United States Environmental Protection Agency | Office Of Air Quality Planning And Standards Research Triangle Park, NC 27711 | EPA-454/R-00-023b April, 2000

Air

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

Hot Mix Asphalt Plants
Kiln Dryer Stack
Manual Methods Testing

Asphalt Plant B
Cary, North Carolina
Volume 2 of 2

FINAL REPORT

EMISSIONS TEST AT AN ASPHALT CONCRETE PRODUCTION PLANT: ASPHALT PLANT "B" - CARY, NORTH CAROLINA

VOLUME II OF II
APPENDIX C
APPENDIX D
APPENDIX E
APPENDIX F

EPA Contract No. 68D70069
Work Assignment No. 2-09

Prepared for:

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September 1999
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Submitted by

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APPENDIX C

ANALYTICAL DATA

Appendix C.1

Analytical Data

Method 5 Particulate Matter

PACIFIC ENVIRONMENTAL SERVICES, INC.

3708 Mayfair Street, Suite 202
Durham, North Carolina 27707
(919) 493-3536
Fax: (919) 493-7779

SAMPLE ANALYTICAL DATA FORM

Plant Asphalt Plant "B" Run number P-29-0-1
Sample location Baghouse Outlet
Relative humidity -
Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse	M-22	
filter(s)	M97-013 M-23	

Acetone rinse container number Beaker M-22
Acetone rinse volume (V_{aw}) 267.9 ml
Acetone blank residue concentration (C_a) 0.0000 mg/g
$W_a = C_a V_{aw} \rho_a$ = (0.0000) (267.9) (0.7899) = 0.0000 mg

Date and time of wt 9/25/97 0905 Gross wt 96.7004 mg
Date and time of wt 9/25/97 2025 Gross wt 96.7007 mg
Average gross wt 96.7006 mg
Tare wt 96.6697 mg
Less acetone blank wt (W_a) 0.0000 mg
Weight of particulate in acetone rinse (m_a) 0.0309 mg

Filter(s) container number Beaker No M-23
Date and time of wt 9/25/97 0905 Gross wt 100.7683 mg
Date and time of wt 9/25/97 2025 Gross wt 100.7684 mg
Average gross wt 100.7684 mg
Beaker No M-23 & Filter M97-013 Tare wt 100.6845 mg
Weight of particulate on filter(s) (m_f) 0.0839 mg
Weight of particulate in acetone rinse 0.0309 mg
Total weight of particulate (m_n) 0.1148 mg

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks

Signature of analyst
Signature of reviewer

PACIFIC ENVIRONMENTAL SERVICES, INC.

3708 Mayfair Street, Suite 202
Durham, North Carolina 27707
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Fax: (919) 493-7779

SAMPLE ANALYTICAL DATA FORM

Plant Asphalt Plant "B" Run number R-24-O-2

Sample location Baghouse Outlet

Relative humidity —

Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse	M-24	
filter(s)	M97-019	

Acetone rinse container number Beaker No M-24

Acetone rinse volume (V_{aw}) 144.7 ml

Acetone blank residue concentration (C_a) 0.0000 mg/g

$W_a = C_a V_{aw} \rho_a$ = (0.0000) (144.7) (0.7899) = 0.0000 mg

Date and time of wt 9/25/97 2025 Gross wt 101.8798 mg

Date and time of wt 9/26/97 0935 Gross wt 101.8800 mg

Average gross wt 101.8799 mg

Tare wt 101.8551 mg

Less acetone blank wt (W_a) 0.0000 mg

Weight of particulate in acetone rinse (m_a) 0.0248 mg

Filter(s) container number Filter M97-019

Date and time of wt 9/24/97 1835 Gross wt 0.5244 mg

Date and time of wt 9/25/97 0905 Gross wt 0.5242 mg

Average gross wt 0.5243 mg

Tare wt 0.4509 mg

Weight of particulate on filter(s) (m_f) 0.0734 mg

Weight of particulate in acetone rinse 0.0248 mg

Total weight of particulate (m_n) 0.0982 mg

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks _____

Signature of analyst _____

Signature of reviewer _____

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SAMPLE ANALYTICAL DATA FORM

Plant Asphalt Plant "B" Run number R-29-O-3

Sample location Baghouse Outlet

Relative humidity -

Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse	W-10	
filter(s)	M-021 W-11	

Acetone rinse container number Beaker No W-10

Acetone rinse volume (V_{aw}) 177.4 ml

Acetone blank residue concentration (C_a) 0.0000 mg/g

$W_a = C_a V_{aw} \rho_a$ = (0.0000) (177.4) (0.7899) = 0.0000 mg

Date and time of wt 9/25/97 2025 Gross wt 103.8617 mg

Date and time of wt 9/26/97 0935 Gross wt 103.8613 mg

Average gross wt 103.8615 mg

Tare wt 103.8061 mg

Less acetone blank wt (W_a) 0.0000 mg

Weight of particulate in acetone rinse (m_a) 0.0554 mg

Filter(s) container number Beaker No W-11

Date and time of wt 9/24/97 1835 Gross wt 103.8076 mg

Date and time of wt 9/25/97 0905 Gross wt 103.8077 mg

Average gross wt 103.8077 mg

Beaker No. W-11 & Filter M-021 Tare wt ~~103.2452~~ mg 103.6465

Weight of particulate on filter(s) (m_f) ~~0.5625~~ mg 0.1212

Weight of particulate in acetone rinse 0.0554 mg

Total weight of particulate (m_n) ~~0.6179~~ mg 0.1766

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks

Signature of analyst

Signature of reviewer

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SAMPLE ANALYTICAL DATA FORM

Plant Asphalt Plant "B" Run number R-29-I-1
Sample location Baghouse Inlet
Relative humidity —
Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse	Beaker M-12	
filter(s)	M-008, M-001, M-012, M-014, M-015, Beaker M-3	

Acetone rinse container number Beaker M-12
Acetone rinse volume (V_{aw}) 643.0 ml
Acetone blank residue concentration (C_a) 0.0000 mg/g
$W_a = C_a V_{aw} \rho_a$ = (0.0000) (643.0) (0.7899) = 0.0000 mg

Date and time of wt 9/25/97 0905 Gross wt 235.0 mg
Date and time of wt 9/25/97 2025 Gross wt 234.8 mg
Average gross wt 234.9 mg
Tare wt 103.6078 mg
Less acetone blank wt (W_a) ~~131.3~~ 0.0000 mg
Weight of particulate in acetone rinse (m_a) 131.3 mg

Filter(s) container number Beaker No M-3
Date and time of wt 9/22/97 1315 Gross wt 104.1310 mg
Date and time of wt 9/25/97 0830 Gross wt 104.1315 mg
Average gross wt 104.1313 mg
Tare wt 99.133314 corr mg
Σ Filters Beaker M-3 M-008, M-001, M-012, M-014, M-015
Weight of particulate on filter(s) (m_f) 4.9980 mg
Weight of particulate in acetone rinse ~~0.0000~~ mg 131.3
Total weight of particulate (m_n) 136.3 mg

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks Beaker M-12 weighed on triple beam balance. FH particulate catch far exceeded the capacity of the analytical balance.
Signature of analyst
Signature of reviewer

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SAMPLE ANALYTICAL DATA FORM

Plant ASPHALT PLANT "B" Run number 12-29-I-2
Sample location BAGHOUSE INLET
Relative humidity -
Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse	Becker M-19	
filter(s)	M97-016, 1002, Becker M-17	

Acetone rinse container number Becker M-19
Acetone rinse volume (V_{aw}) 643.0 ml
Acetone blank residue concentration (C_a) 0.0000 mg/g
$W_a = C_a V_{aw} \rho_a$ = (0.0000) (643.0) (0.7899) = 0.0000 mg
Date and time of wt 9/25/97 0905 Gross wt 369.2 mg
Date and time of wt 9/25/97 2025 Gross wt 368.8 mg
Average gross wt 369.0 mg
Tare wt 100.6642 mg
Less acetone blank wt (W_a) 0.0000 mg
Weight of particulate in acetone rinse (m_a) 268.3 mg
Filter(s) container number Becker No M-17
Date and time of wt 9/22/97 1315 Gross wt 101.1080 mg
Date and time of wt 9/23/97 0830 Gross wt 101.1080 mg
Average gross wt 101.1080 mg
Σ Filter M97-016, 1002 & Becker M-17 Tare wt ~~100.8262~~ mg 100.1999
Weight of particulate on filter(s) (m_f) ~~0.7818~~ mg 0.9081
Weight of particulate in acetone rinse ~~0.0000~~ mg 268.3
Total weight of particulate (m_n) ~~0.781~~ mg ~~268.6~~ 269.2

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks Becker M-19 weighed on a triple beam balance. Fit particulate catch far exceeded the capacity of the analytical balance.
Signature of analyst
Signature of reviewer

PACIFIC ENVIRONMENTAL SERVICES, INC.

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SAMPLE ANALYTICAL DATA FORM

Plant ASPHALT PLANT "B" Run number R-29-1-3
Sample location BAGHOUSE INLET
Relative humidity –
Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse filter(s)	Becker M-21 M-20 ~~Becker M-21~~	

Acetone rinse container number Becker No M-21
Acetone rinse volume (V_{aw}) 418.3 ml
Acetone blank residue concentration (C_a) 0.0000 mg/g
$W_a = C_a V_{aw} \rho_a$ = (0.0000) (418.3) (0.7899) = 0.0000 mg
Date and time of wt 9/25/97 2025 Gross wt 103.6787 mg
Date and time of wt 9/26/97 0935 Gross wt 103.6787 mg
Average gross wt 103.6787 mg
Tare wt 102.7992 mg
Less acetone blank wt (W_a) 0.0000 mg
Weight of particulate in acetone rinse (m_a) 0.8795 mg
Filter(s) container number Zip lock Bag & Beaker M-20
Date and time of wt 9/24/97 1935 Gross wt 95.9479 + 402.0 mg
Date and time of wt 9/25/97 0905 Gross wt 95.9478 + 402.0 mg
Average gross wt 497.9 mg
(Becker M-20, Bag & Filters (2 Pieces)) Tare wt 93,3073 mg
Weight of particulate on filter(s) (m_f) 404.6 mg
Weight of particulate in acetone rinse 0.8795 mg
Total weight of particulate (m_n) 405.5 mg

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks DURING FILTER CHANGES, DRY PARTICULATE MATTER WAS COLLECTED INTO A ZIP-LOCK BAGGIE. BAGGIE COULD NOT BE CLEANED FOR TARE WT. TARE WT O used h

Signature of analyst [signature]
Signature of reviewer _____

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SAMPLE ANALYTICAL DATA FORM

Plant ASPHALT PLANT "B" Run number R-29-FB
Sample location R -
Relative humidity -
Density of acetone (ρ_a) 0.7899 g/ml

Sample type	Sample identifiable	Liquid level marked and/or container sealed
Acetone rinse	W-12	
filter(s)	M97-017	

Acetone rinse container number Bottle No W-12
Acetone rinse volume (V_{aw}) 63.8 ml
Acetone blank residue concentration (C_a) 0.0000 mg/g
$W_a = C_a V_{aw} \rho_a$ = (0.0000) (63.8) (0.7899) = 0.0000 mg

Date and time of wt 9/20/97 1835 Gross wt 108.2100 mg
Date and time of wt 9/25/97 0905 Gross wt 108.2096 mg
Average gross wt 108.2098 mg
Tare wt 108.2096 mg
Less acetone blank wt (W_a) 0.0000 mg
Weight of particulate in acetone rinse (m_a) 0.0002 mg

Filter(s) container number Filter No M97-017
Date and time of wt 9/24/97 1935 Gross wt 0.4471 mg
Date and time of wt 9/25/97 0905 Gross wt 0.4468 mg
Average gross wt 0.4470 mg
Tare wt 0.4469 mg
Weight of particulate on filter(s) (m_f) 0.0001 mg
Weight of particulate in acetone rinse 0.0002 mg
Total weight of particulate (m_n) 0.0003 mg

Note: In no case should a blank residue >0.01 mg/g or 0.001% of the weight of acetone used be subtracted from the sample weight.

Remarks

Signature of analyst
Signature of reviewer

METHOD 5
TARE WEIGHT

Project Number: 5413-004 **Item Weighed:** BEAKERS

		0940	1640	1100					
Date		8/25/97	9/11/97	9/12/97					
R.H. (%)									
Temp. (°F)		78							
Std. Wt.			99.9997	100.0000					
Analyst		JAA	MDM	MDM					
ID Number	**Field Sample Number**	**1st**	**2nd**	**3rd**	**4th**	**5th**	**Final Wt. (g)**	**Tare Wt. (g)**	**Difference (mg)**
M-1		99.5269	99.5285					99.5287	
M-2		96.9302	96.9392					96.9392	
M-3		96.7072	96.7078	96.7075				96.7077	
M-4		102.4354	102.4352					102.4353	
M-5		96.8489	96.8487					96.8488	
M-6		91.8831	91.8832					91.8832	
M-7		99.5635	99.5633					99.5634	
M-8		101.1552	101.1548					101.1550	
M-9		96.6742	96.6737					96.6740	
M-10		100.5937	100.5939					100.5938	
M-11		100.9631	100.9630					100.9631	
M-12		103.6085	103.6078	103.6078				103.6078	
M-13		101.0551	101.0541	101.0547				101.0544	
M-14		96.7491	96.7489					96.7490	
M-15		102.5882	102.5877					102.5880	
M-16		97.4828	97.4822					97.4825	
M-17		99.6886	99.6882	99.6883				99.6883	
M-18		98.5474	98.5469					98.5472	
M-19		100.0674	100.0670					100.0672	
M-20		92.3073	92.3072					92.3073	
M-21		102.7994	102.7989					102.7992	
M-22		96.6699	96.6694					96.6697	
M-23		100.1799	100.1792	100.1793				100.1793	
M-24		101.8553	101.8548					101.8551	

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METHOD 5
TARE WEIGHT

Project Number: 5413.004 **Item Weighed:** Filters

1100 ~~1100~~ MF2026

Date		6/17/97	6/17/97						
R.H. (%)									
Temp. (°F)		74°	76°						
Std. Wt.		0.5000	0.5000						
Analyst		MDM	MDM						
ID Number	Field Sample Number	1st	2nd	3rd	4th	5th	Final Wt. (g)	Tare Wt. (g)	Difference (mg)
MM97-001		0.3832	0.3831				0.3832		
MM97-002		0.3809	0.3807				0.3808		
MM97-003		0.3926	0.3923				0.3925		
MM97-004		0.3829	0.3826				0.3829		
MM97-005		0.3761	0.3758				0.3760		
MM97-006		0.3812	0.3810				0.3811		
MM97-007		–	–				–		
MM97-008		0.3825	0.3822				0.3824		
MM97-009		0.3804	0.3804				0.3804		
MM97-010	RUN I-MM9-1	0.3801	0.3800				0.3801		
MM97-011	RUN I-MM9-1	0.5073	0.5075				0.5074		
MM97-012	RUN I-MM9-1	0.5124	0.5126				0.5125		
MM97-013		0.5051	0.5052				0.5052		
MM97-014	RUN I-MM9-1	0.5079	0.5082				0.5081		
MM97-015	RUN I-MM9-1	0.5175	0.5177				~~0.5175~~	0.5176 gmc	
MM97-016		0.5114	0.5117				0.5116		
MM97-017		0.4470	0.4467				0.4469		
MM97-018		0.4517	0.4516				0.4517		
MM97-019		0.4509	0.4509				0.4509		
MM97-020		0.4526	0.4524				0.4525		
MM97-021		0.4513	0.4512				0.4513		
MM97-022		0.4414	0.4415				0.4415		
MM97-023		0.4524	0.4521				0.4523		
MM97-024		0.4473	0.4470				0.4472		

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METHOD 5
TARE WEIGHT

Project Number: 5413-004 Item Weighed: Filters

		1100	2026						
Date		6/17/97	6/17/97						
R.H. (%)		-							
Temp. (°F)		74°	76°						
Std. Wt.		0.5000	0.5000						
Analyst		MMDM	MMDM						
ID Number	Field Sample Number	1st	2nd	3rd	4th	5th	Final Wt. (g)	Tare Wt. (g)	Difference (mg)
MM97-025		0.4493	0.4491				0.4492		
MM97-026		0.4489	0.4487				0.4488		
MM97-027		0.4447	0.4446				0.4447		
MM97-028		0.4556	0.4560				0.4558		
MM97-029		0.4549	0.4551				0.4550		

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PACIFIC ENVIRONMENTAL SERVICES, INC.

METHOD 5
FINAL WEIGHT

Project Number: 5413-004 **Item Weighed:** Beakers, Beakers & Filters

		1420	1600	1315	0830	1515			
Date		9/19/97	9/16/97	9/22/97	9/23/97	9/23/97			
R.H. (%)									
Temp. (°F)									
Std. Wt.		99.9997	99.9997	99.9997	99.9998	99.9999			
Analyst		MM/M	MM/M	MM/M	MM/M	MM/M			
ID Number	**Field Sample Number**	**1st**	**2nd**	**3rd**	**4th**	**5th**	**Final Wt. (g)**	**Tare Wt. (g)**	**Difference (mg)**
M-1	M97-003 S-29-0-1	100.3139	100.3159	100.3147	100.3146		100.3146	99.5287	0.7859
M-2	FH Rinse S-29-0-1	96.9954	96.9958				96.9956	96.9392	0.0564
M-3	*** Multiple Filters ***	16	104.1382	104.1310	104.1315		104.1313	96.7077	7.4236
M-4	M97-002 S-29-0-2	102.8722	102.8740	102.8729	102.8729		102.8729	102.4353	0.4376
M-5	FH Rinse S-29-0-2	96.8539	96.8551	96.8543	96.8540		96.8542	96.8488	0.0054
M-6	M97-004 S-29-0-3	97.2880	97.2893	97.2885	97.2883		97.2884	91.8832	0.04 0.4052
M-7	FH Rinse S-29-0-3	99.5688	99.5700	99.5684	99.5686		99.5685	99.5634	0.0051
M-8	M97-005 S-29-0-4	101.5387	101.5399	101.5382	101.5395	101.5388			
M-9	FH Rinse S-29-0-4				96.6794	96.6792	96.6793	96.6740	0.0053
M-10	M97-001 S-29-I-1	112.0607	112.0578	112.0534	112.0536		112.0535	100.5438	11.4597
M-11	FH Rinse S-29-I-1	133.2376	133.2320	133.2250	133.2250		133.2250	100.9631	32.2619
M-12	FH Rinse R-29-I-1								
M-13		101.0551	101.0554				101.0553	101.0544	0.0009
M-14	M97-006 S-29-FB	97.1303	97.1308				97.1306	96.7490	0.3816
M-15	FH Rinse S-29-FB	102.5881	102.5889	102.5881	102.5877		102.5879	102.5880	(0.0001)
M-16	M97-008 S-29-RB	97.8647	97.8658	97.8638	97.8653	97.8642			
M-17	Filters R-29-I-2		101.1098	101.1080	101.1080		101.1080	99.6883	1.4197
M-18	Acetone Proof Blank				98.5469	98.5473	98.5471	98.5472	(0.0001)
M-19	FH Rinse R-29-I-2								
M-20	Filter R-M29-I-3		95.9943	95.9907	95.9918	95.9929			
M-21	FH Rinse R-29-I-3				103.6740	103.6787			

METHOD 5
FINAL WEIGHT

Project Number: 5413-004 Item Weighed: Probes & Filters

		0940	1035	0905	1025	0935			
Date		9/24/97	9/26/97	9/25/97	9/25/97	9/26/97			
R.H. (%)			56	50	50	54			
Temp. (°F)			70.5	68	70.2	68.3			
Std. Wt.		99.9998	99.9996	100.0000	99.9998	100.0000			
Analyst		MDM	MDM	MDM	MDM	MDM			
ID Number	Field Sample Number	1st	2nd	3rd	4th	5th	Final Wt. (g)	Tare Wt. (g)	Difference (mg)
M-8	M97-005 S7-0-4	101.5392					101.5390		
M-16	M97-008 S-7-0-BB	97.8641					97.8642		
~~M-17~~	~~Fit Rinse R-7-0-I-2~~	~~95.9414~~							
M-20	Filter R-7-0-I-3	95.9414	95.9429	95.9428					
M-21	Fit Rinse R-7-0-I-3		103.6790	103.6798	103.6787	103.6787			
M-22			~~100.7699~~	96.7004	96.7007		96.7008		
M-23			100.7699	100.7683	100.7684		100.7684		
M-24				101.8786	101.8797	101.8800	101.8799		
W-10				103.8609	103.8617	103.8613			
W-11			103.8076	103.8077					
W-12			108.2100	108.2096					
CHK WT			0.5000	0.5000					
M97-019			0.5244	0.5242					
M97-017			0.4471	0.4468					
M-12 *			~~235.5~~	235.0	234.8				
M-19 *				369.2	368.8				
These beakers were weighed on an Ohaus Triple-beam balance because the gross weight exceeded the capacity of the micro-balance									

PACIFIC ENVIRONMENTAL SERVICES, INC.

Appendix C.2

Analytical Data

Method 23 PCDDs/PCDFs

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 23 (6/93)

Date:	September 18, 1997
Client ID:	Pacific Environmental Services
P.O. Number:	104-98-0019- & -0020
TLI Project Number:	43085

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Rev. 05/08/97

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Overview

Eight M23 samples were received from Pacific Environmental Services in good condition on September 03, 1997 at 6.0 °C. The samples were stored in a refrigerator at 4°C. 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-HK-2-AH-2/93). Any particular difficulties encountered during the samples' 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 M23 Blank, was prepared along with the samples.

Laboratory control spike (LCS) and laboratory control spike duplicate (LCSD) samples were extracted and analyzed along with the samples. A report summarizing the analyte recoveries and relative percent differences for these samples is included in the data package.

Quality Control Remarks

This release of this particular set of Pacific Environmental Services 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 Preparation Laboratory: As per client request, the impinger samples are to be archived and not analyzed.

Samples O-M23-1, O-M23-2, I-M23-1, I-M23-2, and I-M23-3 had larger than normal XAD traps, requiring several Soxhlet apparatus.

Mass Spectrometry: None

Data Review: Most of the samples exhibit severe matrix-related problems. There are shifts in the retention times and severe quantitative interferences. As a result, several samples have elevated detection limits, out-of-ratio labeled standards, and labeled

standards that are below the QC criteria of 10:1 signal-to-noise. The final reports have been flagged accordingly. Please refer to the data flags for further details and possible effects on data quality.

Other Comments: Any analytes found in the TLI M23 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.

Sample Calculations:

Analyte Concentration

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

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

Where:

$Amt_{(\sigma)}$ is the 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 (W = 1 for M23)

The amount is expressed in nanograms (ng) or picograms (pg).

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 3.7 for both the DB-5 GC column and 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

The detection limit is expressed in nanograms (ng) or picograms (pg).

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 23 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 23 (6/93) and Triangle Laboratories' Method 23 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 Pacific Environmental Services have any questions or comments regarding this data package, please feel free to contact our Project Scientist, Amy Boehm, at (919) 544-5729, ext. 268.

For Triangle Laboratories, Inc.,

Report Preparation

Sheila A. Lee-Lewis
Report Preparation Chemist

Quality Control

VIJAY S. CHHABRA
Report Preparation Chemist

The total number of pages in the data package is : 319 .

TRIANGLE LABORATORIES, INC.

LIST OF CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

American Association for Laboratory Accreditation. Certification pending. Certificate Number 0226-01. 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 OS-00397. Dioxin in drinking water.

State of Arizona, Department of Health Services. Expires May 26, 1998. 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, 1999. 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, 1998.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 .

Revised 9/18/97 RM

Printed 9/18/97

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, 1998. 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 December 31, 1997. ID #67851. BNAs and Volatiles. Dioxin in drinking water.

State of New Mexico, Environment Department. Certification pending. 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 August 31, 1999. Certificate # 37751. Dioxin in drinking water.

State of North Carolina, Department of Env onment, 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.

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 June 30, 1997. Certificate number #99040001 (drinking water). Expires August 31, 1999. 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. 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 assorted projects for the USACE North Pacific Division Laboratory.

U.S. EPA Region V. Expires November 14, 1999. 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, 1998. ID # 00341. Dioxin in drinking water.

State of Washington, Department of Ecology. Expires September 1998. 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, 1997. Certificate No. 9923(C). Dioxin in drinking water.

State of Wisconsin, Department of Natural Resources. Expires August 31, 1998. Laboratory ID Number 999869530. Certification for the following categories of Organics: Purgeable, Base/Neutral, Acid, PCBs, and Dioxin. Expires November 14, 1999. Laboratory ID 999869530. Dioxin in drinking water.

PHARMACEUTICAL

Drug Enforcement Agency (DEA). Expires November 30, 1997. Registration number RT01195835. 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 June 1998. ID #'s 001500 1053481. Annual registration of drug establishment. Annual registration of drug establishment.

OTHER

Clinical Laboratory Improvement Amendments (CLIA) Registration. Expires May 30, 1999. 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-OG. The general license applies only to radioactive material contained in devices which have been manufactured and labeled in accordance with specific requirements.

TRIANGLE LABS

DOCUMENT CONTROL

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

PACIFIC ENVIRONMENTAL SERVICES, INC.

Central Park West
5001 South Miami Boulevard, P.O. Box 12077
Research Triangle Park, North Carolina 27709-2077
(919) 941-0333 FAX: (919) 941-0234

Chain of Custody Record

Project Num	Project Name
s413-004	US EPA EMC Asphalt Cement, Near Asphalt Plant "B"

Samplers: Dickerson, McDonald, Thompson, Hamiliton

Date	Time	Field Sample ID	Sample Description	Analysis Requested: PCDD	PCDF						Remarks
8/27/97	0945	I-M23-1-Ace/Tol	Acetone / Toluene Rinse	•	•						
8/27/97	0945	I-M23-1-Filter	Filter	•	•						
8/27/97	0945	I-M23-1-XAD	XAD Trap	•	•						
8/27/97	0945	I-M23-1-Imp	BH Impinger Contents								ARCHIVE
8/27/97	0945	O-M23-1-Ace/Tol	Acetone/ Toluene Rinse	•	•						
8/27/97	0945	O-M23-1-Filter	Filter	•	•						
8/27/97	0945	O-M23-1-XAD	XAD Trap	•	•						
8/27/97	0945	O-M23-1-Imp (1/2)	BH Impinger Contents								ARCHIVE
8/27/97	0945	O-M23-1-Imp (2/2)	BH Impinger Contents								ARCHIVE
8/28/97	0845	I-M23-2-Ace/Tol	Acetone / Toluene Rinse	•	•						
8/28/97	0845	I-M23-2-Filter	Filter	•	•						
8/28/97	0845	I-M23-2-XAD	XAD Trap	•	•						
8/28/97	0845	I-M23-2-Imp	BH Impinger Contents								ARCHIVE
8/28/97	0745	O-M23-2-Ace/Tol	Acetone/ Toluene Rinse	•	•						
8/28/97	0745	O-M23-2-Filter	Filter	•	•						
8/28/97	0745	O-M23-2-XAD	XAD Trap	•	•						
8/28/97	0745	O-M23-2-Imp (1/2)	BH Impinger Contents								ARCHIVE
8/28/97	0745	O-M23-2-Imp (2/2)	BH Impinger Contents								ARCHIVE

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
I. McDonald	9-3-97 12:13				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for lab by: (Signature)	REMARKS		
	9/8/97 1800	Bill Hunt			

Page:____ of ____

PACIFIC ENVIRONMENTAL SERVICES, INC.

Central Park West
5001 South Miami Boulevard, P.O. Box 12077
Research Triangle Park, North Carolina 27709-2077
(919) 941-0333 FAX: (919) 941-0234

Chain of Custody Record

Project Num	Project Name	Analysis Requested							Remarks
s413-004	US EPA EMC Asphalt Cement, Asphalt Plant B								
Samplers: Dickerson, McDonald, Thompson, Hamiliton									
Date	Time	Field Sample ID	Sample Description	PCDD	PCDF				
8/29/97	0745	I-M23-3-Ace/Tol	Acetone / Toluene Rinse	•	•				
8/29/97	0745	I-M23-3-Filter	Filter	•	•				
8/29/97	0745	I-M23-3-XAD	XAD Trap	•	•				
8/29/97	0745	I-M23-3-Imp	BH Impinger Contents						ARCHIVE
8/29/97	0745	O-M23-3-Ace/Tol	Acetone/ Toluene Rinse	•	•				
8/29/97	0745	O-M23-3-Filter	Filter	•	•				
8/29/97	0745	O-M23-3-XAD	XAD Trap	•	•				
8/29/97	0745	O-M23-3-Imp (1/2)	BH Impinger Contents						ARCHIVE
8/29/97	0745	O-M23-3-Imp (2/2)	BH Impinger Contents						ARCHIVE
8/29/97	0745	O-M23-FB-Ace/Tol	Acetone / Toluene Rinse - Field Blank	•	•				
8/29/97	0745	O-M23-FB-Filter	Filter - Field Blank	•	•				
8/29/97	0745	O-M23-FB-XAD	XAD Trap - Field Blank	•	•				
8/29/97	0745	O-M23-FB-Imp	BH Impinger Contents - Field Blank						ARCHIVE
8/29/97	0745	M23-RB - Acetone	Acetone Reagent Blank						ARCHIVE
8/29/97	0745	M23-RB - Filters	Filter Reagent Blank	•	•				
8/29/97	0745	M23-RB-XAD	XAD Reagent Blank	•	•				
8/29/97	0745	M23-RB-Toluene	Toluene Reagent Blank	•	•				
8/29/97	0745	M23-RB - Water	Water Reagent Blank	•	•				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
T McDonald	9-3 12-17-97				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for lab by: (Signature)	REMARKS		
	9/3/97				

Page:____ of ____

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Present/Intact
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Present
Container...: Intact

TLI Project Number 43085
Client: PES03 - Pacific Environmental Services

Book 181 Page 55

Date Received 09/03/97 By

Carrier and Number TIM MCDONALD

Ice Chest ICE PACKS Temp 6.0 C

TLI Number.. / aR/H:CPM.	Client Sample ID..... / Client COC ID.....*	Location.....	Matrix	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
181-55-1A	O-M23-1-FILTER O-M23-1-FILTER	C02	FILTER	LA 9/4/97		USED						
181-55-1B	O-M23-1-XAD O-M23-1-XAD	C02	XAD									
181-55-1C	O-M23-1-IMP O-M23-1-IMP	C02	IMP									
181-55-1D	O-M23-1-IMP O-M23-1-IMP	C02	IMP									
181-55-1E	O-M23-1-ACE/TOL O-M23-1-ACE/TOL	C02	ACE/TOL									
181-55-2A	O-M23-2-FILTER O-M23-2-FILTER	C02	FILTER			USED						
181-55-2B	O-M23-2-XAD O-M23-2-XAD	C02	XAD									
181-55-2C	O-M23-2-IMP O-M23-2-IMP	C02	FH/RINSE									
181-55-2D	O-M23-2-IMP O-M23-2-IMP	C02	BH/RINSE			USED LA 9/4/97						
181-55-2E	O-M23-2-ACE/TOL O-M23-2-ACE/TOL	C02	IMPINGER									
181-55-3A	O-M23-3-FILTER O-M23-3-FILTER	C02	FILTER			USED						
181-55-3B	O-M23-3-XAD O-M23-3-XAD	C02	XAD									
181-55-3C	O-M23-3-IMP O-M23-3-IMP	C02	FH/RINSE									
181-55-3D	O-M23-3-IMP O-M23-3-IMP	C02	BH/RINSE									

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Present/Intact Sample Seals: Present
Chain of Custody : Present Container...: Intact
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

TLI Project Number 43085
Client: PES03 - Pacific Environmental Services

Book 181

Date Received 09/03/97 By

Page 55

Ice Chest ICE PACKS Temp 6.0 C

Carrier and Number TIM MCDONALD

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 LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
181-55-3E	O-M23-3-ACE/TOL	IMPINGER	LA 9/4/97		>USED						
	O-M23-3-ACE/TOL	C02									
181-55-4A	O-M23-FB-FILTER	FILTER									
	O-M23-FB-FILTER	C02			>USED						
181-55-4B	O-M23-FB-XAD	XAD									
	O-M23-FB-XAD	C02									
181-55-4C	O-M23-FB-IMP	FH/RINSE									
	O-M23-FB-IMP	C02									
181-55-4D	O-M23-FB-ACE/TOL	BH/RINSE									
	O-M23-FB-ACE/TOL	C02			>USED						
181-55-5A	1-M23-1-FILTER	FILTER									
	1-M23-1-FILTER	C02									
181-55-5B	1-M23-1-XAD	XAD									
	1-M23-1-XAD	C02			>USED						
181-55-5C	1-M23-1-IMP	FH/RINSE									
	1-M23-1-IMP	C02									
181-55-5D	1-M23-1-ACE/TOL	BH/RINSE									
	1-M23-1-ACE/TOL	C02									
181-55-6A	1-M23-2-FILTER	FILTER									
	1-M23-2-FILTER	C02			>USED						
181-55-6B	1-M23-2-XAD	XAD									
	1-M23-2-XAD	C02									
181-55-6C	1-M23-2-IMP	FH/RINSE									
	1-M23-2-IMP	C02									
181-55-6D	1-M23-2-ACE/TOL	BH/RINSE									
	1-M23-2-ACE/TOL	C02			>USED						
181-55-7A	1-M23-3-FILTER	FILTER									
	1-M23-3-FILTER	C02									

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Present/Intact
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Present
Container...: Intact

TLI Project Number 43085
Client: PES03 - Pacific Environmental Services

Book 181
Page 55

Date Received 09/03/97 By BJ

Carrier and Number TIM MCDONALD

Ice Chest ICE PACKS Temp 6.0 C

TLI Number.. / AR/H:CPM.	Client Sample ID..... / Client COC ID.....*	Location.....	Matrix	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
181-55-7B	1-M23-3-XAD 1-M23-3-XAD	C02	XAD	LA 9/4/97	USED							
181-55-7C	1-M23-3-IMP 1-M23-3-IMP	C02	FH/RINSE									
181-55-7D	1-M23-3-ACE/TOL 1-M23-3-ACE/TOL	C02	BH/RINSE									
181-55-8A	M23-RB-FILTER M23-RB-FILTER	C02	FILTER		USED							
181-55-8B	M23-RB-XAD M23-RB-XAD	C02	XAD									
181-55-8C	M23-RB-ACETONE M23-RB-ACETONE	C02	FH/RINSE									
181-55-8D	M23-RB-WATER M23-RB-WATER	C02	BH/RINSE		USED							
181-55-8E	M23-RB-TOLUENE M23-RB-TOLUENE	C02	IMPINGER									

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES, INC.
SAMPLE TRACKING AND PROJECT MANAGEMENT FORM

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

TLI Proj#: 43085-	Samples: 8	TurnAround.: 14 Day(s)
Prod Code: D23061	Matrix.: M23Train	Hold Time..: 30 Day(s)
DetectLim: 0.05 ng	Type...: A	Start Date.: 09/03/97
	Recvd..: 09/03/97	Ship By....: 09/15/97
		DWL Due Dt.: 09/10/97

Analyte List.: tetra-octa PCDDs/PCDFs

Method.....: Method 23:Tetra-Octa (Tol Combined)
Client Proj..: S413-004
Client.....: Pacific Environmental Services (PES03)
P.O. No.....: 104-98-0019 & -0020
Contact.....: Frank Meadows
Proj. Mgr....: Amy J. Boehm
Collect Dt/Tm: SeeCOC
Phone.....: 919-941-0333
Fax.....: 919-941-0234
Sample Origin: NC

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

Prep Project: 03803
Prespike Standard: USF-CS
Prespike Amount..: 4.0ng
Extraction Exp...: 09/26/97

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

Reporting Format: Report Option II

See MILES for Instructions/Communications.

Completed by: _____ DATE: 9/3/97

Reviewed by: _____ DATE: _____ (PMGT0197)

Date: 09/04/97
Time: 20:29

TRIANGLE LABORATORIES, INC.
Wet Lab MM5/PUF Observations
Project: 43085

Sample #	crd	TLI_Number..	Customer.Sample.Id.....	F. No	XAD Color.....	Filter Color.....	Glass Wool Color.....	PUF Color.....	Odor.....	Air Q.No.	Entered.By.....	Date....	Time....	S
000		TLI Blank	TLI M23 Blank	0	WHITE				NONE	03803	ADKINS	09/04	20:29	F
001		181-55-1ABE	O-M23-1	1	WHITE	WHITE/BRWN	WHITE/YELL		OIL	03803	ADKINS	09/04	20:29	F
002		181-55-2ABE	O-M23-2	1	WHITE	WHITE/BRWN	WHITE/YELL		OIL	03083	ADKINS	09/04	20:29	F
003		181-55-3ABE	O-M23-3	1	WHITE	WHITE/BRWN	WHITE/YELL		OIL	03803	ADKINS	09/04	20:29	F
004		181-55-4ABD	O-M23-FB	1	WHITE	WHITE	WHITE		NONE	03803	ADKINS	09/04	20:29	F
005		181-55-5ABD	I-M23-1	4	WHITE	WHITE/BRWN	WHITE		OIL	03803	ADKINS	09/04	20:29	F
006		181-55-6ABD	I-M23-2	4	WHITE	WHITE/BRWN	WHITE		OIL	03803	ADKINS	09/04	20:29	F
007		181-55-7ABD	I-M23-3	4	WHITE	WHITE/BRWN	WHITE		OIL	03803	ADKINS	09/04	20:29	F
008		181-55-8ABDE	M23-RB	1	WHITE	WHITE	WHITE		NONE	03804	ADKINS	09/04	20:29	F
009		TLI LCS	TLI LCS	0	WHITE				NONE		ADKINS	09/04	20:29	F
010		TLI LCSD	TLI LCSD	0	WHITE				NONE		ADKINS	09/04	20:29	F

*** End of Report ***

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43085

Use this form to record all exchanges of information between production units as well as personnel handling this project. Decisions, corrective actions and recommendations must also appear on this tracking document.

Date	Name	Comment / Decision / Resolution / Action / Observation
		5A ≈ 272 GRAMS OF PARTICULATE AND FILTERS.
		6A ≈ 170 " " " " "
		7A ≈ 407 " " " " "
		PES03-Pacific Environmental Services O-M23-1-FILTER Project: 43085 181-55-1A — 1 Filter white/brown residue
		PES03-Pacific Environmental Services O-M23-1-ACE/TOL Project: 43085 181-55-1E — 4 glassvial - white yellow
		PES03-Pacific Environmental Services O-M23-1-XAD Project: 43085 181-55-1B — XAD - white odor - oil
		PES03-Pacific Environmental Services O-M23-2-XAD Project: 43085 181-55-2B — Same as 1
		PES03-Pacific Environmental Services O-M23-2-ACE/TOL Project: 43085 181-55-2E
		PES03-Pacific Environmental Services O-M23-2-FILTER Project: 43085 181-55-2A
		1 ✓ 9/4/97

TLI Project Number: 43085

Use this form to record all exchanges of information between production units as well as personnel handling this project. Decisions, corrective actions and recommendations must also appear on this tracking document.

Date	Name	Comment / Decision / Resolution / Action / Observation	
		PES03-Pacific Environmental Services O-M23-3-ACE/TOL Project:43085 181-55-3E	Same as 1
	(3)	PES03-Pacific Environmental Services O-M23-3-FILTER Project:43085 181-55-3A	
		PES03-Pacific Environmental Services O-M23-3-XAD Project:43085 181-55-3B	—
		PES03-Pacific Environmental Services O-M23-FB-XAD Project:43085 181-55-4B	1 Filter - white XAD white Glasswool white
	(4)	PES03-Pacific Environmental Services O-M23-FB-FILTER Project:43085 181-55-4A	no Smell
		PES03-Pacific Environmental Services O-M23-FB-ACE/TOL Project:43085 181-55-4D	
		PES03-Pacific Environmental Services 1-M23-1-FILTER Project:43085 181-55-5A	4 Filters white with much particulate gray/brown
	(5)	PES03-Pacific Environmental Services 1-M23-1-ACE/TOL Project:43085 181-55-5D	-XAD white
		PES03-Pacific Environmental Services 1-M23-1-XAD Project:43085 181-55-5B	-glasswool white ~~oil smell~~

LA 9/4/97

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43085

Use this form to record all exchanges of information between production units as well as personnel handling this project. Decisions, corrective actions and recommendations must also appear on this tracking document.

Date	Name	Comment / Decision / Resolution / Action / Observation
		PES03-Pacific Environmental Services 1-M23-2-FILTER Project:43085 181-55-6A PES03-Pacific Environmental Services 1-M23-2-XAD Project:43085 181-55-6B PES03-Pacific Environmental Services 1-M23-2-ACE/TOL Project:43085 181-55-6D
		Same as 5
		PES03-Pacific Environmental Services 1-M23-3-XAD Project:43085 181-55-7B PES03-Pacific Environmental Services 1-M23-3-ACE/TOL Project:43085 181-55-7D PES03-Pacific Environmental Services 1-M23-3-FILTER Project:43085 181-55-7A
		Same as 5
		PES03-Pacific Environmental Services M23-RB-XAD Project:43085 181-55-8B PES03-Pacific Environmental Services M23-RB-FILTER Project:43085 181-55-8A PES03-Pacific Environmental Services M23-RB-ACETONE Project:43085 181-55-8C
		1 Filter white XAD white glasswool white.
		LA 9/4/97

TRIANGLE LABORATORIES, INC.

Dioxin Sample Preparation Tracking & Management Form

Project: 43085

Client: Pacific Environmental Services (PES03)

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

Lot Numbers: 972118 / _____ / _____

IS Spike: 40 µl conc: 0.1000 ng/µl

SS Spike: ____ µl conc: __.____ ng/µl

MS Spike: 0 µl conc: 0.0000 ng/µl

LCS Spike: 0 µl conc: 0.0000 ng/µl

OPR Spike: 20 µl conc: 0.01 ng/µl

Method: Method 23:Tetra-Octa (Tol Combined) Matrix: M23 XAD

Extraction Date: 9/4/97

LA	LA	LA			Chemis
5234 I	5233 B	5235-D			Spike
USF I	USF MX	USF-A			* ID
7/02/98	12/17/97	9/2/98	__/__/__		* Exp
9/04/97	9/04/97	9/6/97	__/__/__		* Dat
19 : 30	19 : 31	3 : 15	__ : __		* Tim
0.1 ng/µl	0.01 ng/µl	0.1 ng/µl		ng/µl	* Con
40 µl	40 µl	40 µl		µl	* Vol

S#.crd	TLI / SAMPLE ID / CLIENT SAMPLE ID	GROSS WEIGHT Before	GROSS WEIGHT After	SAMPLE SIZE g / ml				Any Le
000	TLI Blank / TLI M23 Blank			1	L.C.		BHR	yes/
001	181-55-1ABE / O-M23-1			1	L.C.		BHR	Any Le yes/
002	181-55-2ABE / O-M23-2			1	L.C.		BHR	Any Le yes/
003	181-55-3ABE / O-M23-3			1	L.C.		BHR	Any L yes/
004	181-55-4ABD / O-M23-FB			1	L.C.		BHR	Any L yes/
005	181-55-5ABD / I-M23-1			1	L.C.		BHR	Any I yes/
006	181-55-6ABD / I-M23-2			1	L.C.		BHR	Any I yes
007	181-55-7ABD / I-M23-3			1	L.C.		BHR	Any yes
008	181-55-8ABDE / M23-RB			1	L.C.		BHR	Any yes
009	TLI LCS / TLI LCS			1	L.C.	* L.C.	BHR	Any yes

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

Comments: Prespiked blank (Prep #03804) used for TLI Blank

Supelco XAD used for LCS, LCSD (Lot #P1030)

Samples

Initials: LA Date: 9/4/

Initials of both SPIKER AND OBSERVER must be entered.

XXXXX = Gross Weight not provided for WATER Samp

2

TRIANGLE LABORATORIES, INC. PAGE 2 OF 2

Dioxin Sample Preparation Tracking & Management Form

Project: 43085 Client: Pacific Environmental Services (PES03)

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

Lot Numbers: 972118 / _____ / _____

Method: Method 23:Tetra-Octa (Tol Combined) Matrix: XAD

Extraction Date: 9/4/97

IS Spike: 40 µl conc: 0.1000 ng/µl

SS Spike: ____ µl conc: __.____ ng/µl

MS Spike: 0 µl conc: 0.0000 ng/µl

LCS Spike: 0 µl conc: 0.0000 ng/µl

OPR Spike: 20 µl conc: 0.01 ng/µl

S#.crd	TLI SAMPLE ID / CLIENT SAMPLE ID	GROSS WEIGHT Before	GROSS WEIGHT After	SAMPLE SIZE g / ml	LA	LA	CA		
					LA	LA	CA	_____	Chemist
					5234I	5233B	5225-D	_____	Spike #
					USF I	UST MX	USF-A	_____	* ID
					7/02/98	12/17/97	9/2/98	__/__/__	* Expir
					9/04/97	9/04/97	9/6/97	__/__/__	* Date
					19:30	19:31	8:15	__:__	* Time
					0.1 ng/µl	0.01 ng/µl	0.1 ng/µl	_____ ng/µl	* Conc.
					40 µl	40 µl	40 µl	_____ µl	* Vol.
010	TLI LCSD TLI LCSD			1	L.C. *	L.C.	BHR		Any Left yes/no
									Any Left yes/no
									Any Left yes/no
									Any Left yes/no
									Any Left yes/no
									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: _____

_____

_____

_____ Initials: LA Date: 9/4/97

Initials of both SPIKER AND OBSERVER must be entered.

XXXXX = Gross Weight not provided for WATER Samples.

REV 05/27/97 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

DIOXIN SAMPLE EXTRACTION and CLEANUP TRACKING FORM

TLI Project No.: 43085

Ext S#.crd and TLI Number	1	2	4A	6	3	4B	7	8A	3/4 A/B	9
000 TLI Blank	LA 9/4/97	LA BHR 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	SOE 9-7-97 L.C. 9-7-97	L.C. 9/8/97	MH 9/8/97
001 181-55-1ABE								4 shakes		
002 181-55-2ABE								4 shakes		
003 181-55-3ABE								4 shakes		
004 181-55-4ABD								2 shakes		
005 181-55-5ABD								4 shakes		
006 181-55-6ABD								4 shakes		
007 181-55-7ABD								3 shakes		
008 181-55-8ABDE								2 Shakes		
009 TLI LCS								2 shakes		

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 Diluti
(2)	SPIKE AFTER EXTRACTION	9/4/97 9/5/97 LA
(3)	ADD TRIDECANE	19:45 11:45
(4)	ROTOVAP	40mL / (10mL A) / (Dryness B)
5)	COMBINE	
(6)	DIVIDE / LIPID DETERMINATION	20%/80% (50%/50%) 5mL/20mL Other_____
(7)	SOLVENT EXCHANGE	A BB
(8)	CLEANUP	(1 Double Column DSP 260) / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
(9)	TRANSFER	
10)	ADDITIONAL CLEANUP	Mod. DSP 260 / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
11)	FINAL TRANSFER	

Comments: ~~Samples~~ 005 and 006 were still dirty after 4 shakes.

TRIANGLE LABORATORIES, INC.
DIOXIN SAMPLE EXTRACTION and CLEANUP TRACKING FORM
TLI Project No.: 43085

Ext S#.crd and TLI Number	1	2	4A	6	3	4B	7	8A	3/4 4.cd	8B	9
010 TLI LCSD	LA 9/4/97	LA BHR 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	BHR L.C. 9/6/97	WL LC 9-7-97	L.C. 9-7-97	MH 9/8/97	9/8/97 JLE

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	9/4/97 9/5/97 LA
(3) ADD TRIDECANE	14:45 11:45
(4) ROTOVAP	40mL / (10mL) A / (Dryness) B
5) COMBINE	
(6) DIVIDE / LIPID DETERMINATION	20%/80% (50%/50%) 5mL/20mL Other_____
(7) SOLVENT EXCHANGE	
(8) CLEANUP	(DSP 260) / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
(9) TRANSFER	
10) ADDITIONAL CLEANUP	Mod. DSP 260 / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
11) FINAL TRANSFER	

Comments: _____

Rev 06/24/97 (PSTMF 4)

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43085

Transfer From: DWLH5 To: DMS5

	Initials..	Date.....	Time...
Released by:	JLE	9/8/97	19:50
Accepted by:	_____	__/__/__	__:__

MILES.ID.....		TLI_No.....	Cust.Id.....
43085-	-000	TLI Blank	TLI M23 Blank
43085-	-001	181-55-1ABE	O-M23-1
43085-	-002	181-55-2ABE	O-M23-2
43085-	-003	181-55-3ABE	O-M23-3
43085-	-004	181-55-4ABD	O-M23-FB
43085-	-005	181-55-5ABD	I-M23-1
43085-	-006	181-55-6ABD	I-M23-2
43085-	-007	181-55-7ABD	I-M23-3
43085-	-008	181-55-8ABDE	M23-RB
43085-	-009	TLI LCS	TLI LCS
43085-	-010	TLI LCSD	TLI LCSD

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43085

Transfer From: DWLH5 To: DMS5

	Initials..	Date.....	Time...
Released by:	[illegible]	09/09/97	08:30
Accepted by:	[illegible]	9/9/97	9:00

MILES.ID.....		TLI_No.....	Cust.Id.....
43085-	-000	TLI Blank	TLI M23 Blank
43085-	-001	181-55-1ABE	O-M23-1
43085-	-002	181-55-2ABE	O-M23-2
43085-	-003	181-55-3ABE	O-M23-3
43085-	-004	181-55-4ABD	O-M23-FB
43085-	-005	181-55-5ABD	I-M23-1
43085-	-006	181-55-6ABD	I-M23-2
43085-	-007	181-55-7ABD	I-M23-3
43085-	-008	181-55-8ABDE	M23-RB
43085-	-009	TLI LCS	TLI LCS
43085-	-010	TLI LCSD	TLI LCSD

Additional comments or instructions:

XfrCOC (Rev 11/01/94)

TRIANGLE LABORATORIES, INC.

Method: Method 23:Tetra-Octa (Tol Combined) HR GC/HRMS ANALYSIS

Required Detection Limit: 0.05 ng

PROJECT: 43085

SAMPLE INFORMATION

RS Conc 20 µl @ 100.0 PG/µl

S#.crd	TLI / SAMPLE ID / CLIENT SAMPLE ID	1ST COLUMN GC/MS FILENAME / COLUMN: DB5	CONFIRM	2ND COLUMN CONFIRM FILENAME / COLUMN: DB225	USF-RS VOLUME / SOLN ID	USF-RS INIT. / DATE	ANALYSIS COMMENTS
000	TLI Blank / TLI M23 Blank	S975815	Y	P973852	20 ml lue 5296	9/9/97	9:4
001	181-55-1ABE / O-M23-1	S975866 S975800 S975820	N	—			ac deflections
002	181-55-2ABE / O-M23-2	S975867 S975847 S975827	N	—			ac deflections
003	181-55-3ABE (Spk. of none added MVL 9/12/97) / O-M23-3	S975868 2977822	Y / NO	P973850			ac deflections
004	181-55-4ABD / O-M23-FB	S975533 S975529	Y	P973841 P973851			Sol'n none added
005	181-55-5ABD / I-M23-1	S975834 S975824	N	—			ac deflections
006	181-55-6ABD / I-M23-2	S975835 S975829	Y / NO	P973842 P973853			Sol'n none added
007	181-55-7ABD / I-M23-3	S975843 S975824	Y	P973854			
008	181-55-8ABDE / M23-RB	S975844 S975827	N	—			
009	TLI LCS / TLI LCS	S975831 S975834	—	—			
010	TLI LCSD / TLI LCSD	S975832 S975829	—	—			

BJG 9/11/97

Comments: * RETENTION TIMES OK, Standard not labeled

BJG 9/11/97

Type: A

Spike File: SPX23704

Amt of Extract: 50%

REV 03/07/95 (PSTMP

[redacted]

Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
705	DB5	371413	T02	2.0 µl	EPCV52	EBCV5

Signature: [redacted] Date: 9/10/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
5975800	9/10/97	15:33	43107	TCI BLANK	0	TCI M23 BLANK	AUTO	5.1* E6	BJG 9/10/97	MITSUBISHI
5975801	"	1614	"	181-77-1-4	1	N-008-1-4 :XIP-7027	"	5.6 E6	"	"
5975802	"	1654	"	TCI LCS	2	TCI LCS	"	5.4 E6	"	"
5975803	9/10/97	1733	43107	TCI LCSD	3	TCI LCSD	AUTO	5.4 E6	BJG 9/10/97	"
5975804	9/10/97	1830	—	52961	—	RS-100 KB 9/10/97	AUTO RS-100	4.7 E6	ML 9/10/97	
5975805	"	1913	43107	TCI Blank 43107 KB 9/10/97	0	TCI M23 Blank	"	5.6 E6	ML 9/10/97	
5975806	"	1952	↓	181-77-1-4	1	N-008-1-4 :XIP-7027	"	5.2 E6	"	
5975807	"	2032	43059	TCI Blank 43059 KB 9/10/97	0	TCI Mc3 Blank	"	5.6 E6	"	
5975808	"	2111	"	181-27-1AC	1	I-M23-1	"	5.2 E6	"	
5975809	"	2150	"	181-27-2AC	2	O-M23-1	"	5.5 E6	"	
5975810	"	2227	"	181-27-3AC	3	O-M23-2	"	4.8 E6	"	
5975811	"	2309	"	181-27-4AC	4	O-M23-3	"	9.4 E6	"	
5975812	9/10/97	2347	—	5170B	—	RETENTION WINDOW CHECK	RTCHK		KB 9/10/97	

* Transcribed from chromatographic data

** Dated initials required

ConCal Due: 00:08 (12:08 AM)

ConCal Due: _____

Page: _____

Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
705	DB5	5711413	TOD	2.0 µl	GPChem32	GBPCW

Signature: [signature] Date: 9/11/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
5975813	9.11.97	00:59	—	45146	—	M23 ConCal 500	10 µl	—	[signature] 9/11/97	NG OCDD [illegible] 9.11.97
5975814	9/11/97	2:02	—	4514 G	—	5xWdm23 Concal 500	10 µl	4	[signature] 9/11/97	Good [signature] 9.11.97
15	↓	3:08	43085	Blank	0	TLJ M23 Blank	Auto	38 EC	[signature] 9/11/97	ac deflections BJG 9/11/97
16	↓	3:46	43057	181-27-5AC	5	D-M23-FB		40 EC		
17		4:25	↓	181-27-2AB & BC	7	D-M23-RB		4.4 EC		
18		5:04	↓	LCS	8	LCS		3.5 EC		tinco BJG 9/11/97 R.O. OCDD IS [signature] 9.11.97
19		5:44	43057	LCSD	9	LCSD		4.1 EC		
20		6:23	43085	181-55-1ABE	1	D-M23-1		1.5 EC		Retention time 5/6 BJG 9/11/97 (NG)
21		7:02	↓	-2ABE	2	D-M23-2		1.6 EC		Retention time 7/8 BJG 9/11/97 (NG)
22		7:42	↓	-3ABE	3	D-M23-3		1.8 EC		Retention time 7/1 BJG 9/11/97 (NG)
23		↓	↓	-4ABD	4	D-M23-FB				DID
24		↓	↓	-5ABD	5	T-M23-1	↓		↓	NOT BJG
5975825		↓	43085	181-55-6ABD	6	T-M23-2	Auto		[signature] 9/11/97	RUN 9/11/97

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: 14:02
ConCal Due: _____

Triangle Laboratories, Inc.

Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
203	DB5	5211413	T02	2.0 µl	EPCUS 2	EPCUS

Signature: [signature] Date: 9/11/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
~~5975826~~			43085	IEL-4 ABOVE LF 181-55-7ABO	7	I-M23-3	Auto		[illegible] 9/11/97	DID
27				181-55-8ABOVE	8	M23-RB				NOT
LF				LCS	9	LCS				RUN
~~5975829~~			43085	LCSD	10	LCSD	Auto		[illegible] 9/11/97	BJG 9/11/97
5975830	9/11/97	10:00	—	5296L	—	RS-100	RS100	4.0 ±6	BJG 9/11/97	Δ S+C BJG Clean 9/11/97
5975831	9/11/97	10:59	43085	TRLCS	9	TRLCS	AUTO	4.9 ±6	BJG 9/11/97	
5975832		11:39		TRLCSD	10	TRLCSD		5.0 ±6		
5975833		12:18		181-55-4ABO	4	0-M23-RB		6.9 ±6		
5975834	9/11/97	12:58	43085	181-55-5ABO	5	I-M23-1	AUTO	2.4 ±5	BJG 9/11/97	B: qc deflections 9/
5975835	9/11/97	13:40	43085	181-55-6ABO	6	I-M23-2	AUTO	1.2 ±6	BJG 9/11/97	qc deflections BJG 9/
5975836	9/11/97	14:23	—	5170B	—	RTCHK	RTCHK	13%	BJG 9/11/97	Good BJG 9/11/97
5975837	9/11/97	15:08	—	4514G	—	M23 2mc4/50.0	M-0 50	1.9 ±6	BJG 9/11/97	NG [illegible] BJG 9/11/97
5975837	9/11/97		—	C1514G	—	M23 [illegible] /50.0	M-0 50		BJG 9/11/97	Δ S+C NG [illegible]

* Transcribed from chromatographic data

** Dated initials required

ConCal Due: 14:02

ConCal Due: _____

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

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Page: _____

Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
70s	DB5	5711413	T02	2.0uL	EPCUS 2	EPCUS

Signature

Date: 9/11/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
S975838	9/11/97	—	—	45146	—	MZ3 Calcd SOLN	#0 50	3.4 EC	KB 9/11/97	Changed Column Good Injection Lot of column mass response still low
S975839	9/11/97	17:42	—	〃	—	〃	〃	3.3 EC	KB 〃	Good Beginning
S975840	9/11/97	18:29	—	5170B	—	Retention Index Check	RICHK	14%	KB 9-11-97	
S975841	9/11/97	19:13	—	5296K	—	RS-100	RS-100	4C EC	KB 9-11-97	
S975842	9/11/97	19:55	43034r1	TLI BLANK	0	TLI BLANK	SF011	4.0 EC	KB 9-11-97	
S975843	9/11/97	21:06	43085	181-55-7ABD	7	I-MZ3 3	AUTO	5.8 EC	KB 9-11-97	
S975844	〃	21:43	〃	181-55-8ABDE	8	MZ3-R3	〃	6.2 EC	〃	
S975845	〃	22:22	43062A	TLI Blank	0	TLI MZ3 Blank	〃	7.5 EC	〃	
S975846	〃	23:02	〃	181-32-1ABDE	1	GGC-TC2-MZ3/0.10-101	〃	6.2 EC	〃	
S975847	〃	23:41	〃	181-32-2ABDE	2	GGC-TC2-MZ3/0.010-102	〃	5.9 EC	〃	
S975848	9/12/97	00:20	〃	TLI CCS	3	TLI CCS	〃	6.9 EC	〃	
S975849	〃	00:59	〃	TLI CCSD	4	TLI CCSD	〃	6.9 EC	〃	
S975850	〃	01:39	43034r1	181-4-1A-C	1	ACLOA-MZ3-1	〃	6.7 EC	〃	

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: 5:42
ConCal Due: _____

Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
705	DB5	7458551	TD2	2.0 µl	EPCH52	EPC45

Signature: Glenn Graham Date: 9-12-97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
S975858	9-12-97		—	5170B	—	RTCHK	RTCHK		GG 9-12-97	
S975859	9-12-97	1937	—	4514G	—	Concal 50.0	M045	4.4 EG	KAS 9-12-97	NG
S975860	9-11-97	2003	—	5170B	—	RTCHK	RTCHK	8%	ML 9-12-97	* SE ML 9/12/97 Good
S975861	9-12-97	2120	—	5414G	—	Concal 50 M23	M-O 50	6.9 EG	ML 9-12-97	Good
S975862	9-12-97	2220	—	5413	—	8290 Concal 5.0	M-O 83	6.2 EG	ML 9/12/97	Good
S975863	9-12-97	2306	42979C1	TLi Blank	0	TLi M23 Blank	S9121	4.9 EG	ML 9/12/97	
S975864	9-13-97	00:14	43057C1	TLi Blank	0	TLi M23 Blank	Auto	6.0 EG	ML 9/13/97	
S975865		00:54		181-27-6A-C	6	D-M23-4		6.2 GC		
S975866		01:33	43085	181-55-1ABE	1	D-M23-1		2.7 GC		
S975867		02:12		181-55-2ABE	2	D-M23-2		2.4 GC		
S975868		02:52		181-55-3ABE	3	D-M23-3		1.1 GC		10µl of nonane added.
S975869		03:31	43054A	TLi Blank	0	TLi Solid Blank		8.1 GC		
S975870		04:11		181-24-1	1	ME 050-SL-087-TRIM.SL		2.3 GC		

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: M23 out at 9:20 9/13/97
ConCal Due: 8290 out at 10:20 9/13/97

Triangle Laboratories, Inc
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
70P	DB 225	G360413	TT1	2 ul	DB 225	DB 225

LDa
Signature

9/12/97
Date

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
P973842	9/12/97	10:13	—	51708	-	RTCHK	MCH	1478	LDa 9/12/97	
1 43	1	11:04	—	44974	—	TETRA CONCH 5.0	TETRA 5.0	1.9 12 C	1	Good LDa 9/12/97
1 44	1	11:59	—	52962	—	RS-100	RS-100	1.7 EC	1	clean LDa 9/12/97
1 45	1	12:45	43057	181-27-3AC	3	O-M23-2	P9081	1.9 BC	1	
1 46	1	13:32	1	1 -4AC	4	1 -3	1	3.0 EC	1	
1 47	1	14:19	1	1 -7AC 181-83-1	7	1 -RB	1	2.9 EC	1	
1 48	1	15:06	43057.1	TU BLANK	0	TU M23 BLANK	1	2.0 EC	1	
1 49	1	1553	1	181-27-6AC	6	O-M23-4	1	1.5 EC	1	
P973850	9/12/97	1642	43085	181-55	3	O-M23-3	↓	8.1 EC	BB 9/12/97	
P973851	9/12/97	1731	43085	181-55-4ABD	4	O-M23-FB	↓	7.4 EC	ML 9/12/97	Fail DL
P973852	9/12/97	1810	43085	TU Blank	0	TU M23 Blank	↓	6.9 EC	ML 9/12/97	
P973853	9/12/97	1905	43085	181-55-6ABD	6	T-M23-2	↓	4.5 EC	ML 9/12/97	Fail DL
P973854	9/12/97	1951	43085	181-55-7ABD	7	T-M23-3	↓	8.4 EC	ML 9/12/97	

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: _____
ConCal Due: _____

Triangle Laboratories, Inc
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
7DP	DB225	6360413	TT1	2.0µl	DB225	DB225

Signature: Mich Lam Date: 9/12/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
P973855	9/12/97	20:37	430345-1	181-4-1A-C	1	ALCOA-M23-1	P9-81	1.3 E6	ML 9/12/97	
P973856	↓	21:26	↓	181-4-2A-C	2	ALCOA-M23-2	↓	1.2 E6	↓	
P973857	↓	22:13	↓	181-4-3A-C	3	ALCOA-M23-3	↓	1.3 E6	↓	
P973858	9/13/97	09:21	—	51705	—	R7dHC	R7dHC	206	jm 9/13/97	Good jm 9.13.97
P973859	↓	10:24	—	44970	—	Tetra CnCal 5.0	Tetra 5.0	1.3 E6	jm 9/13/97	Good jm 9.13.97
P973860	↓	11:12	—	52962	—	RS-10V	RS10V	1.5 E6	jm 9/13/97	Clean jm 9.13.97
P973861	↓	11:57	43085	181-55-4MBD	4	O-m23-FB	P9081	3.2 E5	↓	
P973862	↓	12:53	↓	181-55-6ABD	6	I-m23-2	P9081	4.3 E5	↓	
P973863			430544	181-24-1	1	MC050-SL087-PMSm.sl	P9081		↓	

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: _____
ConCal Due: _____

TRIANGLE LABS

SAMPLE DATA

Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729
P.O. Box 13485
Research Triangle Park, NC 27709-3
Fax # 919-544-5491

TRIANGLE LABORATORIES OF RTP, INC.
Sample Result Summary for Project 43085
Method 8290X Full Screen Analyses (DB-5)
09/18/97

Data File	S975815		S975866		S975867		S975868
Sample ID	TLI M23 Blank		O-M23-1		O-M23-2		O-M23-3
Units	ng		ng		ng		ng
Extraction Date	09/04/97		09/04/97		09/04/97		09/04/97
Analysis Date	09/11/97		09/13/97		09/13/97		09/13/97
Instrument	S		S		S		S
Matrix	XAD		M23Train		M23Train		M23Train
Extraction Type	Soxhlet		Soxhlet		Soxhlet		Soxhlet
Analytes							
2378-TCDD	(0.005)		(0.09)		(0.07)		(0.01)
12378-PeCDD	(0.006)		(0.1)		(0.09)		(0.01)
123478-HxCDD	(0.006)		(0.1)		(0.1)		(0.02)
123678-HxCDD	(0.005)		(0.1)		(0.1)		(0.02)
123789-HxCDD	(0.005)		(0.1)		(0.1)		(0.02)
1234678-HpCDD	0.02		(0.2)		(0.2)		(0.03)
OCDD	0.05		(0.5)		(0.6)		(0.10)
2378-TCDF	0.006		(0.08)		(0.05)		(0.006)
12378-PeCDF	(0.004)		(0.09)		{0.24}	E	(0.01)
23478-PeCDF	(0.004)		(0.09)		(0.07)		(0.01)
123478-HxCDF	(0.005)		(0.09)		(0.09)		(0.01)
123678-HxCDF	(0.003)		(0.07)		(0.07)		(0.01)
234678-HxCDF	(0.004)		(0.09)		(0.08)		(0.01)
123789-HxCDF	(0.005)		(0.1)		{0.24}	Q,E	(0.01)
1234678-HpCDF	0.02		(0.1)		(0.2)		(0.02)
1234789-HpCDF	(0.007)		(0.2)		(0.2)		(0.03)
OCDF	0.03		(0.4)		(0.4)		(0.07)
TOTAL TCDD	(0.005)		(0.09)		(0.07)		(0.01)
TOTAL PeCDD	(0.006)		{0.53}		{1.0}		(0.01)
TOTAL HxCDD	(0.006)		(0.1)		0.44		(0.02)
TOTAL HpCDD	0.02		(0.2)		{1.0}		(0.03)
TOTAL TCDF	0.006		0.15		(0.05)		(0.006)
TOTAL PeCDF	(0.004)		(0.09)		{0.41}	E	{0.02}
TOTAL HxCDF	(0.004)		(0.09)		{0.46}	E	(0.01)
TOTAL HpCDF	0.02		(0.2)		{0.36}		(0.02)
Other Standards Percent Recovery Summary (% Rec)							
37Cl-TCDD	94.6		79.3		100		101
13C12-PeCDF 234	101	Q	71.8		93.1		93.4
13C12-HxCDF 478	87.3		73.8		94.3	Q	85.0
13C12-HxCDD 478	81.6		64.4	V	85.6	Q	83.2
13C12-HpCDF 789	78.6		78.7		116	Q	86.7
Other Standards Percent Recovery Summary (% Rec)							
13C12-HxCDF 789	69.4		74.3	Q	58.2	Q	84.8
13C12-HxCDF 234	73.3		92.3		73.7	Q	94.6
Internal Standards Percent Recovery Summary (% Rec)							
13C12-2378-TCDF	105	Q	137		88.1		114
13C12-2378-TCDD	74.6		145		90.2		95.4
13C12-PeCDF 123	94.4	Q	160	RO	82.1	Q,RO	91.9
13C12-PeCDD 123	101	Q	177		102		100
13C12-HxCDF 678	73.5		124		81.0	Q	103
13C12-HxCDD 678	83.2		122		77.6	Q	92.2
13C12-HpCDF 678	64.0		91.2		47.2	Q	64.7
13C12-HpCDD 678	71.5		88.5		53.2	Q	63.8
13C12-OCDD	73.1		60.5		29.8	Q	31.6

Data File	S975833	S975834	S975835	S975843
Sample ID	O-M23-FB	I-M23-1	I-M23-2	I-M23-3
Units	ng	ng	ng	ng
Extraction Date	09/04/97	09/04/97	09/04/97	09/04/97
Analysis Date	09/11/97	09/11/97	09/11/97	09/11/97
Instrument	S	S	S	S
Matrix	M23Train	M23Train	M23Train	M23Train
Extraction Type	Soxhlet	Soxhlet	Soxhlet	Soxhlet
Analytes				
2378-TCDD	{0.009}	(0.06)	(0.03)	(0.005)
12378-PeCDD	0.04	(0.2)	(0.06)	(0.009)
123478-HxCDD	0.02 Q	(0.2)	(0.1)	(0.01)
123678-HxCDD	0.03	(0.2)	(0.09)	(0.01)
123789-HxCDD	0.03	(0.2)	(0.09)	(0.01)
1234678-HpCDD	0.03 B	(0.3)	(0.2)	0.14 B
OCDD	0.09 B	9.7	8.2	16.2
2378-TCDF	0.02 B	(0.05)	(0.02)	0.01 B
12378-PeCDF	0.04	(0.09)	(0.04)	(0.005)
23478-PeCDF	0.04	(0.09)	(0.04)	(0.005)
123478-HxCDF	0.03	(0.1)	(0.06)	0.02
123678-HxCDF	0.03	(0.1)	(0.05)	(0.006)
234678-HxCDF	0.03	(0.1)	(0.06)	(0.006)
123789-HxCDF	0.03	(0.2)	(0.07)	(0.008)
1234678-HpCDF	{0.03} B	(0.2)	(0.1)	0.04 B
1234789-HpCDF	0.02	(0.2)	(0.1)	(0.02)
OCDF	0.03 B	(0.3)	(0.4)	(0.05)
TOTAL TCDD	{0.009}	(0.06)	(0.03)	(0.005)
TOTAL PeCDD	0.04	(0.2)	(0.06)	(0.009)
TOTAL HxCDD	0.09	(0.2)	(0.10)	0.02
TOTAL HpCDD	0.04	{0.35}	(0.2)	0.34
TOTAL TCDF	0.02	{0.18}	0.17	0.01
TOTAL PeCDF	0.08	0.47	0.33	{0.01}
TOTAL HxCDF	0.11	(0.1)	(0.06)	0.03
TOTAL HpCDF	0.02	(0.2)	{0.26}	0.04
Other Standards Percent Recovery Summary (% Rec)				
37Cl-TCDD	95.6	102	102	103
13C12-PeCDF 234	89.4	92.1	87.4	93.4
13C12-HxCDF 478	83.1	117 Q	100	112
13C12-HxCDD 478	72.6 Q	89.9 Q	90.2	99.9
13C12-HpCDF 789	67.8 V	110 Q	84.3 R	75.7
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	69.7	80.6 Q	49.8	54.2
13C12-HxCDF 234	81.5	76.4 Q	53.8	73.5
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	75.7	72.8	45.4	63.3
13C12-2378-TCDD	71.5	73.3	50.6	58.5
13C12-PeCDF 123	75.4	50.6	36.1 V,Q	56.9
13C12-PeCDD 123	86.9	45.4 Q	35.5 V,Q	57.2
13C12-HxCDF 678	81.3	65.4 Q	56.9	64.5 Q
13C12-HxCDD 678	76.5	70.9 Q	49.5	58.0
13C12-HpCDF 678	75.9	56.0 Q	32.2	35.3
13C12-HpCDD 678	87.9	59.6 Q	30.0	29.8
13C12-OCDD	87.6	55.8 Q	17.5 N	16.0 V

Data File	S975844	S975831	S975832
Sample ID	M23-RB	TLI LCS	TLI LCSD
Units	ng	ng	ng
Extraction Date	09/04/97	09/04/97	09/04/97
Analysis Date	09/11/97	09/11/97	09/11/97
Instrument	S	S	S
Matrix	M23Train	XAD	XAD
Extraction Type	Soxhlet	Soxhlet	Soxhlet
Analytes			
2378-TCDD	(0.004)	0.36	0.36
12378-PeCDD	(0.005)	1.8	1.9
123478-HxCDD	(0.005)	1.8	1.7
123678-HxCDD	0.006	1.8	1.8
123789-HxCDD	0.007	1.8	1.9
1234678-HpCDD	0.03 B	1.7	1.8
OCDD	0.05 B	3.4	3.6
2378-TCDF	(0.003)	0.36	0.37
12378-PeCDF	(0.004)	2.0	1.9
23478-PeCDF	(0.005)	1.8	1.9
123478-HxCDF	0.03	1.7	1.7
123678-HxCDF	0.01	1.7	1.8
234678-HxCDF	0.01	1.6	1.7
123789-HxCDF	(0.003)	1.5	1.8
1234678-HpCDF	0.05 B	2.1	1.8
1234789-HpCDF	(0.008)	1.5	1.6
OCDF	0.05 B	2.7	2.8
TOTAL TCDD	(0.007)		
TOTAL PeCDD	(0.01)		
TOTAL HxCDD	0.01		
TOTAL HpCDD	0.04		
TOTAL TCDF	(0.003)		
TOTAL PeCDF	0.007		
TOTAL HxCDF	0.07		
TOTAL HpCDF	0.07		
Other Standards Percent Recovery Summary (% Rec)			
37Cl-TCDD	105		
13C12-PeCDF 234	95.0		
13C12-HxCDF 478	89.0		
13C12-HxCDD 478	87.7		
13C12-HpCDF 789	97.8		
Other Standards Percent Recovery Summary (% Rec)			
13C12-HxCDF 789	75.8	72.3	75.4
13C12-HxCDF 234	79.3	76.2	77.5
Internal Standards Percent Recovery Summary (% Rec)			
13C12-2378-TCDF	68.5	64.9	65.4
13C12-2378-TCDD	61.5	62.6	60.9
13C12-PeCDF 123	67.5	65.3	64.9
13C12-PeCDD 123	69.2	69.4	66.7
13C12-HxCDF 678	75.6	72.8	72.8
13C12-HxCDD 678	69.2	73.1	70.3
13C12-HpCDF 678	60.9	58.4	62.5
13C12-HpCDD 678	66.8	64.5	67.1
13C12-OCDD	60.2	56.7	60.2

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

TRIANGLE LABORATORIES OF RTP, INC.
Sample Result Summary for Project 43085
Method 23X (DB-225)

Data File	P973852	P973854	P973861
Sample ID	TLI M23 Blank	I-M23-3	O-M23-FB
Units	ng	ng	ng
Extraction Date	09/04/97	09/04/97	09/04/97
Analysis Date	09/12/97	09/12/97	09/13/97
Instrument	P	P	P
Matrix	XAD	M23Train	M23Train
Extraction Type	Soxhlet	Soxhlet	Soxhlet
Analytes			
2378-TCDF	(0.03)	(0.03)	(0.05)
Internal Standards Percent Recovery Summary (% Rec)			
13C12-2378-TCDF	67.4	53.9	70.9

(Detection Limit).

TRIANGLE LABORATORIES, INC.
LAB CONTROL SPIKE RECOVERY ANALYSIS AND COMPARISON

Project: 43085
Matrix: XAD
Method: Modified 23

Isomer	S975815 ID: TLI M23 Blank Sample (ng)	S975831 ID: TLI LCS With Spike (ng)	Percent Recovery	S975832 ID: TLI LCSD Spike Dup (ng)	Percent Recovery	Relative Percent Difference
2378-TCDD	ND	0.36	89.5	0.36	89.1	0.45
12378-PeCDD	ND	1.8	91.7	1.9	93.6	2.05
123478-HxCDD	ND	1.8	87.5	1.7	87.4	0.11
123678-HxCDD	ND	1.8	89.1	1.8	90.4	1.45
123789-HxCDD	ND	1.8	89.4	1.9	94.9	5.97
1234678-HpCDD	0.02	1.7	84.5	1.8	87.7	3.72
OCDD	0.05	3.4	84.9	3.6	88.7	4.38
2378-TCDF	0.006	0.36	88.6	0.37	89.9	1.46
12378-PeCDF	ND	2.0	101	1.9	94.7	6.44
23478-PeCDF	ND	1.8	91.1	1.9	95.0	4.19
123478-HxCDF	ND	1.7	85.3	1.7	86.8	1.74
123678-HxCDF	ND	1.7	84.2	1.8	87.8	4.19
234678-HxCDF	ND	1.6	80.0	1.7	83.5	4.28
123789-HxCDF	ND	1.5	76.7	1.8	90.4	16.4
1234678-HpCDF	0.02	2.1	102	1.8	90.6	11.8
1234789-HpCDF	ND	1.5	77.2	1.6	80.6	4.31
OCDF	0.03	2.7	68.0	2.8	70.2	3.18

ND: Not Detected
NA: Not Applicable
[..]: EMPC Value

MILES 4.15.00
GRY_PSUM v1.01

Processed By: _____ Date: 09/18/97

Percent Recovery QC Limits: 70 to 130 percent.
Relative Percent Difference QC Limits: +/- 20 percent.

Note: Method 23 does not address spiked samples. Triangle Labs uses Method 8290 control limits as advisory guidelines.

Nominal Spike Levels (ng):
TCDD/TCDF..: 0.4 ng
PeCDD/PeCDF: 2.0 ng
HxCDD/HxCDF: 2.0 ng
HpCDD/HpCDF: 2.0 ng
OCDD/OCDF..: 4.0 ng

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)

Client Sample: **TLI M23 Blank** — Analysis File: **S975815**

Client Project:	S413-004				
Sample Matrix:	XAD	Date Received:	/ /	Spike File:	SPX23704
TLI ID:	TLI Blank	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/11/97	ConCal:	S975814
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.005				—
1,2,3,7,8-PeCDD	ND	0.006				—
1,2,3,4,7,8-HxCDD	ND	0.006				—
1,2,3,6,7,8-HxCDD	ND	0.005				—
1,2,3,7,8,9-HxCDD	ND	0.005				—
1,2,3,4,6,7,8-HpCDD	0.02			1.07	32:01	—
1,2,3,4,6,7,8,9-OCDD	0.05			0.84	34:33	—
2,3,7,8-TCDF	0.006			0.85	20:25	—
1,2,3,7,8-PeCDF	ND	0.004				—
2,3,4,7,8-PeCDF	ND	0.004				—
1,2,3,4,7,8-HxCDF	ND	0.005				—
1,2,3,6,7,8-HxCDF	ND	0.003				—
2,3,4,6,7,8-HxCDF	ND	0.004				—
1,2,3,7,8,9-HxCDF	ND	0.005				—
1,2,3,4,6,7,8-HpCDF	0.02			1.18	31:11	—
1,2,3,4,7,8,9-HpCDF	ND	0.007				—
1,2,3,4,6,7,8,9-OCDF	0.03			0.76	34:39	—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.005		—
Total PeCDD	ND		0.006		—
Total HxCDD	ND		0.006		—
Total HpCDD	0.02	1			—
Total TCDF	0.006	1			—
Total PeCDF	ND		0.004		—
Total HxCDF	ND		0.004		—
Total HpCDF	0.02	1			—

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Pacific Environmental Services

TLI Project: **43085** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **TLI M23 Blank** Analysis File: **S975815**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	4.2	105	40%-130%	0.76	20:23	Q___
$^{13}C_{12}$-2,3,7,8-TCDD	3.0	74.6	40%-130%	0.80	21:13	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.8	94.4	40%-130%	1.70	24:42	Q___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	4.1	101	40%-130%	1.41	25:50	Q___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.9	73.5	40%-130%	0.49	28:28	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.3	83.2	40%-130%	1.18	29:11	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.6	64.0	25%-130%	0.43	31:11	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.9	71.5	25%-130%	0.95	32:02	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	5.8	73.1	25%-130%	0.78	34:32	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.8	94.6	70%-140%		21:13	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	4.0	101	70%-140%	1.51	25:28	Q___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.5	87.3	70%-140%	0.51	28:22	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.3	81.6	70%-140%	1.15	29:06	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.1	78.6	70%-140%	0.43	32:23	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.8	69.4	40%-130%	0.48	29:41	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.9	73.3	40%-130%	0.50	28:59	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	21:00	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.19	29:29	___

Data Reviewer: Sherri 09/17/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 13:58 09/17/97

Initial ....Date...

Data Review By: SL 9/17/97 Calculated Noise Area: 1.55

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 S975815B.dbf
09/17/97 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						0.820-1.101			
304-306	DC	NL		0:00	RO	0.10	0.18			0.000			
	DC	SN		17:38	RO	0.93	1.61			0.865			
	DC	SN		19:40	RO	2.17	1.93			0.965			
D	DC	SN		19:57	RO	0.56	6.21			0.979			
	DC	SN		20:14		0.76	1.94			0.993			
M				20:25		0.85	8.52	3.91	4.61	1.002	2378-TCDF		AN
	DC	SN		20:58	RO	1.39	2.62			1.029			
	DC	SN		22:17	RO	0.35	4.07			1.093			
304-306			1 Peak				8.52						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318	DC	NL		0:00	RO	0.55	1.56			0.000			
	DC	WL		19:11		0.69	49.17			0.941			
				19:32	RO	0.57	6.64	2.89	5.03	0.958			
				19:54	RO	0.59	25.77	11.21	18.88	0.976			
				20:23		0.76	4,593.60	1,979.96	2,613.64	1.000	13C12-2378-TCDF	ISO	Q
				20:51	RO	1.23	19.88	13.84	11.23	1.023			
316-318			4 Peaks				4,645.89						

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

TCDD				0.65-0.89						0.853-1.059			
320-322	DC	NL		0:00	RO	5.13	0.14			0.000			
	DC	SN		18:15	RO	4.53	0.30			0.860			
	DC	SN		18:42	RO	3.00	0.30			0.881			
	DC	SN		20:01	RO	0.44	1.52			0.943			
	DC	SN		20:23	RO	4.40	1.20			0.961			
	DC	SN		20:37	RO	1.43	0.25			0.972			
	DC	SN		20:38	RO	6.69	0.28			0.973			
	DC	SN		20:58	RO	2.84	0.78			0.988			
	DC	SN		21:13	RO	0.30	2.09			1.000	2378-TCDD		AN
	DC	SN		21:28	RO	0.29	0.87			1.012			
	DC	SN		21:40	RO	1.86	0.25			1.021			
	DC	SN		21:42	RO	0.18	0.16			1.023			
	DC	SN		22:01	RO	4.69	0.62			1.038			
	DC	SN		22:15	RO	0.94	1.38			1.049			
	DC	WH		22:37	RO	5.70	0.41			1.066			
320-322			0 Peaks				0.00						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.08			0.000			
DMT	DC			0:00			0.00			0.000			
				19:40			13.92	13.92		0.927			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
AN				21:13			2,110.00	2,110.00		1.000	37Cl-TCDD	SUR1	
				21:29			2.91	2.91		1.013			
				21:38			2.91	2.91		1.020			
				21:42			2.17	2.17		1.023			
	DC	SN		22:01			1.01			1.038			
328			5 Peaks				2,131.91						
13C12-TCDD					0.65-0.89					0.906-1.094			
332-334	DC	NL		0:00	RO	20.25	0.14			0.000			
	DC	WL		19:05	RO	0.91	2.46			0.899			
	DC	SN		19:29	RO	1.16	1.31			0.918			
				19:54	RO	1.05	16.35	9.69	9.24	0.938			
	DC	SN		20:36		0.84	3.83			0.971			
				21:00		0.81	3,329.10	1,490.55	1,838.55	0.990	13C12-1234-TCDD	RS1	
				21:13		0.80	2,645.89	1,177.55	1,468.34	1.000	13C12-2378-TCDD	IS1	
				21:34	RO	1.08	41.54	25.41	23.47	1.016			
	DC	SN		22:00	RO	0.35	1.54			1.037			
332-334			4 Peaks				6,032.88						

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

PeCDF					1.32-1.78					0.907-1.078			
340-342	DC	NL		0:00	RO	0.09	0.12			0.000			
	DC	SN		22:56	RO	0.09	0.10			0.928			
	DC	SN		23:04	RO	0.52	0.54			0.934			
	DC	SN		23:31	RO	0.30	0.59			0.952			
	DC	SN		23:50	RO	0.61	2.88			0.965			
	DC	SN		24:10	RO	0.27	1.07			0.978			
	DC	SN		24:27	RO	2.73	4.74			0.990			
	DC	SN		24:35	RO	2.15	0.84			0.995			
	DC	SN		24:45	RO	0.79	2.68			1.002	12378-PeCDF	AN	
	DC	SN		25:16	RO	0.50	2.02			1.023			
	DC	SN		25:48	RO	1.13	0.15			1.045			
	DC	SN		26:28	RO	0.23	0.81			1.072			
	DC	SN		26:36	RO	0.31	0.64			1.077			
	DC	WH		26:43	RO	0.78	2.20			1.082			
340-342			0 Peaks				0.00						
13C12-PeCDF					1.32-1.78					0.838-1.162			
352-354	DC	NL		0:00	RO	1.00	0.15			0.000			
				23:49		1.62	56.50	34.94	21.56	0.964			
				24:20		1.60	20.27	12.47	7.80	0.985			
				24:42		1.70	3,558.95	2,241.95	1,317.00	1.000	13C12-PeCDF 123	IS2	Q
				25:00		1.58	33.92	20.75	13.17	1.012			
				25:28		1.51	3,479.61	2,092.50	1,387.11	1.031	13C12-PeCDF 234	SUR2	Q
				25:50	RO	1.93	6.17	4.68	2.42	1.046			
				26:27	RO	1.23	10.18	6.19	5.04	1.071			
352-354			7 Peaks				7,165.60						

---------- Above: PeCDF / PeCDD 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.
PeCDD					1.32-1.78						0.921-1.026			
356-358	DC	NL			0:00	RO	12.71	0.18			0.000			
	DC	SN			23:59		1.63	2.18			0.928			
	DC	SN			24:43	RO	7.49	1.05			0.957			
	DC	SN			25:00	RO	0.53	1.14			0.968			
D	DC	SN			25:51	RO	1.18	4.16			1.001	12378-PeCDD		AN
	DC	SN			26:19	RO	0.77	0.76			1.019			
	DC	SN			26:30	RO	4.30	0.94			1.026			
356-358					0 Peaks			0.00						
13C12-PeCDD					1.32-1.78						0.845-1.155			
368-370	DC	NL			0:00	RO	1.00	0.13			0.000			
	DC	SN			24:01	RO	0.86	1.32			0.930			
	DC	SN			24:42		1.71	3.60			0.956			
	DC	SN			24:52	RO	3.69	1.71			0.963			
	DC	SN			25:34	RO	1.27	2.76			0.990			
					25:50		1.41	2,144.29	1,255.11	889.18	1.000	13C12-PeCDD 123	IS3	C
					25:59		1.52	196.92	118.64	78.28	1.006			
	DC	SN			26:34	RO	1.89	2.40			1.028			
368-370					2 Peaks			2,341.21						

---------- Above: PeCDD / HxCDF Follows ----------

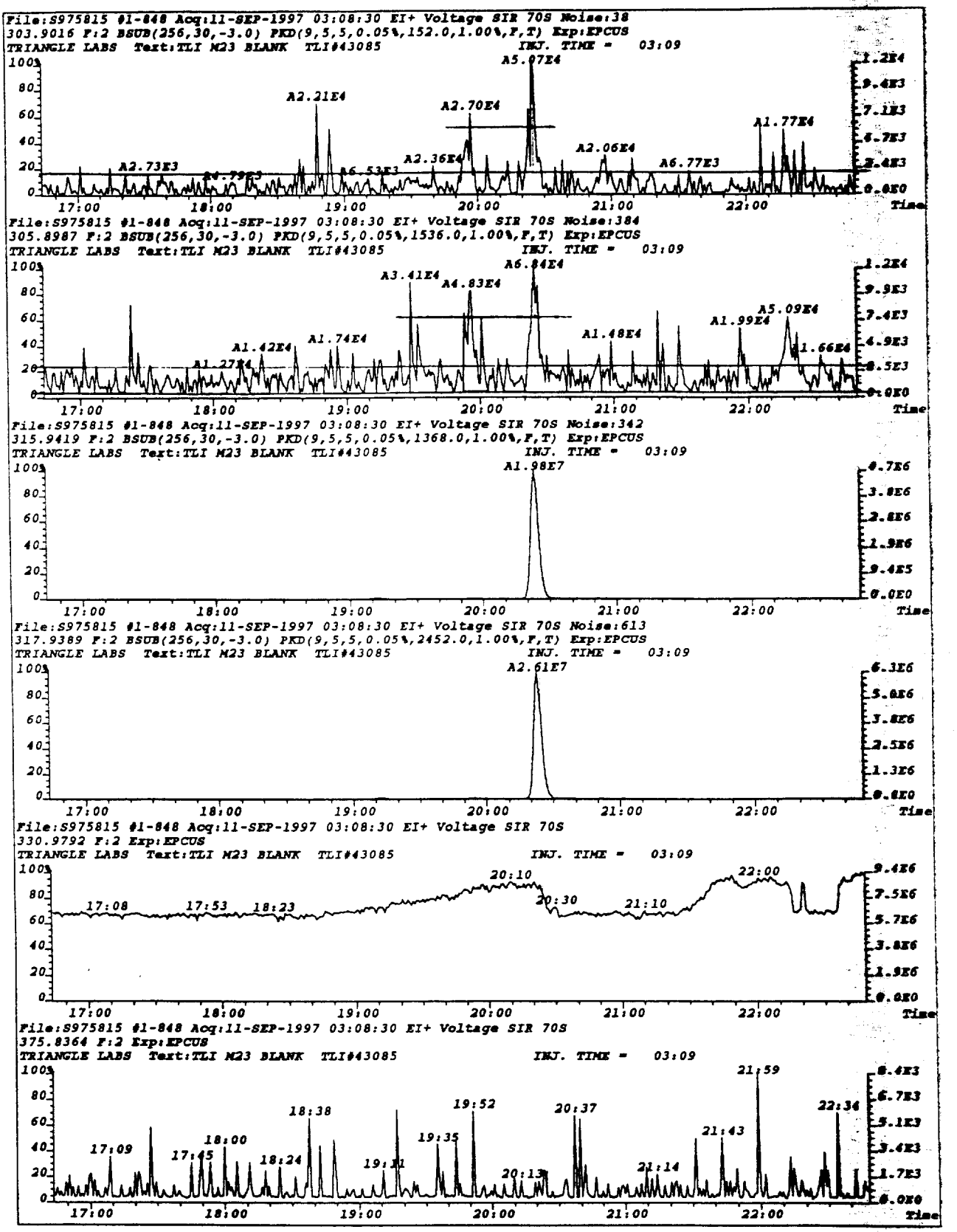
HxCDF					1.05-1.43						0.955-1.052			
374-376	DC	NL			0:00	RO	1.91	2.46			0.000			
	DC	SN			27:35		1.20	2.13			0.969			
	DC	SN			28:17	RO	3.04	2.44			0.994			
D	DC	SN			28:23		1.05	10.30			0.997	123478-HxCDF		AN
	DC	SN			28:28	RO	0.56	1.61			1.000	123678-HxCDF		AN
	DC	SN			28:43	RO	0.85	1.48			1.009			
	DC	SN			28:53	RO	0.50	1.16			1.015			
D	DC	SN			28:59	RO	0.96	6.94			1.018	234678-HxCDF		AN
	DC	SN			29:06	RO	1.84	1.28			1.022			
	DC	SN			29:22	RO	0.13	0.11			1.032			
D	DC	SN			29:37		1.19	8.15			1.040			
374-376					0 Peaks			0.00						
13C12-HxCDF					0.43-0.59						0.859-1.141			
384-386	DC	NL			0:00	RO	0.91	2.97			0.000			
					27:21	RO	0.41	8.50	2.87	7.04	0.961			
					27:29		0.53	23.70	8.20	15.50	0.965			
					28:22		0.51	2,397.48	812.87	1,584.61	0.996	13C12-HxCDF 478	SUP3	
					28:28		0.49	2,862.76	938.49	1,924.27	1.000	13C12-HxCDF 678	IS4	
					28:37	RO	0.62	10.45	4.29	6.92	1.005			
					28:59		0.50	2,646.33	878.42	1,767.91	1.018	13C12-HxCDF 234	ALT2	
					29:08		0.46	8.99	2.82	6.17	1.023			
	DC	SN			29:22		0.59	1.99			1.032			
	DC	SN			29:27	RO	0.31	2.10			1.035			
	DC	SN			29:33	RO	0.72	1.48			1.038			
					29:41		0.48	2,176.54	708.64	1,467.90	1.043	13C12-HxCDF 789	ALT1	
	DC	SN			29:55	RO	0.97	2.94			1.051			
	DC	SN			30:11	RO	0.34	1.39			1.060			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
384-386				8 Peaks			10,134.75						
	---------- Above: HxCDF / HxCDD Follows ----------												
HxCDD										1.05-1.43			
390-392	DC	NL		0:00	RO	0.80	1.75			0.950-1.015			
	DC	SN		28:21	RO	3.97	0.72			0.000			
	DC	SN		28:28	RO	1.49	2.80			0.971			
	DC	SN		28:54	RO	2.55	0.65			0.975			
	DC	SN		29:12	RO	1.95	1.84			0.990			
	DC	SN		29:19	RO	0.41	1.16			1.001	123678-HxCDD		AN
D	DC	SN		29:24		1.33	5.20			1.005			
	DC	SN		29:28	RO	2.91	0.72			1.007			
	DC	WH		29:48	RO	1.56	0.56			1.010	123789-HxCDD		AN
390-392				0 Peaks			0.00			1.021			
13C12-HxCDD										1.05-1.43			
402-404	DC	NL		0:00		1.40	1.25			0.966-1.034			
				28:35	RO	0.99	12.77	7.07	7.15	0.000			
				29:06		1.15	2,128.76	1,138.54	990.22	0.979			
				29:11		1.18	2,679.88	1,451.98	1,227.90	0.997	13C12-HxCDD 478		SUR4
				29:29		1.19	3,236.46	1,760.90	1,475.56	1.000	13C12-HxCDD 678		IS5
				29:40	RO	1.00	6.79	3.76	3.75	1.010	13C12-HxCDD 789		RS2
	DC	SN		29:45	RO	0.73	1.70			1.017			
	DC	SN		29:49	RO	1.45	2.22			1.019			
402-404				5 Peaks			8,064.66			1.022			
	---------- Above: HxCDD / HpCDF Follows ----------												
HpCDF										0.88-1.20			
408-410	DC	NL		0:00	RO	1.63	0.94			0.995-1.044			
MKT				31:11		1.18	14.68	7.95	6.73	0.000			
	DC	SN		31:33		1.09	3.15			1.000	1234678-HpCDF		AN
	DC	SN		32:10	RO	0.26	0.45			1.012			
D	DC	SN		32:24	RO	0.87	5.98			1.032			
	DC	WH		32:39	RO	0.29	0.31			1.039	1234789-HpCDF		AN
	DC	WH		32:53	RO	2.24	1.90			1.047			
408-410				1 Peak			14.68			1.055			
13C12-HpCDF										0.37-0.51			
418-420	DC	NL		0:00	RO	1.34	1.18			0.936-1.128			
				31:11		0.43	1,836.69	550.23	1,286.46	0.000			
	DC	SN		31:26	RO	1.87	1.90			1.000	13C12-HpCDF 678		IS6
				32:23		0.43	1,113.47	333.82	779.65	1.008			
418-420				2 Peaks			2,950.16			1.038	13C12-HpCDF 789		SUR5
	---------- Above: HpCDF / HpCDD Follows ----------												
HpCDD										0.88-1.20			
424-426	DC	NL		0:00	RO	7.14	0.14			0.976-1.006			
	DC	SN		31:17	RO	1.37	1.20			0.000			
	DC	SN		31:28	RO	3.09	1.41			0.977			
										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
	DC	SN		31:39	RO	2.30	0.94			0.988			
MT				32:01		1.07	7.73	4.00	3.73	0.999	1234678-HpCDD		AN
424-426			1 Peak				7.73						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00		1.11	3.77			0.000			
				31:26	RO	1.25	7.08	4.33	3.47	0.981			
				32:02		0.95	1,887.05	918.59	968.46	1.000	13C12-HpCDD 678		IS7
436-438			2 Peaks				1.894.13						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00		0.89	0.68			0.000			
	DC	SN		30:55	RO	1.16	1.61			0.895			
	DC	SN		31:21	RO	1.14	0.40			0.908			
	DC	SN		31:41	RO	0.04	0.13			0.917			
	DC	SN		31:58	RO	0.08	0.13			0.926			
	DC	SN		32:19		1.00	0.66			0.936			
	DC	SN		32:32	RO	2.93	0.57			0.942			
	DC	SN		32:41	RO	0.68	1.06			0.946			
	DC	SN		33:09	RO	2.28	0.55			0.960			
	DC	SN		33:15	RO	0.36	0.51			0.963			
	DC	SN		33:33	RO	0.67	0.76			0.972			
	DC	SN		34:24	RO	0.34	1.32			0.996			
M				34:39		0.76	13.25	5.71	7.54	1.003	OCDF		AN
	DC	SN		35:18	RO	1.94	0.93			1.022			
	DC	SN		35:40	RO	0.15	0.49			1.033			
	DC	SN		35:54	RO	0.64	0.64			1.040			
442-444			1 Peak				13.25						
OCDD				0.76-1.02						0.884-1.116			
458-460	DC	NL		0:00		1.00	0.14			0.000			
M				34:33		0.84	17.46	7.98	9.48	1.000	OCDD		AN
	DC	SN		34:46	RO	3.00	0.30			1.007			
458-460			1 Peak				17.46						
13C12-OCDD				0.76-1.02						0.995-1.005			
470-472	DC	NL		0:00		1.00	0.14			0.000			
				34:32		0.78	2,454.20	1,074.52	1,379.68	1.000	13C12-OCDD		IS8
470-472			1 Peak				2,454.20						

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 ***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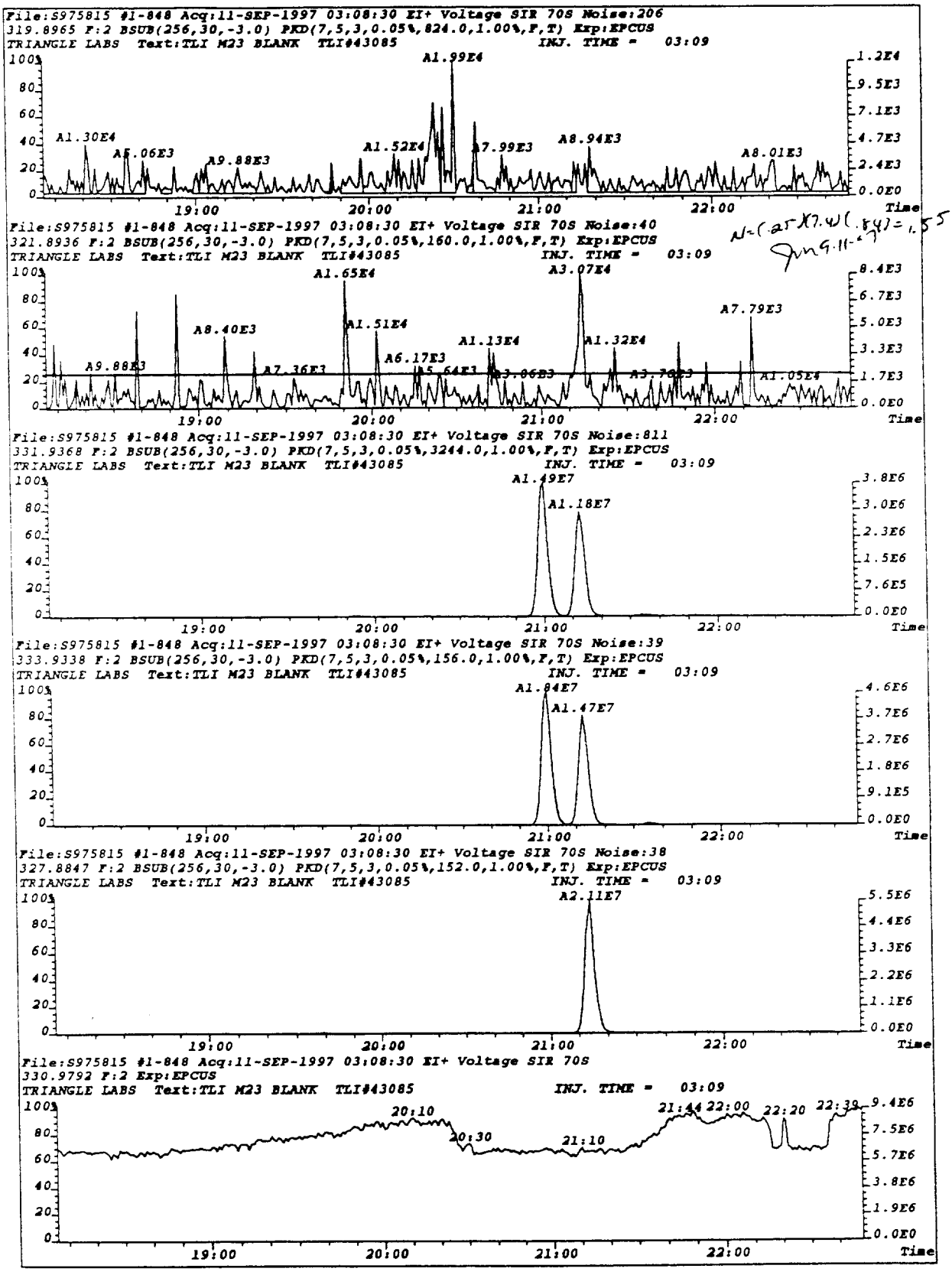
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A5.07E4
A2.21E4
A2.70E4
A1.77E4
A2.06E4
A2.36E4
A2.73E3
A6.77E3
A6.53E3
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:384
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1536.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A6.84E4
A3.41E4
A4.83E4
A5.09E4
A1.99E4
A1.48E4
A1.42E4
A1.74E4
A1.27E4
A1.66E4
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:342
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1368.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.98E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:613
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2452.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A2.61E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
17:08
17:53
18:23
20:10
20:30
21:10
22:00
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
17:09
17:45
18:00
18:24
18:38
19:11
19:35
19:52
20:13
20:37
21:14
21:43
21:59
22:34
17:00
18:00
19:00
20:00
21:00
22:00
Time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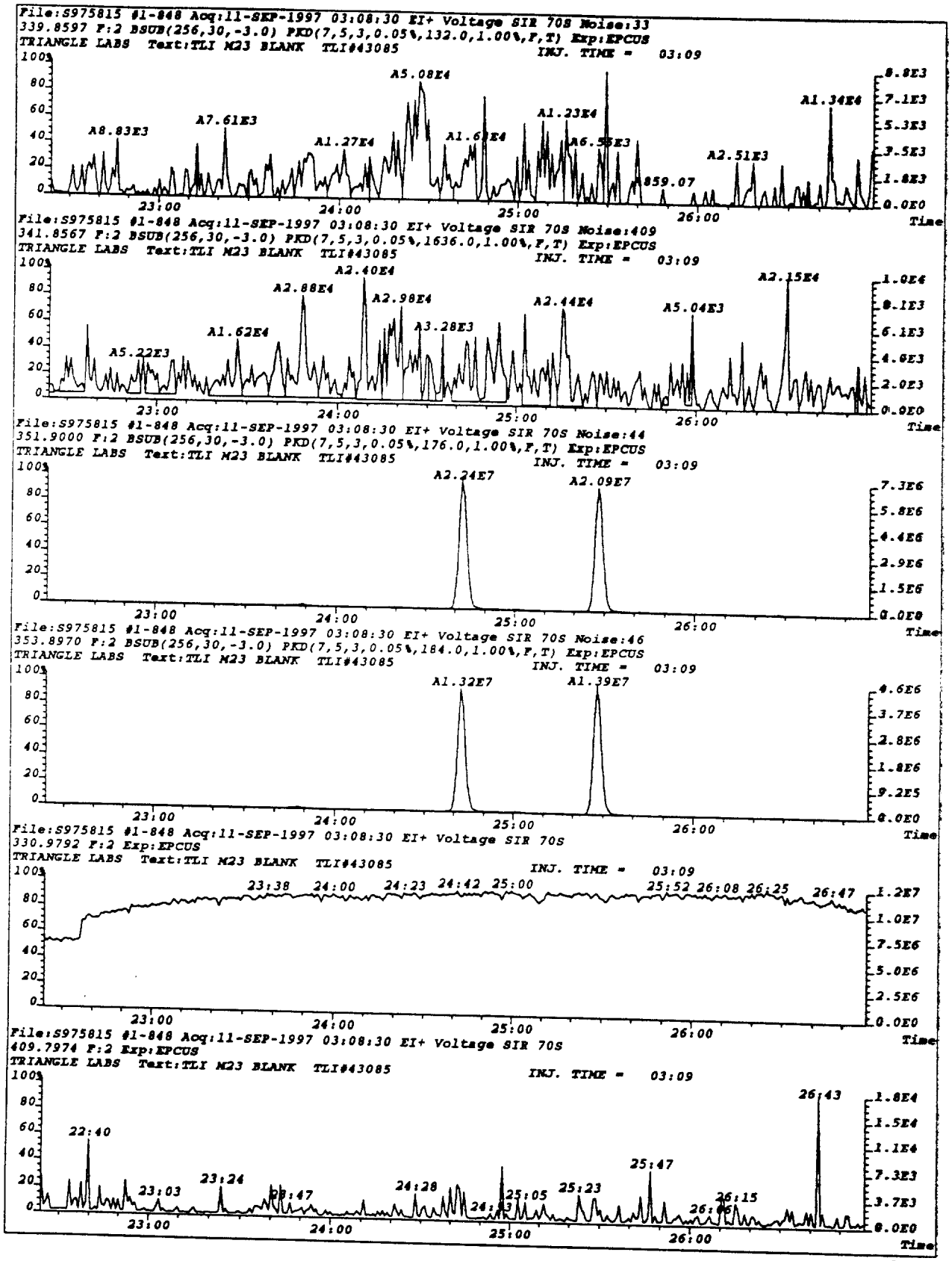
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,824.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.99E4
A1.30E4
A9.88E3
A1.52E4
A7.99E3
A8.94E3
A8.01E3
19:00
20:00
21:00
22:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:40
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.65E4
A3.07E4
A8.40E3
A1.51E4
A1.13E4
A1.32E4
A7.79E3
A9.88E3
A7.36E3
A6.17E3
A1.05E4
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:811
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.49E7
A1.18E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:39
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.84E7
A1.47E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:38
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A2.11E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
20:10
20:30
21:10
21:44
22:00
22:20
22:39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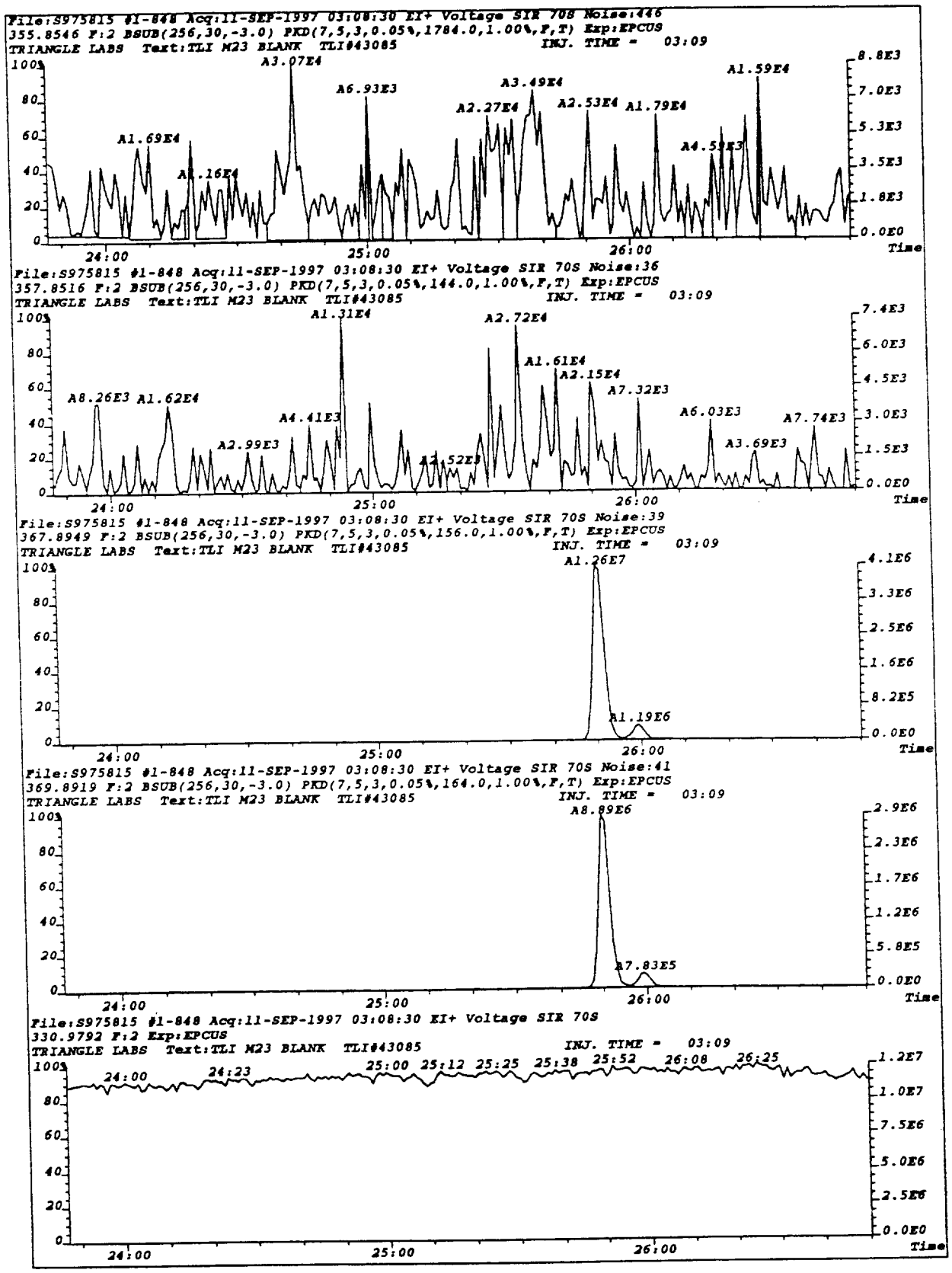
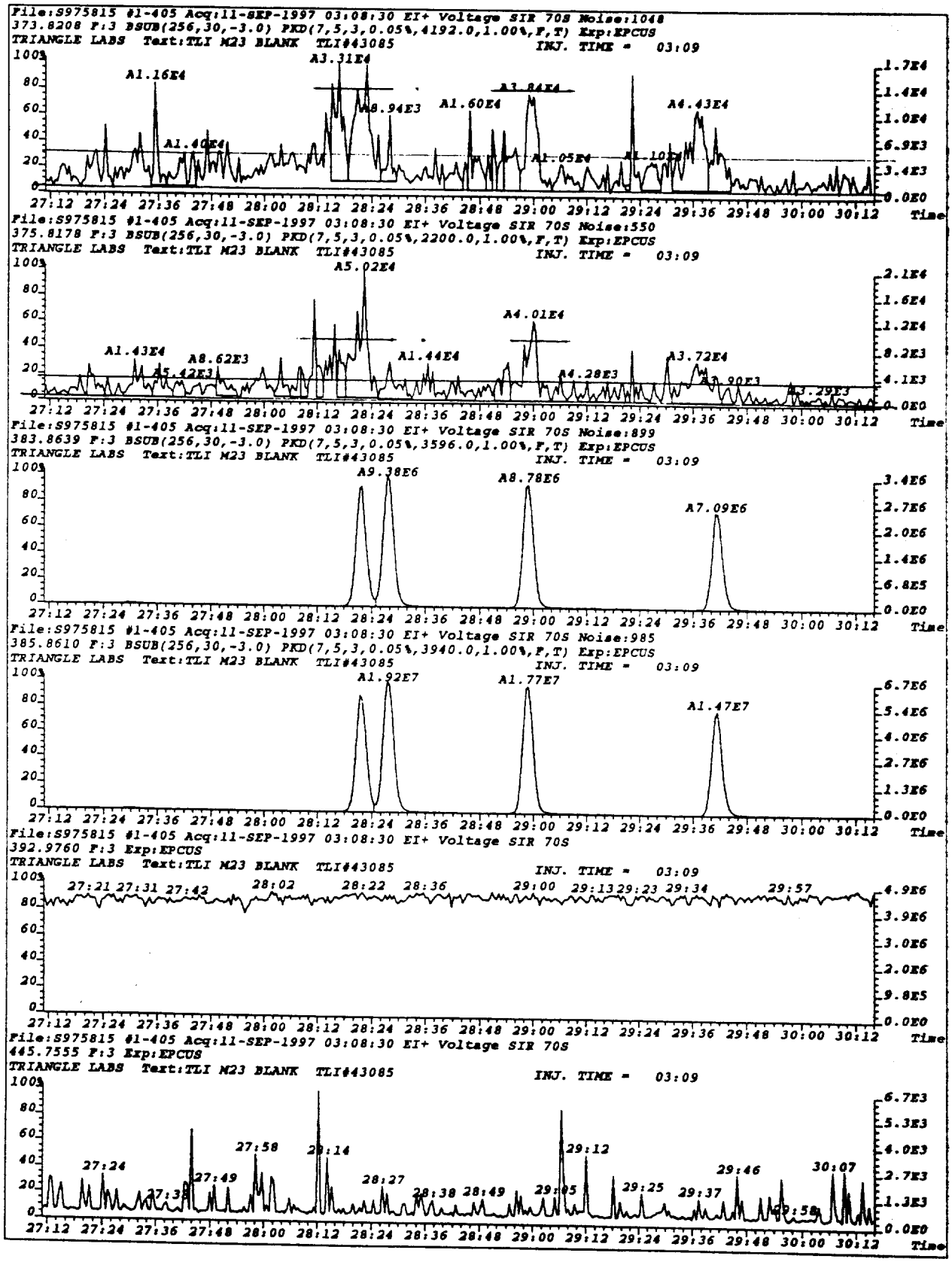
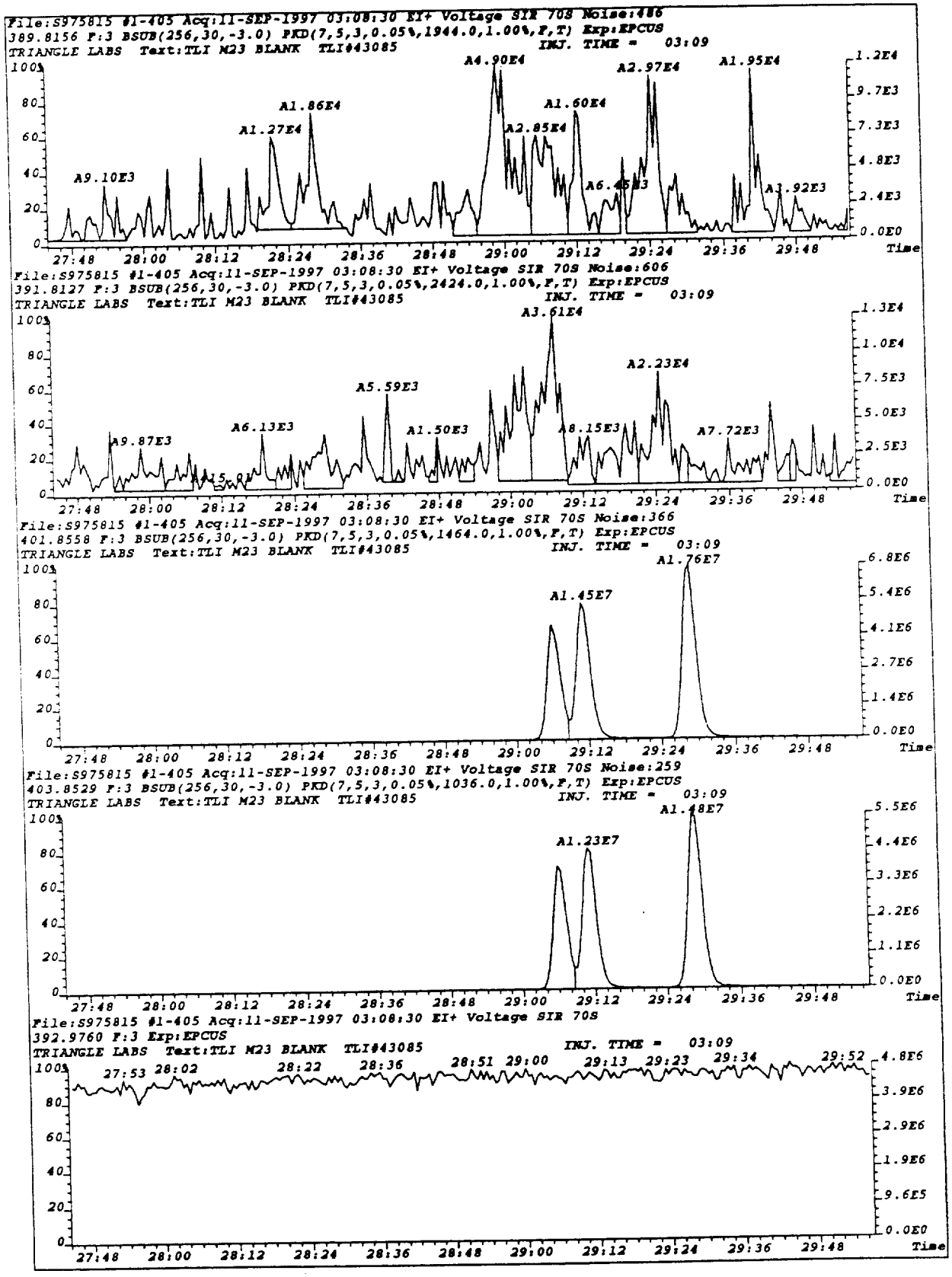
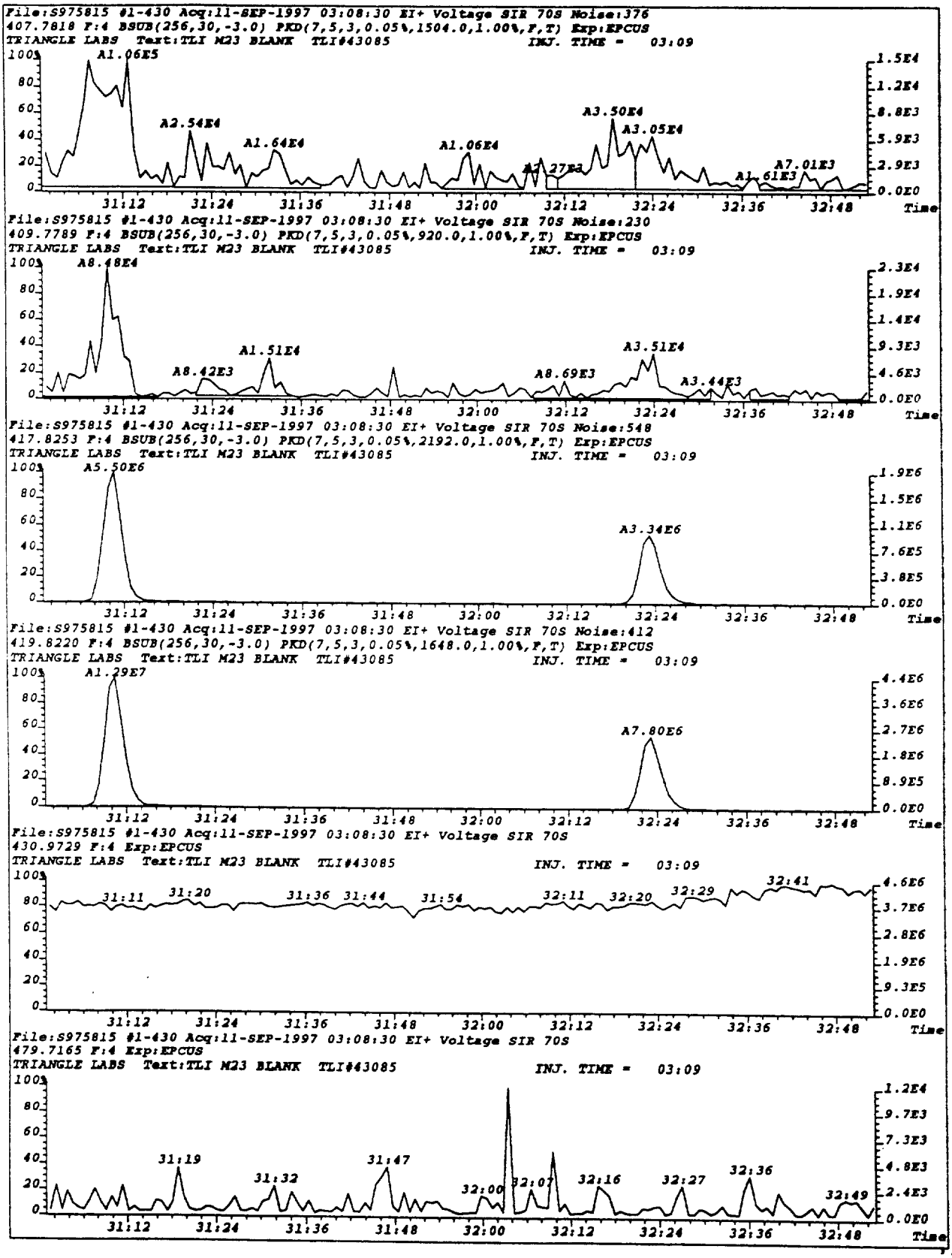
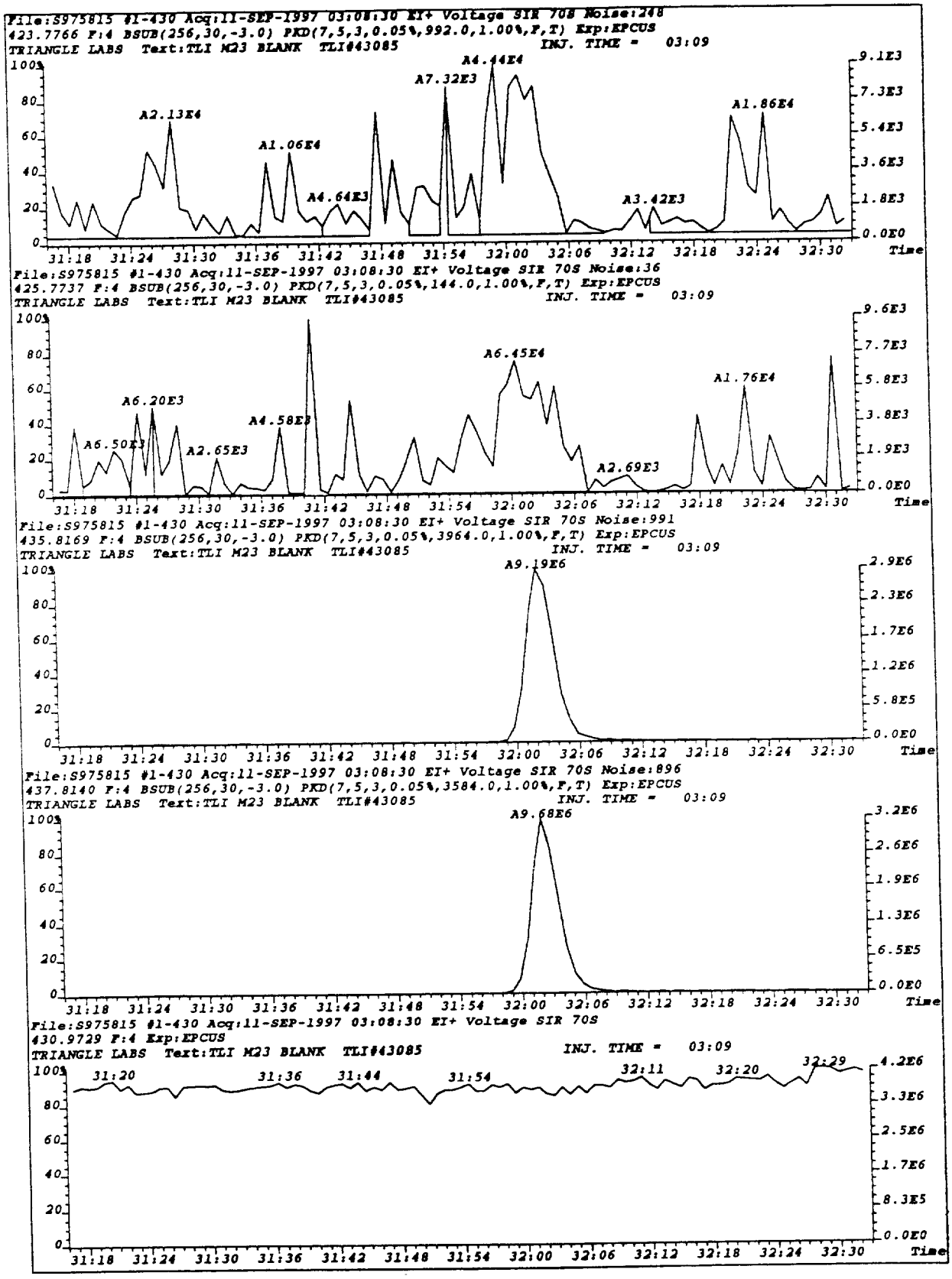
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A8.83E3
A7.61E3
A1.27E4
A5.08E4
A1.23E4
A1.34E4
A2.51E3
859.07
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:409
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1636.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A5.22E3
A1.62E4
A2.88E4
A2.40E4
A2.98E4
A3.28E3
A2.44E4
A5.04E3
A2.15E4
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:44
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A2.24E7
A2.09E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:46
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,184.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A1.32E7
A1.39E7
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
23:38 24:00 24:23 24:42 25:00 25:52 26:08 26:25 26:47
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
22:40
23:03
23:24
24:28
25:05
25:23
25:47
26:15
26:43
23:00
24:00
25:00
26:00
Time

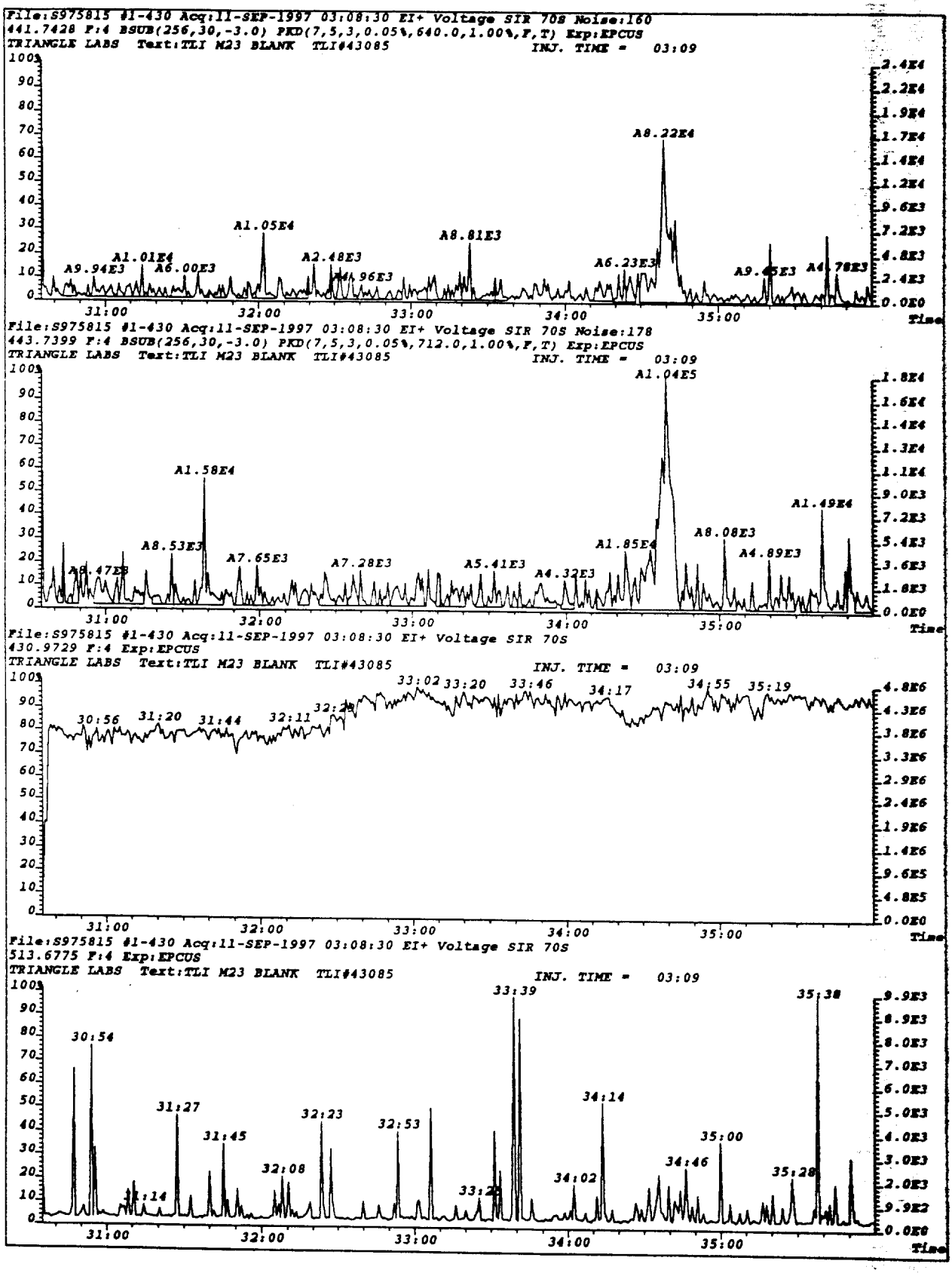

File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:446
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1784.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A3.07E4
A6.93E3
A3.49E4
A2.27E4
A2.53E4
A1.79E4
A1.59E4
A1.69E4
A4.59E3
24:00
25:00
26:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:36
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.31E4
A2.72E4
A1.61E4
A2.15E4
A7.32E3
A8.26E3
A1.62E4
A4.41E3
A6.03E3
A7.74E3
A2.99E3
A3.69E3
24:00
25:00
26:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:39
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.26E7
A1.19E6
24:00
25:00
26:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:41
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,164.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A8.89E6
A7.83E5
24:00
25:00
26:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
24:00
24:23
25:00
25:12
25:25
25:38
25:52
26:08
26:25
24:00
25:00
26:00
Time

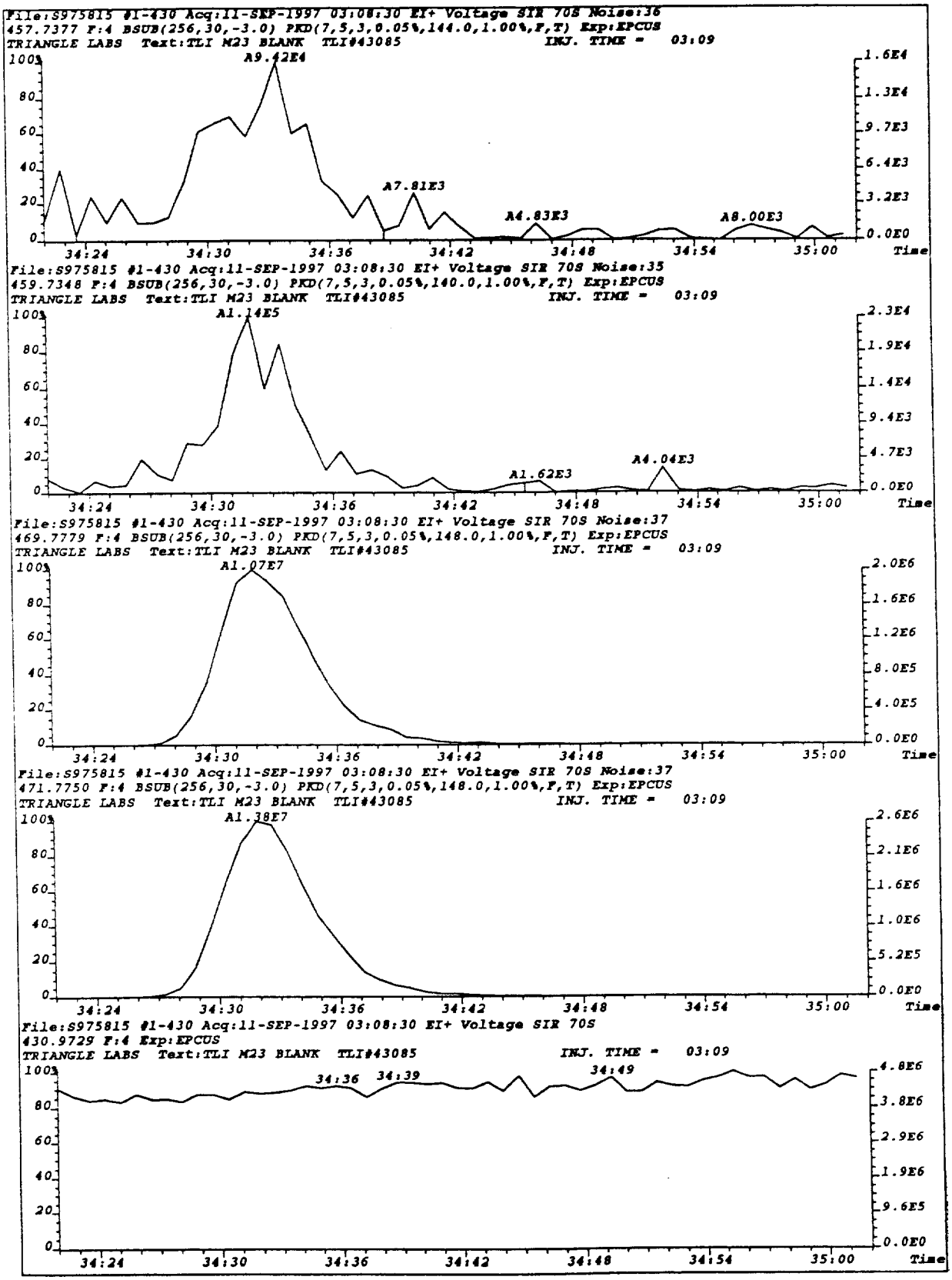

File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:1048
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.16E4
A3.31E4
A8.94E3
A1.60E4
A4.43E4
A1.40E4
A1.05E4
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:550
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A5.02E4
A4.01E4
A1.43E4
A8.62E3
A5.42E3
A1.44E4
A4.28E3
A3.72E4
A3.29E3
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:899
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3596.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A9.38E6
A8.78E6
A7.09E6
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:985
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3940.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.92E7
A1.77E7
A1.47E7
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
27:21 27:31 27:42 28:02 28:22 28:36 29:00 29:13 29:23 29:34 29:57
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
27:24
27:49
27:58
28:14
28:27
28:38
28:49
29:05
29:12
29:25
29:37
29:46
30:07
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12
Time

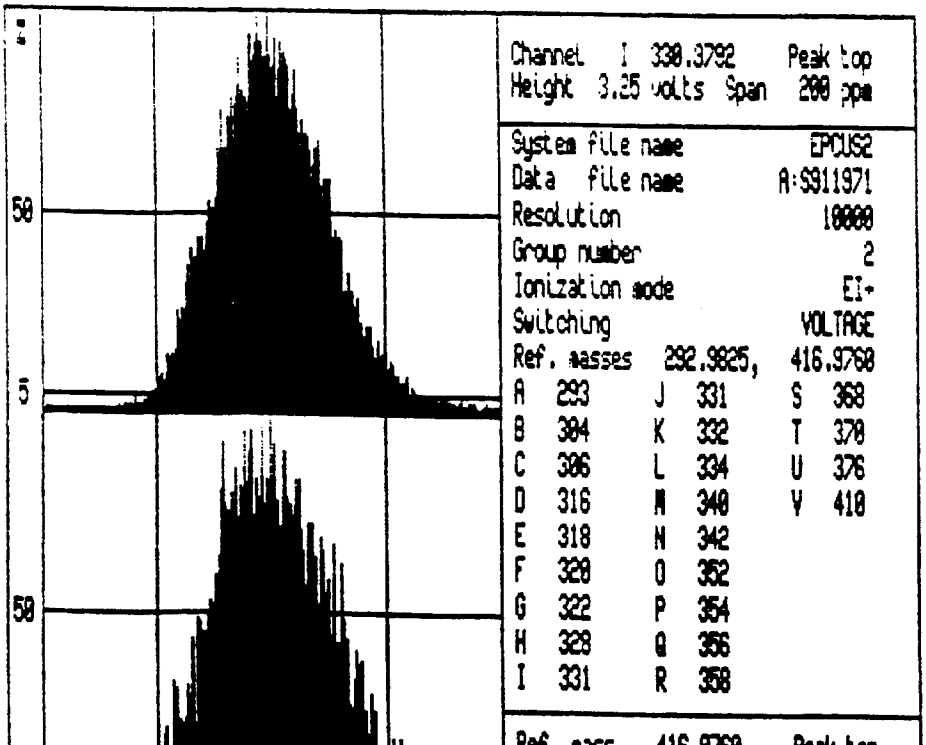

File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:486
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1944.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A9.10E3
A1.27E4
A1.86E4
A4.90E4
A2.85E4
A1.60E4
A6.45E3
A2.97E4
A1.95E4
A1.92E4
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:606
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2424.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A9.87E3
A6.13E3
A5.59E3
A1.50E3
A3.61E4
A8.15E3
A2.23E4
A7.72E3
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:366
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1464.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A1.45E7
A1.76E7
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:259
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1036.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A1.23E7
A1.48E7
File:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
27:53 28:02 28:22 28:36 28:51 29:00 29:13 29:23 29:34 29:52
Time

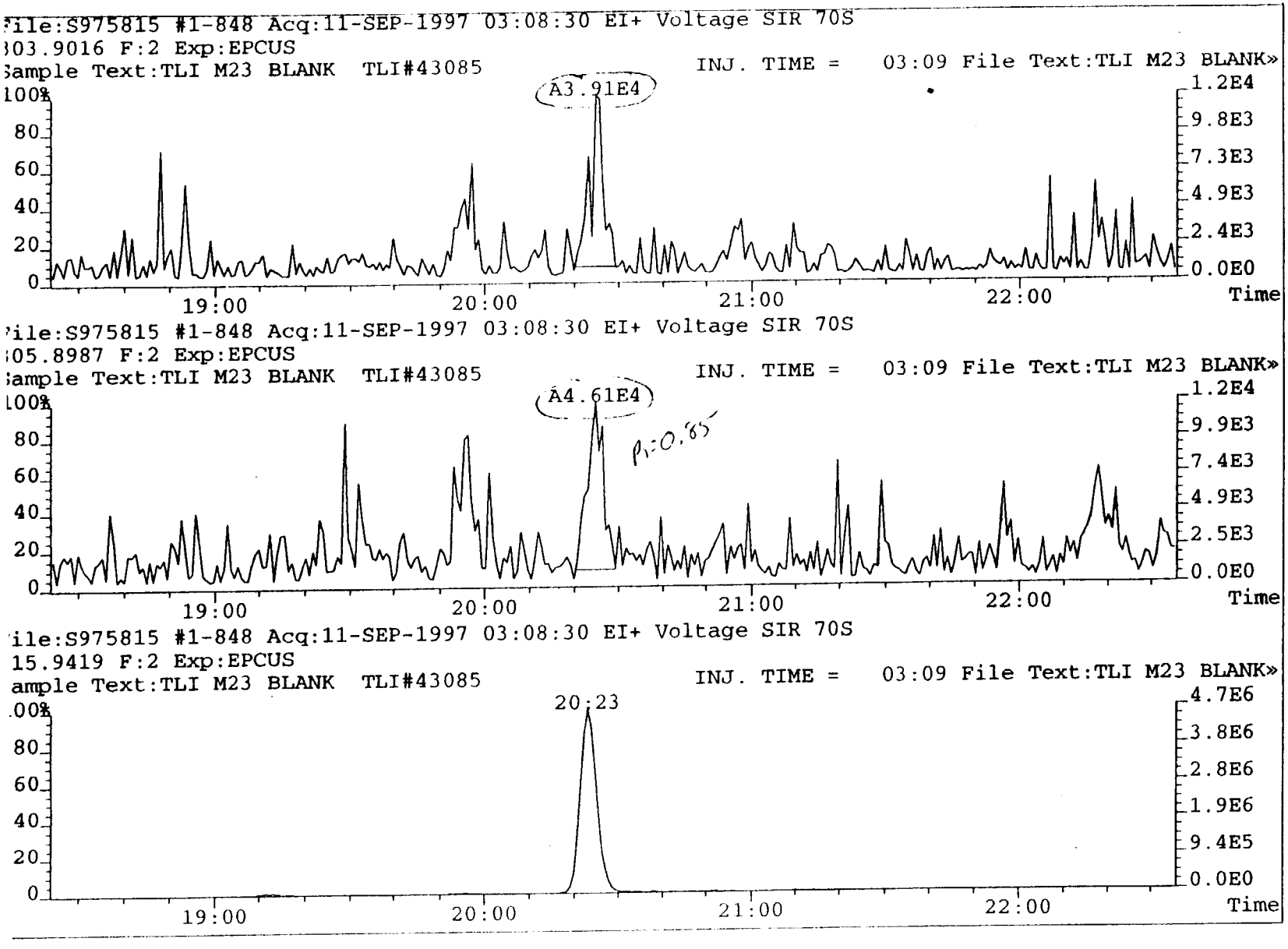

File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:376
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.06E5
A2.54E4
A1.64E4
A1.06E4
A3.50E4
A3.05E4
A7.01E3
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:230
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,920.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A8.48E4
A1.51E4
A8.42E3
A8.69E3
A3.51E4
A3.44E3
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:548
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A5.50E6
A3.34E6
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:412
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1648.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.29E7
A7.80E6
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
31:11
31:20
31:36
31:44
31:54
32:11
32:20
32:29
32:41
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
31:19
31:32
31:47
32:00
32:07
32:16
32:27
32:36
32:49
Time

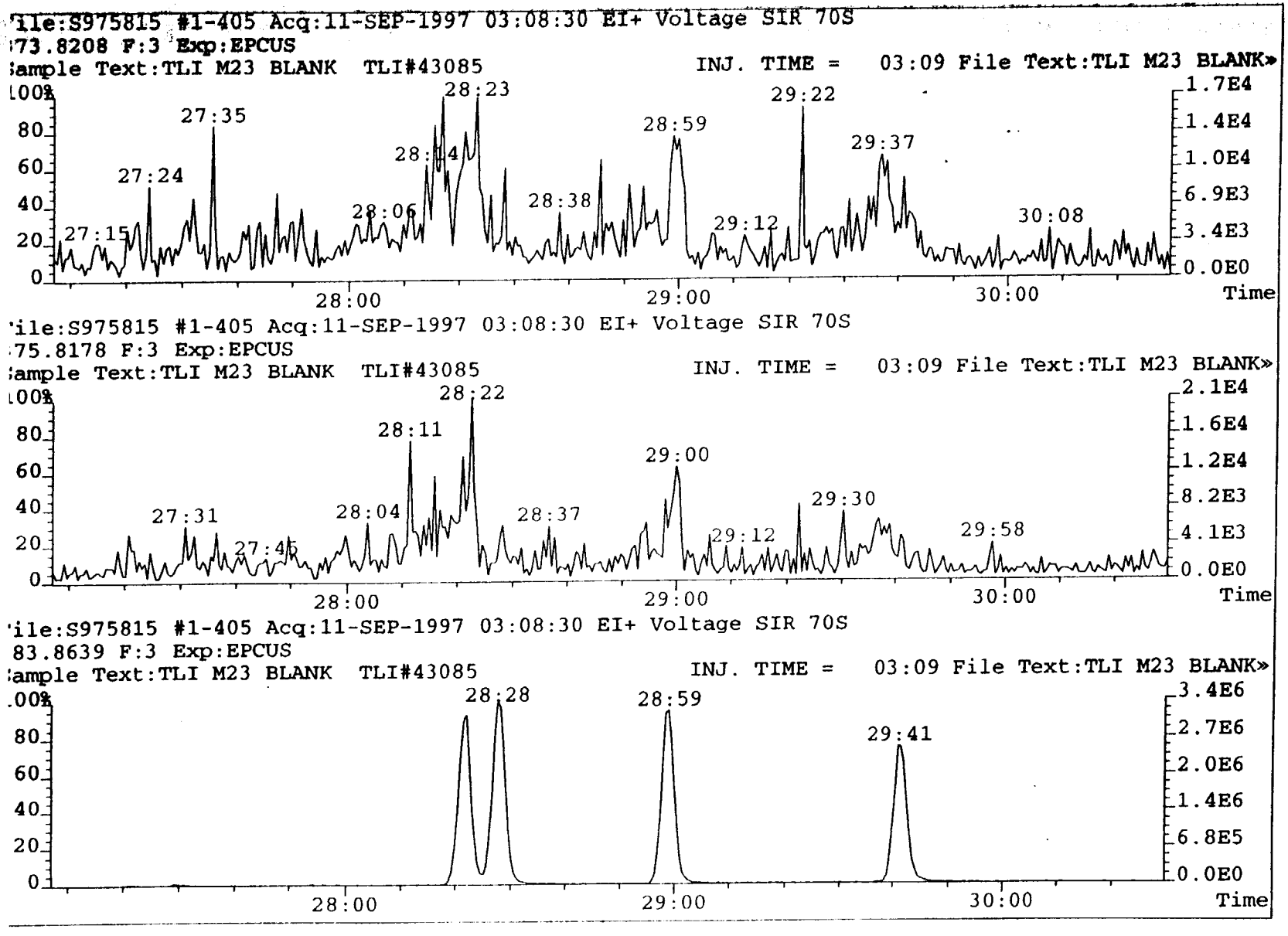

File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:248
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,992.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A2.13E4
A1.06E4
A4.64E3
A7.32E3
A4.44E4
A3.42E3
A1.86E4
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:36
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A6.50E3
A6.20E3
A2.65E3
A4.58E3
A6.45E4
A2.69E3
A1.76E4
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:991
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3964.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A9.19E6
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:896
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3584.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A9.68E6
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
31:20
31:36
31:44
31:54
32:11
32:20
32:29
Time

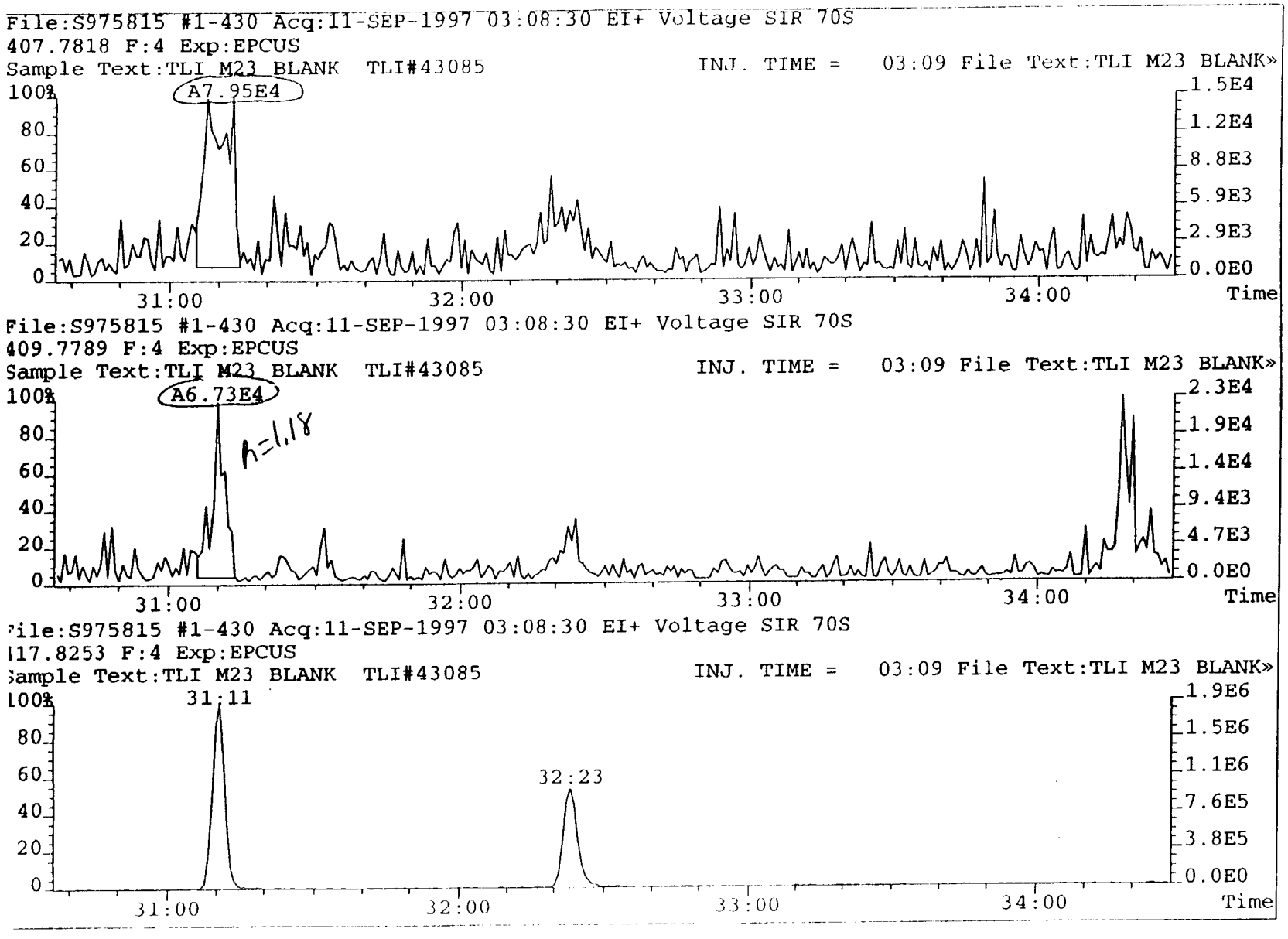

File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:160
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,640.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A8.22E4
A1.05E4
A8.81E3
A1.01E4
A9.94E3
A6.00E3
A2.48E3
A6.23E3
A9.45E3
A4.78E3
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:178
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,712.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
A1.04E5
A1.58E4
A1.49E4
A8.53E3
A7.65E3
A7.28E3
A5.41E3
A4.32E3
A1.85E4
A8.08E3
A4.89E3
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
30:56
31:20
31:44
32:11
33:02
33:20
33:46
34:17
34:55
35:19
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09
30:54
31:27
31:45
32:08
32:23
32:53
33:39
34:14
34:02
34:46
35:00
35:28
35:38
31:00
32:00
33:00
34:00
35:00
Time

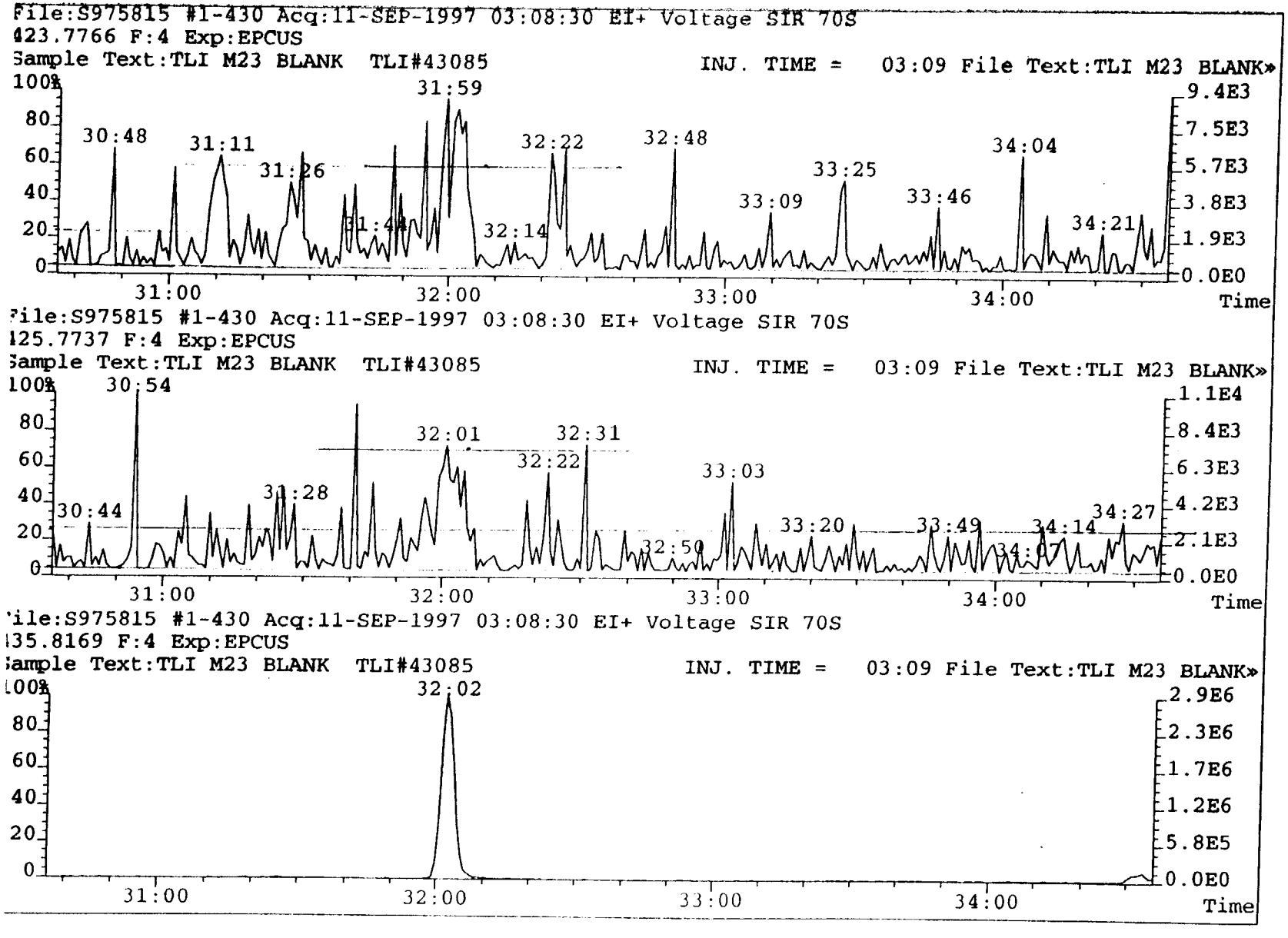

File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:36
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A9.42E4
A7.81E3
A4.83E3
A8.00E3
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:35
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.14E5
A1.62E3
A4.04E3
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:37
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.07E7
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S Noise:37
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
A1.38E7
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085 INJ. TIME = 03:09
34:36
34:39
34:49
34:24
34:30
34:36
34:42
34:48
34:54
35:00
Time

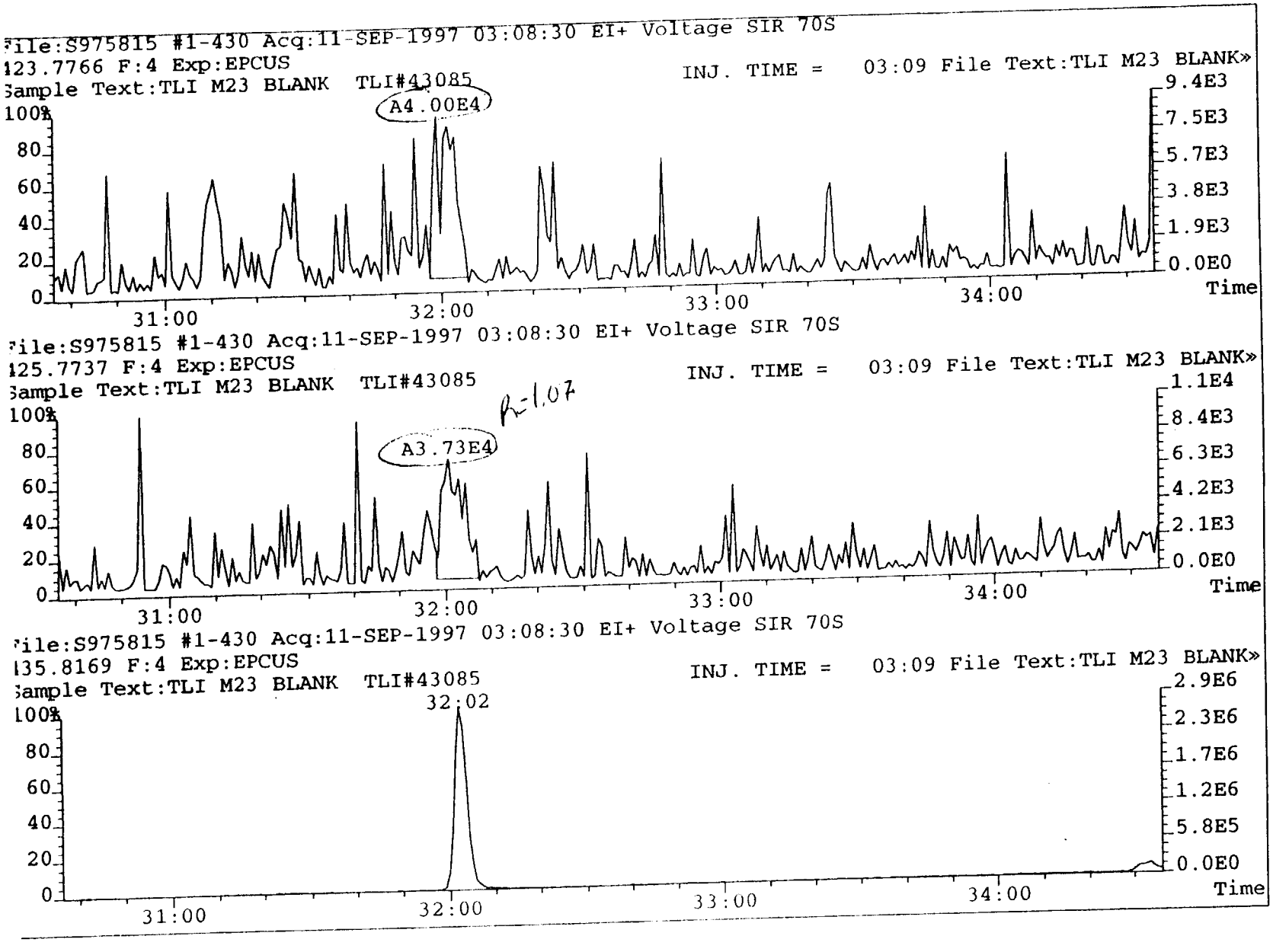

50
5
50
5
Channel I 330.3792 Peak top
Height 3.25 volts Span 200 ppm
System file name EPCUS2
Data file name A:S911971
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9768
A 293 J 331 S 368
B 304 K 332 T 370
C 306 L 334 U 376
D 316 M 340 V 418
E 318 N 342
F 320 O 352
G 322 P 354
H 328 Q 356
I 331 R 358
Ref. mass 416.9768 Peak top
Height .72 volts Span 200 ppm

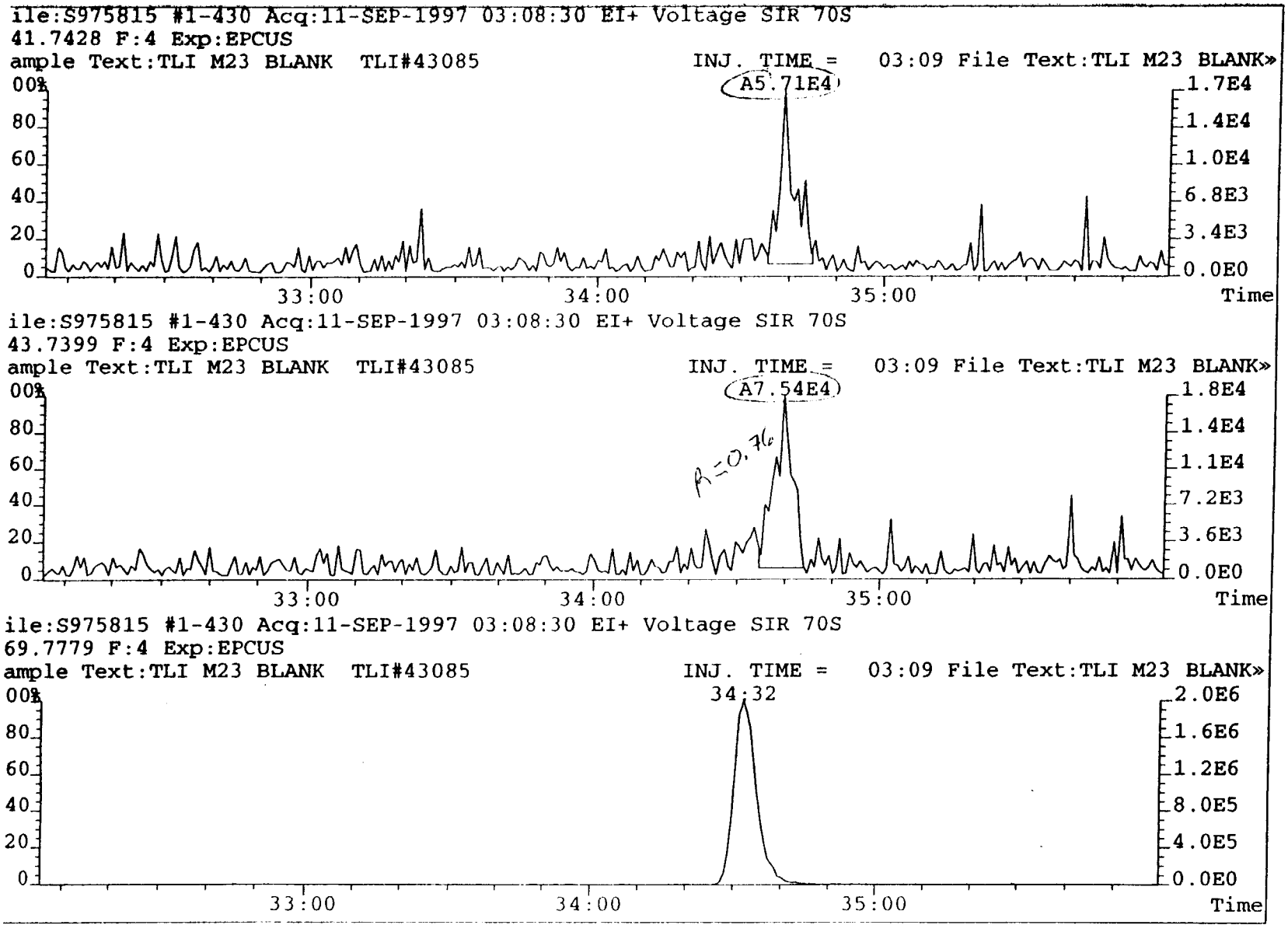

File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
303.9016 F:2 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A3.91E4
100%
80
60
40
20
0
1.2E4
9.8E3
7.3E3
4.9E3
2.4E3
0.0E0
19:00
20:00
21:00
22:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
305.8987 F:2 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A4.61E4
R:0.65
100%
80
60
40
20
0
1.2E4
9.9E3
7.4E3
4.9E3
2.5E3
0.0E0
19:00
20:00
21:00
22:00
Time
File:S975815 #1-848 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
315.9419 F:2 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
20:23
100%
80
60
40
20
0
4.7E6
3.8E6
2.8E6
1.9E6
9.4E5
0.0E0
19:00
20:00
21:00
22:00
Time

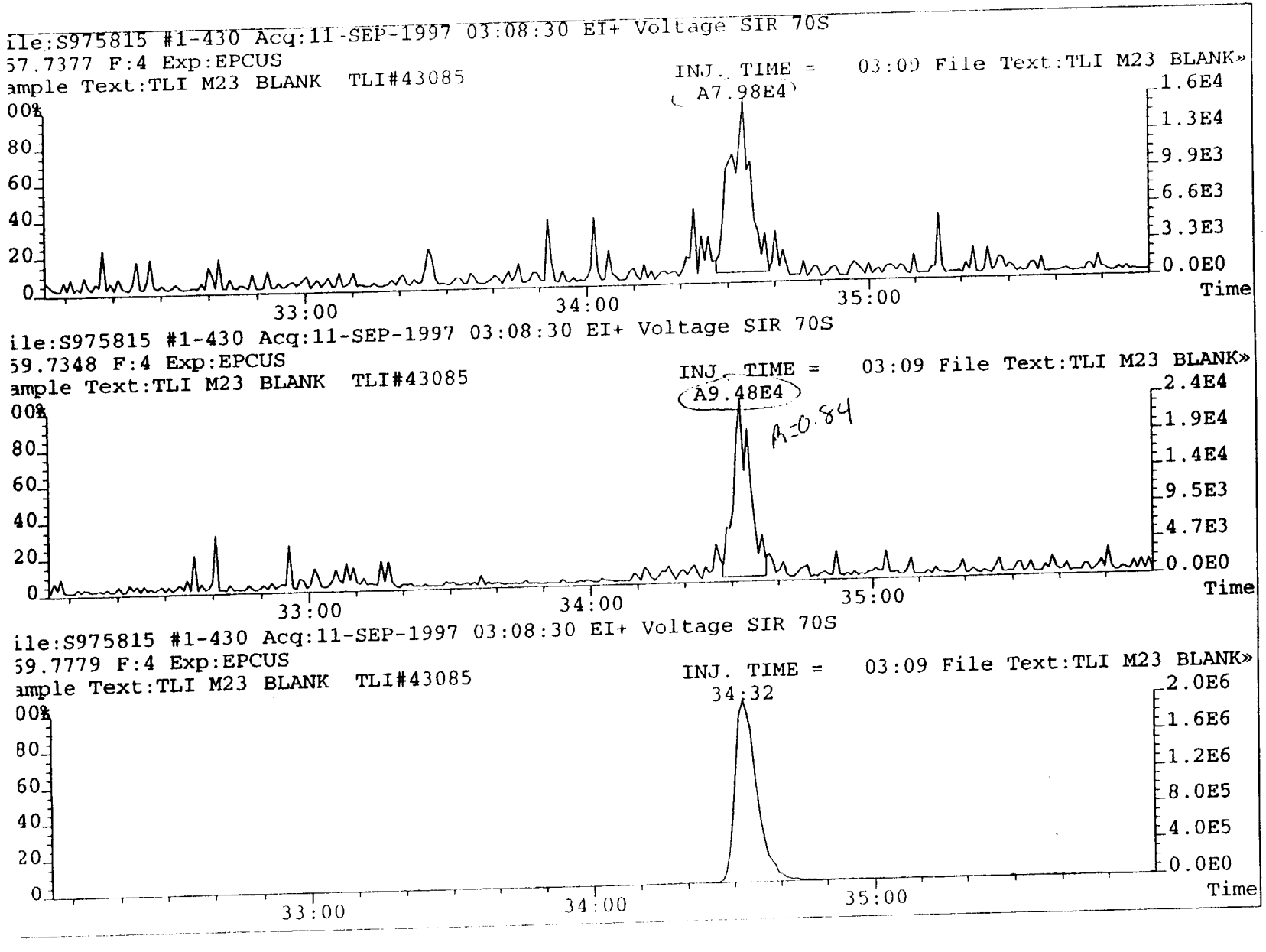

ile:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
73.8208 F:3 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
00%
80
60
40
20
0
27:15
27:24
27:35
28:06
28:14
28:23
28:38
28:59
29:12
29:22
29:37
30:08
1.7E4
1.4E4
1.0E4
6.9E3
3.4E3
0.0E0
28:00
29:00
30:00
Time
ile:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
75.8178 F:3 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
00%
80
60
40
20
0
27:31
27:48
28:04
28:11
28:22
28:37
29:00
29:12
29:30
29:58
2.1E4
1.6E4
1.2E4
8.2E3
4.1E3
0.0E0
28:00
29:00
30:00
Time
ile:S975815 #1-405 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
83.8639 F:3 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
.00%
80
60
40
20
0
28:28
28:59
29:41
3.4E6
2.7E6
2.0E6
1.4E6
6.8E5
0.0E0
28:00
29:00
30:00
Time


File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
407.7818 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A7.95E4
100%
80
60
40
20
0
1.5E4
1.2E4
8.8E3
5.9E3
2.9E3
0.0E0
31:00
32:00
33:00
34:00
Time
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
409.7789 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A6.73E4
A=1.18
100%
80
60
40
20
0
2.3E4
1.9E4
1.4E4
9.4E3
4.7E3
0.0E0
31:00
32:00
33:00
34:00
Time
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
417.8253 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
31:11
32:23
100%
80
60
40
20
0
1.9E6
1.5E6
1.1E6
7.6E5
3.8E5
0.0E0
31:00
32:00
33:00
34:00
Time


File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
423.7766 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
100%
80
60
40
20
0
30:48
31:11
31:26
31:44
31:59
32:14
32:22
32:48
33:09
33:25
33:46
34:04
34:21
9.4E3
7.5E3
5.7E3
3.8E3
1.9E3
0.0E0
31:00
32:00
33:00
34:00
Time
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
425.7737 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
100%
80
60
40
20
0
30:44
30:54
31:28
32:01
32:22
32:31
32:59
33:03
33:20
33:49
34:14
34:27
1.1E4
8.4E3
6.3E3
4.2E3
2.1E3
0.0E0
31:00
32:00
33:00
34:00
Time
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
435.8169 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
100%
80
60
40
20
0
32:02
2.9E6
2.3E6
1.7E6
1.2E6
5.8E5
0.0E0
31:00
32:00
33:00
34:00
Time


File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
123.7766 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A4.00E4
100%
80
60
40
20
0
9.4E3
7.5E3
5.7E3
3.8E3
1.9E3
0.0E0
Time
31:00
32:00
33:00
34:00
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
125.7737 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
R=1.07
A3.73E4
1.1E4
8.4E3
6.3E3
4.2E3
2.1E3
0.0E0
File:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
135.8169 F:4 Exp:EPCUS
Sample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
32:02
2.9E6
2.3E6
1.7E6
1.2E6
5.8E5
0.0E0


ile:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
41.7428 F:4 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A5.71E4
00%
80
60
40
20
0
1.7E4
1.4E4
1.0E4
6.8E3
3.4E3
0.0E0
33:00
34:00
35:00
Time
ile:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
43.7399 F:4 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A7.54E4
R=0.76
00%
80
60
40
20
0
1.8E4
1.4E4
1.1E4
7.2E3
3.6E3
0.0E0
33:00
34:00
35:00
Time
ile:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
69.7779 F:4 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
34:32
00%
80
60
40
20
0
2.0E6
1.6E6
1.2E6
8.0E5
4.0E5
0.0E0
33:00
34:00
35:00
Time


ile:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
57.7377 F:4 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A7.98E4
00%
80
60
40
20
0
1.6E4
1.3E4
9.9E3
6.6E3
3.3E3
0.0E0
Time
33:00
34:00
35:00
ile:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
59.7348 F:4 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
A9.48E4
A=0.84
00%
80
60
40
20
0
2.4E4
1.9E4
1.4E4
9.5E3
4.7E3
0.0E0
Time
33:00
34:00
35:00
ile:S975815 #1-430 Acq:11-SEP-1997 03:08:30 EI+ Voltage SIR 70S
59.7779 F:4 Exp:EPCUS
ample Text:TLI M23 BLANK TLI#43085
INJ. TIME = 03:09 File Text:TLI M23 BLANK»
34:32
00%
80
60
40
20
0
2.0E6
1.6E6
1.2E6
8.0E5
4.0E5
0.0E0
Time
33:00
34:00
35:00

Pacific Environmental Services

TLI Project: **43085** Method 23 TCDD/TCDF Analysis (DB-225)
Client Sample: **TLI M23 Blank** Analysis File: **P973852**

Client Project:	S413-004				
Sample Matrix:	XAD	Date Received:	/ /	Spike File:	SPC2NF04
TLI ID:	TLI Blank	Date Extracted:	09/04/97	ICal:	PF22206
		Date Analyzed:	09/12/97	ConCal:	P973843
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	P973852	% Lipid:	n/a
GC Column:	DB-225	Analyst:	ML	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	ND	0.03				—

Internal Standard	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.7	67.4	40%-130%	0.78	20:39	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	19:41	—

Data Reviewer: _____ 09/18/97

C2NF_PSR v2.00, LARS 6.10.04

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

Printed: 15:52 09/18/97

Initial ....Date...

Data Review By: SL 9/8/97 Calculated Noise Area: 1.53

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 P973852B.dbf
09/12/97 Matched GC Peaks / Ratio / Ret. Time

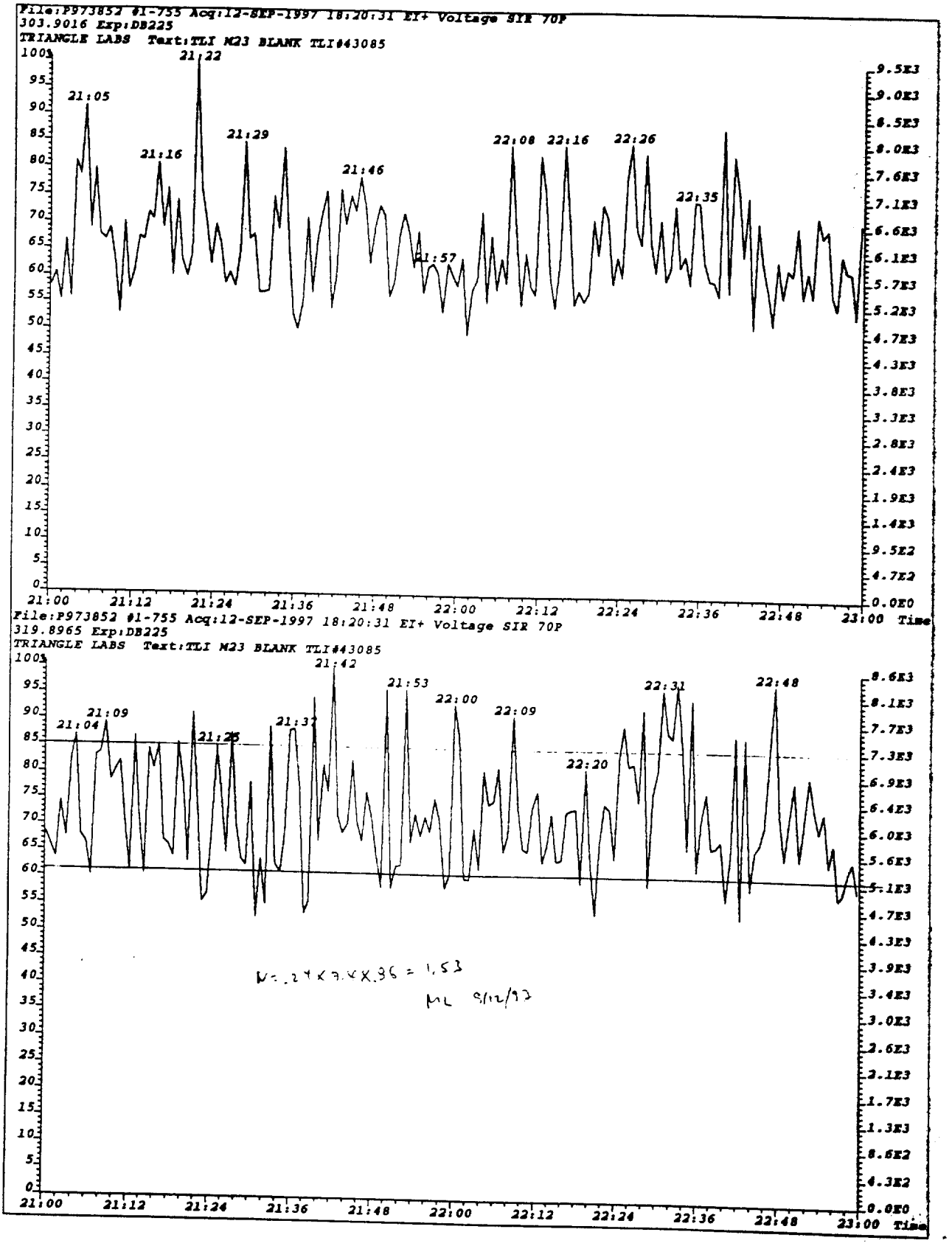
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDF						0.65-0.89				0.786-1.096			
304-306	DC	NL		0:00		0.87	1.96			0.000			
	DC	SN		22:12	RO	1.00	0.58			1.075			
	DC	SN		22:16		0.65	0.91			1.078			
304-306			0 Peaks				0.00						
13C12-TCDF						0.65-0.89				0.952-1.048			
316-318	DC	NL		0:00	RO	0.94	2.25			0.000			
	DC	WL		19:12	RO	3.77	0.23			0.930			
	DC	WL		19:21	RO	0.34	0.92			0.937			
	DC	WL		19:31	RO	4.38	0.42			0.945			
	DC	WL		19:36		0.86	6.26			0.949			
				20:39		0.78	516.62	225.80	290.82	1.000	13C12-2378-TCDF	IS0	
	DC	SN		21:31	RO	4.45	0.19			1.042			
	DC	WH		22:30	RO	0.93	4.96			1.090			
316-318			1 Peak				516.62						

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

13C12-TCDD						0.65-0.89				0.897-1.103			
332-334	DC	NL		0:00	RO	1.39	2.11			0.000			
	DC	SN		18:23	RO	1.33	1.49			0.945			
				19:27		0.79	431.45	191.02	240.43	1.000	13C12-2378-TCDD	IS1	
				19:41		0.79	552.23	242.97	309.26	1.012	13C12-1234-TCDD	RS1	
				20:21	RO	0.91	5.26	2.71	2.97	1.046			
332-334			3 Peaks				988.94						

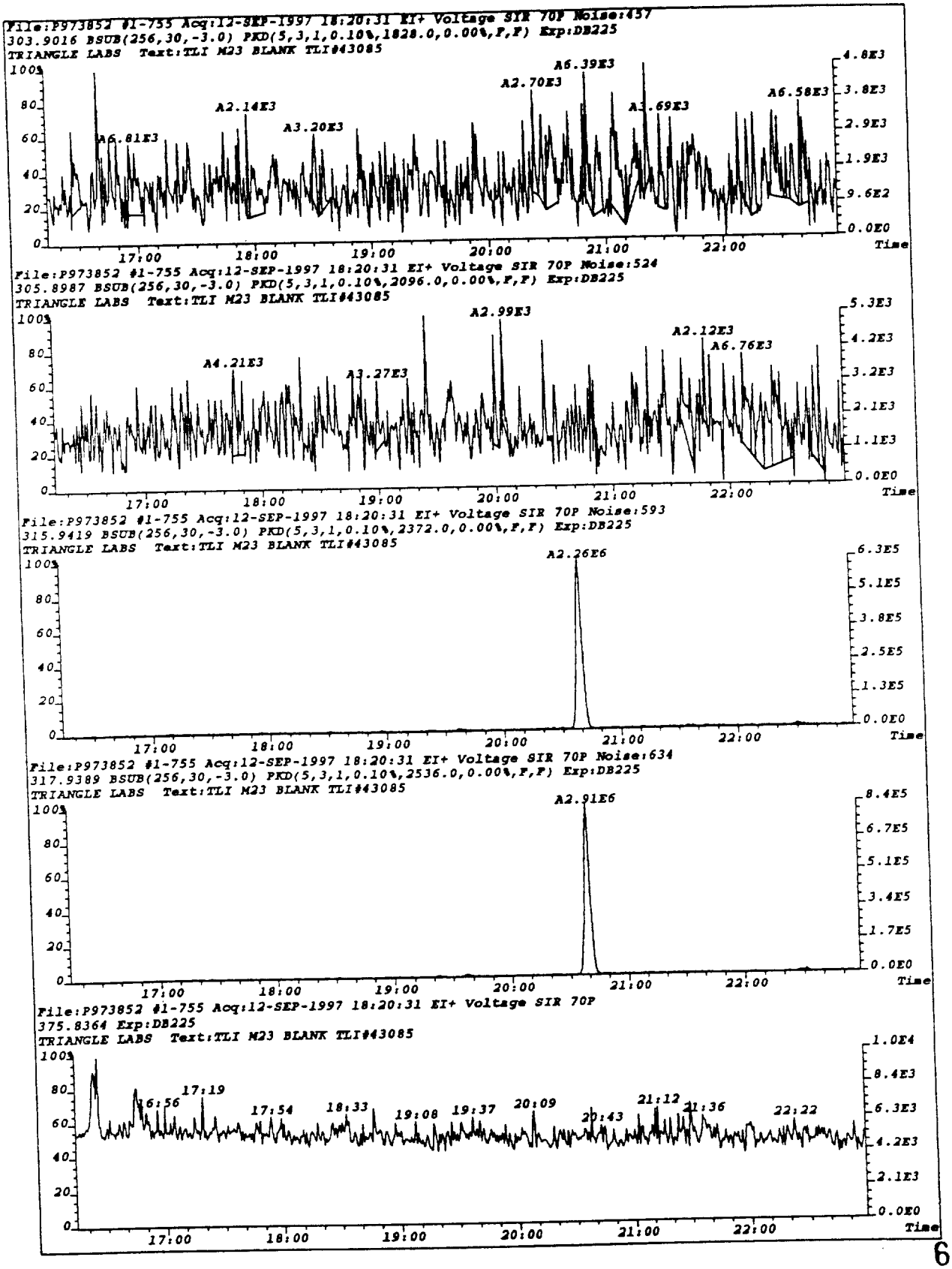
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside 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

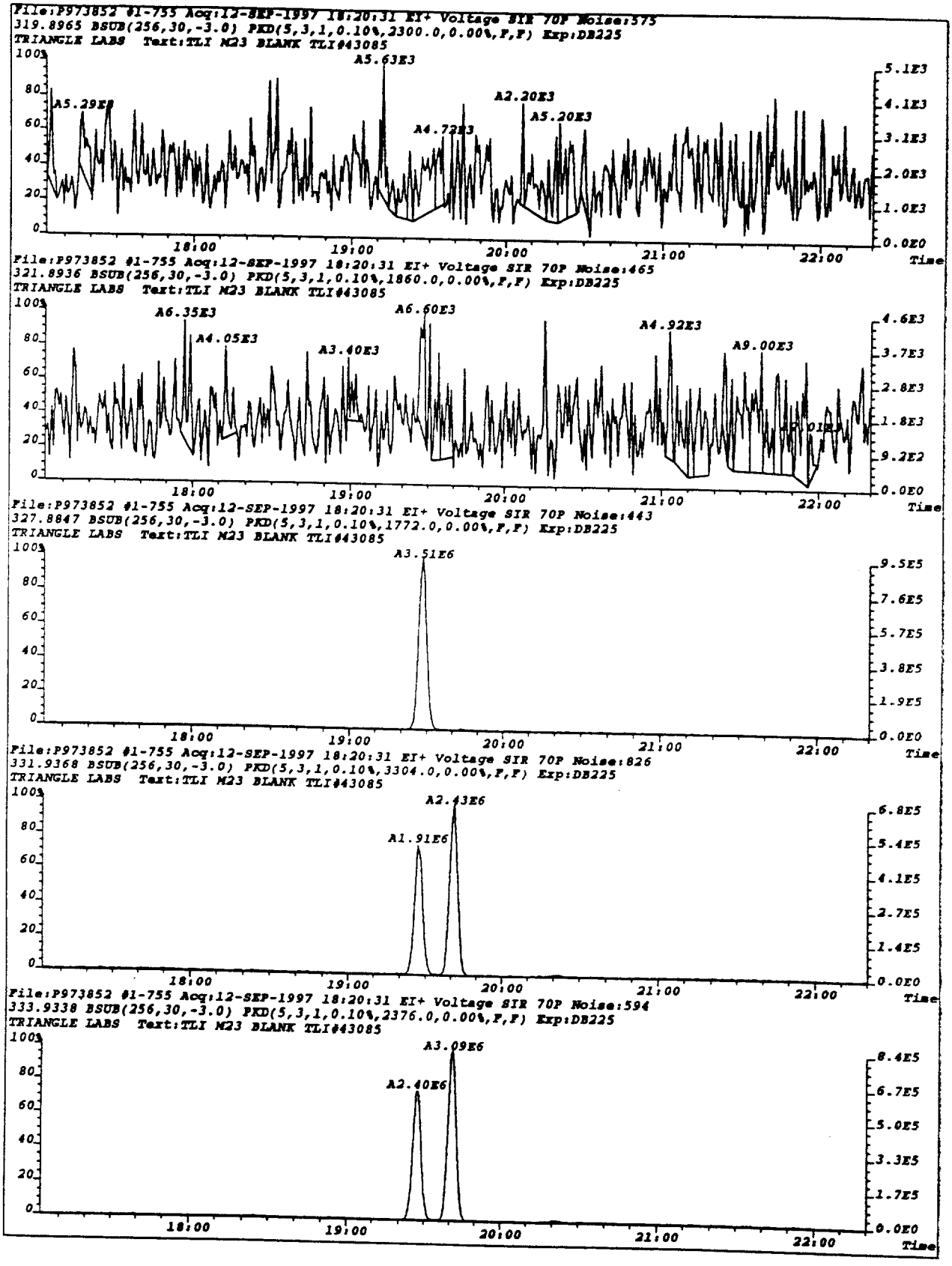
*** End of Report ***

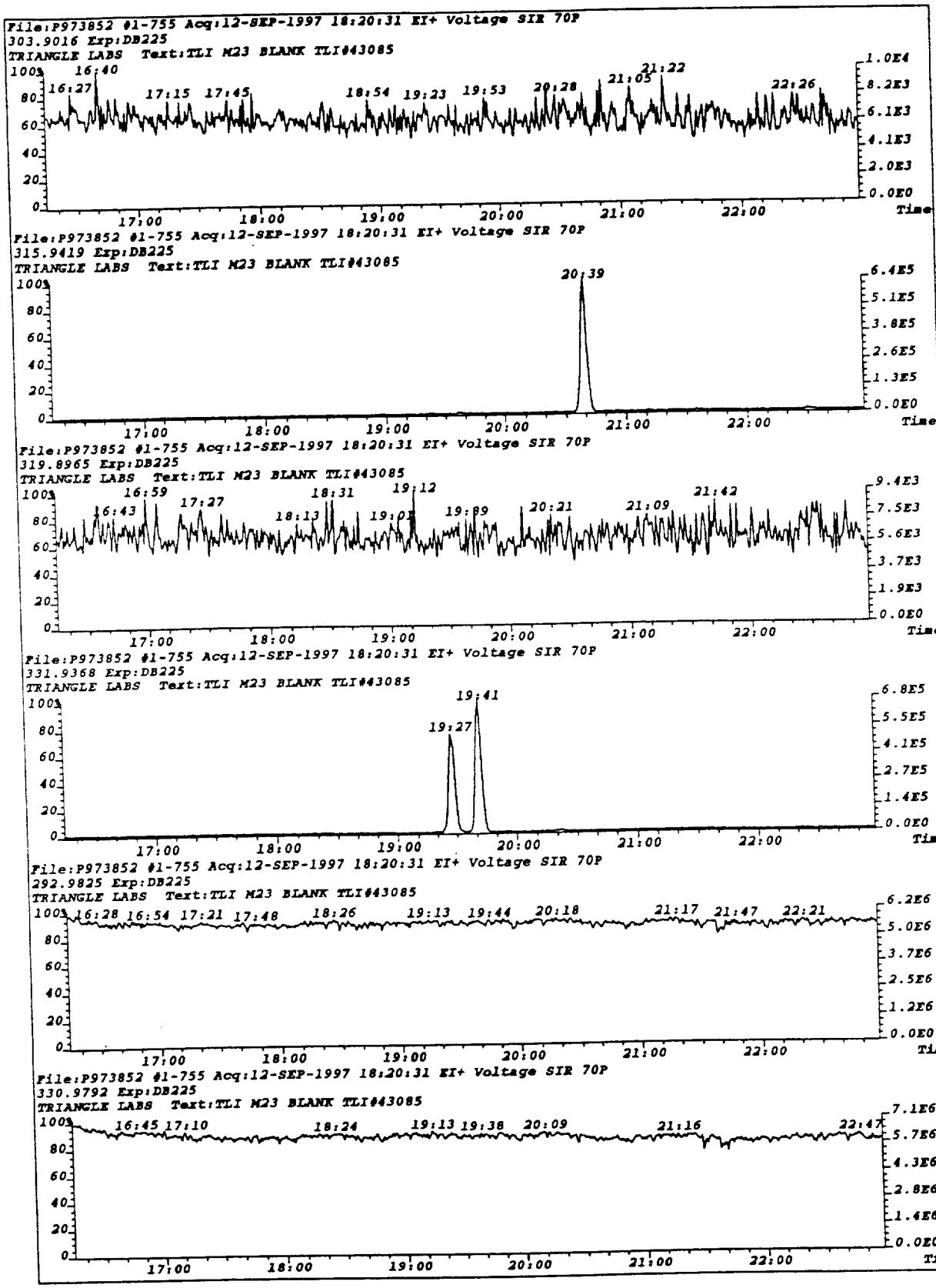


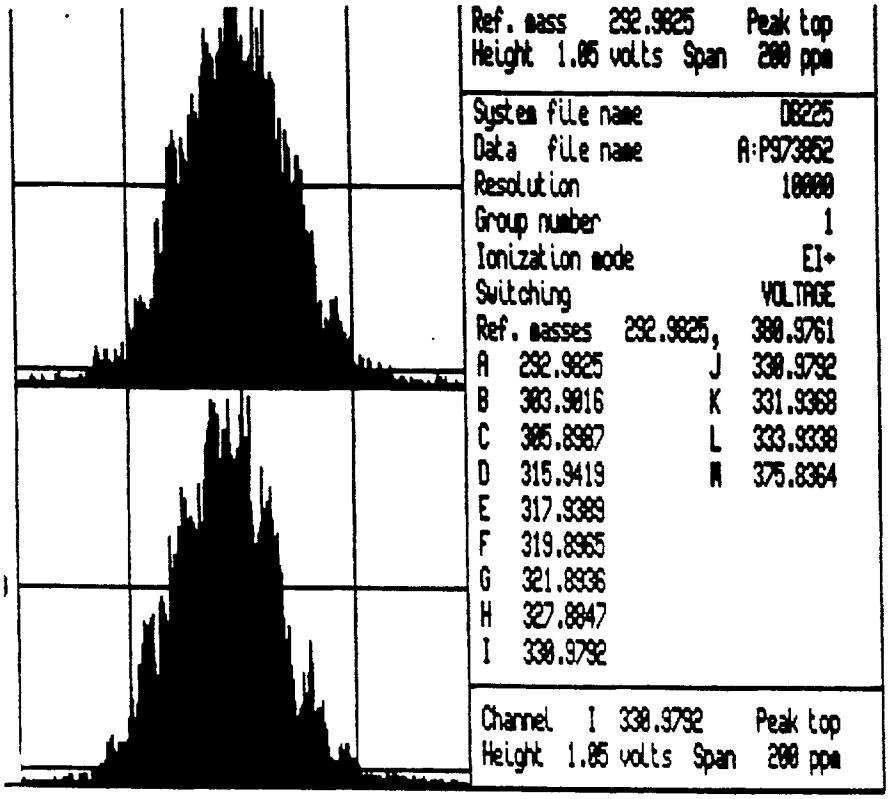
M = .24 x 9.4 x .36 = 1.53

ML 9/12/97


File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:457
303.9016 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1828.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A6.81E3
A2.14E3
A3.20E3
A2.70E3
A6.39E3
A3.69E3
A6.58E3
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:524
305.8987 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2096.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A4.21E3
A3.27E3
A2.99E3
A2.12E3
A6.76E3
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:593
315.9419 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2372.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A2.26E6
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:634
317.9389 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2536.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A2.91E6
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
375.8364 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
16:56
17:19
17:54
18:33
19:08
19:37
20:09
20:43
21:12
21:36
22:22
Time


File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:575
319.8965 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2300.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A5.63E3
A5.29E3
A2.20E3
A5.20E3
A4.72E3
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:465
321.8936 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1860.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A6.35E3
A6.60E3
A4.05E3
A4.92E3
A3.40E3
A9.00E3
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:443
327.8847 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1772.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A3.51E6
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:826
331.9368 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,3304.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A2.43E6
A1.91E6
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P Noise:594
333.9338 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2376.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
A3.09E6
A2.40E6
18:00
19:00
20:00
21:00
22:00
Time


File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
303.9016 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
16:27 16:40 17:15 17:45 18:54 19:23 19:53 20:28 21:05 21:22 22:26
1.0E4 8.2E3 6.1E3 4.1E3 2.0E3 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
315.9419 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
20:39
6.4E5 5.1E5 3.8E5 2.6E5 1.3E5 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
319.8965 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
16:43 16:59 17:27 18:13 18:31 19:12 19:39 20:21 21:09 21:42
9.4E3 7.5E3 5.6E3 3.7E3 1.9E3 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
331.9368 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
19:27 19:41
6.8E5 5.5E5 4.1E5 2.7E5 1.4E5 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
292.9825 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
16:28 16:54 17:21 17:48 18:26 19:13 19:44 20:18 21:17 21:47 22:21
6.2E6 5.0E6 3.7E6 2.5E6 1.2E6 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973852 #1-755 Acq:12-SEP-1997 18:20:31 EI+ Voltage SIR 70P
330.9792 Exp:DB225
TRIANGLE LABS Text:TLI M23 BLANK TLI#43085
16:45 17:10 18:24 19:13 19:38 20:09 21:16 22:47
7.1E6 5.7E6 4.3E6 2.8E6 1.4E6 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time



Ref. mass 292.9825 Peak top
Height 1.05 volts Span 200 ppm

System file name	D8225
Data file name	A:P973852
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 1.05 volts Span 200 ppm

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **O-M23-1** — Analysis File: **S975866**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPX23704
TLI ID:	181-55-1ABE	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/13/97	ConCal:	S975861
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	ML	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.09				—
1,2,3,7,8-PeCDD	ND	0.1				—
1,2,3,4,7,8-HxCDD	ND	0.1				—
1,2,3,6,7,8-HxCDD	ND	0.1				—
1,2,3,7,8,9-HxCDD	ND	0.1				—
1,2,3,4,6,7,8-HpCDD	ND	0.2				—
1,2,3,4,6,7,8,9-OCDD	ND	0.5				—
2,3,7,8-TCDF	ND	0.08				—
1,2,3,7,8-PeCDF	ND	0.09				—
2,3,4,7,8-PeCDF	ND	0.09				—
1,2,3,4,7,8-HxCDF	ND	0.09				—
1,2,3,6,7,8-HxCDF	ND	0.07				—
2,3,4,6,7,8-HxCDF	ND	0.09				—
1,2,3,7,8,9-HxCDF	ND	0.1				—
1,2,3,4,6,7,8-HpCDF	ND	0.1				—
1,2,3,4,7,8,9-HpCDF	ND	0.2				—
1,2,3,4,6,7,8,9-OCDF	ND	0.4				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.09		—
Total PeCDD	EMPC			0.53	—
Total HxCDD	ND		0.1		—
Total HpCDD	ND		0.2		—
Total TCDF	0.15	1			—
Total PeCDF	ND		0.09		—
Total HxCDF	ND		0.09		—
Total HpCDF	ND		0.2		—

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Pacific Environmental Services

TLI Project: **43085** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **O-M23-1** Analysis File: **S975866**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	5.5	137	40%-130%	0.80	23:17	
$^{13}C_{12}$-2,3,7,8-TCDD	5.8	145	40%-130%	0.78	23:47	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	6.4	160	40%-130%	1.23	26:29	RO
$^{13}C_{12}$-1,2,3,7,8-PeCDD	7.1	177	40%-130%	1.46	27:24	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	4.9	124	40%-130%	0.51	29:38	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.9	122	40%-130%	1.19	30:16	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.6	91.2	25%-130%	0.43	32:06	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.5	88.5	25%-130%	1.02	32:52	
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.8	60.5	25%-130%	1.00	35:22	

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.2	79.3	70%-140%		23:48	
$^{13}C_{12}$-2,3,4,7,8-PeCDF	2.9	71.8	70%-140%	1.41	27:06	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.0	73.8	70%-140%	0.52	29:33	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	2.6	64.4	70%-140%	1.21	30:12	V
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.1	78.7	70%-140%	0.44	33:14	

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.0	74.3	40%-130%	0.52	30:45	Q
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.7	92.3	40%-130%	0.50	30:05	

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.84	23:37	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	30:32	

Data Reviewer: _____ 09/17/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 15:16 09/17/97

Initial ....Date...

Data Review By: SR 9/17/97 Calculated Noise Area: 1.69

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 S975866B.dbf
09/17/97 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				0.838-1.092			
304-306	DC	NL		0:00	RO	0.94	0.28			0.000			
	DC	WL		18:34	RO	1.47	1.66			0.805			
	DC	WL		19:02	RO	0.51	1.36			0.826			
	DC	WL		19:19	RO	3.29	0.60			0.838			
	DC	SN		19:33	RO	4.89	3.17			0.848			
	DC	SN		19:49	RO	8.59	1.95			0.860			
D	DC	SN		20:02	RO	2.73	4.94			0.869			
	DC	SN		21:24	RO	1.11	3.72			0.928			
D	DC	SN		21:52	RO	0.92	5.15			0.949			
				22:05		0.78	8.27	3.62	4.65	0.958			
D	DC	SN		22:26	RO	0.94	5.06			0.973			
304-306			1	Peak			8.27						
13C12-TCDF						0.65-0.89				0.954-1.046			
316-318	DC	NL		0:00	RO	1.86	0.39			0.000			
	DC	WL		18:57	RO	0.50	1.56			0.822			
	DC	SN		22:25	RO	1.91	2.67			0.973			
	DC	SN		22:46	RO	10.08	0.71			0.988			
MKT				23:17		0.80	176.80	78.80	98.00	1.000	13C12-2378-TCDF	ISO	
316-318			1	Peak			176.80						

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

TCDD						0.65-0.89				0.875-1.055			
320-322	DC	NL		0:00	RO	1.09	0.62			0.000			
	DC	WL		19:54	RO	1.43	0.90			0.837			
	DC	WL		20:01	RO	0.97	1.89			0.842			
	DC	WL		20:17	RO	4.88	0.42			0.853			
	DC	WL		20:30	RO	3.70	0.35			0.862			
	DC	WL		20:33	RO	1.27	0.46			0.864			
	DC	WL		20:47	RO	0.45	0.83			0.874			
	DC	SN		21:07	RO	0.58	2.00			0.888			
	DC	SN		21:20	RO	0.52	0.80			0.897			
	DC	SN		21:26	RO	0.92	0.85			0.901			
	DC	SN		21:46	RO	1.60	1.66			0.915			
	DC	SN		22:23	RO	1.57	0.50			0.941			
	DC	SN		22:47	RO	0.44	1.01			0.958			
	DC	SN		22:54	RO	2.65	0.55			0.963			
	DC	SN		22:59	RO	2.88	0.92			0.966			
	DC	SN		23:39	RO	3.30	0.65			0.994			
320-322			0	Peaks			0.00						

Compound/ M_2....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
37Cl-TCDD										0.910-1.090			
328	DC	NL		0:00			0.11			0.000			
	DC	WL		19:30			0.43			0.820			
	DC	WL		19:45			6.06			0.830			
	DC	WL		19:57			0.51			0.839			
	DC	WL		20:10			0.35			0.848			
	DC	WL		20:10			1.06			0.848			
	DC	WL		20:25			0.38			0.858			
	DC	WL		20:30			1.04			0.862			
	DC	WL		20:41			0.96			0.870			
	DC	WL		20:53			2.42			0.878			
	DC	WL		20:55			1.16			0.879			
	DC	WL		21:15			1.13			0.893			
	DC	WL		21:29			1.10			0.903			
	DC	SN		21:40			1.01			0.911			
	DC	SN		21:43			0.38			0.913			
	DC	SN		21:43			0.40			0.913			
	DC	SN		21:59			0.41			0.924			
	DC	SN		22:19			0.78			0.938			
	DC	SN		22:28			0.59			0.945			
	DC	SN		22:37			0.72			0.951			
	DC	SN		22:47			0.74			0.958			
	DC	SN		22:53			0.67			0.962			
	DC	SN		23:07			1.03			0.972			
	DC	SN		23:29			0.11			0.987			
				23:39			7.13	7.13		0.994			
				23:48			101.18	101.18		1.001	37Cl-TCDD		SUR1
328			2	Peaks			108.31						
13C12-TCDD					0.65-0.89					0.910-1.090			
332-334	DC	NL		0:00		0.82	0.31			0.000			
	DC	WL		20:08	RO	1.98	1.04			0.847			
	DC	WL		20:24	RO	1.45	1.45			0.858			
	DC	WL		20:58	RO	0.28	0.64			0.882			
	DC	WL		21:03	RO	0.12	0.18			0.885			
	DC	WL		21:11	RO	1.48	0.44			0.891			
	DC	WL		21:29	RO	3.37	0.87			0.903			
	DC	SN		22:07	RO	3.95	0.37			0.930			
	DC	SN		22:30		0.88	1.09			0.946			
	DC	SN		22:37	RO	2.22	0.32			0.951			
	DC	SN		23:28	RO	1.21	3.40			0.987			
				23:37		0.84	98.04	44.64	53.40	0.993	13C12-1234-TCDD		RS1
				23:47		0.78	151.41	66.29	85.12	1.000	13C12-2378-TCDD		IS1
332-334			2	Peaks			249.45						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF					1.32-1.78					0.915-1.074			
340-342	DC	NL		0:00	RO	0.92	0.20			0.000			
	DC	WL		23:40	RO	0.28	4.49			0.865			
	DC	WL		23:54	RO	0.53	0.53			0.873			
	DC	WL		24:05	RO	0.63	1.35			0.880			

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		24:24	RO	0.57	0.99			0.892			
	DC	WL		24:54	RO	2.04	7.75			0.910			
	DC	SN		25:22	RO	2.12	0.87			0.927			
	DC	SN		25:48	RO	7.75	0.82			0.943			
D	DC	SN		26:32	RO	0.24	7.55			0.970			
	DC	SN		26:47		1.38	1.12			0.979			
	DC	SN		27:16	RO	0.59	0.87			0.996			
	DC	SN		27:27	RO	2.23	1.22			1.003			
340-342			0 Peaks				0.00						
13C12-PeCDF				1.32-1.78						0.844-1.156			
352-354	DC	NL		0:00	RO	1.09	0.20			0.000			
	DC	SN		23:32	RO	1.29	0.72			0.860			
				23:40	RO	0.72	7.44	4.52	6.26	0.865			
	DC	SN		24:09	RO	0.77	0.66			0.882			
	DC	SN		24:33	RO	2.38	0.66			0.897			
	DC	SN		25:27	RO	0.63	0.90			0.930			
	DC	SN		25:46		1.68	2.98			0.942			
	DC	SN		26:01	RO	0.55	1.04			0.951			
NM				26:29	RO	1.23	177.68	108.00	87.70	0.968	13C12-PeCDF 123	IS2	
N				27:06		1.41	123.73	72.49	51.24	0.990	13C12-PeCDF 234	SUR2	
N	DC	SN		27:22	RO	0.79	2.65			1.000			
352-354			3 Peaks				308.85						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.926-1.024			
356-358	DC	NL		0:00	RO	1.20	0.20			0.000			
	DC	WL		24:59	RO	0.81	1.30			0.908			
	DC	SN		25:41	RO	4.11	1.66			0.934			
	DC	SN		26:21		1.55	2.40			0.958			
				26:32	RO	2.90	18.28	20.78	7.17	0.965			Q
356-358			1 Peak				18.28						
13C12-PeCDD				1.32-1.78						0.850-1.150			
368-370	DC	NL		0:00		1.56	0.23			0.000			
	DC	SN		25:53	RO	0.74	2.35			0.941			
				26:32	RO	0.70	12.91	7.85	11.26	0.965			
N				27:24		1.46	110.12	65.30	44.82	0.996	13C12-PeCDD 123	IS3	
N				27:30	RO	1.03	11.68	7.10	6.86	1.000			
368-370			3 Peaks				134.71						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.959-1.050			
374-376	DC	NL		0:00	RO	0.96	3.96			0.000			
	DC	WL		28:42	RO	1.57	2.26			0.954			
	DC	WL		28:49	RO	2.33	5.42			0.958			
	DC	SN		30:16	RO	1.55	1.93			1.006			
	DC	SN		30:41		1.17	2.95			1.020			
374-376			0 Peaks				0.00						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
13C12-HxCDF				0.43-0.59						0.863-1.137			
384-386	DC	NL		0:00	RO	0.89	3.88			0.000			
	DC	SN		28:33	RO	2.57	0.82			0.949			
	DC	SN		28:40		0.46	2.40			0.953			
				28:50	RO	0.69	8.02	3.67	5.31	0.958			
N				29:33		0.52	104.54	35.91	68.63	0.982	13C12-HxCDF	478	SUR3
N				29:38		0.51	147.69	49.82	97.87	0.985	13C12-HxCDF	678	IS4
	DC	SN		29:50	RO	0.77	0.59			0.992			
	DC	SN		29:53	RO	3.57	0.32			0.993			
N	DC	SN		29:58	RO	1.00	1.66			0.996			
N				30:05		0.50	102.23	33.98	68.25	1.000	13C12-HxCDF	234	ALT2
N				30:45		0.52	71.53	24.50	47.03	1.022	13C12-HxCDF	789	ALT1 Q
384-386			5	Peaks			434.01						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD				1.05-1.43						0.953-1.014			
390-392	DC	NL		0:00	RO	1.04	3.63			0.000			
	DC	WL		28:48		1.16	3.88			0.943			
	DC	SN		29:55	RO	0.46	1.97			0.980			
	DC	SN		30:01	RO	0.29	0.94			0.983			
	DC	SN		30:44	RO	1.02	4.10			1.007			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.967-1.033			
402-404	DC	NL		0:00		1.12	3.39			0.000			
	DC	WL		28:49	RO	1.64	13.66			0.944			
	DC	WL		29:04	RO	2.93	1.93			0.952			
	DC	WL		29:16	RO	4.32	1.12			0.959			
	DC	WL		29:21		1.35	2.77			0.961			
	DC	WL		29:27	RO	0.51	1.93			0.965			
	DC	SN		29:41	RO	3.41	1.81			0.972			
	DC	SN		29:49	RO	0.93	1.37			0.977			
	DC	SN		29:53	RO	1.49	3.02			0.979			
N				30:12		1.21	75.64	41.38	34.26	0.989	13C12-HxCDD	478	SUR4
N				30:16		1.19	120.70	65.47	55.23	0.991	13C12-HxCDD	678	IS5
N				30:32		1.23	99.30	54.81	44.49	1.000	13C12-HxCDD	789	RS2
				30:45		1.34	10.71	6.14	4.57	1.007			
402-404			4	Peaks			306.35						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF				0.88-1.20						0.995-1.042			
408-410	DC	NL		0:00		0.99	3.54			0.000			
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.937-1.125			
418-420	DC	NL		0:00	RO	1.19	2.39			0.000			
				32:06		0.43	80.36	24.04	56.32	1.000	13C12-HpCDF	678	IS6
				32:24	RO	1.25	6.29	5.48	4.37	1.009			
	DC	SN		32:50		0.45	2.49			1.023			
	DC	SN		32:54	RO	0.65	2.10			1.025			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
N				33:14		0.44	48.74	14.81	33.93	1.035	13C12-HpCDF	789	SUR5
	DC	SN		33:32	RO	2.95	1.90			1.045			
418-420			3 Peaks				135.39						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD						0.88-1.20				0.977-1.005			
424-426	DC	NL		0:00		1.09	2.24			0.000			
	DC	SN		32:12	RO	1.47	2.41			0.980			
	DC	SN		32:19	RO	0.72	1.53			0.983			
D	DC	SN		32:24	RO	0.78	5.16			0.986			
	DC	WH		33:11	RO	0.51	1.71			1.010			
424-426			0 Peaks				0.00						
13C12-HpCDD						0.88-1.20				0.969-1.031			
436-438	DC	NL		0:00	RO	2.68	0.90			0.000			
	DC	SN		32:24	RO	0.60	4.30			0.986			
				32:52		1.02	71.64	36.09	35.55	1.000	13C12-HpCDD	678	IS7
	DC	SN		33:05	RO	0.77	0.96			1.007			
436-438			1 Peak				71.64						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF						0.76-1.02				0.887-1.113			
442-444	DC	NL		0:00	RO	0.74	1.72			0.000			
	DC	SN		31:31		0.93	0.89			0.891			
	DC	SN		31:43	RO	1.12	1.38			0.897			
	DC	SN		32:02	RO	0.57	1.30			0.906			
				32:22	RO	0.48	5.59	2.63	5.49	0.915			
	DC	SN		33:19		0.97	2.21			0.942			
	DC	SN		33:31	RO	0.53	2.70			0.948			
	DC	SN		33:54	RO	0.70	4.99			0.959			
	DC	SN		34:26	RO	5.03	0.59			0.974			
	DC	SN		35:26		0.89	2.80			1.002			
442-444			1 Peak				5.59						
OCDD						0.76-1.02				0.887-1.113			
458-460	DC	NL		0:00	RO	0.63	0.96			0.000			
	DC	SN		35:06	RO	0.49	0.96			0.992			
	DC	SN		35:14	RO	3.09	0.21			0.996			
	DC	SN		35:26	RO	4.57	1.02			1.002	OCDD		AN
	DC	SN		35:44		0.98	1.80			1.010			
458-460			0 Peaks				0.00						
13C12-OCDD						0.76-1.02				0.996-1.005			
470-472	DC	NL		0:00	RO	0.28	0.23			0.000			
				35:22		1.00	62.34	31.22	31.12	1.000	13C12-OCDD		IS8
	DC	WH		35:36	RO	0.24	0.91			1.007			
	DC	WH		35:47	RO	1.22	0.85			1.012			
470-472			1 Peak				62.34						

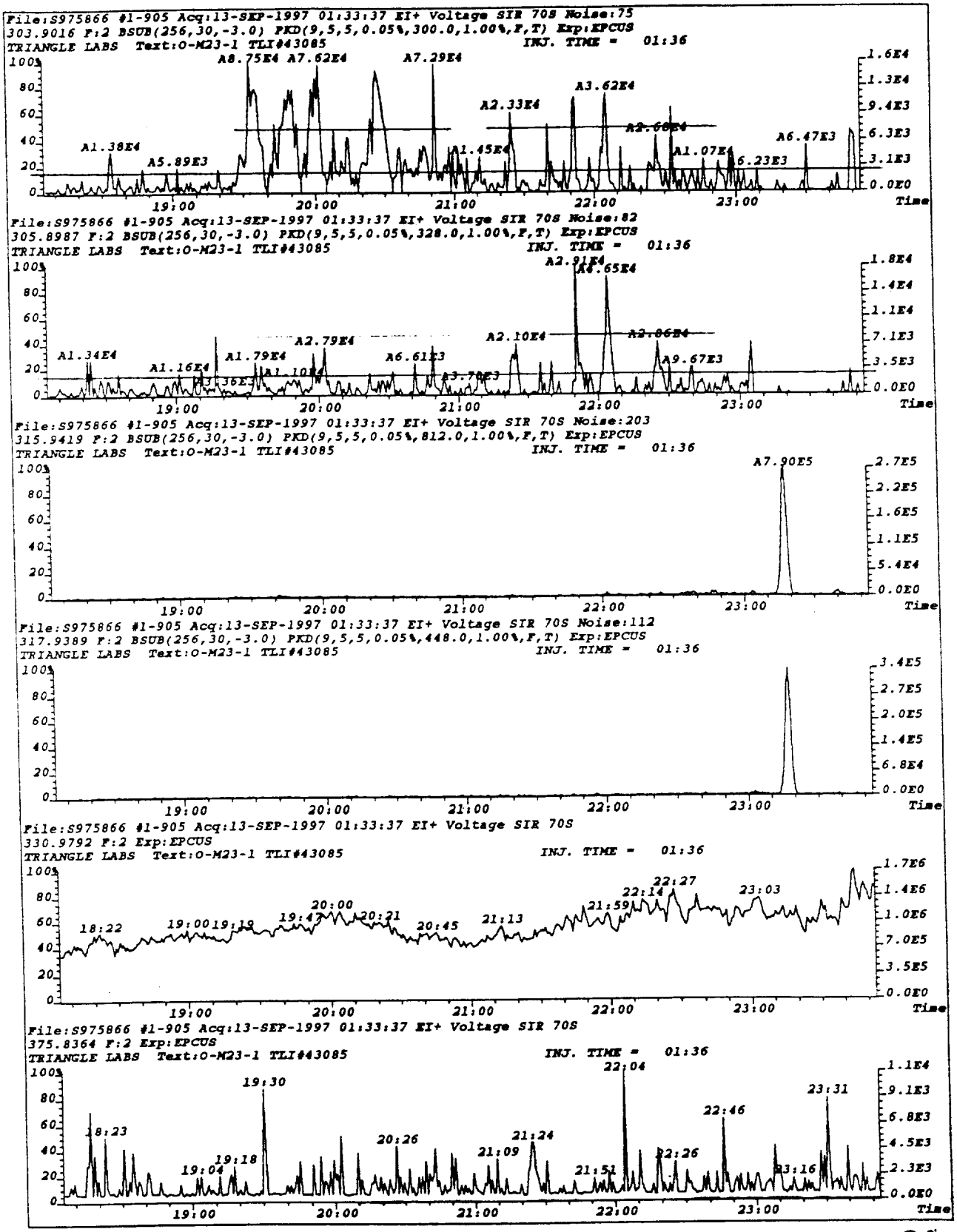
09/17/97

Listing of S975866B.dbf
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.

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 ***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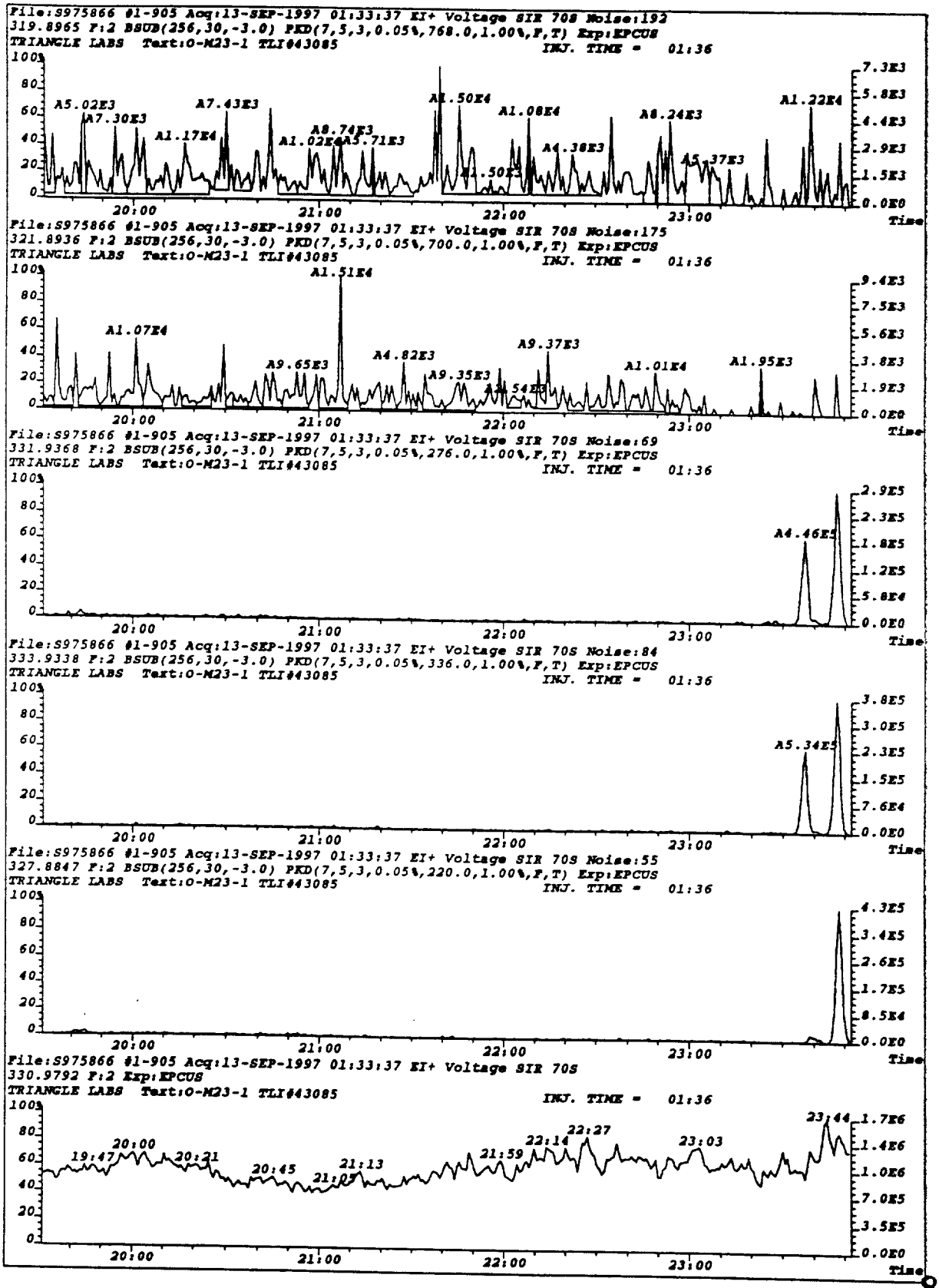
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,300.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A8.75E4 A7.62E4 A7.29E4 A3.62E4 A2.33E4 A1.38E4 A5.89E3 A1.45E4 A6.47E3 A1.07E4 6.23E3
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:82
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A2.79E4 A2.10E4 A1.34E4 A1.16E4 A1.79E4 A6.61E3 A9.67E3
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:203
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,812.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A7.90E5
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:112
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,448.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
18:22 19:00 19:19 19:47 20:00 20:21 20:45 21:13 21:59 22:14 22:27 23:03
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
18:23 19:04 19:18 19:30 20:26 21:09 21:24 21:51 22:04 22:26 22:46 23:16 23:31
Time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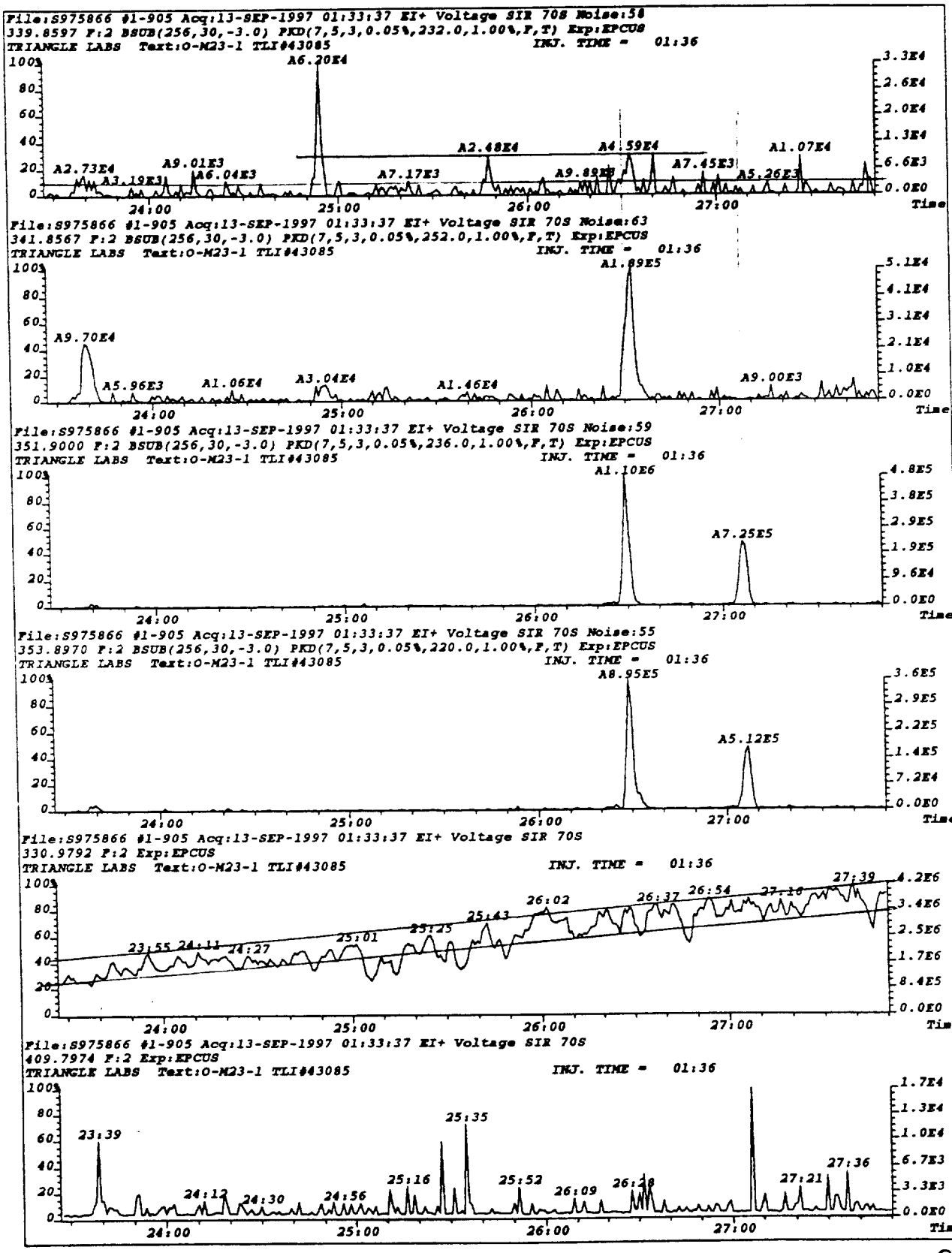
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,768.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A5.02E3
A7.30E3
A1.17E4
A7.43E3
A1.02E4
A8.74E3
A5.71E3
A1.50E4
A1.08E4
A4.38E3
A8.24E3
A1.22E4
Time
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:175
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,700.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.07E4
A1.51E4
A9.65E3
A4.82E3
A9.35E3
A9.37E3
A1.01E4
A1.95E3
Time
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:69
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A4.46E5
Time
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:84
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,336.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A5.34E5
Time
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:55
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
Time
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
19:47
20:00
20:21
20:45
21:13
21:59
22:14
22:27
23:03
23:44
Time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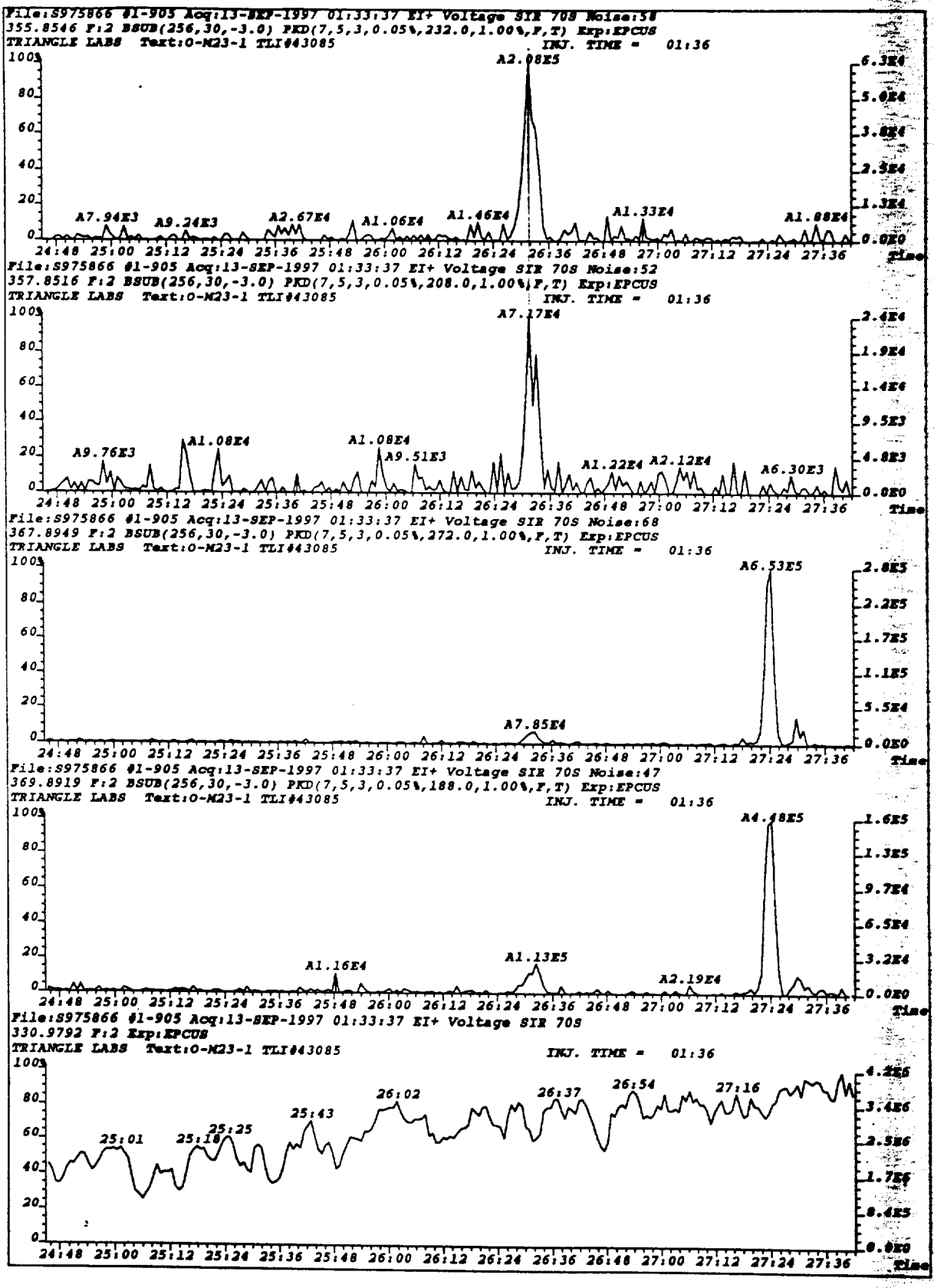
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A6.20E4
A2.48E4
A4.59E4
A1.07E4
A9.01E3
A2.73E4
A3.19E3
A6.04E3
A7.17E3
A9.89E3
A7.45E3
A5.26E3
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:63
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.89E5
A9.70E4
A5.96E3
A1.06E4
A3.04E4
A1.46E4
A9.00E3
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:59
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.10E6
A7.25E5
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:55
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A8.95E5
A5.12E5
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
23:55
24:11
24:27
25:01
25:25
25:43
26:02
26:37
26:54
27:10
27:39
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
23:39
24:12
24:30
24:56
25:16
25:35
25:52
26:09
26:28
27:21
27:36
Time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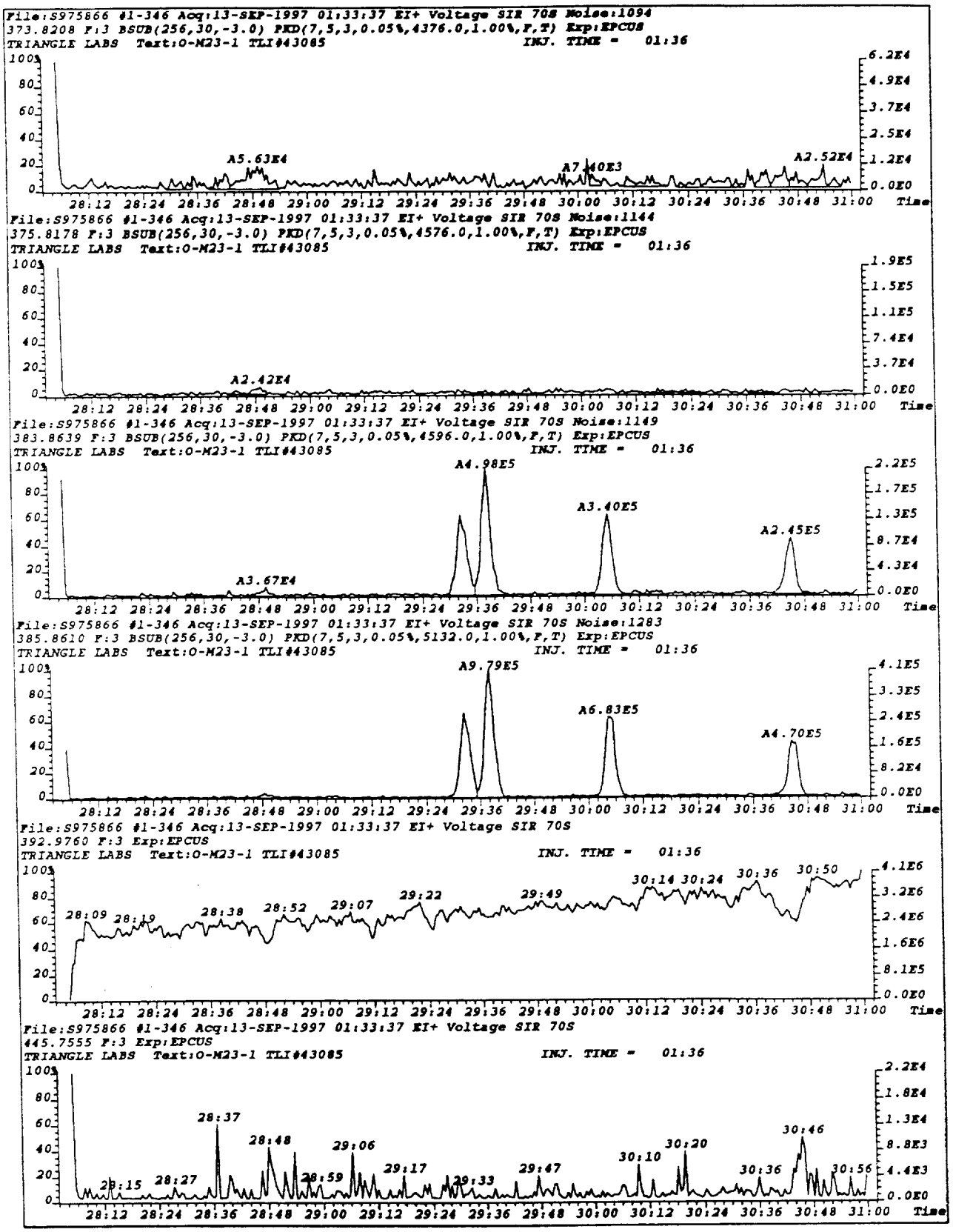
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A2.08E5
A7.94E3
A9.24E3
A2.67E4
A1.06E4
A1.46E4
A1.33E4
A1.88E4
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:52
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A7.17E4
A9.76E3
A1.08E4
A1.08E4
A9.51E3
A1.22E4
A2.12E4
A6.30E3
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 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:O-M23-1 TLI#43085
INJ. TIME = 01:36
A6.53E5
A7.85E4
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:47
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A4.48E5
A1.16E4
A1.13E5
A2.19E4
File:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
25:01
25:18
25:25
25:43
26:02
26:37
26:54
27:16
24:48 25:00 25:12 25:24 25:36 25:48 26:00 26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36
Time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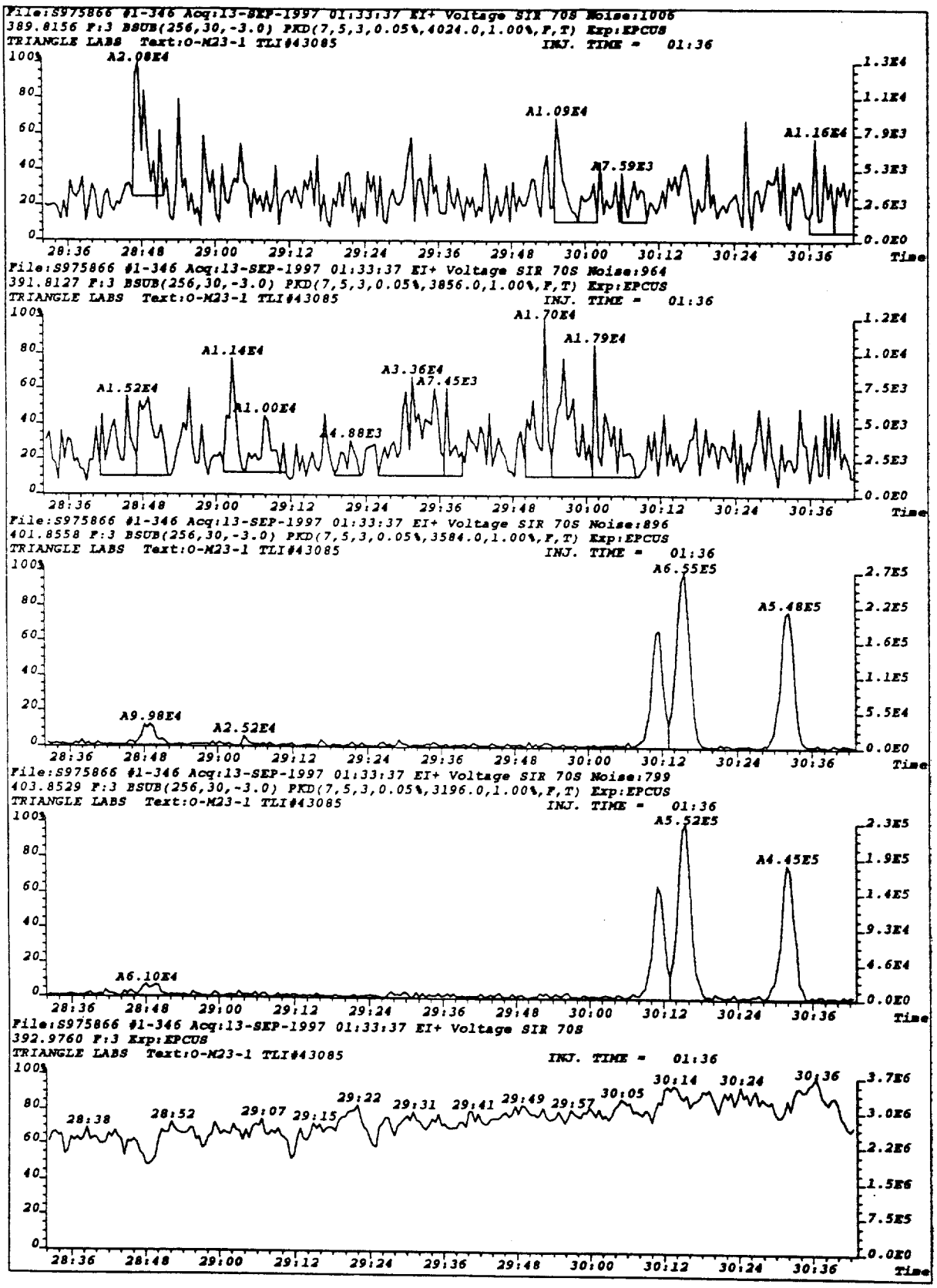
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4376.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085 INJ. TIME = 01:36
A5.63E4
A7.40E3
A2.52E4
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:1144
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4576.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085 INJ. TIME = 01:36
A2.42E4
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:1149
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4596.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085 INJ. TIME = 01:36
A4.98E5
A3.40E5
A2.45E5
A3.67E4
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:1283
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,5132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085 INJ. TIME = 01:36
A9.79E5
A6.83E5
A4.70E5
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085 INJ. TIME = 01:36
28:09
28:19
28:38
28:52
29:07
29:22
29:49
30:14
30:24
30:36
30:50
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085 INJ. TIME = 01:36
28:15
28:27
28:37
28:48
28:59
29:06
29:17
29:33
29:47
30:10
30:20
30:36
30:46
30:56
28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 Time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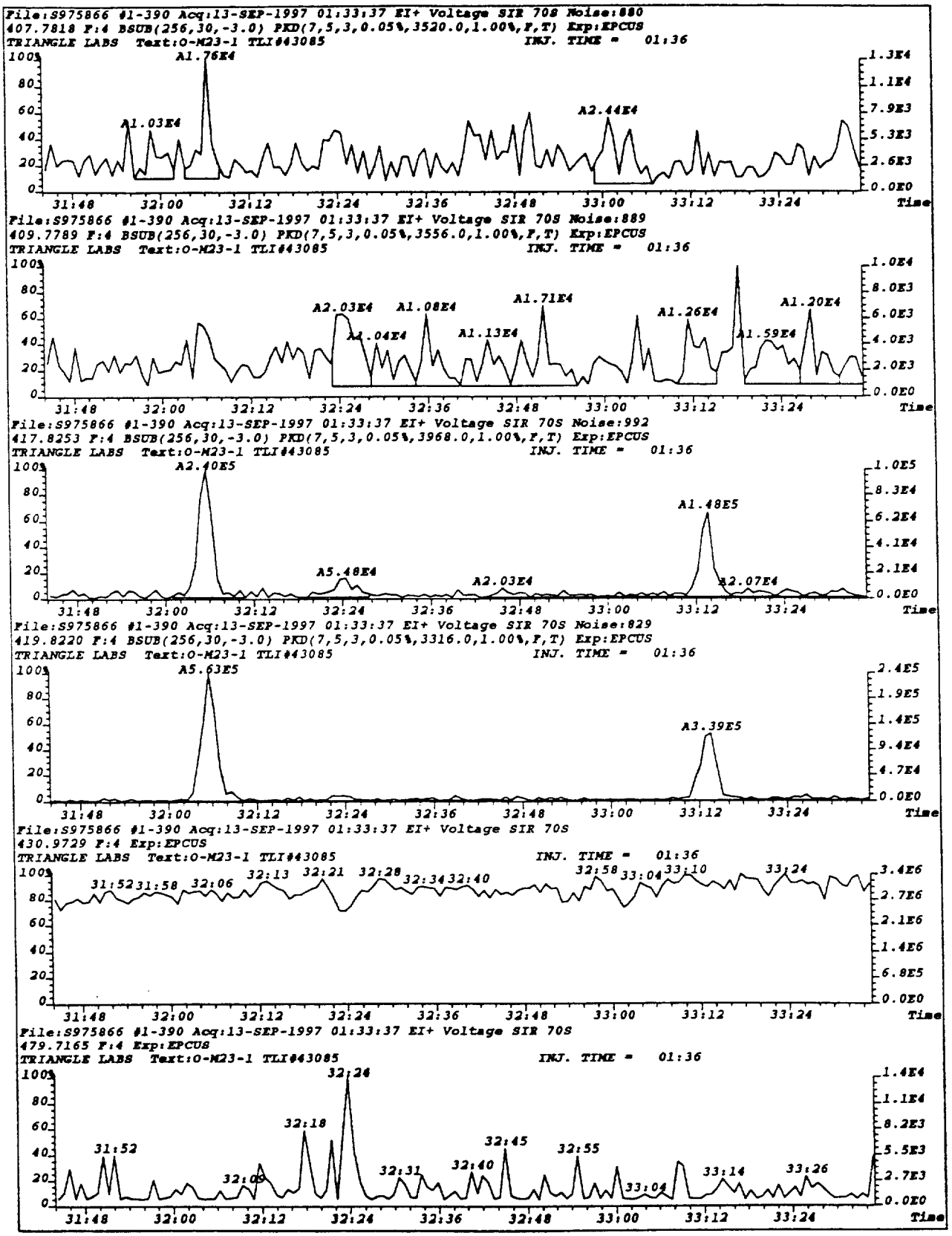
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4024.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A2.08E4
A1.09E4
A1.16E4
A7.59E3
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:964
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3856.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.70E4
A1.79E4
A1.14E4
A3.36E4
A7.45E3
A1.52E4
A1.00E4
A4.88E3
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:896
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3584.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A6.55E5
A5.48E5
A9.98E4
A2.52E4
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:799
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A5.52E5
A4.45E5
A6.10E4
File:S975866 #1-346 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
28:38
28:52
29:07
29:15
29:22
29:31
29:41
29:49
29:57
30:05
30:14
30:24
30:36
Time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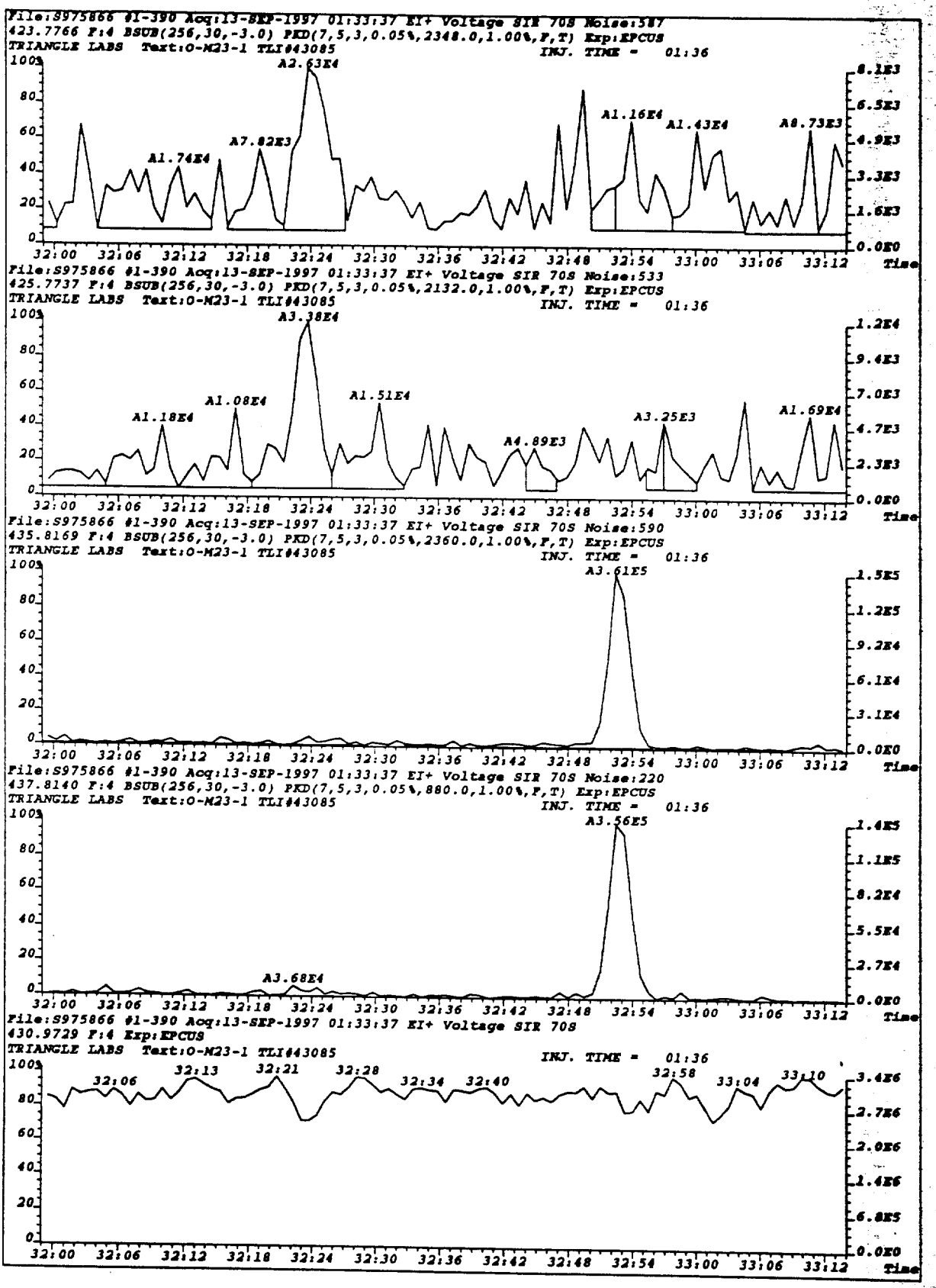
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3520.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.76E4
A1.03E4
A2.44E4
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:889
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3556.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A2.03E4
A1.08E4
A1.71E4
A1.26E4
A1.20E4
A1.04E4
A1.13E4
A1.59E4
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:992
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3968.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A2.40E5
A1.48E5
A5.48E4
A2.03E4
A2.07E4
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:829
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3316.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A5.63E5
A3.39E5
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
31:52
32:06
32:18
32:24
32:31
32:40
32:45
32:55
33:04
33:14
33:26
Time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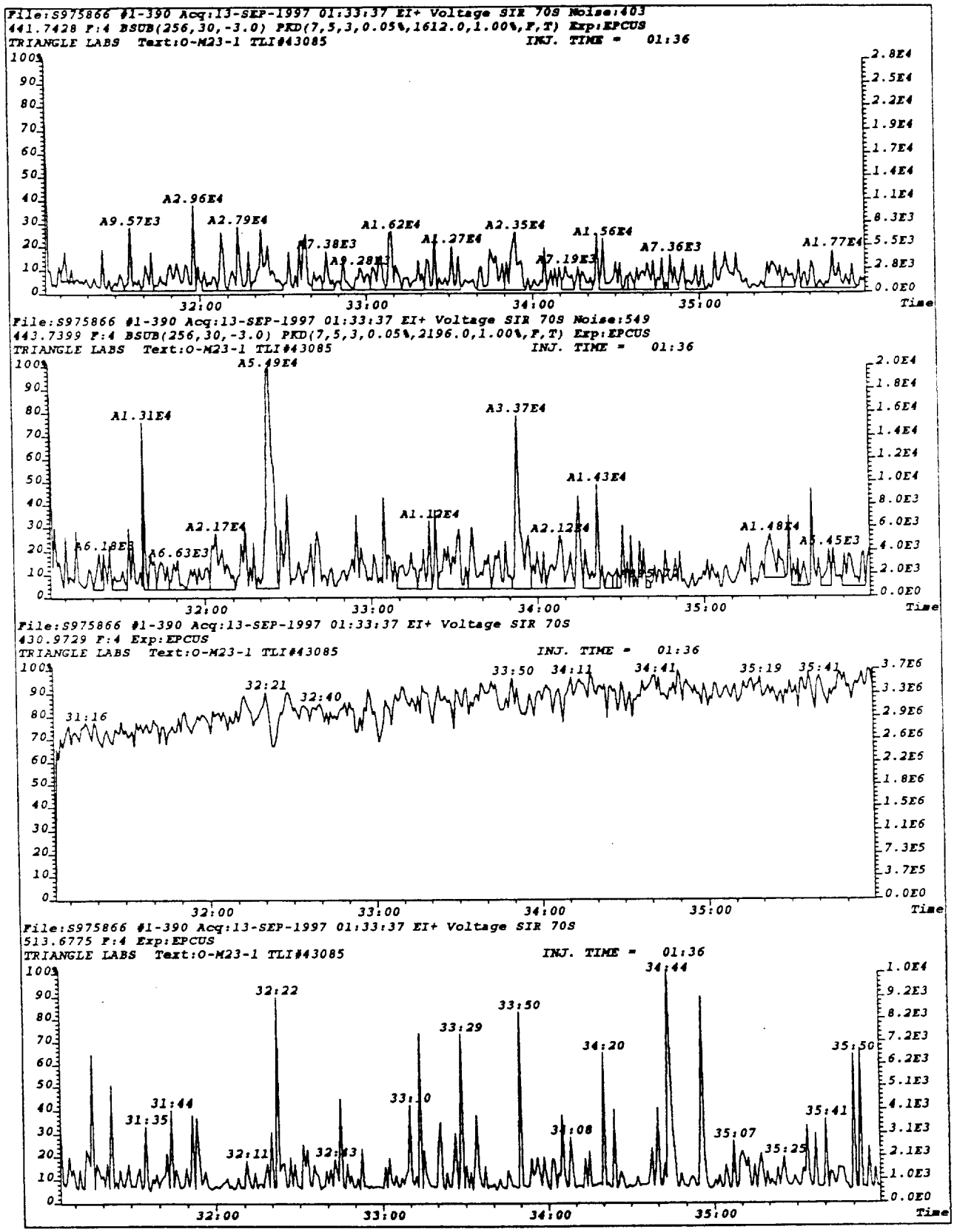
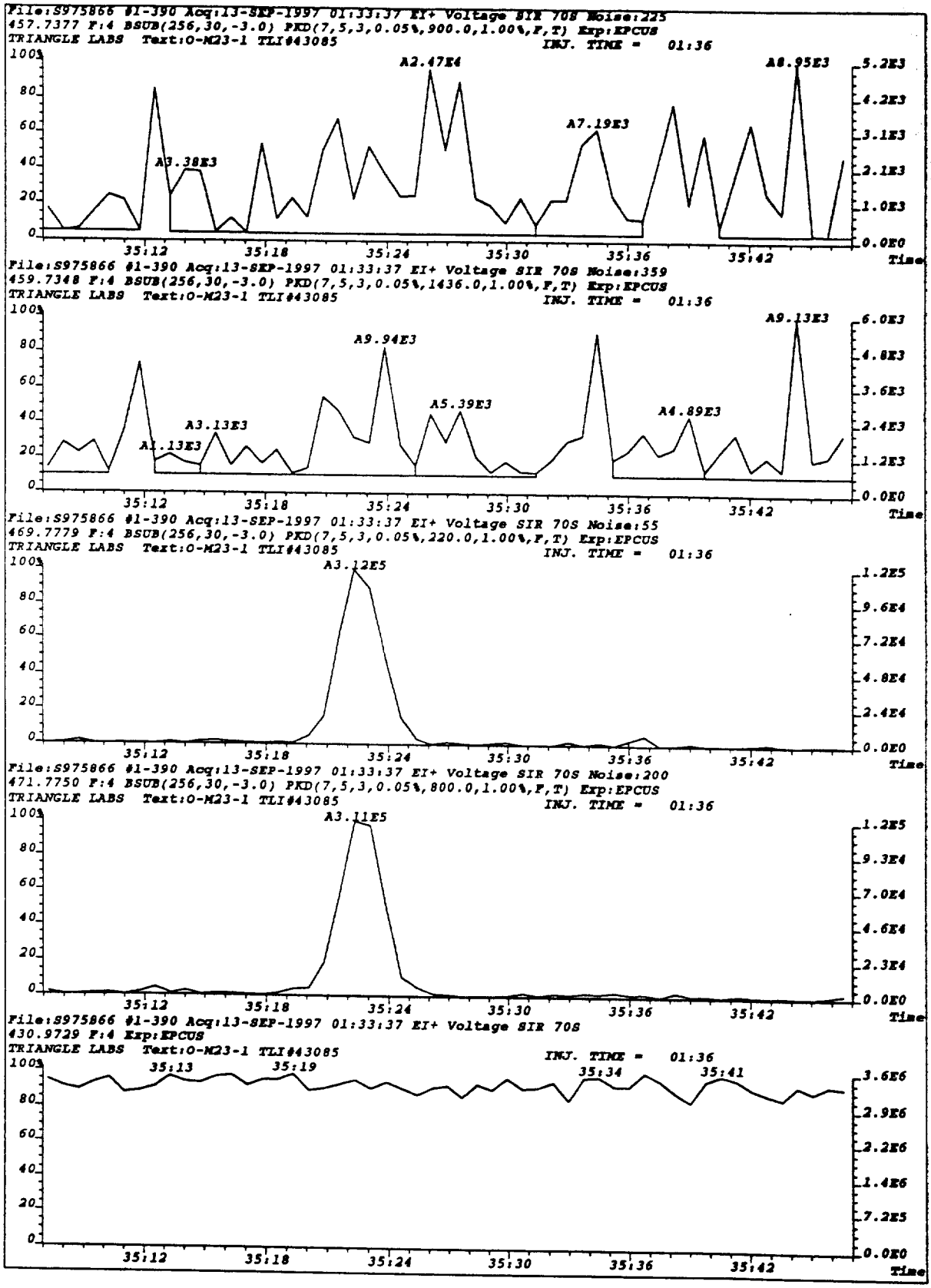
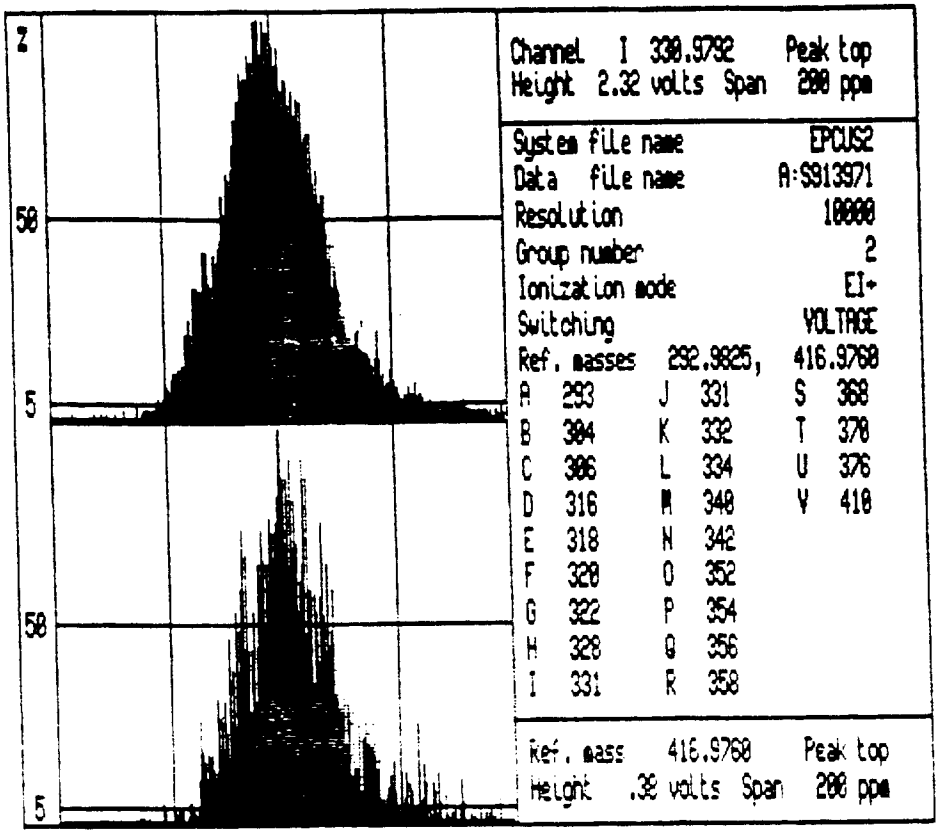
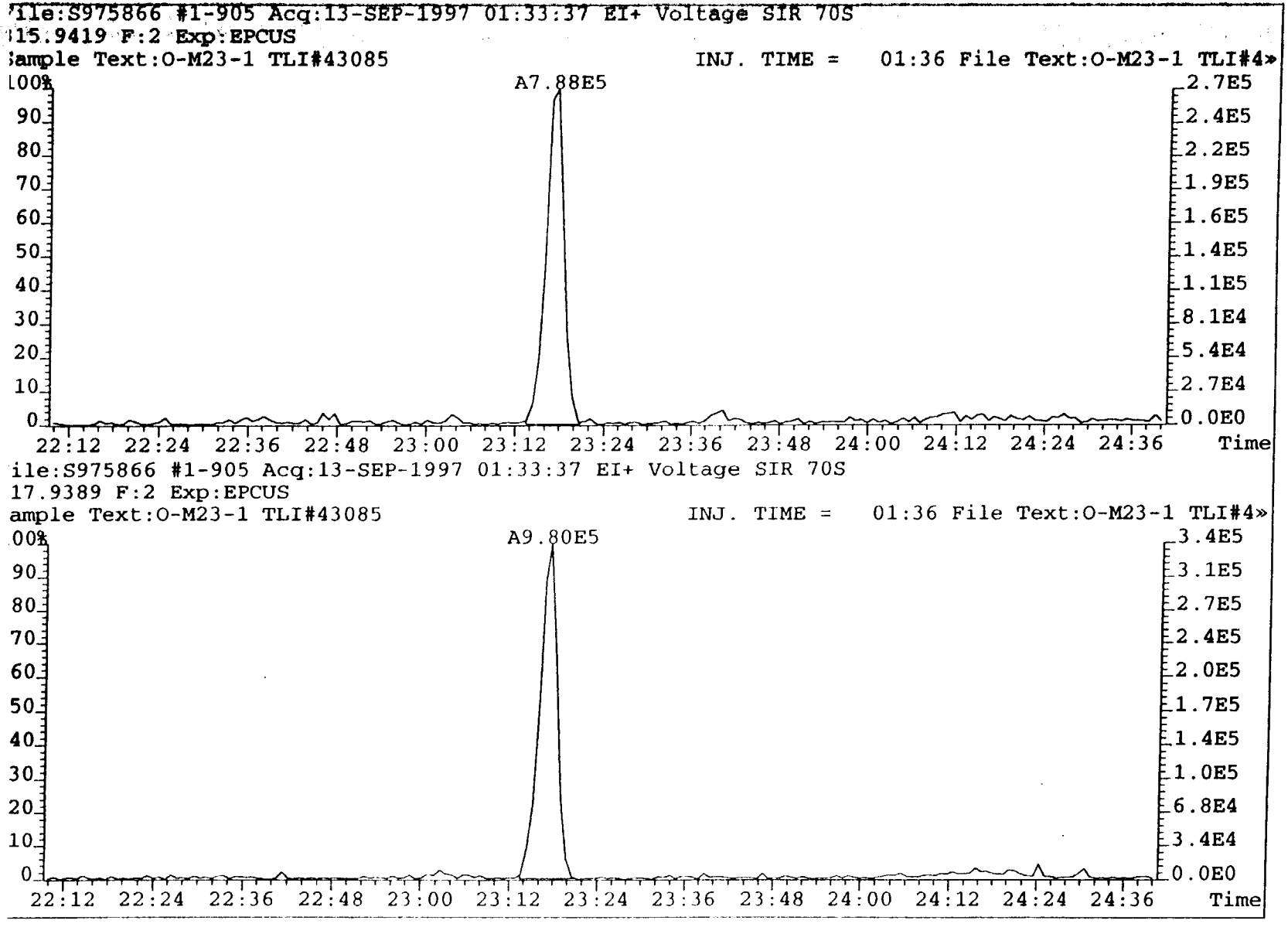
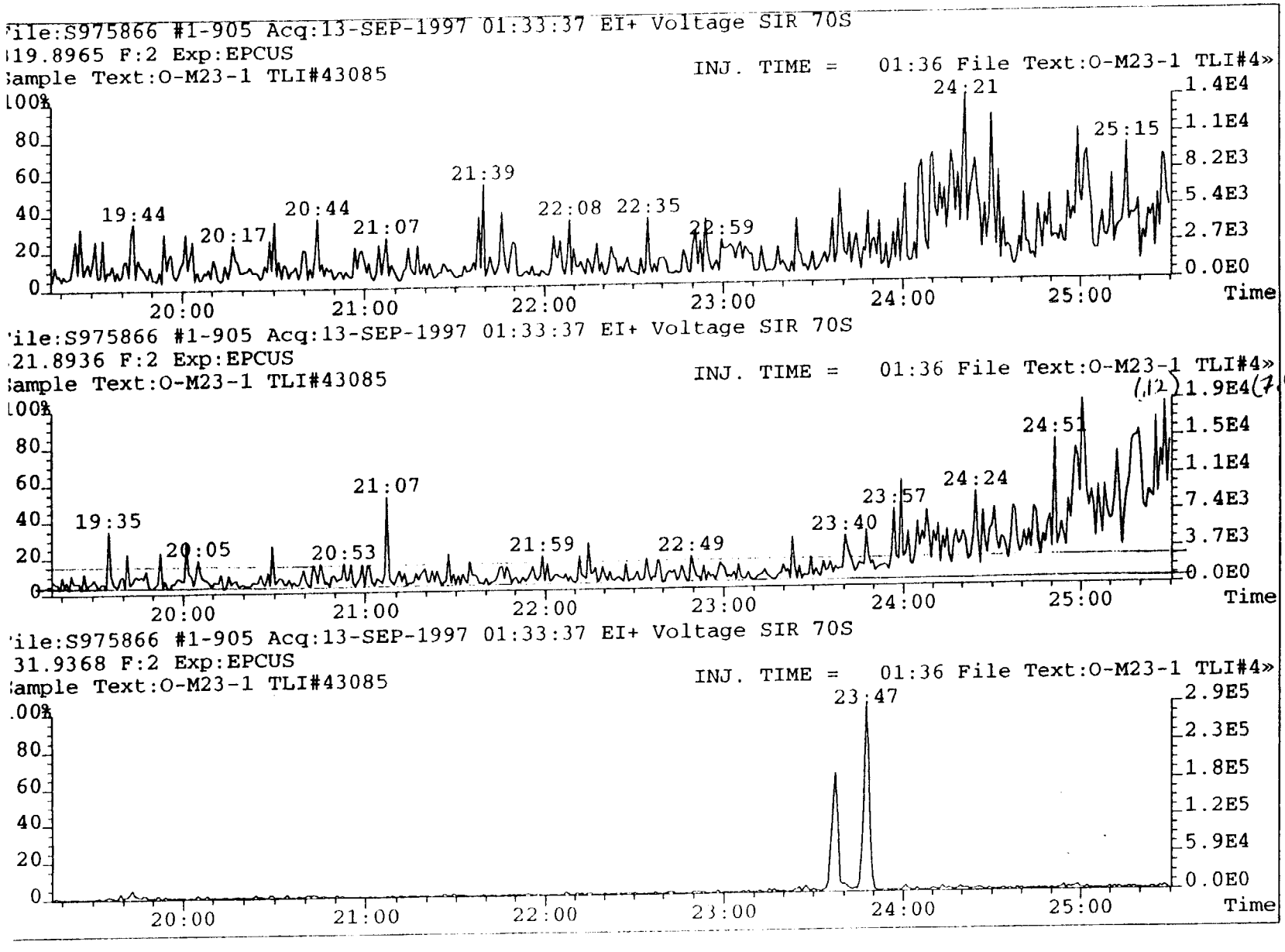
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.74E4
A7.82E3
A2.63E4
A1.16E4
A1.43E4
A8.73E3
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:533
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A1.18E4
A1.08E4
A3.38E4
A1.51E4
A4.89E3
A3.25E3
A1.69E4
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:590
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2360.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A3.61E5
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:220
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,880.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A3.56E5
A3.68E4
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
32:06
32:13
32:21
32:28
32:34
32:40
32:58
33:04
33:10
32:00 32:06 32:12 32:18 32:24 32:30 32:36 32:42 32:48 32:54 33:00 33:06 33:12
Time


File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:403
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1612.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A9.57E3
A2.96E4
A2.79E4
A7.38E3
A1.62E4
A1.27E4
A2.35E4
A1.56E4
A7.36E3
A1.77E4
Time
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:549
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A5.49E4
A1.31E4
A3.37E4
A1.43E4
A2.17E4
A1.12E4
A2.12E4
A1.48E4
A6.18E3
A6.63E3
A5.45E3
Time
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
31:16
32:21
32:40
33:50
34:11
34:41
35:19
35:41
Time
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
31:35
31:44
32:11
32:22
32:43
33:10
33:29
33:50
34:08
34:20
34:44
35:07
35:25
35:41
35:50
Time

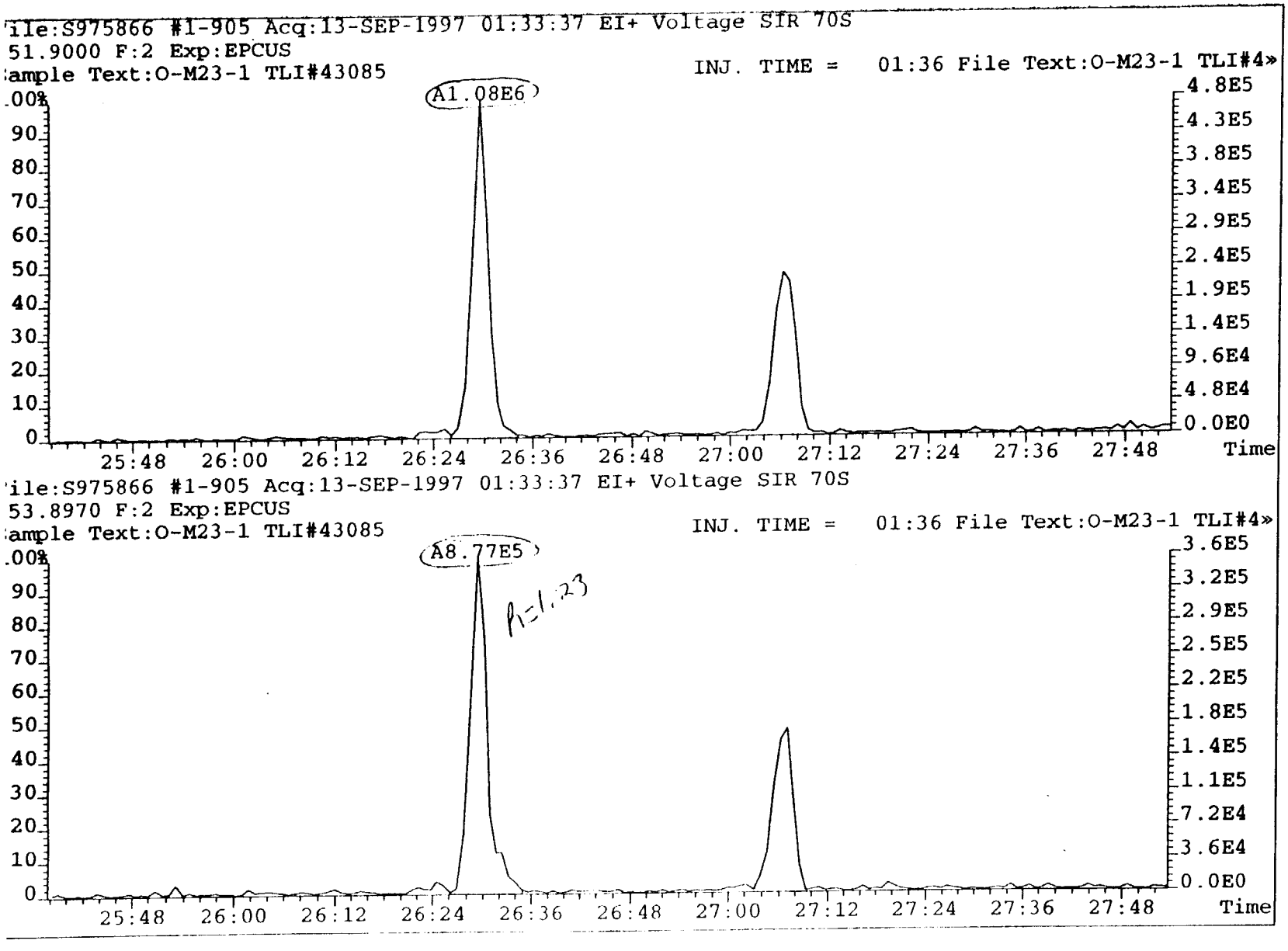

File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:225
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,900.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A2.47E4
A8.95E3
A7.19E3
A3.38E3
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:359
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1436.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A9.13E3
A9.94E3
A5.39E3
A4.89E3
A3.13E3
A1.13E3
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:55
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A3.12E5
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S Noise:200
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,800.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
A3.11E5
File:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-1 TLI#43085
INJ. TIME = 01:36
35:13
35:19
35:34
35:41
35:12
35:18
35:24
35:30
35:36
35:42
Time

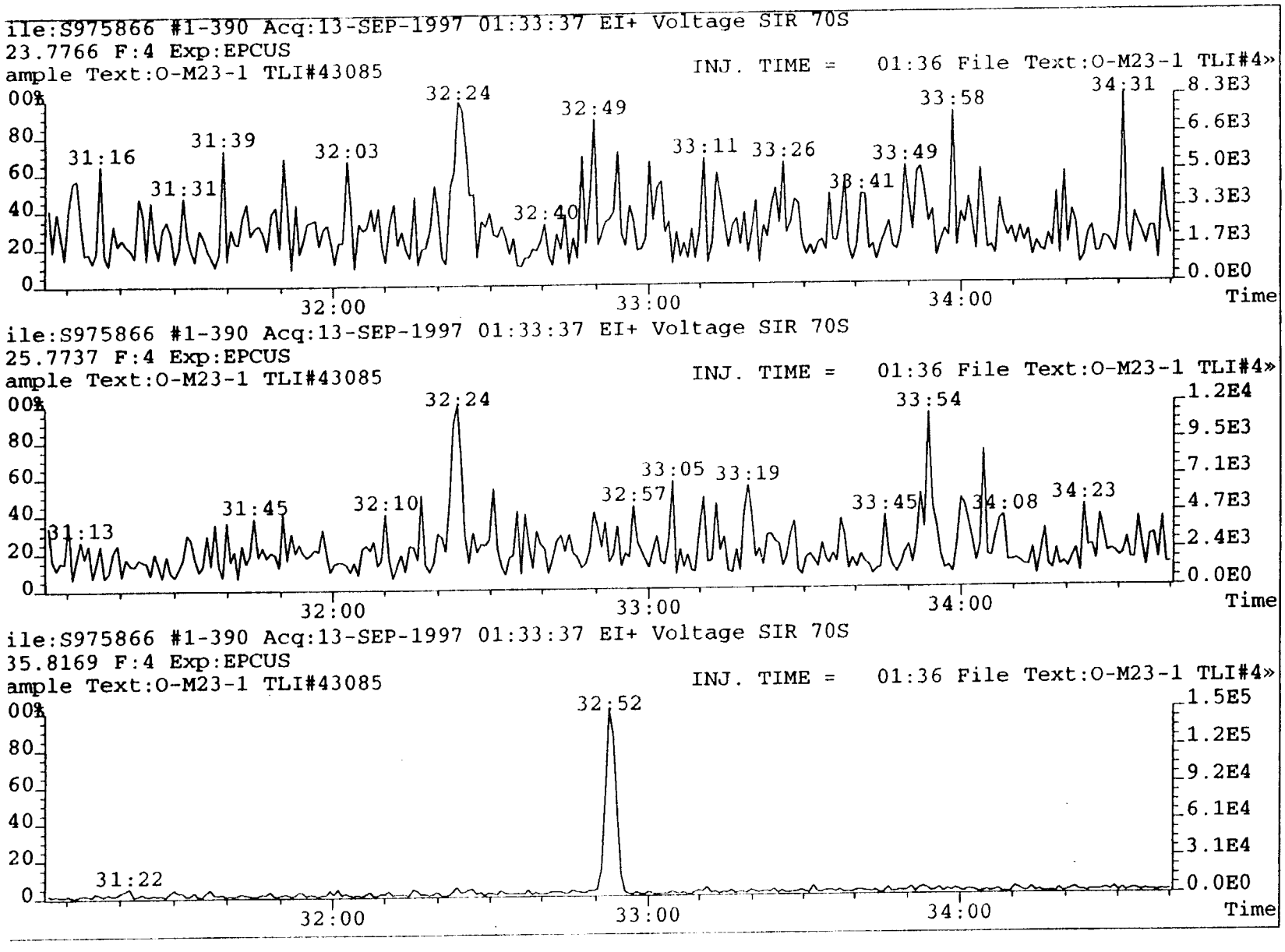

Z
50
5
50
5
Channel I 330.9792 Peak top
Height 2.32 volts Span 200 ppm
System file name EPCUS2
Data file name A:S913971
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9760
A 293 J 331 S 368
B 304 K 332 T 370
C 306 L 334 U 376
D 316 M 340 V 410
E 318 N 342
F 320 O 352
G 322 P 354
H 328 Q 356
I 331 R 358
Ref. mass 416.9760 Peak top
Height .38 volts Span 200 ppm


ile:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
15.9419 F:2 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
A7.88E5
100%
90
80
70
60
50
40
30
20
10
0
2.7E5
2.4E5
2.2E5
1.9E5
1.6E5
1.4E5
1.1E5
8.1E4
5.4E4
2.7E4
0.0E0
22:12 22:24 22:36 22:48 23:00 23:12 23:24 23:36 23:48 24:00 24:12 24:24 24:36
Time
ile:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
17.9389 F:2 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
A9.80E5
00%
90
80
70
60
50
40
30
20
10
0
3.4E5
3.1E5
2.7E5
2.4E5
2.0E5
1.7E5
1.4E5
1.0E5
6.8E4
3.4E4
0.0E0
22:12 22:24 22:36 22:48 23:00 23:12 23:24 23:36 23:48 24:00 24:12 24:24 24:36
Time



(7.4):1.69
SR
9/17/97


ile:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
51.9000 F:2 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
A1.08E6
.00%
90
80
70
60
50
40
30
20
10
0
4.8E5
4.3E5
3.8E5
3.4E5
2.9E5
2.4E5
1.9E5
1.4E5
9.6E4
4.8E4
0.0E0
25:48 26:00 26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48
Time
ile:S975866 #1-905 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
53.8970 F:2 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
A8.77E5
R=1.23
.00%
90
80
70
60
50
40
30
20
10
0
3.6E5
3.2E5
2.9E5
2.5E5
2.2E5
1.8E5
1.4E5
1.1E5
7.2E4
3.6E4
0.0E0
25:48 26:00 26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48
Time


ile:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
23.7766 F:4 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
31:16
31:31
31:39
32:03
32:24
32:40
32:49
33:11
33:26
33:41
33:49
33:58
34:31
32:00
33:00
34:00
Time
ile:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
25.7737 F:4 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
31:13
31:45
32:10
32:24
32:57
33:05
33:19
33:45
33:54
34:08
34:23
32:00
33:00
34:00
Time
ile:S975866 #1-390 Acq:13-SEP-1997 01:33:37 EI+ Voltage SIR 70S
35.8169 F:4 Exp:EPCUS
ample Text:O-M23-1 TLI#43085
INJ. TIME = 01:36 File Text:O-M23-1 TLI#4»
31:22
32:52
32:00
33:00
34:00
Time

Pacific Environmental Services

TLI Project: **43085**
Client Sample: **O-M23-2**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975867**

Client Project:	**S413-004**				
Sample Matrix:	**M23Train**	Date Received:	**09/03/97**	Spike File:	**SPX23704**
TLI ID:	**181-55-2ABE**	Date Extracted:	**09/04/97**	ICal:	**SF56117**
		Date Analyzed:	**09/13/97**	ConCal:	**S975861**
Sample Size:	**1.000**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**S975815**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**ML**	% Solids:	**n/a**

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.07				
1,2,3,7,8-PeCDD	ND	0.09				
1,2,3,4,7,8-HxCDD	ND	0.1				
1,2,3,6,7,8-HxCDD	ND	0.1				
1,2,3,7,8,9-HxCDD	ND	0.1				
1,2,3,4,6,7,8-HpCDD	ND	0.2				
1,2,3,4,6,7,8,9-OCDD	ND	0.6				
2,3,7,8-TCDF	ND	0.05				
1,2,3,7,8-PeCDF	EMPC		0.24			E
2,3,4,7,8-PeCDF	ND	0.07				
1,2,3,4,7,8-HxCDF	ND	0.09				
1,2,3,6,7,8-HxCDF	ND	0.07				
2,3,4,6,7,8-HxCDF	ND	0.08				
1,2,3,7,8,9-HxCDF	EMPC		0.24			QE
1,2,3,4,6,7,8-HpCDF	ND	0.2				
1,2,3,4,7,8,9-HpCDF	ND	0.2				
1,2,3,4,6,7,8,9-OCDF	ND	0.4				

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.07		
Total PeCDD	EMPC			1.0	
Total HxCDD	0.44	1			
Total HpCDD	EMPC			1.0	
Total TCDF	ND		0.05		
Total PeCDF	EMPC			0.41	E
Total HxCDF	EMPC			0.46	E
Total HpCDF	EMPC			0.36	

X237_PSR v2.00, LARS 4.10.04

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Printed: 12:07 09/18/97

Pacific Environmental Services

TLI Project: **43085** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **O-M23-2** Analysis File: **S975867**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.5	88.1	40%-130%	0.77	23:16	___
$^{13}C_{12}$-2,3,7,8-TCDD	3.6	90.2	40%-130%	0.83	23:47	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.3	82.1	40%-130%	1.11	26:29	QRO___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	4.1	102	40%-130%	1.44	27:23	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.2	81.0	40%-130%	0.52	29:37	Q___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.1	77.6	40%-130%	1.36	30:15	Q___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.9	47.2	25%-130%	0.47	32:05	Q___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.1	53.2	25%-130%	1.11	32:52	Q___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	2.4	29.8	25%-130%	1.00	35:22	Q___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.0	100	70%-140%		23:47	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.7	93.1	70%-140%	1.33	27:06	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.8	94.3	70%-140%	0.56	29:33	Q___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.4	85.6	70%-140%	1.31	30:11	Q___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	4.6	116	70%-140%	0.42	33:13	Q___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.3	58.2	40%-130%	0.55	30:44	Q___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.9	73.7	40%-130%	0.47	30:04	Q___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.84	23:36	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.20	30:31	Q___

Data Reviewer: _____ 09/18/97

X237_PSR v2.00, LARS 6.10

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Printed: 12:07 09/18/9

Initial ....Date...

Data Review By: SL 9/18/97 Calculated Noise Area: 1.02

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 S975867B.dbf
09/18/97 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				0.838-1.092			
304-306	DC	NL		0:00	RO	1.27	0.19			0.000			
	DC	WL		18:27	RO	1.03	0.57			0.793			
	DC	WL		19:27	RO	2.47	2.37			0.836			
	DC	SN		19:43	RO	3.15	2.76			0.847			
	DC	SN		20:41	RO	4.86	0.39			0.889			
	DC	SN		21:20	RO	1.15	3.59			0.917			
	DC	SN		22:00		0.73	5.04			0.946			
	DC	SN		22:14		0.69	1.49			0.956			
	DC	SN		22:25		0.81	3.90			0.963			
	DC	SN		22:37	RO	2.14	1.13			0.972			
	DC	SN		22:50		0.87	2.21			0.981			
304-306			0 Peaks				0.00						
13C12-TCDF						0.65-0.89				0.954-1.046			
316-318	DC	NL		0:00	RO	1.24	0.37			0.000			
	DC	WL		18:27	RO	0.24	0.37			0.793			
	DC	WL		19:26	RO	1.46	0.96			0.835			
	DC	WL		20:03	RO	0.33	0.32			0.862			
	DC	WL		20:15	RO	1.16	1.22			0.870			
	DC	SN		22:21	RO	2.84	0.65			0.961			
				23:16		0.77	154.49	67.28	87.21	1.000	13C12-2378-TCDF	ISO	
316-318			1 Peak				154.49						

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

TCDD						0.65-0.89				0.875-1.055			
320-322	DC	NL		0:00		0.75	0.35			0.000			
	DC	WL		19:28	RO	2.27	0.39			0.819			
	DC	WL		19:43	RO	0.61	1.24			0.829			
	DC	WL		20:10	RO	0.48	0.87			0.848			
	DC	WL		20:22		0.65	1.17			0.856			
	DC	WL		20:29	RO	0.27	0.48			0.861			
	DC	WL		20:38	RO	1.35	0.87			0.868			
	DC	SN		21:07	RO	1.84	0.34			0.888			
	DC	SN		21:13	RO	0.54	1.03			0.892			
	DC	SN		21:25	RO	0.94	1.72			0.900			
	DC	SN		21:46	RO	1.22	0.41			0.915			
	DC	SN		21:54	RO	1.49	0.83			0.921			
	DC	SN		22:03	RO	0.56	0.85			0.927			
	DC	SN		22:15	RO	1.53	0.27			0.936			
	DC	SN		22:34		0.84	0.57			0.949			
	DC	SN		22:43	RO	2.00	0.51			0.955			
	DC	SN		23:29	RO	1.38	0.65			0.987			

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		23:40	RO	1.92	1.40			0.995			
320-322		0	Peaks				0.00						
37Cl-TCDD										0.910-1.090			
328	DC	NL		0:00			0.16			0.000			
	DC	WL		19:42			9.29			0.828			
	DC	WL		19:57			0.33			0.839			
	DC	WL		20:00			0.10			0.841			
	DC	WL		20:09			0.17			0.847			
	DC	WL		20:09			0.20			0.847			
	DC	WL		20:24			0.21			0.858			
	DC	WL		20:27			0.30			0.860			
	DC	WL		20:36			0.66			0.866			
	DC	WL		20:54			0.64			0.879			
	DC	WL		21:02			0.15			0.884			
	DC	WL		21:18			0.47			0.896			
	DC	WL		21:29			0.88			0.903			
	DC	SN		21:43			1.09			0.913			
	DC	SN		21:53			0.51			0.920			
	DC	SN		22:01			0.31			0.926			
	DC	SN		22:16			1.04			0.936			
	DC	SN		22:27			1.15			0.944			
	DC	SN		22:34			0.26			0.949			
	DC	SN		22:41			0.71			0.954			
	DC	SN		22:52			0.49			0.961			
	DC	SN		23:05			0.51			0.971			
	DC	SN		23:19			0.18			0.980			
	DC	SN		23:27			0.49			0.986			
				23:39			12.85	12.85		0.994			
				23:47			108.07	108.07		1.000	37Cl-TCDD		SUR1
328		2	Peaks				120.92						
13C12-TCDD						0.65-0.89				0.910-1.090			
332-334	DC	NL		0:00	RO	3.54	0.23			0.000			
	DC	WL		19:39	RO	1.87	6.48			0.826			
	DC	WL		20:06	RO	1.35	0.35			0.845			
	DC	WL		20:18	RO	11.75	0.14			0.854			
	DC	WL		20:35	RO	2.04	0.87			0.865			
	DC	WL		21:09	RO	1.50	0.25			0.889			
	DC	SN		21:40	RO	4.19	0.64			0.911			
	DC	SN		21:52	RO	1.44	0.96			0.919			
	DC	SN		22:00	RO	4.26	0.67			0.925			
	DC	SN		22:12	RO	1.42	0.64			0.933			
	DC	SN		22:21	RO	5.47	0.27			0.940			
	DC	SN		22:50	RO	0.46	1.52			0.960			
	DC	SN		23:12	RO	0.55	1.08			0.975			
	DC	SN		23:25	RO	1.41	2.21			0.985			
				23:36		0.84	132.99	60.76	72.23	0.992	13C12-1234-TCDD		RS1
				23:47		0.83	127.81	57.91	69.90	1.000	13C12-2378-TCDD		IS1
332-334		2	Peaks				260.80						

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: TCDD / PeCDF Follows ----------														
PeCDF							1.32-1.78				0.915-1.074			
340-342		DC	NL		0:00	RO	1.00	0.16			0.000			
		DC	WL		23:29	RO	0.89	0.66			0.867			
		DC	WL		23:40	RO	0.23	8.01			0.873			
		DC	WL		24:30	RO	0.61	0.44			0.904			
	E		E		24:53	RO	1.40	5.86	3.56	2.54	0.918			
		DC	SN		25:20	RO	0.18	0.53			0.935			
		DC	SN		25:55	RO	0.78	1.09			0.956			
		DC	SN		26:08	RO	2.72	1.63			0.964			
		DC	SN		26:21	RO	9.48	0.79			0.972			
	E		E		26:32	RO	0.17	8.29	5.04	29.97	0.979	12378-PeCDF	AN	Q
		DC	SN		27:02	RO	0.70	0.94			0.998			
		DC	SN		27:27	RO	3.78	1.02			1.013			
		DC	SN		27:45	RO	4.40	3.09			1.024			
340-342					2 Peaks			14.15						
13C12-PeCDF							1.32-1.78				0.844-1.156			
352-354		DC	NL		0:00	RO	1.20	0.20			0.000			
					23:39	RO	0.68	9.92	6.03	8.92	0.873			
		DC	SN		24:58	RO	7.83	0.61			0.921			
		DC	SN		25:26	RO	0.48	0.44			0.938			
		DC	SN		26:04	RO	1.21	1.63			0.962			
		DC	SN		26:12		1.70	2.13			0.967			
	N				26:29	RO	1.11	123.77	75.23	67.88	0.977	13C12-PeCDF 123	IS2	Q
		DC	SN		26:57		1.37	5.93			0.994			
	N				27:06		1.33	111.72	63.86	47.86	1.000	13C12-PeCDF 234	SUR2	
352-354					3 Peaks			245.41						
---------- Above: PeCDF / PeCDD Follows ----------														
PeCDD							1.32-1.78				0.926-1.024			
356-358		DC	NL		0:00	RO	1.09	0.20			0.000			
		DC	WL		24:48	RO	2.13	0.20			0.902			
		DC	WL		25:09	RO	1.26	0.72			0.915			
		DC	WL		25:27	RO	1.09	0.41			0.925			
		DC	SN		25:39		1.51	1.43			0.933			
		DC	SN		25:50	RO	0.72	0.46			0.939			
		DC	SN		26:14	RO	2.07	1.05			0.954			
					26:30	RO	3.05	27.95	33.38	10.96	0.964			Q
		DC	SN		26:47	RO	0.78	0.69			0.974			
		DC	SN		27:36	RO	0.33	0.58			1.004			
356-358					1 Peak			27.95						
13C12-PeCDD							1.32-1.78				0.850-1.150			
368-370		DC	NL		0:00	RO	0.92	0.18			0.000			
		DC	SN		25:12	RO	0.40	0.56			0.916			
		DC	SN		25:23		1.57	0.95			0.923			
		DC	SN		26:10	RO	0.38	0.58			0.952			
					26:30	RO	0.44	14.99	9.11	20.64	0.964			
		DC	SN		26:59	RO	0.62	0.64			0.981			

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		27:08	RO	1.00	0.67			0.987			
N				27:23		1.44	86.32	50.92	35.40	0.996	13C12-PeCDD 123	IS3	
N				27:30		1.56	10.69	6.52	4.17	1.000			
	DC	SN		27:41	RO	0.52	0.23			1.007			
368-370			3 Peaks				112.00						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF						1.05-1.43				0.959-1.050			
374-376	DC	NL		0:00	RO	1.02	1.81			0.000			
	DC	WL		28:33		1.35	1.48			0.950			
	DC	WL		28:41	RO	0.25	0.13			0.954			
EK		E		28:49	RO	1.40	6.97	4.35	3.11	0.958			Q
	DC	SN		29:03	RO	0.57	0.47			0.966			
	DC	SN		29:09	RO	2.03	0.65			0.970			
	DC	SN		29:21	RO	0.49	0.45			0.976			
	DC	SN		29:32	RO	1.80	1.10			0.982			
	DC	SN		29:35	RO	0.39	0.45			0.984			
	DC	SN		29:45	RO	0.62	1.28			0.989			
	DC	SN		29:49	RO	1.79	0.94			0.992			
	DC	SN		29:53	RO	3.50	1.03			0.994			
	DC	SN		29:58		1.20	1.23			0.997	123478-HxCDF	AN	
	DC	SN		30:06		1.15	3.09			1.001	123678-HxCDF	AN	
	DC	SN		30:11	RO	0.56	1.63			1.004			
	DC	SN		30:24	RO	0.37	0.70			1.011			
	DC	SN		30:33	RO	0.45	1.32			1.016			
	DC	SN		30:37	RO	0.75	1.32			1.018	234678-HxCDF	AN	
E		E		30:44	RO	0.89	6.63	3.67	4.12	1.022	123789-HxCDF	AN	E
	DC	SN		30:57	RO	0.05	0.20			1.029			
374-376			2 Peaks				13.60						
13C12-HxCDF						0.43-0.59				0.863-1.137			
384-386	DC	NL		0:00	RO	0.94	1.01			0.000			
	DC	SN		28:18	RO	0.70	0.69			0.941			
	DC	SN		28:25	RO	3.46	0.20			0.945			
	DC	SN		28:29	RO	0.19	0.50			0.947			
	DC	SN		28:35	RO	0.39	0.80			0.951			
				28:49	RO	0.79	9.44	4.91	6.25	0.958			
	DC	SN		28:54		0.54	1.05			0.961			
	DC	SN		28:58	RO	0.86	0.63			0.963			
	DC	SN		29:13	RO	1.13	0.47			0.972			
	DC	SN		29:16	RO	4.36	0.17			0.973			
N				29:33		0.56	89.18	32.02	57.16	0.983	13C12-HxCDF 478	SUR3	Q
N				29:37		0.52	98.61	33.78	64.83	0.985	13C12-HxCDF 678	IS4	Q
N				30:04		0.47	83.08	26.72	56.36	1.000	13C12-HxCDF 234	ALT2	Q
	DC	SN		30:11	RO	0.82	1.10			1.004			
N	DC	SN		30:33	RO	1.68	1.45			1.016			
N				30:44		0.55	57.08	20.26	36.82	1.022	13C12-HxCDF 789	ALT1	Q
	DC	SN		30:55	RO	1.56	0.83			1.028			
384-386			5 Peaks				337.39						

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				0.953-1.014			
390-392	DC	NL		0:00	RO	0.83	0.99			0.000			
	DC	WL		28:39	RO	0.35	0.13			0.939			
K				28:48		1.34	9.02	5.17	3.85	0.944			Q
	DC	WL		28:54	RO	0.86	1.19			0.947			
	DC	SN		29:09		1.14	1.50			0.955			
	DC	SN		29:16		1.23	1.05			0.959			
	DC	SN		29:20	RO	0.53	0.89			0.961			
	DC	SN		29:29	RO	0.23	0.33			0.966			
	DC	SN		29:34	RO	0.25	0.14			0.969			
	DC	SN		29:36	RO	0.63	0.47			0.970			
	DC	SN		29:44		1.07	0.91			0.974			
	DC	SN		29:47		1.32	0.95			0.976			
	DC	SN		29:53		1.23	0.78			0.979			
	DC	SN		30:02	RO	2.87	0.69			0.984			
	DC	SN		30:10	RO	0.59	1.05			0.989			
	DC	SN		30:12	RO	0.14	0.20			0.990			
	DC	SN		30:18	RO	1.88	0.58			0.993			
	DC	SN		30:36	RO	0.75	1.28			1.003			
D	DC	WH		30:45		1.19	10.16			1.008			
390-392			1	Peak			9.02						
13C12-HxCDD						1.05-1.43				0.967-1.033			
402-404	DC	NL		0:00	RO	0.87	1.39			0.000			
	DC	WL		28:40	RO	2.93	1.03			0.939			
	DC	WL		28:49	RO	2.23	16.89			0.944			
	DC	WL		29:11	RO	0.83	1.03			0.956			
	DC	WL		29:15	RO	2.25	0.63			0.958			
	DC	WL		29:20	RO	5.43	0.52			0.961			
	DC	SN		29:32	RO	2.78	0.20			0.968			
N				30:11		1.31	65.09	36.92	28.17	0.989	13C12-HxCDD 478	SUR4	Q
N				30:15		1.36	78.12	45.06	33.06	0.991	13C12-HxCDD 678	IS5	Q
N				30:31		1.20	101.17	55.23	45.94	1.000	13C12-HxCDD 789	RS2	Q
				30:43	RO	1.85	18.91	15.60	8.44	1.007			
402-404			4	Peaks			263.29						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF						0.88-1.20				0.995-1.042			
408-410	DC	NL		0:00	RO	1.67	1.98			0.000			
				32:23	RO	1.79	5.22	4.59	2.56	1.009			
	DC	SN		32:40		1.13	0.96			1.018			
	DC	SN		33:05	RO	1.77	2.18			1.031			
408-410			1	Peak			5.22						
13C12-HpCDF						0.37-0.51				0.937-1.125			
418-420	DC	NL		0:00	RO	1.24	1.48			0.000			
	DC	SN		31:58	RO	2.80	0.66			0.996			
				32:05		0.47	42.38	13.48	28.90	1.000	13C12-HpCDF 678	IS6	Q
				32:23	RO	1.43	8.57	8.53	5.95	1.009			

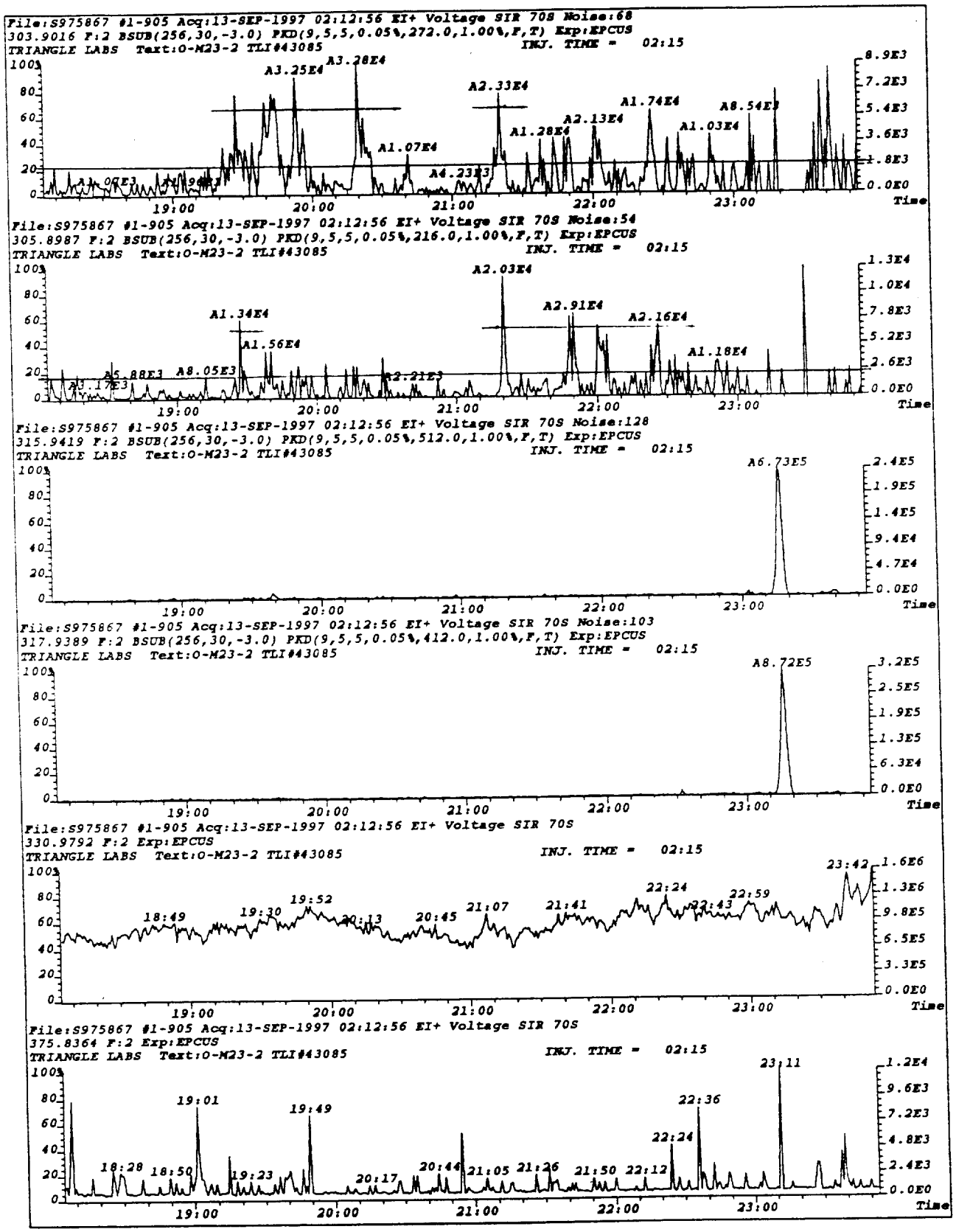
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		32:41	RO	0.63	0.66			1.019			
	DC	SN		32:52	RO	0.65	2.43			1.024			
N				33:13		0.42	37.78	11.15	26.63	1.035	13C12-HpCDF 789	SUR5	Q
	DC	SN		33:31	RO	0.57	1.27			1.045			
418-420			3 Peaks				88.73						
	---------- Above: HpCDF / HpCDD Follows ----------												
HpCDD						0.88-1.20				0.977-1.005			
424-426	DC	NL		0:00		0.95	1.21			0.000			
				32:22	RO	0.64	11.85	6.04	9.37	0.985			Q
	DC	WH		33:08	RO	0.45	1.53			1.008			
424-426			1 Peak				11.85						
13C12-HpCDD						0.88-1.20				0.969-1.031			
436-438	DC	NL		0:00	RO	2.38	0.59			0.000			
	DC	SN		32:02	RO	0.24	0.31			0.975			
	DC	SN		32:11	RO	1.75	1.45			0.979			
	DC	SN		32:22	RO	1.88	2.98			0.985			
				32:52		1.11	43.89	23.07	20.82	1.000	13C12-HpCDD 678	IS7	Q
	DC	SN		33:14	RO	3.10	1.06			1.011			
436-438			1 Peak				43.89						
	---------- Above: HpCDD / Octa-CDD and CDF Follows ----------												
OCDF						0.76-1.02				0.887-1.113			
442-444	DC	NL		0:00	RO	0.65	1.40			0.000			
	DC	SN		32:02	RO	0.61	1.17			0.906			
				32:22	RO	0.41	11.70	5.51	13.44	0.915			Q
	DC	SN		32:56	RO	2.19	0.51			0.931			
	DC	SN		33:09	RO	0.21	0.42			0.937			
	DC	SN		33:14	RO	1.67	0.68			0.940			
				33:53	RO	0.38	8.22	3.87	10.30	0.958			Q
	DC	SN		34:44	RO	1.67	0.93			0.982			
	DC	SN		35:03	RO	0.43	1.36			0.991			
	DC	SN		35:09		0.89	1.78			0.994			
	DC	SN		35:26	RO	0.42	4.88			1.002			
	DC	SN		35:32	RO	2.19	2.25			1.005	OCDF		AN
442-444			2 Peaks				19.92						
OCDD						0.76-1.02				0.887-1.113			
458-460	DC	NL		0:00	RO	1.38	0.15			0.000			
458-460			0 Peaks				0.00						
13C12-OCDD						0.76-1.02				0.996-1.005			
470-472	DC	NL		0:00		0.93	0.27			0.000			
				35:22		1.00	31.27	15.60	15.67	1.000	13C12-OCDD	IS8	Q
470-472			1 Peak				31.27						

Listing of S975867B.dbf
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.

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 ***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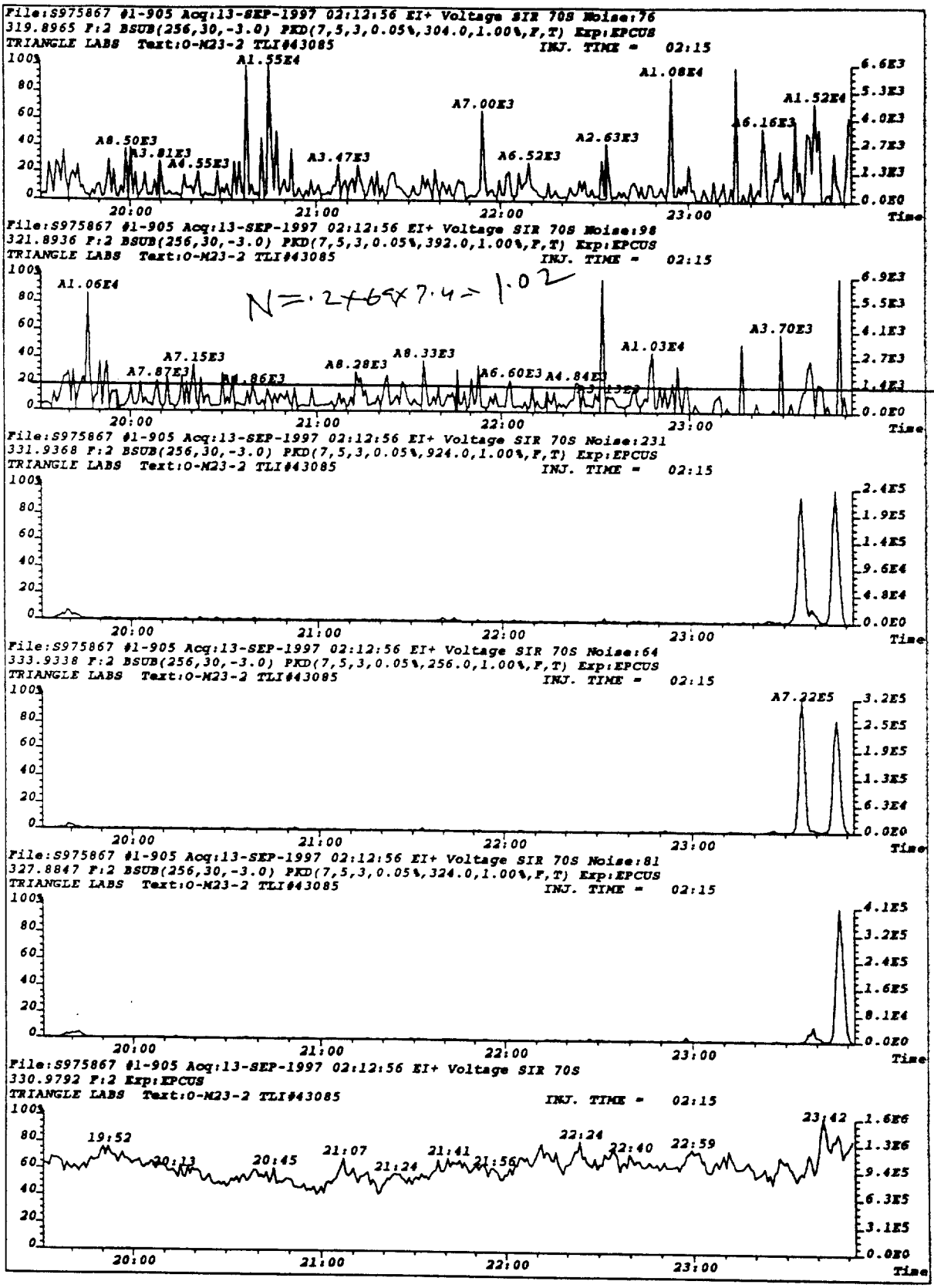
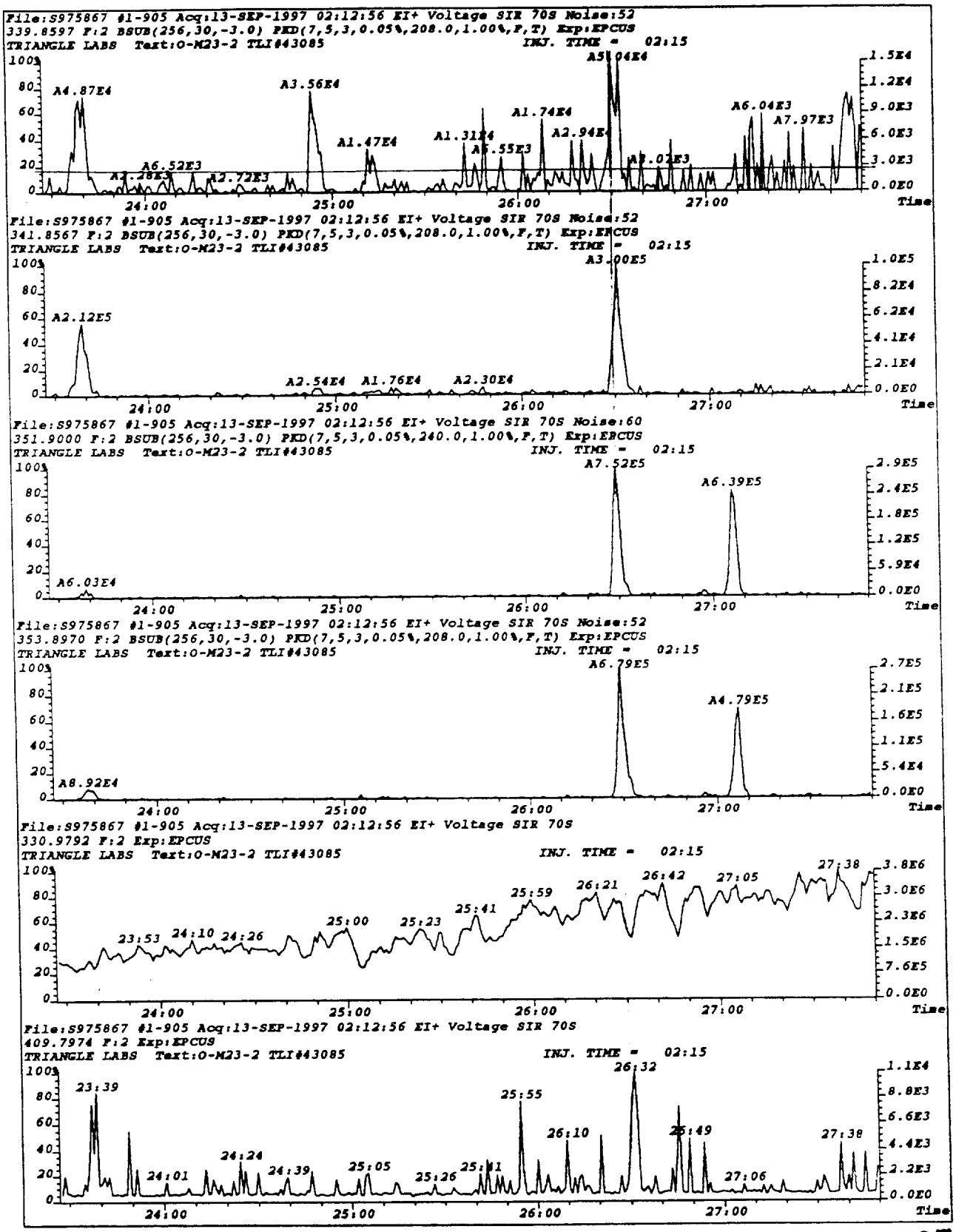
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,272.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A3.25E4
A3.28E4
A2.33E4
A1.74E4
A8.54E3
A2.13E4
A1.28E4
A1.03E4
A1.07E4
A4.23E3
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:54
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.03E4
A1.34E4
A2.91E4
A2.16E4
A1.56E4
A1.18E4
A8.05E3
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:128
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,512.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A6.73E5
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:103
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,412.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A8.72E5
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
18:49
19:30
19:52
20:13
20:45
21:07
21:41
22:24
22:43
22:59
23:42
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
18:28
18:50
19:01
19:23
19:49
20:17
20:44
21:05
21:26
21:50
22:12
22:24
22:36
23:11
Time


File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:76
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.55E4
A1.08E4
A7.00E3
A1.52E4
A6.16E3
A8.50E3
A3.81E3
A4.55E3
A3.47E3
A6.52E3
A2.63E3
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:98
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,392.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.06E4
A7.15E3
A7.87E3
A8.28E3
A8.33E3
A6.60E3
A1.03E4
A3.70E3
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:231
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,924.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:64
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,256.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A7.22E5
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:81
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,324.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
19:52
20:13
20:45
21:07
21:24
21:41
21:56
22:24
22:40
22:59
23:42
Time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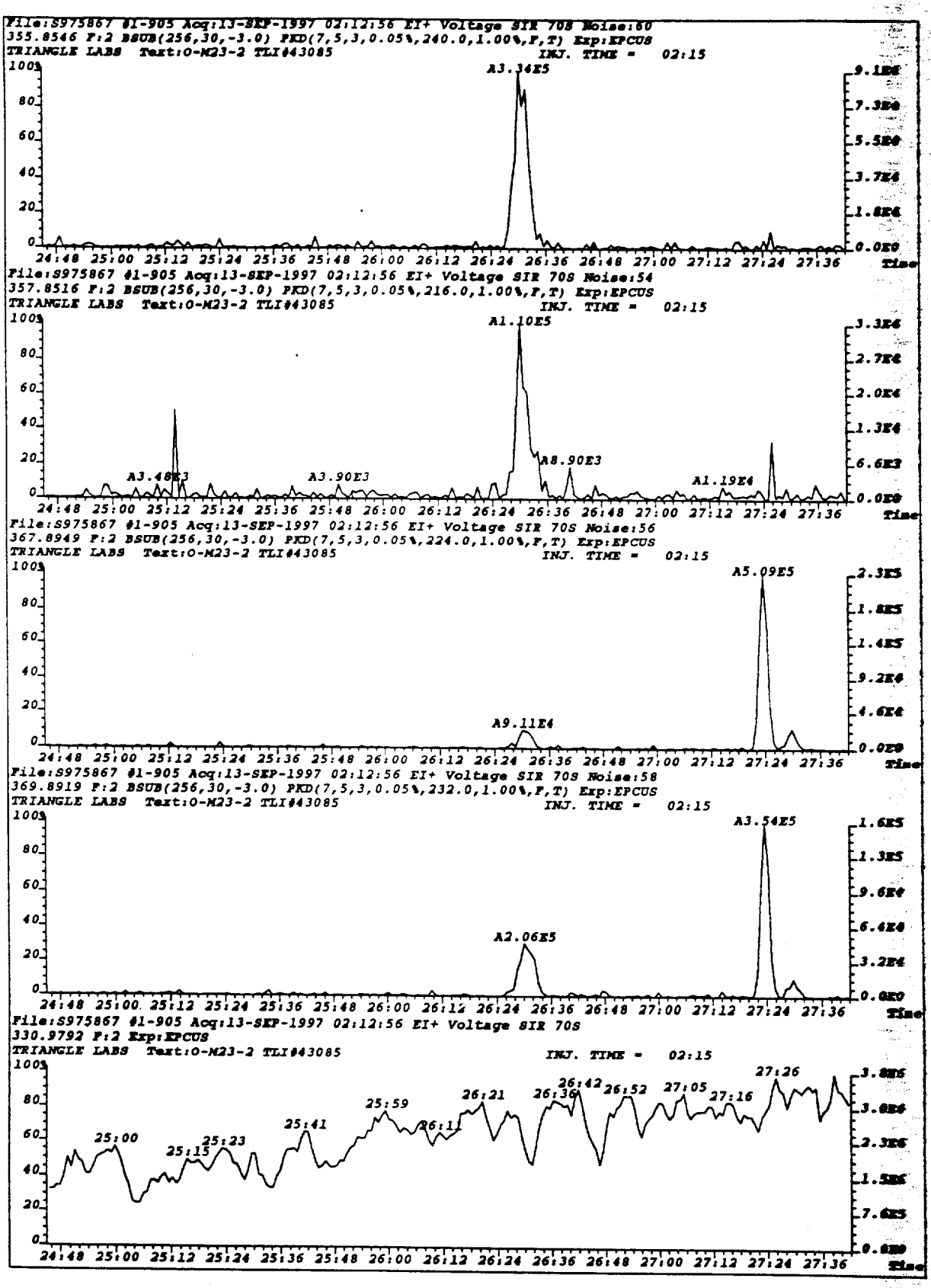
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A4.87E4
A3.56E4
A1.47E4
A1.31E4
A1.74E4
A2.94E4
A6.04E3
A7.97E3
A6.52E3
A2.72E3
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:52
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.12E5
A2.54E4
A1.76E4
A2.30E4
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:60
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A7.52E5
A6.39E5
A6.03E4
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:52
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A6.79E5
A4.79E5
A8.92E4
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
23:53
24:10
24:26
25:00
25:23
25:41
25:59
26:21
26:42
27:05
27:38
Time
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
23:39
24:01
24:24
24:39
25:05
25:26
25:41
25:55
26:10
26:32
26:49
27:06
27:38
Time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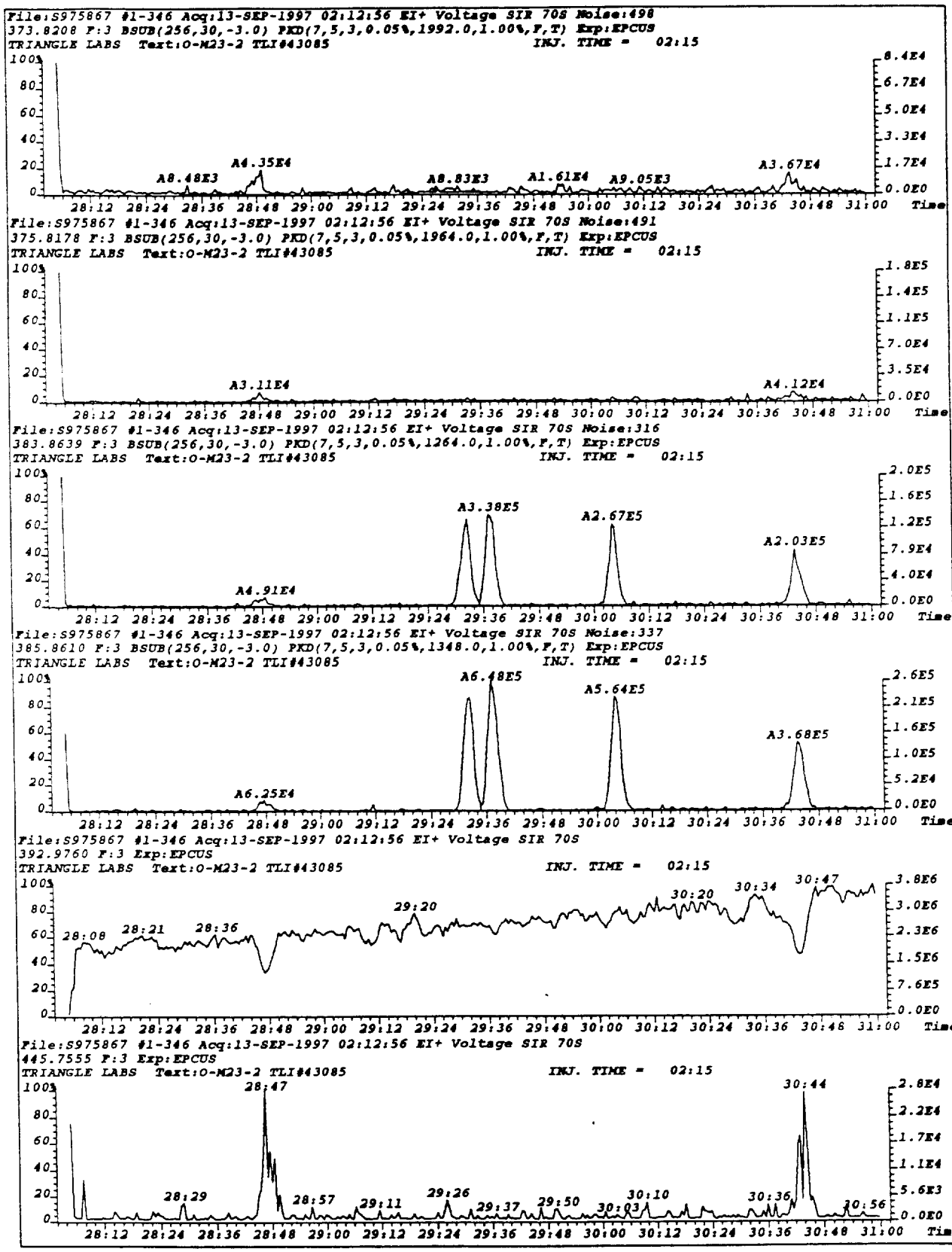
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A3.34E5
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:54
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.10E5
A3.48E3
A3.90E3
A8.90E3
A1.19E4
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:56
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A5.09E5
A9.11E4
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:58
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A3.54E5
A2.06E5
File:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
25:00
25:15
25:23
25:41
25:59
26:11
26:21
26:36
26:42
26:52
27:05
27:16
27:26
24:48 25:00 25:12 25:24 25:36 25:48 26:00 26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36
Time


File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:498
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1992.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085 INJ. TIME = 02:15
A8.48E3
A4.35E4
A8.83E3
A1.61E4
A9.05E3
A3.67E4
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:491
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1964.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085 INJ. TIME = 02:15
A3.11E4
A4.12E4
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:316
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085 INJ. TIME = 02:15
A4.91E4
A3.38E5
A2.67E5
A2.03E5
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:337
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085 INJ. TIME = 02:15
A6.25E4
A6.48E5
A5.64E5
A3.68E5
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085 INJ. TIME = 02:15
28:08
28:21
28:36
29:20
30:20
30:34
30:47
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085 INJ. TIME = 02:15
28:29
28:47
28:57
29:11
29:26
29:37
29:50
30:03
30:10
30:36
30:44
30:56
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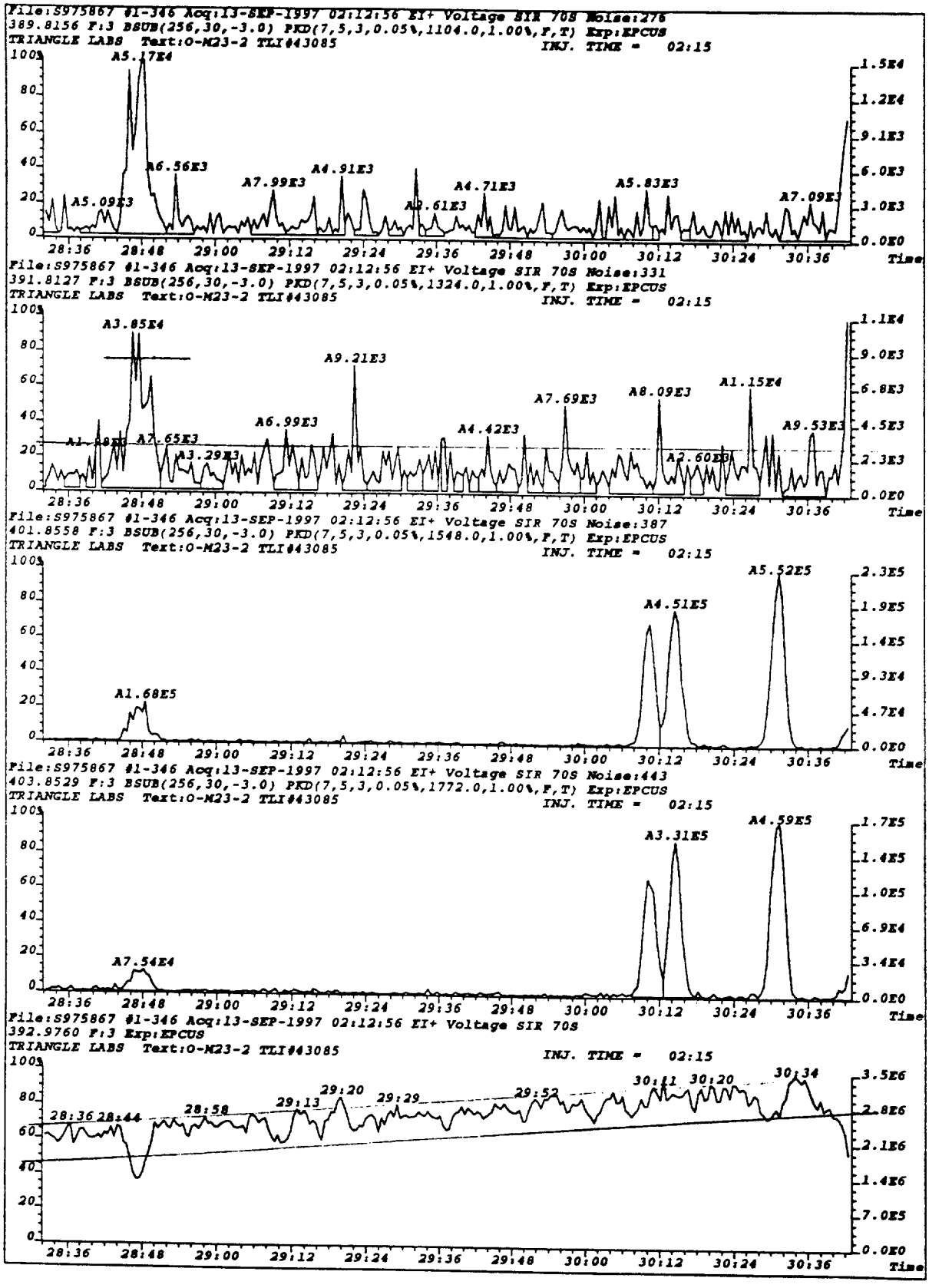
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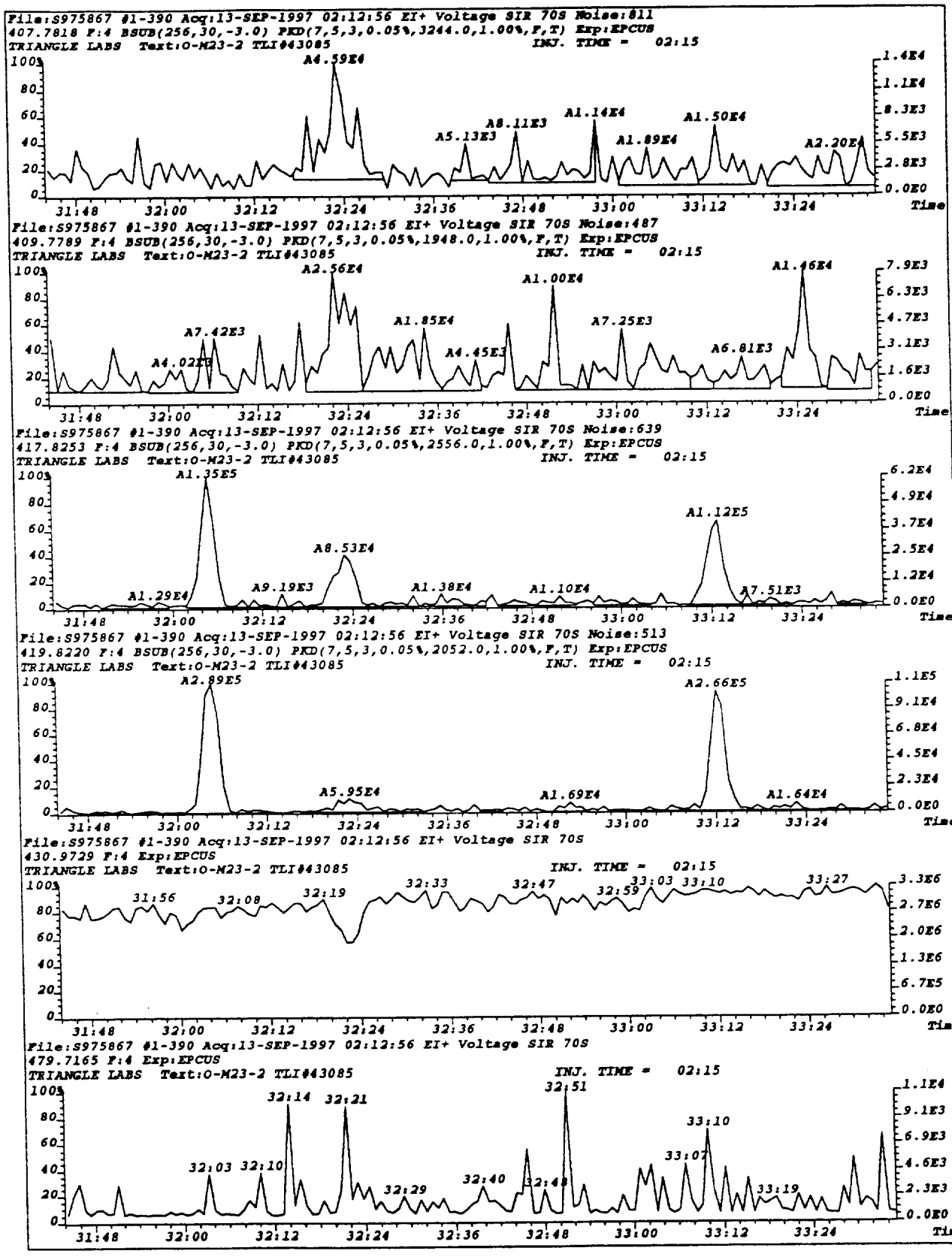
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A5.17E4
A6.56E3
A7.99E3
A4.91E3
A4.71E3
A5.83E3
A7.09E3
A5.09E3
A2.61E3
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:331
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1324.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A3.85E4
A9.21E3
A6.99E3
A7.69E3
A8.09E3
A1.15E4
A9.53E3
A4.42E3
A7.65E3
A3.29E3
A2.60E3
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:387
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1548.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A5.52E5
A4.51E5
A1.68E5
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:443
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1772.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A4.59E5
A3.31E5
A7.54E4
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
28:36 28:44 28:58 29:13 29:20 29:29 29:52 30:11 30:20 30:34
28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36
Time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407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A4.59E4
A5.13E3
A8.11E3
A1.14E4
A1.89E4
A1.50E4
A2.20E4
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:487
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1948.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.56E4
A7.42E3
A4.02E3
A1.85E4
A4.45E3
A1.00E4
A7.25E3
A6.81E3
A1.46E4
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:639
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2556.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.35E5
A1.29E4
A9.19E3
A8.53E4
A1.38E4
A1.10E4
A1.12E5
A7.51E3
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:513
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2052.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.89E5
A5.95E4
A1.69E4
A2.66E5
A1.64E4
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
31:56
32:08
32:19
32:33
32:47
32:59
33:03
33:10
33:27
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
32:03
32:10
32:14
32:21
32:29
32:40
32:51
33:07
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31:48
32:00
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32:48
33:00
33:12
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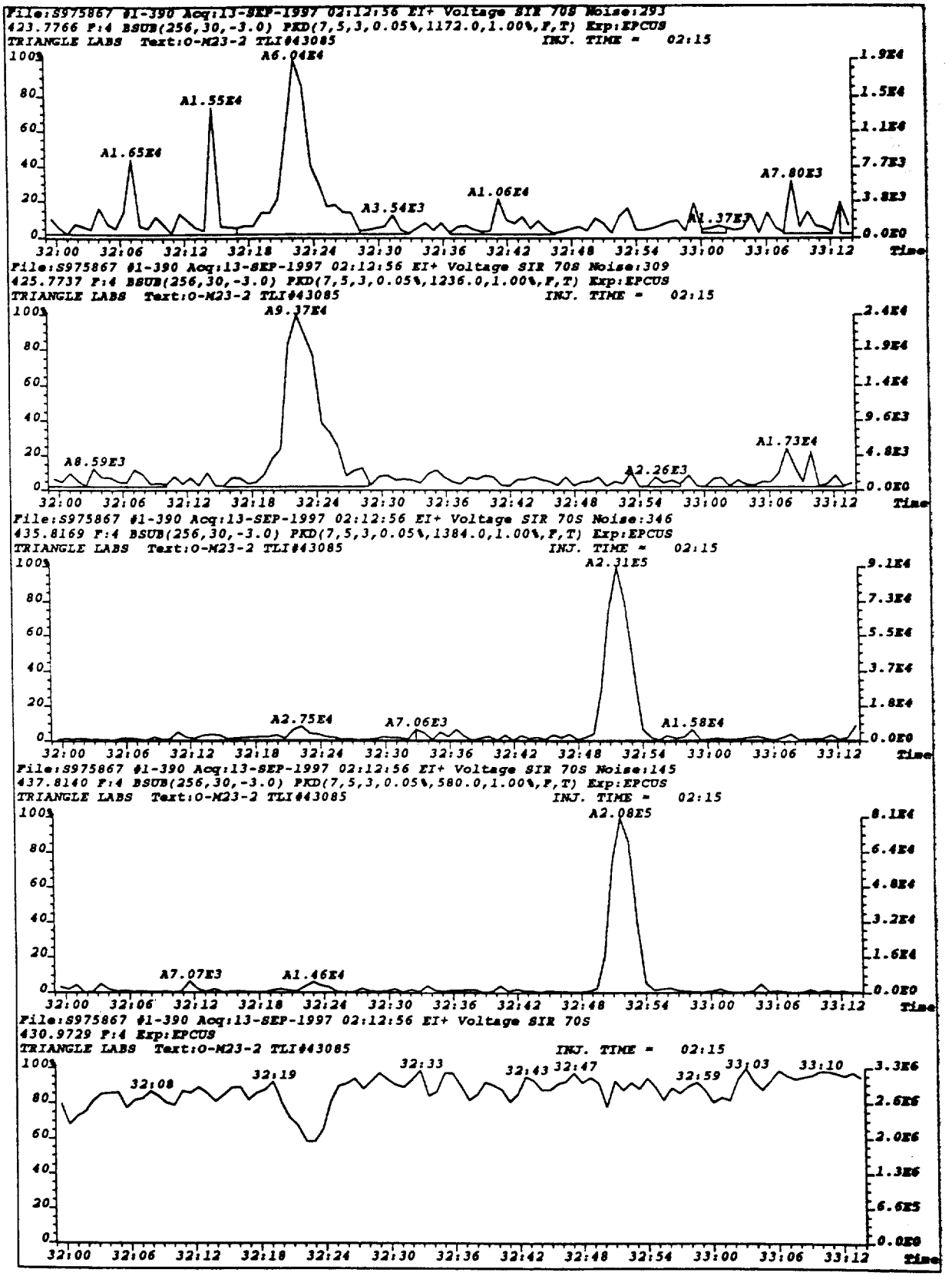
Time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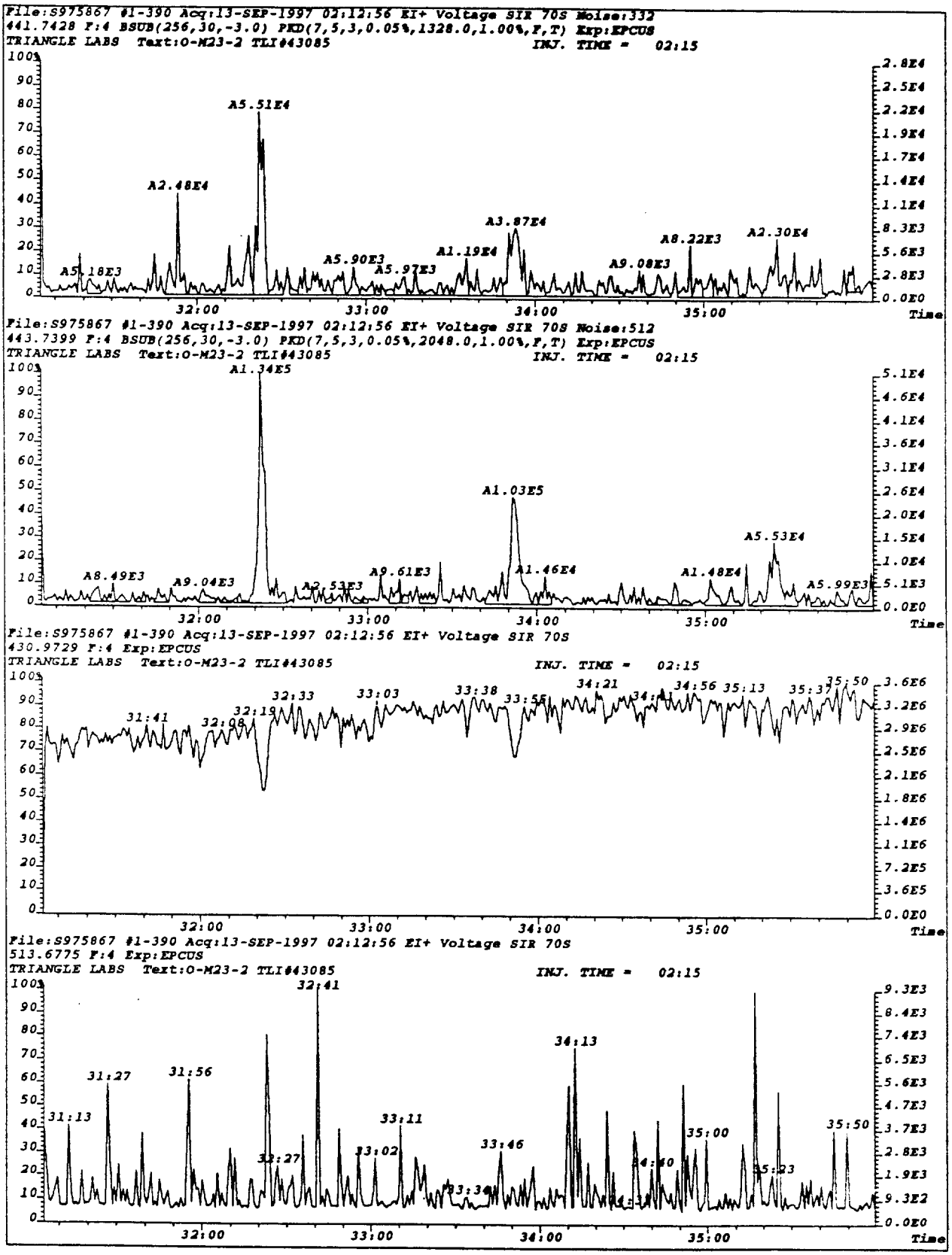
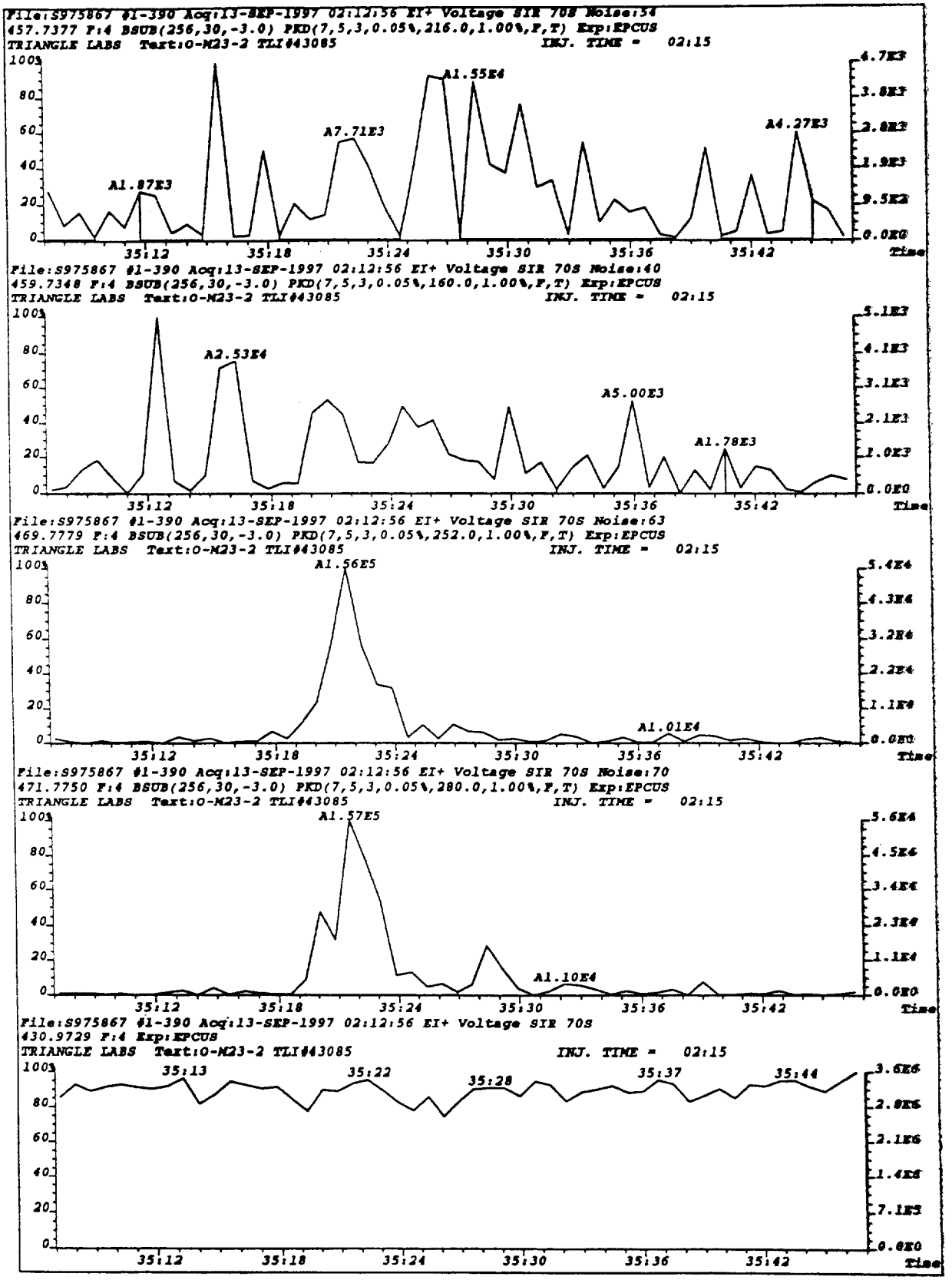
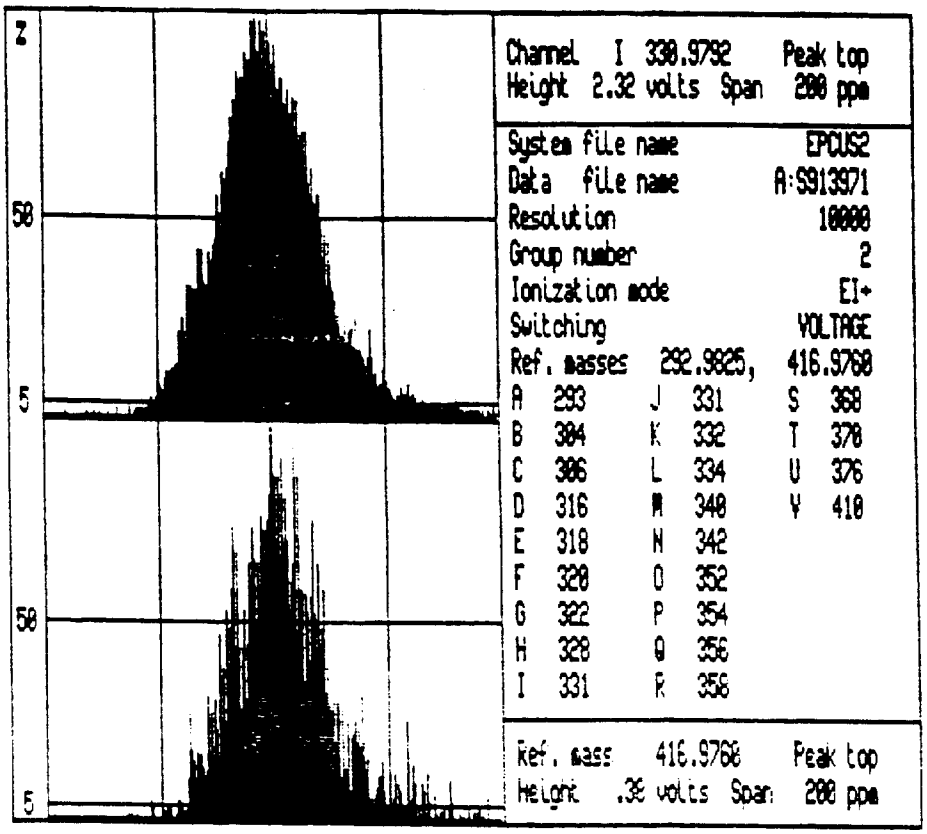
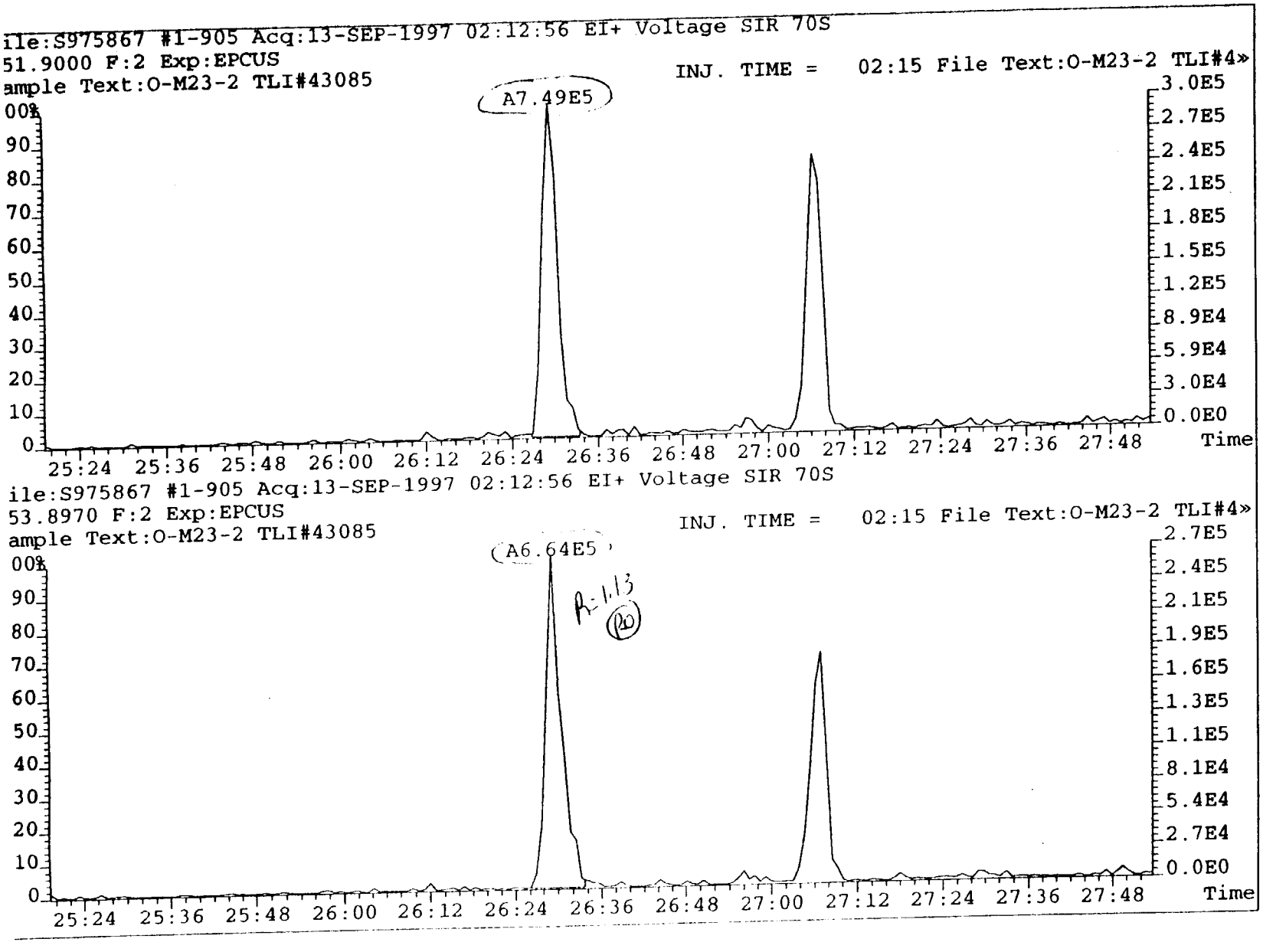
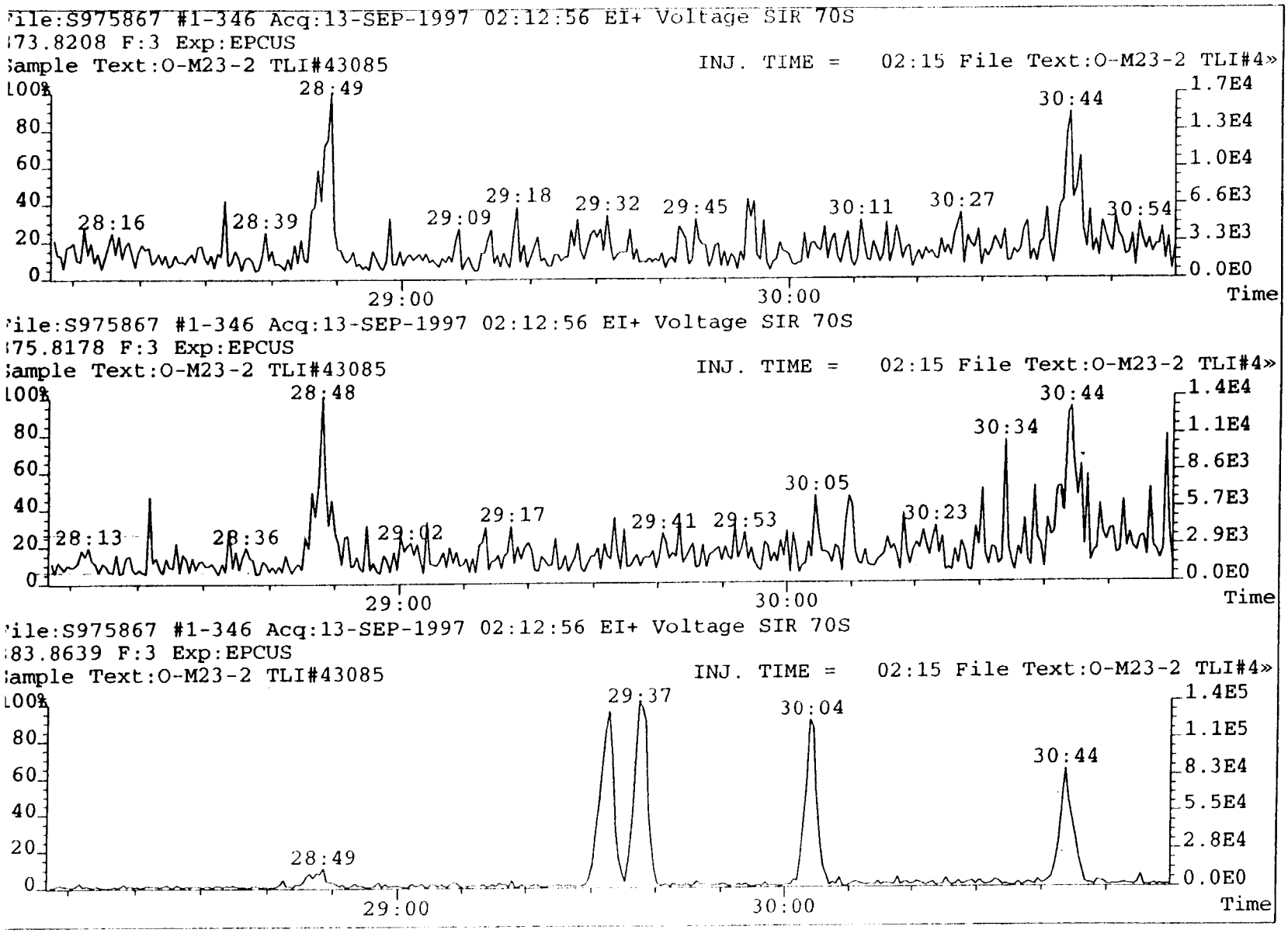
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A6.04E4
A1.55E4
A1.65E4
A3.54E3
A1.06E4
A7.80E3
A1.37E3
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:309
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A9.37E4
A8.59E3
A2.26E3
A1.73E4
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:346
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1384.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.31E5
A2.75E4
A7.06E3
A1.58E4
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:145
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,580.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.08E5
A7.07E3
A1.46E4
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
32:08
32:19
32:33
32:43
32:47
32:59
33:03
33:10
32:00 32:06 32:12 32:18 32:24 32:30 32:36 32:42 32:48 32:54 33:00 33:06 33:12
Time

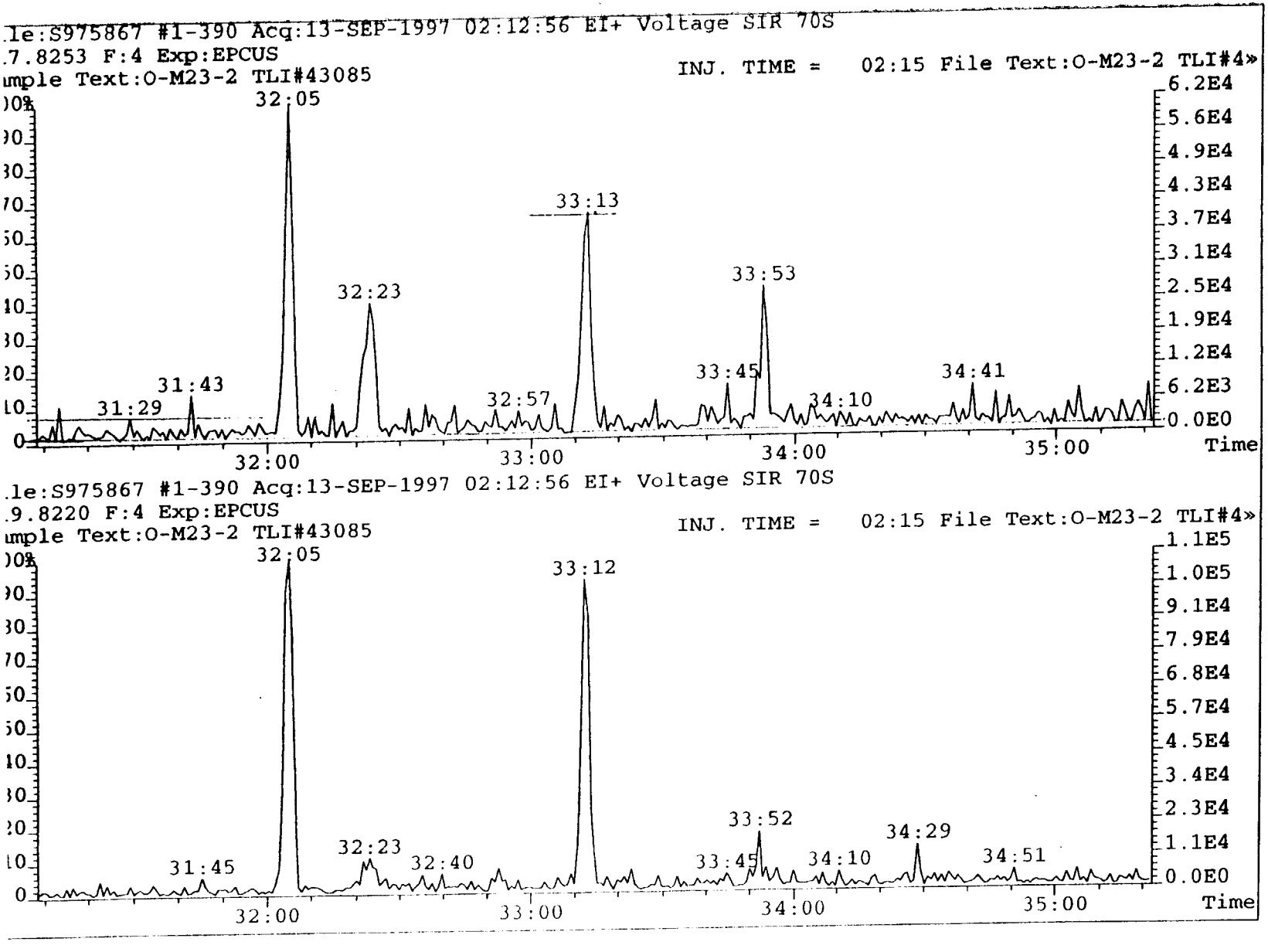

File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:332
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A5.51E4
A2.48E4
A3.87E4
A8.22E3
A2.30E4
A1.19E4
A5.90E3
A5.97E3
A9.08E3
A5.18E3
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:512
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2048.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.34E5
A1.03E5
A5.53E4
A8.49E3
A9.04E3
A2.53E3
A9.61E3
A1.46E4
A1.48E4
A5.99E3
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
31:41
32:08
32:19
32:33
33:03
33:38
33:55
34:21
34:56
35:13
35:37
35:50
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
32:41
31:27
31:56
31:13
34:13
33:11
33:46
33:02
32:27
35:00
35:50
Time

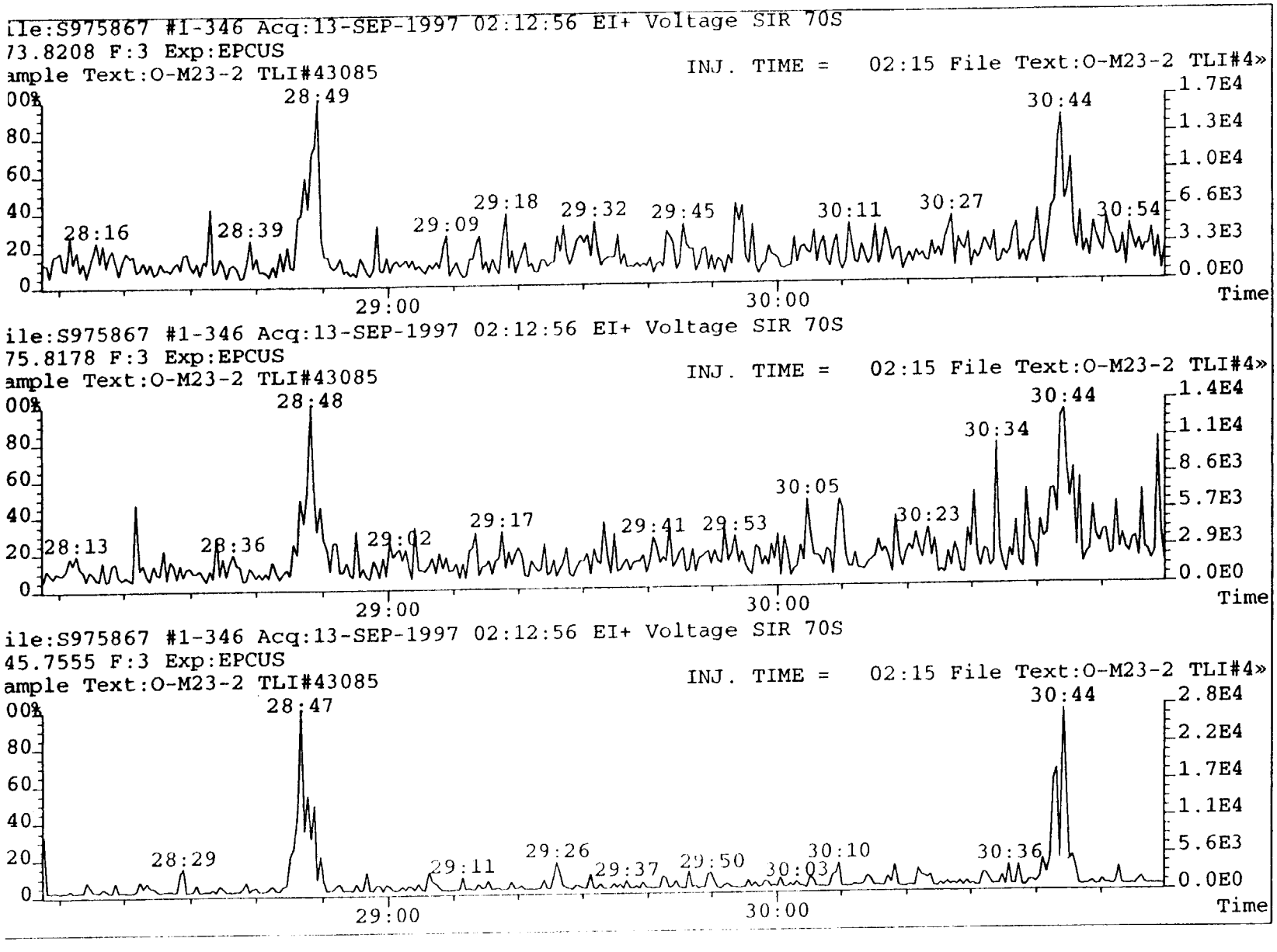

File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:54
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.87E3
A7.71E3
A1.55E4
A4.27E3
Time
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:40
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A2.53E4
A5.00E3
A1.78E3
Time
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:63
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.56E5
A1.01E4
Time
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S Noise:70
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,280.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
A1.57E5
A1.10E4
Time
File:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-2 TLI#43085
INJ. TIME = 02:15
35:13
35:22
35:28
35:37
35:44
Time

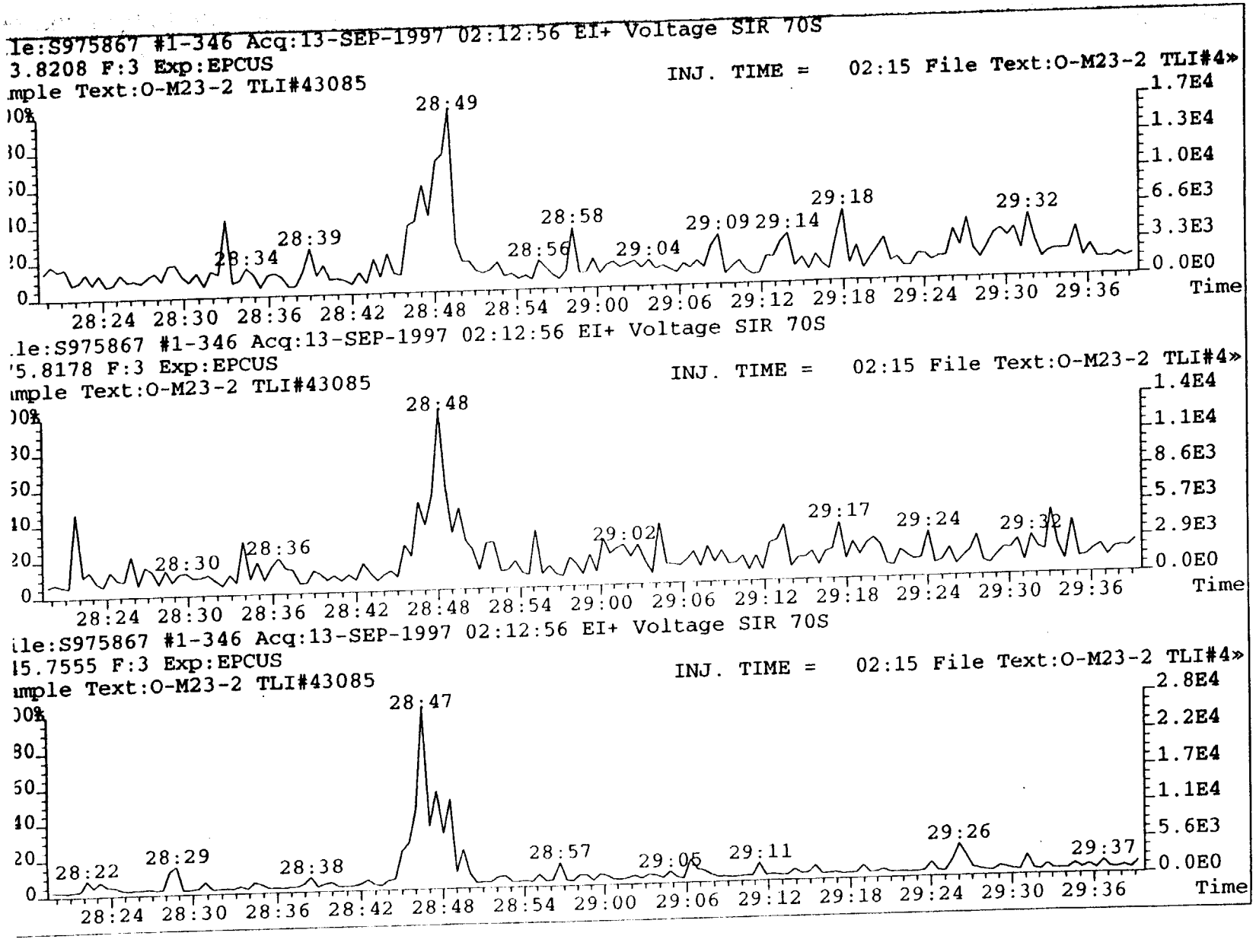

Z
50
5
50
5
Channel I 330.9792 Peak top
Height 2.32 volts Span 200 ppm
System file name EPCUS2
Data file name A:S913971
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9768
A 293 J 331 S 368
B 304 K 332 T 370
C 306 L 334 U 376
D 316 M 340 V 410
E 318 N 342
F 320 O 352
G 322 P 354
H 328 Q 356
I 331 R 356
Ref. mass 416.9768 Peak top
Height .38 volts Span 200 ppm

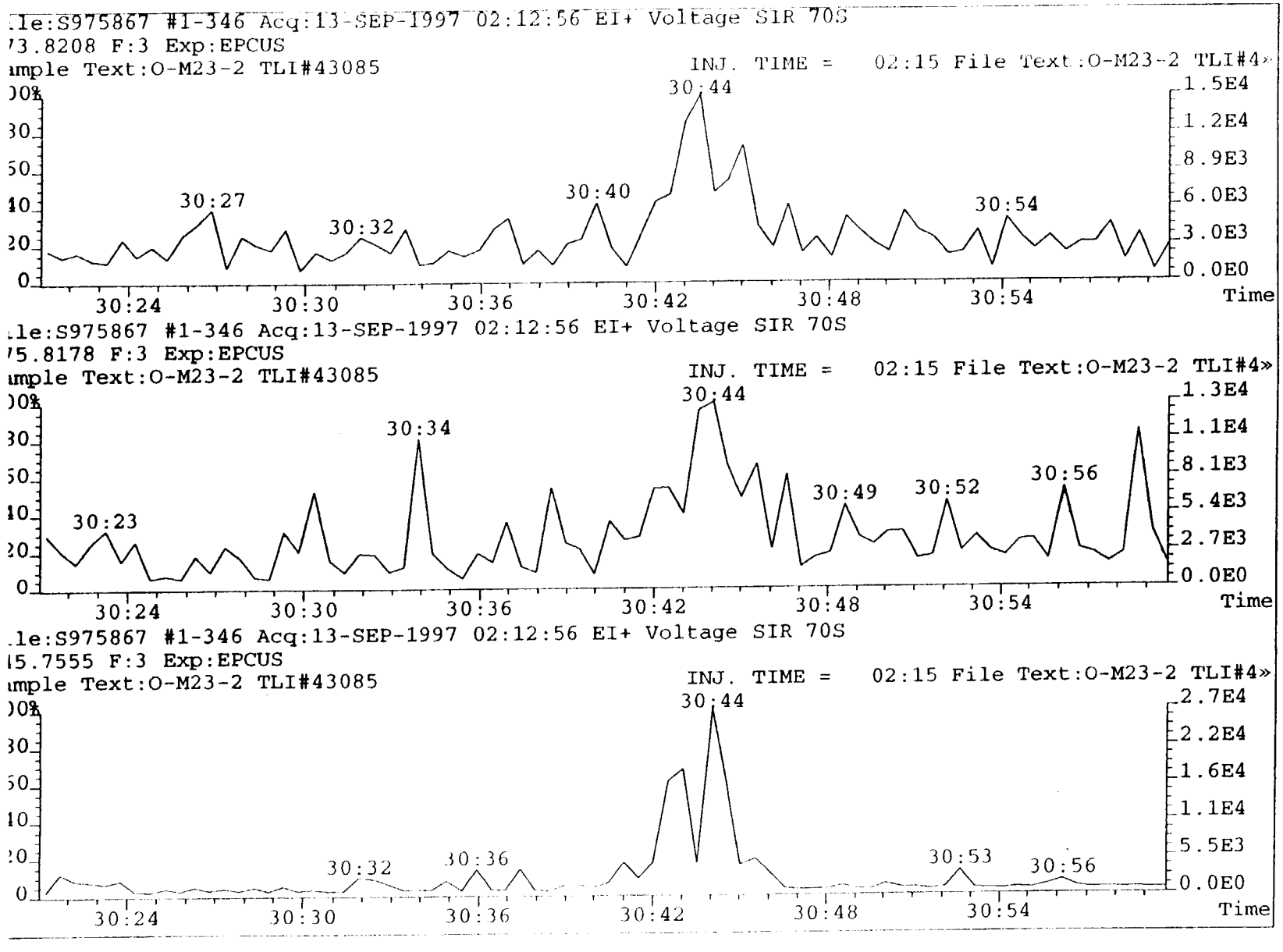

ile:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
51.9000 F:2 Exp:EPCUS
ample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
A7.49E5
00%
90
80
70
60
50
40
30
20
10
0
3.0E5
2.7E5
2.4E5
2.1E5
1.8E5
1.5E5
1.2E5
8.9E4
5.9E4
3.0E4
0.0E0
25:24 25:36 25:48 26:00 26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48
Time
ile:S975867 #1-905 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
53.8970 F:2 Exp:EPCUS
ample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
A6.64E5
R=1.13
(20)
00%
90
80
70
60
50
40
30
20
10
0
2.7E5
2.4E5
2.1E5
1.9E5
1.6E5
1.3E5
1.1E5
8.1E4
5.4E4
2.7E4
0.0E0
25:24 25:36 25:48 26:00 26:12 26:24 26:36 26:48 27:00 27:12 27:24 27:36 27:48
Time


File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
100%
80
60
40
20
0
28:49
28:16
28:39
29:09
29:18
29:32
29:45
30:11
30:27
30:44
30:54
1.7E4
1.3E4
1.0E4
6.6E3
3.3E3
0.0E0
29:00
30:00
Time
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
100%
80
60
40
20
0
28:48
28:13
28:36
29:02
29:17
29:41
29:53
30:05
30:23
30:34
30:44
1.4E4
1.1E4
8.6E3
5.7E3
2.9E3
0.0E0
29:00
30:00
Time
File:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
383.8639 F:3 Exp:EPCUS
Sample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
100%
80
60
40
20
0
29:37
30:04
28:49
30:44
1.4E5
1.1E5
8.3E4
5.5E4
2.8E4
0.0E0
29:00
30:00
Time


.le:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
.7.8253 F:4 Exp:EPCUS
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
mple Text:O-M23-2 TLI#43085
32:05
33:13
32:23
33:53
31:43
31:29
32:57
33:45
34:10
34:41
6.2E4
5.6E4
4.9E4
4.3E4
3.7E4
3.1E4
2.5E4
1.9E4
1.2E4
6.2E3
0.0E0
32:00
33:00
34:00
35:00
Time
.le:S975867 #1-390 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
.9.8220 F:4 Exp:EPCUS
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
mple Text:O-M23-2 TLI#43085
32:05
33:12
33:52
34:29
31:45
32:23
32:40
33:45
34:10
34:51
1.1E5
1.0E5
9.1E4
7.9E4
6.8E4
5.7E4
4.5E4
3.4E4
2.3E4
1.1E4
0.0E0
32:00
33:00
34:00
35:00
Time


ile:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
73.8208 F:3 Exp:EPCUS
ample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
28:49
30:44
28:16
28:39
29:09
29:18
29:32
29:45
30:11
30:27
30:54
29:00
30:00
Time
ile:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
75.8178 F:3 Exp:EPCUS
ample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
28:48
30:44
30:34
30:05
28:13
28:36
29:02
29:17
29:41
29:53
30:23
29:00
30:00
Time
ile:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
45.7555 F:3 Exp:EPCUS
ample Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
28:47
30:44
28:29
29:11
29:26
29:37
29:50
30:03
30:10
30:36
29:00
30:00
Time


le:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
3.8208 F:3 Exp:EPCUS
mple Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
28:49
28:34
28:39
28:56
28:58
29:04
29:09
29:14
29:18
29:32
1.7E4
1.3E4
1.0E4
6.6E3
3.3E3
0.0E0
Time
28:24 28:30 28:36 28:42 28:48 28:54 29:00 29:06 29:12 29:18 29:24 29:30 29:36
le:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
5.8178 F:3 Exp:EPCUS
mple Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
28:48
28:30
28:36
29:02
29:17
29:24
29:32
1.4E4
1.1E4
8.6E3
5.7E3
2.9E3
0.0E0
Time
28:24 28:30 28:36 28:42 28:48 28:54 29:00 29:06 29:12 29:18 29:24 29:30 29:36
le:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
5.7555 F:3 Exp:EPCUS
mple Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
28:47
28:22
28:29
28:38
28:57
29:05
29:11
29:26
29:37
2.8E4
2.2E4
1.7E4
1.1E4
5.6E3
0.0E0
Time
28:24 28:30 28:36 28:42 28:48 28:54 29:00 29:06 29:12 29:18 29:24 29:30 29:36


.le:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
73.8208 F:3 Exp:EPCUS
mple Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
30:44
30:27
30:32
30:40
30:54
1.5E4
1.2E4
8.9E3
6.0E3
3.0E3
0.0E0
30:24
30:30
30:36
30:42
30:48
30:54
Time
.le:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
75.8178 F:3 Exp:EPCUS
mple Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
30:44
30:34
30:23
30:49
30:52
30:56
1.3E4
1.1E4
8.1E3
5.4E3
2.7E3
0.0E0
30:24
30:30
30:36
30:42
30:48
30:54
Time
.le:S975867 #1-346 Acq:13-SEP-1997 02:12:56 EI+ Voltage SIR 70S
15.7555 F:3 Exp:EPCUS
mple Text:O-M23-2 TLI#43085
INJ. TIME = 02:15 File Text:O-M23-2 TLI#4»
30:44
30:32
30:36
30:53
30:56
2.7E4
2.2E4
1.6E4
1.1E4
5.5E3
0.0E0
30:24
30:30
30:36
30:42
30:48
30:54
Time

Pacific Environmental Services

TLI Project: **43085** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **O-M23-3** Analysis File: **S975868**

Client Project:	**S413-004**				
Sample Matrix:	**M23Train**	Date Received:	**09/03/97**	Spike File:	**SPX23704**
TLI ID:	**181-55-3ABE**	Date Extracted:	**09/04/97**	ICal:	**SF56117**
		Date Analyzed:	**09/13/97**	ConCal:	**S975861**
Sample Size:	**1.000**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**S975815**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**ML**	% Solids:	**n/a**

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.01				—
1,2,3,7,8-PeCDD	ND	0.01				—
1,2,3,4,7,8-HxCDD	ND	0.02				—
1,2,3,6,7,8-HxCDD	ND	0.02				—
1,2,3,7,8,9-HxCDD	ND	0.02				—
1,2,3,4,6,7,8-HpCDD	ND	0.03				—
1,2,3,4,6,7,8,9-OCDD	ND	0.10				—
2,3,7,8-TCDF	ND	0.006				—
1,2,3,7,8-PeCDF	ND	0.01				—
2,3,4,7,8-PeCDF	ND	0.01				—
1,2,3,4,7,8-HxCDF	ND	0.01				—
1,2,3,6,7,8-HxCDF	ND	0.01				—
2,3,4,6,7,8-HxCDF	ND	0.01				—
1,2,3,7,8,9-HxCDF	ND	0.01				—
1,2,3,4,6,7,8-HpCDF	ND	0.02				—
1,2,3,4,7,8,9-HpCDF	ND	0.03				—
1,2,3,4,6,7,8,9-OCDF	ND	0.07				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.01		—
Total PeCDD	ND		0.01		—
Total HxCDD	ND		0.02		—
Total HpCDD	ND		0.03		—
Total TCDF	ND		0.006		—
Total PeCDF	EMPC			0.02	—
Total HxCDF	ND		0.01		—
Total HpCDF	ND		0.02		—

X237_PSR v2.00, LARS 6.10.04

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Pacific Environmental Services

TLI Project: **43085** Method 23 PCDD/PCDF Analysis (a)

Client Sample: **O-M23-3** Analysis File: **S975868**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	4.5	114	40%-130%	0.74	21:37	
$^{13}C_{12}$-2,3,7,8-TCDD	3.8	95.4	40%-130%	0.77	22:22	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.7	91.9	40%-130%	1.36	25:41	
$^{13}C_{12}$-1,2,3,7,8-PeCDD	4.0	100	40%-130%	1.50	26:44	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	4.1	103	40%-130%	0.50	29:17	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.7	92.2	40%-130%	1.22	29:58	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.6	64.7	25%-130%	0.43	31:56	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.6	63.8	25%-130%	1.04	32:46	
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	2.5	31.6	25%-130%	0.91	35:20	

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.0	101	70%-140%		22:23	
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.7	93.4	70%-140%	1.49	26:23	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.4	85.0	70%-140%	0.50	29:11	
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.3	83.2	70%-140%	1.27	29:54	
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.5	86.7	70%-140%	0.44	33:08	

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.4	84.8	40%-130%	0.52	30:29	
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.8	94.6	40%-130%	0.51	29:46	

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	22:10	
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.22	30:16	

Data Reviewer: _____ 09/18/97

X237_PSR v2.00, LARS 6.10.0

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Printed: 13:19 09/18/97

Initial ....Date...

Data Review By: SR 9/18/97 Calculated Noise Area: 0.93

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 S975868B.dbf
09/18/97 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				0.838-1.092			
304-306	DC	NL		0:00		0.85	0.24			0.000			
	DC	SN		18:24	RO	1.24	0.89			0.851			
	DC	SN		19:30		0.71	2.04			0.902			
	DC	SN		20:14	RO	0.41	2.05			0.936			
	DC	SN		20:35	RO	0.50	2.46			0.952			
	DC	SN		20:51		0.74	1.97			0.965			
	DC	SN		21:12	RO	0.90	3.27			0.981			
	DC	SN		21:37	RO	0.63	5.03			1.000	2378-TCDF		AN
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.954-1.046			
316-318	DC	NL		0:00	RO	0.93	0.27			0.000			
				21:10	RO	1.06	5.52	3.30	3.12	0.979			
				21:37		0.74	1,205.98	514.33	691.65	1.000	13C12-2378-TCDF		ISO
316-318			2	Peaks			1,211.50						

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

TCDD						0.65-0.89				0.875-1.055			
320-322	DC	NL		0:00		0.79	0.25			0.000			
	DC	SN		19:57	RO	0.44	0.57			0.892			
	DC	SN		20:04	RO	2.93	0.50			0.897			
	DC	SN		20:16	RO	0.17	0.16			0.906			
	DC	SN		20:52	RO	1.55	0.35			0.933			
	DC	SN		21:01	RO	1.09	1.03			0.940			
	DC	SN		21:14	RO	1.47	0.60			0.949			
	DC	SN		21:36	RO	1.45	0.71			0.966			
	DC	SN		22:05	RO	3.75	0.57			0.987			
	DC	SN		22:23	RO	0.52	1.70			1.001	2378-TCDD		AN
	DC	SN		22:37		0.68	0.52			1.011			
	DC	SN		22:46		0.68	0.69			1.018			
	DC	SN		22:52	RO	0.59	0.62			1.022			
	DC	SN		23:07	RO	2.82	0.39			1.034			
	DC	SN		23:27	RO	2.08	1.29			1.048			
	DC	WH		23:47	RO	0.50	0.97			1.063			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.910-1.090			
328	DC	NL		0:00			0.38			0.000			
	DC	WL		19:47			0.74			0.885			
	DC	WL		19:57			0.32			0.892			
	DC	SN		20:41			1.56			0.925			
	DC	SN		20:58			0.97			0.937			

Compound/ M_E....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		21:38			0.79			0.967			
	DC	SN		21:42			1.22			0.970			
	DC	SN		21:59			0.84			0.983			
	DC	SN		22:09			1.28			0.990			
				22:23			695.96	695.96		1.001	37Cl-TCDD	SUR1	
	DC	SN		22:53			1.03			1.023			
	DC	SN		23:14			0.72			1.039			
	DC	SN		23:29			0.92			1.050			
	DC	SN		23:42			0.76			1.060			
328		1	Peak				695.96						
13C12-TCDD				0.65-0.89						0.910-1.090			
332-334	DC	NL		0:00	RO	2.90	0.51			0.000			
	DC	WL		19:52	RO	2.25	1.13			0.888			
	DC	WL		20:17	RO	2.20	0.80			0.907			
				22:10		0.83	805.02	364.99	440.03	0.991	13C12-1234-TCDD	RS1	
				22:22		0.77	818.51	356.56	461.95	1.000	13C12-2378-TCDD	IS1	
	DC	SN		22:32	RO	1.81	1.22			1.007			
				22:42	RO	1.13	13.42	8.54	7.58	1.015			
	DC	SN		22:56	RO	1.07	0.53			1.025			
	DC	SN		23:00	RO	0.55	1.01			1.028			
332-334		3	Peaks				1,636.95						

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

PeCDF				1.32-1.78						0.915-1.074			
340-342	DC	NL		0:00	RO	1.14	0.26			0.000			
				23:41	RO	0.66	4.59	2.79	4.24	0.922			
	DC	SN		23:56	RO	0.65	0.71			0.932			
	DC	SN		24:49	RO	2.05	2.09			0.966			
	DC	SN		24:59	RO	2.00	0.54			0.973			
	DC	SN		25:14	RO	0.81	0.43			0.982			
	DC	SN		25:23		1.74	0.96			0.988			
	DC	SN		25:59	RO	0.95	1.66			1.012			
	DC	SN		26:17	RO	0.30	1.02			1.023			
	DC	SN		26:27		1.74	2.22			1.030	23478-PeCDF	AN	
	DC	SN		26:43	RO	0.42	0.41			1.040			
	DC	SN		27:01	RO	0.44	0.74			1.052			
	DC	SN		27:17	RO	0.95	1.37			1.062			
	DC	SN		27:34	RO	8.25	0.41			1.073			
340-342		1	Peak				4.59						
13C12-PeCDF				1.32-1.78						0.844-1.156			
352-354	DC	NL		0:00	RO	0.92	0.20			0.000			
	DC	SN		23:40	RO	0.44	0.56			0.921			
	DC	SN		24:13	RO	3.94	0.41			0.943			
	DC	SN		24:18	RO	0.79	0.25			0.946			
	DC	SN		25:09		1.76	1.35			0.979			
	DC	SN		25:21	RO	3.34	3.11			0.987			
				25:41		1.36	838.49	482.87	355.62	1.000	13C12-PeCDF 123	IS2	
	DC	SN		25:57	RO	1.01	4.06			1.010			
	DC	SN		26:05		1.51	1.18			1.016			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
N				26:23		1.49	759.27	454.30	304.97	1.027	13C12-PeCDF	234	SUR2
	DC	SN		27:12		1.45	1.15			1.059			
	DC	SN		27:32	RO	0.67	0.92			1.072			
352-354			2 Peaks				1,597.76						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD						1.32-1.78				0.926-1.024			
356-358	DC	NL		0:00	RO	1.18	0.21			0.000			
	DC	WL		24:44	RO	4.27	0.28			0.925			
	DC	SN		25:04	RO	4.33	0.54			0.938			
	DC	SN		25:22	RO	9.89	0.23			0.949			
	DC	SN		26:09	RO	0.70	0.82			0.978			
	DC	SN		26:18	RO	6.89	0.92			0.984			
	DC	SN		26:28	RO	3.08	0.66			0.990			
	DC	SN		27:13	RO	3.80	0.38			1.018			
	DC	WH		27:27	RO	0.15	0.15			1.027			
356-358			0 Peaks				0.00						
13C12-PeCDD						1.32-1.78				0.850-1.150			
368-370	DC	NL		0:00	RO	1.00	0.20			0.000			
	DC	SN		24:42	RO	3.11	0.48			0.924			
	DC	SN		25:20	RO	0.67	0.51			0.948			
	DC	SN		26:02		1.75	0.55			0.974			
	DC	SN		26:17	RO	0.18	0.44			0.983			
				26:44		1.50	513.20	307.56	205.64	1.000	13C12-PeCDD	123	IS3
				26:54		1.48	40.92	24.43	16.49	1.006			
	DC	SN		27:27	RO	0.51	0.81			1.027			
368-370			2 Peaks				554.12						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF						1.05-1.43				0.959-1.050			
374-376	DC	NL		0:00		1.40	1.56			0.000			
	DC	SN		28:13	RO	1.57	1.41			0.964			
	DC	SN		28:22	RO	1.02	3.00			0.969			
	DC	SN		28:40	RO	0.84	0.69			0.979			
	DC	SN		28:49	RO	1.60	1.46			0.984			
	DC	SN		29:11		1.25	2.86			0.997	123478-HxCDF		AN
	DC	SN		29:16	RO	1.86	2.02			0.999			
	DC	SN		29:23		1.37	1.23			1.003			
	DC	SN		29:36	RO	1.51	1.41			1.011			
	DC	SN		30:22	RO	0.99	1.39			1.037			
	DC	SN		30:30	RO	0.76	1.61			1.042	123789-HxCDF		AN
	DC	WH		30:48	RO	1.78	1.01			1.052			
	DC	WH		30:55	RO	0.94	1.10			1.056			
374-376			0 Peaks				0.00						
13C12-HxCDF						0.43-0.59				0.863-1.137			
384-386	DC	NL		0:00	RO	0.65	1.37			0.000			
	DC	SN		28:21	RO	0.42	1.07			0.968			
	DC	SN		28:35		0.54	1.20			0.976			

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		29:01	RO	0.91	0.51			0.991			
				29:11		0.50	529.99	176.72	353.27	0.997	13C12-HxCDF 478	SUR3	
				29:17		0.50	649.92	217.16	432.76	1.000	13C12-HxCDF 678	IS4	
	DC	SN		29:34	RO	0.19	0.41			1.010			
				29:46		0.51	551.11	184.95	366.16	1.017	13C12-HxCDF 234	ALT2	
	DC	SN		30:03	RO	0.16	0.36			1.026			
	DC	SN		30:16	RO	0.23	0.86			1.034			
				30:29		0.52	429.21	146.08	283.13	1.041	13C12-HxCDF 789	ALT1	
	DC	SN		30:37	RO	0.81	1.34			1.046			
384-386			4	Peaks			2,160.23						

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

HxCDD				1.05-1.43					0.953-1.014			
390-392	DC	NL		0:00	RO	0.54	0.85			0.000		
	DC	SN		29:18	RO	3.87	0.34			0.978		
	DC	SN		29:24	RO	1.03	0.60			0.981		
	DC	SN		29:33	RO	0.71	0.81			0.986		
	DC	SN		29:53	RO	2.23	0.29			0.997	123478-HxCDD	AN
	DC	SN		29:59	RO	2.41	0.65			1.001	123678-HxCDD	AN
	DC	SN		30:07		1.42	1.60			1.005		
	DC	SN		30:15	RO	0.27	0.25			1.009	123789-HxCDD	AN
	DC	SN		30:22	RO	0.47	0.98			1.013		
	DC	WH		30:38	RO	0.35	0.67			1.022		
	DC	WH		30:41	RO	0.44	1.46			1.024		
390-392			0	Peaks			0.00					
13C12-HxCDD				1.05-1.43					0.967-1.033			
402-404	DC	NL		0:00	RO	1.51	1.32			0.000		
	DC	WL		28:36	RO	0.60	0.87			0.954		
	DC	WL		28:41	RO	2.17	0.94			0.957		
	DC	SN		29:00	RO	1.73	1.01			0.968		
	DC	SN		29:23		1.30	2.51			0.981		
				29:54		1.27	388.14	216.84	171.30	0.998	13C12-HxCDD 478	SUR4
				29:58		1.22	479.40	263.42	215.98	1.000	13C12-HxCDD 678	IS5
	DC	SN		30:06	RO	0.95	1.41			1.004		
				30:16		1.22	522.49	286.75	235.74	1.010	13C12-HxCDD 789	RS2
	DC	SN		30:27	RO	0.62	0.70			1.016		
	DC	SN		30:41	RO	0.91	1.63			1.024		
402-404			3	Peaks			1,390.03					

---------- Above: HxCDD / HpCDF Follows ----------

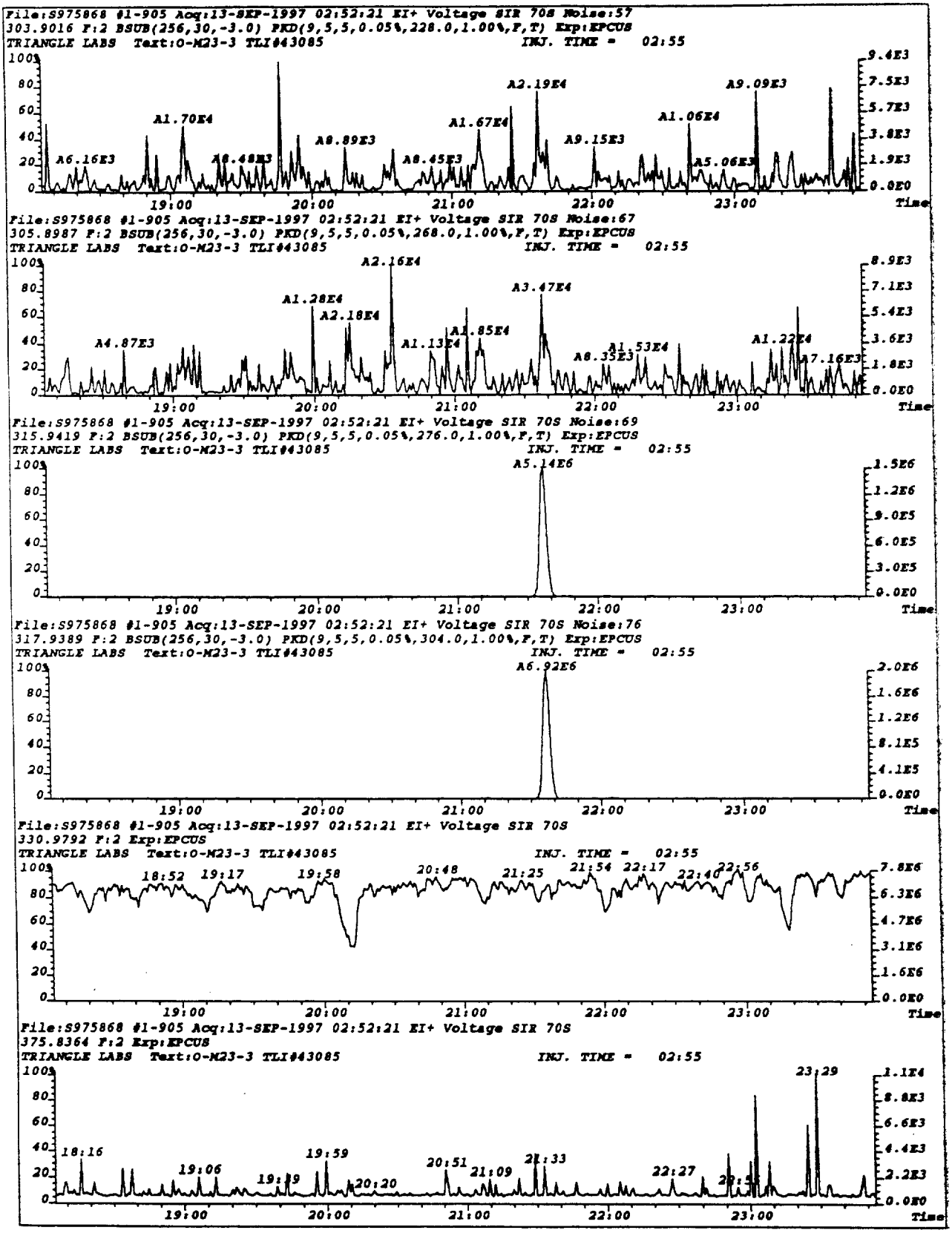
HpCDF				0.88-1.20					0.995-1.042			
408-410	DC	NL		0:00	RO	1.83	1.94			0.000		
	DC	WL		31:45	RO	2.50	0.73			0.994		
	DC	SN		31:52	RO	7.12	2.18			0.998		
	DC	SN		32:11	RO	0.61	2.30			1.008		
	DC	SN		32:24	RO	2.23	1.06			1.015		
	DC	SN		33:08		0.88	2.07			1.038	1234789-HpCDF	AN
	DC	SN		33:15	RO	3.02	2.06			1.041		
408-410			0	Peaks			0.00					

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
13C12-HpCDF				0.37-0.51						0.937-1.125			
418-420	DC	NL		0:00	RO	0.63	2.28			0.000			
				31:56		0.43	299.89	90.77	209.12	1.000	13C12-HpCDF 678	IS6	
	DC	SN		32:47		0.37	1.60			1.027			
				33:08		0.44	200.37	61.08	139.29	1.038	13C12-HpCDF 789	SUR5	
418-420			2 Peaks				500.26						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD				0.88-1.20						0.977-1.005			
424-426	DC	NL		0:00	RO	1.86	0.88			0.000			
	DC	WL		31:58	RO	2.09	1.31			0.976			
	DC	SN		32:09	RO	2.53	0.61			0.981			
	DC	SN		32:46	RO	0.26	1.08			1.000	1234678-HpCDD	AN	
424-426			0 Peaks				0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	2.11	0.94			0.000			
				32:46		1.04	271.50	138.72	132.78	1.000	13C12-HpCDD 678	IS7	
	DC	SN		33:03	RO	2.44	1.65			1.009			
	DC	SN		33:16	RO	0.80	1.33			1.015			
436-438			1 Peak				271.50						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF				0.76-1.02						0.887-1.113			
442-444	DC	NL		0:00	RO	1.07	1.34			0.000			
	DC	WL		31:17	RO	3.65	0.81			0.885			
	DC	SN		31:55		0.81	1.86			0.903			
	DC	SN		32:32	RO	2.26	0.95			0.921			
	DC	SN		33:00	RO	0.66	2.29			0.934			
	DC	SN		33:23	RO	3.00	0.68			0.945			
	DC	SN		33:58	RO	0.68	1.55			0.961			
	DC	SN		34:38	RO	0.47	2.31			0.980			
	DC	SN		34:51	RO	2.75	1.59			0.986			
	DC	SN		35:13	RO	0.40	0.96			0.997			
	DC	SN		35:28		0.78	3.52			1.004	OCDF	AN	
442-444			0 Peaks				0.00						
OCDD				0.76-1.02						0.887-1.113			
458-460	DC	NL		0:00	RO	2.59	0.42			0.000			
	DC	SN		35:19		0.83	4.47			1.000			
	DC	SN		35:46	RO	9.43	0.13			1.012			
458-460			0 Peaks				0.00						
13C12-OCDD				0.76-1.02						0.996-1.005			
470-472	DC	NL		0:00	RO	3.44	0.17			0.000			
	DC	WL		35:04	RO	2.49	2.00			0.992			
				35:20		0.91	171.61	81.81	89.80	1.000	13C12-OCDD	IS8	
470-472			1 Peak				171.61						

Compound:
M_Z ... QC.Log Omit Why ..RT. OK Ratio Total.Area... Area.Peak.1.. Area.Peak.2.. Rel.RT Compound.Name.. ID.. Flags

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 ***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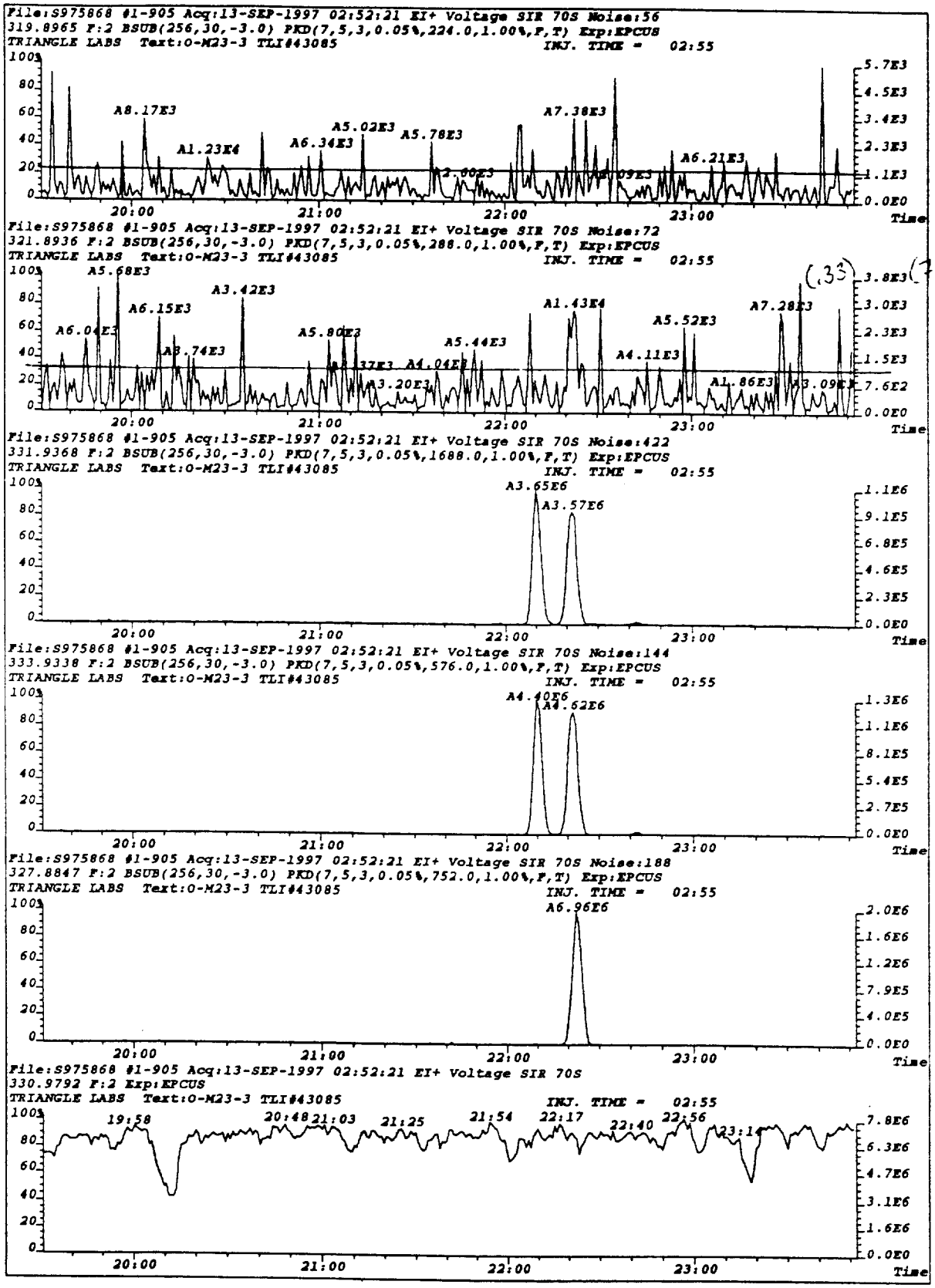
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A6.16E3
A1.70E4
A8.48E3
A8.89E3
A8.45E3
A1.67E4
A2.19E4
A9.15E3
A1.06E4
A5.06E3
A9.09E3
19:00
20:00
21:00
22:00
23:00
Time
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:67
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.87E3
A1.28E4
A2.18E4
A2.16E4
A1.13E4
A1.85E4
A3.47E4
A8.35E3
A1.53E4
A1.22E4
A7.16E3
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:69
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A5.14E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:76
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A6.92E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
18:52
19:17
19:58
20:48
21:25
21:54
22:17
22:40
22:56
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
18:16
19:06
19:19
19:59
20:20
20:51
21:09
21:33
22:27
23:29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319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A8.17E3
A1.23E4
A6.34E3
A5.02E3
A5.78E3
A7.38E3
A6.21E3
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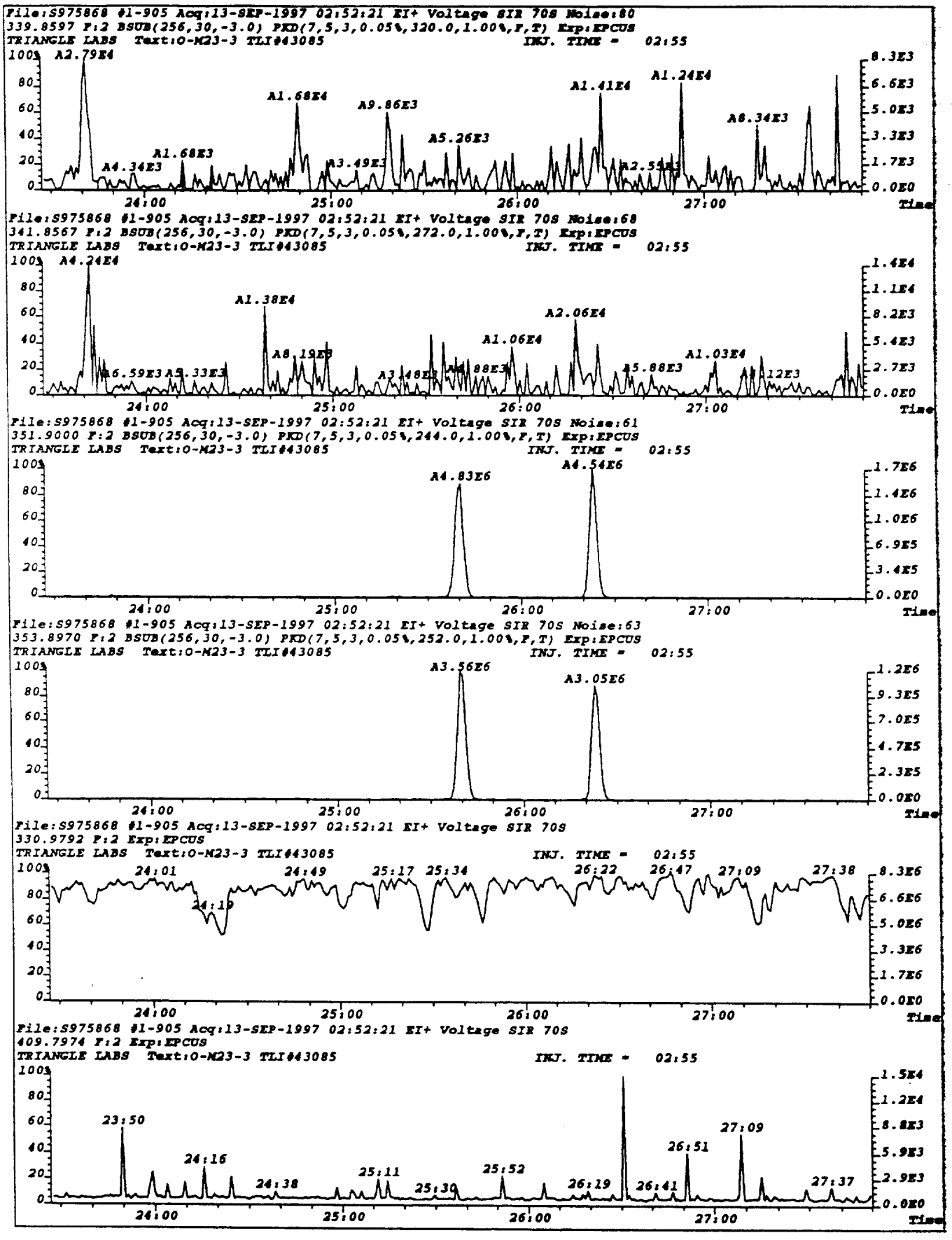
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,288.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A5.68E3
A6.15E3
A3.42E3
A6.04E3
A5.80E3
A5.44E3
A1.43E4
A5.52E3
A7.28E3
A4.11E3
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:422
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1688.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A3.65E6
A3.57E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:144
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,576.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.40E6
A4.62E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:188
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,752.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A6.96E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
19:58
20:48
21:03
21:25
21:54
22:17
22:40
22:56
20:00
21:00
22:00
23:00
Time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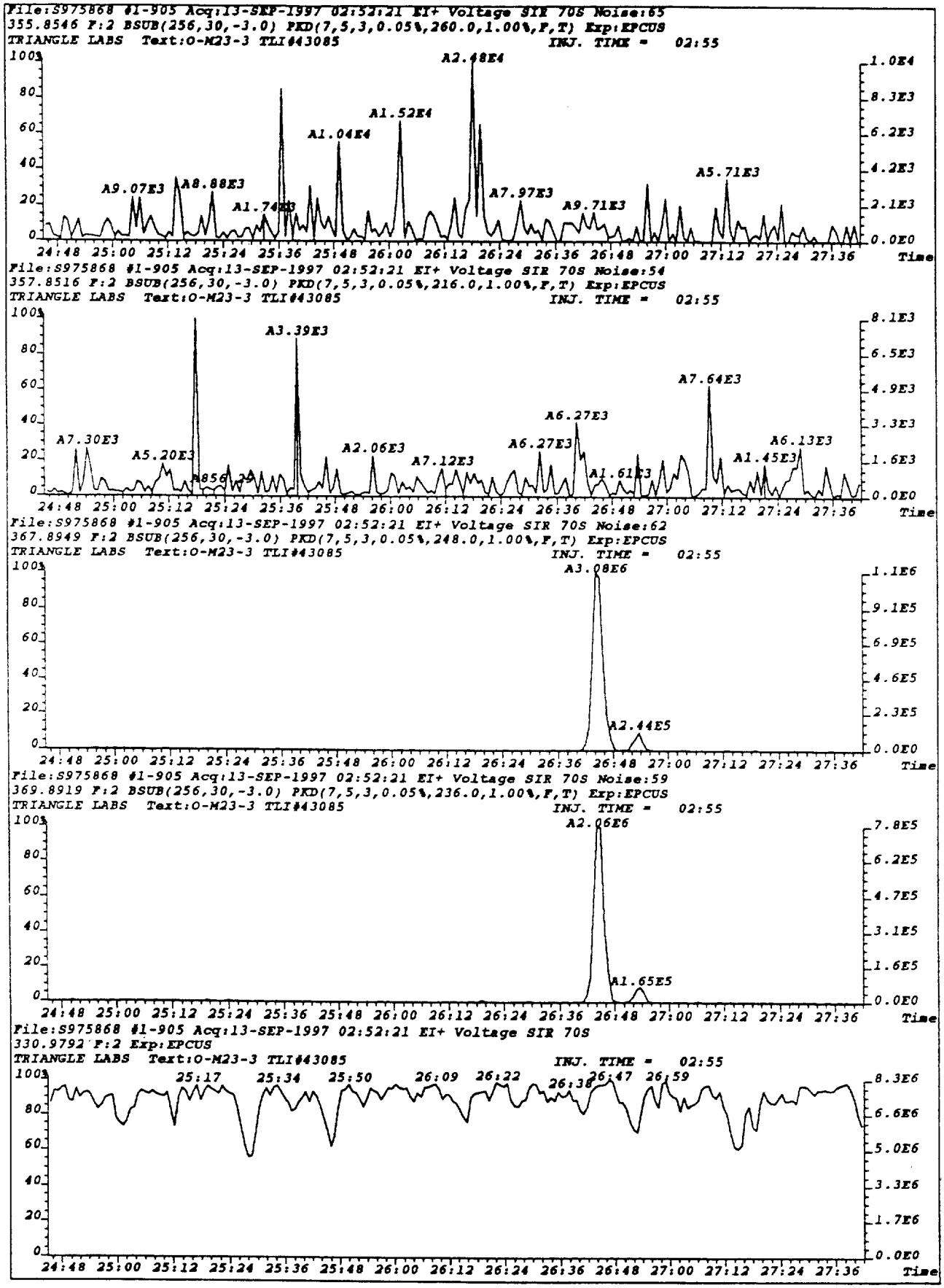
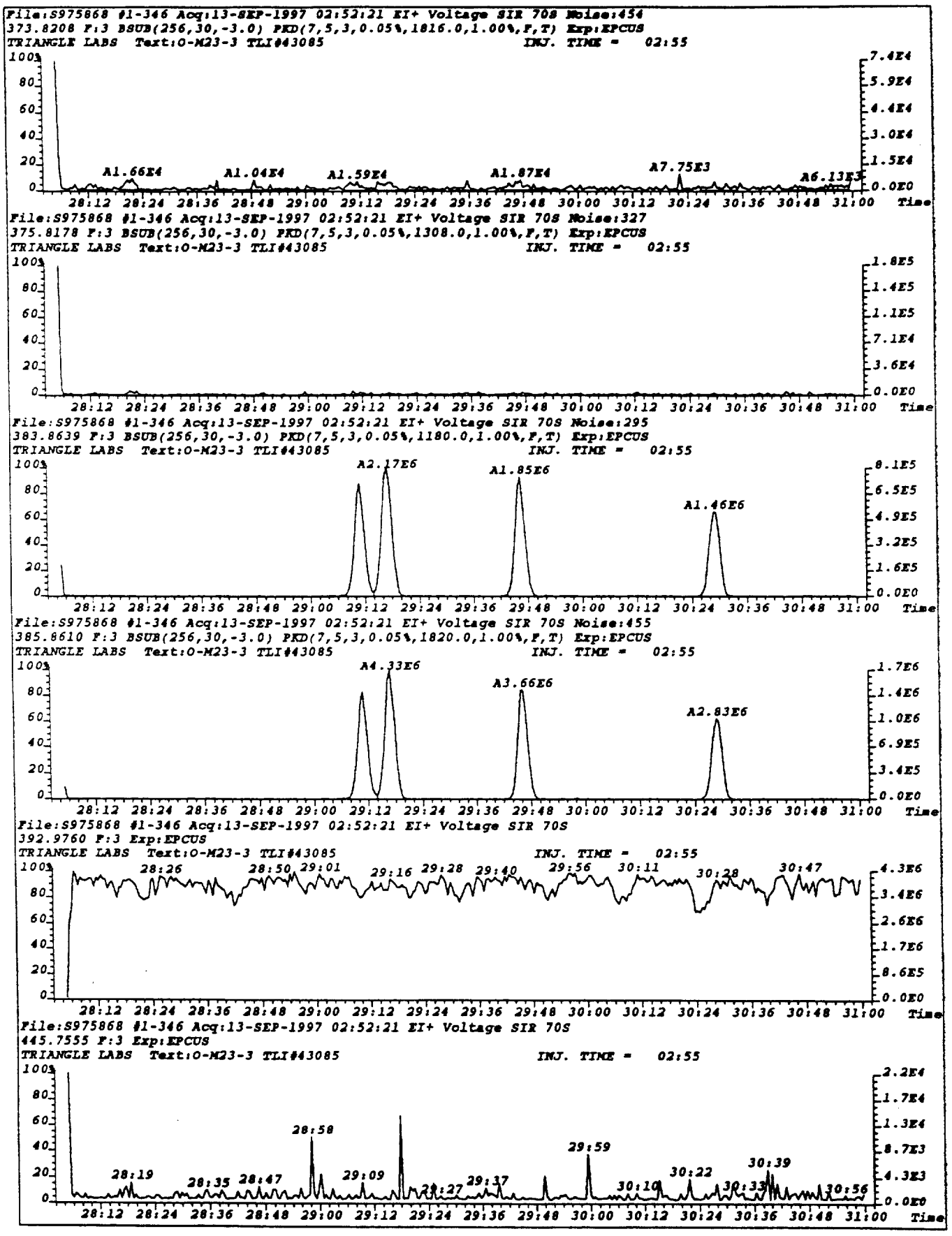
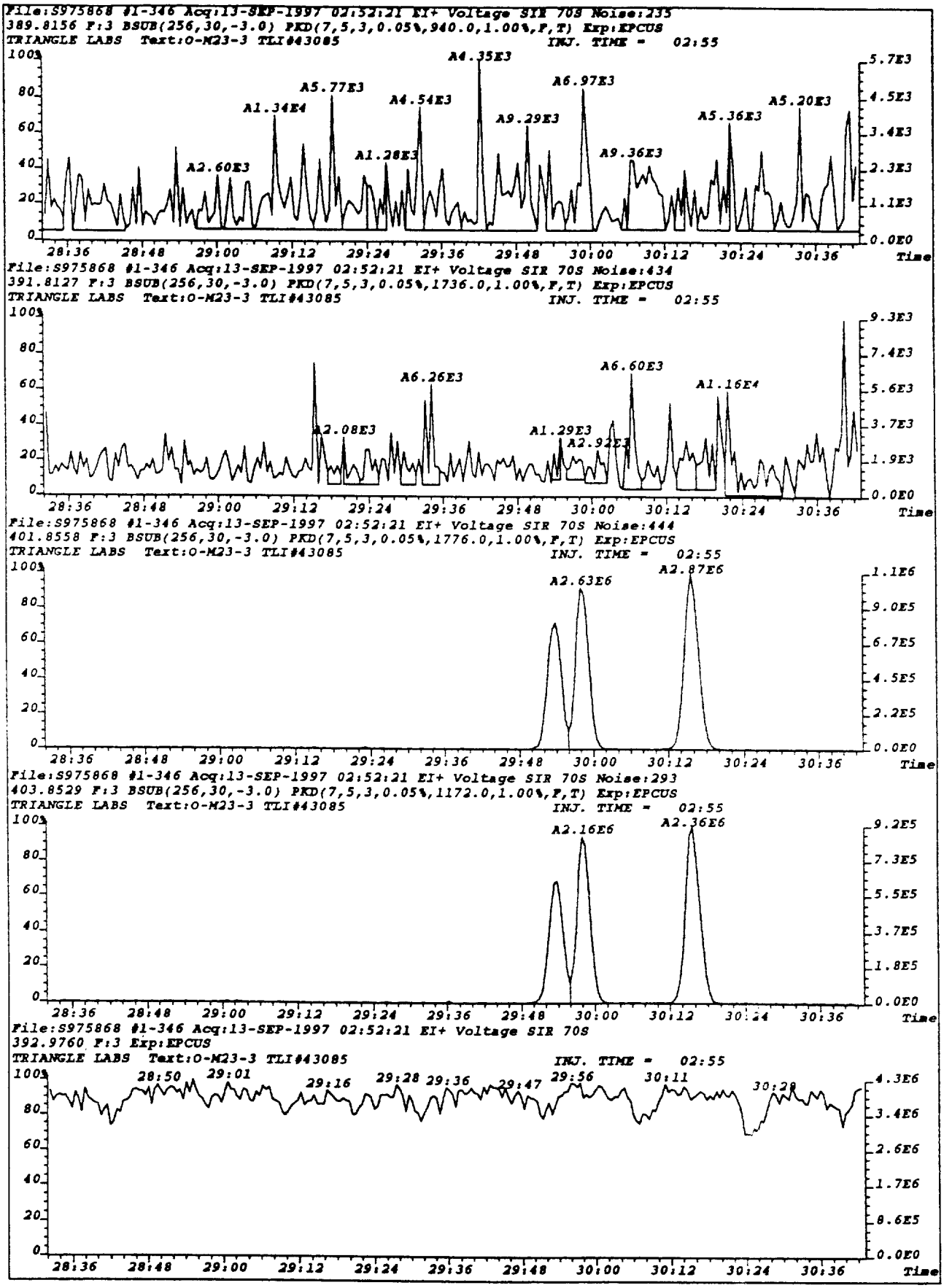
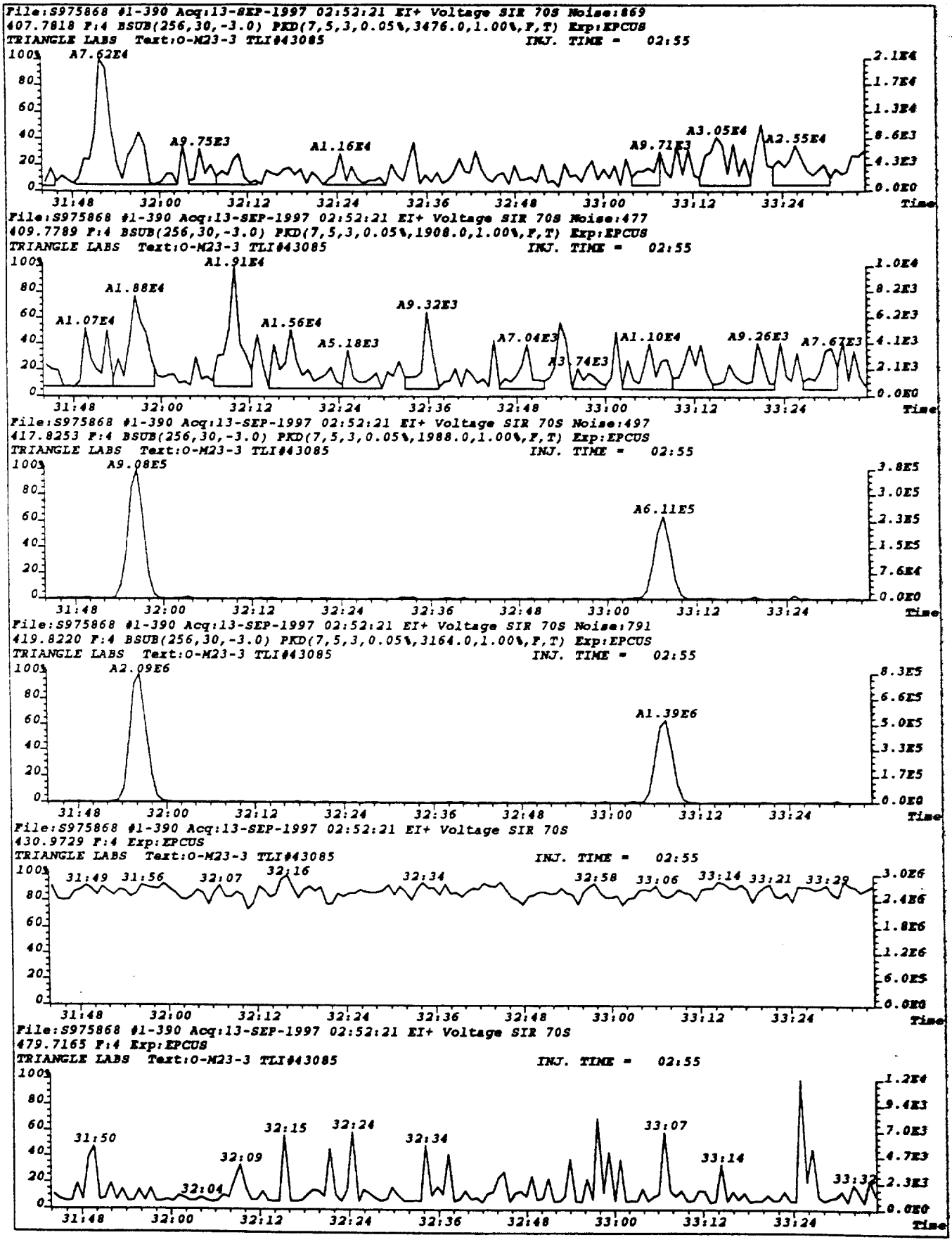
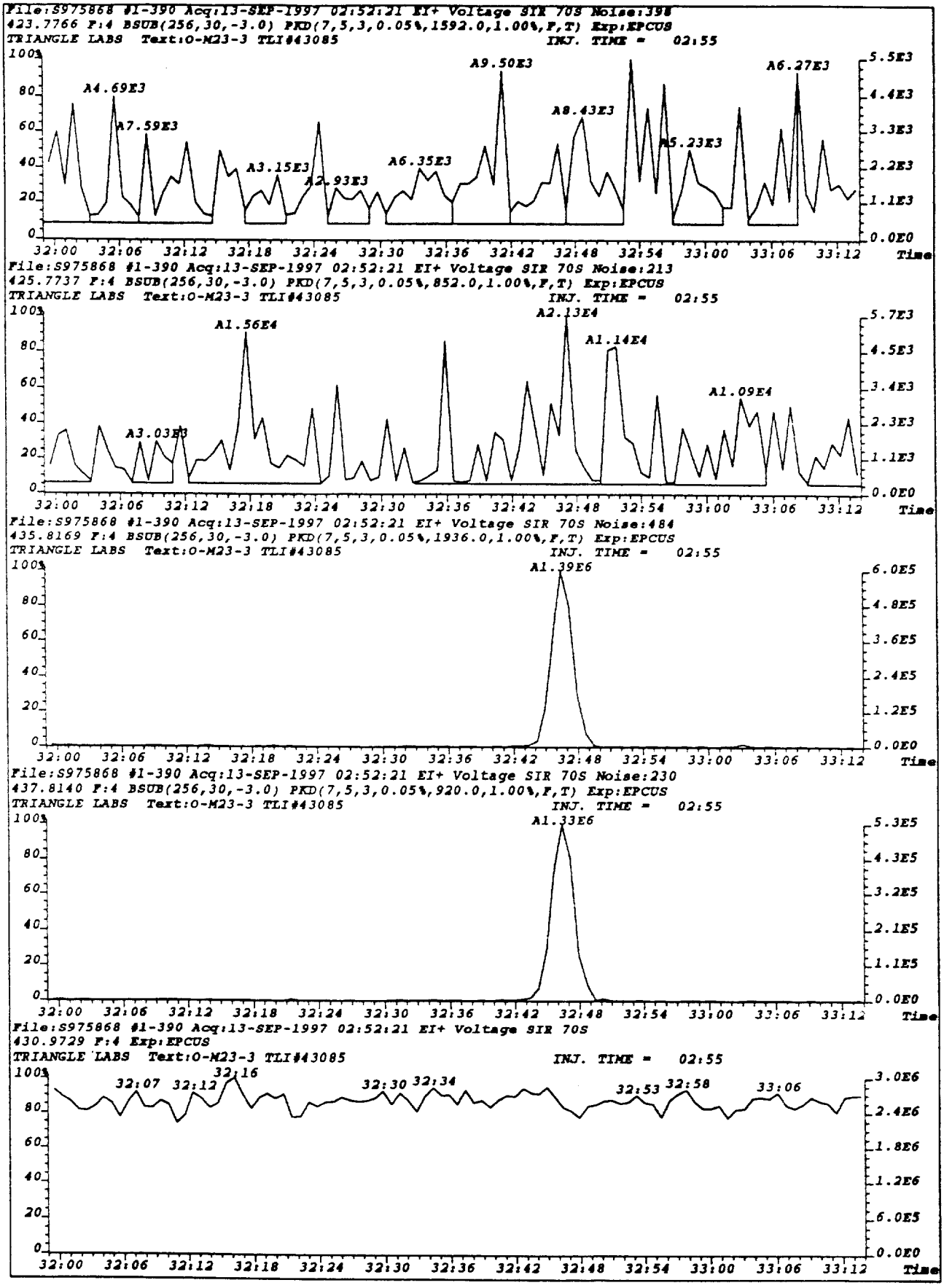
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,320.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.79E4
A1.68E4
A9.86E3
A1.41E4
A1.24E4
A8.34E3
A5.26E3
A1.68E3
A4.34E3
A3.49E3
A2.55E3
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:68
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,272.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.24E4
A1.38E4
A2.06E4
A1.06E4
A1.03E4
A8.19E3
A6.59E3
A5.33E3
A5.88E3
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:61
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.83E6
A4.54E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:63
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A3.56E6
A3.05E6
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
24:01
24:49
25:17
25:34
26:22
26:47
27:09
27:38
24:10
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
23:50
24:16
24:38
25:11
25:30
25:52
26:19
26:41
26:51
27:09
27:37
24:00
25:00
26:00
27:00
Time

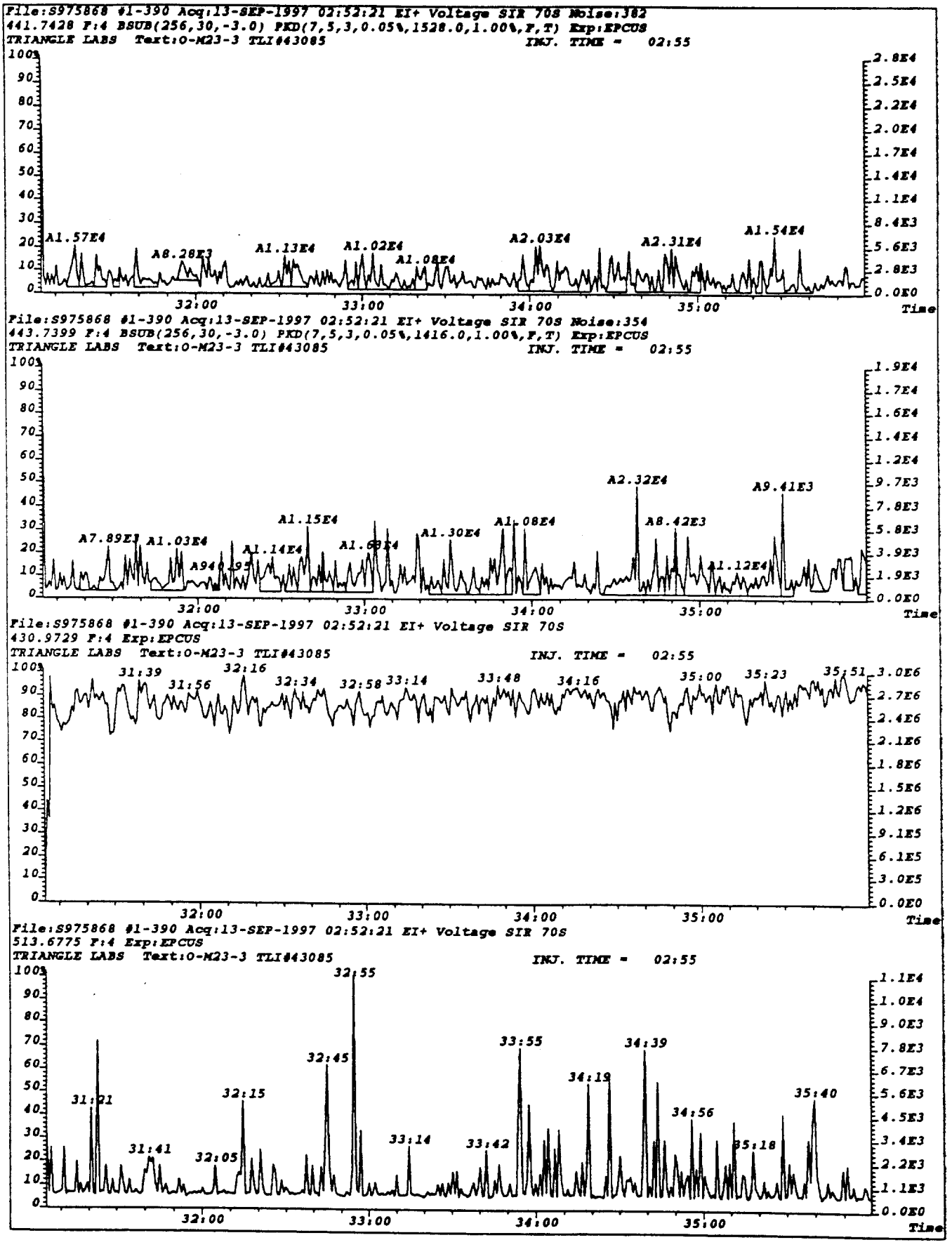

File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:65
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,260.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.48E4
A1.52E4
A1.04E4
A9.07E3
A8.88E3
A7.97E3
A9.71E3
A5.71E3
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:54
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A3.39E3
A7.64E3
A6.27E3
A7.30E3
A5.20E3
A2.06E3
A7.12E3
A6.27E3
A6.13E3
A1.45E3
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:62
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A3.08E6
A2.44E5
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:59
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.06E6
A1.65E5
File:S975868 #1-905 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
Time

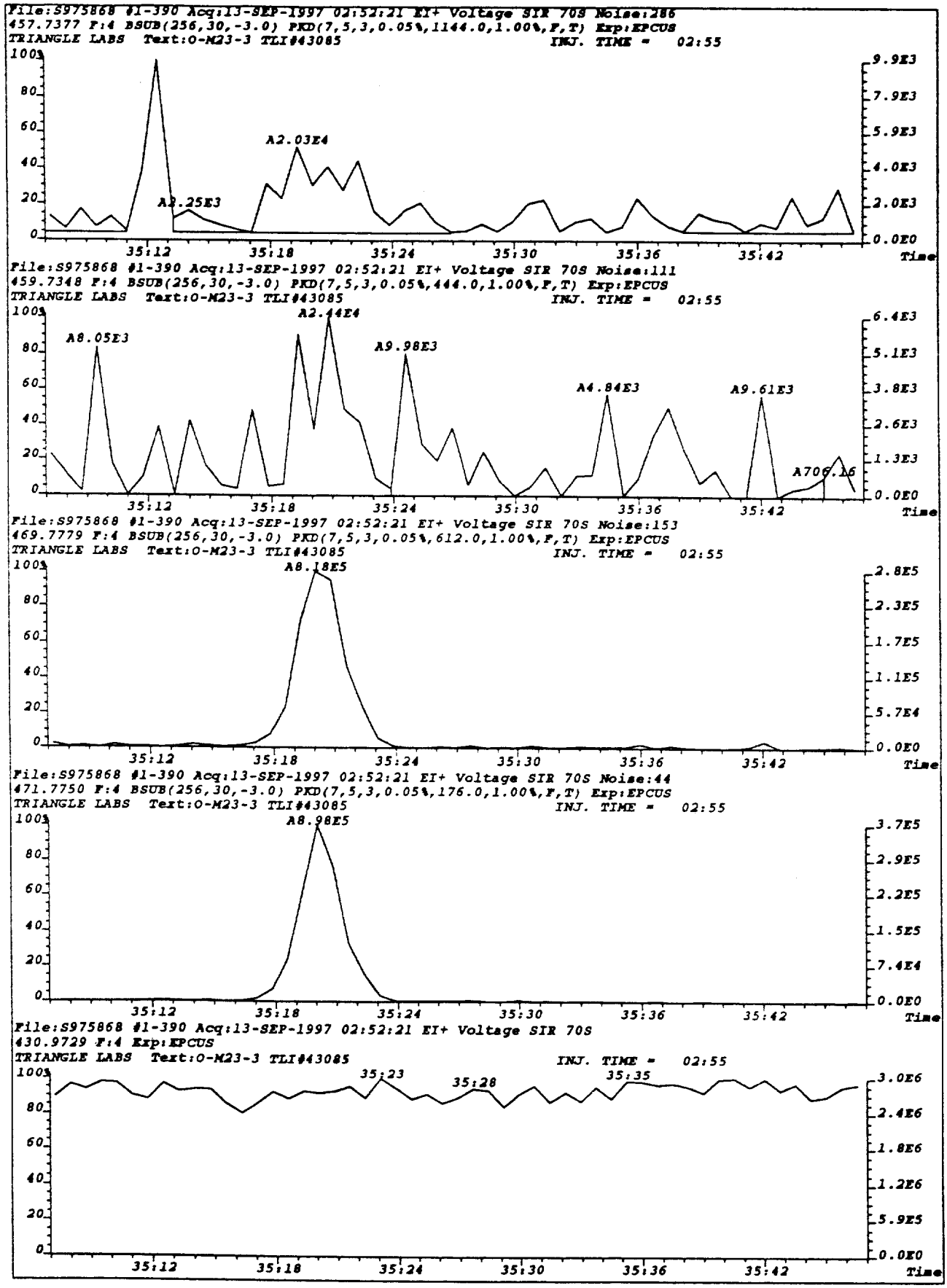

File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:454
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1816.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A1.66E4
A1.04E4
A1.59E4
A1.87E4
A7.75E3
A6.13E3
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:327
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1308.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:295
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.17E6
A1.85E6
A1.46E6
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:455
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1820.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.33E6
A3.66E6
A2.83E6
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
28:26
28:50
29:01
29:16
29:28
29:40
29:56
30:11
30:28
30:47
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
28:19
28:35
28:47
28:58
29:09
29:27
29:37
29:59
30:10
30:22
30:33
30:39
30:56
28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00
Time

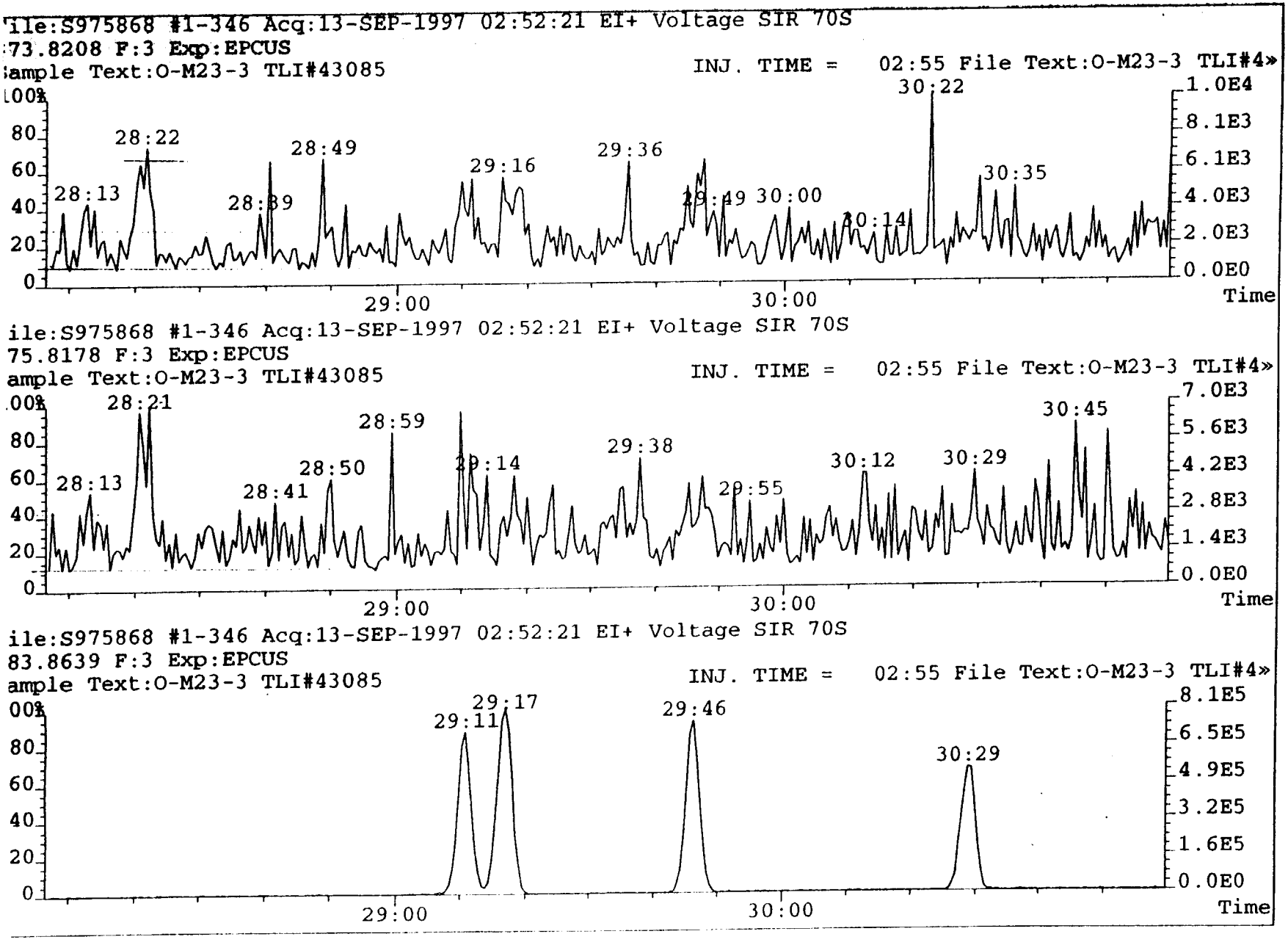

File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:235
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,940.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.35E3
A5.77E3
A6.97E3
A1.34E4
A4.54E3
A5.20E3
A9.29E3
A5.36E3
A1.28E3
A9.36E3
A2.60E3
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:434
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1736.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A6.60E3
A6.26E3
A1.16E4
A2.08E3
A1.29E3
A2.92E3
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:444
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1776.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.87E6
A2.63E6
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:293
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.36E6
A2.16E6
File:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
28:50
29:01
29:16
29:28
29:36
29:47
29:56
30:11
30:28
28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36
Time


File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:869
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3476.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A7.62E4
A9.75E3
A1.16E4
A9.71E3
A3.05E4
A2.55E4
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:477
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1908.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A1.91E4
A1.88E4
A1.07E4
A1.56E4
A5.18E3
A9.32E3
A7.04E3
A1.10E4
A9.26E3
A7.67E3
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:497
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1988.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A9.08E5
A6.11E5
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:791
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3164.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.09E6
A1.39E6
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
Time


File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:398
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1592.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A4.69E3
A7.59E3
A3.15E3
A2.93E3
A6.35E3
A9.50E3
A8.43E3
A5.23E3
A6.27E3
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:213
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,852.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A1.56E4
A3.03E3
A2.13E4
A1.14E4
A1.09E4
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:484
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1936.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A1.39E6
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:230
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,920.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A1.33E6
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
32:07
32:12
32:16
32:30
32:34
32:53
32:58
33:06
Time


File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:382
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1528.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A1.57E4
A8.28E3
A1.13E4
A1.02E4
A1.08E4
A2.03E4
A2.31E4
A1.54E4
32:00
33:00
34:00
35:00
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:354
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1416.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A7.89E3
A1.03E4
A1.14E4
A1.15E4
A1.30E4
A1.08E4
A2.32E4
A8.42E3
A9.41E3
A1.12E4
32:00
33:00
34:00
35:00
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
31:39
31:56
32:16
32:34
32:58
33:14
33:48
34:16
35:00
35:23
35:51
32:00
33:00
34:00
35:00
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
31:21
31:41
32:05
32:15
32:45
32:55
33:14
33:42
33:55
34:19
34:39
34:56
35:18
35:40
32:00
33:00
34:00
35:00
Time


File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:286
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.03E4
A2.25E3
9.9E3
7.9E3
5.9E3
4.0E3
2.0E3
0.0E0
35:12
35:18
35:24
35:30
35:36
35:42
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:111
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,444.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A2.44E4
A8.05E3
A9.98E3
A4.84E3
A9.61E3
A706.16
6.4E3
5.1E3
3.8E3
2.6E3
1.3E3
0.0E0
35:12
35:18
35:24
35:30
35:36
35:42
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:153
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,612.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A8.18E5
2.8E5
2.3E5
1.7E5
1.1E5
5.7E4
0.0E0
35:12
35:18
35:24
35:30
35:36
35:42
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S Noise:44
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
A8.98E5
3.7E5
2.9E5
2.2E5
1.5E5
7.4E4
0.0E0
35:12
35:18
35:24
35:30
35:36
35:42
Time
File:S975868 #1-390 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-3 TLI#43085
INJ. TIME = 02:55
35:23
35:28
35:35
3.0E6
2.4E6
1.8E6
1.2E6
5.9E5
0.0E0
35:12
35:18
35:24
35:30
35:36
35:42
Time


ile:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
73.8208 F:3 Exp:EPCUS
ample Text:O-M23-3 TLI#43085
INJ. TIME = 02:55 File Text:O-M23-3 TLI#4»
00%
80
60
40
20
0
28:13
28:22
28:39
28:49
29:16
29:36
29:49
30:00
30:14
30:22
30:35
1.0E4
8.1E3
6.1E3
4.0E3
2.0E3
0.0E0
29:00
30:00
Time
ile:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
75.8178 F:3 Exp:EPCUS
ample Text:O-M23-3 TLI#43085
INJ. TIME = 02:55 File Text:O-M23-3 TLI#4»
00%
80
60
40
20
0
28:13
28:21
28:41
28:50
28:59
29:14
29:38
29:55
30:12
30:29
30:45
7.0E3
5.6E3
4.2E3
2.8E3
1.4E3
0.0E0
29:00
30:00
Time
ile:S975868 #1-346 Acq:13-SEP-1997 02:52:21 EI+ Voltage SIR 70S
83.8639 F:3 Exp:EPCUS
ample Text:O-M23-3 TLI#43085
INJ. TIME = 02:55 File Text:O-M23-3 TLI#4»
00%
80
60
40
20
0
29:11
29:17
29:46
30:29
8.1E5
6.5E5
4.9E5
3.2E5
1.6E5
0.0E0
29:00
30:00
Time

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **O-M23-FB** — Analysis File: **S975833**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPX23704
TLI ID:	181-55-4ABD	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/11/97	ConCal:	S975814
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	EMPC		0.009			
1,2,3,7,8-PeCDD	0.04			1.67	25:51	
1,2,3,4,7,8-HxCDD	0.02			1.39	29:08	Q
1,2,3,6,7,8-HxCDD	0.03			1.22	29:13	
1,2,3,7,8,9-HxCDD	0.03			1.23	29:30	
1,2,3,4,6,7,8-HpCDD	0.03			0.94	32:04	B
1,2,3,4,6,7,8,9-OCDD	0.09			0.94	34:38	B
2,3,7,8-TCDF	0.02			0.70	20:23	B
1,2,3,7,8-PeCDF	0.04			1.66	24:43	
2,3,4,7,8-PeCDF	0.04			1.36	25:29	
1,2,3,4,7,8-HxCDF	0.03			1.43	28:22	
1,2,3,6,7,8-HxCDF	0.03			1.14	28:29	
2,3,4,6,7,8-HxCDF	0.03			1.17	29:00	
1,2,3,7,8,9-HxCDF	0.03			1.08	29:42	
1,2,3,4,6,7,8-HpCDF	EMPC		0.03			B
1,2,3,4,7,8,9-HpCDF	0.02			1.03	32:25	
1,2,3,4,6,7,8,9-OCDF	0.03			0.88	34:44	B

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	EMPC			0.009	
Total PeCDD	0.04	1			
Total HxCDD	0.09	3			
Total HpCDD	0.04	2			
Total TCDF	0.02	1		0.02	
Total PeCDF	0.08	2		0.09	
Total HxCDF	0.11	4			
Total HpCDF	0.02	1		0.05	

X237_PSR v2.00, LARS 6.10.04

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Printed: 14:06 09/10/97

TLI Project: **43085** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **O-M23-FB** Analysis File: **S975833**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.0	75.7	40%-130%	0.77	20:22	___
$^{13}C_{12}$-2,3,7,8-TCDD	2.9	71.5	40%-130%	0.80	21:12	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.0	75.4	40%-130%	1.55	24:42	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	3.5	86.9	40%-130%	1.49	25:51	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.3	81.3	40%-130%	0.50	28:28	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.1	76.5	40%-130%	1.21	29:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.0	75.9	25%-130%	0.42	31:11	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.5	87.9	25%-130%	0.99	32:04	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.0	87.6	25%-130%	0.86	34:37	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.8	95.6	70%-140%		21:13	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.6	89.4	70%-140%	1.59	25:28	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.3	83.1	70%-140%	0.51	28:21	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	2.9	72.6	70%-140%	1.23	29:07	Q___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	2.7	67.8	70%-140%	0.42	32:25	V___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.8	69.7	40%-130%	0.49	29:41	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.3	81.5	40%-130%	0.50	28:59	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:59	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.21	29:29	___

Data Reviewer: Steve Lewis 09/18/97

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Initial ....Date...

Data Review By: SR 9/18/97 Calculated Noise Area: n/a

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 S975833B.dbf
09/18/97 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						0.820-1.101			
304-306	DC	NL		0:00	RO	1.14	0.12			0.000			
	DC	SN		17:36	RO	0.58	2.64			0.864			
	DC	SN		18:12	RO	0.21	1.08			0.894			
	DC	SN		18:29	RO	0.31	1.52			0.908			
	DC	SN		19:09	RO	0.44	2.34			0.940			
	DC	SN		19:28	RO	1.14	3.08			0.956			
				19:54	RO	1.22	10.04	6.90	5.67	0.977			
				20:23		0.70	31.84	13.16	18.68	1.001	2378-TCDF		AN
D	DC	SN		20:54		0.81	5.81			1.026			
D	DC	SN		22:15		0.69	7.40			1.092			
304-306			2	Peaks			41.88						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318	DC	NL		0:00	RO	1.69	0.87			0.000			
	DC	WL		19:11		0.73	141.93			0.942			
				19:31		0.75	15.12	6.48	8.64	0.958			
				19:53		0.80	48.40	21.58	26.82	0.976			
				20:22		0.77	6,305.72	2,733.69	3,572.03	1.000	13C12-2378-TCDF		ISO
				20:52	RO	0.61	22.14	9.63	15.74	1.025			
				20:59	RO	1.18	6.92	4.63	3.91	1.030			
316-318			5	Peaks			6,398.30						

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

TCDD				0.65-0.89						0.853-1.059			
320-322	DC	NL		0:00	RO	8.14	0.12			0.000			
	DC	SN		18:06		0.81	0.67			0.854			
	DC	SN		18:13	RO	1.22	1.66			0.859			
	DC	SN		18:52	RO	0.57	1.17			0.890			
	DC	SN		20:04	RO	1.09	0.41			0.947			
	DC	SN		20:23	RO	2.28	2.16			0.961			
	DC	SN		20:43	RO	0.58	0.60			0.977			
	DC	SN		20:56		0.83	0.42			0.987			
				21:12	RO	0.56	12.60	5.48	9.82	1.000	2378-TCDD		AN
	DC	SN		21:31	RO	0.40	0.39			1.015			
	DC	SN		21:52	RO	0.21	0.78			1.031			
	DC	SN		22:22	RO	0.30	0.41			1.055			
	DC	WH		22:40	RO	1.18	1.38			1.069			
320-322			1	Peak			12.60						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.06			0.000			
				19:39			130.92	130.92		0.927			

Compound/ M_Z....	QC.Log	Omit	Why	RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				21:13			3,881.17	3,881.17		1.001	37Cl-TCDD	SUR1	
328				2 Peaks			4,012.09						
13C12-TCDD					0.65-0.89					0.906-1.094			
332-334	DC	NL		0:00	RO	1.67	2.71			0.000			
				19:52		0.79	29.49	13.01	16.48	0.937			
				20:59		0.81	6,317.39	2,820.24	3,497.15	0.990	13C12-1234-TCDD	RS1	
				21:12		0.80	4,816.30	2,138.52	2,677.78	1.000	13C12-2378-TCDD	IS1	
				21:34		0.78	78.21	34.15	44.06	1.017			
				22:41	RO	0.59	5.82	2.53	4.29	1.070			
332-334				5 Peaks			11,247.21						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF					1.32-1.78					0.907-1.078			
340-342	DC	NL		0:00	RO	0.18	0.15			0.000			
	DC	SN		22:34		1.67	5.48			0.914			
	DC	SN		22:56	RO	0.72	1.41			0.928			
	DC	SN		23:39	RO	0.45	1.60			0.957			
				23:49	RO	0.87	7.57	4.60	5.26	0.964			
	DC	SN		24:14	RO	0.82	0.76			0.981			
	DC	SN		24:23		1.44	2.90			0.987			
				24:43		1.66	63.12	39.40	23.72	1.001	12378-PeCDF	AN	
	DC	SN		25:00	RO	3.05	1.50			1.012			
				25:29		1.36	58.09	33.43	24.66	1.032	23478-PeCDF	AN	
	DC	SN		25:46		1.69	1.21			1.043			
	DC	SN		25:57	RO	0.67	0.81			1.051			
	DC	WH		26:44	RO	4.47	0.87			1.082			
	DC	WH		27:00	RO	1.29	2.06			1.093			
340-342				3 Peaks			128.78						
13C12-PeCDF					1.32-1.78					0.838-1.162			
352-354	DC	NL		0:00	RO	0.88	0.12			0.000			
				23:48		1.51	211.92	127.42	84.50	0.964			
				24:20		1.66	28.69	17.89	10.80	0.985			
				24:42		1.55	5,398.40	3,280.01	2,118.39	1.000	13C12-PeCDF 123	IS2	
				25:00		1.55	41.06	24.96	16.10	1.012			
				25:28		1.59	4,680.89	2,870.11	1,810.78	1.031	13C12-PeCDF 234	SUR2	
	DC	SN		25:45	RO	2.36	5.92			1.043			
				26:28		1.47	16.36	9.74	6.62	1.072			
352-354				6 Peaks			10,377.32						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD					1.32-1.78					0.921-1.026			
356-358	DC	NL		0:00	RO	0.86	0.10			0.000			
	DC	SN		23:54	RO	0.06	1.48			0.925			
	DC	SN		24:12	RO	0.23	2.06			0.936			
	DC	SN		25:29	RO	5.78	1.28			0.986			
	DC	SN		25:39	RO	1.96	0.64			0.992			
				25:51		1.67	38.74	24.22	14.52	1.000	12378-PeCDD	AN	
	DC	SN		25:59	RO	0.46	1.00			1.005			

Compound/ M_2....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		26:31	RO	0.53	1.45			1.026			
	DC	WH		26:54	RO	3.33	0.77			1.041			
356-358			1	Peak			38.74						
13C12-PeCDD						1.32-1.78				0.845-1.155			
368-370	DC	NL		0:00	RO	1.00	0.12			0.000			
	DC	SN		24:42	RO	2.75	5.81			0.956			
	DC	SN		24:53	RO	2.05	6.30			0.963			
				25:51		1.49	3,485.93	2,084.63	1,401.30	1.000	13C12-PeCDD 123	IS3	
				25:59		1.63	335.10	207.75	127.35	1.005			
368-370			2	Peaks			3,821.03						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF						1.05-1.43				0.955-1.052			
374-376	DC	NL		0:00		1.20	3.25			0.000			
	DC	SN		27:23	RO	1.48	3.02			0.962			
D	DC	SN		27:30		1.40	6.12			0.966			
	DC	SN		27:43	RO	5.48	0.60			0.974			
	DC	SN		27:49	RO	0.46	1.88			0.977			
	DC	SN		28:00	RO	1.98	2.35			0.984			
	DC	SN		28:04		1.35	1.62			0.986			
				28:22		1.43	42.35	24.95	17.40	0.996	123478-HxCDF	AN	
				28:29		1.14	48.34	25.72	22.62	1.001	123678-HxCDF	AN	
	DC	SN		28:41		1.15	1.89			1.008			
				29:00		1.17	37.58	20.23	17.35	1.019	234678-HxCDF	AN	
	DC	SN		29:34	RO	6.00	0.63			1.039			
				29:42		1.08	38.79	20.11	18.68	1.043	123789-HxCDF	AN	
374-376			4	Peaks			167.06						
13C12-HxCDF						0.43-0.59				0.859-1.141			
384-386	DC	NL		0:00		0.54	4.98			0.000			
				27:21		0.50	26.79	8.96	17.83	0.961			
				27:30		0.50	69.75	23.40	46.35	0.966			
				28:21		0.51	3,668.30	1,230.99	2,437.31	0.996	13C12-HxCDF 478	SUR3	
				28:28		0.50	4,602.27	1,532.26	3,070.01	1.000	13C12-HxCDF 678	IS4	
	DC	SN		28:47	RO	0.23	1.48			1.011			
				28:59		0.50	4,273.95	1,421.97	2,851.98	1.018	13C12-HxCDF 234	ALT2	
				29:13	RO	0.74	7.90	3.86	5.23	1.026			
	DC	SN		29:29	RO	0.29	2.22			1.036			
				29:41		0.49	3,176.71	1,044.27	2,132.44	1.043	13C12-HxCDF 789	ALT1	
	DC	SN		29:53	RO	0.27	5.60			1.050			
384-386			7	Peaks			15,825.67						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD						1.05-1.43				0.950-1.015			
390-392	DC	NL		0:00		1.22	3.13			0.000			
	DC	SN		28:23	RO	1.67	4.66			0.972			
	DC	SN		28:29	RO	2.54	3.16			0.975			
	DC	SN		28:36	RO	0.36	0.96			0.979			
	DC	SN		28:41	RO	1.76	0.85			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.
	DC	SN		28:55	RO	3.35	0.38			0.990			
	DC	SN		29:00	RO	2.13	2.15			0.993			
				29:08		1.39	20.26	11.78	8.48	0.998	123478-HxCDD	AN	Q
				29:13		1.22	29.32	16.09	13.23	1.001	123678-HxCDD	AN	
				29:30		1.23	32.56	17.95	14.61	1.010	123789-HxCDD	AN	
390-392			3 Peaks				82.14						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC	NL		0:00	RO	0.99	4.12			0.000			
				28:35		1.29	22.18	12.51	9.67	0.979			
				29:07		1.23	2,527.73	1,393.53	1,134.20	0.997	13C12-HxCDD 478	SUR4	Q
				29:12		1.21	3,578.12	1,960.48	1,617.64	1.000	13C12-HxCDD 678	IS5	
				29:29		1.21	4,703.04	2,577.69	2,125.35	1.010	13C12-HxCDD 789	RS2	
402-404			4 Peaks				10,831.07						

---------- Above: HxCDD / HpCDF Follows ----------

HpCDF				0.88-1.20						0.995-1.044			
408-410	DC	NL		0:00	RO	2.11	1.55			0.000			
	DC	WL		31:00	RO	2.71	0.92			0.994			
				31:12	RO	1.26	37.27	23.11	18.27	1.001	1234678-HpCDF	AN	
	DC	SN		32:06	RO	3.91	0.47			1.029			
				32:25		1.03	20.84	10.56	10.28	1.040	1234789-HpCDF	AN	
408-410			2 Peaks				58.11						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC	NL		0:00	RO	1.28	1.48			0.000			
				31:11		0.42	3,165.84	939.83	2,226.01	1.000	13C12-HpCDF 678	IS6	
	DC	SN		31:29	RO	0.78	2.33			1.010			
N				32:25		0.42	1,653.99	489.01	1,164.98	1.040	13C12-HpCDF 789	SUR5	
	DC	SN		32:39	RO	0.78	2.82			1.047			
418-420			2 Peaks				4,819.83						

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

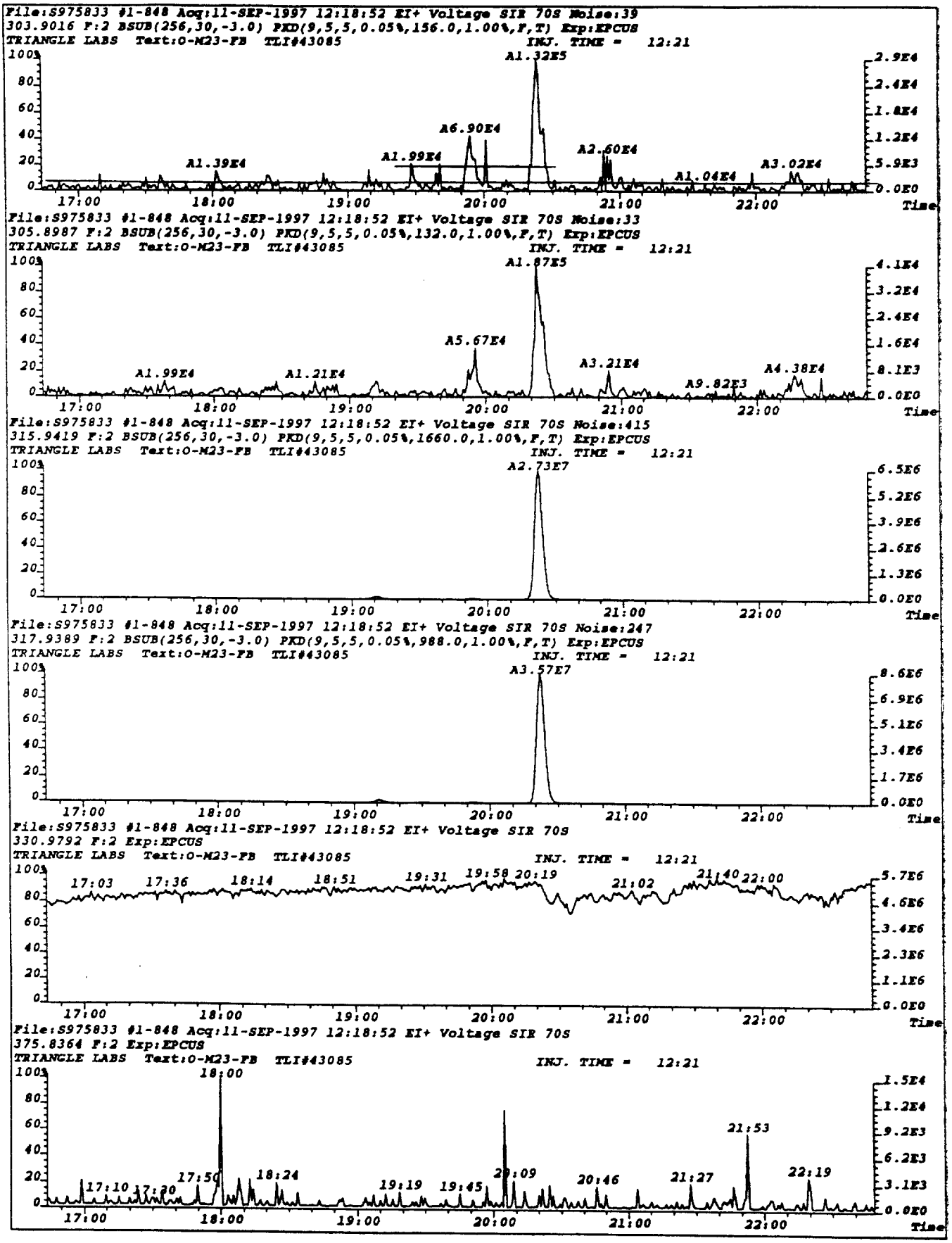
HpCDD				0.88-1.20						0.976-1.006			
424-426	DC	NL		0:00	RO	1.79	0.80			0.000			
				31:26		1.12	5.82	3.07	2.75	0.980			
	DC	SN		31:45		0.91	0.90			0.990			
				32:04		0.94	28.45	13.79	14.66	1.000	1234678-HpCDD	AN	
	DC	WH		32:18	RO	3.13	0.31			1.007			
	DC	WH		32:22	RO	1.84	2.84			1.009			
424-426			2 Peaks				34.27						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	0.70	3.02			0.000			
				31:27		1.00	24.31	12.16	12.15	0.981			
				32:04		0.99	3,368.32	1,672.82	1,695.50	1.000	13C12-HpCDD 678	IS7	
436-438			2 Peaks				3,392.63						

---------- Above: HpCDD / Octa-CDD and CDF 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.
OCDF						0.76-1.02				0.884-1.116			
442-444	DC	NL		0:00	RO	0.12	0.13			0.000			
	DC	SN		30:55	RO	0.43	1.08			0.893			
	DC	SN		31:32	RO	2.15	0.49			0.911			
	DC	SN		31:51	RO	1.73	1.25			0.920			
	DC	SN		32:13	RO	7.00	0.11			0.931			
	DC	SN		32:35	RO	0.67	1.53			0.941			
	DC	SN		32:55	RO	1.15	1.51			0.951			
	DC	SN		33:04	RO	1.18	1.49			0.955			
	DC	SN		33:21	RO	1.34	1.17			0.963			
	DC	SN		33:38	RO	0.58	1.85			0.972			
	DC	SN		33:46	RO	2.96	1.02			0.975			
	DC	SN		33:59	RO	0.22	0.23			0.982			
	DC	SN		34:08	RO	0.46	0.87			0.986			
	DC	SN		34:18	RO	1.61	0.53			0.991			
	DC	SN		34:24	RO	0.56	0.96			0.994			
M				34:44		0.88	27.70	13.00	14.70	1.003	OCDF		AN
	DC	SN		35:26	RO	1.91	1.55			1.024			
	DC	SN		35:34	RO	0.47	1.55			1.027			
	DC	SN		35:56	RO	1.20	3.29			1.038			
442-444			1	Peak			27.70						
OCDD						0.76-1.02				0.884-1.116			
458-460	DC	NL		0:00		0.86	0.13			0.000			
				34:38		0.94	55.85	27.09	28.76	1.000	OCDD		AN
458-460			1	Peak			55.85						
13C12-OCDD						0.76-1.02				0.995-1.005			
470-472	DC	NL		0:00	RO	2.34	0.72			0.000			
				34:37		0.86	4,277.10	1,971.86	2,305.24	1.000	13C12-OCDD		IS8
	DC	WH		34:59	RO	1.61	3.21			1.011			
470-472			1	Peak			4,277.10						

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 ***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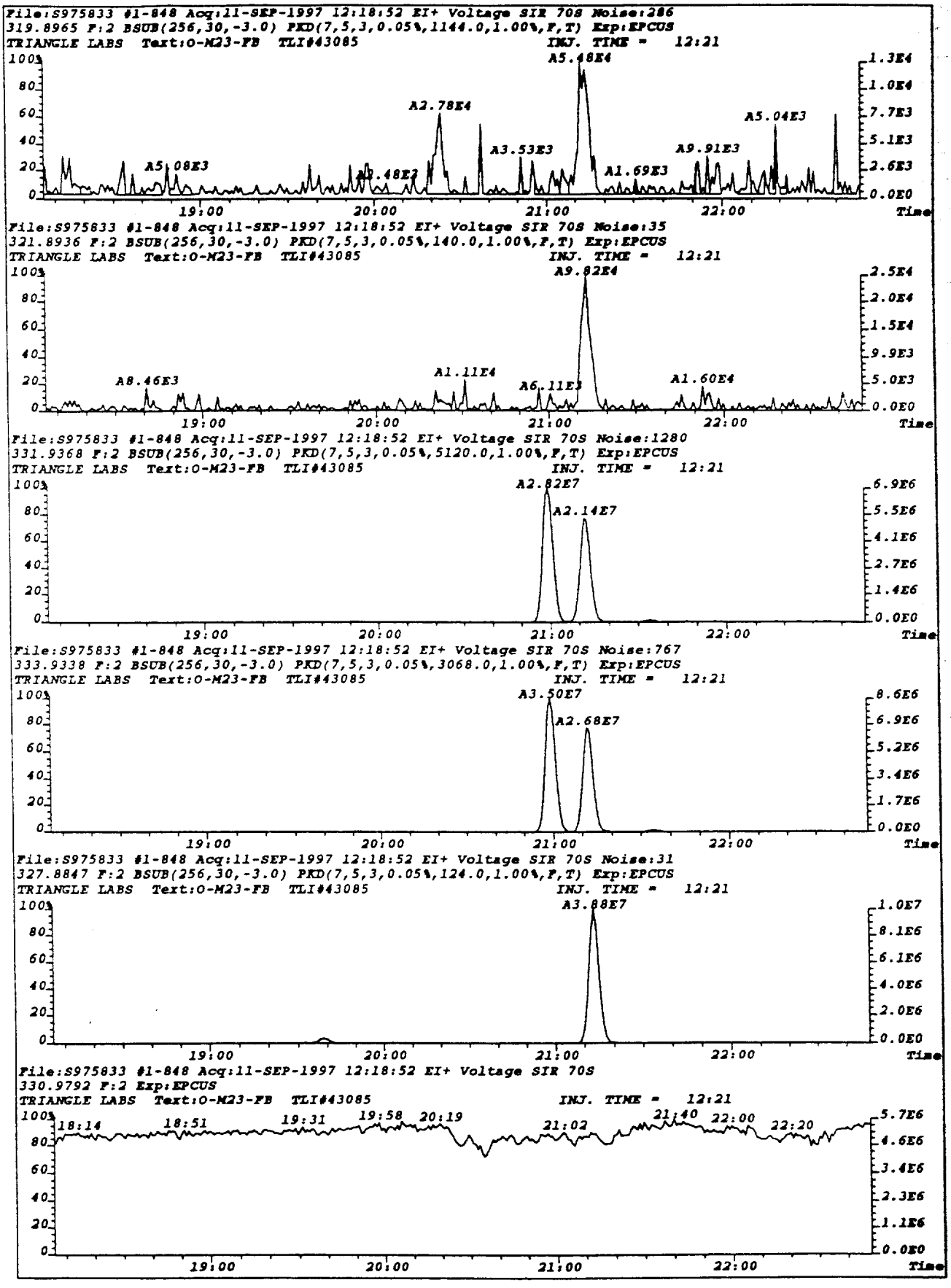
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.32E5
A6.90E4
A2.60E4
A1.99E4
A1.39E4
A1.04E4
A3.02E4
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:33
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.87E5
A5.67E4
A3.21E4
A1.99E4
A1.21E4
A9.82E3
A4.38E4
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:415
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1660.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.73E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:247
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,988.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A3.57E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
17:03
17:36
18:14
18:51
19:31
19:58
20:19
21:02
21:40
22:00
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
18:00
17:10
17:20
17:50
18:24
19:19
19:45
20:09
20:46
21:27
21:53
22:19
17:00
18:00
19:00
20:00
21:00
22:00
Time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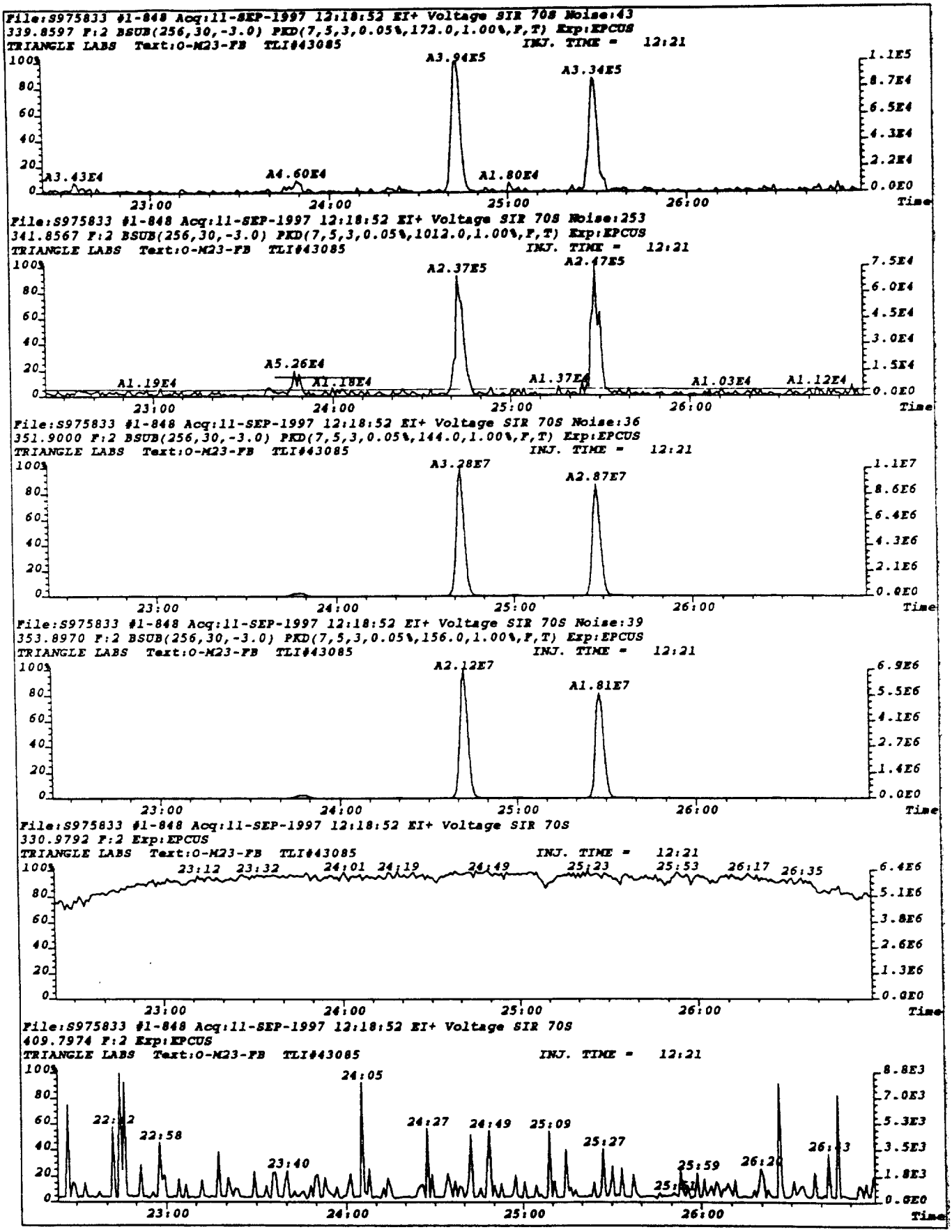
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A5.48E4
A2.78E4
A5.04E3
A3.53E3
A9.91E3
A5.08E3
A1.69E3
19:00
20:00
21:00
22:00
Time
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:35
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A9.82E4
A1.11E4
A8.46E3
A6.11E3
A1.60E4
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:1280
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,5120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.82E7
A2.14E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:767
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3068.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A3.50E7
A2.68E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:31
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A3.88E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
18:14
18:51
19:31
19:58
20:19
21:02
21:40
22:00
22:20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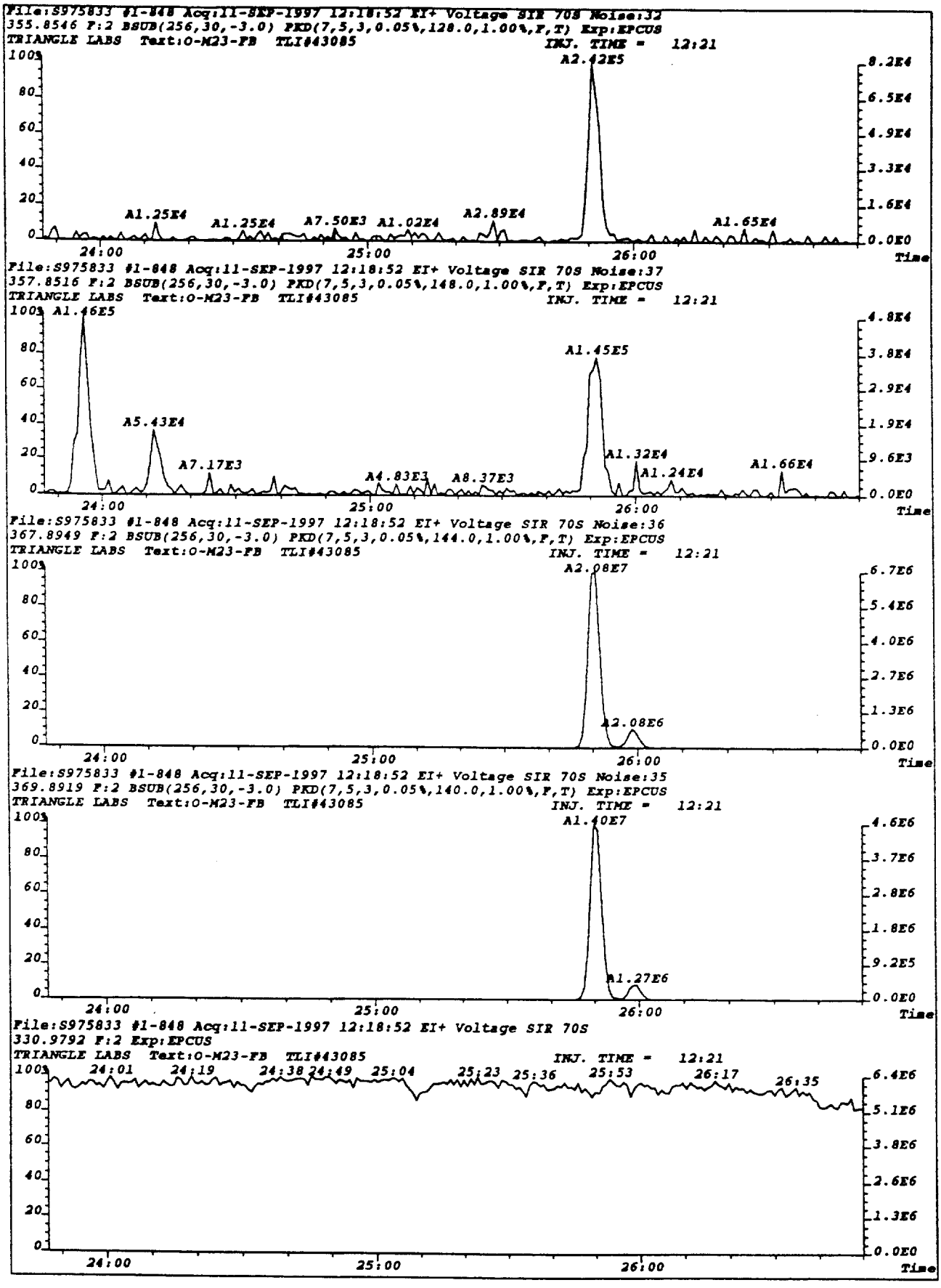
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A3.94E5
A3.34E5
A3.43E4
A4.60E4
A1.80E4
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:253
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1012.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.37E5
A2.47E5
A5.26E4
A1.19E4
A1.18E4
A1.37E4
A1.03E4
A1.12E4
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:36
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A3.28E7
A2.87E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:39
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.12E7
A1.81E7
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
23:12 23:32 24:01 24:19 24:49 25:23 25:53 26:17 26:35
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
24:05
22:58
23:40
24:27
24:49
25:09
25:27
25:59
26:20
Time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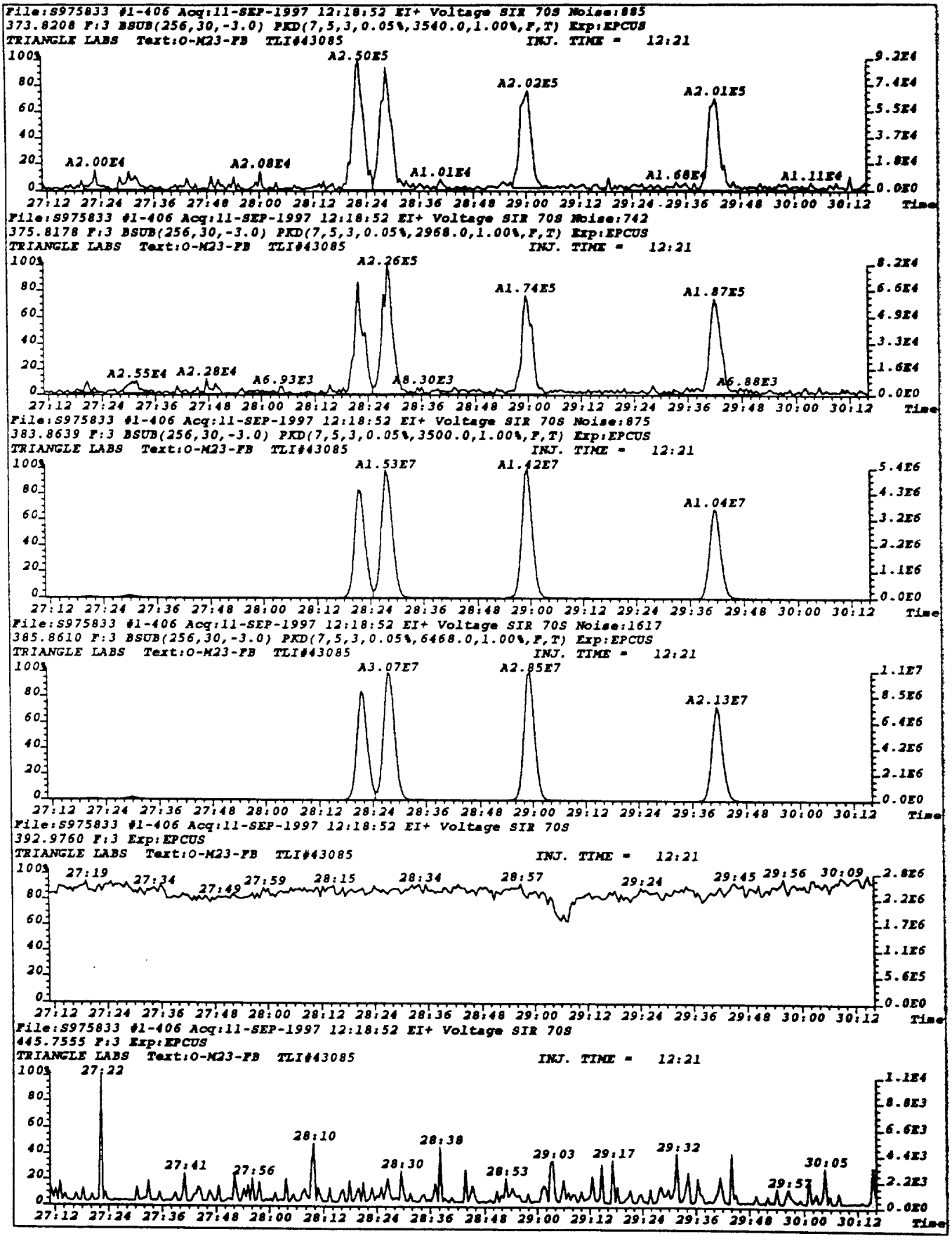
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,128.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.42E5
A1.25E4
A1.25E4
A7.50E3
A1.02E4
A2.89E4
A1.65E4
Time
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:37
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.46E5
A1.45E5
A5.43E4
A7.17E3
A4.83E3
A8.37E3
A1.32E4
A1.24E4
A1.66E4
Time
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:36
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.08E7
A2.08E6
Time
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:35
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.40E7
A1.27E6
Time
File:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
24:01
24:19
24:38
24:49
25:04
25:23
25:36
25:53
26:17
26:35
Time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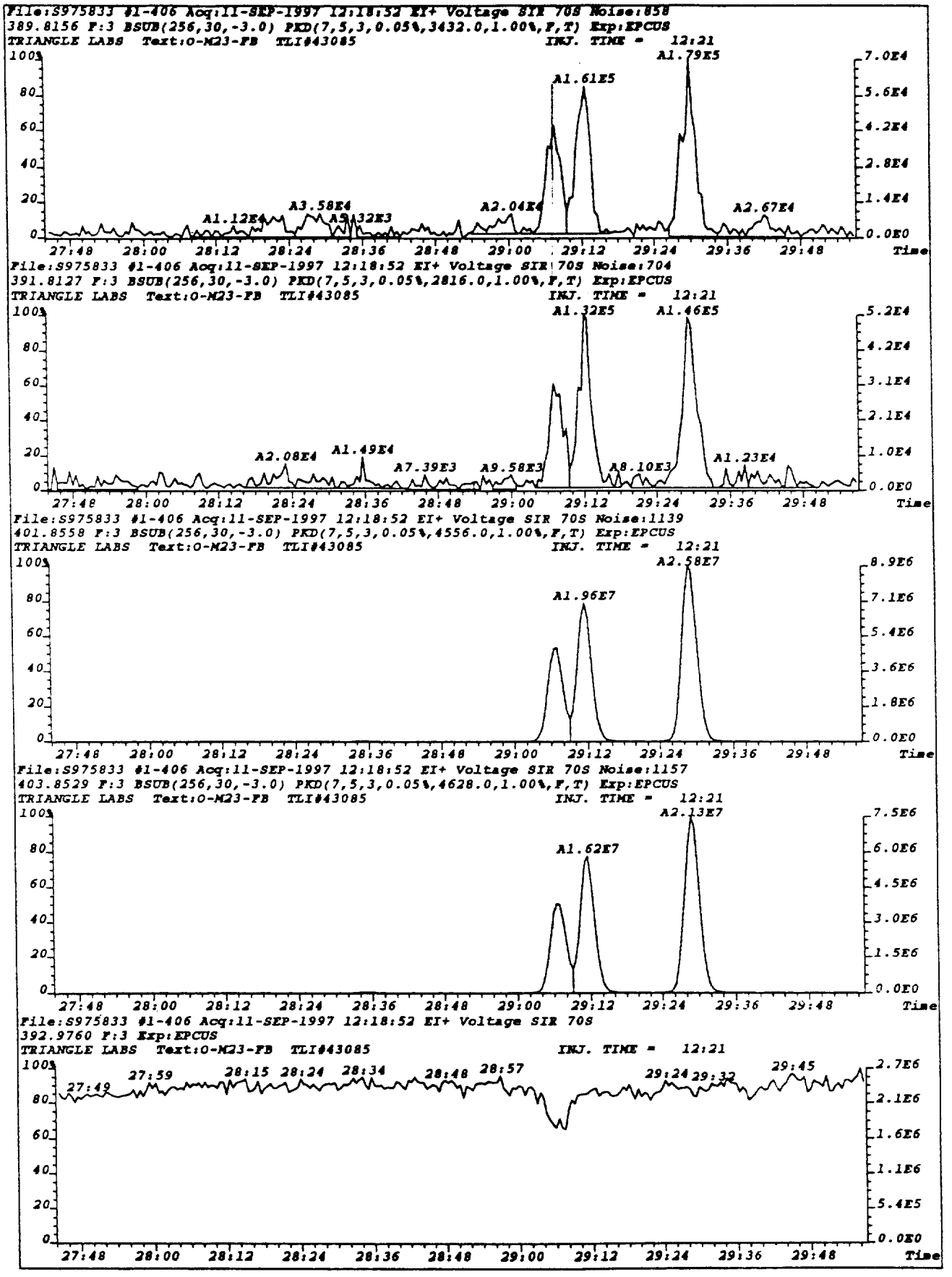
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3540.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.50E5
A2.02E5
A2.01E5
A2.00E4
A2.08E4
A1.01E4
A1.68E4
A1.11E4
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:742
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2968.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.26E5
A1.74E5
A1.87E5
A2.55E4
A2.28E4
A6.93E3
A8.30E3
A6.88E3
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:875
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3500.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A1.53E7
A1.42E7
A1.04E7
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:1617
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,6468.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A3.07E7
A2.85E7
A2.13E7
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
27:19
27:34
27:49
27:59
28:15
28:34
28:57
29:24
29:45
29:56
30:09
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
27:22
27:41
27:56
28:10
28:30
28:38
28:53
29:03
29:17
29:32
29:52
30:05
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12
Time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389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3432.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.79E5
A1.61E5
A3.58E4
A1.12E4
A2.04E4
A2.67E4
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:704
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2816.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.32E5
A1.46E5
A2.08E4
A1.49E4
A7.39E3
A9.58E3
A8.10E3
A1.23E4
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:1139
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4556.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.58E7
A1.96E7
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:1157
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4628.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A2.13E7
A1.62E7
File:S975833 #1-406 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
27:49
27:59
28:15
28:24
28:34
28:48
28:57
29:24
29:32
29:45
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29:12
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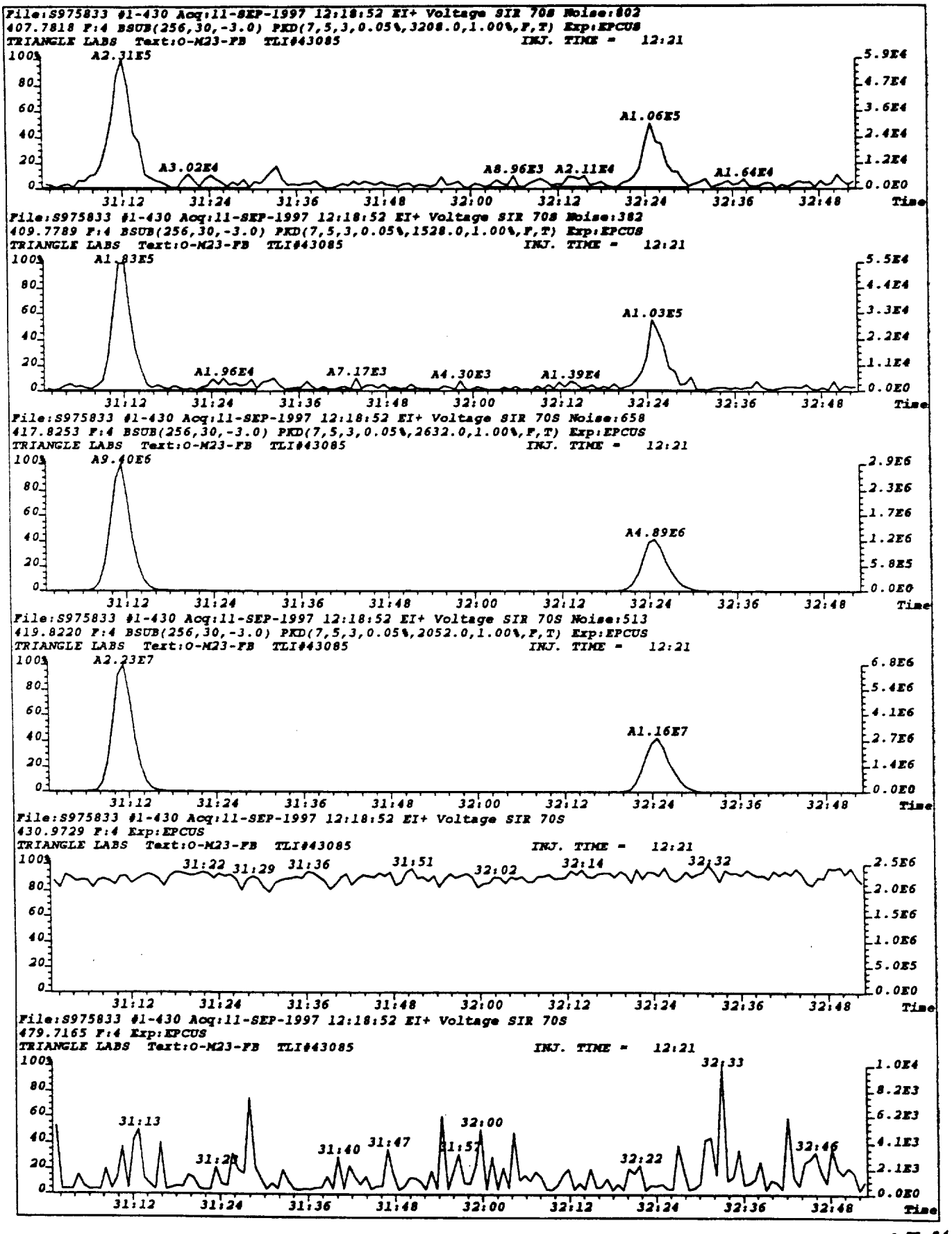
Time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407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.31E5
A3.02E4
A8.96E3
A2.11E4
A1.06E5
A1.64E4
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:382
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1528.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A1.83E5
A1.96E4
A7.17E3
A4.30E3
A1.39E4
A1.03E5
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:658
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2632.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A9.40E6
A4.89E6
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:513
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2052.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.23E7
A1.16E7
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
31:22
31:29
31:36
31:51
32:02
32:14
32:32
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
31:13
31:40
31:47
32:00
32:22
32:33
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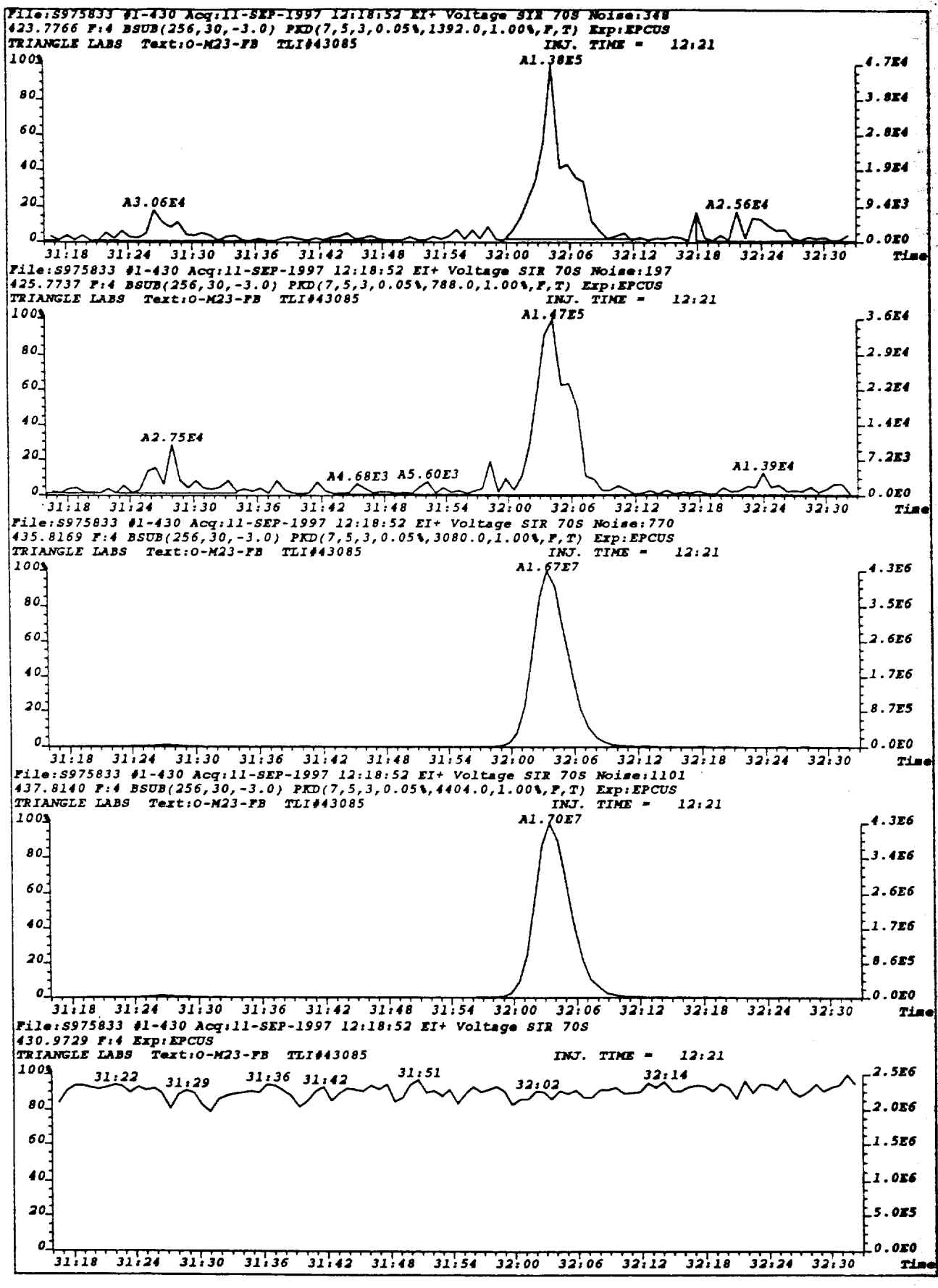
Time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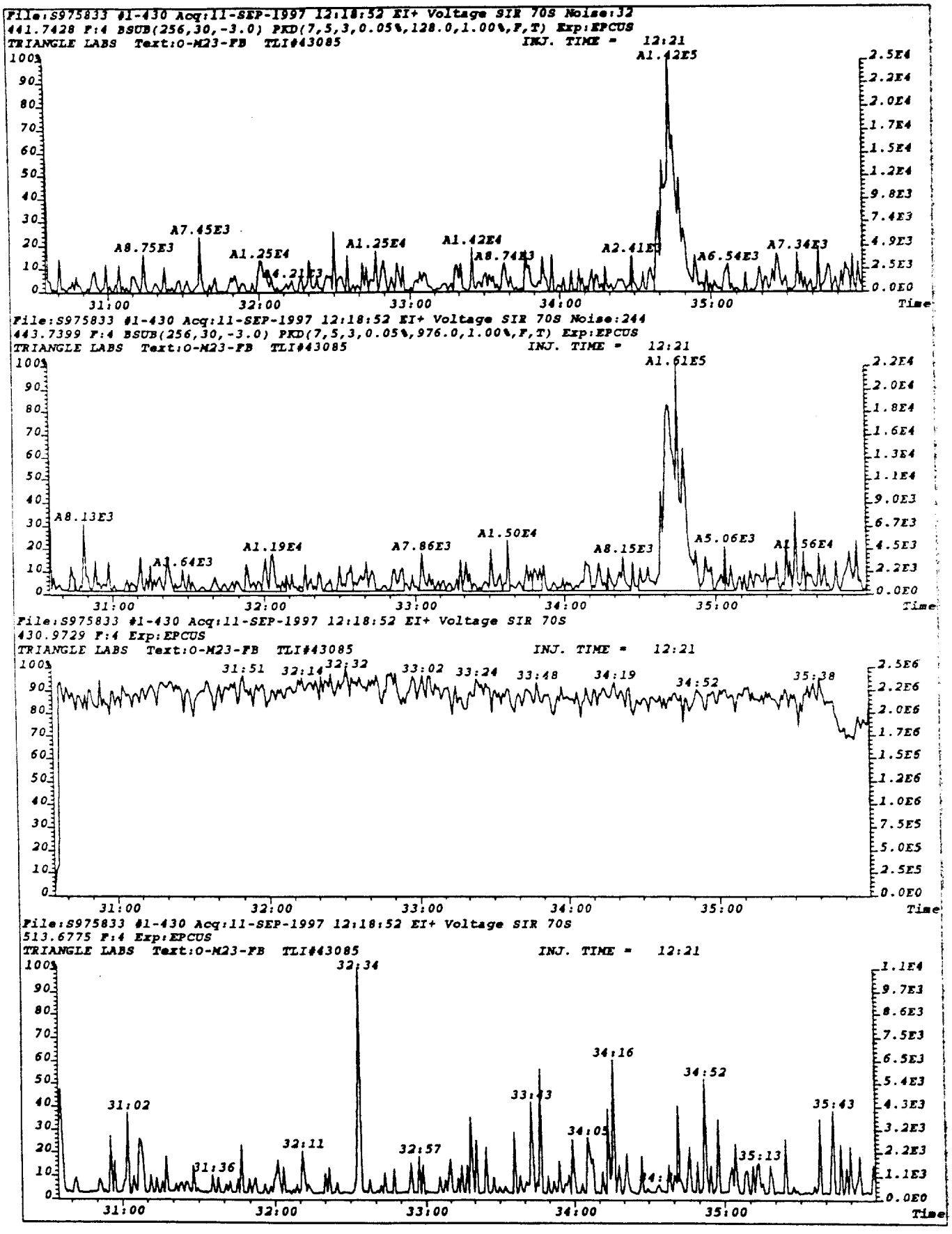
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1392.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.38E5
A3.06E4
A2.56E4
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:197
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,788.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.47E5
A2.75E4
A4.68E3
A5.60E3
A1.39E4
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:770
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3080.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.67E7
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:1101
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4404.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.70E7
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
31:22
31:29
31:36
31:42
31:51
32:02
32:14
Time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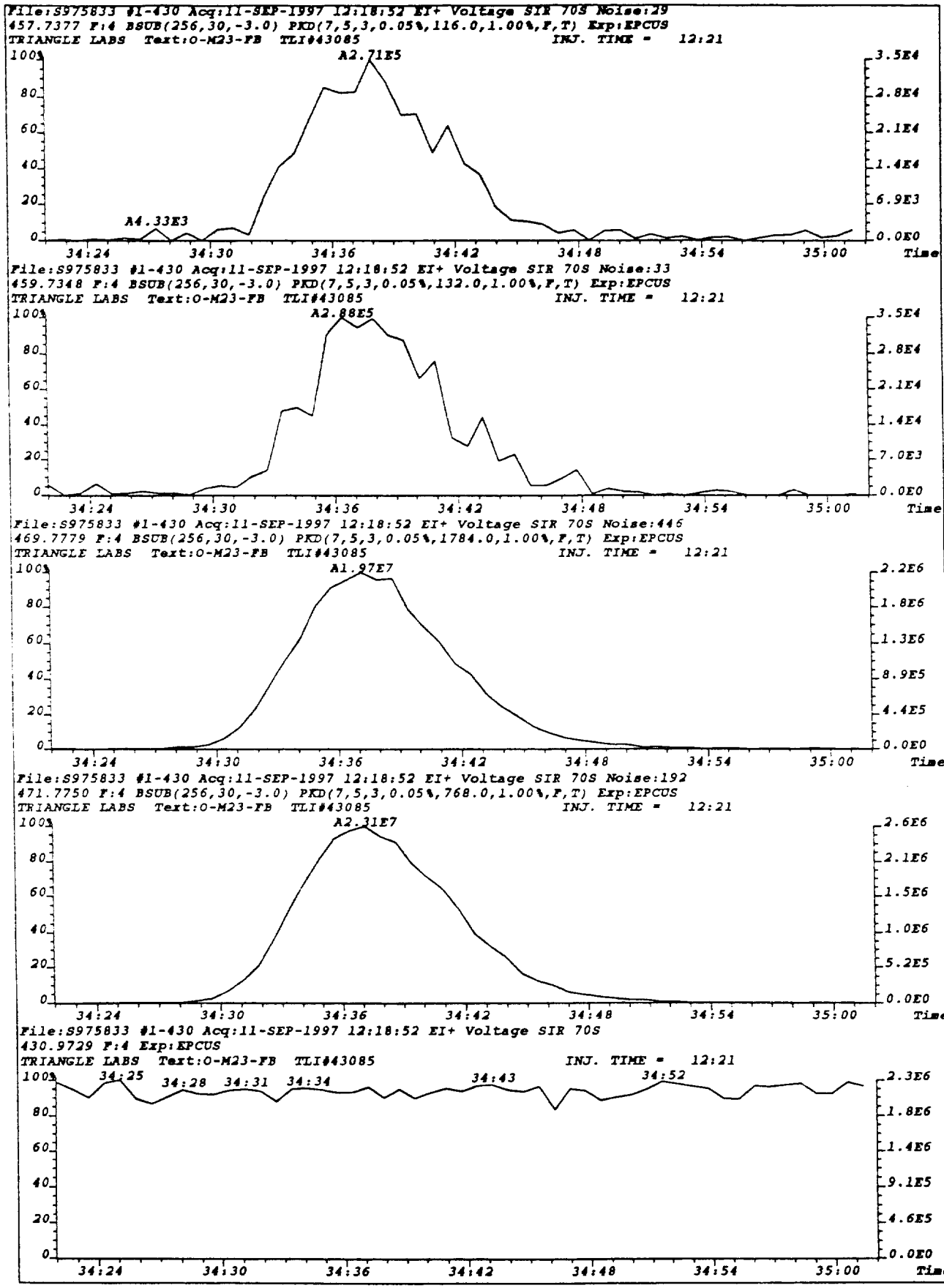
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,128.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.42E5
A7.45E3
A8.75E3
A1.25E4
A1.25E4
A1.42E4
A8.74E3
A2.41E3
A6.54E3
A7.34E3
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:244
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,976.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
A1.61E5
A8.13E3
A1.64E3
A1.19E4
A7.86E3
A1.50E4
A8.15E3
A5.06E3
A1.56E4
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
31:51
32:14
32:32
33:02
33:24
33:48
34:19
34:52
35:38
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085
INJ. TIME = 12:21
32:34
31:02
31:36
32:11
32:57
33:43
34:16
34:05
34:52
35:13
35:43
31:00
32:00
33:00
34:00
35:00
Time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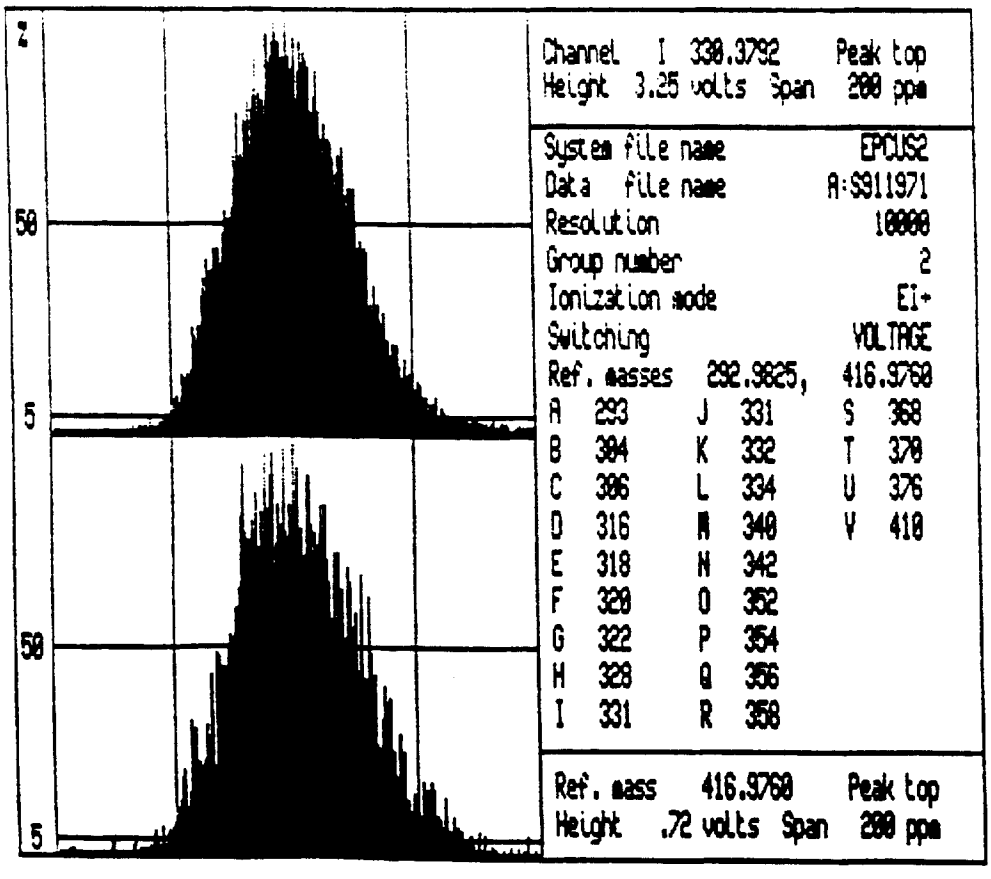
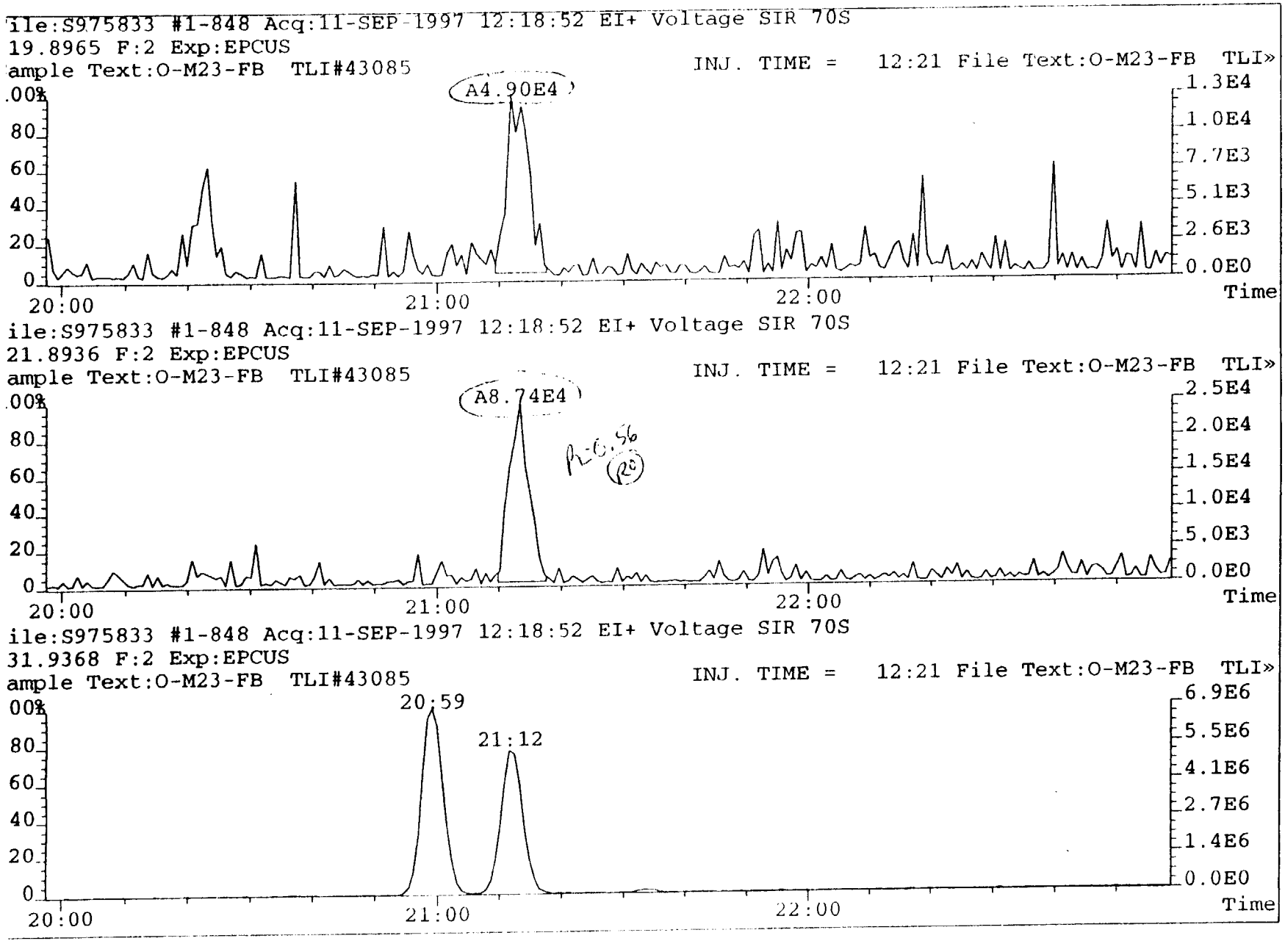
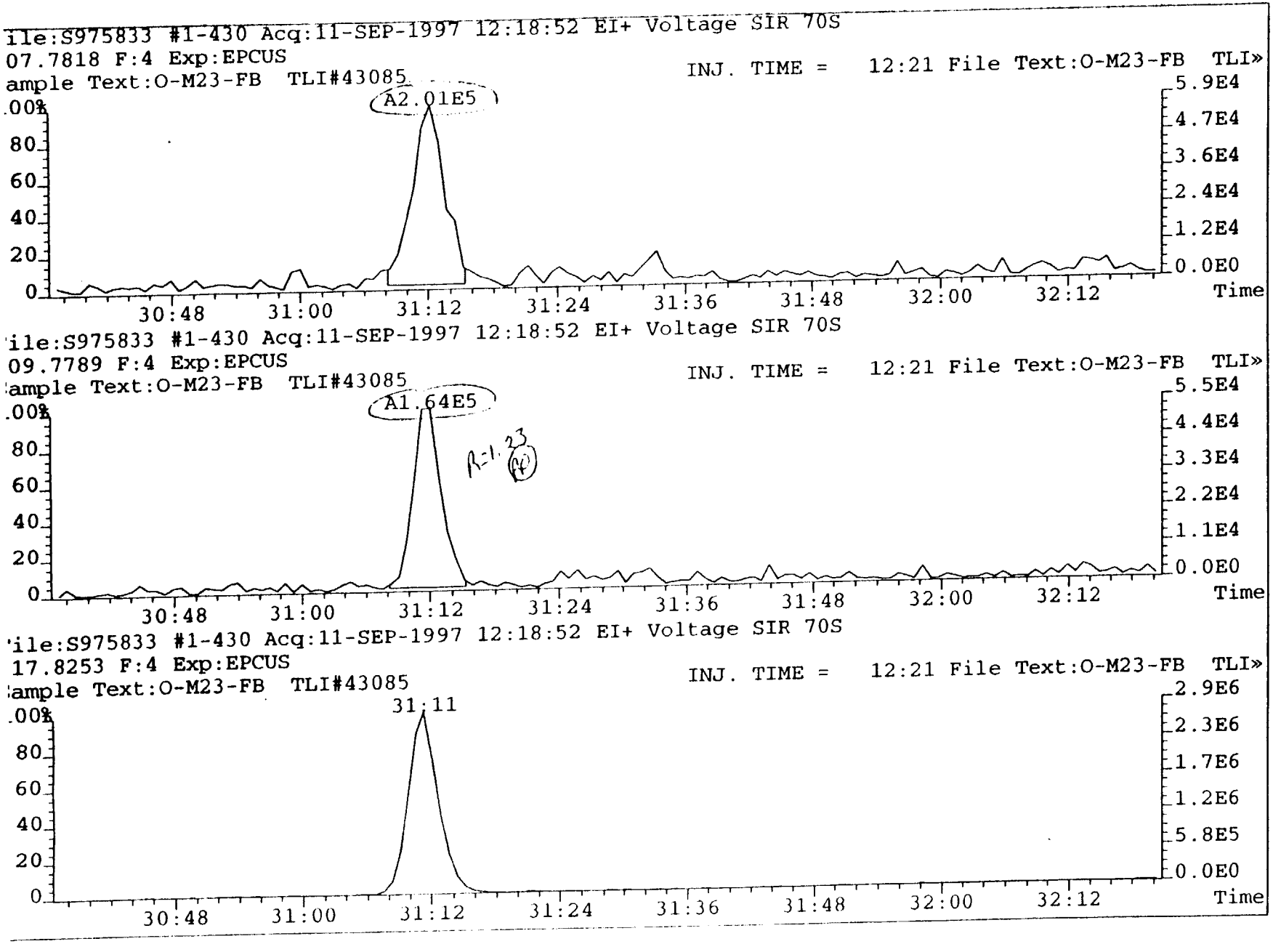
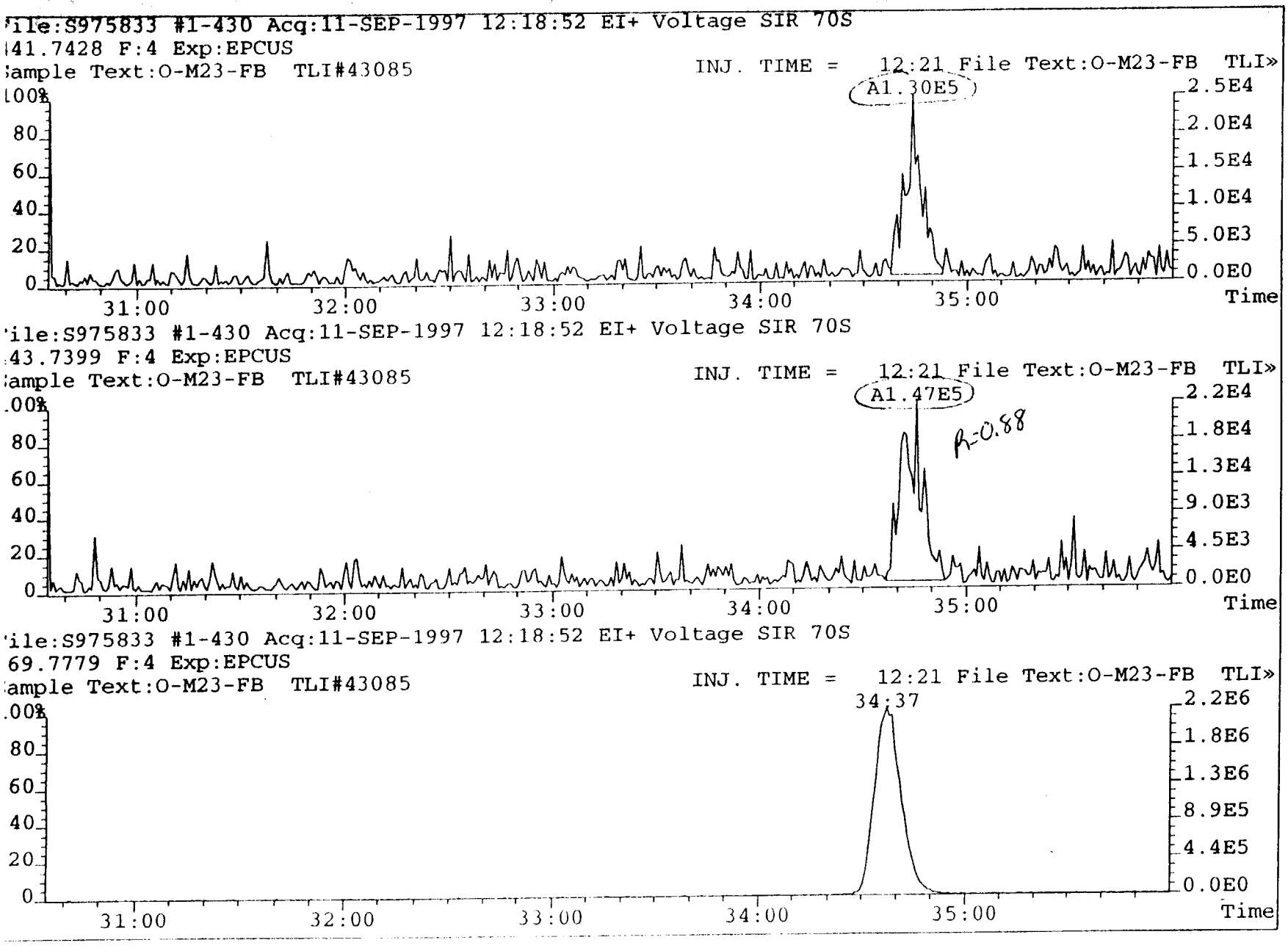
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.71E5
A4.33E3
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:33
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.88E5
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:446
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1784.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A1.97E7
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S Noise:192
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,768.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
A2.31E7
File:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:O-M23-FB TLI#43085 INJ. TIME = 12:21
34:25
34:28
34:31
34:34
34:43
34:52
Time


Z
50
5
50
5
Channel I 330.3792 Peak top
Height 3.25 volts Span 200 ppm
System file name EPCUS2
Data file name A:S911971
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
Ref. mass 416.9760 Peak top
Height .72 volts Span 200 ppm


ile:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
19.8965 F:2 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
A4.90E4
.00%
80
60
40
20
0
1.3E4
1.0E4
7.7E3
5.1E3
2.6E3
0.0E0
Time
20:00
21:00
22:00
ile:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
21.8936 F:2 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
A8.74E4
R=0.56
(20)
.00%
80
60
40
20
0
2.5E4
2.0E4
1.5E4
1.0E4
5.0E3
0.0E0
Time
20:00
21:00
22:00
ile:S975833 #1-848 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
31.9368 F:2 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
20:59
21:12
00%
80
60
40
20
0
6.9E6
5.5E6
4.1E6
2.7E6
1.4E6
0.0E0
Time
20:00
21:00
22:00


ile:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
07.7818 F:4 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
A2.01E5
.00%
80
60
40
20
0
5.9E4
4.7E4
3.6E4
2.4E4
1.2E4
0.0E0
Time
30:48
31:00
31:12
31:24
31:36
31:48
32:00
32:12
ile:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
09.7789 F:4 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
A1.64E5
R=1.23
.00%
80
60
40
20
0
5.5E4
4.4E4
3.3E4
2.2E4
1.1E4
0.0E0
Time
30:48
31:00
31:12
31:24
31:36
31:48
32:00
32:12
ile:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
17.8253 F:4 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
31:11
.00%
80
60
40
20
0
2.9E6
2.3E6
1.7E6
1.2E6
5.8E5
0.0E0
Time
30:48
31:00
31:12
31:24
31:36
31:48
32:00
32:12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41.7428 F:4 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
A1.30E5
100%
80
60
40
20
0
2.5E4
2.0E4
1.5E4
1.0E4
5.0E3
0.0E0
31:00
32:00
33:00
34:00
35:00
Time
ile:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
43.7399 F:4 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
A1.47E5
R=0.88
.00%
80
60
40
20
0
2.2E4
1.8E4
1.3E4
9.0E3
4.5E3
0.0E0
31:00
32:00
33:00
34:00
35:00
Time
ile:S975833 #1-430 Acq:11-SEP-1997 12:18:52 EI+ Voltage SIR 70S
69.7779 F:4 Exp:EPCUS
ample Text:O-M23-FB TLI#43085
INJ. TIME = 12:21 File Text:O-M23-FB TLI»
34:37
.00%
80
60
40
20
0
2.2E6
1.8E6
1.3E6
8.9E5
4.4E5
0.0E0
31:00
32:00
33:00
34:00
35:00
Time

Pacific Environmental Services

TLI Project: **43085** Method 23 TCDD/TCDF Analysis (DB-225)
Client Sample: **O-M23-FB** Analysis File: **P973861**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPC2NF04
TLI ID:	181-55-4ABD	Date Extracted:	09/04/97	ICal:	PF22206
		Date Analyzed:	09/13/97	ConCal:	P973859
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	P973852	% Lipid:	n/a
GC Column:	DB-225	Analyst:	JM	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	ND	0.05				—

Internal Standard	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.8	70.9	40%-130%	0.77	20:38	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	19:40	—

Data Reviewer: Sharon Lewis 09/18/97

C2NF_PSR v2.00, LARS 6.10.04

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

Printed: 15:53 09/18/97

Initial ....Date...

Data Review By: S 9/18/97 Calculated Noise Area: 1.26

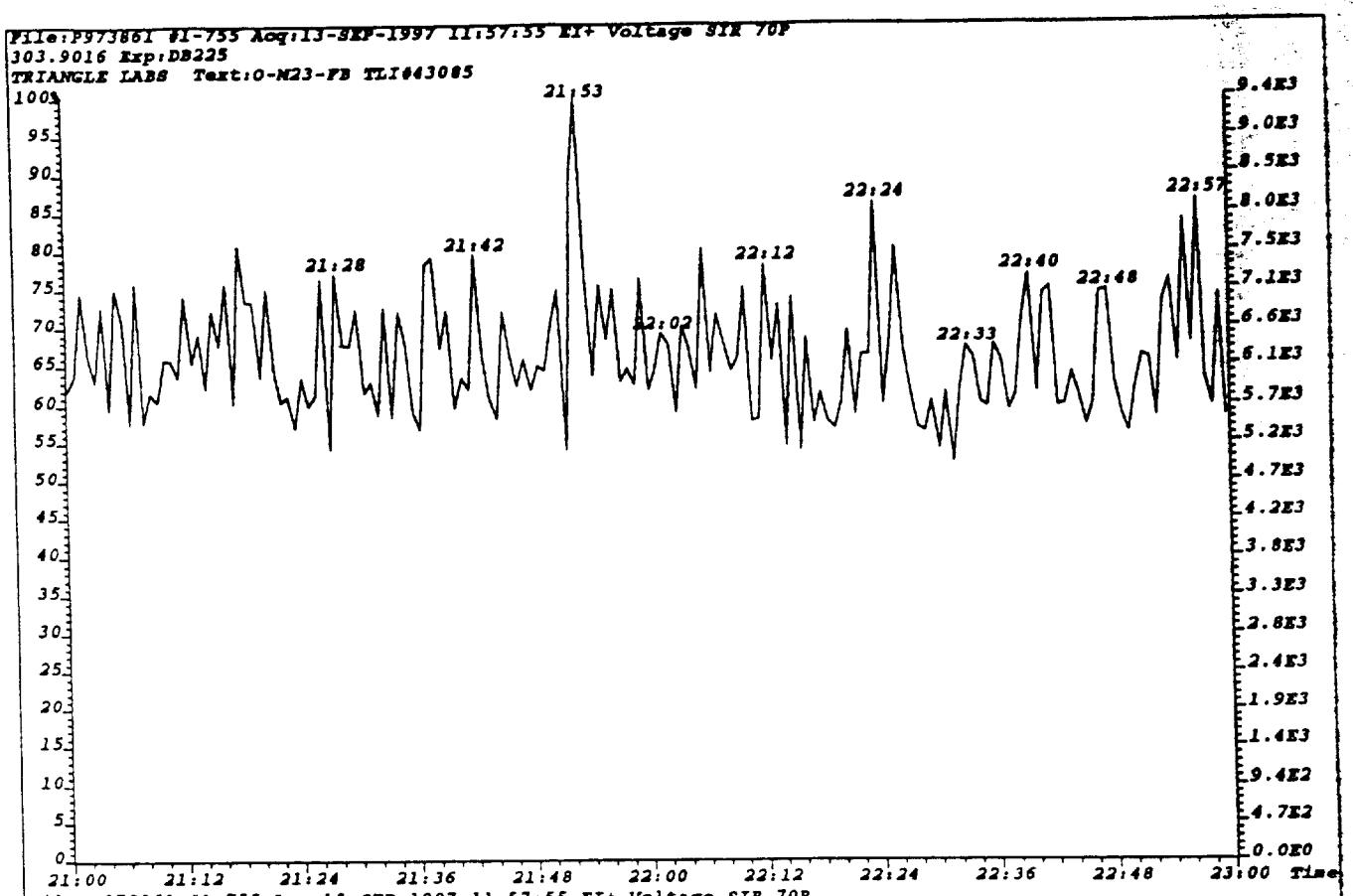
The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

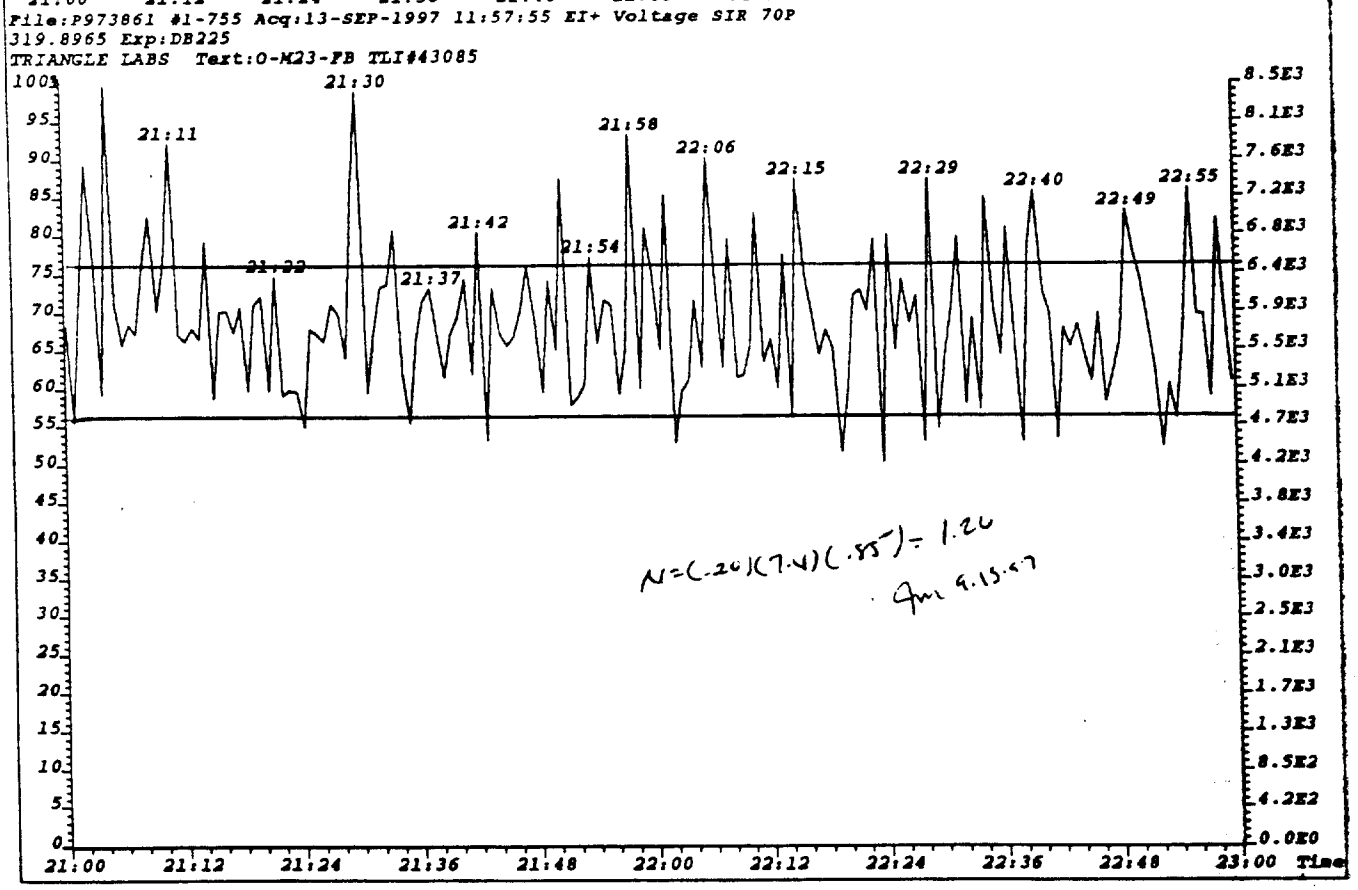
Page No. 1 Listing of P973861B.dbf
09/13/97 Matched GC Peaks / Ratio / Ret. Time

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				0.786-1.095			
304-306	DC	NL		0:00		0.81	2.01			0.000			
	DC	SN		20:39	RO	0.46	1.17			1.001	2378-TCDF		AN
304-306			0 Peaks				0.00						
13C12-TCDF						0.65-0.89				0.952-1.048			
316-318	DC	NL		0:00	RO	0.96	2.64			0.000			
	DC	WL		19:21	RO	2.63	1.29			0.938			
				19:38	RO	2.07	2.96	3.45	1.67	0.952			
				20:38		0.77	249.60	108.39	141.21	1.000	13C12-2378-TCDF		ISO
	DC	WH		22:11	RO	3.45	0.55			1.075			
316-318			2 Peaks				252.56						
---------- Above: TCDF / TCDD Follows ----------													
13C12-TCDD						0.65-0.89				0.897-1.103			
332-334	DC	NL		0:00	RO	2.30	1.43			0.000			
				19:26		0.79	204.62	90.32	114.30	1.000	13C12-2378-TCDD		IS1
				19:40		0.82	253.67	114.52	139.15	1.012	13C12-1234-TCDD		RS1
	DC	SN		20:19	RO	0.93	2.41			1.045			
332-334			2 Peaks				458.29						

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:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
303.9016 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
21:53
21:28
21:42
22:24
22:57
22:12
22:40
22:48
22:02
22:33
Time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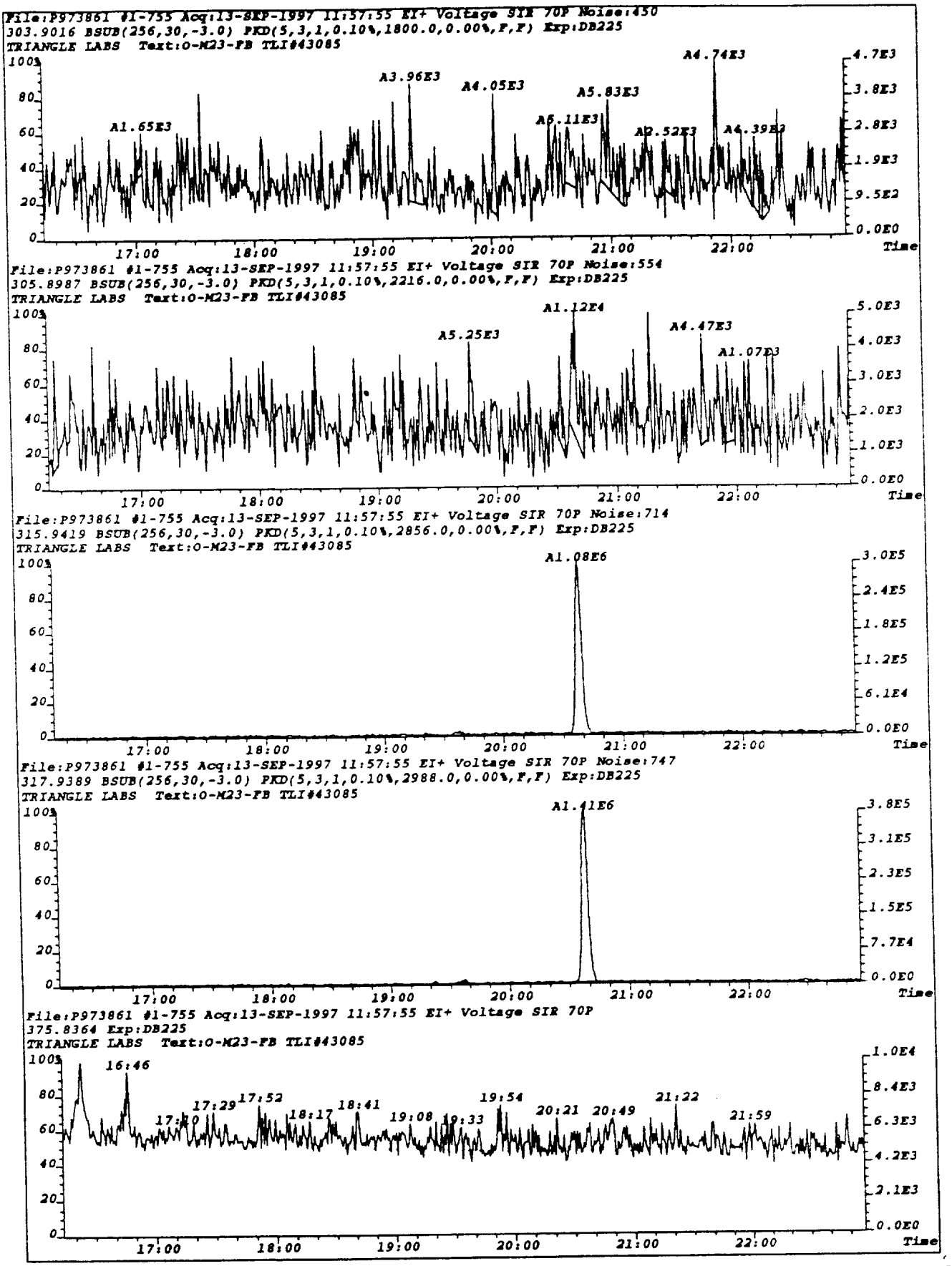
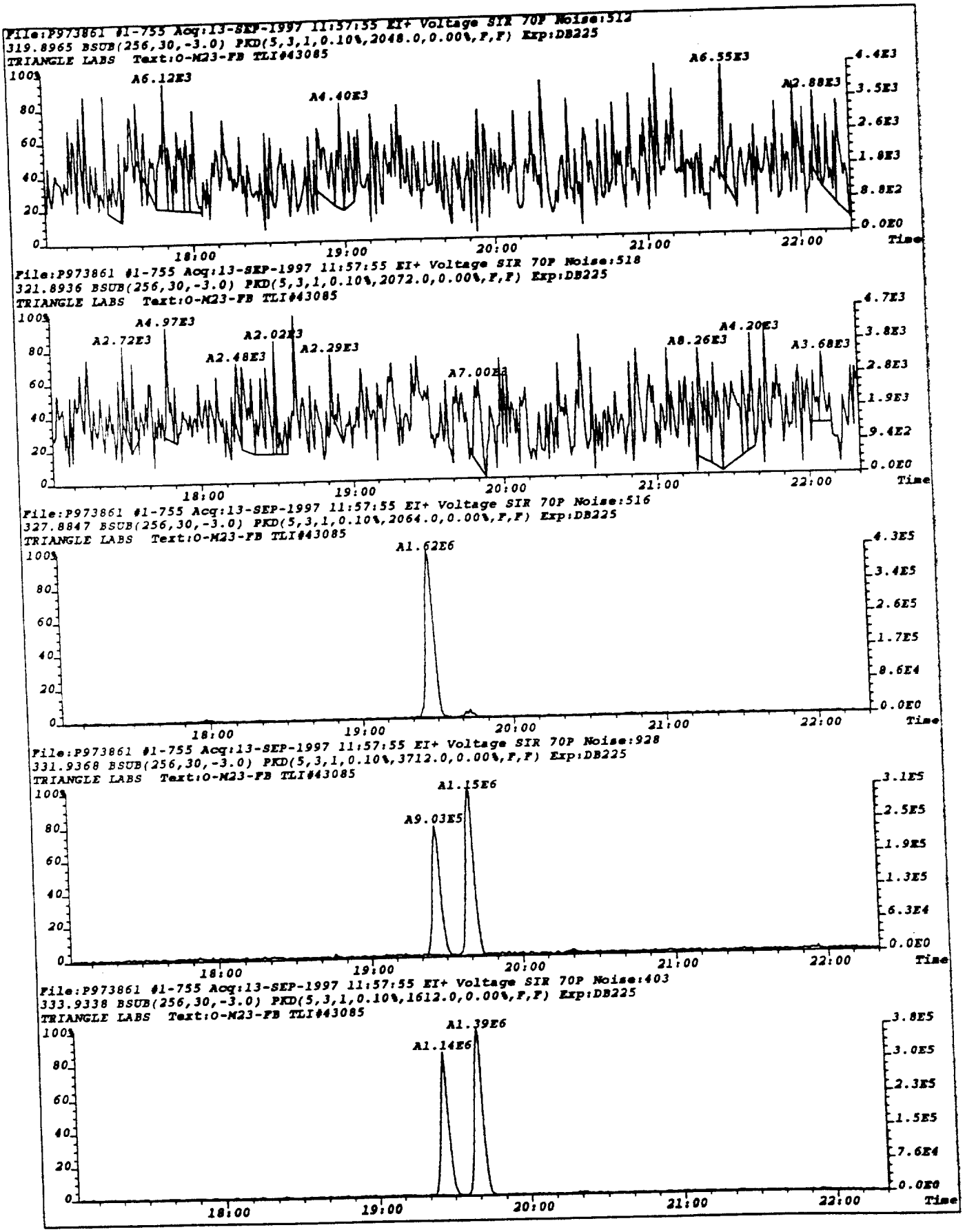
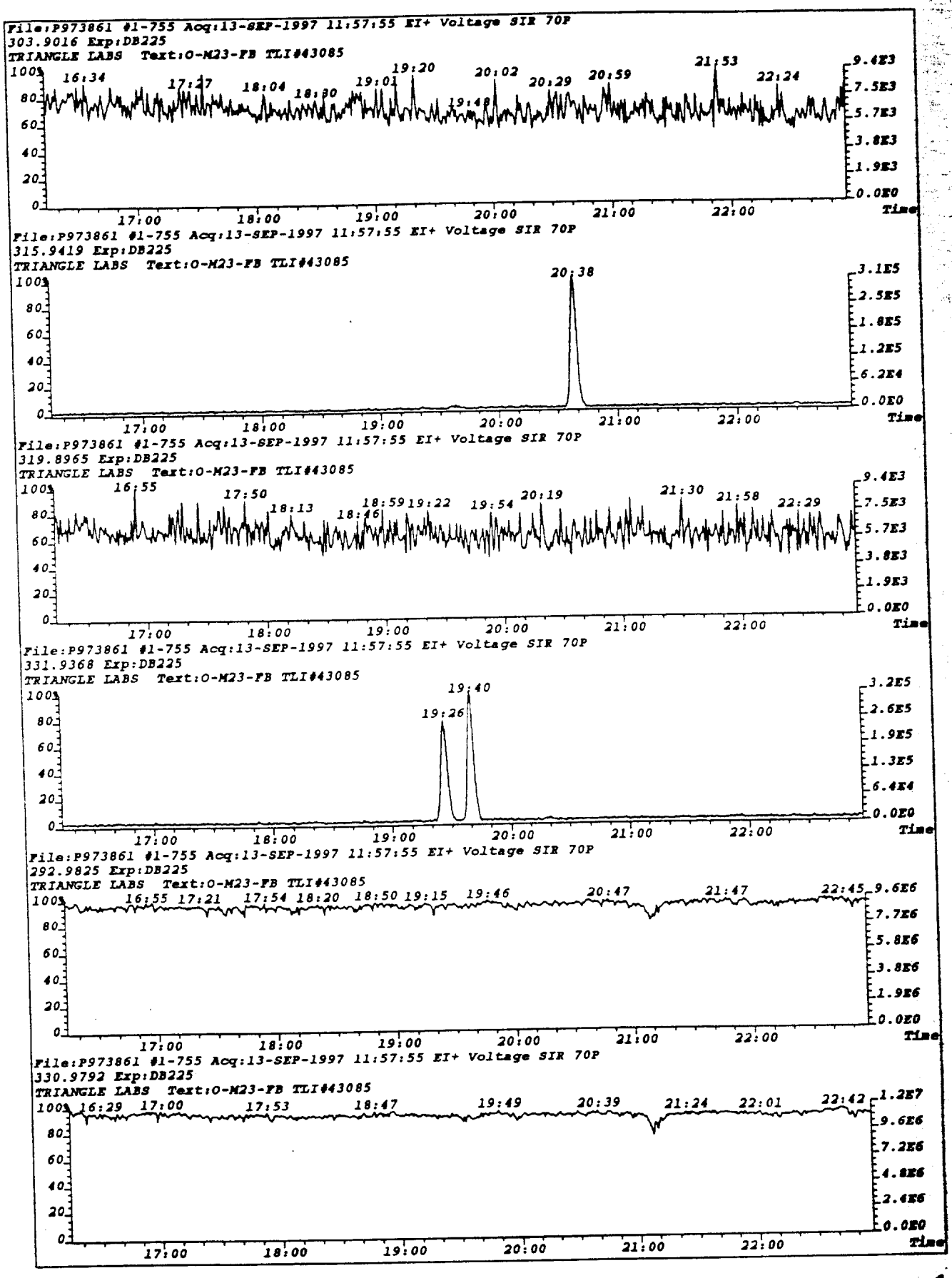
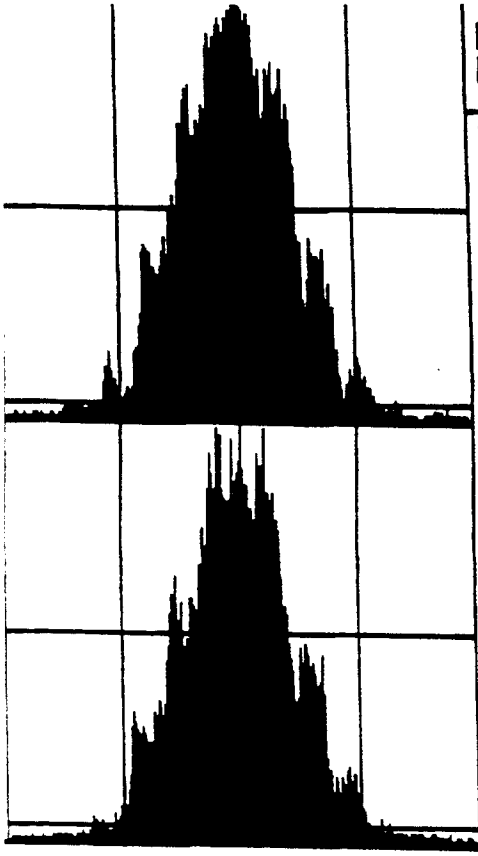
319.8965 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
21:30
21:11
21:58
22:06
22:15
22:29
22:40
22:49
22:55
21:42
21:54
21:37
N=(.20)(7.4)(.85)= 1.26
Time


File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:450
303.9016 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1800.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A1.65E3
A3.96E3
A4.05E3
A5.83E3
A4.74E3
A4.39E3
Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:554
305.8987 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2216.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A5.25E3
A1.12E4
A4.47E3
A1.07E3
Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:714
315.9419 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2856.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A1.08E6
Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:747
317.9389 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2988.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A1.41E6
Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
375.8364 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
16:46
17:29
17:52
18:41
19:08
19:54
20:21
20:49
21:22
21:59
Time


File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:512
319.8965 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2048.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A6.12E3
A4.40E3
A6.55E3
A2.88E3
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:518
321.8936 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2072.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A2.72E3
A4.97E3
A2.48E3
A2.02E3
A2.29E3
A7.00E3
A8.26E3
A4.20E3
A3.68E3
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:516
327.8847 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2064.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A1.62E6
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:928
331.9368 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,3712.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A1.15E6
A9.03E5
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P Noise:403
333.9338 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1612.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
A1.39E6
A1.14E6
18:00
19:00
20:00
21:00
22:00
Time


File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
303.9016 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
16:34 17:27 18:04 18:30 19:01 19:20 19:48 20:02 20:29 20:59 21:53 22:24
9.4E3 7.5E3 5.7E3 3.8E3 1.9E3 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
315.9419 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
20:38
3.1E5 2.5E5 1.8E5 1.2E5 6.2E4 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
319.8965 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
16:55 17:50 18:13 18:46 18:59 19:22 19:54 20:19 21:30 21:58 22:29
9.4E3 7.5E3 5.7E3 3.8E3 1.9E3 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
331.9368 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
19:26 19:40
3.2E5 2.6E5 1.9E5 1.3E5 6.4E4 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
292.9825 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
16:55 17:21 17:54 18:20 18:50 19:15 19:46 20:47 21:47 22:45
9.6E6 7.7E6 5.8E6 3.8E6 1.9E6 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time
File:P973861 #1-755 Acq:13-SEP-1997 11:57:55 EI+ Voltage SIR 70P
330.9792 Exp:DB225
TRIANGLE LABS Text:O-M23-FB TLI#43085
16:29 17:00 17:53 18:47 19:49 20:39 21:24 22:01 22:42
1.2E7 9.6E6 7.2E6 4.8E6 2.4E6 0.0E0
17:00 18:00 19:00 20:00 21:00 22:00 Time



Ref. mass 292.9825 Peak top
Height 1.61 volts Span 200 ppm

System file name	DB225
Data file name	A:P973861
Resolution	10000
Group number	1
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 380.9761

A	292.9825	J	330.9792
B	303.9816	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 1.83 volts Span 200 ppm

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **I-M23-1** — Analysis File: **S975834**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPX23704
TLI ID:	181-55-5ABD	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/11/97	ConCal:	S975814
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.06				—
1,2,3,7,8-PeCDD	ND	0.2				—
1,2,3,4,7,8-HxCDD	ND	0.2				—
1,2,3,6,7,8-HxCDD	ND	0.2				—
1,2,3,7,8,9-HxCDD	ND	0.2				—
1,2,3,4,6,7,8-HpCDD	ND	0.3				—
1,2,3,4,6,7,8,9-OCDD	9.7			0.93	34:43	—
2,3,7,8-TCDF	ND	0.05				—
1,2,3,7,8-PeCDF	ND	0.09				—
2,3,4,7,8-PeCDF	ND	0.09				—
1,2,3,4,7,8-HxCDF	ND	0.1				—
1,2,3,6,7,8-HxCDF	ND	0.1				—
2,3,4,6,7,8-HxCDF	ND	0.1				—
1,2,3,7,8,9-HxCDF	ND	0.2				—
1,2,3,4,6,7,8-HpCDF	ND	0.2				—
1,2,3,4,7,8,9-HpCDF	ND	0.2				—
1,2,3,4,6,7,8,9-OCDF	ND	0.3				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.06		—
Total PeCDD	ND		0.2		—
Total HxCDD	ND		0.2		—
Total HpCDD	EMPC			0.35	—
Total TCDF	EMPC			0.18	—
Total PeCDF	0.47	1			—
Total HxCDF	ND		0.1		—
Total HpCDF	ND		0.2		—

Triangle Laboratories, Inc.®
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Phone: (919) 544-5729 • Fax: (919) 544-5491

TLI Project: **43085**
Client Sample: **I-M23-1**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975834**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.9	72.8	40%-130%	0.74	21:09	___
$^{13}C_{12}$-2,3,7,8-TCDD	2.9	73.3	40%-130%	0.87	21:51	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.0	50.6	40%-130%	1.56	25:08	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	1.8	45.4	40%-130%	1.56	26:12	Q___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.6	65.4	40%-130%	0.51	28:42	Q___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.8	70.9	40%-130%	1.24	29:23	Q___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.2	56.0	25%-130%	0.43	31:21	Q___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.4	59.6	25%-130%	1.04	32:10	Q___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.5	55.8	25%-130%	0.79	34:45	Q___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.1	102	70%-140%		21:52	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.7	92.1	70%-140%	1.49	25:52	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	4.7	117	70%-140%	0.54	28:36	Q___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.6	89.9	70%-140%	1.22	29:18	Q___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	4.4	110	70%-140%	0.45	32:31	Q___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.2	80.6	40%-130%	0.51	29:53	Q___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.1	76.4	40%-130%	0.52	29:12	Q___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.86	21:37	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.17	29:40	Q___

Data Reviewer: _____ 09/18/97

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Initial ....Date...

Data Review By: [signature] 9/18/97 Calculated Noise Area: 1.48

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 S975834B.dbf
09/18/97 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						0.820-1.101			
304-306	DC	NL		0:00	RO	0.29	0.46			0.000			
	DC	SN		18:16	RO	0.97	2.76			0.864			
D	DC	SN		18:35	RO	0.59	13.49			0.879			
	DC	SN		18:55	RO	1.30	1.43			0.894			
	DC	SN		19:17		0.68	6.72			0.912			
				19:35	RO	0.95	14.07	7.55	7.95	0.926			
D	DC	SN		20:03	RO	0.52	7.40			0.948			
304-306			1	Peak			14.07						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318	DC	NL		0:00	RO	1.14	0.12			0.000			
	DC	WL		19:54	RO	0.32	0.76			0.941			
	DC	SN		20:43	RO	0.31	1.40			0.980			
				21:09		0.74	257.05	109.18	147.87	1.000	13C12-2378-TCDF	ISO	
	DC	WH		22:17	RO	3.12	1.19			1.054			
316-318			1	Peak			257.05						
---------- Above: TCDF / TCDD Follows ----------													
TCDD				0.65-0.89						0.853-1.059			
320-322	DC	NL		0:00	RO	1.00	0.12			0.000			
	DC	WL		18:09	RO	0.64	0.53			0.831			
	DC	SN		18:53		0.69	1.00			0.864			
	DC	SN		19:08	RO	0.40	1.29			0.876			
	DC	SN		19:47	RO	3.33	0.42			0.905			
	DC	SN		19:55	RO	0.94	0.85			0.912			
	DC	SN		19:59	RO	0.94	0.30			0.915			
	DC	SN		20:33	RO	1.36	0.99			0.941			
	DC	SN		21:05	RO	2.00	1.13			0.965			
	DC	SN		21:21	RO	1.04	0.44			0.977			
	DC	SN		21:33	RO	8.17	0.11			0.986			
	DC	SN		21:45		0.73	1.02			0.995			
	DC	SN		21:50	RO	0.43	1.24			0.999	2378-TCDD		AN
	DC	SN		22:30	RO	4.86	0.50			1.030			
	DC	SN		22:42	RO	1.74	1.20			1.039			
	DC	SN		22:46	RO	1.67	1.13			1.042			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.06			0.000			
	DC	WL		18:06			1.64			0.828			
	DC	WL		18:09			0.50			0.831			
	DC	WL		18:28			1.24			0.845			

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		18:35			0.25			0.850			
	DC	WL		18:42			0.40			0.856			
	DC	WL		18:46			0.09			0.859			
	DC	WL		18:59			0.45			0.869			
	DC	WL		19:03			0.59			0.872			
	DC	WL		19:14			0.50			0.880			
	DC	WL		19:20			0.38			0.885			
	DC	WL		19:23			0.16			0.887			
	DC	WL		19:26			0.38			0.889			
	DC	WL		19:38			0.50			0.899			
	DC	WL		19:45			0.22			0.904			
	DC	SN		19:59			0.77			0.915			
				20:10			5.65	5.65		0.923			
	DC	SN		20:24			0.32			0.934			
	DC	SN		20:31			0.15			0.939			
	DC	SN		20:42			0.70			0.947			
	DC	SN		20:59			0.35			0.960			
	DC	SN		21:09			0.55			0.968			
	DC	SN		21:15			0.53			0.973			
	DC	SN		21:20			0.26			0.976			
	DC	SN		21:27			0.94			0.982			
	DC	SN		21:38			0.55			0.990			
				21:52			180.26	180.26		1.001	37Cl-TCDD		SUR1
				22:13			9.74	9.74		1.017			
	DC	SN		22:23			0.95			1.024			
	DC	SN		22:30			1.38			1.030			
	DC	SN		22:37			0.22			1.035			
328			3	Peaks			195.65						
13C12-TCDD					0.65-0.89					0.906-1.094			
332-334	DC	NL		0:00	RO	38.33	0.11			0.000			
	DC	WL		18:36	RO	0.31	1.06			0.851			
	DC	WL		18:58	RO	3.03	1.19			0.868			
	DC	WL		19:09	RO	12.56	0.57			0.876			
	DC	WL		19:42	RO	17.00	0.30			0.902			
	DC	SN		21:20		0.68	2.89			0.976			
				21:37		0.86	268.06	124.01	144.05	0.989	13C12-1234-TCDD		RS1
				21:51		0.87	209.33	97.44	111.89	1.000	13C12-2378-TCDD		IS1
				22:08	RO	1.76	6.02	5.97	3.40	1.013			
	DC	SN		22:23	RO	1.99	1.24			1.024			
	DC	SN		22:33	RO	0.91	1.65			1.032			
	DC	SN		22:37	RO	2.95	0.97			1.035			
332-334			3	Peaks			483.41						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF					1.32-1.78					0.907-1.078			
340-342	DC	NL		0:00	RO	1.17	0.12			0.000			
	DC	WL		22:26	RO	0.62	0.63			0.882			
	DC	WL		22:45	RO	0.90	1.02			0.894			
				23:12		1.52	20.10	12.11	7.99	0.912			
	DC	SN		24:19		1.66	7.23			0.956			

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		24:29		1.42	2.18			0.963			
	DC	SN		24:39	RO	1.14	1.65			0.969			
	DC	SN		24:51	RO	1.18	3.08			0.977			
	DC	SN		25:05	RO	0.95	1.04			0.986			
	DC	SN		26:36	RO	0.34	0.95			1.046			
	DC	SN		26:54	RO	0.10	0.56			1.058			
340-342			1	Peak			20.10						
13C12-PeCDF						1.32-1.78				0.838-1.162			
352-354	DC	NL		0:00	RO	1.00	0.13			0.000			
	DC	SN		22:37	RO	0.46	0.87			0.889			
	DC	SN		22:43	RO	0.84	0.89			0.893			
	DC	SN		23:24	RO	1.17	1.37			0.920			
	DC	SN		23:34		1.37	0.83			0.927			
	DC	SN		24:03	RO	0.46	0.41			0.946			
	DC	SN		24:08	RO	0.54	0.41			0.949			
	DC	SN		24:20	RO	0.99	2.16			0.957			
N				25:08		1.56	153.70	93.72	59.98	0.988	13C12-PeCDF 123	IS2	
N	DC	SN		25:26	RO	2.21	1.35			1.000			
N				25:52		1.49	137.24	82.16	55.08	1.017	13C12-PeCDF 234	SUR2	
	DC	SN		26:20	RO	3.21	0.74			1.035			
	DC	SN		26:30		1.55	1.94			1.042			
	DC	SN		26:38	RO	0.77	2.14			1.047			
352-354			2	Peaks			290.94						

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

PeCDD						1.32-1.78				0.921-1.026			
356-358	DC	NL		0:00	RO	1.00	0.10			0.000			
	DC	WL		24:04	RO	9.18	0.28			0.914			
	DC	SN		25:57	RO	0.62	0.53			0.985			
	DC	SN		26:12	RO	3.43	0.94			0.995			
	DC	SN		26:33	RO	0.20	0.33			1.008			
356-358			0	Peaks			0.00						
13C12-PeCDD						1.32-1.78				0.845-1.155			
368-370	DC	NL		0:00	RO	1.00	0.10			0.000			
	DC	SN		24:19	RO	4.42	0.31			0.923			
	DC	SN		24:26	RO	0.82	0.77			0.928			
	DC	SN		24:49	RO	3.28	0.46			0.942			
	DC	SN		25:10	RO	4.29	0.97			0.956			
	DC	SN		25:31		1.72	0.68			0.969			
	DC	SN		25:48	RO	3.93	0.36			0.980			
N				26:12		1.56	77.33	47.13	30.20	0.995	13C12-PeCDD 123	IS3	Q
N				26:20		1.66	10.17	6.34	3.83	1.000			
368-370			2	Peaks			87.50						

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF						1.05-1.43				0.955-1.052			
374-376	DC	NL		0:00	RO	0.99	1.88			0.000			
	DC	WL		27:48	RO	1.77	3.96			0.952			

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		27:56	RO	0.67	0.65			0.957			
	DC	SN		28:14		1.37	3.08			0.967			
	DC	SN		28:35	RO	2.90	0.47			0.979			
	DC	SN		28:40	RO	0.90	1.26			0.982			
	DC	SN		28:43	RO	6.08	0.54			0.983			
	DC	SN		28:48		1.10	0.88			0.986			
	DC	SN		28:52	RO	0.74	0.63			0.989			
	DC	SN		28:57		1.34	0.89			0.991			
	DC	SN		29:01	RO	1.02	1.99			0.994			
	DC	SN		29:13	RO	2.74	1.95			1.001	123678-HxCDF	AN	
	DC	SN		29:20		1.19	1.53			1.005			
	DC	SN		29:20	RO	0.98	0.74			1.005			
	DC	SN		29:30	RO	0.14	0.78			1.010			
	DC	SN		29:36	RO	1.01	3.09			1.014			
	DC	SN		29:42	RO	0.93	0.90			1.017	234678-HxCDF	AN	
	DC	SN		30:06	RO	1.95	2.89			1.031			
	DC	SN		30:13	RO	4.89	0.63			1.035			
374-376			0 Peaks				0.00						
13C12-HxCDF				0.43-0.59						0.859-1.141			
384-386	DC	NL		0:00	RO	0.40	1.66			0.000			
	DC	SN		27:28	RO	4.06	0.27			0.941			
	DC	SN		27:34	RO	0.14	0.30			0.944			
	DC	SN		27:46	RO	2.70	0.41			0.951			
	DC	SN		27:49	RO	2.54	0.20			0.953			
	DC	SN		27:54	RO	0.15	0.53			0.955			
	DC	SN		28:04	RO	0.75	1.09			0.961			
	DC	SN		28:07	RO	0.34	0.47			0.963			
	DC	SN		28:13		0.58	1.15			0.966			
	DC	SN		28:21	RO	1.94	0.72			0.971			
N				28:36		0.54	100.38	35.23	65.15	0.979	13C12-HxCDF	478	SUR3 Q
N				28:42		0.51	89.20	30.12	59.08	0.983	13C12-HxCDF	678	IS4 Q
	DC	SN		28:53	RO	0.60	1.34			0.989			
N				29:12		0.52	96.55	33.07	63.48	1.000	13C12-HxCDF	234	ALT2 Q
	DC	SN		29:20	RO	0.40	0.92			1.005			
	DC	SN		29:25	RO	1.06	0.71			1.007			
	DC	SN		29:33	RO	7.40	0.23			1.012			
	DC	SN		29:38	RO	0.66	1.28			1.015			
N				29:53		0.51	88.59	29.97	58.62	1.023	13C12-HxCDF	789	ALT1 Q
	DC	SN		30:14	RO	0.76	1.37			1.035			
384-386			4 Peaks				374.72						

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

HxCDD				1.05-1.43						0.950-1.015			
390-392	DC	NL		0:00		1.41	1.47			0.000			
	DC	WL		28:06		1.14	0.60			0.947			
	DC	SN		28:29	RO	5.10	0.22			0.960			
	DC	SN		28:43	RO	0.11	0.16			0.968			
	DC	SN		28:48		1.07	0.85			0.971			
	DC	SN		28:50	RO	1.02	0.81			0.972			
	DC	SN		29:01	RO	0.53	1.19			0.978			

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		29:08		1.38	1.14			0.982			
	DC	SN		29:14	RO	2.97	0.67			0.985			
	DC	SN		29:24	RO	0.37	0.56			0.991			
	DC	SN		29:29	RO	0.75	1.32			0.994			
	DC	SN		29:34	RO	0.08	0.27			0.997	123478-HxCDD	AN	
	DC	SN		29:44	RO	0.25	0.31			1.002	123678-HxCDD	AN	
	DC	SN		29:50	RO	0.77	0.96			1.006			
	DC	SN		29:54	RO	0.14	0.23			1.008			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC	NL		0:00	RO	0.93	1.14			0.000			
	DC	WL		27:50	RO	2.14	0.47			0.938			
	DC	WL		27:58	RO	1.65	1.46			0.943			
	DC	WL		28:19	RO	0.56	0.83			0.954			
	DC	WL		28:21		1.35	1.29			0.956			
	DC	WL		28:29	RO	0.83	0.34			0.960			
	DC	SN		29:00		1.20	0.44			0.978			
	DC	SN		29:00	RO	1.48	0.65			0.978			
	DC	SN		29:09	RO	0.61	1.45			0.983			
N				29:18		1.22	69.92	38.42	31.50	0.988	13C12-HxCDD 478	SUR4	Q
N				29:23		1.24	79.95	44.32	35.63	0.990	13C12-HxCDD 678	IS5	Q
N				29:40		1.17	113.35	61.18	52.17	1.000	13C12-HxCDD 789	RS2	Q
	DC	SN		29:50	RO	0.95	1.63			1.006			
	DC	SN		29:55	RO	2.02	1.01			1.008			
402-404			3	Peaks			263.22						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF				0.88-1.20						0.995-1.044			
408-410	DC	NL		0:00	RO	1.71	4.22			0.000			
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC	NL		0:00	RO	0.99	2.02			0.000			
N				31:21		0.43	56.35	17.02	39.33	0.993	13C12-HpCDF 678	IS6	Q
N	DC	SN		31:34	RO	0.98	1.50			1.000			
N				32:31		0.45	47.69	14.86	32.83	1.030	13C12-HpCDF 789	SUR5	Q
	DC	SN		32:41		0.49	2.00			1.035			
	DC	SN		32:51	RO	0.23	2.65			1.041			
418-420			2	Peaks			104.04						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD				0.88-1.20						0.976-1.006			
424-426	DC	NL		0:00	RO	1.66	1.63			0.000			
	DC	SN		31:26	RO	0.39	0.57			0.977			
M				31:36	RO	0.86	5.10	2.60	3.01	0.982			
424-426			1	Peak			5.10						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	9.63	0.16			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		31:35		1.10	1.70			0.982			
	DC	SN		31:40	RO	0.42	0.35			0.984			
	DC	SN		31:59	RO	2.49	0.88			0.994			
				32:10		1.04	55.10	28.13	26.97	1.000	13C12-HpCDD 678	IS7	Q
436-438			1 Peak				55.10						

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

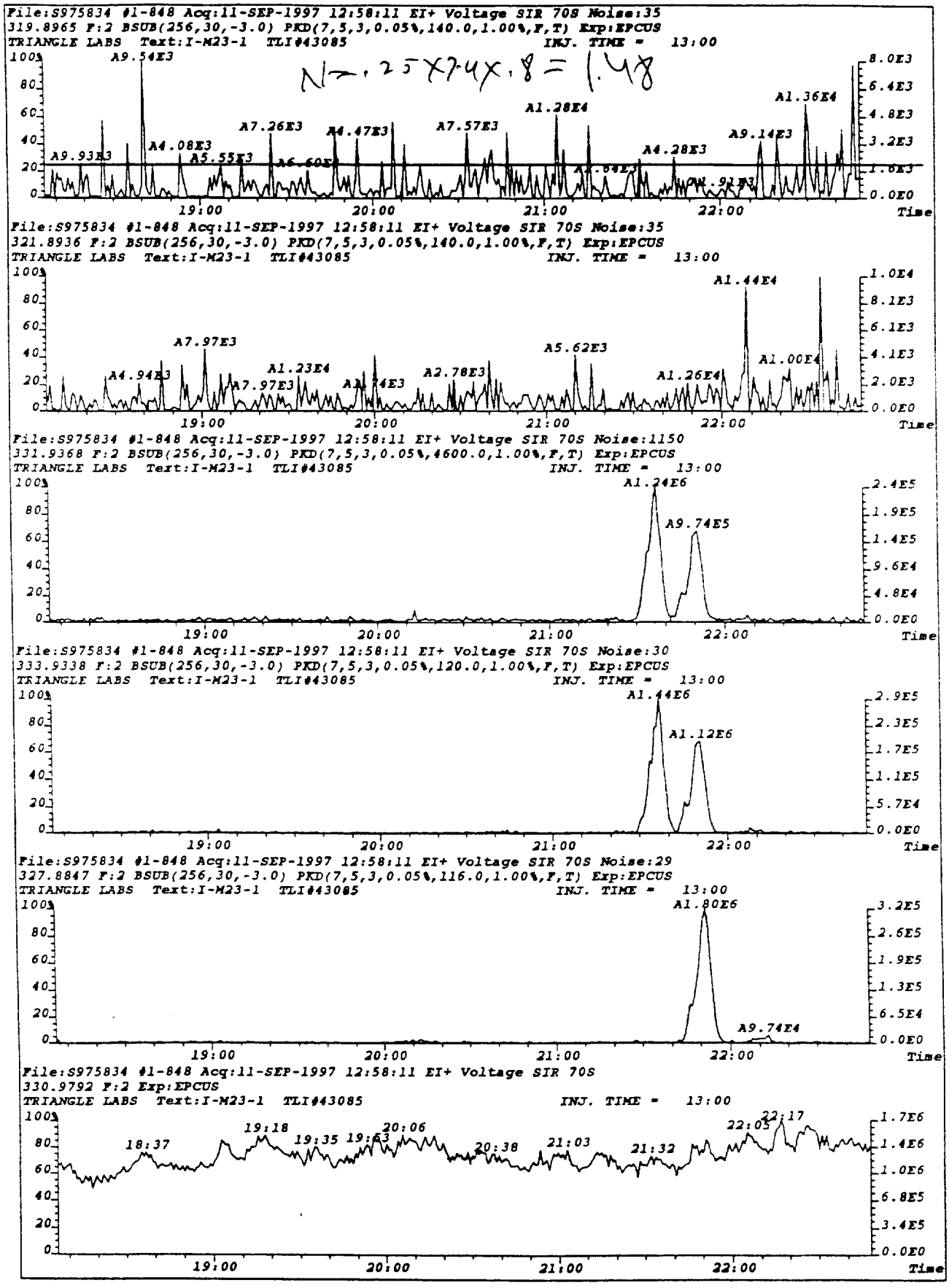
OCDF						0.76-1.02				0.884-1.116			
442-444	DC	NL		0:00		1.00	0.12			0.000			
	DC	SN		30:56	RO	0.47	0.70			0.890			
	DC	SN		31:30	RO	1.11	0.34			0.906			
	DC	SN		31:40	RO	2.86	0.42			0.911			
	DC	SN		32:04	RO	0.13	0.32			0.923			
	DC	SN		32:16		0.85	1.33			0.929			
	DC	SN		32:30		0.80	1.76			0.935			
	DC	SN		32:52	RO	0.08	0.38			0.946			
	DC	SN		33:10	RO	2.32	1.89			0.954			
	DC	SN		33:35	RO	2.96	0.43			0.966			
	DC	SN		33:56	RO	0.52	1.91			0.976			
	DC	SN		34:16		0.86	1.06			0.986			
	DC	SN		35:29	RO	0.45	1.68			1.021			
	DC	SN		35:59	RO	0.58	1.70			1.035			
442-444			0 Peaks				0.00						

OCDD						0.76-1.02				0.884-1.116			
458-460	DC	NL		0:00	RC	1.17	0.11			0.000			
				34:43		0.93	88.40	42.55	45.85	0.999	OCDD		AN
458-460			1 Peak				88.40						

13C12-OCDD						0.76-1.02				0.995-1.005			
470-472	DC	NL		0:00	RO	0.09	0.11			0.000			
	DC	WL		34:33	RO	2.02	0.93			0.994			
				34:45		0.79	65.71	28.91	36.80	1.000	13C12-OCDD	IS8	Q
470-472			1 Peak				65.71						

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 -RC=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 ***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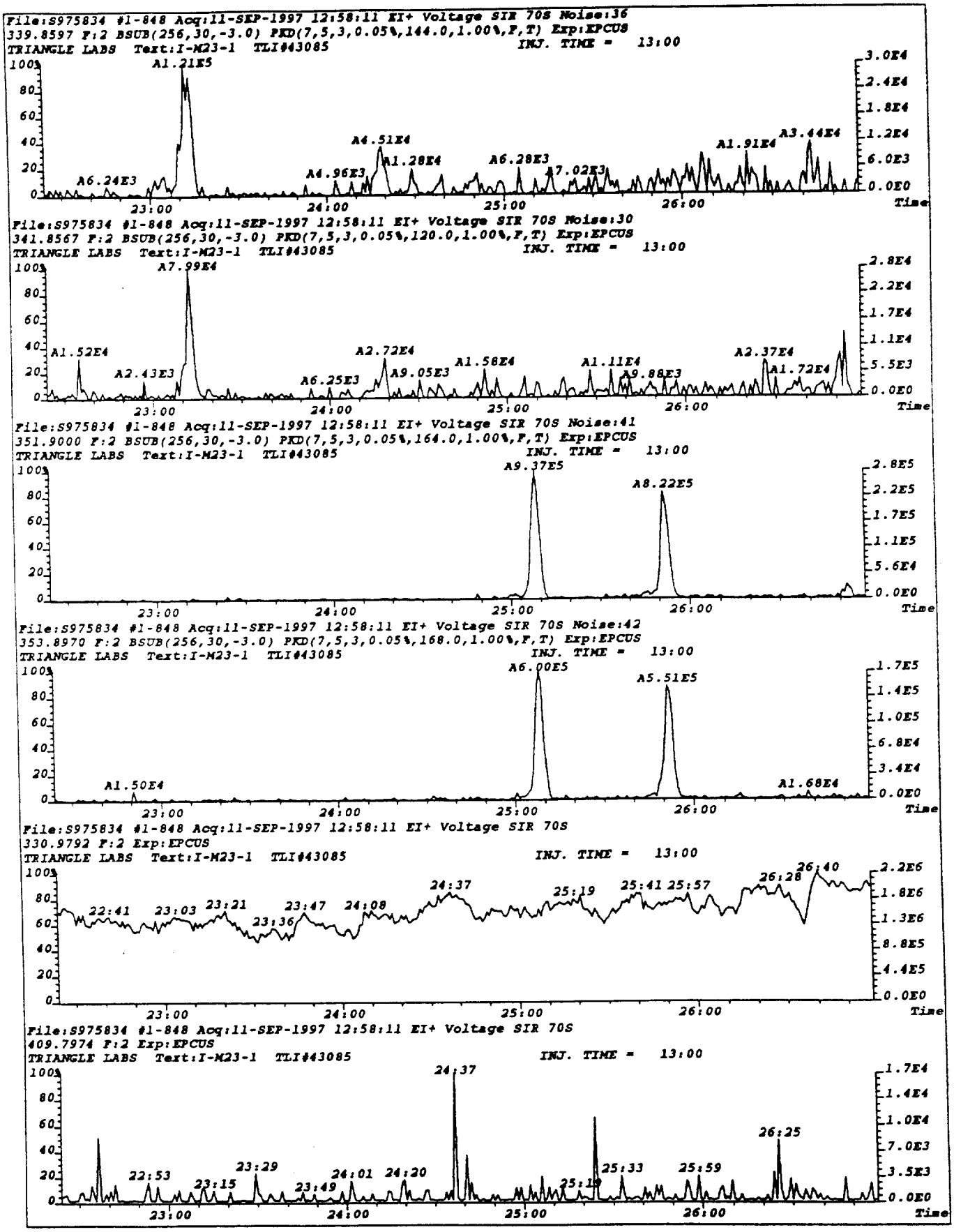
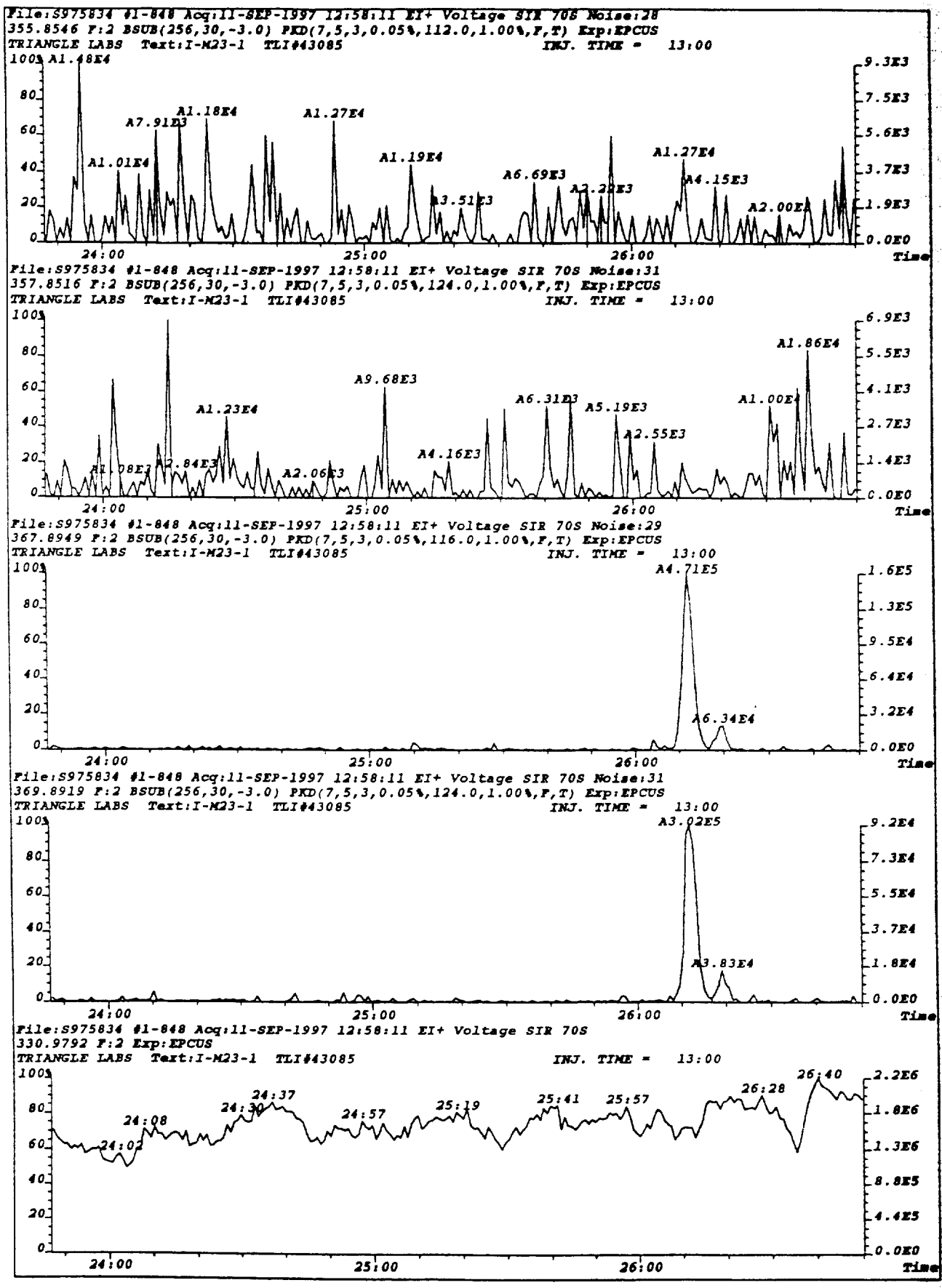
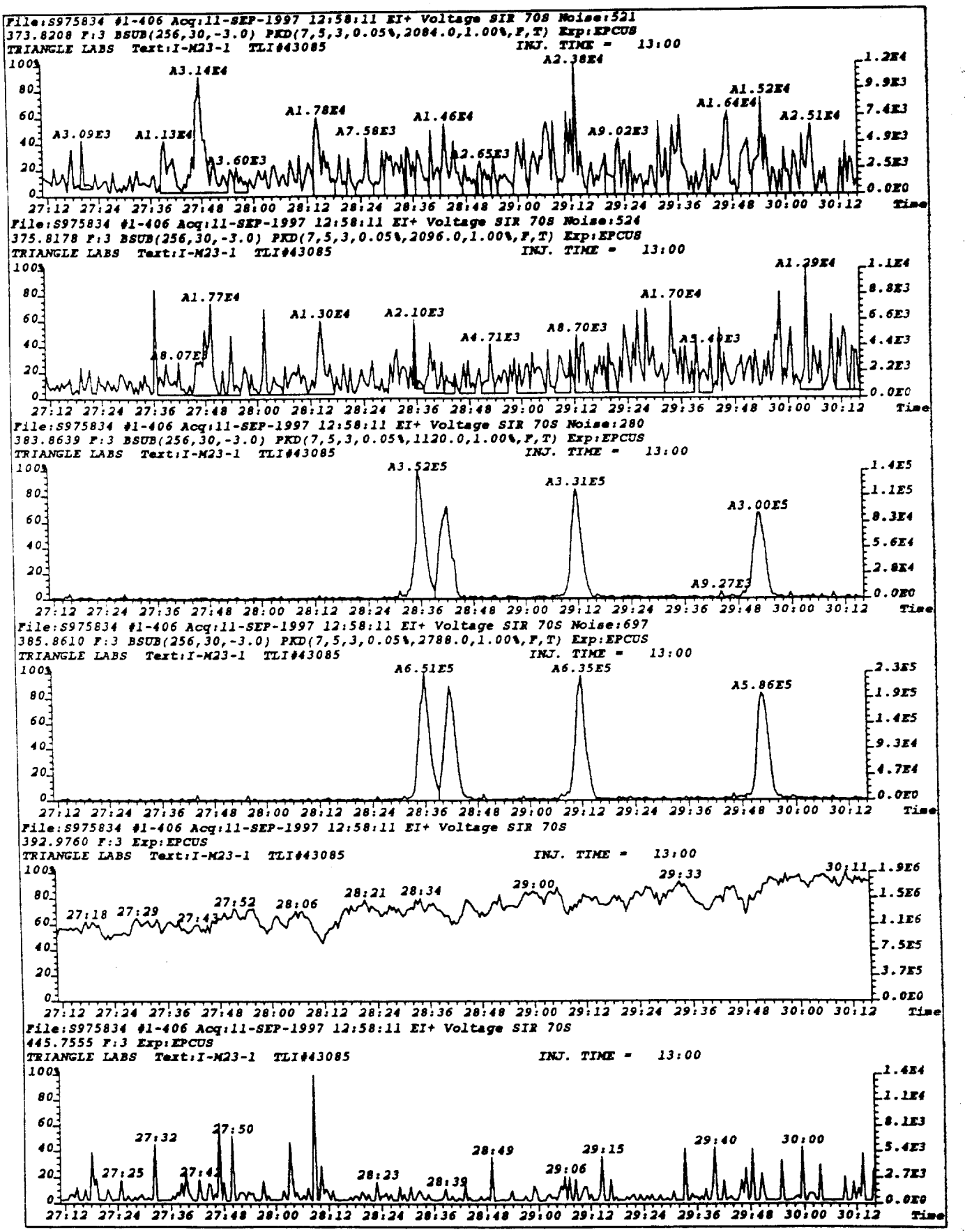
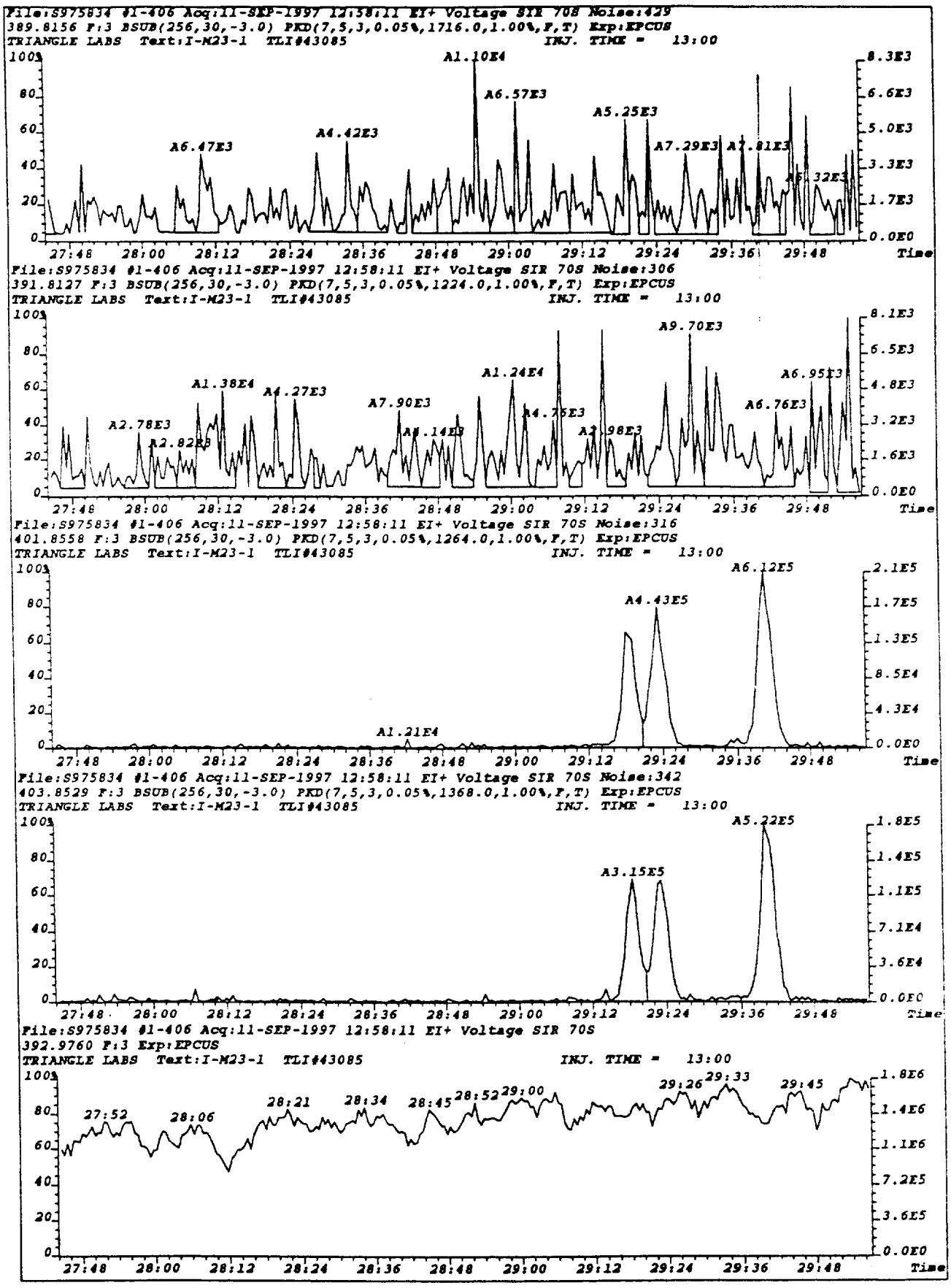
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A9.54E3
A9.93E3
A4.08E3
A5.55E3
A7.26E3
A4.47E3
A7.57E3
A1.28E4
A4.28E3
A9.14E3
A1.36E4
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:35
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A4.94E3
A7.97E3
A1.23E4
A7.97E3
A2.78E3
A5.62E3
A1.26E4
A1.44E4
A1.00E4
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:1150
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4600.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.24E6
A9.74E5
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:30
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.44E6
A1.12E6
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:29
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.80E6
A9.74E4
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
18:37
19:18
19:35
19:53
20:06
20:38
21:03
21:32
22:05
22:17
Time


File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:36
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.21E5
A6.24E3
A4.96E3
A4.51E4
A1.28E4
A6.28E3
A7.02E3
A1.91E4
A3.44E4
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:30
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A7.99E4
A1.52E4
A2.43E3
A6.25E3
A2.72E4
A9.05E3
A1.58E4
A1.11E4
A9.88E3
A2.37E4
A1.72E4
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:41
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,164.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A9.37E5
A8.22E5
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:42
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A6.00E5
A5.51E5
A1.50E4
A1.68E4
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
22:41
23:03
23:21
23:36
23:47
24:08
24:37
25:19
25:41
25:57
26:28
26:40
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
22:53
23:15
23:29
23:49
24:01
24:20
24:37
25:33
25:59
26:25
23:00
24:00
25:00
26:00
Time


File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:28
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,112.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.48E4
A7.91E3
A1.18E4
A1.27E4
A1.01E4
A1.19E4
A6.69E3
A1.27E4
A4.15E3
A2.00E4
24:00
25:00
26:00
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:31
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A9.68E3
A1.86E4
A1.23E4
A6.31E3
A5.19E3
A1.00E4
A2.55E3
A4.16E3
A2.06E3
24:00
25:00
26:00
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:29
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A4.71E5
A6.34E4
24:00
25:00
26:00
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:31
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A3.02E5
A3.83E4
24:00
25:00
26:00
Time
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
24:02
24:08
24:30
24:37
24:57
25:19
25:41
25:57
26:28
26:40
24:00
25:00
26:00
Time


File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:521
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2084.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A3.14E4
A2.38E4
A1.78E4
A1.46E4
A1.64E4
A1.52E4
A2.51E4
A3.09E3
A1.13E4
A7.58E3
A3.60E3
A2.65E3
A9.02E3
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:524
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2096.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.77E4
A1.30E4
A2.10E3
A4.71E3
A8.70E3
A1.70E4
A1.29E4
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:280
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A3.52E5
A3.31E5
A3.00E5
A9.27E3
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:697
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2788.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A6.51E5
A6.35E5
A5.86E5
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
27:18
27:29
27:43
27:52
28:06
28:21
28:34
29:00
29:33
30:11
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
27:25
27:32
27:42
27:50
28:23
28:39
28:49
29:06
29:15
29:40
30:00
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12
Time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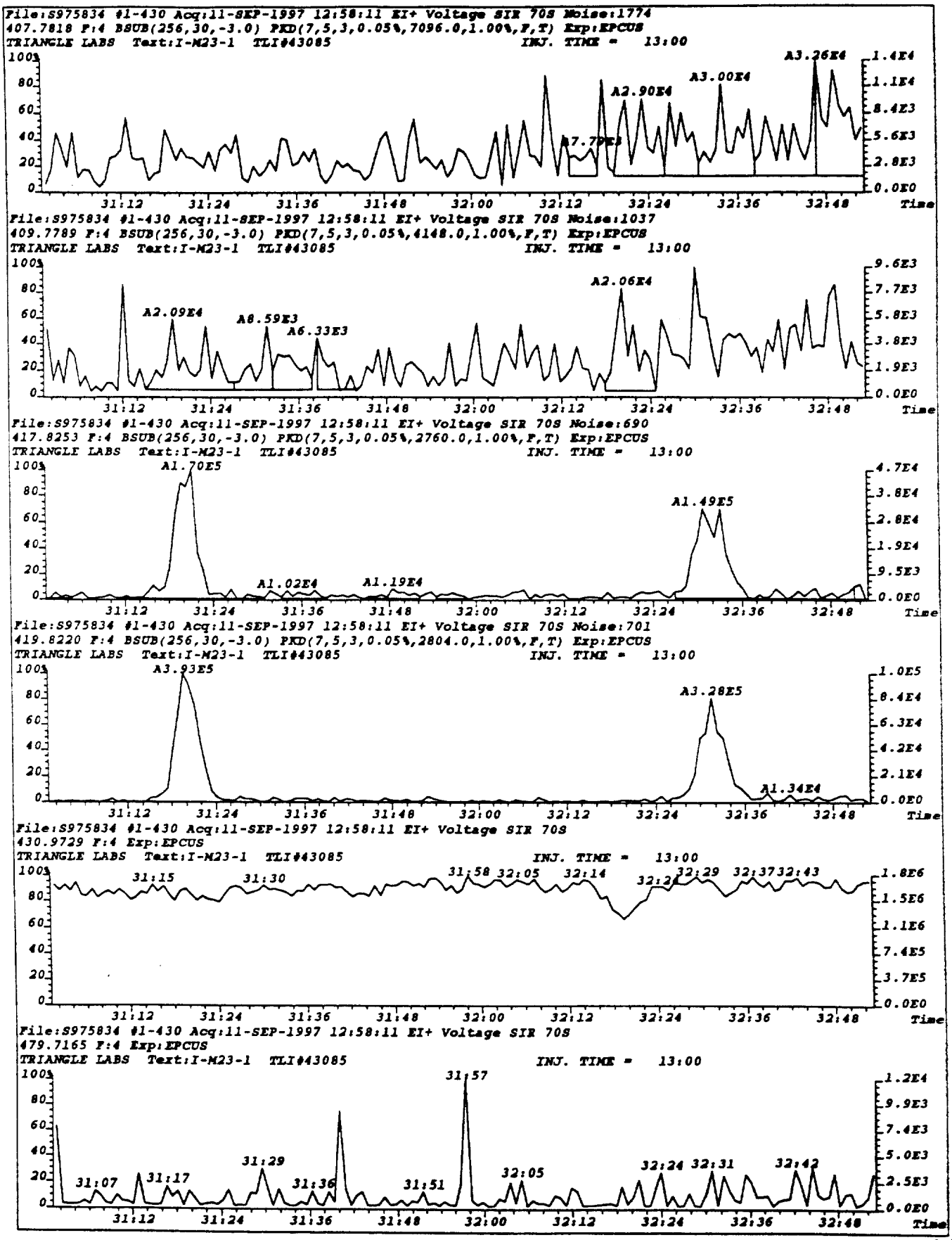
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1716.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A1.10E4
A6.57E3
A5.25E3
A4.42E3
A6.47E3
A7.29E3
A7.81E3
A6.32E3
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:306
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A9.70E3
A1.24E4
A1.38E4
A4.27E3
A7.90E3
A6.95E3
A6.76E3
A2.78E3
A2.82E3
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:316
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A6.12E5
A4.43E5
A1.21E4
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:342
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1368.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A5.22E5
A3.15E5
File:S975834 #1-406 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
27:52
28:06
28:21
28:34
28:45
28:52
29:00
29:26
29:33
29:45
27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 Time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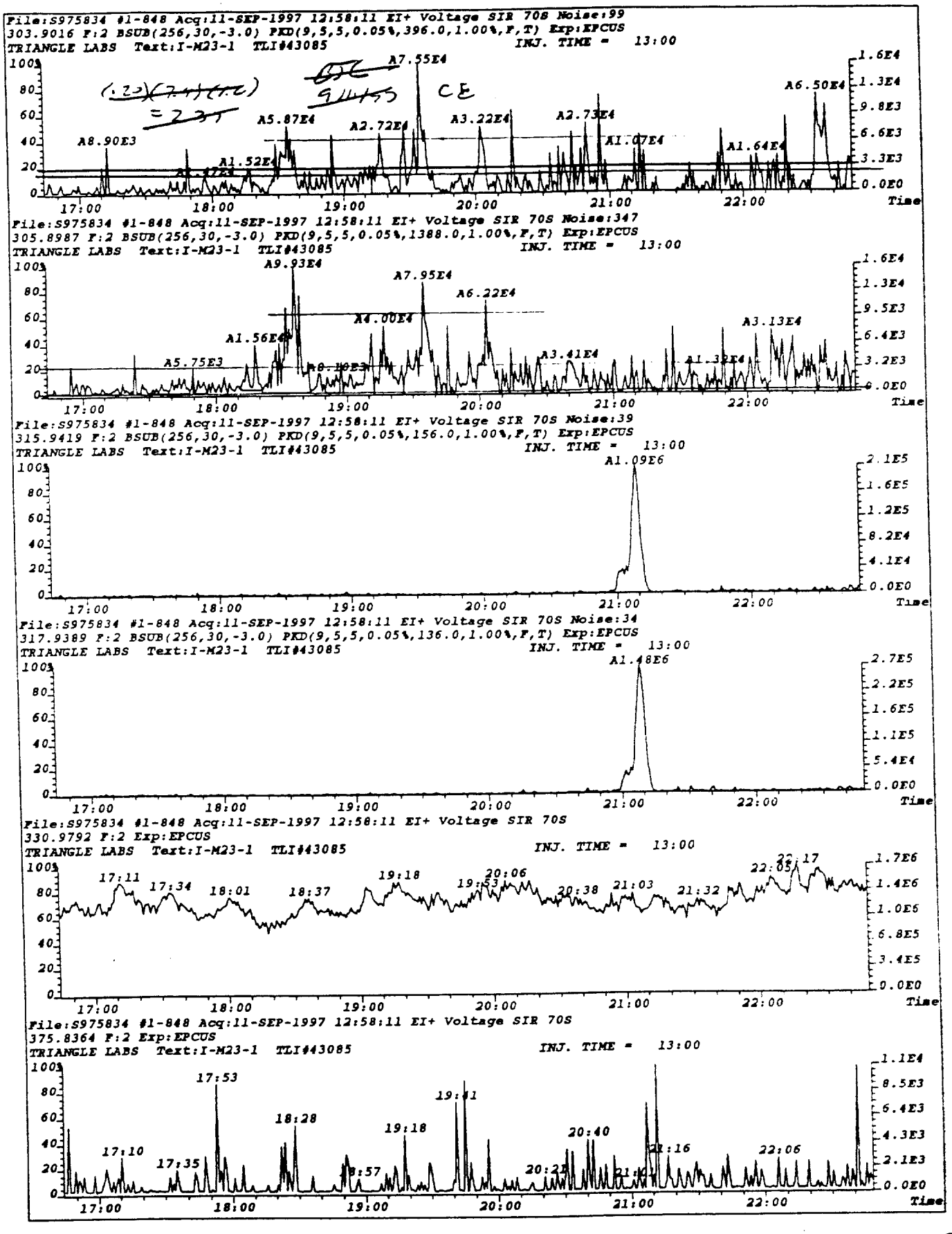
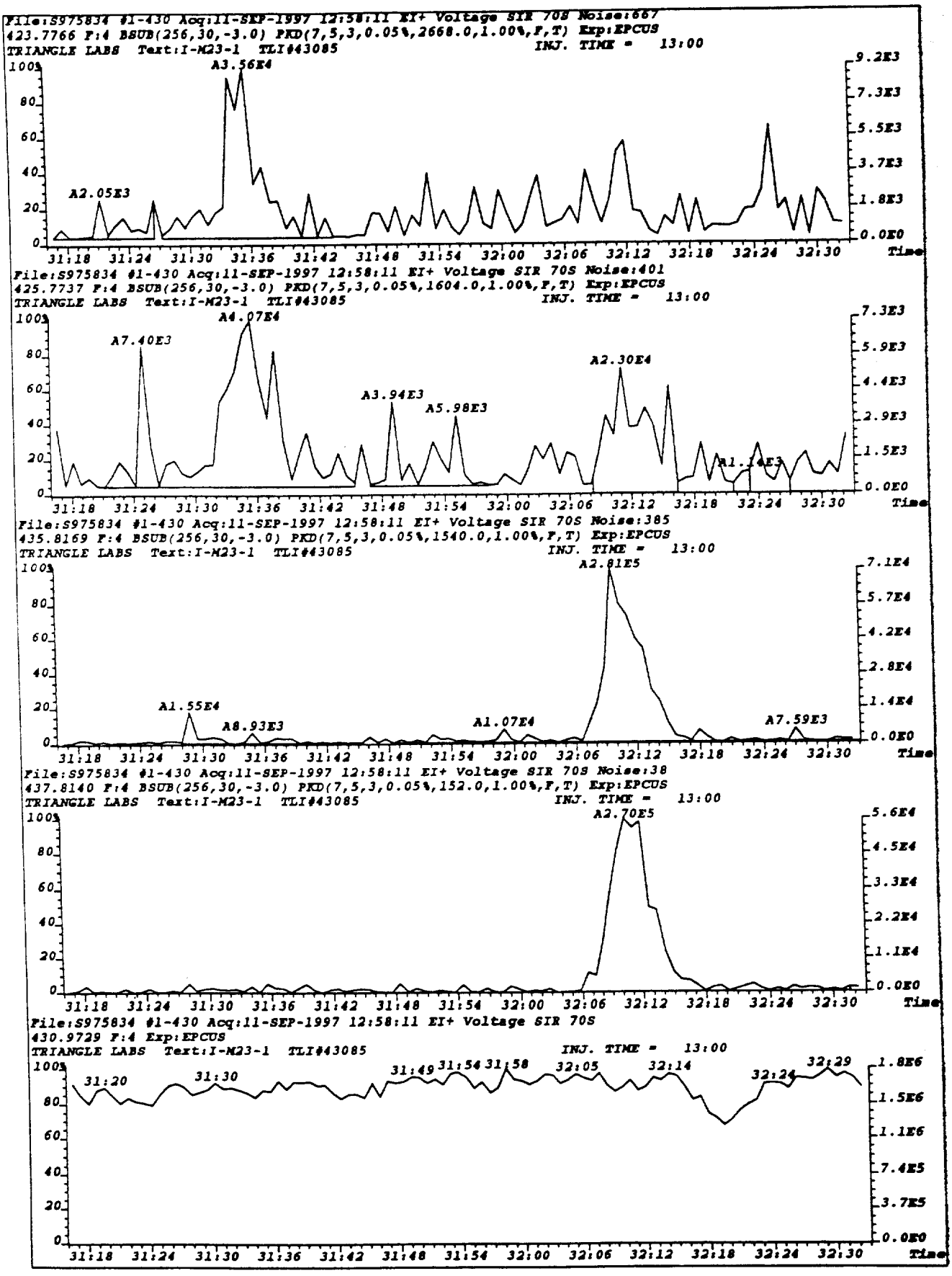
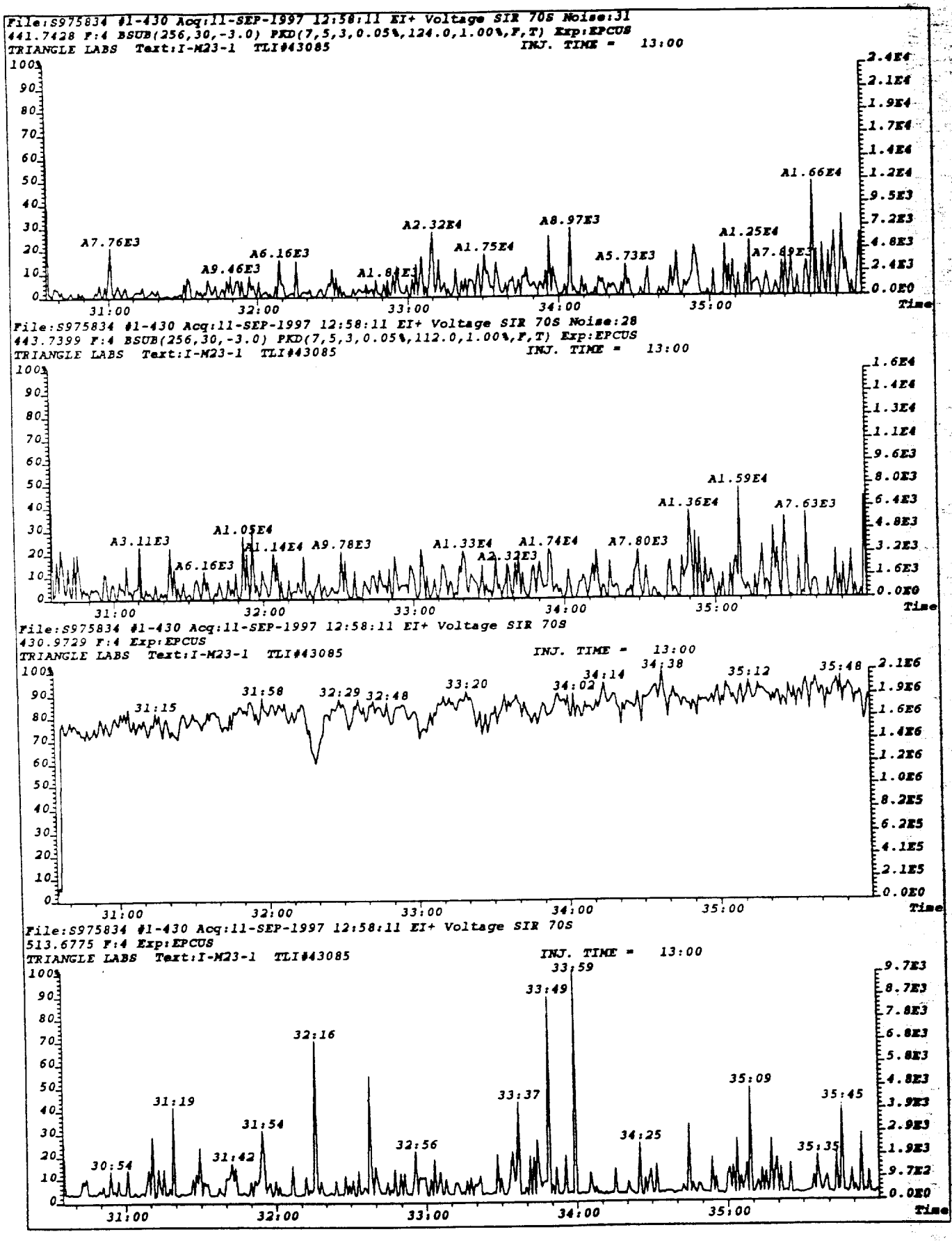
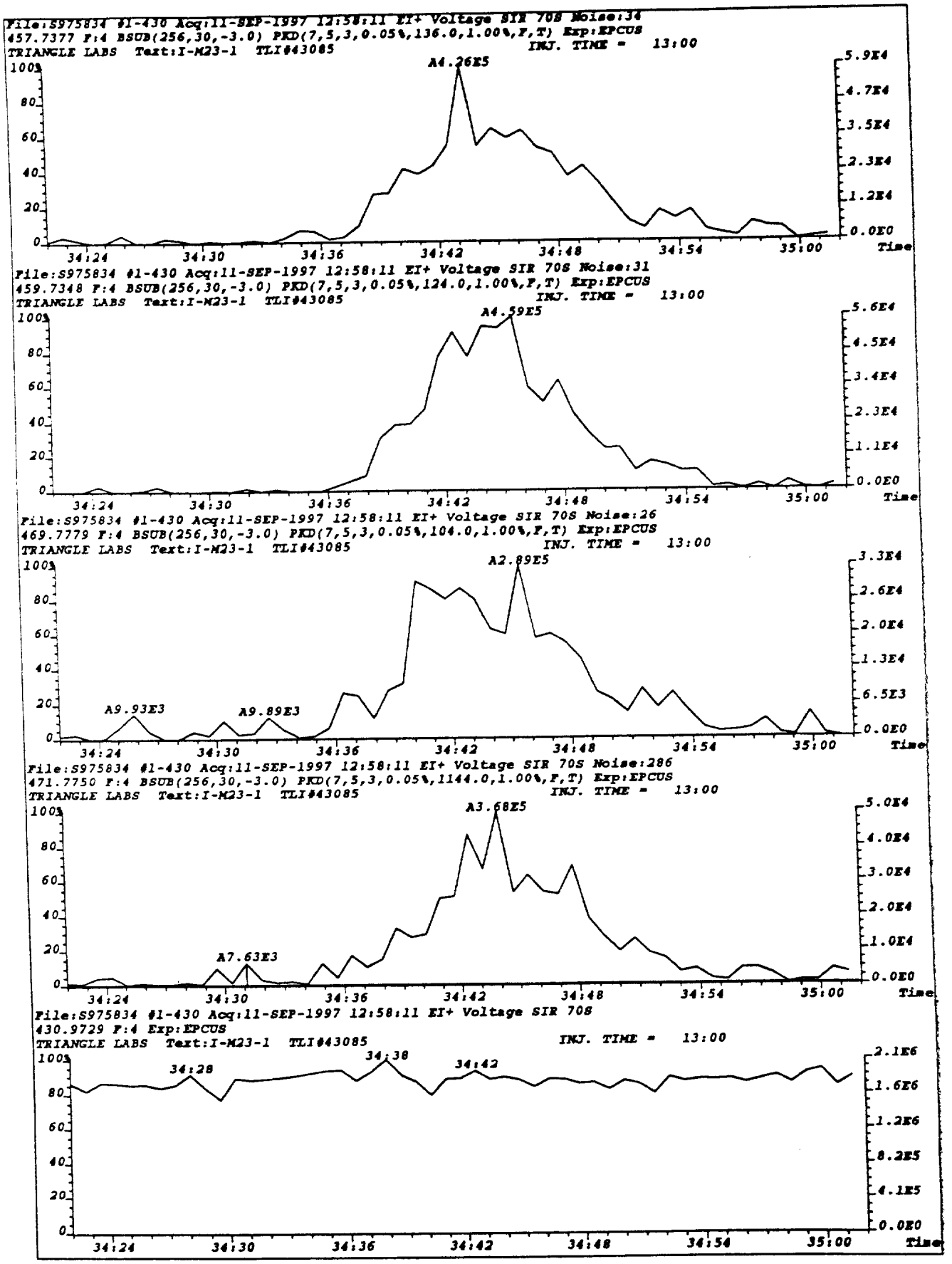
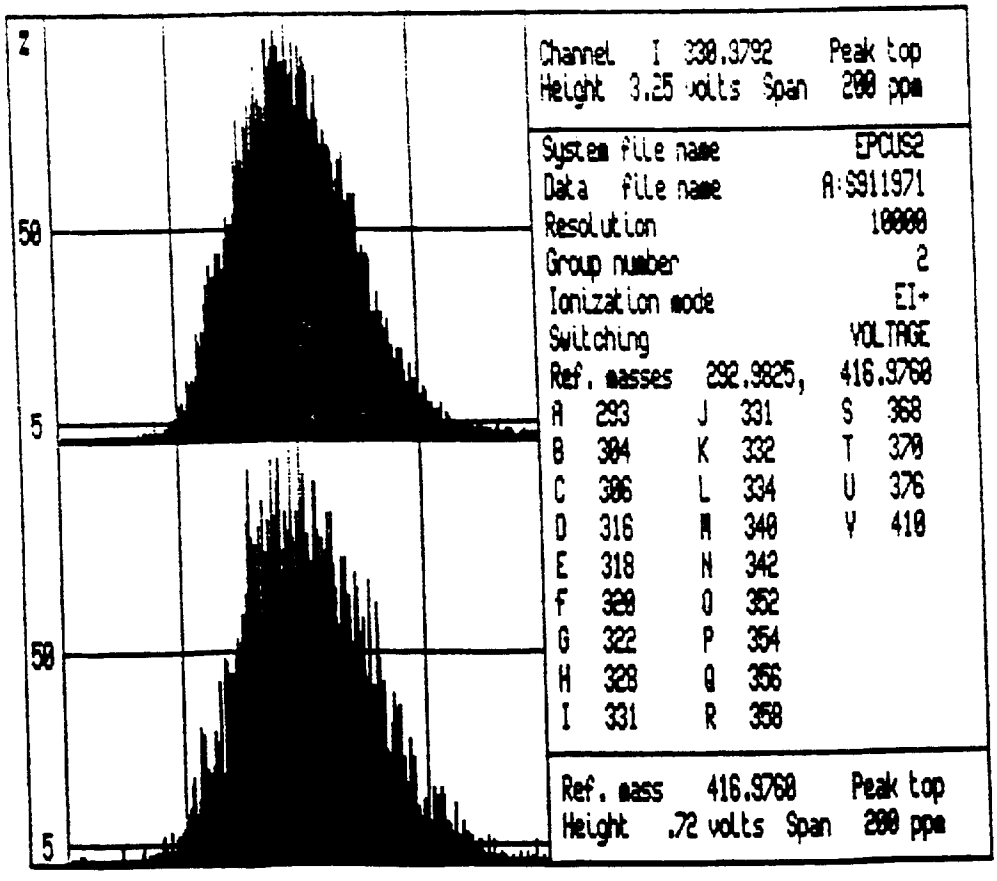
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,7096.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A3.26E4
A3.00E4
A2.90E4
A7.79E3
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:1037
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A2.09E4
A8.59E3
A6.33E3
A2.06E4
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:690
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2760.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A1.70E5
A1.49E5
A1.02E4
A1.19E4
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:701
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2804.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
A3.93E5
A3.28E5
A1.34E4
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
31:15
31:30
31:58
32:05
32:14
32:29
32:37
32:43
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085 INJ. TIME = 13:00
31:57
31:07
31:17
31:29
31:36
31:51
32:05
32:24
32:31
32:42
31:12
31:24
31:36
31:48
32:00
32:12
32:24
32:36
32:48
Time

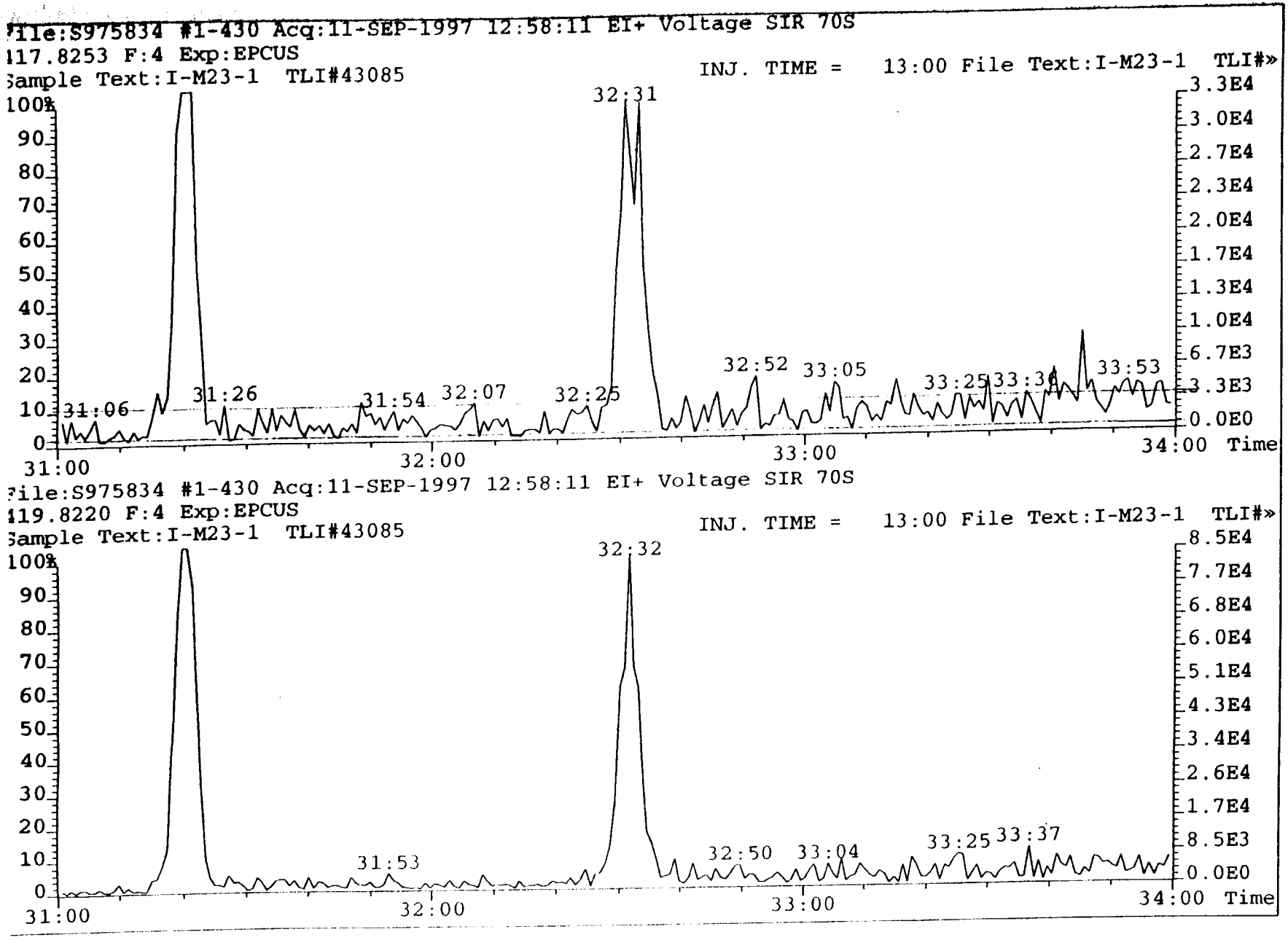

File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:99
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,396.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A7.55E4
A6.50E4
A5.87E4
A3.22E4
A2.73E4
A2.72E4
A1.64E4
A1.52E4
A8.90E3
CE
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:347
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1388.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A9.93E4
A7.95E4
A6.22E4
A4.00E4
A3.13E4
A1.56E4
A5.75E3
A3.41E4
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:39
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.09E6
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:34
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A1.48E6
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
17:11
17:34
18:01
18:37
19:18
19:53
20:06
20:38
21:03
21:32
22:05
22:17
File:S975834 #1-848 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
17:10
17:35
17:53
18:28
19:18
19:41
19:57
20:25
20:40
21:16
22:06
Time

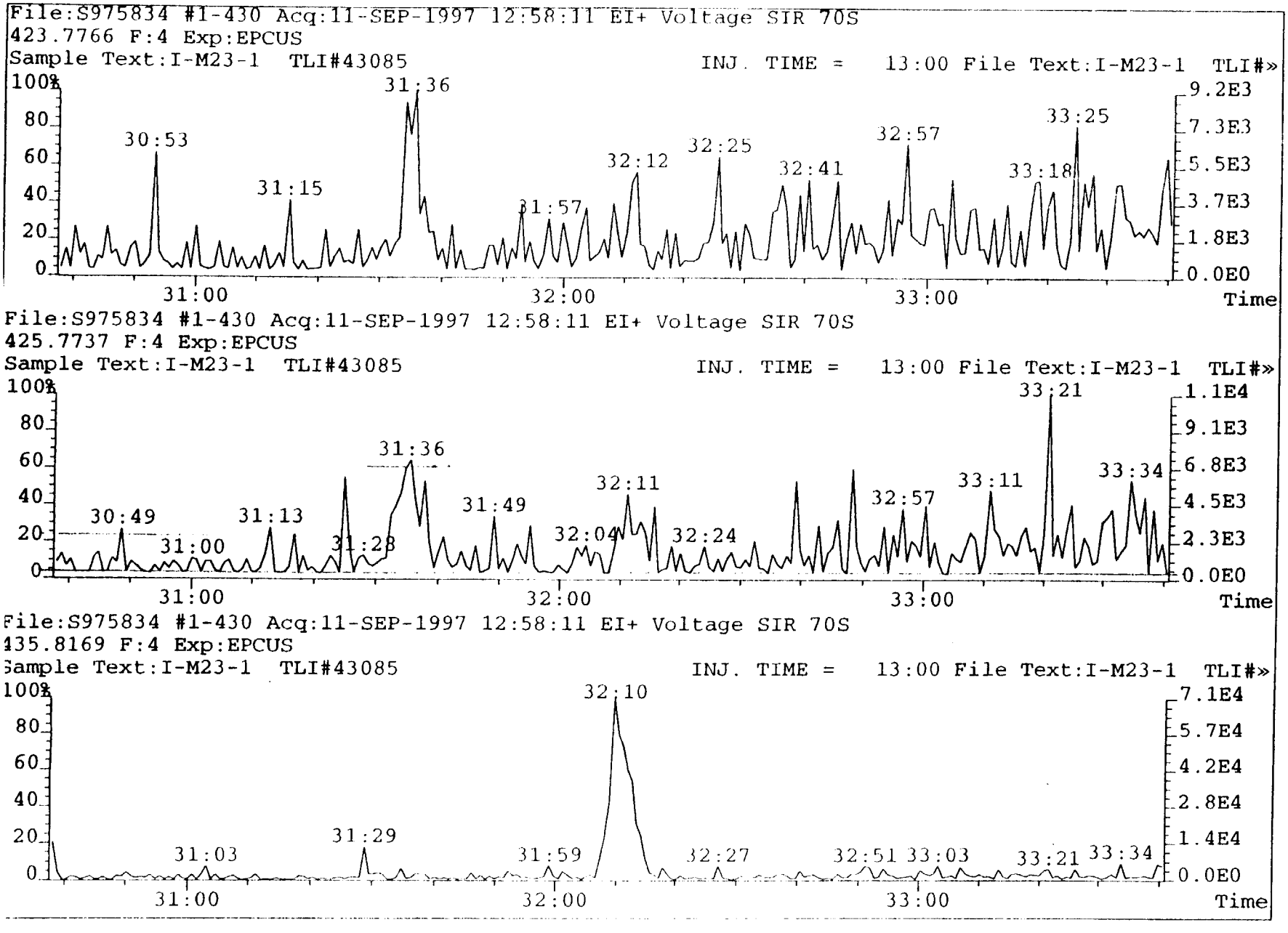

File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:667
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2668.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A3.56E4
A2.05E3
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:401
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1604.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A4.07E4
A7.40E3
A3.94E3
A5.98E3
A2.30E4
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:385
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1540.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A2.81E5
A1.55E4
A8.93E3
A1.07E4
A7.59E3
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:38
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A2.70E5
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
31:20
31:30
31:49
31:54
31:58
32:05
32:14
32:24
32:29
Time

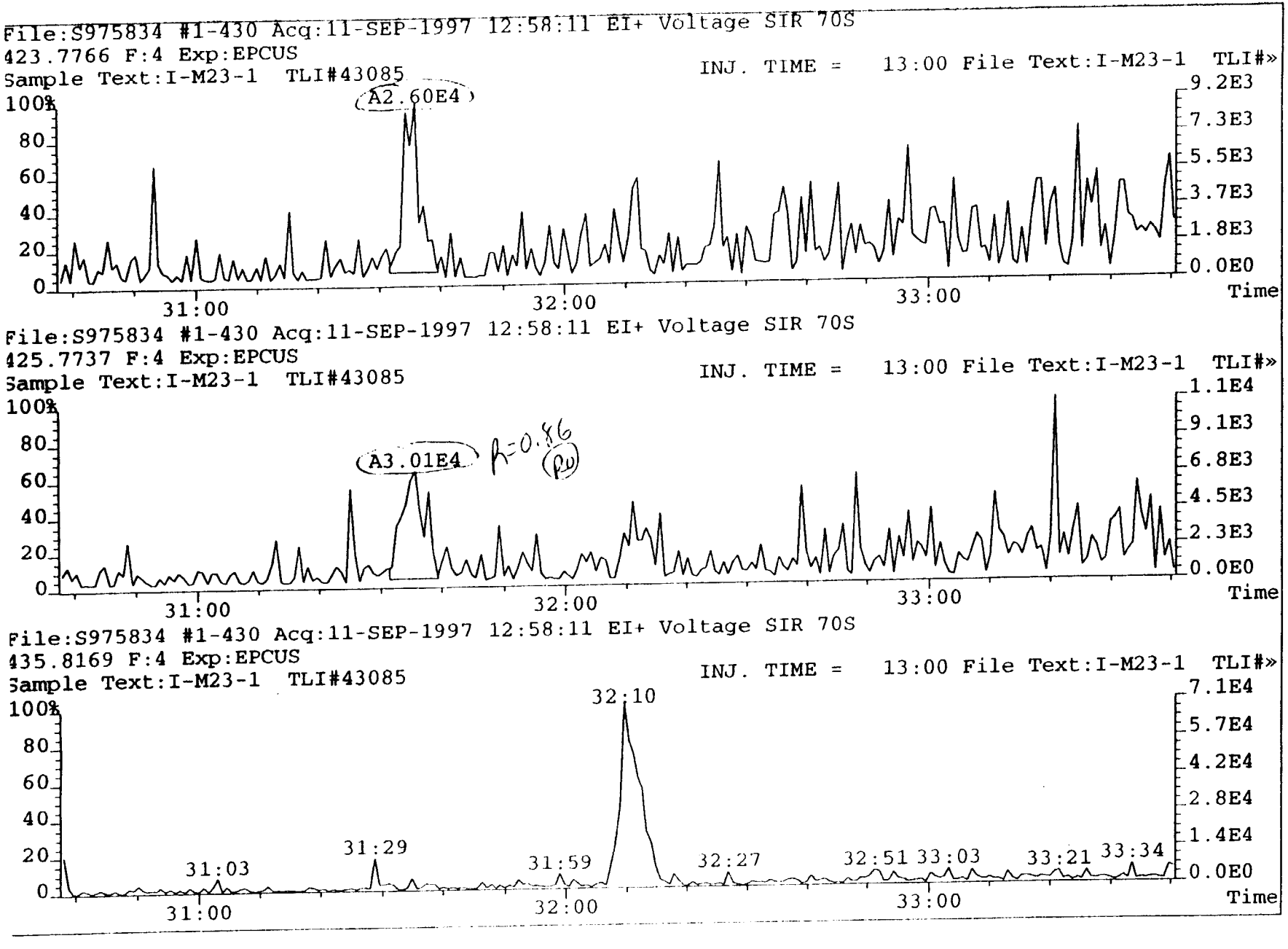

File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:31
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A7.76E3
A9.46E3
A6.16E3
A2.32E4
A1.75E4
A8.97E3
A5.73E3
A1.25E4
A1.66E4
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:28
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,112.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A3.11E3
A6.16E3
A1.05E4
A9.78E3
A1.33E4
A2.32E3
A1.74E4
A7.80E3
A1.36E4
A1.59E4
A7.63E3
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
31:15
31:58
32:29
32:48
33:20
34:02
34:14
34:38
35:12
35:48
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
30:54
31:19
31:42
31:54
32:16
32:56
33:37
33:49
33:59
34:25
35:09
35:35
35:45
Time

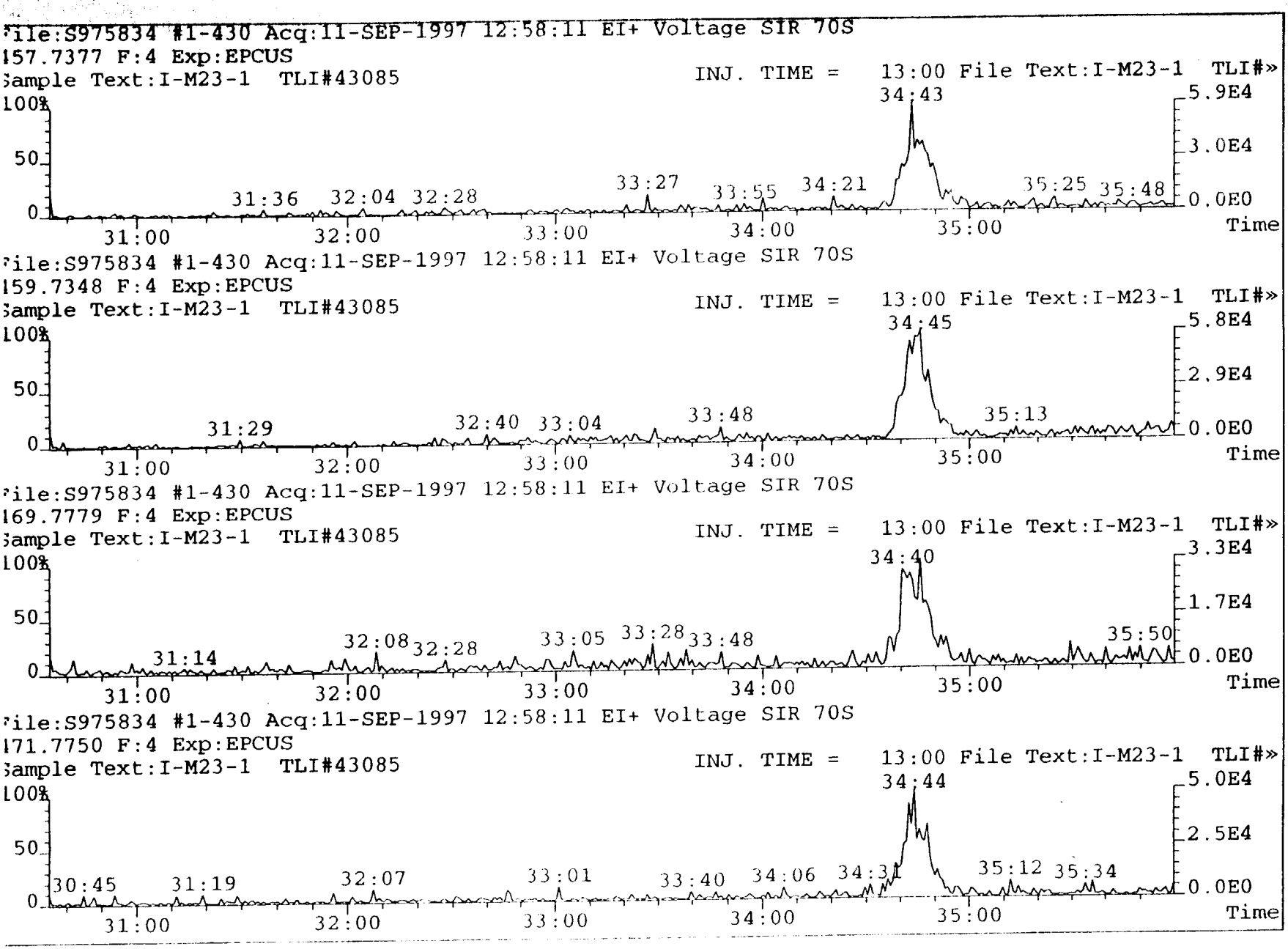

File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:34
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A4.26E5
5.9E4
4.7E4
3.5E4
2.3E4
1.2E4
0.0E0
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:31
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A4.59E5
5.6E4
4.5E4
3.4E4
2.3E4
1.1E4
0.0E0
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:26
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A2.89E5
A9.93E3
A9.89E3
3.3E4
2.6E4
2.0E4
1.3E4
6.5E3
0.0E0
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S Noise:286
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
A3.68E5
A7.63E3
5.0E4
4.0E4
3.0E4
2.0E4
1.0E4
0.0E0
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-1 TLI#43085
INJ. TIME = 13:00
34:28
34:38
34:42
2.1E6
1.6E6
1.2E6
8.2E5
4.1E5
0.0E0
Time

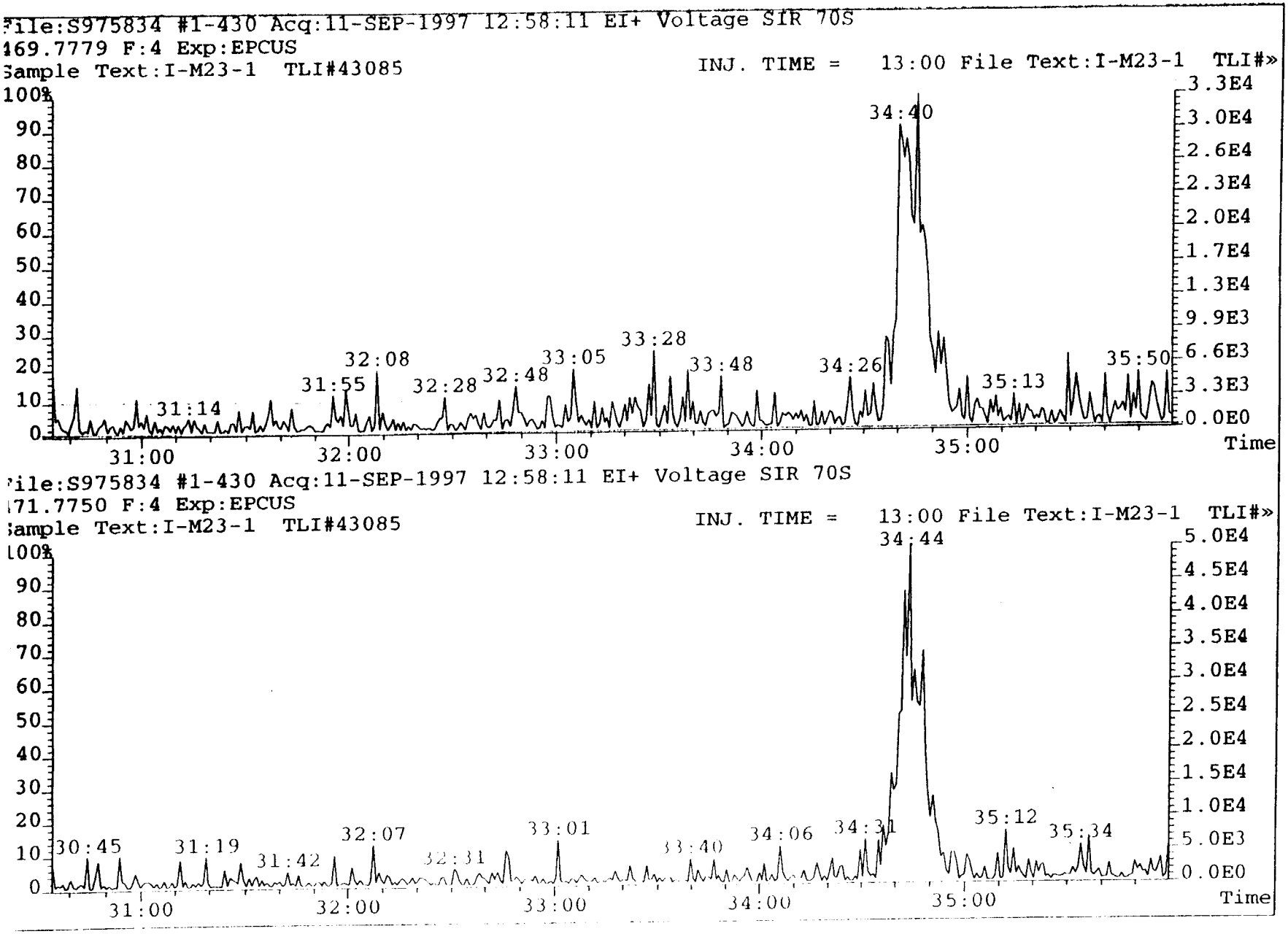

Z
50
5
50
5
Channel I 330.3792 Peak top
Height 3.25 volts Span 200 ppm
System file name EPCUS2
Data file name A:S911971
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9768
A 293 J 331 S 368
B 304 K 332 T 379
C 306 L 334 U 376
D 316 M 340 V 410
E 318 N 342
F 320 O 352
G 322 P 354
H 328 Q 356
I 331 R 358
Ref. mass 416.9768 Peak top
Height .72 volts Span 200 ppm


File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
117.8253 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
90
80
70
60
50
40
30
20
10
0
3.3E4
3.0E4
2.7E4
2.3E4
2.0E4
1.7E4
1.3E4
1.0E4
6.7E3
3.3E3
0.0E0
31:06
31:26
31:54
32:07
32:25
32:31
32:52
33:05
33:25
33:53
31:00
32:00
33:00
34:00 Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
119.8220 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
90
80
70
60
50
40
30
20
10
0
8.5E4
7.7E4
6.8E4
6.0E4
5.1E4
4.3E4
3.4E4
2.6E4
1.7E4
8.5E3
0.0E0
31:53
32:32
32:50
33:04
33:25
33:37
31:00
32:00
33:00
34:00 Time


File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
423.7766 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
80
60
40
20
0
30:53
31:15
31:36
31:57
32:12
32:25
32:41
32:57
33:18
33:25
9.2E3
7.3E3
5.5E3
3.7E3
1.8E3
0.0E0
31:00
32:00
33:00
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
425.7737 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
80
60
40
20
0
30:49
31:00
31:13
31:28
31:36
31:49
32:04
32:11
32:24
32:57
33:11
33:21
33:34
1.1E4
9.1E3
6.8E3
4.5E3
2.3E3
0.0E0
31:00
32:00
33:00
Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
435.8169 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
80
60
40
20
0
31:03
31:29
31:59
32:10
32:27
32:51
33:03
33:21
33:34
7.1E4
5.7E4
4.2E4
2.8E4
1.4E4
0.0E0
31:00
32:00
33:00
Time


File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
423.7766 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
A2.60E4
100%
80
60
40
20
0
9.2E3
7.3E3
5.5E3
3.7E3
1.8E3
0.0E0
Time
31:00
32:00
33:00
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
425.7737 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
A3.01E4
R=0.86
(PV)
100%
80
60
40
20
0
1.1E4
9.1E3
6.8E3
4.5E3
2.3E3
0.0E0
Time
31:00
32:00
33:00
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
435.8169 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
32:10
100%
80
60
40
20
0
7.1E4
5.7E4
4.2E4
2.8E4
1.4E4
0.0E0
Time
31:03
31:29
31:59
32:27
32:51
33:03
33:21
33:34
31:00
32:00
33:00


File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
157.7377 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
50
0
31:36 32:04 32:28 33:27 33:55 34:21 34:43 35:25 35:48
5.9E4
3.0E4
0.0E0
31:00 32:00 33:00 34:00 35:00 Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
159.7348 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
50
0
31:29 32:40 33:04 33:48 34:45 35:13
5.8E4
2.9E4
0.0E0
31:00 32:00 33:00 34:00 35:00 Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
169.7779 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
50
0
31:14 32:08 32:28 33:05 33:28 33:48 34:40 35:50
3.3E4
1.7E4
0.0E0
31:00 32:00 33:00 34:00 35:00 Time
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
171.7750 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
50
0
30:45 31:19 32:07 33:01 33:40 34:06 34:31 34:44 35:12 35:34
5.0E4
2.5E4
0.0E0
31:00 32:00 33:00 34:00 35:00 Time


File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
469.7779 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
90
80
70
60
50
40
30
20
10
0
31:14
31:55
32:08
32:28
32:48
33:05
33:28
33:48
34:26
34:40
35:13
35:50
31:00
32:00
33:00
34:00
35:00
Time
3.3E4
3.0E4
2.6E4
2.3E4
2.0E4
1.7E4
1.3E4
9.9E3
6.6E3
3.3E3
0.0E0
File:S975834 #1-430 Acq:11-SEP-1997 12:58:11 EI+ Voltage SIR 70S
471.7750 F:4 Exp:EPCUS
Sample Text:I-M23-1 TLI#43085
INJ. TIME = 13:00 File Text:I-M23-1 TLI#»
100%
90
80
70
60
50
40
30
20
10
0
30:45
31:19
31:42
32:07
32:31
33:01
33:40
34:06
34:31
34:44
35:12
35:34
31:00
32:00
33:00
34:00
35:00
Time
5.0E4
4.5E4
4.0E4
3.5E4
3.0E4
2.5E4
2.0E4
1.5E4
1.0E4
5.0E3
0.0E0

Pacific Environmental Services

TLI Project: **43085**
Client Sample: **I-M23-2**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975835**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPX23704
TLI ID:	181-55-6ABD	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/11/97	ConCal:	S975814
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.03				—
1,2,3,7,8-PeCDD	ND	0.06				—
1,2,3,4,7,8-HxCDD	ND	0.1				—
1,2,3,6,7,8-HxCDD	ND	0.09				—
1,2,3,7,8,9-HxCDD	ND	0.09				—
1,2,3,4,6,7,8-HpCDD	ND	0.2				—
1,2,3,4,6,7,8,9-OCDD	8.2			0.82	34:42	—
2,3,7,8-TCDF	ND	0.02				—
1,2,3,7,8-PeCDF	ND	0.04				—
2,3,4,7,8-PeCDF	ND	0.04				—
1,2,3,4,7,8-HxCDF	ND	0.06				—
1,2,3,6,7,8-HxCDF	ND	0.05				—
2,3,4,6,7,8-HxCDF	ND	0.06				—
1,2,3,7,8,9-HxCDF	ND	0.07				—
1,2,3,4,6,7,8-HpCDF	ND	0.1				—
1,2,3,4,7,8,9-HpCDF	ND	0.1				—
1,2,3,4,6,7,8,9-OCDF	ND	0.4				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.03		—
Total PeCDD	ND		0.06		—
Total HxCDD	ND		0.10		—
Total HpCDD	ND		0.2		—
Total TCDF	0.17	2			—
Total PeCDF	0.33	1		0.47	—
Total HxCDF	ND		0.06		—
Total HpCDF	EMPC			0.26	—

X237_PSR v2.00, LARS 6.10.04

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Printed: 15:26 09/18/97

Pacific Environmental Services

TLI Project: **43085**
Client Sample: **I-M23-2**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975835**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1.8	45.4	40%-130%	0.77	20:44	___
$^{13}C_{12}$-2,3,7,8-TCDD	2.0	50.6	40%-130%	0.81	21:30	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.4	36.1	40%-130%	1.55	24:54	V,Q___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	1.4	35.5	40%-130%	1.40	26:01	V,Q___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.3	56.9	40%-130%	0.48	28:35	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.0	49.5	40%-130%	1.21	29:18	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.3	32.2	25%-130%	0.49	31:16	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	1.2	30.0	25%-130%	1.03	32:07	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	1.4	17.5	25%-130%	0.80	34:42	N___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
^{37}CL-2,3,7,8-TCDD	4.1	102	70%-140%		21:31	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.5	87.4	70%-140%	1.43	25:39	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	4.0	100	70%-140%	0.52	28:29	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.6	90.2	70%-140%	1.32	29:13	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.4	84.3	70%-140%	0.42	32:28	R___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.0	49.8	40%-130%	0.54	29:47	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.2	53.8	40%-130%	0.51	29:05	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	21:17	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.18	29:35	___

Data Reviewer: Sheri Lewis 09/18/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 15:26 09/18/97

Initial ....Date...

Data Review By: SL 9/18/97 Calculated Noise Area: 1.49

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 S975835B.dbf
09/18/97 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				0.820-1.101			
304-306	DC	NL		0:00	RO	6.00	0.11			0.000			
				18:04		0.66	11.92	4.72	7.20	0.871			Q
D	DC	SN		18:27	RO	1.41	2.62			0.890			
D	DC	SN		18:49		0.83	14.14			0.908			
				19:08		0.76	16.17	6.99	9.18	0.923			
D	DC	SN		19:35	RO	1.07	8.50			0.945			
D	DC	SN		20:46	RO	1.35	5.40			1.002	2378-TCDF		AN
	DC	SN		21:27	RO	5.30	0.71			1.035			
304-306			2	Peaks			28.09						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC	NL		0:00		0.86	0.13			0.000			
	DC	WL		16:46		0.86	1.64			0.809			
	DC	WL		17:25	RO	0.29	0.87			0.840			
	DC	WL		17:47		0.72	1.82			0.858			
	DC	WL		18:19	RO	0.52	1.15			0.883			
	DC	WL		19:00	RO	1.35	2.07			0.916			
	DC	SN		20:15	RO	0.21	1.63			0.977			
				20:44		0.77	518.30	226.11	292.19	1.000	13C12-2378-TCDF		ISO
316-318			1	Peak			518.30						

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

TCDD						0.65-0.89				0.853-1.059			
320-322	DC	NL		0:00		0.86	0.13			0.000			
D	DC	SN		18:42	RO	1.01	2.19			0.870			
	DC	SN		18:51	RO	1.02	0.80			0.877			
	DC	SN		19:06	RO	1.49	1.96			0.888			
	DC	SN		19:26	RO	1.21	0.51			0.904			
	DC	SN		19:52		0.72	0.62			0.924			
	DC	SN		20:15	RO	0.48	1.47			0.942			
	DC	SN		20:34	RO	0.38	0.46			0.957			
	DC	SN		20:55	RO	4.00	0.50			0.973			
	DC	SN		21:32		0.77	1.47			1.002	2378-TCDD		AN
	DC	SN		21:53	RO	0.45	1.08			1.018			
	DC	SN		22:02	RO	2.10	0.35			1.025			
	DC	SN		22:19		0.89	1.40			1.038			
	DC	SN		22:31	RO	0.61	0.90			1.047			
	DC	SN		22:43	RO	1.45	1.19			1.057			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.05			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		WL	18:05			1.58			0.841			
	DC		WL	18:43			0.41			0.871			
	DC		WL	18:46			0.45			0.873			
	DC		WL	18:55			0.41			0.880			
	DC		WL	19:03			0.39			0.886			
	DC		WL	19:08			0.30			0.890			
				19:54			108.61	108.61		0.926			
	DC		SN	20:10			0.75			0.938			
	DC		SN	20:25			0.55			0.950			
	DC		SN	20:46			0.99			0.966			
	DC		SN	21:02			0.95			0.978			
	DC		SN	21:15			0.24			0.988			
				21:31			403.20	403.20		1.001	37Cl-TCDD		SUR1
	DC		SN	21:39			0.95			1.007			
				21:53			11.07	11.07		1.018			
	DC		SN	22:19			0.78			1.038			
	DC		SN	22:26			1.12			1.043			
	DC		SN	22:33			0.61			1.049			
	DC		SN	22:41			1.01			1.055			
328			3	Peaks			522.88						
13C12-TCDD					0.65-0.89					0.906-1.094			
332-334	DC		NL	0:00	RO	26.43	0.12			0.000			
	DC		WL	18:11	RO	3.23	1.43			0.846			
	DC		WL	18:43	RO	0.59	1.59			0.871			
	DC		WL	19:14	RO	2.70	1.40			0.895			
	DC		WL	19:23	RO	1.61	1.96			0.902			
	DC		SN	20:13	RO	2.64	1.75			0.940			
	DC		SN	20:16	RO	1.94	1.95			0.943			
	DC		SN	20:28	RO	1.07	0.99			0.952			
	DC		SN	20:35	RO	2.37	0.90			0.957			
	DC		SN	20:39	RO	3.67	0.58			0.960			
				21:17		0.83	866.86	392.91	473.95	0.990	13C12-1234-TCDD		RS1
				21:30		0.81	467.44	208.59	258.85	1.000	13C12-2378-TCDD		IS1
				21:50	RO	1.23	8.94	6.21	5.05	1.016			
	DC		SN	22:03	RO	1.34	1.24			1.026			
	DC		SN	22:21	RO	10.30	0.81			1.040			
	DC		SN	22:26	RO	1.70	0.89			1.043			
				22:48	RO	2.01	3.33	3.77	1.88	1.060			
332-334			4	Peaks			1,346.57						

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

PeCDF					1.32-1.78					0.907-1.078			
340-342	DC		NL	0:00	RO	0.16	0.12			0.000			
	DC		WL	22:36	RO	0.34	0.43			0.901			
				22:52		1.63	33.00	20.47	12.53	0.912			
	DC		SN	23:14	RO	0.70	0.77			0.926			
	DC		SN	23:38	RO	2.50	0.71			0.942			
				24:03	RO	1.24	13.18	8.01	6.48	0.959			
	DC		SN	24:12	RO	0.11	0.25			0.965			
D	DC		SN	24:32		1.46	4.92			0.978			

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		24:49	RO	2.45	1.02			0.989			
		DC	SN		25:15	RO	0.29	1.48			1.007			
		DC	SN		25:23	RO	3.72	0.74			1.012			
		DC	SN		25:27	RO	0.44	1.53			1.015			
	D	DC	SN		25:51	RO	2.31	5.61			1.031	23478-PeCDF	AN	
		DC	SN		26:45	RO	0.56	1.65			1.066			
340-342			2	Peaks				46.18						
13C12-PeCDF					1.32-1.78						0.838-1.162			
352-354		DC	NL		0:00	RO	0.86	0.10			0.000			
		DC	SN		22:44	RO	0.39	0.94			0.906			
		DC	SN		23:04	RO	2.23	1.22			0.920			
		DC	SN		23:19	RO	0.84	1.69			0.930			
	N				24:54		1.55	354.68	215.73	138.95	0.993	13C12-PeCDF 123	IS2	Q
	N	DC	SN		25:05		1.35	2.09			1.000			
					25:10	RO	1.26	3.08	1.87	1.49	1.003			
	N				25:39		1.43	300.59	177.02	123.57	1.023	13C12-PeCDF 234	SUR2	
					25:56	RO	1.06	2.50	1.52	1.43	1.034			
		DC	SN		26:38	RO	1.07	1.66			1.062			
352-354			4	Peaks				660.85						

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

PeCDD					1.32-1.78						0.921-1.026			
356-358		DC	NL		0:00	RO	1.00	0.12			0.000			
		DC	WL		24:00	RO	2.33	2.07			0.918			
		DC	SN		24:09	RO	2.59	1.76			0.924			
		DC	SN		24:21	RO	0.53	1.41			0.932			
		DC	SN		26:00	RO	1.12	1.50			0.995			
		DC	SN		26:18	RO	0.78	0.41			1.006			
		DC	SN		26:34		1.49	2.32			1.017			
356-358			0	Peaks				0.00						
13C12-PeCDD					1.32-1.78						0.845-1.155			
368-370		DC	NL		0:00	RO	1.20	0.10			0.000			
		DC	SN		23:56	RO	0.56	1.02			0.916			
		DC	SN		24:20	RO	0.89	0.64			0.931			
		DC	SN		25:28	RO	0.66	0.94			0.974			
		DC	SN		25:42	RO	0.60	0.20			0.983			
	N				26:01		1.40	195.33	114.11	81.22	0.996	13C12-PeCDD 123	IS3	Q
	N				26:08	RO	1.12	19.63	11.93	10.61	1.000			
		DC	SN		26:51	RO	1.96	2.40			1.027			
368-370			2	Peaks				214.96						

---------- Above: PeCDD / HxCDF Follows ----------

HxCDF					1.05-1.43						0.955-1.052			
374-376		DC	NL		0:00		1.09	2.65			0.000			
	D	DC	SN		27:38		1.24	6.48			0.967			
	D	DC	SN		28:08		1.43	3.92			0.984			
		DC	SN		28:26	RO	4.69	1.10			0.995			
	D	DC	SN		28:34	RO	0.79	2.47			0.999	123678-HxCDF	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	29:10		1.16	1.58			1.020			
	DC		SN	29:17	RO	0.29	0.38			1.024			
	DC		SN	29:19		1.24	2.20			1.026			
D	DC		SN	29:30		1.12	2.84			1.032			
	DC		SN	29:38	RO	0.37	0.99			1.037			
	DC		SN	29:41	RO	5.42	0.58			1.038			
	DC		SN	29:47	RO	0.26	0.63			1.042	123789-HxCDF		AN
	DC		SN	30:02	RO	1.62	1.55			1.051			
	DC		WH	30:08	RO	0.34	0.78			1.054			
374-376		0	Peaks				0.00						
13C12-HxCDF				0.43-0.59						0.859-1.141			
384-386	DC		NL	0:00	RO	0.69	2.10			0.000			
	DC		SN	27:13	RO	0.85	1.24			0.952			
	DC		SN	27:17	RO	3.74	0.47			0.955			
	DC		SN	27:25	RO	0.62	1.27			0.959			
	DC		SN	27:30	RO	0.83	1.00			0.962			
	DC		SN	27:49	RO	0.94	0.79			0.973			
	DC		SN	27:54		0.48	1.27			0.976			
	DC		SN	28:05	RO	2.05	1.45			0.983			
	DC		SN	28:22	RO	1.84	0.83			0.992			
				28:29		0.52	192.92	65.74	127.18	0.997	13C12-HxCDF	478	SUR3
				28:35		0.48	201.07	65.31	135.76	1.000	13C12-HxCDF	678	IS4
				29:05		0.51	176.18	59.34	116.84	1.017	13C12-HxCDF	234	ALT2
	DC		SN	29:34	RO	2.40	0.45			1.034			
				29:47		0.54	141.58	49.90	91.68	1.042	13C12-HxCDF	789	ALT1
384-386		4	Peaks				711.75						

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

HxCDD				1.05-1.43						0.950-1.015			
390-392	DC		NL	0:00		1.08	2.29			0.000			
D	DC		SN	28:02	RO	1.65	3.45			0.957			
	DC		SN	28:14	RO	1.85	1.52			0.964			
	DC		SN	28:30	RO	2.54	1.25			0.973			
	DC		SN	28:31	RO	0.48	0.70			0.973			
	DC		SN	28:42	RO	1.70	2.35			0.980			
	DC		SN	28:46	RO	2.04	1.21			0.982			
	DC		SN	29:03	RO	1.84	1.41			0.991			
	DC		SN	29:10	RO	4.30	0.99			0.995			
	DC		SN	29:14	RO	0.77	1.84			0.998	123478-HxCDD		AN
	DC		SN	29:19	RO	2.69	0.72			1.001	123678-HxCDD		AN
	DC		SN	29:34	RO	10.08	0.27			1.009	123789-HxCDD		AN
	DC		WH	29:49	RO	0.43	0.96			1.018			
390-392		0	Peaks				0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC		NL	0:00	RO	0.98	1.73			0.000			
	DC		WL	27:47	RO	1.79	1.52			0.948			
	DC		WL	27:57	RO	0.97	1.68			0.954			
	DC		WL	28:00	RO	0.54	0.79			0.956			
	DC		WL	28:07	RO	0.13	0.42			0.960			

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	28:14	RO	0.22	1.01			0.964			
	DC		SN	28:21	RO	0.40	0.85			0.968			
	DC		SN	28:28	RO	0.47	1.01			0.972			
	DC		SN	28:40	RO	4.79	0.96			0.978			
	DC		SN	28:56	RO	0.16	0.33			0.987			
	DC		SN	29:04	RO	0.44	0.42			0.992			
				29:13		1.32	127.00	72.36	54.64	0.997	13C12-HxCDD 478	SUR4	
				29:18		1.21	144.74	79.14	65.60	1.000	13C12-HxCDD 678	IS5	
				29:35		1.18	293.62	158.87	134.75	1.010	13C12-HxCDD 789	RS2	
	DC		SN	29:54		1.07	2.54			1.020			
402-404			3	Peaks			565.36						

---------- Above: HxCDD / HpCDF Follows ----------

HpCDF													
				0.88-1.20						0.995-1.044			
408-410	DC		NL	0:00	RO	2.96	2.24			0.000			
				31:57	RO	3.76	2.53	4.66	1.24	1.022			
	DC		SN	32:11	RO	5.13	0.61			1.029			
				32:24	RO	0.71	5.00	2.55	3.59	1.036			
408-410			2	Peaks			7.53						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC		NL	0:00	RO	0.95	2.12			0.000			
	DC		SN	31:05	RO	1.63	1.77			0.994			
				31:16		0.49	83.95	27.59	56.36	1.000	13C12-HpCDF 678	IS6	
				31:37	RO	0.73	2.85	1.44	1.98	1.011			
	DC		SN	31:53		0.47	1.74			1.020			
	DC		SN	31:59	RO	1.28	1.66			1.023			
	DC		SN	32:07	RO	0.58	1.24			1.027			
				32:28		0.42	54.54	16.23	38.31	1.038	13C12-HpCDF 789	SUR5	R
418-420			3	Peaks			141.34						

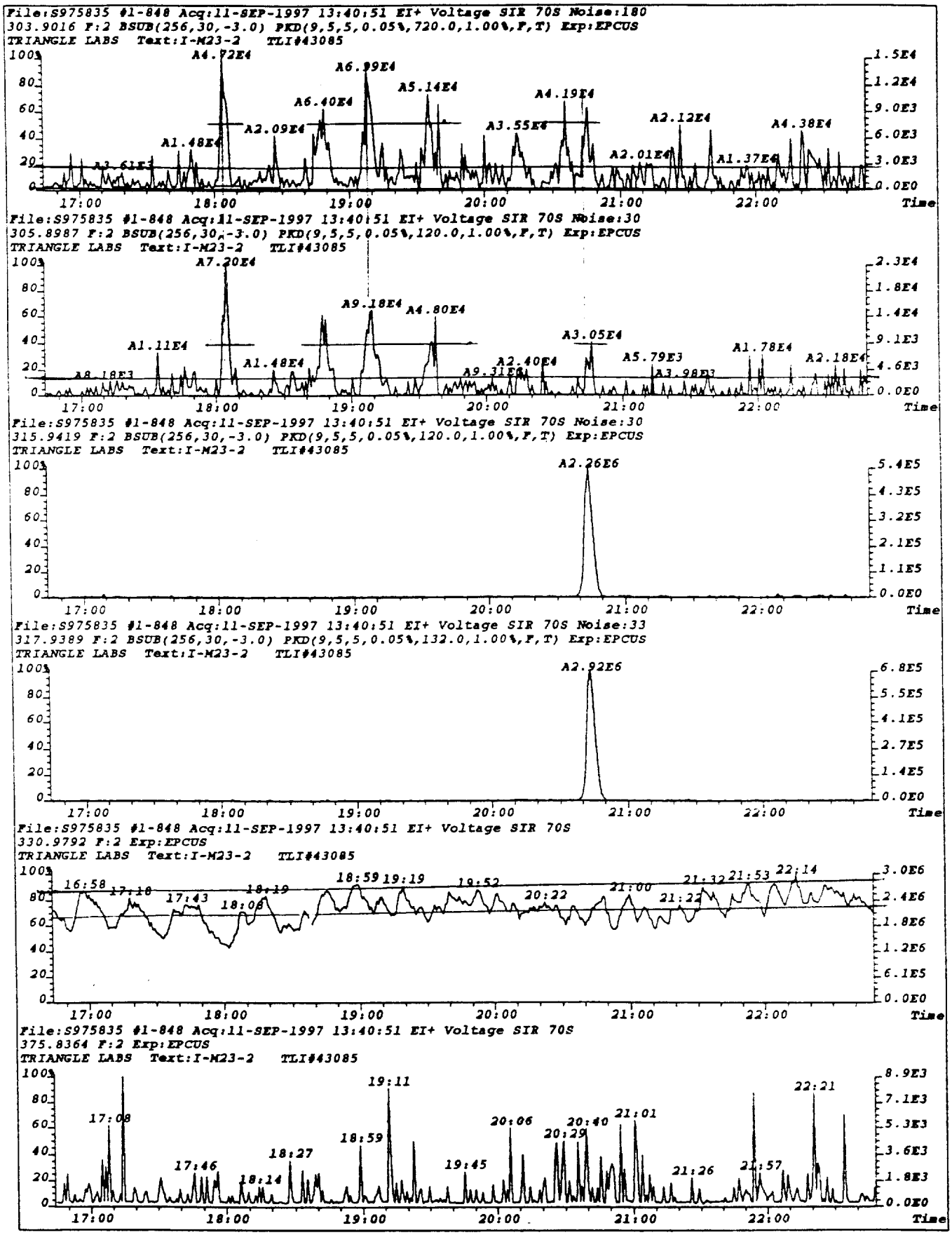
---------- Above: HpCDF / HpCDD Follows ----------

HpCDD													
				0.88-1.20						0.976-1.006			
424-426	DC		NL	0:00	RO	0.85	1.79			0.000			
	DC		SN	31:24	RO	0.75	1.41			0.978			
D	DC		SN	31:31		1.14	9.13			0.981			
	DC		SN	31:52	RO	0.45	1.33			0.992			
	DC		SN	32:00	RO	0.72	1.65			0.996			
	DC		SN	32:18	RO	1.58	1.96			1.006			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC		NL	0:00	RO	1.77	1.75			0.000			
	DC		SN	31:23		0.94	0.64			0.977			
				31:37	RO	1.30	3.26	2.08	1.60	0.984			
				32:07		1.03	71.73	36.31	35.42	1.000	13C12-HpCDD 678	IS7	
				32:16	RO	0.57	2.47	1.26	2.20	1.005			
	DC		SN	32:29	RO	5.68	0.75			1.011			
436-438			3	Peaks			77.46						

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: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF						0.76-1.02				0.884-1.116			
442-444	DC	NL		0:00	RO	0.59	1.17			0.000			
	DC	SN		31:20	RO	0.63	2.02			0.903			
	DC	SN		31:47	RO	0.22	0.47			0.916			
	DC	SN		32:24	RO	0.43	2.00			0.934			
	DC	SN		32:31		0.76	0.90			0.937			
	DC	SN		32:55	RO	0.33	1.19			0.949			
	DC	SN		33:01	RO	1.75	1.30			0.951			
	DC	SN		33:09		1.01	1.39			0.955			
	DC	SN		33:31	RO	1.32	1.70			0.966			
				33:43	RO	1.74	2.95	2.71	1.56	0.972			
	DC	SN		33:54	RO	0.54	2.19			0.977			
	DC	SN		34:14	RO	0.46	1.95			0.987			
	DC	SN		34:45	RO	0.27	1.95			1.001			
	DC	SN		34:59	RO	1.76	1.78			1.008			
	DC	SN		35:07	RO	1.14	1.40			1.012			
				35:20	RO	0.61	4.31	2.03	3.35	1.018			
	DC	SN		35:51	RO	0.44	2.40			1.033			
442-444			2	Peaks			7.26						
OCDD						0.76-1.02				0.884-1.116			
458-460	DC	NL		0:00		0.81	1.52			0.000			
AN				34:42		0.82	60.40	27.20	33.20	1.000	OCDD		AN
				35:03	RO	0.63	3.38	1.59	2.54	1.010			
458-460			2	Peaks			63.78						
13C12-OCDD						0.76-1.02				0.995-1.005			
470-472	DC	NL		0:00	RO	1.89	0.89			0.000			
	DC	WL		34:24	RO	2.59	0.93			0.991			
M				34:42		0.80	53.40	23.80	29.60	1.000	13C12-OCDD	ISS	N
470-472			1	Peak			53.40						

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 ***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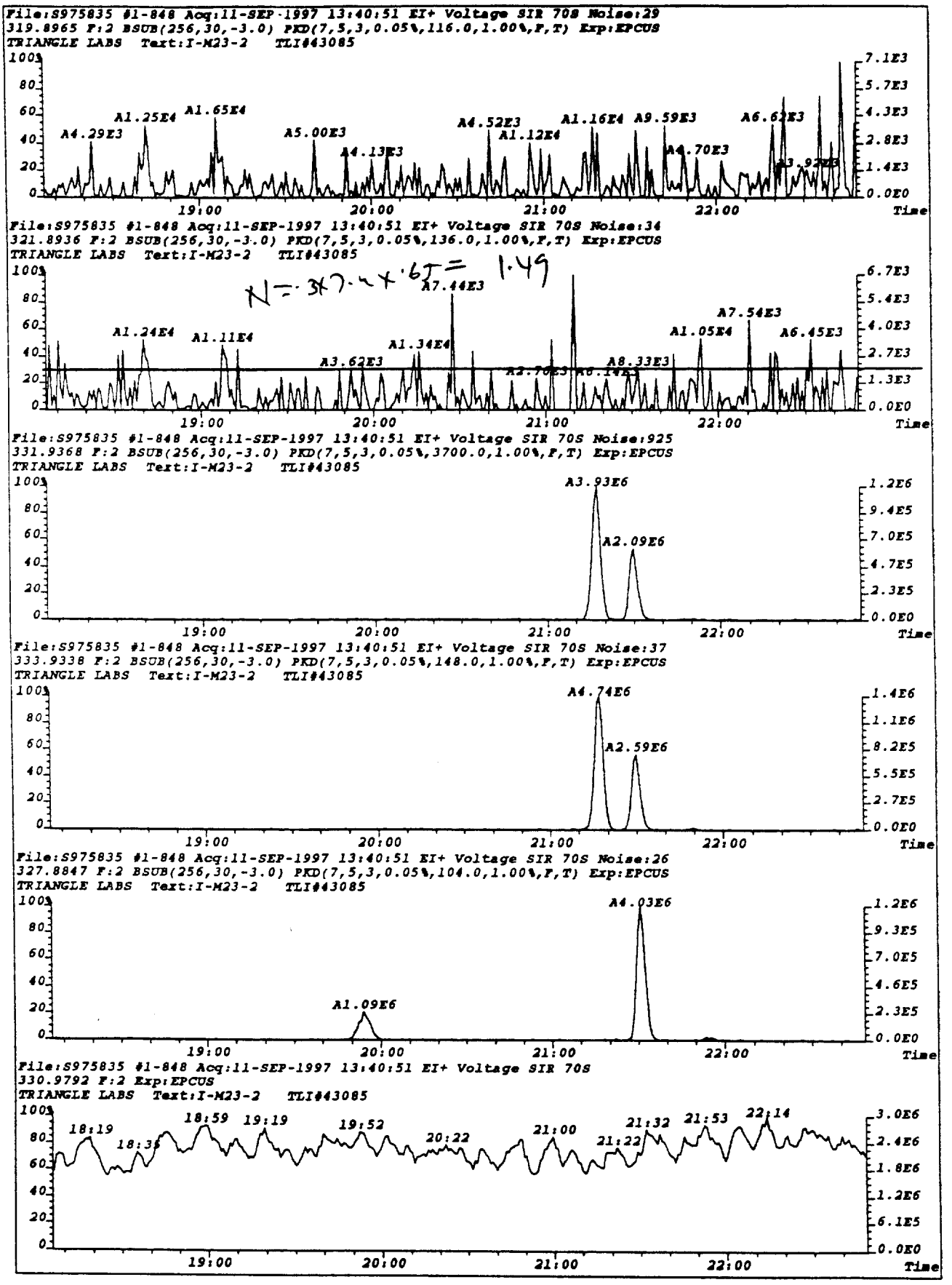
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,720.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.72E4
A6.99E4
A5.14E4
A6.40E4
A4.19E4
A2.09E4
A3.55E4
A2.12E4
A4.38E4
A1.48E4
A2.01E4
A1.37E4
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:30
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A7.20E4
A9.18E4
A4.80E4
A3.05E4
A1.11E4
A1.48E4
A2.40E4
A5.79E3
A1.78E4
A2.18E4
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:30
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.26E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:33
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.92E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
16:58
17:18
17:43
18:19
18:08
18:59
19:19
19:52
20:22
21:00
21:22
21:32
21:53
22:14
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
17:08
17:46
18:14
18:27
18:59
19:11
19:45
20:06
20:29
20:40
21:01
21:26
21:57
22:21
Time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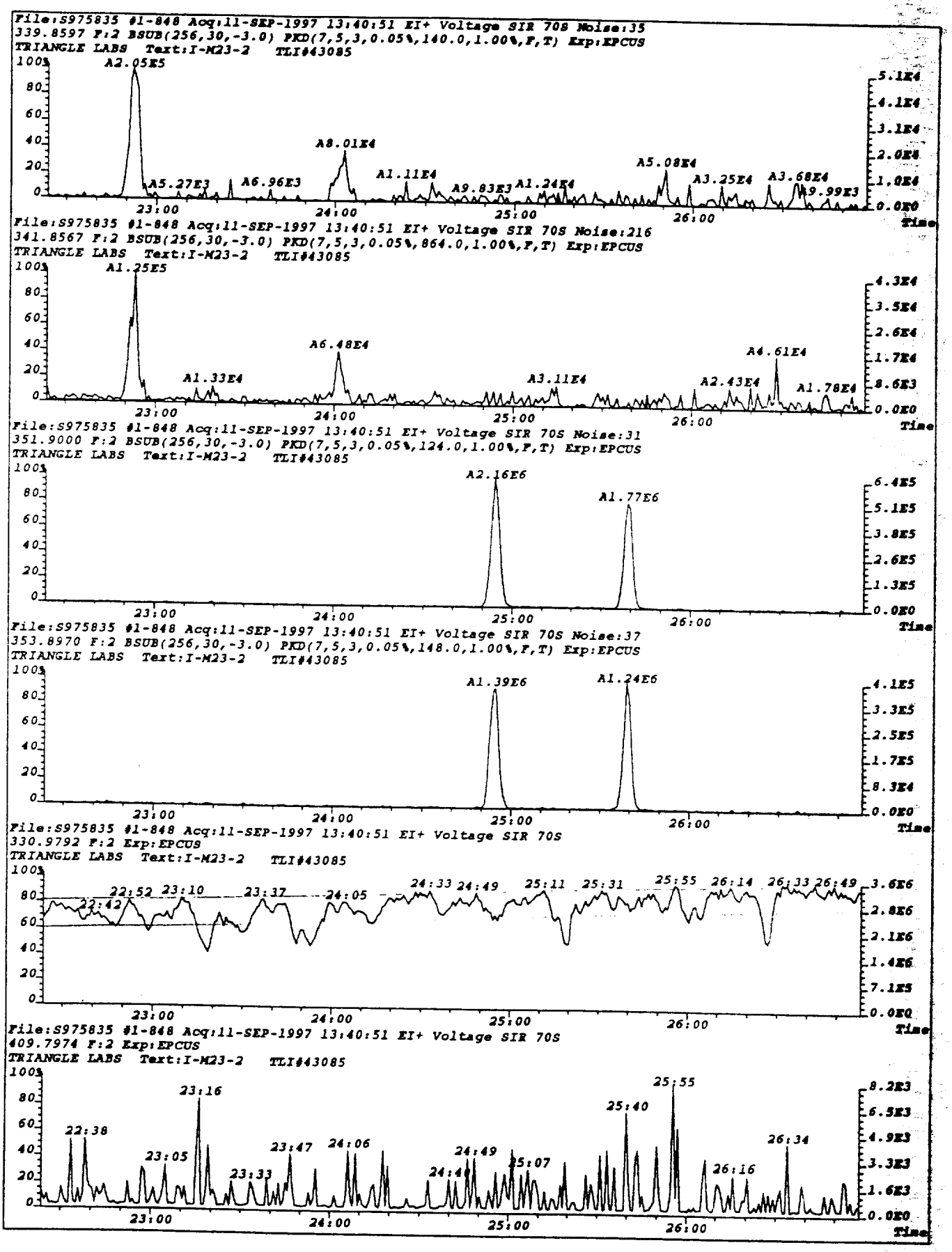
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.29E3
A1.25E4
A1.65E4
A5.00E3
A4.13E3
A4.52E3
A1.12E4
A1.16E4
A9.59E3
A4.70E3
A6.62E3
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:34
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
N = 37.4 x 1.67 = 1.49
A1.24E4
A1.11E4
A3.62E3
A1.34E4
A7.44E3
A8.33E3
A1.05E4
A7.54E3
A6.45E3
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:925
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3700.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A3.93E6
A2.09E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:37
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.74E6
A2.59E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:26
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.03E6
A1.09E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
18:19
18:39
18:59
19:19
19:52
20:22
21:00
21:22
21:32
21:53
22:14
19:00
20:00
21:00
22:00
Time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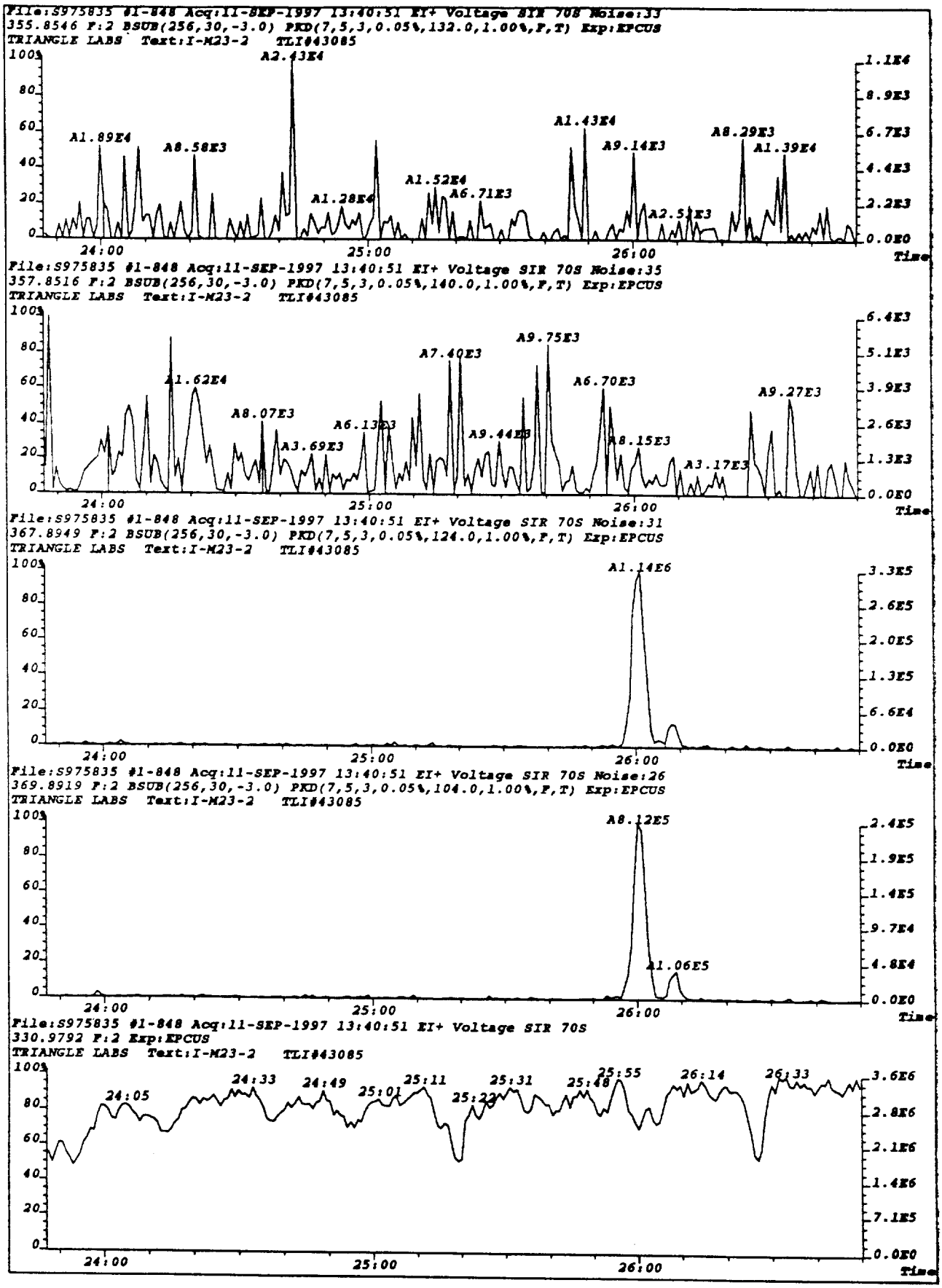
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.05E5
A5.27E3
A6.96E3
A8.01E4
A1.11E4
A9.83E3
A1.24E4
A5.08E4
A3.25E4
A3.68E4
A9.99E3
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:216
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,864.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.25E5
A1.33E4
A6.48E4
A3.11E4
A2.43E4
A4.61E4
A1.78E4
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:31
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.16E6
A1.77E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:37
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.39E6
A1.24E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
22:42
22:52
23:10
23:37
24:05
24:33
24:49
25:11
25:31
25:55
26:14
26:33
26:49
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
22:38
23:05
23:16
23:33
23:47
24:06
24:41
24:49
25:07
25:40
25:55
26:16
26:34
23:00
24:00
25:00
26:00
Time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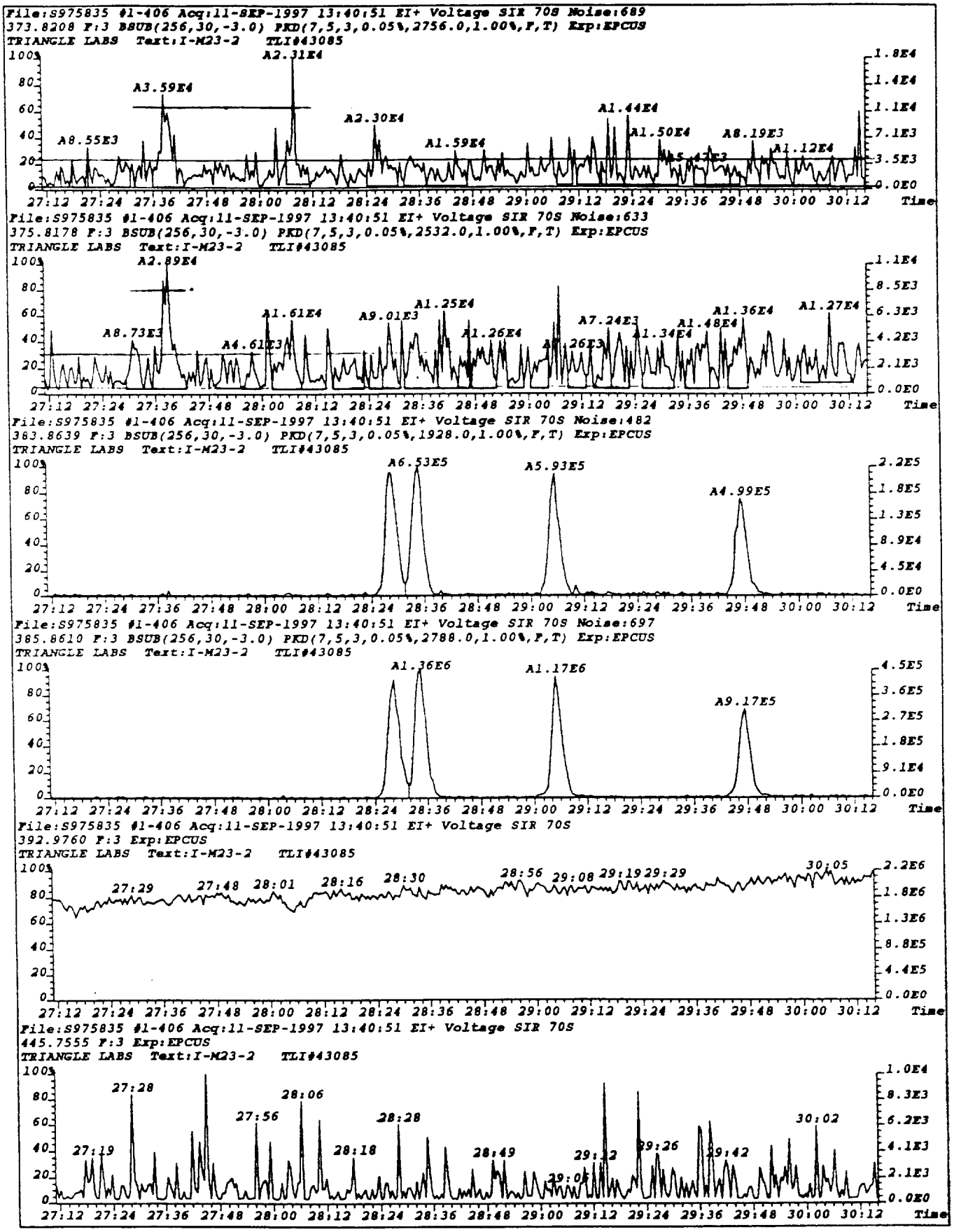
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.89E4
A8.58E3
A2.43E4
A1.28E4
A1.52E4
A6.71E3
A1.43E4
A9.14E3
A2.51E3
A8.29E3
A1.39E4
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:35
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.62E4
A8.07E3
A3.69E3
A6.13E3
A7.40E3
A9.75E3
A9.44E3
A6.70E3
A8.15E3
A3.17E3
A9.27E3
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:31
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.14E6
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:26
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A8.12E5
A1.06E5
File:S975835 #1-848 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
24:05
24:33
24:49
25:01
25:11
25:22
25:31
25:48
25:55
26:14
26:33
24:00
25:00
26:00
Time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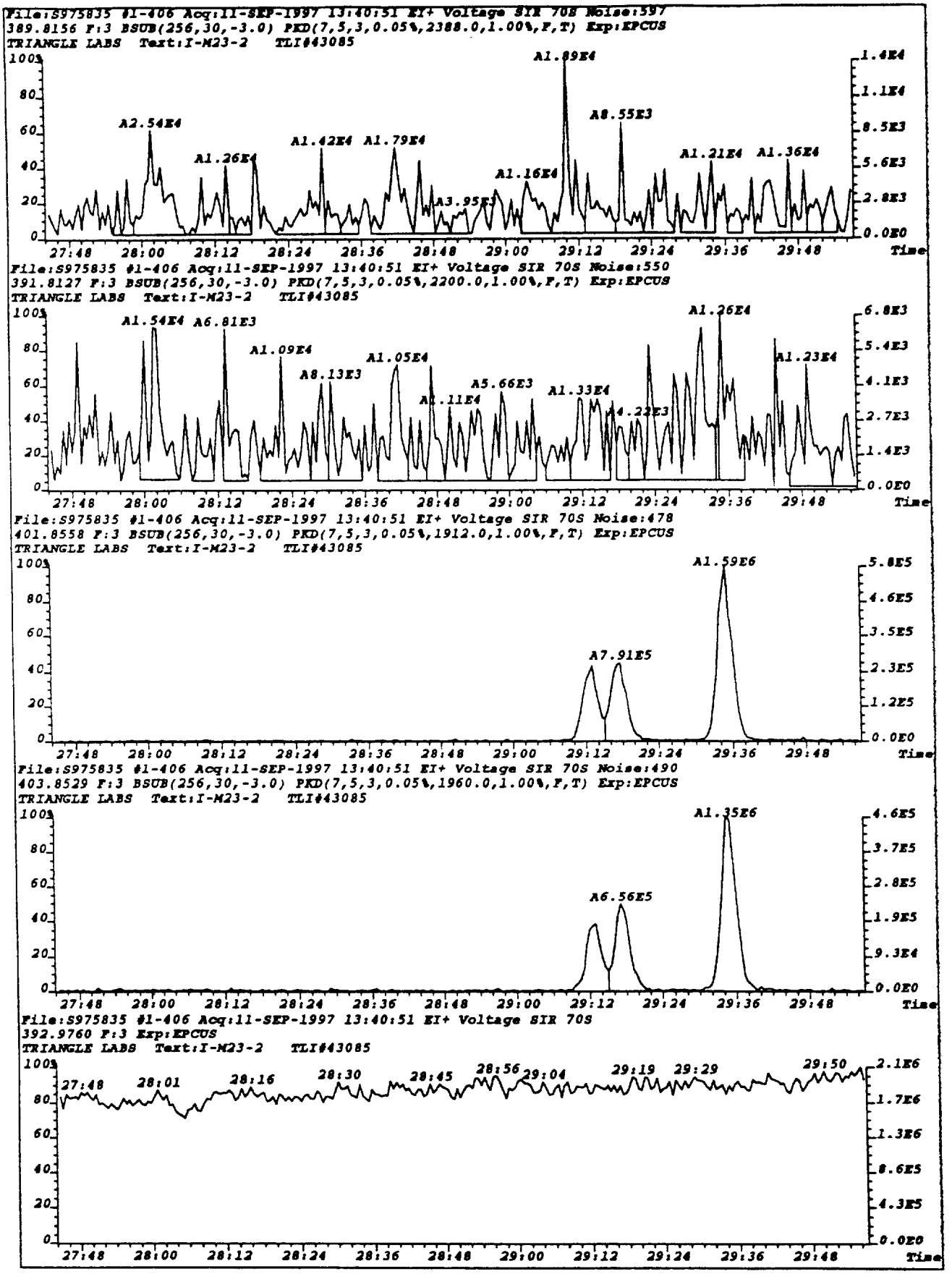
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2756.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.31E4
A3.59E4
A2.30E4
A1.44E4
A1.50E4
A1.59E4
A8.55E3
A8.19E3
A1.12E4
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:633
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2532.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.89E4
A8.73E3
A1.61E4
A9.01E3
A1.25E4
A1.26E4
A7.24E3
A1.34E4
A1.48E4
A1.36E4
A1.27E4
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:482
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1928.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A6.53E5
A5.93E5
A4.99E5
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:697
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2788.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.36E6
A1.17E6
A9.17E5
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
27:29
27:48
28:01
28:16
28:30
28:56
29:08
29:19
29:29
30:05
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
27:19
27:28
27:56
28:06
28:18
28:28
28:49
29:12
29:26
29:42
30:02
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12
Time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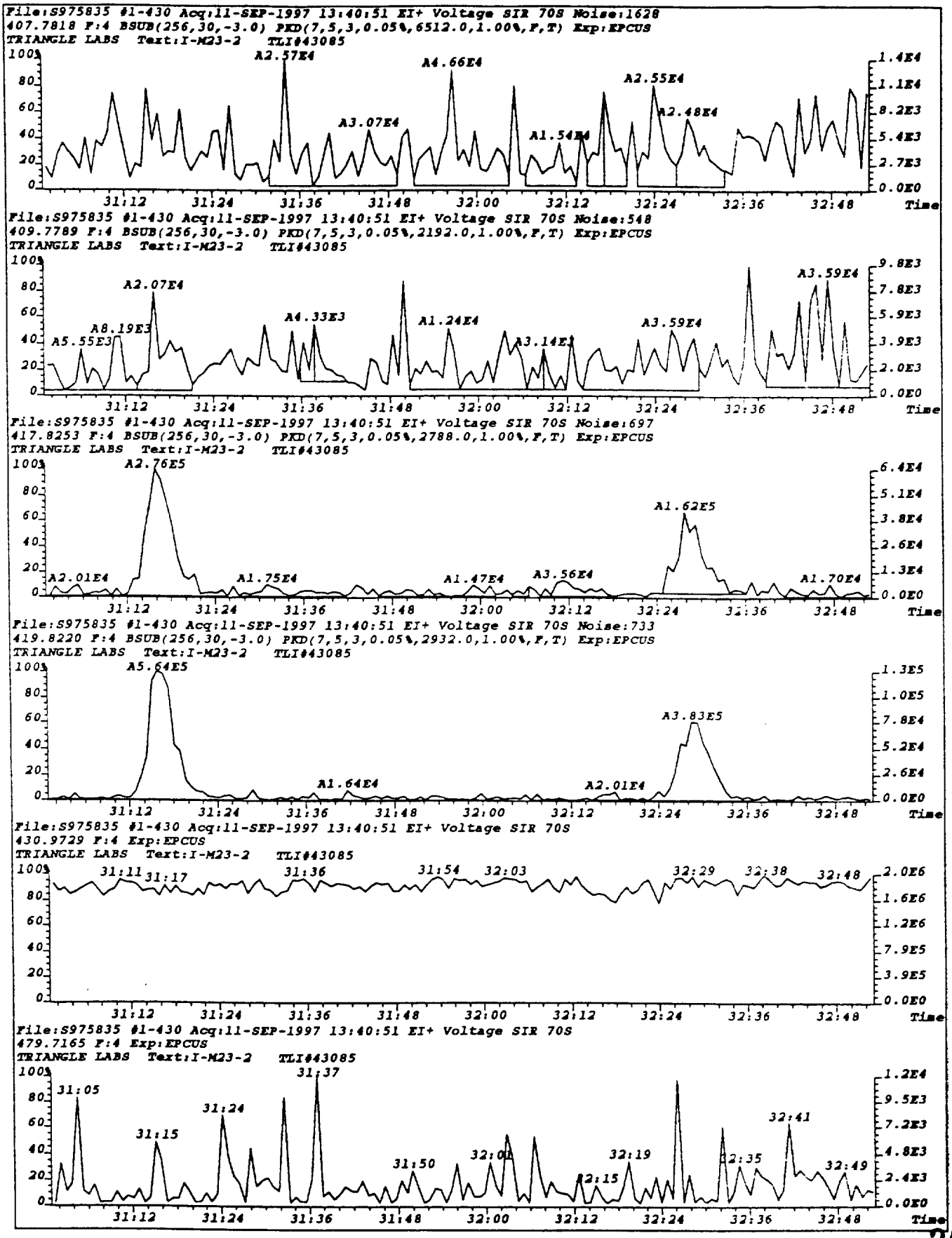
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2388.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.54E4
A1.26E4
A1.42E4
A1.79E4
A3.95E3
A1.16E4
A1.89E4
A8.55E3
A1.21E4
A1.36E4
Time
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:550
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.54E4
A6.81E3
A1.09E4
A8.13E3
A1.05E4
A5.66E3
A1.33E4
A1.26E4
A1.23E4
Time
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:478
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1912.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A7.91E5
A1.59E6
Time
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:490
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1960.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A6.56E5
A1.35E6
Time
File:S975835 #1-406 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
Time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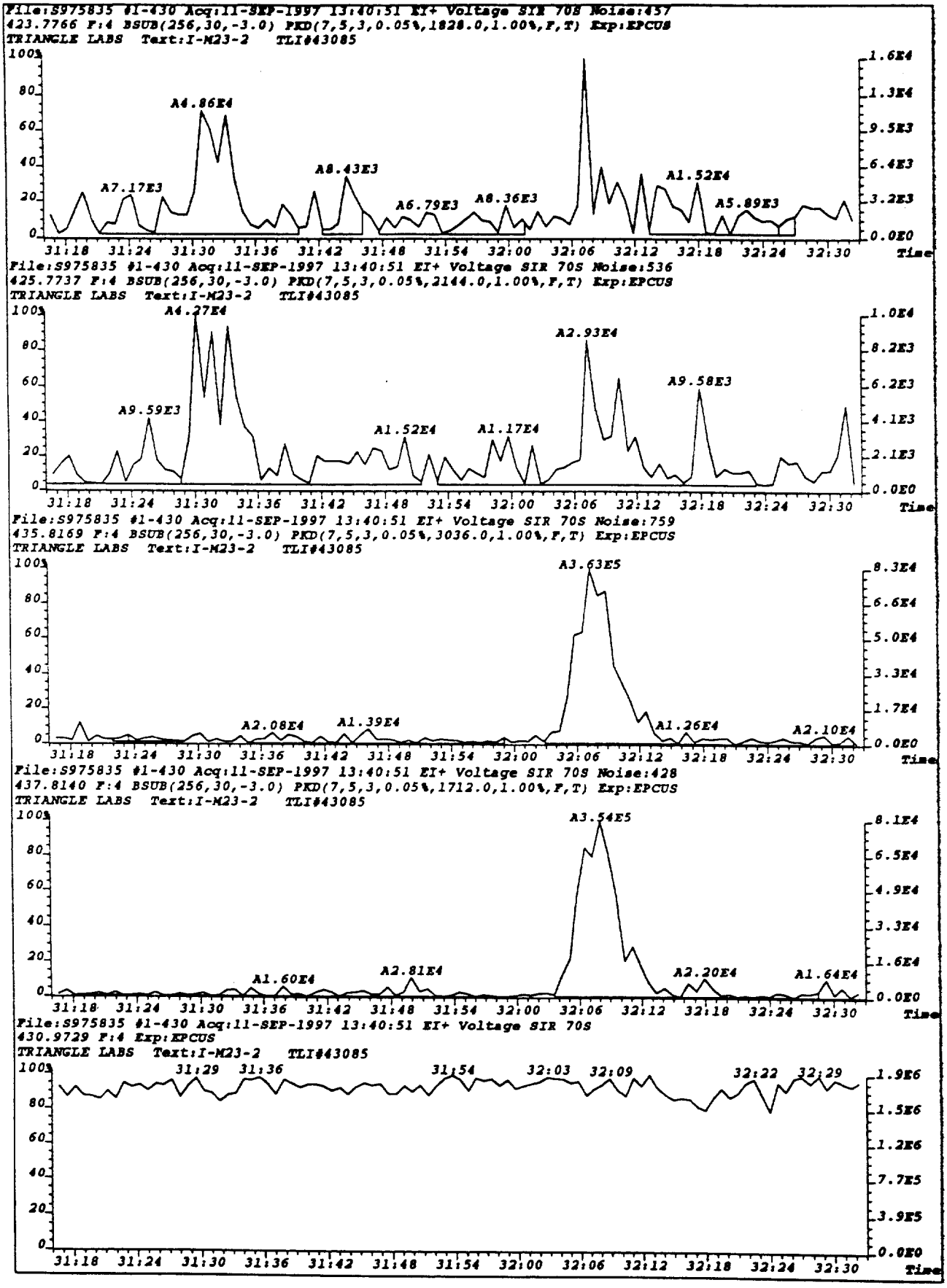
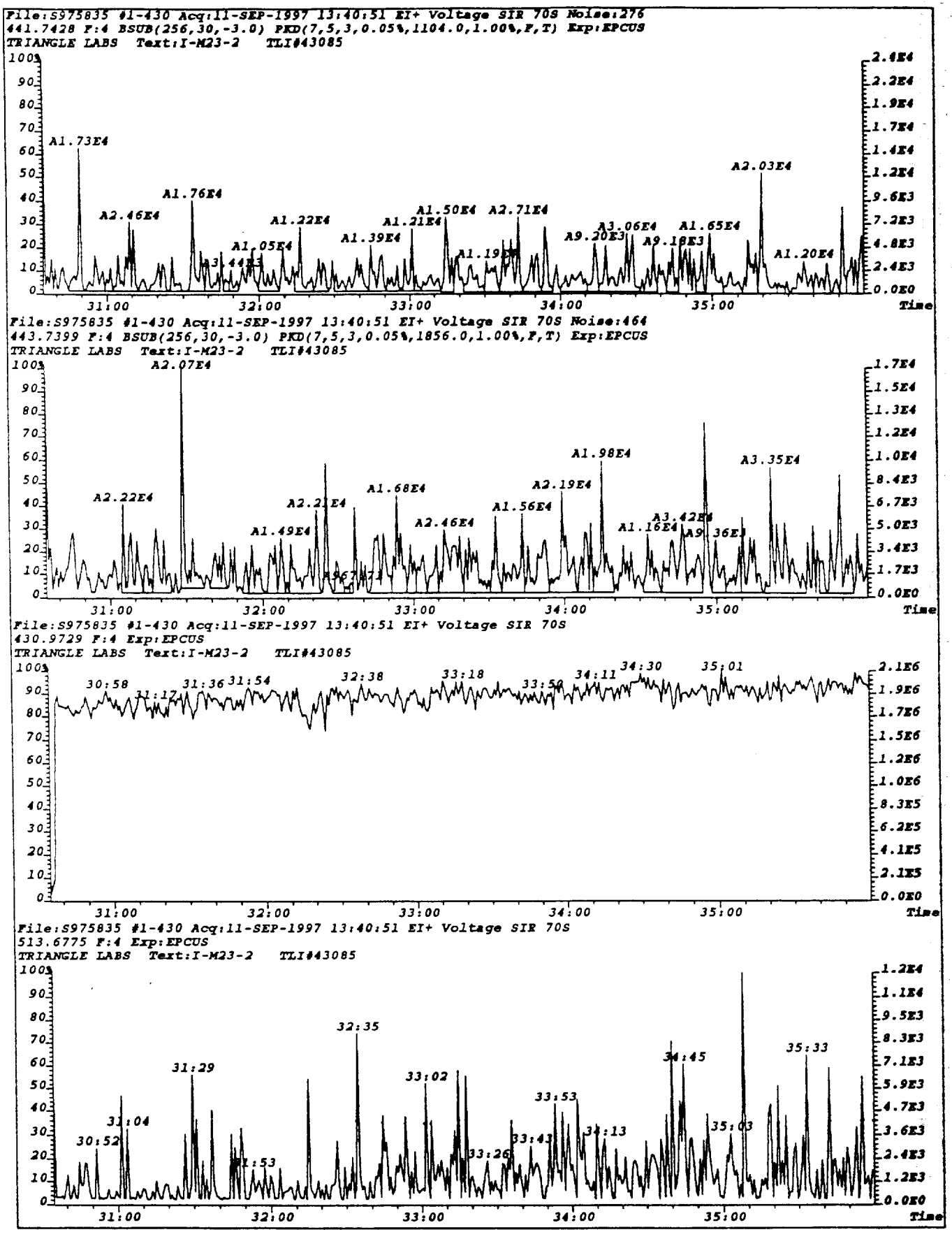
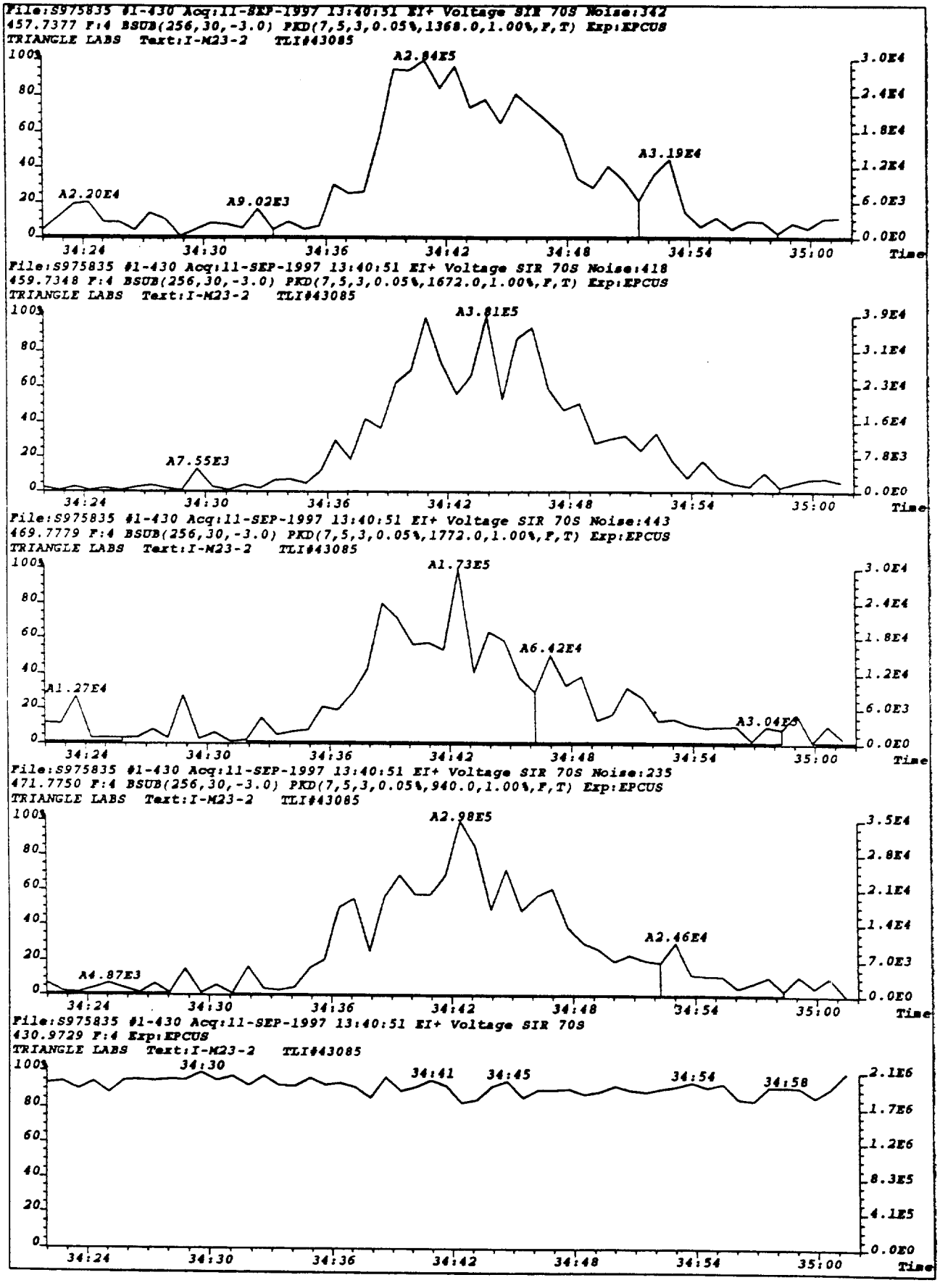
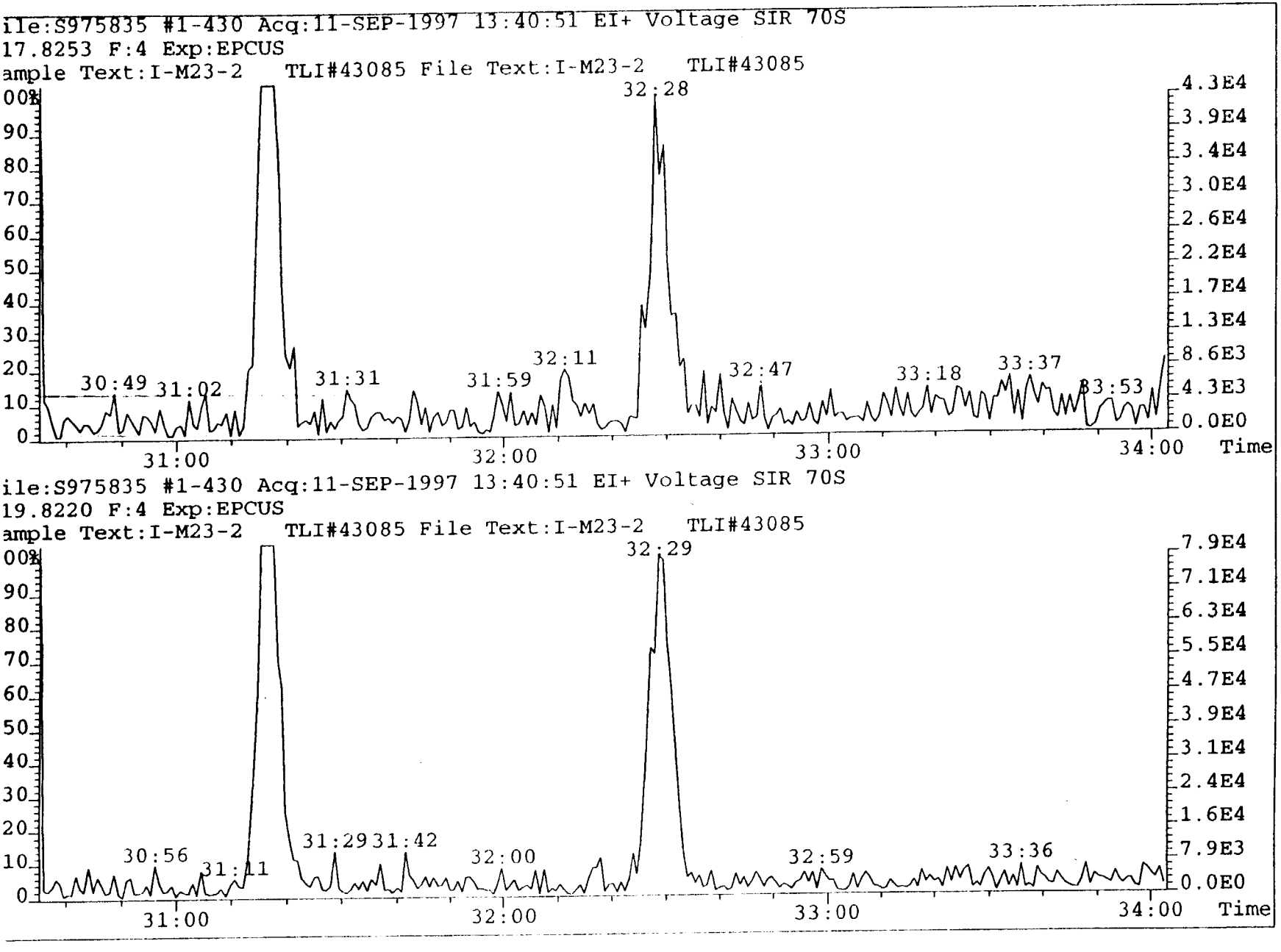
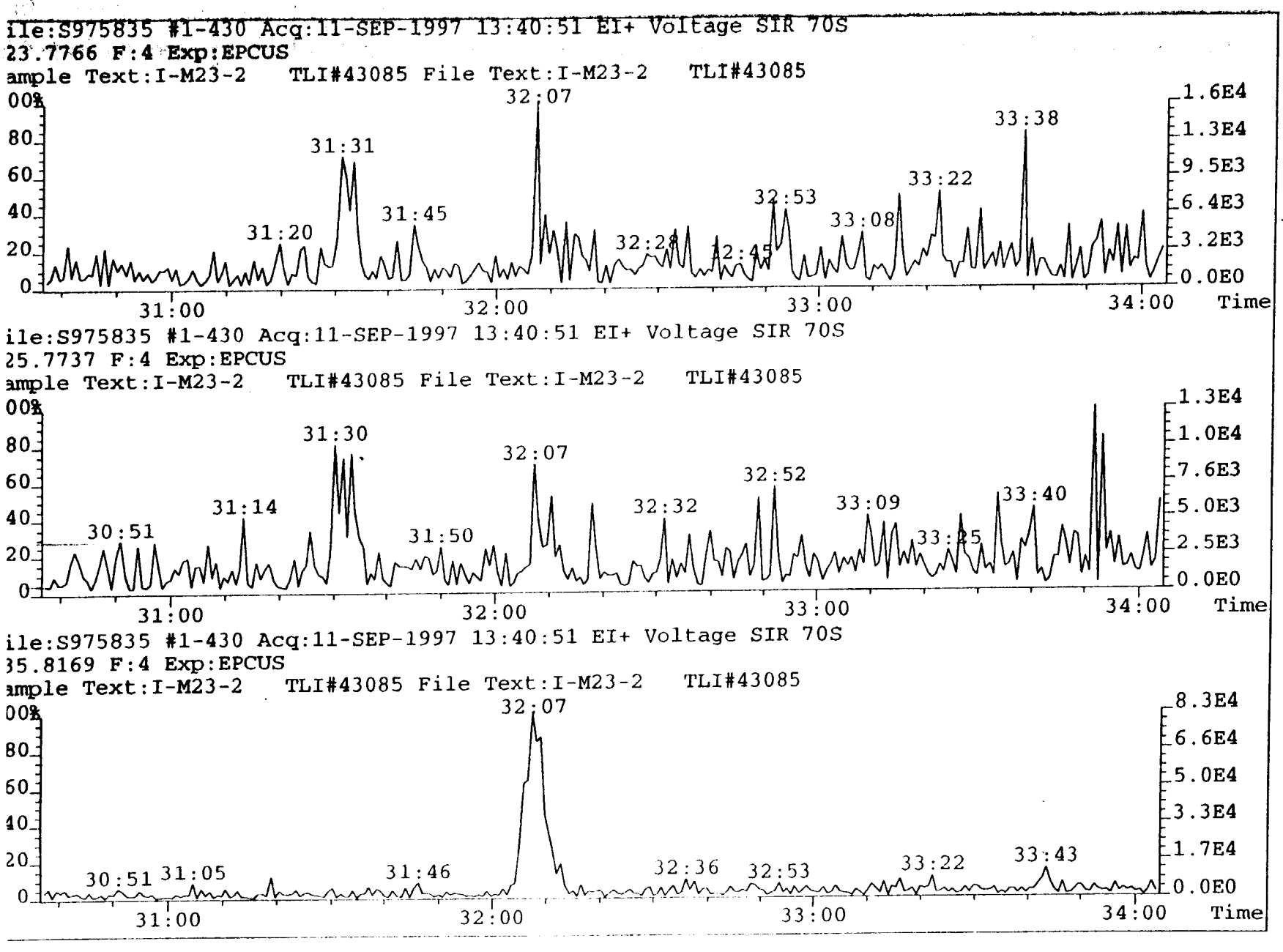
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,6512.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.57E4
A4.66E4
A2.55E4
A3.07E4
A2.48E4
A1.54E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:548
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.07E4
A3.59E4
A8.19E3
A4.33E3
A1.24E4
A5.55E3
A3.14E4
A3.59E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:697
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2788.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.76E5
A1.62E5
A2.01E4
A1.75E4
A1.47E4
A3.56E4
A1.70E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:733
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2932.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A5.64E5
A3.83E5
A1.64E4
A2.01E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
31:05
31:15
31:24
31:37
31:50
32:19
32:41
32:49
Time

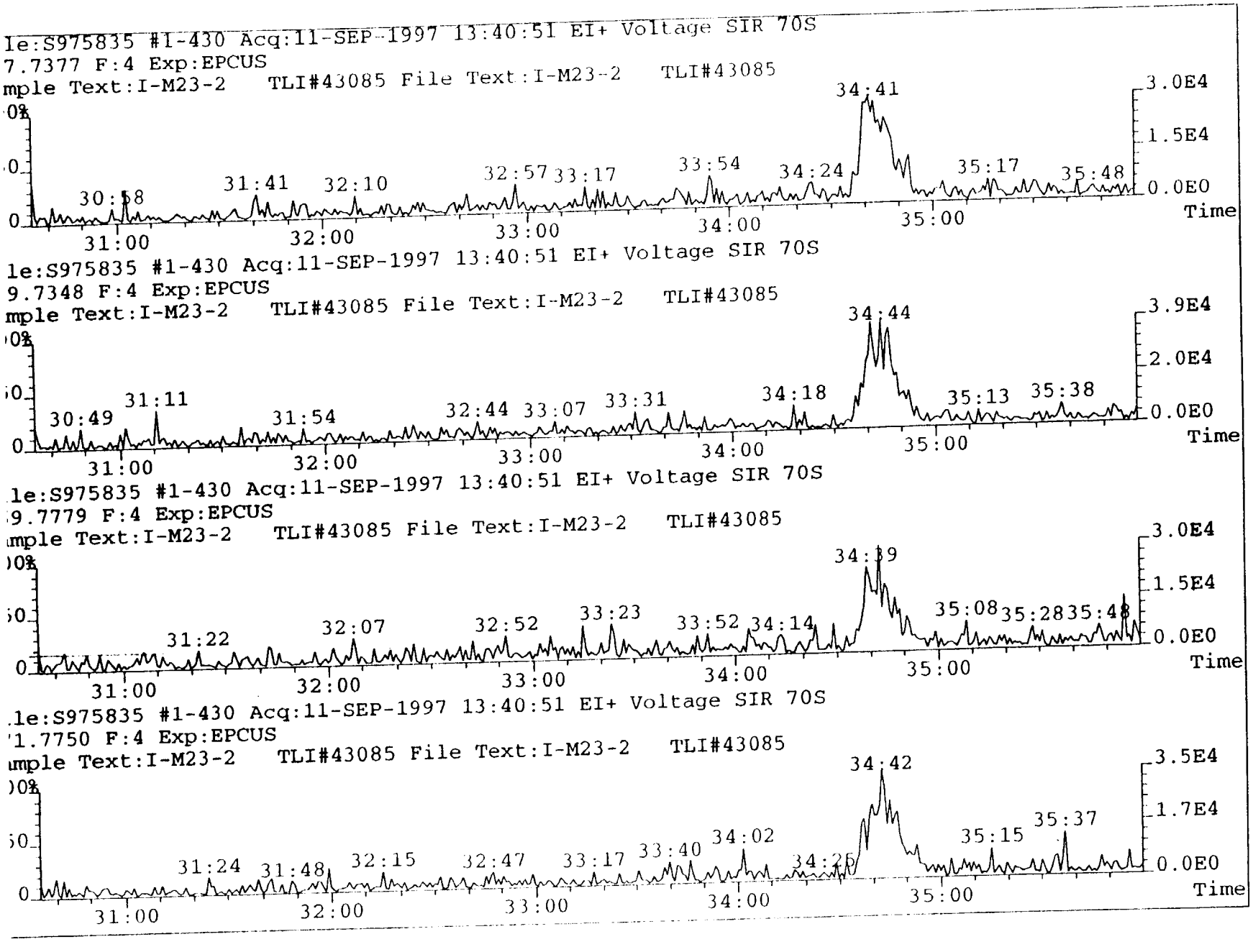

File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:457
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1828.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.86E4
A7.17E3
A8.43E3
A6.79E3
A8.36E3
A1.52E4
A5.89E3
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:536
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.27E4
A9.59E3
A2.93E4
A9.58E3
A1.52E4
A1.17E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:759
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3036.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A3.63E5
A2.08E4
A1.39E4
A1.26E4
A2.10E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:428
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1712.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A3.54E5
A1.60E4
A2.81E4
A2.20E4
A1.64E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
31:29
31:36
31:54
32:03
32:09
32:22
32:29
31:18 31:24 31:30 31:36 31:42 31:48 31:54 32:00 32:06 32:12 32:18 32:24 32:30
Time

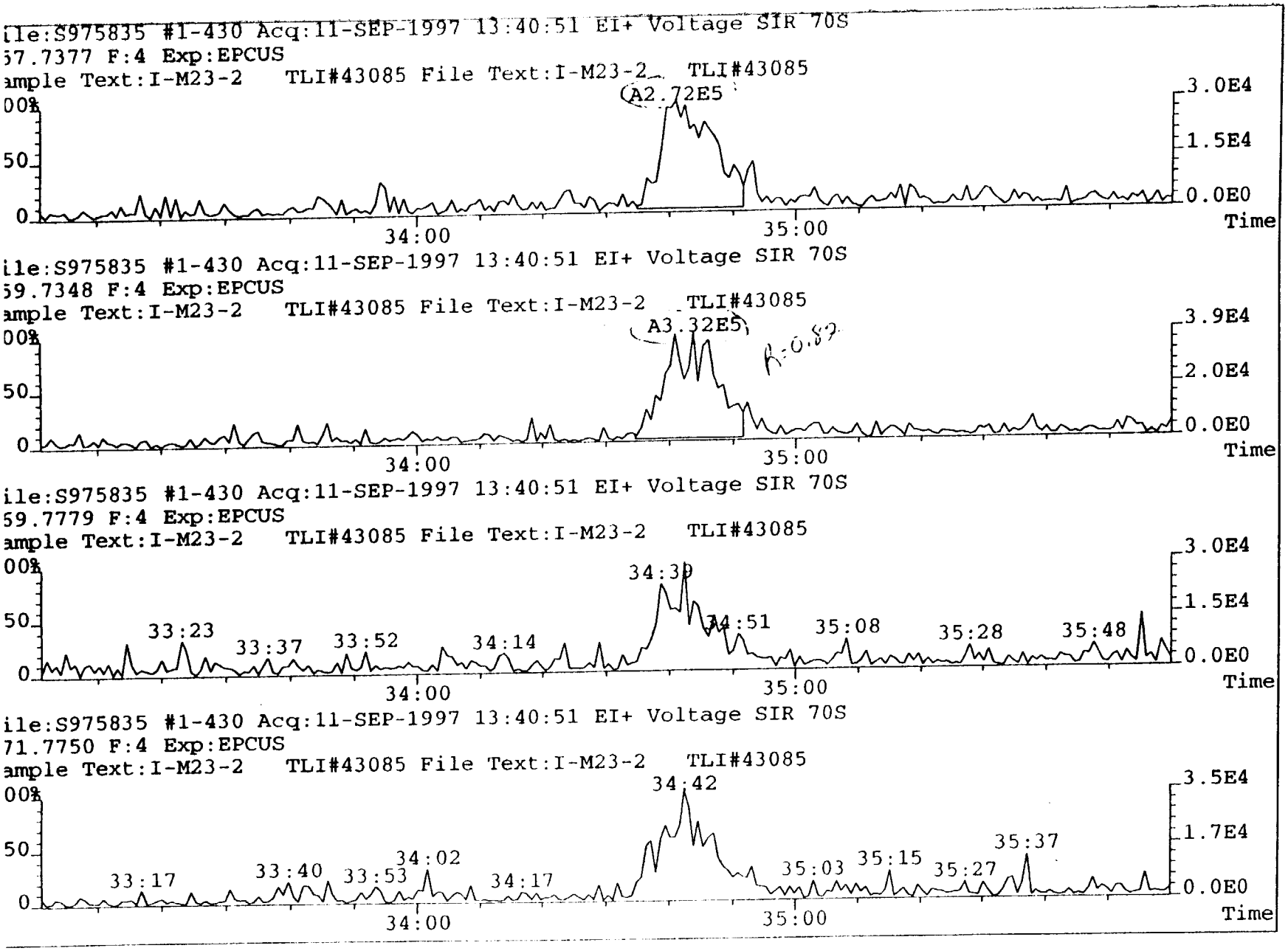

File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:276
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.73E4
A2.46E4
A1.76E4
A1.05E4
A1.22E4
A1.39E4
A1.21E4
A1.50E4
A2.71E4
A1.19E4
A9.20E3
A3.06E4
A9.18E3
A1.65E4
A2.03E4
A1.20E4
Time
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:464
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1856.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.07E4
A2.22E4
A1.49E4
A2.21E4
A1.68E4
A2.46E4
A1.56E4
A2.19E4
A1.98E4
A1.16E4
A3.42E4
A3.35E4
Time
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
30:58
31:17
31:36
31:54
32:38
33:18
34:11
34:30
35:01
Time
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
30:52
31:04
31:29
31:53
32:35
33:02
33:26
33:43
33:53
34:13
34:45
35:03
35:33
Time

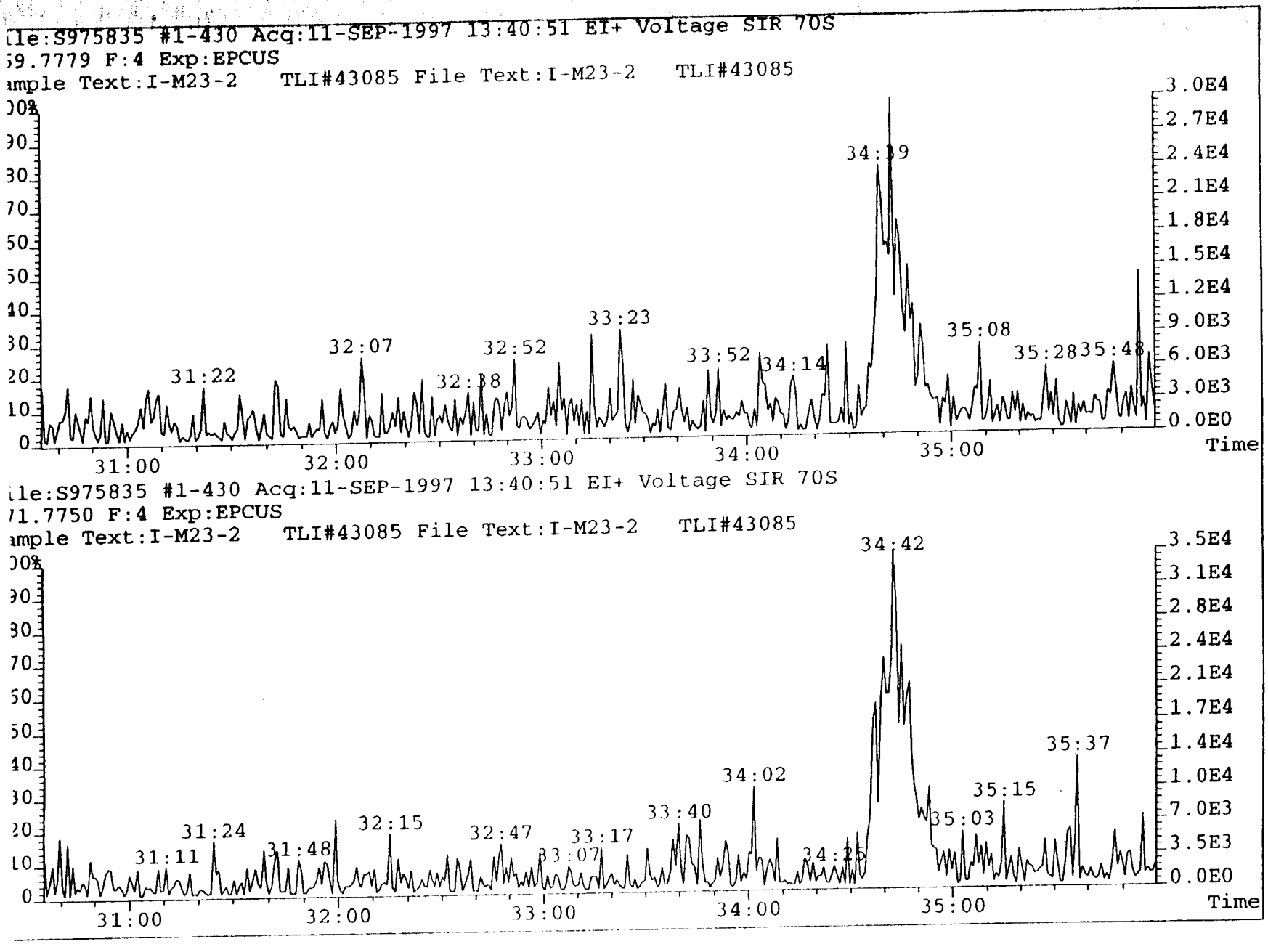

File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:342
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1368.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A2.20E4
A9.02E3
A2.84E5
A3.19E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:418
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1672.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A7.55E3
A3.81E5
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:443
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1772.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A1.27E4
A1.73E5
A6.42E4
A3.04E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S Noise:235
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,940.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
A4.87E3
A2.98E5
A2.46E4
File:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-2 TLI#43085
34:30
34:41
34:45
34:54
34:58
34:24
34:30
34:36
34:42
34:48
34:54
35:00
Time

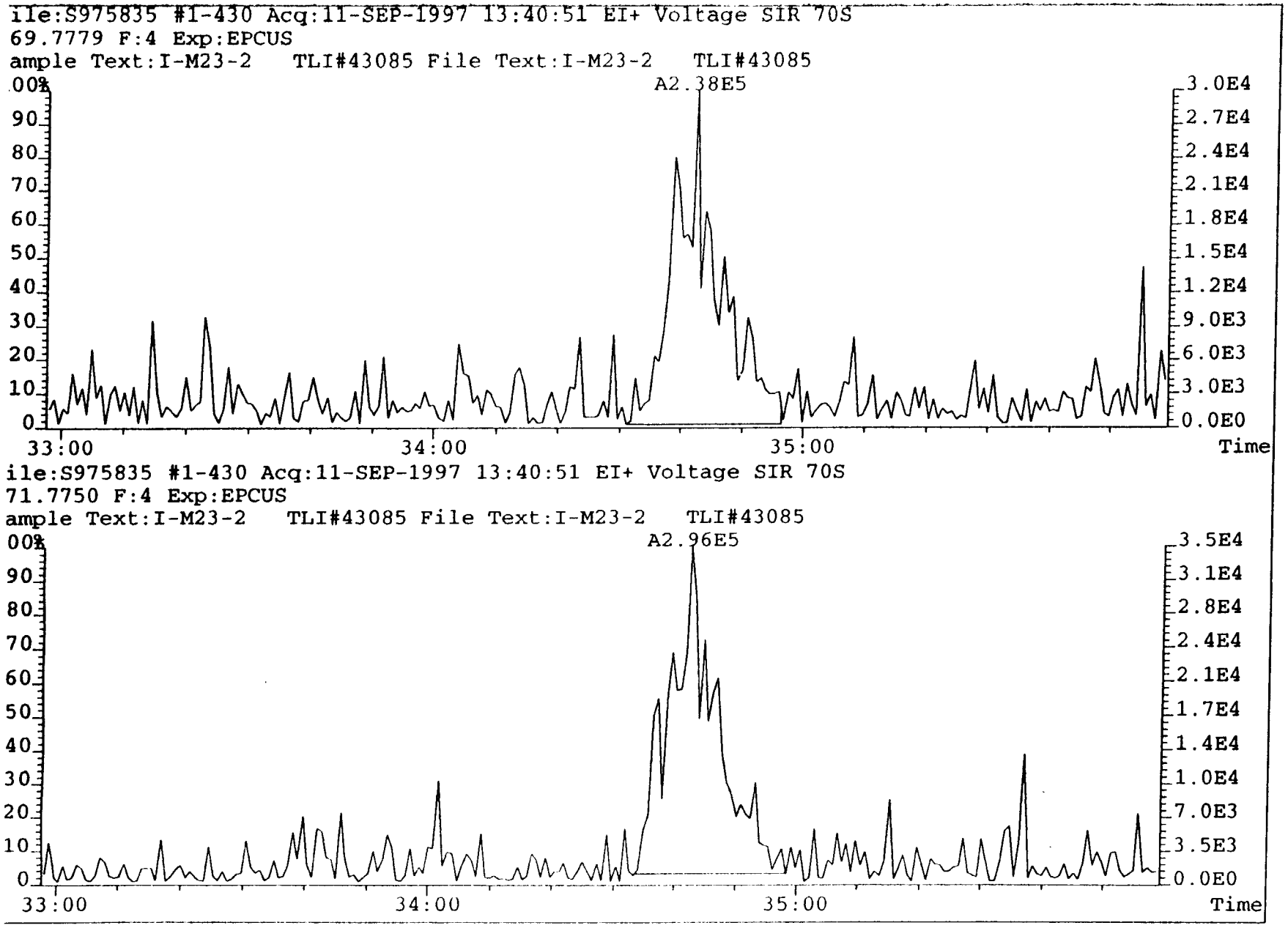

ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
17.8253 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
00%
90
80
70
60
50
40
30
20
10
0
30:49
31:02
31:31
31:59
32:11
32:28
32:47
33:18
33:37
33:53
4.3E4
3.9E4
3.4E4
3.0E4
2.6E4
2.2E4
1.7E4
1.3E4
8.6E3
4.3E3
0.0E0
31:00
32:00
33:00
34:00
Time
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
19.8220 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
00%
90
80
70
60
50
40
30
20
10
0
30:56
31:11
31:29
31:42
32:00
32:29
32:59
33:36
7.9E4
7.1E4
6.3E4
5.5E4
4.7E4
3.9E4
3.1E4
2.4E4
1.6E4
7.9E3
0.0E0
31:00
32:00
33:00
34:00
Time


ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
23.7766 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
00%
80
60
40
20
0
31:20
31:31
31:45
32:07
32:28
32:45
32:53
33:08
33:22
33:38
1.6E4
1.3E4
9.5E3
6.4E3
3.2E3
0.0E0
31:00
32:00
33:00
34:00
Time
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
25.7737 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
00%
80
60
40
20
0
30:51
31:14
31:30
31:50
32:07
32:32
32:52
33:09
33:25
33:40
1.3E4
1.0E4
7.6E3
5.0E3
2.5E3
0.0E0
31:00
32:00
33:00
34:00
Time
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
35.8169 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
00%
80
60
40
20
0
30:51
31:05
31:46
32:07
32:36
32:53
33:22
33:43
8.3E4
6.6E4
5.0E4
3.3E4
1.7E4
0.0E0
31:00
32:00
33:00
34:00
Time


le:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
7.7377 F:4 Exp:EPCUS
mple Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
30:58
31:41
32:10
32:57
33:17
33:54
34:24
34:41
35:17
35:48
31:00
32:00
33:00
34:00
35:00
Time
3.0E4
1.5E4
0.0E0
le:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
9.7348 F:4 Exp:EPCUS
mple Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
30:49
31:11
31:54
32:44
33:07
33:31
34:18
34:44
35:13
35:38
31:00
32:00
33:00
34:00
35:00
Time
3.9E4
2.0E4
0.0E0
le:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
9.7779 F:4 Exp:EPCUS
mple Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
31:22
32:07
32:52
33:23
33:52
34:14
34:39
35:08
35:28
35:48
31:00
32:00
33:00
34:00
35:00
Time
3.0E4
1.5E4
0.0E0
le:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
1.7750 F:4 Exp:EPCUS
mple Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
31:24
31:48
32:15
32:47
33:17
33:40
34:02
34:26
34:42
35:15
35:37
31:00
32:00
33:00
34:00
35:00
Time
3.5E4
1.7E4
0.0E0


ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
57.7377 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
A2.72E5
3.0E4
1.5E4
0.0E0
Time
34:00
35:00
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
59.7348 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
A3.32E5
3.9E4
2.0E4
0.0E0
Time
34:00
35:00
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
59.7779 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
3.0E4
1.5E4
0.0E0
Time
33:23
33:37
33:52
34:14
34:39
34:51
35:08
35:28
35:48
34:00
35:00
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
71.7750 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
3.5E4
1.7E4
0.0E0
Time
33:17
33:40
33:53
34:02
34:17
34:42
35:03
35:15
35:27
35:37
34:00
35:00


tle:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
59.7779 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
31:22
32:07
32:38
32:52
33:23
33:52
34:14
34:39
35:08
35:28
35:48
31:00
32:00
33:00
34:00
35:00
Time
3.0E4
2.7E4
2.4E4
2.1E4
1.8E4
1.5E4
1.2E4
9.0E3
6.0E3
3.0E3
0.0E0
tle:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
71.7750 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
31:11
31:24
31:48
32:15
32:47
33:07
33:17
33:40
34:02
34:25
34:42
35:03
35:15
35:37
31:00
32:00
33:00
34:00
35:00
Time
3.5E4
3.1E4
2.8E4
2.4E4
2.1E4
1.7E4
1.4E4
1.0E4
7.0E3
3.5E3
0.0E0


ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
69.7779 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
A2.38E5
00%
90
80
70
60
50
40
30
20
10
0
3.0E4
2.7E4
2.4E4
2.1E4
1.8E4
1.5E4
1.2E4
9.0E3
6.0E3
3.0E3
0.0E0
33:00
34:00
35:00
Time
ile:S975835 #1-430 Acq:11-SEP-1997 13:40:51 EI+ Voltage SIR 70S
71.7750 F:4 Exp:EPCUS
ample Text:I-M23-2 TLI#43085 File Text:I-M23-2 TLI#43085
A2.96E5
00%
90
80
70
60
50
40
30
20
10
0
3.5E4
3.1E4
2.8E4
2.4E4
2.1E4
1.7E4
1.4E4
1.0E4
7.0E3
3.5E3
0.0E0
33:00
34:00
35:00
Time

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **I-M23-3** — Analysis File: **S975843**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPX23704
TLI ID:	181-55-7ABD	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/11/97	ConCal:	S975839
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KB	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.005				
1,2,3,7,8-PeCDD	ND	0.009				
1,2,3,4,7,8-HxCDD	ND	0.01				
1,2,3,6,7,8-HxCDD	ND	0.01				
1,2,3,7,8,9-HxCDD	ND	0.01				
1,2,3,4,6,7,8-HpCDD	0.14			1.07	32:09	B
1,2,3,4,6,7,8,9-OCDD	16.2			0.87	34:39	
2,3,7,8-TCDF	0.01			0.70	20:26	B
1,2,3,7,8-PeCDF	ND	0.005				
2,3,4,7,8-PeCDF	ND	0.005				
1,2,3,4,7,8-HxCDF	0.02			1.21	28:22	
1,2,3,6,7,8-HxCDF	ND	0.006				
2,3,4,6,7,8-HxCDF	EMPC		0.006			
1,2,3,7,8,9-HxCDF	ND	0.008				
1,2,3,4,6,7,8-HpCDF	0.04			1.02	31:15	B
1,2,3,4,7,8,9-HpCDF	ND	0.02				
1,2,3,4,6,7,8,9-OCDF	ND	0.05				

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.005		
Total PeCDD	ND		0.009		
Total HxCDD	0.02	1		0.05	
Total HpCDD	0.34	2			
Total TCDF	0.01	1		0.02	
Total PeCDF	EMPC			0.01	
Total HxCDF	0.03	2		0.05	
Total HpCDF	0.04	1			

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TLI Project: **43085**
Client Sample: **I-M23-3**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975843**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.5	63.3	40%-130%	0.76	20:24	___
$^{13}C_{12}$-2,3,7,8-TCDD	2.3	58.5	40%-130%	0.80	21:13	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.3	56.9	40%-130%	1.50	24:42	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.3	57.2	40%-130%	1.55	25:50	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.6	64.5	40%-130%	0.49	28:29	Q___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.3	58.0	40%-130%	1.14	29:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.4	35.3	25%-130%	0.42	31:14	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	1.2	29.8	25%-130%	1.03	32:07	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	1.3	16.0	25%-130%	0.88	34:41	V___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.1	103	70%-140%		21:14	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.7	93.4	70%-140%	1.49	25:28	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	4.5	112	70%-140%	0.45	28:22	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	4.0	99.8	70%-140%	1.31	29:08	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.0	75.7	70%-140%	0.39	32:27	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.2	54.2	40%-130%	0.48	29:44	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.9	73.5	40%-130%	0.48	28:59	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	21:00	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.22	29:31	___

Data Reviewer: Shri Lewis 09/18/97

X237_PSR v2.00, LAR5 6.10.04

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Printed: 15:19 09/18/97

Initial ....Date...

Data Review By: SR 9/18/97 Calculated Noise Area: 1.87

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 S975843B.dbf
09/18/97 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				0.818-1.101			
304-306	DC		NL	0:00	RO	0.21	0.83			0.000			
D	DC		SN	17:23	RO	45.05	5.27			0.852			
D	DC		SN	17:56	RO	57.19	5.12			0.879			
	DC		SN	18:51	RO	0.29	3.40			0.924			
	DC		SN	19:44	RO	0.24	1.59			0.967			
				19:56	RO	0.59	12.25	5.33	9.07	0.977			
	DC		SN	20:13	RO	1.94	2.80			0.991			
M				20:26		0.70	18.65	7.65	11.00	1.002	2378-TCDF		AN
	DC		SN	21:40		0.69	2.76			1.062			
D	DC		SN	22:19		0.85	9.84			1.094			
	DC		WH	22:39		0.71	3.82			1.110			
304-306				2 Peaks			30.90						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC		NL	0:00		0.79	1.97			0.000			
	DC		WL	19:12	RO	1.45	4.90			0.941			
				19:55	RO	0.91	14.76	7.55	8.34	0.976			
				20:24		0.76	4,035.54	1,747.71	2,287.83	1.000	13C12-2378-TCDF		ISO
	DC		SN	20:40	RO	0.10	4.44			1.013			
	DC		WH	21:36	RO	0.02	6.67			1.059			
	DC		WH	22:29	RO	0.32	8.14			1.102			
316-318				2 Peaks			4,050.30						

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

TCDD						0.65-0.89				0.851-1.058			
320-322	DC		NL	0:00	RO	0.61	0.85			0.000			
	DC		SN	18:12	RO	0.95	2.99			0.858			
	DC		SN	18:21	RO	0.32	2.74			0.865			
	DC		SN	18:36		0.70	1.65			0.877			
D	DC		SN	18:48	RO	1.08	4.99			0.886			
	DC		SN	19:10	RO	3.87	1.10			0.903			
	DC		SN	19:30	RO	2.72	0.83			0.919			
D	DC		SN	20:24	RO	3.10	4.96			0.962			
	DC		SN	20:49	RO	0.63	0.39			0.981			
	DC		SN	21:04	RO	0.52	2.80			0.993			
	DC		SN	21:22		0.69	1.45			1.007			
	DC		SN	22:04	RO	0.45	0.92			1.040			
	DC		WH	22:33	RO	2.09	1.13			1.063			
320-322				0 Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328	DC		NL	0:00			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.
				19:39			7.51	7.51		0.926			
				21:14			2,615.91	2,615.91		1.001	37Cl-TCDD	SUR1	
				21:35			3.24	3.24		1.017			
				21:41			3.49	3.49		1.022			
328			4 Peaks				2,630.15						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL	0:00	RO	8.95		0.39			0.000			
			19:55	RO	1.52		7.89	6.76	4.46	0.939			
			21:00		0.80		4,836.79	2,156.40	2,680.39	0.990	13C12-1234-TCDD	RS1	
			21:13		0.80		3,017.80	1,343.17	1,674.63	1.000	13C12-2378-TCDD	IS1	
			21:34		0.84		31.45	14.34	17.11	1.016			
332-334			4 Peaks				7,893.93						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF				1.32-1.78						0.905-1.077			
340-342	DC	NL	0:00	RO	0.80		0.07			0.000			
			22:37	RO	1.82		8.31	5.94	3.26	0.916			
	DC	SN	22:51	RO	2.54		2.22			0.925			
	DC	SN	23:25	RO	1.91		0.59			0.948			
D	DC	SN	23:49	RO	2.36		8.13			0.964			
	DC	SN	24:24		1.42		2.47			0.988			
	DC	SN	24:25	RO	2.43		1.53			0.989			
	DC	SN	24:44	RO	0.53		1.92			1.001	12378-PeCDF	AN	
	DC	SN	24:55	RO	4.35		1.10			1.009			
	DC	SN	25:00	RO	1.20		1.94			1.012			
	DC	SN	25:08	RO	1.10		0.54			1.018			
	DC	SN	25:19	RO	3.14		0.74			1.025			
	DC	SN	25:29	RO	0.95		2.83			1.032	23478-PeCDF	AN	
	DC	SN	25:38	RO	1.14		3.14			1.038			
	DC	SN	25:56		1.56		1.69			1.050			
	DC	SN	26:16	RO	0.91		0.49			1.063			
	DC	WH	26:58	RO	0.90		0.94			1.092			
340-342			1 Peak				8.31						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL	0:00	RO	1.00		0.10			0.000			
	DC	SN	23:49	RO	2.33		3.90			0.964			
			24:20	RO	2.33		8.03	7.33	3.15	0.985			
			24:42		1.50		3,116.31	1,870.46	1,245.85	1.000	13C12-PeCDF 123	IS2	
	DC	SN	24:52	RO	3.27		4.97			1.007			
			25:28		1.49		2,822.10	1,689.29	1,132.81	1.031	13C12-PeCDF 234	SUR2	
	DC	SN	25:47	RO	7.09		1.43			1.044			
	DC	SN	25:52	RO	6.42		1.53			1.047			
	DC	SN	26:27	RO	2.07		4.82			1.071			
352-354			3 Peaks				5,946.44						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.919-1.025			
356-358	DC	NL	0:00	RO	5.60		0.13			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			23:50	RO	1.23	1.84			0.923			
	DC	SN			23:58	RO	1.28	2.65			0.928			
	DC	SN			24:09	RO	0.45	1.00			0.935			
	DC	SN			24:31	RO	4.59	1.38			0.949			
	DC	SN			24:42	RO	4.00	3.39			0.956			
	DC	SN			25:15	RO	0.93	1.10			0.977			
	DC	SN			25:27	RO	18.10	0.51			0.985			
	DC	SN			25:44	RO	0.36	0.31			0.996			
	DC	SN			25:52		1.63	1.55			1.001	12378-PeCDD	AN	
	DC	SN			25:58	RO	5.94	0.46			1.005			
	DC	WH			26:43	RO	1.10	1.76			1.034			
356-358			0	Peaks				0.00						
13C12-PeCDD					1.32-1.78						0.845-1.155			
368-370	DC	NL			0:00	RO	9.14	0.18			0.000			
					25:50		1.55	1,755.85	1,066.84	689.01	1.000	13C12-PeCDD 123	IS3	
					25:59		1.60	148.96	91.60	57.36	1.006			
368-370			2	Peaks				1,904.81						
---------- Above: PeCDD / HxCDF Follows ----------														
HxCDF					1.05-1.43						0.955-1.051			
374-376	DC	NL			0:00	RO	1.03	0.70			0.000			
					27:22	RO	1.50	5.38	3.59	2.40	0.961			
					27:31		1.33	12.08	6.89	5.19	0.966			Q
	DC	SN			27:41		1.22	1.44			0.972			
	DC	SN			27:48	RO	1.53	1.93			0.976			
					28:22		1.21	10.85	5.94	4.91	0.996	123478-HxCDF	AN	
	DC	SN			28:29	RO	1.49	3.54			1.000	123678-HxCDF	AN	
	DC	SN			28:37	RO	0.33	0.42			1.005			
	DC	SN			28:43	RO	2.26	0.43			1.008			
	DC	SN			28:48	RO	0.98	2.19			1.011			
MX					29:00	RO	1.45	3.74	2.42	1.67	1.018	234678-HxCDF	AN	
	DC	SN			29:12	RO	0.36	0.14			1.025			
	DC	SN			29:22	RO	3.63	0.36			1.031			
	DC	SN			29:34	RO	5.38	0.29			1.038			
	DC	SN			29:44	RO	1.01	1.41			1.044	123789-HxCDF	AN	
	DC	SN			29:49		1.41	1.64			1.047			
	DC	SN			29:56	RO	3.40	0.22			1.051			
	DC	WH			30:04	RO	1.75	0.27			1.056			
374-376			4	Peaks				32.05						
13C12-HxCDF					0.43-0.59						0.859-1.141			
384-386	DC	NL			0:00	RO	0.32	2.22			0.000			
	DC	SN			27:30	RO	0.75	1.25			0.965			
					28:22		0.45	2,317.24	719.33	1,597.91	0.996	13C12-HxCDF 478	SUR3	
					28:29		0.49	2,162.06	706.30	1,455.76	1.000	13C12-HxCDF 678	IS4	Q
					28:59		0.48	2,280.64	735.67	1,544.97	1.018	13C12-HxCDF 234	ALT2	
	DC	SN			29:11	RO	0.99	2.13			1.025			
					29:44		0.48	1,461.67	473.75	987.92	1.044	13C12-HxCDF 789	ALT1	
384-386			4	Peaks				8,221.61						

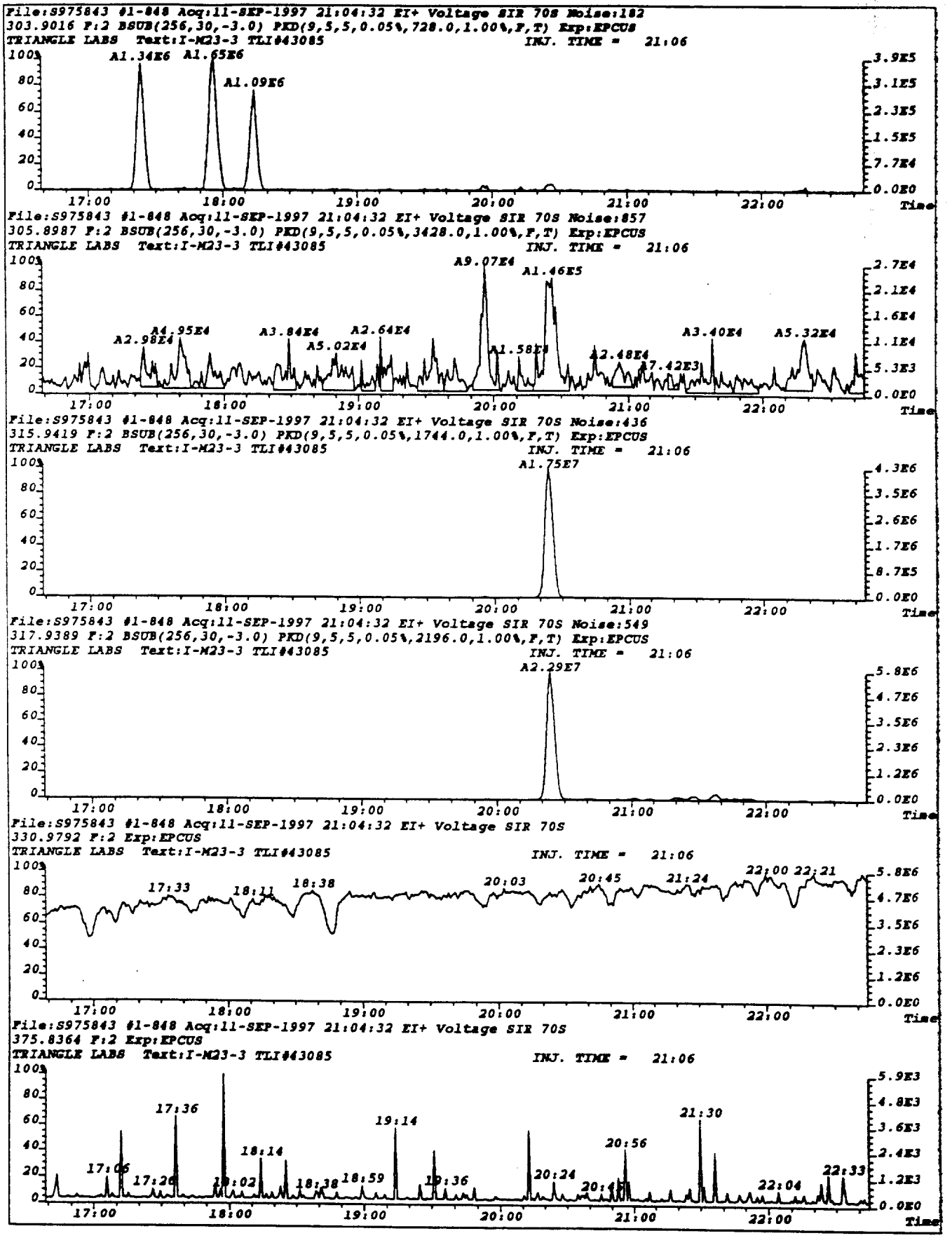
Compound/ M_Z....	QC.Log	Omit	Why	RT	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD						1.05-1.43				0.950-1.014			
390-392	DC	NL		0:00	RO	0.83	0.27			0.000			
				27:55		1.35	10.53	6.04	4.49	0.956			
	DC	SN		28:06	RO	0.77	0.18			0.962			
	DC	SN		28:11		1.27	0.34			0.965			
K				28:22	RO	2.98	3.65	4.85	1.63	0.971			
	DC	SN		28:28	RO	3.57	1.86			0.975			
				28:37	RO	1.61	6.74	4.85	3.01	0.980			
	DC	SN		29:00	RO	2.66	2.93			0.993			
	DC	SN		29:13	RO	2.25	1.37			1.001	123678-HxCDD		AN
	DC	SN		29:30	RO	2.47	2.67			1.010	123789-HxCDD		AN
	DC	WH		29:44	RO	11.32	0.56			1.018			
390-392		3	Peaks				20.92						
13C12-HxCDD						1.05-1.43				0.966-1.034			
402-404	DC	NL		0:00	RO	1.54	1.37			0.000			
	DC	SN		28:37	RO	1.66	3.52			0.980			
				29:08		1.31	1,559.21	884.19	675.02	0.998	13C12-HxCDD	478	SUR4
				29:12		1.14	1,605.00	855.13	749.87	1.000	13C12-HxCDD	678	IS5
				29:31		1.22	2,782.46	1,529.14	1,253.32	1.011	13C12-HxCDD	789	RS2
	DC	SN		29:51	RO	1.99	2.17			1.022			
402-404		3	Peaks				5,946.67						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF						0.88-1.20				0.994-1.044			
408-410	DC	NL		0:00	RO	3.60	0.51			0.000			
				31:15		1.02	13.52	6.84	6.68	1.001	1234678-HpCDF		AN
	DC	SN		31:38	RO	1.22	3.45			1.013			
	DC	SN		31:44	RO	1.75	1.12			1.016			
	DC	SN		31:54	RO	12.00	0.08			1.021			
	DC	SN		32:04	RO	3.83	0.47			1.027			
408-410		1	Peak				13.52						
13C12-HpCDF						0.37-0.51				0.936-1.128			
418-420	DC	NL		0:00	RO	2.33	0.39			0.000			
				31:14		0.42	871.85	258.15	613.70	1.000	13C12-HpCDF	678	IS6
	DC	SN		32:07	RO	0.72	0.52			1.028			
				32:27		0.39	508.55	143.25	365.30	1.039	13C12-HpCDF	789	SUR5
	DC	SN		32:41		0.45	1.64			1.046			
418-420		2	Peaks				1,380.40						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD						0.88-1.20				0.976-1.005			
424-426	DC	NL		0:00	RO	1.35	0.35			0.000			
	DC	WL		31:13	RO	2.15	3.37			0.972			
				31:31		1.04	37.00	18.84	18.16	0.981			
	DC	SN		31:51	RO	0.80	1.18			0.992			
				32:09		1.07	24.66	12.73	11.93	1.001	1234678-HpCDD		AN

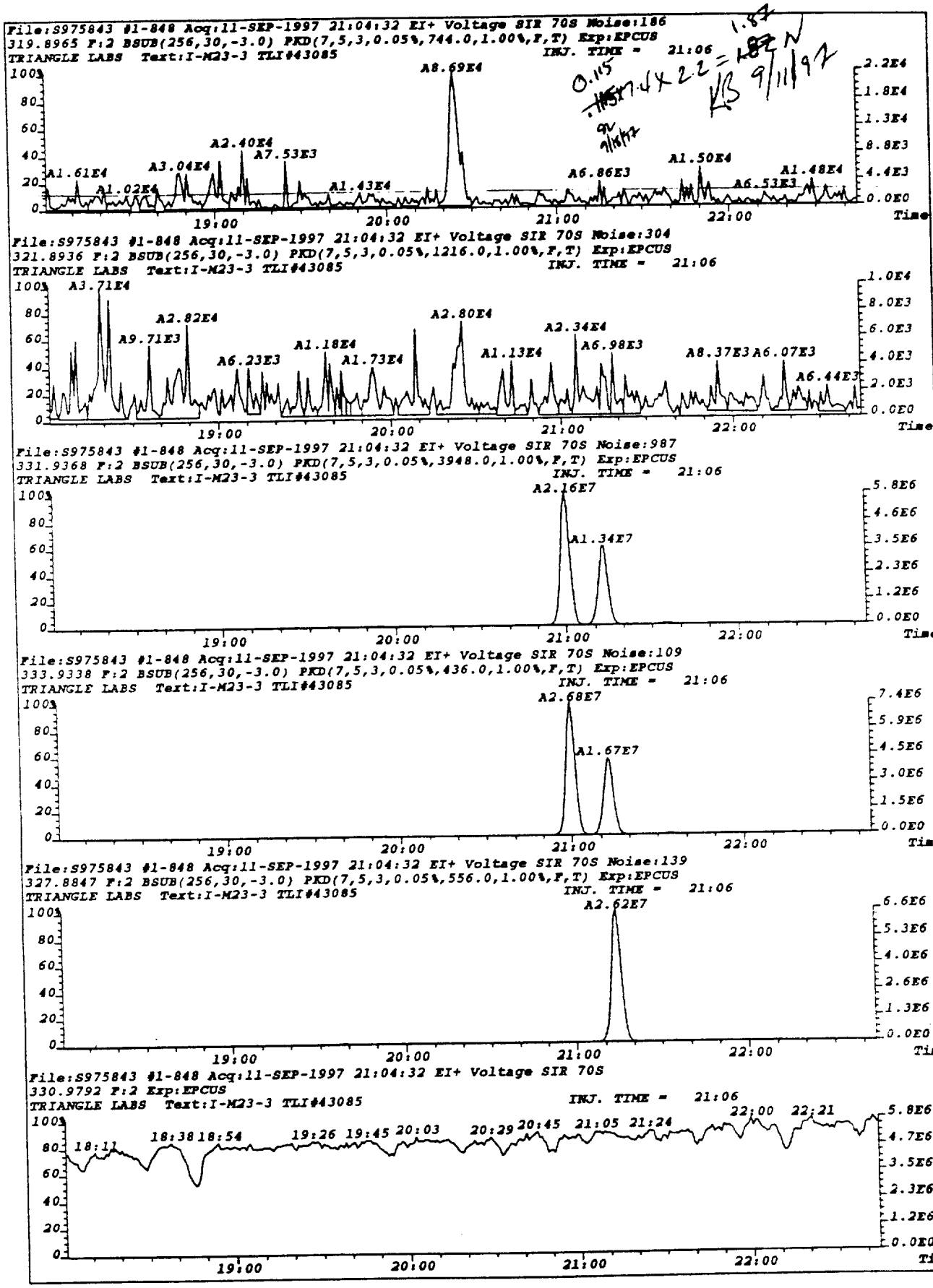
Listing of S975843B.dbf
Matched GC Peaks / Ratio / Ret. Time

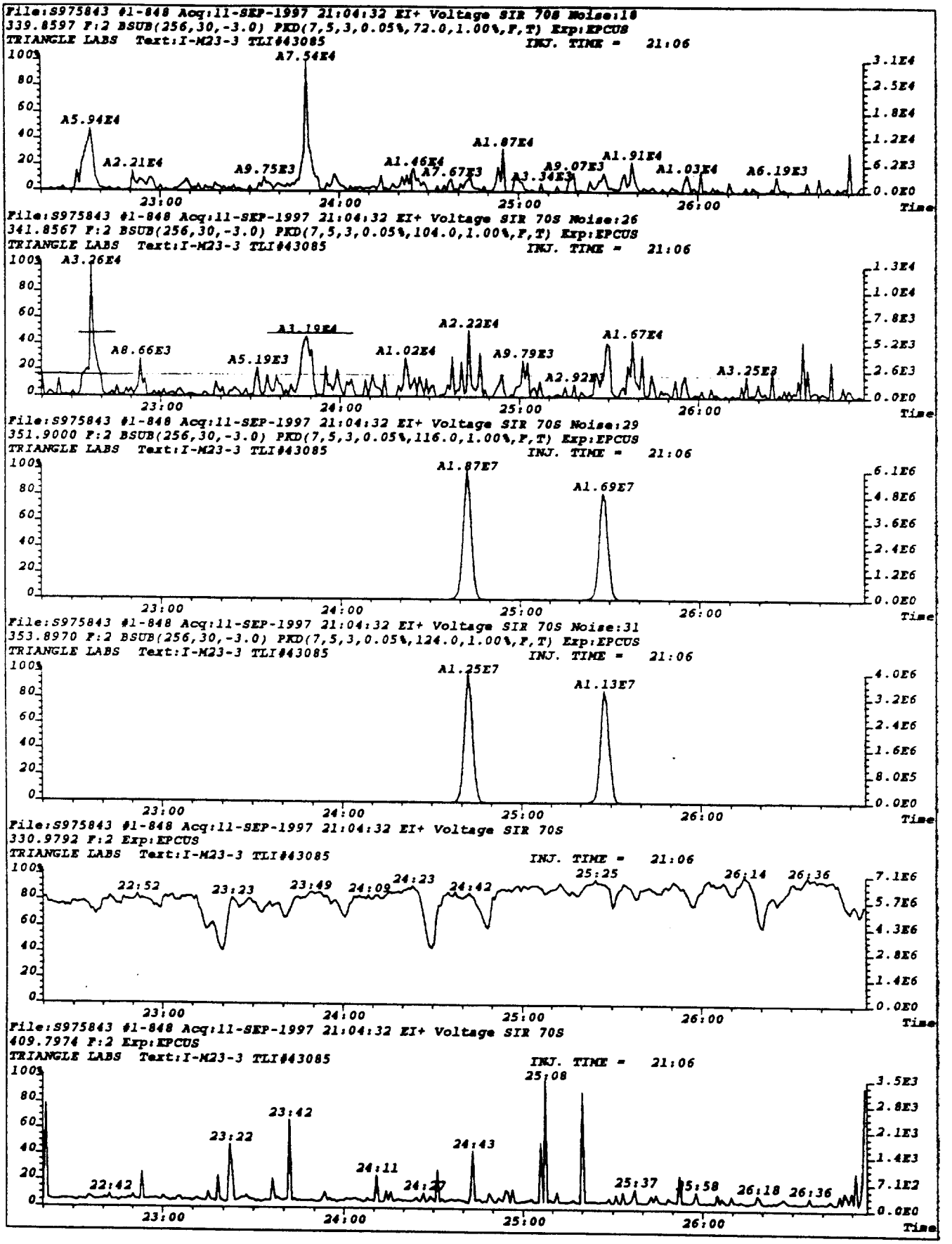
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
424-426	2 Peaks						61.66						
13C12-HpCDD						0.88-1.20				0.969-1.031			
436-438	DC	NL		0:00	RO	6.36	0.29			0.000			
	DC	SN		31:28	RO	7.06	0.35			0.980			
				32:07		1.03	674.93	341.73	333.20	1.000	13C12-HpCDD	678	IS7
	DC	SN		32:24	RO	0.34	1.24			1.009			
436-438	1 Peak						674.93						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF						0.76-1.02				0.885-1.115			
442-444	DC	NL		0:00	RO	1.50	0.15			0.000			
	DC	SN		31:09		0.92	0.23			0.898			
	DC	SN		31:29		0.81	0.49			0.908			
	DC	SN		32:09	RO	1.24	0.72			0.927			
	DC	SN		32:23	RO	1.36	0.21			0.934			
	DC	SN		32:41	RO	1.92	0.23			0.942			
	DC	SN		33:03	RO	0.25	0.08			0.953			
	DC	SN		33:07	RO	1.15	0.25			0.955			
	DC	SN		33:15	RO	1.06	0.34			0.959			
	DC	SN		33:28	RO	0.32	0.13			0.965			
	DC	SN		33:32	RO	2.24	0.72			0.967			
	DC	SN		34:17	RO	2.25	0.60			0.988			
	DC	SN		34:34	RO	1.39	0.96			0.997			
	DC	SN		34:45	RO	5.36	0.47			1.002	OCDF		AN
	DC	SN		34:52	RO	0.44	0.66			1.005			
	DC	SN		35:07	RO	0.40	0.17			1.012			
	DC	SN		35:35	RO	8.38	0.15			1.026			
442-444	0 Peaks						0.00						
OCDD						0.76-1.02				0.885-1.115			
458-460	DC	NL		0:00		0.90	0.19			0.000			
				34:39		0.87	1,034.07	479.89	554.18	0.999	OCDD		AN
	DC	SN		35:07	RO	1.06	0.96			1.012			
458-460	1 Peak						1,034.07						
13C12-OCDD						0.76-1.02				0.994-1.004			
470-472	DC	NL		0:00	RO	1.63	0.15			0.000			
				34:41		0.88	460.83	216.17	244.66	1.000	13C12-OCDD		IS8
470-472	1 Peak						460.83						

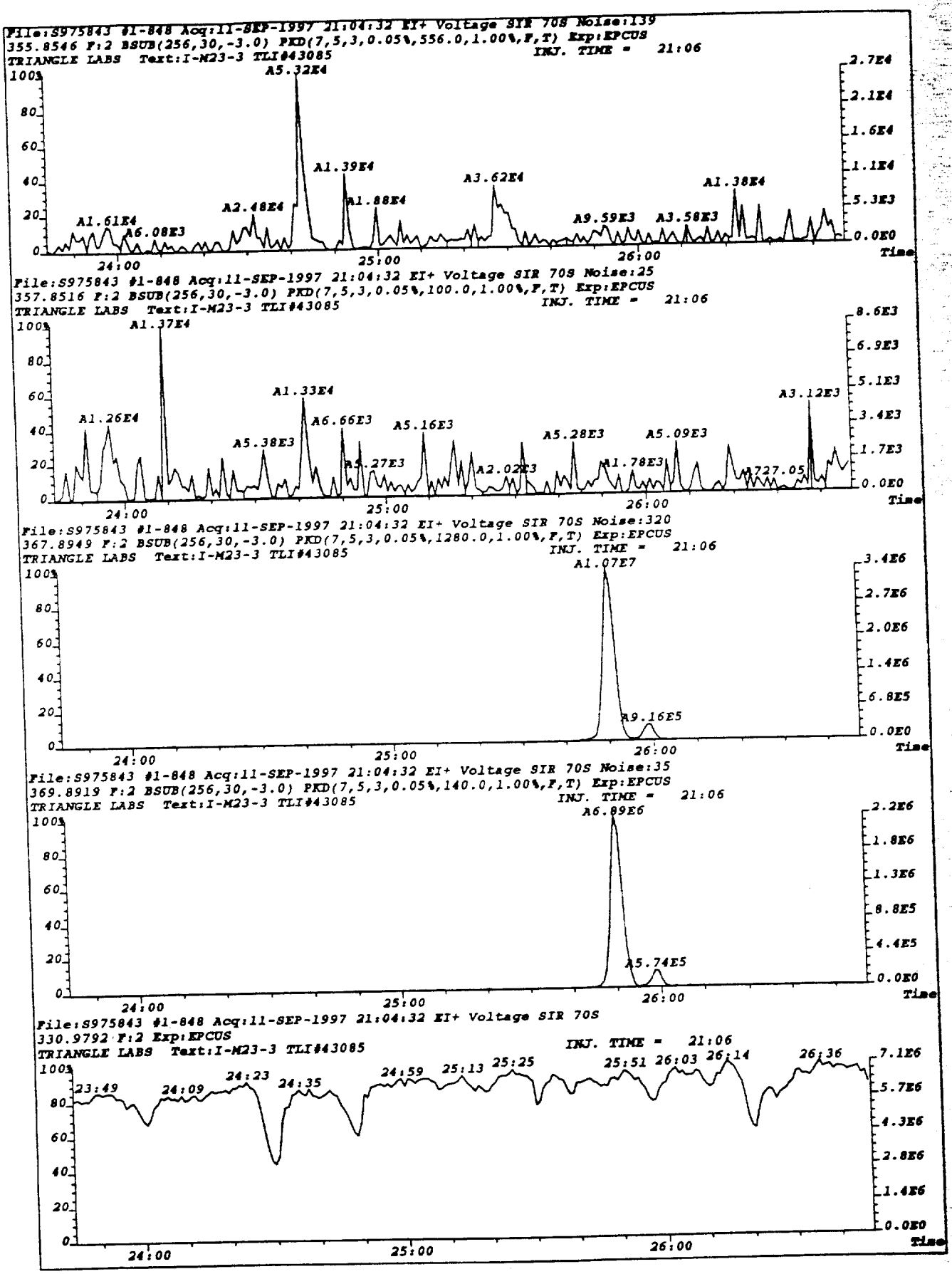
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside 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

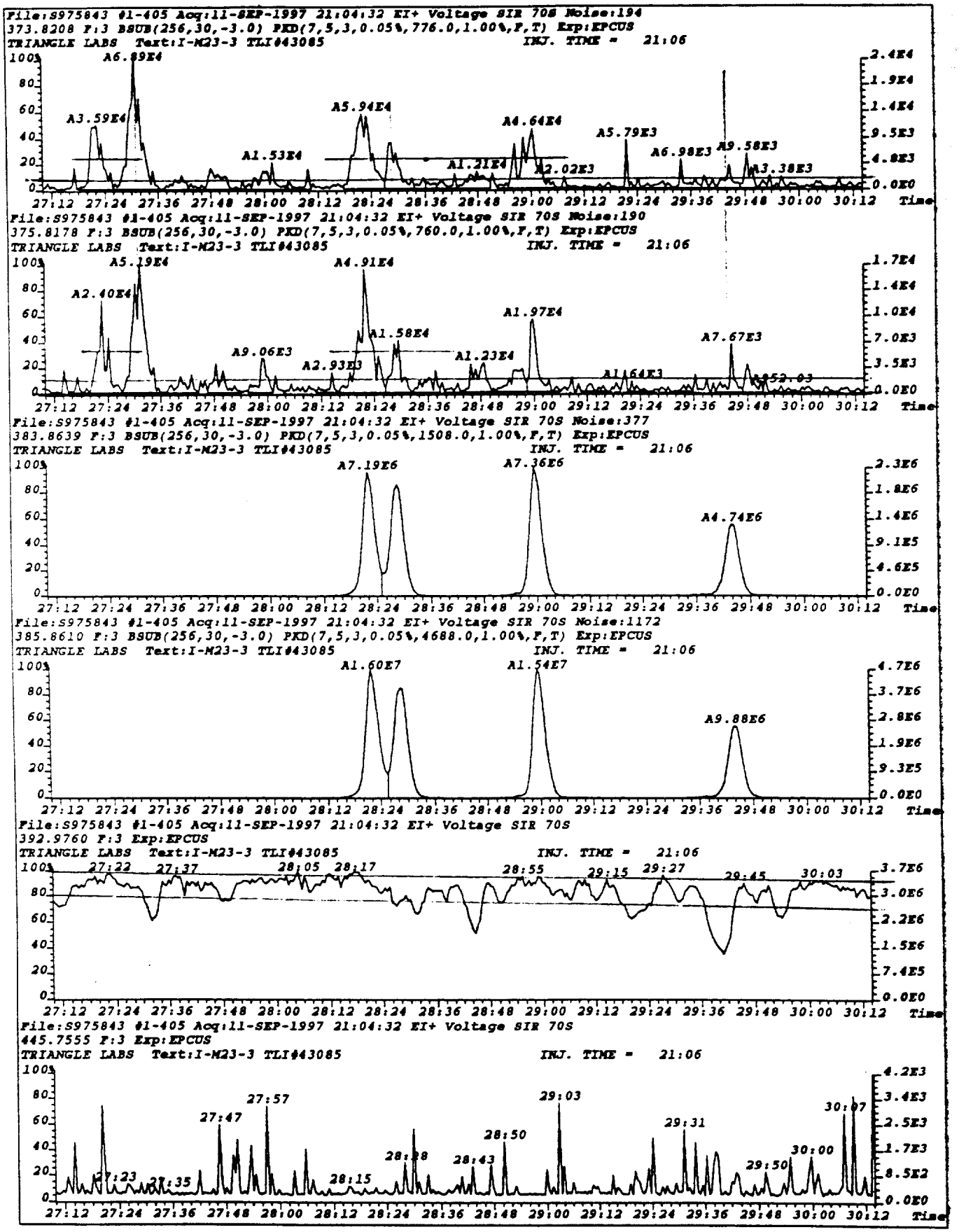
*** End of Report ***

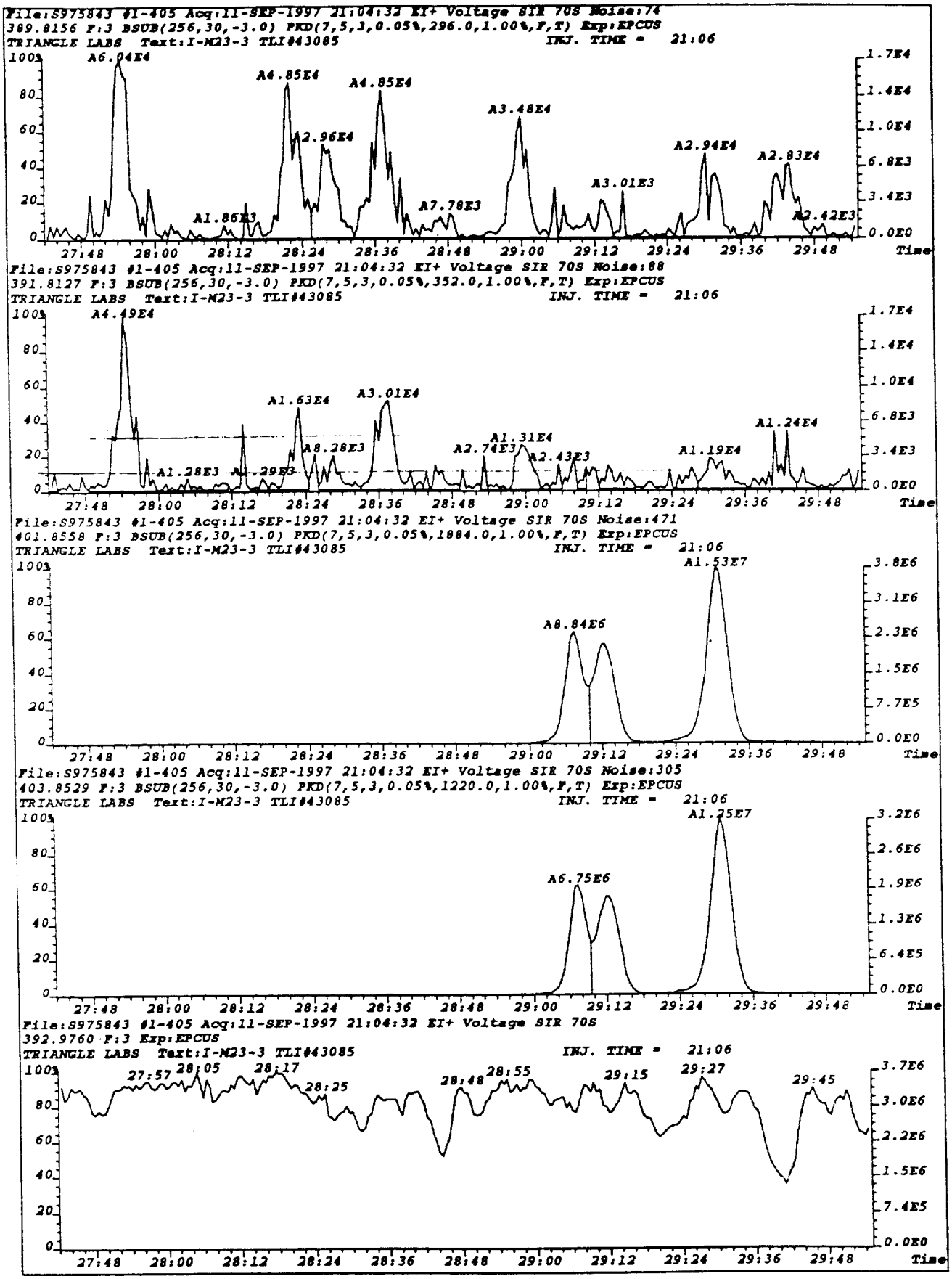

File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:182
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,728.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.34E6
A1.65E6
A1.09E6
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:857
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,3428.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A9.07E4
A1.46E5
A2.98E4
A4.95E4
A3.84E4
A5.02E4
A2.64E4
A1.58E4
A2.48E4
A7.42E3
A3.40E4
A5.32E4
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:436
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1744.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.75E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:549
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.29E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
17:33
18:11
18:38
20:03
20:45
21:24
22:00
22:21
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
17:36
17:06
17:26
18:02
18:14
18:38
18:59
19:14
19:36
20:24
20:56
21:30
22:04
22:33
17:00
18:00
19:00
20:00
21:00
22:00
Time


File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:186
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,744.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A8.69E4
A2.40E4
A7.53E3
A3.04E4
A1.61E4
A1.02E4
A1.43E4
A6.86E3
A1.50E4
A6.53E3
A1.48E4
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:304
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A3.71E4
A2.82E4
A9.71E3
A6.23E3
A1.18E4
A1.73E4
A2.80E4
A1.13E4
A2.34E4
A6.98E3
A8.37E3
A6.07E3
A6.44E3
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:987
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3948.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.16E7
A1.34E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:109
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,436.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.68E7
A1.67E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:139
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,556.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.62E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
18:11
18:38 18:54
19:26 19:45 20:03
20:29 20:45 21:05 21:24
22:00 22:21
19:00
20:00
21:00
22:00
Time


File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:18
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,72.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A7.54E4
A5.94E4
A2.21E4
A9.75E3
A1.46E4
A7.67E3
A1.87E4
A3.34E3
A9.07E3
A1.91E4
A1.03E4
A6.19E3
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:26
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A3.26E4
A8.66E3
A5.19E3
A3.19E4
A1.02E4
A2.22E4
A9.79E3
A2.92E3
A1.67E4
A3.25E3
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:29
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.87E7
A1.69E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:31
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.25E7
A1.13E7
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
22:52
23:23
23:49
24:09
24:23
24:42
25:25
26:14
26:36
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
25:08
23:42
23:22
24:43
24:11
22:42
25:37
25:58
26:18
26:36
23:00
24:00
25:00
26:00
Time


File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:139
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,556.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A5.32E4
A1.39E4
A3.62E4
A1.38E4
A2.48E4
A1.88E4
A1.61E4
A6.08E3
A9.59E3
A3.58E3
24:00
25:00
26:00
Time
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:25
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,100.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.37E4
A1.33E4
A1.26E4
A6.66E3
A5.16E3
A5.38E3
A5.28E3
A5.09E3
A3.12E3
A1.78E3
A2.02E3
727.05
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:320
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1280.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.07E7
A9.16E5
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:35
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A6.89E6
A5.74E5
File:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
23:49
24:09
24:23
24:35
24:59
25:13
25:25
25:51
26:03
26:14
26:36


File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:194
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,776.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A6.89E4
A3.59E4
A5.94E4
A4.64E4
A5.79E3
A6.98E3
A9.58E3
A1.53E4
A1.21E4
A2.02E3
A3.38E3
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:190
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,760.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A5.19E4
A4.91E4
A2.40E4
A1.97E4
A1.58E4
A7.67E3
A9.06E3
A2.93E3
A1.23E4
A1.64E3
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:377
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1508.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A7.19E6
A7.36E6
A4.74E6
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:1172
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4688.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.60E7
A1.54E7
A9.88E6
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
27:22
27:37
28:05
28:17
28:55
29:15
29:27
29:45
30:03
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
27:57
27:47
29:03
28:50
29:31
30:07
30:00
28:28
28:43
27:23
27:35
28:15
29:50
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 Time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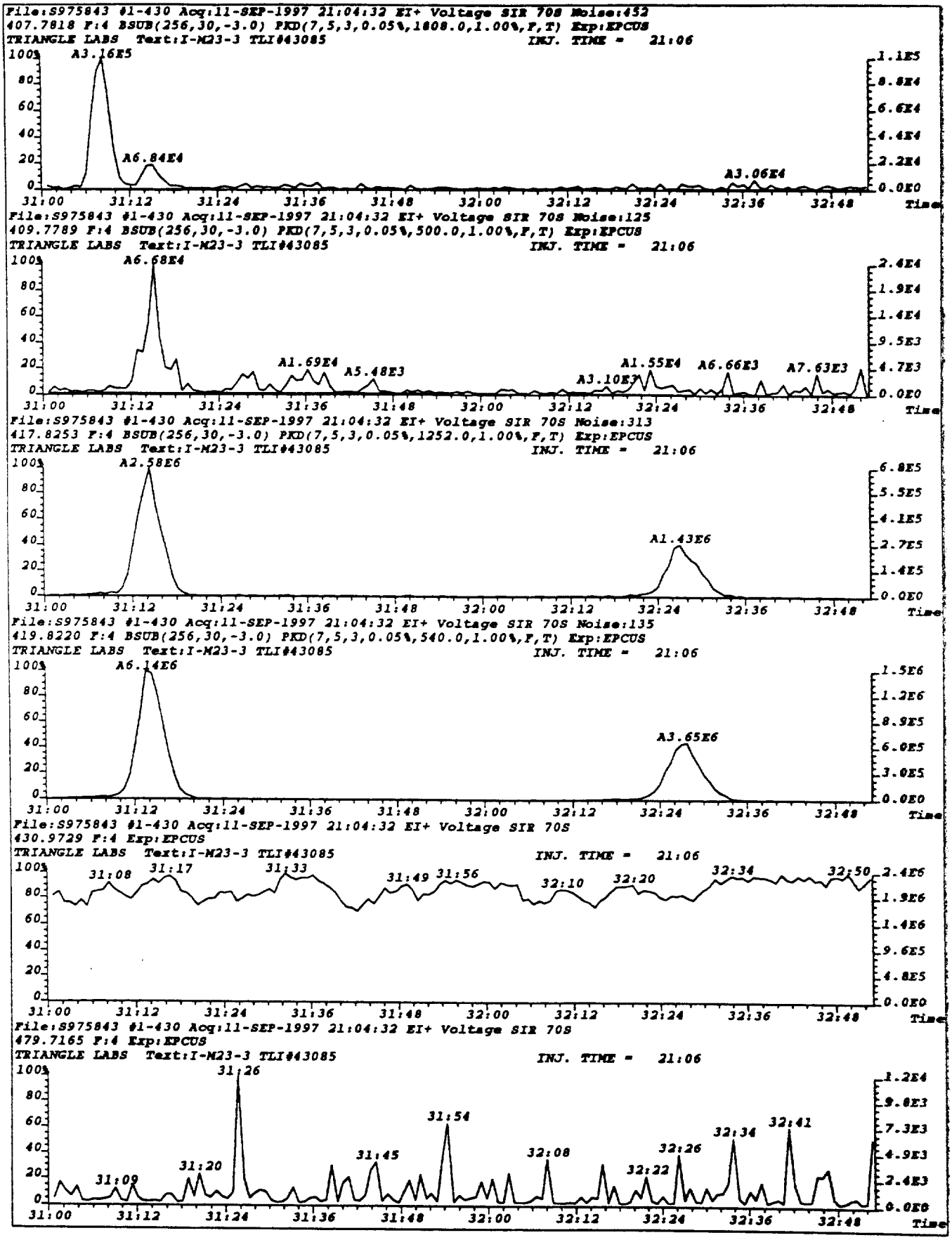
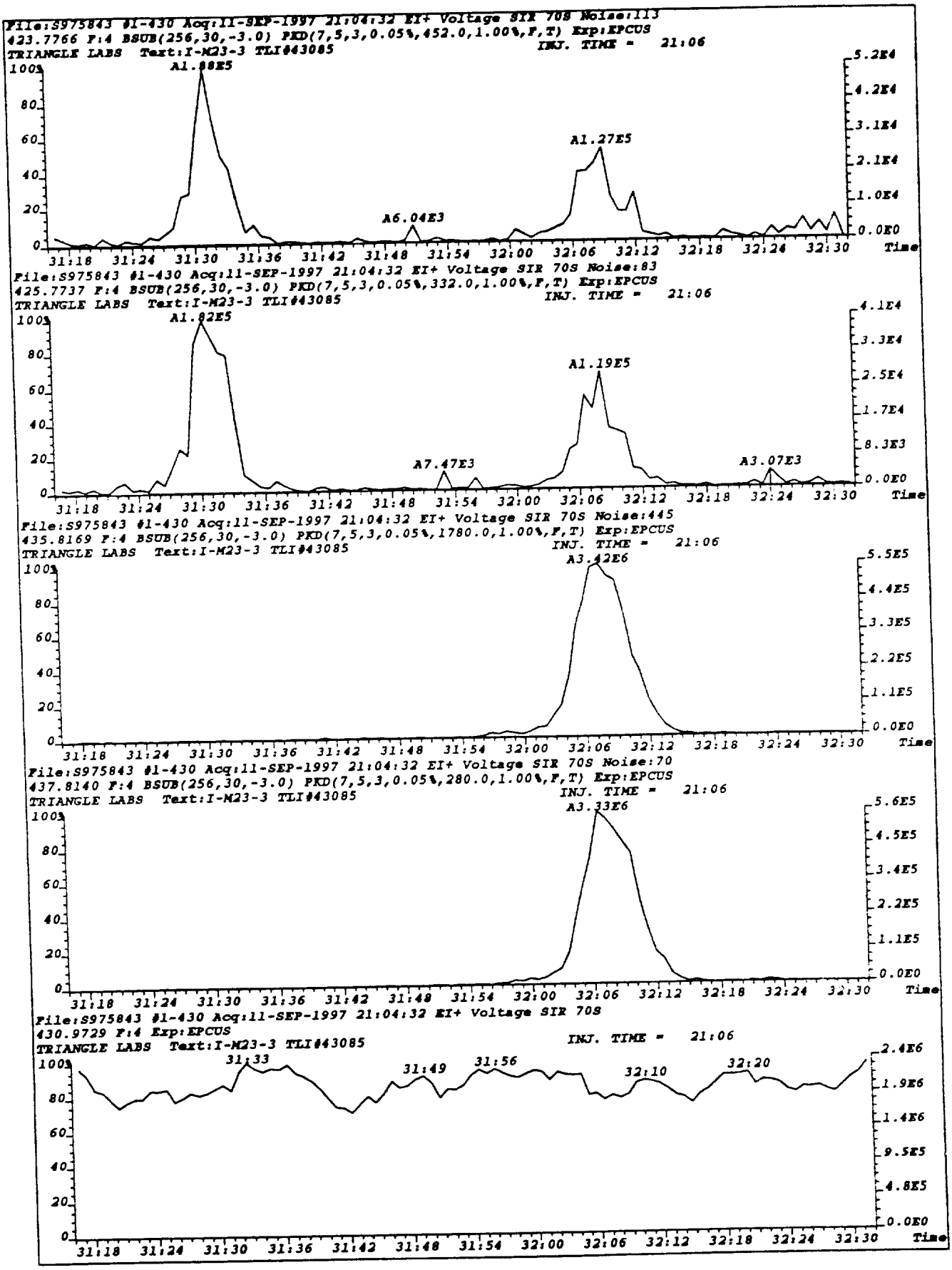
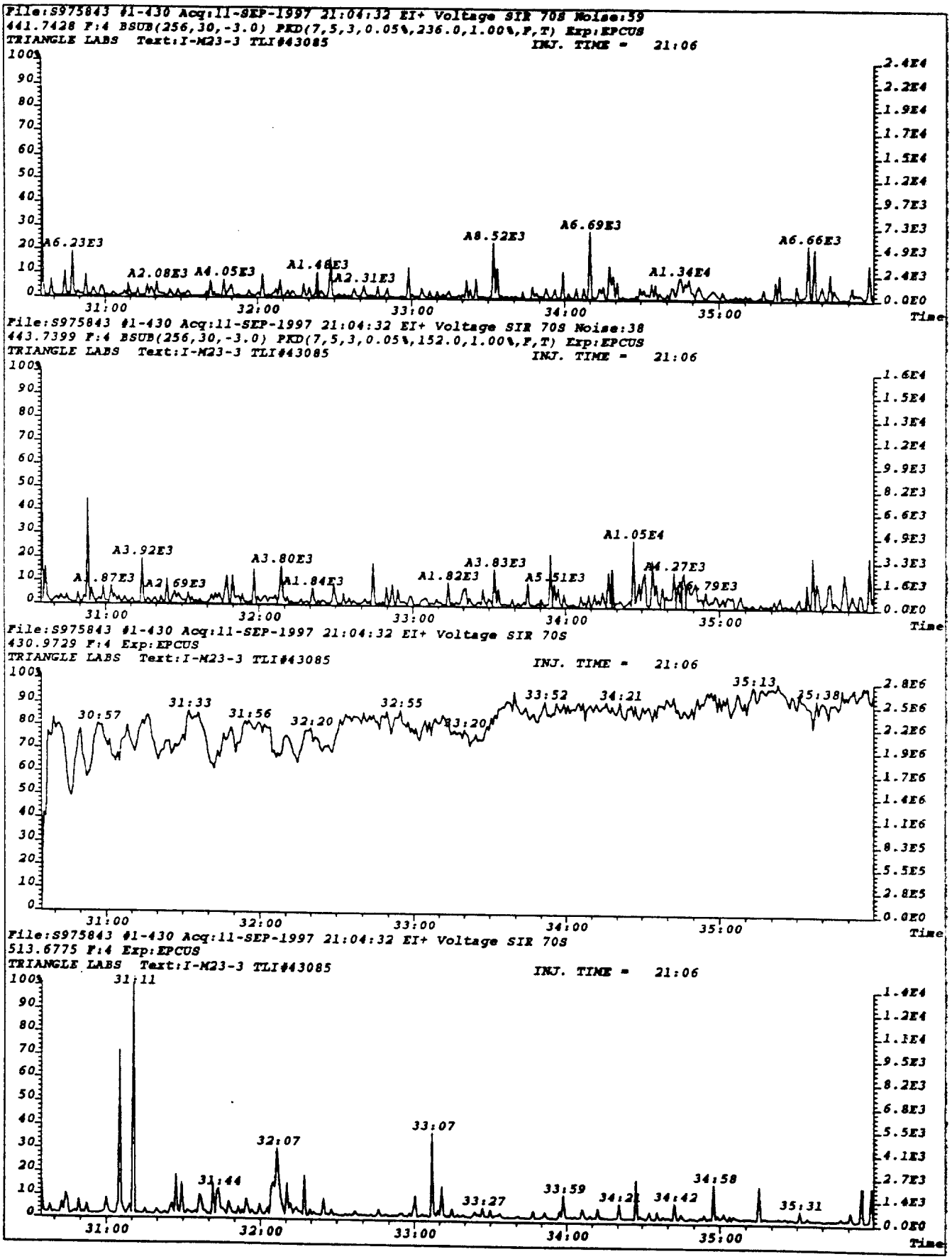
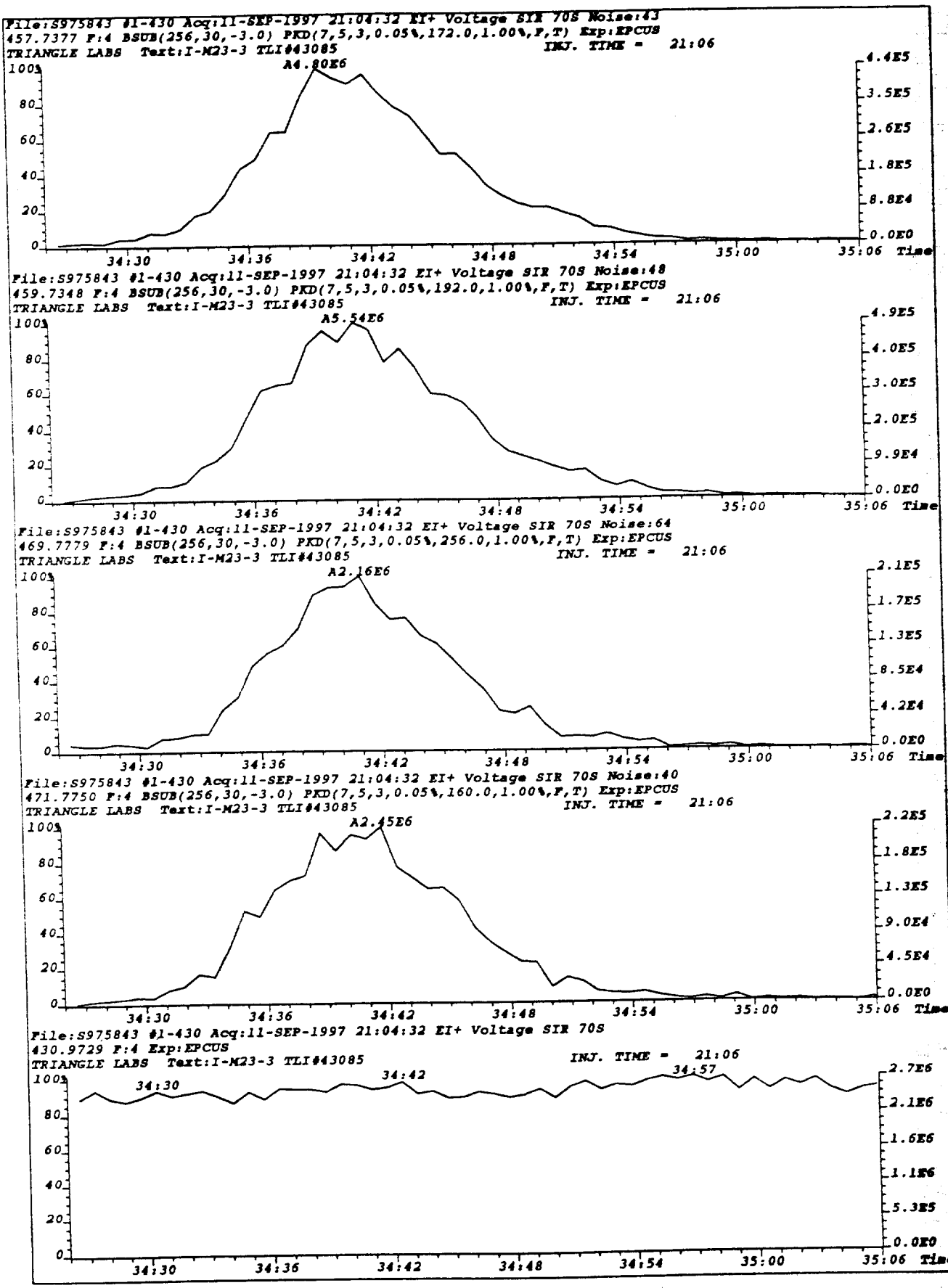
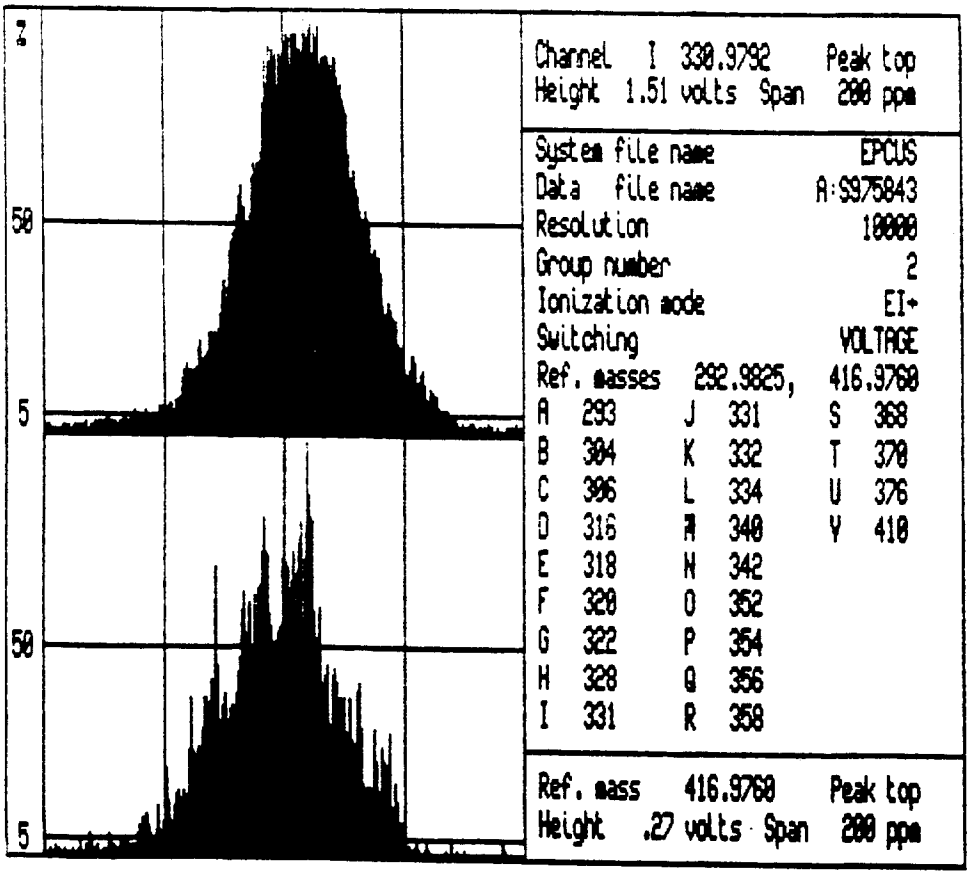
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A6.04E4
A4.85E4
A4.85E4
A2.96E4
A3.48E4
A2.94E4
A2.83E4
A3.01E3
A1.86E3
A7.78E3
A2.42E3
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:88
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A4.49E4
A1.63E4
A3.01E4
A8.28E3
A1.31E4
A2.74E3
A2.43E3
A1.24E4
A1.19E4
A1.28E3
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:471
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1884.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.53E7
A8.84E6
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:305
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.25E7
A6.75E6
File:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
27:57
28:05
28:17
28:25
28:48
28:55
29:15
29:27
29:45
Time

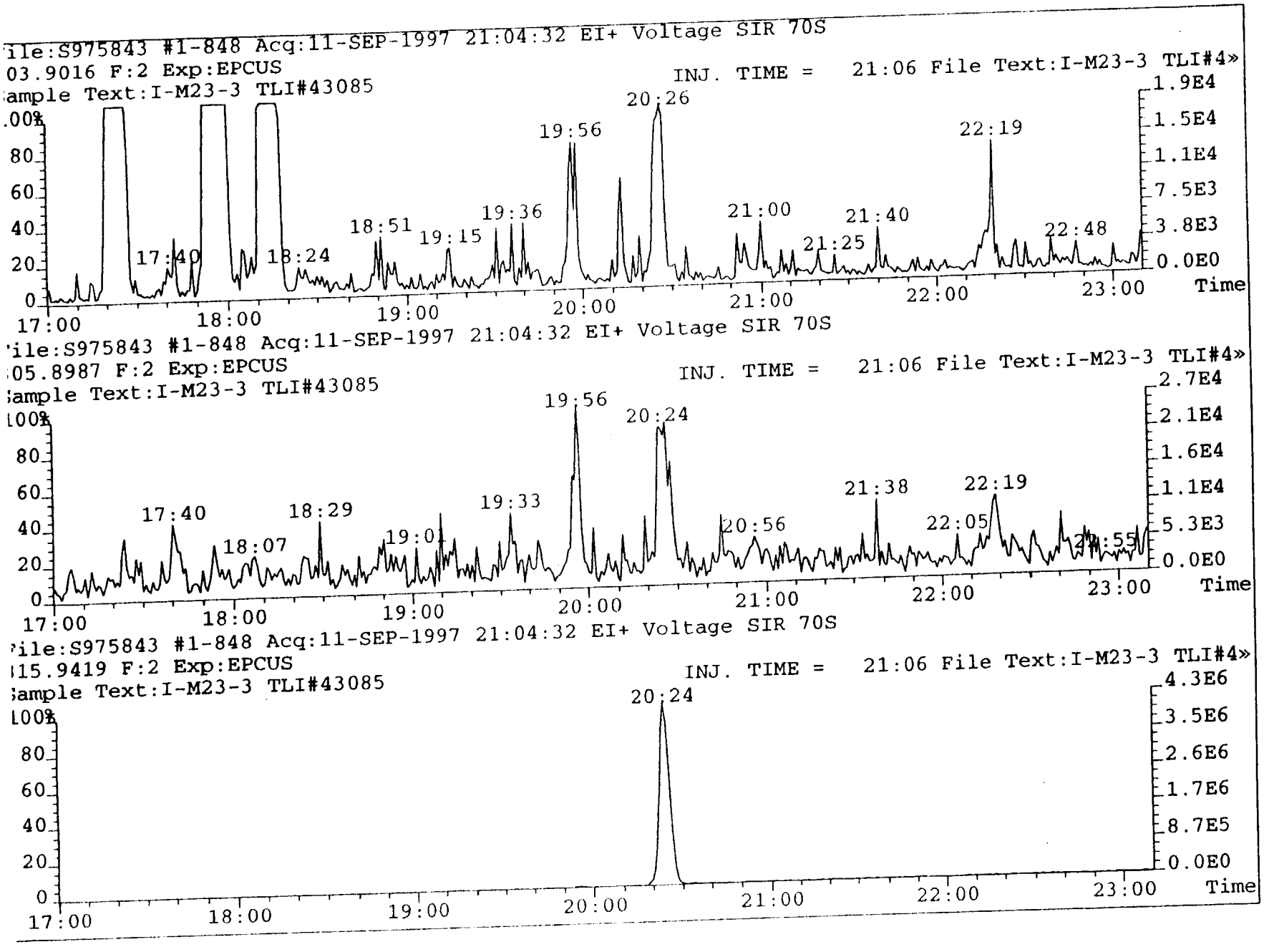

File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:452
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1808.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A3.16E5
A6.84E4
A3.06E4
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:125
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,500.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A6.68E4
A1.69E4
A5.48E3
A3.10E3
A1.55E4
A6.66E3
A7.63E3
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:313
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.58E6
A1.43E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:135
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,540.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A6.14E6
A3.65E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
Time

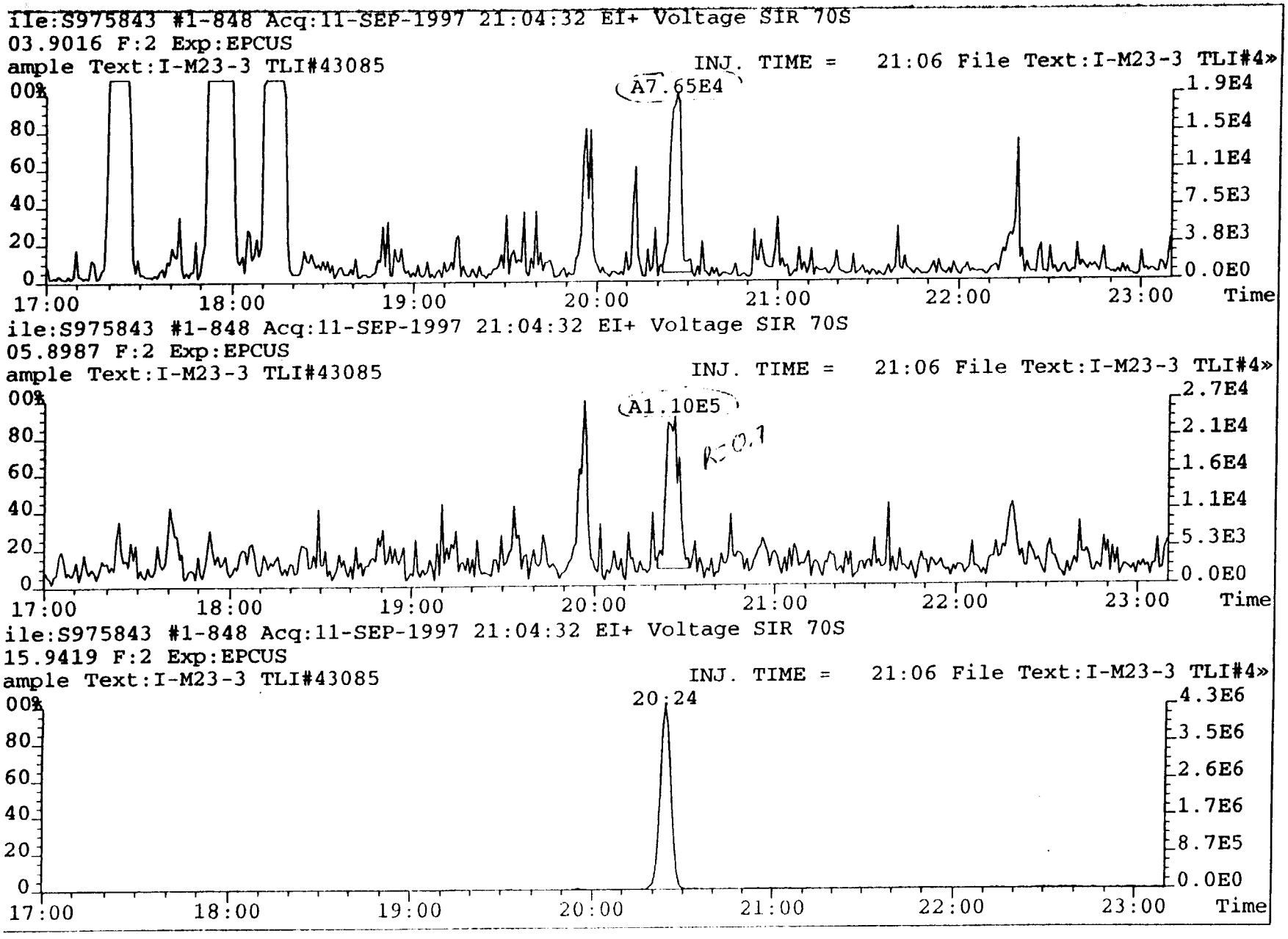

File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:113
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,452.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.38E5
A1.27E5
A6.04E3
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:83
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,332.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A1.82E5
A1.19E5
A7.47E3
A3.07E3
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:445
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1780.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A3.42E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:70
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,280.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A3.33E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
31:33
31:49
31:56
32:10
32:20
Time

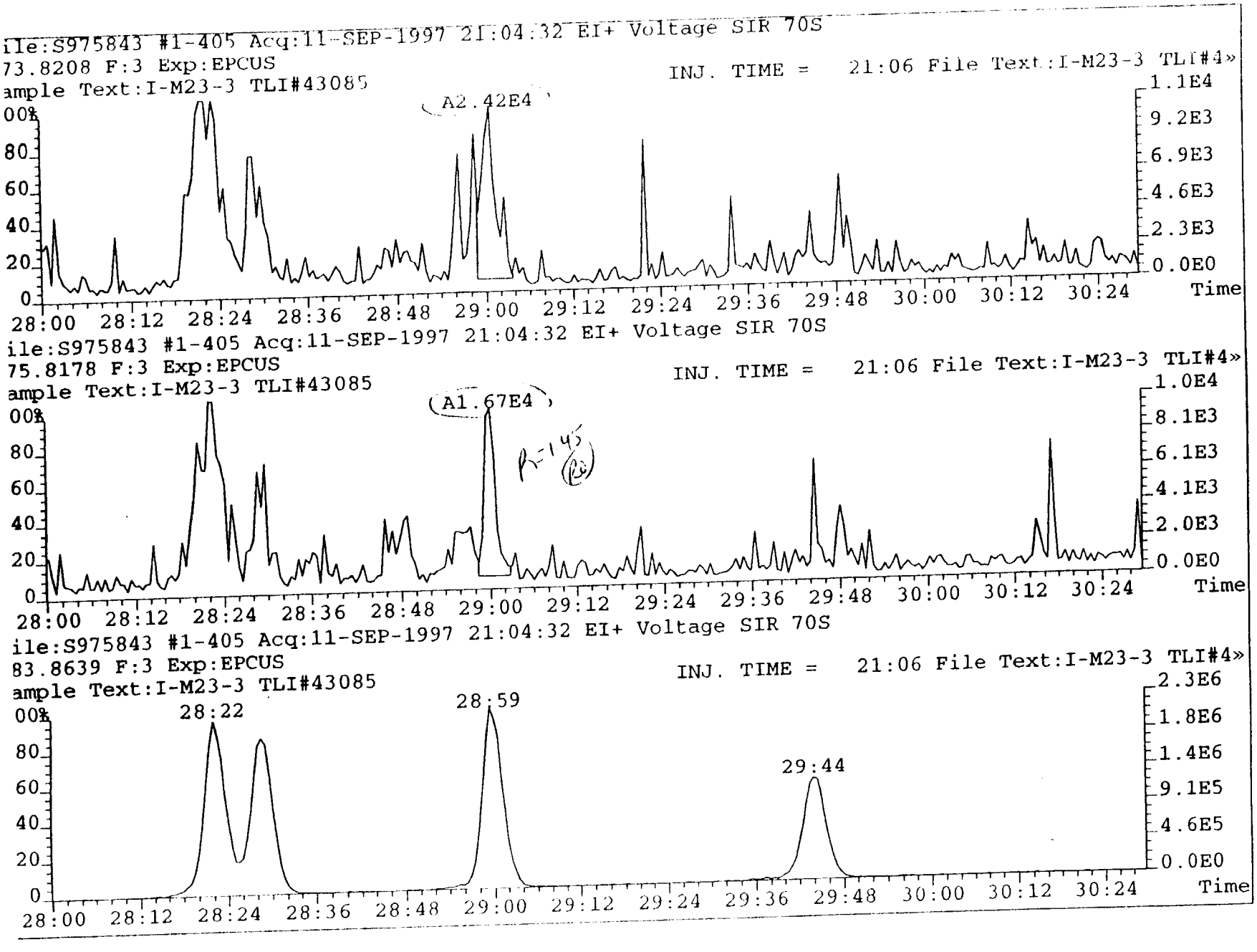

File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:59
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A6.23E3
A2.08E3
A4.05E3
A1.46E3
A2.31E3
A8.52E3
A6.69E3
A1.34E4
A6.66E3
Time
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:38
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A3.92E3
A3.80E3
A1.84E3
A1.82E3
A3.83E3
A1.05E4
A4.27E3
Time
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
30:57
31:33
31:56
32:20
32:55
33:20
33:52
34:21
35:13
35:38
Time
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
31:11
31:44
32:07
33:07
33:27
33:59
34:42
34:58
35:31
Time


File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:43
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A4.80E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:48
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A5.54E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:64
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,256.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.16E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S Noise:40
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
A2.45E6
File:S975843 #1-430 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:I-M23-3 TLI#43085
INJ. TIME = 21:06
34:30
34:42
34:57
Time


%
50
5
50
5
Channel I 330.9792 Peak top
Height 1.51 volts Span 200 ppm
System file name EPCUS
Data file name A:S975043
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9768
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
Ref. mass 416.9768 Peak top
Height .27 volts Span 200 ppm


ile:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
03.9016 F:2 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
17:40
18:24
18:51
19:15
19:36
19:56
20:26
21:00
21:25
21:40
22:19
22:48
Time
ile:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
05.8987 F:2 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
17:40
18:07
18:29
19:0
19:33
19:56
20:24
20:56
21:38
22:05
22:19
Time
ile:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
15.9419 F:2 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
20:24
Time


ile:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
03.9016 F:2 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
A7.65E4
100
80
60
40
20
0
1.9E4
1.5E4
1.1E4
7.5E3
3.8E3
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time
ile:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
05.8987 F:2 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
A1.10E5
R=0.1
100
80
60
40
20
0
2.7E4
2.1E4
1.6E4
1.1E4
5.3E3
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time
ile:S975843 #1-848 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
15.9419 F:2 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
20:24
100
80
60
40
20
0
4.3E6
3.5E6
2.6E6
1.7E6
8.7E5
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time


ile:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
73.8208 F:3 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
A2.42E4
1.1E4
9.2E3
6.9E3
4.6E3
2.3E3
0.0E0
Time
00%
80
60
40
20
0
28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24
ile:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
75.8178 F:3 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
A1.67E4
R=145
1.0E4
8.1E3
6.1E3
4.1E3
2.0E3
0.0E0
Time
00%
80
60
40
20
0
28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24
ile:S975843 #1-405 Acq:11-SEP-1997 21:04:32 EI+ Voltage SIR 70S
83.8639 F:3 Exp:EPCUS
ample Text:I-M23-3 TLI#43085
INJ. TIME = 21:06 File Text:I-M23-3 TLI#4»
28:22
28:59
29:44
2.3E6
1.8E6
1.4E6
9.1E5
4.6E5
0.0E0
Time
00%
80
60
40
20
0
28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24

Pacific Environmental Services

TLI Project: **43085** Method 23 TCDD/TCDF Analysis (DB-225)
Client Sample: **I-M23-3** Analysis File: **P973854**

Client Project:	S413-004				
Sample Matrix:	M23Train	Date Received:	09/03/97	Spike File:	SPC2NF04
TLI ID:	181-55-7ABD	Date Extracted:	09/04/97	ICal:	PF22206
		Date Analyzed:	09/12/97	ConCal:	P973843
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	P973852	% Lipid:	n/a
GC Column:	DB-225	Analyst:	ML	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	ND	0.03				—

Internal Standard	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.2	53.9	40%-130%	0.74	20:42	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	19:45	—

Data Reviewer: _____ 09/18/97

C2NF_PSR v2.00, LARS 6.10.04

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

Printed: 15:53 09/18/97

Initial ....Date...

Data Review By: SL 9/18/97 Calculated Noise Area: 1.29

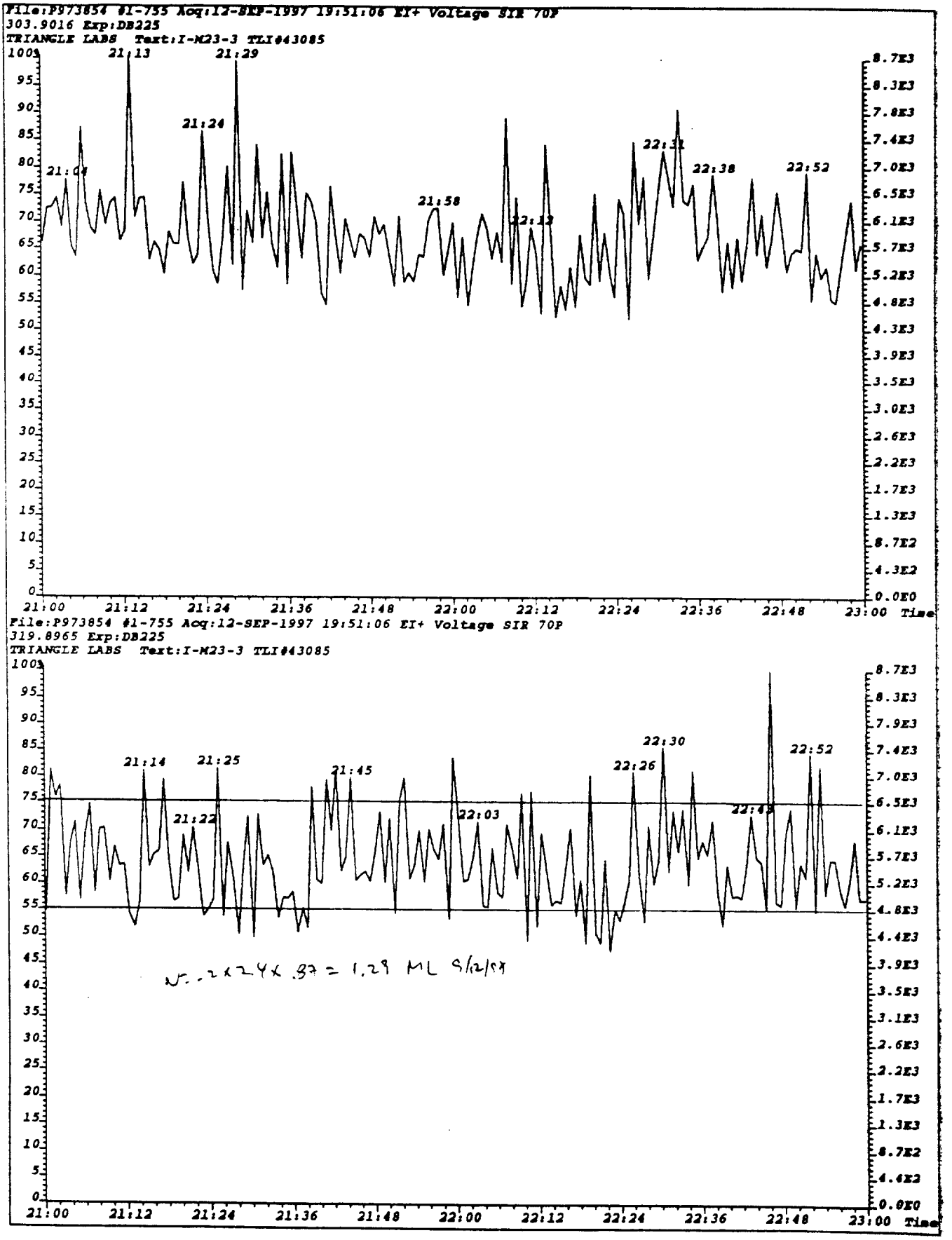
The Total Area for each peak with an ion abundance ratio outside ratio limits has been recalculated according to method requirements.

Page No. 1 Listing of P973854B.dbf
09/18/97 Matched GC Peaks / Ratio / Ret. Time

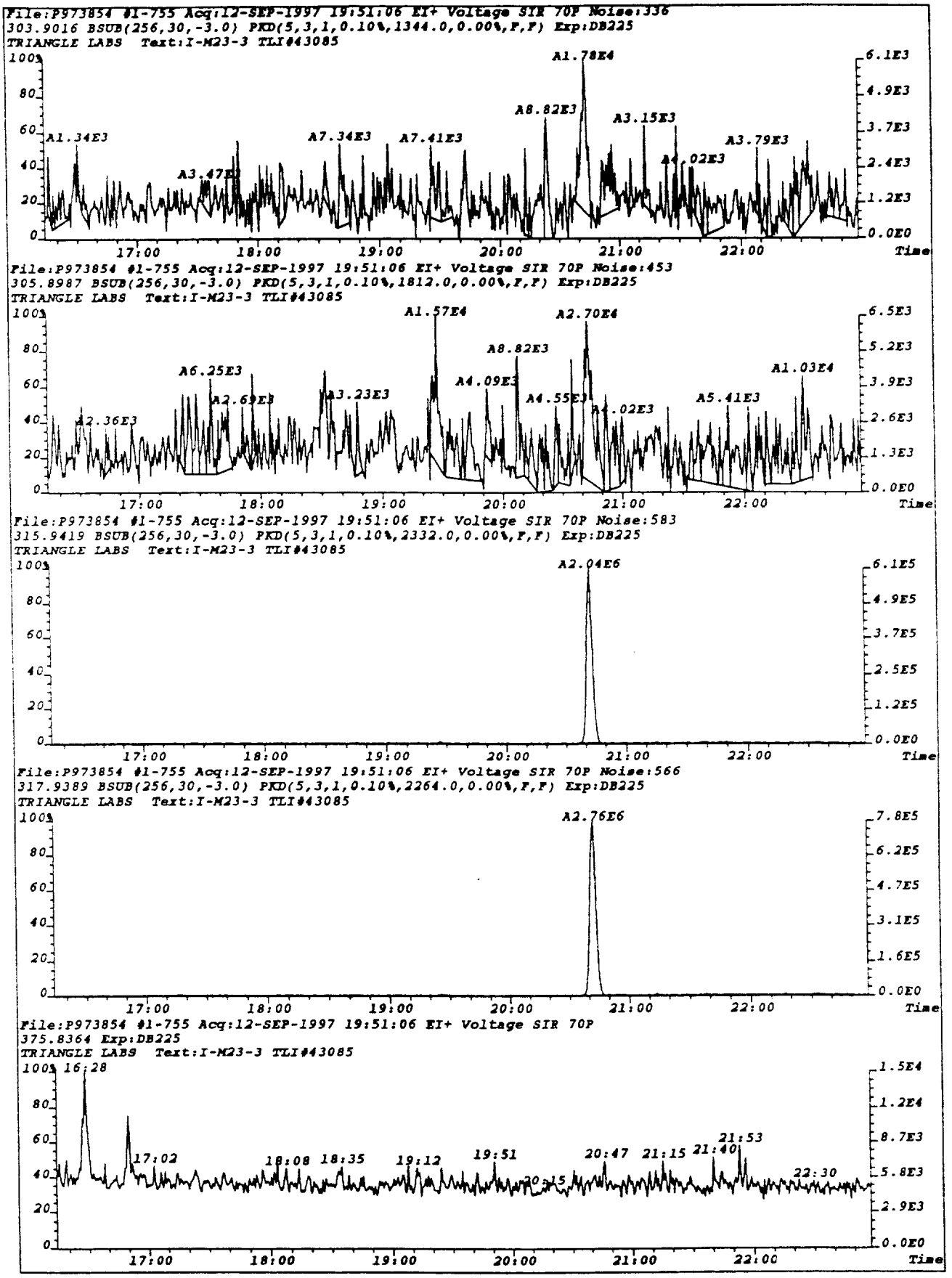
Compound/ M_Z....	QC	Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
TCDF							0.65-0.89				0.786-1.096			
304-306		DC	NL		0:00		0.74	1.58			0.000			
		DC	SN		17:36	RO	0.56	0.80			0.850			
		DC	SN		19:26	RO	0.47	1.70			0.939			
		DC	SN		19:33	RO	0.29	0.57			0.944			
		DC	SN		20:13	RO	0.50	0.53			0.977			
		DC	SN		20:21		0.83	1.65			0.983			
	D	DC	SN		20:43		0.66	4.48			1.001	2378-TCDF		AN
		DC	SN		20:57	RO	1.45	1.31			1.012			
		DC	SN		21:37	RO	1.03	0.69			1.044			
		DC	SN		21:45		0.69	1.62			1.051			
		DC	SN		22:14	RO	0.27	0.67			1.074			
		DC	SN		22:25		0.77	0.94			1.083			
304-306			0 Peaks					0.00						
13C12-TCDF							0.65-0.89				0.952-1.048			
316-318		DC	NL		0:00	RO	1.04	2.00			0.000			
					20:42		0.74	479.31	203.80	275.51	1.000	13C12-2378-TCDF		IS0
		DC	SN		21:10	RO	1.25	0.50			1.023			
316-318			1 Peak					479.31						
---------- Above: TCDF / TCDD Follows ----------														
13C12-TCDD							0.65-0.89				0.897-1.103			
332-334		DC	NL		0:00	RO	1.45	2.04			0.000			
		DC	SN		18:27	RO	0.52	2.37			0.945			
					19:31		0.80	356.36	158.38	197.98	1.000	13C12-2378-TCDD		IS1
					19:45		0.80	640.64	285.36	355.28	1.012	13C12-1234-TCDD		RS1
		DC	SN		20:24	RO	0.62	3.36			1.045			
		DC	SN		21:03	RO	1.44	0.69			1.079			
		DC	SN		21:11	RO	2.44	0.32			1.085			
332-334			2 Peaks					997.00						

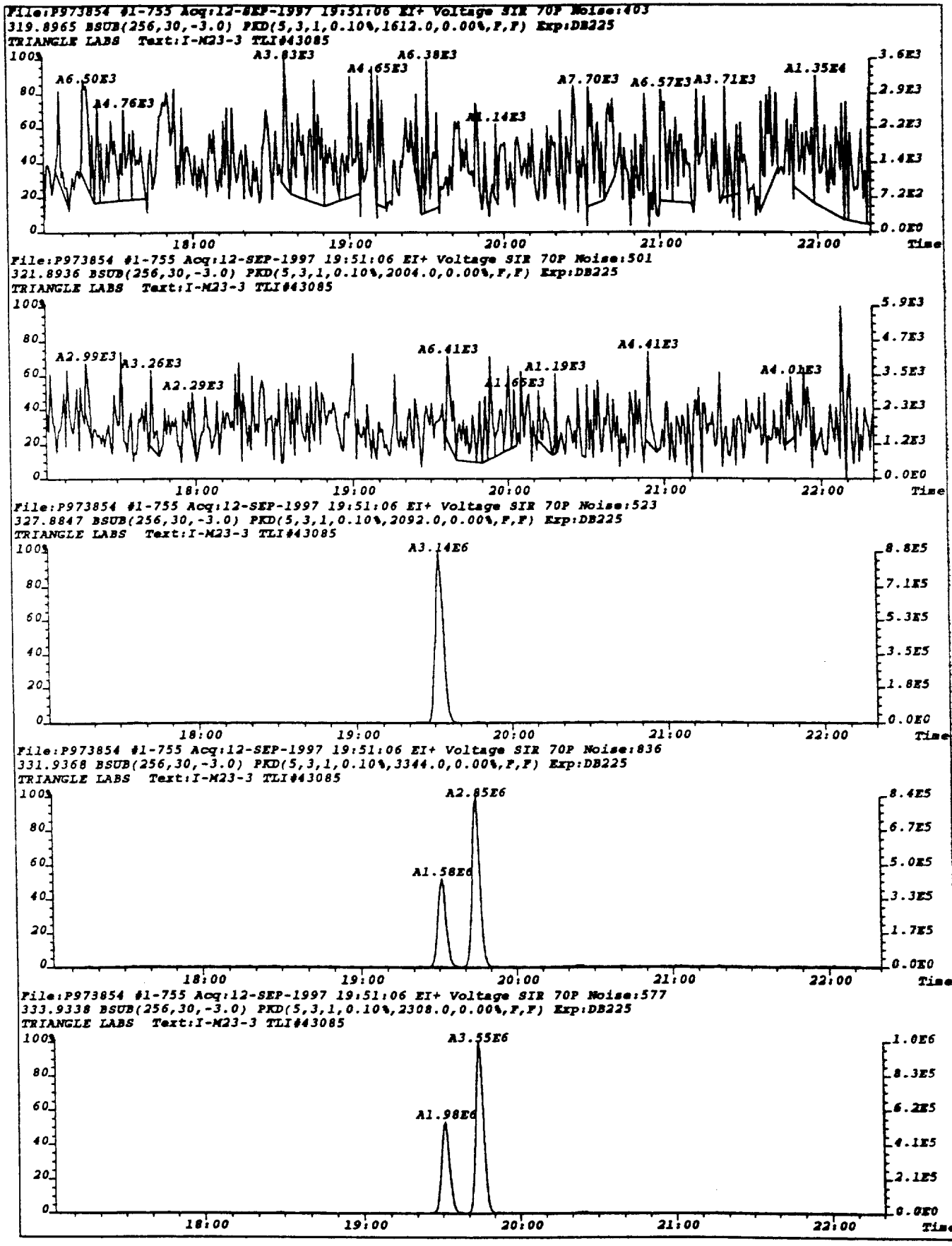
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside 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

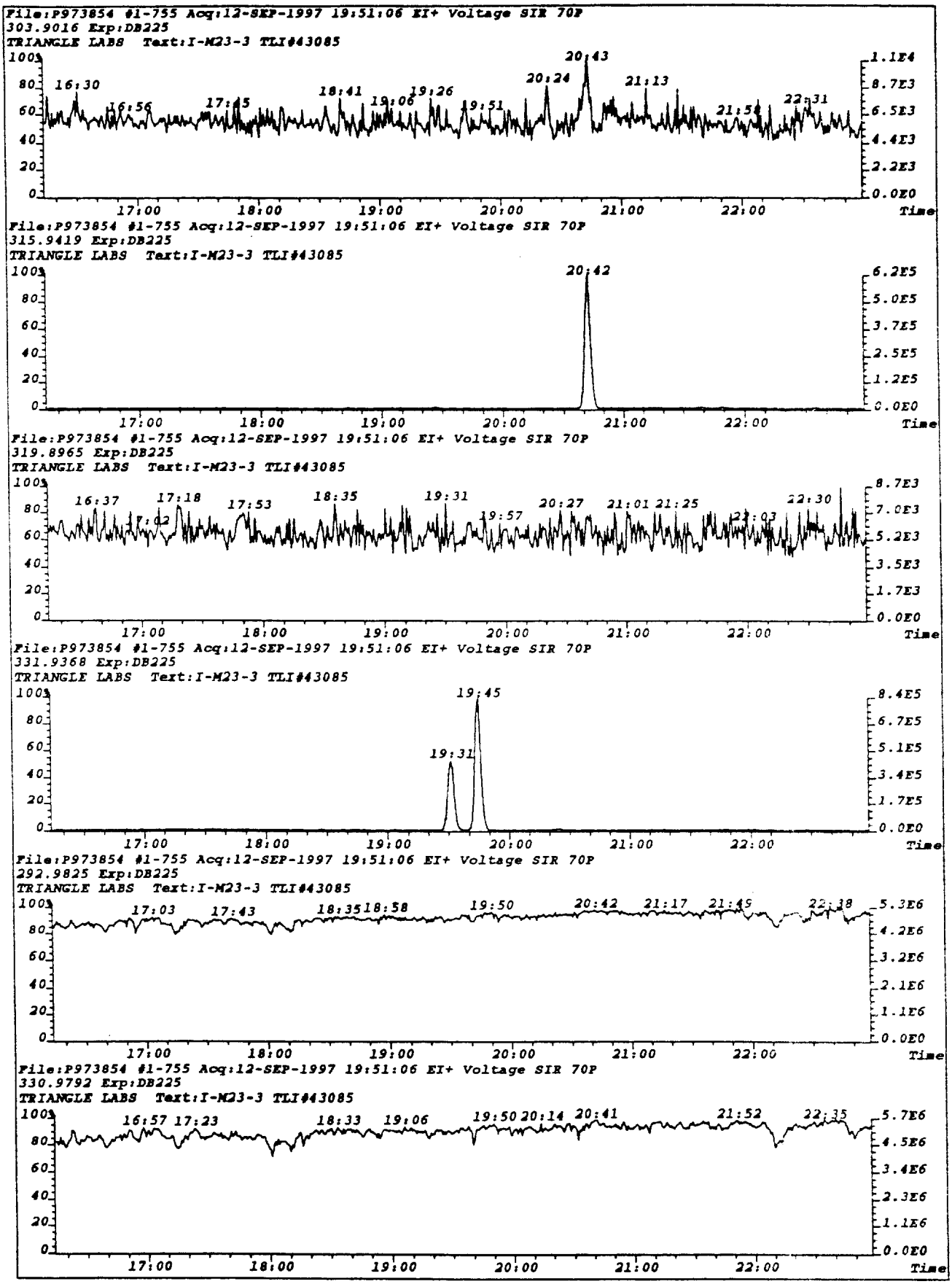
*** End of Report ***

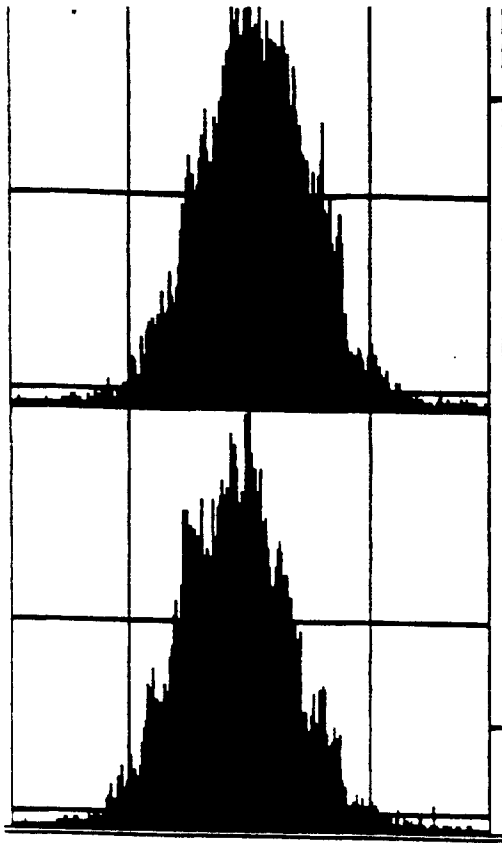


N. .2x24x.87 = 1.29 ML 9/12/97


File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:336
303.9016 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1344.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A1.78E4
A8.82E3
A3.15E3
A1.34E3
A7.34E3
A7.41E3
A3.79E3
A3.47E3
A4.02E3
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:453
305.8987 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1812.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A1.57E4
A2.70E4
A8.82E3
A6.25E3
A1.03E4
A4.09E3
A3.23E3
A2.69E3
A4.55E3
A5.41E3
A2.36E3
A4.02E3
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:583
315.9419 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2332.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A2.04E6
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:566
317.9389 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2264.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A2.76E6
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
375.8364 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
16:28
17:02
18:08
18:35
19:12
19:51
20:47
21:15
21:40
21:53
22:30
17:00
18:00
19:00
20:00
21:00
22:00
Time


File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:403
319.8965 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,1612.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A6.50E3
A4.76E3
A3.83E3
A4.65E3
A6.38E3
A1.14E3
A7.70E3
A6.57E3
A3.71E3
A1.35E4
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:501
321.8936 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2004.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A2.99E3
A3.26E3
A2.29E3
A6.41E3
A1.19E3
A4.41E3
A4.01E3
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:523
327.8847 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2092.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A3.14E6
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:836
331.9368 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,3344.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A2.85E6
A1.58E6
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P Noise:577
333.9338 BSUB(256,30,-3.0) PKD(5,3,1,0.10%,2308.0,0.00%,F,F) Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
A3.55E6
A1.98E6
18:00
19:00
20:00
21:00
22:00
Time


File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
303.9016 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
16:30
16:56
17:15
18:41
19:06
19:26
19:51
20:24
20:43
21:13
21:58
22:31
1.1E4
8.7E3
6.5E3
4.4E3
2.2E3
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
315.9419 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
20:42
6.2E5
5.0E5
3.7E5
2.5E5
1.2E5
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
319.8965 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
16:37
17:18
17:53
18:35
19:31
19:57
20:27
21:01
21:25
22:30
8.7E3
7.0E3
5.2E3
3.5E3
1.7E3
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
331.9368 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
19:31
19:45
8.4E5
6.7E5
5.1E5
3.4E5
1.7E5
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
292.9825 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
17:03
17:43
18:35
18:58
19:50
20:42
21:17
21:49
22:38
5.3E6
4.2E6
3.2E6
2.1E6
1.1E6
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
Time
File:P973854 #1-755 Acq:12-SEP-1997 19:51:06 EI+ Voltage SIR 70P
330.9792 Exp:DB225
TRIANGLE LABS Text:I-M23-3 TLI#43085
16:57
17:23
18:33
19:06
19:50
20:14
20:41
21:52
22:35
5.7E6
4.5E6
3.4E6
2.3E6
1.1E6
0.0E0
17:00
18:00
19:00
20:00
21:00
22:00
Time



Ref. mass	292.9825		Peak top
Height .97 volts		Span	200 ppm

System file name	DB225
Data file name	A:P973854
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 .98 volts		Span	200 ppm

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **M23-RB** — Analysis File: **S975844**

Client Project:	**S413-004**				
Sample Matrix:	**M23Train**	Date Received:	**09/03/97**	Spike File:	**SPX23704**
TLI ID:	**181-55-8ABDE**	Date Extracted:	**09/04/97**	ICal:	**SF56117**
		Date Analyzed:	**09/11/97**	ConCal:	**S975839**
Sample Size:	**1.000**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**S975815**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**KB**	% Solids:	**n/a**

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.004				
1,2,3,7,8-PeCDD	ND	0.005				
1,2,3,4,7,8-HxCDD	ND	0.005				
1,2,3,6,7,8-HxCDD	0.006			1.08	29:11	
1,2,3,7,8,9-HxCDD	0.007			1.41	29:28	
1,2,3,4,6,7,8-HpCDD	0.03			1.10	32:04	B
1,2,3,4,6,7,8,9-OCDD	0.05			0.91	34:42	B
2,3,7,8-TCDF	ND	0.003				
1,2,3,7,8-PeCDF	ND	0.004				
2,3,4,7,8-PeCDF	EMPC		0.005			
1,2,3,4,7,8-HxCDF	0.03			1.27	28:20	
1,2,3,6,7,8-HxCDF	0.01			1.38	28:27	
2,3,4,6,7,8-HxCDF	0.01			1.38	28:57	
1,2,3,7,8,9-HxCDF	ND	0.003				
1,2,3,4,6,7,8-HpCDF	0.05			1.13	31:12	B
1,2,3,4,7,8,9-HpCDF	EMPC		0.008			
1,2,3,4,6,7,8,9-OCDF	0.05			0.86	34:49	B

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	EMPC			0.007	
Total PeCDD	EMPC			0.01	
Total HxCDD	0.01	2		0.06	
Total HpCDD	0.04	2			
Total TCDF	ND		0.003		
Total PeCDF	0.007	1		0.01	
Total HxCDF	0.07	5		0.08	
Total HpCDF	0.07	3		0.08	

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Printed: 15:34 09/18/97

TLI Project: **43085**
Client Sample: **M23-RB**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975844**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.7	68.5	40%-130%	0.75	20:18	___
$^{13}C_{12}$-2,3,7,8-TCDD	2.5	61.5	40%-130%	0.80	21:08	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.7	67.5	40%-130%	1.52	24:39	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.8	69.2	40%-130%	1.54	25:48	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.0	75.6	40%-130%	0.47	28:25	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.8	69.2	40%-130%	1.23	29:10	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.4	60.9	25%-130%	0.42	31:11	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.7	66.8	25%-130%	1.04	32:04	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.8	60.2	25%-130%	0.86	34:42	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.2	105	70%-140%		21:09	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.8	95.0	70%-140%	1.45	25:26	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.6	89.0	70%-140%	0.47	28:19	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.5	87.7	70%-140%	1.21	29:05	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.9	97.8	70%-140%	0.42	32:25	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.0	75.8	40%-130%	0.47	29:40	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.2	79.3	40%-130%	0.47	28:57	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:55	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.20	29:27	___

Data Reviewer: _____ 09/18/97

X237_PSR v2.00, EARS 6.10.04

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Printed: 15:34 09/18/97

Initial ....Date...

Data Review By: SV 9/18/97 Calculated Noise Area: 1.68

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 S975844B.dbf
09/18/97 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				0.818-1.101			
304-306		DC	NL		0:00	RO	0.20	0.67			0.000			
		DC	SN		17:33	RO	0.44	1.54			0.865			
		DC	SN		18:14	RO	0.38	2.53			0.898			
	D	DC	SN		20:20		0.69	8.37			1.002	2378-TCDF		AN
	D	DC	SN		20:55	RO	0.45	6.71			1.030			
		DC	SN		21:45	RO	3.95	1.01			1.071			
		DC	SN		21:56	RO	0.29	1.61			1.080			
304-306			0	Peaks				0.00						
13C12-TCDF							0.65-0.89				0.951-1.049			
316-318		DC	NL		0:00		0.66	2.03			0.000			
		DC	WL		19:06		0.74	15.71			0.941			
					19:50		0.77	17.76	7.74	10.02	0.977			
					20:18		0.75	5,083.04	2,182.80	2,900.24	1.000	13C12-2378-TCDF		ISO
		DC	WH		21:50	RO	1.43	9.52			1.076			
316-318			2	Peaks				5,100.80						
---------- Above: TCDF / TCDD Follows ----------														
TCDD							0.65-0.89				0.851-1.058			
320-322		DC	NL		0:00	RO	0.55	0.78			0.000			
		DC	SN		18:19	RO	0.44	1.26			0.867			
		DC	SN		18:29	RO	0.96	1.59			0.875			
		DC	SN		18:38	RO	1.51	2.99			0.882			
		DC	SN		18:49		0.80	2.64			0.890			
		DC	SN		19:52	RO	1.70	1.24			0.940			
					20:18	RO	2.56	8.04	11.63	4.54	0.961			
		DC	SN		20:32	RO	0.49	0.90			0.972			
		DC	SN		20:44	RO	1.06	0.85			0.981			
		DC	SN		21:00		0.71	3.14			0.994			
		DC	SN		21:27	RO	1.13	0.53			1.015			
		DC	SN		21:39	RO	0.90	0.89			1.024			
		DC	SN		21:49	RO	1.27	1.59			1.032			
		DC	SN		22:00	RO	0.28	0.64			1.041			
		DC	SN		22:19	RO	0.18	0.69			1.056			
		DC	WH		22:41	RO	1.52	0.96			1.073			
320-322			1	Peak				8.04						
37Cl-TCDD											0.906-1.094			
328		DC	NL		0:00			0.13			0.000			
					19:33			16.53	16.53		0.925			
					21:09			3,253.66	3,253.66		1.001	37Cl-TCDD		SUR1
328			2	Peaks				3,270.19						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	8.97	0.53			0.000			
				20:55		0.81	5,629.73	2,525.03	3,104.70	0.990	13C12-1234-TCDD	RS1	
				21:08		0.80	3,690.72	1,638.66	2,052.06	1.000	13C12-2378-TCDD	IS1	
				21:31	RO	0.91	50.46	26.02	28.51	1.018			
				21:39	RO	4.09	5.06	11.71	2.86	1.024			
332-334			4	Peaks			9,375.97						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF				1.32-1.78						0.905-1.077			
340-342	DC	NL		0:00	RO	0.23	0.05			0.000			
	DC	SN		22:32	RO	1.23	2.93			0.914			
	DC	SN		23:09	RO	0.36	0.15			0.939			
	DC	SN		23:21	RO	0.47	0.28			0.947			
	DC	SN		23:32	RO	3.36	0.71			0.955			
				23:45		1.32	7.91	4.50	3.41	0.963			
	DC	SN		24:07	RO	1.15	1.04			0.978			
	DC	SN		24:27	RO	1.08	0.89			0.992			
	DC	SN		24:51	RO	0.52	0.81			1.008			
	DC	SN		24:59	RO	0.67	1.73			1.014			
	DC	SN		25:08	RO	0.37	0.31			1.020			
				25:26	RO	1.27	5.71	3.47	2.73	1.032	23478-PeCDF	AN	
	DC	SN		25:39	RO	1.29	4.29			1.041			
	DC	SN		25:48	RO	0.28	0.16			1.047			
	DC	SN		26:02	RO	0.57	0.44			1.056			
	DC	SN		26:25		1.61	3.81			1.072			
340-342			2	Peaks			13.62						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	0.33	0.07			0.000			
				23:45		1.55	27.12	16.47	10.65	0.963			
				24:16	RO	2.05	10.63	8.53	4.17	0.984			
				24:39		1.52	4,306.40	2,594.81	1,711.59	1.000	13C12-PeCDF 123	IS2	
				24:58	RO	2.09	14.89	12.18	5.84	1.013			
N				25:26		1.45	3,966.39	2,345.63	1,620.76	1.032	13C12-PeCDF 234	SUR2	
352-354			5	Peaks			8,325.43						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.919-1.025			
356-358	DC	NL		0:00	RO	6.00	0.10			0.000			
	DC	SN		23:47	RO	0.97	0.51			0.922			
	DC	SN		23:54	RO	1.31	3.22			0.926			
	DC	SN		24:27	RO	0.74	0.46			0.948			
				24:40	RO	4.04	6.63	10.51	2.60	0.956			
K				25:00	RO	1.85	3.93	2.85	1.54	0.969			
	DC	SN		25:26	RO	4.92	2.30			0.986			
	DC	SN		25:36	RO	0.15	0.10			0.992			
	DC	SN		25:59	RO	3.93	0.71			1.007			
	DC	SN		26:16	RO	0.46	1.17			1.018			
	DC	WH		26:36	RO	1.20	2.39			1.031			

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			2 Peaks				10.56						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	5.78	0.23			0.000			
				25:48		1.54	2,474.64	1,501.04	973.60	1.000	13C12-PeCDD 123	IS3	
				25:56		1.50	226.54	135.79	90.75	1.005			
368-370			2 Peaks				2,701.18						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.955-1.051			
374-376	DC	NL		0:00		1.21	1.26			0.000			
				27:20		1.42	9.35	5.49	3.86	0.962			
				27:29		1.12	25.07	13.23	11.84	0.967			
	DC	SN		27:47		1.13	3.86			0.978			
	DC	SN		27:56	RO	0.61	2.11			0.983			
	DC	SN		28:12	RO	1.55	0.49			0.992			
				28:20		1.27	40.31	22.52	17.79	0.997	123478-HxCDF		AN
				28:27		1.38	17.72	10.29	7.43	1.001	123678-HxCDF		AN
	DC	SN		28:33	RO	1.45	3.05			1.005			
	DC	SN		28:46		1.43	4.82			1.012			
				28:57		1.38	19.27	11.17	8.10	1.019	234678-HxCDF		AN
	DC	SN		29:05	RO	1.86	0.81			1.023			
	DC	SN		29:11	RO	0.87	0.61			1.027			
	DC	SN		29:25		1.31	0.37			1.035			
	DC	SN		29:30	RO	0.88	0.42			1.038			
	DC	SN		29:41	RO	2.16	1.39			1.045			
				29:46	RO	0.94	5.94	3.29	3.49	1.048			
	DC	WH		29:54	RO	0.32	0.16			1.052			
	DC	WH		30:07	RO	2.60	0.94			1.060			
	DC	WH		30:10	RO	0.90	0.33			1.062			
374-376			6 Peaks				117.66						
13C12-HxCDF				0.43-0.59						0.859-1.141			
384-386	DC	NL		0:00		0.46	2.43			0.000			
	DC	SN		27:28	RO	0.25	6.69			0.967			
				28:19		0.47	4,097.03	1,310.17	2,786.86	0.996	13C12-HxCDF 478		SUB3
				28:25		0.47	4,798.83	1,538.50	3,260.33	1.000	13C12-HxCDF 678		IS4
				28:57		0.47	4,659.59	1,491.21	3,168.38	1.019	13C12-HxCDF 234		ALT2
	DC	SN		29:08	RO	0.79	4.14			1.025			
				29:40		0.47	3,871.01	1,235.48	2,635.53	1.044	13C12-HxCDF 789		ALT1
	DC	SN		29:52	RO	0.38	3.46			1.051			
384-386			4 Peaks				17,426.46						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD				1.05-1.43						0.950-1.014			
390-392	DC	NL		0:00	RO	0.39	0.47			0.000			
	DC	SN		27:52		1.31	3.37			0.955			
	DC	SN		27:59	RO	3.75	0.09			0.959			
				28:20	RO	1.76	33.02	25.89	14.74	0.971			
K				28:25	RO	3.87	4.23	7.31	1.89	0.974			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				28:34	RO	1.56	11.80	8.21	5.27	0.979			
	DC	SN		28:42	RO	0.77	0.74			0.984			
	DC	SN		28:46	RO	0.39	0.25			0.986			
	DC	SN		28:57	RO	2.91	5.26			0.993			
	DC	SN		29:04	RO	0.45	0.94			0.997	123478-HxCDD	AN	
M				29:11		1.08	5.95	3.09	2.86	1.001	123678-HxCDD	AN	
	DC	SN		29:19		1.37	0.64			1.005			
				29:28		1.41	6.71	3.92	2.79	1.010	123789-HxCDD	AN	
	DC	WH		29:40	RO	2.80	4.88			1.017			
390-392			5	Peaks			61.71						
13C12-HxCDD				1.05-1.43					0.966-1.034				
402-404	DC	NL		0:00	RO	1.88	0.74			0.000			
				28:33		1.07	6.76	3.49	3.27	0.979			
				29:05		1.21	3,098.27	1,695.46	1,402.81	0.997	13C12-HxCDD 478	SUR4	
				29:10		1.23	3,631.09	2,004.04	1,627.05	1.000	13C12-HxCDD 678	IS5	
				29:27		1.20	5,271.85	2,875.69	2,396.16	1.010	13C12-HxCDD 789	RS2	
402-404			4	Peaks			12,007.97						

---------- Above: HxCDD / HpCDF Follows ----------

HpCDF				0.88-1.20					0.994-1.044				
408-410	DC	NL		0:00	RO	3.31	0.27			0.000			
M				31:12		1.13	57.30	30.40	26.90	1.001	1234678-HpCDF	AN	
				31:24		1.11	7.32	3.85	3.47	1.007			
				31:34		1.04	11.64	5.93	5.71	1.012			
AN				32:25	RO	1.28	6.69	4.19	3.28	1.040	1234789-HpCDF	AN	
	DC	WH		32:55	RO	12.54	0.27			1.056			
408-410			4	Peaks			82.95						
13C12-HpCDF				0.37-0.51					0.936-1.128				
418-420	DC	NL		0:00	RO	1.85	0.58			0.000			
				31:11		0.42	2,847.33	847.48	1,999.85	1.000	13C12-HpCDF 678	IS6	
				32:25		0.42	2,146.99	632.30	1,514.69	1.040	13C12-HpCDF 789	SUR5	
418-420			2	Peaks			4,994.32						

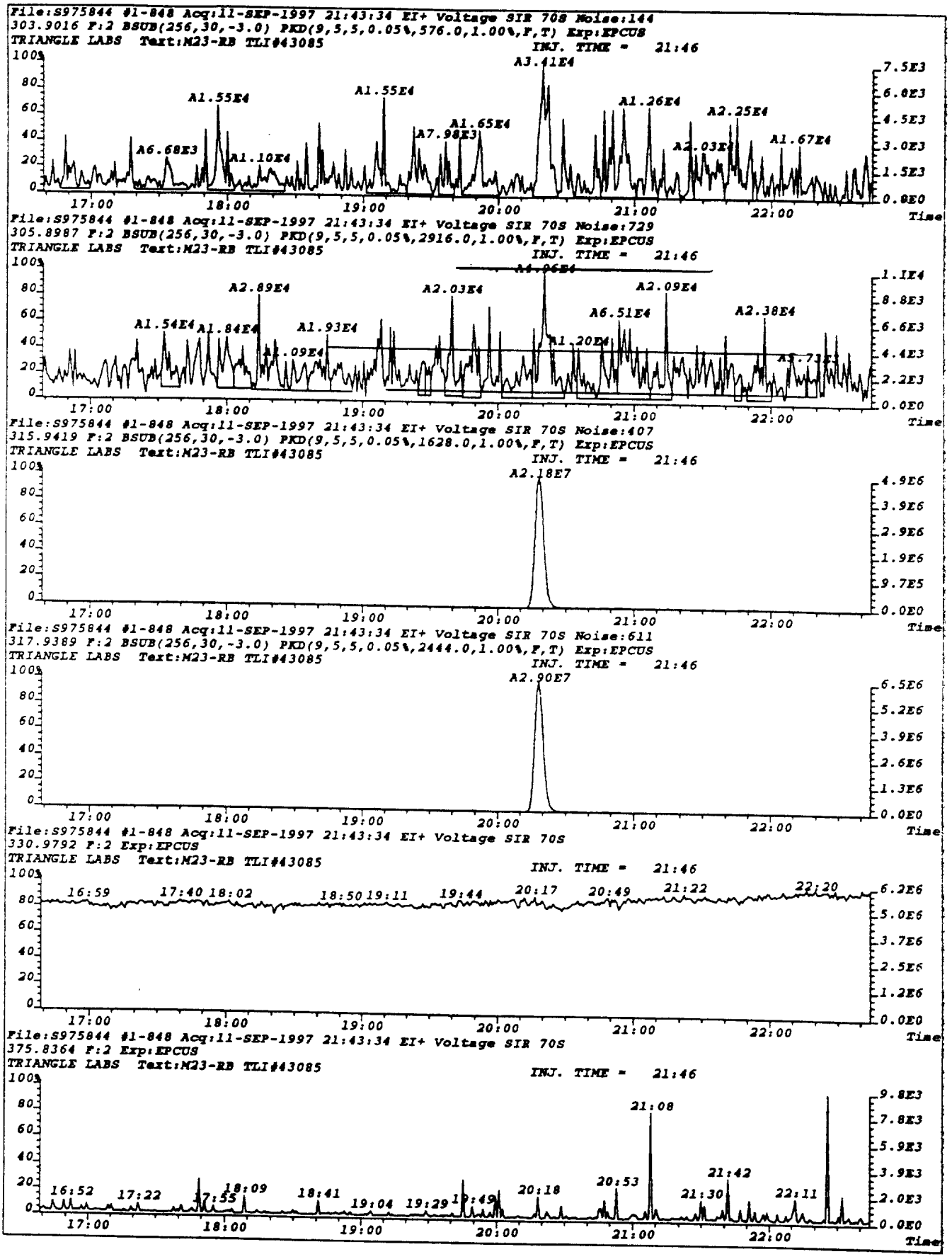
---------- Above: HpCDF / HpCDD Follows ----------

HpCDD				0.88-1.20					0.976-1.005				
424-426	DC	NL		0:00		1.13	0.17			0.000			
	DC	WL		31:11	RO	4.28	5.90			0.972			
				31:27		1.01	10.33	5.20	5.13	0.981			
	DC	SN		31:50		1.19	1.18			0.993			
				32:04		1.10	19.26	10.10	9.16	1.000	1234678-HpCDD	AN	
	DC	WH		32:25	RO	2.90	5.22			1.011			
424-426			2	Peaks			29.59						
13C12-HpCDD				0.88-1.20					0.969-1.031				
436-438	DC	NL		0:00	RO	1.57	1.00			0.000			
	DC	SN		31:26	RO	1.50	4.61			0.980			
				32:04		1.04	2,870.60	1,462.22	1,408.38	1.000	13C12-HpCDD 678	IS7	
436-438			1	Peak			2,870.60						

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: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF						0.76-1.02				0.885-1.115			
442-444	DC	NL		0:00	RO	0.50	0.08			0.000			
	DC	SN		30:46	RO	2.46	0.25			0.887			
	DC	SN		31:07		1.00	0.42			0.897			
	DC	SN		31:26	RO	6.90	0.19			0.906			
	DC	SN		32:20	RO	1.05	0.83			0.932			
	DC	SN		32:27	RO	0.18	0.28			0.935			
	DC	SN		32:33	RO	1.35	0.32			0.938			
	DC	SN		32:47	RO	0.22	0.04			0.945			
	DC	SN		33:00	RO	0.61	0.76			0.951			
	DC	SN		33:21		0.94	0.35			0.961			
	DC	SN		33:41	RO	0.34	0.59			0.971			
	DC	SN		33:54	RO	0.34	0.81			0.977			
	DC	SN		34:02	RO	15.25	0.08			0.981			
	DC	SN		34:21	RO	4.00	0.21			0.990			
	DC	SN		34:29	RO	0.15	0.57			0.994			
				34:49		0.86	29.62	13.73	15.89	1.003	OCDF		AN
	DC	SN		35:05	RO	1.18	0.64			1.011			
	DC	SN		35:26	RO	0.20	0.21			1.021			
	DC	SN		35:56	RO	1.58	0.59			1.036			
442-444			1	Peak			29.62						
OCDD						0.76-1.02				0.885-1.115			
458-460	DC	NL		0:00		1.00	0.10			0.000			
	DC	SN		34:36	RO	1.21	3.16			0.997			
AN				34:42		0.91	22.10	10.50	11.60	1.000	OCDD		AN
	DC	SN		34:55	RO	1.81	0.79			1.006			
458-460			1	Peak			22.10						
13C12-OCDD						0.76-1.02				0.994-1.004			
470-472	DC	NL		0:00	RO	1.25	0.15			0.000			
				34:42		0.86	3,294.68	1,523.49	1,771.19	1.000	13C12-OCDD		IS8
470-472			1	Peak			3,294.68						

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 ***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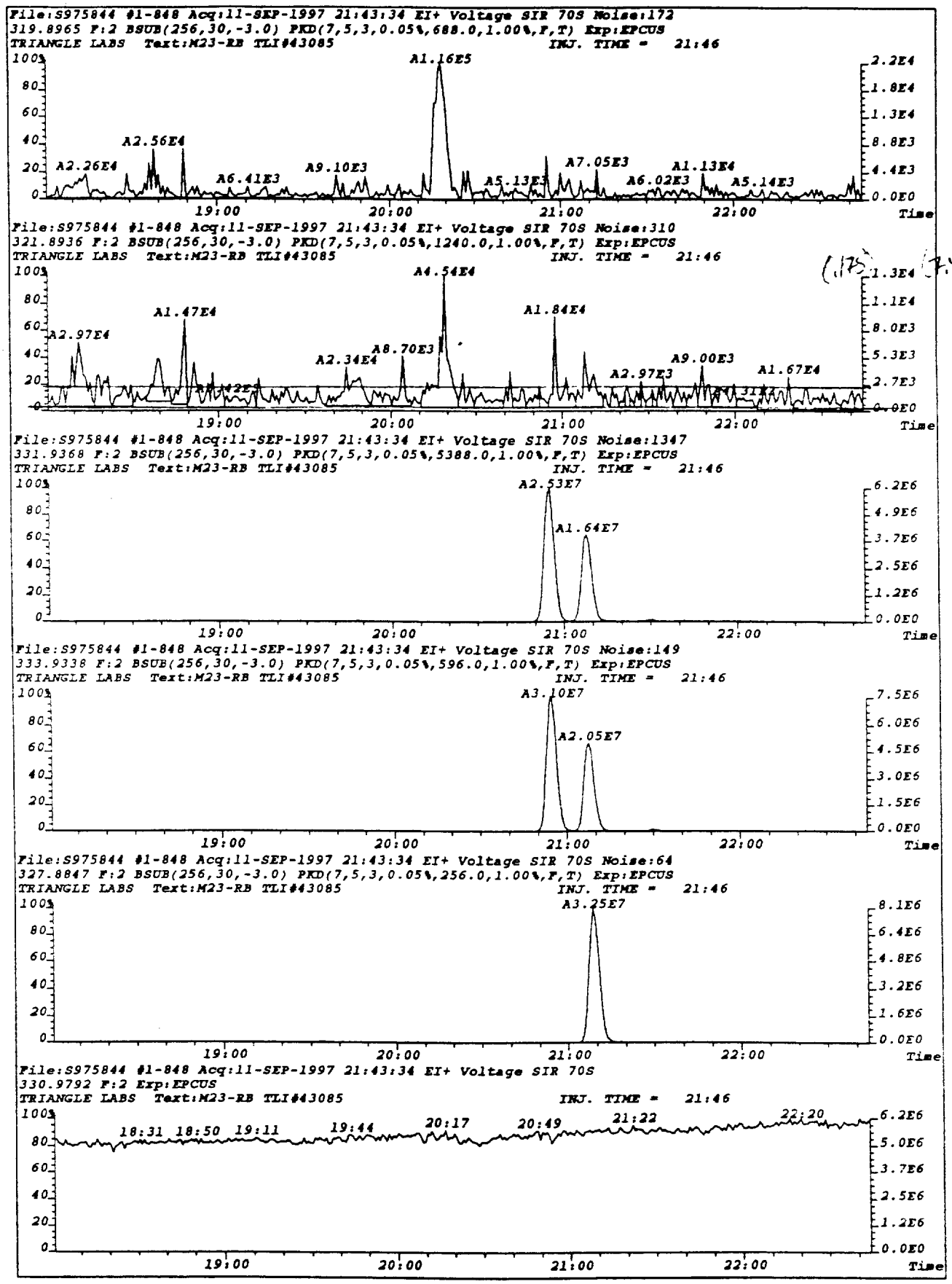
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,576.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A3.41E4
A1.55E4
A1.55E4
A1.26E4
A2.25E4
A1.65E4
A7.98E3
A6.68E3
A1.10E4
A2.03E4
A1.67E4
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:729
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2916.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.89E4
A2.03E4
A2.09E4
A1.54E4
A1.84E4
A1.93E4
A6.51E4
A2.38E4
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:407
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1628.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.18E7
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:611
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2444.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.90E7
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
16:59
17:40
18:02
18:50
19:11
19:44
20:17
20:49
21:22
22:20
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
21:08
16:52
17:22
17:55
18:09
18:41
19:04
19:29
19:49
20:18
20:53
21:30
21:42
22:11
17:00
18:00
19:00
20:00
21:00
22:00
Time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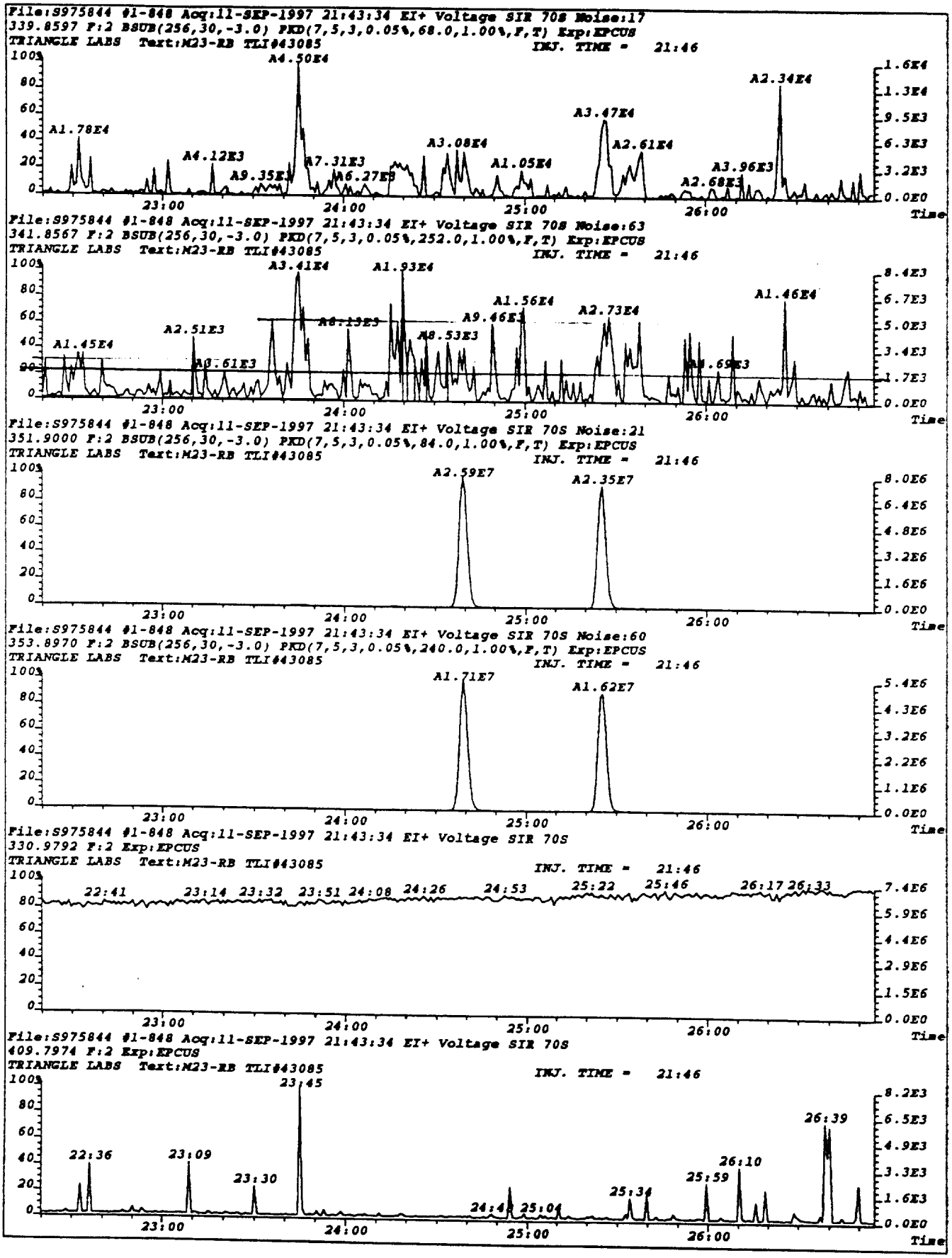
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,688.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.16E5
A2.56E4
A2.26E4
A6.41E3
A9.10E3
A5.13E3
A7.05E3
A6.02E3
A1.13E4
A5.14E3
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:310
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A4.54E4
A1.47E4
A2.97E4
A2.34E4
A8.70E3
A1.84E4
A2.97E3
A9.00E3
A1.67E4
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:1347
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,5388.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.53E7
A1.64E7
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:149
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,596.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A3.10E7
A2.05E7
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:64
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,256.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A3.25E7
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
18:31 18:50 19:11 19:44 20:17 20:49 21:22 22:20
Time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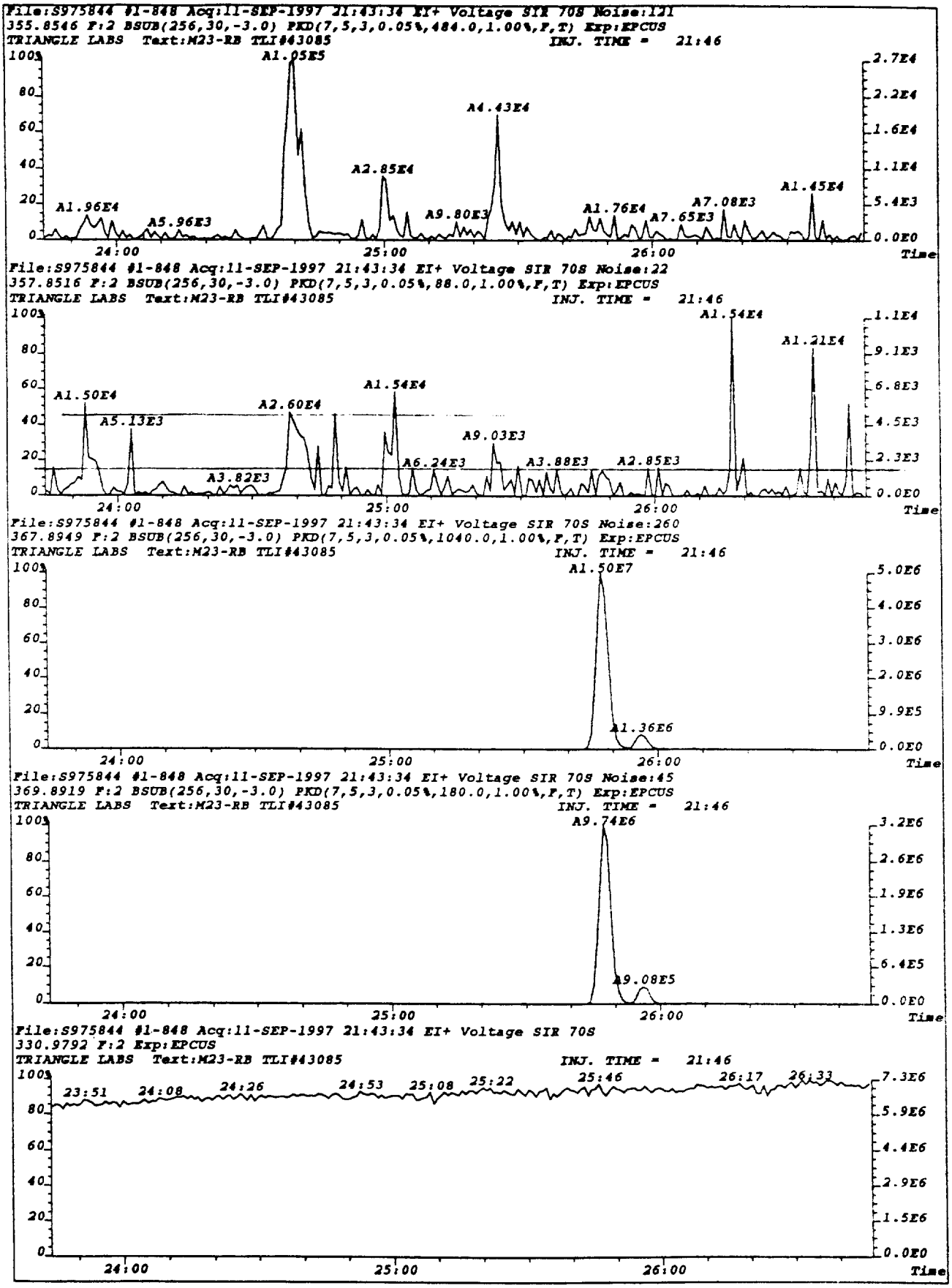
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,68.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.78E4
A4.50E4
A4.12E3
A9.35E3
A7.31E3
A6.27E3
A3.08E4
A1.05E4
A3.47E4
A2.61E4
A2.34E4
A3.96E3
A2.68E3
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:63
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.45E4
A2.51E3
A3.41E4
A1.93E4
A1.56E4
A2.73E4
A1.46E4
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:21
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,84.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.59E7
A2.35E7
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:60
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.71E7
A1.62E7
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
22:41 23:14 23:32 23:51 24:08 24:26 24:53 25:22 25:46 26:17 26:33
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
23:45
22:36
23:09
23:30
24:41
25:01
25:34
25:59
26:10
26:39
23:00
24:00
25:00
26:00
Time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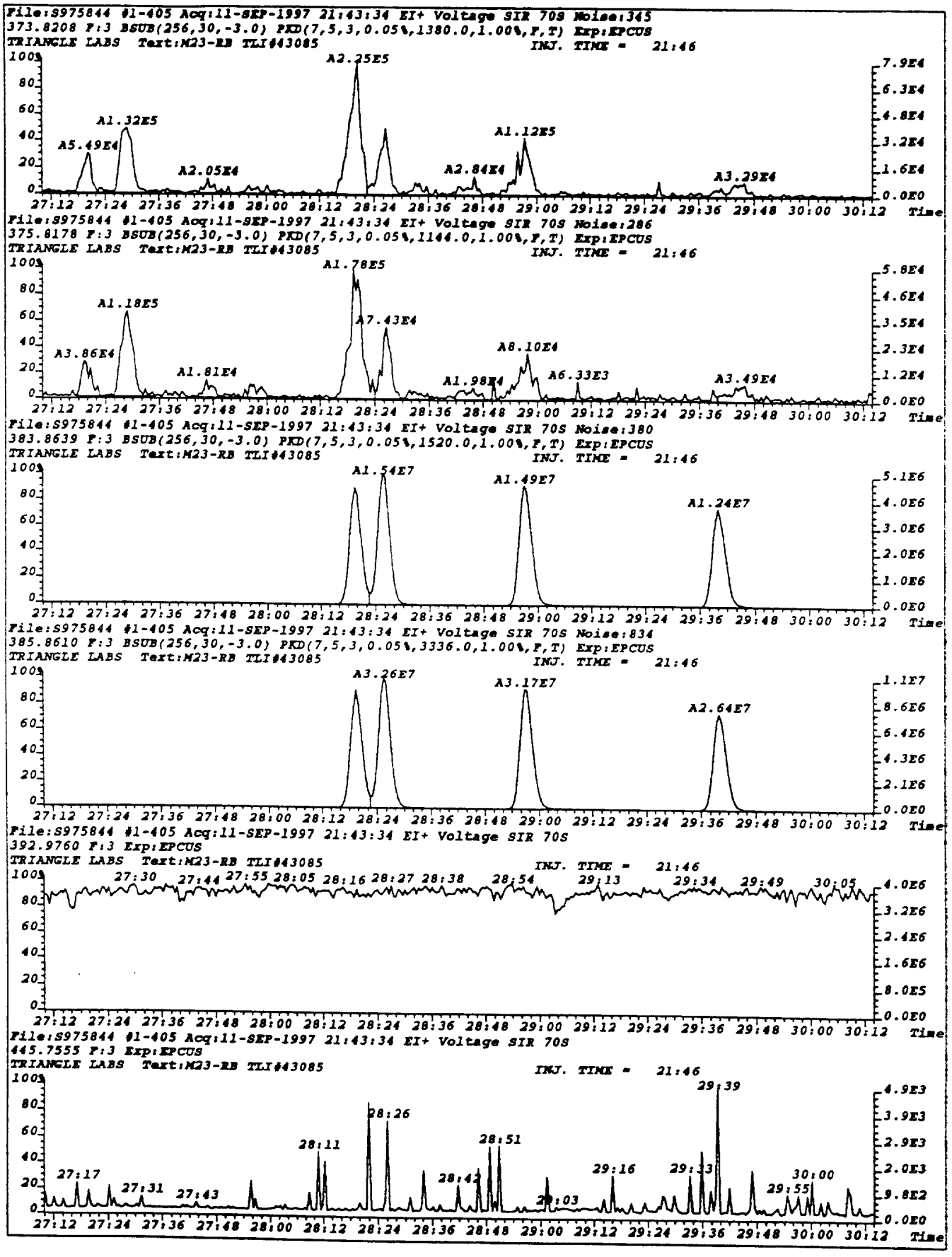
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,484.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.05E5
A4.43E4
A2.85E4
A1.96E4
A5.96E3
A9.80E3
A1.76E4
A7.65E3
A7.08E3
A1.45E4
24:00
25:00
26:00
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:22
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,88.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.54E4
A1.21E4
A1.50E4
A2.60E4
A1.54E4
A5.13E3
A9.03E3
A6.24E3
A3.88E3
A2.85E3
A3.82E3
24:00
25:00
26:00
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:260
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1040.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.50E7
A1.36E6
24:00
25:00
26:00
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:45
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A9.74E6
A9.08E5
24:00
25:00
26:00
Time
File:S975844 #1-848 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
23:51
24:08
24:26
24:53
25:08
25:22
25:46
26:17
26:33
24:00
25:00
26:00
Time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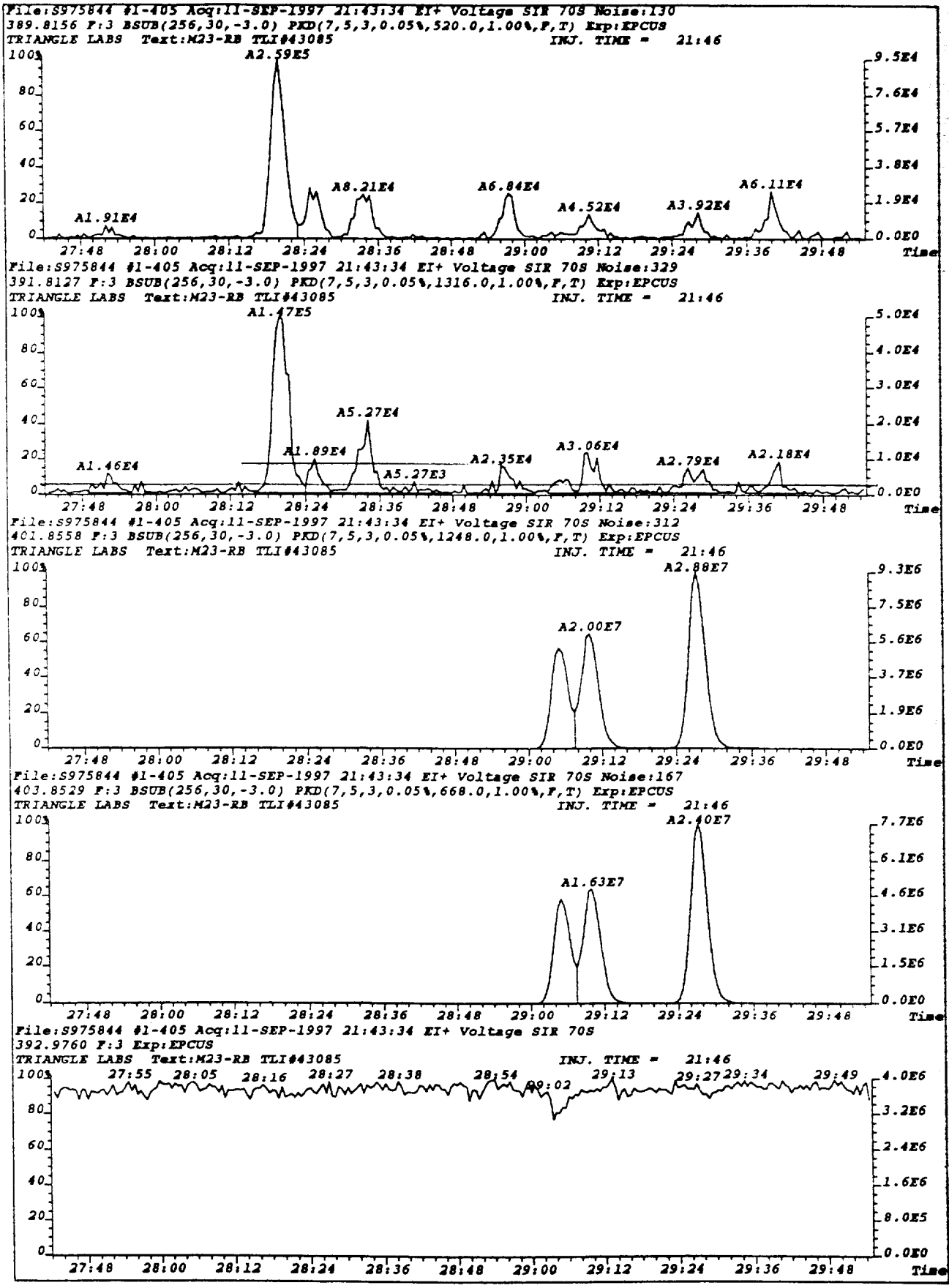
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1380.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.25E5
A1.32E5
A5.49E4
A1.12E5
A2.05E4
A2.84E4
A3.29E4
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:286
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.78E5
A1.18E5
A7.43E4
A3.86E4
A8.10E4
A1.81E4
A1.98E4
A6.33E3
A3.49E4
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:380
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1520.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.54E7
A1.49E7
A1.24E7
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:834
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3336.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A3.26E7
A3.17E7
A2.64E7
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
29:39
28:26
28:11
28:51
27:17
27:31
27:43
28:41
29:03
29:16
29:33
29:55
30:00
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 Time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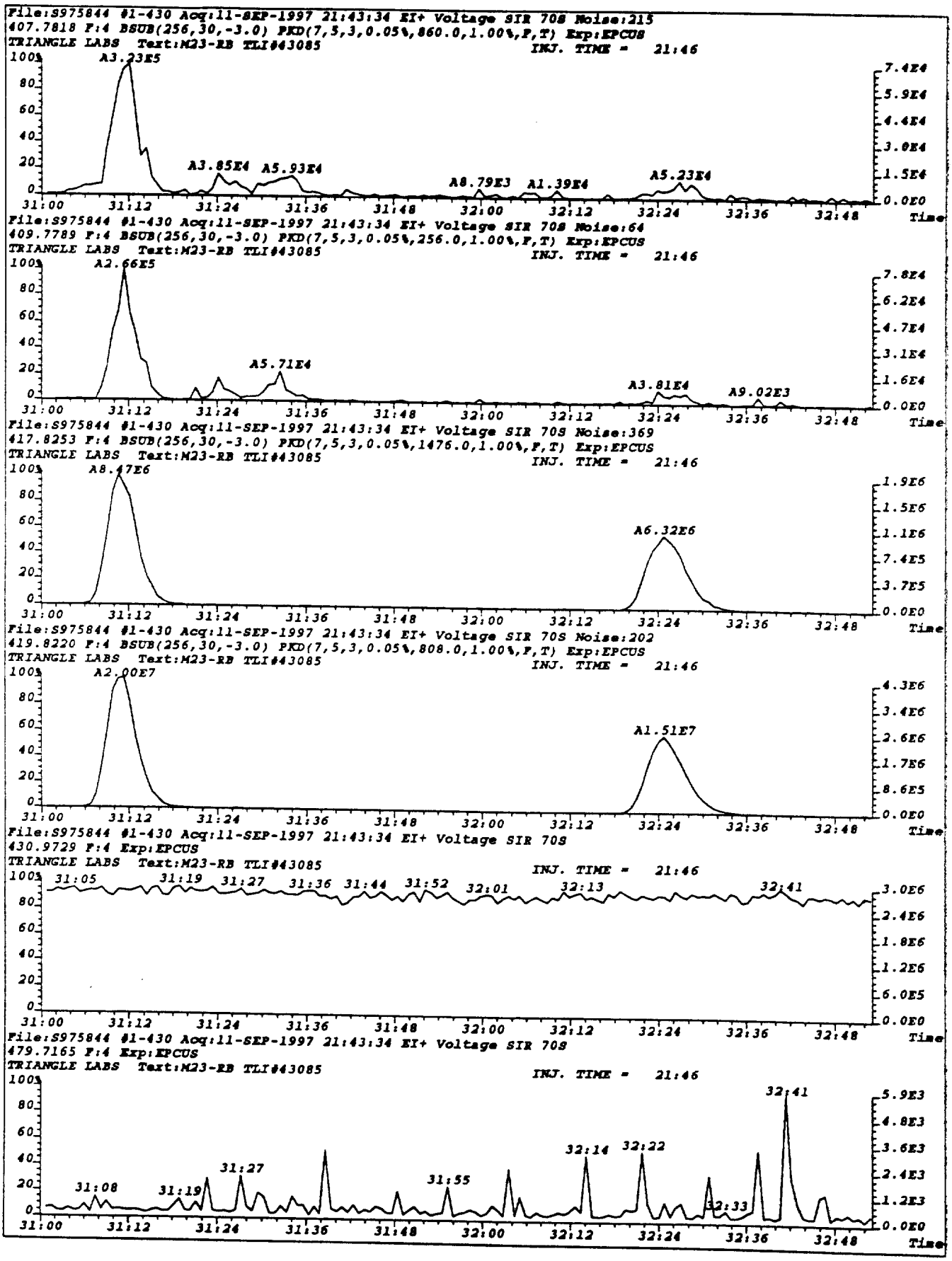
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,520.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.59E5
A8.21E4
A6.84E4
A6.11E4
A4.52E4
A3.92E4
A1.91E4
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:329
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1316.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.47E5
A5.27E4
A3.06E4
A2.35E4
A1.89E4
A2.79E4
A2.18E4
A1.46E4
A5.27E3
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:312
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.88E7
A2.00E7
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:167
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,668.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.40E7
A1.63E7
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
Time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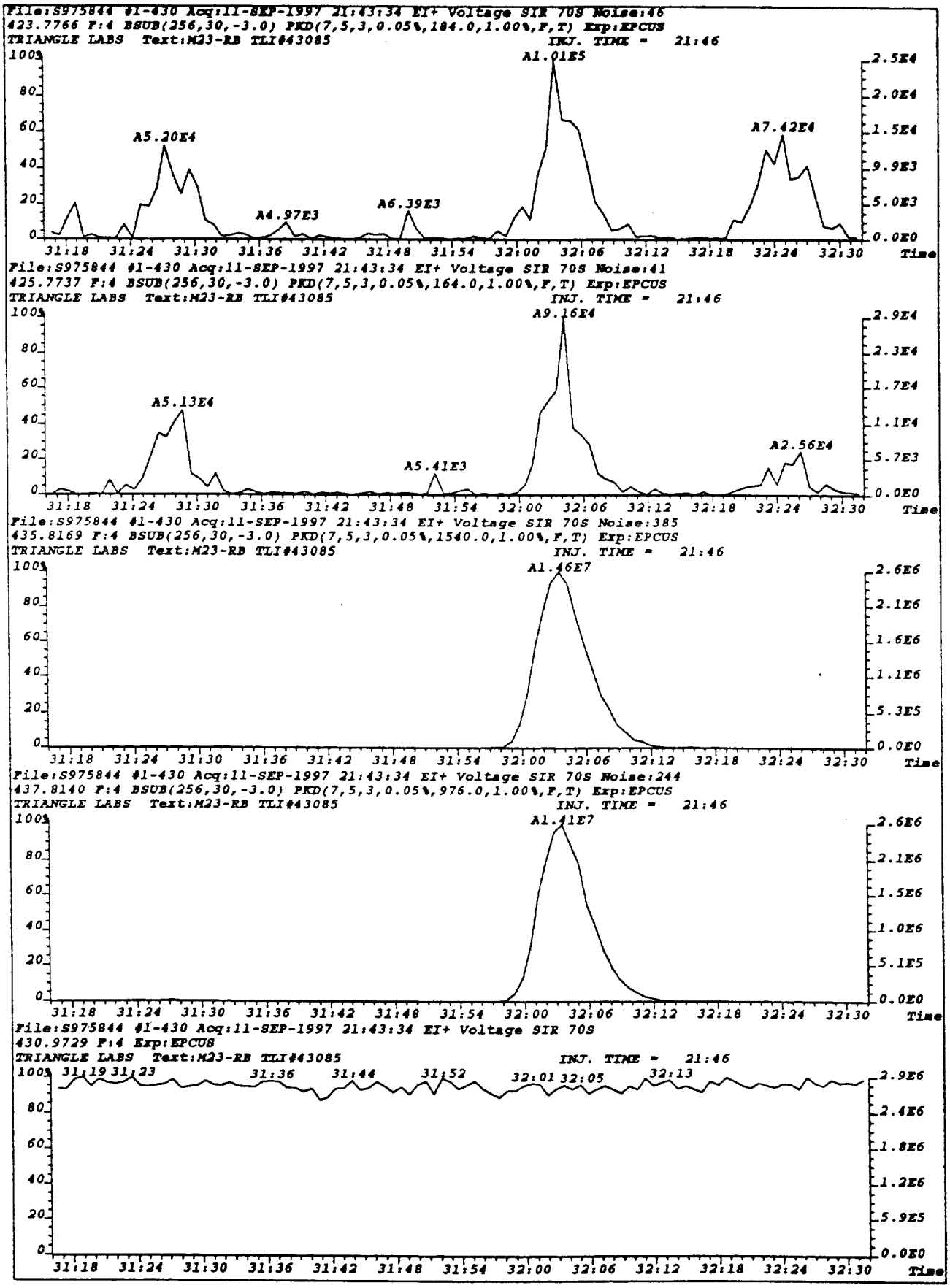
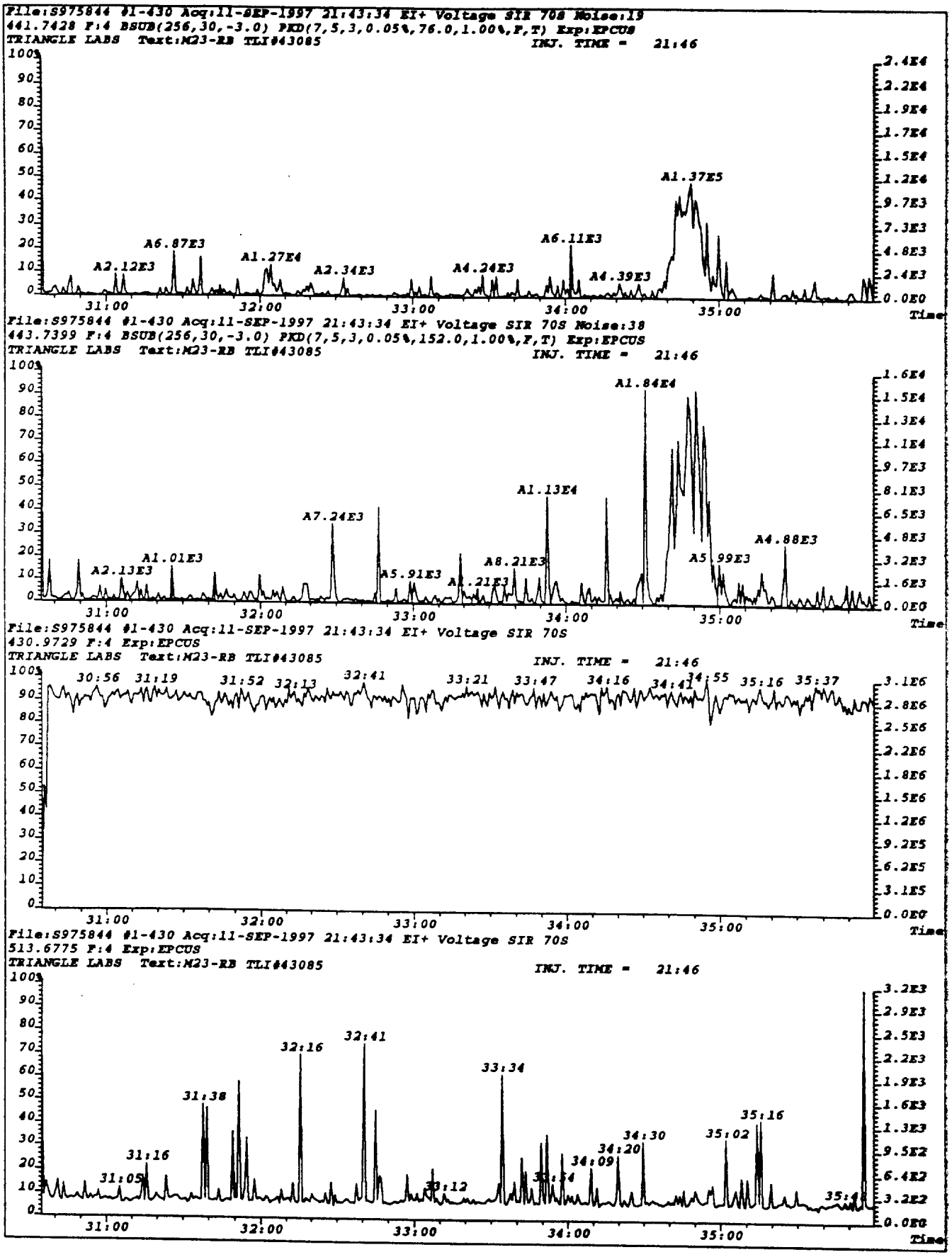
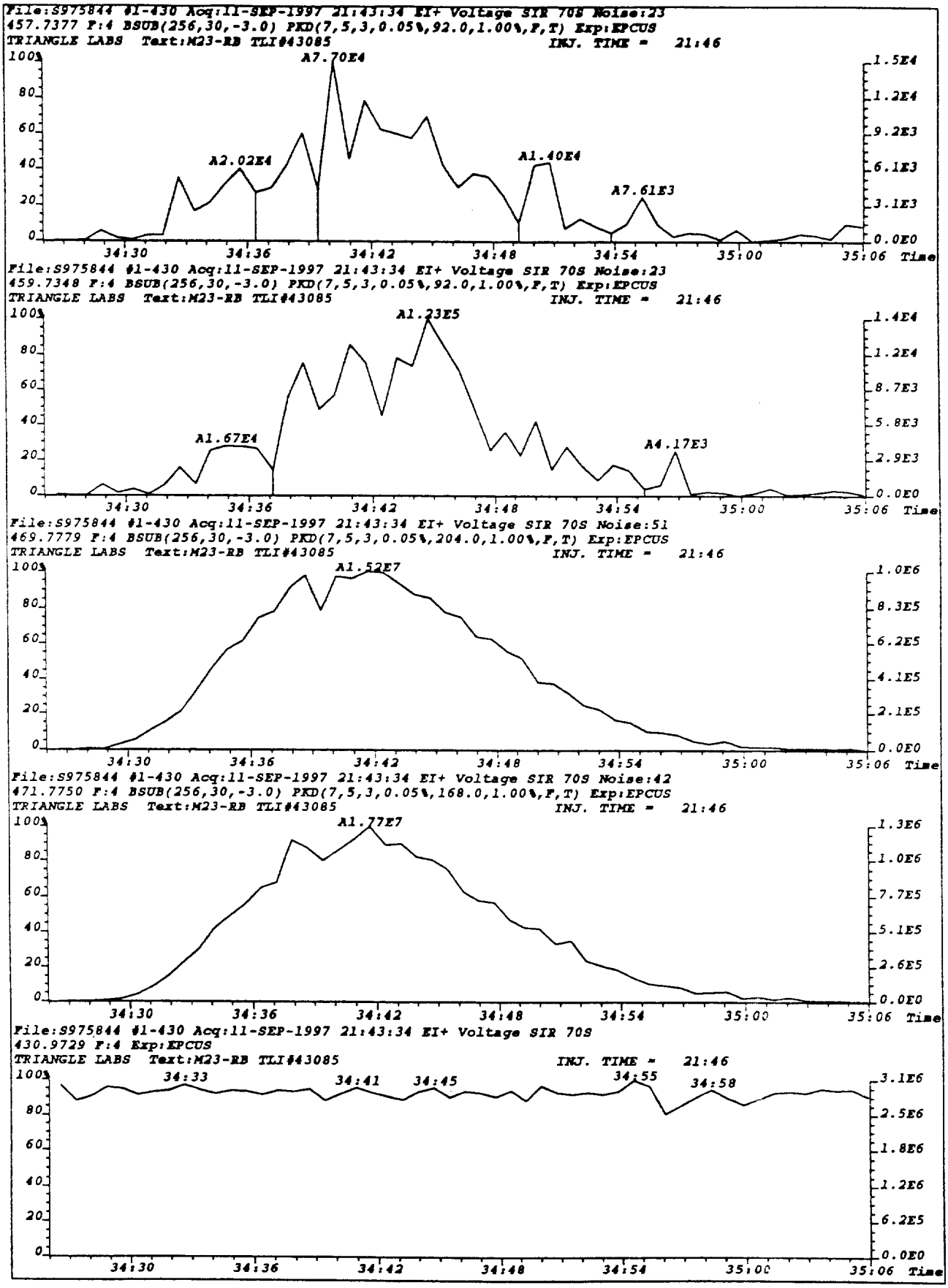
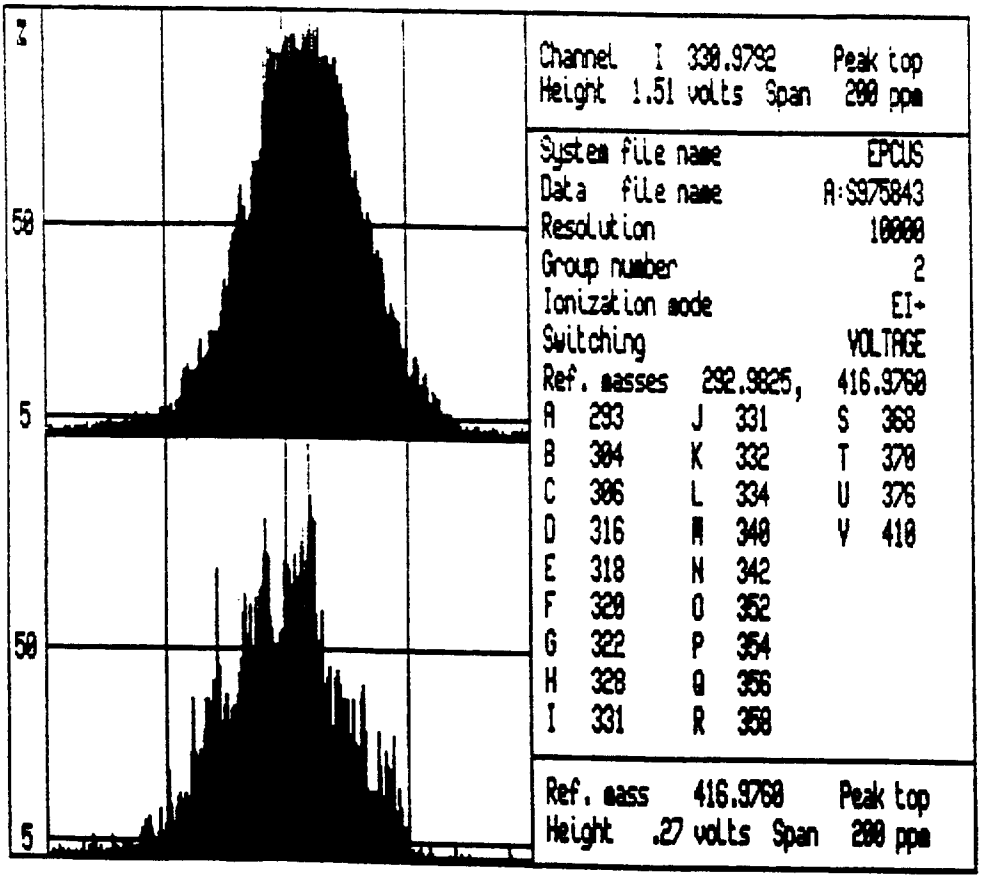
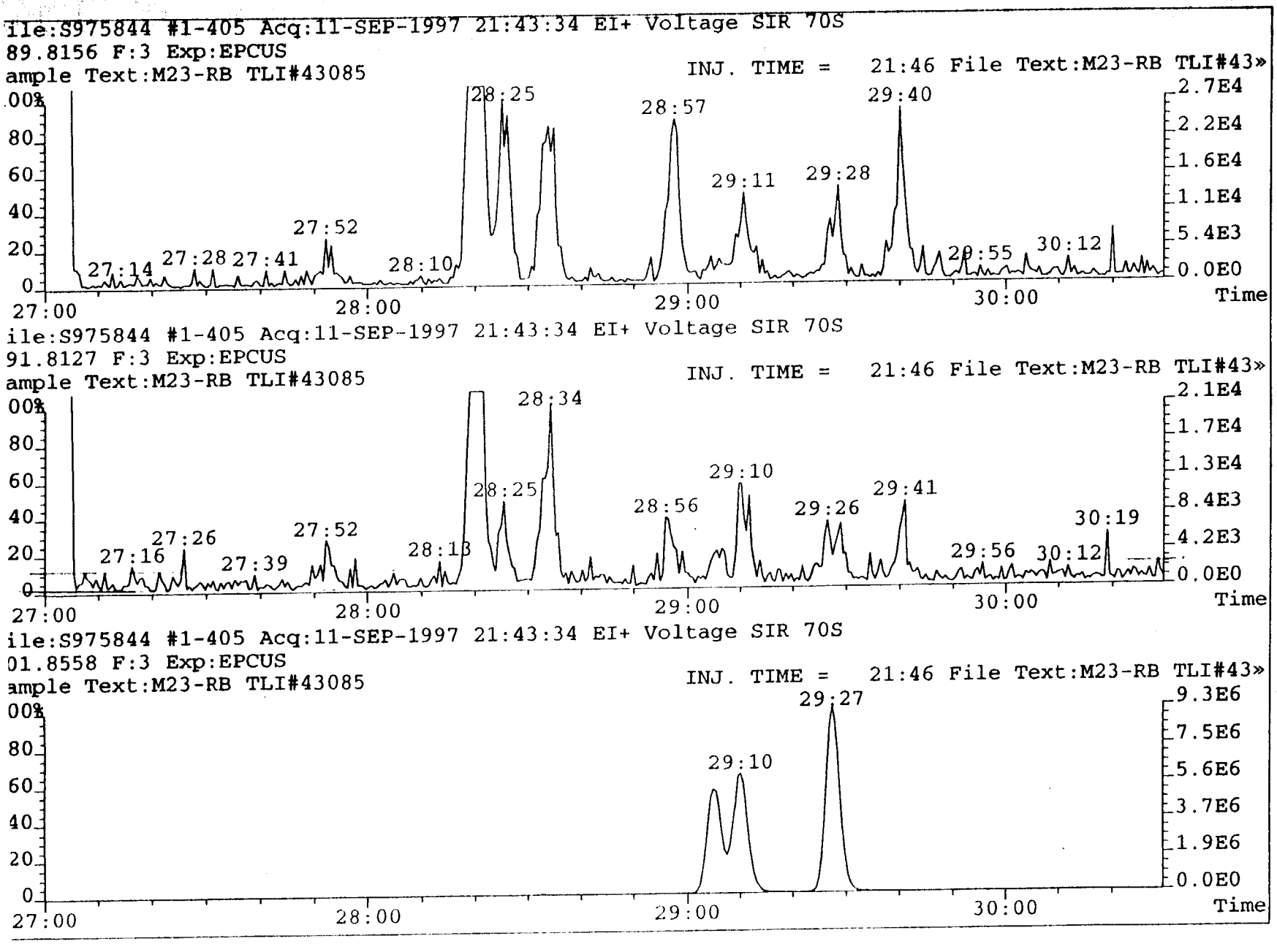
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,860.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A3.23E5
A3.85E4
A5.93E4
A8.79E3
A1.39E4
A5.23E4
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:64
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,256.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.66E5
A5.71E4
A3.81E4
A9.02E3
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:369
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1476.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A8.47E6
A6.32E6
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:202
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,808.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.00E7
A1.51E7
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
Time

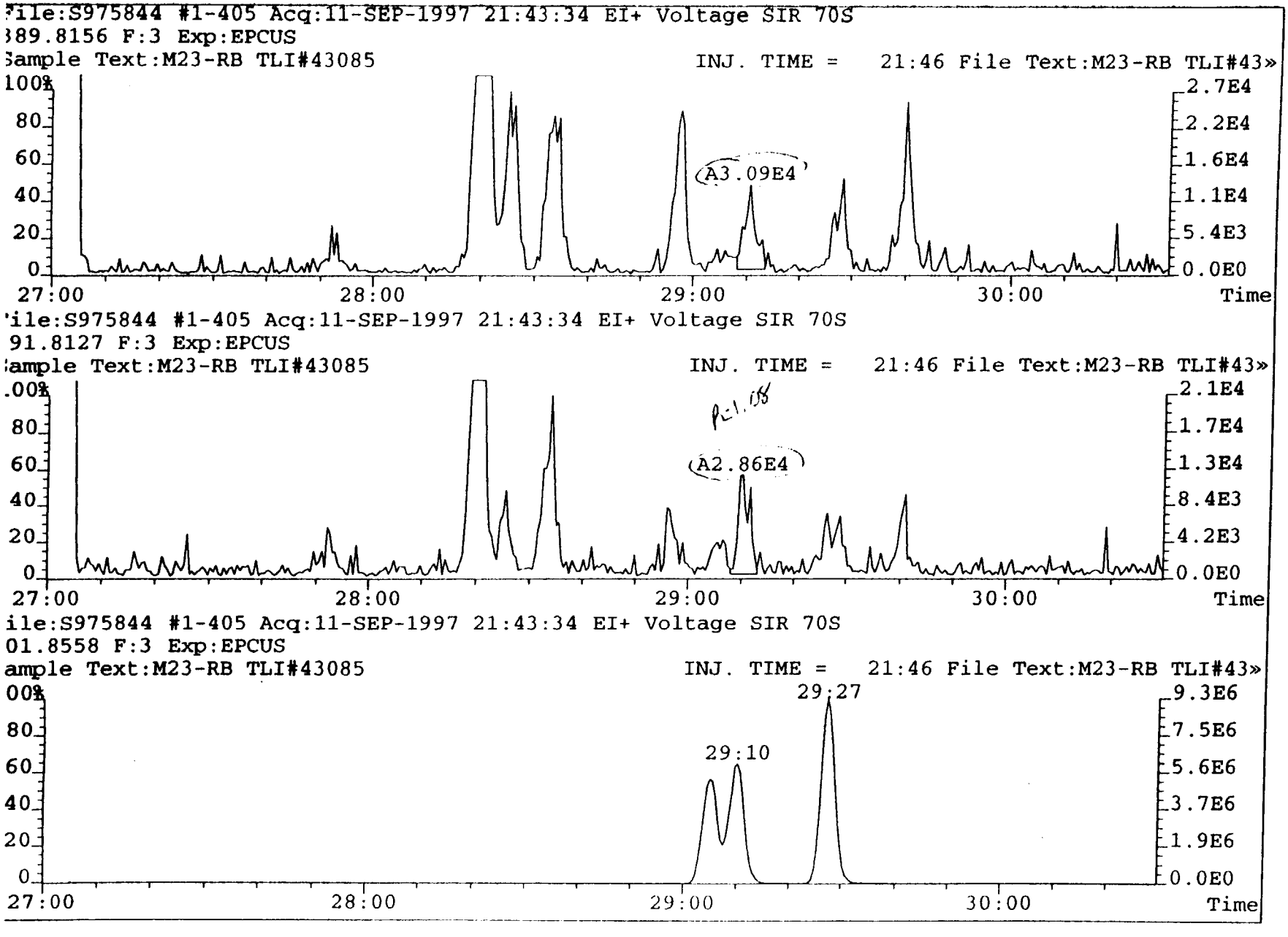

File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:46
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,184.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.01E5
A5.20E4
A7.42E4
A4.97E3
A6.39E3
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:41
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,164.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A9.16E4
A5.13E4
A2.56E4
A5.41E3
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:385
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1540.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.46E7
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:244
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,976.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.41E7
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
Time

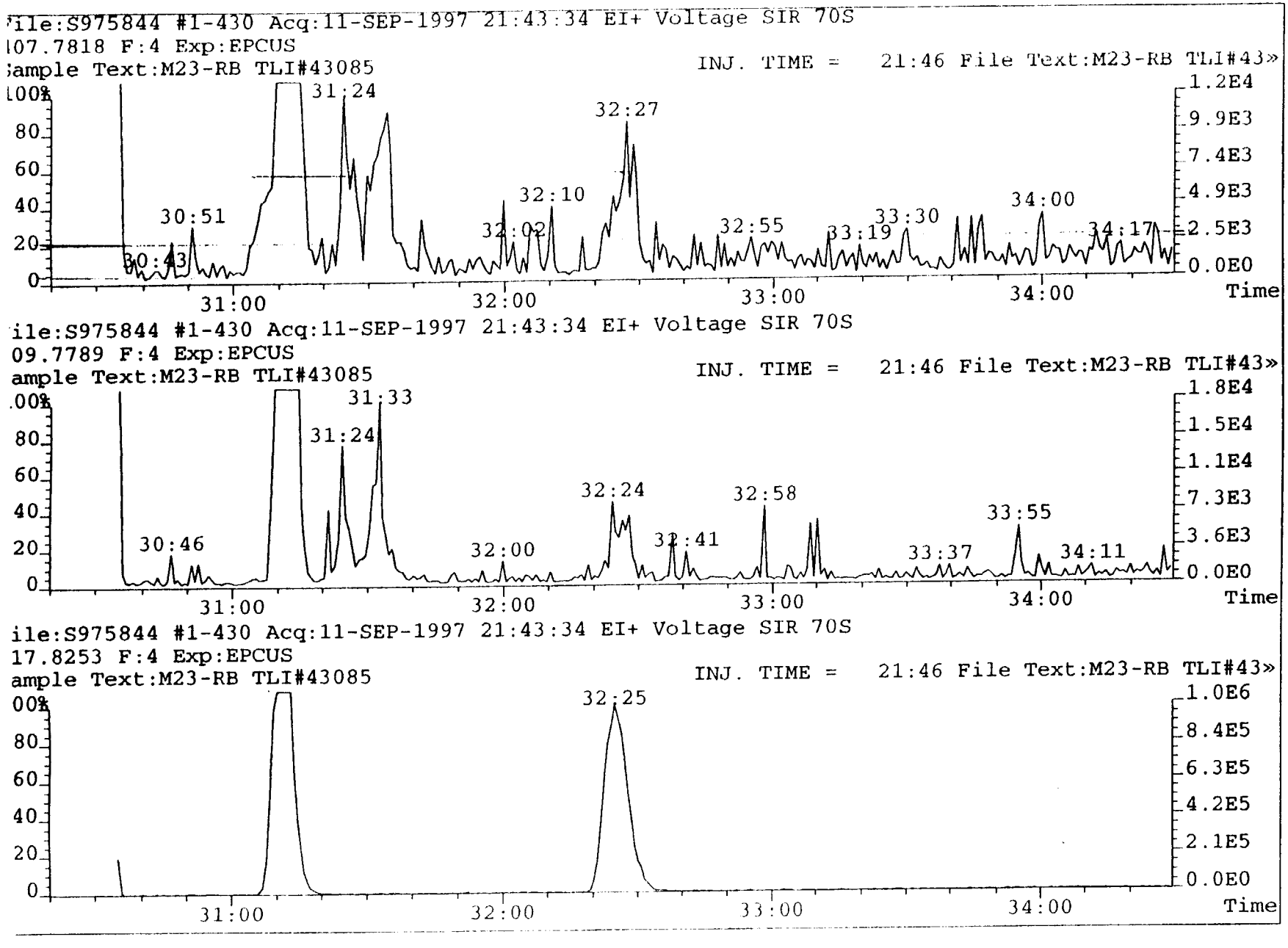

File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:19
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,76.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.12E3
A6.87E3
A1.27E4
A2.34E3
A4.24E3
A6.11E3
A4.39E3
A1.37E5
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:38
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A2.13E3
A1.01E3
A7.24E3
A5.91E3
A8.21E3
A1.13E4
A1.84E4
A5.99E3
A4.88E3
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
30:56 31:19 31:52 32:13 32:41 33:21 33:47 34:16 34:41 34:55 35:16 35:37
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
31:05 31:16 31:38 32:16 32:41 33:34 34:09 34:20 34:30 35:02 35:16
31:00 32:00 33:00 34:00 35:00
Time

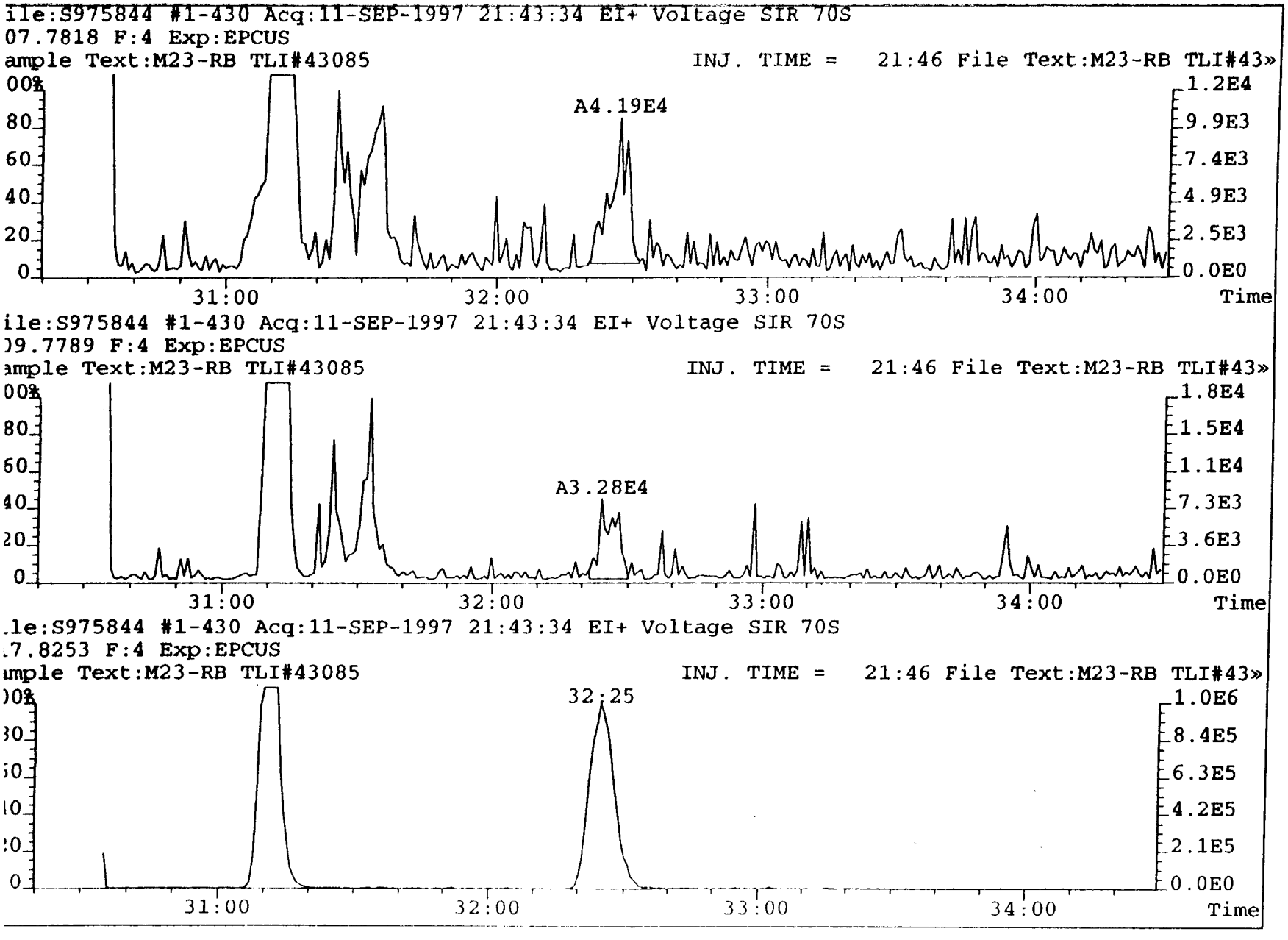

File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:23
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,92.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A7.70E4
A2.02E4
A1.40E4
A7.61E3
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:23
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,92.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.23E5
A1.67E4
A4.17E3
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:51
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.52E7
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S Noise:42
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
A1.77E7
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23-RB TLI#43085
INJ. TIME = 21:46
34:33
34:41
34:45
34:55
34:58
34:30
34:36
34:42
34:48
34:54
35:00
35:06
Time

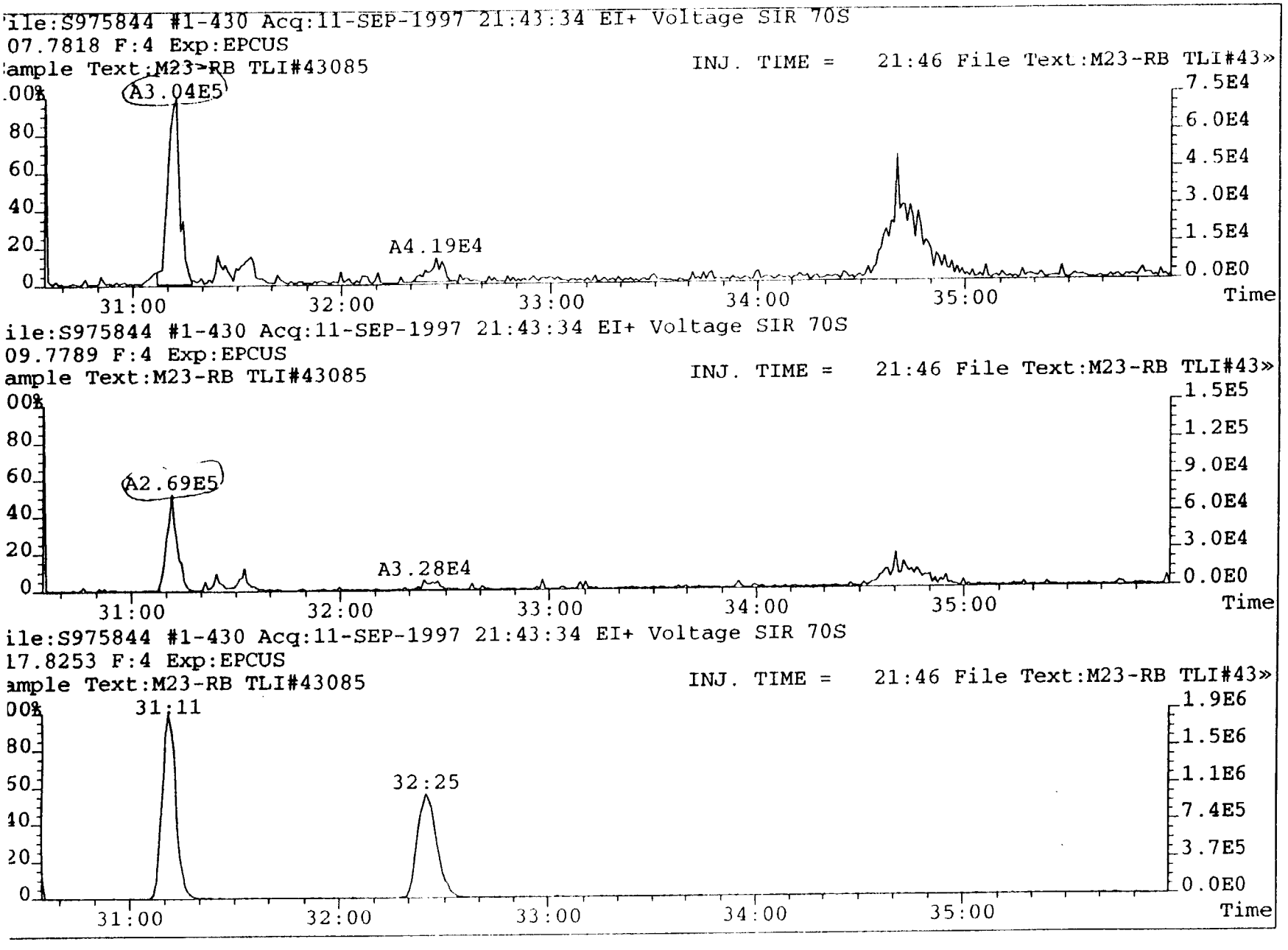

%
50
5
50
5
Channel I 330.9792 Peak top
Height 1.51 volts Span 200 ppm
System file name EPCUS
Data file name A:S975843
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9760
A 293 J 331 S 368
B 304 K 332 T 370
C 306 L 334 U 376
D 316 M 340 V 410
E 318 N 342
F 320 O 352
G 322 P 354
H 328 Q 356
I 331 R 358
Ref. mass 416.9760 Peak top
Height .27 volts Span 200 ppm

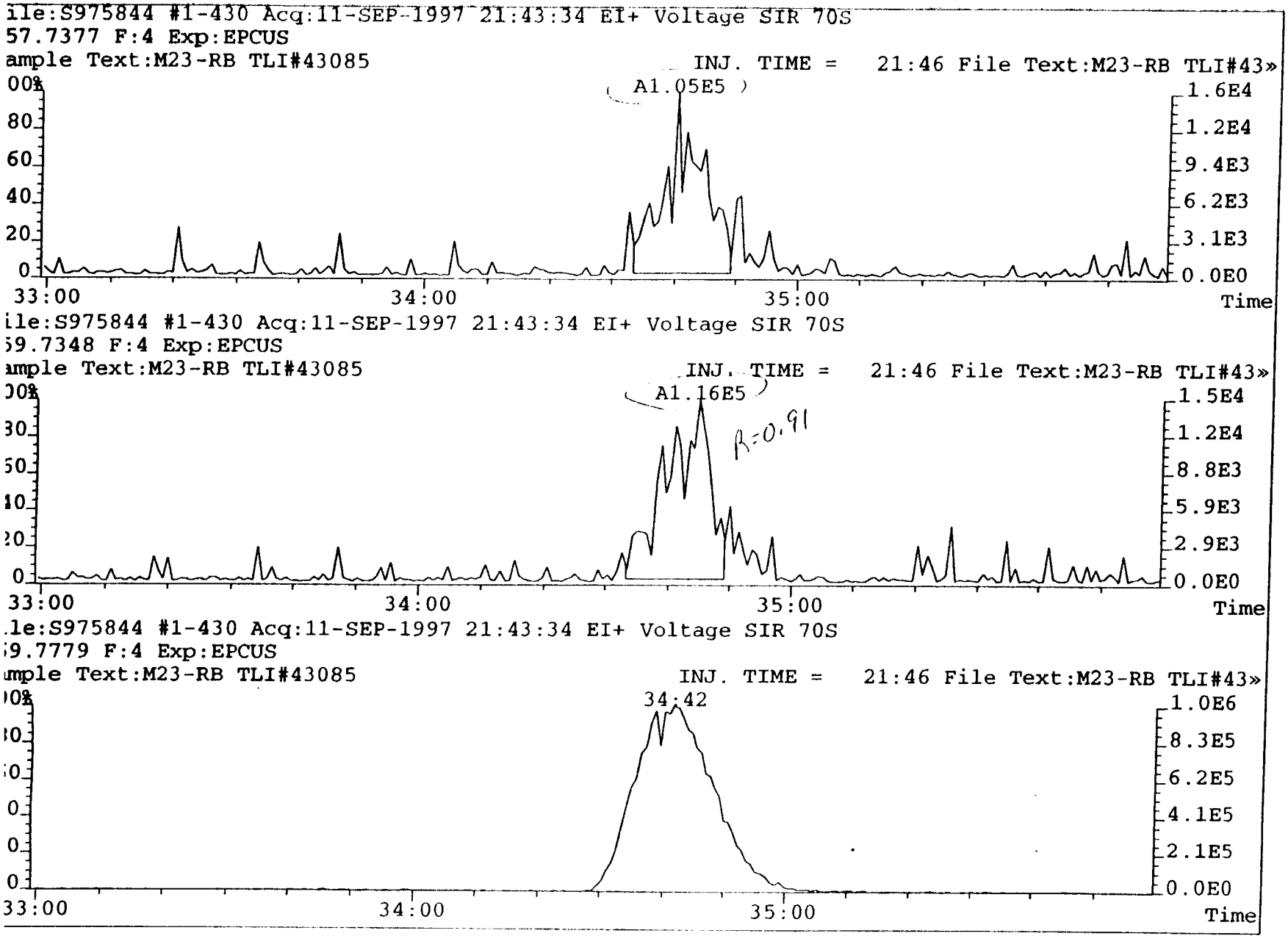

ile:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
89.8156 F:3 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
00%
80
60
40
20
0
27:14
27:28
27:41
27:52
28:10
28:25
28:57
29:11
29:28
29:40
29:55
30:12
2.7E4
2.2E4
1.6E4
1.1E4
5.4E3
0.0E0
27:00
28:00
29:00
30:00
Time
ile:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
91.8127 F:3 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
00%
80
60
40
20
0
27:16
27:26
27:39
27:52
28:13
28:25
28:34
28:56
29:10
29:26
29:41
29:56
30:12
30:19
2.1E4
1.7E4
1.3E4
8.4E3
4.2E3
0.0E0
27:00
28:00
29:00
30:00
Time
ile:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
01.8558 F:3 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
00%
80
60
40
20
0
29:10
29:27
9.3E6
7.5E6
5.6E6
3.7E6
1.9E6
0.0E0
27:00
28:00
29:00
30:00
Time


File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
389.8156 F:3 Exp:EPCUS
Sample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
100%
80
60
40
20
0
A3.09E4
2.7E4
2.2E4
1.6E4
1.1E4
5.4E3
0.0E0
27:00
28:00
29:00
30:00
Time
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
391.8127 F:3 Exp:EPCUS
Sample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
100%
80
60
40
20
0
A2.86E4
2.1E4
1.7E4
1.3E4
8.4E3
4.2E3
0.0E0
27:00
28:00
29:00
30:00
Time
File:S975844 #1-405 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
401.8558 F:3 Exp:EPCUS
Sample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
100%
80
60
40
20
0
29:10
29:27
9.3E6
7.5E6
5.6E6
3.7E6
1.9E6
0.0E0
27:00
28:00
29:00
30:00
Time


File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
107.7818 F:4 Exp:EPCUS
Sample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
100%
80
60
40
20
0
30:43
30:51
31:24
32:02
32:10
32:27
32:55
33:19
33:30
34:00
34:17
1.2E4
9.9E3
7.4E3
4.9E3
2.5E3
0.0E0
31:00
32:00
33:00
34:00
Time
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
109.7789 F:4 Exp:EPCUS
Sample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
100%
80
60
40
20
0
30:46
31:24
31:33
32:00
32:24
32:41
32:58
33:37
33:55
34:11
1.8E4
1.5E4
1.1E4
7.3E3
3.6E3
0.0E0
31:00
32:00
33:00
34:00
Time
File:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
117.8253 F:4 Exp:EPCUS
Sample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
100%
80
60
40
20
0
32:25
1.0E6
8.4E5
6.3E5
4.2E5
2.1E5
0.0E0
31:00
32:00
33:00
34:00
Time


ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
07.7818 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
A4.19E4
1.2E4
9.9E3
7.4E3
4.9E3
2.5E3
0.0E0
31:00
32:00
33:00
34:00
Time
ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
09.7789 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
A3.28E4
1.8E4
1.5E4
1.1E4
7.3E3
3.6E3
0.0E0
31:00
32:00
33:00
34:00
Time
.le:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
17.8253 F:4 Exp:EPCUS
mple Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
32:25
1.0E6
8.4E5
6.3E5
4.2E5
2.1E5
0.0E0
31:00
32:00
33:00
34:00
Time


ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
07.7818 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
A3.04E5
A4.19E4
7.5E4
6.0E4
4.5E4
3.0E4
1.5E4
0.0E0
31:00
32:00
33:00
34:00
35:00
Time
ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
09.7789 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
A2.69E5
A3.28E4
1.5E5
1.2E5
9.0E4
6.0E4
3.0E4
0.0E0
31:00
32:00
33:00
34:00
35:00
Time
ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
17.8253 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
31:11
32:25
1.9E6
1.5E6
1.1E6
7.4E5
3.7E5
0.0E0
31:00
32:00
33:00
34:00
35:00
Time


ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
57.7377 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
A1.05E5
00%
80
60
40
20
0
1.6E4
1.2E4
9.4E3
6.2E3
3.1E3
0.0E0
33:00
34:00
35:00
Time
ile:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
59.7348 F:4 Exp:EPCUS
ample Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
A1.16E5
R=0.91
1.5E4
1.2E4
8.8E3
5.9E3
2.9E3
0.0E0
33:00
34:00
35:00
Time
.le:S975844 #1-430 Acq:11-SEP-1997 21:43:34 EI+ Voltage SIR 70S
59.7779 F:4 Exp:EPCUS
mple Text:M23-RB TLI#43085
INJ. TIME = 21:46 File Text:M23-RB TLI#43»
34:42
1.0E6
8.3E5
6.2E5
4.1E5
2.1E5
0.0E0
33:00
34:00
35:00
Time

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **TLI LCSD** — Analysis File: **S975832**

Client Project:	S413-004				
Sample Matrix:	XAD	Date Received:	/ /	Spike File:	SPX23704
TLI ID:	TLI LCSD	Date Extracted:	09/04/97	ICal:	SF56117
		Date Analyzed:	09/11/97	ConCal:	S975814
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S975815	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	0.36			0.78	21:13	
1,2,3,7,8-PeCDD	1.9			1.64	25:51	
1,2,3,4,7,8-HxCDD	1.7			1.24	29:07	
1,2,3,6,7,8-HxCDD	1.8			1.23	29:12	
1,2,3,7,8,9-HxCDD	1.9			1.24	29:29	
1,2,3,4,6,7,8-HpCDD	1.8			1.04	32:04	
1,2,3,4,6,7,8,9-OCDD	3.6			0.83	34:38	
2,3,7,8-TCDF	0.37			0.82	20:23	
1,2,3,7,8-PeCDF	1.9			1.52	24:42	
2,3,4,7,8-PeCDF	1.9			1.53	25:29	
1,2,3,4,7,8-HxCDF	1.7			1.29	28:22	
1,2,3,6,7,8-HxCDF	1.8			1.29	28:29	
2,3,4,6,7,8-HxCDF	1.7			1.28	28:59	
1,2,3,7,8,9-HxCDF	1.8			1.32	29:42	
1,2,3,4,6,7,8-HpCDF	1.8			1.09	31:12	
1,2,3,4,7,8,9-HpCDF	1.6			1.09	32:25	
1,2,3,4,6,7,8,9-OCDF	2.8			0.88	34:43	

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.6	65.4	40%-130%	0.76	20:22	
$^{13}C_{12}$-2,3,7,8-TCDD	2.4	60.9	40%-130%	0.80	21:12	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.6	64.9	40%-130%	1.56	24:42	
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.7	66.7	40%-130%	1.48	25:50	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.9	72.8	40%-130%	0.50	28:28	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.8	70.3	40%-130%	1.24	29:12	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.5	62.5	25%-130%	0.42	31:11	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.7	67.1	25%-130%	0.99	32:04	
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.8	60.2	25%-130%	0.87	34:38	

X237_PSR v2.00, LARS 6.10.04

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
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Printed: 12:03 09/18/97

TLI Project: **43085**
Client Sample: **TLI LCSD**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975832**

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.0	75.4	40%-130%	0.51	29:41	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.1	77.5	40%-130%	0.50	28:59	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:59	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.20	29:29	—

Data Reviewer: Sue Lewis 09/18/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 12:03 09/18/97

Initial ....Date...

Data Review By: SL 9/18/97 Calculated Noise Area: n/a

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 S975832B.dbf
09/18/97 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				0.820-1.101			
304-306	DC	NL		0:00	RO	1.25	0.14			0.000			
	DC	SN		16:48		0.86	1.56			0.825			
	DC	SN		18:03	RO	0.60	2.44			0.886			
	DC	SN		19:11		0.70	18.85			0.942			
	DC	SN		19:30	RO	1.09	3.19			0.957			
	DC	SN		19:54	RO	0.98	11.58			0.977			
	DC	SN		20:08	RO	0.27	0.55			0.989			
				20:23		0.82	461.06	207.61	253.45	1.001	2378-TCDF		AN
	DC	SN		21:56	RO	0.35	0.64			1.077			
	DC	WH		22:42	RO	0.18	0.55			1.115			
304-306			1 Peak				461.06						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC	NL		0:00	RO	15.20	0.09			0.000			
	DC	SN		19:32		0.69	6.32			0.959			
	DC	SN		19:52		0.77	18.60			0.975			
				20:22		0.76	4,035.05	1,746.44	2,288.61	1.000	13C12-2378-TCDF		ISO
	DC	SN		20:53	RO	1.14	21.35			1.025			
316-318			1 Peak				4,035.05						
---------- Above: TCDF / TCDD Follows ----------													
TCDD						0.65-0.89				0.853-1.059			
320-322	DC	NL		0:00	RO	1.33	0.11			0.000			
	DC	SN		18:37		0.73	0.76			0.878			
	DC	SN		18:42	RO	12.60	0.09			0.882			
	DC	SN		18:53	RO	2.80	0.35			0.891			
	DC	SN		19:08	RO	0.43	0.55			0.903			
	DC	SN		19:15		0.73	1.07			0.908			
	DC	SN		19:21	RO	0.25	0.34			0.913			
	DC	SN		19:55		0.75	2.13			0.939			
	DC	SN		20:22	RO	3.32	1.33			0.961			
	DC	SN		20:30		0.75	1.80			0.967			
	DC	SN		20:44		0.74	0.94			0.978			
	DC	SN		20:54	RO	1.90	0.51			0.986			
	DC	SN		21:00	RO	2.83	0.94			0.991			
				21:13		0.78	322.42	141.35	181.07	1.001	2378-TCDD		AN
	DC	SN		21:48	RO	6.50	0.18			1.028			
	DC	SN		22:19	RO	0.43	0.92			1.053			
	DC	WH		22:38	RO	1.06	0.55			1.068			
	DC	WH		22:40	RO	0.27	0.57			1.069			
320-322			1 Peak				322.42						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	24.67	0.16			0.000			
	DC	SN		19:52	RO	1.13	13.47			0.937			
	DC	SN		20:36	RO	2.05	2.35			0.972			
				20:59		0.80	4,680.21	2,079.73	2,600.48	0.990	13C12-1234-TCDD	RS1	
				21:12		0.80	3,036.35	1,350.47	1,685.88	1.000	13C12-2378-TCDD	IS1	
				21:33	RO	1.12	42.13	26.58	23.80	1.017			
	DC	SN		21:46	RO	1.38	3.95			1.027			
332-334			3	Peaks			7,758.69						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF				1.32-1.78						0.907-1.078			
340-342	DC	NL		0:00	RO	0.88	0.12			0.000			
	DC	SN		22:36	RO	0.81	2.07			0.915			
	DC	SN		23:49		1.33	22.22			0.964			
	DC	SN		24:21	RO	1.89	10.30			0.986			
				24:42		1.52	1,810.32	1,092.57	717.75	1.000	12378-PeCDF		AN
	DC	SN		24:53	RO	1.11	10.22			1.007			
	DC	SN		25:01		1.59	27.22			1.013			
				25:29		1.53	1,823.25	1,103.61	719.64	1.032	23478-PeCDF		AN
	DC	SN		26:08	RO	1.02	1.51			1.058			
	DC	SN		26:27	RO	0.56	3.88			1.071			
340-342			2	Peaks			3,633.57						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	1.00	0.12			0.000			
	DC	SN		23:46	RO	1.15	11.53			0.962			
	DC	SN		24:20		1.40	14.07			0.985			
				24:42		1.56	3,441.27	2,098.74	1,342.53	1.000	13C12-PeCDF 123	IS2	
	DC	SN		24:59		1.74	14.25			1.011			
	DC	SN		25:22		1.50	3.08			1.027			
	DC	SN		25:28		1.48	29.96			1.031	13C12-PeCDF 234	SUR2	
	DC	SN		26:27	RO	0.95	8.95			1.071			
352-354			1	Peak			3,441.27						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.921-1.026			
356-358	DC	NL		0:00	RO	0.86	0.10			0.000			
	DC	SN		23:57	RO	0.09	0.79			0.927			
	DC	SN		24:43	RO	1.97	2.63			0.957			
	DC	SN		24:52		1.38	3.97			0.963			
	DC	SN		25:04	RO	2.08	2.47			0.970			
	DC	SN		25:30	RO	1.91	0.82			0.987			
				25:51		1.64	1,165.51	724.15	441.36	1.001	12378-PeCDD		AN
356-358			1	Peak			1,165.51						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	0.86	0.10			0.000			
	DC	SN		24:43	RO	2.43	2.22			0.957			
				25:50		1.48	1,982.60	1,183.63	798.97	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
				25:59		1.50	180.79	108.57	72.22	1.006			
368-370			2	Peaks			2,163.39						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF						1.05-1.43				0.955-1.052			
374-376	DC	NL		0:00	RO	1.89	1.77			0.000			
	DC	SN		27:22	RO	1.53	4.26			0.961			
	DC	SN		27:30	RO	1.48	10.37			0.966			
	DC	SN		28:02	RO	2.02	1.30			0.985			
				28:22		1.29	1,561.66	878.60	683.06	0.996	123478-HxCDF		AN
				28:29		1.29	2,046.94	1,154.87	892.07	1.001	123678-HxCDF		AN
	DC	SN		28:44	RO	2.60	2.55			1.009			
	DC	SN		28:48	RO	1.72	2.02			1.012			
				28:59		1.28	1,541.86	865.45	676.41	1.018	234678-HxCDF		AN
	DC	SN		29:13	RO	0.80	2.67			1.026			
	DC	SN		29:16	RO	1.80	1.59			1.028			
	DC	SN		29:24	RO	1.65	1.90			1.033			
	DC	SN		29:30	RO	1.52	3.23			1.036			
				29:42		1.32	1,479.08	841.99	637.09	1.043	123789-HxCDF		AN
	DC	SN		29:54	RO	0.91	2.49			1.050			
374-376			4	Peaks			6,629.54						
13C12-HxCDF						0.43-0.59				0.859-1.141			
384-386	DC	NL		0:00		0.55	3.29			0.000			
	DC	SN		27:20	RO	0.29	2.61			0.960			
	DC	SN		27:30	RO	0.39	9.95			0.966			
				28:28		0.50	2,962.73	982.88	1,979.85	1.000	13C12-HxCDF 678		IS4
	DC	SN		28:42	RO	1.50	2.55			1.008			
				28:59		0.50	2,919.87	972.79	1,947.08	1.018	13C12-HxCDF 234		ALT2
	DC	SN		29:13	RO	0.64	3.70			1.026			
	DC	SN		29:16	RO	0.32	1.27			1.028			
	DC	SN		29:24	RO	0.74	1.31			1.033			
				29:41		0.51	2,468.56	831.41	1,637.15	1.043	13C12-HxCDF 789		ALT1
	DC	SN		29:58		0.55	2.28			1.053			
	DC	SN		30:01	RO	0.60	3.16			1.054			
384-386			3	Peaks			8,351.16						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD						1.05-1.43				0.950-1.015			
390-392	DC	NL		0:00	RO	1.49	1.32			0.000			
	DC	WL		27:44	RO	1.78	1.52			0.950			
	DC	SN		27:54	RO	0.87	1.61			0.955			
	DC	SN		28:04	RO	0.89	0.90			0.961			
	DC	SN		28:23	RO	0.85	3.09			0.972			
	DC	SN		28:29	RO	2.06	2.31			0.975			
	DC	SN		28:37	RO	1.56	5.64			0.980			
	DC	SN		28:42	RO	1.62	1.88			0.983			
	DC	SN		28:51	RO	3.15	0.60			0.988			
	DC	SN		28:58	RO	4.50	0.94			0.992			
				29:07		1.24	985.19	544.61	440.58	0.997	123478-HxCDD		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.
				29:12		1.23	1,211.68	667.37	544.31	1.000	123678-HxCDD	AN	
				29:29		1.24	1,223.86	677.65	546.21	1.010	123789-HxCDD	AN	
	DC	SN		29:37	RO	2.42	3.11			1.014			
	DC	WH		29:43	RO	1.64	3.54			1.018			
	DC	WH		29:53	RO	0.31	0.87			1.023			
390-392				3 Peaks			3,420.73						
13C12-HxCDD						1.05-1.43				0.966-1.034			
402-404	DC	NL		0:00	RO	0.87	3.34			0.000			
	DC	WL		27:54	RO	0.93	3.87			0.955			
	DC	SN		28:34		1.38	13.85			0.978			
				29:12		1.24	2,365.17	1,307.45	1,057.72	1.000	13C12-HxCDD 678	IS5	
				29:29		1.20	3,379.31	1,842.39	1,536.92	1.010	13C12-HxCDD 789	RS2	
	DC	SN		29:42	RO	5.96	1.28			1.017			
402-404				2 Peaks			5,744.48						

---------- Above: HxCDD / HpCDF Follows ----------

HpCDF						0.88-1.20				0.995-1.044			
408-410	DC	NL		0:00	RO	4.06	1.59			0.000			
				31:12		1.09	1,324.95	692.08	632.87	1.001	1234678-HpCDF	AN	
	DC	SN		31:32	RO	0.61	3.12			1.011			
				32:25		1.09	894.39	466.29	428.10	1.040	1234789-HpCDF	AN	
408-410				2 Peaks			2,219.34						
13C12-HpCDF						0.37-0.51				0.936-1.128			
418-420	DC	NL		0:00	RO	1.63	0.91			0.000			
				31:11		0.42	1,874.76	555.58	1,319.18	1.000	13C12-HpCDF 678	IS6	
	DC	SN		31:25	RO	0.58	5.08			1.007			
	DC	SN		31:48	RO	0.70	2.36			1.020			
	DC	SN		31:57	RO	1.06	1.44			1.025			
	DC	SN		32:29		0.39	5.55			1.042			
418-420				1 Peak			1,874.76						

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

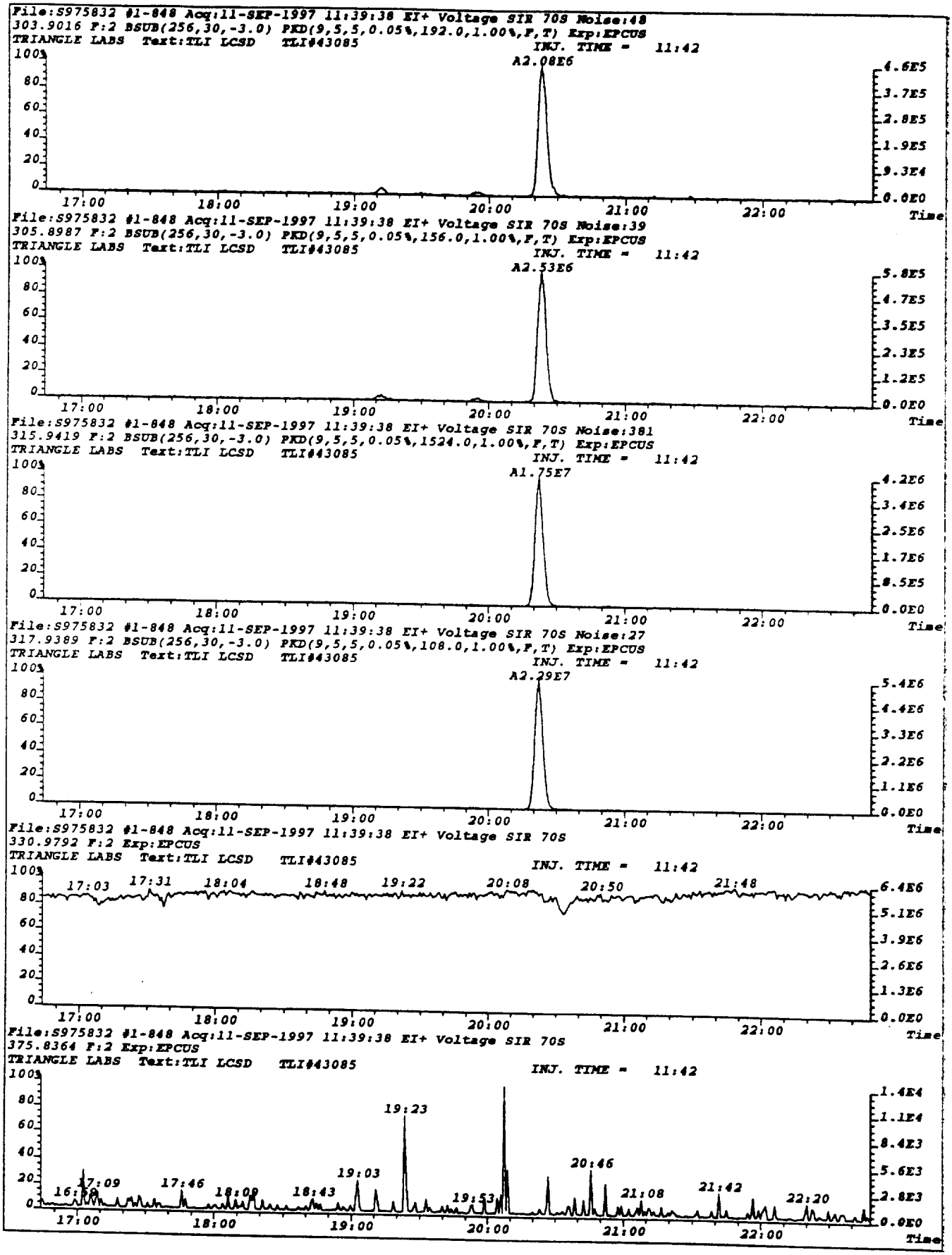
HpCDD						0.88-1.20				0.976-1.006			
424-426	DC	NL		0:00	RO	2.74	0.86			0.000			
	DC	SN		31:26	RO	0.81	6.18			0.980			
				32:04		1.04	872.46	444.26	428.20	1.000	1234678-HpCDD	AN	
424-426				1 Peak			872.46						
13C12-HpCDD						0.88-1.20				0.969-1.031			
436-438	DC	NL		0:00		0.98	2.57			0.000			
	DC	SN		31:27		0.92	4.25			0.981			
				32:04		0.99	1,846.97	920.88	926.09	1.000	13C12-HpCDD 678	IS7	
	DC	SN		32:18	RO	2.67	2.10			1.007			
436-438				1 Peak			1,846.97						

---------- Above: HpCDD / Octa-CDD and CDF 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
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00	RO	0.15	0.17			0.000			
	DC	SN		31:49	RO	0.36	0.91			0.919			
	DC	SN		32:01		0.77	1.01			0.924			
	DC	SN		32:06	RO	1.62	0.70			0.927			
	DC	SN		32:22		0.97	0.61			0.935			
	DC	SN		32:32	RO	1.14	1.72			0.939			
	DC	SN		32:44	RO	1.10	0.76			0.945			
	DC	SN		32:57		0.86	2.18			0.951			
	DC	SN		33:08	RO	0.24	0.45			0.957			
	DC	SN		33:31	RO	0.39	0.47			0.968			
	DC	SN		33:35	RO	0.24	0.68			0.970			
	DC	SN		33:49	RO	0.30	0.30			0.976			
	DC	SN		34:21		0.78	1.57			0.992			
				34:43		0.88	1,117.27	523.96	593.31	1.002	OCDF		AN
	DC	SN		35:25	RO	1.62	1.49			1.023			
442-444			1	Peak			1,117.27						
OCDD				0.76-1.02						0.884-1.116			
458-460	DC	NL		0:00	RO	6.29	0.13			0.000			
	DC	SN		34:21	RO	0.75	1.83			0.992			
				34:38		0.83	1,049.26	475.04	574.22	1.000	OCDD		AN
458-460			1	Peak			1,049.26						
13C12-OCDD				0.76-1.02						0.995-1.005			
470-472	DC	NL		0:00	RO	9.71	0.13			0.000			
				34:38		0.87	2,111.51	983.01	1,128.50	1.000	13C12-OCDD		IS8
470-472			1	Peak			2,111.51						

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 ***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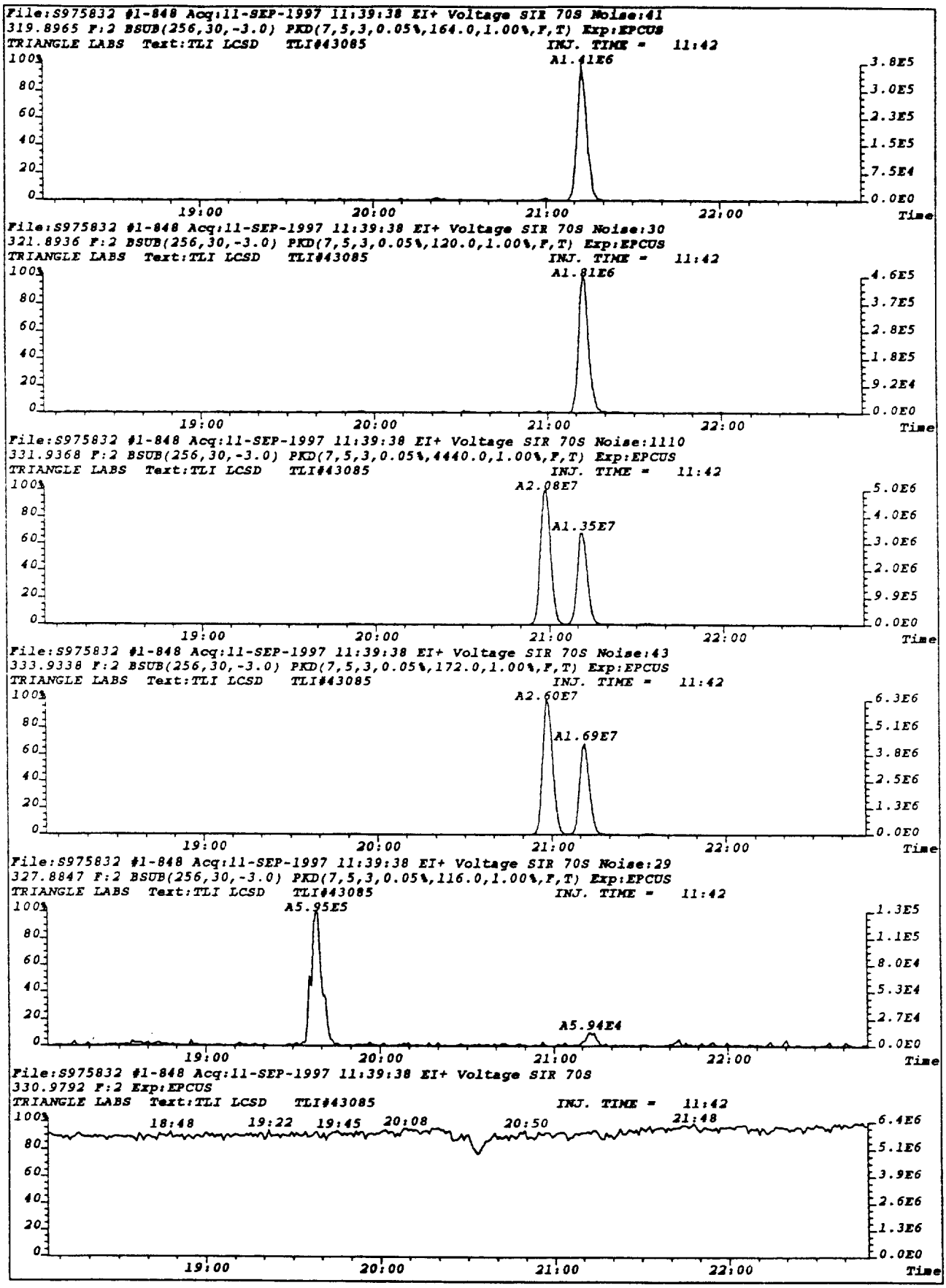
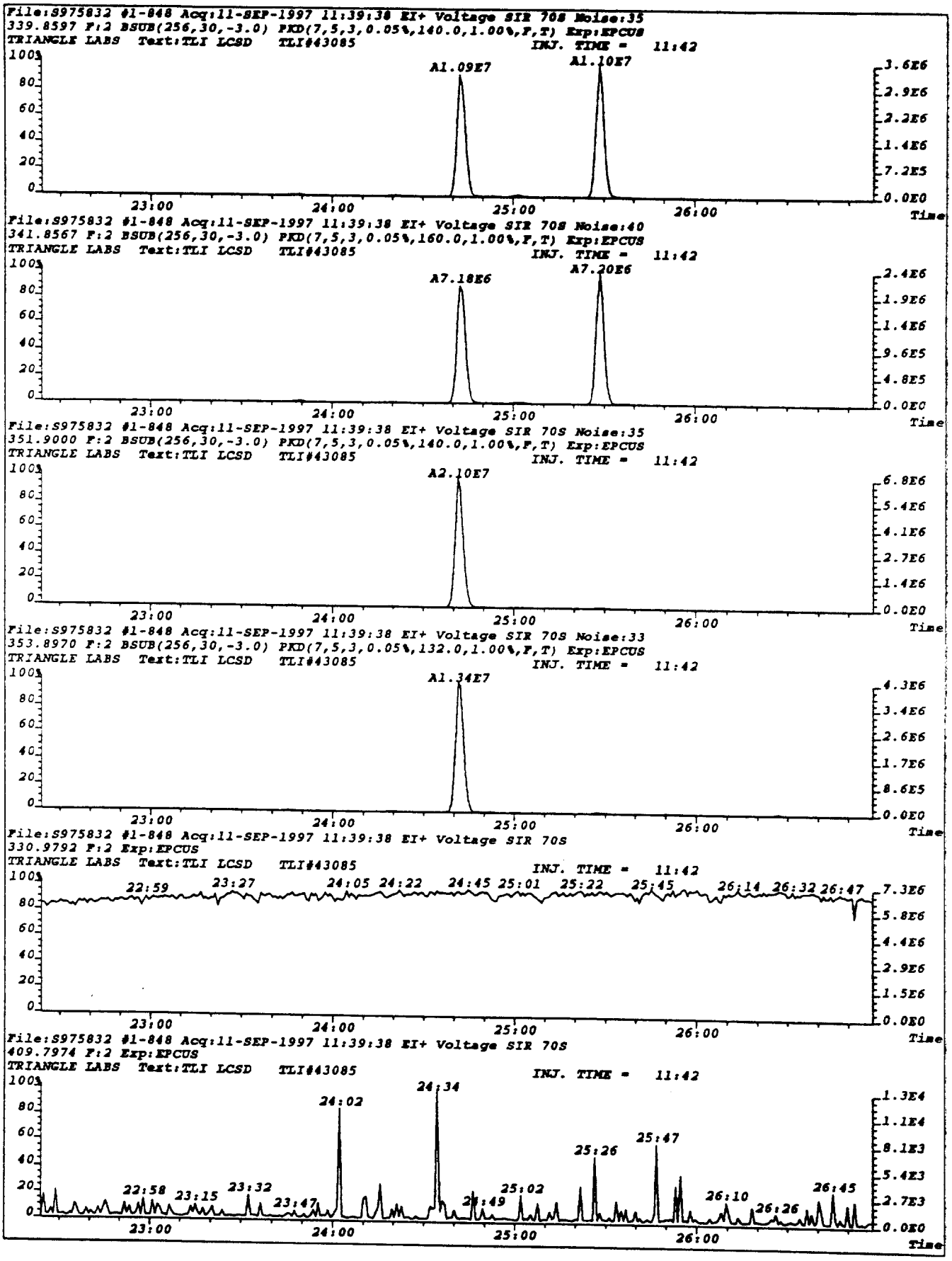
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A2.08E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:39
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A2.53E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:381
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1524.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.75E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:27
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,108.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A2.29E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
17:03 17:31 18:04 18:48 19:22 20:08 20:50 21:48
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
16:59 17:09 17:46 18:09 18:43 19:03 19:23 19:53 20:46 21:08 21:42 22:20
17:00 18:00 19:00 20:00 21:00 22:00
Time


File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:41
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,164.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.41E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:30
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,120.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.81E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:1110
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4440.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A2.08E7
A1.35E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:43
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A2.60E7
A1.69E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:29
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A5.95E5
A5.94E4
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
18:48
19:22
19:45
20:08
20:50
21:48
19:00
20:00
21:00
22:00
Time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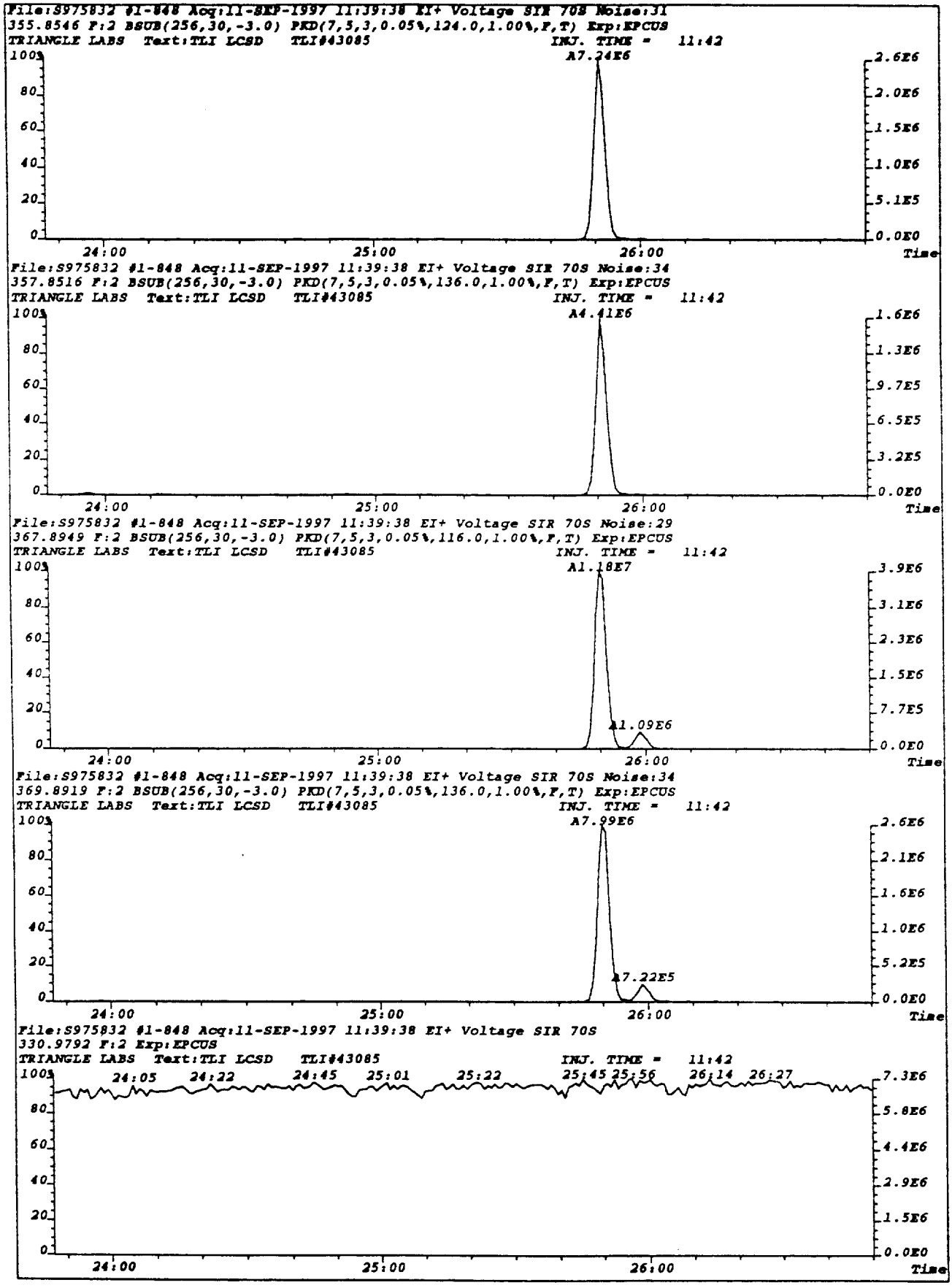
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.09E7
A1.10E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:40
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A7.18E6
A7.20E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:35
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A2.10E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:33
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,132.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.34E7
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
22:59
23:27
24:05
24:22
24:45
25:01
25:22
25:45
26:14
26:32
26:47
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
24:02
24:34
25:26
25:47
22:58
23:15
23:32
23:47
24:49
25:02
26:10
26:26
26:45
Time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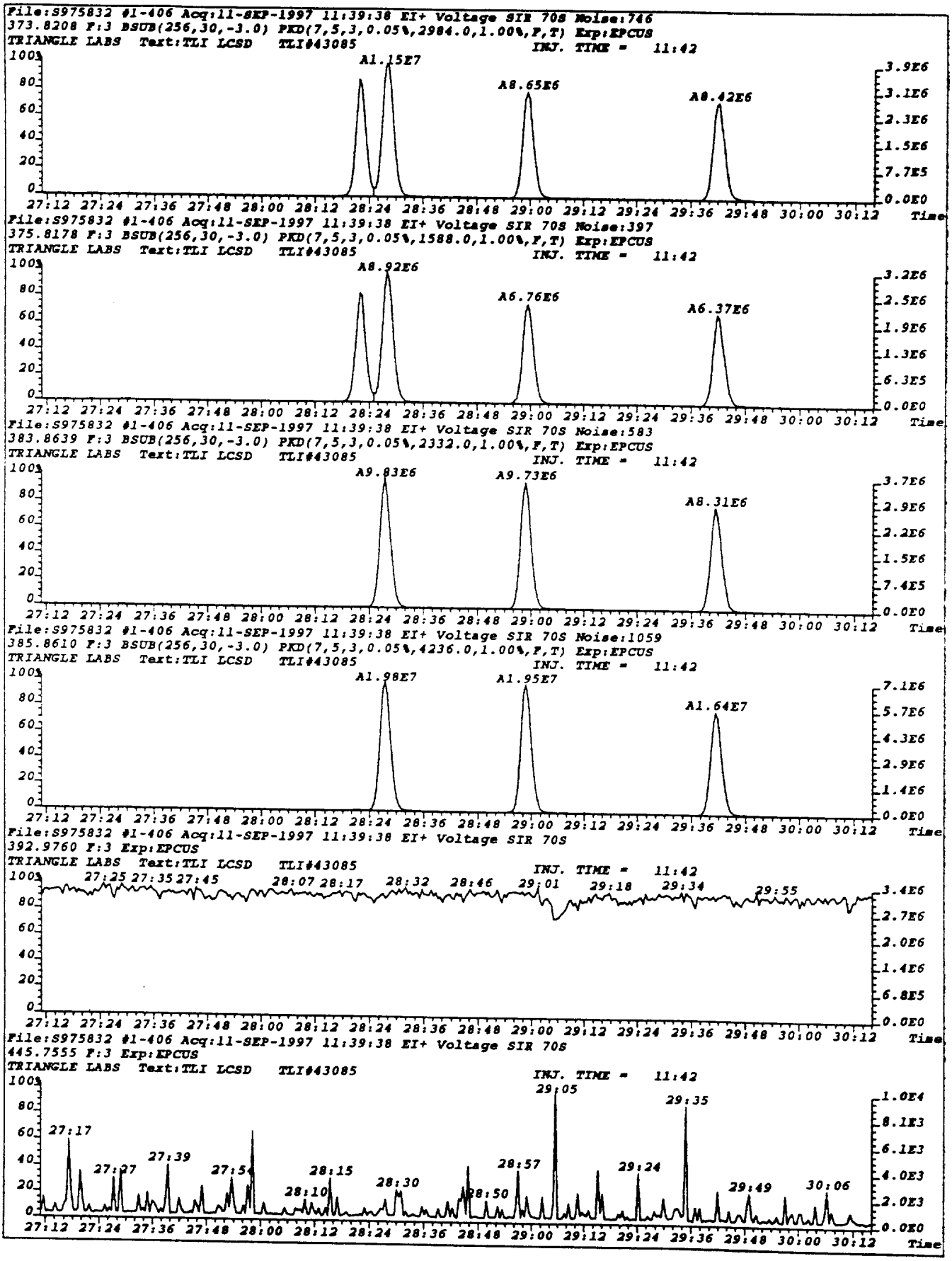
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A7.24E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:34
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A4.41E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:29
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.18E7
A1.09E6
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:34
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A7.99E6
A7.22E5
File:S975832 #1-848 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
24:05 24:22 24:45 25:01 25:22 25:45 25:56 26:14 26:27
24:00 25:00 26:00
Time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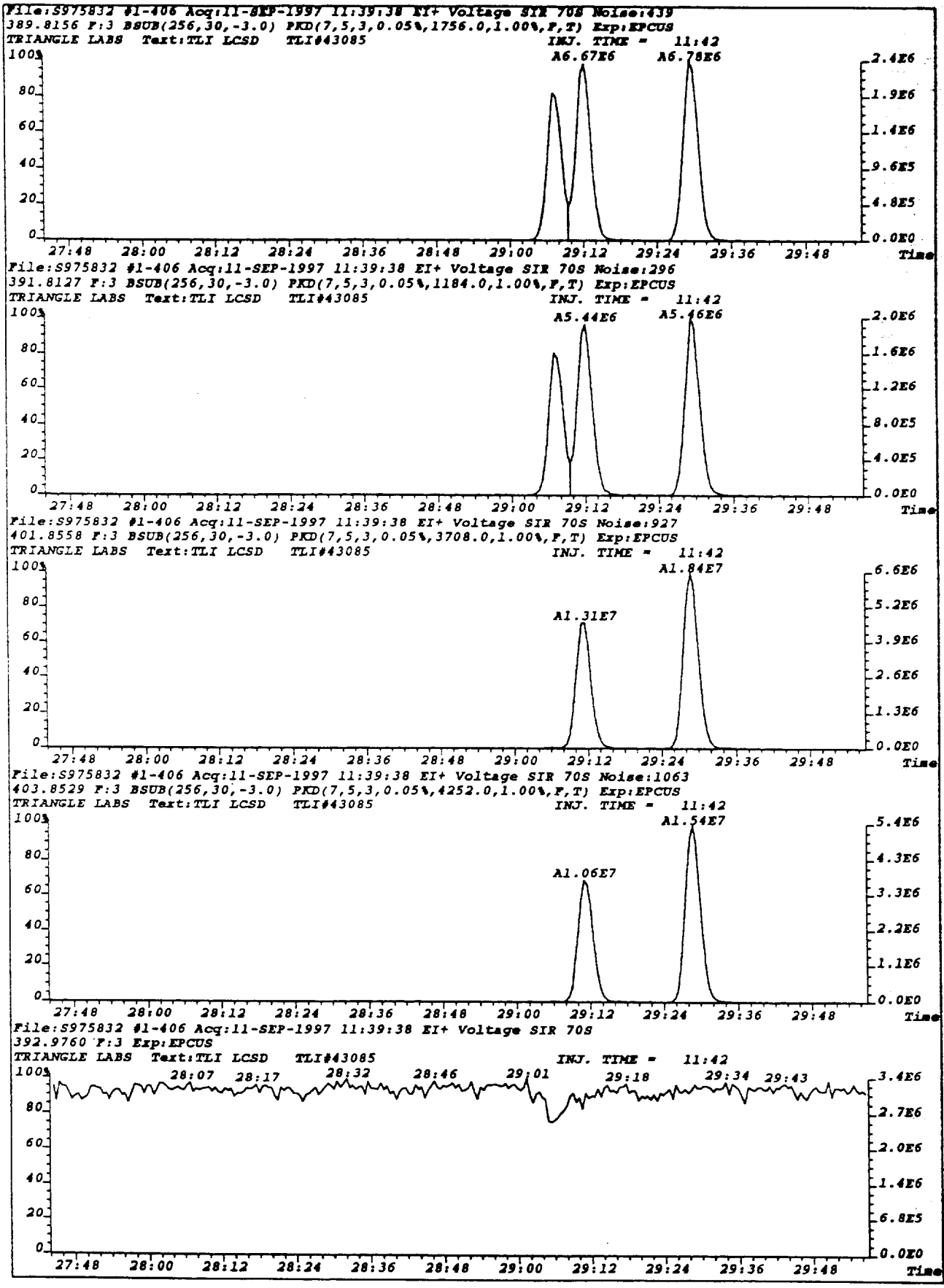
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2984.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.15E7
A8.65E6
A8.42E6
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:397
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1588.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A8.92E6
A6.76E6
A6.37E6
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:583
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2332.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A9.83E6
A9.73E6
A8.31E6
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:1059
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.98E7
A1.95E7
A1.64E7
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
27:17
27:39
29:05
29:35
Time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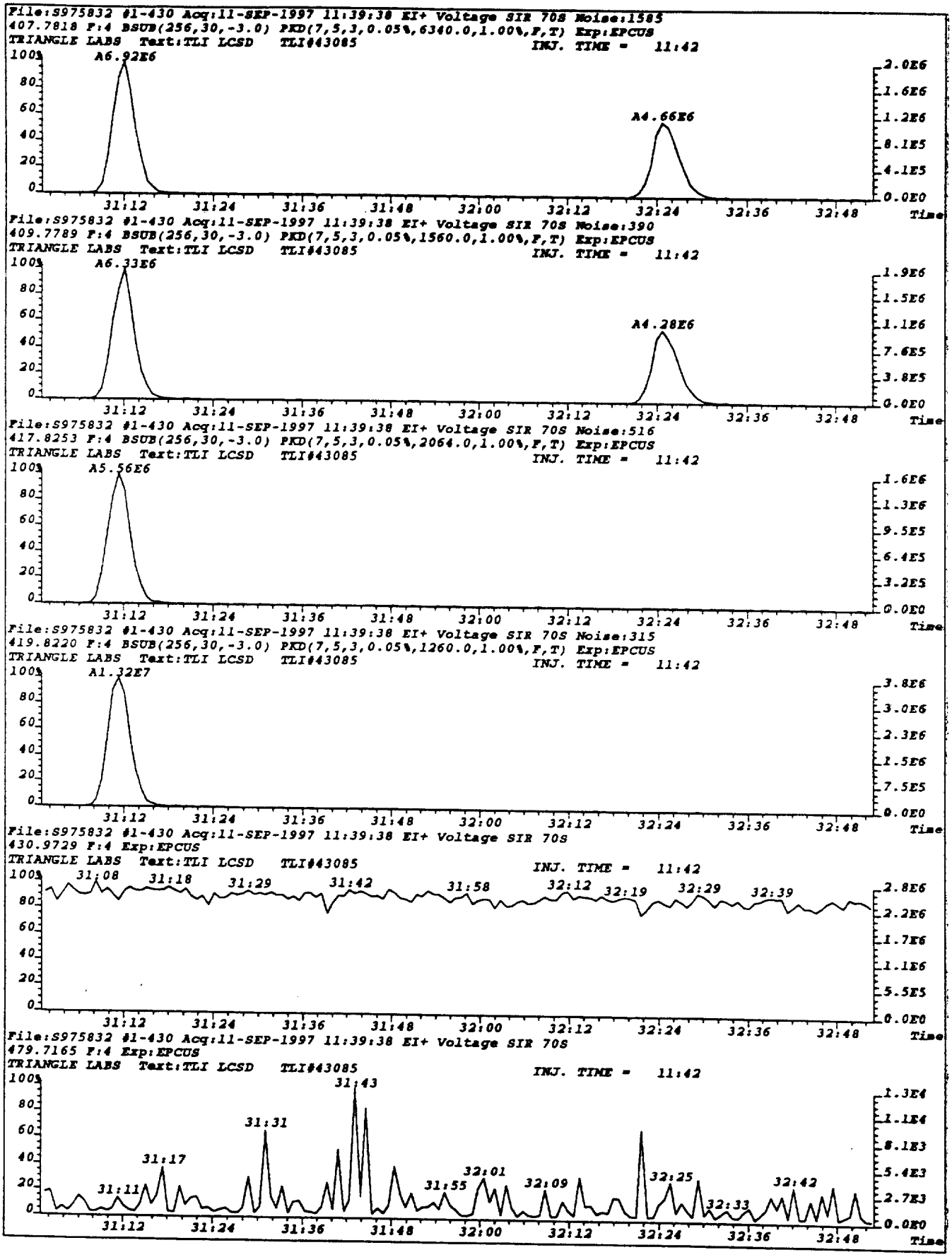
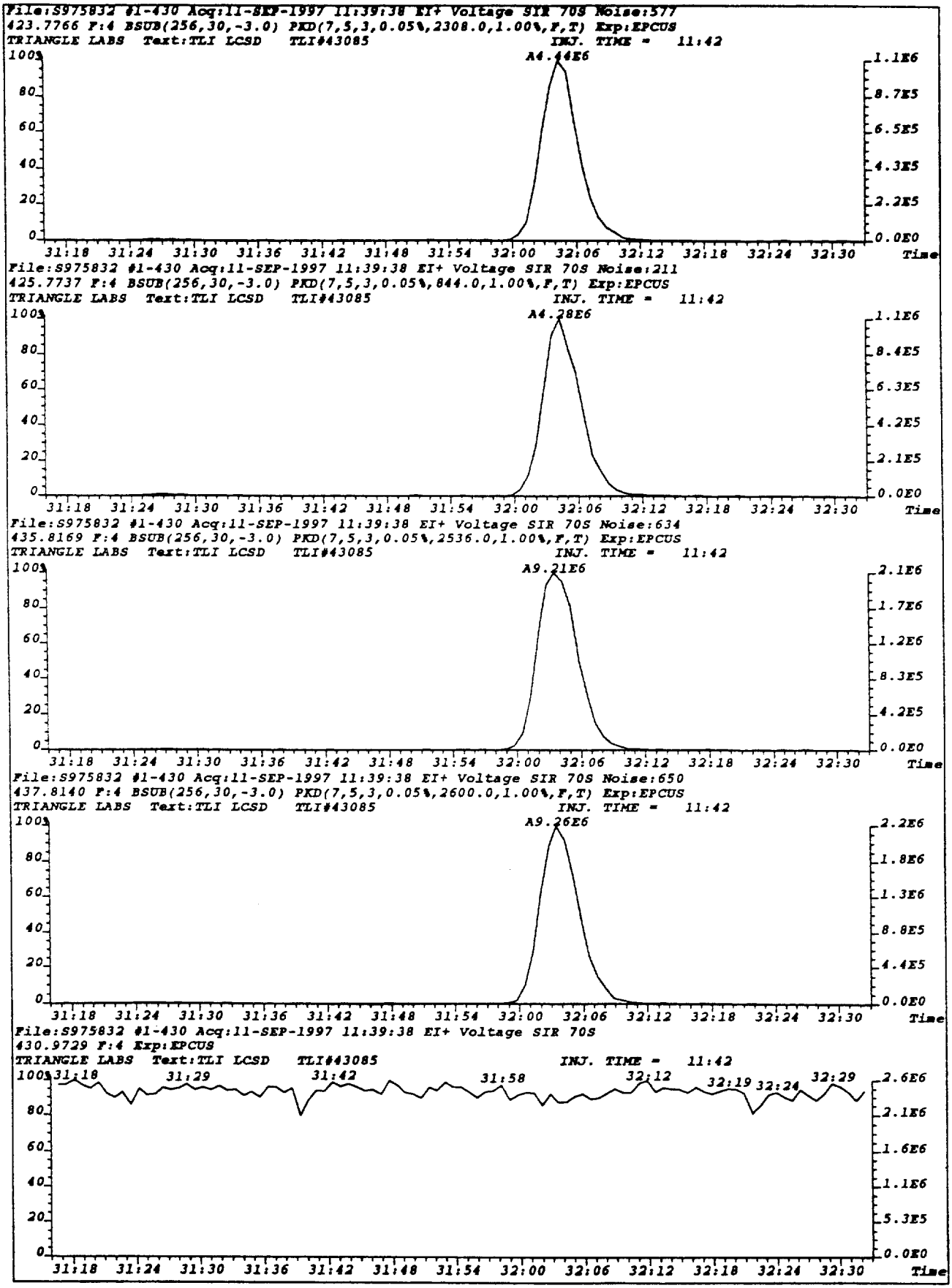
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1756.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A6.67E6
A6.78E6
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:296
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1184.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A5.44E6
A5.46E6
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:927
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3708.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.84E7
A1.31E7
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:1063
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A1.54E7
A1.06E7
File:S975832 #1-406 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
Time


File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:1585
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,6340.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A6.92E6
A4.66E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:390
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1560.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A6.33E6
A4.28E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:516
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2064.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A5.56E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:315
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1260.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A1.32E7
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
31:08 31:18 31:29 31:42 31:58 32:12 32:19 32:29 32:39
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
31:11 31:17 31:31 31:43 31:55 32:01 32:09 32:25 32:33 32:42
Time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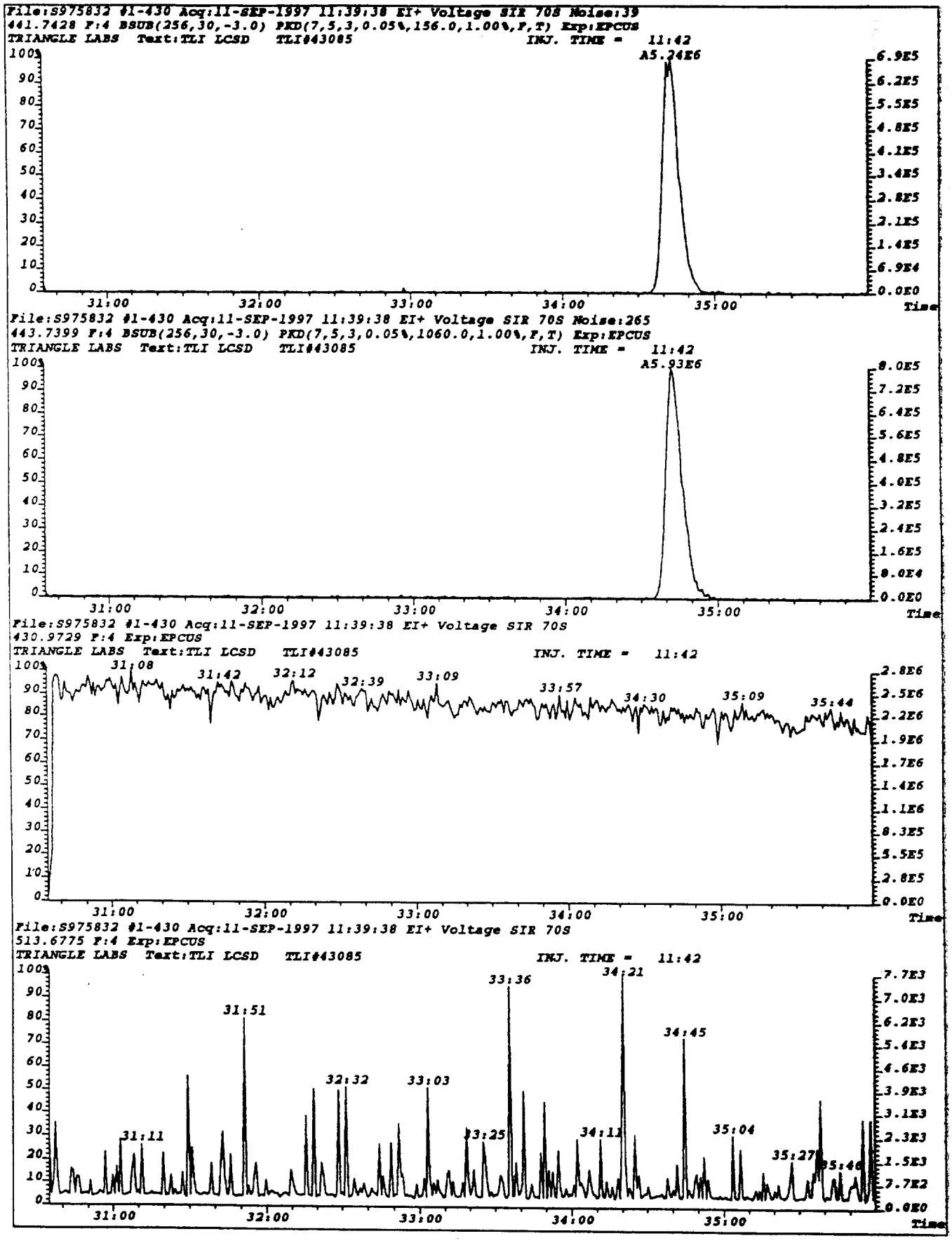
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2308.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A4.44E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:211
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,844.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A4.28E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:634
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2536.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A9.21E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:650
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2600.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A9.26E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
Time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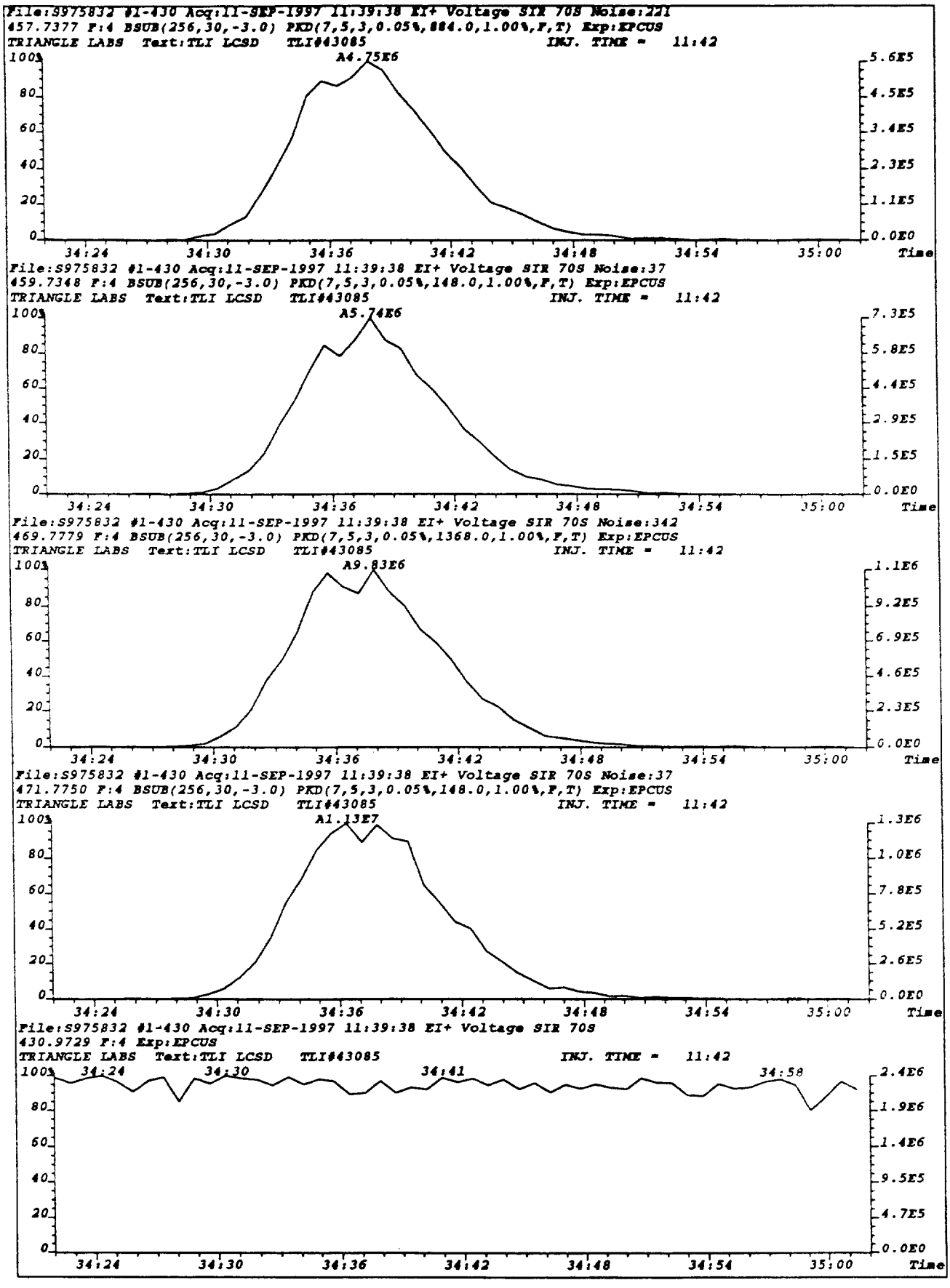
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A5.24E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:265
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1060.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
A5.93E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
31:08
31:42
32:12
32:39
33:09
33:57
34:30
35:09
35:44
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085
INJ. TIME = 11:42
31:11
31:51
32:32
33:03
33:25
33:36
34:11
34:21
34:45
35:04
35:27
35:46
31:00
32:00
33:00
34:00
35:00
Time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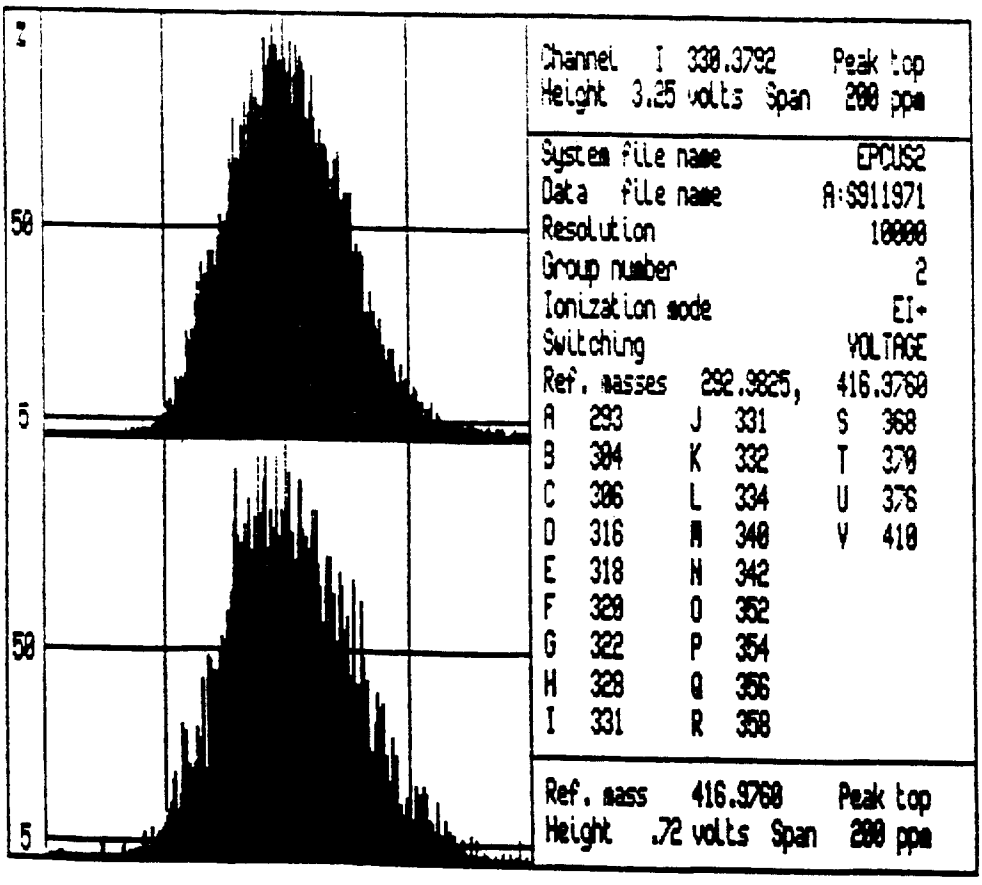
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,884.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A4.75E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:37
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A5.74E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:342
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1368.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A9.83E6
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S Noise:37
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
A1.13E7
File:S975832 #1-430 Acq:11-SEP-1997 11:39:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCSD TLI#43085 INJ. TIME = 11:42
34:24
34:30
34:41
34:58
34:24 34:30 34:36 34:42 34:48 34:54 35:00 Time


%
50
5
50
5
Channel I 330.3792 Peak top
Height 3.25 volts Span 200 ppm
System file name EPCUS2
Data file name A:S911971
Resolution 10000
Group number 2
Ionization mode EI+
Switching VOLTAGE
Ref. masses 292.9825, 416.9768
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
Ref. mass 416.9768 Peak top
Height .72 volts Span 200 ppm

Pacific Environmental Services

TLI Project: **43085** — Method 23 PCDD/PCDF Analysis (a)
Client Sample: **TLI LCS** — Analysis File: **S975831**

Client Project:	**S413-004**				
Sample Matrix:	**XAD**	Date Received:	**/ /**	Spike File:	**SPX23704**
TLI ID:	**TLI LCS**	Date Extracted:	**09/04/97**	ICal:	**SF56117**
		Date Analyzed:	**09/11/97**	ConCal:	**S975814**
Sample Size:	**1.000**	Dilution Factor:	**n/a**	% Moisture;	**n/a**
Dry Weight:	**n/a**	Blank File:	**S975815**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**BJG**	% Solids:	**n/a**

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	0.36			0.83	21:14	
1,2,3,7,8-PeCDD	1.8			1.49	25:52	
1,2,3,4,7,8-HxCDD	1.8			1.24	29:07	
1,2,3,6,7,8-HxCDD	1.8			1.24	29:12	
1,2,3,7,8,9-HxCDD	1.8			1.27	29:29	
1,2,3,4,6,7,8-HpCDD	1.7			1.05	32:04	
1,2,3,4,6,7,8,9-OCDD	3.4			0.84	34:37	
2,3,7,8-TCDF	0.36			0.78	20:24	
1,2,3,7,8-PeCDF	2.0			1.55	24:43	
2,3,4,7,8-PeCDF	1.8			1.53	25:29	
1,2,3,4,7,8-HxCDF	1.7			1.29	28:22	
1,2,3,6,7,8-HxCDF	1.7			1.29	28:28	
2,3,4,6,7,8-HxCDF	1.6			1.30	28:59	
1,2,3,7,8,9-HxCDF	1.5			1.29	29:42	
1,2,3,4,6,7,8-HpCDF	2.1			1.07	31:11	
1,2,3,4,7,8,9-HpCDF	1.5			1.10	32:24	
1,2,3,4,6,7,8,9-OCDF	2.7			0.89	34:42	

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.6	64.9	40%-130%	0.76	20:23	
$^{13}C_{12}$-2,3,7,8-TCDD	2.5	62.6	40%-130%	0.82	21:13	
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.6	65.3	40%-130%	1.52	24:42	
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.8	69.4	40%-130%	1.44	25:50	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.9	72.8	40%-130%	0.49	28:27	
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.9	73.1	40%-130%	1.23	29:11	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.3	58.4	25%-130%	0.43	31:11	
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.6	64.5	25%-130%	1.03	32:04	
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.5	56.7	25%-130%	0.85	34:36	

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TLI Project: **43085**
Client Sample: **TLI LCS**

Method 23 PCDD/PCDF Analysis (a)
Analysis File: **S975831**

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.9	72.3	40%-130%	0.49	29:41	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.0	76.2	40%-130%	0.50	28:58	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:59	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.21	29:28	—

Data Reviewer: _____ 09/18/97

X257_PSR v2.00, LARS 6.10.04

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Printed: 12:02 09/18/97

Initial ....Date...

Data Review By: SL 9/18/97 Calculated Noise Area: n/a

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 S975831B.dbf
09/18/97 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						0.820-1.101			
304-306	DC	NL			0:00	RO	1.14	0.12			0.000			
	DC	SN			16:55	RO	1.10	0.92			0.830			
	DC	SN			18:53		0.68	2.35			0.926			
					19:15		0.87	44.31	20.57	23.74	0.944			
	DC	SN			19:30	RO	1.09	4.07			0.957			
	DC	SN			19:55		0.66	19.67			0.977			
					20:24		0.78	436.34	190.91	245.43	1.001	2378-TCDF		AN
	DC	SN			21:55	RO	6.53	0.30			1.075			
	DC	SN			22:15	RO	0.24	1.54			1.092			
	DC	WH			22:41	RO	0.46	1.79			1.113			
304-306			2	Peaks				480.65						
13C12-TCDF					0.65-0.89						0.951-1.049			
316-318	DC	NL			0:00	RO	20.00	0.11			0.000			
	DC	WL			18:04	RO	1.19	3.63			0.886			
	DC	SN			19:31	RO	1.02	8.30			0.957			
	DC	SN			19:55		0.79	23.27			0.977			
					20:23		0.76	3,872.82	1,677.61	2,195.21	1.000	13C12-2378-TCDF		ISO
					20:53	RO	0.95	26.36	14.17	14.89	1.025			
	DC	WH			21:43	RO	1.55	3.27			1.065			
316-318			2	Peaks				3,899.18						

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

TCDD					0.65-0.89						0.853-1.059			
320-322	DC	NL			0:00		0.75	0.14			0.000			
	DC	SN			18:08	RO	1.18	0.78			0.855			
	DC	SN			18:17		0.84	1.34			0.862			
	DC	SN			18:52	RO	0.32	0.41			0.889			
	DC	SN			19:17		0.74	1.08			0.909			
	DC	SN			19:32	RO	1.38	0.46			0.921			
	DC	SN			19:53	RO	0.29	2.51			0.937			
	DC	SN			20:51	RO	2.71	0.50			0.983			
	DC	SN			21:00		0.83	1.90			0.990			
					21:14		0.83	321.68	145.74	175.94	1.001	2378-TCDD		AN
	DC	SN			21:46	RO	0.13	0.71			1.026			
	DC	SN			22:19		0.69	1.42			1.052			
	DC	WH			22:29	RO	1.63	0.90			1.060			
	DC	WH			22:34	RO	1.16	0.80			1.064			
	DC	WH			22:48	RO	2.02	0.83			1.075			
320-322			1	Peak				321.68						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	41.00	0.11			0.000			
	DC	SN		19:54	RO	1.09	15.06			0.938			
				20:59		0.80	4,527.59	2,013.14	2,514.45	0.989	13C12-1234-TCDD	RS1	
				21:13		0.82	3,018.86	1,360.65	1,658.21	1.000	13C12-2378-TCDD	IS1	
				21:35	RO	0.98	48.73	27.07	27.53	1.017			
332-334		3	Peaks				7,595.18						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF				1.32-1.78						0.907-1.078			
340-342	DC	NL		0:00	RO	1.00	0.12			0.000			
	DC	SN		23:21	RO	0.36	1.18			0.945			
				23:50		1.69	57.61	36.16	21.45	0.965			
				24:21	RO	1.29	31.72	19.28	14.99	0.986			
				24:43		1.55	1,871.54	1,137.04	734.50	1.001	12378-PeCDF		AN
	DC	SN		25:01	RO	1.81	18.92			1.013			
	DC	SN		25:21		1.61	1.28			1.026			
				25:29		1.53	1,701.84	1,028.85	672.99	1.032	23478-PeCDF		AN
	DC	SN		26:27	RO	1.08	5.92			1.071			
340-342		4	Peaks				3,662.71						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	1.00	0.13			0.000			
				23:46		1.63	33.25	20.62	12.63	0.962			
	DC	SN		24:20	RO	1.07	12.27			0.985			
				24:42		1.52	3,350.64	2,023.45	1,327.19	1.000	13C12-PeCDF 123		IS2
	DC	SN		25:00	RO	1.17	13.93			1.012			
	DC	SN		25:29		1.73	29.76			1.032	13C12-PeCDF 234		SUR2
	DC	SN		25:50	RO	0.38	2.12			1.046			
	DC	SN		26:26		1.64	8.98			1.070			
352-354		2	Peaks				3,383.89						
---------- Above: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.921-1.026			
356-358	DC	NL		0:00	RO	3.71	0.18			0.000			
	DC	SN		23:55	RO	0.12	1.12			0.926			
	DC	SN		24:14		1.34	2.50			0.938			
	DC	SN		24:30	RO	2.44	0.99			0.948			
	DC	SN		24:44	RO	2.27	4.46			0.957			
	DC	SN		24:52	RO	1.30	5.30			0.963			
	DC	SN		25:03	RO	0.91	3.98			0.970			
	DC	SN		25:29	RO	13.40	0.26			0.986			
				25:52		1.49	1,148.66	687.54	461.12	1.001	12378-PeCDD		AN
	DC	SN		26:04	RO	1.19	2.42			1.009			
	DC	WH		26:49	RO	1.84	1.91			1.038			
356-358		1	Peak				1,148.66						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	0.67	0.10			0.000			
	DC	SN		24:43		1.60	5.96			0.957			

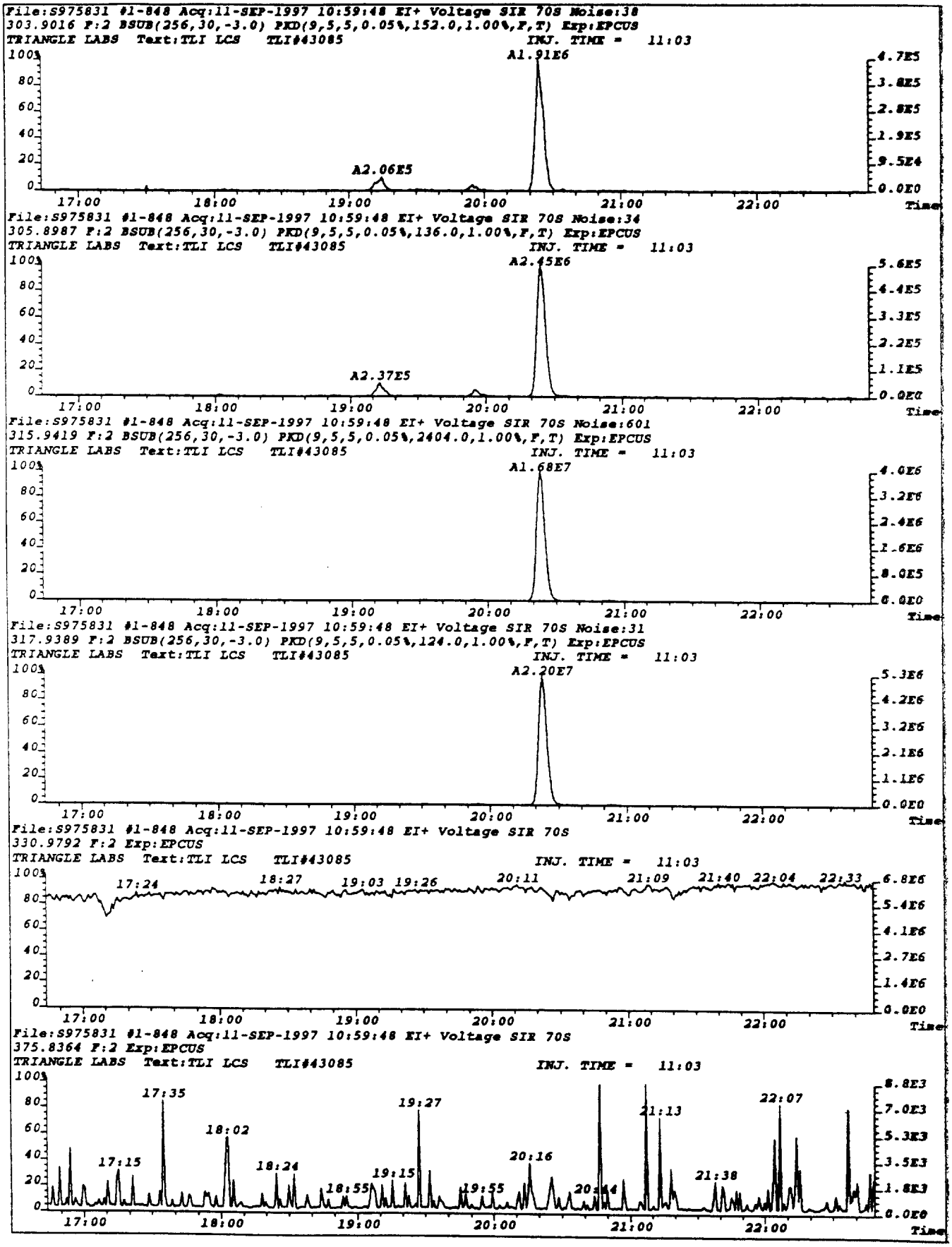
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				25:50		1.44	1,995.19	1,178.84	816.35	1.000	13C12-PeCDD 123	IS3	
				25:59		1.46	191.37	113.72	77.65	1.006			
368-370			2	Peaks			2,186.56						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF						1.05-1.43				0.955-1.052			
374-376	DC	NL		0:00		1.35	3.17			0.000			
	DC	SN		27:23	RO	1.51	11.13			0.963			
	DC	SN		27:30		1.25	25.51			0.967			
				28:22		1.29	1,377.64	775.40	602.24	0.997	123478-HxCDF		AN
				28:28		1.29	1,761.25	990.49	770.76	1.001	123678-HxCDF		AN
	DC	SN		28:40		1.13	3.82			1.008			
				28:59		1.30	1,326.00	748.24	577.76	1.019	234678-HxCDF		AN
	DC	SN		29:09	RO	0.91	2.26			1.025			
				29:42		1.29	1,126.66	634.74	491.92	1.044	123789-HxCDF		AN
	DC	WH		30:03	RO	1.58	1.93			1.056			
374-376			4	Peaks			5,591.55						
13C12-HxCDF						0.43-0.59				0.859-1.141			
384-386	DC	NL		0:00	RO	0.90	2.64			0.000			
	DC	SN		27:21		0.50	15.07			0.961			
				27:30		0.58	36.40	13.29	23.11	0.967			
				28:27		0.49	2,657.14	873.82	1,783.32	1.000	13C12-HxCDF 678		IS4
	DC	SN		28:45	RO	1.65	1.65			1.011			
				28:58		0.50	2,573.38	853.16	1,720.22	1.018	13C12-HxCDF 234		ALT2
	DC	SN		29:26	RO	0.21	2.46			1.035			
	DC	SN		29:33	RO	0.41	2.61			1.039			
				29:41		0.49	2,122.29	702.08	1,420.21	1.043	13C12-HxCDF 789		ALT1
	DC	SN		29:53	RO	0.23	2.64			1.050			
384-386			4	Peaks			7,389.21						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD						1.05-1.43				0.950-1.015			
390-392	DC	NL		0:00	RO	1.00	1.97			0.000			
	DC	SN		28:21	RO	2.22	1.77			0.971			
	DC	SN		28:36		1.33	5.97			0.980			
	DC	SN		28:40		1.07	1.14			0.982			
	DC	SN		28:47	RO	2.00	1.30			0.986			
				29:07		1.24	918.94	508.80	410.14	0.998	123478-HxCDD		AN
				29:12		1.24	1,111.83	615.10	496.73	1.001	123678-HxCDD		AN
				29:29		1.27	1,074.04	599.89	474.15	1.010	123789-HxCDD		AN
	DC	WH		29:39	RO	12.48	0.65			1.016			
	DC	WH		29:49	RO	2.02	2.15			1.022			
390-392			3	Peaks			3,104.81						
13C12-HxCDD						1.05-1.43				0.966-1.034			
402-404	DC	NL		0:00		1.15	3.80			0.000			
	DC	SN		28:12		1.32	2.09			0.966			
	DC	SN		28:35	RO	1.01	15.39			0.979			
				29:11		1.23	2,203.22	1,214.42	988.80	1.000	13C12-HxCDD 678		IS5

Compound/ M_2....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				29:28		1.21	3,029.99	1,661.33	1,368.66	1.010	13C12-HxCDD	789	RS2
402-404			2 Peaks				5,233.21						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF						0.88-1.20				0.995-1.044			
408-410	DC	NL		0:00	RO	1.86	3.00			0.000			
				31:11		1.07	1,250.71	645.54	605.17	1.000	1234678-HpCDF		AN
	DC	SN		31:31	RO	0.55	5.12			1.011			
				32:24		1.10	717.99	376.42	341.57	1.039	1234789-HpCDF		AN
	DC	WH		32:45	RO	0.74	1.59			1.050			
408-410			2 Peaks				1,968.70						
13C12-HpCDF						0.37-0.51				0.936-1.128			
418-420	DC	NL		0:00	RO	1.11	1.37			0.000			
				31:11		0.43	1,570.80	471.35	1,099.45	1.000	13C12-HpCDF	678	IS6
418-420			1 Peak				1,570.80						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD						0.88-1.20				0.976-1.006			
424-426	DC	NL		0:00	RO	1.24	1.77			0.000			
	DC	SN		31:26	RO	0.84	7.75			0.980			
				32:04		1.05	724.96	370.95	354.01	1.000	1234678-HpCDD		AN
	DC	WH		32:16	RO	0.65	1.73			1.006			
424-426			1 Peak				724.96						
13C12-HpCDD						0.88-1.20				0.969-1.031			
436-438	DC	NL		0:00		1.08	3.27			0.000			
	DC	SN		31:26	RO	1.39	12.12			0.980			
				32:04		1.03	1,592.57	809.60	782.97	1.000	13C12-HpCDD	678	IS7
436-438			1 Peak				1,592.57						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF						0.76-1.02				0.884-1.116			
442-444	DC	NL		0:00	RO	9.80	0.09			0.000			
	DC	SN		31:11	RO	1.42	1.47			0.901			
	DC	SN		31:44	RO	0.56	0.62			0.917			
	DC	SN		32:50	RO	0.21	0.59			0.949			
	DC	SN		33:34	RO	0.51	1.40			0.970			
	DC	SN		33:49	RO	1.09	1.74			0.977			
	DC	SN		34:13	RO	1.39	1.42			0.989			
				34:42		0.89	914.71	431.72	482.99	1.003	OCDF		AN
	DC	SN		35:07	RO	1.16	1.85			1.015			
	DC	SN		35:28	RO	2.46	0.53			1.025			
442-444			1 Peak				914.71						
OCDD						0.76-1.02				0.884-1.116			
458-460	DC	NL		0:00	RO	6.00	0.13			0.000			
				34:37		0.84	848.38	386.63	461.75	1.000	OCDD		AN
458-460			1 Peak				848.38						

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
13C12-OCDD						0.76-1.02				0.995-1.005			
470-472	DC	NL		0:00	RO	2.17	0.79			0.000			
	DC	WL		34:22	RO	1.06	3.36			0.993			
				34:36		0.85	1,782.44	820.90	961.54	1.000	13C12-OCDD	IS8	
470-472			1 Peak				1,782.44						

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:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:38
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A1.91E6
A2.06E5
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:34
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A2.45E6
A2.37E5
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:601
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2404.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A1.68E7
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:31
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A2.20E7
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
17:24
18:27
19:03
19:26
20:11
21:09
21:40
22:04
22:33
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
17:15
17:35
18:02
18:24
18:55
19:15
19:27
19:55
20:16
20:44
21:13
21:38
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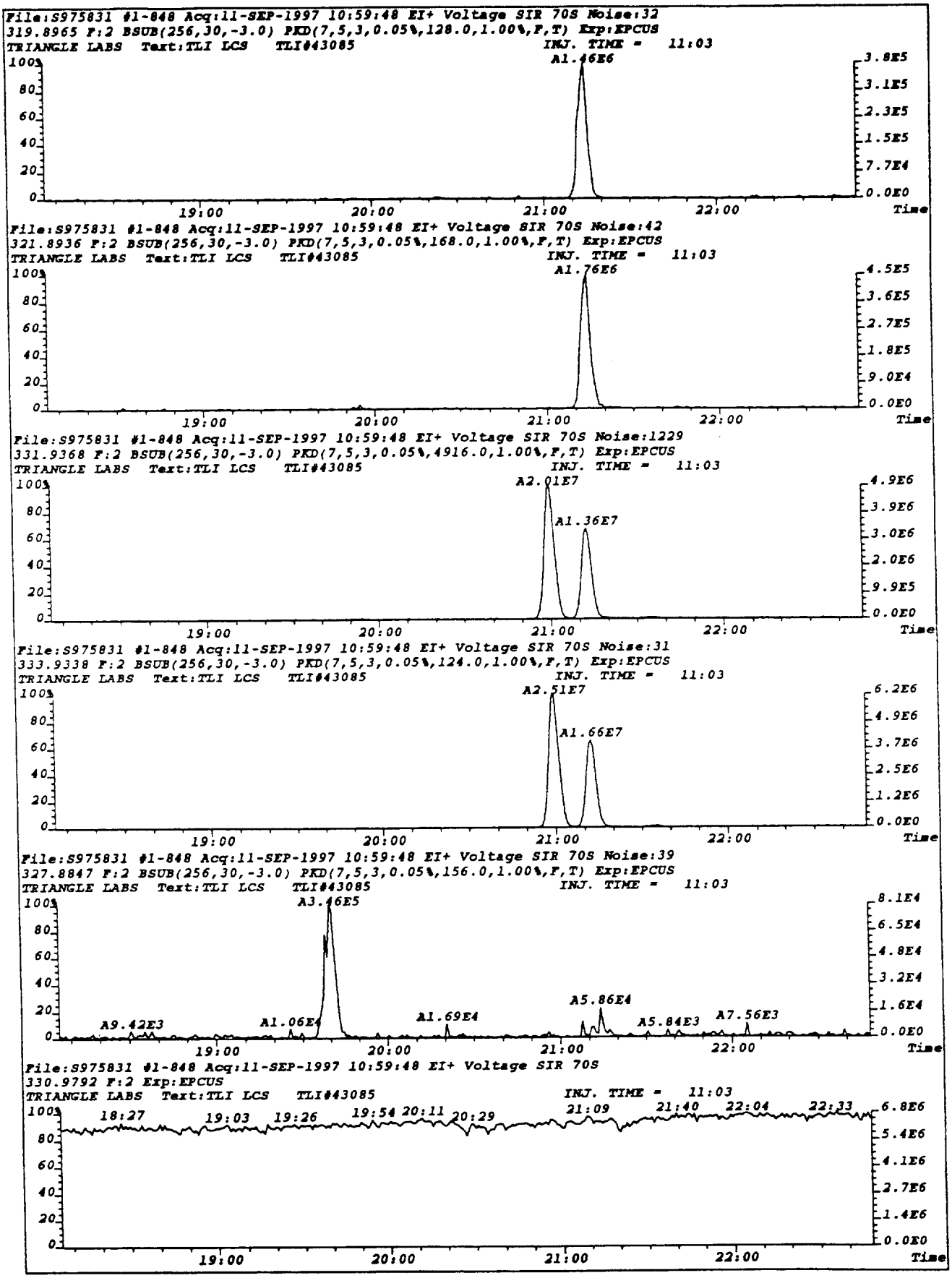
21:00
22:00
Time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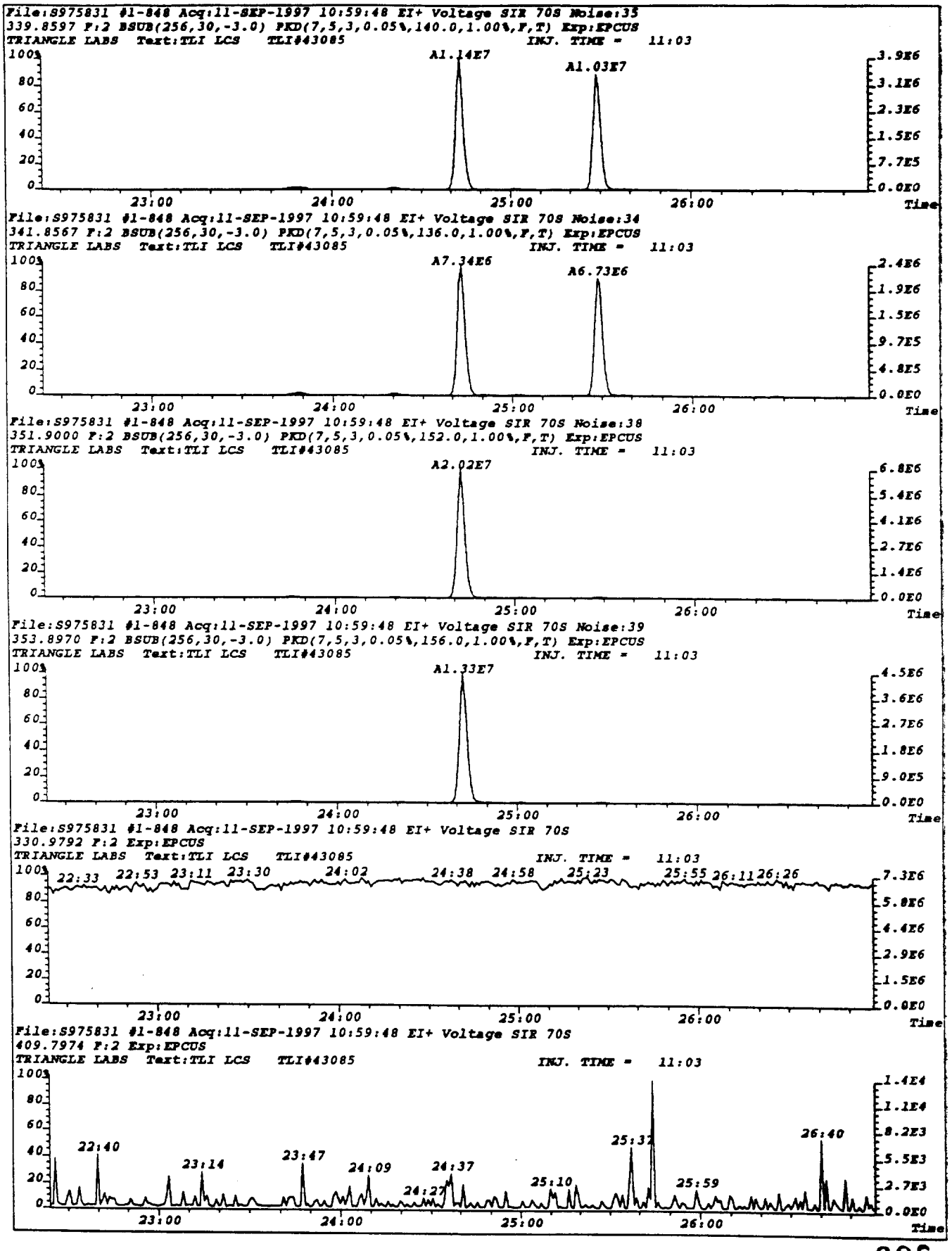
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,128.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A1.46E6
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:42
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A1.76E6
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:1229
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4916.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A2.01E7
A1.36E7
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:31
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A2.51E7
A1.66E7
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:39
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A3.46E5
A9.42E3
A1.06E4
A1.69E4
A5.86E4
A5.84E3
A7.56E3
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
18:27
19:03
19:26
19:54
20:11
20:29
21:09
21:40
22:04
22:33
Time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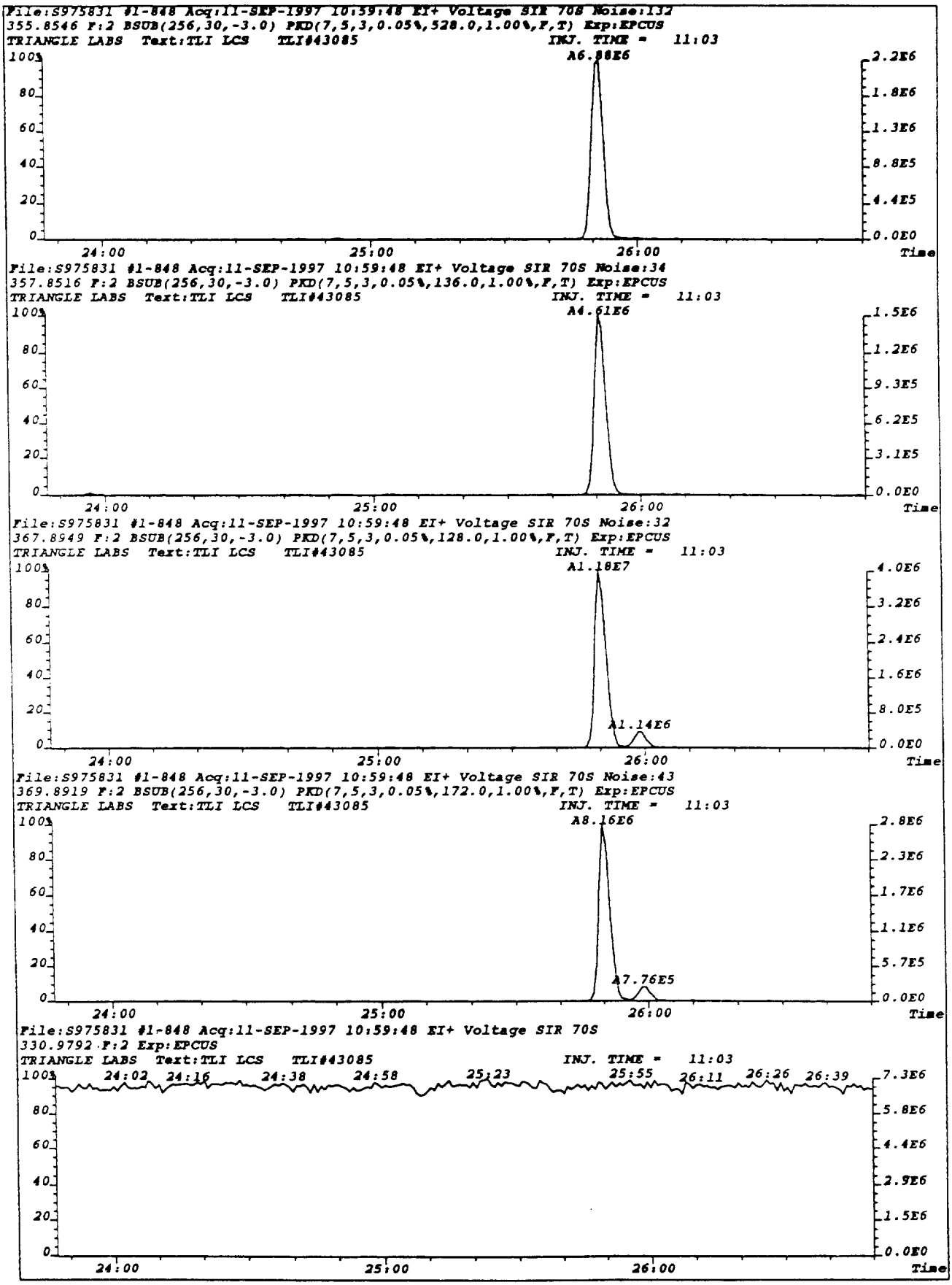
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A1.14E7
A1.03E7
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:34
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A7.34E6
A6.73E6
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:38
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A2.02E7
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:39
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A1.33E7
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
22:33 22:53 23:11 23:30 24:02 24:38 24:58 25:23 25:55 26:11 26:26
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
22:40
23:14
23:47
24:09
24:27
24:37
25:10
25:32
25:59
26:40
Time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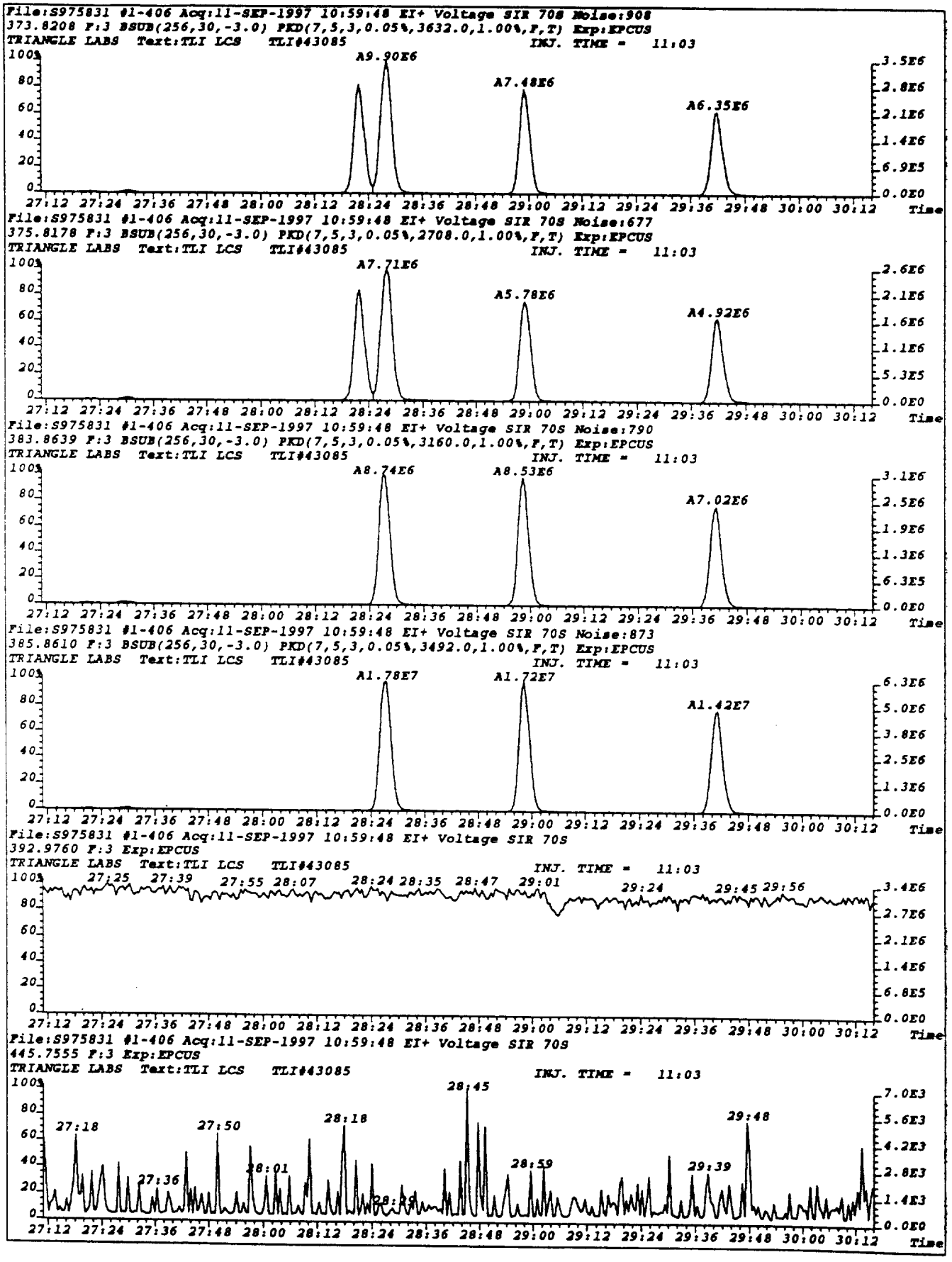
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,528.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A6.88E6
2.2E6
1.8E6
1.3E6
8.8E5
4.4E5
0.0E0
24:00
25:00
26:00
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:34
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,136.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A4.61E6
1.5E6
1.2E6
9.3E5
6.2E5
3.1E5
0.0E0
24:00
25:00
26:00
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:32
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,128.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A1.18E7
A1.14E6
4.0E6
3.2E6
2.4E6
1.6E6
8.0E5
0.0E0
24:00
25:00
26:00
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:43
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A8.16E6
A7.76E5
2.8E6
2.3E6
1.7E6
1.1E6
5.7E5
0.0E0
24:00
25:00
26:00
Time
File:S975831 #1-848 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
24:02
24:16
24:38
24:58
25:23
25:55
26:11
26:26
26:39
7.3E6
5.8E6
4.4E6
2.9E6
1.5E6
0.0E0
24:00
25:00
26:00
Time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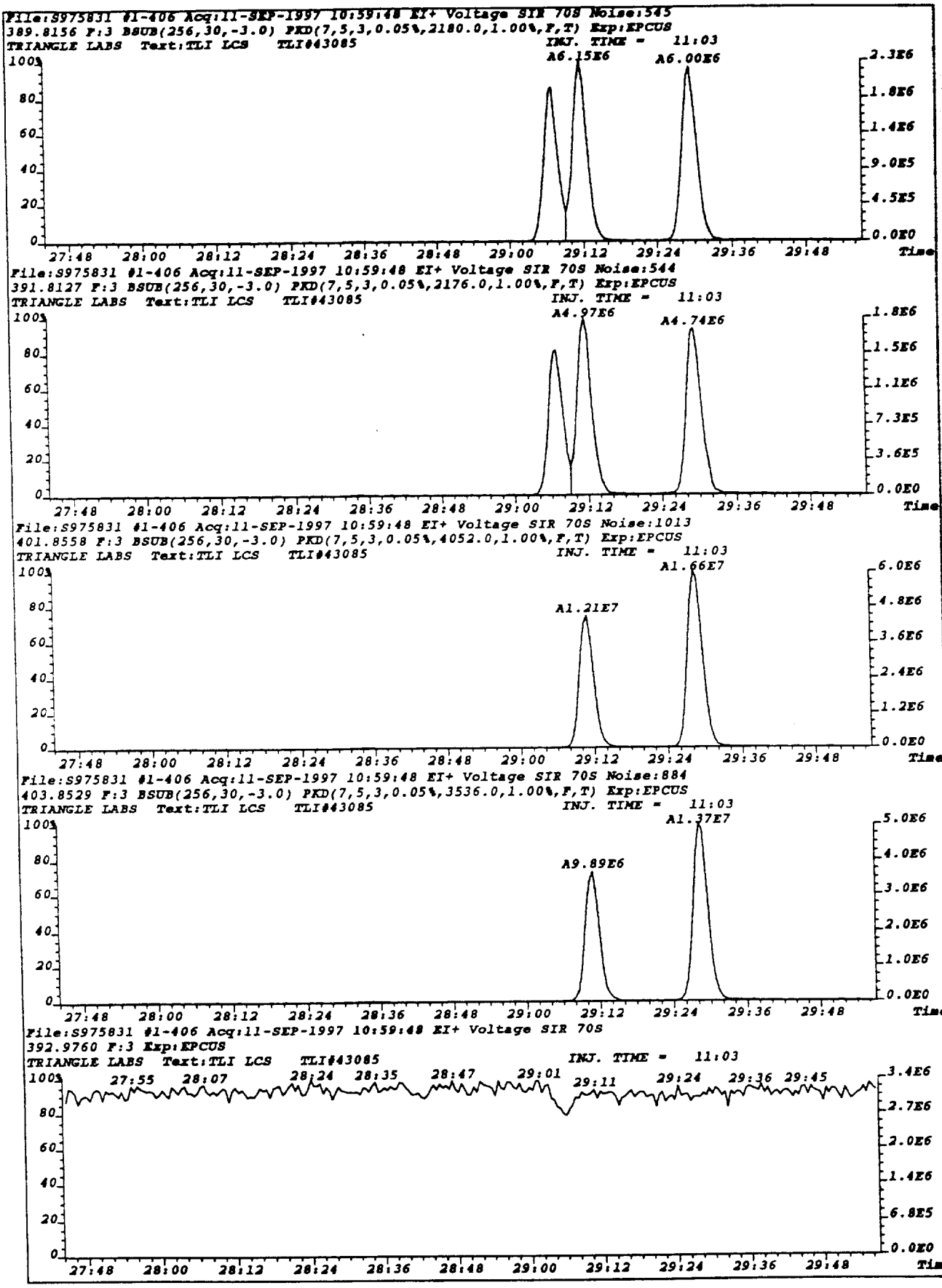
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3632.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A9.90E6
A7.48E6
A6.35E6
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:677
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2708.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A7.71E6
A5.78E6
A4.92E6
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:790
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A8.74E6
A8.53E6
A7.02E6
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:873
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3492.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A1.78E7
A1.72E7
A1.42E7
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
27:18
27:36
27:50
28:01
28:18
28:45
28:59
29:39
29:48
27:12 27:24 27:36 27:48 28:00 28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12
Time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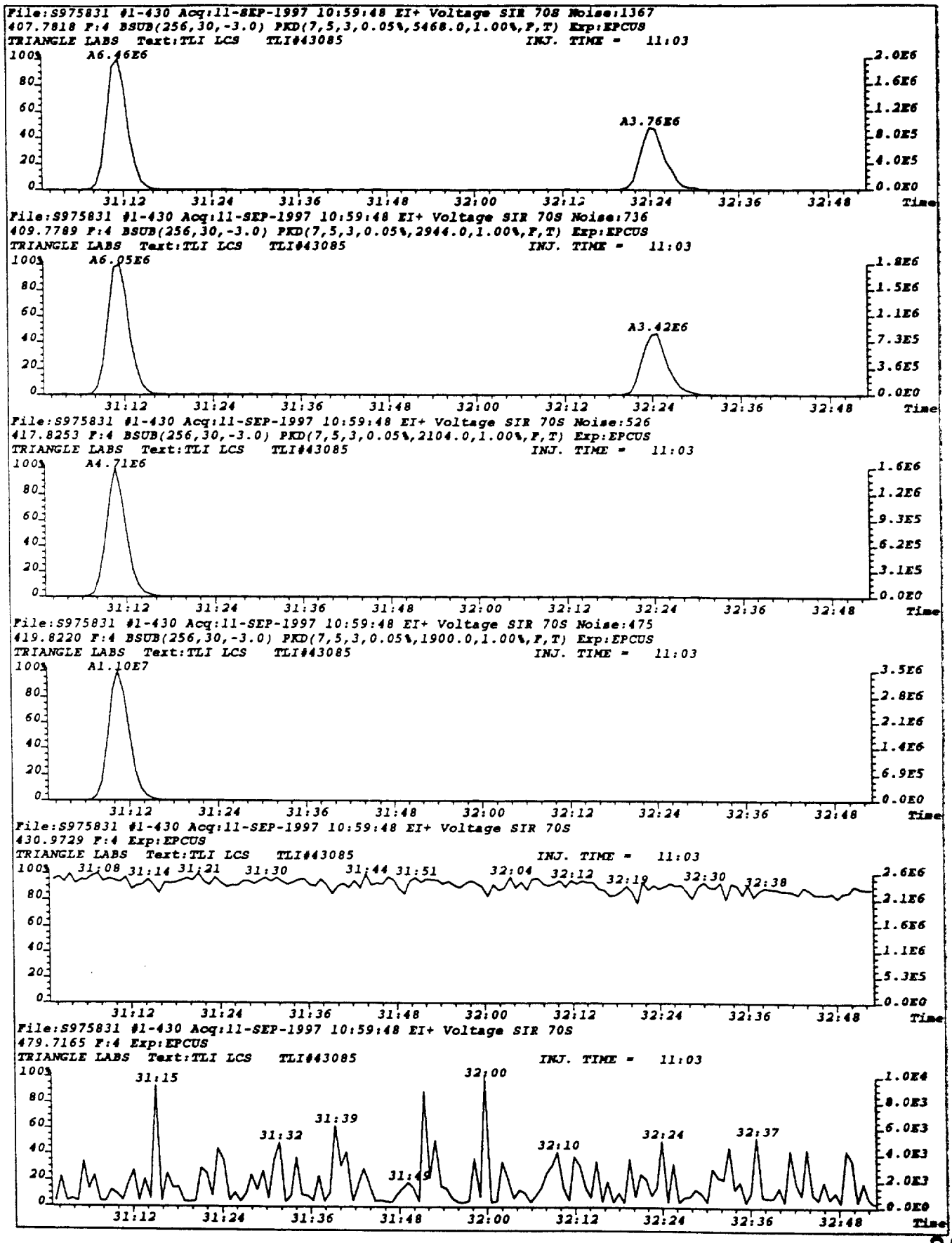
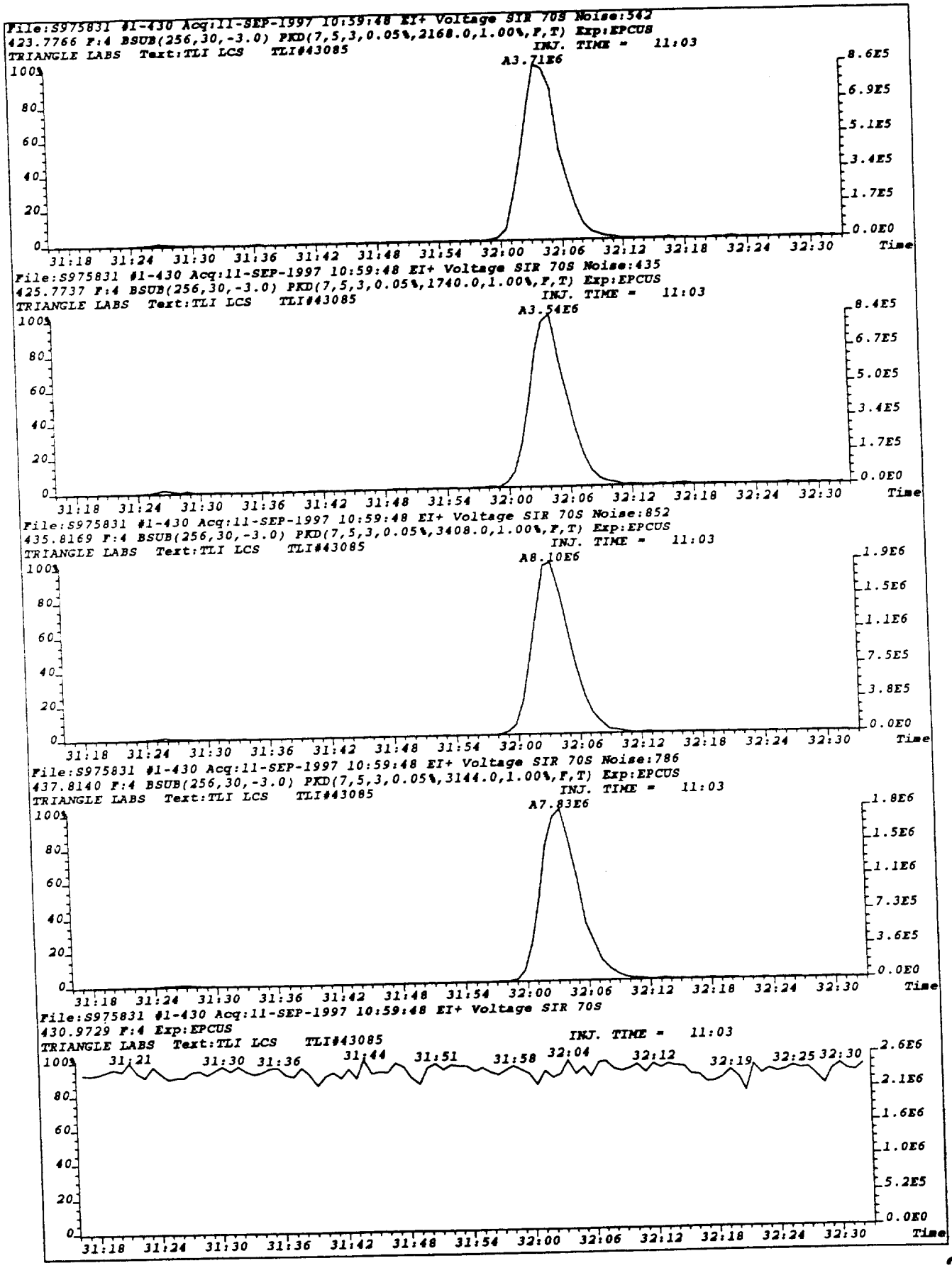
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A6.15E6
A6.00E6
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:544
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A4.97E6
A4.74E6
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:1013
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,4052.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A1.66E7
A1.21E7
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:884
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3536.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A1.37E7
A9.89E6
File:S975831 #1-406 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
Time


File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:1367
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,5468.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A6.46E6
A3.76E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:736
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2944.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A6.05E6
A3.42E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:526
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A4.71E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:475
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1900.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
A1.10E7
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
31:08 31:14 31:21 31:30 31:44 31:51 32:04 32:12 32:19 32:30 32:38
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085 INJ. TIME = 11:03
31:15
31:32
31:39
31:49
32:00
32:10
32:24
32:37
31:12 31:24 31:36 31:48 32:00 32:12 32:24 32:36 32:48 Time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423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A3.71E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:435
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1740.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A3.54E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:852
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3408.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A8.10E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:786
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3144.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A7.83E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
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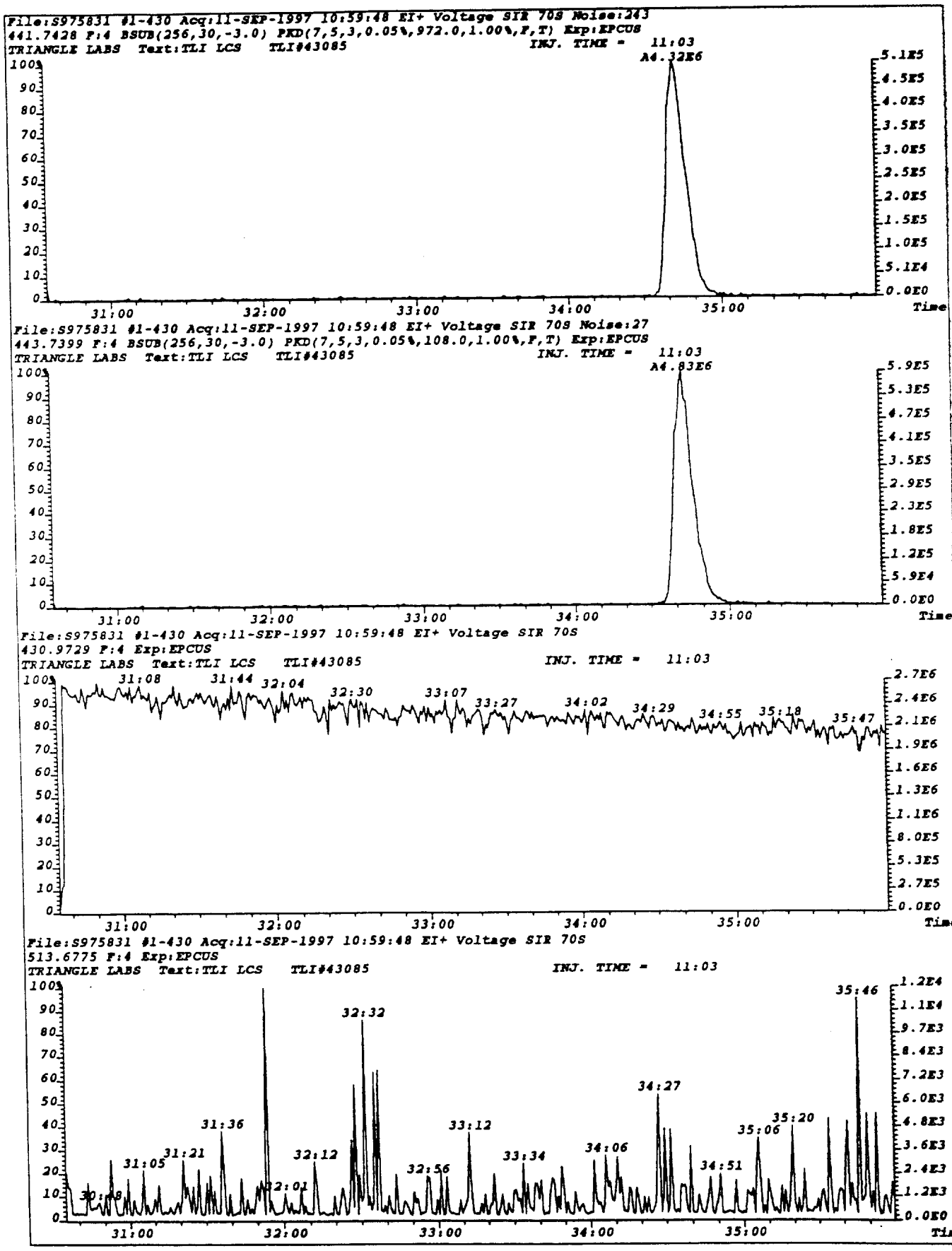
INJ. TIME = 11:03
Time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441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,972.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A4.32E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:27
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,108.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A4.83E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
31:08
31:44
32:04
32:30
33:07
33:27
34:02
34:29
34:55
35:18
35:47
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
35:46
32:32
34:27
31:36
33:12
35:20
35:06
31:21
34:06
31:05
32:12
33:34
32:56
34:51
32:01
31:00
32:00
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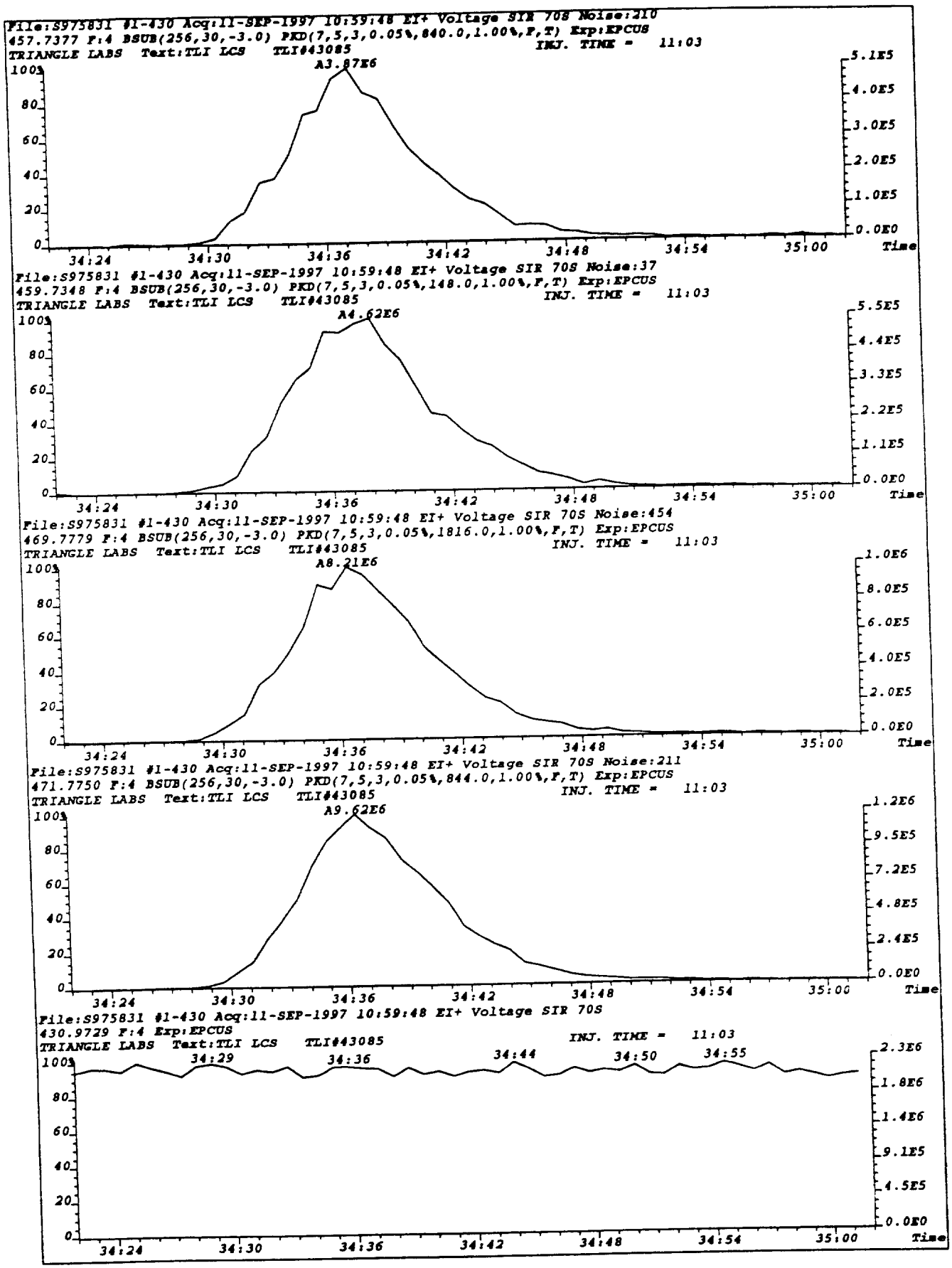
35:00
Time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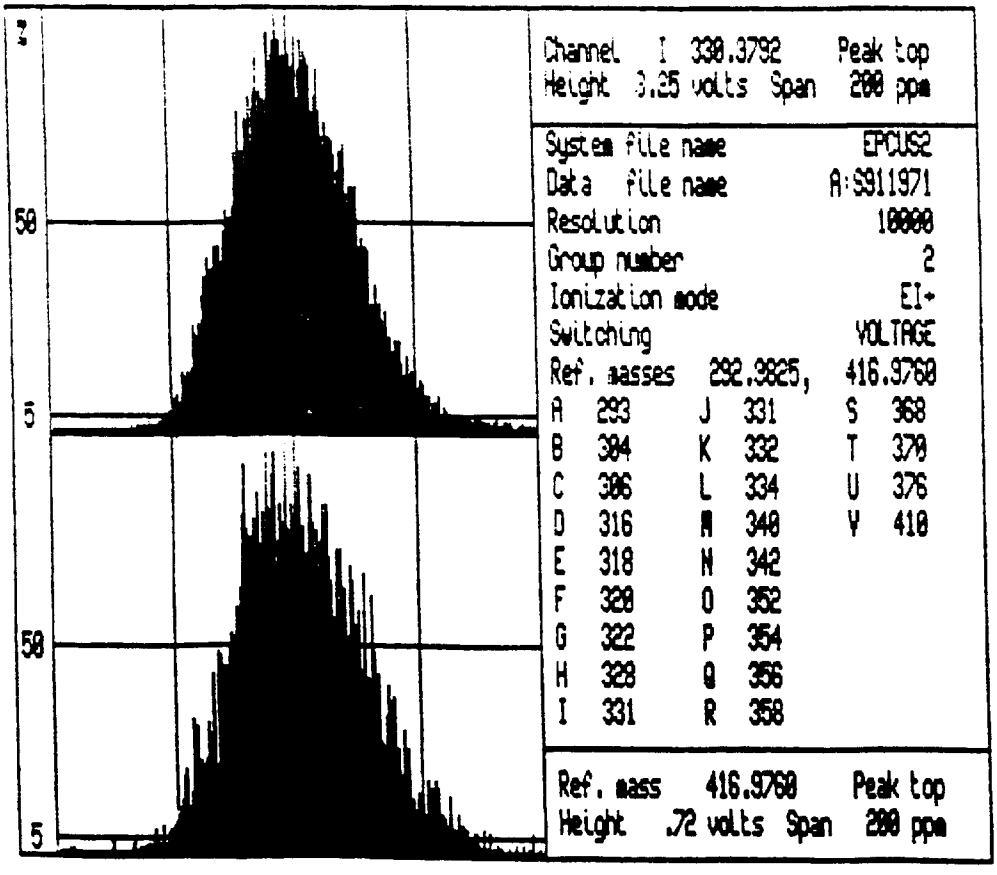
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,840.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A3.87E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:37
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A4.62E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:454
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1816.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A8.21E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S Noise:211
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,844.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
A9.62E6
File:S975831 #1-430 Acq:11-SEP-1997 10:59:48 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI LCS TLI#43085
INJ. TIME = 11:03
Time


%
50
5
50
5
Channel I 330.3792 Peak top
Height 3.25 volts Span 200 ppm
System file name EPCUS2
Data file name A:S911971
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
Ref. mass 416.9760 Peak top
Height .72 volts Span 200 ppm

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: 09/12/97 TRIANGLE LABORATORIES, INC.

Continuing Calibration for S975861

Analysis Date....: 09/12/97 Method.....: M237
Operator.....: ML Instrument..: S
Init Calibration.: SF56117 Std.Conc....: 50.00
ICal Date.....: 06/10/97

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		1:34 15:34			2.087	-2.087	100.0%
Total MCDD	0.000		2:19 16:19			1.625	-1.625	100.0%
Total DCDF	0.000		8:34 16:34			0.687	-0.687	100.0%
Total DCDD	0.000		9:19 17:19			1.326	-1.326	100.0%
Total TriCDF	0.000		12:34 19:34			1.082	-1.082	100.0%
Total TriCDD	0.000		14:19 20:19			0.933	-0.933	100.0%
2378-TCDF	1.182	0.81	18:05 23:33	21:35	1.0008	1.251	-0.069	-5.5%
TOTAL TCDF	1.182	0.81				1.251	-0.069	-5.5%
2378-TCDD	1.078	0.79	19:31 23:32	22:20	1.0007	1.191	-0.113	-9.5%
TOTAL TCDD	1.078	0.79				1.191	-0.113	-9.5%
12378-PeCDF	1.051	1.53	23:27 27:30	25:38	1.0007	1.111	-0.060	-5.4%
23478-PeCDF	1.100	1.52		26:22	1.0293	1.115	-0.015	-1.4%
TOTAL PeCDF	1.075	1.52				1.113	-0.038	-3.4%
12378-PeCDD	1.210	1.59	24:45 27:22	26:43	1.0000	1.256	-0.046	-3.7%
TOTAL PeCDD	1.210	1.59				1.256	-0.046	-3.7%
123478-HxCDF	1.070	1.33	28:02 30:42	29:09	0.9971	1.215	-0.145	-11.9%
123678-HxCDF	1.354	1.31		29:15	1.0006	1.574	-0.220	-14.0%
234678-HxCDF	1.059	1.32		29:45	1.0177	1.247	-0.188	-15.1%
123789-HxCDF	0.981	1.34		30:27	1.0416	1.105	-0.124	-11.2%
TOTAL HxCDF	1.116	1.33				1.285	-0.169	-13.1%
123478-HxCDD	0.908	1.25	28:32 30:23	29:52	0.9972	0.953	-0.045	-4.7%
123678-HxCDD	1.059	1.25		29:57	1.0000	1.133	-0.074	-6.6%

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Continuing Calibration for S975861

123789-HxCDD	1.090	1.25		30:14	1.0095	1.091	-0.001	-0.1%
TOTAL HxCDD	1.019	1.25				1.059	-0.040	-3.8%
1234678-HpCDF	1.503	1.03	31:44 33:15	31:54	1.0000	1.543	-0.040	-2.6%
1234789-HpCDF	1.267	1.03		33:05	1.0371	1.184	0.083	7.0%
TOTAL HpCDF	1.385	1.03				1.363	0.022	1.6%
1234678-HpCDD	0.934	1.00	31:59 32:54	32:44	1.0000	1.068	-0.134	-12.6%
TOTAL HpCDD	0.934	1.00				1.068	-0.134	-12.6%
OCDF	1.597	0.86	31:16 39:16	35:25	1.0043	1.493	0.104	7.0%
OCDD	1.040	0.85	31:16 39:16	35:17	1.0005	1.105	-0.065	-5.9%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.842		20:19 24:19	22:20	1.0007	0.843	-0.001	-0.1%
13C12-PeCDF 234	0.975	1.54	21:37 29:37	26:21	1.0286	0.970	0.005	0.5%
13C12-HxCDF 478	0.934	0.50		29:09	0.9971	0.959	-0.025	-2.6%
13C12-HxCDF 234	0.903	0.49		29:44	1.0171	0.926	-0.023	-2.5%
13C12-HxCDF 789	0.789	0.49		30:27	1.0416	0.805	-0.016	-2.0%
13C12-HxCDD 478	0.950	1.21		29:52	0.9972	0.973	-0.023	-2.4%
13C12-HpCDF 789	0.830	0.42	29:54 35:54	33:04	1.0366	0.771	0.059	7.6%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.488	0.76	20:34 22:34	21:34	1.0000	1.318	0.170	12.9%
13C12-2378-TCDD	1.131	0.80	20:19 24:19	22:19	1.0000	1.066	0.065	6.1%
13C12-PeCDF 123	1.302	1.53	21:37 29:37	25:37	1.0000	1.133	0.169	14.9%
13C12-PeCDD 123	0.780	1.52	22:43 30:43	26:43	1.0000	0.635	0.145	22.9%
13C12-HxCDF 678	1.171	0.50	25:14 33:14	29:14	1.0000	1.204	-0.033	-2.7%
13C12-HxCDD 678	0.934	1.21	28:57 30:57	29:57	1.0000	0.995	-0.061	-6.1%

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Continuing Calibration for S975861

13C12-HpCDF 678	0.831	0.42	29:54 35:54	31:54	1.0000	0.887	-0.056	-6.3%
13C12-HpCDD 678	0.786	1.10	31:44 33:44	32:44	1.0000	0.815	-0.029	-3.5%
13C12-OCDD	0.453	0.94	35:07 35:27	35:16	1.0000	0.519	-0.066	-12.6%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.81		22:08	0.9918	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.21		30:14	1.0095	1.000	0.000	0.0%

QC Front End Check: 1.4500

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Continuing Calibration for S975839

Analysis Date....: 09/11/97 Method.....: M237
Operator.....: KAS Instrument..: S
Init Calibration.: SF56117 Std.Conc....: 50.00
ICal Date.....: 06/10/97 Related CCal: S975778

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		0:21 14:21			2.087	-2.087	100.0%
Total MCDD	0.000		1:10 15:10			1.625	-1.625	100.0%
Total DCDF	0.000		7:21 15:21			0.687	-0.687	100.0%
Total DCDD	0.000		8:10 16:10			1.326	-1.326	100.0%
Total TriCDF	0.000		11:21 18:21			1.082	-1.082	100.0%
Total TriCDD	0.000		13:10 19:10			0.933	-0.933	100.0%
2378-TCDF	1.207	0.83	16:39 22:24	20:22	1.0008	1.251	-0.044	-3.5%
TOTAL TCDF	1.207	0.83				1.251	-0.044	-3.5%
2378-TCDD	1.189	0.78	18:01 22:24	21:12	1.0016	1.191	-0.002	-0.2%
TOTAL TCDD	1.189	0.78				1.191	-0.002	-0.2%
12378-PeCDF	1.124	1.53	22:20 26:35	24:42	1.0007	1.111	0.013	1.1%
23478-PeCDF	1.147	1.52		25:27	1.0311	1.115	0.032	2.9%
TOTAL PeCDF	1.136	1.53				1.113	0.023	2.0%
12378-PeCDD	1.282	1.59	23:44 26:27	25:50	1.0006	1.256	0.026	2.1%
TOTAL PeCDD	1.282	1.59				1.256	0.026	2.1%
123478-HxCDF	1.145	1.29	27:10 29:54	28:21	0.9965	1.215	-0.070	-5.8%
123678-HxCDF	1.490	1.30		28:27	1.0000	1.574	-0.084	-5.3%
234678-HxCDF	1.117	1.30		28:58	1.0182	1.247	-0.130	-10.4%
123789-HxCDF	1.028	1.31		29:41	1.0434	1.105	-0.077	-7.0%
TOTAL HxCDF	1.195	1.30				1.285	-0.090	-7.0%
123478-HxCDD	0.896	1.21	27:42 29:35	29:06	0.9977	0.953	-0.057	-6.0%
123678-HxCDD	1.056	1.23		29:11	1.0006	1.133	-0.077	-6.8%

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Continuing Calibration for S975839

123789-HxCDD	1.039	1.24		29:28	1.0103	1.091	-0.052	-4.8%
TOTAL HxCDD	0.997	1.23				1.059	-0.062	-5.9%
1234678-HpCDF	1.482	1.06	31:00 32:33	31:11	1.0000	1.543	-0.061	-4.0%
1234789-HpCDF	1.168	1.07		32:24	1.0390	1.184	-0.016	-1.3%
TOTAL HpCDF	1.325	1.07				1.363	-0.038	-2.8%
1234678-HpCDD	1.047	1.05	31:16 32:12	32:03	1.0005	1.068	-0.021	-1.9%
TOTAL HpCDD	1.047	1.05				1.068	-0.021	-1.9%
OCDF	1.498	0.89	30:38 38:38	34:44	1.0029	1.493	0.005	0.3%
OCDD	1.055	0.86	30:38 38:38	34:37	0.9995	1.105	-0.050	-4.5%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.968		19:10 23:10	21:12	1.0016	0.843	0.125	14.8%
13C12-PeCDF 234	0.963	1.56	20:41 28:41	25:26	1.0304	0.970	-0.007	-0.7%
13C12-HxCDF 478	0.946	0.50		28:20	0.9959	0.959	-0.013	-1.4%
13C12-HxCDF 234	0.875	0.49		28:57	1.0176	0.926	-0.051	-5.5%
13C12-HxCDF 789	0.770	0.49		29:40	1.0428	0.805	-0.035	-4.3%
13C12-HxCDD 478	0.905	1.21		29:05	0.9971	0.973	-0.068	-7.0%
13C12-HpCDF 789	0.778	0.42	29:11 35:11	32:23	1.0385	0.771	0.007	0.9%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.526	0.76	19:21 21:21	20:21	1.0000	1.318	0.208	15.8%
13C12-2378-TCDD	1.045	0.80	19:10 23:10	21:10	1.0000	1.066	-0.021	-1.9%
13C12-PeCDF 123	1.054	1.53	20:41 28:41	24:41	1.0000	1.133	-0.079	-7.0%
13C12-PeCDD 123	0.556	1.45	21:49 29:49	25:49	1.0000	0.635	-0.079	-12.5%
13C12-HxCDF 678	1.419	0.51	24:27 32:27	28:27	1.0000	1.204	0.215	17.9%
13C12-HxCDD 678	1.032	1.23	28:10 30:10	29:10	1.0000	0.995	0.037	3.7%

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Continuing Calibration for S975839

13C12-HpCDF 678	0.880	0.43	29:11 35:11	31:11	1.0000	0.887	-0.007	-0.8%
13C12-HpCDD 678	0.713	1.00	31:02 33:02	32:02	1.0000	0.815	-0.102	-12.6%
13C12-OCDD	0.456	0.87	34:26 34:46	34:38	1.0000	0.519	-0.063	-12.2%

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		20:58	0.9906	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.23		29:28	1.0103	1.000	0.000	0.0%

QC Front End Check: 1.7362

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Date: 09/11/97

Continuing Calibration for S975814

Analysis Date....: 09/11/97 Method.....: M237
Operator.....: JM Instrument..: S
Init Calibration.: SF56117 Std.Conc....: 50.00
ICal Date.....: 06/10/97 Related CCal: S975778

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
Total MCDF	0.000		0:24 14:24			2.087	-2.087	100.0%
Total MCDD	0.000		1:13 15:13			1.625	-1.625	100.0%
Total DCDF	0.000		7:24 15:24			0.687	-0.687	100.0%
Total DCDD	0.000		8:13 16:13			1.326	-1.326	100.0%
Total TriCDF	0.000		11:24 18:24			1.082	-1.082	100.0%
Total TriCDD	0.000		13:13 19:13			0.933	-0.933	100.0%
2378-TCDF	1.118	0.80	16:44 22:28	20:25	1.0008	1.251	-0.133	-10.6%
TOTAL TCDF	1.118	0.80				1.251	-0.133	-10.6%
2378-TCDD	1.146	0.80	18:06 22:28	21:14	1.0008	1.191	-0.045	-3.8%
TOTAL TCDD	1.146	0.80				1.191	-0.045	-3.8%
12378-PeCDF	1.093	1.53	22:24 26:38	24:43	1.0007	1.111	-0.018	-1.6%
23478-PeCDF	1.143	1.50		25:29	1.0317	1.115	0.028	2.5%
TOTAL PeCDF	1.118	1.51				1.113	0.005	0.5%
12378-PeCDD	1.209	1.59	23:47 26:30	25:52	1.0013	1.256	-0.047	-3.7%
TOTAL PeCDD	1.209	1.59				1.256	-0.047	-3.7%
123478-HxCDF	1.097	1.28	27:11 29:56	28:22	0.9965	1.215	-0.118	-9.7%
123678-HxCDF	1.379	1.29		28:28	1.0000	1.574	-0.195	-12.4%
234678-HxCDF	1.073	1.27		28:59	1.0181	1.247	-0.174	-13.9%
123789-HxCDF	0.977	1.29		29:41	1.0427	1.105	-0.128	-11.6%
TOTAL HxCDF	1.132	1.28				1.285	-0.153	-11.9%
123478-HxCDD	0.855	1.23	27:44 29:37	29:07	0.9977	0.953	-0.098	-10.3%
123678-HxCDD	1.058	1.24		29:12	1.0006	1.133	-0.075	-6.6%

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Printed: 03:04 09/11/97

Continuing Calibration for S975814

123789-HxCDD	1.052	1.24		29:29	1.0103	1.091	-0.039	-3.5%
TOTAL HxCDD	0.989	1.24				1.059	-0.070	-6.7%
1234678-HpCDF	1.384	1.04	31:01 32:33	31:11	1.0000	1.543	-0.159	-10.3%
1234789-HpCDF	1.094	1.05		32:23	1.0385	1.184	-0.090	-7.6%
TOTAL HpCDF	1.239	1.04				1.363	-0.124	-9.1%
1234678-HpCDD	1.001	1.03	31:16 32:13	32:03	1.0005	1.068	-0.067	-6.3%
TOTAL HpCDD	1.001	1.03				1.068	-0.067	-6.3%
OCDF	1.470	0.88	30:32 38:32	34:39	1.0034	1.493	-0.023	-1.5%
OCDD	1.049	0.90	30:32 38:32	34:32	1.0000	1.105	-0.056	-5.1%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.972		19:13 23:13	21:13	1.0000	0.843	0.129	15.3%
13C12-PeCDF 234	1.014	1.54	20:42 28:42	25:28	1.0310	0.970	0.044	4.5%
13C12-HxCDF 478	0.955	0.50		28:21	0.9959	0.959	-0.004	-0.4%
13C12-HxCDF 234	0.886	0.49		28:58	1.0176	0.926	-0.040	-4.3%
13C12-HxCDF 789	0.798	0.49		29:41	1.0427	0.805	-0.007	-0.8%
13C12-HxCDD 478	0.897	1.22		29:06	0.9971	0.973	-0.076	-7.8%
13C12-HpCDF 789	0.787	0.43	29:11 35:11	32:22	1.0379	0.771	0.016	2.1%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.554	0.74	19:24 21:24	20:24	1.0000	1.318	0.236	17.9%
13C12-2378-TCDD	1.110	0.78	19:13 23:13	21:13	1.0000	1.066	0.044	4.2%
13C12-PeCDF 123	1.243	1.52	20:42 28:42	24:42	1.0000	1.133	0.110	9.7%
13C12-PeCDD 123	0.713	1.58	21:50 29:50	25:50	1.0000	0.635	0.078	12.3%
13C12-HxCDF 678	1.294	0.50	24:28 32:28	28:28	1.0000	1.204	0.090	7.5%
13C12-HxCDD 678	0.964	1.22	28:11 30:11	29:11	1.0000	0.995	-0.031	-3.1%

Continuing Calibration for S975814

13C12-HpCDF 678	0.876	0.45	29:11 35:11	31:11	1.0000	0.887	-0.011	-1.3%
13C12-HpCDD 678	0.782	1.06	31:02 33:02	32:02	1.0000	0.815	-0.033	-4.1%
13C12-OCDD	0.434	0.84	34:22 34:42	34:32	1.0000	0.519	-0.085	-16.3%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.83		21:00	0.9898	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.22		29:29	1.0103	1.000	0.000	0.0%

QC Front End Check: 1.6171

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Continuing Calibration for P973843

Analysis Date....: 09/12/97
Operator.....: WK
Init Calibration..: PF22206
ICal Date.....: 02/20/96
Analysis Time....: 11:04

Method.....: C2NF
Instrument..: P
Std.Conc....: 5.00

GC Column...: DB-225

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
2378-TCDF	0.964	0.76	16:14 22:38	20:40	1.0008	1.040	-0.076	-7.3%
TOTAL TCDF	0.964	0.76				1.040	-0.076	-7.3%
2378-TCDD	1.001	0.75	17:03 22:00	19:28	1.0009	0.992	0.009	0.9%
TOTAL TCDD	1.001	0.75				0.992	0.009	0.9%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.937		17:27 21:27	19:28	1.0009	1.014	-0.077	-7.6%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.201	0.77	19:39 21:39	20:39	1.0000	1.388	-0.187	-13.5%
13C12-2378-TCDD	1.006	0.79	17:27 21:27	19:27	1.0000	1.067	-0.061	-5.7%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.82		19:41	1.0120	1.000	0.000	0.0%

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Continuing Calibration for P973859

Analysis Date....: 09/13/97 Method.....: C2NF
Operator.....: JM Instrument..: P
Init Calibration.: PF22206 Std.Conc....: 5.00
ICal Date.....: 02/20/96
Analysis Time....: 10:24 GC Column...: DB-225

Analyte Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
2378-TCDF	0.949	0.76	16:14 22:37	20:40	1.0008	1.040	-0.091	-8.7%
TOTAL TCDF	0.949	0.76				1.040	-0.091	-8.7%
2378-TCDD	1.077	0.86	17:02 22:00	19:28	1.0017	0.992	0.085	8.5%
TOTAL TCDD	1.077	0.86				0.992	0.085	8.5%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.928		17:26 21:26	19:28	1.0017	1.014	-0.086	-8.5%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.265	0.77	19:39 21:39	20:39	1.0000	1.388	-0.123	-8.9%
13C12-2378-TCDD	0.984	0.79	17:26 21:26	19:26	1.0000	1.067	-0.083	-7.8%

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		19:40	1.0120	1.000	0.000	0.0%

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Initial Calibration Summary for FF2220S

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

Method.....: C2NF
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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Analysis Date....: 06/10/97 Method.....: M237
Instrument.....: S

Analytes	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
Total MCDF	2.087	0.000	0%	8:15	0:01	13:43	2.931		1
Total MCDD	1.625	0.000	0%	8:42	0:34	14:34	2.827		1
Total DCDF	0.687	0.000	0%	10:38	6:43	14:43	5.965		1
Total DCDD	1.326	0.000	0%	11:09	7:34	15:34	1.609		1
Total TriCDF	1.082	0.000	0%	13:59	10:43	17:43	1.025		1
Total TriCDD	0.933	0.000	0%	14:03	12:34	18:34	1.064		1
2378-TCDF	1.251	0.116	9%	19:43	15:43	23:43	0.799		5
TOTAL TCDF	1.251	0.116	9%				0.799		5
2378-TCDD	1.191	0.231	19%	20:36	16:34	24:34	0.772		5
TOTAL TCDD	1.191	0.231	19%				0.772		5
12378-PeCDF	1.111	0.082	7%	24:12	20:11	28:11	1.552		5
23478-PeCDF	1.115	0.061	5%	24:59			1.470		5
TOTAL PeCDF	1.113	0.069	6%				1.509		5
12378-PeCDD	1.256	0.113	9%	25:22	21:21	29:21	1.526		5
TOTAL PeCDD	1.256	0.113	9%				1.526		5
123478-HxCDF	1.215	0.064	5%	27:55	24:01	32:01	1.247		5
123678-HxCDF	1.574	0.099	6%	28:01			1.260		5
234678-HxCDF	1.247	0.069	6%	28:32			1.243		5
123789-HxCDF	1.105	0.060	5%	29:15			1.246		5
TOTAL HxCDF	1.285	0.062	5%				1.249		5
123478-HxCDD	0.953	0.067	7%	28:41	24:45	32:45	1.265		5
123678-HxCDD	1.133	0.070	6%	28:46			1.251		5
123789-HxCDD	1.091	0.067	6%	29:03			1.233		5
TOTAL HxCDD	1.059	0.067	6%				1.249		5
1234678-HpCDF	1.543	0.103	7%	30:45	26:45	34:45	1.034		5
1234789-HpCDF	1.184	0.100	8%	31:57			1.080		5
TOTAL HpCDF	1.363	0.095	7%				1.053		5
1234678-HpCDD	1.068	0.089	8%	31:37	27:36	35:36	0.993		5
TOTAL HpCDD	1.068	0.089	8%				0.993		5
OCDF	1.493	0.131	9%	34:09	30:02	38:02	0.876		5
OCDD	1.105	0.066	6%	34:03	30:02	38:02	0.902		5

Other Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
37Cl-TCDD	0.843	0.038	5%	20:36	18:34	22:34			5
13C12-PeCDF 234	0.970	0.030	3%	24:58	22:11	26:11	1.470		5
13C12-HxCDF 478	0.959	0.042	4%	27:55			0.518		5
13C12-HxCDF 234	0.926	0.021	2%	28:32			0.517		5
13C12-HxCDF 789	0.805	0.044	5%	29:15			0.519		5
13C12-HxCDD 478	0.973	0.027	3%	28:40			1.241		5
13C12-HpCDF 789	0.771	0.049	6%	31:57	28:45	34:45	0.424		5

Internal Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-2378-TCDF	1.318	0.065	5%	19:43	18:43	20:43	0.734		5
13C12-2378-TCDD	1.066	0.020	2%	20:34	18:34	22:34	0.802		5
13C12-PeCDF 123	1.133	0.051	5%	24:11	20:11	28:11	1.447		5

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13C12-PeCDD 123	0.635	0.082	13%	25:21	21:21	29:21	1.461		5
13C12-HxCDF 678	1.204	0.073	6%	28:01	24:01	32:01	0.522		5
13C12-HxCDD 678	0.995	0.017	2%	28:45	27:45	29:45	1.240		5
13C12-HpCDF 678	0.887	0.046	5%	30:45	28:45	34:45	0.429		5
13C12-HpCDD 678	0.815	0.077	9%	31:36	30:36	32:36	1.019		5
13C12-OCDD	0.519	0.080	15%	34:02	32:02	36:02	0.866		5

Recovery Standards	RF	SD	%RSD	RT	RT/LO	RT/HI	Ratio1	Ratio2	N
13C12-1234-TCDD	1.000	0.000	0%	20:21			0.811		5
13C12-HxCDD 789	1.000	0.000	0%	29:02			1.231		5

*** End of Report ***

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Appendix C.3

Analytical Data

Method 29 Multiple Metals

TRIANGLE LABS

CASE NARRATIVE

Analysis of Samples for the Presence of Trace Metals

Method 29 April 1996 Rev.

Client:	Pacific Environmental Services
TLI Project Number:	43411
Date:	November 1, 1997

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Rev. 07-May-97

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Overview

Six train samples and a blank train sample were analyzed for silver (Ag), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), copper (Cu), manganese (Mn), nickel (Ni), phosphorus (P), lead (Pb), antimony (Sb), selenium (Se), thallium (Tl), zinc (Zn), and mercury (Hg). For all analyses, the samples and associated QC samples were prepared and analyzed following the guidelines of Method 29 April 1996 Rev. Results reported relate only to the items tested.

QC Remarks

The release of this set of data by Triangle Laboratories, Inc. 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 effects of these deviations upon the validity and reliability of the results. Specific QC issues associated with this particular project are:

Sample Receipt:

Seven train samples were received ~~without coolan~~t on September 26, 1997 in good condition. The sample I-M29-2-BHAR was received, but this sample was not listed on the client's chain-of-custody.

Sample Preparation:

Laboratory documentation of the sample preparation is included in the data package.

Instrumentation:

Silver (Ag), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), cobalt (Co), chromium (Cr), copper (Cu), manganese (Mn), nickel (Ni), phosphorus (P), lead (Pb), antimony (Sb), selenium (Se), and zinc (Zn) concentrations were determined by Inductively Coupled Plasma Emission Spectroscopy (ICP).

Thallium (Tl) concentrations were analyzed by Graphite Furnace Atomic Absorption (GFAA).

Mercury (Hg) concentrations were determined by Cold Vapor Atomic Absorption (CVAA).

The linear range for the instrument TJA 61E Trace Analyzer was based on four standards and a blank, which established a correlation coefficient value greater than or equal to 0.995. A calibration curve, based on a blank and one standard, is established for each analytical run, followed by a check high standard and an initial calibration verification (ICV). The check high standard does not deviate from the calibration curve by more than 5%. In addition, continuing calibration verifications (CCVs) are performed throughout the analytical run.

A Reporting Detection Limit (RDL) is used instead of an Instrument Detection Limit (IDL). The spectrometer and atomic absorption instruments can achieve low detection limits between 0.2-8 ppb levels for many analytes. Triangle Labs is using RDL values of 1-10 times the IDL as detection limits for reporting purposes.

Data Review:

All analytes found in the method blank (MB) are detected at a level equal to or less than the respective Reporting Detection Limits (RDLs) except for Ni. The following guidelines may be used to assess analyte concentrations relative to the method blank: 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. Please note that the Ni results that are near the RDL should be considered biased high.

The laboratory control sample (LCS) for Ni and Tl demonstrated percent recoveries outside the QC criteria of 80-120 percent. Please note that the sample results should be considered biased high for Ni and biased low for Tl. No sample was available for a second preparation.

All samples were received outside of the 28 day sampling to analysis holding time for Hg, therefore the holding time for Hg could not be met. All samples were analyzed within the six month sampling to analysis holding time for all other requested analytes.

The sample IDs on the client chain-of-custody did not match with the IDs on the sample containers. The sample IDs on TLI's chain-of-custody matches the IDs on the sample containers. The sample IDs on the Hg spreadsheets for the KMnO4 and HCl containers do not have the addition description added in order to alleviate redundancy.

The concentrations for Tl demonstrated high negative numbers for the samples analyzed by ICP, therefore the samples were analyzed by GFAA in order to obtain better results. A duplicate analysis is not reported for elements analyzed by GFAA. The GFAA instrument analyzes two separate aliquots of the sample and averages the values for a final result. These two analyses agree within a RPD of 20% or a second run is done for that sample. The ICP instrument analyzes one continuous aliquot three times and averages the values for a final result. The ICP does not take two separate aliquots, therefore a DA is performed.

The serial dilution results for Cr for the sample O-M29-1-FHACE,FHAR,FILTER FH demonstrated a RPD outside the QC control criteria of 10.0 percent, which indicates the presence of an amount of interferents specific to this analyte in the native sample matrix. Please note that the post-digestion spike (PDS) for Cr demonstrated a percent recovery within QC criteria, which indicates no significant amount of interfences specific to this analyte in the native sample matrix. Also note that this sample should be considered biased low for Cr due to matrix interferences.

The post-digestion spike (PDS) for Co for the sample O-M29-1-FHACE,FHAR,FILTER FH demonstrated a percent recovery outside the QC criteria, which may indicate significant matrix effects specific to this analyte in the native sample matrix. Please note that this sample should be considered biased low for Co due to matrix interferences.

The recoveries for the post-digestion spike (PDS) are not reported for Ba and Mn for sample O-M29-1-FHACE,FHAR,FILTER FH. The spike concentrations added were insignificant in comparison to the levels of these analytes present in the native sample.

The pre-digestion spike (MS) and the pre-digestion spike duplicate (MSD) for Hg for the samples O-M29-1-HNO3 BH, O-M29-2-HNO3 BH, I-M29-1-HNO3 BH, I-M29-2-HNO3 BH, and I-M29-3-HNO3 BH demonstrated percent recoveries outside the QC criteria, which may indicate significant matrix effects specific to this analyte in the native sample matrix. Please note that samples O-M29-1-HNO3 BH, O-M29-2-HNO3 BH and I-M29-1-HNO3 BH should be considered biased low due to matrix interferences. Also note that samples I-M29-2-HNO3 BH and I-M29-3-HNO3 BH should be considered biased high due to matrix interferences.

QC requirements:

The duplicate analyses for analytes analyzed by ICP cannot be considered valid qualifiers if the concentrations of the analytes in the original and/or duplicate sample are not at least ten times the respective RDLs. The RPDs for these analyses are indicated by or "<RDL" in the Analyte Summary Reports.

For duplicate analyses which are valid qualifiers, the quality control RPD is ± 20.0 percent. If RPDs are outside this range, interferences are suspected.

The serial dilution analyses for analytes analyzed by GFAA cannot be considered valid qualifiers if the concentrations of the analytes in the serial dilution sample are not at least five times the respective RDLs. The serial dilution RPDs for these analyses are indicated by "<RDL" in the Analyte Summary Reports.

The serial dilution analyses for analytes analyzed by ICP cannot be considered valid qualifiers if the concentrations of the analytes in the serial dilution sample are less than ten times the respective RDLs. The serial dilution RPDs for these analyses are indicated by "<RDL" in the Analyte Summary Reports.

For serial dilution analyses which are valid qualifiers, the quality control RPD is ± 10.0 percent. If RPDs are outside this range, interferences are suspected.

The quality control range for percent recoveries of laboratory control spiked samples is 80-120.

The quality control range for percent recoveries of spiked samples is 75-125. If recoveries are outside this range, a matrix effect is suspected.

If the analyte concentrations analyzed by GFAA in the native samples are less than five times the respective RDLs, or if valid serial dilution analyses demonstrate RPDs outside the ten percent quality control range, the percent recoveries of post-digestion spiked samples is 75-125. If recoveries are outside this range, all matrix-related samples are analyzed by the Method of Standard Additions (MSA). The MSA analysis for each sample is reported only if the correlation coefficient value is at least 0.995.

By our interpretation, the analytical data in this project are valid based on the guidelines of Method 29 April 1996 Rev. Any specific QC concerns or problems have been discussed in the QC REMARKS section with emphasis on their effect on the data. Should Pacific Environmental Services have any questions or comments regarding this data package, please feel free to contact Project Scientist, Rose West, at (919) 544-5729 ext.270.

For Triangle Laboratories, Inc.,

Report Preparation

Linda F. Jones
Report Preparation Chemist

Quality Control

Jerry P. Roach
Report Preparation Chemist

The total number of pages in this data package is: 175. 177

TRIANGLE LABS

TRIANGLE LABORATORIES, INC.

LIST OF CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

American Association for Laboratory Accreditation. Accredidation pending. Certificate Number 0226-01. Accreditation for technical competence in Environmental Testing.(Including Waste Water, Sol/Haz Waste, Pulp/Paper, and Air Matrices) Parameters are AOX/TOX, 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 OS-00397. Dioxin in drinking water.

State of Arizona, Department of Health Services. Expires May 26, 1998. 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, 1999. 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. Recertification pending. 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, 1998.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, 1998. Certification #235. Drinking water by Method 1613A.

State of Michigan, Department of Public Health. Expires June 3, 1998. 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 December 31, 1997. ID #67851. BNAs and Volatiles. Dioxin in drinking water.

State of New Mexico, Environment Department. Recertification pending. Dioxin in drinking water.

New York State Department of Health. Expires April 1, 1998. 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 August 31, 1999. 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.

Oklahoma Department of Environmental Quality. Expires August 31, 1998. Laboratory #9612. Dioxin by 1613A, 8290 and 8280.

State of South Carolina, Department of Health and Environmental Control. Expires April 1, 1998. Certificate number #99040001 (drinking water). Expires August 31, 1999. 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. 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 assorted projects for the USACE North Pacific Division Laboratory.

U.S. EPA Region V. Expires November 14, 1999. 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, 1998. ID # 00341. Dioxin in drinking water.

State of Washington, Department of Ecology. Expires September 11, 1998. 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, 1997. Certificate No. 9923(C). Dioxin in drinking water.

State of Wisconsin, **Department of Natural Resources.** Expires August 31, 1998. Laboratory ID Number 999869530. Certification for the following categories of Organics: Purgeable, Base/Neutral, Acid, PCBs, and Dioxin. Expires November 14, 1999. Laboratory ID 999869530. Dioxin in drinking water.

PHARMACEUTICAL

Drug Enforcement Agency (DEA). Expires November 30, 1997. Registration number RT01195835. Controlled substance registration for schedules 1,2,3,3N,4,5.

N.C. Department of Human Resources. Expires October 31, 1998. Registration number NC-PT 0000 0031. North Carolina controlled substances registration. Application submitted for renewal.

Food & Drug Administration (FDA) Registration. Expires June 1998. ID #'s 001500 1053481. Annual registration of drug establishment. Annual registration of drug establishment.

OTHER

Clinical Laboratory Improvement Amendments (CLIA) Registration. Expires May 30, 1999. 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-OG. The general license applies only to radioactive material contained in devices which have been manufactured and labeled in accordance with specific requirements.

ABBREVIATIONS

BH = Back Half
CCB = Continuing Calibration Blank
CCV = Continuing Calibration Verification
CHECK HS = Check High Standard
D = DUP = Analytical Duplicate (Prepared Duplicate)
DA = Duplicate Analysis
FH = Front Half
FV = Final Digestate Volume
ICB = Initial Calibration Blank
ICV = Initial Calibration Verification
ICSAB = Interference Check Solution (Solution AB)
I = Initial
F = Final
Solution AB contains common interferents in addition to the analyte of interest.
IDL = Instrument Detection Limit
L = Serial Dilution
LCS = Laboratory Control Spike Sample
MB = Method Blank
MPV = Mercury Preparation Volume
MS = Pre-digestion Spike
MSD = Pre-digestion Spike Duplicate
N/A = Not Applicable
N/Av = Not Available
N/V = Not Valid
PDS = Post-digestion Spike
%REC = Percent Recovery
RDL = Reporting Detection Limit
RPD = Relative Percent Difference
T = Analytical Triplicate (Prepared Triplicate; for Hg analysis by Method 7471 only)
TV = Total Sample Volume
< = Analyte concentration in the sample is less than the respective RDL

STANDARD CONCENTRATIONS
for the TJA 61E TRACE ANALYZER

Analyte	Units	High Std	ICV/CCV	ICSAB	RDL	Wavelength
Ag	ppb	1000	500	500	1	3280
As	ppb	1000	500	500	5	1890
Al	ppb	1000	500	500000	50	3082
B	ppb	1000	500	500	7	2496
Ba	ppb	1000	500	500	2	4934
Be	ppb	1000	500	500	1	3130
Ca	ppb	1000	500	500000	60	3179
Cd	ppb	1000	500	500	1	2265
Ce	ppb	1000	500	500	3	4186
Co	ppb	1000	500	500	1	2286
Cr	ppb	1000	500	500	2	2677
Cu	ppb	1000	500	500	2	3247
Fe	ppb	1000	500	200000	40	2714
K	ppb	10000	5000	19000	220	7664
Li	ppb	1000	500	500	1	6706
Mg	ppb	1000	500	500000	30	2790
Mn	ppb	1000	500	500	2	2576
Mo	ppb	1000	500	500	2	2020
Na	ppb	10000	5000	5000	300	3302
Ni	ppb	1000	500	500	3	2316
P	ppb	1000	500	500	30	2149
Pb	ppb	1000	500	500	2	2203
Sb	ppb	1000	500	500	4	2068
Se	ppb	1000	500	500	3	1960
Sn	ppb	1000	500	500	13	1899
Sr	ppb	1000	500	650	1	4215
Ti	ppb	1000	500	500	8	3349
Tl	ppb	1000	500	500	5	1908
V	ppb	1000	500	500	2	2924
Zn	ppb	1000	500	500	12	2062

Note: Use this reference page to review the raw data from the TJA 61E Trace Analyzer.

This page includes the standard concentrations for the check high standard, initial calibration verification (ICV), continuing calibration verification (CCV), and the interference check solution (ICSAB). In addition the reporting detection limit (RDL) and wavelength are reported for each analyte.

Revision Date: 15-Jul-96

CALCULATIONS FOR AIR SAMPLES

RESULTS FOR TRACE METALS (except mercury):

$$\text{RESULT in } \mu g \text{ (Front Half)} = \frac{\mu g/L * FV\ (mL) * DF}{1000\ mL/L}$$

$$\text{RESULT in } \mu g \text{ (Back Half \& Impingers)} = \frac{\mu g/L * TV\ (mL) * FV\ (mL) * DF}{mL\ used * 1000\ mL/L}$$

FV = final volume in mL
TV = total volume in mL
DF = Dilution Factor

The RESULTS for combined Front Half & Back Half samples use the same calculation as the Back Half & impinger samples.

RESULTS FOR MERCURY (Hg):

RESULT in µg (Front Half) = µg/L * (mL FV/mL aliquot) * MPV * DF

RESULT in µg (Back Half & Impingers) = µg/L * (mL TV/mL aliquot) * MPV * DF

MPV = mercury preparation volume = 0.1 L

%REC (Percent Recovery) for MS/MSD Hg spikes:

$$\%REC = \frac{\text{spike sample results - original sample results}}{\text{true spike sample results}} * 100$$

NOTE: Original sample results less than the RDL are not used in calulations.

%REC (Percent Recovery) for PDS:

$$\%REC = \frac{\text{Spike sample µg/L conc. - original sample µg/L conc.}}{\text{spike conc. (µg/L)}} * 100$$

%REC (Percent Recovery) for LCS/LCSD:

$$\%REC = \frac{\text{Spike sample µg/L conc.}}{\text{spike conc. (µg/L)}} * 100$$

RPDs:

$$RPD = \frac{|\ \text{Result 2 - Result 1}\ |}{(\text{Result 2 + Result 1})/2} * 100$$

Rev. 2-Oct-96

Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-1-FHACE,FHAR,FILTER FH
TLI Sample ID:	184-84-1ABC FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	2.411	N/A	N/A	100	1	0.241
As	-0.017	N/A	N/A	100	1	< 0.500
Ba	539.788	N/A	N/A	100	1	54.0
Be	-0.158	N/A	N/A	100	1	< 0.100
Cd	-3.194	N/A	N/A	100	1	< 0.100
Co	-32.448	N/A	N/A	100	1	< 0.100
Cr	125.993	N/A	N/A	100	1	12.6
Cu	71.253	N/A	N/A	100	1	7.13
Mn	677.158	N/A	N/A	100	1	67.7
Ni	59.056	N/A	N/A	100	1	5.91
P	505.792	N/A	N/A	100	1	50.6
Pb	30.749	N/A	N/A	100	1	3.07
Sb	38.440	N/A	N/A	100	1	3.84
Se	46.739	N/A	N/A	100	1	4.67
Tl	1.600	N/A	N/A	100	1	< 0.200
Zn	214.073	N/A	N/A	100	1	21.4

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Client: **Pacific Environmental Services**
Project Number: 43411

Sample Report

Client Sample ID:	O-M29-1-FHACE,FHAR,FILTER FH L
TLI Sample ID:	184-84-1ABC FH L
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.821	N/A	N/A	100	5	< 0.500
As	2.538	N/A	N/A	100	5	< 2.50
Ba	111.725	N/A	N/A	100	5	55.9
Be	0.010	N/A	N/A	100	5	< 0.500
Cd	-0.554	N/A	N/A	100	5	< 0.500
Co	-6.660	N/A	N/A	100	5	< 0.500
Cr	32.500	N/A	N/A	100	5	16.3
Cu	14.199	N/A	N/A	100	5	7.10
Mn	144.188	N/A	N/A	100	5	72.1
Ni	13.322	N/A	N/A	100	5	6.66
P	110.290	N/A	N/A	100	5	55.1
Pb	7.605	N/A	N/A	100	5	3.80
Sb	11.527	N/A	N/A	100	5	5.76
Se	10.881	N/A	N/A	100	5	5.44
Tl	-0.400	N/A	N/A	100	5	< 1.00
Zn	46.879	N/A	N/A	100	5	23.4

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-1-HNO3 BH
TLI Sample ID:	184-84-1DE BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	1.302	1940	1840	100	1	0.137
As	-2.625	1940	1840	100	1	< 0.527
Ba	8.541	1940	1840	100	1	0.901
Be	-0.012	1940	1840	100	1	< 0.105
Cd	4.544	1940	1840	100	1	0.479
Co	-0.340	1940	1840	100	1	< 0.105
Cr	5.779	1940	1840	100	1	0.609
Cu	20.497	1940	1840	100	1	2.16
Mn	22.235	1940	1840	100	1	2.34
Ni	32.856	1940	1840	100	1	3.46
P	562.480	1940	1840	100	1	59.3
Pb	51.852	1940	1840	100	1	5.47
Sb	1.411	1940	1840	100	1	< 0.422
Se	9.124	1940	1840	100	1	0.962
Tl	0.200	1940	1840	100	1	< 0.211
Zn	217.420	1940	1840	100	1	22.9

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-1-HNO3 BH L
TLI Sample ID:	184-84-1DE BH L
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.153	1940	1840	100	5	< 0.527
As	-2.144	1940	1840	100	5	< 2.64
Ba	1.564	1940	1840	100	5	< 1.05
Be	-0.016	1940	1840	100	5	< 0.527
Cd	0.940	1940	1840	100	5	< 0.527
Co	-0.489	1940	1840	100	5	< 0.527
Cr	1.401	1940	1840	100	5	< 1.05
Cu	3.143	1940	1840	100	5	1.66
Mn	3.694	1940	1840	100	5	1.95
Ni	5.411	1940	1840	100	5	2.85
P	108.558	1940	1840	100	5	57.2
Pb	11.312	1940	1840	100	5	5.96
Sb	0.320	1940	1840	100	5	< 2.11
Se	0.079	1940	1840	100	5	< 1.58
Tl	0.500	1940	1840	100	5	< 1.05
Zn	44.302	1940	1840	100	5	23.4

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-2-FHACE,FHAR,FILTER FH
TLI Sample ID:	184-84-2ABC FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	2.154	N/A	N/A	100	1	0.215
As	2.119	N/A	N/A	100	1	< 0.500
Ba	401.536	N/A	N/A	100	1	40.2
Be	-0.235	N/A	N/A	100	1	< 0.100
Cd	1.741	N/A	N/A	100	1	0.174
Co	-23.080	N/A	N/A	100	1	< 0.100
Cr	104.724	N/A	N/A	100	1	10.5
Cu	57.339	N/A	N/A	100	1	5.73
Mn	633.126	N/A	N/A	100	1	63.3
Ni	50.162	N/A	N/A	100	1	5.02
P	463.845	N/A	N/A	100	1	46.4
Pb	24.095	N/A	N/A	100	1	2.41
Sb	38.476	N/A	N/A	100	1	3.85
Se	37.508	N/A	N/A	100	1	3.75
Tl	0.600	N/A	N/A	100	1	< 0.200
Zn	183.228	N/A	N/A	100	1	18.3

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-2-FHACE,FHAR,FILTER FH DA
TLI Sample ID:	184-84-2ABC FH DA
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	2.187	N/A	N/A	100	1	0.219
As	-2.546	N/A	N/A	100	1	< 0.500
Ba	401.409	N/A	N/A	100	1	40.1
Be	-0.310	N/A	N/A	100	1	< 0.100
Cd	0.762	N/A	N/A	100	1	< 0.100
Co	-25.496	N/A	N/A	100	1	< 0.100
Cr	104.896	N/A	N/A	100	1	10.5
Cu	58.095	N/A	N/A	100	1	5.81
Mn	630.072	N/A	N/A	100	1	63.0
Ni	50.148	N/A	N/A	100	1	5.01
P	444.771	N/A	N/A	100	1	44.5
Pb	21.354	N/A	N/A	100	1	2.14
Sb	32.953	N/A	N/A	100	1	3.30
Se	39.887	N/A	N/A	100	1	3.99
Tl	N/A	N/A	N/A	N/A	N/A	N/A
Zn	181.032	N/A	N/A	100	1	18.1

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-2-HNO3 BH
TLI Sample ID:	184-84-2DE BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.635	1910	1810	100	1	< 0.106
As	-3.373	1910	1810	100	1	< 0.528
Ba	7.088	1910	1810	100	1	0.748
Be	-0.003	1910	1810	100	1	< 0.106
Cd	1.921	1910	1810	100	1	0.203
Co	-0.164	1910	1810	100	1	< 0.106
Cr	5.627	1910	1810	100	1	0.594
Cu	13.779	1910	1810	100	1	1.45
Mn	110.581	1910	1810	100	1	11.7
Ni	14.447	1910	1810	100	1	1.52
P	660.558	1910	1810	100	1	69.7
Pb	28.585	1910	1810	100	1	3.02
Sb	0.257	1910	1810	100	1	< 0.422
Se	6.474	1910	1810	100	1	0.683
Tl	0.800	1910	1810	100	1	< 0.211
Zn	73.430	1910	1810	100	1	7.75

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-2-HNO3 BH DA
TLI Sample ID:	184-84-2DE BH DA
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	-1.000	1910	1810	100	1	< 0.106
As	-2.338	1910	1810	100	1	< 0.528
Ba	6.838	1910	1810	100	1	0.722
Be	-0.058	1910	1810	100	1	< 0.106
Cd	1.709	1910	1810	100	1	0.180
Co	-1.009	1910	1810	100	1	< 0.106
Cr	4.196	1910	1810	100	1	0.443
Cu	12.233	1910	1810	100	1	1.29
Mn	109.478	1910	1810	100	1	11.6
Ni	13.690	1910	1810	100	1	1.44
P	650.906	1910	1810	100	1	68.7
Pb	28.606	1910	1810	100	1	3.02
Sb	-5.254	1910	1810	100	1	< 0.422
Se	7.037	1910	1810	100	1	0.743
Tl	N/A	N/A	N/A	N/A	N/A	N/A
Zn	71.752	1910	1810	100	1	7.57

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-3-FHACE,FHAR,FILTER FH
TLI Sample ID:	184-84-3ABC FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.873	N/A	N/A	100	1	< 0.100
As	3.733	N/A	N/A	100	1	< 0.500
Ba	692.085	N/A	N/A	100	1	69.2
Be	-0.489	N/A	N/A	100	1	< 0.100
Cd	-1.272	N/A	N/A	100	1	< 0.100
Co	-17.019	N/A	N/A	100	1	< 0.100
Cr	117.209	N/A	N/A	100	1	11.7
Cu	103.925	N/A	N/A	100	1	10.4
Mn	1075.564	N/A	N/A	100	1	108
Ni	63.151	N/A	N/A	100	1	6.32
P	762.477	N/A	N/A	100	1	76.2
Pb	31.982	N/A	N/A	100	1	3.20
Sb	39.115	N/A	N/A	100	1	3.91
Se	39.481	N/A	N/A	100	1	3.95
Ti	-0.900	N/A	N/A	100	1	< 0.200
Zn	248.755	N/A	N/A	100	1	24.9

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-3-HNO3 BH
TLI Sample ID:	184-84-3DE BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.472	1530	1430	100	1	< 0.107
As	-4.540	1530	1430	100	1	< 0.535
Ba	6.268	1530	1430	100	1	0.671
Be	-0.046	1530	1430	100	1	< 0.107
Cd	1.830	1530	1430	100	1	0.196
Co	-1.202	1530	1430	100	1	< 0.107
Cr	8.405	1530	1430	100	1	0.899
Cu	42.971	1530	1430	100	1	4.60
Mn	77.676	1530	1430	100	1	8.31
Ni	16.960	1530	1430	100	1	1.81
P	645.299	1530	1430	100	1	69.0
Pb	26.987	1530	1430	100	1	2.89
Sb	0.675	1530	1430	100	1	< 0.428
Se	9.011	1530	1430	100	1	0.964
Tl	0.900	1530	1430	100	1	< 0.214
Zn	73.823	1530	1430	100	1	7.90

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	I-M29-1-FHACE,FHAR,FILTER FH
TLI Sample ID:	184-84-4ABC FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	11.971	N/A	N/A	100	1	1.20
As	50.286	N/A	N/A	100	1	5.03
Ba	10818.790	N/A	N/A	100	1	1080
Be	-39.185	N/A	N/A	100	1	< 0.100
Cd	200.137	N/A	N/A	100	1	20.0
Co	631.576	N/A	N/A	100	1	63.2
Cr	953.666	N/A	N/A	100	1	95.4
Cu	6107.147	N/A	N/A	100	1	611
Mn	24721.447	N/A	N/A	100	1	2470
Ni	574.107	N/A	N/A	100	1	57.4
P	42128.582	N/A	N/A	100	1	4210
Pb	804.716	N/A	N/A	100	1	80.5
Sb	-2.931	N/A	N/A	100	1	< 0.400
Se	-254.506	N/A	N/A	100	1	< 0.300
Tl	60.800	N/A	N/A	100	2	12.2
Zn	7400.913	N/A	N/A	100	1	740

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	I-M29-1-HNO3 BH
TLI Sample ID:	184-84-4D BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	-0.554	750	650	100	1	< 0.115
As	-5.631	750	650	100	1	< 0.577
Ba	4.733	750	650	100	1	0.546
Be	-0.096	750	650	100	1	< 0.115
Cd	1.898	750	650	100	1	0.219
Co	-1.351	750	650	100	1	< 0.115
Cr	3.620	750	650	100	1	0.418
Cu	13.739	750	650	100	1	1.59
Mn	12.341	750	650	100	1	1.42
Ni	13.553	750	650	100	1	1.56
P	345.681	750	650	100	1	39.9
Pb	41.442	750	650	100	1	4.78
Sb	-3.091	750	650	100	1	< 0.462
Se	1.140	750	650	100	1	< 0.346
Tl	0.100	750	650	100	1	< 0.231
Zn	185.580	750	650	100	1	21.4

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-FB,FHACE,FHAR,2-FILTER 8/27/97 FH
TLI Sample ID:	184-84-5ABC FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	1.546	N/A	N/A	100	1	0.155
As	3.166	N/A	N/A	100	1	< 0.500
Ba	124.105	N/A	N/A	100	1	12.4
Be	0.620	N/A	N/A	100	1	< 0.100
Cd	-4.483	N/A	N/A	100	1	< 0.100
Co	-31.070	N/A	N/A	100	1	< 0.100
Cr	106.758	N/A	N/A	100	1	10.7
Cu	46.528	N/A	N/A	100	1	4.65
Mn	377.059	N/A	N/A	100	1	37.7
Ni	48.807	N/A	N/A	100	1	4.88
P	289.196	N/A	N/A	100	1	28.9
Pb	-7.469	N/A	N/A	100	1	< 0.200
Sb	47.662	N/A	N/A	100	1	4.77
Se	41.838	N/A	N/A	100	1	4.18
Tl	-0.600	N/A	N/A	100	1	< 0.200
Zn	101.157	N/A	N/A	100	1	10.1

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	O-M29-FB-FHAR,HNO3 BH
TLI Sample ID:	184-84-5BD BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	2.048	75	75	100	1	0.205
As	-2.730	75	75	100	1	< 0.500
Ba	0.709	75	75	100	1	< 0.200
Be	-0.041	75	75	100	1	< 0.100
Cd	0.216	75	75	100	1	< 0.100
Co	-0.925	75	75	100	1	< 0.100
Cr	0.846	75	75	100	1	< 0.200
Cu	2.565	75	75	100	1	0.256
Mn	4.555	75	75	100	1	0.456
Ni	5.815	75	75	100	1	0.582
P	-10.251	75	75	100	1	< 3.00
Pb	3.934	75	75	100	1	0.393
Sb	0.598	75	75	100	1	< 0.400
Se	-2.147	75	75	100	1	< 0.300
Tl	0.700	75	75	100	1	< 0.200
Zn	12.577	75	75	100	1	1.26

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Tele: (919) 544-5729 * Fax: (919) 544-5491

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	I-M29-2-FHACE,FHAR,FILTER FH
TLI Sample ID:	184-84-6ABC FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	10.016	N/A	N/A	100	1	1.00
As	38.155	N/A	N/A	100	1	3.82
Ba	9226.019	N/A	N/A	100	1	923
Be	-18.610	N/A	N/A	100	1	< 0.100
Cd	142.849	N/A	N/A	100	1	14.3
Co	550.989	N/A	N/A	100	1	55.1
Cr	872.942	N/A	N/A	100	1	87.3
Cu	6548.149	N/A	N/A	100	1	655
Mn	23324.377	N/A	N/A	100	1	2330
Ni	555.005	N/A	N/A	100	1	55.5
P	38028.563	N/A	N/A	100	1	3800
Pb	779.071	N/A	N/A	100	1	77.9
Sb	-25.276	N/A	N/A	100	1	< 0.400
Se	-179.306	N/A	N/A	100	1	< 0.300
Tl	85.800	N/A	N/A	100	1	8.58
Zn	6658.945	N/A	N/A	100	1	666

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	I-M29-2-HNO3 BH
TLI Sample ID:	184-84-6D BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.446	1000	900	100	1	< 0.111
As	-1.309	1000	900	100	1	< 0.556
Ba	11.693	1000	900	100	1	1.30
Be	-0.062	1000	900	100	1	< 0.111
Cd	3.081	1000	900	100	1	0.342
Co	0.488	1000	900	100	1	< 0.111
Cr	9.077	1000	900	100	1	1.01
Cu	48.382	1000	900	100	1	5.38
Mn	52.124	1000	900	100	1	5.79
Ni	26.162	1000	900	100	1	2.91
P	667.446	1000	900	100	1	74.2
Pb	46.649	1000	900	100	1	5.18
Sb	-0.448	1000	900	100	1	< 0.444
Se	3.567	1000	900	100	1	0.396
Tl	-0.200	1000	900	100	1	< 0.222
Zn	150.872	1000	900	100	1	16.8

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	I-M29-3-FHACE,FHAR,FILTER,FH CATCH FH
TLI Sample ID:	184-84-7ABCD FH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	6.711	N/A	N/A	100	1	0.671
As	49.132	N/A	N/A	100	1	4.91
Ba	7308.835	N/A	N/A	100	1	731
Be	-11.747	N/A	N/A	100	1	< 0.100
Cd	94.863	N/A	N/A	100	1	9.49
Co	454.762	N/A	N/A	100	1	45.5
Cr	756.238	N/A	N/A	100	1	75.6
Cu	6031.224	N/A	N/A	100	1	603
Mn	22375.820	N/A	N/A	100	1	2240
Ni	463.733	N/A	N/A	100	1	46.4
P	48808.512	N/A	N/A	100	1	4880
Pb	778.832	N/A	N/A	100	1	77.9
Sb	-1.819	N/A	N/A	100	1	< 0.400
Se	-92.400	N/A	N/A	100	1	< 0.300
Tl	20.800	N/A	N/A	100	1	2.08
Zn	5198.991	N/A	N/A	100	1	520

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Client Sample ID:	I-M29-3-HNO3 BH
TLI Sample ID:	184-84-7EF BH
Date Received:	September 26, 1997
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	-0.107	1100	1000	100	1	< 0.110
As	-3.043	1100	1000	100	1	< 0.550
Ba	28.773	1100	1000	100	1	3.17
Be	-0.035	1100	1000	100	1	< 0.110
Cd	2.943	1100	1000	100	1	0.324
Co	0.034	1100	1000	100	1	< 0.110
Cr	11.196	1100	1000	100	1	1.23
Cu	38.729	1100	1000	100	1	4.26
Mn	95.115	1100	1000	100	1	10.5
Ni	35.373	1100	1000	100	1	3.89
P	1181.695	1100	1000	100	1	130
Pb	43.604	1100	1000	100	1	4.80
Sb	-0.121	1100	1000	100	1	< 0.440
Se	0.198	1100	1000	100	1	< 0.330
Tl	0.000	1100	1000	100	1	< 0.220
Zn	298.429	1100	1000	100	1	32.8

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Client: **Pacific Environmental Services**
Project Number: 43411

QA: Serial Dilution

Client Sample ID:	O-M29-1-FHACE,FHAR,FILTER FH	O-M29-1-FHACE,FHAR,FILTER FH L
TLI Sample ID:	184-84-1ABC FH	184-84-1ABC FH L
Date Prepared:	October 14-16, 1997	October 14-16, 1997
Date Analyzed:	October 20, 1997	October 20, 1997
Matrix:	Air	Air

	Native Sample		Serial Dilution		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
Ag	0.241	2.411	< 0.500	0.821	<RDL
As	< 0.500	-0.017	< 2.50	2.538	<RDL
Ba	54.0	539.788	55.9	111.725	3.46%
Be	< 0.100	-0.158	< 0.500	0.010	<RDL
Cd	< 0.100	-3.194	< 0.500	-0.554	<RDL
Co	< 0.100	-32.448	< 0.500	-6.660	<RDL
Cr	12.6	125.993	16.3	32.500	25.6%
Cu	7.13	71.253	7.10	14.199	<RDL
Mn	67.7	677.158	72.1	144.188	6.29%
Ni	5.91	59.056	6.66	13.322	<RDL
P	50.6	505.792	55.1	110.290	<RDL
Pb	3.07	30.749	3.80	7.605	<RDL
Sb	3.84	38.440	5.76	11.527	<RDL
Se	4.67	46.739	5.44	10.881	<RDL
Tl	< 0.200	1.600	< 1.00	-0.400	<RDL
Zn	21.4	214.073	23.4	46.879	<RDL

Client: **Pacific Environmental Services**
Project Number: 43411

QA: Serial Dilution

Client Sample ID:	O-M29-1-HNO3 BH	O-M29-1-HNO3 BH L
TLI Sample ID:	184-84-1DE BH	184-84-1DE BH L
Date Prepared:	October 14-16, 1997	October 14-16, 1997
Date Analyzed:	October 20, 1997	October 20, 1997
Matrix:	Air	Air

	Native Sample		Serial Dilution		RPD
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	
Ag	0.137	1.302	< 0.527	0.153	<RDL
As	< 0.527	-2.625	< 2.64	-2.144	<RDL
Ba	0.901	8.541	< 1.05	1.564	<RDL
Be	< 0.105	-0.012	< 0.527	-0.016	<RDL
Cd	0.479	4.544	< 0.527	0.940	<RDL
Co	< 0.105	-0.340	< 0.527	-0.489	<RDL
Cr	0.609	5.779	< 1.05	1.401	<RDL
Cu	2.16	20.497	1.66	3.143	<RDL
Mn	2.34	22.235	1.95	3.694	<RDL
Ni	3.46	32.856	2.85	5.411	<RDL
P	59.3	562.480	57.2	108.558	<RDL
Pb	5.47	51.852	5.96	11.312	<RDL
Sb	< 0.422	1.411	< 2.11	0.320	<RDL
Se	0.962	9.124	< 1.58	0.079	<RDL
Tl	< 0.211	0.200	< 1.05	0.500	<RDL
Zn	22.9	217.420	23.4	44.302	<RDL

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Client: **Pacific Environmental Services**
Project Number: **43411**

QA: Duplicate

Client Sample ID:	O-M29-2-FHACE.FHAR.FILTER FH	O-M29-2-FHACE.FHAR.FILTER FH DA
TLI Sample ID:	184-84-2ABC FH	184-84-2ABC FH DA
Date Prepared:	October 14-16, 1997	October 14-16, 1997
Date Analyzed:	October 20, 1997	October 20, 1997
Matrix:	Air	Air

	Sample		Duplicate		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
Ag	0.215	2.154	0.219	2.187	<RDL
As	< 0.500	2.119	< 0.500	-2.546	<RDL
Ba	40.2	401.536	40.1	401.409	0.249%
Be	< 0.100	-0.235	< 0.100	-0.310	<RDL
Cd	0.174	1.741	< 0.100	0.762	<RDL
Co	< 0.100	-23.080	< 0.100	-25.496	<RDL
Cr	10.5	104.724	10.5	104.896	0.000%
Cu	5.73	57.339	5.81	58.095	1.39%
Mn	63.3	633.126	63.0	630.072	0.475%
Ni	5.02	50.162	5.01	50.148	0.199%
P	46.4	463.845	44.5	444.771	4.18%
Pb	2.41	24.095	2.14	21.354	11.9%
Sb	3.85	38.476	3.30	32.953	<RDL
Se	3.75	37.508	3.99	39.887	6.20%
Tl	< 0.20	0.600	N/A	N/A	N/A
Zn	18.3	183.228	18.1	181.032	1.10%

Client: **Pacific Environmental Services**
Project Number: **43411**

QA: Duplicate

Client Sample ID:	O-M29-2-HNO3 BH	O-M29-2-HNO3 BH DA
TLI Sample ID:	184-84-2DE BH	184-84-2DE BH DA
Date Prepared:	October 14-16, 1997	October 14-16, 1997
Date Analyzed:	October 20, 1997	October 20, 1997
Matrix:	Air	Air

	Sample		Duplicate		
Analyte	Total ug Result	ug/L Conc.	Total ug Result	ug/L Conc.	RPD
Ag	< 0.106	0.635	< 0.106	-1.000	<RDL
As	< 0.528	-3.373	< 0.528	-2.338	<RDL
Ba	0.748	7.088	0.722	6.838	<RDL
Be	< 0.106	-0.003	< 0.106	-0.058	<RDL
Cd	0.203	1.921	0.18	1.709	<RDL
Co	< 0.106	-0.164	< 0.106	-1.009	<RDL
Cr	0.594	5.627	0.443	4.196	<RDL
Cu	1.45	13.779	1.29	12.233	<RDL
Mn	11.7	110.581	11.6	109.478	0.858%
Ni	1.52	14.447	1.44	13.690	<RDL
P	69.7	660.558	68.7	650.906	1.45%
Pb	3.02	28.585	3.02	28.606	0.000%
Sb	< 0.422	0.257	< 0.422	-5.254	<RDL
Se	0.683	6.474	0.743	7.037	<RDL
Tl	< 0.211	0.800	N/A	N/A	N/A
Zn	7.75	73.430	7.57	71.752	<RDL

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Client: **Pacific Environmental Services**
Project Number: **43411**

QA: Matrix Spikes (Post-Digestion)

Client Sample ID:	O-M29-1-FHACE,FHAR,FILTER FH PDS	
TLI Sample ID:	184-84-1ABC FH PDS	
Date Prepared:	October 14-16, 1997	
Date Analyzed:	October 20, 1997	
Matrix:	Air	

	Post-Digestion Spike			Post-Digestion Spike Duplicate			
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	RPD
Ag	42.33	50	80%				---
As	47.28	50	95%				---
Ba	575.52	50	Spike Low				---
Be	44.63	50	89%				---
Cd	43.53	50	87%				---
Co	17.32	50	35%				---
Cr	172.26	50	93%				---
Cu	118.97	50	95%				---
Mn	709.59	50	Spike Low				---
Ni	105.88	50	94%				---
P	1391.02	1000	89%				---
Pb	75.53	50	90%				---
Sb	95.35	50	114%				---
Se	85.76	50	78%				---
Tl	20.40	25	82%				---
Zn	397.21	200	92%				---

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Client: Pacific Environmental Services
Project Number: 43411

QA: Matrix Spikes (Post-Digestion)

Client Sample ID:	O-M29-1-HNO3 BH PDS	
TLI Sample ID:	184-84-1DE BH PDS	
Date Prepared:	October 14-16, 1997	
Date Analyzed:	October 20, 1997	
Matrix:	Air	

	Post-Digestion Spike			Post-Digestion Spike Duplicate			RPD
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	
Ag	42.65	50	83%				---
As	42.89	50	86%				---
Ba	58.97	50	101%				---
Be	46.31	50	93%				---
Cd	51.82	50	95%				---
Co	47.41	50	95%				---
Cr	52.63	50	94%				---
Cu	68.63	50	96%				---
Mn	63.17	50	82%				---
Ni	79.71	50	94%				---
P	1419.02	1000	86%				---
Pb	96.36	50	89%				---
Sb	45.56	50	91%				---
Se	50.52	50	83%				---
Tl	21.90	25	88%				---
Zn	389.40	200	86%				---

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Client: **Pacific Environmental Services**
Project Number: **43411**

QA: Method Blank

TLI Sample ID:	43411 MB
Date Prepared:	October 14-16, 1997
Date Analyzed:	October 20, 1997
Matrix:	N/A

	Method Blank		
Analyte	Recovered Amount (ug/L)	Detection Limit (ug/L)	Pass or Fail
Ag	-0.31	1	Pass
As	-0.83	5	Pass
Ba	0.08	2	Pass
Be	-0.01	1	Pass
Cd	0.03	1	Pass
Co	-0.32	1	Pass
Cr	0.26	2	Pass
Cu	0.73	2	Pass
Mn	0.39	2	Pass
Ni	10.14	3	Fail
P	-5.19	30	Pass
Pb	0.71	2	Pass
Sb	-0.06	4	Pass
Se	0.50	3	Pass
Tl	-1.30	2	Pass
Zn	2.79	12	Pass
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Client: **Pacific Environmental Services**
Project Number: **43411**

QA: Lab Control Spikes

TLI Sample ID:	43411 LCS	
Date Prepared:	October 14-16, 1997	
Date Analyzed:	October 20, 1997	
Matrix:	N/A	

	Lab Control Spike			Lab Control Spike Duplicate			
Analyte	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	Recovered Amount (ug/L)	Spike Amount (ug/L)	% Recovery	RPD
Ag	42.95	50	86%				---
As	44.95	50	90%				---
Ba	46.80	50	94%				---
Be	45.78	50	92%				---
Cd	46.59	50	93%				---
Co	46.65	50	93%				---
Cr	47.19	50	94%				---
Cu	47.89	50	96%				---
Mn	47.50	50	95%				---
Ni	65.43	50	131%				---
P	908.82	1000	91%				---
Pb	45.94	50	92%				---
Sb	46.51	50	93%				---
Se	46.39	50	93%				---
Tl	36.40	50	73%				---
Zn	194.41	200	97%				---

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Client: **Pacific Environmental Services**
Project Number: **43377**

Sample Report

Client Sample ID:	O-M29-RB-FHACE,FHAR,FILTER FH
TLI Sample ID:	184-50-6ABC FH
Date Received:	September 24, 1997
Date Prepared:	October 10-14, 1997
Date Analyzed:	October 16,20,21 & 22, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	2.705	N/A	N/A	100	1	0.270
As	3.407	N/A	N/A	100	1	< 0.500
Ba	43.292	N/A	N/A	100	1	4.33
Be	-0.112	N/A	N/A	100	1	< 0.100
Cd	-6.215	N/A	N/A	100	1	< 0.100
Co	-29.571	N/A	N/A	100	1	< 0.100
Cr	93.294	N/A	N/A	100	1	9.33
Cu	10.580	N/A	N/A	100	1	1.06
Mn	9.109	N/A	N/A	100	1	0.911
Ni	46.803	N/A	N/A	100	1	4.68
P	17.600	N/A	N/A	100	1	< 3.00
Pb	-12.883	N/A	N/A	100	1	< 0.200
Sb	41.765	N/A	N/A	100	1	4.18
Se	43.531	N/A	N/A	100	1	4.35
Tl	-3.00	N/A	N/A	100	1	< 0.200
Zn	25.989	N/A	N/A	100	1	2.60

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Client: **Pacific Environmental Services**
Project Number: **43377**

Sample Report

Client Sample ID:	O-M29-RB-HNO3 BH
TLI Sample ID:	184-50-6BD BH
Date Received:	September 24, 1997
Date Prepared:	October 10-14, 1997
Date Analyzed:	October 16,20,21 & 22, 1997
Matrix:	Air

Analyte	Conc. (ug/L)	mL Total Vol.	mL Used	mL Final Vol.	Dilution Factor	Total ug Result
Ag	0.061	300	300	100	1	< 0.100
As	-8.994	300	300	100	1	< 0.500
Ba	3.256	300	300	100	1	0.326
Be	-0.044	300	300	100	1	< 0.100
Cd	-0.536	300	300	100	1	< 0.100
Co	-1.619	300	300	100	1	< 0.100
Cr	2.217	300	300	100	1	0.222
Cu	14.381	300	300	100	1	1.44
Mn	346.891	300	300	100	1	34.7
Ni	6.056	300	300	100	1	0.606
P	553.359	300	300	100	1	55.3
Pb	2.647	300	300	100	1	0.265
Sb	1.642	300	300	100	1	< 0.400
Se	-0.017	300	300	100	1	< 0.300
Tl	-1.50	300	300	100	1	< 0.200
Zn	20.330	300	300	100	1	2.03

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Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Date Received:	September 26, 1997
Date Prepared:	October 14-20, 1997
Date Analyzed:	October 20-22, 1997
DATA FILE:	AB826, AB827 & AB828
Matrix:	Air

ANALYTE:	Hg
ug/L RDL:	0.2
Analysis Method:	29
Instrument:	P E Zeeman 5100
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

Client Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml PV	ml Aliquot	Dil. FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
O-M29-1-FHACE,FHAR,FILTER FH	184-84-1ABC	0.022	N/A	100	5	1	< 0.400	–	–	–
O-M29-1-FHACE,FHAR,FILTER FH D	184-84-1ABC D	0.006	N/A	100	5	1	< 0.400	< 0.400	–	–
O-M29-1-HNO3 BH	184-84-1DE	0.016	1940	N/A	5	1	< 7.76	–	–	–
O-M29-1-HNO3 BH D	184-84-1DE D	0.020	1940	N/A	5	1	< 7.76	< 7.76	–	–
O-M29-1-BHAR HNO3	184-84-1F	0.019	110	N/A	5	1	< 0.440	–	–	–
O-M29-1-BHAR HNO3 D	184-84-1F D	0.012	110	N/A	5	1	< 0.440	< 0.440	–	–
O-M29-1-KMnO4	184-84-1G	0.070	450	N/A	5	1	< 1.80	–	–	–
O-M29-1-KMnO4 D	184-84-1G D	0.072	450	N/A	5	1	< 1.80	< 1.80	–	–
O-M29-1-HCl	184-84-1H	0.011	89	N/A	5	1	< 0.356	–	–	–
O-M29-1-HCl D	184-84-1H D	0.002	89	N/A	5	1	< 0.356	< 0.356	–	–
O-M29-2-FHACE,FHAR,FILTER FH	184-84-2ABC	0.006	N/A	100	5	1	< 0.400	–	–	–
O-M29-2-FHACE,FHAR,FILTER FH D	184-84-2ABC D	-0.002	N/A	100	5	1	< 0.400	< 0.400	–	–
O-M29-2-HNO3 BH	184-84-2DE	0.019	1910	N/A	5	1	< 7.64	–	–	–
O-M29-2-HNO3 BH D	184-84-2DE D	0.019	1910	N/A	5	1	< 7.64	< 7.64	–	–
O-M29-2-BHAR HNO3	184-84-2F	0.000	90	N/A	5	1	< 0.360	–	–	–
O-M29-2-BHAR HNO3 D	184-84-2F D	0.000	90	N/A	5	1	< 0.360	< 0.360	–	–
O-M29-2-KMnO4	184-84-2G	0.033	455	N/A	5	1	< 1.82	–	–	–
O-M29-2-KMnO4 D	184-84-2G D	0.093	455	N/A	5	1	< 1.82	< 1.82	–	–
O-M29-2-HCl	184-84-2H	0.019	46	N/A	5	1	< 0.184	–	–	–
O-M29-2-HCl D	184-84-2H D	0.014	46	N/A	5	1	< 0.184	< 0.184	–	–
O-M29-3-FHACE,FHAR,FILTER FH	184-84-3ABC	0.009	N/A	100	5	1	< 0.400	–	–	–
O-M29-3-FHACE,FHAR,FILTER FH D	184-84-3ABC D	0.008	N/A	100	5	1	< 0.400	< 0.400	–	–
O-M29-3-HNO3 BH	184-84-3DE	0.025	1530	N/A	5	1	< 6.12	–	–	–
O-M29-3-HNO3 BH D	184-84-3DE D	0.014	1530	N/A	5	1	< 6.12	< 6.12	–	–
O-M29-3-BHAR HNO3	184-84-3F	0.012	85	N/A	5	1	< 0.340	–	–	–
O-M29-3-BHAR HNO3 D	184-84-3F D	0.006	85	N/A	5	1	< 0.340	< 0.340	–	–
O-M29-3-KMnO4	184-84-3G	0.107	265	N/A	5	1	< 1.06	–	–	–
O-M29-3-KMnO4 D	184-84-3G D	0.106	265	N/A	5	1	< 1.06	< 1.06	–	–
O-M29-3-HCl	184-84-3H	0.016	50	N/A	5	1	< 0.200	–	–	–
O-M29-3-HCl D	184-84-3H D	0.019	50	N/A	5	1	< 0.200	< 0.200	–	–

Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Date Received:	September 26, 1997
Date Prepared:	October 14-20, 1997
Date Analyzed:	October 20-22, 1997
DATA FILE:	AB826, AB827 & AB828
Matrix:	Air

ANALYTE:	Hg
ug/L RDL:	0.2
Analysis Method:	29
Instrument	P E Zeeman 5100
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

Client Sample ID	TRI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
I-M29-1-FHACE FHAR,FILTER FH	184-84-4ABC	0.059	N/A	100	5	1	< 0.400	--	--	--
I-M29-1-FHACE,FHAR,FILTER FH D	184-84-4ABC D	0.062	N/A	100	5	1	< 0.400	< 0.400	--	--
I-M29-1-HNO3 BH	184-84-4D	0.026	750	N/A	5	1	< 3.00	--	--	--
I-M29-1-HNO3 BH D	184-84-4D D	0.016	750	N/A	5	1	< 3.00	< 3.00	--	--
I-M29-1-KMnO4	184-84-4E	0.061	335	N/A	5	1	< 1.34	--	--	--
I-M29-1-KMnO4 D	184-84-4E D	0.048	335	N/A	5	1	< 1.34	< 1.34	--	--
I-M29-1-HCl	184-84-4F	0.011	49	N/A	5	1	< 0.196	--	--	--
I-M29-1-HCl D	184-84-4F D	0.012	49	N/A	5	1	< 0.196	< 0.196	--	--
O-M29-FB-FHACE,FHAR,2-FILTER 8/27/97 FH	184-84-5ABC	0.005	N/A	100	5	1	< 0.400	--	--	--
O-M29-FB-FHACE,FHAR,2-FILTER 8/27/97 FH D	184-84-5ABC D	0.002	N/A	100	5	1	< 0.400	< 0.400	--	--
O-M29-FB-FHAR,HNO3 BH	184-84-5BD	0.050	75	N/A	5	1	< 0.300	--	--	--
O-M29-FB-FHAR,HNO3 BH D	184-84-5BD D	0.033	75	N/A	5	1	< 0.300	< 0.300	--	--
O-M29-FB-BHAR HNO3	184-84-5E	0.041	75	N/A	5	1	< 0.300	--	--	--
O-M29-FB-BHAR HNO3 D	184-84-5E D	0.036	75	N/A	5	1	< 0.300	< 0.300	--	--
O-M29-FB-KMnO4	184-84-5F	0.030	400	N/A	5	1	< 1.60	--	--	--
O-M29-FB-KMnO4 D	184-84-5F D	0.025	400	N/A	5	1	< 1.60	< 1.60	--	--
O-M29-FB-HCl	184-84-5GF	0.044	50	N/A	5	1	< 0.200	--	--	--
O-M29-FB-HCl D	184-84-5GF D	0.041	50	N/A	5	1	< 0.200	< 0.200	--	--
I-M29-2-FHACE,FHAR,FILTER FH	184-84-6ABC	0.081	N/A	100	5	1	< 0.400	--	--	--
I-M29-2-FHACE,FHAR,FILTER FH D	184-84-6ABC D	0.078	N/A	100	5	1	< 0.400	< 0.400	--	--
I-M29-2-HNO3 BH	184-84-6D	0.044	1000	N/A	5	1	< 4.00	--	--	--
I-M29-2-HNO3 BH D	184-84-6D D	0.039	1000	N/A	5	1	< 4.00	< 4.00	--	--
I-M29-2-BHAR HNO3	184-84-6G	0.034	75	N/A	5	1	< 0.300	--	--	--
I-M29-2-BHAR HNO3 D	184-84-6G D	-0.003	75	N/A	5	1	< 0.300	< 0.300	--	--
I-M29-2-KMnO4	184-84-6E	0.138	300	N/A	5	1	< 1.20	--	--	--
I-M29-2-KMnO4 D	184-84-6E D	0.127	300	N/A	5	1	< 1.20	< 1.20	--	--
I-M29-2-HCl	184-84-6F	-0.003	63	N/A	5	1	< 0.252	--	--	--
I-M29-2-HCl D	184-84-6F D	0.003	63	N/A	5	1	< 0.252	< 0.252	--	--

Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Date Received:	September 26, 1997
Date Prepared:	October 14-20, 1997
Date Analyzed:	October 20-22, 1997
DATA FILE:	AB826, AB827 & AB828
Matrix:	Air

ANALYTE:	Hg
ug/L RDL:	0.2
Analysis Method:	29
Instrument:	P E Zeeman 5100
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

Client Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	DIL FACTOR	Total ug RESULT	Avg RESULT	RPD	%REC
I-M29-3-FHACE,FHAR,FILTER,FH CATCH FH	184-84-7ABCD	0.031	N/A	100	5	1	< 0.400	–	–	–
I-M29-3-FHACE,FHAR,FILTER,FH CATCH FH D	184-84-7ABCD D	0.018	N/A	100	5	1	< 0.400	< 0.400	–	–
I-M29-3-HNO3 BH	184-84-7EF	0.044	1100	N/A	5	1	< 4.40	–	–	–
I-M29-3-HNO3 BH D	184-84-7EF D	0.036	1100	N/A	5	1	< 4.40	< 4.40	–	–
I-M29-3-BHAR HNO3	184-84-7G	0.000	105	N/A	5	1	< 0.420	–	–	–
I-M29-3-BHAR HNO3 D	184-84-7G D	-0.018	105	N/A	5	1	< 0.420	< 0.420	–	–
I-M29-3-KMnO4	184-84-7H	0.148	235	N/A	5	1	< 0.940	–	–	–
I-M29-3-KMnO4 D	184-84-7H D	0.112	235	N/A	5	1	< 0.940	< 0.940	–	–
I-M29-3-HCl	184-84-7H	0.148	100	N/A	5	1	< 0.400	–	–	–
I-M29-3-HCl D	184-84-7H D	0.112	100	N/A	5	1	< 0.400	< 0.400	–	–
O-M29-1-HNO3 BH MS	184-84-1DE MS	2.521	1940	N/A	5	1	98	–	–	50%
O-M29-1-HNO3 BH MSD	184-84-1DE MSD	2.532	1940	N/A	5	1	98	98	0.44%	51%
O-M29-2-HNO3 BH MS	184-84-2DE MS	2.922	1910	N/A	5	1	112	–	–	58%
O-M29-2-HNO3 BH MSD	184-84-2DE MSD	2.720	1910	N/A	5	1	104	108	7.16%	54%
I-M29-1-HNO3 BH MS	184-84-4D MS	2.599	750	N/A	5	1	39.0	–	–	52%
I-M29-1-HNO3 BH MSD	184-84-4D MSD	2.631	750	N/A	5	1	39.5	39.2	1.22%	53%
O-M29-FB-FHAR,HNO3 BH MS	184-84-5BD MS	4.926	75	N/A	5	1	7.39	–	–	99%
O-M29-FB-FHAR,HNO3 BH MSD	184-84-5BD MSD	5.092	75	N/A	5	1	7.64	7.51	3.31%	102%
I-M29-2-HNO3 BH MS	184-84-6D MS	8.142	1000	N/A	5	1	163	–	–	163%
I-M29-2-HNO3 BH MSD	184-84-6D MSD	7.947	1000	N/A	5	1	159	161	2.42%	159%
I-M29-3-HNO3 BH MS	184-84-7EF MS	8.442	1100	N/A	5	1	186	–	–	169%
I-M29-3-HNO3 BH MSD	184-84-7EF MSD	8.587	1100	N/A	5	1	189	187	1.70%	172%
O-M29-1-HNO3 BH MS	True Spike MS	5	1940	N/A	5	1	194	–	–	–
O-M29-1-HNO3 BH MSD	True Spike MSD	5	1940	N/A	5	1	194	–	–	–
O-M29-2-HNO3 BH MS	True Spike MS	5	1910	N/A	5	1	191	–	–	–
O-M29-2-HNO3 BH MSD	True Spike MSD	5	1910	N/A	5	1	191	–	–	–
I-M29-1-HNO3 BH MS	True Spike MS	5	750	N/A	5	1	75.0	–	–	–
I-M29-1-HNO3 BH MSD	True Spike MSD	5	750	N/A	5	1	75.0	–	–	–
O-M29-FB-FHAR,HNO3 BH MS	True Spike MS	5	75	N/A	5	1	7.50	–	–	–
O-M29-FB-FHAR,HNO3 BH MSD	True Spike MSD	5	75	N/A	5	1	7.50	–	–	–
I-M29-2-HNO3 BH MS	True Spike MS	5	1000	N/A	5	1	100	–	–	–
I-M29-2-HNO3 BH MSD	True Spike MSD	5	1000	N/A	5	1	100	–	–	–

Client: **Pacific Environmental Services**
Project Number: **43411**

Sample Report

Date Received:	September 26, 1997
Date Prepared:	October 14-20, 1997
Date Analyzed:	October 20-22, 1997
DATA FILE:	AB826, AB827 & AB828
Matrix:	Air

ANALYTE:	Hg
ug/L RDL:	0.2
Analysis Method:	29
Instrument:	P E Zeeman 5100
Spike Conc. (ug/L)	5

CVAA ANALYTE SUMMARY REPORT

Client Sample ID	TLI SAMPID	ug/L CONC	ml TV	ml FV	ml Aliquot	Dil. FACTOR	Total ug RESULT	Avg. RESULT	RPD	%REC
I-M29-3-HNO3 BH MS	True Spike MS	5	1100	N/A	5	1	110	--	--	--
I-M29-3-HNO3 BH MSD	True Spike MSD	5	1100	N/A	5	1	110	--	--	--
Method Blank	43411 MB1	0.006	--	--	--	--	--	--	--	--
Method Blank D	43411 MBD1	0.006	--	--	--	--	--	--	--	--
LCS	43411 LCS1	5.006	--	--	--	--	--	--	--	100%
LCS D	43411 LCS1 D	4.900	--	--	--	--	--	--	--	98%
Method Blank	43411 MB2	0.005	--	--	--	--	--	--	--	--
Method Blank D	43411 MBD2	-0.010	--	--	--	--	--	--	--	--
LCS	43411 LCS2	5.325	--	--	--	--	--	--	--	107%
LCS D	43411 LCS2 D	5.473	--	--	--	--	--	--	--	109%
Method Blank	43411 MB3	0.036	--	--	--	--	--	--	--	--
Method Blank D	43411 MBD3	0.022	--	--	--	--	--	--	--	--
LCS	43411 LCS3	5.001	--	--	--	--	--	--	--	100%
LCS D	43411 LCS3 D	4.846	--	--	--	--	--	--	--	97%

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

Printed: 01-Nov-97 at 03:20 PM

PACIFIC ENVIRONMENTAL SERVICES, INC.

COPY

Central Park West
5001 South Miami Boulevard, P.O. Box 12077
Research Triangle Park, North Carolina 27709-2077
(919) 941-0333 FAX: (919) 941-0234

Chain of Custody Record

Project Num	Project Name	Analysis Requested							Remarks
s413-004	US EPA EMC Asphalt Cement, ASPHALT PLANT "B"								
Samplers: Dickerson, McDonald, Thompson, Dougherty, Hamilton		MM	Hg						
Date	Time / Field Sample ID / Sample Description								
8/27/97	1600 O-M29-1-FHACE FH Acetone Rinse - Beaker No. M-22	•	•						
8/27/97	1600 O-M29-1-FHAR FH 0.1 N HNO3 Rinse	•	•						
8/27/97	1600 O-M29-1-Filter Filter M97-013 - Beaker No. M-23	•	•						
8/27/97	1600 O-M29-1-HNO3 5% HNO3 / 10% H2O2 Absorbing Solution	•	•						Bottle 1/2
8/27/97	1600 O-M29-1-HNO4 5% HNO3 / 10% H2O2 Absorbing Solution	•	•						Bottle 2/2
8/27/97	1600 O-M29-1-BHAR BH 0.1 N HNO3 Rinse	•	•						
8/27/97	1600 O-M29-1-KMnO4 10% H2SO4 / 4% KMnO4 Absorbing Sol.		•						
8/27/97	1600 O-M29-1-HCl 8N HCl Rinse		•						
8/28/97	1300 O-M29-2-FHACE FH Acetone Rinse - Beaker No. M-24	•	•						
8/28/97	1300 O-M29-2-FHAR FH 0.1 N HNO3 Rinse	•	•						
8/28/97	1300 O-M29-2-Filter Filter M97-019	•	•						Petri Disk
8/28/97	1300 O-M29-2-HNO3 5% HNO3 / 10% H2O2 Absorbing Solution	•	•						Bottle 1/2
8/28/97	1300 O-M29-2-HNO3 5% HNO3 / 10% H2O2 Absorbing Solution	•	•						Bottle 2/2
8/28/97	1300 O-M29-2-BHAR BH 0.1 N HNO3 Rinse	•	•						
8/28/97	1300 O-M29-2-KMnO4 10% H2SO4 / 4% KMnO4 Absorbing Sol.		•						
8/28/97	1300 O-M29-2-HCl 8N HCl Rinse		•						
8/29/97	1315 O-M29-3-FHACE FH Acetone Rinse - Beaker No. W-10	•	•						
8/29/97	1315 O-M29-3-FHAR FH 0.1 N HNO3 Rinse	•	•						
8/29/97	1315 O-M29-3-Filter Filter M97-004 - Beaker No. W-11	•	•						
8/29/97	1315 O-M29-3-HNO3 5% HNO3 / 10% H2O2 Absorbing Solution	•	•						Bottle 1/2
8/29/97	1315 O-M29-3-HNO3 5% HNO3 / 10% H2O2 Absorbing Solution	•	•						Bottle 2/2
8/29/97	1315 O-M29-3-BHAR BH 0.1 N HNO3 Rinse	•	•						
8/29/97	1315 O-M29-3-KMnO4 10% H2SO4 / 4% KMnO4 Absorbing Sol.		•						
8/29/97	1315 O-M29-3-HCl 8N HCl Rinse		•						
8/27/97	1300 I-M29-1-FHACE FH Acetone Rinse - Beaker No. M-12	•	•						

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Chain of Custody Record

Project Num	Project Name	Analysis Requested							Remarks
s413-004	US EPA EMC Asphalt Cement, ASPHALT PLANT "B"								
Samplers: Dickerson, McDonald, Thompson, Dougherty, Hamilton									
Date	**Time**	**Field Sample ID**	**Sample Description**	MM	Hg				
8/27/97	1300	I-M29-1-FHAR	FH 0.1 N HNO3 Rinse	•	•				
8/27/97	1300	I-M29-1-Filter	Beaker No. M-3	•	•				Filters M010, 011, 012, 014, 015
8/27/97	1300	I-M29-1-HNO3	5% HNO3 / 10% H2O2 Absorbing Solution	•	•				Bottle 1/2
8/27/97	1300	I-M29-1-KMnO4	10% H2SO4 / 4% KMnO4 Absorbing Sol.		•				
8/27/97	1300	I-M29-1-HCl	8N HCl Rinse		•				
8/27/97	0900	O-M29-FB-FHACE	FH Acetone Rinse - Beaker No. W-12	•	•				
8/27/97	0900	O-M29-FB-FHAR	FH 0.1 N HNO3 Rinse	•	•				
8/27/97	0900	O-M29-FB-Filter	Filter M97-017	•	•				Petri Dish
8/27/97	0900	O-M29-FB-HNO3	5% HNO3 / 10% H2O2 Absorbing Solution	•	•				
8/27/97	0900	O-M29-FB-BHAR	BH 0.1 N HNO3 Rinse	•	•				
8/27/97	0900	O-M29-FB-KMnO4	10% H2SO4 / 4% KMnO4 Absorbing Sol.		•				
8/27/97	0900	O-M29-FB-HCl	8N HCl Rinse		•				
8/28/97	1500	I-M29-2-FHACE	FH Acetone Rinse - Beaker No. M-19	•	•				
8/28/97	1500	I-M29-2-FHAR	FH 0.1 N HNO3 Rinse	•	•				
8/28/97	1500	I-M29-2-Filter	Filter No. 97-016, 1002 - Beaker No. M-17	•	•				
8/28/97	1500	I-M29-2-HNO3	5% HNO3 / 10% H2O2 Absorbing Solution	•	•				
8/28/97	1500	I-M29-2-KMnO4	10% H2SO4 / 4% KMnO4 Absorbing Sol.		•				
8/28/97	1500	I-M29-2-HCl	8N HCl Solution		•				
8/29/97	1530	I-M29-3-FHACE	FH Acetone Rinse - Beaker No. M-21	•	•				
8/29/97	1530	I-M29-3-FHAR	FH 0.1 N HNO3 Rinse	•	•				
8/29/97	1530	I-M29-3-Filter	Filter M97-0010 - Beaker No. M-20	•	•				
8/29/97	1530	I-M29-3-FH Catch	Front Half Catch	•	•				Zip-lock Bag
8/29/97	1530	I-M29-3-HNO3	5% HNO3 / 10% H2O2 Absorbing Solution	•	•				Bottle 1/2
8/29/97	1530	I-M29-3-HNO3	5% HNO3 / 10% H2O2 Absorbing Solution	•	•				Bottle 2/2
8/29/97	1530	I-M29-3-BHAR	BH 0.1 N HNO3 Rinse	•	•				

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(919) 941-0333 FAX: (919) 941-0234

Chain of Custody Record

Project Num	Project Name	Analysis Requested	Remarks
s413-004	Asphalt Plant B — US EPA EMC Asphalt Cement, [illegible]		
Samplers: Dickerson, McDonald, Thompson, Dougherty, Hamilton			

Date	Time	Field Sample ID	Sample Description	MM	Hg						Remarks
8/29/97	1530	I-M29-3-KMnO4	10% H2SO4 / 4% KMnO4 Absorbing Sol		•						
8/29/97	1530	I-M29-3-HCl	8N HCl Solution		•						

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time 9/26/97 1630	Received for lab by: (Signature) 9/26/97 1638	REMARKS		Page: ____ of ____

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TRIANGLE LABORATORIES, INC. - LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

Ice Chest/Box NO COOLANT

TLI Project Number 43411
Client: PES03 - Pacific Environmental Services

Date Received 09/26/97 By J Tuerott

Carrier and Number HAND DELIVERED

Book 184 Page 84

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 LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
184-84-1A	O-M29-1-FHACE	FH ACE RNS									
	O-M29-1-FHACE	METALS LAB									
184-84-1B	O-M29-1-FHAR	FH 0.1N HNO3									
	O-M29-1-FHAR	METALS LAB									
184-84-1C	O-M29-1-FILTER	FILTER									
	O-M29-1-FILTER	METALS LAB									
184-84-1D	O-M29-1-HNO3	5% HNO3/10% H202									
	O-M29-1-HNO3	METALS LAB									
184-84-1E	O-M29-1-HNO3	5% HNO3/10% H202									
	O-M29-1-HNO3 HNO3 COUNT	METALS LAB									
184-84-1F	O-M29-1-BHAR	BH 0.1N HNO3 RNS									
	O-M29-1-BHAR	METALS LAB									
184-84-1G	O-M29-1-KMNO4	10% H2SO4/4%KMNO4									
	O-M29-1-KMNO4	METALS LAB									
184-84-1H	O-M29-1-HCL	8N HCl									
	O-M29-1-HCL	METALS LAB									
184-84-2A	O-M29-2-FHACE	FH ACE RNS									
	O-M29-2-FHACE	METALS LAB									
184-84-2B	O-M29-2-FHAR	FH 0.1N HNO3									
	O-M29-2-FHAR	METALS LAB									
184-84-2C	O-M29-2-FILTER	FILTER									
	O-M29-2-FILTER	METALS LAB									
184-84-2D	O-M29-2-HNO3	5%HNO3/10%H2O2									
	O-M29-2-HNO3	METALS LAB									
184-84-2E	O-M29-2-HNO3	5%HNO3/10%H2O2									
	O-M29-2-HNO3	METALS LAB									
184-84-2F	O-M29-2-BHAR	BH 0.1HNO3 RNS									
	O-M29-2-BHAR	METALS LAB									

Receiving Remarks: I-M29-2-BHAR was not on COC but was received. Sample O-M29-FB FILTER is marked O M29-2 FILTER but has the date 8/27/97 which is the same as the COC.

Archive Remarks:

TRIANGLE LABORATORIES, INC. LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent Sample Seals: Absent
Chain of Custody : Present Container... : Intact
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

TLI Project Number 4341)
Client - PES03 - Pacific Environmental Services

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Date Received 09/26/97 By

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Ice Chest/Box NO COOLANT

Carrier and Number HAND DELIVERED

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 LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
184-84-2G	O-M29-2-KMNO4	10% H2SO4/4%KMNO4									
	O-M29-2-KMNO4	METALS LAB									
184-84-2H	O-M29-2-HCL	8N HCL									
	O-M29-2-HCL	METALS LAB									
184-84-3A	O-M29-3-FHACE	FH ACE RNS									
	O-M29-3-FHACE	METALS LAB									
184-84-3B	O-M29-3-FHAR	FH 0.1N HNO3									
	O-M29-3-FHAR	METALS LAB									
184-84-3C	O-M29-3-FILTER	FILTER									
	O-M29-3-FILTER	METALS LAB									
184-84-3D	O-M29-3-HNO3	5%HNO3/10%H2O2									
	O-M29-3-HNO3	METALS LAB									
184-84-3E	O-M29-3-HNO3	5%HNO3/10%H2O2									
	O-M29-3-HNO3	METALS LAB									
184-84-3F	O-M29-3-BHAR	BH 0.1N HNO3									
	O-M29-3-BHAR	METALS LAB									
184-84-3G	O-M29-3-KMNO4	10%H2SO4/4%KMNO4									
	O-M29-3-KMNO4	METALS LAB									
184-84-3H	O-M29-3-HCL	8N HCl									
	O-M29-3-HCL	METALS LAB									
184-84-4A	I-M29-1-FHACE	FH ACE RNS									
	I-M29-1-FHACE	METALS LAB									
184-84-4B	I-M29-1-FHAR	FH 0.1N HNO3									
	I-M29-1-FHAR	METALS LAB									
184-84-4C	I-M29-1-FILTER	FILTER									
	I-M29-1-FILTER	METALS LAB									
184-84-4D	I-M29-1-HNO3	5%HNO3/10%H2O2									
	I-M29-1-HNO3	METALS LAB									

Receiving Remarks: I-M29-2-BHAR was not on COC but was received. Sample O-M29-FB-FILTER is marked O-M29-2-FILTER but has the date 8/27/97 which is the same as the COC.

* Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent
Chain of Custody : Present
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

Sample Seals: Absent
Container...: Intact

TLI Project Number 43411
Client: PES01 - Pacific Environmental Services

Date Received | 09/26/97 | By

Carrier and Number | HAND DELIVERED

Book 184 Page 84

Ice Chest/Box NO COOLANT

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 LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
184-84-4E	I-M29-1-KMNO4 I-M29-1-KMNO4	10%H2SO4/4%KMNO4 METALS LAB									
184-84-4F	I-M29-1-HCL I-M29-1-HCL	8N HCL METALS LAB									
184-84-5A	O-M29-FB-FHACE O-M29-FB-FHACE	FH ACE RNS METALS LAB									
184-84-5B	O-M29-FB-FHAR O-M29-FB-FHAR	FH 0.1HNO3 METALS LAB									
184-84-5C	O-M29-2-FILTER 8/27/97 O-M29-FB-FILTER	FILTER METALS LAB									
184-84-5D	O-M29-FB-HNO3 O-M29-FB-HNO3	5%HNO3/10%H2O2 METALS LAB									
184-84-5E	O-M29-FB-BHAR O-M29-FB-BHAR	BH 0.1N HNO3 METALS LAB									
184-84-5F	O-M29-FB-KMNO4 O-M29-FB-KMNO4	10%H2SO4/4%KMNO4 METALS LAB									
184-84-5G	O-M29-FB-HCL O-M29-FB-HCL	8N HCl METALS LAB									
184-84-6A	I-M29-2-FHACE I-M29-2-FHACE	FH ACE RNS METALS LAB									
184-84-6B	I-M29-2-FHAR I-M29-2-FHAR	FH 0.1HNO3 METALS LAB									
184-84-6C	I-M29-2-FILTER I-M29-2-FILTER	FILTER METALS LAB									
184-84-6D	I-M29-2-HNO3 I-M29-2-HNO3	5%HNO3/10%H2O2 METALS LAB									
184-84-6E	I-M29-2-KMNO4 I-M29-2-KMNO4	10%H2SO4/4%KMNO4 METALS LAB									

Receiving Remarks: I-M29-2-BHAR was not on COC but was received. Sample O-M29-FB-FILTER is marked C-M29-2-FILTER but has the date 8/27/97 which is the same as the COC.

Archive Remarks:

TRIANGLE LABORATORIES, INC. -- LOG IN RECORD/CHAIN OF CUSTODY

Custody Seal : Absent | Sample Seals: Absent
Chain of Custody : Present | Container...: Intact
Sample Tags : Absent
Sample Tag Numbers: Not Listed on Chain of Custody
SMO Forms : N/A

TLI Project Number 43411
Client : PES01 - Pacific Environmental Services

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Date Received | 09/26/97 | By J Bventte

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Ice Chest/Box | NO COOLANT | Carrier and Number | HAND DELIVERED

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 LAB Date/Init	To STORAGE Date/Init	To LAB Date/Init	To STORAGE Date/Init	DISPOSED Date/Init
184-84-6F	I-M29-2-HCL	8N HCL									
	I-M29-2-HCL	METALS LAB									
184-84-6G	I-M29-2-BHAR	BH 0.1N HNO3									
	(Not Listed-Client COC) *	METALS LAB									
184-84-7A	I-M29-3-FHACE	FH ACE RNS									
	I-M29-3-FHACE	METALS LAB									
184-84-7B	I-M29-3-FHAR	FH 0.1HNO3									
	I-M29-3-FHAR	METALS LAB									
184-84-7C	I-M29-3-FILTER	FILTER									
	I-M29-3-FILTER	METALS LAB									
184-84-7D	I-M29-3-FH CATCH	FRONT HALF CATCH									
	I-M29-3-FH CATCH	METALS LAB									
184-84-7E	I-M29-3-HNO3	5%HNO3/10%H2O2									
	I-M29-3-HNO3	METALS LAB									
184-84-7F	I-M29-3-HNO3	5%HNO3/10%H2O2									
	I-M29-3-HNO3	METALS LAB									
184-84-7G	I-M29-3-BHAR	BH 0.1N HNO3									
	I-M29-3-BHAR	METALS LAB									
184-84-7H	I-M29-3-KMNO4	10% H2SO4/4% KMNO4									
	I-M29-3-KMNO4	METALS LAB									
184-84-7I	I-M29-3-HCL	8N HCL SOLN									
	I-M29-3-HCL	METALS LAB									

Receiving Remarks: I-M29-2-BHAR was not on COC but was received. Sample 0-M29-FB-FILTER is marked 0-M29-2-FILTER but has the date 8/27/97 which is the same as the COC.

Archive Remarks:

Project # 4324 11

Client: Pacific Environmental Services

Date/Int.: DSE 10/13/97

Sample Run # 0-M29-1

Triangle Laboratories of RTP

(919) 544-5729

Analytes

ICP	GFAA	FLAA	CVAA
Ag Mn As Ni Ba P Be Pb Cd Sb Co Se Cr Tl Cu Zn			Hg.

184-84-1D = 980 mb
184-84-1E = 960 mb

CONT # 1

Filter
Type: G or Q
Label 184-84-1C

Desiccate to dryness and redissolve in 10ml con HNO3 — Int DSE, Date 10/16/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 10/16/97

CONT # 2

Acetone Rinse
Label 184-84-1A
Volume DRY

Reduce volume to 20 ml on hotplate — Int SF, Date 10-14-97

CONT # 3

HNO3 Rinse
Label 184-84-1B
Volume 163

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 10/16/97
Label 184-84-1C,1B

Combine digestates

Front Half Digestate

Add 500 uL Sc — Int DSE

Dilute to 100 mls — Int DSE, Date 10/16/97
Label 184-84-1C,1B
Volume 100 ML

For Metal
Label 184-84-1C,1B — Int DSE
Volume 100 — Date 10/16/97
(Post digest spike on FH for GFAA)

For Hg
Label 184-84-1CAB — Int DSE
Volume 100 ml — Date 10/19/97

CONT # 4

Back Half Impinger
Label 184-84-1D,1E
Volume 1940 = TV

For Metals
Label 184-84-1D,1E
Volume 1840

Reduce Volume to 20 ml on Hotplate — Int SF, Date 10-14-97

Hotplate dig with HNO3 and H2O2 — Int SRP, Date 10/16/97

Add 500 uL Sc — Int., Date

Dilute to 100 mls — Int DSE, Date 10/16/97

Label 184-84-1DE — Int DSE
Volume 100 — Date 10/16/97
(One post digestion spk on BH for GFAA)

For Hg
Label 184-84-1D,E — Int DSE
Volume 100 — Date 10/19/97
Aliquot A: 5
Aliquot B: 5

Aliquot A: 5 ml
(No spike required)

Hg Impingers

CONT # 5A HNO3
Label 184-84-1F
Volume 110 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/19/97

CONT # 5B KMNO4
Label 184-84-1G
Volume 450 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/19/97

CONT # 5C HCl
Label 184-84-1H
Volume 89 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/16/97

(Duplicate Analysis of Eac

Sample

Spike
(1 BH Hg Spike required)

Label 184-84-1DE — Int DSE
Volume 100 — Date 10/19/97
Aliquot A: 5
Aliquot B: 5

spk 5 ml of 100 ppb — Int DSE
final spk conc. added 5 ppb — Date 10/19/97

FH & BH Serial dilution performed
___ ml to ___ ml FY + ___ uL Sc
Initials:

oject # 43411

ent: PES03

te/Int.:

ent Run# 0-M29-2

Triangle Laboratories of RTP
(919) 544-5729

Analytes: ICP · GFAA · FLAA · CVAA

Hg Impingers

CONT # 1
Filter
e: G or Q
bel 184-84-2C

CONT # 2
Acetone Rinse
label 184-84-2A
Volume DRY
Dessicate to dryness and redissolve in 10ml con HNO3 Int DSE Date 10/16/97
Microwave dig with conc. HF and conc. HNO3 Int DSE Date 10/16/97
label 184-84-2C, A, B
Combine digestates
Front Half Digestate
Add 500 uL SC
Dilute to 100 mls Int DSE Date 10/16/97
label 184-84-2C, A, B
Volume 100 ML
Metal
-84-2C, A, B Int DSE
100 Date 10/16/97
For Hg
184-84-2C A, B Int DSE
Volume 100 ml Date 10/17/97
igest spike on FH for GFAA))
Post dig. spk.
ppb (Instrument spiked)
Aliquot A: 5 mL
(No spike required)
Aliquot B: 5 mL

CONT # 3
HNO3 Rinse
label 184-84-2B
Volume 5L
Reduce volume to 20 ml on hotplate Int SF Date 10-14-97

CONT # 4
184-84-2D = 940 mls
184-84-2E = 970 mls
Back Half Impinger
label 184-84-2D, 2E
Volume 1910 = TV
For Metals / For Hg
label 184-84-2D, 2E / label 184-84-2D, 2E
Volume 1810 / Volume 100
Reduce Volume to 20 mL on Hotplate Int SF Date 10.14.97
Hotplate dig with HNO3 and H2O2 Int SF Date 10/16/97
Add 500 uL Sc Int DSE Date
Dilute to 100 mls Int DSE Date 10/16/97
184-84-2D, E
label Int DSE
Volume 100 Date 10/17/97
Aliquot A: 5
Aliquot B: 5
184-84-2D, E
label Int DSE
Volume 100 Date 10/16/97

CONT # 5A
HNO3
label 184-84-2F
Volume 90 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/17/97

CONT # 5B
KMNO4
label 184-84-2G
Volume 455 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/17/97

CONT # 5C
HCl
label 184-84-2H
Volume 46 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/16/97

(Duplicate Analysis of Eac

Sample

Spike
(1 DI Hg Spike required)
label 184-84-2D, E Int DSE
Volume 100 Date 10/14/97
Aliquot A: 5
Aliquot B: 5
spk 5 ml of 100 ppb Int DSE
final spk conc. added 5 ppb Date 10/9/97

FH & BH Serial dilution performed
____ ml to ____ ml FV + ____ uL Sc
Initials: ____

Project # 43411

Client:

Site/Int.:

Sample Run # 0-M29-3

Triangle Laboratories of RTP
(919) 544-5729

Analytes: ICP · GFAA · HAA · CVAA

CONT # 1 — Filter
Type: G or Q
Label 184-84-3C

CONT # 2 — Acetone Rinse
Label 184-84-3A
Volume DRY
~~Dessicate to dryness and~~ redissolve in 10ml con HNO3 — Int DSE, Date 10/16/97

CONT # 3 — HNO3 Rinse
Label 184-84-3B
Volume 92
Reduce volume to 20 ml on hotplate — Int SF, Date 10-14-97

CONT # 4 — Back Half Impinger
184-84-3D = 900 mls
184-84-3E = 630 mls
Label 184-84-3D,3E
Volume 1530 = TV

For Metals: Label 184-84-3D,3E; Volume 1430
For Hg: Label 184-84-3D,3E; Volume 100

CONT # 5A — HNO3
Label 184-84-3F
Volume 85 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/19/97

Hg Impingers

CONT # 5B — KMNO4
Label 184-84-3G
Volume 265 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/16/97

CONT # 5C — HCl
Label 184-84-3H
Volume 50 ml
Aliquot A 5
Aliquot B 5
Int DSE
Date 10/16/97

(Duplicate Analysis of Ea

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 10/16/97
Label 184-84-3C,A,B

Microwave dig conc. HF conc. HNO3 — Int DSE, Date 10/16/97

Combine digestates

Front Half Digestate

Add 500 uL Sc — Int DSE

Dilute to 100 mls — Int DSE, Date 10/16/97
Label 184-84-3C,A,B
Volume ___ ML

For Metal
Label 184-84-3C,A,B
Int DSE
Volume 100 Date 10/16/97
(Post digest spike on FH for GFAA))

For Hg
Label 184-84-3CAB
Int DSE
Volume 100 ml Date 10/16/97

Aliquot A: 5 mL
(No spike required)

BH Post dig. spk.
ppb (Instrument spiked)

Reduce Volume to 20 mL on Hotplate — Int SF, Date 10-14-97

Hotplate dig with HNO3 and H2O2 — Int DSE, Date 10/16/97

Add 500 uL Sc — Int ____, Date ____

Dilute to 100 mls — Int DSE, Date 10/16/97

Label 184-84-3DE
Int DSE
Volume 100 Date 10/16/97
(One post digestion spk on BH for GFAA)

Sample
Label 184-84-3DE
Int DSE
Volume 100 Date 10/19/97
Aliquot A: 5
Aliquot B: 5

Spike
(1 BH Hg Spike required)
Label ____ Int ____
Volume ____ Date ____
Aliquot A: ____
Aliquot B: ____
spk ____ ml of ____ ppb — Int ____
final spk conc. added ____ ppb — Date ____

FH & BH Serial dilution performed
____ ml to ____ ml FV + ____ uL Sc
Initials: ____

oject # 43411

lient:

ate/Int.:

lent Run # I-M29-I

Triangle Laboratories of RTP
(919) 544-5729

Analytes

ICP	GFAA	HAA	CVAA

CONT # 1

Filter
e: G or Q

bel 184-84-4C

CONT # 2

Acetone Rinse

label 184-84-4A

Volume DRY with lab of mud.

~~Dessicate to~~ ~~dryness and~~ redissolve in 10ml con HNO3 Int DSE Date 10/16/97

Total of 2 separate runs for this unit

vave dig: conc. HF nc. HNO3 Int DSE Date 10/16/97

CONT # 3

HNO3 Rinse

label 184-84-4B

Volume 150

Reduce volume to 20 ml on hotplate Int SF Date 10-14-97

Microwave dig with conc. HF and conc. HNO3 Int DSE Date 10/16/97

label 184-84-4C, A, B

CONT # 4

Back Half Impinger

label 184-84-4D

Volume 750

For Metals: label 184-84-4D Volume 650

For Hg: label 184-84-4D Volume 100

Hg Impingers

CONT # 5A

HNO3

label ____

Volume ____ ml

Aliquot A ____

Aliquot B ____

Int ____

Date ____

CONT # 5B

KMNO4

label 184-84-4E

Volume 335 ml

Aliquot A 5

Aliquot B 5

Int DSE

Date 10/19/97

CONT # 5C

HCl

label 184-84-4F

Volume 49 ml

Aliquot A 5

Aliquot B 5

Int DSE

Date 10/19/97

(Duplicate Analysis of Eac

Combine digestates

Front Half Digestate

Add 500 uL Sc

Dilute to 100 mls Int DSE Date 10/16/97

label 184-84-4C, A, B

Volume 100 ML

Reduce Volume to 20 mL on Hotplate Int. SF Date 10-14-97

Hotplate dig with HNO3 and H202 Int. SRB Date 10/16/97

Add 500 uL Sc Int. ____ Date ____

Dilute to 100 mls Int. DSE Date 10/16/97

Sample

label 184-84-4D Int DSE

Volume 100 Date 10/19/97

Aliquot A: 5

Aliquot B: 5

Spike
(1 BH Hg Spike required)

label 184-84-4D Int DSE

Volume 100 Date 10/19/97

Aliquot A: 5

Aliquot B: 5

spk 5 ml of 100 ppb Int DSE

final spk conc. added 5 ppb Date 10/19/97

Metal

4-84-4C, A, B

Int DSE

ne 100 Date 10/16/97

(One post dig. spk on FH for GFAA)

ppb (Instrument spiked)

For Hg

184-84-4C AB

label ____ Int DSE

Volume 100 ml Date 10/19/97

Aliquot A: 5 mL

(No spike required)

Aliquot B: 5 mL

184-84-4D

label ____ Int DSE

Volume 100 Date 10/16/97

(One post digestion spk on BH for GFAA)

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

Project # 43411

Client:

Type/Int.:

Client Run# 0-M29-FBlank

Triangle Laboratories of RTP
(919) 544-5729

Analytes: ICP · GFAA · FLAA · CVAA

CONT # 1 — Filter (type: G or Q) — label 184-84-5C

CONT # 2 — Acetone Rinse — label 184-84-5A — Volume DRY

Deselect to dryness and redissolve in 10ml conc HNO3 — Int DSE — Date 10/16/97

Microwave dig with conc. HF and conc. HNO3 — Int DSE — Date 10/16/97 — label 184-84-5C, A, B

Microwave dig (conc. HF, conc. HNO3) — Int DSE — Date 10/16/97

Combine digestates

Front Half Digestate

Add 500 uL SC

Dilute to 100 mls — Int DSE — Date 10/16/97 — label 184-84-5C, A, B — Volume 100 ML

Metal — label 184-84-5A,B — Int DSE — Volume 100 — Date 10/16/97

(digest spike on FH for GFAA))

For Hg — label 184-84-5ABC — Int SRB — Volume 100 ml — Date 10/20/97

FH Post dig. spk. — Allquot A: 5 mL (No spike required) — ppb (instrument spiked)

CONT # 3 — HNO3 Rinse — label 184-84-5B — Volume 50 — Int SE — Date 10-14-97

Reduce volume to 20 ml on hotplate — Int SE — Date 10-14-97

Reduce Volume to 20 mL on Hotplate — Int SE — Date 10/14/97

Hotplate dig with HNO3 and H2O2 — Int SRB — Date 10/16/97

Add 500 uL Sc — Int. ____ — Date ____

Dilute to 100 mls — Int. DSE — Date 10/16/97

label 184-84-5BD DSE — Volume 100 Date 10/16/97

(One post digestion spk on BH for GFAA)

CONT # 4 — Back Half Impinger — label 184-84-5D — Volume 410 = TV (Vf on 10-31-97)

For Metals — label 184-84-5D, 5D — Volume 75

For Hg — label ____ — Volume ____

Hg Impingers

CONT # 5A — HNO3 — label 184-84-5E — Volume 75 ml — Allquot A 5 — Allquot B 5 — Int DSE — Date 10/19/97

CONT # 5B — KMNO4 — label 184-84-5F — Volume 400 ml — Allquot A 5 — Allquot B 5 — Int DSE — Date 10/16/97

CONT # 5C — HCl — label 184-84-5G — Volume 50 ml — Allquot A 5 — Allquot B 5 — Int DSE — Date 10/16/97

(Duplicate Analysis of Eac

Sample — Allquot A: 5 — Allquot B: 5

Spike (1 BH Hg Spike required) — label ____ Int ____ — Volume ____ Date ____ — Allquot A: 5 — Allquot B: 5

spk ____ ml of ____ ppb — Int ____ — final spk conc. added ____ ppb — Date ____

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

roject # 43411

Client:

ate/Int.:

lent Run# I-M29-2

Triangle Laboratories of RTP
(919) 544-5729

Analytes

ICP	GFAA	FLAA	CVAA

CONT # 1

Filter
pe: G or Q

abel 184-84-6C

CONT # 2

Acetone Rinse

label 184-84-6A

Volume DRY

Desiccate to ~~dryness and~~ redissolve in 10ml con HNO3 — Int DSE, Date 10/16/97

Total of 4 Spiked runs

owave dig — Int DSE
conc. HF
conc. HNO3 — Date 10/16/97

Combine digestates

Front Half Digestate

Add 500 uL Sc — Int. DSE

Dilute to 100 mls — Date 10/17/97

label 184-84-6ABC

Volume 100 ML

CONT # 3

HNO3 Rinse

label 184-84-6B

Volume 140

Reduce volume to 20 ml on hotplate — Int SE, Date 10-14-97

Microwave dig with conc. HF and conc. HNO3 — Int DSE, Date 10/16/97

label 184-84-6C,1,B

CONT # 4

Back Half Impinger

label 184-84-6D

Volume 1000

For Metals: label 184-84-6D, Volume 900

For Hg: label 184-84-6D, Volume 100

Reduce Volume to 20 mL on Hotplate — Int. SE, Date 10-14-97

Hotplate dig with HNO3 and H202 — Int. SRB, Date 10/16/97

Add 500 uL Sc — Int. ____, Date ____

Dilute to 100 mls — Int. DSE, Date 10/16/97

Hg Impingers

CONT # 5A — HNO3

label 184-84-6E
Volume 75 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 10/20/97

CONT # 5B — KMNO4

label 184-84-6F
Volume 300 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 10/20/97

CONT # 5C — HCl

label 184-84-6F
Volume 63 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 10/20/97

(Duplicate Andlysis of Ea

Sample

label 184-84-6D
Int SRB
Volume 100 Date 10/20/97
Aliquot A: 5
Aliquot B: 5

Spike
(1 BH Hg Spike required)

label 184-84-6D
Int SRB
Volume 100 Date 10/20/97
Aliquot A: 5
Aliquot B: 5
spk 5 ml of 100 ppb — Int SRB
final spk conc. added 5 ppb — Date 10/20/97

Metal

84-84-6C,1,B
bel ____ Int DSE
ume 100 Date 10/17/97

For Hg

label 184-84-6ABC Int SRB
Volume 100 ml Date 10/20/97

st digest spike on FH for GFAA))

Post dig. spk.
ppb (Instrument spiked)

Aliquot A: 5 ml
(No spike required)
Aliquot B: 5 ml

184-84-6D
label ____ Int DSE
Volume 100 Date 10/16/97

(One post digestion spk on BH for GFAA)

FH & BH Serial dilution performed

____ ml to ____ ml FV + ____ uL Sc

Initials: ____

Date:

oject # 43411

lient:

ate/Int.:

lent Run# I-M29-3

Triangle Laboratories of RTP
(919) 544-5729

Analytes: ICP · GFAA · FLAA · CVAA

CONT # 1
Filter
pe: G or Q
184-84-7C
abel 184-84-7D

CONT # 2
Acetone Rinse
label 184-84-7A
Volume DRY
~~Dessicate to dryness and redissolve in 10ml con HNO3~~ Int DSE Date 10/16/97
Total of 16 Soxlet runs per injector
owave dig Int DSE
conc. HF
conc. HNO3 Date 10/16/97

CONT # 3
HNO3 Rinse
label 184-84-7B
Volume 100
Reduce volume to 20 ml on hotplate Int SE Date 10-14-97
Microwave dig with conc. HF and conc. HNO3 Int DSE Date 10/16/97
label 184-84-7C, A, B

CONT # 4
184-84-7E = 150 mls
184-84-7F = 350 mls
Back Half Impinger
label 184-84-7E, F
Volume 1100
For Metals / For Hg
label 184-84-7E / label 184-84-7EE
Volume 1000 / Volume 1000

Hg Impingers

CONT # 5A
HNO3
label 184-84-7G
Volume 105 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 10/20/97

CONT # 5B
KMNO4
label 184-84-7H
Volume 235 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 10/20/97

CONT # 5C
HCl
label 184-84-7I
Volume 100 ml
Aliquot A 5
Aliquot B 5
Int SRB
Date 10/20/9

(Duplicate Analysis of Ea

Combine digestates

Front Half Digestate
Add 500 uL Sc
Dilute to 100 mls Int DSE Date 10/17/97
label 184-84-7C, A, B
Volume 100 ML

Reduce Volume to 20 mL on Hotplate Int. SE Date 10-14-97
Hotplate dig with HNO3 and H2O2 Int. SRB Date 10/14/97
Add 500 uL Sc Int. Date
Dilute to 100 mls Int. DSE Date 10/16/97

Sample
label 184-84-7EE Int SRB
Volume 100 Date 10/20/97
Aliquot A: 5
Aliquot B: 5

Spike
(1 BH Hg Spike required)
label 184-84-7EF Int SRB
Volume 100 Date 10/20/97
Aliquot A: 5
Aliquot B: 5
spk 5 ml of 100 ppb Int SRB
final spk conc. added 5 ppb Date 10/20/97

Metal
84-84-7C, A, B
bel Int DSE
lume 100 Date 10/17/97
ost digest spike on FH for GFAA))

For Hg
label 184-84-7ABC Int SRB
Volume 100 ml Date 10/20/97

Aliquot A: 5 mL
(No spike required)

label 184-84-7E, F Int DSE
Volume 100 Date 10/16/97
(One post digestion spk on BH for GFAA)

FH & BH Serial dilution performed
ml to ml FH
Initials:

INORGANICS SPIKE LOG

DATE	PROJECT # / SAMPLE IDs	ANALYTE	ORIGINAL STANDARD #	ORIGINAL STANDARD CONC. (PPM)	SPIKE SAMPLE (µL) / FINAL VOLUME (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
8/26/97	42906-LCS	*	3-001-9	*	1000/100	*	DSE	SF
8/27/97	42775A-LCS	*	3-001-9	*	1000/100	*	SRB	SF
	178-42-2A MS						↓	↓
	178-42-2A MSD						↓	↓
8/25/97	42050D-LCS	*	3-013-3	*	1000/100	*	DSE	SRB
	171-10-3MS						↓	↓
	171-10-3MSD						↓	↓
8/28/97	43021-LCS	*	3-013-3	*	1000/100	*	DSE	SRB
	180-90-1A MS						↓	↓
	180-90-1A MSD						↓	↓
8/29/97	42050D-LCS	Sr	2-112-7	1000	5/100	50	SRB	MR
	171-10-3MS						↓	↓
	171-10-3MSD						↓	↓
9/6/97	43028D-LCS	*	3-013-3	*	1000/100	*	DSE	BHR
	181-72-1-3+ 180-97-13-15 MS						↓	↓
	181-72-1-3+ 180-97-13-15 MSD						↓	↓
10/[illegible]	[illegible]-LCS	*	3-013-4	*	1000/100	*	SRB	DSE
		P	2-120-2	1000	100/100	1000	↓	↓

TLI # 43411

* SEE SPIKE LOG

EXP date	Element	Spiking Standard Preparation: Standard ID	Orig. Std. (ppm)	Spike(uL) Fval(100mL)	conc (ppm)	SPIKING from Spiking Standard: Spike(uL) FVal(100ml)	conc (ppb)	combined total
2/1/98	Ag	2-115-4	100	5000	5	1000	50	
9/1/98	As	3-010-10	100	5000	5	1000	50	
2/1/98	Au	2-115-4	100	5000	5	1000	50	
9/1/98	Al	3-010-7	10000	950	95	1000	950	1000
2/1/98	B	2-115-4	100	5000	5	1000	50	
2/1/98	Ba	2-115-4	100	5000	5	1000	50	
9/1/98	Be	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-012-7	10000	950	95	1000	950	1000
9/1/98	Cd	3-010-10	100	5000	5	1000	50	
9/1/98	Co	3-010-10	100	5000	5	1000	50	
9/1/98	Cr	3-010-10	100	5000	5	1000	50	
9/1/98	Cu	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-012-6	10000	950	95	1000	950	1000
2/1/98	K	2-115-4	1000	5000	50	1000	500	
9/1/98	K	3-012-5	10000	1500	150	1000	1500	2000
9/1/98	Mg	3-010-10	100	5000	5	1000	50	
8/1/98	Mg	3-010-8	10000	950	95	1000	950	1000
9/1/98	Mn	3-010-10	100	5000	5	1000	50	
9/1/98	Mo	3-010-10	100	5000	5	1000	50	
2/1/98	Na	2-115-4	100	5000	5	1000	50	
8/1/98	Na	3-010-9	10000	1950	195	1000	1950	2000
9/1/98	Ni	3-010-10	100	5000	5	1000	50	
9/1/98	Pb	3-010-10	100	5000	5	1000	50	
9/1/98	Sb	3-010-10	100	5000	5	1000	50	
9/1/98	Se	3-010-10	100	5000	5	1000	50	
9/1/98	Ti	3-010-10	100	5000	5	1000	50	
9/1/98	Tl	3-010-10	100	5000	5	1000	50	
9/1/98	V	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-10	100	5000	5	1000	50	
8/1/98	Zn	3-010-8	1000	1500	15	1000	150	200

100Cuts of the Spiking Standard gives the listed conc. of the above elements

**Spike seperately

Element	Orig Std (ppm)	Spike(uL) Fval(100m	conc (ppb)
Au	1000	140	1400
Ce	1000	30	300
Li	1000	70	700
Pd	1000	160	1600
Pt	1000	300	3000
S	1000	350	3500
Si	10000	350	35000
Sn	1000	20	200
Sr	1000	5	50

Spiking Standard 3-013-4
EXP: 11/26/97

Spiked by:
Predigestion: SRG 12/16/97

Postdigestion:

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43411

Transfer From: IWLM To: IA I

	Initials..	Date.....	Time...
Released by:	DSE	10/17/97	14:00
Accepted by:	MKA	10/17/97	20:00

MILES.ID.....		TLI_No.....	Cust.Id.....
43411-	-000	TLI Blank	TLI Method Blank
43411-	-001	184-84-1A	O-M29-1-FHACE
43411-	-002	184-84-1B	O-M29-1-FHAR
43411-	-003	184-84-1C	O-M29-1-FILTER
43411-	-004	184-84-1D	O-M29-1-HNO3
43411-	-005	184-84-1E	O-M29-1-HNO3
43411-	-006	184-84-1F	O-M29-1-BHAR
43411-	-007	184-84-1G	O-M29-1-KMNO4
43411-	-008	184-84-1H	O-M29-1-HCL
43411-	-009	184-84-2A	O-M29-2-FHACE
43411-	-010	184-84-2B	O-M29-2-FHAR
43411-	-011	184-84-2C	O-M29-2-FILTER
43411-	-012	184-84-2D	O-M29-2-HNO3
43411-	-013	184-84-2E	O-M29-2-HNO3
43411-	-014	184-84-2F	O-M29-2-BHAR
43411-	-015	184-84-2G	O-M29-2-KMNO4
43411-	-016	184-84-2H	O-M29-2-HCL
43411-	-017	184-84-3A	O-M29-3-FHACE
43411-	-018	184-84-3B	O-M29-3-FHAR
43411-	-019	184-84-3C	O-M29-3-FILTER
43411-	-020	184-84-3D	O-M29-3-HNO3
43411-	-021	184-84-3E	O-M29-3-HNO3
43411-	-022	184-84-3F	O-M29-3-BHAR
43411-	-023	184-84-3G	O-M29-3-KMNO4
43411-	-024	184-84-3H	O-M29-3-HCL
43411-	-025	184-84-4A	I-M29-1-FHACE
43411-	-026	184-84-4B	I-M29-1-FHAR
43411-	-027	184-84-4C	I-M29-1-FILTER
43411-	-028	184-84-4D	I-M29-1-HNO3
43411-	-029	184-84-4E	I-M29-1-KMNO4

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43411

Transfer From: IWLM To: IA I

	Initials..	Date.....	Time...
Released by:	RSF	10/17/97	14:00
Accepted by:	MWH	10/17/97	20:00

MILES.ID.....		TLI_No.....	Cust.Id.....
43411-	-030	184-84-4F	I-M29-1-HCL
43411-	-031	184-84-5A	O-M29-FB-FHACE
43411-	-032	184-84-5B	O-M29-FB-FHAR
43411-	-033	184-84-5C	O-M29-2-FILTER 8/27/97
43411-	-034	184-84-5D	O-M29-FB-HNO3
43411-	-035	184-84-5E	O-M29-FB-BHAR
43411-	-036	184-84-5F	O-M29-FB-KMNO4
43411-	-037	184-84-5G	O-M29-FB-HCL
43411-	-038	184-84-6A	I-M29-2-FHACE
43411-	-039	184-84-6B	I-M29-2-FHAR
43411-	-040	184-84-6C	I-M29-2-FILTER
43411-	-041	184-84-6D	I-M29-2-HNO3
43411-	-042	184-84-6E	I-M29-2-KMNO4
43411-	-043	184-84-6F	I-M29-2-HCL
43411-	-044	184-84-6G	I-M29-2-BHAR
43411-	-045	184-84-7A	I-M29-3-FHACE
43411-	-046	184-84-7B	I-M29-3-FHAR
43411-	-047	184-84-7C	I-M29-3-FILTER
43411-	-048	184-84-7D	I-M29-3-FH CATCH
43411-	-049	184-84-7E	I-M29-3-HNO3
43411-	-050	184-84-7F	I-M29-3-HNO3
43411-	-051	184-84-7G	I-M29-3-BHAR
43411-	-052	184-84-7H	I-M29-3-KMNO4
43411-	-053	184-84-7I	I-M29-3-HCL
43411-	-054	LCS	Lab Control Spike

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

Date	Project & sample ID	Analyte	Std ID	Std. conc ppm	Spike vol / sample vol ml/ml	Spike conc ppb	Initials
10/16/97	43377	"	3-013-3	"	100/10	"	MEH
	184-SL-1BK PDS	P	2-112-4	100	100/10	"	MEH
	184-SL-1C PDS	↓	↓	↓	↓	↓	↓
10/19/97	43239	"	3-013-3	"	100/10	"	MEH
	183-11-5 PDS	↓	↓	↓	↓	↓	↓
10/19/97	42011 Cnl	"	3-013-3	"	100/10	"	MEH
	170-70-3 PDS	↓	↓	↓	↓	↓	↓
10/19/97	43438	"	3-013-3	"	100/10	"	MEH
	185-12-1 PDS	↓	↓	↓	↓	↓	↓
10/20/97	43411	"	3-013-3	"	100/10	"	MEH
	184-84-1A&C PDS	P	2-112-4	100	100/10	(1000) "	
	184-84-10 PDS	↓	↓	↓	↓	↓	↓

* SEE SPIKE LOG

Spiking Standard Preparation					SPIKING *from Spiking Standard*		
EXP date	Element	Standard ID	Orig. Std. (ppm)	Spike(uL) FVol(100mL)	conc (ppm)	Spike(uL) FVol(100ml)	conc (ppb)	combined total
2/1/98	Ag	2-115-4	100	5000	5	1000	50	
9/1/98	As	3-010-10	100	5000	5	1000	50	
2/1/98	Al	2-115-4	100	5000	5	1000	50	1000
9/1/98	Al	3-010-7	10000	950	95	1000	950	
2/1/98	B	2-115-4	100	5000	5	1000	50	
2/1/98	Ba	2-115-4	100	5000	5	1000	50	
9/1/98	Be	3-010-10	100	5000	5	1000	50	
9/1/98	Ca	3-010-10	100	5000	5	1000	50	1000
9/1/98	Ca	3-012-7	10000	950	95	1000	950	
9/1/98	Cd	3-010-10	100	5000	5	1000	50	
9/1/98	Co	3-010-10	100	5000	5	1000	50	
9/1/98	Cr	3-010-10	100	5000	5	1000	50	
9/1/98	Cu	3-010-10	100	5000	5	1000	50	
9/1/98	Fe	3-010-10	100	5000	5	1000	50	1000
9/1/98	Fe	3-012-6	10000	950	95	1000	950	
2/1/98	K	2-115-4	1000	5000	50	1000	500	2000
9/1/98	K	3-012-5	10000	1500	150	1000	1500	
9/1/98	Mg	3-010-10	100	5000	5	1000	50	1000
8/1/98	Mg	3-010-8	10000	950	95	1000	950	
9/1/98	Mn	3-010-10	100	5000	5	1000	50	
9/1/98	Mo	3-010-10	100	5000	5	1000	50	
2/1/98	Na	2-115-4	100	5000	5	1000	50	2000
8/1/98	Na	3-010-9	10000	1950	195	1000	1950	
9/1/98	Ni	3-010-10	100	5000	5	1000	50	
9/1/98	Pb	3-010-10	100	5000	5	1000	50	
9/1/98	Sb	3-010-10	100	5000	5	1000	50	
9/1/98	Se	3-010-10	100	5000	5	1000	50	
9/1/98	Si	3-010-10	100	5000	5	1000	50	
9/1/98	Ti	3-010-10	100	5000	5	1000	50	
9/1/98	V	3-010-10	100	5000	5	1000	50	
9/1/98	Zn	3-010-10	100	5000	5	1000	50	200
8/1/98	Zn	3-010-8	1000	1500	15	1000	150	

1000uL of the Spiking Standard gives the listed conc. of the above elements.

**Spike seperately

Element	Orig Std (ppm)	Spike(uL) FVol(100m	conc (ppb)
Au	1000	140	1400
Ce	1000	30	300
U	1000	70	700
P	1000	100	1000
Pd	1000	160	1600
Pt	1000	300	3000
S	1000	350	3500
Si	10000	350	35000
Sn	1000	20	200
Sr	1000	5	50

Spiking Standard 3-013-3
EXP: 11/26/97

Spiked by:
Predigestion-
Postdigestion- MKM 10/20/97

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	STD1-BLANK	101997	TRIANGL2	10/20/97	00:38		V	IP
2	STD1-BLANK	101997	TRIANGL2	10/20/97	00:48		A	IR
3	STD1	101997	TRIANGL2	10/20/97	00:53		V	IP
4	STD3	101997	TRIANGL2	10/20/97	00:58	DKH	Q	CONC
5	STD1-BLANK	101997	TRIANGL2	10/20/97	01:24		V	IP
6	STD1-BLANK	101997	TRIANGL2	10/20/97	01:37		V	IR
7	STD1-BLANK	101997	TRIANGL2	10/20/97	01:47		V	IP
8	STD1	101997	TRIANGL2	10/20/97	01:59		A	IR
9	STD3	101997	TRIANGL2	10/20/97	01:54	DKH	Q	CONC
10	STD1-BLANK	101997	TRIANGL2	10/20/97	02:09		A	IR
11	STD1-BLANK	101997	TRIANGL2	10/20/97	02:34		V	IP
12	STD1	101997	TRIANGL2	10/20/97	02:38		A	IR
13	STD3	101997	TRIANGL2	10/20/97	02:43	DKH	Q	CONC
14	[illegible]	101997	TRIANGL2	10/20/97	02:48	DKH	Q	CONC
15	[illegible]	101997	TRIANGL2	10/20/97	02:53	DKH	Q	CONC
16	[illegible]	101997	TRIANGL2	10/20/97	02:57	DKH	Q	CONC
17	[illegible]	101997	TRIANGL2	10/20/97	03:03	DKH	Q	CONC
18	[illegible]	101997	TRIANGL2	10/20/97	03:09	DKH	Q	CONC
19	[illegible]	101997	TRIANGL2	10/20/97	03:14	DKH	Q	CONC
20	[illegible]	101997	TRIANGL2	10/20/97	03:29	DKH	S	CONC
21	[illegible]	101997	TRIANGL2	10/20/97	03:33	DKH	S	CONC
22	[illegible]	101997	TRIANGL2	10/20/97	03:38	DKH	S	CONC
23	[illegible]	101997	TRIANGL2	10/20/97	03:43	DKH	S	CONC
24	[illegible]	101997	TRIANGL2	10/20/97	03:47	DKH	S	CONC
25	[illegible]	101997	TRIANGL2	10/20/97	03:52	DKH	S	CONC
26	[illegible]	101997	TRIANGL2	10/20/97	03:57	DKH	S	CONC
27	[illegible]	101997	TRIANGL2	10/20/97	04:01	DKH	S	CONC
28	[illegible]	101997	TRIANGL2	10/20/97	04:06	DKH	S	CONC
29	[illegible]	101997	TRIANGL2	10/20/97	04:11	DKH	S	CONC
30	[illegible]	101997	TRIANGL2	10/20/97	04:17	DKH	S	CONC
31	[illegible]	101997	TRIANGL2	10/20/97	04:21	DKH	Q	CONC
32	[illegible]	101997	TRIANGL2	10/20/97	04:27	DKH	Q	CONC
33	[illegible]	101997	TRIANGL2	10/20/97	04:43	DKH	S	CONC
34	[illegible] D 10-31-97	101997	TRIANGL2	10/20/97	04:38	DKH	S	CONC
35	[illegible]	101997	TRIANGL2	10/20/97	04:42	DKH	S	CONC
36	184-84-10E BDS	101997	TRIANGL2	10/20/97	04:47	DKH	S	CONC
37	184-84-10E L	101997	TRIANGL2	10/20/97	04:52	DKH	S	CONC
38	184-84-20E	101997	TRIANGL2	10/20/97	04:56	DKH	S	CONC
39	184-84-20E DA	101997	TRIANGL2	10/20/97	05:01	DKH	S	CONC
40	184-84-30E	101997	TRIANGL2	10/20/97	05:06	DKH	S	CONC
41	184-84-40	101997	TRIANGL2	10/20/97	05:10	DKH	S	CONC
42	184-84-5RD	101997	TRIANGL2	10/20/97	05:15	DKH	S	CONC
43	CCV/CCV	101997	TRIANGL2	10/20/97	05:20	DKH	Q	CONC
44	CCB/CCB	101997	TRIANGL2	10/20/97	05:25	DKH	Q	CONC
45	184-84-60	101997	TRIANGL2	10/20/97	05:31	DKH	S	CONC
46	184-84-7EE	101997	TRIANGL2	10/20/97	05:36	DKH	S	CONC
47	184-50-7D	101997	TRIANGL2	10/20/97	06:05		S	CONC
48	CCV/CCV	101997	TRIANGL2	10/20/97	06:09	DKH	Q	CONC
49	CCB/CCB	101997	TRIANGL2	10/20/97	06:17	DKH	Q	CONC
50	ICSAB	101997	TRIANGL2	10/20/97	06:23	DKH	Q	CONC

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

Project: 43411 Client: Pacific Environmental Services (PES03)

Method: 7470 Extraction Date: 10/19/97 Hg.

Solvent/Acids(): HNO3/H2SO4 Lot: 11D50 / 317026

Sample Information

Sample #	crd	TLI SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Extraction Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
000		TLI Blank / TLI Method Blank	NA / NA	100 / 100	DSE 10/19/97					
		TU Blank Dup								
001		184-84-1A O-M29-1-FHACE								
002		184-84-1B O-M29-1-FHAR								
003		184-84-1CAB O-M29-1-FILTER	5 / 5	100 / 100	DSE 10/19/97					
		184-84-1CAB Dup								
004		184-84-1DE O-M29-1-HNO3	5 / 5	100 / 100	DSE 10/19/97					
		184-84-1DE Dup								
005		184-84-1E O-M29-1-HNO3								
006		184-84-1F O-M29-1-BHAR	5 / 5	100 / 100	DSE 10/19/97					
		184-84-1F Dup								
007		184-84-1G O-M29-1-KMNO4	5 / 5	100 / 100	DSE 10/19/97					
		184-84-1G Dup								
008		184-84-1H O-M29-1-HCL	5 / 5	100 / 100	DSE 10/19/97					
		184-84-1H Dup								
009		184-84-2A O-M29-2-FHACE								
010		184-84-2B O-M29-2-FHAR								
011		184-84-2CAB O-M29-2-FILTER	5 / 5	100 / 100	DSE 10/19/97					
		184-84-2CAB Dup								
012		184-84-2DE O-M29-2-HNO3	5 / 5	100 / 100	DSE 10/19/97					
		184-84-2DE Dup								

Comments: See HGSL-1, Spike Log p. 68

REV 07/26/93 (PSTMF 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

Project: 43411 Client: Pacific Environmental Services (PESC03)

Method: 7470 Sample Information Hg

Solvent/Acids: HNO3 H2SO4 Extraction Date: 10/19/97

Lot: 117050 / 317020

Sample #	crd	TLI SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Extraction Date ___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___
013		184-84-2E O-M29-2-HNO3									
014		184-84-2F O-M29-2-BHAR	5 / 5	100 / 100	DE 10/19/97						
		184-84-2F Dup									
015		184-84-2G O-M29-2-KMNO4	5 / 5	100 / 100	DE 10/19/97						
		184-84-2G Dup									
016		184-84-2H O-M29-2-HCL	5 / 5	100 / 100	DE 10/19/97						
		184-84-2H Dup									
017		184-84-3A O-M29-3-FHACE									
018		184-84-3B O-M29-3-FHAR									
019		184-84-3CAB O-M29-3-FILTER	5 / 5	100 / 100	DE 10/19/97						
		184-84-3CAB Dup									
020		184-84-3DE O-M29-3-HNO3	5 / 5	100 / 100	DE 10/19/97						
		184-84-3DE Dup									
021		184-84-3E O-M29-3-HNO3									
022		184-84-3F O-M29-3-BHAR	5 / 5	100 / 100	DE 10/19/97						
		184-84-3F Dup									
023		184-84-3G O-M29-3-KMNO4	5 / 5	100 / 100	DE 10/19/97						
		184-84-3G Dup									
024		184-84-3H O-M29-3-HCL	5 / 5	100 / 100	DE 10/19/97						
		184-84-3H Dup									
025		184-84-4A I-M29-1-FHACE									

Comments: See pg 1 of 5

REV 07/26/93 (PSTMP 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

Project: 43411 Client: Pacific Environmental Services (PES03)

Method: 7470 Extraction Date: 10/19/97

Solvent/Acids(): HNO3/H2SO4 Lot: 117050 / 317020

Hg.

Sample ID	TLI / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Extraction Date
26	184-84-4B I-M29-1-FHAR			
27	184-84-4CAB I-M29-1-FILTER	5 / 5	100 / 100	ASE 10/14/97
	184 84-4CAB Dup			
28	184-84-4D I-M29-1-HNO3	5 / 5	100 / 100	ASE 10/14/97
	184-84-4D Dup			
29	184-84-4E I-M29-1-KMNO4	5 / 5	100 / 100	ASE 10/14/97
	184-84-4E Dup			
30	184-84-4F I-M29-1-HCL	5 / 5	100 / 100	ASE 10/14/97
	184-84-4F Dup			
31	184-84-5A O-M29-FB-FHACE			
32	184-84-5BD O-M29-FB-FHAR	5 / 5	100 / 100	ASE 10/14/97
	184-84-5BD Dup			
33	184-84-5CAB O-M29-2-FILTER 8/27/97	5 / 5	100 / 100	ASE 10/14/97
	184 84-5CAB Dup			
34	184-84-5D O-M29-FB-HNO3			
35	184-84-5E O-M29-FB-BHAR	5 / 5	100 / 100	ASE 10/14/97
	184-84-5E Dup			
36	184-84-5F O-M29-FB-KMNO4	5 / 5	100 / 100	ASE 10/14/97
	184-84-5F Dup			
37	184-84-5GF O-M29-FB-HCL	5 / 5	100 / 100	ASE 10/14/97
	184-84-5GF Dup			
38	184-84-6ABC I-M29-2-FHACE	5 / 5	100 / 100	SRB 10/20/97
	184846ABCD			

Comments: See page 1 of 5

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

Project: 43411 Client: Pacific Environmental Services (PES03)

Sample Information

Method: 7470 Extraction Date: / /

Solvent/Acids: ~~HNO3 H2SO4~~ Lot: 11205 / 3170820

Hg

Sample #	TLI SAMPLE ID / CLIENT SAMPLE ID	Wgt / Vol (g / ml)	Final Volume ml	Extraction Date
039	184-84-6B I-M29-2-FHAR			
040	~~184-84-6A~~ AB ~~184-84-6CAB Dup~~ I-M29-2-FILTER	EE ④ SRB 10/20/97	~~100~~ ~~100~~	
041	184-84-6D I-M29-2-HNO3 184-84-GD Dup	5 / 5	100 / 100	SRB 10/20/97
042	184-84-6E I-M29-2-KMNO4 184-84-6E Dup	5 / 5	100 / 100	
043	184-84-6F I-M29-2-HCL 184-84-6F Dup	5 / 5	100 / 100	
044	184-84-6G I-M29-2-BHAR 184-84-GG Dup	5 / 5	~~100~~ 100	
045	184-84-~~7A~~ BCD I-M29-3-FHACE 184-84-7ABCD D	5 / 5	100 / 100	SRB 10/20/97
046	184-84-7B I-M29-3-FHAR			
047	~~184-84-7C~~ DAB I-M29-3-FILTER ~~84-84-7CDAB~~	EE SRB ④ 10/20/97	~~100~~ ~~100~~	
048	184-84-7D I-M29-3-FH CATCH			
049	184-84-7EF I-M29-3-HNO3 184-84-7EF	5 / 5	100 / 100	SRB 10/20/97
050	184-84-7F I-M29-3-HNO3			
051	184-84-7G I-M29-3-BHAR 184-84-7G	5 / 5	100 / 100	SRB 10/20/97

Comments: See pg 1 of 5

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

Project: 43411

Client: Pacific Environmental Services (PES03)

Method: 7470

Solvent/Acids: HNO3/H2SO4

Extraction Date: 10/19/97

Lot: 117050 / 317020

Sample Information

Sample ord	TLI SAMPLE ID / CLIENT SAMPLE ID		Sample Wgt g	Vol ml	Final Volume ml	Extraction Date					
	184-84-7H		5		100	SRB 10/20/97					
DE2	184-84-7H Dup	I-M29-3-KMNO4	5		100						
	184-84-7I		5		100	↓					
DE3	184-84-7H I Dup	I-M29-3-HCL	5		100						
	LCS'		N/A		100	DSE 10/19/97					
DE4	LCSD'	Lab Control Spike	N/A		100						
	184-84-1DE MS		5		100	DSE 10/19/97					
	184-84-1DE MSD		5		100						
	184-84-2DE MS		5		100	DSE 10/19/97					
	184-84-2DE MSD		5		100						
	184-84-4DMS		5		100	DSE 10/19/97					
	184-84-4DMSD		5		100						
	43411 LCS 2		N/A		100	SRB 10/20/97					
	43411 LCS 2D		N/A		100						
	184-84-6D MS		5		100	↓					
	184-84-6D MSD		5		100						
	184-84-7EF MS		5		100						
	184-84-7EF MSD		5		100						
Reprep	43411 MB3		N/A		100	SRB 10/21/97					
	43411 MB3 D		N/A		100						
Reprep	43411 LCS3		N/A		100						
	43411 LCS3D		N/A		100						
Reprep	184-84-5BD		5		100						
	184-84-5BD D		5		100						
2prep	184-84-5E		5		100	SRB 10/21/97					
	184-84-5E D		5		100						

Comments: See page 1 of 5

REV 07/26/93 (PSTMP 7)

TRIANGLE LABORATORIES, INC.

Sample Preparation Tracking & Management Form

Project: 43411

Client: Pacific Environmental Services (PES03)

Sample Information

Method: 7470

Solvent/Acids(): HNO3 | H2SO4

Extraction Date: __/__/__

Lot: 117050 | 317020

Hg

Sample # crd	TLI / SAMPLE ID / CLIENT SAMPLE ID	Sample Wgt / Vol g / ml	Final Volume ml	Extraction Date __/__/__	__/__/__	__/__/__	__/__/__	__/__/__	__/__/__
000	TLI Blank TLI Method Blank								
prep	184-84-5F	5	100	SRB 10/21/97					
	184-84-5F D	5	100						
prep	184-84-5GF	5	100	SRB 10/21/97					
	184-84-5GF D	5	100						

Comments: See page 1 of 5

REV 07/26/93 (PSTMF 7)

MERCURY SPIKE LOG

DATE	PROJECT # / SAMPLE IDs	ORIGINAL SPIKE CONC. (Hg)	STANDARD # WORKING STANDARD PREPARED FROM	SPIKE AMOUNT (mL)	SPIKE SAMPLE (PPB)	INITIALS	WITNESS
10/8/97	43411 LCS1 LCS1D	0.1 ppm	3-022-8	5	5	RSE	SF
	184-84-1DEMS 184-84-1DEMSD	↓	↓	↓	↓	↓	↓
	184-84-2DEMS 184-84-2DEMSD						
	184-84-4DMS 184-84-4DMSD						
10/20/97	43411 LCS2 LCS2D	0.1 ppm	3-023-1	5	5	SRB	RSE
	184-84-6D MS 184-84-6D MSD	↓	↓	↓	↓	↓	↓
	184-84-7EF MS 184-84-7EF MSD						
10/20/97	43377 LCS1 LCS1D	0.1 ppm	3-023-1	5	5	SRB	RSE
	184-50-1D MS 184-50-1D MSD	↓	↓	↓	↓	↓	↓
	184-50-3DE MS 184-50-3DEMSD						
	184-50-4DE MS 184-50-4DEMSD						
10/21/97	43411 LCS3 LCS3D	0.1 ppm	3-023-5	5	5	SRB	RSE
	184-84-5BD MS 184-84-5BD MSD	↓	↓	↓	↓	↓	↓
10/21/97	42011Cn1 LCS LCSD	0.1 ppm	3-023-5	5	5	SRB	RSE
	170-70-3MS 170-70-3MSD	↓	↓	↓	↓	↓	↓
10/21/97	43377 LCS2 LCS2D	0.1 ppm	3-023-5	5	5	SRB	RSE
	184-50-6BD MS 184-50-6BD MSD	↓	↓	↓	↓	↓	↓
	184-50-7D MS 184-50-7D MSD						

PKH 10/20/97

Table Name: R84A7 Autosampler Type: TYPE TJA
Sample Positions: 170/192 QC Positions: 13/19 # Sets: 1
Rinse Station location is rack -1, pos -1

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux (1) Rack	STD/QC/BLANK	13	10
2	Sample (1xaa)	Samples	26	1
3	Sample (1xaa)	Samples	48	1
4	Sample (1xaa)	Samples	48	1
5	Sample (1xaa)	Samples	48	1

--- Sample Sets ---

Set#	Type	Prepared	Description	Method	#Pos	Rack#	StartPos
1	NT 84	NO	43377	184WQ12	22	2	1

43377

* Contains sample 184-50-7D for 43377. PKH 10/20/97

--- Standards ---

Pos	Row	Col	Sample Name	Set #	#Used	Type
		1	STD	-NA-	2	Standard
		2	STD -BLANK	-NA-	1	Standard
3	1	3	QCSEP	-NA-	2	QC Standard
4	1	4	QCFEB 19	-NA-	1	QC Standard
5	1	5	QCV/QCV	-NA-	4	QC Standard
6	1	6	QCB/QCB	-NA-	4	QC Standard

1-61-4P
1-61-6P
1-61-5P

PKH 10/19/97

17, 18 Not Used

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	43377 MB	1	-NA-	Sample
2	1	2	43377 LCS	1	-NA-	Sample
3	1	3	184-84-1ABC	1	-NA-	Sample
4	1	4	184-84-1ABC PDS	1	-NA-	Sample
5	1	5	184-84-1ABC L	1	-NA-	Sample
6	1	6	184-84-2ABC	1	-NA-	Sample
7	1	7	184-84-2ABC DA	1	-NA-	Sample
8	1	8	184-84-3ABC	1	-NA-	Sample
9	1	9	184-84-4ABC	1	-NA-	Sample
10	1	10	184-84-5ABC	1	-NA-	Sample
11	1	11	184-84-6ABC	1	-NA-	Sample
12	1	12	184-84-7ABCD * 10/31/97 CC	1	-NA-	Sample
13	2	1	184-84-1DE	1	-NA-	Sample
14	2	2	184-84-1DE PDS	1	-NA-	Sample
15	2	3	184-84-1DE L	1	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
[illegible]	[illegible]	4	[illegible]	1	-NA-	Sample
17	[illegible]	5	184-R4-20F 0R	1	-NA-	Sample
[illegible]	[illegible]	6	184-R4-5R0	1	-NA-	Sample
[illegible]	[illegible]	7	184-R4-4R	1	-NA-	Sample
[illegible]	[illegible]	8	184-R4-5R0	1	-NA-	Sample
21	[illegible]	9	184-R4-6R	1	-NA-	Sample
[illegible]	[illegible]	10	184-R4-7FF	1	-NA-	Sample
[illegible]	48	Not Used				

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
[illegible]	48	Not Used.				

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type
[illegible]	[illegible]	Not Used				

Rack #5

Pos	Row	Col	Sample Name	Set #	#Used	Type
[illegible]	[illegible]	Not Used.				

Method: TRIANGLE Sample Name: STD1-BLANK Operator:
Run Time: 10/20/97 02:34 Filename: 101997
Mode: IP Type: Y Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.:

Elems	Ag3280	Al3082	As1890	B 2496	Ba4934	Be3130
Units	count	count	count	count	count	count
Avge	-.00005	.00175	-.00025	.00057	.00016	.00015
Sdev	.00016	.00003	.00016	.00007	0	0
%RSD	304.497	1.92241	64.7538	14.290	5.83794	3.00657

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	count	count	count	count	count	count
Avge	.0001	-.00011	-.00015	-.00013	-.00013	.00305
Sdev	0	.00019	.00043	.00005	.00003	.00006
%RSD	41.96	169.969	276.427	38.9774	20.5116	2.00201

Elems	Fe2714	K 7664	Li6707	Mg2790	Mn257e	Mo2020
Units	count	count	count	count	count	count
Avge	.00075	2.53193	.14842	.00007	.00002	.00005
Sdev	.0020	.03932	.00073	.00006	0	0
%RSD	34.7786	.5221	.49205	78.2225	17.4372	19.3551

Elems	Na3302	Ni231e	P 2149	Pb03-1	Pb03-2	Sb20e8
Units	count	count	count	count	count	count
Avge	.00738	-.00183	-.00095	.0007	.00003	.00031
Sdev	.00185	.00034	.00002	.00017	.00011	.00004
%RSD	24.1329	18.7786	2.33767	25.1502	307.789	15.2916

Elems	Se1960	Si2881	Sn1899	Sr4215	Ti3349	Tl1908
Units	count	count	count	count	count	count
Avge	-.00151	.00187	-.00047	.00014	.00008	-.00043
Sdev	.00058	.00035	.00005	.00001	.00011	.00002
%RSD	38.3513	17.6317	9.09648	8.357	132.864	6.83943

Elems	V 2924	Zn2062	Zr3981
Units	count	count	count
Avge	-.00052	0	.0246
Sdev	.00001	0	.0004
%RSD	2.6048	631.559	1.64285

Method: TRIANG2 Sample Name: S103 Operator:
Run Time: 10/20/97 02:38 Filename: 101997
Mode: IR Type: X Corr Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.:

Items	Ag3280	Al3082	As1890	B_2496	Ba493d	Be3130
Units	count	count	count	count	count	count
Avge	.02951	.01757	.0559	.17083	.29967	.3191
Sdev	.00196	.00012	.00055	.00151	.00142	.00285
%RSD	6.6819	.72404	1.00079	.88584	.4763	.89544

Items	[illegible]	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	[illegible]	count	count	count	count	count
Avge	[illegible]	1.16012	.13545	.13851	.18007	.1752
Sdev	[illegible]	.00915	.00078	.00111	.0016	.00013
%RSD	[illegible]	.81485	.57635	.87638	.89399	.07961

Items	[illegible]	[illegible]	[illegible]	Mn2576	Mo2816	Na5890
Units	[illegible]	count	count	count	count	count
Avge	[illegible]	3.8985	13.5096	.0238	.15667	.09006
Sdev	[illegible]	.13666	.06544	.00011	.0017	.00089
%RSD	[illegible]	3.5032	.49173	.46279	7.6807	.99213

Items	[illegible]	[illegible]	P 2149	2203-1	2203-2	Sb2068
Units	[illegible]	count	count	count	count	count
Avge	[illegible]	.11534	.02497	.23207	.10364	.13048
Sdev	[illegible]	.00321	.00015	.00161	.00128	.00103
%RSD	[illegible]	.27804	.62627	.69755	1.23524	.79634

Items	1960-	1960-2	Sn1899	Sr4215	Ti3349	Tl1908
Units	count	count	count	count	count	count
Avge	.39726	1.6957	1.4125	.90854	1.28231	.03555
Sdev	.00185	.00227	.00134	.005	.00816	.001
%RSD	[illegible]	1.34306	.95018	.55051	.63644	2.83301

Items	V 2924	Zn2062	Zr2861	Pb2203	Se1960
Units	count	count	count		
Avge	.03494	1.3784	.5023		
Sdev	.00039	.0014	.00051		
%RSD	1.14319	1.02232	.10304		

Method: [Plasma]2 Sample Name: STD3 Operator: DKH
Run Time: 10/20/97 08:43 Filename: 101997
Mode: CONC Type: 0 Corr. Factor: 1.00000
Lab ID : Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	996.8	999.7	998.2	1013.	1001.	998.0
Sdev	2.451	7.16	.6164	2.352	.614	2.751
%RSD	.2459	.7162	.0617	.2322	.0613	.2756

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1001.	1002.	1001.	1002.	1001.	999.5
Sdev	1.466	1.313	1.951	2.245	2.438	4.02
%RSD	.146	.1309	.1949	.224	.2436	.4022

Elems	Fe2714	K_7664	La3709	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1004.	10[illegible]	1010	1003.	1000	1005.
Sdev	1.[illegible]	[illegible]	1.999	[illegible]	1.361	1.199
%RSD	[illegible]	[illegible]	[illegible]	.2084	.1361	.119

Elems	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	992.6	994.2	989.8	1004
Sdev	.534	[illegible]	2.915	13.09	19.77	.5386
%RSD	[illegible]	[illegible]	.2937	1.317	1.998	.0536

Elems	[illegible]	[illegible]	Sn1899	Sr4215	Ti3739	Tl1908
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	992.7	999.5	1002.	998.8	1000.	1034.
Sdev	13.69	24.42	2.265	.667	1.423	13
%RSD	1.379	2.461	.2261	.0668	.1423	1.258

Elems	V_2924	Zn3062	S12881	Pb2203	Se1960
Units	ppb	ppb	ppb	ppb	ppb
Avge	1002	1000	10000	991.2	992.6
Sdev	1.884	3.755	47.53	10.63	12.71
%RSD	.188	.3754	.4752	1.073	1.281

Method: TRIANGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/20/97 02:52 Filename: 101997
Mode: CONC Type: B Corr. Factor: 1.00000
Lab ID : Cust. Smpl ID : Cust. ID.: 43411

Items	Ba2230	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	503.3	497.1	510.3	505.5	503.8	505.6
SDev	998	5.765	1.771	.82	.9916	1.409
%RSD	.1983	1.159	.3471	.1613	.1379	.2905

Items	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	504.1	505.5	503.5	504.5	505.2	505.3
SDev	1.399	1.315	1.503	1.077	1.587	2.322
%RSD	.2774	.2602	.2987	.2136	.3061	.4614

Items	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	500.6	5.008	495.6	504.9	504.9	503.0
SDev	5.68	.198	15.86	1.956	1.197	1.576
%RSD	1.084	3.954	3.2	.3858	.2375	.3132

Items	Na3302	Ni2316	P_2149	2203-1	2203-2	Sb2068
Units	ppm	ppb	ppb	ppb	ppb	ppb
Avge	4.995	507.4	505.1	512.0	508.5	502.4
SDev	.1657	1.78	7.985	.3212	19.37	4.196
%RSD	3.311	.3509	1.581	.0626	3.81	.8352

Items	196[illegible]	196[illegible]	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	513.8	511.[illegible]	509.5	512.5	502.9	501.0
SDev	1.758	1.88	13.01	13.51	2.446	.9562
%RSD	.8231	1.378	2.557	2.638	.4865	.1869

Items	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	501.4	512.4	503.6	505.1	5044
SDev	.9426	15.04	1.38	2.305	19.68
%RSD	.188	2.934	.2741	.4563	.3902

Method: TRIAN012 Sample Name: ICB/CCB Operator: DKH
Run Time: 10/20/97 02:57 Filename: 101997
Mode: CONC Type: B — Corr. Factor: 1.00000
Lab ID: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	- .1745	-5.811	1.192	8.720	-.0120	- .0390
Stdev	.402	3.288	1.525	2.985	.0617	.0137
%RSD	231.0	-56.58	127.9	34.23	513.9	-35.79

Elems	Cd2265	Cd2748	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.0765	.0283	-1.139	- .1219	.1438	- .8167
Stdev	.1107	.0613	.7886	.0614	.3938	.5816
%RSD	144.7	216.6	-69.21	-50.45	273.8	-71.23

Elems	Fe2714	In3256	La3988	Mn2576	Mo2816	Ni2316
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	-.4.4564	.0792	.1857	-5.369	.0181	1.168
Stdev	9.117	.0793	.0351	3.018	.0231	.6304
%RSD	-204.4	100.2	18.9	-57	127.4	53.95

Elems	Pb2203	Pd3404	Pr4222	Re2032	Rh3434	Ru2403
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.0827	.4970	2.041	1.735	.0268	1.858
Stdev	.0515	.5008	.6453	1.871	1.135	1.578
%RSD	62.3	100.7	31.56	107.8	4236	83.34

Elems	Sb2068	Se1960	Sn1899	Sr4215	Ta2400	Tb3509
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	- .3487	1.347	.5957	.7787	.3233	.0013
Stdev	.8807	1.524	.3347	1.978	1.38	.0283
%RSD	252.6	188.7	56.19	253.9	395.8	2178

Elems	Th2397	Ti1908	V 2924	Zn2062	Zr1884
Units	ppb	ppb	ppb	ppb	ppb
Avge	- .1073	69.551	.5940	- .0219	-3.055
Stdev	.1.5	1.878	.5497	.1889	13.74
%RSD	142.3	57.05	95.9	862	450.3

Method: [illegible] Sample Name: 100*COR Operator: DKH
Run Time: [illegible] 03:03 Filename: 101997
Mode: CUR Type: U Corr. Factor: 1.00000
Lab ID: Cust Smpl ID.: Cust. ID.: 43411

Items	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	-3.478	.0694	2.468	-.0089	-.0133
Sdev	[illegible]	3.804	1.593	.8408	.0311	.0339
%RSD	[illegible]	103.4	2288	34.39	349.8	255.7

Items	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	-.0035	-.0023	.0059	.1712	-.5088
Sdev	.3758	.111	3.001	.321	.5479	.4995
%RSD	[illegible]	252.8	453.6	543	320	87.77

Items	Fe2 [illegible]	K 7664	La6720	MG2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	.018	.0105	-.1103	-.0211	-.0177
Sdev	[illegible]	.0758	.0559	.1433	.0181	.0149
%RSD	[illegible]	414.7	533.2	129.9	85.71	84.03

Items	Na5 [illegible]	Ni 231 [illegible]	P 178	Pb2033	Sb2068
Units	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	.0613	2.213	-.5654	-.5074	.2100
Sdev	[illegible]	.2078	5.35	3.498	3.047	2.794
%RSD	[illegible]	339.9	241.8	618.5	537	1059

Items	[illegible]	Se1960	Sb2203	Si2506	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	-2.295	.4710	.1756	-.4727	.0059
Sdev	3.874	3.175	1.371	2.334	.4895	.0108
%RSD	75.2	138.3	290.5	1329	103.6	283.2

Items	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
Avge	-.0504	05.304	.4599	-.1179	-3.202
Sdev	.0672	4.211	.4404	.2772	3.439
%RSD	133.3	79.4	95.75	235.1	107.4

Method: EPA6010 Sample Name: ICB/CCB Operator: DKH
Run Time: 10/20/97 06:06 Filename: 101997
Mode: Conc Type: B Corr Factor: 1.00000
Cal ID: — Cust Smpl ID: Cust ID : 43411

[illegible]	[illegible]	[illegible]	8.1890	8.2496	8.4494	8.5130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.0007	-.1074	.0053	.9844	.0678	-.0192
Stdv	.5361	1.777	.4625	.4981	.0099	.0392
%RSD	57.8	1664	1254.0	50.59	14.57	203.5

Elems	Ba3130	Be3130	Ca4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.5056	.0567	1.377	-.1144	.5188	-.0714
Stdv	.4561	.1304	.629	.2136	.3834	.0319
%RSD	87.38	230	45.68	186.7	73.9	884.5

Elems	Fe2714	K_7664	Mg2707	Mn2790	Mo2576	Na3020
Units	ppb	ppm	ppb	ppb	ppb	ppb
Avge	3.5[illegible]	-.0750	-.0034	7.899	.0160	-.0434
Stdv	5.217	.0113	.026	6.788	.0113	.5784
%RSD	[illegible]	[illegible]	764.6	21[illegible]	89.63	837

[illegible]	[illegible]	[illegible]	8.7148	[illegible]	[illegible]	[illegible]
Units	ppb	ppb	ppb	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	.4984	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	10.66	345.5	102.2	138.1

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Units	ppb	ppb	ppb	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.7503	.0229
Stdv	1.457	1.075	.8019	1.065	1.368	.0333
%RSD	[illegible]	89.7	257.5	113.4	182.4	145.5

Elems	Tl1908	V 292[illegible]	Zn2062	Si2881	
Units	ppb	ppb	ppb	ppb	
Avge	1.235	.4139	.5028	.0210	-10.60
Stdv	1.235	1.767	.426	1789	9.072
%RSD	95.38	426.9	84.72	851	85.61

Method: TRIANGL2 Sample Name: ICSAB Operator: DKH
Run Time: 10/20/97 03:14 Filename: 101997
Mode: CONC Type: A Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID: Cust. ID.: 43411

Items	Mg3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	532.7	514100.	518.1	515.4	509.9	486.5
Stdev	7034	1439	6.113	2.996	5178	1.457
%RSD	1.321	.28	1.18	.5677	1015	.2994

Items	Ca3179	Cd2265	Ce3186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15.500	465.9	491.6	459.9	473.0	524.0
Stdev	1160	.966	1.822	1.181	1.547	1.779
%RSD	2564	.2082	.3707	.2567	.3271	.3395

Items	Fe2714	K_7664	Li6707	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1715.0	996.15	609.2	598800.	449.0	496.6
Stdev	393.4	.0899	2.652	526.1	1.076	3.026
%RSD	16.52	.3434	.4352	.0995	.2396	.4078

Items	Na3302	Ni2316	P_2149	Pb2033-1	Pb2033-2	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5.523	450.4	500.9	507.2	506.1	505.4
Stdev	.0637	6.123	33.4	13.61	9.595	11.71
%RSD	1.154	1.36	6.669	2.685	1.896	2.316

Items	Se1960-1	Se1960-2	Sb2203	Si1960	Sn1899	Sr1215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	503.5	507.8	479.4	508.8	496.8	500.
Stdev	11.44	13.55	5.138	2.31	4.884	1.615
%RSD	2.276	2.667	1.073	.4542	1.387	.3231

Items	Ti3349	Tl1908	V 2924	Zn206	S10288
Units	ppb	ppb	ppb	ppb	ppb
Avge	491.9	506.5	488.5	439.1	5490
Stdev	.6456	14.66	1.108	1.92	5.319
%RSD	.1313	2.895	.2268	.4372	.0969

Method: TRIANG2 Sample Name: 43411 MR Operator: DKH
Run Time: 10/20/97 03:29 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	(-.3072	(-.8322	(.0830	(-.0078	(.0293	(-.3205
Sdev	.4633	1.912	.0044	.0111	.0523	.2716
%RSD	150.8	229.8	5.267	142-	178.6	84.74

Elems	[illegible]	Cu324[illegible]	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	(.2958	(.3903	(0.13	(-5.135	(.7095
Sdev	[illegible]	.278	.0118	.1096	5.594	1.071
%RSD	[illegible]	94.03	3.02	(.039	104.2	25.52

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	ppb	ppb	ppb	ppb
Avge	[illegible]	(.3985	(.6334	(2.789
Sdev	[illegible]	.2215	1.202	.1799
%RSD	[illegible]	55.59	189.9	6.45

Method: TRIANGLE Sample Name: 43411 LCS Operator: DKH
Run Time: 10/20/97 05:33 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust Smpl ID.: Cust. ID.: 43411

Flame	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	42.95	44.95	46.80	45.78	46.59	46.65
Sdev	.364	1.466	.0518	.0392	.1362	.3389
%RSD	.8474	3.261	.1106	.0857	.2924	.7265

Flame	Cr2677	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	47.89	47.89	47.50	65.43	908.8	45.94
Sdev	.0667	.4569	.0623	.1269	12.09	.3575
%RSD	.1393	.9537	.1312	.1939	1.33	.7782

Flame	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb
Avge	46.91	46.99	48.42	194.4
Sdev	.1....	.2214	1.0...	.9...5
%RSD	.2...	1.0...	.2...	.4...5

Method: [illegible] Sample Name: 1R4-R4-1ABC Operator: DKH
Run Time: 10/20/97 03:38 Filename: 101997
Mode: Conc Type: S Corr-Factor: 1.00000
Set ID: Cust. Samp ID: Cust. ID.: 43411

Items	[illegible]	Ca1490	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Conc	[illegible]	1-.0160	539.8	1-.1580	1-3.194	1-32.45
Stdv	.9063	2.544	.6261	.0749	.6939	2.469
%RSD	37.59	15340	116	47.39	21.72	7.61

Items	Cr2767	Cu3247	Mn2576	Ni2316	P.2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Conc	12[illegible].0	21.25	677.2	59.06	505.8	30.75
Stdv	1.228	.3587	3.859	2.041	22.52	1.741
%RSD	1.013	.5035	.5698	3.456	4.453	5.661

Items	Se1960	Se1960	Ti1908	Zn2062
Units	ppb	ppb	ppb	ppb
Conc	[illegible]8.33	34.34	1-50.65	213.1
Stdv	[illegible]	[illegible]	8.495	2.11
%RSD	[illegible]	[illegible]	37.71	.9856

Method: TRIANGL2 Sample Name: 184-84-1A8C POS Operator: DKH
Run Time: 10/20/97 03:43 Filename: 101097
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Items	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12.43	47.78	575.5	44.63	15.53	17.32
Stev	1.034	6.572	1.254	2.[illegible]	.8509	2.343
%RSD	8.314	13.82	.2179	193	1.965	13.53

Items	[illegible]	[illegible]	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	119.0	709.6	105.9	1391.	28.53
Stev	[illegible]	3904.	2.398	7592	20.79	1.788
%RSD	[illegible]	.4193	3238	.7171	1.459	2.367

Items	[illegible]	[illegible]	T11908	Zn2062
Units	ppb	ppb	ppb	ppb
Avge	99.35	89.[illegible]	24.85	397.2
Stev	8.[illegible]	2.795	2.065	3.034
%RSD	8.473	3.253	8.319	.7634

Method: TRIANGL? Sample Name: 184-84-1ARC 1 Operator: DKH
Run Time: 10/20/97 03:47 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1.8206	12.538	111.7	1.0096	1-.5538	1-0.060
Sdev	.221	.9408	.59	.088	.0838	.1307
%RSD	33.07	37.15	.5281	917.1	15.14	1.963

Elems	Cr2677	Cu3247	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	37.50	11.70	134.7	1-.32	110.3	2.605
Sdev	.5104	.4.2	.9311	58.2	1.701	1.709
%RSD	1.361	1.971	.7566	1.335	1.263	22.47

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	ppb	ppb	ppb	ppb
Avge	[illegible]	1-.48	1-7.700	1-.68
Sdev	[illegible]	.5853	1.947	.573
%RSD	[illegible]	5.475	25.55	1.118

Method: 3[illegible] Sample Name: 184-84-2080 Operator: DKH
Run Time: 10/20/97 03:52 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID: Cust. Smpl. ID: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	L2.119	401.5	L-.2350	1.741	L-23.08
Sdev	.0758	6.35	.4585	.0223	.5889	1.369
%RSD	3.517	299.6	.114L	9.483	33.83	5.93

Elems	[illegible]	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	57.34	633.1	50.16	463.8	24.09
Sdev	[illegible]	9.35	9.4e5	1.349	8.71	2.3
%RSD	[illegible]	1.AE	389?	2.899	1.878	9.5d4

[illegible]	[illegible]	Se1960	Ti3308	Zn2062
[illegible]	ppb	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Method: [illegible] Sample Name: 184-84-2880 DA Operator: DAH
Run Time: 10/20/97 03:52 Filename: 101997
Mode: CONC Type: S Corr Factor: 1.00000
Lab ID: Cust Smpl ID: Cust ID.: 43411

Elems	[illegible]	[illegible]	Ba4934	Be3130	Cd2265	Co228A
Units	ppb	ppb	ppb	ppb	ppb	ppb
Ave=	[illegible]	1-2.546	401.3	1-.3100	1.7623	1-25.50
Sha=	.338	2.537	.4212	.0606	.8887	2.049
%RSD	19.36	99.63	.1049	19.54	116.6	8.038

Elems	Cr2767	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Ave=	104.9	58.09	630.1	50.15	444.8	21.35
Sha=	4.257	6.774	1.12	.7475	26.19	4.37
%RSD	.4039	1.154	.1778	1.491	5.889	20.46

Elems	Se1960	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb	ppb
Ave=	[illegible]	[illegible]	1-32.13	181.0
Sha=	[illegible]	[illegible]	2.31	495
%RS=	[illegible]	[illegible]	[illegible]	273

Method: TRIANGL2 Sample Name: 184-84-3A8C Operator: DXH
Run Time: 10/20/97 04:01 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID: Cust. Smpl. ID.: Cust. ID.: 43411

Elem	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1.8454	13.233	892.1	[illegible]	[illegible]	[illegible]
SDev	.1477	1.695	1.528	.0223	.49	1.566
%RSD	10.99	12.5	.2293	15.8	38.52	9.204

Elem	[illegible]	[illegible]	Mn2576	Mo2816	P.21497	Pb2203
Units	ppb	[illegible]	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	1076	63.15	262.5	31.98
SDev	.9498	.5019	0.259	.5018	18.59	1.959
%RSD	.8024	.2005	.5819	.4779	2.438	6.125

Elem	[illegible]	[illegible]	Tl1908	Zn2062
Units	ppb	ppb	ppb	ppb
Avge	39.11	39.48	1-19.59	248.8
SDev	5.673	.7209	6.623	2.924
%RSD	14.50	1.952	33.8	1.175

Method: [illegible] Sample Name: 184-84-4ABC Operator: DKH
Run Time: 10/20/97 04:06 Filename: 101907
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Sampl. ID.: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Aver	11.97	50.29	10820.	1-39.19	200.1	o31.o
SDev	2934	14.4	30.18	2.306	3.962	1.26
%RSD	[illegible]	28.64	279	o.131	1.98	1994

Elems	[illegible]	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	[illegible]	[illegible]	ppb	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	53[illegible].1	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	o81[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	47.11	7301
[illegible]	[illegible]	[illegible]	33.33	32.19
[illegible]	[illegible]	[illegible]	49.52	4341

Method: [illegible] Sample Name: 184-84-5A6C Operator: DKH
Run Time: 10/20/97 04:11 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Elem	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	[illegible]	L5.166	124.1	L.o199	L-4.483	L-31.07
SDEV	1.809	5.15	115.9	1.078	.3825	7.36
%RSD	117	162.7	93.42	173.9	8.532	23.69

Elem	Cr2677	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	[illegible]	4e.55	377.1	48.81	289.2	L-7.469
SDEV	[illegible]	50.43	o09.4	o.924	4o8.7	5.474
%RSD	[illegible]	1o9.1	161.6	14.19	162.1	16.52

Elem	[illegible]	Se1960	Tl1908	V_o62
Units	ppb	ppb	ppb	ppb
AVGE	[illegible]	4.64	L-35.58	101.2
SDEV	[illegible]	[illegible]	14.1o	11o.1
%RSD	[illegible]	[illegible]	5o.o	1o9.1

Method [illegible] Sample Name: 184-84-SARC Operator: DSH
Run time: 10/20/97 04:17 Filename: 101997
Mode: PHHC Type: S Corr. Factor: 1.00000
Cal. ID: Cust. Smpl. ID: Cust. ID.: 43411

[illegible]	[illegible]	[illegible]	K13751	RB1130	Cd2265	Ca228n
Units:	ppb	ppb	ppb	ppb	ppb	ppb
Avg:	1.8094	1.3571	55.52	1.0426	1-4.108	1-54.54
Std.	.5518	2.199	.1298	.0396	.4652	1.683
%RSD	30.74	162.0	.2337	92.99	11.32	4.871

Elem:	[illegible]	Cd2265	Mn2576	Ni2316	P 2149	Pb2203
Units:	ppb	ppb	ppb	ppb	ppb	ppb
Avg:	[illegible]	1.0430	13.50	45.05	19.138	1-5.028
Std.	3459	1.45	.5998	1.01	16.99	.9844
%RSD	3439	8.463	3.427	2.242	185.9	19.58

Elem:	Se1960	Se1960	Tl1908	Zn2062
Units:	ppb	ppb	ppb	ppb
Avg:	[illegible]	[illegible]	1-25.70	5e-03
Std.	[illegible]	[illegible]	6.647	2045
%RSD	[illegible]	[illegible]	25.85	1.967

Method: TRIAN612 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/20/97 04:21 Filename: 101997
Mode: CONC Type: Q Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Items	[illegible]	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	495.2	504.0	532.8	509.5	504.8
SDev	[illegible]	7.501	1.504	20.68	.8612	1.808
%RSD	[illegible]	1.519	.2981	3.881	.169	.3581

Items	[illegible]	[illegible]	Ca4586	Cd2306	Co2286	Cr3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	496	506.5	506.4	506.1	502.5	506.1
SDev	.838	2.003	1.282	2.093	2.536	2.119
%RSD	.1688	.3968	.2455	.532	.4605	.4186

Items	Fe2599	K 7664	Li6707	Mg2790	Mn257e	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	535.1	1.963	499.0	501.0	495.6	503.9
SDev	31.67	.1456	13.96	13.14	1.284	3.702
%RSD	5.870	7.944	2.792	2.624	.2585	.7332

Items	Na330[illegible]	Na3301	P 2149	2203-1	2203-2	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1.997	508.9	507.6	503.2	519.1	501.1
SDev	[illegible]	[illegible]5	10.25	10.46	15.51	5.733
%RSD	[illegible]	[illegible]	2.019	2.062	2.988	1.144

Items	[illegible]	[illegible]	Se1960	Si2881	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	515.1	509.6	496.7	505.1
SDev	[illegible]	[illegible]	15.43	15.14	2.316	.5269
%RSD	[illegible]	[illegible]	2.99	2.971	.4663	.1047

Items	[illegible]	Ti1908	V_2924	Zn2062	S10881
Units	ppb	ppb	ppb	ppb	ppb
Avge	493.1	506.7	505.4	504.5	036500
SDev	1.45	10.26	1.106	1.042	3713
%RSD	.2953	2.026	.2188	.2013	10.17

Method: TRIANG12 Sample Name: ICH/CCH Operator: DKH
Run Time: 10/20/97 04:27 Filename: 101997
Mode: CONC Type: 0 - Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	Al3082	As1890	B 2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppm	ppb	ppb
Avge	.2481	-1.104	.8468	64.48	.2341	.2485
Stdv	1.382	1.935	1.791	3.905	.7044	.2476
%RSD	606.3	442.1	211.6	6.057	87.32	99.64

Elems	[illegible]	[illegible]	Ca1864	Cd2288	Co2677	Cr8947
Units	ppb	ppb	ppb	ppm	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elems	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Units	ppb	ppb	ppb	ppm	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elems	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Units	ppb	ppb	ppb	ppm	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elems	[illegible]	[illegible]	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	-1.201	.0681	-.7495	-.9249	.2630
Stdv	1.508	.815	.785	.3985	.0176	.2335
%RSD	[illegible]	[illegible]	1152	53.67	66.78	88.78

Elems	[illegible]	[illegible]	V 2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	7337	0.967	41495.0
[illegible]	[illegible]	[illegible]	3225	5331	828.4
[illegible]	[illegible]	[illegible]	44.05	3020	5.54

Method: [illegible] Sample Name: 184-B4-oA80 Operator: DKH
Run Time: 10 [illegible] 04:35 Filename: 101997
Mode: CONC Type: S Corr Factor: 1.00000
Lab ID: Cust Smpl ID.: Cust. ID.: 43411

Items	Ag328.	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10.00	38.16	9226.	L-18.61	142.8	551.0
Sdev	.7077	8.342	58.46	.3362	8.794	3.075
%RSD	7.064	21.86	.6337	1.807	6.156	.5581

Items	Cr2677	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	6548	23720	555.0	38030.	779.1
Sdev	[illegible]	179.9	1180	3.849	120	11.89
%RS	[illegible]	2.748	4.917	.6935	.3155	1.526

Items	[illegible]	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	1059
Sdev	[illegible]	[illegible]	[illegible]	[illegible]
%R	[illegible]	[illegible]	33.56	1.552

Method: IP1GMS1 Sample Name: 184-84-7A8CD Operator: DKH
Run Time: 10/20/97 04:38 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Cust. Smpl. ID: Cust. ID: 43411

Items	[illegible]	Ca13490	Na34934	Be5130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Blnk	[illegible]	49.13	7309	1-11.75	93.86	454.8
Std	[illegible]	9.863	30.76	2.266	4.162	7.318
%RSD	25.54	20.08	.4209	19.29	4.388	1.609

Items	[illegible]	[illegible]	Mn2576	Ni2316	P.2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Blnk	[illegible]	[illegible]	22380.	463.7	48810.	778.8
Std	[illegible]	95.93	901.3	7.126	386	29.78
%RSD	[illegible]	[illegible]	4.028	1.537	.7909	3.824

Items	[illegible]	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb	ppb
Blnk	[illegible]	[illegible]	54.26	5199
Std	[illegible]	[illegible]	25.53	139
%RSD	[illegible]	[illegible]	[illegible]	2.534

Method: TRIANGL2 Sample Name: 184-84-1DE Operator: DKH
Run Time: 10/20/97 04:42 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl ID.: Cust. ID.: 43411

Items	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Mean	[illegible]	[illegible]	8.541	[illegible]	4.544	[illegible]
Sdev	[illegible]	[illegible]	[illegible]	[illegible]	3997	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	8.795	[illegible]

Items	[illegible]	[illegible]	Mn2576	Mo2816	0.2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Mean	[illegible]	[illegible]	[illegible]	32.86	562.5	51.85
Sdev	[illegible]	[illegible]	8.06c	1.078	2.678	1.156
%RSD	[illegible]	[illegible]	36.27	3.281	.476	2.229

Items	[illegible]	Se1960	Ti1908	Zn2062
Units	ppb	ppb	ppb	ppb
Mean	[illegible]	[illegible]	[illegible]	[illegible]
Sdev	4.035	[illegible]	2.997	2.525
%RSD	[illegible]	[illegible]	37.15	1.161

Method: TRIANGL2 Sample Name: IB4-B4-10F POS Operator: DKH
Run Time: 10/20/97 04:47 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust ID.: 43411

Elems	As1280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	42.65	42.84	58.97	46.31	51.82	47.41
SDev	2.694	1.43	.2732	.0452	.307	.6256
%RSD	6.317	3.335	.4634	.0976	.5923	1.32

Elems	[illegible]	Cr2267	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	65.63	63.11	79.21	1499	96.36
SDe	[illegible]	[illegible]	736	.8506	12.79	22.25
%RS	[illegible]	3.971	1401	1.067	.9013	.2939

	[illegible]	[illegible]	[illegible]	[illegible]
Units	ppb	ppb	ppb	ppb
Avge	35.56	50.50	25.83	389.4
SDev	3.075	.8631	2.925	.9762
%RSD	8.644	1.708	6.381	.2507

Method: [illegible] Sample Name: 184-84-10E L Operator: DKH
Run Time: [illegible] Qa-52 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl ID.: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	L1.564	[illegible]	L.9402	L-.4886
SDev	.3401	2.1	.2212	.0433	.2746	.9288
%RSD	256	97.95	14.14	270.6	29.21	190.1

Elems	Cr2677	Cu3247	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	5.694	[illegible]	108.6	11.51
SDev	[illegible]	89.15	5542	[illegible]	[illegible]	.2462
%RSD	[illegible]	[illegible]	15	[illegible]	[illegible]	3.177

Elems	Se1960	Se1960	Ti3908	Tl1908
Units	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	[illegible]
SDev	[illegible]	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]

Method: [illegible] Sample Name: 184-84-20F Operator: DKH
Run Time: 10/20/97 04:56 Filename: 101397
Mode: Conc Type: S Corr. Factor: 1.00000
Cal ID: [illegible] Inst Smpl ID: [illegible] Inst ID.: 43411

[illegible]	[illegible]	[illegible]	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Conc	[illegible]	[illegible]	7.088	1-.0028	1.921	1-.1642
Sdev	.4097	.[illegible]	.1278	.0355	.0911	.4237
%RSD	64.57	22.71	1.804	1281	4.744	258

Elem	Cr2677	Cu3247	Mn2576	Ni2316	P.2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Conc	5.[illegible]	33.78	110.6	14.45	660.6	28.59
Sdev	.2555	.6916	.6832	.4779	1.415	2.072
%RSD	4.[illegible]	5.019	.6178	3.308	.2142	7.249

Elem	Sb2068	Se1960	Ti1908	Zn2062
Units	ppb	ppb	ppb	ppb
Conc	[illegible]	.[illegible]	1-7.[illegible]	23.[illegible]
Sdev	[illegible]	[illegible]	2.709	.[illegible]
%RSD	[illegible]	[illegible]	[illegible]	.[illegible]

Method: TRIANGL2 Sample Name: 184-84-2DE OA Operator: DAH
Run Time: 10/20/97 05:01 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl ID.: Cust. ID.: 43411

Items	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	6.838	[illegible]	1.709	[illegible]
Sdev	[illegible]	[illegible]	[illegible]	1379	8717	2.478
%RSD	[illegible]	[illegible]	9.16	239.3	51	34577

Items	[illegible]	[illegible]	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	104.5	[illegible]	650.9	28.61
Sdev	[illegible]	[illegible]	1.75	[illegible]	28.56	1.769
%RSD	[illegible]	[illegible]	1.598	[illegible]	4.387	6.184

Items	Sb2068	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	71.75
Sdev	[illegible]	1.939	1.115	2.618
%RSD	[illegible]	27.55	19.94	3.648

Method: IRIS#12 Sample Name: 184-84-30E Operator: DKH
Run Time: 10/20/97 05:06 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	6.268	[illegible]	1.830	[illegible]
Sdev	[illegible]	[illegible]	.1796	.0175	.094	.7142
%RSD	[illegible]	[illegible]	2.866	38.07	5.136	54.44

Elems	[illegible]	[illegible]	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	22.68	[illegible]	645.3	26.99
Sdev	[illegible]	[illegible]	[illegible]	.8771	3.518	1.894
%RSD	[illegible]	[illegible]	1652	5.173	.2001	7.018

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	ppb	ppb	ppb	ppb	
Avge	[illegible]	[illegible]	[illegible]	[illegible]	
Sdev	[illegible]	[illegible]	[illegible]	339	
%RSD	[illegible]	[illegible]	[illegible]	4592	

Method: IRA-[illegible] Sample Name: 184-84-40 Operator: DRH
Run Time: [illegible] 05:10 Filename: 191[illegible]
Mode: CURV Type: S Corr. Factor: 1.00000
Lab ID : Cust. Smpl. ID : Cust. ID.: 43411

Items	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	4.733	[illegible]	1.898	[illegible]
Sdev	1.203	1.538	.1898	.0347	.2746	.8122
%RSD	[illegible]	27.31	4.011	36.06	14.47	[illegible]

Items	Cr2[illegible]	Cu3247	Mo2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	15.74	12.34	13.55	345.7	41.49
Sdev	[illegible]	1.06	[illegible]	3961	[illegible]	1.499
%RSD	[illegible]	[illegible]	2.143	5.874	1.9	3.617

[illegible]	[illegible]	Se1960	[illegible]	Zn2062
[illegible]	ppb	ppb	ppb	ppb
[illegible]	[illegible]	[illegible]	[illegible]	185.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Method: [illegible] Sample Name: IR4-R4-SRD Operator: DFH
Run Time: 10/20/97 05:15 Filename: 101997
Mode: CONC Type: S Corr Factor: 1.00000
Lab ID: Cust Smpl ID: Cust. ID.: 43311

Items	Mg3280	Si1990	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Mean	[illegible]	[illegible]	1.7086	1.0408	1.2164	1.9254
Sdev	2.053	2.026	.3415	.0902	.2859	1.498
%RSD	99.98	36.06	48.2	221.1	132.1	161.9

Items	Cr2677	Cu3247	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Mean	[illegible]	2.565	4.555	5.815	[illegible]10.25	3.934
Sdev	[illegible]	2.01	286	1.361	13.2	1.988
%RSD	195.7	78.36	6.28	23.41	128.7	50.52

Items	Sb2068	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb	ppb
Mean	[illegible]	[illegible]	[illegible]3.722	12.58
Sdev	[illegible]	[illegible]	4.129	.9693
%RSD	[illegible]	[illegible]	110.9	7.704

Method: TRI-NGL2 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/20/97 05:20 Filename: 101997
Mode: CONC Type: A Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID : 43411

Items	Ag3280	Al3082	As1890	B_2496	Ba2934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	511.7	497.3	515.7	525.0	513.6	509.8
SDAV	2.484	15.11	3.663	4.166	3.589	5.309
%RSD	1.344	3.069	.7108	.7936	.6997	1.041

Items	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	500.4	504.2	503.4	509.2	508.6	507.8
SDAV	6.329	5.383	5.353	4.988	6.127	7.027
%RSD	1.265	1.072	1.063	.9796	1.205	1.384

Items	Fe2714	K_7664	Li6707	Mg2790	Mn257[illegible]	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	503.7	9.394	0556.7	498.1	501.4	503.7
SDAV	28.01	5131	51.33	10.95	4.06	2.76
%RSD	5.353	9.408	9.188	2.199	.8097	.5479

Items	Na3302	Ni2316	P_2149	S203-1	S203-2	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	5.193	505.1	508.5	499.1	498.6	500.5
SDAV	3.453	4.353	10.16	10.35	16.27	2.739
%RSD	9.240	.8336	1.998	2.070	3.267	.5473

Items	Se1960-1	Se1960-2	Sr2216	Se1960	Si1899	Si2219
Units	ppb	ppb	ppb	ppb	ppb	ppb
AVGE	497.1	495.1	498.9	496.0	502.0	502.1
SDAV	7.134	15.47	11.76	11.55	3.796	3.15
%RSD	1.434	3.123	2.364	2.329	.7563	.594

Items	Ti3349	Tl1908	V_2924	Zn2062	Si2881
Units	ppb	ppb	ppb	ppb	ppb
AVGE	499.1	510.8	506.9	503.9	05821
SDAV	7.569	4.226	3.419	9.604	152.6
%RSD	1.455	.8273	.6745	1.906	2.621

Method: TRACE2 Sample Name: ICB/CCB Operator: DKH
Run Time: 10/20/97 05:25 Filename: 101997
Mode: CONC Type: B Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	- 3950	-1.276	2.986	11.90	- 0195	-.0007
Stdv	3.116	6.456	1.18	2.439	2569	.0379
%RSD	788.3	506.1	39.52	20.58	1314 -	5457

Elems	[illegible]	Cd2265	Co3186	Cr2298	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	.0387	-1.505	- 1249	- 1916	- 0269
Stdv	[illegible]	2.938	1.114	1.203	1.12	
%RSD	[illegible]	1535	184.8	962.7	619	171.6

Elems	[illegible]	[illegible]	[illegible]	Mg2790	Mn2576	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	- 1955	.1638	-2.935	- 0309	.4230
Stdv	[illegible]	7833	5687	15.76	.1334	4655
%RSD	351	140.9	347.2	537	466.2	109

Elems	Na3302	Ni2316	P_2149	P203-1	P203-2	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	.7736	4.099	-1.329	- 1744	-1.503
Stdv	9316	1.086	6.775	12.02	2.333	3.33
%RSD	4715.3	595.8	165.3	907	1728	221.5

Elems	[illegible]	1960-2	Pb2203	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	- 3955	.0464	-.7243	.1663	-1.097	-.0130
Stdv	3.287	5.483	2.088	.8714	.6076	.1293
%RSD	561	538.8	288.3	525.9	55.4	1016

Elems	[illegible]	Ti3908	V_2924	Zn2062	Zr3551
Units	ppb	ppb	ppb	ppb	ppb
Avge	- 0816	.3.856	.1336	.2429	0288.9
Stdv	1.503	3.409	1.056	4.353	84.37
%RSD	567.7	88.41	807.9	179.3	29.21

Method: IP1B0+C Sample Name: 184-84-e0 Operator: DKH
Run Time: 10/20/97 05:31 Filename: 101297
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID: Cust. Smpl. ID.: Cust. ID.: 43411

Elems	Ag3280	As1890	Ba4934	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	11.69	[illegible]	3.081	[illegible]
Sdev	.1495	1.874	.0658	.043	.1118	.0534
%RSD	33.55	149.1	.5624	69.24	3.63	10.93

Elems	Cr2677	Cu3247	Mn2576	Ni2316	P 2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	48.39	52.13	26.16	667.4	46.65
Sdev	[illegible]	[illegible]	2723	.9215	1.274	.0658
%RSD	[illegible]	[illegible]	.5225	3.522	.6403	1.856

Elems	Se1960	Tl1908	Zn2062
Units	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]
Sdev	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]

Method: [illegible] Sample Name: 184-R4-7FF Operator: DKH
Run Time: 10/20/97 05:3[illegible] Filename: 101997
Mode: [illegible] Type: S Corr. Factor: 1.00000
Lab ID: Cust. Smpl. ID : _ Cust. ID : 43411

[illegible]	83.780	661340	833943	RE5[illegible]6	Cd2985	Cd2986
Units	PPB	PPB	PPB	PPB	PPB	PPB
Avge	1.1078	1-5.043	98.77	1-.0352	2.943	1.0336
SDev	.8232	1.837	.1202	.0265	.1771	.9164
%RSD	74.3	81.67	4176	75.16	6.019	2724

Elem	Cr2677	Cu3247	Mn2576	Ni2316	P 2149	Pb2203
Units	PPB	PPB	PPB	PPB	PPB	PPB
Avge	1.20	38.73	95.12	35.37	1182.	43.60
SDev	.8774	.633	2202	.8733	3.647	.8947
%RSD	8.227	1.634	.2315	2.469	.3087	2.052

Elem	Se1960	Ti1908	Zn2062	
Units	PPB	PPB	PPB	
Avge	1-.109	1-.1376	1-.282	998.1
SDev	.96	.835	3.19	1.784
%RSD	878	1%	50.78	.1806

Method: TRIANGL2 Sample Name: 184-50-70 Operator:
Run Time: 10/20/97 06:05 Filename: 101997
Mode: CONC Type: S Corr. Factor: 1.00000
Lab ID: Cust. Smpl. ID.: Cust. ID.:

Elem	Ba2320	As1890	Be3130	Cd2265	Co2286
Units	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sdev	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elem	[illegible]	Mn2576	Ni2316	P_2149	Pb2203
Units	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sdev	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elem	Sr4077	Sb2068	Ti1908	Zn2062
Units	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	[illegible]
Sdev	[illegible]	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]

Method: TRIANG12 Sample Name: ICV/CCV Operator: DKH
Run Time: 10/20/97 06:09 Filename: 101997
Mode: CONC Type: U Corr. Factor: 1.00000
Lab ID.: Cust. Smpl. ID.: Cust. ID.: 4341

Elems	Ag3280	Al3082	As1890	B_2496	Ba493d	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	515.5	505.1	508.2	512.4	506.5	504.5
Stdv	2.609	14.09	4.616	1.421	1.437	4.564
%RSD	.506	2.789	.9083	.2774	.2836	.9007

Elems	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Stdv	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elems	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	5.769	532.9	502.2	500.0	501.1
Stdv	[illegible]	[illegible]	20.49	5.677	2.226	3.804
%RSD	[illegible]	5.144	3.845	1.129	.5451	.759

Elems	Na3302	Ni2316	P_2149	Pb220-1	Pb220-2	Sb2068
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	507.9	506.5	501.1	510.2	499.3
Stdv	.3341	1.877	5.058	5.469	.5667	2.094
%RSD	[illegible]	.3724	.9985	1.091	.1111	.4193

Elems	Se196-1	Se196-2	Sr2070	Se1960	Sn1899	Sr4215
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	495.1	506.3	507.2	504.6	495.1	502.5
Stdv	[illegible]	4.55	2.164	5.632	2.956	[illegible]
%RSD	1.008	.8953	.4268	1.118	.5955	.7979

Elems	Ti3349	Tl1908	V_2924	Zn2062	Zr3551
Units	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	506.1	504.1	499.0	499.[illegible]
Stdv	[illegible]	[illegible]	[illegible]	5.351	[illegible].8
%RSD	507	[illegible].341	.4105	1.155	1.223

[illegible] Sample Name: 10K4008 Operator: DKH
[illegible] Date: 10-20-97 08:17 Filename: 101997
Mode: CURV Type: W Corr. Factor: 1.00000
Sol. ID: [illegible] Cust. Smpl ID: Cust. ID: 43411

Elem	Ag3280	Al3082	As1890	B_2496	Ba4934	Be3130
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	3545	-.5698	.8032	6.283	.1427	.1775
Stdv	5844	3.135	.3593	.4852	.1627	.2517
%RSD	165	550.2	44.73	7.724	114	141.8

Elem	Ca3179	Cd2265	Ce4186	Co2286	Cr2677	Cu3247
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible] 2130	-1.943	.0687	.3013	-.3005
Stdv	[illegible]	[illegible]	[illegible]	.2555	.3698	.376
%RSD	[illegible]	[illegible]	231.5	371.8	122.7	104.3

Elem	[illegible]	[illegible]	[illegible]	Mn2576	Mn2939	Mo2020
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Stdv	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
%RSD	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Elem	[illegible]	[illegible]	Ni2316	[illegible]	[illegible]	Pb2203
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	[illegible] 78	-.3088	3.127	-1.533	-1.279
Stdv	[illegible]	[illegible]	3.139	3.819	2.071	2.598
%RSD	[illegible]	[illegible]	1747	118.3	135.2	116.6

Elem	[illegible]	[illegible]	Pb2203	Sb1709	Sb1899	Se4218
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	3.935	-1.586	.0591	.3535	.4682	.1842
Stdv	3.153	.8052	.5634	1.192	.865	.234
%RSD	82.33	58.1	953.1	338	184.5	127.1

Elem	[illegible]	[illegible]	V_2924	Zn2062	S12881
Units	ppb	ppb	ppb	ppb	ppb
Avge	[illegible]	4.006	1.080	.1050	0155.4
Stdv	.1339	1.454	.4349	.1001	5.502
%RSD	116.6	35.76	40.28	94.71	3.541

Sample Name: USGR Operator: DRH

Filename: [illegible]

Corr. Factor: 1.00000

Cust. ID = 43411

	ppb	ppb	ppb	ppb	ppb	ppb
	537	527.6	543.7	533.7	520.2	383.8
	9.1	4.020	4.193	1.935	2.835	4.708
	1.487	.7251	.7498	.3626	.5431	.9917
	ppb	ppb	ppb	ppb	ppb	ppb
			193.0	461.1	472.6	539.9
			4.98	1.999	6.476	6.501
			1.01	1.084	1.37	1.204
	ppb	ppb	ppb	ppb	ppb	ppb
			704.0	531.200	445.1	500.2
			38.43	.9898	4.127	1.0
			5.459	5.375	.9273	.3999
	ppb	ppb	ppb	ppb	ppb	ppb
			545.6	481	464.5	510.2
			10.84	1.951	1.598	1.47
			3.999	.9194	.3227	.599
	ppb	ppb	ppb	ppb	ppb	
	481.7	524.5	492.3	430.3	568.1	
	2.912	7.731	3.941	8.13	27.68	
	.4592	1.476	.8006	1.888	.4873	

Autosampler Loading Map
Element File: TL.GEL

ID/Weight File: EB172.IDW

SRB 10/31/97

Loc.	Concentration	Solutions
0		Calib. Blank / Diluent / ICB / CCB
1	50.0 ug/L	Stock 1-63-3P
2	100.0 ug/L	Stock / Recovery Stock 1-63-4P
4		ICV=30ug/L 1-63-5P
5		CCV=60ug/L 1-63-6P
6		CHECK LO
7		43411 MB
8		43411 LCS
9		184-84-1ABC
10		184-84-1ABC L
11		184-84-2ABC
12		184-84-3ABC
13		184-84-4ABC
14		184-84-5ABC
15		184-84-6ABC
16		184-84-7ABCD 10-31-97 LL
17		184-84-1DE
18		184-84-1DE L
19		184-84-2DE
20		184-84-3DE
21		184-84-4D
22		184-84-5BD
23		184-84-6D
24		184-84-7EF
39		Modifier 1

SRB 10/31/97

Element File: TL.GEL
Element: Tl

Analyst: HOLSTE
Peak Storage: 1 Repl./Sample

SRB 10/31/97

Print Data: Main+Suppl.
Print: Calib. Curve

INSTRUMENT: 4100 ZL
Wavelength: 276.8 Peak
Signal Type: Zeeman AA
Read Time: 5.0
Sample Replicates: 2
Standard Replicates: 2

Technique: HGA
Slit: 0.70 Low
Signal Measurement: Peak Area
Read Delay: 0.0

Version: 7.30
BOC Time: 2

Spike Replicates: Same as Sample

CALIBRATION:

Solutions	ID	Conc	Location	Volume	Diluent Volume	Modifier #1	Modifier #2
Calib. Blank	STD BLK		0	20	5	5	
Standard 1	STD1=25ug/L	25.0	1	10	15	5	
Standard 2	STD2=50ug/L	50.0	1	20	5	5	
Standard 3	STD3=100ug/L	100.0	2	20	5	5	
Reslope Std.	50ug/L	50.0	1	20	5	5	
Samples				20	5	5	

Diluent Location: 0
Modifier #1 Location: 39
Modifier #2 Location:
Calibration Units: ug/L
Sample Units: ug/L
Calibration Type: Linear

Furnace Time/Temperature Program:

Step	Temp	Ramp	Hold	Gas Flow	Read	Gas Type
1	110	5	30	250		Norm
2	130	1	35	250		Norm
3	700	5	20	250		Norm
4	1600	0	5	0	*	Norm
5	2500	1	5	250		Norm

Injection Temp: 20 Pipette Speed: 85% Extraction System: On

SEQUENCE:

Step	Action and Parameters
1	Pipet diluent + modifier 1 + spike + sample/std
2	Run HGA steps 1 to End

CHECKS:
Recalibration Type: Reslope
Locations: None

Conc. Above Calibration Action: Dilute & Reanalyze After 1 Rep
Alternate Sample Volumes (uL): 5,2,1
Run Alternate Volume Blanks: Yes

If %RSD > 20.0 and Concentration > 1.7 then Retry 1 times
Check %RSD on: Samples + Standards + Spikes + QC Samples

Recovery Measurements:
5 uL of 100 ug/L Standard at Location 2 Gives 25.0 ug/L
Measure Recovery on Samples: 9,10,17,18
Add to QC Samples: Yes
% Recovery Limits: 75 to 125

QC:

#	A/S Loc.	QC Sample ID	Conc. Limits Lower	Upper	After Calib	Periodic Check	At End	Count As Sample
1	4	ICV=30ug/L	27.0	33.0				
2	0	ICB	-2.0	2.0				
3	5	CCV=60ug/L	48.0	72.0		X	X	
4	0	CCB	-2.0	2.0		X	X	

Run Periodic QC Samples: Every 10
Out of Limit Action: Reslope and Rerun Samples

Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

```
Date: 10/31/97                  Time: 05:41                 Slit: 0.70 L
Data File: EB172.DAT            ID/Wt File: EB172.IDW       Lamp Current: 0
Technique: HGA                  Calib. Type: Nonlinear      Energy: 49
```

T1 ID: STD BLK Seq. No.: 00001 A/S Pos.: 0 Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 0
Replicate 1 Time: 05:43
Peak Area (A-s): -0.000 Peak Height (A): 0.007
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

uL dispensed: 5 from 0, 5 from 39, 20 from 0
Replicate 2 (Peak Stored) Time: 05:46
Peak Area (A-s): -0.001 Peak Height (A): 0.007
Background Pk Area (A-s): 0.001 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L): -0.5

Mean Conc (ug/L): -0.2 SD: 0.38 RSD(%): 175.09

Auto-zero performed.

T1 ID: STD1=25ug/L Seq. No.: 00002 A/S Pos.: 1 Date: 10/31/97

uL dispensed: 15 from 0, 5 from 39, 10 from 1
Replicate 1 Time: 05:49
Peak Area (A-s): 0.035 Peak Height (A): 0.046
Background Pk Area (A-s): 0.022 Background Pk Height (A): 0.025
Blank Corrected Pk Area (A-s): 0.036
Concentration (ug/L): 23.1

uL dispensed: 15 from 0, 5 from 39, 10 from 1
Replicate 2 (Peak Stored) Time: 05:52
Peak Area (A-s): 0.034 Peak Height (A): 0.043
Background Pk Area (A-s): 0.021 Background Pk Height (A): 0.026
Blank Corrected Pk Area (A-s): 0.034
Concentration (ug/L): 22.3

Mean Conc (ug/L): 22.7 SD: 0.57 RSD(%): 2.49

Standard number 1 applied. [25.0]
Correlation coefficient: 1.00000 Slope: 0.0014

T1 ID: STD2=50ug/L Seq. No.: 00003 A/S Pos.: 1 Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 1
Replicate 1 Time: 05:55
Peak Area (A-s): 0.077 Peak Height (A): 0.087
Background Pk Area (A-s): 0.041 Background Pk Height (A): 0.053
Blank Corrected Pk Area (A-s): 0.078
Concentration (ug/L): 55.6

Peak Area (A-s): 0.076
Background Pk Area (A-s): 0.043
Blank Corrected Pk Area (A-s): 0.077
Concentration (ug/L): 54.8

Peak Height (A): 0.088
Background Pk Height (A): 0.048

Mean Conc (ug/L): 55.2

SD: 0.61

RSD(%): 1.11

Standard number 2 applied. [50.0]
Correlation coefficient: 1.00000

Slope: 0.0013

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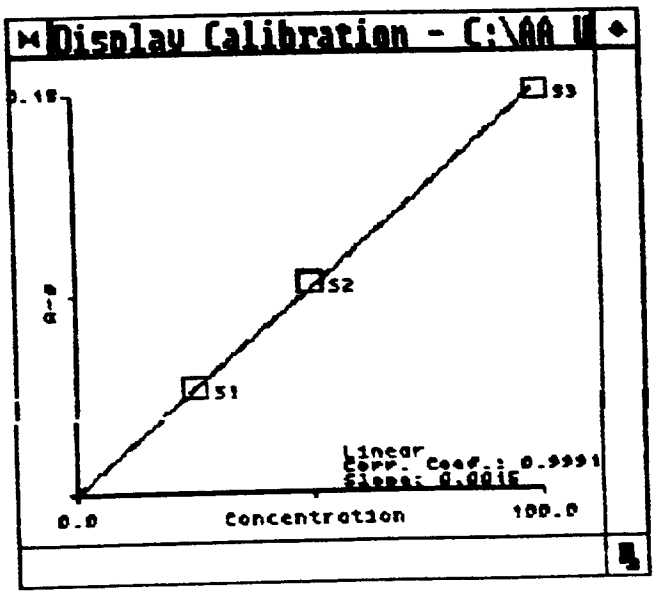
uL dispensed: 15 from 0, 5 from 39, 10 from 1
Replicate 1 Time: 06:08
Peak Area (A-s): 0.037 Peak Height (A): 0.041
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.024
Blank Corrected Pk Area (A-s): 0.038
Concentration (ug/L): 25.5

uL dispensed: 15 from 0, 5 from 39, 10 from 1
Replicate 2 (Peak Stored) Time: 06:11
Peak Area (A-s): 0.037 Peak Height (A): 0.042
Background Pk Area (A-s): 0.018 Background Pk Height (A): 0.023
Blank Corrected Pk Area (A-s): 0.038
Concentration (ug/L): 25.6

Mean Conc (ug/L): 25.5 SD: 0.09 RSD(%): 0.36

Standard number 1 applied. [25.0]
Correlation coefficient: 0.99910 Slope: 0.0015


Display Calibration - C:\AA
S3
S2
S1
Linear
Concentration
0.0
100.0

Date: 10/31/97 Time: 06:19 Slit: 0.70 L
Data File: EB172.DAT ID/Wt File: EB172.IDW Lamp Current:
Technique: HGA Calib. Type: Linear Energy: 52

T1 ID: ICV=30ug/L Seq. No.: 00006 A/S Pos.: 4 Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 4
Replicate 1 Time: 06:22
Peak Area (A-s): 0.042 Peak Height (A): 0.049
Background Pk Area (A-s): 0.026 Background Pk Height (A): 0.030
Blank Corrected Pk Area (A-s): 0.043
Concentration (ug/L): 28.6

uL dispensed: 5 from 0, 5 from 39, 20 from 4
Replicate 2 (Peak Stored) Time: 06:25
Peak Area (A-s): 0.050 Peak Height (A): 0.058
Background Pk Area (A-s): 0.027 Background Pk Height (A): 0.033
Blank Corrected Pk Area (A-s): 0.051
Concentration (ug/L): 34.0

Mean Conc (ug/L): 31.3 SD: 3.83 RSD(%): 12.22

QC sample is within range 27.0 - 33.0

T1 ID: ICB Seq. No.: 00007 A/S Pos.: 0 Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 0
Replicate 1 Time: 06:28
Peak Area (A-s): -0.004 Peak Height (A): 0.005
Background Pk Area (A-s): 0.003 Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): -0.003
Concentration (ug/L): -1.9

uL dispensed: 5 from 0, 5 from 39, 20 from 0
Replicate 2 (Peak Stored) Time: 06:31
Peak Area (A-s): -0.003 Peak Height (A): 0.007
Background Pk Area (A-s): 0.002 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L): -1.4

Mean Conc (ug/L): -1.7 SD: 0.39 RSD(%): 23.52

QC sample is within range -2.0 - 2.0

T1 ID: CHECK LO Seq. No.: 00008 A/S Pos.: 6 Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 6
Replicate 1 Time: 06:34
Peak Area (A-s): 0.005 Peak Height (A): 0.015
Background Pk Area (A-s): 0.006 Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.006
Concentration (ug/L): 3.9

uL dispensed: 5 from 0, 5 from 39, 20 from 6

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Background Pk Area (A-s): 0.004          Background Pk Height (A): 0.010
Blank Corrected Pk Area (A-s): 0.007
Concentration (ug/L  ): 4.5

Mean Conc  (ug/L  ):        4.2          SD: 0.46                    RSD(%): 10.84

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Replicate 2 (Peak Stored) Time: 06:55
Peak Area (A-s): 0.052 Peak Height (A): 0.060
Background Pk Area (A-s): 0.033 Background Pk Height (A): 0.034
Blank Corrected Pk Area (A-s): 0.053
Concentration (ug/L): 35.3

Mean Conc (ug/L): 36.4 SD: 1.50 RSD(%): 4.14

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Peak Area (A-s): -0.001
Background Pk Area (A-s): 0.002
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.0

Peak Height (A): 0.007
Background Pk Height (A): 0.008

Mean Conc (ug/L): -0.4 SD: 0.65 RSD(%): 150.55

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Peak Area (A-s): -0.001                    Peak Height (A): 0.009
Background Pk Area (A-s): 0.003            Background Pk Height (A): 0.009
Blank Corrected Pk Area (A-s): -0.001
Concentration (ug/L  ): -0.4

Mean Conc  (ug/L  ):       -0.9            SD: 0.69                  RSD(%): 77.18

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T1    ID: 184-84-4ABC          Seq. No.: 00019    A/S Pos.: 13    Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 13
Sample abs. is greater than that of the largest standard.
Replicate  1                               Time: 07:33
Peak Area (A-s): 0.162                     Peak Height (A): 0.344
Background Pk Area (A-s): 0.409            Background Pk Height (A): 0.279
Blank Corrected Pk Area (A-s): 0.162
Concentration (ug/L  ): 108.8

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T1    ID: 184-84-4ABC 2x       Seq. No.: 00020    A/S Pos.: 13    Date: 10/31/97
                                10-31-97 cc
uL dispensed: 20 from 0, 5 from 39, 5 from 13
Replicate  1                               Time: 07:36
Peak Area (A-s): 0.091                     Peak Height (A): 0.265
Background Pk Area (A-s): 0.355            Background Pk Height (A): 0.209
Blank Corrected Pk Area (A-s): 0.092
Concentration (ug/L  ): 61.8               Corrected Conc (ug/L  ): 247.3

uL dispensed: 20 from 0, 5 from 39, 5 from 13
Replicate  2 (Peak Stored)                 Time: 07:39
Peak Area (A-s): 0.088                     Peak Height (A): 0.263
Background Pk Area (A-s): 0.405            Background Pk Height (A): 0.200
Blank Corrected Pk Area (A-s): 0.089
Concentration (ug/L  ): 59.7               Corrected Conc (ug/L  ): 238.8

Mean Conc  (ug/L  ):       60.8            SD: 1.51                  RSD(%): 2.49
Corrected Conc (ug/L  ): 243.1

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T1    ID: CCV=60ug/L           Seq. No.: 00021    A/S Pos.: 5     Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 5
Replicate  1                               Time: 07:41
Peak Area (A-s): 0.087                     Peak Height (A): 0.180
Background Pk Area (A-s): 0.064            Background Pk Height (A): 0.127
Blank Corrected Pk Area (A-s): 0.087
Concentration (ug/L  ): 58.6

uL dispensed: 5 from 0, 5 from 39, 20 from 5
Replicate  2 (Peak Stored)                 Time: 07:44
Peak Area (A-s): 0.086                     Peak Height (A): 0.177
Background Pk Area (A-s): 0.061            Background Pk Height (A): 0.121
Blank Corrected Pk Area (A-s): 0.087
Concentration (ug/L  ): 58.4

Mean Conc  (ug/L  ):       58.5            SD: 0.18                  RSD(%): 0.31
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T1 ID: 184-84-1DE L Seq. No.: 00028 A/S Pos.: 18 Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 18
Replicate 1 Time: 08:22
Peak Area (A-s): 0.000 Peak Height (A): 0.009
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.001
Concentration (ug/L): 0.6

uL dispensed: 5 from 0, 5 from 39, 20 from 18
Replicate 2 (Peak Stored) Time: 08:25
Peak Area (A-s): -0.000 Peak Height (A): 0.008
Background Pk Area (A-s): -0.000 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.3

Mean Conc (ug/L): 0.5 SD: 0.23 RSD(%): 49.37

T1 ID: 184-84-1DE L Seq. No.: 00029 A/S Pos.: 18 Date: 10/31/97

NR

uL dispensed: 5 from 39, 5 from 2, 20 from 18
Replicate 1 Time: 08:28
Peak Area (A-s): 0.039 Peak Height (A): 0.089 10-31-97 C
Background Pk Area (A-s): 0.025 Background Pk Height (A): 0.057
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 27.0

uL dispensed: 5 from 39, 5 from 2, 20 from 18
Replicate 2 (Peak Stored) Time: 08:31
Peak Area (A-s): 0.039 Peak Height (A): 0.087
Background Pk Area (A-s): 0.024 Background Pk Height (A): 0.056
Blank Corrected Pk Area (A-s): 0.040
Concentration (ug/L): 26.8

Mean Conc (ug/L): 26.9 SD: 0.14 RSD(%): 0.51

Recovery is 105.6%

T1 ID: 184-84-2DE Seq. No.: 00030 A/S Pos.: 19 Date: 10/31/

uL dispensed: 5 from 0, 5 from 39, 20 from 19
Replicate 1 Time: 08:34
Peak Area (A-s): 0.001 Peak Height (A): 0.007
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L): 1.4

uL dispensed: 5 from 0, 5 from 39, 20 from 19
Replicate 2 (Peak Stored) Time: 08:37
Peak Area (A-s): -0.001 Peak Height (A): 0.008
Background Pk Area (A-s): -0.001 Background Pk Height (A): 0.007
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L): 0.1

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T1    ID: CCB                    Seq. No.: 00034    A/S Pos.: 0      Date: 10/31/97

uL dispensed: 5 from 0, 5 from 39, 20 from 0
Replicate  1                                    Time: 08:58
Peak Area (A-s): -0.001                         Peak Height (A): 0.007
Background Pk Area (A-s): -0.000                Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L  ): 0.1

uL dispensed: 5 from 0, 5 from 39, 20 from 0
Replicate  2 (Peak Stored)                      Time: 09:01
Peak Area (A-s): -0.001                         Peak Height (A): 0.007
Background Pk Area (A-s): 0.001                 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): 0.000
Concentration (ug/L  ): 0.1

Mean Conc  (ug/L  ):        0.1        SD: 0.06                RSD(%): 58.49

QC sample is within range -2.0 - 2.0

T1    ID: 184-84-5BD             Seq. No.: 00035    A/S Pos.: 22     Date: 10/31/9

uL dispensed: 5 from 0, 5 from 39, 20 from 22
Replicate  1                                    Time: 09:04
Peak Area (A-s): 0.001                          Peak Height (A): 0.006
Background Pk Area (A-s): -0.001                Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L  ): 1.5

uL dispensed: 5 from 0, 5 from 39, 20 from 22
Replicate  2 (Peak Stored)                      Time: 09:07
Peak Area (A-s): -0.001                         Peak Height (A): 0.007
Background Pk Area (A-s): 0.001                 Background Pk Height (A): 0.008
Blank Corrected Pk Area (A-s): -0.000
Concentration (ug/L  ): -0.1

Mean Conc  (ug/L  ):        0.7        SD: 1.09                RSD(%): 160.58

T1    ID: 184-84-6D              Seq. No.: 00036    A/S Pos.: 23     Date: 10/31/

uL dispensed: 5 from 0, 5 from 39, 20 from 23
Replicate  1                                    Time: 09:10
Peak Area (A-s): 0.001                          Peak Height (A): 0.008
Background Pk Area (A-s): -0.000                Background Pk Height (A): 0.006
Blank Corrected Pk Area (A-s): 0.002
Concentration (ug/L  ): 1.2

uL dispensed: 5 from 0, 5 from 39, 20 from 23
Replicate  2 (Peak Stored)                      Time: 09:13
Peak Area (A-s): -0.003                         Peak Height (A): 0.009
Background Pk Area (A-s): -0.000                Background Pk Height (A): 0.005
Blank Corrected Pk Area (A-s): -0.002
Concentration (ug/L  ): -1.5
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QC sample is within range -2.0 - 2.0

ID/Weight File: A8826.IDW
Sample Volume: 100 mL

Analyst: D.STREETER-EDWARDS
Nominal Weight: 1.0 g

Hg.

Loc.	Sample ID	Weight	Dilution
0	ST BLANK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43411 MB1		
11	43411 MB1 D		
12	43411 LCS1		
13	43411 LCS1D		
14	184-84-1CAB		
15	184-84-1CAB D		
16	184-84-1CE		
17	184-84-1CE D		
18	184-84-1CE MS		
19	184-84-1CE MSD		
20	CCV1=4.0ug/L		
21	CCB1		
22	184-84-1F		
23	184-84-1F D		
24	184-84-1G		
25	184-84-1G D		
26	184-84-1H		
27	184-84-1H D		
28	184-84-2CAB		
29	184-84-2CAB D		
30	184-84-2F		
31	184-84-2F D		
32	CCV2=4.0ug/L		
33	CCB2		
34	184-84-2DE		
35	184-84-2DE D		
36	184-84-2DE MS		
37	184-84-2DE MSD		
38	184-84-2G		
39	184-84-2G D		
40	184-84-2H		
41	184-84-2H D		
42	184-84-3CAB		
43	184-84-3CAB D		
44	CCV3=6.0ug/L		
45	CCB3		
46	184-84-3DE		
47	184-84-3DE D		
48	184-84-3F		
49	184-84-3F D		
50	184-84-3G		
51	184-84-3G D		
52	184-84-3H		
53	184-84-3H D		

3-023-3 RSE 10/20/97

→ 3-022-8 RSE 10/20/97

→ 3-022-8 RSE 10/20/97

→ 3-022-8 RSE 10/20/97

→ 3-022-8 RSE 10/20/97

Loc.	Sample ID	Weight	Dilution
54	184-84-4CAB		
55	184-84-4CAB D		
56	CCV4=6.0ug/L		
57	CCB4		
58	184-84-4D		
59	184-84-4D D		
60	184-84-4D MS		
61	184-84-4D MSD		
62	184-84-4E		
63	184-84-4E D		
64	184-84-4F		
65	184-84-4F D		
66	184-84-5CAB		
67	184-84-5CAB D		
68	CCV5=6.0ug/L		
69	CCB5		
70	184-84-5ED		
71	184-84-5ED D		
72	184-84-5E		
73	184-84-5E D		
74	184-84-5F		
75	184-84-5F D		
76	184-84-5GF		
77	184-84-5GF D		
78	CCV6=6.0ug/L		
79	CCB6		

→ 3-022-8 ASE 10/20/97

→ 3-022-8 ASE 10/20/97

Will be Re-run due to CCV6.

Hg.

Hg.

Element File: HG_.MEL
Element: Hg2 Analyst: D STREETER-EDWARDS
Print Data: Main+Suppl. Peak Storage: None
Print: Calib. Curve
Remarks:
STANDARDS: 3-023-3
QC: 3-022-8

INSTRUMENT: 5100 Technique: MHS Version: 7.01
Wavelength: 253.7 Peak Slit: 0.7 Low
Signal Type: AA Signal Measurement: Peak Height (5)
Read Time: 30.0 Read Delay: 1.0 BOC Time: 2
Sample Replicates: 1
Standard Replicates: 1

FLAME:
Flame Type: Air Flame Sensor: On
Oxidant Flow: 10.0 L/min Fuel Flow: 2.0 L/min

CALIBRATION

Solutions	ID	Conc
Calib. Blank	STD BLK	
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L Sample Units: ug/L
Calibration Type: Linear

QC:
Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

```
--------------------------------------------------------------------------------
Element File: HG_.MEL          Element: Hg2                 Wavelength: 253.7
Date: 10/20/97                 Time: 12:48                  Slit: 0.7 L
Data File: AB826.DAT           ID/Wt File: AB826.IDW        Lamp Current: 0
Technique: MHS                 Calib. Type: Linear          Energy: 71
Remark 1: STANDARDS= 3-023-3
Remark 2: QC= 3-022-8
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
Hg2   ID: ST BLANK             Seq. No.: 00001    A/S Pos.: --    Date: 10/20/97

Replicate  1                               Time: 12:4°
Peak Area (A-s): 0.007                     Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L  ): -0.002

Auto-zero performed.

--------------------------------------------------------------------------------
Hg2   ID: STD1=0.2ug/L         Seq. No.: 00002    A/S Pos.: --    Date: 10/20/97

Replicate  1                               Time: 12:53
Peak Area (A-s): 0.329                     Peak Height (A): 0.014
Blank Corrected Pk Height (A): 0.014
Concentration (ug/L  ): 0.228

Standard number 1 applied.  [0.200]
Correlation coefficient: 1.00000           Slope: 0.0712

--------------------------------------------------------------------------------
Hg2   ID: STD2=0.5ug/L         Seq. No.: 00003    A/S Pos.: --    Date: 10/20/97

Sample abs. is greater than that of the largest standard.
Replicate  1                               Time: 12:54
Peak Area (A-s): 0.794                     Peak Height (A): 0.034
Blank Corrected Pk Height (A): 0.034
Concentration (ug/L  ): 0.476

Standard number 2 applied.  [0.500]
Correlation coefficient: 0.99904           Slope: 0.0683

--------------------------------------------------------------------------------
Hg2   ID: STD3=1.0ug/L         Seq. No.: 00004    A/S Pos.: --    Date: 10/20/97

Sample abs. is greater than that of the largest standard.
Replicate  1                               Time: 12:55
Peak Area (A-s): 1.584                     Peak Height (A): 0.068
Blank Corrected Pk Height (A): 0.068
Concentration (ug/L  ): 0.991

Standard number 3 applied.  [1.000]
Correlation coefficient: 0.99984           Slope: 0.0679

--------------------------------------------------------------------------------
Hg2   ID: STD4=2.0ug/L         Seq. No.: 00005    A/S Pos.: --    Date: 10/20/97

Sample abs. is greater than that of the largest standard.
Replicate  1                               Time: 12:57
Peak Area (A-s): 3.128                     Peak Height (A): 0.136
```

Concentration (ug/L): 2.009

Standard number 4 applied. [2.000]
Correlation coefficient: 0.99997 Slope: 0.0681

Hg2 ID: STD5=5.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 10/20/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 12:58
Peak Area (A-s): 7.826 Peak Height (A): 0.341
Blank Corrected Pk Height (A): 0.341
Concentration (ug/L): 5.009

Standard number 5 applied. [5.000]
Correlation coefficient: 1.00000 Slope: 0.0682

Hg2 ID: STD6=10.0ug/L Seq. No.: 00007 A/S Pos.: -- Date: 10/20/97

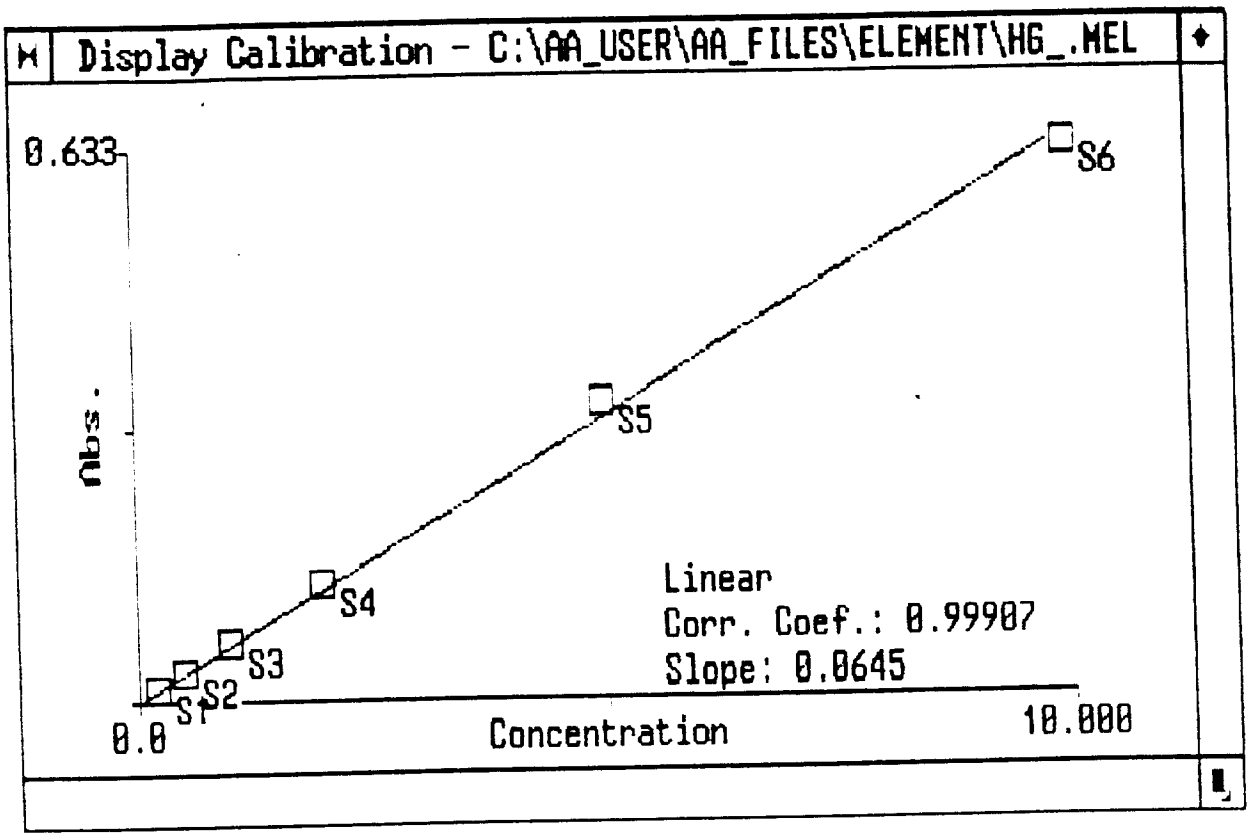
Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 12:59
Peak Area (A-s): 15.110 Peak Height (A): 0.633
Blank Corrected Pk Height (A): 0.633
Concentration (ug/L): 9.282

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99907 Slope: 0.0645

Element File: HG_.MEL
Date: 10/20/97
Data File: A8826.DAT
Technique: MHS
Remark 1: STANDARDS= 3-023-3
Remark 2: QC= 3-022-8

Element: Hg2
Time: 13:00
ID/Wt File: A8826.IDW
Calib. Type: Linear

Wavelength: 253.7
Slit: 0.7 L
Lamp Current: 0
Energy: 71



Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/20/97 Time: 13:03 Slit: 0.7 L
Data File: AB826.DAT ID/Wt File: AB826.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 71
Remark 1: STANDARDS= 3-023-3
Remark 2: QC= 3-022-8

Hg
DSE 10/20/97

Hg2 ID: ICV=4.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:06
Peak Area (A-s): 6.250 Peak Height (A): 0.266
Blank Corrected Pk Height (A): 0.266
Concentration (ug/L): 4.123

Hg2 ID: ICB Seq. No.: 00009 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:08
Peak Area (A-s): 0.003 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.017

Hg2 ID: CRDL IC Seq. No.: 00010 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:09
Peak Area (A-s): 0.038 Peak Height (A): 0.014
Blank Corrected Pk Height (A): 0.014
Concentration (ug/L): 0.224

Hg2 ID: 43411 MB1 Seq. No.: 00011 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:12
Peak Area (A-s): 0.006 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.006

Hg2 ID: 43411 MB1 D Seq. No.: 00012 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:13
Peak Area (A-s): 0.011 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.006

Hg2 ID: 43411 LCS1 Seq. No.: 00013 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:14
Peak Area (A-s): 4.411 Peak Height (A): 0.185
Blank Corrected Pk Height (A): 0.185
Concentration (ug/L): 2.868

EE DSE 10/20/97 Power problems with lamp.

Hg2 ID: 43411 LCS1D Seq. No.: 00014 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 0.149
Blank Corrected Pk Height (A): 0.009
Concentration (ug/L): 0.140
Time: [illegible]
Peak Height (A): 0.009

EE DSE 10/20/97 Power problem with lamp.

Hg2 ID: 43411 LCS1 Seq. No.: 00015 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 7.518
Blank Corrected Pk Height (A): 0.323
Concentration (ug/L): 5.006
Time: 13:22
Peak Height (A): 0.323

Hg2 ID: 43411 LCS1D Seq. No.: 00016 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 0.274
Blank Corrected Pk Height (A): 0.014
Concentration (ug/L): 0.215
Time: 13:23
Peak Height (A): 0.014

EE DSE 10/20/97 Power Fluctuation. DSE 10/20/97

Hg2 ID: 43411 LCS1C Seq. No.: 00017 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 0.166
Blank Corrected Pk Height (A): 0.008
Concentration (ug/L): 0.120
Time: 13:30
Peak Height (A): 0.008

Hg2 ID: ~~43411 LCS1 EE DSE 10/20/97~~ CCV1 = 6.0 ug/L Seq. No.: 00018 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 8.571
Blank Corrected Pk Height (A): 0.359
Concentration (ug/L): 5.563
Time: 13:34
Peak Height (A): 0.359

This was a check test to find problem with lamp. CCV1 was ran. DSE 10/20/97

Hg2 ID: 43411 LCS1C Seq. No.: 00019 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 7.427
Blank Corrected Pk Height (A): 0.316
Concentration (ug/L): 4.900
Time: 13:44
Peak Height (A): 0.316

Hg2 ID: 184-84-~~ICAL~~ ABC Seq. No.: 00020 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 0.026
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.022
Time: 13:45
Peak Height (A): 0.001

Hg2 ID: 184-84-~~ICAL~~ ABC D Seq. No.: 00021 A/S Pos.: -- Date: 10/20/97

Replicate 1
Peak Area (A-s): 0.011
Blank Corrected Pk Height (A): 0.000
Time: 13:46
Peak Height (A): 0.000

Hg2 ID: 184-84-1DE Seq. No.: 00022 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:47
Peak Area (A-s): 0.027 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

Hg2 ID: 184-84-1DE D Seq. No.: 00023 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:48
Peak Area (A-s): 0.022 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.020

Hg2 ID: 184-84-1DE MS Seq. No.: 00024 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:50
Peak Area (A-s): 4.055 Peak Height (A): 0.163
Blank Corrected Pk Height (A): 0.163
Concentration (ug/L): 2.521

Hg2 ID: 184-84-1DE MSD Seq. No.: 00025 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:51
Peak Area (A-s): 3.961 Peak Height (A): 0.163
Blank Corrected Pk Height (A): 0.163
Concentration (ug/L): 2.532

Hg2 ID: CCV1=6.0ug/L Seq. No.: 00026 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:52
Peak Area (A-s): 0.114 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.064

EE
DE
10/20/97

Hg2 ID: CCV1=6.0ug/L Seq. No.: 00027 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:53
Peak Area (A-s): 8.003 Peak Height (A): 0.336
Blank Corrected Pk Height (A): 0.336
Concentration (ug/L): 5.216

Hg2 ID: CCB1 Seq. No.: 00028 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:55
Peak Area (A-s): 0.019 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

Hg2 ID: 184-84-1F Seq. No.: 00029 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:56
Peak Area (A-s): 0.025 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: 184-84-1F D Seq. No.: 00030 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:57
Peak Area (A-s): 0.021 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.012

Hg2 ID: 184-84-1G Seq. No.: 00031 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:58
Peak Area (A-s): 0.112 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.070

Hg2 ID: 184-84-1G D Seq. No.: 00032 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 13:59
Peak Area (A-s): 0.115 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.072

Hg2 ID: 184-84-1H Seq. No.: 00033 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:00
Peak Area (A-s): 0.016 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.011

Hg2 ID: 184-84-1H D Seq. No.: 00034 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:01
Peak Area (A-s): 0.005 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.002

Hg2 ID: 184-84-2~~CAB~~ ABC Seq. No.: 00035 A/S Pos.: -- Date: 10/20/97
10-31-97 cc

Replicate 1 Time: 14:02
Peak Area (A-s): -0.000 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.006

Hg2 ID: 184-84-2~~CAB~~ ABC D Seq. No.: 00036 A/S Pos.: -- Date: 10/20/97
10-31-97 cc

Peak Area (A-s): -0.001 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.002

Hg2 ID: 184-84-2F Seq. No.: 00037 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:04
Peak Area (A-s): -0.001 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

Hg2 ID: 184-84-2F D Seq. No.: 00038 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:06
Peak Area (A-s): 0.000 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

Hg2 ID: CCV2=6.0ug/L Seq. No.: 00039 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:06
Peak Area (A-s): 0.252 Peak Height (A): 0.017
Blank Corrected Pk Height (A): 0.017
Concentration (ug/L): 0.263

EE
DSE
10/20/97

Hg2 ID: ~~CCB2~~ CCV2=6.0ug/L Seq. No.: 00040 A/S Pos.: -- Date: 10/20/97

DSE
10/20/97

Replicate 1 Time: 14:08
Peak Area (A-s): 8.427 Peak Height (A): 0.354
Blank Corrected Pk Height (A): 0.354
Concentration (ug/L): 5.493

Hg2 ID: CCB2 Seq. No.: 00041 A/S Pos.: -- Date: 10/20/97

DSE
10/20/97

Replicate 1 Time: 14:10
Peak Area (A-s): 0.014 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.012

Hg2 ID: 184-84-2DE Seq. No.: 00042 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:14
Peak Area (A-s): 0.030 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: 184-84-2DE D Seq. No.: 00043 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:15
Peak Area (A-s): 0.031 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: 184-84-2DE MS Seq. No.: 00044 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:16
Peak Area (A-s): 4.500 Peak Height (A): 0.189
Blank Corrected Pk Height (A): 0.189
Concentration (ug/L): 2.922

Hg2 ID: 184-84-2DE MSD Seq. No.: 00045 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:17
Peak Area (A-s): 4.192 Peak Height (A): 0.175
Blank Corrected Pk Height (A): 0.175
Concentration (ug/L): 2.720

Hg2 ID: 184-84-2B Seq. No.: 00046 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:17
Peak Area (A-s): 0.033 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.033

Hg2 ID: 184-84-2B D Seq. No.: 00047 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:18
Peak Area (A-s): 0.145 Peak Height (A): 0.006
Blank Corrected Pk Height (A): 0.006
Concentration (ug/L): 0.093

Hg2 ID: 184-84-2- Seq. No.: 00048 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:19
Peak Area (A-s): 0.025 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.015

Hg2 ID: 184-84-2- D Seq. No.: 00049 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:20
Peak Area (A-s): 0.017 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.014

Hg2 ID: 184-84-3~~CAE~~ BDC 10-31-97 LE Seq. No.: 00050 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:21
Peak Area (A-s): 0.009 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.009

10-31-97ec

Replicate 1 Time: 14:22
Peak Area (A-s): 0.008 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.008

Hg2 ID: CCV3=6.0ug/L Seq. No.: 00052 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:23
Peak Area (A-s): 9.918 Peak Height (A): 0.411
Blank Corrected Pk Height (A): 0.411
Concentration (ug/L): 6.372

Hg2 ID: CCB3 Seq. No.: 00053 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:24
Peak Area (A-s): 0.041 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.026

Hg2 ID: 184-84-3SS Seq. No.: 00054 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:25
Peak Area (A-s): 0.005 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.005

Hg2 ID: 184-84-3SS D Seq. No.: 00055 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:26
Peak Area (A-s): 0.027 Peak Height (A): 0.00.
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.014

Hg2 ID: 184-84-3F Seq. No.: 00056 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:27
Peak Area (A-s): 0.008 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.012

Hg2 ID: 184-84-3F D Seq. No.: 00057 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:29
Peak Area (A-s): 0.008 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.006

Hg2 ID: 184-84-3G Seq. No.: 00058 A/S Pos.: -- Date: 10/20/97

Blank corrected Pk Height (A): 0.007
Concentration (ug/L): 0.107

Hg2 ID: 184-84-3G D Seq. No.: 00059 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:31
Peak Area (A-s): 0.157 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007
Concentration (ug/L): 0.106

Hg2 ID: 184-84-3H Seq. No.: 00060 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:32
Peak Area (A-s): 0.026 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

Hg2 ID: 184-84-3H D Seq. No.: 00061 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:33
Peak Area (A-s): 0.026 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.019

Hg2 ID: 184-84-4 ABC Seq. No.: 00062 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:34
Peak Area (A-s): 0.101 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.059

Hg2 ID: 184-84-4 D ABC Seq. No.: 00063 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:35
Peak Area (A-s): 0.096 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.062

Hg2 ID: CCV4=6.0ug/L Seq. No.: 00064 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:37
Peak Area (A-s): 8.394 Peak Height (A): 0.359
Blank Corrected Pk Height (A): 0.359
Concentration (ug/L): 5.558

Hg2 ID: CCB4 Seq. No.: 00065 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:38
Peak Area (A-s): 0.026 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002

Hg2 ID: 184-84-4D Seq. No.: 00066 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:39
Peak Area (A-s): 0.045 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.026

Hg2 ID: 184-84-4D D Seq. No.: 00067 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:40
Peak Area (A-s): 0.030 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.016

Hg2 ID: 184-84-4D MS Seq. No.: 00068 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:41
Peak Area (A-s): 4.079 Peak Height (A): 0.168
Blank Corrected Pk Height (A): 0.168
Concentration (ug/L): 2.599

Hg2 ID: 184-84-4D MSD Seq. No.: 00069 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:42
Peak Area (A-s): 4.112 Peak Height (A): 0.170
Blank Corrected Pk Height (A): 0.170
Concentration (ug/L): 2.621

Hg2 ID: 184-84-4E Seq. No.: 00070 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:43
Peak Area (A-s): 0.096 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.061

Hg2 ID: 184-84-4E D Seq. No.: 00071 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:44
Peak Area (A-s): 0.073 Peak Height (A): 0.003
Blank Corrected Pk Height (A): 0.003
Concentration (ug/L): 0.048

Hg2 ID: 184-84-4F Seq. No.: 00072 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:45
Peak Area (A-s): 0.010 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.011

Replicate 1 Time: 14:46
Peak Area (A-s): 0.006 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.012

Hg2 ID: 184-84-5CAE ABC 10-31-97cc Seq. No.: 00074 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:47
Peak Area (A-s): 0.004 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg2 ID: 184-84-5CAE D ABC 10-31-97cc Seq. No.: 00075 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:49
Peak Area (A-s): 0.001 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.002

Hg2 ID: CCV5ee.0ug L Seq. No.: 00076 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:50
Peak Area (A-s): 8.459 Peak Height (A): 0.354
Blank Corrected Pk Height (A): 0.354
Concentration (ug/L): 5.495

Hg2 ID: CCB5 Seq. No.: 00077 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:51
Peak Area (A-s): 0.009 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.017

Hg2 ID: 184-84-5BC Seq. No.: 00078 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:52
Peak Area (A-s): 0.014 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.012

Hg2 ID: 184-84-5BD D Seq. No.: 00079 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:53
Peak Area (A-s): 0.006 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.009

Hg2 ID: 184-84-5E Seq. No.: 00080 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:55

Hg2 ID: 184-84-5E D Seq. No.: 00081 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:56
Peak Area (A-s): -0.003 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.002

Hg2 ID: 184-84-5F Seq. No.: 00082 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:57
Peak Area (A-s): -0.001 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg2 ID: 184-84-5F D Seq. No.: 00083 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:58
Peak Area (A-s): 0.000 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.000

Hg2 ID: 184-84-5GF Seq. No.: 00084 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 14:59
Peak Area (A-s): 0.002 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.002

Hg2 ID: 184-84-5GF D Seq. No.: 00085 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 15:00
Peak Area (A-s): 0.015 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.008

Hg2 ID: CCV6=6.0ug/L Seq. No.: 00086 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 15:01
Peak Area (A-s): 6.713 Peak Height (A): 0.284
Blank Corrected Pk Height (A): 0.284
Concentration (ug/L): 4.407

Hg2 ID: CCV6=6.0ug/L Seq. No.: 00087 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 15:06
Peak Area (A-s): 5.871 Peak Height (A): 0.254
Blank Corrected Pk Height (A): 0.254

Will be Re-Ran DSE 10/24/97 Due to low CCV6

Concentration (ug/L): 3.932

Replicate 1 Time: 15:17
Peak Area (A-s): 5.836 Peak Height (A): 0.263
Blank Corrected Pk Height (A): 0.263
Concentration (ug/L): 4.073

Hg2 ID: CCB6 Seq. No.: 00089 A/S Pos.: -- Date: 10/20/97

Replicate 1 Time: 15:19
Peak Area (A-s): -0.006 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.002

ID/Weight File: A8827.IDW Analyst: D.STREETER-EDWARDS
Sample Volume: 100 mL Nominal Weight: 1.0 g

Loc.	Sample ID	Weight	Dilution
0	ST BLK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LC		
10	43411 MB2		
11	43411 MB2D		
12	43411 LCS2		
13	43411 LCS2I		
14	184-84-6CAB		
15	184-84-6CAB D		
16	184-84-6C		
17	184-84-6C D		
18	184-84-6C MS		
19	184-84-6C MSD		
20	CCV5=6.0ug/L		
21	CCB		
22	184-84-6B		
23	184-84-6B D		
24	184-84-6E		
25	184-84-6E D		
26	184-84-6F		
27	184-84-6F D		
28	184-84-7CCAB		
29	184-84-7CCAB D		
30	184-84-7G		
31	184-84-7G D		
32	CCV8=6.0ug/L		
33	CCB		
34	184-84-7EF		
35	184-84-7EF D		
36	184-84-7EF MS		
37	184-84-7EF MSD		
38	184-84-7H		
39	184-84-7H D		
40	184-84-7I		
41	184-84-7I D		
42	CCV9=6.0ug/L		
43	43377 MB1		
44	43377 MB1 D		
45	43377 LCS1		
46	43377 LCS1D		
47	184-50-1CAB		
48	184-50-1CAB D		
49	184-50-1D		
50	184-50-1D D		
51	184-50-1D MS		
52	184-50-1D MSD		
53	CCV1=6.0ug/L		

3-023-5 DSE 10/21/97

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

Hg.

Loc.	Sample ID	Weight	Dilution
54	CCB		
55	184-50-1E		
56	184-50-1E D		
57	184-50-1F		
58	184-50-1F D		
59	184-50-1G		
60	184-50-1G D		
61	184-50-2CAB		
62	184-50-2CAB D		
63	184-50-2DE		
64	184-50-2DE D		
65	CCV3=6.0ug/L		
66	CCB		
67	184-50-2F		
68	184-50-2F D		
69	184-50-2G		
70	184-50-2G D		
71	184-50-2H		
72	184-50-2H D		
73	184-50-3DE		
74	184-50-3DE D		
75	184-50-3DE MS		
76	184-50-3DE MSD		
77	CCV3=6.0ug/L		
78	CCB		
79	184-50-3CAB		
80	184-50-3CAB D		
81	184-50-3F		
82	184-50-3F D		
83	184-50-3G		
84	184-50-3G D		
85	184-50-3H		
86	184-50-3H D		
87	184-50-4CAB		
88	184-50-4CAB D		
89	CCV4=6.0ug/L		
90	CCB		
91	184-50-4DE		
92	184-50-4DE D		
93	184-50-4DE MS		
94	184-50-4DE MSD		
95	184-50-4F		
96	184-50-4F D		
97	184-50-4G		
98	184-50-4G D		
99	184-50-4H		
100	184-50-4H D		
101	CCV5=6.0ug/L		
102	CCB		
103	184-50-5CAB		
104	184-50-5CAB D		
105	184-50-5BD		
106	184-50-5BD D		
107	184-50-5E		
108	184-50-5E D		
109	184-50-5F		

Hg

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

3-023-6 DSE 10/21/97

Loc.	Sample ID	Weight	Dilution
110	184-50-5F D		
111	184-50-6CAB		
112	184-50-6CAB D		
113	CCVe=6.0ug/L	—3-023-6 DSE 10/2/97	
114	CCB		

Hg.

Element: Hg2 Analyst: D STREETER-EDWARDS
Print Data: Main+Suppl. Peak Storage: None
Print: Calib. Curve
Remarks:
STANDARDS: 3-023-5
QC: 3-023-4,6

Hg

INSTRUMENT: 5100 Technique: MHS Version: 7.01
Wavelength: 253.7 Peak Slit: 0.7 Low
Signal Type: AA Signal Measurement: Peak Height (5)
Read Time: 30.0 Read Delay: 1.0 BOC Time: 2
Sample Replicates: 1
Standard Replicates: 1

FLAME:
Flame Type: Air Flame Sensor: On
Oxidant Flow: 10.0 L/min Fuel Flow: 2.0 L/min

CALIBRATION:

Solutions	ID	Conc
Calib. Blank	STD BLK	
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L Sample Units: ug/L
Calibration Type: Linear

QC:
Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/21/97 Time: 10:09 Slit: 0.7 L
Data File: AB827.DAT ID/Wt File: AB827.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 71
Remark 1: STANDARDS= 3-023-5
Remark 2: QC= 3-023-4, 6 DSE Blank

Hg2 ID: ST BLK Seq. No.: 00003 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:10
Peak Area (A-s): -0.004 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Auto-zero performed.

Hg2 ID: STD1=0.2ug/L Seq. No.: 00004 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:11
Peak Area (A-s): 0.177 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007
Concentration (ug/L): 0.197

Standard number 1 applied. [0.200]
Correlation coefficient: 1.00000 Slope: 0.0346

Hg2 ID: STD2=0.5ug/L Seq. No.: 00005 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:12
Peak Area (A-s): 0.395 Peak Height (A): 0.015
Blank Corrected Pk Height (A): 0.015
Concentration (ug/L): 0.525

Standard number 2 applied. [0.500]
Correlation coefficient: 0.99914 Slope: 0.0361

Hg2 ID: STD3=1.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:13
Peak Area (A-s): 0.878 Peak Height (A): 0.039
Blank Corrected Pk Height (A): 0.039
Concentration (ug/L): 1.073

Standard number 3 applied. [1.000]
Correlation coefficient: 0.99824 Slope: 0.0382

Hg2 ID: STD4=2.0ug/L Seq. No.: 00007 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:15
Peak Area (A-s): 1.761 Peak Height (A): 0.074

```
Element File: HG_.MEL          Element: Hg2                  Wavelength: 253.7
Date: 10/21/97                 Time: 10:09                   Slit: 0.7 L
Data File: AB827.DAT           ID/Wt File: AB827.IDW         Lamp Current: 0
Technique: MHS                 Calib. Type: Linear           Energy: 71
Remark 1: STANDARDS: 3-023-5
Remark 2: QC: 3-023-4, 6 DSG Blanks
```

Hg2 ID: ST BLK Seq. No.: 00003 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:10
Peak Area (A-s): -0.004 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Auto-zero performed.

Hg2 ID: STD1=0.2ug/L Seq. No.: 00004 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:11
Peak Area (A-s): 0.170 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007
Concentration (ug/L): 0.107

Standard number 1 applied. [0.200]
Correlation coefficient: 1.00000 Slope: 0.0346

Hg2 ID: STD2=0.5ug/L Seq. No.: 00005 A/S Pos.: -- Date: 10 21 97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:12
Peak Area (A-s): 0.395 Peak Height (A): 0.018
Blank Corrected Pk Height (A): 0.018
Concentration (ug/L): 0.525

Standard number 2 applied. [0.500]
Correlation coefficient: 0.99914 Slope: 0.0361

Hg2 ID: STD3=1.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:13
Peak Area (A-s): 0.878 Peak Height (A): 0.039
Blank Corrected Pk Height (A): 0.039
Concentration (ug/L): 1.073

Standard number 3 applied. [1.000]
Correlation coefficient: 0.99824 Slope: 0.0382

Hg2 ID: STD4=2.0ug/L Seq. No.: 00007 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:15
Peak Area (A-s): 1.761 Peak Height (A): 0.074

Blank Corrected Pk Height (A): 0.074
Concentration (ug/L): 1.943

Standard number 4 applied. [2.000]
Correlation coefficient: 0.99947 Slope: 0.0373

Mgl ID: STD5=5.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:16
Peak Area (A-s): 4.444 Peak Height (A): 0.190
Blank Corrected Pk Height (A): 0.190
Concentration (ug/L): 5.088

Standard number 5 applied. [5.000]
Correlation coefficient: 0.99989 Slope: 0.0379

Mgl ID: STD6=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:17
Peak Area (A-s): 8.551 Peak Height (A): 0.388
Blank Corrected Pk Height (A): 0.388
Concentration (ug/L): 10.231

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99959 Slope: 0.0386

Blank Corrected Pk Height (A): 0.074
Concentration (ug/L): 1.943

Standard number 4 applied. [2.000]
Correlation coefficient: 0.99947 Slope: 0.0373

Hg2 ID: STDS=5.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:16
Peak Area (A-s): 4.444 Peak Height (A): 0.190
Blank Corrected Pk Height (A): 0.190
Concentration (ug/L): 5.088

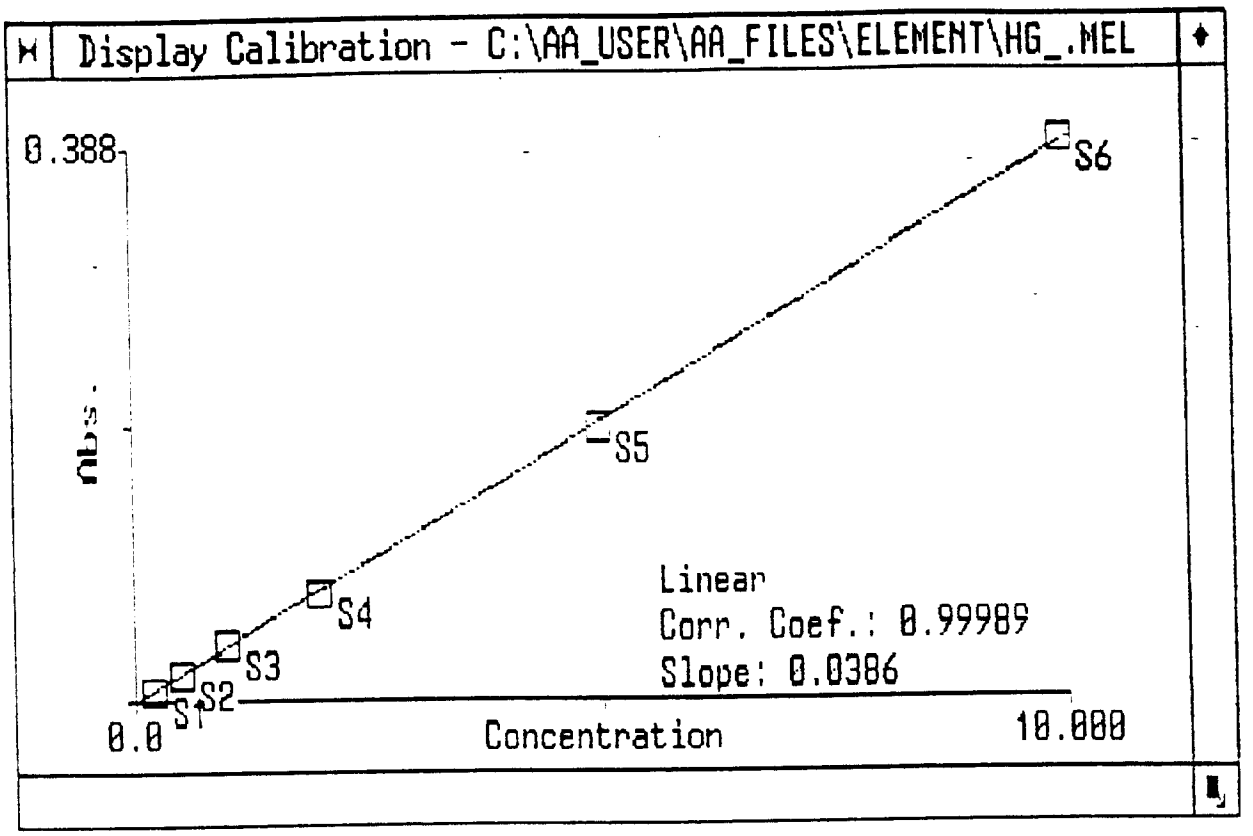
Standard number 5 applied. [5.000]
Correlation coefficient: 0.99989 Slope: 0.0379

Hg2 ID: STDs=10.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 10/21/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:17
Peak Area (A-s): 8.952 Peak Height (A): 0.388
Blank Corrected Pk Height (A): 0.388
Concentration (ug/L): 10.231

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99999 Slope: 0.0386

Element File: HG_.MEL
Element: Hg2
Wavelength: 253.7
Date: 10/21/97
Time: 10:18
Slit: 0.7 L
Data File: A8827.DAT
ID/Wt File: A8827.IDW
Lamp Current: 0
Technique: MHS
Calib. Type: Linear
Energy: 71
Remark 1: STANDARDS: 3-023-5
Remark 2: QC: 3-023-4, DSE 10/24/97



Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/21/97 Time: 10:19 Slit: 0.7 L
Data File: A8827.DAT ID/Wt File: A8827.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 71
Remark 1: STANDARDS: 3-023-5
Remark 2: QC: 3-023-4,6 DSE 10/21/97

Hg2 ID: ICV=4.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:21
Peak Area (A-s : 3.520 Peak Height (A): 0.152
Blank Corrected Pk Height (A): 0.152
Concentration (ug/L): 3.941

Hg2 ID: ICB Seq. No.: 00011 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:23
Peak Area (A-s : 0.000 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg2 ID: CRDL LC Seq. No.: 00012 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:24
Peak Area (A-s : 0.161 Peak Height (A): 0.006
Blank Corrected Pk Height (A): 0.006
Concentration (ug/L): 0.165

Hg2 ID: 43411 MB2 Seq. No.: 00013 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:26
Peak Area (A-s): -0.003 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.005

Hg2 ID: 43411 MB2D Seq. No.: 00014 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:27
Peak Area (A-s): -0.006 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.010

Hg2 ID: 43411 LCS2 Seq. No.: 00015 A/S Pos.: -- Date: 10/21/97 DSE 10/21/97

Replicate 1 Time: 10:29
Peak Area (A-s): 7.352 Peak Height (A): 0.321
Blank Corrected Pk Height (A): 0.321
Concentration (ug/L): 8.317

Hg2 ID: 43411 LCS2 Seq. No.: 00016 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:36
Peak Area (A-s): 4.685 Peak Height (A): 0.205
Blank Corrected Pk Height (A): 0.205
Concentration (ug/L): 5.325

Hg2 ID: 43411 LCS2D Seq. No.: 00017 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:37
Peak Area (A-s): 7.480 Peak Height (A): 0.323
Blank Corrected Pk Height (A): 0.323
Concentration (ug/L): 8.377

EE DSE 10/21/97

Hg2 ID: 43411 LCS2D Seq. No.: 00018 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:41
Peak Area (A-s): 4.775 Peak Height (A): 0.211
Blank Corrected Pk Height (A): 0.211
Concentration (ug/L): 5.473

Hg2 ID: 184-84-6D RBC Seq. No.: 00019 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:43
Peak Area (A-s): 0.035 Peak Height (A): 0.003
Blank Corrected Pk Height (A): 0.003
Concentration (ug/L): 0.081

Hg2 ID: 184-84-6D D RBC Seq. No.: 00020 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:44
Peak Area (A-s): 0.033 Peak Height (A): 0.003
Blank Corrected Pk Height (A): 0.003
Concentration (ug/L): 0.076

Hg2 ID: 184-84-6D Seq. No.: 00021 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:45
Peak Area (A-s): 0.050 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.044

Hg2 ID: 184-84-6D D Seq. No.: 00022 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:46
Peak Area (A-s): 0.042 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.039

Hg2 ID: 184-84-6D MS Seq. No.: 00023 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:47
Peak Area (A-s): 7.446 Peak Height (A): 0.314
Blank Corrected Pk Height (A): 0.314

Concentration (ug/L): 0.142

Hg2 ID: 184-84-6D MSD Seq. No.: 00024 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:49
Peak Area (A-s): 7.277 Peak Height (A): 0.306
Blank Corrected Pk Height (A): 0.306
Concentration (ug/L): 7.947

Hg2 ID: CCV7=6.0ug/L Seq. No.: 00025 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:51
Peak Area (A-s): 5.168 Peak Height (A): 0.220
Blank Corrected Pk Height (A): 0.220
Concentration (ug/L): 5.715

Hg2 ID: CCB Seq. No.: 00026 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:52
Peak Area (A-s): 0.026 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.018

Hg2 ID: 184-84-6G Seq. No.: 00027 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:53
Peak Area (A-s): 0.032 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.034

Hg2 ID: 184-84-6G D Seq. No.: 00028 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:55
Peak Area (A-s): -0.002 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg2 ID: 184-84-6E Seq. No.: 00029 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:56
Peak Area (A-s): 0.132 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.138

Hg2 ID: 184-84-6E D Seq. No.: 00030 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:56
Peak Area (A-s): 0.123 Peak Height (A): 0.005
Blank Corrected Pk Height (A): 0.005
Concentration (ug/L): 0.127

Hg2 ID: 184-84-6F Seq. No.: 00031 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:57
Peak Area (A-s): 0.001 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg2 ID: 184-84-6F D Seq. No.: 00032 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 10:59
Peak Area (A-s): 0.002 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 184-84-7~~CDAE~~ ACCD Seq. No.: 00033 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 11:00
Peak Area (A-s): 0.030 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.031

Hg2 ID: 184-84-7~~CDAE~~ ACCD D Seq. No.: 00034 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 11:01
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.018

Hg2 ID: 184-84-7G Seq. No.: 00035 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 11:02
Peak Area (A-s): -0.005 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.000

Hg2 ID: 184-84-7G D Seq. No.: 00036 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 11:05
Peak Area (A-s): -0.024 Peak Height (A): -0.001
Blank Corrected Pk Height (A): -0.001
Concentration (ug/L): -0.018

Hg2 ID: CCV8=6.0ug/L Seq. No.: 00037 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 11:06
Peak Area (A-s): 4.679 Peak Height (A): 0.200
Blank Corrected Pk Height (A): 0.200
Concentration (ug/L): 5.187

Hg2 ID: CCB Seq. No.: 00038 A/S Pos.: -- Date: 10/21/97

Peak Area (A-s): 0.027 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.021

Hg2 ID: 184-84-7EF Seq. No.: 00039 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:21
Peak Area (A-s): 0.046 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.044

Hg2 ID: 184-84-7EF D Seq. No.: 00040 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:22
Peak Area (A-s): 0.039 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.036

Hg2 ID: 184-84-7EF MS Seq. No.: 00041 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:23
Peak Area (A-s): 7.762 Peak Height (A): 0.326
Blank Corrected Pk Height (A): 0.326
Concentration (ug/L): 8.442

Hg2 ID: 184-84-7EF MSD Seq. No.: 00042 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:24
Peak Area (A-s): 7.774 Peak Height (A): 0.331
Blank Corrected Pk Height (A): 0.331
Concentration (ug/L): 8.587

Hg2 ID: 184-84-7H Seq. No.: 00043 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:25
Peak Area (A-s): 0.141 Peak Height (A): 0.006
Blank Corrected Pk Height (A): 0.006
Concentration (ug/L): 0.148

Hg2 ID: 184-84-7H D Seq. No.: 00044 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:26
Peak Area (A-s): 0.108 Peak Height (A): 0.004
Blank Corrected Pk Height (A): 0.004
Concentration (ug/L): 0.112

Hg2 ID: 184-84-7I Seq. No.: 00045 A/S Pos.: -- Date: 10/21/9

Replicate 1 Time: 12:27
Peak Area (A-s): 0.009 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000

0.003 <10-31-97 mg/L

Hg2 ID: 184-84-7I D Seq. No.: 00046 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 12:28
Peak Area (A-s): 0.004 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: CCV9:6.0ug/L Seq. No.: 00047 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 12:29
Peak Area (A-s): 5.101 Peak Height (A): 0.216
Blank Corrected Pk Height (A): 0.216
Concentration (ug/L): 5.609

Hg2 ID: CCB Seq. No.: 00048 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 12:33
Peak Area (A-s): -0.011 Peak Height (A): -0.001
Blank Corrected Pk Height (A): -0.001
Concentration (ug/L): -0.013

Hg2 ID: 43377 MB1 Seq. No.: 00049 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 12:34
Peak Area (A-s): -0.003 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.008

Hg2 ID: 43377 MB1 D Seq. No.: 00050 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 12:35
Peak Area (A-s): -0.011 Peak Height (A): -0.001
Blank Corrected Pk Height (A): -0.001
Concentration (ug/L): -0.016

Hg2 ID: 43377 LCS1 Seq. No.: 00051 A/S Pos.: -- Date: 10/21/97

EE
DSE
10/21/97

Replicate 1 Time: 12:36
Peak Area (A-s): 7.457 Peak Height (A): 0.322
Blank Corrected Pk Height (A): 0.322
Concentration (ug/L): 8.340

Hg2 ID: 43377 LCS1 Seq. No.: 00052 A/S Pos.: -- Date: 10/21/97

Replicate 1 Time: 12:41
Peak Area (A-s): 4.712 Peak Height (A): 0.204
Blank Corrected Pk Height (A): 0.204
Concentration (ug/L): 5.278

Hg.

ID/Weight File: AB828.IDW Analyst: D.STREETER-EDWARDS
Sample Volume: 100 mL Nominal Weight: 1.0 g

Loc.	Sample ID	Weight	Dilution
0	ST BLANK		
1	STD1=0.2ug/L		
2	STD2=0.5ug/L		
3	STD3=1.0ug/L		
4	STD4=2.0ug/L		
5	STD5=5.0ug/L		
6	STD6=10.0ug/L		
7	ICV=4.0ug/L		
8	ICB		
9	CHECK LO		
10	43377 MB2		
11	43377 MB2D		
12	43377 LCS		
13	43377 LCSD		
14	184-50-6B		
15	184-50-6B D		
16	184-50-6BD		
17	184-50-6BD D		
18	184-50-6BD MS		
19	184-50-6BD MSD		
20	CCV7=6.0ug/L		
21	CCB		
22	184-50-6E		
23	184-50-6E D		
24	184-50-6FE		
25	184-50-6FE D		
26	184-50-7CAB		
27	184-50-7CAB D		
28	184-50-7E		
29	184-50-7E D		
30	184-50-7F		
31	184-50-7F D		
32	CCV8=6.0ug/L		
33	CCB		
34	184-50-7D		
35	184-50-7D D		
36	184-50-7D MS		
37	184-50-7D MSD		
38	CCV9=6.0ug/L		
39	CCB		
40	42011 Cn1 MB		
41	42011 Cn1 MBD		
42	42011 LCS		
43	42011 LCSD		
44	170-70-3		
45	170-70-3 D		
46	170-70-3 MS		
47	170-70-3 MSD		
48	CCV=6.0ug/L		
49	CCB		
50	43411 MB3		
51	43411 MB3 D		
52	43411 LCS3		
53	43411 LCS3D		

3-023-7 DSE 10/22/97

3-023-8 DSE 10/22/97

3-023-8 DSE 10/22/97

3-023-8 DSE 10/22/97

3-023-8 DSE 10/22/97

3-023-8 DSE 10/22/97

Hg

Loc.	Sample ID	Weight	Dilution
54	184-84-5BD		
55	184-84-5BD D		
56	184-84-5BD MS		
57	184-84-5BD MSD		
58	CCV10=6.0ug/L	— 3-023-8 DSE 10/22/97	
59	CCB		
60	184-84-5E		
61	184-84-5E D		
62	184-84-5F		
63	184-84-5F D		
64	184-84-5GF		
65	184-84-5GF D		
66	CCV11=6.0ug/L	- 3-023-8 DSE 10/22/97	
67	CCB		

Hg

Element File: HG_.MEL
Element: Hg2 Analyst: D STREETER-EDWARDS
Print Data: Main+Suppl. Peak Storage: None
Print: Calib. Curve
Remarks:
STANDARDS= 3-023-7
QC= 3-023-8

INSTRUMENT: 5100 Technique: MHS Version: 7.01
Wavelength: 253.7 Peak Slit: 0.7 Low
Signal Type: AA Signal Measurement: Peak Height (5)
Read Time: 30.0 Read Delay: 1.0 BOC Time: 2
Sample Replicates: 1
Standard Replicates: 1

FLAME:
Flame Type: Air Flame Sensor: On
Oxidant Flow: 10.0 L/min Fuel Flow: 2.0 L/min

CALIBRATION:

Solutions	ID	Conc
Calib. Blank	STD BLK	
Standard 1	STD 1	0.200
Standard 2	STD 2	0.500
Standard 3	STD 3	1.000
Standard 4	STD 4	2.000
Standard 5	STD 5	5.000
Standard 6	STD 6	10.000

Calibration Units: ug/L Sample Units: ug/L
Calibration Type: Linear

QC:
Matrix Check Calculations:
% Difference for Dupls: No Locations:
% Recovery for Spike: No Locations: Conc:

D.SE Hg
10/22/97

Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/22/97 Time: 09:46 Slit: 0.7 L
Data File: AB828.DAT ID/Wt File: AB828.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 71
Remark 1: STANDARDS= 3-023-7
Remark 2: QC= 3-023-8

Hg2 ID: Seq. 00001 Seq. No.: 00001 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 09:46
Peak Area (A-s): 0.290 Peak Height (A): 0.012
Blank Corrected Pk Height (A): 0.012

Auto-zero performed.

Hg2 ID: Seq. 00002 Seq. No.: 00002 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 09:47
Peak Area (A-s): 0.020 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001

Auto-zero performed.

Hg

Element File: HG_.MEL Element: Hg2 Wavelength: 253.7
Date: 10/22/97 Time: 09:48 Slit: 0.7 L
Data File: AB828.DAT ID/Wt File: AB828.IDW Lamp Current: 0
Technique: MHS Calib. Type: Linear Energy: 71
Remark 1: STANDARDS= 3-023-7
Remark 2: QC= 3-023-8

Hg2 ID: ST BLANK Seq. No.: 00003 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 09:50
Peak Area (A-s): -0.000 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000

Auto-zero performed.

Hg2 ID: STD1=0.2ug/L Seq. No.: 00004 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 09:52
Peak Area (A-s): 0.162 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007

Standard number 1 applied. [0.200]
Correlation coefficient: 1.00000 Slope: 0.0331

Hg2 ID: STD2=0.5ug/L Seq. No.: 00005 A/S Pos.: -- Date: 10/22/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:53
Peak Area (A-s): 0.429 Peak Height (A): 0.018
Blank Corrected Pk Height (A): 0.018
Concentration (ug/L): 0.548

EE DSF 10/22/97 Didn't adapt Data. (Re-run.)

Hg2 ID: STD3=1.0ug/L Seq. No.: 00006 A/S Pos.: -- Date: 10/22/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 09:54
Peak Area (A-s): 0.886 Peak Height (A): 0.038
Blank Corrected Pk Height (A): 0.038
Concentration (ug/L): 1.145

Hg2 ID: STD2=0.5ug/L Seq. No.: 00007 A/S Pos.: -- Date: 10/22/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:01
Peak Area (A-s): 0.470 Peak Height (A): 0.021
Blank Corrected Pk Height (A): 0.021
Concentration (ug/L): 0.621

Standard number 2 applied. [0.500]
Correlation coefficient: 0.98455 Slope: 0.0402

Hg2 ID: STD3=1.0ug/L Seq. No.: 00008 A/S Pos.: -- Date: 10/22/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:02
Peak Area (A-s): 0.913 Peak Height (A): 0.041
Blank Corrected Pk Height (A): 0.041
Concentration (ug/L): 1.020

Standard number 3 applied. [1.000]
Correlation coefficient: 0.99775 Slope: 0.0409

Hg2 ID: STD4=2.0ug/L Seq. No.: 00009 A/S Pos.: -- Date: 10/22/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:03
Peak Area (A-s): 1.700 Peak Height (A): 0.073
Blank Corrected Pk Height (A): 0.073
Concentration (ug/L): 1.798

Standard number 4 applied. [2.000]
Correlation coefficient: 0.99647 Slope: 0.0378

Hg2 ID: STD5=5.0ug/L Seq. No.: 00010 A/S Pos.: -- Date: 10/22/97

Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:05
Peak Area (A-s): 4.214 Peak Height (A): 0.180
Blank Corrected Pk Height (A): 0.180
Concentration (ug/L): 4.768

Standard number 5 applied. [5.000]
Correlation coefficient: 0.99923 Slope: 0.0364

Hg2 ID: STD6=10.0ug/L Seq. No.: 00011 A/S Pos.: -- Date: 10/22/97

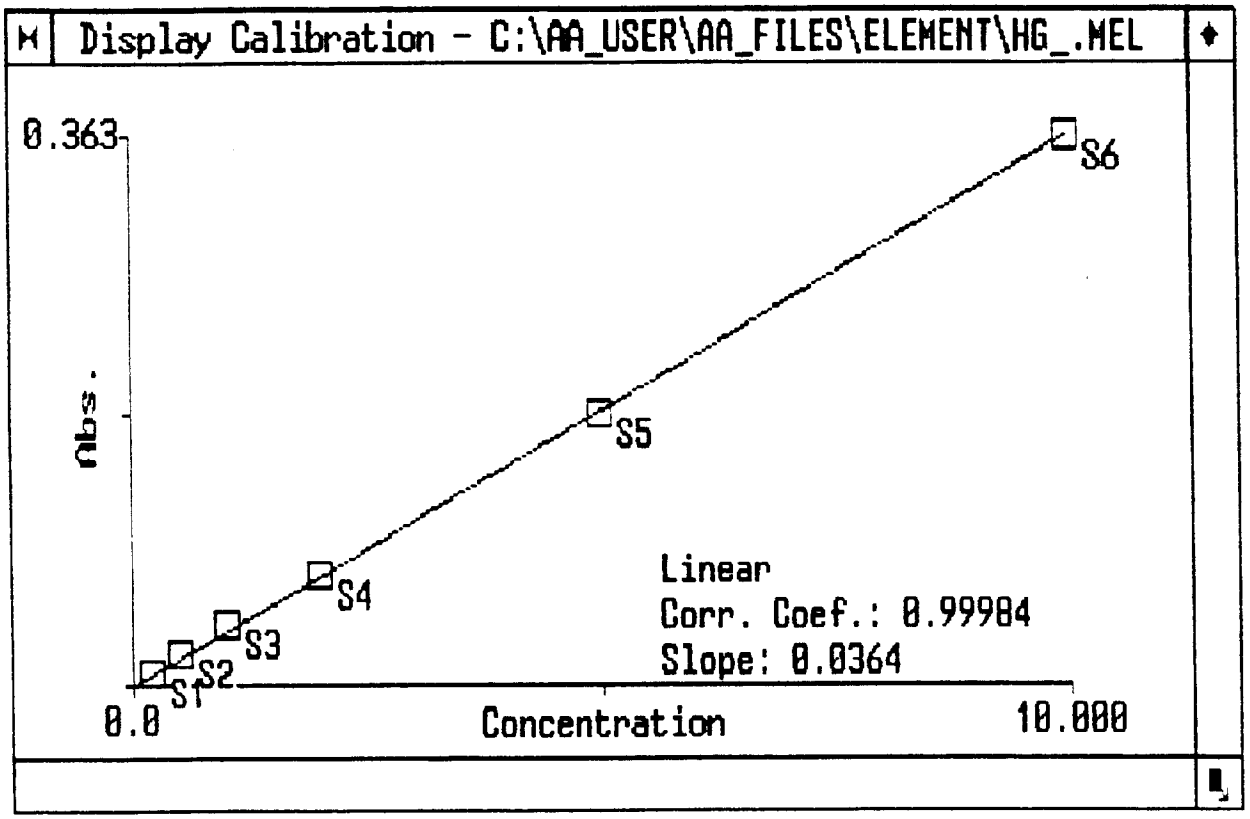
Sample abs. is greater than that of the largest standard.
Replicate 1 Time: 10:06
Peak Area (A-s): 8.381 Peak Height (A): 0.363
Blank Corrected Pk Height (A): 0.363
Concentration (ug/L): 9.993

Standard number 6 applied. [10.000]
Correlation coefficient: 0.99984 Slope: 0.0364

Hg

Element File: HG_.MEL	Element: Hg2	Wavelength: 253.7
Date: 10/22/97	Time: 10:07	Slit: 0.7 L
Data File: AB828.DAT	ID/Wt File: AB828.IDW	Lamp Current: 0
Technique: MHS	Calib. Type: Linear	Energy: 71

Remark 1: STANDARDS= 3-023-7
Remark 2: QC= 3-023-8



Hg2 ID: ICV=4.0ug/L Seq. No.: 00012 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:12
Peak Area (A-s): 3.522 Peak Height (A): 0.150
Blank Corrected Pk Height (A): 0.150
Concentration (ug/L): 4.137

Hg2 ID: ICB Seq. No.: 00013 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:13
Peak Area (A-s): 0.014 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: CHECK LO Seq. No.: 00014 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:15
Peak Area (A-s): 0.173 Peak Height (A): 0.007
Blank Corrected Pk Height (A): 0.007
Concentration (ug/L): 0.199

Hg2 ID: 43377 MB2 Seq. No.: 00015 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:18
Peak Area (A-s): 0.003 Peak Height (A): 0.000
Blank Corrected Pk Height (A): 0.000
Concentration (ug/L): 0.003

Hg2 ID: 43377 MB2D Seq. No.: 00016 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:19
Peak Area (A-s): 0.005 Peak Height (A): -0.000
Blank Corrected Pk Height (A): -0.000
Concentration (ug/L): -0.003

Hg2 ID: 43377 LCS Seq. No.: 00017 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:20
Peak Area (A-s): 4.228 Peak Height (A): 0.181
Blank Corrected Pk Height (A): 0.181
Concentration (ug/L): 4.981

Hg2 ID: 43377 LCSD Seq. No.: 00018 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:22
Peak Area (A-s): 4.003 Peak Height (A): 0.172
Blank Corrected Pk Height (A): 0.172
Concentration (ug/L): 4.733

Hg2 ID: 184-50-6B Seq. No.: 00019 A/S Pos.: -- Date: 10/22/97

Concentration (ug/L): 4.948

Hg2 ID: 170-70-3 Seq. No.: 00049 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:57
Peak Area (A-s): 0.042 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.041

Hg2 ID: 170-70-3 D Seq. No.: 00050 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 10:59
Peak Area (A-s): 0.036 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.041

Hg2 ID: 170-70-3 MS Seq. No.: 00051 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:00
Peak Area (A-s): 3.664 Peak Height (A): 0.169
Blank Corrected Pk Height (A): 0.169
Concentration (ug/L): 4.658

Hg2 ID: 170-70-3 MSD Seq. No.: 00052 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:01
Peak Area (A-s): 3.993 Peak Height (A): 0.182
Blank Corrected Pk Height (A): 0.182
Concentration (ug/L): 5.020

Hg2 ID: CCV=6.0ug/L Seq. No.: 00053 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:02
Peak Area (A-s): 4.798 Peak Height (A): 0.228
Blank Corrected Pk Height (A): 0.228
Concentration (ug/L): 6.278

Hg2 ID: CCB Seq. No.: 00054 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:04
Peak Area (A-s): 0.039 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.044

Hg2 ID: 43411 MB3 Seq. No.: 00055 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:05
Peak Area (A-s): 0.036 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.036

Hg2 ID: 43411 MB3 D Seq. No.: 00056 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:07
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.022

Hg2 ID: 43411 LCS3 Seq. No.: 00057 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:08
Peak Area (A-s): 3.908 Peak Height (A): 0.182
Blank Corrected Pk Height (A): 0.182
Concentration (ug/L): 5.001

Hg2 ID: 43411 LCS3D Seq. No.: 00058 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:09
Peak Area (A-s): 3.165 Peak Height (A): 0.176
Blank Corrected Pk Height (A): 0.176
Concentration (ug/L): 4.846

Hg2 ID: 184-84-5BD Seq. No.: 00059 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:10
Peak Area (A-s): 0.050 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.050

Hg2 ID: 184-84-5BD D Seq. No.: 00060 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:11
Peak Area (A-s): 0.028 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.033

Hg2 ID: 184-84-5BD MS Seq. No.: 00061 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:11
Peak Area (A-s): 4.042 Peak Height (A): 0.179
Blank Corrected Pk Height (A): 0.179
Concentration (ug/L): 4.926

Hg2 ID: 184-84-5BD MSD Seq. No.: 00062 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:12
Peak Area (A-s): 3.862 Peak Height (A): 0.185
Blank Corrected Pk Height (A): 0.185
Concentration (ug/L): 5.092

Hg2 ID: CCV10=6.0ug/L Seq. No.: 00063 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:13
Peak Area (A-s): 5.201 Peak Height (A): 0.246
Blank Corrected Pk Height (A): 0.246
Concentration (ug/L): 6.775

Hg2 ID: CCB Seq. No.: 00064 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:14
Peak Area (A-s): 0.075 Peak Height (A): 0.003
Blank Corrected Pk Height (A): 0.003
Concentration (ug/L): 0.080

Hg2 ID: 184-84-5E Seq. No.: 00065 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:15
Peak Area (A-s): 0.043 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.041

Hg2 ID: 184-84-5E D Seq. No.: 00066 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:16
Peak Area (A-s): 0.033 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.036

Hg2 ID: 184-84-5F Seq. No.: 00067 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:16
Peak Area (A-s): 0.033 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.030

Hg2 ID: 184-84-5F D Seq. No.: 00068 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:17
Peak Area (A-s): 0.030 Peak Height (A): 0.001
Blank Corrected Pk Height (A): 0.001
Concentration (ug/L): 0.025

Hg2 ID: 184-84-5GF Seq. No.: 00069 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:18
Peak Area (A-s): 0.045 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.044

Hg2 ID: 184-84-5GF D Seq. No.: 00070 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:19
Peak Area (A-s): 0.043 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002

Concentration (ug/L): 0.041

Hg2 ID: CCV11=6.0ug/L Seq. No.: 00071 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:19
Peak Area (A-s): 4.696 Peak Height (A): 0.236
Blank Corrected Pk Height (A): 0.236
Concentration (ug/L): 6.485

Hg2 ID: CCB Seq. No.: 00072 A/S Pos.: -- Date: 10/22/97

Replicate 1 Time: 11:20
Peak Area (A-s): 0.046 Peak Height (A): 0.002
Blank Corrected Pk Height (A): 0.002
Concentration (ug/L): 0.047

APPENDIX D

COMPUTER SUMMARIES

Appendix D.1

Computer Summaries

Baghouse Inlet - Method 23 & 29

Summary of Stack Gas Parameters and Test Results

ASPHALT PLANT "B" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Inlet

	RUN NUMBER	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1227	0908-1428	0818-1413	Test Run
	MEASURED DATA				
γ	Meter Box Correction Factor	1.021	1.021	1.021	1.021
ΔH	Avg Meter Orifice Pressure, in. H_2O	1.21	0.286	0.396	0.75
P_{bar}	Barometric Pressure, inches Hg	29.80	29.60	29.60	29.70
V_m	Sample Volume, ft^3	58.263	53.015	83.709	55.639
T_m	Average Meter Temperature, °F	96	96	93	96
P_{static}	Stack Static Pressure, inches H_2O	-1.8	-1.8	-1.8	-1.8
T_s	Average Stack Temperature, °F	308	306	290	307
V_{lc}	Condensate Collected, ml	510.5	414.9	393.0	462.7
CO_2	Carbon Dioxide content, % by volume	5.2	5.2	4.0	5.2
O_2	Oxygen content, % by volume	13.8	13.1	15.2	13.5
N_2	Nitrogen content, % by volume	81.0	81.7	80.8	81.4
C_p	Pitot Tube Coefficient	0.84	0.84	0.84	0.84
$\Delta p^{1/2}$	Average Square Root Dp, $(in. H_2O)^{1/2}$	0.6901	0.6755	0.7133	0.6828
Θ	Sample Run Duration, minutes	96	170	240	133
D_n	Nozzle Diameter, inches	0.257	0.194	0.194	0.226
	CALCULATED DATA				
A_n	Nozzle Area, ft^2	0.00036	0.00021	0.00021	0.00028
$V_{m(std)}$	Standard Meter Volume, dscf	56.399	50.885	80.735	53.642
$V_{m(std)}$	Standard Meter Volume, dscm	1.597	1.441	2.286	1.519
P_s	Stack Pressure, inches Hg	29.67	29.47	29.47	29.57
B_{ws}	Moisture, % by volume	29.9	27.7	18.6	28.8
V_{wstd}	Standard Water Vapor Volume, ft^3	24.029	19.529	18.499	21.779
$1-B_{ws}$	Dry Mole Fraction	0.701	0.723	0.814	0.712
M_d	Molecular Weight (d.b.), lb/lb•mole	29.38	29.36	29.25	29.37
M_s	Molecular Weight (w.b.), lb/lb•mole	25.98	26.21	27.15	26.09
V_s	Stack Gas Velocity, ft/s	49.5	48.3	49.6	48.9
A	Stack Area, ft^2	16.20	16.20	16.20	16.20
Q_a	Stack Gas Volumetric flow, acfm	48,074	46,957	48,211	47,515
Q_s	Stack Gas Volumetric flow, dscfm	22,981	23,027	27,178	23,004
$Q_{s(cmm)}$	Stack Gas Volumetric flow, dscmm	650.7	652.1	769.6	651.4
I	Isokinetic Sampling Ratio, %	115.0	102.6	97.7	108.8

Summary of Stack Gas Parameters and Test Results

ASPHALT PLANT "B" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Inlet

	RUN NUMBER	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1227	0908-1428	0818-1413	Test run
	EMISSIONS DATA				
	DIOXINS:				
	2378 TCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total TCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	12378 PeCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PeCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	123478 HxCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	123678 HxCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results

ASPHALT PLANT "B" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Inlet

	RUN NUMBER	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1227	0908-1428	0818-1413	Test Run
	EMISSIONS DATA -Continued				
	DIOXINS - Continued				
	123789 HxCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total HxCDD				
(ng)	Catch, ng	ND	ND	0.0200	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	0.00875	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	0.404	ND
	1234678 HpCDD				
(ng)	Catch, ng	ND	ND	0.140	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	0.0612	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	2.83	ND
	Total HpCDD				
(ng)	Catch, ng	{0.350}	ND	0.340	{0.175}
(ng/dscm)	Concentration, ng/dscm, as measured	{0.219}	ND	0.149	{0.110}
(µg/hr)	Emission Rate, µg/hr	{8.56}	ND	6.87	{4.28}
	12346789 OCDD				
(ng)	Catch, ng	9.70	8.20	16.2	8.95
(ng/dscm)	Concentration, ng/dscm, as measured	6.07	5.69	7.09	5.88
(µg/hr)	Emission Rate, µg/hr	237	223	327	230
	Total PCDD				
(ng)	Catch, ng	{10.1}	8.20	16.6	{9.13}
(ng/dscm)	Concentration, ng/dscm, as measured	{6.29}	5.69	7.24	{5.99}
(µg/hr)	Emission Rate, µg/hr	{246}	223	334	{234}

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results

ASPHALT PLANT "B" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Inlet

	RUN NUMBER	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1227	0908-1428	0818-1413	Test Run
	EMISSIONS DATA - Continued				
	FURANS				
	2378 TCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total TCDF				
(ng)	Catch, ng	{0.180}	0.170	0.0100	{0.175}
(ng/dscm)	Concentration, ng/dscm, as measured	{0.113}	0.118	0.00437	{0.115}
(µg/hr)	Emission Rate, µg/hr	{4.40}	4.62	0.202	{4.51}
	12378 PeCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	23478 PeCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PeCDF				
(ng)	Catch, ng	0.470	0.330	{0.0100}	0.400
(ng/dscm)	Concentration, ng/dscm, as measured	0.294	0.229	{0.00437}	0.262
(µg/hr)	Emission Rate, µg/hr	11.5	8.96	{0.202}	10.2
	123478 HxCDF				
(ng)	Catch, ng	ND	ND	0.0200	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	0.00875	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	0.404	ND

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

ASPHALT PLANT "B" - **Cary, North Carolina**
US EPA Test Method 23 - PCDD / PCDF
Baghouse Inlet

	RUN NUMBER	***R-M23-I-1***	***R-M23-I-2***	***R-M23-I-3***	***Average of***
	RUN DATE	***8/27/97***	***8/28/97***	***8/29/97***	***1st and 2nd***
	RUN TIME	***0940-1227***	***0908-1428***	***0818-1413***	***Test run***
	EMISSIONS DATA - Continued				
	Furans - Continued				
	123678 HxCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	234678 HxCDF				
(ng)	Catch, ng	ND	ND	{0.00600}	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	{0.00262}	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	{0.121}	ND
	123789 HxCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total HxCDF				
(ng)	Catch, ng	ND	ND	0.0300	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	0.0131	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	0.606	ND
	1234678 HpCDF				
(ng)	Catch, ng	ND	ND	0.0400	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	0.0175	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	0.808	ND
	1234789 HpCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND

( ) Not Detected. Value shown is the detection limit for that sample.
{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results
ASPHALT PLANT "B" - Cary, North Carolina
US EPA Test Method 23 - PCDD / PCDF
Baghouse Inlet
Page 6 of 6

	RUN NUMBER	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1227	0908-1428	0818-1413	Test run
	EMISSIONS DATA - Continued				
	Furans - Continued				
	Total HpCDF				
(ng)	Catch, ng	ND	{0.260}	0.0400	{0.130}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.180}	0.0175	{0.0902}
(µg/hr)	Emission Rate, µg/hr	ND	{7.06}	0.808	{3.53}
	12346789 OCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PCDF				
(ng)	Catch, ng	{0.650}	{0.760}	{0.0900}	{0.705}
(ng/dscm)	Concentration, ng/dscm, as measured	{0.407}	{0.527}	{0.0394}	{0.467}
(µg/hr)	Emission Rate, µg/hr	{15.9}	{20.6}	{1.82}	{18.3}
	Total PCDD + PCDF				
(ng)	Catch, ng	{10.7}	{8.96}	{16.7}	{9.83}
(ng/dscm)	Concentration, ng/dscm, as measured	{6.70}	{6.22}	{7.28}	{6.46}
(µg/hr)	Emission Rate, µg/hr	{262}	{243}	{336}	{252}

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

PCDD/PCDF Corrected Stack Gas Concentrations and 2378 TCDD Toxic Equivalent Concentrations

ASPHALT PLANT "A" - Garner, North Carolina

US EPA Test Method 23 - PCDD/PCDF

Baghouse Inlet

	CONCENTRATION (ng/dscmm, adjusted to 7% O2)				2378-TCDD	2378 TOXIC EQUIVALENCIES (ng/dscmm, adjusted to 7% O2)			
RUN NUMBER	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average	Toxic	R-M23-I-1	R-M23-I-2	R-M23-I-3	Average
RUN DATE	08/27/97	08/28/97	08/29/97	of 1st & 2nd	Equivalent	8/27/97	8/28/97	8/29/97	of 1st & 2nd
RUN TIME	0940-1227	0908-1428	0818-1413	Run	Factor	0940-1227	0908-1428	0818-1413	Run
DIOXINS:									
2378 TCDD	ND	ND	ND	ND	1.000	ND	ND	ND	ND
Total TCDD	ND	ND	ND	ND					
12378 PeCDD	ND	ND	ND	ND	0.500	ND	ND	ND	ND
Total PeCDD	ND	ND	ND	ND					
123478 HxCDD	ND	ND	ND	ND	0.100	ND	ND	ND	ND
123678 HxCDD	ND	ND	ND	ND	0.100	ND	ND	ND	ND
123789 HxCDD	ND	ND	ND	ND	0.100	ND	ND	ND	ND
Total HxCDD	ND	ND	0.0213	ND					
1234678 HpCDD	ND	ND	0.149	ND	0.010	ND	ND	0.001	ND
Total HpCDD	{0.429}	ND	0.363	{0.215}					
12346789 OCDD	11.9	10.1	17.3	11.0	0.001	0.0119	0.0101	0.0173	0.0110
Total PCDD	{12.3}	10.1	17.7	{11.2}		0.0119	0.0101	0.0188	0.0110
FURANS:									
2378 TCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
Total TCDF	{0.221}	0.210	0.0107	{0.215}					
12378 PeCDF	ND	ND	ND	ND	0.050	ND	ND	ND	ND
23478 PeCDF	ND	ND	ND	ND	0.500	ND	ND	ND	ND
Total PeCDF	0.576	0.408	{0.0107}	0.492					
123478 HxCDF	ND	ND	0.021	ND	0.100	ND	ND	0.00213	ND
123678 HxCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
234678 HxCDF	ND	ND	{0.00640}	ND	0.100	ND	ND	{0.000640}	ND
123789 HxCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
Total HxCDF	ND	ND	0.0320	ND					
1234678 HpCDF	ND	ND	0.0427	ND	0.010	ND	ND	0.000427	ND
1234789 HpCDF	ND	ND	ND	ND	0.010	ND	ND	ND	ND
Total HpCDF	ND	{0.322}	0.0427	{0.161}					
12346789 OCDF	ND	ND	ND	ND	0.001	ND	ND	ND	ND
Total PCDF	{0.797}	{0.940}	{0.0960}	{0.868}		ND	ND	{0.00320}	ND
Total PCDD + PCDF	{13.1}	{11.1}	{17.8}	{12.1}		0.0119	0.0101	{0.0220}	0.0110

Summary of Stack Gas Parameters and Test Results
US EPA EMC Asphalt Concrete Emissions Testing · ASPHALT PLANT "B"
US EPA Test Method 29 - Multiple Metals
Baghouse Inlet

	RUN NUMBER	R-M29-I-1	R-M29-I-2	R-M29-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	~1000-~1200	1019-1427	0819-1403	Test Runs
	MEASURED DATA				
γ	Meter Box Correction Factor	1.016	1.016	1.016	1.016
ΔH	Avg Meter Orifice Pressure, in. H_2O	1.24	0.298	0.400	0.771
P_{bar}	Barometric Pressure, inches Hg	29.80	29.60	29.60	29.700
V_m	Sample Volume, ft^3	52.232	64.379	85.398	58.306
T_m	Average Meter Temperature, °F	101	102	96	101.622
P_{static}	Stack Static Pressure, inches H_2O	-1.8	-1.8	-1.8	-1.800
T_s	Average Stack Temperature, °F	304	309	289	306.083
V_{lc}	Condensate Collected, ml	422.5	485.0	403.9	453.750
CO_2	Carbon Dioxide content, % by volume	4.6	5.2	4.0	4.900
O_2	Oxygen content, % by volume	14.2	13.1	15.2	13.650
N_2	Nitrogen content, % by volume	81.2	81.7	80.8	81.450
C_p	Pitot Tube Coefficient	0.84	0.84	0.84	0.840
$\Delta p^{1/2}$	Average Square Root Δp, $(in. H_2O)^{1/2}$	0.6972	0.6977	0.7185	0.697
Θ	Sample Run Duration, minutes	87	200	240	143.500
D_n	Nozzle Diameter, inches	0.256	0.194	0.196	0.225
	CALCULATED DATA				
A_n	Nozzle Area, ft^2	0.000357	0.000205	0.000210	0.000281
$V_{m(std)\ cf}$	Standard Meter Volume, ft^3	49.883	60.783	81.522	55.333
$V_{m(std)\ cm}$	Standard Meter Volume, m^3	1.413	1.721	2.308	1.567
Q_m	Average Sampling Rate, dscfm	0.573	0.304	0.340	0.439
P_s	Stack Pressure, inches Hg	29.67	29.47	29.47	29.57
B_{ws}	Moisture, % by volume	28.5	27.3	18.9	27.9
V_{wstd}	Standard Water Vapor Volume, ft^3	19.887	22.829	19.012	21.358
$1-B_{ws}$	Dry Mole Fraction	0.715	0.727	0.811	0.721
M_d	Molecular Weight (d.b.), lb/lb•mole	29.30	29.36	29.25	29.33
M_s	Molecular Weight (w.b.), lb/lb•mole	26.08	26.26	27.12	26.17
V_s	Stack Gas Velocity, ft/s	49.7	49.9	49.9	49.8
A	Stack Area, ft^2	16.20	16.20	16.20	16.20
Q_a	Stack Gas Volumetric flow, acfm	48,345	48,535	48,550	48,440
$Q_{s\ dfm}$	Stack Gas Volumetric flow, dscfm	23,687	23,865	27,325	23,776
$Q_{s\ cmm}$	Stack Gas Volumetric flow, dscmm	671	676	774	673
I	Isokinetic Sampling Ratio, %	109.7	100.5	96.1	105.1

Summary of Stack Gas Parameters and Test Results
US EPA EMC Asphalt Concrete Emissions Testing - ASPHALT PLANT "B"
US EPA Test Method 29 - Multiple Metals
Baghouse Inlet

	RUN NUMBER	R-M29-I-1	R-M29-I-2	R-M29-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	~1000-~1200	1019-1427	0819-1403	Test Runs
	EMISSIONS DATA				
	Particulate Matter				
g	Target Catch, g	136.3	269.2	405.5	202.8
gr/dscf	Concentration, gr/dscf	42.2	68.3	76.8	55.3
gr/dscf at 7%	Concentration, gr/dscf at 7% O2	87.5	121.8	187.2	104.6
g/dscm	Concentration, g/dscm	96.5	156.4	175.7	126.4
g/dscm at 7%	Concentration, g/dscm at 7% O2	200	279	428	239
lb/hr	Emission Rate, lb/hr	8,561	13,981	17,979	11,271
kg/hr	Emission Rate, kg/hr	3,883	6,342	8,155	5,113
	Antimony				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND
	Arsenic				
µg	Target Catch, µg	5.03	3.82	4.91	4.43
µg/dscm	Concentration, µg/dscm	3.56	2.22	2.13	2.89
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	7.39	3.96	5.19	5.67
g/hr	Emission Rate, g/hr	0.1433	0.0900	0.0987	0.117
	Barium				
µg	Target Catch, µg	1,081	924	734	1,002
µg/dscm	Concentration, µg/dscm	765	537	318	651
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	1,587	957	776	1,272
g/hr	Emission Rate, g/hr	30.8	21.8	14.8	26.3
	Beryllium				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND
	Cadmium				
µg	Target Catch, µg	20.2	14.6	9.81	17.4
µg/dscm	Concentration, µg/dscm	14.3	8.51	4.25	11.4
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	29.7	15.2	10.4	22.4
g/hr	Emission Rate, g/hr	0.576	0.345	0.197	0.460

Summary of Stack Gas Parameters and Test Results
US EPA EMC Asphalt Concrete Emissions Testing - ASPHALT PLANT "B"
US EPA Test Method 29 - Multiple Metals
Baghouse Inlet

	RUN NUMBER	R-M29-I-1	R-M29-I-2	R-M29-I-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	~1000-~1200	1019-1427	0819-1403	Test Runs
	EMISSIONS DATA - Continued				
	Chromium				
µg	Target Catch, µg	95.8	88.3	76.8	92.1
µg/dscm	Concentration, µg/dscm	67.8	51.3	33.3	59.6
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	141	91.4	81.2	116
g/hr	Emission Rate, g/hr	2.73	2.08	1.55	2.41
	Colbalt				
µg	Target Catch, µg	63.2	55.1	45.5	59.2
µg/dscm	Concentration, µg/dscm	44.7	32.0	19.7	38.4
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	92.8	57.0	48.1	74.9
g/hr	Emission Rate, g/hr	1.80	1.30	0.915	1.55
	Copper				
µg	Target Catch, µg	613	660	607	636
µg/dscm	Concentration, µg/dscm	434	384	263	409
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	900	684	641	792
g/hr	Emission Rate, g/hr	17.5	15.6	12.2	16.5
	Lead				
µg	Target Catch, µg	85.3	83.1	82.7	84.2
µg/dscm	Concentration, µg/dscm	60.4	48.3	35.8	54.3
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	125	86.0	87.4	106
g/hr	Emission Rate, g/hr	2.43	1.96	1.66	2.19
	Manganese				
µg	Target Catch, µg	2,471	2,336	2,251	2,404
µg/dscm	Concentration, µg/dscm	1,750	1,357	975	1,553
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	3,630	2,418	2,377	3,024
g/hr	Emission Rate, g/hr	70.4	55.0	45.3	62.7
	Mercury				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND

Summary of Stack Gas Parameters and Test Results
US EPA EMC Asphalt Concrete Emissions Testing - ASPHALT PLANT "3"
US EPA Test Method 29 - Multiple Metals
Baghouse Inlet

	RUN NUMBER	***R-M29-I-1***	***R-M29-I-2***	***R-M29-I-3***	***Average of***
	RUN DATE	***8/27/97***	***8/28/97***	***8/29/97***	***1st and 2nd***
	RUN TIME	***~1000-~1200***	***1019-1427***	***0819-1403***	***Test Runs***
	EMISSIONS DATA - Continued				
	Nickel				
µg	Target Catch, µg	59.0	58.4	50.3	**58.7**
µg/dscm	Concentration, µg/dscm	41.7	33.9	21.8	**37.8**
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	86.6	60.5	53.1	**73.5**
g/hr	Emission Rate, g/hr	1.68	1.38	1.01	**1.53**
	Phosphorus				
µg	Target Catch, µg	4,250	3,874	5,010	**4,062**
µg/dscm	Concentration, µg/dscm	3,009	2,251	2,170	**2,630**
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	6,242	4,011	5,292	**5,127**
g/hr	Emission Rate, g/hr	121	91.3	101	**106**
	Silver				
µg	Target Catch, µg	1.20	1.00	0.671	**1.10**
µg/dscm	Concentration, µg/dscm	0.850	0.581	0.291	**0.715**
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	1.76	1.04	0.709	**1.40**
g/hr	Emission Rate, g/hr	0.0342	0.0236	0.0135	**0.0289**
	Selenium				
µg	Target Catch, µg	ND	0.396	ND	**0.198**
µg/dscm	Concentration, µg/dscm	ND	0.230	ND	**0.115**
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	0.410	ND	**0.205**
g/hr	Emission Rate, g/hr	ND	0.00933	ND	**0.00466**
	Thallium				
µg	Target Catch, µg	12.2	8.58	2.08	**10.39**
µg/dscm	Concentration, µg/dscm	8.64	4.98	0.901	**6.81**
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	17.9	8.88	2.20	**13.40**
g/hr	Emission Rate, g/hr	0.348	0.202	0.0418	**0.275**
	Zinc				
µg	Target Catch, µg	761	683	553	**722**
µg/dscm	Concentration, µg/dscm	539	397	239	**468**
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	1,118	707	584	**913**
g/hr	Emission Rate, g/hr	21.7	16.1	11.1	**18.9**

Appendix D.2

Computer Summaries

Baghouse Outlet - Method 9, 23 & 29

Date: 8/29/97
Start Time: 0923
Stop Time: 1023

Baghouse Outlet
Run Number: O-M9-3B

Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,
0.25	NA	12.25	1.46	24.25	1.30	36.25	1.04	48.25	0.42
0.50	NA	12.50	1.46	24.50	1.30	36.50	1.04	48.50	0.42
0.75	NA	12.75	1.46	24.75	1.52	36.75	1.04	48.75	0.21
1.00	NA	13.00	1.67	25.00	1.52	37.00	1.04	49.00	0.21
1.25	NA	13.25	1.67	25.25	1.52	37.25	1.25	49.25	0.21
1.50	NA	13.50	1.46	25.50	1.52	37.50	1.25	49.50	0.21
1.75	NA	13.75	1.46	25.75	1.96	37.75	1.25	49.75	0.22
2.00	NA	14.00	1.67	26.00	1.52	38.00	1.46	50.00	0.23
2.25	NA	14.25	1.46	26.25	1.52	38.25	1.25	50.25	0.23
2.50	NA	14.50	1.46	26.50	1.30	38.50	1.25	50.50	0.23
2.75	NA	14.75	1.46	26.75	1.09	38.75	1.25	50.75	0.23
3.00	NA	15.00	1.46	27.00	1.09	39.00	1.25	51.00	0.23
3.25	NA	15.25	1.67	27.25	1.09	39.25	1.25	51.25	0.23
3.50	NA	15.50	1.67	27.50	0.65	39.50	1.25	51.50	0.45
3.75	NA	15.75	1.88	27.75	0.65	39.75	1.25	51.75	0.23
4.00	NA	16.00	2.08	28.00	0.65	40.00	1.25	52.00	0.23
4.25	NA	16.25	2.08	28.25	0.68	40.25	0.83	52.25	0.45
4.50	NA	16.50	1.88	28.50	0.68	40.50	0.83	52.50	0.45
4.75	NA	16.75	1.88	28.75	0.68	40.75	1.04	52.75	0.45
5.00	NA	17.00	1.88	29.00	0.68	41.00	1.25	53.00	0.45
5.25	NA	17.25	1.46	29.25	0.68	41.25	1.04	53.25	0.45
5.50	NA	17.50	1.46	29.50	0.68	41.50	1.04	53.50	0.68
5.75	NA	17.75	1.46	29.75	0.65	41.75	1.04	53.75	0.91
6.00	**1.25**	**18.00**	**1.46**	**30.00**	**0.65**	**42.00**	**0.83**	**54.00**	**0.91**
6.25	1.46	18.25	1.30	30.25	0.65	42.25	0.83	54.25	1.36
6.50	1.46	18.50	1.30	30.50	0.65	42.50	0.83	54.50	1.36
6.75	1.46	18.75	1.30	30.75	0.43	42.75	1.04	54.75	1.36
7.00	1.25	19.00	1.09	31.00	0.43	43.00	1.04	55.00	1.36
7.25	1.04	19.25	1.09	31.25	0.43	43.25	0.83	55.25	1.36
7.50	1.25	19.50	1.09	31.50	0.43	43.50	0.83	55.50	1.36
7.75	1.25	19.75	1.09	31.75	0.00	43.75	0.83	55.75	1.30
8.00	1.25	20.00	1.30	32.00	0.00	44.00	0.63	56.00	1.25
8.25	1.25	20.25	1.30	32.25	0.22	44.25	0.63	56.25	1.25
8.50	1.25	20.50	1.52	32.50	0.22	44.50	0.63	56.50	1.25
8.75	1.25	20.75	1.74	32.75	0.22	44.75	0.63	56.75	NA*
9.00	1.25	21.00	1.74	33.00	0.22	45.00	0.63	57.00	NA*
9.25	1.25	21.25	1.52	33.25	0.22	45.25	0.63	57.25	NA*
9.50	1.25	21.50	1.96	33.50	0.22	45.50	0.63	57.50	NA*
9.75	1.25	21.75	1.52	33.75	0.22	45.75	0.83	57.75	NA*
10.00	1.25	22.00	1.30	34.00	0.22	46.00	0.83	58.00	NA*
10.25	1.04	22.25	1.30	34.25	0.63	46.25	0.83	58.25	NA*
10.50	1.25	22.50	1.30	34.50	0.63	46.50	0.83	58.50	NA*
10.75	1.25	22.75	1.30	34.75	0.63	46.75	0.63	58.75	NA*
11.00	1.25	23.00	1.30	35.00	0.63	47.00	0.42	59.00	NA*
11.25	1.67	23.25	1.30	35.25	0.83	47.25	0.42	59.25	NA*
11.50	1.67	23.50	1.30	35.50	0.83	47.50	0.42	59.50	NA*
11.75	1.67	23.75	1.36	35.75	0.83	47.75	0.42	59.75	NA*
12.00	**1.46**	**24.00**	**1.36**	**36.00**	**1.04**	**48.00**	**0.42**	**60.00**	NA*

HIGHEST SIX-MINUTE BLOCK AVERAGE = 1.46 AVERAGE OPACITY DURING RUN = 0.98

HIGHEST SIX-MINUTE ROLLING AVERAGE = 2.08

* Due to fugitive emission obstructions, a number of readings could not be made. Running averages included the time lapses so that the net run time was shortened. NA indicates that for the time period, an average is Not Applicable.

Date: 8/29/97
Start Time: 1033
Stop Time: 1133

Baghouse Outlet
Run Number: O-M9-3C

Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,
0.25	NA	12.25	1.82	24.25	0.65	36.25	0.43	48.25	0.43
0.50	NA	12.50	1.82	24.50	0.65	36.50	0.43	48.50	0.22
0.75	NA	12.75	1.59	24.75	0.65	36.75	0.43	48.75	0.22
1.00	NA	13.00	1.59	25.00	0.65	37.00	0.43	49.00	0.43
1.25	NA	13.25	1.59	25.25	0.65	37.25	0.43	49.25	0.43
1.50	NA	13.50	1.59	25.50	0.22	37.50	0.43	49.50	0.65
1.75	NA	13.75	1.36	25.75	0.22	37.75	0.43	49.75	0.65
2.00	NA	14.00	1.14	26.00	0.22	38.00	0.43	50.00	0.65
2.25	NA	14.25	0.91	26.25	0.43	38.25	0.43	50.25	0.68
2.50	NA	14.50	0.91	26.50	0.22	38.50	0.43	50.50	0.68
2.75	NA	14.75	0.68	26.75	0.22	38.75	0.43	50.75	0.68
3.00	NA	15.00	0.68	27.00	0.22	39.00	0.22	51.00	1.14
3.25	NA	15.25	0.68	27.25	0.22	39.25	0.22	51.25	1.14
3.50	NA	15.50	0.68	27.50	0.22	39.50	0.22	51.50	1.14
3.75	NA	15.75	1.14	27.75	0.22	39.75	0.22	51.75	1.14
4.00	NA	16.00	1.14	28.00	0.43	40.00	0.22	52.00	1.14
4.25	NA	16.25	1.14	28.25	0.43	40.25	0.22	52.25	0.91
4.50	NA	16.50	0.91	28.50	0 43	40.50	0.65	52.50	0.91
4.75	NA	16.75	0.91	28.75	0 43	40.75	0.65	52.75	0.91
5.00	NA	17.00	0.95	29.00	0.43	41.00	0.63	53 00	0.91
5.25	NA	17.25	1.00	29.25	0.65	41.25	0.63	53.25	0.87
5.50	NA	17.50	0.75	29.50	0.63	41.50	0.63	53.50	0.87
5.75	NA	17.75	0.95	29.75	0.63	41.75	0.63	53.75	1.09
6.00	**0.63**	**18.00**	**0.91**	**30.00**	**0.63**	**42.00**	**0.63**	**54.00**	**1.09**
6.25	0.42	18.25	0.91	30.25	0.63	42.25	0.63	54.25	1.09
6.50	0.42	18.50	0.91	30.50	0.63	42.50	0.83	54.50	1.09
6.75	0.63	18.75	0.91	30.75	0.63	42.75	0.83	54.75	1.09
7.00	0.63	19.00	0.91	31.00	0.63	43.00	0.83	55.00	0.87
7.25	0.63	19.25	0.91	31.25	0.63	43.25	0.83	55.25	0.87
7.50	0.63	19.50	1.36	31.50	0.63	43.50	0.83	55.50	0.65
7.75	0.83	19.75	1.36	31.75	0.63	43.75	0.83	55.75	0.65
8.00	1.04	20.00	1.36	32.00	0.63	44.00	0.83	56.00	0.65
8.25	1.25	20.25	1.36	32.25	0.42	44.25	0.83	56.25	0.63
8.50	1.04	20.50	1.59	32.50	0.42	44.50	0.83	56.50	0.63
8.75	1.25	20.75	1.59	32.75	0.42	44.75	0.83	56.75	0.63
9.00	1.25	21.00	1.59	33.00	0.63	45.00	0.83	57.00	0.21
9.25	1.46	21.25	1.36	33.25	0.63	45.25	0.83	57.25	0.21
9.50	1.46	21.50	1.36	33.50	0.83	45.50	0.63	57.50	0.21
9.75	1.46	21.75	0.91	33.75	0.83	45.75	0.63	57.75	0.21
10.00	1.46	22.00	0.91	34.00	0.63	46.00	0.63	58.00	0.21
10.25	1.46	22.25	0.91	34.25	0.63	46.25	0.83	58.25	0.42
10.50	1.67	22.50	0.91	34.50	0.63	46.50	0.42	58.50	0.42
10.75	1.67	22.75	0.91	34.75	0.63	46.75	0.42	58.75	0.42
11.00	1.67	23.00	0.87	35.00	0.65	47.00	0.42	59.00	0.42
11.25	1.67	23.25	0.83	35.25	0.43	47.25	0.43	59.25	0.63
11.50	1.88	23.50	0.87	35.50	0.43	47.50	0.43	59.50	0.63
11.75	1.74	23.75	0.65	35.75	0.43	47.75	0.43	59.75	0.42
12.00	**1.82**	**24.00**	**0.65**	**36.00**	**0.43**	**48.00**	**0.43**	**60.00**	**NA***

HIGHEST SIX-MINUTE BLOCK AVERAGE = 1.82
HIGHEST SIX-MINUTE ROLLING AVERAGE = 1.88
AVERAGE OPACITY DURING RUN = 0.75

* Due to fugitive emission obstructions, a number of readings could not be made. Running averages included the time lapses so that the net run time was shortened. NA indicates that for the time period, an average is Not Applicable.

Date: 8/29/97
Start Time: 1143
Stop Time: 1243

Baghouse Outlet
Run Number: O-M9-3D

Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,	Net Run Time, minutes	six-minute rolling averages percent opacity,
0.25	NA	12.25	0.23	24.25	1.19	36.25	1.09	48.25	2.29
0.50	NA	12.50	0.23	24.50	1.19	36.50	1.09	48.50	2.08
0.75	NA	12.75	0.23	24.75	1.19	36.75	1.30	48.75	1.88
1.00	NA	13.00	0.23	25.00	1.19	37.00	1.30	49.00	1.88
1.25	NA	13.25	0.23	25.25	1.19	37.25	0.91	49.25	1.88
1.50	NA	13.50	0.23	25.50	1.14	37.50	0.71	49.50	1.88
1.75	NA	13.75	0.23	25.75	1.14	37.75	0.71	49.75	1.67
2.00	NA	14.00	0.23	26.00	1.14	38.00	0.75	50.00	1.67
2.25	NA	14.25	0.00	26.25	0.91	38.25	0.79	50.25	1.46
2.50	NA	14.50	0.00	26.50	0.87	38.50	0.79	50.50	1.88
2.75	NA	14.75	0.00	26.75	0.87	38.75	0.79	50.75	1.88
3.00	NA	15.00	0.00	27.00	0.87	39.00	0.79	51.00	1.46
3.25	NA	15.25	0.00	27.25	0.87	39.25	0.28	51.25	1.46
3.50	NA	15.50	0.00	27.50	0.87	39.50	0.28	51.50	1.04
3.75	NA	15.75	0.00	27.75	0.83	39.75	0.56	51.75	1.04
4.00	NA	16.00	0.00	28.00	0.42	40.00	0.56	52.00	1.04
4.25	NA	16.25	0.21	28.25	0.21	40.25	0.56	52.25	1.04
4.50	NA	16.50	0.21	28.50	0.21	40.50	0.56	52.50	0.83
4.75	NA	16.75	0.42	28.75	0.21	40.75	1.11	52.75	0.83
5.00	NA	17.00	0.42	29.00	0.21	41.00	1.11	53.00	0.83
5.25	NA	17.25	0.42	29.25	0.21	41.25	1.11	53.25	0.83
5.50	NA	17.50	0.42	29.50	0.22	41.50	1.39	53.50	0.83
5.75	NA	17.75	0.42	29.75	0.22	41.75	1.39	53.75	0.83
6.00	**0.50**	**18.00**	**0.42**	**30.00**	**0.22**	**42.00**	**1.67**	**54.00**	**0.83**
6.25	0.50	18.25	0.63	30.25	0.00	42.25	1.67	54.25	0.63
6.50	0.50	18.50	0.63	30.50	0.00	42.50	1.94	54.50	0.63
6.75	0.48	18.75	0.63	30.75	0.00	42.75	2.22	54.75	0.42
7.00	0.48	19.00	0.63	31.00	0.00	43.00	2.11	55.00	0.42
7.25	0.24	19.25	0.63	31.25	0.45	43.25	2.00	55.25	0.42
7.50	0.24	19.50	0.65	31.50	0.68	43.50	1.90	55.50	0.42
7.75	0.23	19.75	0.65	31.75	0.68	43.75	2.14	55.75	0.42
8.00	0.23	20.00	0.65	32.00	0.68	44.00	2.05	56.00	0.42
8.25	0.43	20.25	0.87	32.25	0.68	44.25	2.17	56.25	0.42
8.50	0.42	20.50	0.91	32.50	0.68	44.50	2.17	56.50	0.00
8.75	0.43	20.75	0.91	32.75	0.68	44.75	2.17	56.75	0.00
9.00	0.45	21.00	0.91	33.00	0.68	45.00	2.61	57.00	0.00
9.25	0.45	21.25	0.91	33.25	1.14	45.25	2.50	57.25	0.00
9.50	0.45	21.50	0.91	33.50	1.14	45.50	2.92	57.50	0.00
9.75	0.45	21.75	0.95	33.75	1.14	45.75	2.71	57.75	0.00
10.00	0.45	22.00	1.43	34.00	1.14	46.00	2.71	58.00	0.00
10.25	0.45	22.25	1.43	34.25	1.14	46.25	2.71	58.25	0.00
10.50	0.45	22.50	1.43	34.50	1.14	46.50	2.92	58.50	0.00
10.75	0.23	22.75	1.19	34.75	1.14	46.75	2.50	58.75	0.00
11.00	0.23	23.00	1.19	35.00	1.14	47.00	2.50	59.00	0.00
11.25	0.23	23.25	1.19	35.25	1.14	47.25	2.50	59.25	0.00
11.50	0.23	23.50	1.19	35.50	1.09	47.50	2.29	59.50	0.00
11.75	0.23	23.75	1.19	35.75	1.09	47.75	2.29	59.75	0.00
12.00	**0.23**	**24.00**	**1.19**	**36.00**	**1.09**	**48.00**	**2.08**	**60.00**	**0.00**

HIGHEST SIX-MINUTE BLOCK AVERAGE = 2.08
AVERAGE OPACITY DURING RUN = 0.81
HIGHEST SIX-MINUTE ROLLING AVERAGE = 2.92

* Due to fugitive emission obstructions, a number of readings could not be made. Running averages included the time lapses so that the net run time was shortened. NA indicates that for the time period, an average is Not Applicable.

Summary of Stack Gas Parameters and Test Results

Asphalt Plant "8" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Outlet

	RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Run
	MEASURED DATA				
γ	Meter Box Correction Factor	0.982	0.982	0.982	0.982
ΔH	Avg Meter Orifice Pressure, in. H_2O	3.04	2.69	2.86	2.87
P_{bar}	Barometric Pressure, inches Hg	29.80	29.60	29.60	29.70
V_m	Sample Volume, ft^3	226.829	208.171	226.098	217.5
T_m	Average Meter Temperature, °F	111	97	98	103.8
P_{static}	Stack Static Pressure, inches H_2O	-1.5	-1.4	-1.3	-1.45
T_s	Average Stack Temperature, °F	283	287	268	285.0
V_{lc}	Condensate Collected, ml	2083.3	1620.9	1087.4	1852.1
CO_2	Carbon Dioxide content, % by volume	4.0	4.9	3.0	4.45
O_2	Oxygen content, % by volume	15.0	13.6	16.3	14.3
N_2	Nitrogen content, % by volume	81.0	81.5	80.7	81.25
C_p	Pitot Tube Coefficient	0.84	0.84	0.84	0.84
$\Delta p^{1/2}$	Average Square Root Dp, $(in. H_2O)^{1/2}$	1.0260	1.0561	1.0760	1.0410
Θ	Sample Run Duration, minutes	240	240	240	240.0
D_n	Nozzle Diameter, inches	0.256	0.256	0.251	0.256
	CALCULATED DATA				
A_n	Nozzle Area, ft^2	0.000357	0.000357	0.000344	0.000357
$V_{m(std)}$	Standard Meter Volume, dscf	206.781	192.849	209.298	199.815
$V_{m(std)}$	Standard Meter Volume, dscm	5.855	5.461	5.927	5.658
P_s	Stack Pressure, inches Hg	29.69	29.50	29.50	29.59
B_{ws}	Moisture, % by volume	32.2	28.3	19.6	30.3
V_{wstd}	Standard Water Vapor Volume, ft^3	98.061	76.296	51.184	87.178
$1-B_{ws}$	Dry Mole Fraction	0.678	0.717	0.804	0.697
M_d	Molecular Weight (d.b.), lb/lb•mole	29.24	29.33	29.13	29.28
M_s	Molecular Weight (w.b.), lb/lb•mole	25.62	26.12	26.94	25.87
V_s	Stack Gas Velocity, ft/s	72.8	74.7	74.0	73.7
A	Stack Area, ft^2	11.23	11.23	11.23	11.23
Q_a	Stack Gas Volumetric flow, acfm	49,075	50,303	49,832	49,689
Q_s	Stack Gas Volumetric flow, dscfm	23,450	25,122	28,612	24,286
$Q_{s(cmm)}$	Stack Gas Volumetric flow, dscmm	664.0	711.4	810.2	687.7
I	Isokinetic Sampling Ratio, %	115.5	100.5	99.6	108.0

Summary of Stack Gas Parameters and Test Results

ASPHALT PLANT "B" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Outlet

	RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Run
	EMISSIONS DATA				
	DIOXINS:				
	2378 TCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total TCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	12378 PeCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PeCDD				
(ng)	Catch, ng	{0.530}	{1.00}	ND	{0.765}
(ng/dscm)	Concentration, ng/dscm, as measured	{0.0905}	{0.183}	ND	{0.137}
(µg/hr)	Emission Rate, µg/hr	{3.61}	{7.82}	ND	{5.71}
	123478 HxCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	123678 HxCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results

Asphalt Plant "8" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Outlet

	RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Run
	EMISSIONS DATA -Continued				
	DIOXINS - Continued				
	123789 HxCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total HxCDD				
(ng)	Catch, ng	ND	0.440	ND	0.220
(ng/dscm)	Concentration, ng/dscm, as measured	ND	0.0806	ND	0.040
(µg/hr)	Emission Rate, µg/hr	ND	3.44	ND	1.720
	1234678 HpCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total HpCDD				
(ng)	Catch, ng	ND	{1.00}	ND	{0.500}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.183}	ND	{0.0916}
(µg/hr)	Emission Rate, µg/hr	ND	{7.82}	ND	{3.91}
	12346789 OCDD				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PCDD				
(ng)	Catch, ng	{0.530}	{2.44}	0.00	{1.49}
(ng/dscm)	Concentration, ng/dscm, as measured	{0.0905}	{0.447}	0.00	{0.269}
(µg/hr)	Emission Rate, µg/hr	{3.61}	{19.1}	0.00	{11.3}

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results

Asphalt Plant "8" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Outlet

	RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Run
	EMISSIONS DATA - Continued				
	FURANS				
	2378 TCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total TCDF				
(ng)	Catch, ng	0.150	ND	ND	0.075
(ng/dscm)	Concentration, ng/dscm, as measured	0.0256	ND	ND	0.013
(µg/hr)	Emission Rate, µg/hr	1.02	ND	ND	0.510
	12378 PeCDF				
(ng)	Catch, ng	ND	{0.240}	ND	{0.120}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.0439}	ND	{0.0220}
(µg/hr)	Emission Rate, µg/hr	ND	{1.88}	ND	{0.938}
	23478 PeCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PeCDF				
(ng)	Catch, ng	ND	{0.410}	{0.0200}	{0.205}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.0751}	{0.00337}	{0.0375}
(µg/hr)	Emission Rate, µg/hr	ND	{3.20}	{0.164}	{1.60}
	123478 HxCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results
Asphalt Plant "B" **- Cary, North Carolina**
US EPA Test Method 23 - PCDD / PCDF
Baghouse Outlet

	RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Run
	EMISSIONS DATA - Continued				
	Furans - Continued				
	123678 HxCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	234678 HxCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	123789 HxCDF				
(ng)	Catch, ng	ND	{0.240}	ND	{0.120}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.0439}	ND	{0.0220}
(µg/hr)	Emission Rate, µg/hr	ND	{1.88}	ND	{0.938}
	Total HxCDF				
(ng)	Catch, ng	ND	{0.460}	ND	{0.230}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.0842}	ND	{0.0421}
(µg/hr)	Emission Rate, µg/hr	ND	{3.60}	ND	{1.80}
	1234678 HpCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	1234789 HpCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND

( ) Not Detected. Value shown is the detection limit for that sample.
{ } Estimated Maximum Possible Concentration.

Summary of Stack Gas Parameters and Test Results

Asphalt Plant "B" - Cary, North Carolina

US EPA Test Method 23 - PCDD / PCDF

Baghouse Outlet

	RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Run
	EMISSIONS DATA - Continued				
	Furans - Continued				
	Total HpCDF				
(ng)	Catch, ng	ND	{0.360}	ND	{0.180}
(ng/dscm)	Concentration, ng/dscm, as measured	ND	{0.0659}	ND	{0.0330}
(µg/hr)	Emission Rate, µg/hr	ND	{2.81}	ND	{1.41}
	12346789 OCDF				
(ng)	Catch, ng	ND	ND	ND	ND
(ng/dscm)	Concentration, ng/dscm, as measured	ND	ND	ND	ND
(µg/hr)	Emission Rate, µg/hr	ND	ND	ND	ND
	Total PCDF				
(ng)	Catch, ng	0.150	{1.23}	{0.0200}	{0.690}
(ng/dscm)	Concentration, ng/dscm, as measured	0.0256	{0.225}	{0.00337}	{0.125}
(µg/hr)	Emission Rate, µg/hr	1.02	{9.61}	{0.164}	{5.32}
	Total PCDD + PCDF				
(ng)	Catch, ng	{0.680}	{3.67}	{0.0200}	{2.18}
(ng/dscm)	Concentration, ng/dscm, as measured	{0.116}	{0.672}	{0.00337}	{0.394}
(µg/hr)	Emission Rate, µg/hr	{4.63}	{28.7}	{0.164}	{16.7}

( ) Not Detected. Value shown is the detection limit for that sample.

{ } Estimated Maximum Possible Concentration.

PCDD/PCDF Corrected Stack Gas Concentrations and 2378 TCDD Toxic Equivalent Concentrations
Asphalt Plant "8" - **Cary, North Carolina**
US EPA Test Method 23 - CDD/CDF
Baghouse Outlet

	CONCENTRATION (ng/dscm, adjusted to 7% O2)				2378-TCDD	2378 TOXIC EQUIVALENCIES (ng/dscm, adjusted to 7% O2)			
RUN NUMBER	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of	Toxic	R-M23-O-1	R-M23-O-2	R-M23-O-3	Average of
RUN DATE	08/27/97	08/28/97	08/29/97	1st and 2nd	Equivalent	8/27/97	8/28/97	8/29/97	1st and 2n
RUN TIME	0940-1516	0746-1229	0809-1236	Test Run	Factor	0940-1516	0746-1229	0809-1236	Test Run
DIOXINS:									
2378 TCDD	ND	ND	ND	ND	1.000	ND	ND	ND	ND
Total TCDD	ND	ND	ND	ND					
12378 PeCDD	ND	ND	ND	ND	0.500	ND	ND	ND	ND
Total PeCDD	{0.213}	{0.349}	ND	{0.281}					
123478 HxCDD	ND	ND	ND	ND	0.100	ND	ND	ND	ND
123678 HxCDD	ND	ND	ND	ND	0.100	ND	ND	ND	ND
123789 HxCDD	ND	ND	ND	ND	0.100	ND	ND	ND	ND
Total HxCDD	ND	0.153	ND	0.0767					
1234678 HpCDD	ND	ND	ND	ND	0.010	ND	ND	ND	ND
Total HpCDD	ND	{0.349}	ND	{0.174}					
12346789 OCDD	ND	ND	ND	ND	0.001	ND	ND	ND	ND
Total PCDD	{0.213}	{0.851}	0.00	{0.532}		ND	ND	ND	ND
FURANS:									
2378 TCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
Total TCDF	0.060	ND	ND	0.0302					
12378 PeCDF	ND	{0.0837}	ND	{0.0418}	0.050	ND	{0.00418}	ND	{0.00209}
23478 PeCDF	ND	ND	ND	ND	0.500	ND	ND	ND	ND
Total PeCDF	ND	{0.143}	{0.0102}	{0.0715}					
123478 HxCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
123678 HxCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
234678 HxCDF	ND	ND	ND	ND	0.100	ND	ND	ND	ND
123789 HxCDF	ND	{0.0837}	ND	{0.0418}	0.100	ND	{0.00837}	ND	{0.00418
Total HxCDF	ND	{0.160}	ND	{0.0802}					
1234678 HpCDF	ND	ND	ND	ND	0.010	ND	ND	ND	ND
1234789 HpCDF	ND	ND	ND	ND	0.010	ND	ND	ND	ND
Total HpCDF	ND	{0.126}	ND	{0.0628}					
12346789 OCDF	ND	ND	ND	ND	0.001	ND	ND	ND	ND
Total PCDF	0.0604	{0.429}	{0.0102}	{0.245}		ND	{0.0126}	ND	{0.0062
Total PCDD+PCDF	{0.274}	{1.28}	{0.0102}	{0.777}		ND	{0.0126}	ND	{0.0062

Summary of Stack Gas Parameters and Test Results

US EPA EMC Asphalt Concrete Emissions Testing - ASPHALT PLANT "B"

US EPA Test Method 29 - Multiple Metals

Baghouse Outlet

	RUN NUMBER	R-M29-O-1	R-M29-O-2	R-M29-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Runs
	MEASURED DATA				
γ	Meter Box Correction Factor	0.965	0.965	0.965	0.965
ΔH	Avg Meter Orifice Pressure, in. H_2O	2.96	2.14	2.80	2.55
P_{bar}	Barometric Pressure, inches Hg	29.80	29.60	29.60	29.70
V_m	Sample Volume, ft^3	237.264	200.329	227.316	218.797
T_m	Average Meter Temperature, °F	109	97	100	103
P_{static}	Stack Static Pressure, inches H_2O	-0.42	-0.4	-0.42	-0.41
T_s	Average Stack Temperature, °F	289	292	274	291
V_{lc}	Condensate Collected, ml	1632.0	1484.6	1147.1	1558.3
CO_2	Carbon Dioxide content, % by volume	4.0	4.9	3.0	4.5
O_2	Oxygen content, % by volume	15.0	13.6	16.3	14.3
N_2	Nitrogen content, % by volume	81.0	81.5	80.7	81.3
C_p	Pitot Tube Coefficient	0.84	0.84	0.84	0.84
$\Delta p^{1/2}$	Average Square Root Δp, $(in. H_2O)^{1/2}$	1.0773	1.0386	1.0852	1.0580
Θ	Sample Run Duration, minutes	240	240	240	240
D_n	Nozzle Diameter, inches	0.252	0.252	0.252	0.252
	CALCULATED DATA				
A_n	Nozzle Area, ft^2	0.000346	0.000346	0.000346	0.000346
$V_{m(std)\ cf}$	Standard Meter Volume, ft^3	213.024	182.236	205.914	197.630
$V_{m(std)\ cm}$	Standard Meter Volume, m^3	6.032	5.160	5.831	5.596
Q_m	Average Sampling Rate, dscfm	0.888	0.759	0.858	0.823
P_s	Stack Pressure, inches Hg	29.77	29.57	29.57	29.67
B_{ws}	Moisture, % by volume	26.5	27.7	20.8	27.1
V_{wstd}	Standard Water Vapor Volume, ft^3	76.818	69.880	53.994	73.349
$1-B_{ws}$	Dry Mole Fraction	0.735	0.723	0.792	0.729
M_d	Molecular Weight (d.b.), lb/lb•mole	29.24	29.33	29.13	29.28
M_s	Molecular Weight (w.b.), lb/lb•mole	26.26	26.19	26.82	26.22
V_s	Stack Gas Velocity, ft/s	75.7	73.5	75.0	74.6
A	Stack Area, ft^2	11.23	11.23	11.23	11.23
Q_a	Stack Gas Volumetric flow, acfm	51,035	49,516	50,521	50,276
$Q_{s\ dfm}$	Stack Gas Volumetric flow, dscfm	26,285	24,833	28,440	25,559
$Q_{s\ cmm}$	Stack Gas Volumetric flow, dscmm	744	703	805	724
I	Isokinetic Sampling Ratio, %	109.5	99.2	97.8	104.3

Summary of Stack Gas Parameters and Test Results

US EPA EMC Asphalt Concrete Emissions Testing - ASPHACT PLANT "B"

US EPA Test Method 29 - Multiple Metals

Baghouse Outlet

	RUN NUMBER	***R-M29-O-1***	***R-M29-O-2***	***R-M29-O-3***	***Average of***
	RUN DATE	***8/27/97***	***8/28/97***	***8/29/97***	***1st and 2nd***
	RUN TIME	***0940-1516***	***0746-1229***	***0809-1236***	***Test Runs***
	EMISSIONS DATA				
	Particulate Matter				
g	Target Catch, g	0.1148	0.0982	0.1766	0.1065
gr/dscf	Concentration, gr/dscf	0.00832	0.00832	0.01324	0.0083
gr/dscf at 7%	Concentration, gr/dscf at 7% O2	0.0196	0.0158	0.0400	0.0177
g/dscm	Concentration, g/dscm	0.0190	0.0190	0.0303	0.0190
g/dscm at 7%	Concentration, g/dscm at 7% O2	0.0448	0.0362	0.0915	0.0405
lb/hr	Emission Rate, lb/hr	1.87	1.77	3.23	1.82
kg/hr	Emission Rate, kg/hr	0.850	0.803	1.463	0.8264
	Antimony				
µg	Target Catch, µg	3.84	3.58	3.91	3.71
µg/dscm	Concentration, µg/dscm	0.637	0.693	0.671	0.665
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	1.50	1.32	2.03	1.41
g/hr	Emission Rate, g/hr	0.0284	0.0292	0.0324	0.0288
	Arsenic				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND
	Barium				
µg	Target Catch, µg	54.9	40.9	69.9	47.9
µg/dscm	Concentration, µg/dscm	9.10	7.92	12.0	8.51
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	21.4	15.1	36.2	18.3
g/hr	Emission Rate, g/hr	0.406	0.334	0.579	0.370
	Beryllium				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND
	Cadmium				
µg	Target Catch, µg	0.479	0.366	0.196	0.422
µg/dscm	Concentration, µg/dscm	0.0794	0.0708	0.0336	0.0751
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	0.187	0.135	0.102	0.161
g/hr	Emission Rate, g/hr	0.00355	0.00299	0.00162	0.00327

Summary of Stack Gas Parameters and Test Results

US EPA EMC Asphalt Concrete Emissions Testing - ASPHALT PLANT "B"

US EPA Test Method 29 - Multiple Metals

Baghouse Outlet

	RUN NUMBER	R-M29-O-1	R-M29-O-2	R-M29-O-3	Average of
	RUN DATE	8/27/97	8/28/97	8/29/97	1st and 2nd
	RUN TIME	0940-1516	0746-1229	0809-1236	Test Runs
	EMISSIONS DATA - Continued				
	Chromium				
µg	Target Catch, µg	13.2	11.0	12.6	12.1
µg/dscm	Concentration, µg/dscm	2.19	2.14	2.16	2.16
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	5.16	4.07	6.53	4.61
g/hr	Emission Rate, g/hr	0.0978	0.0901	0.104	0.0939
	Colbalt				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND
	Copper				
µg	Target Catch, µg	9.29	7.14	15.0	8.2
µg/dscm	Concentration, µg/dscm	1.54	1.38	2.57	1.46
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	3.63	2.63	7.77	3.13
g/hr	Emission Rate, g/hr	0.0688	0.0584	0.124	0.0636
	Lead				
µg	Target Catch, µg	8.54	5.30	6.09	6.92
µg/dscm	Concentration, µg/dscm	1.42	1.03	1.04	1.22
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	3.34	1.95	3.16	2.64
g/hr	Emission Rate, g/hr	0.0632	0.0433	0.0505	0.0533
	Manganese				
µg	Target Catch, µg	70.0	74.8	116.3	72.4
µg/dscm	Concentration, µg/dscm	11.6	14.5	19.9	13.1
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	27.4	27.6	60.3	27.5
g/hr	Emission Rate, g/hr	0.519	0.612	0.964	0.565
	Mercury				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND

Summary of Stack Gas Parameters and Test Results
US EPA EMC Asphalt Concrete Emissions Testing - ASPHALT PLANT "B"
US EPA Test Method 29 - Multiple Metals
Baghouse Outlet

	RUN NUMBER	***R-M29-O-1***	***R-M29-O-2***	***R-M29-O-3***	***Average of***
	RUN DATE	***8/27/97***	***8/28/97***	***8/29/97***	***1st and 2nd***
	RUN TIME	***0940-1516***	***0746-1229***	***0809-1236***	***Test Runs***
	EMISSIONS DATA - Continued				
	Nickel				
µg	Target Catch, µg	9.37	6.50	8.13	7.93
µg/dscm	Concentration, µg/dscm	1.55	1.26	1.39	1.41
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	3.66	2.40	4.21	3.03
g/hr	Emission Rate, g/hr	0.0694	0.0531	0.0674	0.0612
	Phosphorus				
µg	Target Catch, µg	110	115	145	112
µg/dscm	Concentration, µg/dscm	18.2	22.2	24.9	20.2
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	42.9	42.3	75.2	42.6
g/hr	Emission Rate, g/hr	0.814	0.937	1.20	0.876
	Silver				
µg	Target Catch, µg	0.378	0.217	ND	0.298
µg/dscm	Concentration, µg/dscm	0.0627	0.0421	ND	0.0524
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	0.148	0.080	ND	0.114
g/hr	Emission Rate, g/hr	0.00280	0.00177	ND	0.00229
	Selenium				
µg	Target Catch, µg	5.63	4.58	4.91	2.29
µg/dscm	Concentration, µg/dscm	0.934	0.888	0.843	0.911
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	2.20	1.69	2.55	1.95
g/hr	Emission Rate, g/hr	0.0417	0.0375	0.0407	0.0396
	Thallium				
µg	Target Catch, µg	ND	ND	ND	ND
µg/dscm	Concentration, µg/dscm	ND	ND	ND	ND
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	ND	ND	ND	ND
g/hr	Emission Rate, g/hr	ND	ND	ND	ND
	Zinc				
µg	Target Catch, µg	44.3	25.9	32.8	35.1
µg/dscm	Concentration, µg/dscm	7.34	5.01	5.63	6.18
µg/dscm at 7%	Concentration, µg/dscm at 7% O2	17.3	9.54	17.0	13.4
g/hr	Emission Rate, g/hr	0.328	0.211	0.272	0.270

APPENDIX E

QA/QC DATA AND CERTIFICATIONS

TEMPERATURE SENSOR CALIBRATION FORM

Temperature Sensor No. S11-4 Sensor Type K - T/C Length 6" - Gasket
Ambient Temp. °F 72 Barometric Pressure, "Hg 29.98
Reference Temp. Sensor: ASTM 3F

Date	Ref. Point No.	Temp. Source	Temp. °F		Temp. Diff. %	Within Limits Y/N	Calibrated By
			Ref. Sensor	Test Sensor			
10/21/97	1	ice water	(497) 37	(456) 36	0.20	Y	MDM
10/21/97	2	amb. air	(532) 72	(535) 75	-0.56	Y	MDM
10/21/97	3	D water	(679) 210	(669) 209	0.15	Y	MDM
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						

$$\% \text{ Temp. Diff} = \frac{(\text{Ref. Temp} + 460) - (\text{Test Temp.} + 460)}{(\text{Ref. Temp.} + 460)} \times 100 \leq 1.5\ \%$$

TEMPERATURE SENSOR CALIBRATION FORM

Temperature Sensor No. RT-11 Sensor Type K T/C Length 6" (Gooseneck)
Ambient Temp. °F 72 Barometric Pressure, "Hg 29.98
Reference Temp. Sensor: ASTM 3F

Date	Ref. Point No.	Temp. Source	Temp. °F		Temp. Diff. %	Within Limits Y/N	Calibrated By
			Ref. Sensor	Test Sensor			
10/21/97	1	ice water	36	35			
10/21/97	2	amb. air	72	74			
10/21/97	3	boil. water	210	210			
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						

$$\% \text{ Temp. Diff} = \frac{(\text{Ref. Temp} + 460) - (\text{Test Temp.} + 460)}{(\text{Ref. Temp.} + 460)} \times 100 \leq 1.5\ \%$$

TEMPERATURE SENSOR CALIBRATION FORM

Temperature Sensor No. RT-20 **Sensor Type** K T/C **Length** 4'
Ambient Temp. °F 72° **Barometric Pressure, "Hg** 29.98
Reference Temp. Sensor: ASTM - 3F

Date	Ref. Point No.	Temp. Source	Temp. °F		Temp. Diff. %	Within Limits Y/N	Calibrated By
			Ref. Sensor	Test Sensor			
10/21/97	1	ice water	(492) 32	(493) 33	-0.20	Y	mpm
10/21/97	2	cond. temp	(534) 74	(532) 72	0.37	Y	mpm
10/21/97	3	b. water	(679) 212	(671) 211	0.15	Y	mpm
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						

$$\% \text{ Temp. Diff} = \frac{(\text{Ref. Temp} + 460) - (\text{Test Temp.} + 460)}{(\text{Ref. Temp.} + 460)} \times 100 \leq 1.5\ \%$$

TEMPERATURE SENSOR CALIBRATION FORM

Temperature Sensor No. RT-3 Sensor Type K-T/c Length 4' 4'
Ambient Temp. °F 70 Barometric Pressure, "Hg 30.04
Reference Temp. Sensor: ASTM-3F

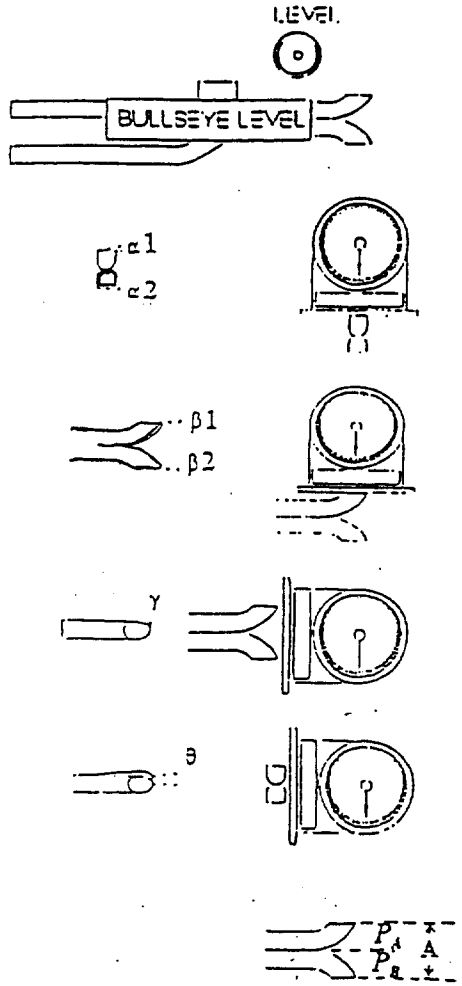
Date	Ref. Point No.	Temp. Source	Temp. °F		Temp. Diff. %	Within Limits Y/N	Calibrated By
			Ref. Sensor	Test Sensor			
9/18/97	1	ice bath	41	41	0	Y	mdm
9/18/97	2	w bath	72	72	0	Y	mdm
9/18/97	3	b. water	210	212	-0.30	Y	mdm
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						
	1						
	2						
	3						

$$\% \text{ Temp. Diff} = \frac{(\text{Ref. Temp} + 460) - (\text{Test Temp.} + 460)}{(\text{Ref. Temp.} + 460)} \times 100 \leq 1.5\ \%$$

DEECO

Probe or Pitot No. Deeco 5B

Pitot Tube Inspection



Date	8/16/17
Tube Assembly Level?	Yes
Ports Damaged?	No
$-10° < \alpha 1 < +10°$	2°
$-10° < \alpha 2 < +10°$	-1°
$-5° < \beta 1 < +5°$	2
$-5° < \beta 2 < +5°$	0
γ	-1°
θ	.5°
A	.990
$Z = A \sin\gamma \leq 0.125"$	-.017
$W = A \sin\theta \leq 0.031"$	.009
$P_A =$	.49
$P_B =$	.50
Tube Diameter (D_T) =	.383
$P_A = P_B \pm (0.063)$	.49+.01=.50
$1.05 \times D_T \leq P \leq 1.50 \times D_T$	.402 ≤ .50 ≤ .573

Thermocouple Calibration

Type of Reference Thermometer Mercury in Glass Date 8/16/17

Barometric Pressure 29.88 inHg Ambient Temperature 93 °F

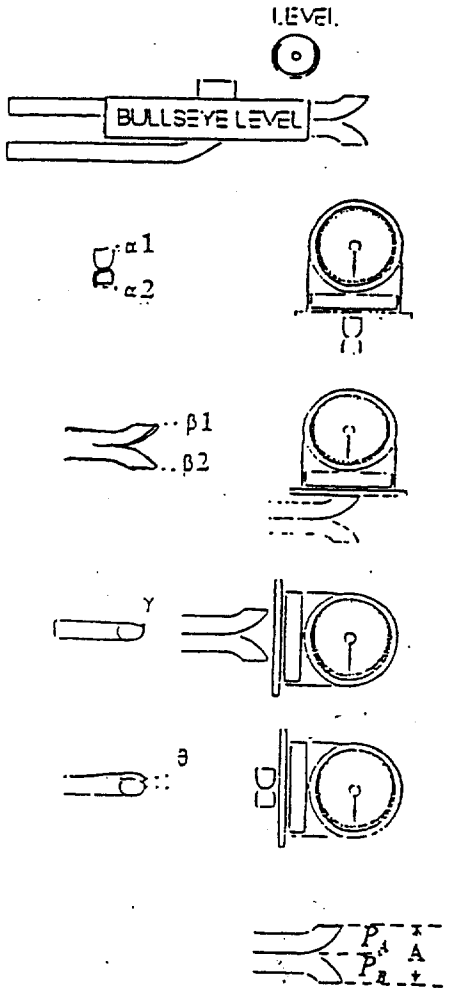
Source	Reference Temperature	Thermocouple Temperature	Absolute Temperature Difference[1]
Ambient	93	99	-.011
Ice bath	36	39	-.006
Hot Water	136	136	0

[1] $\frac{(Ref.\ Temp., °F + 460) - (Thermocouple Temp., °F + 460)}{(Ref.\ Temp., °F + 460)}$

DEECO

Probe or Pitot No. Deeco 5C

Pitot Tube Inspection



Date	8/16/97
Tube Assembly Level?	Yes
Ports Damaged?	No
$-10° < \alpha 1 < +10°$	2½°
$-10° < \alpha 2 < +10°$	-2½°
$-5° < \beta 1 < +5°$	1°
$-5° < \beta 2 < +5°$	-1°
γ	2½°
θ	0°
A	1.013
$Z = A \sin \gamma \leq 0.125"$	.044
$W = A \sin\theta \leq 0.031"$	0
$P_A =$	.55
$P_B =$	.58
Tube Diameter (D_T) =	.370
$P_A = P_B \pm (0.063)$	.58 + .02 = .58
$1.05 \times D_T \leq P \leq 1.50 \times D_T$	.385 ≤ .55 ≤ .555

Thermocouple Calibration

Type of Reference Thermometer Mercury in Glass Date 8/16/97

Barometric Pressure 29.88 inHg Ambient Temperature 102 °F

Source	Reference Temperature	Thermocouple Temperature	Absolute Temperature Difference[1]
Hot Water	168	169	-.002
Ambient	102	101	.002
Ice Water	38	38	0

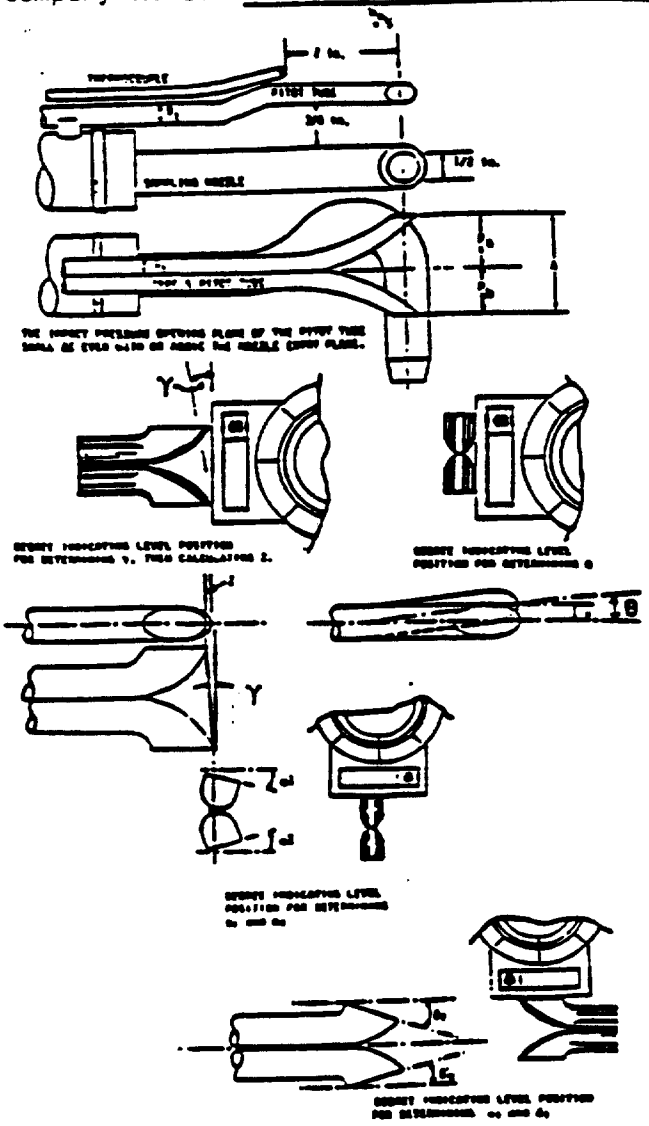
[1] $\frac{(Ref.\ Temp., °F + 460) - (Thermocouple Temp., °F + 460)}{(Ref.\ Temp., °F + 460)}$

Inspection Data Sheet

Company Name: PES

Pre-sample Date _____

Post Sample Date 10-13-97



	level?	YES
	obstructions?	No
	damaged?	No
	$-10° < \alpha_1 < +10°$	2°
	$-10° < \alpha_2 < +10°$	1°
	$-5° < \beta_1 < +5°$	0°
	$-5° < \beta_2 < +5°$	1°
	γ	.5
	θ	0
	A	1.0065
	$1.05\ D_t^{.376} < P_a^{.503} < 1.5\ D_t^{.376}$	YES
	$1.05\ D_t^{.375} < P_b^{.503} < 1.5\ D_t^{.375}$	YES
	$3/16" \leq D_t \leq 3/8"$	YES
	$A \tan \gamma < 0.125"$	.00872
	$A \tan \theta < 0.03125"$	.0
	$P_a = P_b \pm 0.063"$	YES

Comments: _____

Pitot tube/probe number RP-20 meets or exceeds all specifications criteria and/or applicable design features* and is hereby assigned a pitot tube calibration factor of 0.84.

Signature _____

Date 10-13-97

*See 40 CFR 60, Vol. 42, No. 160, Method 2. Verify the minimum 2 inch setback of the thermocouple and the minimum 3/4 inch separation between the pitot tube and the nozzle as shown at the top of this page.

Date	05-Aug-97	Meter Box Number	M5-4
Calibrated By	B Palm	Initials	BP
Number of Runs	5		

REFERENCE TEST METER

Meter Y 1.016

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
Vw, init	907.127	912.875	918.694	924.597	930.307	0
Vw, fin	912.513	918.282	924.06	929.999	936.958	0
Vw, total	5.386	5.387	5.366	5.402	6.651	0
Pb	29.80	29.80	29.80	29.80	29.80	29.80
tw	84	84	84	84	85	0
Tw+460	544	544	544	544	545	460

DRY GAS METER

Previous Y 1.024

Vm, init	653.019	658.758	664.577	670.486	676.205	0
Vm, fin	658.402	664.147	669.948	675.901	682.864	0
Vm, total	5.383	5.389	5.371	5.415	6.659	0
Tdil	85	88	89	92	93	0
Tdif	89	93	97	100	104	0
Tdoi	82	84	86	88	88	0
Tdof	84	86	87	88	89	0
Td,avg	85	87.75	89.75	92	93.5	0
Td+460	545	547.75	549.75	552	553.5	460
Time, min	13	9	8	7	7	0
Time, sec	30	30	0	0	0	0
Time Total	13.50	9.50	8.00	7.00	7.00	0.00
dH	0.50	1.00	1.50	2.00	3.00	4.00

CALIBRATION RESULTS

Y	1.017	1.020	1.022	1.023	1.023	0.000
dH@	1.764	1.740	1.861	1.869	1.854	0.000
Y tolerence from avg *	0.00	0.00	-0.00	-0.00	-0.00	1.02
dH@ tol. from avg **	0.05	0.08	-0.04	-0.05	-0.04	1.82

AVERAGE Y 1.021

AVERAGE dH@ 1.818

Y error (vs prior Y) *** -0.3%

* must be no greater than +/- 0.02

** must be no greater than +/- 0.20

*** must be no greater than +/- 5%

Date	31-Oct-97	Meter Box Number	M5-4
Calibrated By	Richard	Initials	RWB
Number of Runs	3		

REFERENCE TEST METER

Meter Y 1.016

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5
Vw, init	643.779	652.614	662.945	0	0
Vw, fin	652.1	662.322	670.381	0	0
Vw, total	8.321	9.708	7.436	0	0
Pb	29.87	29.87	29.87	29.87	29.87
tw	61	62	62	0	0
Tw+460	521	522	522	460	460

DRY GAS METER

Previous Y 1.021

Vm, init	790.367	799.004	809.171	0	0
Vm, fin	798.501	808.556	816.506	0	0
Vm, total	8.134	9.552	7.335	0	0
Tdii	63	70	75	0	0
Tdif	76	84	85	0	0
Tdoi	61	64	67	0	0
Tdof	64	67	69	0	0
Td,avg	66	71.25	74	0	0
Td+460	526	531.25	534	460	460
Time, min	12	12	8	0	0
Time, sec	20	7	31	0	0
Time Total	12.33	12.12	8.52	0.00	0.00
dH	1.50	2.00	2.50	2.00	3.00

CALIBRATION RESULTS

Y	1.045	1.046	1.047	0.000	0.000
dH@	1.760	1.661	1.740	0.000	0.000
Y tolerence from avg *	0.00	0.00	-0.00	1.05	1.05
dH@ tol. from avg **	-0.04	0.06	-0.02	1.72	1.72
AVERAGE Y	1.046				
AVERAGE dH@	1.720				
Y error (vs prior Y) ***	2.5%				

* must be no greater than +/- 0.02
** must be no greater than +/- 0.20
*** must be no greater than +/- 5%

Orifice:

front leak check	Y
back leak check	Y

Date	05-Aug-97	Meter Box Number	M5-9
Calibrated By	B Palm	Initials	BP
Number of Runs	5		

REFERENCE TEST METER

Meter Y 1.016

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
Vw, init	873.304	878.537	883.95	891.057	899.221	0
Vw, fin	878.349	883.6	890.707	897.317	905.513	0
Vw, total	5.045	5.063	6.757	6.26	6.292	0
Pb	29.80	29.80	29.80	29.80	29.80	29.80
tw	79.5	80.5	81	81.5	82	0
Tw+460	539.5	540.5	541	541.5	542	460

DRY GAS METER

Previous Y 0.996

Vm, init	717.968	723.215	728.655	735.791	743.976	0
Vm, fin	723.025	728.297	735.436	742.073	750.282	0
Vm, total	5.057	5.082	6.781	6.282	6.306	0
Tdii	79	82	85	87	88	0
Tdif	84	87	89	91	92	0
Tdoi	78	81	83	84	85	0
Tdof	80	82	84	85	86	0
Td,avg	80.25	83	85.25	86.75	87.75	0
Td+460	540.25	543	545.25	546.75	547.75	460
Time, min	12	9	10	8	6	0
Time, sec	30	0	0	0	30	0
Time Total	12.50	9.00	10.00	8.00	6.50	0.00
dH	0.50	1.00	1.50	2.00	3.00	4.00

CALIBRATION RESULTS

Y	1.014	1.014	1.017	1.017	1.017	0.000
dH@	1.708	1.757	1.823	1.813	1.777	0.000
Y tolerence from avg *	0.00	0.00	-0.00	-0.00	-0.00	0.00
dH@ tol. from avg **	0.07	0.02	-0.05	-0.04	-0.00	0.00

AVERAGE Y	1.016
AVERAGE dH@	1.776
Y error (vs prior Y) ***	2.0%

* must be no greater than +/- 0.02
** must be no greater than +/- 0.20
*** must be no greater than +/- 5%

Orifice:

front leak check	X
back leak check	X

Date	03-Sep-97	Meter Box Number	M5-9
Calibrated By	M MILBOURNE	Initials	MJM
Number of Runs	3		

REFERENCE TEST METER

Meter Y 1.016

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5
Vw, init	368.4	373.864	379.247	0	0
Vw, fin	373.864	379.247	384.346	0	0
Vw, total	5.464	5.383	5.099	0	0
Pb	29.77	29.77	29.77	29.77	29.77
tw	84	83.5	83	0	0
Tw+460	544	543.5	543	460	460

DRY GAS METER

Previous Y 1.016

Vm, init	335.123	340.601	346	0	0
Vm, fin	340.601	346	351.11	0	0
Vm, total	5.478	5.399	5.11	0	0
Tdii	86	86	85	0	0
Tdif	86	85	85	0	0
Tdoi	86	86	85	0	0
Tdof	86	85	85	0	0
Td,avg	86	85.5	85	0	0
Td+460	546	545.5	545	460	460
Time, min	15	14	14	0	0
Time, sec	0	48	0	0	0
Time Total	15.00	14.80	14.00	0.00	0.00
dH	0.40	0.40	0.40	2.00	3.00

CALIBRATION RESULTS

Y	1.016	1.016	1.017	0.000	0.000
dH@	1.685	1.689	1.683	0.000	0.000
Y tolerence from avg *	0.00	0.00	-0.00	1.02	1.02
dH@ tol. from avg **	0.00	-0.00	0.00	1.69	1.69

AVERAGE Y	1.016
AVERAGE dH@	1.686
Y error (vs prior Y) ***	0.0%

* must be no greater than +/- 0.02
** must be no greater than +/- 0.20
*** must be no greater than +/- 5%

Orifice:

front leak check	Y
back leak check	Y

DRY GAS METER AND ORIFICE CALIBRATION

CONTROL BOX NO MB-10 BAROMETRIC PRESS. 29.50 IN. HG.

DATE: 12MAR97 PERFORMED BY : R. GEPHART

	RUN 1	RUN 2	RUN 3	RUN 4	RUN 5	RUN 6
Hd ("H2O)	0.50	0.75	1.00	1.50	2.00	4.00
INITIAL WTM	744.467	758.780	770.733	783.592	795.766	809.495
FINAL WTM	757.734	770.224	782.364	795.014	807.315	822.785
INITIAL DGM	653.193	668.257	680.852	694.428	707.301	721.813
FINAL DGM	667.139	680.310	693.138	706.511	719.509	735.856
TEMP. WTM (F)	73.0	74.0	74.0	74.0	74.0	74.0
TEMP. DGM (F)	81.0	84.0	86.0	87.0	88.0	89.0
TEST TIME (MIN.)	32.4	23.1	20.5	16.5	14.5	12.0
NET VOLUME WT	13.267	11.444	11.631	11.422	11.549	13.290
NET VOLUME DG	13.946	12.053	12.286	12.083	12.208	14.043
Y	0.964	0.965	0.966	0.965	0.966	0.963
H@	1.683	1.721	1.743	1.754	1.763	1.820

AVERAGE Y = 0.965

ACCEPTABLE Y RANGE = 0.945 TO 0.985

AVERAGE H@ = 1.747

ACCEPTABLE dH@ RANGE = 1.547 TO 1.947

$Y = (Vw \times Pb \times (Td + 460)) / (Vd (Pb + (dHd / 13.6)) \times (Tw + 460)$

$H@ = 0.0317 \times Hd / (Pb (Td + 460)) \times ((Tw + 460) \times time) / Vw)^2$

PACIFIC ENVIRONMENTAL SERVICES, INC.

Central Park West
5001 South Miami Boulevard, P.O. Box 12077
Research Triangle Park, North Carolina 27709-2077
(919) 941-0333 FAX: (919) 941-0234

Posttest Dry Gas Meter Calibration Form (English Units)

Pretest Calibration Factor 0.965
System Vacuum Setting, (in Hg) 6
Reference Meter Correction Factor 1.004

Date: 8/22/97 P_{bar}, in Hg 29.90 Calibrator: GG Meter Box No. MB-10

ΔH = 1.9

		Dry Gas Meter								
Trial	Duration (min)	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial, Inlet (°F)	Final, Inle (°F)	Avg. Inlet (°F)	Initial, Outlet (°F)	Final, Outlet (°F)	Avg. Outlet (°F)
1	15	168.592	180.101	11.509	90	90	90	90	90	90
2	15	181.101	191.728	10.627	90	90	90	90	90	90
3	15	191.728	203.498	11.77	90	90	90	90	90	90

	Reference Meter						Meter Box Correction Factor	Reference Orifice Press
	Gas Volume			Meter Temperature				
Trial	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial (°F)	Final (°F)	Avg. (°F)	γ	$\Delta H_@$ (in. H2O)
1	347.479	358.341	10.862	80	80	80	0.961	2.04
2	358.341	369.176	10.835	80	80	80	1.038	2.05
3	369.176	380.031	10.855	80	80	80	0.939	2.05

PACIFIC ENVIRONMENTAL SERVICES, INC.
5001 South Miami Boulevard, P.O. Box 1207
Research Triangle Park, North Carolina 27709-207
(919) 941-0333 FAX: (919) 941-023

Initial Dry Gas Meter Calibration Form (English Units)

Date: 8/19/97 P_{bar}, in Hg 30.20 Calibrator: T. McDonald Meter Box No. RMB-11

ΔH = 0.5

		Dry Gas Meter								
		Gas Volume			Meter Temperatures					
Trial	Trial Duration (min)	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial, Inlet (°F)	Final, Inlet (°F)	Avg. Inlet (°F)	Initial, Outlet (°F)	inal, Outle (°F)	Avg. Outle (°F)
1	15	231.840	237.828	5.988	81	81	81	78	78	78
2	15	237.828	243.880	6.052	82	79	80.5	80	78	79
3	15			0.000			#DIV/0!			#DIV/0!

	Reference Meter						Meter Box Correction Factor	Reference Orifice Press
	Gas Volume			Meter Temperature				
Trial	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial (°F)	Final (°F)	Avg. (°F)	γ	$\Delta H_@$ (in. H_2O)
1	257.881	263.67	5.789	78	79	78.5	0.967	1.91
2	263.670	269.541	5.871	76	76	76	0.976	1.84
3			0.000			#DIV/0!	#DIV/0!	#DIV/0!

ΔH = 1.8

		Dry Gas Meter								
		Gas Volume			Meter Temperatures					
Trial	Trial Duration (min)	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial, Inlet (°F)	Final, Inlet (°F)	Avg. Inlet (°F)	Initial, Outlet (°F)	inal, Outle (°F)	Avg. Outl (°F)
1	10	244.055	251.377	7.322	85	80	82.5	79	79	79
2	10	251.377	258.770	7.393	84	84	84	79	79	79
3				0.000			#DIV/0!			#DIV/0!

	Reference Meter						Meter Box Correction Factor	Reference Orifice Press
	Gas Volume			Meter Temperature				
Trial	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial (°F)	Final (°F)	Avg. (°F)	γ	$\Delta H_@$ (in. H_2O)
1	269.71	276.902	7.192	76	76	76	0.987	1.96
2	276.902	284.146	7.244	76	76	76	0.986	1.93
3			0.000			#DIV/0!	#DIV/0!	#DIV/0!

ΔH = 3.0

		Dry Gas Meter								
		Gas Volume			Meter Temperatures					
Trial	Trial Duration (min)	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial, Inlet (°F)	Final, Inlet (°F)	Avg. Inlet (°F)	Initial, Outlet (°F)	inal, Outle (°F)	Avg. Out (°F)
1	10	258.770	268.038	9.268	88	83	85.5	80	79	79.5
2	10	268.038	277.350	9.312	90	86	88	81	80	80.5
3				0.000			#DIV/0!			#DIV/0

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Central Park West
5001 South Miami Boulevard, P.O. Box 12077
Research Triangle Park, North Carolina 27709-2077
(919) 941-0333 FAX: (919) 941-0234

Posttest Dry Gas Meter Calibration Form (English Units)

Meter Box No.	MB-11	Date:	10/13/97
Dry Gas Meter No.		Calibrated by:	MAD
Orifice Manometer Setting, dH (in w.c.	2.5	Barometric Pressure, in. Hg	29.83
System Vacuum Setting, (in Hg)	2.5	Pretest Calibration Factor	0.987

		Dry Gas Meter								
		Gas Volume			Meter Temperatures					
Trial	Trial Duration (min)	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial, Inlet (°F)	Final, Inle (°F)	Avg. Inlet (°F)	Initial, Outlet (°F)	Final, Outlet (°F)	Avg. Outlet (°F)
1	6.5	56.145	61.57	5.425	75	78	76.5	74	79	75
2	7.5	61.57	67.712	6.142	78	78	78	76	78	77
3	6	67.712	72.705	4.993	83	87	85	77	75	76

	Reference Meter						Meter Box Correction Factor	Reference Orifice Press Delta-H@
	Gas Volume			Meter Temperature				
Trial	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial (°F)	Final (°F)	Avg. (°F)	γ	(in. H2O)
1	45.604	51.088	5.484	78	79	78.5	1.007	2.01
2	51.088	57.3	6.212	79	79	79	1.010	2.09
3	57.3	62.309	5.009	79	80	79.5	1.007	2.05

AVERAGE: 1.0080 2.049

% Change: 2.13%

PACIFIC ENVIRONMENTAL SERVICES, INC.

Central Park West
5001 South Miami Boulevard, P.O. Box 12077
Research Triangle Park, North Carolina 27709-2077
(919) 941-0333 FAX: (919) 941-0234

Posttest Dry Gas Meter Calibration Form (English Units)

Reference Meter Calibration Factor 1.004
System Vacuum Setting, (in Hg) 7

Pretest Calibration Factor 0.987

Date: 8/22/97 P_{bar}, in Hg 29.90 Calibrator: GG Meter Box No. RMB-11

ΔH = 1.9		Dry Gas Meter								
Trial	Duration (min)	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial, Inlet (°F)	Final, Inle (°F)	Avg. Inlet (°F)	Initial, Outlet (°F)	Final, Outlet (°F)	Avg. Outlet (°F)
1	15	993.836	1005.384	11.548	92	92	92	92	92	92
2	15	1005.384	1016.948	11.564	92	92	92	92	92	92
3	15	1016.948	1028.471	11.523	94	94	94	94	94	94

	Reference Meter						Meter Box Correction Factor	Reference Orifice Press $\Delta H_@$
	Gas Volume			Meter Temperature				
Trial	Initial (ft^3)	Final (ft^3)	Net (ft^3)	Initial (°F)	Final (°F)	Avg. (°F)	γ	(in. H2O)
1	409.91	420.904	10.994	80	80	80	0.973	1.99
2	420.904	431.874	10.97	80	80	80	0.969	2.00
3	431.874	442.814	10.94	80	80	80	0.973	2.00

VISIBLE EMISSIONS EVALUATOR

This is to certify that

David Goshaw

met the specifications of Federal Reference Method 9 and qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Eastern Technical Associates of Raleigh, North Carolina. This certificate is valid for six months from date of issue.

President

257158
Certificate Number

Vice President

Raleigh, North Carolina
Location

David B. Savage, Jr.
Program Manager

March 12, 1997
Date of Issue

APPENDIX F

FIELD TESTING PARTICIPANTS

FIELD TESTING PARTICIPANTS

Name	Affiliation	Responsibility
Michael Toney	USEPA, Emission Measurement Center	Work Assignment Manager
Mike Maret	Pacific Environmental Services, Inc..	Project Manager
Marc Hamilton	DEECO[a]	Site Leader/Console Operator
Tommy Thompson	DEECO[a]	Site Leader/Console Operator
Arthur Daughtery	DEECO[a]	Console Operator
Allen Bass	DEECO[a]	Console Operator
Barry Rayfield	DEECO[a]	Sample Recovery
Jay Morgan	DEECO	Sample Recovery
David Goshaw	DEECO[a]	Visible Emissions Observer
Tom McDonald	Atlantic Technical Services, Inc.[a]	Console operator
Mike Dickerson	Atlantic Technical Services, Inc.[a]	Console operator

[a] Subcontractor to Pacific Environmental Services, Inc.