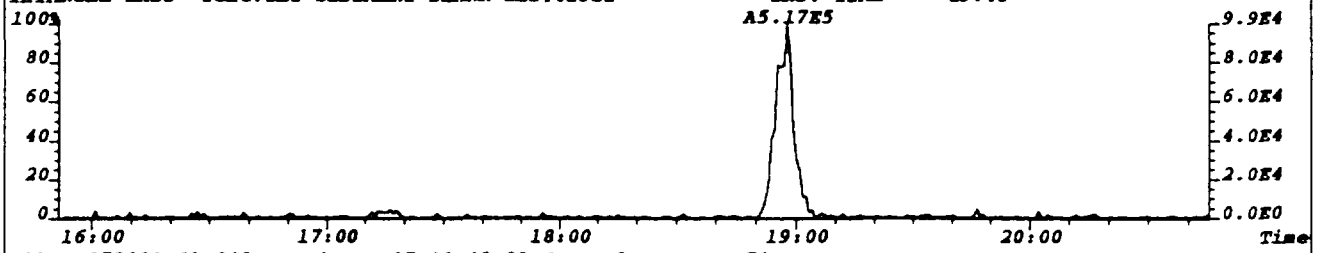
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:1613
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,6452.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



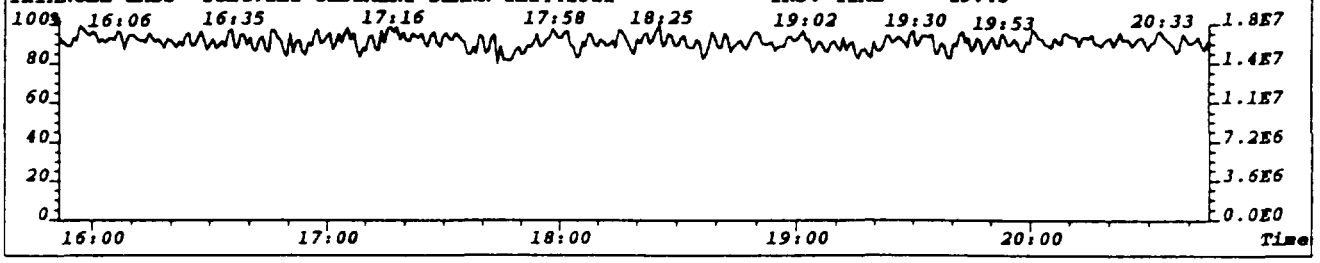
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:147
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,588.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



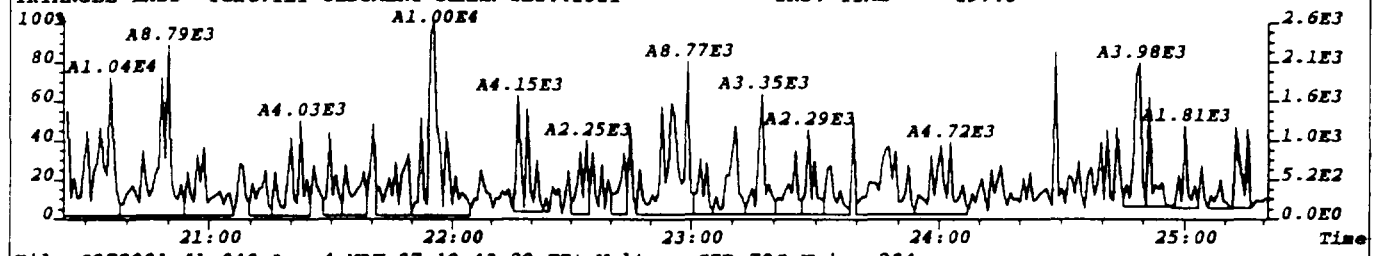
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:97
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,388.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



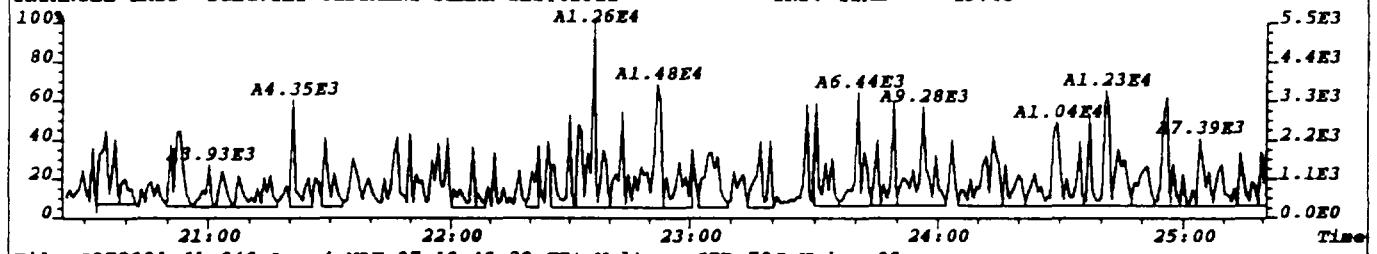
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



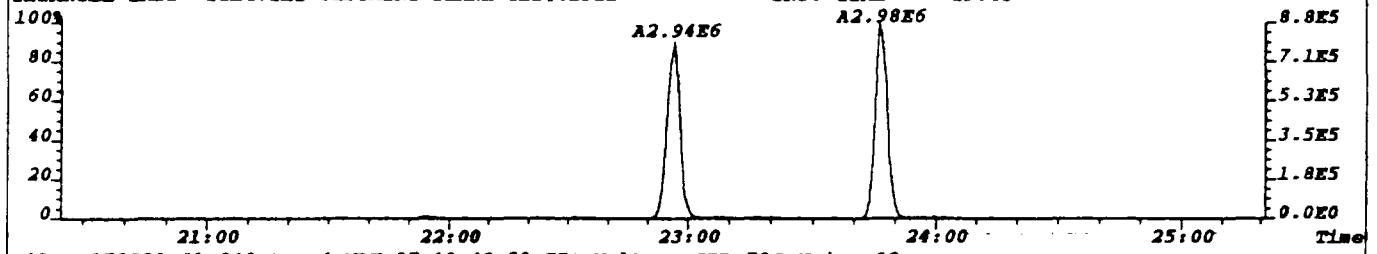
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:86
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,344.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



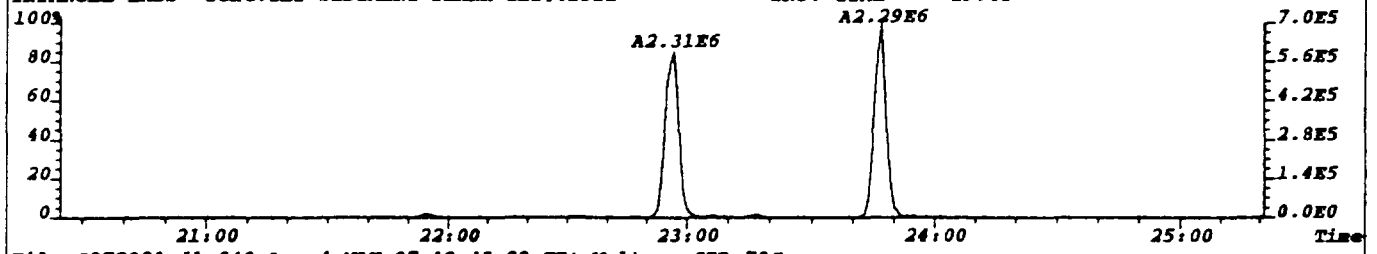
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:204
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,816.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



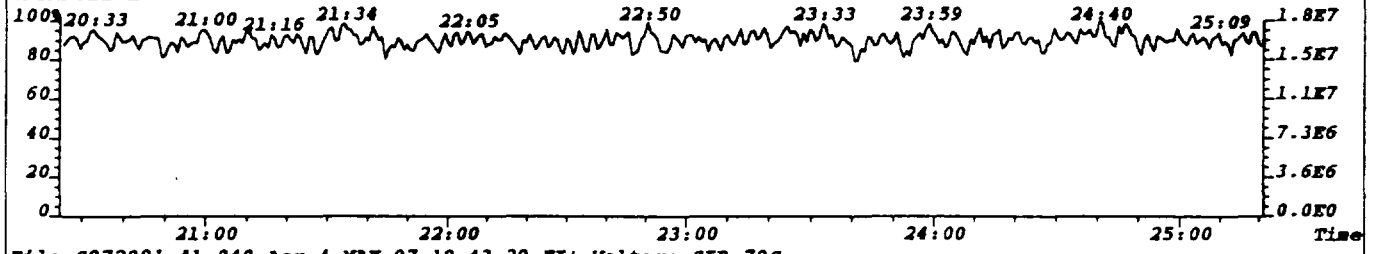
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:89
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,356.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



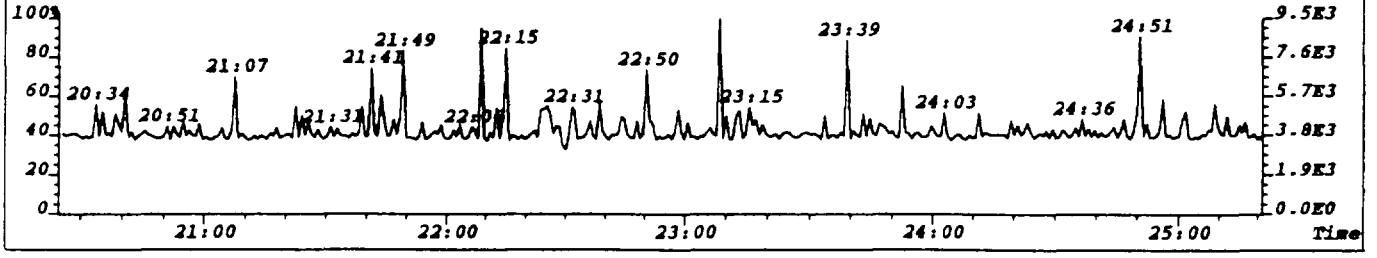
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:82
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



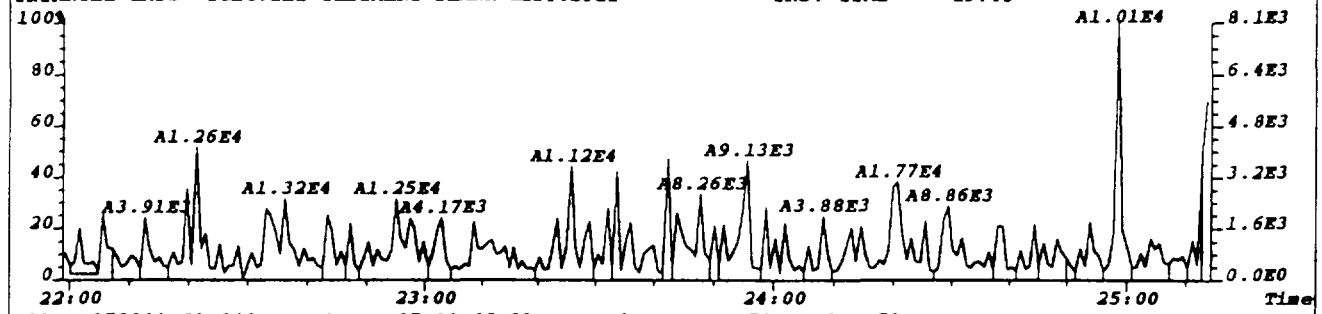
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



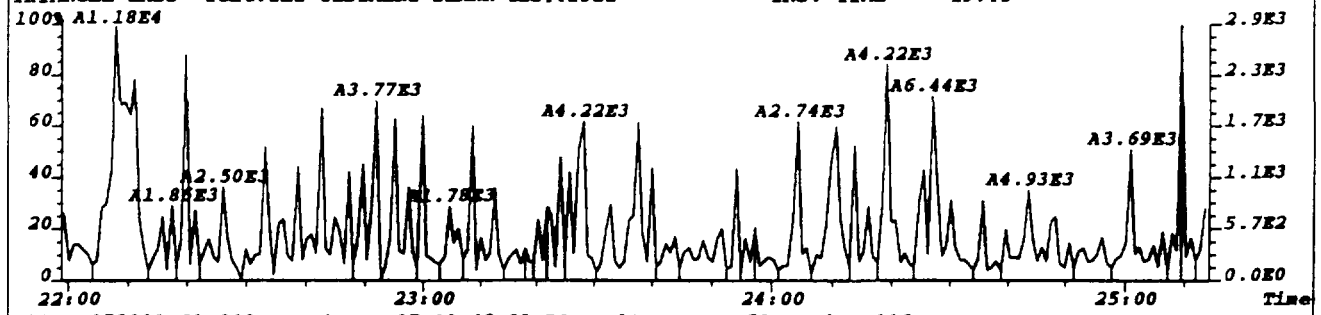
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



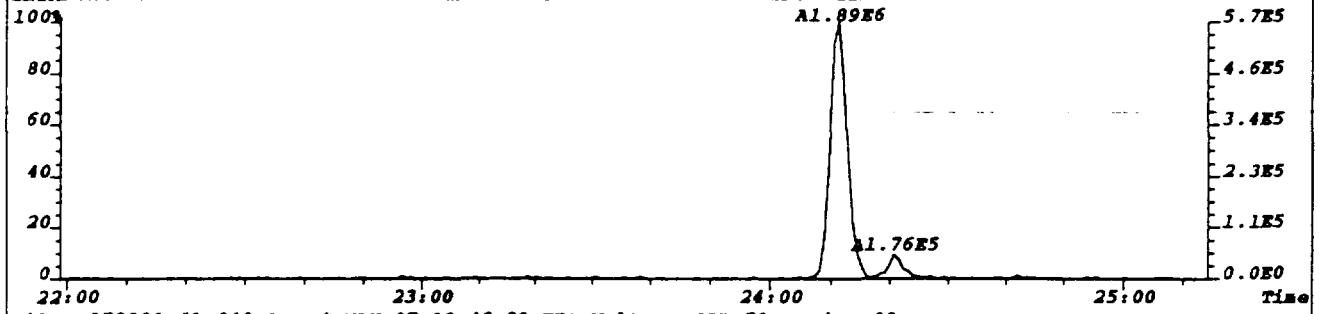
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:176
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,704.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



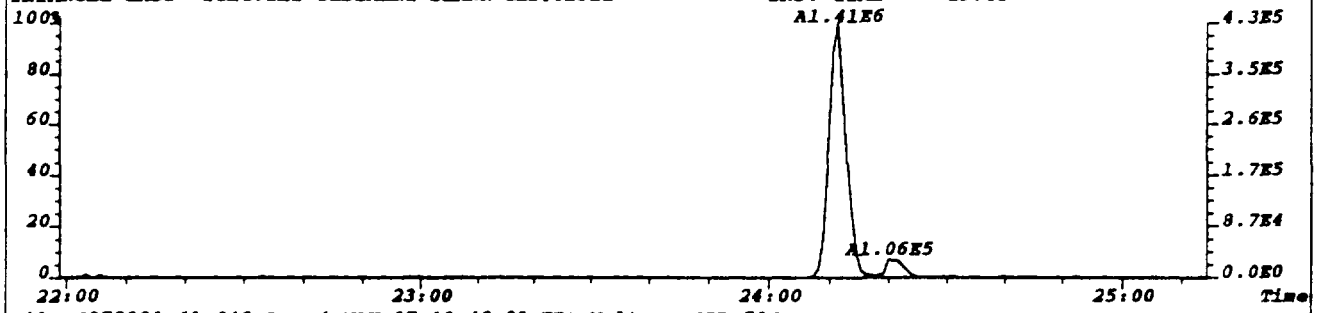
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:79
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,316.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



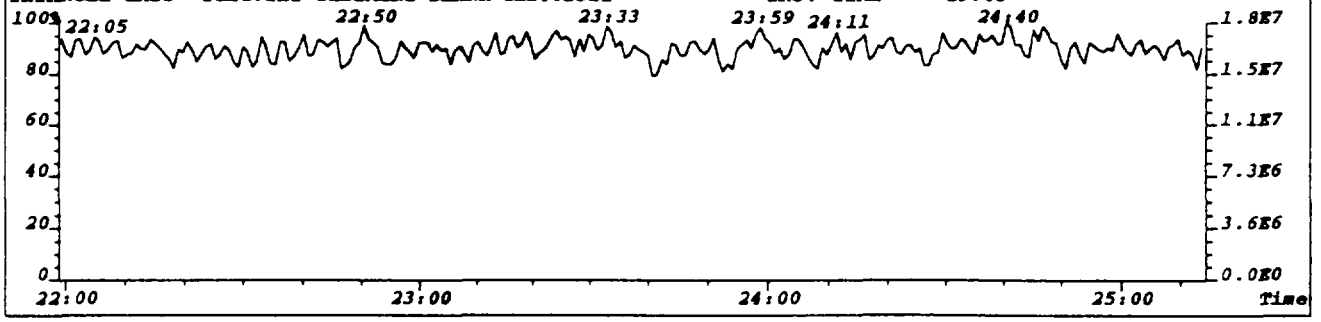
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:116
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,464.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



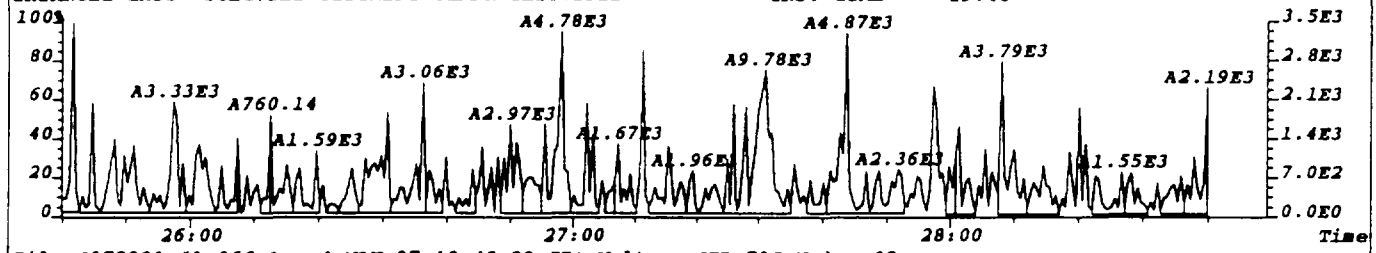
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:89
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,356.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



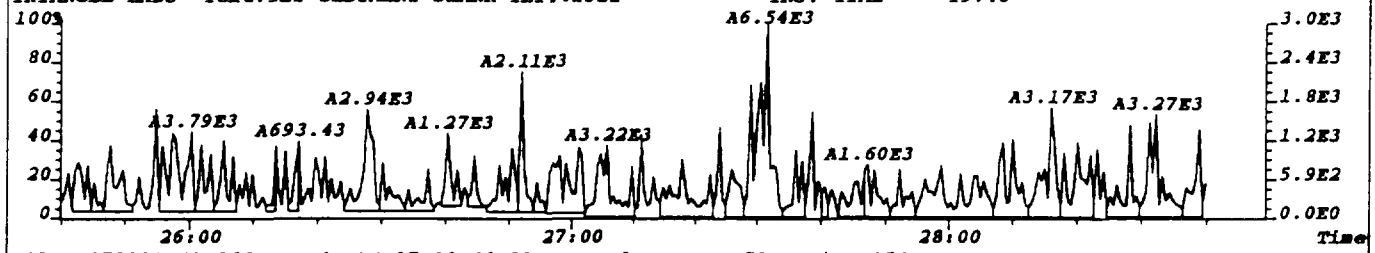
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



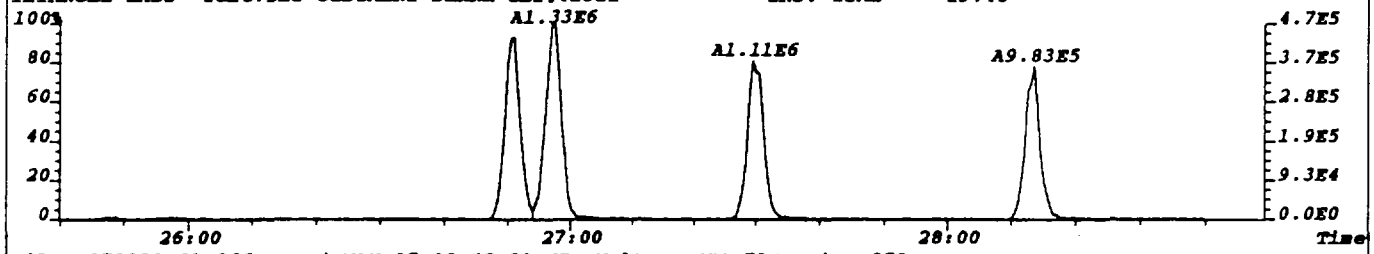
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:74
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



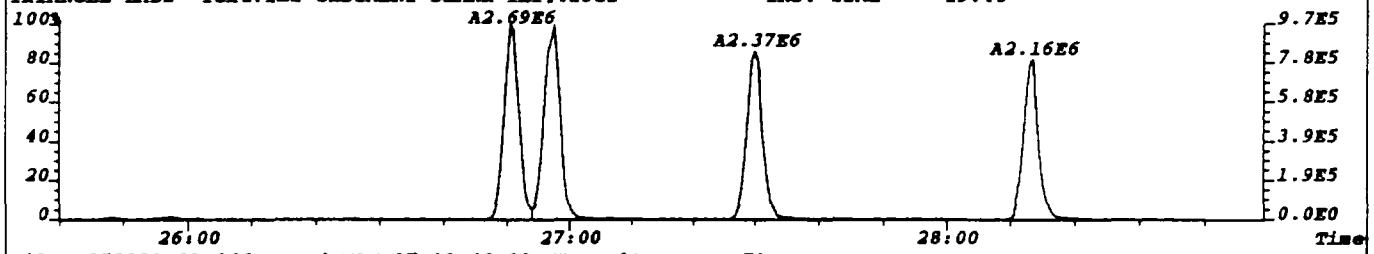
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:82
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



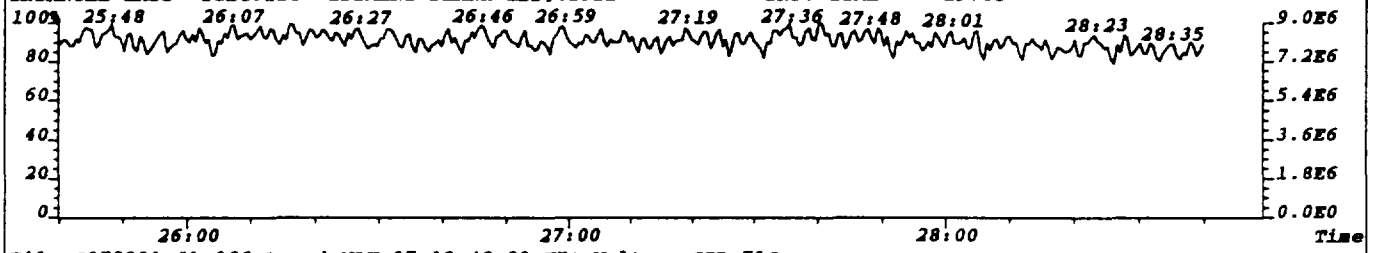
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:154
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,616.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



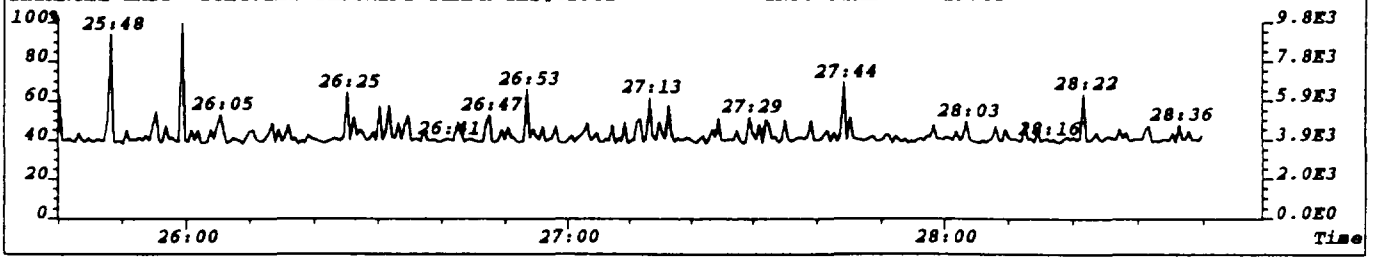
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:279
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



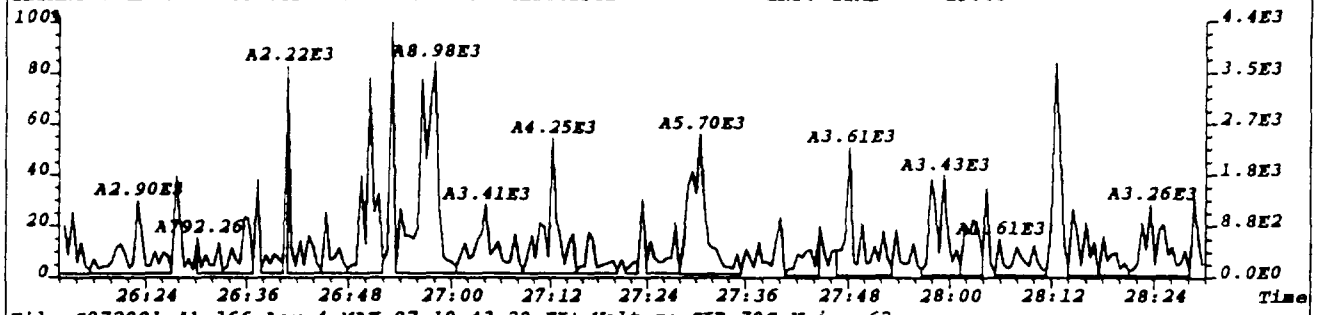
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



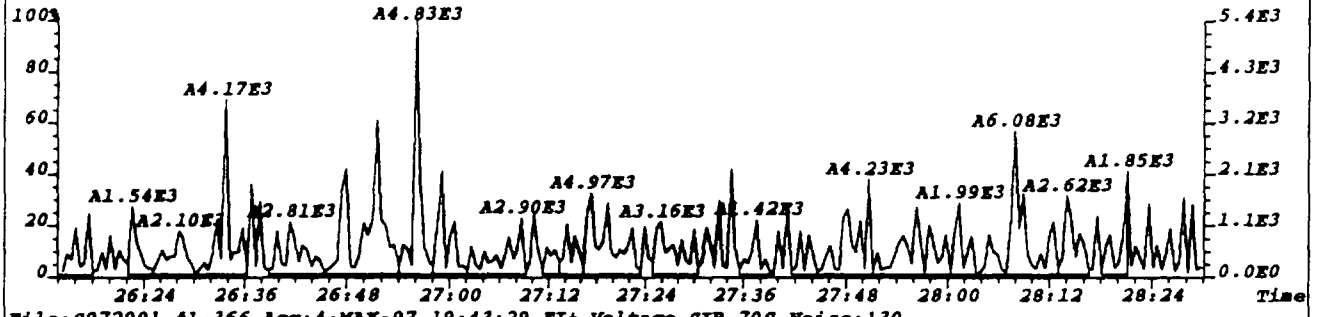
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



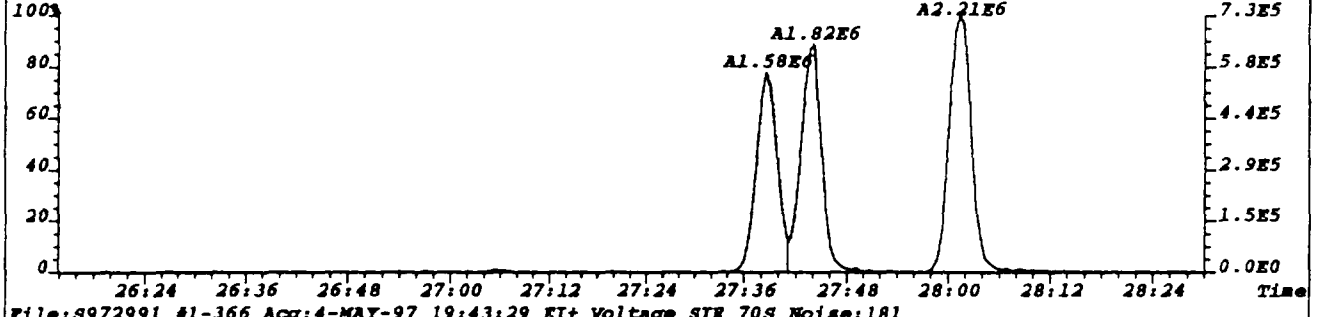
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:76
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



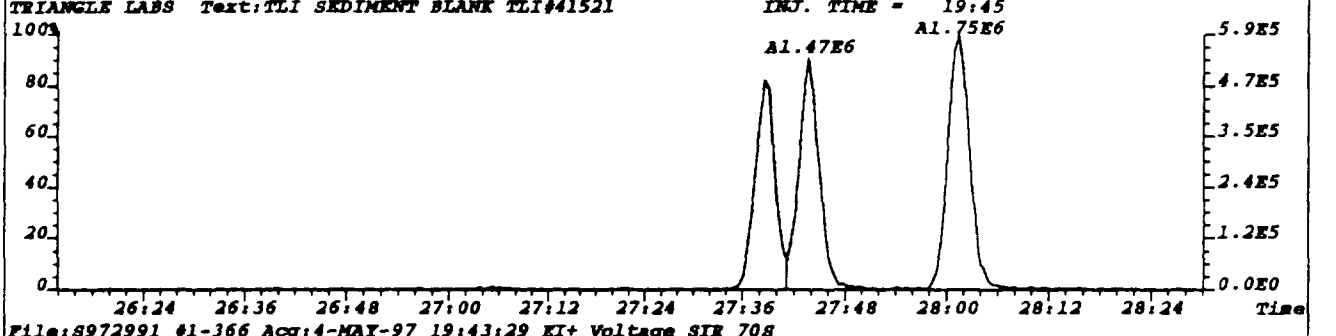
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:62
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



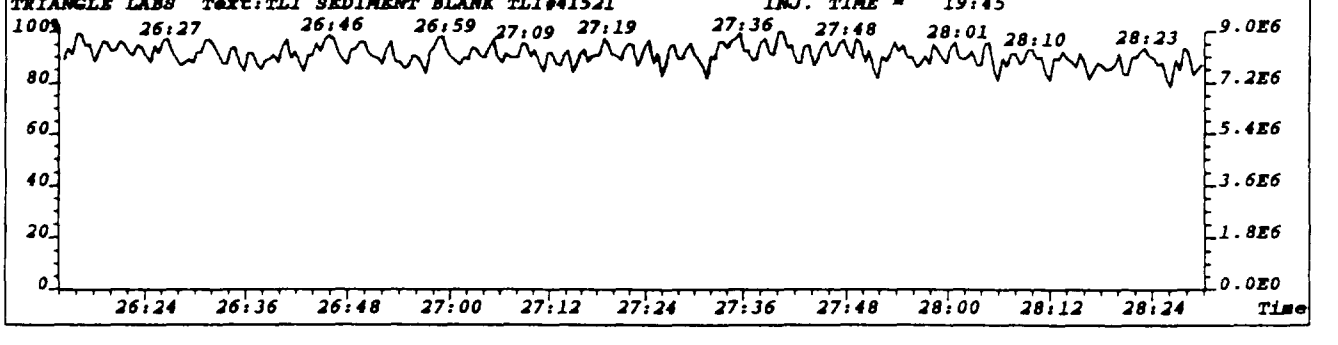
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:130
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,520.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



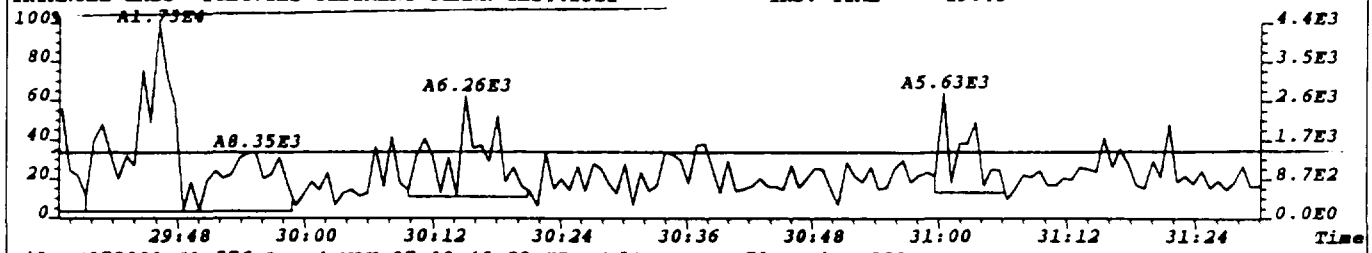
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:181
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,724.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



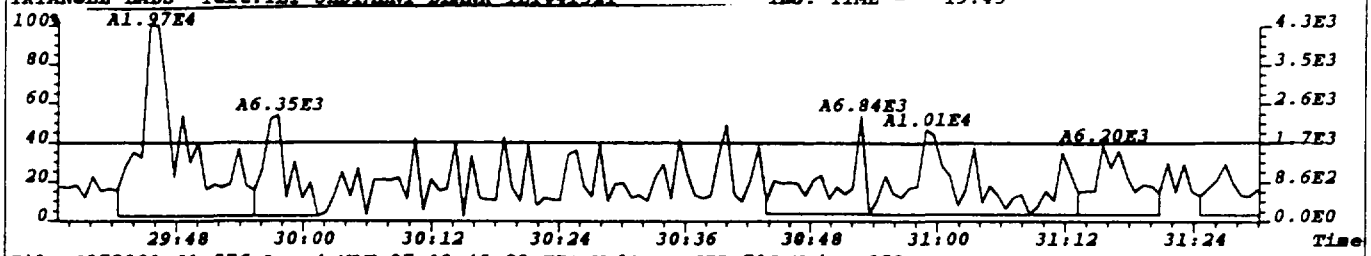
File:S972991 #1-366 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



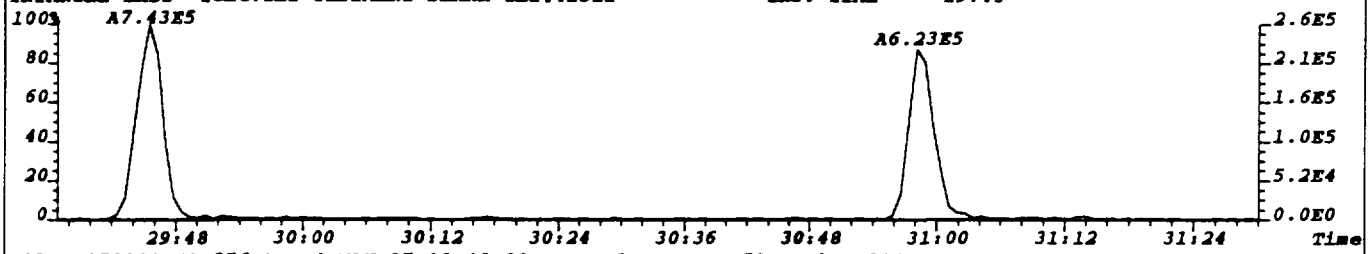
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:305
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



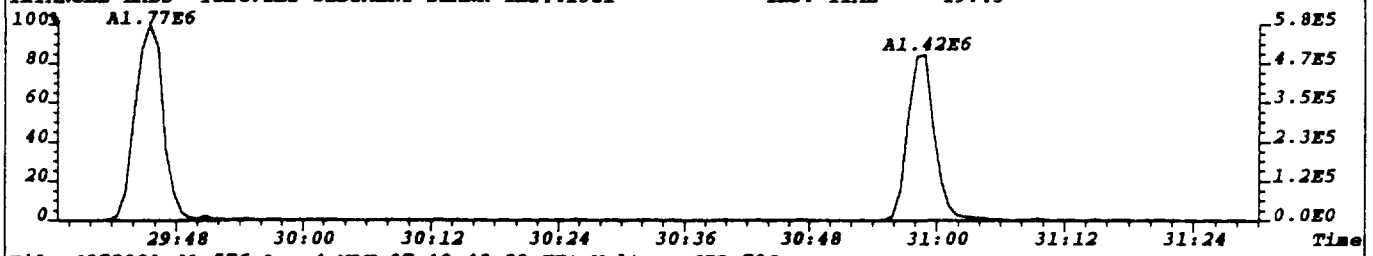
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:232
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,928.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



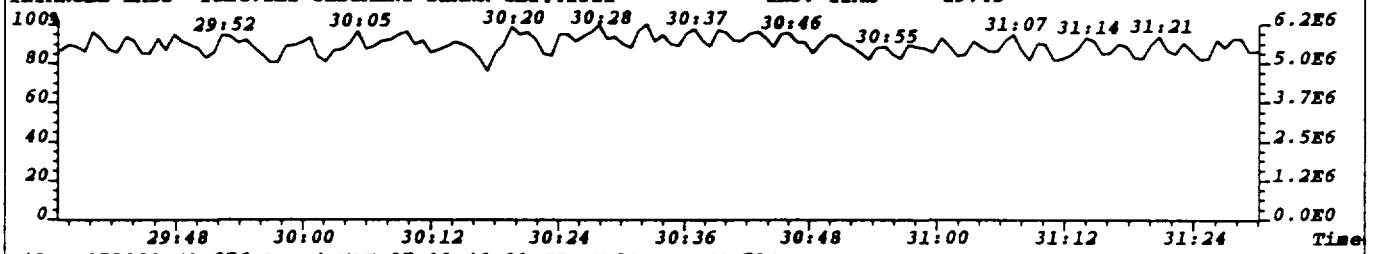
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:359
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1436.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



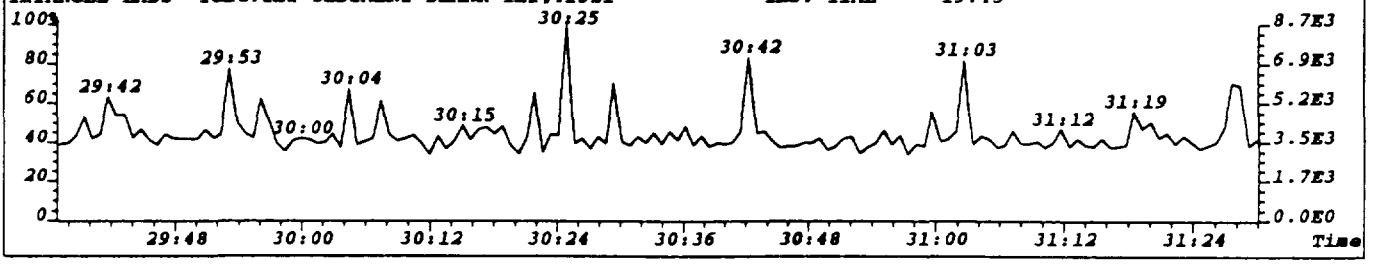
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:214
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,856.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



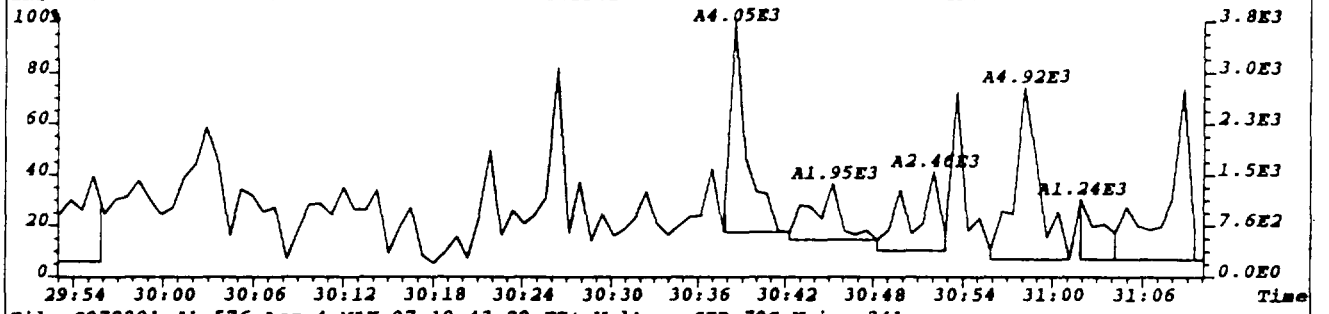
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



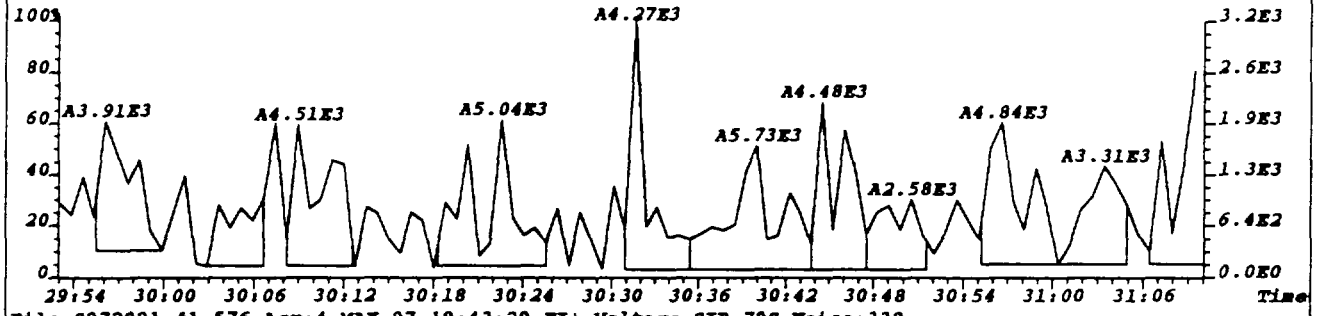
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



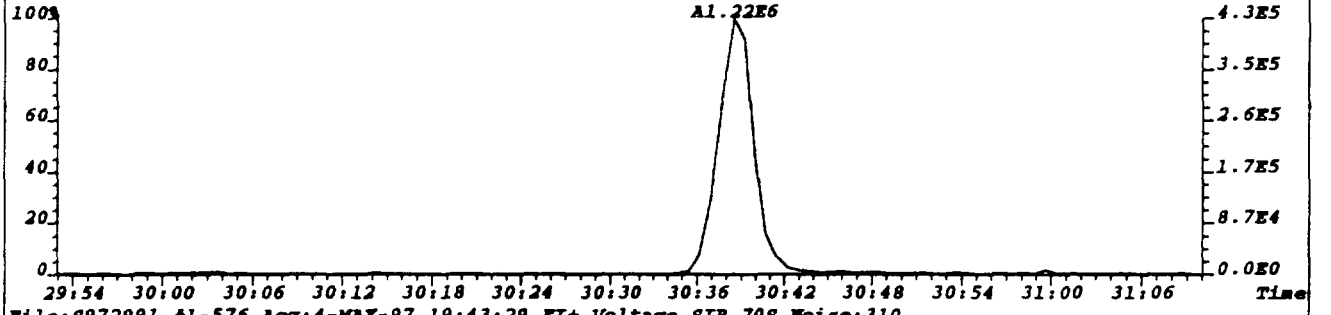
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:328
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1312.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



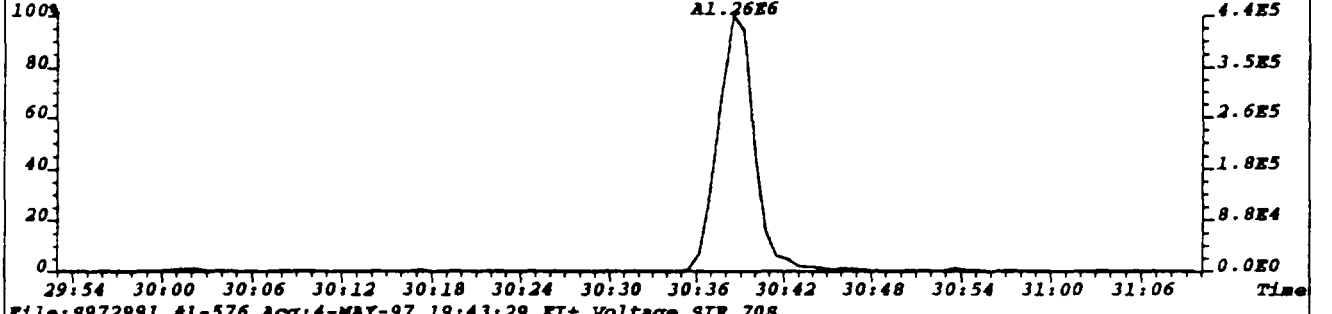
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:241
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,964.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



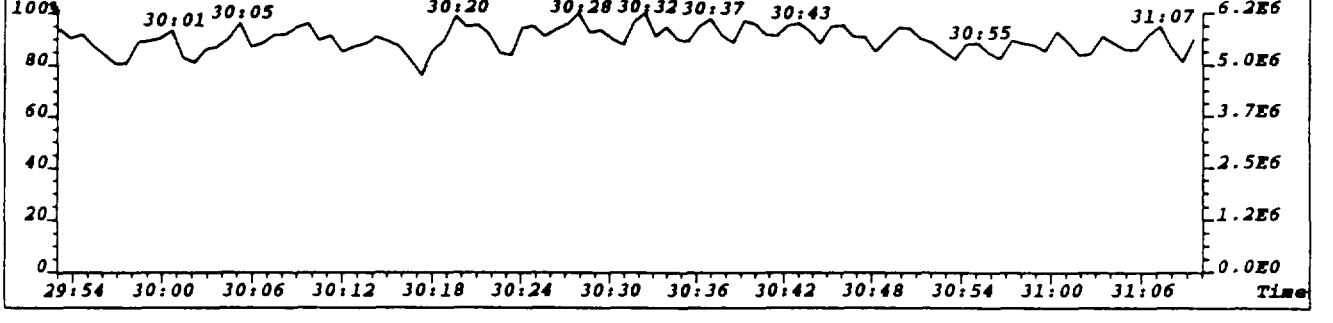
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:338
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:310
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45

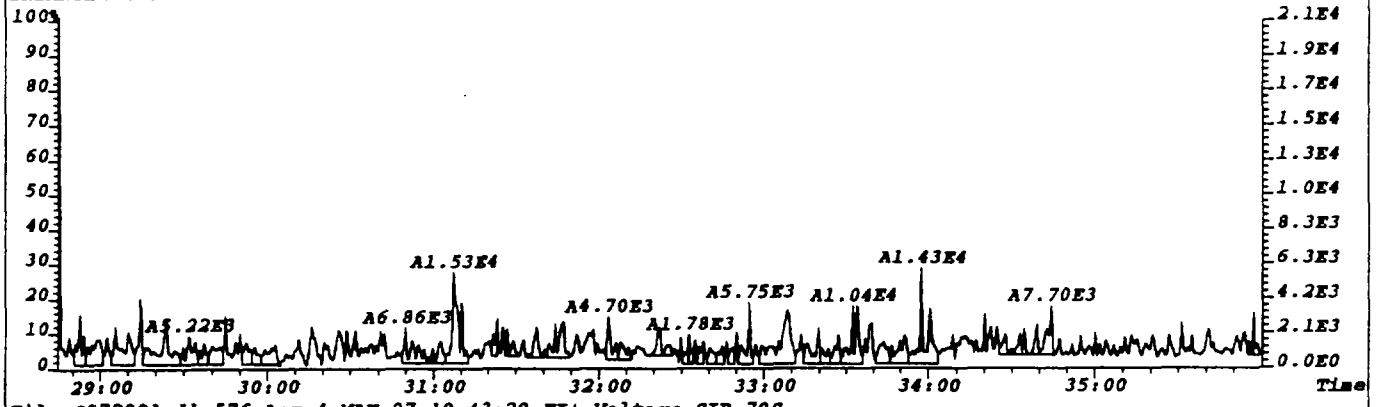


File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45

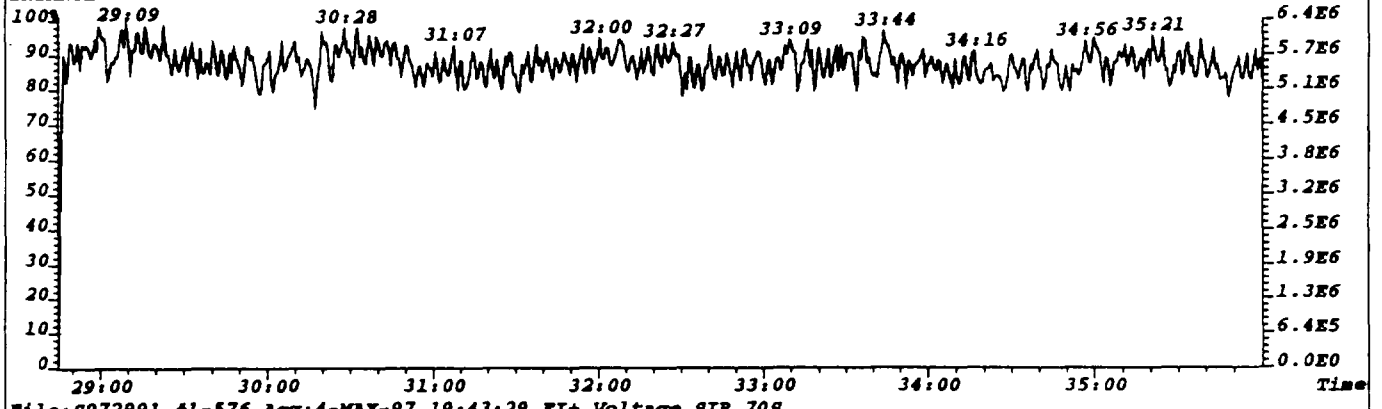


File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:309
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45

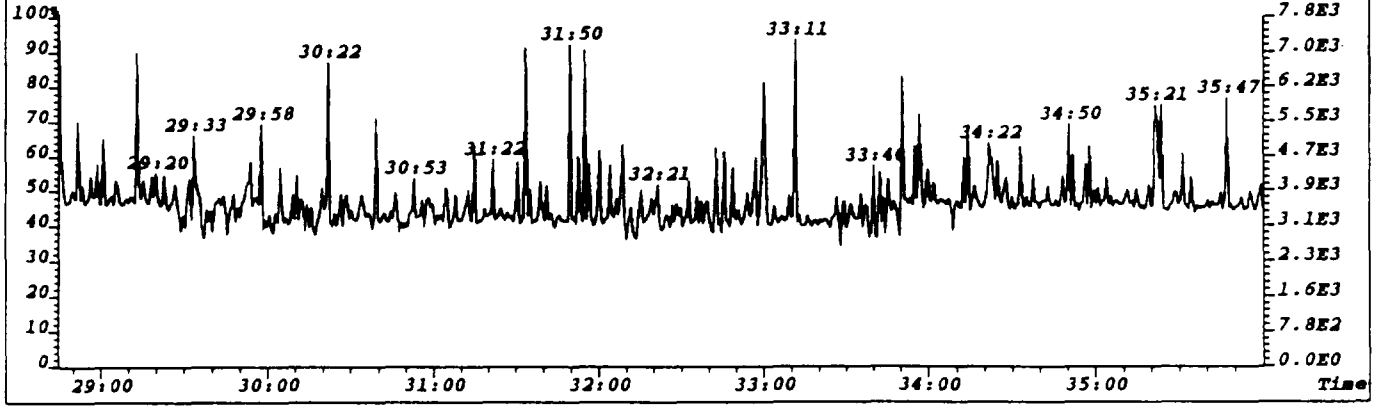
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:334
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1336.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



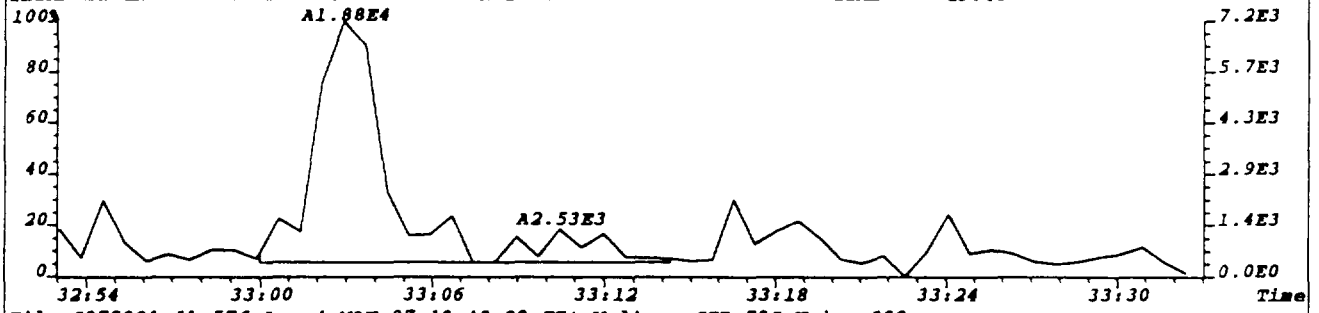
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



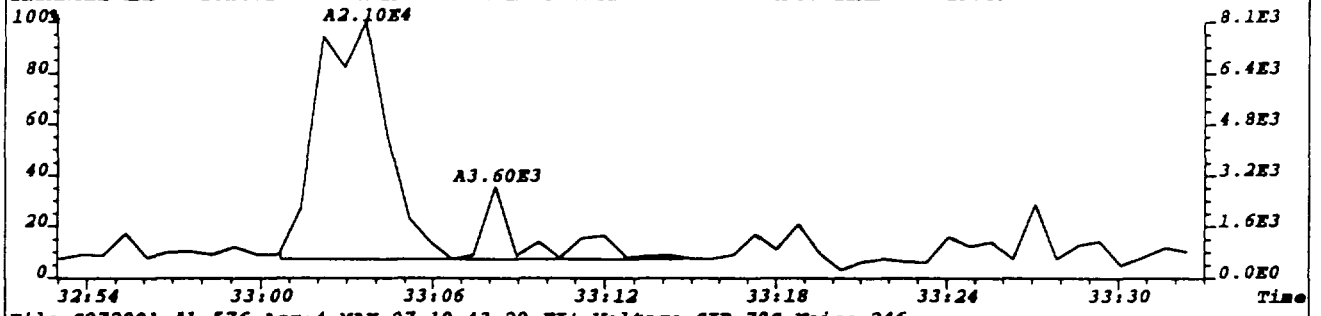
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



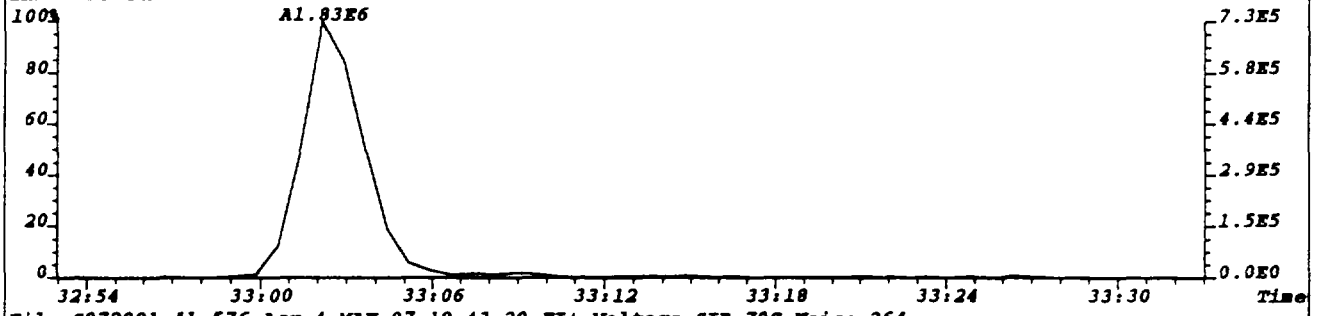
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:254
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1016.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



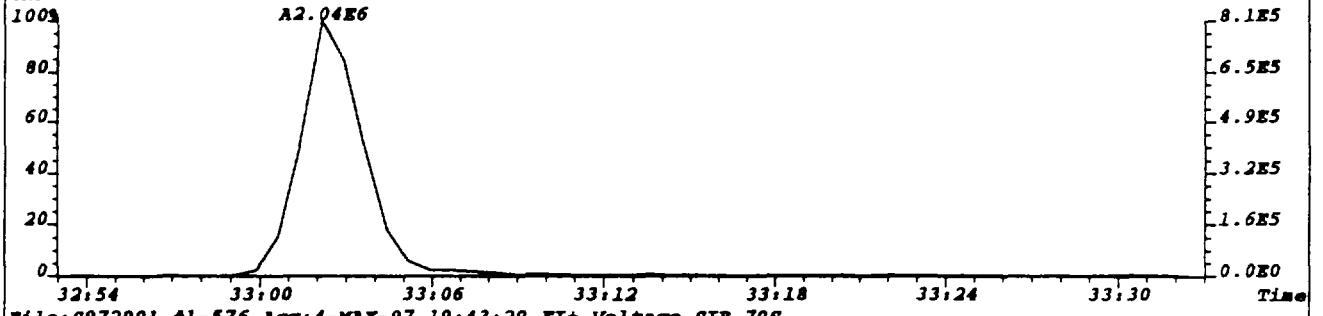
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:308
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



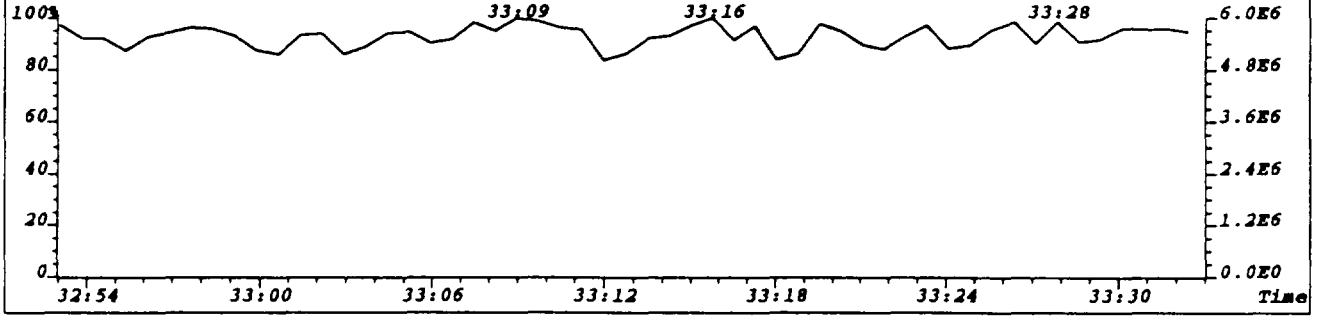
File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:246
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,984.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45

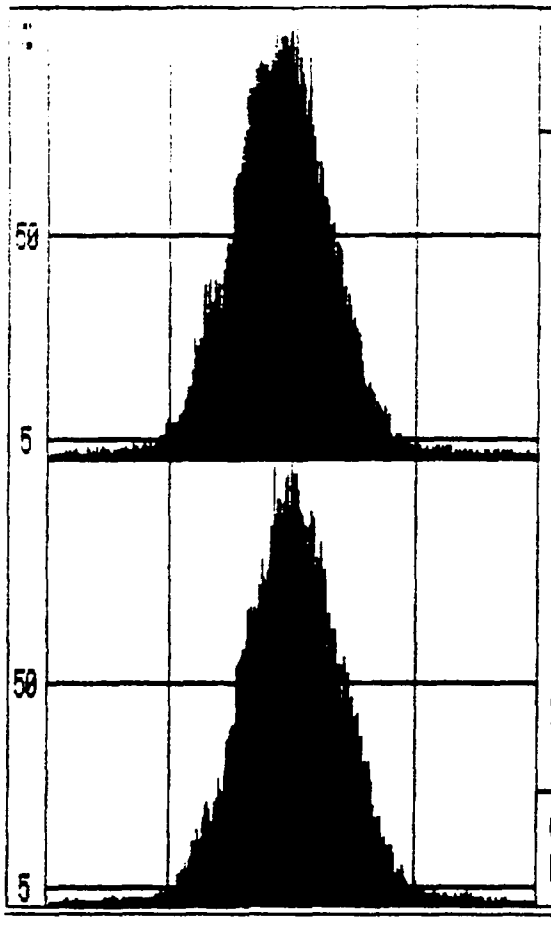


File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S Noise:264
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1056.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45



File:S972991 #1-576 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45





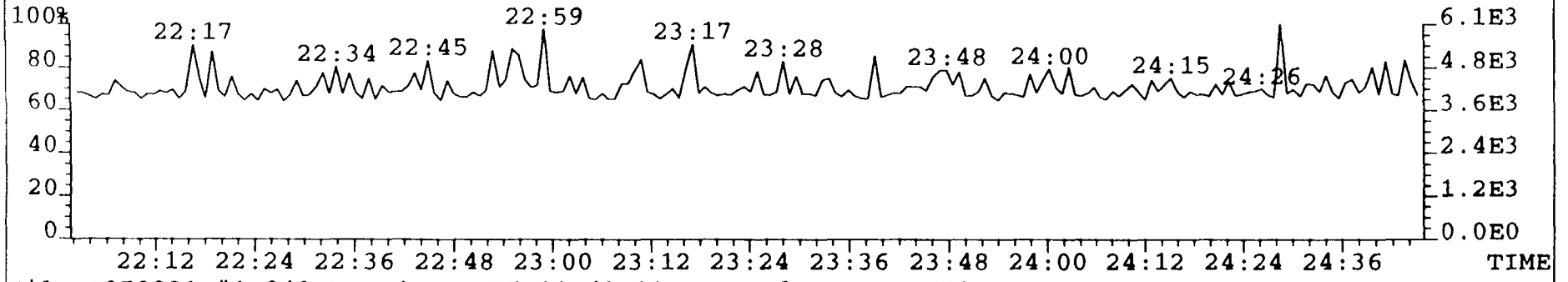
Ref. mass 292.9825 Peak top
Height 4.21 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S972991
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

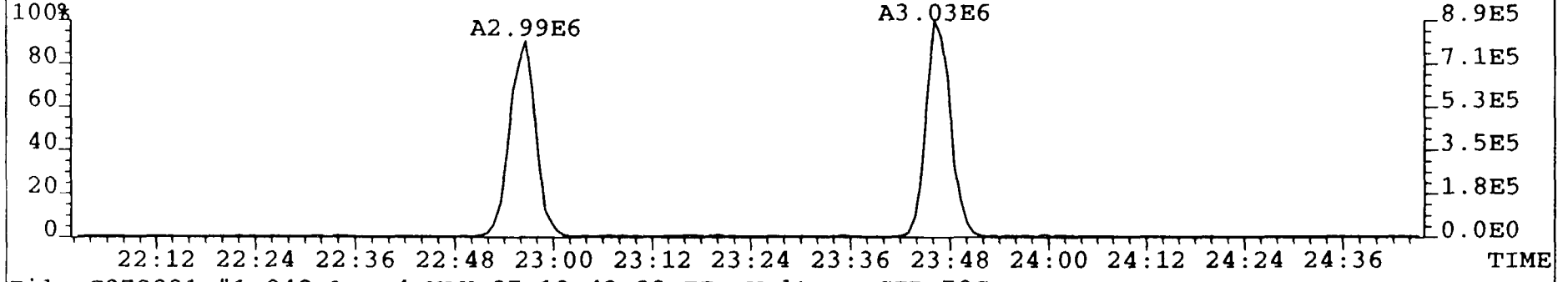
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height 3.77 volts Span 200 ppm

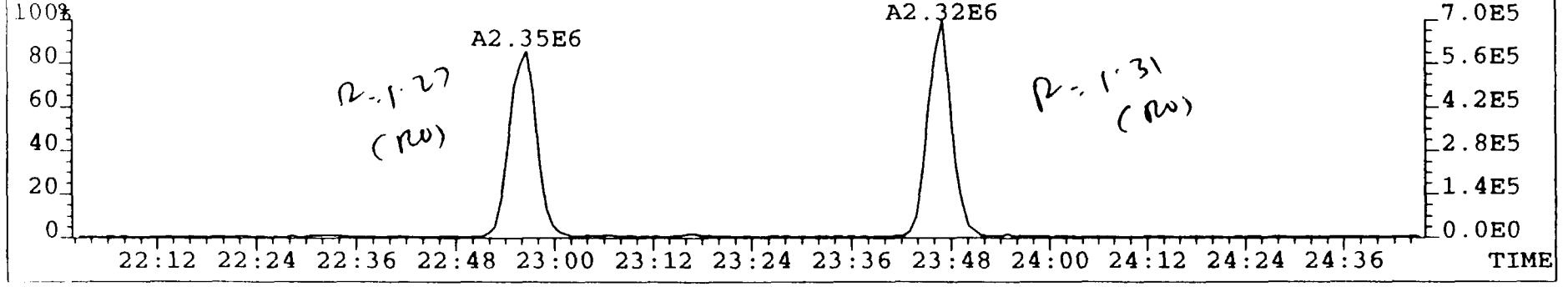
File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
339.8597 F:2 Exp:EPCUS
Sample Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45 File Text:TLI SEDIMENT »



File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
351.9000 F:2 Exp:EPCUS
Sample Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45 File Text:TLI SEDIMENT »



File:S972991 #1-848 Acq:4-MAY-97 19:43:29 EI+ Voltage SIR 70S
353.8970 F:2 Exp:EPCUS
Sample Text:TLI SEDIMENT BLANK TLI#41521 INJ. TIME = 19:45 File Text:TLI SEDIMENT »



SH
05/08/97

TRIANGLE LABS

DOCUMENT CONTROL

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-1411
919-544-5729

P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

CHAIN OF CUSTODY RECORD

CLIENT NO.	PROJECT NO.	PROJECT NAME

SAMPLERS: (SIGNATURE)

SEE REVERSE SIDE FOR INSTRUCTIONS

DATE AND TIME OF COMPOSITE	DATE AND TIME OF GRAB	PRIMARY SAMPLE DESCRIPTION	NO. OF CONTAINERS	ANALYSIS OR CONTAINER TYPES: Dioxins & Furans 8290	REMARKS	EIS LAB USE ONLY: BY LAB NO.	SAMPLE STATE	TRIP BLANK
	4-18-97	✓F 301 Sediment	1	X				
	4-18-97	F 302	1	X				
	4-18-97	F 305	1	X				
	4-18-97	✓F 307	1	X				

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:
Bill Davis	4-22-97	1630	UPS		4/23/97	1000	Bill [illegible]
RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED BY:

SAMPLE STATE: C = COLD, W = NOT COLD, I = INTACT, B = BROKEN

MODE OF TRANSPORTATION	
EIS VEHICLE #	PUBLIC

FIELD NOTES: P.O # 1236

SHIPPING CHARGE

CLIENT CHAIN OF CUSTODY **SAMPLER'S SIGNATURE** _____ **Quote 1200001810**

From: EIS Environmental & Engineering
1710 N. IRONWOOD Dr.

Southbend, IN 46635

Project: _____

Contact: Bill Davis
Phone: 219/277-0707
Fax: 219/273-5699
P.O.#: _____

(EIS04 /MM)

If the data will be reported to a state agency, which one? ____

Analysis Wanted:

Total Number of Containers:

Sample Name	Date	Time	Comp	Grab	Matrix	Sample Amt.						Remarks

Relinquished By/Sign.	Date/Time	Received By/Sign.	Relinquished By/Sign.	Date/Time	Received By/Sign.
Relinquished By/Sign.	Date/Time	Received By/Sign.	Relinquished By/Sign.	Date/Time	Received By/Sign.

Received for Laboratory By/Signature	Date/Time	Send Samples to: Triangle Laboratories, Inc. Attn: Sample Custodian 801 Capitola Drive Durham, NC 27713 USA Phone: (919) 544-5729 • Fax: (919) 544-5491

Custody Seal : Absent	Sample Seals: Absent	TLI Project Number 41521	Book
Chain of Custody : Present	Container...: Intact	Client: EIS04 - EIS Environmental & Engineering	165
Sample Tags : Absent			
Sample Tag Numbers: Not Listed on Chain of Custody			
SMO Forms : N/A		Date Received 04/23/97 By [signature]	Page
Styro Cooler ICE PACKS Temp 6.0 C		Carrier and Number UPS	74

TLI Number.. mR/H:CPM.	....Client Sample ID..... .....Client COC ID.....*	.....Matrix Location.....	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To ARCHIVE Date/Init	DISPOSED Date/Init
165-74-1	F301 F301	SEDIMENT C02	1 Last 4/23/97		IF 4/27/97	IF 4/27/97		
165-74-2	F302 F302	SEDIMENT C02						
165-74-3	F305 F305	SEDIMENT C02	% moist					
165-74-4	F307 F307	SEDIMENT C02						

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES, INC.
SAMPLE TRACKING AND PROJECT MANAGEMENT FORM

----------ADMINISTRATIVE INFORMATION----------

TLI Proj#: 41521-	Samples: 4	TurnAround.: 19 Day(s)
Prod Code: D01020	Matrix.: SEDIMENT	Hold Time..: 30 Day(s)
DetectLim: 1 ppt	Type...: B	Start Date.: 04/23/97
	Recvd..: 04/23/97	Ship By....: 05/10/97
		DWL Due Dt.: 05/02/97

Analyte List.: Tetra-Octa PCDDs/PCDFs

Method.....: M.8290; Tetra-Octa
Client Proj..: Dioxins/Furans
Client.....: EIS Environmental & Engineering (EIS04)
P.O. No.....: 1236 — Collect Dt/Tm: 04/18/97
Contact.....: Bill Davis — Phone.....: 219-277-5715
Proj. Mgr....: Mary McDonald — Fax.....: 219-273-5693
Sample Origin:

----------SPECIAL INSTRUCTIONS / QA REQUIREMENTS----------

Prespike Standard: n/a
Extraction Exp...: 05/18/97

----------REPORTING REQUIREMENTS----------

Reporting Format: Report Option I

See MILES for Instructions/Communications.

Completed by: MM DATE: 4/23/97

Reviewed by: MCM DATE: 4/23/97 (PMGT0197)

Date: 04/27/97
Time: 15:47

TRIANGLE LABORATORIES, INC.
Wet Lab Extraction and Observations
Project: 41521

PRDPERC v3.19
Page: 1

Sample #	crd	TLI_Number..	Customer.Sample.Id.....	Init. pH...	NaOH mL..	Adj. pH.1.	H2SO4 mL...	Adj. pH.2.	Appearance.	Color.....	Odor...	Vol.	Entered.By.....	Date....	Time....	S
000		TLI Blank	TLI Sediment Blank	n/a	n/a	n/a	n/a	n/a	SAND	BROWN	NO	0	FOFANAH	04/27/97	15:46:24	F
001		165-74-1	F301	n/a	n/a	n/a	n/a	n/a	SEDIMENT	GRAY	NO	0	FOFANAH	04/27/97	15:46:24	F
002		165-74-2	F302	n/a	n/a	n/a	n/a	n/a	SEDIMENT	GRAY	NO	0	FOFANAH	04/27/97	15:46:24	F
003		165-74-3	F305	n/a	n/a	n/a	n/a	n/a	SEDIMENT	GRAY	NO	0	FOFANAH	04/27/97	15:46:24	F
004		165-74-4	F307	n/a	n/a	n/a	n/a	n/a	SEDIMENT	GRAY	NO	0	FOFANAH	04/27/97	15:46:25	F

*** End of Report ***

Date: 04/24/97
Time: 22:43

TRIANGLE LABORATORIES, INC.
Percent Moisture/Solid Calculations
Project: 41521

PRDPERC v3.13
Page: 1

Sample #	crd	Empty Vial.Wt	Wet Vial Weight...	Dry Vial Weight...	Entered.By.....	Date....	Time....	%Moist	%Solid	Valid Weight From.....-To.....	Target Weight...
001		13.8846	20.3542	17.8667	KAST	04/24/97	22:39:03	38.4	61.6		
		13.8846	20.3542	17.8670	KAST	04/24/97	16:55:16				
		13.8846	20.3542	17.8892	PENDERGRAFT	04/24/97	08:04:09				
		13.8846	20.3542	17.9123	CHUD	04/24/97	06:26:32				
		13.8846	20.3542	17.9725	RYAN	04/24/97	05:04:25				
		13.8846	20.3542	0.0000	KAST	04/23/97	23:28:20				
		13.8846	0.0000	0.0000	KAST	04/23/97	21:18:58			15.5844-16.8831	16.2338
002		13.6599	23.3797	18.4698	KAST	04/24/97	22:39:03				
		13.6599	23.3797	18.4672	KAST	04/24/97	16:55:16	50.5	49.5		
		13.6599	23.3797	18.5003	PENDERGRAFT	04/24/97	08:04:09				
		13.6599	23.3797	18.5428	CHUD	04/24/97	06:26:32				
		13.6599	23.3797	18.8037	RYAN	04/24/97	05:04:25				
		13.6599	23.3797	0.0000	KAST	04/23/97	23:28:20				
		13.6599	0.0000	0.0000	KAST	04/23/97	21:18:58			19.3939-21.0101	20.2020
003		13.9110	23.7344	20.1053	PENDERGRAFT	04/24/97	08:04:09	36.9	63.1		
		13.9110	23.7344	20.1139	CHUD	04/24/97	06:26:32				
		13.9110	23.7344	20.1360	RYAN	04/24/97	05:04:25				
		13.9110	23.7344	0.0000	KAST	04/23/97	23:28:20				
		13.9110	0.0000	0.0000	KAST	04/23/97	21:18:59			15.2139-16.4818	15.8479
004		13.7746	25.6371	21.9890	PENDERGRAFT	04/24/97	08:04:10	30.8	69.2		
		13.7746	25.6371	21.9989	CHUD	04/24/97	06:26:32				
		13.7746	25.6371	22.0276	RYAN	04/24/97	05:04:25				
		13.7746	25.6371	0.0000	KAST	04/23/97	23:28:21				
		13.7746	0.0000	0.0000	KAST	04/23/97	21:18:59			13.8728-15.0289	14.4509

Percent Moisture/Solid Summary

TLI.MILES.ID....		TLI.Number..	Client.Id.Number.....	%Moist	%Solid	ExtrctWt	DryWtEqu	RPD..
41521-	-001	165-74-1	F301	38.4	61.6	✓		
41521-	-002	165-74-2	F302	50.5	49.5			
41521-	-003	165-74-3	F305	36.9	63.1			
41521-	-004	165-74-4	F307	30.8	69.2	✓		

*** End of Report ***

TRIANGLE LABORATORIES, INC.
Sample Size and Extraction Date/Time
Project: 41521

Sample # crd	Sample Weight...	Unit	Extract Date....	Extr. Time.	Adjusted Weight...
000	10.0100	g	04/27/97	04:00	0.0000
001	16.2400	g	04/27/97	04:00	10.0040
002	20.2700	g	04/27/97	04:00	10.0340
003	15.9000	g	04/27/97	04:00	10.0330
004	14.4300	g	04/27/97	04:00	9.9860

*** End of Report ***

TRIANGLE LABORATORIES, INC.

Dioxin Sample Preparation Tracking & Management Form

Project: 41521

Client: EIS Environmental & Engineering (EIS04)

Solvent(s)/Acid(s): Toluene / _____ / _____

Lot Numbers: 966970 / _____ / _____

Method: M.8290; Tetra-Octa Matrix: Sediments

Extraction Date: 04/27/97

IS Spike: 20 µl conc: 0.1000 ng/µl

SS Spike: ____ µl conc: __.____ ng/µl

MS Spike: 40 µl conc: 0.0100 ng/µl

LCS Spike: 40 µl conc: 0.0100 ng/µl

OPR Spike: __20 µl conc: _0.01__ ng/µl

						CMR	[illegible]			Chemist
						4836 G	4527K	4937A	4930A	Spike #
						USF-I	USFACS	USF-I	USF-ACS	" ID
						02/04/98	10/28/97	12/31/97	10/28/97	" Expir
						04/27/97	4/28/97	5/2/97	5/2/97	" Date
						0.1 ng/µl	0.1 ng/µl	0.1 ng/µl	0.1 ng/µl	" Conc.
						20 µl	20 µl	20 µl	20 µl	" Vol.
S#.crd	TLI SAMPLE ID	CLIENT SAMPLE ID	GROSS WEIGHT Before	GROSS WEIGHT After	SAMPLE SIZE g / ml					
000	TLI Blank	TLI Sediment Blank	N	A	10.01	IF	[illegible]			Any Left yes/no
001	165-74-1	F301	836.5	820.2	16.24	IF	[illegible]			Any Left yes/no
002	165-74-2	F302	771.9	751.6	20.27	IF	[illegible]			Any Left yes/no
003	165-74-3	F305	883.2	867.3	15.90	IF	[illegible]			Any Left yes/no
004	165-74-4	F307	930.6	916.1	14.43	IF	[illegible]			Any Left yes/no
005	41521-005 T TLI Clean-Up	[illegible]						[illegible] 4-2-97	[illegible] 4-2-97	Any Left yes/no
										Any Left yes/no
										Any Left yes/no
										Any Left yes/no
										Any Left yes/no

Gross weight of sample container + sample before/after aliquot removal.

Comments: Presoxed Sand used for blank

Initials: IF Date: 4/27/97

Initials of both SPIKER AND OBSERVER must be entered.

XXXXX = Gross Weight not provided for WATER Samples.

REV 09/12/96 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

DIOXIN SAMPLE EXTRACTION and CLEANUP TRACKING FORM

TLI Project No.: 41521

Ext S#.crd and TLI Number	1	2	3	4	7	8	9	8	9		
000 TLI Blank	IF 4/27/97	4/28/97	4/28/97	4/28/97	4/28/97		5/2/97	MA	5/1/97 JLE		
001 165-74-1						Acid clean up					
002 165-74-2											
003 165-74-3											
004 165-74-4						4-30-97		5/1/97			
Ex clean up 41521-005 TLI Clean-Up											

Enter the procedure number below into the box at the top of each column to signify the step performed.
Initial and date each sample for each numbered procedure performed.

#	PROCEDURE	DETAILS (circle)
1)	EXTRACTION	ON__ OFF__ Soxhlet / Jar / Sep Funnel / Steam Dist / Cont LL / ASE / Waste Dilution
2)	SPIKE AFTER EXTRACTION	
3)	ADD TRIDECANE	
4)	ROTOVAP	40mL / 10mL / Dryness
5)	COMBINE	
6)	DIVIDE / LIPID DETERMINATION	20%/80% 50%/50% 5mL/20mL Other_____
7)	SOLVENT EXCHANGE	
8)	CLEANUP	DSP 260 / DSP 240 / DSP 225 / DSP 215 / E010401 / Other _____
9)	TRANSFER	
10)	ADDITIONAL CLEANUP	DSP 260 / DSP 240 / DSP 225 / DSP 215 / E010401 / Other _____
11)	FINAL TRANSFER	

Comments: _____

Rev 09/12/96 (PSTMF 4)

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 41521

Transfer From: DWLH5 To: DMS5

	Initials..	Date.....	Time...
Released by:	JLE	5/3/97	1:00
Accepted by:	gm	5/3/97	8:20a

MILES.ID.....		TLI_No.....	Cust.Id.....
41521-	-000	TLI Blank	TLI Sediment Blank
41521-	-001	165-74-1	F301
41521-	-002	165-74-2	F302
41521-	-003	165-74-3	F305
41521-	-004	165-74-4	F307
41521-	-005	TLI Clean-Up	CleanUp Blk

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

TRIANGLE LABORATORIES, INC.

HR GC/HRMS ANALYSIS

Method: M.8290; Tetra-Octa

Required Detection Limit: 1 ppt

PROJECT: 41521

SAMPLE INFORMATION

1ST COLUMN 2ND COLUMN

RS Conc 20 µl @ 100.0 PG/µl

S#.crd	TLI SAMPLE ID / CLIENT SAMPLE ID	GC/MS FILENAME COLUMN: DB5	CONFIRM	CONFIRM FILENAME COLUMN: [illegible]	USF-RS VOLUME SOLN ID 20 µl 46182	USF-RS INIT. MS DATE 5/3/97	ANALYSIS COMMENTS
000	TLI Blank / TLI Sediment Blank	S972991	N	—			
001	165-74-1 / F301	S973012 ~~S972992~~	Y	P972259			
002	165-74-2 / F302	S972993	Y				**
003	165-74-3 / F305	S973014 ~~S972994~~		—			low N x COF std ** OCDD std
004	165-74-4 / F307	S973015 ~~S972995~~	Yes ~~N~~ SAP 05/08/97 EE	P972260			
005	TLI Clean-Up / CleanUp Blk	S972994	N	—			NO IS

Comments: *cleanup blank only for samples #2,3 - needed add'l
**re-extraction needed
Full screens are with Seroj - SAP 05/08/97

Cleanup mem 5/6/97

Type: B

Spike File: SPX2372S

Amt of Extract: 100%

REV 03/07/95 (PSTMF 6)

Triangle Laboratories, Inc.
Run Log

23

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
FO$	DB5	7392943	@TYPUD	2.0 ul	EPCU$2	EPCU$

WL — Signature
5-4-97 — Date

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
$972988	5/4/97		—	4856C	—	RTCHK	Auto		WL/5/4/97	MASS CAL $504972 WL 5-4-97
$972989		17:53	—	4856C		RTCHK	RTCHK	2.5 E5	KAS 5/4/97	Topped Column - BTP Δ Septum/Line - KAS
5972~~98~~ 990 KAS 4/5/97		18:45	—	4497	—	ConCal (8290) 50.0	MO 50	7.1 E5	KAS 5/4/97	Good Beginning
5972991		19:43	41521	TLI BLANK		TLI Sediment Blank	Auto	5.2 E5		T-0
5972992		20:22		165-74-1		F301		3.2 E5		
5972993		21:01		165-74-2		F302		2.8 E5		
5972994		21:41		165-74-3		F305		3.2 E5		
5972995		22:20		165-74-4		F307		3.2 E5		
5972996		23:00		TLI Clean-up		Clean Up Blank		3.5 E5		
5972997	5/4/97	23:39	41525	TLI BLANK		TLI Water Blank		3.3 E5		TCDD only
5972998	5/5/97	00:18		165-78-1		LA010-WO-047-BA E01		3.5 E5		
5972999		00:58		TLI LCS		TLI LCS		2.6 E5		
5973000	5/5/97	01:37		TLI LCSD		TLI LCSD	Auto	3.1 E5		

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: _____
ConCal Due: _____

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Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
703	DB5	7392447	T02	2.0 ul	EPCUS2	EPCUS

[signature] Signature — 5/5/97 Date

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
S973001	–	–	41492C	TLI BLANK		TLI G8 Filter Blank	Auto	–	KAS 5/4/97	Reshoot: did not acquire Kim 5/5/97
3002	–	–	↓	165-45-7		WAPP02-000-01W	↓	–	↓	
3003	–	–		TLI LCS		TLI LCS		–		
3001	–	–		TLI LCSD		TLI LCSD		–		
S973005	5/5/97	5:02	—	4514F	–	8290/M23 CC50	Auto	9.4 E5	Kim 5/5/97	NG: Hp CDF 40%
S973006	5/5/97	6:14	–	4514F	–	8290/M23 CC50	Auto	7.3 E5	Kim 5/5/97	OSDC Good
S973007	5/5/97	7:06	—	4856C	—	3H CHK	Auto	23%	ADP 5/5/97	
S973008	5/5/97	8:01	41492C	TLI Blank	0	TLI G8 Filter Blank	Auto	7.3 E5	ADP 5/5/97	
S973009	5/5/97	8:43	41492C	165-45-7	1	WAPP02-000-01W	Auto	1.1 E6	APP 5/5/97	
S973010	5/5/97	9:26	41492C	TLI LCS	2	TLI LCS	Auto	1.0 E6	ADP 5/5/97	
S973011	5/5/97	10:10	41492C	TLI LCSD	3	TLI LCSD	Auto	1.1 E6	ADP 5/5/97	
S973012	5/5/97	10:54	41521-	165-74-1	1	F301	Auto	1.2 E6	ADP 5/5/97	
S973013	5/5/97	11:37	41492C	TLI LCSD	3	TLI LCSD	Auto		ADP 5/5/97	

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: 18:14
ConCal Due:

srvr1/qa/forms/hrrunlog.doc (02/05/97)

Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
705	DB5	7392943	T02	20ml	EPCUS2	EPCUS

Ann Preston
Signature

5/5/97
Date

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
5973014	5/5/97	12:24	41521	165-74-3	3	F305	Auto	9.3 E5	ADP 5/5/97	
5973015	5/5/97	13:10	41521	165-74-4	4	F307	Auto		ADP 5/5/97	
5973016	5/5/97	13:57	41546A	TLI Blank	0	TLI N. nosuta Blank	Auto	7.4 E5	ADP 5/5/97	
5973017	5/5/97	14:41	41546A	165-99-1MDL1	1	70546 MDL Verf #1	Auto	9.6 E5	ADP 5/5/97	
5973018	5/5/97	15:32 ~~16:45~~	41546A	165-99-1MDL2	2	70546 MDL Verf #2	Auto	9.7 E5 ~~9.8 E5~~	ADP 5/5/97	
5973019	5/5/97	16:15	41546A	165-99-1MDL3	3	70546 MDL Verification #3	Auto	9.8 E5	KAJ 5/5/97	
5973020	5/5/97	1659	41546A	165-99-1MDL4	4	70546 MDL verification #4	Auto	7.7 E5	KAJ	
5973021	5/5/97	1745	41546A	165-99-1MS	5	70546 MS	Auto	5.4 E5	ML 5/5/97	
5973022	5/5/97	1850	—	4514F	—	8290/M23 concal 50	Auto	7.3 E5	ML 5/5/97	Good B/F
5973023	5/5/97	1940	—	4856C	—	RTCHK	Auto	26%	ML 5/5/97	NG
5973024	5/5/97	2029	—	4856C	—	RTCHK	Auto	26%	ML 5/5/97	NG ASEL
5973025	5/5/97		—	4856C	—	RTCHK	Auto		ML 5/5/97	Top column
5973026	5/6/97			4856 C		RTCHK	Auto	40%	BJG 5/6/97	NG

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: 18:14
ConCal Due:

srvr1/qa/forms/hrrunlog.doc (02/05/97)

Instrument ID	Column Type	Column ID	Plot Name	[illegible]
70P	DB225	GV78632	CTUPND	2.0 µl [illegible]

Signature: [signature] Date: 5/8/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
P972254	5/8/97	15:22	41498B	165-51-2	1	WA030-SL-047-XAPRCL	P5071	2.1 E6	WK 5/8/97	
1 55	1	16:08	—	4497	—	TETRA CONCAL 5.0	TETRA 5.0	2.2 E6	WK 5/8/97	Good Back + Front ABC
P972256	5/8/97	17:04	—	4498C		TETRA CONCAL 50.0	TETRA 50.0	9.7 E5	MS 5/8/97	Δ Septum + Liner Good F+B
P972257	5/8/97	17:55	—	4856C	—	RTCHK	RTCHK	19%	MS 5/8/97	
P972258	5/8/97	18:53	—	~~4~~84618AA	—	RS-100	RS-100	8.8 E5	MS 5/8/97	
P972259	5/8/97	19:35	41521	165-74-1	1	F301	P5071	6.1E5	MS 5/8/97	5 µl nonane added
P972260	5/8/97	20:26	41521	165-74-4	4	F307	P5071	1.1 E6	MS 5/8/97	5 µl nonane added
P972261	5/8/97	21:11	41572	166-26-1A-E	1	BOILER A RUN #1	P5071	1.2E6	MS 5/8/97	
P972262	5/8/97	21:56	41572	166-26-2A-D	2	BOILER A RUN #2	P5071	1.2E6	MS 5/8/97	
P972263	5/8/97	22:44	41572	166-26-3A-D	3	BOILER A RUN #3	P5071	8.6 E5	MS 5/8/97	
P972264	5/9/97	0:17	—	4498C	—	Tetra ConCal 50	Tetra 50	8.0 E5	Kim 5/9/97	Good F&B Kim 5/9/97

* Transcribed from chromatographic data

** Dated initials required

ConCal Due: 4:08

ConCal Due: _____

srvr1/qa/forms/hrrunlog.doc (02/05/97)

TRIANGLE LABS

CALIBRATION DATA

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729

P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Date: 05/05/97

TRIANGLE LABORATORIES, INC.
Continuing Calibration for S973006

Analysis Date....: 05/05/97
Operator.....: HLM
Init Calibration.: SF52067
ICal Date.....: 02/06/97

Method.....: M237
Instrument..: S
Std.Conc....: 50.00

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		0:01 11:58			2.012	-2.012	100.0%
Total MCDD	0.000		0:01 12:56			2.204	-2.204	100.0%
Total DCDF	0.000		4:58 12:58			0.811	-0.811	100.0%
Total DCDD	0.000		5:56 13:56			1.638	-1.638	100.0%
Total TriCDF	0.000		8:58 15:58			1.060	-1.060	100.0%
Total TriCDD	0.000		10:56 16:56			0.873	-0.873	100.0%
2378-TCDF	1.132	0.80	13:58 21:58	18:00	1.0019	1.126	0.006	0.5%
TOTAL TCDF	1.132	0.80				1.126	0.006	0.5%
2378-TCDD	1.094	0.70	14:56 22:56	18:58	1.0018	1.198	-0.104	-8.7%
TOTAL TCDD	1.094	0.70				1.198	-0.104	-8.7%
12378-PeCDF	1.099	1.49	18:56 26:56	22:57	1.0007	1.060	0.039	3.6%
23478-PeCDF	1.117	1.47		23:47	1.0371	1.062	0.055	5.2%
TOTAL PeCDF	1.108	1.48				1.061	0.047	4.4%
12378-PeCDD	1.221	1.62	20:11 28:11	24:12	1.0007	1.292	-0.071	-5.5%
TOTAL PeCDD	1.221	1.62				1.292	-0.071	-5.5%
123478-HxCDF	1.058	1.24	22:57 30:57	26:51	0.9963	1.001	0.057	5.7%
123678-HxCDF	1.363	1.24		26:57	1.0000	1.375	-0.012	-0.9%
234678-HxCDF	0.997	1.23		27:30	1.0204	0.990	0.007	0.7%
123789-HxCDF	0.960	1.25		28:13	1.0470	0.864	0.096	11.1%
TOTAL HxCDF	1.095	1.24				1.057	0.038	3.6%
123478-HxCDD	0.848	1.20	23:43 31:43	27:39	0.9976	0.804	0.044	5.5%
123678-HxCDD	1.031	1.12		27:44	1.0006	1.077	-0.046	-4.2%

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Date: 05/05/97 TRIANGLE LABORATORIES, INC.

Continuing Calibration for S973006

123789-HxCDD	0.978	1.14		28:02	1.0114	0.941	0.037	3.9%
TOTAL HxCDD	0.952	1.15				0.941	0.011	1.2%
1234678-HpCDF	1.347	1.13	25:45 33:45	29:46	1.0006	1.360	-0.013	-0.9%
1234789-HpCDF	1.022	1.15		30:58	1.0409	1.074	-0.052	-4.8%
TOTAL HpCDF	1.185	1.14				1.217	-0.032	-2.7%
1234678-HpCDD	0.922	1.12	26:38 34:38	30:38	1.0000	1.026	-0.104	-10.2%
TOTAL HpCDD	0.922	1.12				1.026	-0.104	-10.2%
OCDF	1.304	0.81	29:01 37:01	33:07	1.0030	1.315	-0.011	-0.8%
OCDD	1.057	0.89	29:01 37:01	33:02	1.0005	1.041	0.016	1.6%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.962		16:56 20:56	18:58	1.0018	0.976	-0.014	-1.4%
13C12-PeCDF 234	0.922	1.21***	18:56 26:56	23:46	1.0363	0.954	-0.032	-3.3%
13C12-HxCDF 478	0.953	0.49		26:50	0.9957	0.871	0.082	9.4%
13C12-HxCDF 234	0.839	0.49		27:29	1.0198	0.827	0.012	1.5%
13C12-HxCDF 789	0.785	0.50		28:12	1.0464	0.728	0.057	7.8%
13C12-HxCDD 478	0.901	1.13		27:38	0.9970	0.833	0.068	8.2%
13C12-HpCDF 789	0.748	0.41	27:45 33:45	30:58	1.0409	0.791	-0.043	-5.5%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.409	0.74	16:58 18:58	17:58	1.0000	1.439	-0.030	-2.1%
13C12-2378-TCDD	1.094	0.83	16:56 20:56	18:56	1.0000	1.130	-0.036	-3.2%
13C12-PeCDF 123	1.088	1.28***	18:56 26:56	22:56	1.0000	1.194	-0.106	-8.9%
13C12-PeCDD 123	0.643	1.48	20:11 28:11	24:11	1.0000	0.647	-0.004	-0.7%
13C12-HxCDF 678	1.367	0.48	22:57 30:57	26:57	1.0000	1.455	-0.088	-6.1%
13C12-HxCDD 678	1.038	1.13	26:43 28:43	27:43	1.0000	1.096	-0.058	-5.3%

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TRIANGLE LABORATORIES, INC.
Continuing Calibration for S973006

13C12-HpCDF 678	0.941	0.41	27:45 33:45	29:45	1.0000	0.897	0.044	4.9%
13C12-HpCDD 678	0.837	1.02	29:38 31:38	30:38	1.0000	0.748	0.089	11.9%
13C12-OCDD	0.610	0.87	31:01 35:01	33:01	1.0000	0.666	-0.056	-8.5%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.85		18:41	0.9868	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.12		28:01	1.0108	1.000	0.000	0.0%

QC Front End Check: 1.4576

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Date: 05/04/97

TRIANGLE LABORATORIES, INC.
Continuing Calibration for S972990

Analysis Date....: 05/04/97 Method.....: M237
Operator.....: KAS Instrument..: S
Init Calibration.: SF52067 Std.Conc....: 50.00
ICal Date.....: 02/06/97 Related CCal: S972950

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		0:01 11:58			2.012	-2.012	100.0%
Total MCDD	0.000		0:01 12:57			2.204	-2.204	100.0%
Total DCDF	0.000		4:58 12:58			0.811	-0.811	100.0%
Total DCDD	0.000		5:57 13:57			1.638	-1.638	100.0%
Total TriCDF	0.000		8:58 15:58			1.060	-1.060	100.0%
Total TriCDD	0.000		10:57 16:57			0.873	-0.873	100.0%
2378-TCDF	1.042	0.80	13:58 21:58	18:00	1.0019	1.126	-0.084	-7.5%
TOTAL TCDF	1.042	0.80				1.126	-0.084	-7.5%
2378-TCDD	1.137	0.74	14:57 22:57	18:57	1.0000	1.198	-0.061	-5.1%
TOTAL TCDD	1.137	0.74				1.198	-0.061	-5.1%
12378-PeCDF	1.040	1.62	18:57 26:57	22:57	1.0000	1.060	-0.020	-1.9%
23478-PeCDF	1.055	1.61		23:48	1.0370	1.062	-0.007	-0.7%
TOTAL PeCDF	1.047	1.62				1.061	-0.014	-1.3%
12378-PeCDD	1.281	1.59	20:12 28:12	24:13	1.0007	1.292	-0.011	-0.8%
TOTAL PeCDD	1.281	1.59				1.292	-0.011	-0.8%
123478-HxCDF	1.060	1.24	22:58 30:58	26:52	0.9963	1.001	0.059	5.9%
123678-HxCDF	1.367	1.24		26:59	1.0006	1.375	-0.008	-0.6%
234678-HxCDF	1.034	1.25		27:31	1.0204	0.990	0.044	4.4%
123789-HxCDF	0.942	1.23		28:15	1.0476	0.864	0.078	9.0%
TOTAL HxCDF	1.101	1.24				1.057	0.044	4.1%
123478-HxCDD	0.834	1.24	23:45 31:45	27:40	0.9970	0.804	0.030	3.7%
123678-HxCDD	1.029	1.26		27:46	1.0006	1.077	-0.048	-4.4%

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123789-HxCDD	0.987	1.25		28:03	1.0108	0.941	0.046	4.9%
TOTAL HxCDD	0.950	1.25				0.941	0.009	1.0%
1234678-HpCDF	1.393	1.16	25:46 33:46	29:47	1.0006	1.360	0.033	2.4%
1234789-HpCDF	0.990	1.15		31:00	1.0414	1.074	-0.084	-7.9%
TOTAL HpCDF	1.191	1.15				1.217	-0.026	-2.1%
1234678-HpCDD	0.953	1.02	26:39 34:39	30:40	1.0005	1.026	-0.073	-7.1%
TOTAL HpCDD	0.953	1.02				1.026	-0.073	-7.1%
OCDF	1.226	0.82	29:04 37:04	33:09	1.0025	1.315	-0.089	-6.8%
OCDD	1.019	0.76	29:04 37:04	33:04	1.0000	1.041	-0.022	-2.1%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.987		16:57 20:57	18:57	1.0000	0.976	0.011	1.2%
13C12-PeCDF 234	0.965	1.47	18:57 26:57	23:47	1.0363	0.954	0.011	1.1%
13C12-HxCDF 478	0.954	0.49		26:51	0.9957	0.871	0.083	9.5%
13C12-HxCDF 234	0.886	0.49		27:31	1.0204	0.827	0.059	7.1%
13C12-HxCDF 789	0.764	0.49		28:15	1.0476	0.728	0.036	4.9%
13C12-HxCDD 478	0.926	1.22		27:40	0.9970	0.833	0.093	11.2%
13C12-HpCDF 789	0.691	0.45	27:46 33:46	31:00	1.0414	0.791	-0.100	-12.6%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.435	0.76	16:58 18:58	17:58	1.0000	1.439	-0.004	-0.2%
13C12-2378-TCDD	1.116	0.74	16:57 20:57	18:57	1.0000	1.130	-0.014	-1.2%
13C12-PeCDF 123	1.083	1.50	18:57 26:57	22:57	1.0000	1.194	-0.111	-9.3%
13C12-PeCDD 123	0.607	1.58	20:12 28:12	24:12	1.0000	0.647	-0.040	-6.2%
13C12-HxCDF 678	1.305	0.50	22:58 30:58	26:58	1.0000	1.455	-0.150	-10.3%
13C12-HxCDD 678	1.020	1.25	26:45 28:45	27:45	1.0000	1.096	-0.076	-7.0%

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Date: 05/04/97 TRIANGLE LABORATORIES, INC.

Continuing Calibration for S972990

13C12-HpCDF 678	0.811	0.45	27:46 33:46	29:46	1.0000	0.897	-0.086	-9.6%
13C12-HpCDD 678	0.682	1.01	29:39 31:39	30:39	1.0000	0.748	-0.066	-8.8%
13C12-OCDD	0.531	0.89	31:04 35:04	33:04	1.0000	0.666	-0.135	-20.3%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.74		18:41	0.9859	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.19		28:02	1.0102	1.000	0.000	0.0%

QC Front End Check: 1.7680

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Date: 05/08/97 TRIANGLE LABORATORIES OF RTP, INC.

Continuing Calibration for P972255

Analysis Date....: 05/08/97 Method.....: C2NF
Operator.....: WK Instrument..: P
Init Calibration.: PF22206 Std.Conc....: 5.00
ICal Date.....: 02/20/96
Analysis Time....: 16:08 GC Column...: DB-225

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
2378-TCDF	0.993	0.75	17:21 24:06	21:57	1.0008	1.040	-0.047	-4.5%
TOTAL TCDF	0.993	0.75				1.040	-0.047	-4.5%
2378-TCDD	1.084	0.83	18:10 23:26	20:40	1.0008	0.992	0.092	9.3%
TOTAL TCDD	1.084	0.83				0.992	0.092	9.3%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.938		18:39 22:39	20:40	1.0008	1.014	-0.076	-7.5%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.373	0.76	20:56 22:56	21:56	1.0000	1.388	-0.015	-1.1%
13C12-2378-TCDD	1.093	0.77	18:39 22:39	20:39	1.0000	1.067	0.026	2.4%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.80		20:54	1.0121	1.000	0.000	0.0%

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Printed: 18:51 05/08/97

DRA 5/7/97

Initial Calibration Summary for S[illegible]

Analysis Date.....: 02/06/97 Method.....: M23?
Instrument.....: S

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
Total MCDF	2.012	0.000	0%	8:23	0:04	14:04	3.196		1
Total MCDD	2.204	0.000	0%	8:51	0:54	14:54	3.128		1
Total DCDF	0.811	0.000	0%	10:48	7:04	15:04	6.410		1
Total DCDD	1.638	0.000	0%	11:19	7:54	15:54	1.457		1
Total TriCDF	1.060	0.000	0%	14:13	11:04	18:04	1.000		1
Total TriCDD	0.873	0.000	0%	14:16	12:54	18:54	1.061		1
2378-TCDF	1.126	0.053	5%	20:05	16:04	24:04	0.754		5
TOTAL TCDF	1.126	0.053	5%				0.754		5
2378-TCDD	1.198	0.131	11%	20:55	16:54	24:54	0.705		5
TOTAL TCDD	1.198	0.131	11%				0.705		5
12378-PeCDF	1.060	0.028	3%	24:28	20:28	28:28	1.487		5
23478-PeCDF	1.062	0.028	3%	25:14			1.483		5
TOTAL PeCDF	1.061	0.006	1%				1.485		5
12378-PeCDD	1.292	0.086	7%	25:37	21:36	29:36	1.586		5
TOTAL PeCDD	1.292	0.086	7%				1.586		5
123478-HxCDF	1.001	0.036	4%	28:08	24:13	32:13	1.237		5
123678-HxCDF	1.375	0.047	3%	28:14			1.227		5
234678-HxCDF	0.990	0.049	5%	28:45			1.221		5
123789-HxCDF	0.864	0.081	9%	29:28			1.258		5
TOTAL HxCDF	1.057	0.045	4%				1.233		5
123478-HxCDD	0.804	0.024	3%	28:52	24:57	32:57	1.214		5
123678-HxCDD	1.077	0.055	5%	28:58			1.193		5
123789-HxCDD	0.941	0.034	4%	29:15			1.223		5
TOTAL HxCDD	0.941	0.030	3%				1.207		5
1234678-HpCDF	1.360	0.052	4%	30:56	26:56	34:56	1.017		5
1234789-HpCDF	1.074	0.127	12%	32:08			0.964		5
TOTAL HpCDF	1.217	0.088	7%				0.992		5
1234678-HpCDD	1.026	0.042	4%	31:48	27:47	35:47	1.073		5
TOTAL HpCDD	1.026	0.042	4%				1.073		5
OCDF	1.315	0.039	3%	34:19	30:12	38:12	0.868		5
OCDD	1.041	0.020	2%	34:12	30:12	38:12	0.908		5

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	0.976	0.031	3%	20:55	18:54	22:54			5
13C12-PeCDF 234	0.954	0.027	3%	25:13	22:28	26:28	1.492		5
13C12-HxCDF 478	0.871	0.021	2%	28:07			0.509		5
13C12-HxCDF 234	0.827	0.029	4%	28:44			0.506		5
13C12-HxCDF 789	0.728	0.032	4%	29:27			0.505		5
13C12-HxCDD 478	0.833	0.020	2%	28:52			1.241		5
13C12-HpCDF 789	0.791	0.055	7%	32:08	28:56	34:56	0.424		5

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.439	0.115	8%	20:04	19:04	21:04	0.732		5
13C12-2378-TCDD	1.130	0.083	7%	20:54	18:54	22:54	0.812		5
13C12-PeCDF 123	1.194	0.153	13%	24:28	20:28	28:28	1.486		5

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Initial Calibration Summary for SF52057

13C12-PeCDD 123	0.647	0.116	18%	25:36	21:36	29:36	1.483		5
13C12-HxCDF 678	1.455	0.079	5%	28:13	24:13	32:13	0.507		5
13C12-HxCDD 678	1.096	0.030	3%	28:57	27:57	29:57	1.235		5
13C12-HpCDF 678	0.897	0.031	3%	30:56	28:56	34:56	0.437		5
13C12-HpCDD 678	0.748	0.076	10%	31:47	30:47	32:47	1.026		5
13C12-OCDD	0.666	0.072	11%	34:12	32:12	36:12	0.897		5

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	20:41			0.819		5
13C12-HxCDD 789	1.000	0.000	0%	29:15			1.232		5

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Printed: 10:11 02/06/97

Initial Calibration Summary for PF___06

Analysis Date....: 02/20/96
Instrument.....: P

Method.....: CCDF
GC Column...: DB-225

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
2378-TCDF	1.040	0.109	10%	21:32	14:31	25:31	0.767		10
TOTAL TCDF	1.040	0.109	10%				0.767		10
2378-TCDD	0.992	0.101	10%	20:12	16:11	24:11	0.782		10
TOTAL TCDD	0.992	0.101	10%				0.782		10

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	1.014	0.048	5%	20:12	18:11	22:11			10

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.388	0.062	4%	21:31	20:31	22:31	0.758		10
13C12-2378-TCDD	1.067	0.036	3%	20:11	18:11	22:11	0.786		10

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	20:27			0.794		10

*** End of Report ***

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Printed: 23:10 02/20/96

SAMPLE DATA

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TRIANGLE LABORATORIES OF RTP, INC.
Sample Result Summary for Project 41521
Method 8290X Full Screen Analyses (DB-5)

Data File	S972991		S973012		S973015	
Sample ID	TLI Sediment Blank		F301		F307	
Units	ppt		ppt		ppt	
Extraction Date	04/27/97		04/27/97		04/27/97	
Analysis Date	05/04/97		05/05/97		05/05/97	
Instrument	S		S		S	
Matrix	SAND		SEDIMENT		SEDIMENT	
Extraction Type	Soxhlet		Soxhlet		Soxhlet	
Analytes						
2378-TCDD	(0.9)		(0.7)		(0.6)	
12378-PeCDD	(1.5)		{1.4}		(0.8)	
123478-HxCDD	(2.4)		4.1		(1.4)	
123678-HxCDD	(1.8)		8.3		{3.3}	
123789-HxCDD	(2.1)		7.9		3.0	
1234678-HpCDD	(2.5)		213		53.0	
OCDD	4.0		3250		599	
2378-TCDF	(0.7)		3.5		3.4	
12378-PeCDF	(1.2)		0.66		(0.6)	
23478-PeCDF	(1.2)		1.1		{1.2}	
123478-HxCDF	(1.5)		{9.2}	E	{4.5}	E
123678-HxCDF	(1.1)		1.8		1.2	
234678-HxCDF	(1.6)		1.8	PR	1.4	
123789-HxCDF	(1.8)		(1.2)		(1.0)	
1234678-HpCDF	(1.9)		210		21.2	
1234789-HpCDF	(2.4)		12.5		(1.3)	
OCDF	(2.5)		603		49.8	
TOTAL TCDD	(0.9)		58.5		17.1	
TOTAL PeCDD	(1.5)		45.9		21.8	
TOTAL HxCDD	(2.1)		92.6		19.2	
TOTAL HpCDD	(2.5)		446		105	
TOTAL TCDF	(0.7)		33.0	E	18.7	E
TOTAL PeCDF	(1.2)		24.3	E	8.8	E
TOTAL HxCDF	(1.5)		82.7	E	18.4	E
TOTAL HpCDF	(2.1)		558		55.7	
Other Standards Percent Recovery Summary (% Rec)						
37Cl-TCDD	60.4		73.0		34.6	V
13C12-PeCDF 234	55.4	RO	78.4		42.4	
13C12-HxCDF 478	78.5		75.3		42.8	
13C12-HxCDD 478	79.8		86.7		42.9	
13C12-HpCDF 789	72.6		88.6		44.5	
Other Standards Percent Recovery Summary (% Rec)						
13C12-HxCDF 789	75.0		85.7		44.6	
13C12-HxCDF 234	73.1		74.2		41.8	
Internal Standards Percent Recovery Summary (% Rec)						
13C12-2378-TCDF	75.2		77.4		42.4	
13C12-2378-TCDD	64.9		74.8		38.7	V
13C12-PeCDF 123	52.1	RO	81.4		39.5	V
13C12-PeCDD 123	65.8		89.9		49.2	

Data File	S972991	S973012	S973015	
Sample ID	TLI Sediment Blank	F301	F307	
Units	ppt	ppt	ppt	
Extraction Date	04/27/97	04/27/97	04/27/97	
Analysis Date	05/04/97	05/05/97	05/05/97	
Instrument	S	S	S	
Matrix	SAND	SEDIMENT	SEDIMENT	
Extraction Type	Soxhlet	Soxhlet	Soxhlet	
Internal Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 678	71.7	68.3	39.1	V
13C12-HxCDD 678	75.7	81.4	42.9	
13C12-HpCDF 678	70.7	88.3	40.1	
13C12-HpCDD 678	83.8	93.1	51.1	
13C12-OCDD	73.3	94.6	53.5	

{Estimated Maximum Possible Concentration}, (Detection Limit).

TRIANGLE LABORATORIES OF RTP, INC.
Sample Result Summary for Project 41521
Method 8290X (DB-225)

05/09/97

Data File	P972259	P972260
Sample ID	F301	F307
Units	ppt	ppt
Extraction Date	04/27/97	04/27/97
Analysis Date	05/08/97	05/08/97
Instrument	P	P
Matrix	SEDIMENT	SEDIMENT
Extraction Type	Soxhlet	Soxhlet
Analytes		
2378-TCDF	{1.0} PR	1.8 PR
Internal Standards Percent Recovery Summary (% Rec)		
13C12-2378-TCDF	81.2	43.1

{Estimated Maximum Possible Concentration}.

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Printed: 00:37 05/09/97

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of

Polychlorinated Dibenzo-*p*-Dioxins and Dibenzofurans by

High-Resolution Chromatography / High-Resolution Mass Spectrometry

Method 8290 Rev. 0 (9/94)

Date:	May 9, 1997
Client ID:	EIS Environmental & Engineering
P.O. Number:	1236
TLI Project Number:	41521

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Rev. 05/08/97

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Overview

The samples and any associated QC samples were extracted and analyzed according to procedures described in the Triangle Laboratories' Data User's Manual (Rev. 12/92-LLW-7-AH-2/93). Any particular difficulties encountered during the sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Quality Control Samples

A laboratory method blank, identified as the TLI Blank, was prepared along with the samples.

Quality Control Remarks

This release of this particular set of EIS Environmental & Engineering analytical data by Triangle Laboratories was authorized by the Quality Control Chemist who has reviewed each sample data package individually following a series of inspections/reviews. When applicable, general deviations from acceptable QC requirements are identified below and comments are made on the effect of these deviations upon the validity and reliability of the results. Please consult Triangle Laboratories' Data User's Manual for further details. Specific QC issues associated with this particular project are:

Sample receipt: Four sediment samples were received from EIS Environmental & Engineering at 6.0° C in good condition on April 23, 1997 and were stored in a refrigerator at 4.0° C. Only samples F301 and F307 were processed under this project number and are included in this data package.

Sample Preparation Laboratory: None

Mass Spectrometry: None

Data Review: Samples F302 and F305 have been scheduled for re-extraction due to low OCDD internal standard recovery in the initial analyses. The results of these samples will be submitted as soon as they are available. We apologize for the delay.

The ion-abundance ratios of the $^{13}C_{12}$-1,2,3,7,8-PeCDF and $^{13}C_{12}$-2,3,4,7,8-PeCDF standards are outside the QC limit in the TLI Blank. Since no associated target analytes are detected above the target detection limits in the TLI Blank, the results are not significantly affected and are considered valid.

Other Comments: Any analytes found in the TLI Blank are detected at a level equal to or less than the Target Detection Limit. This level of contamination is acceptable as per TLI guidelines.

Average continuing calibration (Concal) response factors are used instead of average initial calibration (Ical) response factors for all analyte and labeled standard calculations in sample(s) with a beginning and ending calibration listed on the quantitation report. Average response factors are used when the ending Concal meets Method 8290 ending Concal requirements but not beginning Concal requirements. The average response factor is an average of the factors from the beginning and ending Concals.

Sample Calculations:

Analyte Concentration

The concentration or amount of any analyte is calculated using the following expression.

$$C_{(\sigma)} = \frac{A_\sigma * Q_\beta}{A_\beta * RRF_{(\sigma)} * W}$$

Where:

$C_{(\sigma)}$ is the concentration or amount of a given analyte,

A_σ is the integrated current for the characteristic ions of the analyte,

A_β is the integrated current of the characteristic ions of the corresponding internal standard,

Q_β represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Detection Limits

The detection limit reported for a target analyte that is not detected or presents an analyte response that is less than 2.5 times the background level is calculated by using the following expression. The area of the analyte is replaced by the noise level measured in a region of the chromatogram clear of genuine GC signals multiplied by an empirically determined factor. The detection limits represent the maximum possible concentration of a target analyte that could be present without being detected.

$$DL_{(\sigma)} = \frac{2 * 2.5 * (F * H) * Q_{\beta}}{A_{\beta} * RRF_{(\sigma)} * W}$$

Where:

$DL_{(\sigma)}$ is the estimated detection limit for a target analyte,

2.5 is the minimum response required for a GC signal,

F is an empirical number that approximates the area to height ratio for a GC signal. This number is 5 for the DB-5 GC column and 3.5 for the DB-225 GC column,

H is the height of the noise

A_{β} is the integrated current of the characteristic ions of the corresponding internal standard,

Q_{β} represents the amount of internal standard added to the sample before extraction,

$RRF_{(\sigma)}$ is the mean analyte relative response factor from the initial calibration (ICal) and,

W is the sample weight or volume

Other sample calculations may be found in the Triangle Laboratories Data User's Manual.

Data Flags

In order to assist with data interpretation, data qualifier flags are used on the final reports, as discussed in Triangle Laboratories' Method 8290 Data User's Manual. Please note that all data qualifier flags are subjective and are applied as consistently as possible. Each flag has been reviewed by two independent Chemists and the impact of the data qualifier flag on the quality of the data discussed above. The most commonly used flags are:

A **'B'** flag is used to indicate that an analyte has been detected in the laboratory method blank as well as in an associated field sample. The 'B' flag will be used only when the concentration of analyte found in the sample is less than 20 times that found in the associated blank. This flag denotes possible contribution of background laboratory contamination to the concentration or amount of that analyte detected in the field sample. Under Triangle Laboratories guidelines, a laboratory blank is acceptable if the tetra- through hepta-CDD/CDF levels are all below the target detection limits (TDLS) or if the contamination levels are less than 5% of the levels detected in the associated field samples. If these conditions are satisfied or if the blank is unable to be reextracted, the interpretation of the contamination levels relative to the samples should be as follows: 1) analyte quantitations should be considered valid if the level of blank contamination is less than five percent of the level detected in the field sample, 2) analyte quantitations should be considered estimated if the analyte level in the sample is five to twenty times the level of the analyte in the blank, or 3) analytes whose level in a sample is the same as or less than five times the level detected in the associated blank should be considered present likely due to laboratory contamination and not native to the sample.

An **'E'** flag is used to indicate that an PCDF peak has eluted at the same time as the associated diphenyl ether (DPE) and that the DPE peak intensity is ten percent or more of the PCDF peak intensity. Total PCDF values are flagged 'E' if the total DPE contribution to the total PCDF value is greater than ten percent. All PCDF peaks that are significantly influenced by the presence of DPE peaks are quantitated with EMPC values, regardless of the isotopic abundance ratio. These EMPC values are most likely overestimated due to the DPE contribution to the peak area.

An **'I'** flag is used to indicate labeled standards have been interfered with on the GC column by coeluting, interferent peaks. The interference may have caused the standard's area to be overestimated. All quantitations relative to this standard, therefore, may be underestimated.

A **'PR'** flag is used to indicate that a GC peak is poorly resolved. This resolution problem may be seen as two closely eluting peaks without a reasonable valley between the peak tops, overly broad peaks, or peaks whose shapes vary greatly from a normal distribution. The concentrations or amounts reported for such peaks are most likely overestimated.

A **'Q'** flag is used to indicate the presence of QC ion instabilities caused by quantitative interferences. Affected analytes may be overestimated or underestimated as a result of this interference. A peak is flagged 'Q' only if it is affected by a QC ion deviation greater than 20% full scale as determined relative to the labeled standard against which it is quantitated. Total PCDF/PCDF quantitations will be flagged 'Q' if the interferences affect ten percent or more of the total PCDD/PCDF peak areas.

An **'RO'** flag is used to indicate that a labeled standard has an ion abundance ratio that is outside of the acceptable QC limits, most likely due to a coeluting interference. This may have caused the percent recovery of the standard to be overestimated. All quantitations versus this standard, therefore, may be underestimated.

A **'U'** flag is used to indicate that a specific (2,3,7,8-substituted) isomer cannot be resolved from a large, coeluting interferent GC peak. The specific isomer is reported as not detected as a valid concentration/amount cannot be determined. The calculated detection limit, therefore, should be considered an underestimated value.

A **'V'** flag is used to indicate that, although the percent recovery of a labeled standard may be below a specific QC limit, the signal-to-noise ratio of the peak is greater than ten-to-one. The standard is considered reliably quantifiable. All quantitations derived from the standard are considered valid as well.

By our interpretation, the analytical data in this project are valid based on the guidelines of EPA Method 8290 Revision 0 (9/94) and Triangle Laboratories' Method 8290 Data User's Manual. Any specific QC concerns or problems have been discussed in the QC Remarks section of this case narrative with emphasis on their effect on the data. Should EIS Environmental & Engineering have any questions or comments regarding this data package, please feel free to contact our Project Scientist, Mary McDonald, at 919-544-5729, ext. 269.

For Triangle Laboratories, Inc.,

Report Preparation

S.A. 05/09/97

Saroj A. Parikh
Report Preparation Chemist

Quality Control

VIJAY S. CHHABRA

Report Preparation Chemist

The total number of pages in the data package is : 154 .

TRIANGLE LABORATORIES, INC.

LIST OF CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

American Association for Laboratory Accreditation. Expires July 31, 1997. Certificate Number 0228-01. Accreditation for technical competence in Environmental Testing.(Including Waste Water, Sol/Haz Waste, Pulp/Paper, and Air Matrices) Parameters are AOX/TOX, Volatiles, Pesticides, PCB's, BNA's, and Dioxin/Furan. Method 1613 for Drinking Water.

State of Alabama, Department of Environmental Management. Expires December 31, 1997. Laboratory I.D. # 40950. Dioxin in drinking water.

State of Alaska, Department of Environmental Conservation. Expires December 21, 1997. Certificate number CS-00397. Dioxin in drinking water.

State of Arizona, Department of Health Services. Expires May 26, 1997. Certificate #AZ0423. Drinking Water for Dioxin, Dioxin in WW and S/H Waste.

State of Arkansas, Department of Pollution Control and Ecology. Expires February 18, 1998. Pulp/paper, soil, water, and Hazardous Waste for Dioxin/Furan; AOX/TOX.

State of California, Department of Health Services. Expires August 31, 1997. Certificate #1922. Selected Metals in Waste Water; Volatiles, Semi-volatiles, and Dioxin/furan in WW and Sol/Haz Waste. Dioxin in drinking water.

State of Connecticut, Department of Health Services. Expires September 30, 1997. Registration # PH-0117. Dioxin in drinking water.

Delaware Health and Social Services. Expires December 31, 1997. Certificate #NC 140. Dioxin in drinking water.

Florida Department of Health and Rehabilitative Services. Expires June 30, 1997.Dioxin in DW. Drinking Water ID HRS# 87424. Metals, Extractable Organics (GC/MS), Pesticides/PCB's (GC) and Volatiles (GC/MS) in Environmental Samples. Environmental water ID HRS# E87411.

Hawaii Department of Health. Expires March 1, 1998. Dioxin in drinking water. "Accepted" status for regulatory purposes.

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Idaho Department of Health and Welfare. Expires November 30, 1997. Dioxin in drinking water.

State of Kansas, Department of Health and Environment. Expires January 31, 1998. Environmental Analyses/Non potable Water and Solid and Hazardous Waste. Method 1613 for drinking water. ID #s - Drinking water and/or pollution control - E-215. Solid or Hazardous Waste - E-1209.

Commonwealth of Kentucky, Department for Environmental Protection. Expires December 31, 1997. ID#90060. Dioxin in drinking water.

Maryland Department of Health and Mental Hygiene. Expires September 30, 1997. Certification #235. Drinking water by Method 1613A.

State of Michigan, Department of Public Health. Expires March 31, 1997. Drinking water by Method 1613.

Mississippi State Department of Health. No expiration date.. Dioxin in drinking water.

Montana Department of Health and Environmental Services. Expires December 31, 1997. Dioxin in drinking water.

State of New Jersey, Department of Environmental Protection and Energy. Extended by state. Temporary certificate until June 30, 1997 or sooner. ID #67851. BNAs and Volatiles. Dioxin in drinking water.

State of New Mexico, Environment Department. Expires July 31, 1997. Dioxin in drinking water.

New York State Department of Health. Expires June 30, 1997. ID #11026. Environmental Analyses of non-potable Water, Solid and Hazardous Waste. Method 1613 in DW.

State of North Carolina, Department of Environment Health and Natural Resources Expires December 31, 1997. Certificate # 37751. Dioxin in drinking water.

State of North Carolina, Department of Environment, Health, and Natural Resources, Division of Environmental Management. Expires December 31, 1997. Certificate # 485. Metals, pesticides & PCBs, semi-volatiles and volatiles; TCLP.

North Dakota State Department of Health and Consolidated Laboratories. Expires December 31, 1997. Certificate # R-076. Effective October 4, 1993. Dioxin in drinking water.

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Oklahoma Department of Environmental Quality. Expires October 31, 1997. Laboratory #9612. Dioxin by 1613A, 8290 and 8280.

State of South Carolina, Department of Health and Environmental Control. Expires April 1, 1997. Certificate number #99040001 (drinking water). Expires August 31, 1997. Certificate number #99040002 (other parameters). Dioxin/Furans, BNA, Volatiles, and PCBs/pesticides under Clean Water Act. 2,3,7,8-TCDD for Drinking Water, and Organic extractables for Solid and Hazardous Waste.

State of Tennessee, Department of Environment and Conservation. Expires February 5, 1999. ID #02992. Method 1613 Drinking water only.

U.S. Department of Agriculture Soil Permit. Expires September 30, 2001. Permit No. S-3790 Revised. Under the authority of the Federal Plant Pest Act, permission is granted to receive foreign soil samples for use in laboratory analysis.

U.S. Army Corps of Engineers. Expires November 30, 1997. Validated to perform methods 8280 & 8290 for Lockbourne Landfill Site Investigation, Defense Distribution Depot Projects, and associated projects for the USACE North Pacific Division Laboratory.

U.S. EPA Region V. Expires November 14, 1998. Dioxin in drinking water.

U.S. EPA Region VIII, for the State of Wyoming. Expires November 13, 1997. Dioxin in drinking water.

State of Utah, Department of Health. Expires December 31, 1997. Certificate Number E-166. Certification for the following parameters: Semi-Volatiles and Volatiles under RCRA; Volatiles under Clean Water Act; Dioxin/furans by Method 8280; Drinking water for Dioxin by Method 1613; Metals including Mercury and Microwave Digestion.

Commonwealth of Virginia, Department of General Services, Division of Consolidated Laboratory Services. Expires June 30, 1997. ID # 00341. Dioxin in drinking water.

State of Washington, Department of Ecology. Expires September 11, 1997. Lab Accreditation Number C067. Scope of Accreditation applies to water analyses for Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans, BNA Extr (Semivolatile) Organics and Purgeable (Volatile) Organics.

State of Washington, Department of Health. Expires April 30, 1998. Dioxin in drinking water. Lab I.D. 129

State of West Virginia, Department of Health. Expires December 31, 1996. Certificate No. 9923(C). Dioxin in drinking water.

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State of Wisconsin, Department of Natural Resources. Expires June 30, 1997. Laboratory ID Number 999869630. Certification for the following categories of Organics: Purgeable, Base/Neutral, Acid, PCBs, and Dioxin. Expires November 14, 1999. Laboratory ID 999869630. Dioxin in drinking water.

PHARMACEUTICAL

Drug Enforcement Agency (DEA). Expires November 30, 1997. Registration number RT0119583S. Controlled substance registration for schedules 1,2,3,3N,4,5.

N.C. Department of Human Resources. Expires October 31, 1997. Registration number NC-PT 0000 0031. North Carolina controlled substances registration. Application submitted for renewal.

Food & Drug Administration (FDA) Registration. Expires July 1997. ID #s 001500 1053481. Annual registration of drug establishment. Annual registration of drug establishment.

OTHER

Clinical Laboratory Improvement Amendments (CLIA) Registration. Expires May 30, 1997. ID # 34D0705123. Department of Health & Human Services. Health Care Financing Administration.

U.S. EPA Large Quantity Hazardous Waste Generator. No expiration date. EPA ID #NCD982156879. Permit indicates that the laboratory is a large generator of hazardous waste.

North Carolina Radioactive Materials License. Expires April 30 1998. License No. 032-0954-1. License authorizes the licensee to receive, acquire, own, possess, transfer, import and use such radioactive materials as designated.

North Carolina General License for Radiation Protection. No. expiration date. License No. 032-875-GG. The general license applies only to radioactive material contained in devices which have been manufactured and labeled in accordance with specific requirements.

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