United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park, NC 27711

EPA - 454/R-99-026B
August 1999

Air

EPA

Volume II of II

Asphalt Roofing Industry Manual Emission Testing Modified Bitumen

U.S. Intec
Port Arthur, Texas

Office of Air Quality
Clean Air
OAQPS
Planning and Standards

Appendix A

Field Data Sheets

Facility:	US Intec
Date:	09/22/97
Location:	T.O. Inlet
Run Number:	1
Sample Type:	M23

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.98
Absolute Stack Pressure (in Hg)	29.47
Stack Static Pressure (in H2O)	-7.00
Average Stack Temperature (°F)	91.52
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	163.925
Average Meter Pressure (in H2O)	1.30
Average Meter Temperature (°F)	91.31
Moisture Collected (g)	108.50
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	20.9
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.315
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.655
Standard Metered Volume (dscf)	157.271
Standard Metered Volume (dscm)	4.454
Stack Moisture (%V)	3.15
Mole Fraction Dry Stack Gas	0.968
Dry Molecular Weight	28.84
Wet Molecular Weight	28.49
Stack Gas Velocity (fpm)	1264.11
Stack Gas Velocity (mpm)	385.30
Volumetric Flow Rate (acfm)	8445.97
Volumetric Flow Rate (acmm)	239.19
Volumetric Flow Rate (dscfm)	7711.84
Volumetric Flow Rate (dscmm)	218.40
Percent Isokinetic	104.90
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/22/97	Nozzle ID (in)	0.315	Moisture Collected (g)	108.5
Sampling Location	T.O. Inlet	Meter Box Number	A-39	CO2 Percent	0
Sample Type	M23	Meter Delta H@	1.7	O2 Percent	20.9
Run Number	1	Dry Gas Meter Factor (Yd)	0.996	N2 Percent	79.1
Operator	Jackson	K Factor	9.62	Particulate Catch (g)	
Ambient Temperature	85	Probe Heater Setting	248	Stack Geometry (R or C)?	c
Barometric Pressure	29.98	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	-7	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.004@15"Hg	Final Leak Check	.011@12"Hg		

US Intec
09/22/97
M23

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)		Average Meter Temp (F)
	0	1450	870.104									
A-6	5	1455	874	0.19	1.83	95	86	86	66	4	A-6	86.0
6	10	1500	878.2	0.2	1.92	95	101	87	55	4	6	94.0
6	15	1505	882.1	0.2	1.92	95	101	88	57	4	6	94.5
6	20	1510	886.1	0.18	1.73	95	101	89	58	5	6	95.0
5	25	1515	890.1	0.18	1.73	94	101	89	55	6	5	95.0
5	30	1520	894.2	0.19	1.83	94	102	90	58	6	5	96.0
5	35	1525	898.2	0.18	1.73	95	102	90	56	6	5	96.0
5	40	1530	902.4	0.19	1.83	96	102	91	57	6	5	96.5
4	45	1535	906.3	0.16	1.54	97	102	91	58	6	4	96.5
4	50	1540	909.9	0.14	1.35	97	102	91	59	5	4	96.5
4	55	1545	913.8	0.17	1.64	97	102	91	59	6	4	96.5
4	60	1550	917.7	0.13	1.25	96	102	92	60	5	4	97.0
3	65	1555	919.9	0.05	0.48	95	100	92	62	3	3	96.0
3	70	1600	922	0.06	0.58	94	99	92	63	4	3	95.5
3	75	1605	924.5	0.06	0.58	94	99	92	63	4	3	95.5
3	80	1610	926.7	0.05	0.48	93	99	92	64	3	3	95.5
2	85	1615	929.9	0.14	1.35	90	99	92	60	5	2	95.5
2	90	1620	933.6	0.15	1.44	85	98	92	58	5	2	95.0
2	95	1625	937.1	0.13	1.25	84	95	91	58	5	2	93.0
2	100	1630	940.5	0.13	1.25	85	94	89	57	5	2	91.5
1	105	1635	944	0.13	1.25	87	94	88	57	5	1	91.0
1	110	1640	947.1	0.14	1.35	88	94	87	57	5	1	90.5
1	115	1645	951.3	0.14	1.35	89	95	86	59	5	1	90.5
1	120	1650	954.872	0.14	1.35	89	95	86	59	5	1	90.5
	120	1725	955.054									
B-1	125	1730	958.5	0.13	1.25	93	86	86	67	6	B-1	2.5
1	130	1735	961.9	0.13	1.25	92	97	86	57	6	1	91.5
1	135	1740	965.4	0.13	1.25	92	97	87	59	6	1	92.0
1	140	1745	968.8	0.13	1.25	89	97	87	60	6	1	92.0
2	145	1750	971.6	0.09	0.87	87	96	87	61	5	2	91.5
2	150	1755	974.5	0.09	0.87	87	96	87	61	5	2	91.5
2	155	1800	977.5	0.1	0.96	88	95	87	60	5	2	91.0
2	160	1805	980.3	0.1	0.96	89	95	87	60	5	2	91.0
3	165	1810	982.5	0.04	0.38	90	94	87	61	3	3	90.5
3	170	1815	984.3	0.04	0.38	90	92	86	64	3	3	89.0
3	175	1820	986.1	0.04	0.38	91	92	86	64	3	3	89.0
3	180	1825	988	0.04	0.38	91	92	86	64	3	3	89.0
4	185	1830	990.6	0.11	1.06	91	95	86	63	5	4	90.5
4	190	1835	994.2	0.14	1.35	92	98	86	60	6	4	92.0
4	195	1840	997.7	0.13	1.25	92	99	86	60	6	4	92.5
4	200	1845	1001.1	0.11	1.06	92	100	87	60	5	4	93.5
5	205	1850	1005.2	0.18	1.73	91	101	87	60	7	5	94.0
5	210	1855	1009	0.18	1.73	91	101	88	60	7	5	94.5
5	215	1900	1013.3	0.19	1.83	91	100	88	58	7	5	94.0
5	220	1905	1017.4	0.17	1.64	91	100	88	58	7	5	94.0
6	225	1910	1021.5	0.21	2.02	91	100	88	58	7	6	94.0
6	230	1915	1025.7	0.19	1.83	91	100	89	58	7	6	94.5
6	235	1920	1030	0.21	2.02	91	100	89	58	7	6	94.5
6	240	1925	1034.211	0.2	1.92	91	101	89	59	7	6	95.0
END											END	

91.3125

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MODIFIED METHOD 5 DATA SHEET

Run	1
Page 1 of	2

Plant U.S. Intec		XAD Trap Number		Meter Box Number	A-39	
Date 9/22/97		Filter Heater Setting (°F)	248	Meter delta H @	1.700	
Operator Jackson		Probe Length & Type	4' Boise	DGM Factor (Y)	0.996	
Sampling Location T.O. Inlet		Probe Heater Setting (°F)	248	Nozzle Type & ID (in.)	0.315	
Sample Type M23		Minimum Sample Volume (ft3)		Ambient Temperature (°F)	85	
Run Number 1		Initial Leak Check @ 15" Hg	.004	Assumed Moisture (% H2O)	3.0	
Static Pressure (±) (in. H2O)	-7.0	Final Leak Check @ 12" Hg	.011	K-Factor	9.62	
Barometric Pressure (in. H2O)	29.98					

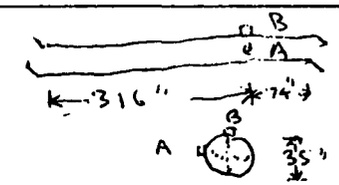

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	Θ (deg)
	0	1950	870.104		95										
A-6	5	1955	874.0	.19	~~87~~ 95	1.83	1.83	242	233	67	86	86	66	4	45
6	10	1500	878.2	.20	95	1.92	1.92	261	230	60	101	87	55	4	45
6	15	1505	882.1	.20	95	1.92	1.92	250	259	57	101	88	57	4	45
6	20	1510	886.1	.18	95	1.73	1.73	246	247	54	101	89	58	5	45
5	25	1515	890.1	.18	94	1.73	1.73	241	263	56	101	89	59	6	45
5	30	1520	894.2	.19	94	1.83	1.83	239	272	50	102	90	58	6	45
5	35	1525	898.2	.18	95	1.73	1.73	239	236	56	102	90	56	6	45
5	40	1530	902.4	.19	96	1.83	1.83	238	266	55	102	91	57	6	45
4	45	1535	906.3	.16	97	1.54	1.54	241	266	56	102	91	58	6	45
4	50	1540	909.9	.14	97	1.35	1.35	245	262	57	102	91	59	5	45
4	55	1545	913.8	.17	97	1.64	1.64	247	262	58	102	91	59	6	45
4	60	1550	917.7	.13	96	1.25	1.25	245	269	55	102	92	60	5	45
3	65	1555	919.9	.05	95	.48	.48	248	254	51	100	92	62	3	45
3	70	1600	922.0	.06	94	.58	.58	247	257	51	99	92	63	4	45
3	75	1605	924.5	.06	94	.58	.58	248	262	50	99	92	63	4	45
3	80	1610	926.7	.05	93	.48	.48	256	257	52	99	92	64	3	45
2	85	1615	929.9	.14	90	1.35	1.35	251	256	54	99	92	60	5	45
2	90	1620	933.6	.15	85	1.44	1.44	237	242	52	98	92	58	5	45
2	95	1625	937.1	.13	84	1.25	1.25	233	235	53	95	91	58	5	45
2	100	1630	940.5	.13	85	1.25	1.25	227	234	53	94	89	57	5	45
1	105	1635	944.0	.13	87	1.25	1.25	230	235	51	94	88	57	5	45
1	110	1640	947.1	.14	88	1.35	1.35	233	240	52	94	87	57	5	45
1	115	1645	951.3	.14	89	1.35	1.35	236	240	54	95	86	59	5	45
1	120	1650	954.872	.14	89	1.35	1.35	239	243	54	95	86	59	5	45

Comments:

A-1,3 CCW
A-4,6 CW
B-1,3 CCW
B-4,6 CW

Plant	US Intec	Location	T.O. Inlet	Run Number	1
Date	9/22/97	Sample Type	M23	Operator	Jackson

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	α
Po, Ts/Ps	120	1725	955.054												
B-1	125	1730	958.5	.13	93	1.25	1.25	243	272	63	86	86	67	6	45
1	130	1735	961.9	.13	92	1.25	1.25	250	270	58	97	86	57	6	45
1	135	1740	965.4	.13	92	1.25	1.25	238	271	62	97	87	59	6	45
1	140	1745	968.8	.13	89	1.25	1.25	231	265	64	97	87	60	6	45
2	145	1750	971.6	.09	87	.87	.87	228	273	66	96	87	61	5	45
2	150	1755	974.5	.09	87	.87	.87	232	254	66	96	87	61	5	45
2	155	1800	977.5	.10	88	.96	.96	226	262	66	95	87	60	5	45
2	160	1805	980.3	.10	89	.96	.96	228	269	60	95	87	60	5	45
3	165	1810	982.5	.04	90	.38	.38	226	265	57	94	87	61	3	45
3	170	1815	984.3	.04	90	.38	.38	225	261	62	92	86	64	3	45
3	175	1820	986.1	.04	91	.38	.38	232	268	63	92	86	64	3	45
3	180	1825	988.0	.04	91	.38	.38	234	272	63	92	86	64	3	45
4	185	1830	990.6	.11	91	1.06	1.06	250	272	60	95	86	63	5	45
4	190	1835	994.2	.14	92	1.35	1.35	246	270	59	98	86	60	6	45
4	195	1840	997.7	.13	92	1.25	1.25	247	272	58	99	86	60	6	45
4	200	1845	1001.1	.11	92	1.06	1.06	249	271	55	100	87	60	5	45
5	205	1850	1005.2	.18	91	1.73	1.73	252	267	56	101	87	60	7	45
5	210	1855	1009.0	.18	91	1.73	1.73	252	261	55	101	88	60	7	45
5	215	1900	1013.3	.19	91	1.83	1.83	246	265	55	100	88	58	7	45
5	220	1905	1017.4	.17	91	1.64	1.64	248	261	57	100	88	58	7	45
6	225	1910	1021.5	.21	91	2.02	2.02	245	257	56	100	88	58	7	45
6	230	1915	1025.7	.19	91	1.83	1.83	249	263	53	100	89	58	7	45
6	235	1920	1030.0	.21	91	2.02	2.02	250	254	56	100	89	58	7	45
6	240	1925	1034.211	.20	91	1.92	1.92	248	261	55	101	89	59	7	45

Comments:

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PH
Date	9/23/97
Sampling Location	Inlet Thermal Oxidizer
Sample Type	DIF
Run Number	1
Impinger Box Number	
Recovery Person	MA
Recovery Rinses	A $MeCl_2$ Tol
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight			
				Final (g)	Initial (g)	Weight Gain (g)	
1	MT		mGS	541.1	474.1	~~541.1~~	67.0
2	H_2O	100ml	mGS	592.3	591.5	~~592.3~~	.8
3	H_2O	100ml	mGS	629.7	627.8	~~629.7~~	1.9
4	MT		mGS	458.7	456.6	~~458.7~~	2.1
5	S.G.		mGS	745.2	708.5	~~745.2~~	36.7
6							
7							
					Total Weight Gain (g)	108.5	

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Inlet
Run Number:	2
Sample Type:	M23

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.41
Stack Static Pressure (in H2O)	-7.00
Average Stack Temperature (°F)	87.50
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	154.978
Average Meter Pressure (in H2O)	1.24
Average Meter Temperature (°F)	89.64
Moisture Collected (g)	111.30
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	20.9
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.315
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.620
Standard Metered Volume (dscf)	148.786
Standard Metered Volume (dscm)	4.214
Stack Moisture (%V)	3.41
Mole Fraction Dry Stack Gas	0.966
Dry Molecular Weight	28.84
Wet Molecular Weight	28.47
Stack Gas Velocity (fpm)	1221.67
Stack Gas Velocity (mpm)	372.37
Volumetric Flow Rate (acfm)	8162.40
Volumetric Flow Rate (acmm)	231.16
Volumetric Flow Rate (dscfm)	7472.55
Volumetric Flow Rate (dscmm)	211.62
Percent Isokinetic	102.42
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.315	Moisture Collected (g)	111.3
Sampling Location	T.O. Inlet	Meter Box Number	A-39	CO2 Percent	0
Sample Type	M23	Meter Delta H@	1.7	O2 Percent	20.9
Run Number	2	Dry Gas Meter Factor (Yd)	0.996	N2 Percent	79.1
Operator	Jackson	K Factor	9.5	Particulate Catch (g)	
Ambient Temperature	80 rain	Probe Heater Setting	250	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	-7	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.01@10"	Final Leak Check			

US Intec
09/23/97
M23

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)		Average Meter Temp (F)
	0	1015	34.906									
A-6	5	1020	39.5	0.25	2.38	86	84	84	66	7	A-6	84.0
6	10	1025	43.9	0.28	2.66	89	102	85	54	7	6	93.5
6	15	1030	48.5	0.24	2.28	90	102	86	56	7	6	94.0
6	20	1035	52.9	0.23	2.19	91	101	87	58	7	6	94.0
5	25	1040	57.2	0.2	1.9	90	101	87	59	7	5	94.0
5	30	1045	61.4	0.21	2	91	100	87	61	7	5	93.5
5	35	1050	65.6	0.21	2	92	101	88	61	7	5	94.5
5	40	1055	70.7	0.22	2.09	92	101	88	63	7	5	94.5
4	45	1100	73.9	0.17	1.62	91	102	89	65	6.5	4	95.5
4	50	1105	77.6	0.16	1.52	93	102	89	63	6	4	95.5
4	55	1110	81.5	0.16	1.52	92	102	89	62	6	4	95.5
4	60	1115	85.4	0.16	1.52	93	103	90	60	6	4	96.5
3	65	1120	87.2	0.06	0.57	92	100	90	60	3	3	95.0
3	70	1125	89.4	0.06	0.57	93	97	90	63	3	3	93.5
3	75	1130	91.9	0.07	0.67	88	98	90	60	4	3	94.0
3	80	1135	94.9	0.07	0.67	85	97	90	59	4	3	93.5
2	85	1140	97.5	0.11	1.05	83	96	90	59	5	2	93.0
2	90	1145	100.8	0.11	1.05	82	96	89	59	5	2	92.5
2	95	1150	103.7	0.11	1.05	81	95	89	59	5	2	92.0
2	100	1155	106.7	0.1	0.95	82	94	88	59	5	2	91.0
1	105	1200	110.4	0.17	1.62	82	94	87	60	6	1	90.5
1	110	1205	113.9	0.13	1.24	83	95	87	60	6	1	91.0
1	115	1210	117.2	0.13	1.24	85	95	87	60	6	1	91.0
1	120	1215	120.538	0.13	1.24	85	96	86	62	6	1	91.0
	120	1240	120.796									
B-1	125	1245	123.9	0.12	1.14	82	84	84	68	6	B-1	2.5
1	130	1250	127.2	0.11	1.05	81	94	85	67	6	1	89.5
1	135	1255	130.4	0.12	1.14	82	95	85	66	6	1	90.0
1	140	1300	134	0.15	1.43	83	96	85	67	7	1	90.5
2	145	1305	136.4	0.09	0.86	84	95	85	66	4	2	90.0
2	150	1310	138.3	0.05	0.48	85	92	85	66	4	2	88.5
2	155	1315	140.7	0.07	0.67	86	92	85	66	5	2	88.5
2	160	1320	143.2	0.07	0.67	88	93	85	66	5	2	89.0
3	165	1325	145.1	0.04	0.38	85	93	85	66	3	3	89.0
3	170	1330	146.7	0.03	0.29	88	91	85	66	3	3	88.0
3	175	1335	148.2	0.03	0.29	88	91	85	66	3	3	88.0
3	180	1340	150	0.03	0.29	89	90	85	67	3	3	87.5
4	185	1345	152.4	0.09	0.86	89	93	85	67	5	4	89.0
4	190	1350	155.7	0.12	1.14	90	94	85	66	6	4	89.5
4	195	1355	158.8	0.12	1.14	91	94	85	66	6	4	89.5
4	200	1400	162.1	0.12	1.14	90	94	85	65	6	4	89.5
5	205	1405	165.7	0.13	1.24	89	95	85	66	7	5	90.0
5	210	1410	169	0.13	1.24	91	96	85	66	7	5	90.5
5	215	1415	172.2	0.12	1.14	91	97	86	66	6	5	91.5
5	220	1420	175.8	0.12	1.14	91	97	86	66	6	5	91.5
6	225	1425	179	0.17	1.62	90	98	86	64	7	6	92.0
6	230	1430	182.8	0.15	1.43	90	98	86	64	6	6	92.0
6	235	1435	186.5	0.16	1.52	83	97	87	64	7	6	92.0
6	240	1440	190.142	0.15	1.43	83	96	87	63	7	6	91.5

END END

89.63542

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MODIFIED METHOD 5 DATA SHEET

Run	2
Page 1 of	2

Plant	US INTEC	XAD Trap Number		Meter Box Number	A-39
Date	9/23/97	Filter Heater Setting (°F)	250°	Meter delta H @	1.700
Operator	BS	Probe Length & Type	4' GLASS	DGM Factor (Y)	.996
Sampling Location	INLET TO	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.315
Sample Type	DIOXIN M-23	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	80° RAIN
Run Number	2	Initial Leak Check	.01 @ 10"	Assumed Moisture (% H2O)	3%
Static Pressure (±) (in. H2O)	-7.0"	Final Leak Check		K-Factor	9.5
Barometric Pressure (in. H2O)	29.92				

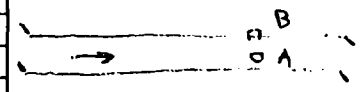

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	α
	0	1015	34.906												
A-6	5	1020	39.5	.25	86	2.38	2.38	238	268	64	84	84	66	7	45
6	10	1025	43.9	.28	89	2.66	2.66	229	272	57	102	85	54	7	45
6	15	1030	48.5	.24	90	2.28	2.28	227	264	58	102	86	56	7	45
6	20	1035	52.9	.23	91	2.19	2.19	229	267	60	101	87	58	7	45
5	25	1040	57.2	.20	90	1.90	1.90	230	261	60	101	87	59	7	45
5	30	1045	61.4	.21	91	2.00	2.00	227	258	61	100	87	61	7	45
5	35	1050	65.6	.21	92	2.00	2.00	229	261	62	101	88	61	7	45
5	40	1055	70.7	.22	92	2.09	2.09	227	259	62	101	88	63	7	45
4	45	1100	73.9	.17	91	1.62	1.62	236	249	62	102	89	65	6.5	45
4	50	1105	77.6	.16	93	1.52	1.52	244	250	61	102	89	63	6	45
4	55	1110	81.5	.16	92	1.52	1.52	239	253	60	102	89	62	6	45
4	60	1115	85.4	.16	93	1.52	1.52	250	249	59	103	90	60	6	45
3	65	1120	87.2	.06	92	.57	.57	261	256	59	100	90	60	3	45
3	70	1125	89.4	.06	93	.57	.57	271	256	61	97	90	63	3	45
3	75	1130	91.9	.07	88	.67	.67	270	262	62	98	90	60	4	45
3	80	1135	94.4	.07	85	.67	.67	268	247	62	97	90	59	4	45
2	85	1140	97.5	.11	83	1.05	1.05	259	240	61	96	90	59	5	45
2	90	1145	100.8	.11	82	1.05	1.05	262	245	61	96	89	59	5	45
2	95	1150	103.7	.11	81	1.05	1.05	241	237	60	95	89	59	5	45
2	100	1155	106.7	.10	82	.95	.95	232	228	61	94	88	59	5	45
1	105	1200	110.4	.17	82	1.62	1.62	234	227	61	94	87	60	6	45
1	110	1205	113.9	.13	83	1.24	1.24	238	224	60	95	87	60	6	45
1	115	1210	117.2	.13	85	1.24	1.24	242	230	60	95	87	60	6	45
1	120	1215	120.538	.13	85	1.24	1.24	246	228	62	96	86	62	6	45

Comments:

Plant	U.S. Ditec	Location	T.O. Inlet	Run Number	2
Date	9/23/97	Sample Type	M23	Operator	BLS

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	α
	120	1240	120.796												
B-1	125	1245	123.9	.12	82	1.14	1.14	229	226	62	84	84	68	6	45
1	130	1250	127.2	.11	81	1.05	1.05	232	230	63	94	85	67	6	45
1	135	1255	130.4	.12	82	1.14	1.14	232	272	63	95	85	66	6	45
1	140	1300	134.0	.15	83	1.43	1.43	241	292	64	96	85	67	7	45
2	145	1305	136.4	.09	84	.86	.86	249	270	64	95	85	66	4	45
2	150	1310	138.3	.05	85	.48	.48	245	258	64	92	85	66	4	45
2	155	1315	140.7	.07	86	.67	.67	240	270	64	92	85	66	5	45
2	160	1320	143.2	.07	88	.67	.67	242	263	64	93	85	66	5	45
3	165	1325	145.1	.04	85	.38	.38	241	265	63	93	85	66	3	45
3	170	1330	146.7	.03	88	.29	.29	241	271	63	91	85	66	3	45
3	175	1335	148.2	.03	88	.29	.29	250	270	64	91	85	66	3	45
3	180	1340	150.0	.03	89	.29	.29	248	268	64	90	85	67	3	45
4	185	1345	152.4	.09	89	.86	.86	249	270	63	93	85	67	5	45
4	190	1350	155.7	.12	90	1.14	1.14	250	272	61	94	85	66	6	45
4	195	1355	158.8	.12	91	1.14	1.14	242	254	63	94	85	66	6	45
4	200	1400	162.1	.12	90	1.14	1.14	239	268	62	94	85	65	6	45
5	205	1405	165.7	.13	89	1.24	1.24	238	264	63	95	85	66	7	45
5	210	1410	169.0	.13	91	1.24	1.24	230	239	62	96	85	66	7	45
5	215	1415	172.2	.12	91	1.14	1.14	232	247	62	97	86	66	6	45
5	220	1420	175.8	.12	91	1.14	1.14	231	262	62	97	86	66	6	45
6	225	1425	179.6	.17	90	1.62	1.62	228	260	60	98	86	64	7	45
6	230	1430	182.8	.15	90	1.43	1.43	232	258	60	98	86	64	6	45
6	235	1435	186.5	.16	83	1.52	1.52	229	259	59	97	87	64	7	45
6	240	1440	190.142	.15	83	1.43	1.43	232	248	62	96	87	63	7	45

Comments:

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-23-97
Sampling Location	INLET THERMAL OXIDIZER
Sample Type	D/F
Run Number	2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	$MeCl_2$/ACETONE/ TOLUENE
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	MT		KO	534.0	470.8	63.2
2	H_2O	100ml	MGS	606.8	600.7	6.1
3	H_2O	100ml	MGS	579.9	578.9	1.0
4	MT		MGS	496.9	494.3	2.6
5	S.G.		MGS	744.7	706.3	38.4
6						
7						
					Total Weight Gain (g)	111.3

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Inlet
Run Number:	3
Sample Type:	M23

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.89
Absolute Stack Pressure (in Hg)	29.38
Stack Static Pressure (in H2O)	-7.00
Average Stack Temperature (°F)	89.02
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	158.156
Average Meter Pressure (in H2O)	1.23
Average Meter Temperature (°F)	87.91
Moisture Collected (g)	102.60
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	20.9
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.634
Standard Metered Volume (dscf)	152.186
Standard Metered Volume (dscm)	4.310
Stack Moisture (%V)	3.08
Mole Fraction Dry Stack Gas	0.969
Dry Molecular Weight	28.84
Wet Molecular Weight	28.50
Stack Gas Velocity (fpm)	1227.02
Stack Gas Velocity (mpm)	374.00
Volumetric Flow Rate (acfm)	8198.13
Volumetric Flow Rate (acmm)	232.17
Volumetric Flow Rate (dscfm)	7502.06
Volumetric Flow Rate (dscmm)	212.46
Percent Isokinetic	107.74
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	102.6
Sampling Location	T.O. Inlet	Meter Box Number	A-39	CO2 Percent	0
Sample Type	M23	Meter Delta H@	1.7	O2 Percent	20.9
Run Number	3	Dry Gas Meter Factor (Yd)	0.996	N2 Percent	79.1
Operator	Jackson	K Factor	9.6	Particulate Catch (g)	
Ambient Temperature	75	Probe Heater Setting	248	Stack Geometry (R or C)?	c
Barometric Pressure	29.89	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	-7	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.008@15"Hg	Final Leak Check	.002@15"Hg		

US Intec
09/23/97
M23

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)		Average Meter Temp (F)
	0	1710	191.319									
A-6	5	1715	195.1	0.18	1.71	89	90	83	67	4	A-6	86.5
6	10	1720	199.2	0.19	1.81	89	98	84	62	5	6	91.0
6	15	1725	203.2	0.19	1.81	91	99	84	59	5	6	91.5
6	20	1730	207.2	0.19	1.81	90	98	85	60	5	6	91.5
5	25	1735	211.5	0.21	2	90	97	85	60	6	5	91.0
5	30	1740	215.7	0.2	1.9	89	96	85	59	6	5	90.5
5	35	1745	220	0.2	1.9	90	95	85	60	6	5	90.0
5	40	1750	224.2	0.2	1.9	89	94	85	62	6	5	89.5
4	45	1755	228	0.17	1.62	90	94	85	62	5	4	89.5
4	50	1800	232	0.17	1.62	90	95	85	61	5	4	90.0
4	55	1805	235.9	0.17	1.62	90	95	86	61	5	4	90.5
4	60	1810	240	0.17	1.62	90	95	86	63	5	4	90.5
3	65	1815	242	0.05	0.48	89	94	86	63	3	3	90.0
3	70	1820	244.1	0.05	0.48	89	92	86	64	3	3	89.0
3	75	1825	246.1	0.05	0.48	90	92	86	64	3	3	89.0
3	80	1830	248.5	0.06	0.57	90	92	85	65	3	3	88.5
2	85	1835	251.8	0.13	1.24	90	93	85	64	5	2	89.0
2	90	1840	255.1	0.12	1.14	89	95	85	63	5	2	90.0
2	95	1845	258.9	0.12	1.14	89	95	86	63	5	2	90.5
2	100	1850	262	0.13	1.24	87	96	86	63	5	2	91.0
1	105	1855	265.9	0.17	1.62	88	96	86	63	5	1	91.0
1	110	1900	269.8	0.17	1.62	88	97	86	69	6	1	91.5
1	115	1905	273.9	0.16	1.52	88	97	86	64	6	1	91.5
1	120	1910	277.52	0.16	1.52	87	98	86	65	6	1	92.0
	120	1940	277.627									
B-1	125	1945	280.9	0.12	1.14	89	84	84	66	4	B-1	2.5
1	130	1950	283.8	0.1	0.95	89	96	84	63	4	1	90.0
1	135	1955	286.8	0.1	0.95	89	95	85	63	4	1	90.0
1	140	2000	289.9	0.11	1.05	88	95	85	64	4	1	90.0
2	145	2005	292.8	0.1	0.95	89	95	85	65	4	2	90.0
2	150	2010	295.7	0.1	0.95	89	94	85	66	4	2	89.5
2	155	2015	298.7	0.1	0.95	89	93	85	66	4	2	89.0
2	160	2020	301.6	0.1	0.95	89	93	85	66	4	2	89.0
3	165	2025	303.2	0.03	0.29	89	93	85	66	2	3	89.0
3	170	2030	304.9	0.03	0.29	88	91	84	66	2	3	87.5
3	175	2035	306.6	0.03	0.29	88	92	84	66	2	3	88.0
3	180	2040	308.1	0.03	0.29	89	89	84	64	2	3	86.5
4	185	2045	311.3	0.12	1.14	88	91	84	61	5	4	87.5
4	190	2050	314.2	0.1	0.95	89	93	84	88	4	4	88.5
4	195	2055	317.1	0.1	0.95	89	92	84	61	4	4	88.0
4	200	2100	320.9	0.11	1.05	89	93	84	61	4	4	88.5
5	205	2105	323.7	0.13	1.24	89	93	84	61	5	5	88.5
5	210	2110	327.2	0.13	1.24	88	95	84	61	5	5	89.5
5	215	2115	330.7	0.13	1.24	90	95	84	61	5	5	89.5
5	220	2120	334	0.14	1.33	89	96	85	61	5	5	90.5
6	225	2125	338	0.17	1.62	89	96	85	61	5	6	90.5
6	230	2130	341.8	0.17	1.62	89	97	85	63	5	6	91.0
6	235	2135	344.9	0.17	1.62	89	96	85	63	5	6	90.5
6	240	2140	349.582	0.17	1.62	89	97	85	64	5	6	91.0

END END

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MODIFIED METHOD 5 DATA SHEET

Run	3
Page 1 of	2

Plant	U.S. Intec	XAD Trap Number		Meter Box Number		A-39
Date	9/23/97	Filter Heater Setting (°F)	248	Meter delta H @	1.700	~~0.99~~ in
Operator	B. Jackson	Probe Length & Type	4' boro	DGM Factor (Y)		0.996
Sampling Location	T.O. Inlet	Probe Heater Setting (°F)	248	Nozzle Type & ID (in.)		0.310
Sample Type	M23	Minimum Sample Volume (ft3)		Ambient Temperature (°F)		75
Run Number	3	Initial Leak Check .008 15" Hg	0.008	Assumed Moisture (% H2O)		3
Static Pressure (±) (in. H2O)	-7.0	Final Leak Check .002@15"	0.002	K-Factor		9.6
Barometric Pressure (in. H2O)	29.89					

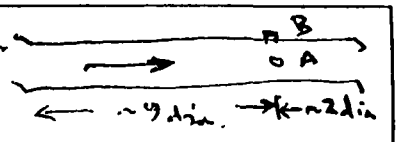

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	α
	0	1710	191.319												
A-6	5	1715	195.1	.18	89	1.71	1.71	230	228	67	90	83	67	4	45
6	10	1720	199.2	.19	89	1.81	1.81	234	230	63	98	84	62	5	45
6	15	1725	203.2	.19	91	1.81	1.81	232	228	60	99	84	59	5	45
6	20	1730	207.2	.19	90	1.81	1.81	234	231	60	98	85	60	5	45
5	25	1735	211.5	.21	90	2.00	2.00	245	237	61	97	85	60	6	45
5	30	1740	215.7	.20	89	1.90	1.90	243	252	60	96	85	59	6	45
5	35	1745	220.0	.20	90	1.90	1.90	247	257	60	95	85	60	6	45
5	40	1750	224.2	.20	89	1.90	1.90	243	263	62	94	85	62	6	45
4	45	1755	228.0	.17	90	1.62	1.62	250	262	62	94	85	62	5	45
4	50	1800	232.0	.17	90	1.62	1.62	254	268	63	95	85	61	5	45
4	55	1805	235.9	.17	90	1.62	1.62	255	266	62	95	86	61	5	45
4	60	1810	240.0	.17	90	1.62	1.62	248	264	62	95	86	63	5	45
3	65	1815	242.0	.05	89	.48	.48	239	270	62	94	86	63	3	45
3	70	1820	244.1	.05	89	.48	.48	239	271	63	92	86	64	3	45
3	75	1825	246.1	.05	90	.48	.48	244	270	63	92	86	64	3	45
3	80	1830	248.5	.06	90	.57	.57	246	271	64	92	85	65	3	45
2	85	1835	251.8	.13	90	1.24	1.24	249	266	64	93	85	64	5	45
2	90	1840	255.1	.12	89	1.14	1.14	247	263	63	95	85	63	5	45
2	95	1845	258.4	.12	89	1.14	1.14	248	262	63	95	86	63	5	45
2	100	1850	262.0	.13	87	1.24	1.24	259	256	63	96	86	63	5	45
1	105	1855	265.9	.17	88	1.62	1.62	254	263	63	96	86	63	6	45
1	110	1900	269.8	.17	88	1.62	1.62	255	263	64	97	86	64	6	45
1	115	1905	273.9	.16	88	1.52	1.52	253	261	64	97	86	64	6	45
1	120	1910	277.520	.16	87	1.52	1.52	249	261	65	98	86	65	6	45

Comments:

Plant	U.S. Inter	Location T.	T.O. Inlet	Run Number	3
Date	9/23/91	Sample Type	M23	Operator	BCS

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	α
	120	1940	277.627												
B-1	125	1945	280.9	.12	89	1.14	1.14	235	238	66	84	84	66	4	45
1	130	1950	283.8	.10	89	.95	.95	240	265	64	96	84	63	4	45
1	135	1955	286.8	.10	89	.95	.95	242	267	64	95	85	63	4	45
1	140	2000	289.9	.11	88	1.05	1.05	240	260	64	95	85	64	4	45
2	145	2005	292.8	.10	89	.95	.95	235	264	64	95	85	65	4	45
2	150	2010	295.7	.10	89	.95	.95	236	270	65	94	85	66	4	45
2	155	2015	298.7	.10	89	.95	.95	235	263	65	93	85	66	4	45
2	160	2020	301.6	.10	89	.95	.95	233	271	65	93	85	66	4	45
3	165	2025	303.2	.03	89	.29	.29	235	270	65	93	85	66	2	45
3	170	2030	304.9	.03	88	.29	.29	236	267	65	91	84	66	2	45
3	175	2035	306.6	.03	88	.29	.29	239	265	65	92	84	66	2	45
3	180	2040	308.1	.03	89	.29	.29	240	271	60	89	84	64	2	45
4	185	2045	311.3	.12	88	1.14	1.14	235	271	61	91	84	61	5	45
4	190	2050	314.2	.10	89	.95	.95	236	260	63	93	84	58	4	45
4	195	2055	317.1	.10	89	.95	.95	237	262	63	92	84	61	4	45
4	200	2100	320.9	.11	89	1.05	1.05	236	267	62	93	84	61	4	45
5	205	2105	323.7	.13	89	1.24	1.24	233	265	62	93	84	61	5	45
5	210	2110	327.2	.13	88	1.24	1.24	232	271	63	95	84	61	5	45
5	215	2115	330.7	.13	90	1.24	1.24	228	272	61	95	84	61	5	45
5	220	2120	334.0	.14	89	1.33	1.33	236	271	60	96	85	61	5	45
6	225	2125	338.0	.17	89	1.62	1.62	236	272	61	96	85	61	5	45
6	230	2130	341.8	.17	89	1.62	1.62	231	269	63	97	85	63	5	45
6	235	2135	344.9	.17	89	1.62	1.62	228	263	63	96	85	63	5	45
6	240	2140	349.582	.17	89	1.62	1.62	232	263	64	97	85	61	5	45

Comments:

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-23-97
Sampling Location	INLET THERMAL OXIDIZER
Sample Type	D/F
Run Number	3
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	ACETONE/MeCl2/TOLUENE
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	MT			535.3	475.3	60
2	H_2O	100ml		608.7	610.2	(1.5)
3	H_2O	100ml		590.3	590.2	.1
4	M.T			461.7	458.0	3.7
5	S.G.			793.1	752.8	40.3
6						
7						
					Total Weight Gain (g)	102.6

Facility:	US Intec
Date:	09/22/97
Location:	T.O. Outlet
Run Number:	1
Sample Type:	M23

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	30.18
Absolute Stack Pressure (in Hg)	30.18
Stack Static Pressure (in H2O)	0.00
Average Stack Temperature (°F)	408.71
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	145.560
Average Meter Pressure (in H2O)	1.18
Average Meter Temperature (°F)	95.27
Moisture Collected (g)	139.90
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.574
Standard Metered Volume (dscf)	137.775
Standard Metered Volume (dscm)	3.902
Stack Moisture (%V)	4.57
Mole Fraction Dry Stack Gas	0.954
Dry Molecular Weight	29.06
Wet Molecular Weight	28.56
Stack Gas Velocity (fpm)	1917.92
Stack Gas Velocity (mpm)	584.58
Volumetric Flow Rate (acfm)	12814.26
Volumetric Flow Rate (acmm)	362.90
Volumetric Flow Rate (dscfm)	7495.50
Volumetric Flow Rate (dscmm)	212.27
Percent Isokinetic	97.63
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/22/97	Nozzle ID (in)	0.31	Moisture Collected (g)	139.9
Sampling Location	T.O. Outlet	Meter Box Number	A-38	CO2 Percent	1.9
Sample Type	M23	Meter Delta H@	1.828	O2 Percent	19
Run Number	1	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	MKO	K Factor	5.98	Particulate Catch (g)	
Ambient Temperature	84	Probe Heater Setting	250	Stack Geometry (R or C)?	c
Barometric Pressure	30.18	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	0	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.012@15"	Final Leak Check	.011@5"		

US Intec
09/22/97
M23

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1450	523.575							
A-12	10	1500	528.64	0.2	1.19	413	87	87	61	2
11	20	1510	535.36	0.19	1.13	413	94	88	62	3
10	30	1520	541.43	0.18	1.07	410	95	88	54	4
9	40	1530	546.63	0.15	0.89	413	98	89	59	4
8	50	1540	551.84	0.15	0.89	408	104	94	57	4
7	60	1550	557.43	0.17	1.01	407	106	97	58	4
6	70	1600	564.72	0.2	1.19	406	105	98	60	4
5	80	1610	570.05	0.2	1.19	411	102	96	66	4
4	90	1620	575.94	0.22	1.31	405	102	95	61	4.5
3	100	1630	583.05	0.24	1.43	403	99	98	61	4.5
2	110	1640	589.46	0.24	1.43	401	93	90	61	4.5
1	120	1650	596.24	0.22	1.43	404	94	91	61	4.5
		1725	596.345							
B-12	10	1735	602.55	0.23	1.37	409	97	91	59	4
11	20	1745	607.48	0.21	1.25	409	104	92	58	4
10	30	1755	615.57	0.21	1.25	412	101	92	63	4
9	40	1805	621.45	0.19	1.13	410	101	91	65	4
8	50	1815	628.62	0.17	1.01	407	101	90	64	4
7	60	1825	633.43	0.17	1.01	407	101	91	65	4
6	70	1835	639.25	0.18	1.07	415	101	91	64	4
5	80	1845	645.15	0.19	1.13	408	100	90	65	4
4	90	1855	651.45	0.18	1.01	411	99	90	65	4
3	100	1905	657.63	0.2	1.19	407	97	89	65	4
2	110	1915	663.23	0.21	1.25	412	98	89	65	4
1	120	1925	669.24	0.24	1.43	408	97	90	64	4

END

	Average Meter Temp (F)
A-12	87.0
11	91.0
10	91.5
9	93.5
8	99.0
7	101.5
6	101.5
5	99.0
4	98.5
3	98.5
2	91.5
1	92.5
B-12	94.0
11	98.0
10	96.5
9	96.0
8	95.5
7	96.0
6	96.0
5	95.0
4	94.5
3	93.0
2	93.5
1	93.5

END

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MODIFIED METHOD 5 DATA SHEET

Run _____
Page 1 of _____

Plant	US Filter	XAD Trap Number		Meter Box Number	A-38
Date	9.22.97	Filter Heater Setting (°F)	250	Meter delta H @	1.6[illegible]8
Operator	Oxidizer outlet	Probe Length & Type	4' Glass	DGM Factor (Y)	.9984
Sampling Location	MKO	Probe Heater Setting (°F)	250	Nozzle Type & ID (in.)	.310
Sample Type	Dioxin	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	89
Run Number	1	Initial Leak Check	0.012 at 15"	Assumed Moisture (% H2O)	6.9
Static Pressure (±) (in. H2O)	0.00	Final Leak Check	0.010 at 5"	K-Factor	598
Barometric Pressure (in. H2O)	30.18				

Dioxin

Diagram of Duct

Schematic of Traverse Point Layout

O_2 19.9%
CO_2 1.9%

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1450	527.515			1.19								
A12	10	1500	528.64	.20	403	1.31	1.19	228	210	60	87	87	61	2.0
11	20	1510	535.36	.19	413	1.13	1.13	232	212	60	94	88	62	3.0
10	30	1520	541.43	.18	410	1.01	1.01	239	253	63	95	88	59	4.0
9	40	1530	546.63	.15	413	.89	.89	237	250	60	98	89	59	4.0
8	50	1540	551.89	.15	408	.89	.89	237	252	61	104	94	59	4.0
7	60	1550	557.43	.17	407	1.01	1.01	240	252	60	102	93	58	4.0
6	70	1600	564.12	.20	406	1.19	1.19	242	257	60	105	98	60	4.0
5	80	1610	570.05	.20	411	1.19	1.19	245	249	61	102	96	60	4.0
4	90	1620	575.99	.22	405	1.31	1.31	239	248	58	102	95	61	4.5
3	100	1630	583.05	.24	408	1.43	1.43	240	250	59	99	98	61	4.5
2	110	1640	589.46	.24	401	1.43	1.43	238	255	60	93	90	61	4.3
1	120	1650	596.24	.22	404	1.31	1.43	240	256	61	99	91	61	4.3
					Leak check		0.007 at 9"							
	0	1725	596.345											
B12	10	1735	602.55	.23	409	1.37	1.37	238	250	58	97	91	59	4.0
11	20	1745	607.48	.21	407	1.25	1.25	237	250	60	101	92	59	4.0
10	30	1755	615.57	.19	412	1.13	1.13	228	252	61	101	92	63	4.0
9	40	1805	621.45	.19	410	1.13	1.13	235	243	63	101	91	65	4.0
8	50	1815	628.62	.17	407	1.01	1.01	240	245	62	101	90	64	4.0
7	60	1825	635.43	.17	407	1.01	1.01	240	247	63	101	91	65	4.0
6	70	1835	639.25	.18	413	1.07	1.07	244	249	62	101	91	64	4.0
5	80	1845	645.15	.19	408	1.13	1.13	238	246	61	100	90	65	4.0
4	90	1855	651.43	.18	411	1.01	1.01	235	247	62	99	90	65	4.0
3	100	1905	657.63	.20	409	1.19	1.19	229	244	64	97	89	65	4.0
2	110	1915	663.23	.21	412	1.25	1.25	230	243	64	98	89	65	4.0
1	120	1925	669.29	.24	408	1.43	1.43	230	244	65	97	90	64	4.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9/22/04
Sampling Location	Outlet Thermal Oxidizer
Sample Type	D/F
Run Number	1
Impinger Box Number	
Recovery Person	MA
Recovery Rinses	
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight			
				Final (g)	Initial (g)	Weight Gain (g)	
1	MT		KD		428.5	520.5 ~~716.5~~	92.0
2	H_2O	100mL	MGS		547.9	549.9 ~~621.1~~	2.0
3	H_2O	100mL	MGS		607.8	608.9	1.1
4	MT		MGS		495.5	499.1	3.6
5	S.G.		MGS		721.2	762.4	41.2
6							
7							
					Total Weight Gain (g)	139.9	

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Outlet
Run Number:	2
Sample Type:	M23

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.92
Stack Static Pressure (in H2O)	0.00
Average Stack Temperature (°F)	403.42
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	147.570
Average Meter Pressure (in H2O)	1.15
Average Meter Temperature (°F)	90.42
Moisture Collected (g)	160.10
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.582
Standard Metered Volume (dscf)	139.707
Standard Metered Volume (dscm)	3.956
Stack Moisture (%V)	5.13
Mole Fraction Dry Stack Gas	0.949
Dry Molecular Weight	29.06
Wet Molecular Weight	28.50
Stack Gas Velocity (fpm)	1900.37
Stack Gas Velocity (mpm)	579.23
Volumetric Flow Rate (acfm)	12697.03
Volumetric Flow Rate (acmm)	359.58
Volumetric Flow Rate (dscfm)	7364.83
Volumetric Flow Rate (dscmm)	208.57
Percent Isokinetic	100.75
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	160.1
Sampling Location	T.O. Outlet	Meter Box Number	A-38	CO2 Percent	1.9
Sample Type	M23	Meter Delta H@	1.828	O2 Percent	19
Run Number	2	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	MKO	K Factor	5.98	Particulate Catch (g)	
Ambient Temperature	84	Probe Heater Setting	250	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	0	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.017@10"	Final Leak Check	.008@10"		

US Intec
09/23/97
M23

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1015	669.24							
A-12	10	1025	677.42	0.2	1.19	393	86	84	60	1
11	20	1035	683.22	0.21	1.25	399	95	83	61	4
10	30	1045	690.03	0.25	1.47	405	95	83	62	4
9	40	1055	695.95	0.23	1.37	408	99	86	58	4
8	50	1105	703.65	0.23	1.37	407	99	86	56	4
7	60	1115	709.84	0.2	1.15	406	99	87	57	4
6	70	1125	715	0.17	1.01	409	100	88	57	4
5	80	1135	720.75	0.16	0.95	406	99	91	58	4
4	90	1145	726.28	0.16	0.95	408	100	92	60	4
3	100	1155	732.26	0.18	1.07	397	94	87	62	4
2	110	1205	738.83	0.2	1.19	404	95	85	63	4
1	120	1215	744.79	0.22	1.31	404	96	86	62	4
		1240	744.86							
B-12	10	1250	749.99	0.16	0.95	389	88	84	66	4
11	20	1300	755.75	0.17	1.01	395	90	83	64	4
10	30	1310	761.73	0.17	1.01	398	96	84	62	4
9	40	1320	767.55	0.16	0.95	400	92	83	63	4
8	50	1330	773.13	0.15	0.88	401	93	84	56	4
7	60	1340	779.33	0.17	1.01	400	93	84	57	4
6	70	1350	784.48	0.17	1.01	406	95	84	59	4
5	80	1400	790.53	0.18	1.07	407	94	86	63	4
4	90	1410	797.04	0.2	1.19	409	95	86	65	4
3	100	1420	803.15	0.24	1.43	409	97	86	66	4
2	110	1430	810.1	0.25	1.49	412	96	87	67	4
1	120	1440	816.88	0.21	1.25	410	97	88	67	4

END

	Average Meter Temp (F)
A-12	85.0
11	89.0
10	89.0
9	92.5
8	92.5
7	93.0
6	94.0
5	95.0
4	96.0
3	90.5
2	90.0
1	91.0
B-12	86.0
11	86.5
10	90.0
9	87.5
8	88.5
7	88.5
6	89.5
5	90.0
4	90.5
3	91.5
2	91.5
1	92.5

END

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MODIFIED METHOD 5 DATA SHEET

Run ____
Page 1 of ____

Plant	U.S. Filter	XAD Trap Number		Meter Box Number	A-38
Date	9-23-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.828
Operator	MKO	Probe Length & Type	4' glass	DGM Factor (Y)	.984
Sampling Location	Outlet Thimble Orifice	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.310
Sample Type	Block IN	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	84°F
Run Number	2	Initial Leak Check	0.017 at 10"	Assumed Moisture (% H2O)	6.0
Static Pressure (±) (in. H2O)	0.09	Final Leak Check	0.008 @ 10"	K-Factor	5.98
Barometric Pressure (in. H2O)	28.92				

Diagram of Duct: Duct IN

O2 - 19.0
CO2 - 1.9

Schematic of Traverse Point Layout

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1015	669.24											
A1	10	1025	672.42	.20	393	1.19	1.19	266	274	58	86	84	60	4.0
2	20	1035	683.27	.21	399	1.25	1.25	248	270	59	95	83	61	4.0
3	30	1045	690.03	.23	405	1.47	1.47	253	268	59	95	83	62	4.0
4	40	1055	695.95	.23	[illegible]	1.37	1.37	269	270	59	99	86	58	4.0
5	50	1105	703.65	.23	409	1.37	1.37	235	259	59	99	86	56	4.0
6	60	1115	709.84	.20	406	.60	1.19	240	260	60	99	87	57	4.0
7	70	1125	715.00	.17	409	1.01	1.01	251	258	58	100	88	57	4.0
8	80	1135	720.15	.16	406	.95	.95	265	242	51	99	91	58	4.0
9	90	1145	726.28	.16	408	.95	.95	267	243	52	100	92	60	4.0
10	100	1155	732.26	.18	397	1.07	1.07	270	238	57	94	87	62	4.0
11	110	1205	738.83	.20	404	1.19	1.19	266	249	59	95	85	63	4.0
12	120	1215	744.79	.22	404	1.31	1.31	270	251	60	96	86	62	4.0
			Leak Check			0.001 at 10"								
	0	1240	744.86											
B1	10	1250	749.99	.16	389	.95	.95	246	249	59	88	84	66	4.0
2	20	1300	755.75	.17	393	1.01	1.01	258	256	62	90	83	64	4.0
3	30	1310	761.73	.18	398	1.01	1.01	270	263	63	96	84	67	4.0
4	40	1320	767.55	.18	400	.95	.95	268	270	62	97	83	63	4.0
5	50	1330	773.13	.15	401	.88	.88	270	272	51	93	84	56	4.0
6	60	1340	779.33	.17	400	1.01	1.01	260	270	56	93	84	57	4.0
7	70	1350	784.48	.17	406	1.01	1.01	263	270	59	95	84	59	4.0
8	80	1400	790.53	.18	407	1.07	1.07	265	273	60	94	86	63	4.0
9	90	1410	797.04	.20	409	1.19	1.19	248	256	61	95	86	65	4.0
10	100	1420	803.15	.24	409	1.43	1.43	266	252	61	97	86	66	4.0
11	110	1430	810.10	.25	412	1.49	1.49	268	251	64	96	87	67	4.0
12	120	1440	816.88	.21	410	1.25	1.25	265	252	65	97	88	67	4.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-23-97
Sampling Location	OUTLET THERMAL OXIDIZER
Sample Type	D/F
Run Number	2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	$MeCl_2$/ACETONE/TOLUENE
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	MT		KO	583.3	472.0 ~~473.8~~	111.3
2	H_2O	100ml	MGS	584.5	584.2	.3
3	H_2O	100ml	MGS	588.0	586.3	1.7
4	MT		MGS	475.5	472.0	3.5
5	S.G.		MGS	772.2	728.9	43.3
6						
7						
					Total Weight Gain (g)	160.1

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Outlet
Run Number:	3
Sample Type:	M23

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.92
Stack Static Pressure (in H2O)	0.00
Average Stack Temperature (°F)	401.42
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	144.216
Average Meter Pressure (in H2O)	1.15
Average Meter Temperature (°F)	90.54
Moisture Collected (g)	141.70
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.569
Standard Metered Volume (dscf)	136.496
Standard Metered Volume (dscm)	3.866
Stack Moisture (%V)	4.67
Mole Fraction Dry Stack Gas	0.953
Dry Molecular Weight	29.06
Wet Molecular Weight	28.55
Stack Gas Velocity (fpm)	1895.97
Stack Gas Velocity (mpm)	577.89
Volumetric Flow Rate (acfm)	12667.61
Volumetric Flow Rate (acmm)	358.75
Volumetric Flow Rate (dscfm)	7400.53
Volumetric Flow Rate (dscmm)	209.58
Percent Isokinetic	97.96
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

========== ========= ========= ========= ========= ========= =========

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	141.7
Sampling Location	T.O. Outlet	Meter Box Number	A-38	CO2 Percent	1.9
Sample Type	M23	Meter Delta H@	1.828	O2 Percent	19
Run Number	3	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	MKO	K Factor	5.98	Particulate Catch (g)	
Ambient Temperature	78	Probe Heater Setting	250	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	0	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	0.014@10"	Final Leak Check	0.009@9"		

US Intec
09/23/97
M23

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1710	819.645							
A-1	10	1720	825.69	0.17	1.01	376	80	79	64	1
2	20	1730	832.25	0.24	1.43	399	90	81	58	3
3	30	1740	838.63	0.25	1.49	402	91	82	59	3
4	40	1750	845.62	0.24	1.43	401	94	84	64	3
5	50	1760	852.14	0.23	1.37	401	95	85	59	3
6	60	1800	858.88	0.23	1.37	402	96	86	60	3
7	70	1810	864.89	0.19	1.13	405	100	87	62	3
8	80	1820	870.43	0.15	0.89	406	100	89	62	3
9	90	1830	875.92	0.17	1.01	408	100	89	62	3
10	100	1840	882.17	0.19	1.13	407	101	89	64	3
11	110	1850	888.62	0.22	1.31	406	101	90	64	3
12	120	1900	895.055	0.22	1.31	403	101	91	63	3
		1940	895.095							
B-1	10	1950	900.34	0.14	0.83	392	88	87	63	3
2	20	2000	905.69	0.14	0.83	397	93	85	64	3
3	30	2010	911.43	0.16	0.95	399	95	86	67	3
4	40	2020	916.26	0.17	1.01	397	95	86	64	3
5	50	2030	922.02	0.15	0.89	398	95	85	63	3
6	60	2040	927.93	0.17	1.01	398	95	86	64	3
7	70	2050	933.02	0.16	0.95	404	95	86	65	3
8	80	2100	939.46	0.17	1.01	405	94	86	62	3
9	90	2110	945.63	0.19	1.13	407	95	85	62	3
10	100	2120	951.83	0.22	1.31	409	96	86	63	3
11	110	2130	958.02	0.24	1.43	405	96	86	64	3
12	120	2140	963.901	0.24	1.43	407	97	87	65	3

END

	Average Meter Temp (F)
A-1	79.5
2	85.5
3	86.5
4	89.0
5	90.0
6	91.0
7	93.5
8	94.5
9	94.5
10	95.0
11	95.5
12	96.0
B-1	87.5
2	89.0
3	90.5
4	90.5
5	90.0
6	90.5
7	90.5
8	90.0
9	90.0
10	91.0
11	91.0
12	92.0

END

90.54167

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MODIFIED METHOD 5 DATA SHEET

Run _____
Page 1 of _____

Plant	U.S. Water	XAD Trap Number		Meter Box Number	A-38
Date	6-23-97	Filter Heater Setting (°F)	250±25	Meter delta H @	1.828
Operator	MKO	Probe Length & Type	4' Glass	DGM Factor (Y)	.984
Sampling Location	Outlet Thermal Oxidizer	Probe Heater Setting (°F)	250±25	Nozzle Type & ID (in.)	.310
Sample Type	Dilkid	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	78°F
Run Number	3	Initial Leak Check	0.014 at 10"	Assumed Moisture (% H2O)	6.90
Static Pressure (±) (in. H2O)	0.00	Final Leak Check	0.009 at 9"	K-Factor	5.98
Barometric Pressure (in. H2O)	29.92				

DIXIN

Diagram of Duct

O_2 - 19.90
CO_2 - 1.996

Schematic of Traverse Point Layout

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1710	819.605											
A 1	10	1720	825.69	.17	376	1.01	1.01	230	260	48	80	79	64	1.0
2	20	1730	832.25	.24	399	1.43	1.43	235	274	50	90	81	58	3.0
3	30	1740	838.63	.25	402	1.49	1.49	240	268	51	91	82	59	3.0
4	40	1750	845.62	.24	401	1.43	1.43	242	256	56	94	89	61	3.0
5	50	1800	852.14	.23	401	1.37	1.37	248	255	54	95	85	59	3.0
6	60	1810	858.88	.23	402	1.37	1.37	250	255	54	96	86	60	3.0
7	70	1820	864.87	.19	405	1.13	1.13	251	260	47	100	87	62	3.0
8	80	1830	870.43	.15	406	.89	.89	250	263	49	100	89	62	3.0
9	90	1840	875.92	.17	408	1.01	1.01	233	261	51	100	89	62	3.0
10	100	1850	882.17	.19	407	1.13	1.13	244	268	53	101	89	64	3.0
11	110	1900	888.62	.22	406	1.31	1.31	247	270	54	101	90	64	3.0
12	120	1910	895.055	.22	403	1.31	1.31	249	268	55	101	91	63	3.0
		1940		Leak check 0.009 @ 9"										
	0	1950	895.095											
B 1	10	2000	900.37	.14	392	.83	.83	225	245	50	88	87	63	3.0
2	20	2010	905.69	.14	391	.83	.83	235	244	51	93	85	64	3.0
3	30	2010	911.43	.16	399	.95	.95	230	249	52	95	86	62	3.0
4	40	2020	916.76	.17	397	1.01	1.01	265	250	54	95	86	64	3.0
5	50	2030	922.02	.15	398	.89	.89	225	250	57	95	85	63	3.0
6	60	2040	927.43	.17	398	1.01	1.01	270	249	58	95	86	61	3.0
7	70	2050	933.02	.16	404	.95	.95	274	252	57	95	86	65	3.0
8	80	2100	939.46	.17	405	1.01	1.01	226	256	58	94	86	62	3.0
9	90	2110	945.63	.19	407	1.13	1.13	233	260	59	95	85	62	3.0
10	100	2120	951.83	.22	409	1.31	1.31	240	263	60	96	88	63	3.0
11	110	2130	958.02	.24	405	1.43	1.43	248	257	63	96	86	64	3.0
12	120	2140	963.901	.24	407	1.43	1.43	250	259	64	97	87	65	3.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-22-97
Sampling Location	OUTLET THERMAL OXIDIZER
Sample Type	D/F
Run Number	3
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	MT			533.8	431.8	102.0
2	H_2O	100mL		571.1	570.2	.9
3	H_2O	100mL		576.2	576.7	(.5)
4	MT			500.6	497.3	3.3
5	S.G.			780.3	744.3	36.0
6						
7						
					Total Weight Gain (g)	141.7

Facility:	US Intec
Date:	09/22/97
Location:	T.O. Inlet
Run Number:	1
Sample Type:	M5A

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.98
Absolute Stack Pressure (in Hg)	29.47
Stack Static Pressure (in H2O)	-7.00
Average Stack Temperature (°F)	88.08
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	162.722
Average Meter Pressure (in H2O)	1.49
Average Meter Temperature (°F)	95.28
Moisture Collected (g)	93.90
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	20.9
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.315
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.638
Standard Metered Volume (dscf)	153.199
Standard Metered Volume (dscm)	4.339
Stack Moisture (%V)	2.81
Mole Fraction Dry Stack Gas	0.972
Dry Molecular Weight	28.84
Wet Molecular Weight	28.53
Stack Gas Velocity (fpm)	1302.50
Stack Gas Velocity (mpm)	397.00
Volumetric Flow Rate (acfm)	8702.43
Volumetric Flow Rate (acmm)	246.45
Volumetric Flow Rate (dscfm)	8024.07
Volumetric Flow Rate (dscmm)	227.24
Percent Isokinetic	98.21
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' Boro	Height of Location (ft)	0
Date	09/22/97	Nozzle ID (in)	0.315	Moisture Collected (g)	93.9
Sampling Location	T.O. Inlet	Meter Box Number	A-40	CO2 Percent	0
Sample Type	M5A	Meter Delta H@	1.791	O2 Percent	20.9
Run Number	1	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	MWH/BJ	K Factor	10.13	Particulate Catch (g)	
Ambient Temperature	85	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.98	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	-7	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.016@15"	Final Leak Check			

US Intec
09/22/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1450	11.502							
B-1	5	1455	14.800	0.11	1.11	92	97	87	69	1
1	10	1500	18.000	0.12	1.22	91	104	88	59	1
1	15	1505	21.000	0.11	1.11	92	105	89	60	1
1	20	1510	24.000	0.12	1.22	93	105	90	60	1
2	25	1515	27.000	0.1	1.01	89	105	91	62	1
2	30	1520	29.600	0.1	1.01	90	105	90	63	1
2	35	1525	32.600	0.1	1.01	92	105	91	63	1
2	40	1530	35.700	0.1	1.01	93	105	92	62	1
3	45	1535	37.400	0.03	0.3	93	103	92	63	0.5
3	50	1540	39.100	0.03	0.3	94	102	92	65	0.5
3	55	1545	40.600	0.03	0.3	93	102	93	66	0.5
3	60	1550	43.000	0.03	0.3	93	102	93	66	0.5
4	65	1555	46.000	0.14	1.42	93	105	93	65	2
4	70	1600	48.700	0.14	1.42	93	106	93	63	2
4	75	1605	52.500	0.16	1.62	92	107	93	63	2.5
4	80	1610	57.100	0.14	1.42	92	107	94	64	2.5
5	85	1615	61.400	0.19	1.92	89	107	94	63	2.5
5	90	1620	63.400	0.16	1.62	80	102	95	61	2.5
5	95	1625	67.400	0.16	1.62	80	102	94	61	2.5
5	100	1630	70.600	0.15	1.52	82	102	93	61	2.5
6	105	1635	74.200	0.18	1.82	84	102	92	62	2.5
6	110	1640	78.700	0.17	1.72	84	102	92	63	2.5
6	115	1645	82.000	0.17	1.72	86	102	91	63	2.5
6	120	1650	85.671	0.19	1.92	88	102	91	65	2.5
	120	1725	85.712							
A-6	125	1730	89.600	0.2	2.03	90	95	87	72	3
6	130	1735	94.200	0.2	2.03	90	98	87	60	3
6	135	1740	97.700	0.19	1.92	89	100	87	62	3
6	140	1745	101.900	0.19	1.92	86	100	87	66	3
5	145	1750	106.000	0.18	1.82	85	100	87	68	3
5	150	1755	109.500	0.19	1.92	85	100	86	65	3
5	155	1800	113.500	0.19	1.92	86	99	86	64	3
5	160	1805	118.100	0.19	1.92	87	99	85	65	3
4	165	1810	121.500	0.16	1.62	87	99	85	66	3
4	170	1815	124.600	0.16	1.62	87	99	85	66	3
4	175	1820	127.900	0.16	1.62	88	99	85	67	3
4	180	1825	130.800	0.16	1.62	88	99	85	68	3
3	185	1830	134.300	0.07	0.071	88	98	85	68	2
3	190	1835	137.3	0.09	0.91	88	98	85	68	2
3	195	1840	139.4	0.09	0.91	88	100	85	67	2
3	200	1845	142.2	0.07	0.71	88	100	85	63	2
2	205	1850	144.8	0.12	1.22	87	101	85	62	2
2	210	1855	148.2	0.12	1.22	87	101	86	62	2
2	215	1900	151.6	0.14	1.42	87	101	86	61	2
2	220	1905	155.8	0.12	1.22	87	101	86	61	2
1	225	1910	159.8	0.3	3.04	83	103	86	62	5
1	230	1915	164.2	0.3	3.04	83	102	87	62	5
1	235	1920	168.2	0.3	3.04	83	102	87	65	5
1	240	1925	174.265	0.3	3.04	83	102	87	64	5

END

	Average Meter Temp (F)
B-1	92.0
1	96.0
1	97.0
1	97.5
2	98.0
2	97.5
2	98.0
2	98.5
3	97.5
3	97.0
3	97.5
3	97.5
4	99.0
4	99.5
4	100.0
4	100.5
5	100.5
5	98.5
5	98.0
5	97.5
6	97.0
6	97.0
6	96.5
6	96.5
0	
A-6	91.0
6	92.5
6	93.5
6	93.5
5	93.5
5	93.0
5	92.5
5	92.0
4	92.0
4	92.0
4	92.0
4	92.0
3	91.5
3	91.5
3	92.5
3	92.5
2	93.0
2	93.5
2	93.5
2	93.5
1	94.5
1	94.5
1	94.5
1	94.5

END

95.28125

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A

~~MODIFIED~~ METHOD 5 DATA SHEET

Run	1
Page 1 of	2

Plant	U. S. Inter		XAD Trap Number		Meter Box Number	A-90
Date	9/22/97		Filter Heater Setting (°F)	108	Meter delta H @	1.791
Operator		MWF-BJ	Probe Length & Type	4' Boro	DGM Factor (Y)	0.984
Sampling Location	T.O. Inlet		Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.315
Sample Type	M5A	M5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	85°
Run Number	1	1	Initial Leak Check	.016@15"	Assumed Moisture (% H2O)	3.0
Static Pressure (±) (in. H2O)		-7" H2O	Final Leak Check		K-Factor	10.13
Barometric Pressure (in. H2O)	1015	29.98				

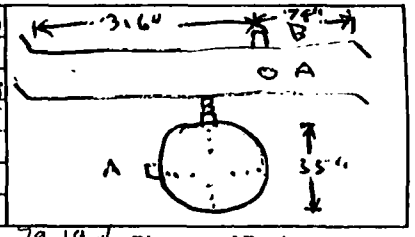

Diagram of Duct

20.9% O2 0.0 CO2 79 N2
Stack Height 0

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F) Set	Actual	~~Adsorbent Trap~~ Temp. (°F) EXIT	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	
	0	14:50	11.502													
B-1	5	14:55	14.8	.11	92	1.11	1.11	113	114		103	97	87	69	1	45
1	10	15:00	18.0	.12	91	1.22	1.22	116	116		109	104	88	59	1	45
1	15	15:05	21.0	.11	92	1.11	1.11	116	115		112	105	89	60	1	45
1	20	15:10	24.0	.12	93	1.22	1.22	116	116		112	105	90	60	1	45
2	25	15:15	27.0	.10	89	1.01	1.01	112	118		112	105	91	62	1	45
2	30	15:20	29.6	.10	90	1.01	1.01	112	119		112	105	90	63	1	45
2	35	15:25	32.6	.10	92	1.01	1.01	113	119		113	105	91	63	1	45
2	40	15:30	35.7	.10	93	1.01	1.01	115	121		113	105	92	62	1	45
3	45	15:35	37.4	.03	93	.30	.30	112	121		113	103	92	63	.5	45
3	50	15:40	39.1	.03	94	.30	.30	115	122		114	102	92	65	.5	45
3	55	15:45	40.6	.03	93	.30	.30	116	118		114	102	93	66	.5	45
3	60	15:50	43.0	.03	93	.30	.30	115	111		114	102	93	66	.5	45
4	65	15:55	46.0	.14	93	1.42	1.42	111	103		111	105	93	65	2.0	45
4	70	15:60	48.7	.14	93	1.42	1.42	112	101		110	106	93	63	2.0	45
4	75	16:05	52.5	.16	92	1.62	1.62	111	99		108	107	93	63	2.5	45
4	80	16:10	57.1	.14	92	1.42	1.42	113	96		106	107	94	64	2.5	45
5	85	16:15	61.4	.19	89	1.92	1.92	104	91		103	107	94	63	2.5	45
5	90	16:20	63.4	.16	80	1.62	1.62	103	85		98	102	95	61	2.5	45
5	95	16:25	67.4	.16	80	1.62	1.62	108	89		97	102	94	61	2.5	45
5	100	16:30	70.6	.15	82	1.52	1.52	107	105		99	102	93	61	2.5	45
6	105	16:35	74.2	.18	84	1.82	1.82	109	114		101	102	92	62	2.5	45
6	110	16:40	78.7	.17	84	1.72	1.72	110	117		105	102	92	63	2.5	45
6	115	16:45	82.0	.17	86	1.72	1.72	111	112		107	102	91	63	2.5	45
6	120	16:50	85.671	.19	88	1.92	1.92	111	106		107	102	91	65	2.5	45

Comments:

OVER

OXIDIZER

Plant	US INTEC	Location	INLET THERMAL	Run Number	1
Date	9/22/97	Sample Type	M-5A	Operator	MWH

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	Filter Set Temp. (°F)	~~Adsorbent Trap~~ EXIT Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	120	17:25	85.712											
A-6	125	17:30	89.6	.20	90	2.03	2.03	122	92	96	95	87	72	3.0
6	130	17:35	94.2	.20	90	2.03	2.03	115	98	104	98	87	60	3.0
6	135	17:40	97.7	.19	89	1.92	1.92	112	103	107	100	87	62	3.0
6	140	17:45	101.9	.19	86	1.92	1.92	108	102	108	100	87	66	3.0
5	145	17:50	106.0	.18	85	1.82	1.82	105	102	108	100	87	68	3.0
5	150	17:55	109.5	.19	85	1.92	1.92	106	104	108	100	86	65	3.0
5	155	18:00	113.5	.19	86	1.92	1.92	106	103	108	99	86	64	3.0
5	160	18:05	118.1	.19	87	1.92	1.92	106	105	108	99	85	65	3.0
4	165	18:10	121.5	.16	87	1.62	1.62	104	105	109	99	85	66	3.0
4	170	18:15	124.6	.16	87	1.62	1.62	102	104	109	99	85	66	3.0
4	175	18:20	127.9	.16	88	1.62	1.62	107	102	109	99	85	67	3.0
4	180	18:25	130.8	.16	88	1.62	1.62	105	103	109	99	85	68	3.0
3	185	18:30	134.3	.07	88	0.71	0.71	105	110	108	98	85	68	2.0
3	190	18:35	137.3	.09	88	0.91	0.91	107	108	108	98	85	68	2.0
3	195	18:40	139.4	.09	88	0.91	0.91	110	107	107	100	85	67	2.0
3	200	18:45	142.2	.07	88	.71	0.71	112	107	108	100	85	63	2.0
2	205	18:50	144.8	.12	87	1.22	1.22	112	109	109	101	85	62	2.0
2	210	18:55	148.2	.12	87	1.22	1.22	115	108	109	101	86	62	2.0
2	215	19:00	151.6	.14	87	1.42	1.42	114	109	109	101	86	61	2.0
2	220	19:05	155.8	.12	87	1.22	1.22	113	109	109	101	86	61	2.0
1	225	19:10	159.8	.30	83	3.04	3.04	113	108	109	103	86	62	5.0
1	230	19:15	164.2	.30	83	3.04	3.04	112	109	109	102	87	62	5.0
1	235	19:20	168.2	.30	83	3.04	3.04	111	109	108	102	87	65	5.0
1	240	19:25	174.265	.30	83	3.04	3.04	111	108	108	102	87	64	5.0

42, 44

Comments:

ERG
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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9/22/97
Sampling Location	Inlet Thermal Oxidizer
Sample Type	SA
Run Number	1
Impinger Box Number	
Recovery Person	MA
Recovery Rinses	TCE
Sample Identification	
Filter Number →	09~~0~~297-09 3"
XAD Number	NA

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight Final (g)	Impinger Weight Initial (g)	Impinger Weight Weight Gain (g)
1	H_2O ~~MT~~	—	MGS	(CLOUDY SOLN) 634.3	586.0	48.3
2	H_2O	100 mL	GS	(CLOUDY SOLN) 615.9	602.8	1.8
3	MT ~~H_2O~~	~~100 mL~~	MGS	501.7	497.6 ~~[illegible]~~	[illegible] BROKEN JOINT
4	S.G.		MGS	820.0	780.3	[illegible]
5						
6						
7						
					Total Weight Gain (g)	93.9

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Inlet
Run Number:	2
Sample Type:	M5A

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.41
Stack Static Pressure (in H2O)	-7.00
Average Stack Temperature (°F)	84.73
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	150.965
Average Meter Pressure (in H2O)	1.28
Average Meter Temperature (°F)	89.49
Moisture Collected (g)	109.80
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	20.9
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.598
Standard Metered Volume (dscf)	143.442
Standard Metered Volume (dscm)	4.062
Stack Moisture (%V)	3.48
Mole Fraction Dry Stack Gas	0.965
Dry Molecular Weight	28.84
Wet Molecular Weight	28.46
Stack Gas Velocity (fpm)	1201.82
Stack Gas Velocity (mpm)	366.32
Volumetric Flow Rate (acfm)	8029.80
Volumetric Flow Rate (acmm)	227.40
Volumetric Flow Rate (dscfm)	7382.71
Volumetric Flow Rate (dscmm)	209.08
Percent Isokinetic	103.20
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	109.8
Sampling Location	T.O. Inlet	Meter Box Number	A-40	CO2 Percent	0
Sample Type	M5A	Meter Delta H@	1.791	O2 Percent	20.9
Run Number	2	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	MWH	K Factor	10.13	Particulate Catch (g)	
Ambient Temperature	80 rain	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	-7	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	0.01@10"	Final Leak Check			

US Intec
09/23/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1015	176.209							
B-1	5	1020	179.600	0.14	1.42	83	93	82	63	1.5
1	10	1025	182.600	0.14	1.42	82	97	83	56	1.5
1	15	1030	186.100	0.13	1.32	85	98	83	55	1.5
1	20	1035	189.200	0.11	1.11	87	99	84	58	1.5
2	25	1040	192.200	0.1	1.01	85	100	85	61	1.5
2	30	1045	194.900	0.09	0.91	84	100	87	63	1.5
2	35	1050	197.700	0.09	0.91	86	100	85	64	1.5
2	40	1055	200.500	0.09	0.91	85	100	86	65	1.5
3	45	1100	202.400	0.03	0.3	88	97	86	67	1
3	50	1105	203.700	0.03	0.3	89	97	86	66	1
3	55	1110	205.300	0.03	0.3	89	97	86	65	1
3	60	1115	207.200	0.03	0.3	90	97	87	64	1
4	65	1120	211.600	0.12	1.22	92	102	87	61	1.5
4	70	1125	212.600	0.13	1.32	90	101	87	58	1.5
4	75	1130	216.700	0.16	1.62	87	100	87	58	2
4	80	1135	219.400	0.13	1.32	85	99	87	57	2
5	85	1140	223.600	0.16	1.62	83	98	87	58	2
5	90	1145	226.800	0.16	1.62	80	96	85	58	2
5	95	1150	230.400	0.14	1.42	79	94	85	58	2
5	100	1155	234.400	0.16	1.62	80	94	85	58	2
6	105	1200	237.300	0.16	1.62	81	94	84	58	2
6	110	1205	241.400	0.16	1.62	81	94	84	58	2
6	115	1210	244.900	0.16	1.62	83	95	83	58	2
6	120	1215	248.555	0.16	1.62	83	95	84	58	2
	120	1240	248.762							
A-6	125	1245	252.600	0.19	1.92	83	93	82	70	2.5
6	130	1250	256.800	0.18	1.82	82	98	82	53	2.5
6	135	1255	260.400	0.18	1.82	81	98	83	53	2.5
6	140	1300	264.800	0.16	1.62	82	99	84	55	2.5
5	145	1305	268.400	0.18	1.82	81	99	84	56	2.5
5	150	1310	270.900	0.18	1.82	82	99	84	56	2.5
5	155	1315	275.400	0.2	2.02	83	100	84	56	2.5
5	160	1320	279.100	0.19	1.92	84	100	84	55	2.5
4	165	1325	282.800	0.16	1.62	86	100	84	56	2.5
4	170	1330	286.500	0.16	1.62	87	99	85	56	2.5
4	175	1335	290.800	0.16	1.62	86	99	85	56	2.5
4	180	1340	294.800	0.18	1.82	86	100	84	56	2.5
3	185	1345	296.700	0.03	0.3	86	96	85	58	0.5
3	190	1350	298.1	0.03	0.3	86	94	84	60	0.5
3	195	1355	300	0.05	0.5	87	95	84	61	0.5
3	200	1400	302.4	0.05	0.5	86	95	84	59	0.5
2	205	1405	305.3	0.12	1.22	87	98	84	59	1.5
2	210	1410	308	0.1	1.01	87	99	84	57	1.5
2	215	1415	310.9	0.09	0.91	88	99	85	57	1.5
2	220	1420	315.4	0.1	1.01	88	99	85	59	1.5
1	225	1425	318.4	0.15	1.52	83	100	85	58	1.5
1	230	1430	320.6	0.15	1.52	84	100	85	58	1.5
1	235	1435	323.8	0.12	1.21	83	100	85	59	1.5
1	240	1440	327.381	0.14	1.42	82	100	85	59	2

END

	Average Meter Temp (F)
B-1	87.5
1	90.0
1	90.5
1	91.5
2	92.5
2	93.5
2	92.5
2	93.0
3	91.5
3	91.5
3	91.5
3	92.0
4	94.5
4	94.0
4	93.5
4	93.0
5	92.5
5	90.5
5	89.5
5	89.5
6	89.0
6	89.0
6	89.0
6	89.5
0	
A-6	2.5
6	90.0
6	90.5
6	91.5
5	91.5
5	91.5
5	92.0
5	92.0
4	92.0
4	92.0
4	92.0
4	92.0
3	90.5
3	89.0
3	89.5
3	89.5
2	91.0
2	91.5
2	92.0
2	92.0
1	92.5
1	92.5
1	92.5
1	92.5

END

89.48958

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MODIFIED METHOD 5 DATA SHEET

Run ____
Page 1 of 2

Plant	USINTEC	XAD Trap Number	N/A	Meter Box Number	A-40
Date	9/23/97	Filter Heater Setting (°F)	108	Meter delta H @	1.791
Operator	MWH	Probe Length & Type	4' GLASS	DGM Factor (Y)	.984
Sampling Location	INLET TO	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	.310
Sample Type	MSA	Minimum Sample Volume (ft3)	–	Ambient Temperature (°F)	80° RAIN
Run Number	2	Initial Leak Check	.01@10"	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	-7.0"	Final Leak Check		K-Factor	10.13
Barometric Pressure (in. H2O)	29.92				

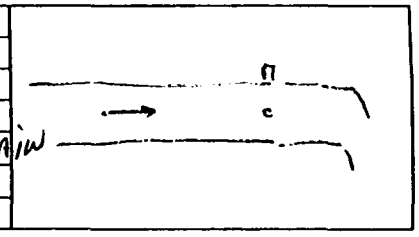

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	~~Cyc~~ Filter Temp. (°F)	~~Adsorbent~~ Filter ~~Trap~~ Exit Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	α
	0	1015	176.209												
B-1	5	1020	179.6	.14	83	1.42	1.42	106	93	94	93	82	63	1.5	45
1	10	1025	182.6	.14	82	1.42	1.42	108	100	98	97	83	56	1.5	45
1	15	1030	186.1	.13	85	1.32	1.32	110	111	104	98	83	55	1.5	45
1	20	1035	189.2	.11	87	1.11	1.11	108	121	109	99	84	58	1.5	45
2	25	1040	192.2	.10	85	1.01	1.01	107	120	112	100	85	61	1.5	45
2	30	1045	194.9	.09	84	.91	.91	109	113	113	100	87	63	1.5	45
2	35	1050	197.7	.09	86	.91	.91	111	107	112	100	85	64	1.5	45
2	40	1055	200.5	.09	85	.91	.91	109	102	111	100	86	65	1.5	45
3	45	1100	202.4	.03	88	.30	.30	109	97	108	97	86	67	1.0	45
3	50	11:05	203.7	.03	89	.30	.30	108	96	108	97	86	66	1.0	45
3	55	11:10	205.3	.03	89	.30	.30	112	93	107	97	86	65	1.0	45
3	60	11:15	207.2	.03	90	.30	.30	111	92	106	97	87	64	1.0	45
4	65	11:20	211.6	.12	92	1.22	1.22	115	101	106	102	87	61	1.5	45
4	70	11:25	212.6	.13	90	1.32	1.32	114	101	106	101	87	58	1.5	45
4	75	11:30	216.7	.16	87	1.62	1.62	111	107	106	100	87	58	2.0	45
4	80	11:35	219.4	.13	85	1.32	1.32	109	108	106	99	87	57	2.0	45
5	85	11:40	222.6	.16	83	1.62	1.62	106	106	105	98	87	58	2.0	45
5	90	11:45	226.8	.16	80	1.62	1.62	108	105	104	96	85	58	2.0	45
5	95	11:50	230.4	.14	79	1.42	1.42	105	104	104	94	85	58	2.0	45
5	100	11:55	234.4	.16	80	1.62	1.62	103	107	101	94	85	58	2.0	45
6	105	12:00	237.3	.16	81	1.62	1.62	102	108	101	94	84	58	2.0	45
6	110	12:05	241.4	.16	81	1.62	1.62	103	115	102	94	84	58	2.0	45
6	115	12:10	244.9	.16	83	1.62	1.62	104	116	104	95	83	58	2.0	45
6	120	12:15	248.555	.16	83	1.62	1.62	103	117	106	95	84	58	2.0	45

Comments:

Plant	US Intec	Location	INLET SA	Run Number	2
Date	9/23	Sample Type	SA	Operator	MWH

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ FILTER EXIT Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	
~~A-6~~	120	12:40	248.762												
A-6	125	12:45	252.6	.19	83	1.92	1.92	94	96	102	93	82	70	2.5	45
6	130	12:50	256.8	.18	82	1.82	1.82	95	95	109	98	82	53	2.5	45
6	135	12:55	260.4	.18	81	1.82	1.82	92	95	108	98	83	53	2.5	45
6	140	13:00	264.8	.16	82	1.62	1.62	93	97	108	99	84	55	2.5	45
5	145	13:05	268.4	.18	81	1.82	1.82	96	98	108	99	84	56	2.5	45
5	150	13:10	270.9	.18	82	1.82	1.82	94	98	109	99	84	56	2.5	45
5	155	13:15	275.4	.20	83	2.02	2.02	98	99	110	100	84	56	2.5	45
5	160	13:20	279.1	.19	84	1.92	1.92	98	99	110	100	84	55	2.5	45
4	165	13:25	282.8	.16	86	1.62	1.62	99	97	110	100	84	56	2.5	45
4	170	13:30	286.5	.16	87	1.62	1.62	98	97	110	99	85	56	2.5	45
4	175	13:35	290.8	.16	86	1.62	1.62	100	97	110	99	85	56	2.5	45
4	180	13:40	294.8	.18	86	1.82	1.82	101	96	110	100	84	56	2.5	45
3	185	13:45	296.7	.03	86	.30	.30	101	98	109	96	85	58	0.5	45
3	190	13:50	298.1	.03	86	.30	.30	103	98	109	98	84	60	0.5	45
3	195	13:55	300.0	.05	87	.50	.50	100	98	110	95	84	61	0.5	45
2	200	14:00	302.4	.05	86	.50	.50	101	100	110	95	84	59	0.5	45
2	205	14:05	305.3	.12	87	1.22	1.22	104	101	110	98	84	59	1.5	45
2	210	14:10	308.0	.10	87	1.01	1.01	103	102	110	99	84	57	1.5	45
2	215	14:15	310.9	.09	88	0.91	0.91	104	103	110	99	85	57	1.5	45
2	220	14:20	315.4	.10	88	1.01	1.01	103	104	111	99	85	59	1.5	45
1	225	14:25	318.4	.15	83	1.52	1.52	105	101	111	100	85	58	1.5	45
1	230	14:30	320.6	.15	84	1.52	1.52	104	100	108	100	85	58	1.5	45
1	235	14:35	323.8	.12	83	1.21	1.21	104	95	107	100	85	59	1.5	45
1	240	14:40	327.381	.14	82	1.42	1.42	103	91	105	100	85	59	2.0	45

Comments:

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-23-97
Sampling Location	INLET THERMAL OXIDIZER
Sample Type	5A
Run Number	2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	~~[redacted] 091297-08 3"~~ 091297-06 3"
XAD Number	N/A

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight Final (g)	Impinger Weight Initial (g)	Impinger Weight Weight Gain (g)
1	H_2O	100ml	MGS	637.0	570.5	66.5
2	H_2O	100ml	GS	594.9	588.3	6.6
3	MT		MGS	483.0	478.4	4.6
4	S.G.		MGS	771.6	739.5	32.1
5						
6						
7						
					Total Weight Gain (g)	109.8

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Inlet
Run Number:	3
Sample Type:	M5A - PM

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.89
Absolute Stack Pressure (in Hg)	29.38
Stack Static Pressure (in H2O)	-7.00
Average Stack Temperature (°F)	85.00
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	149.725
Average Meter Pressure (in H2O)	1.24
Average Meter Temperature (°F)	87.89
Moisture Collected (g)	103.90
Carbon Dioxide Concentration (%V)	0.0
Oxygen Concentration (%V)	20.9
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.594
Standard Metered Volume (dscf)	142.485
Standard Metered Volume (dscm)	4.035
Stack Moisture (%V)	3.32
Mole Fraction Dry Stack Gas	0.967
Dry Molecular Weight	28.84
Wet Molecular Weight	28.48
Stack Gas Velocity (fpm)	1183.08
Stack Gas Velocity (mpm)	360.60
Volumetric Flow Rate (acfm)	7904.57
Volumetric Flow Rate (acmm)	223.86
Volumetric Flow Rate (dscfm)	7268.54
Volumetric Flow Rate (dscmm)	205.85
Percent Isokinetic	104.12
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	103.9
Sampling Location	T.O. Inlet	Meter Box Number	A-40	CO2 Percent	0
Sample Type	M5A - PM	Meter Delta H@	1.791	O2 Percent	20.9
Run Number	3	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	MWH	K Factor	10.13	Particulate Catch (g)	
Ambient Temperature	75 rain	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.89	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	-7	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	0.001@10"	Final Leak Check	.002@10"		

US Intec
09/23/97
M5A - PM

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1710	327.687							
B-1	5	1715	330.6	0.11	1.11	81	88	81	71	2
1	10	1720	333.6	0.11	1.11	82	86	81	66	2
1	15	1725	337	0.11	1.11	83	99	82	63	2
1	20	1730	340.4	0.11	1.11	84	100	83	63	2
2	25	1735	342.8	0.1	1.01	85	99	83	63	2
2	30	1740	346	0.09	0.91	86	98	83	64	2
2	35	1745	348.3	0.09	0.91	87	97	83	65	2
2	40	1750	351.2	0.09	0.91	86	96	83	66	2
3	45	1755	352.6	0.02	0.2	85	92	82	65	1
3	50	1800	353.8	0.02	0.2	86	90	82	66	1
3	55	1805	355.3	0.02	0.2	86	90	82	66	1
3	60	1810	357.1	0.02	0.2	87	90	82	67	1
4	65	1815	359.7	0.11	1.11	86	96	82	67	2
4	70	1820	363.4	0.11	1.11	87	98	82	64	2
4	75	1825	365.9	0.11	1.11	87	98	83	64	2
4	80	1830	369.2	0.11	1.11	87	98	83	64	2
5	85	1835	373.7	0.16	1.62	88	100	84	64	2.5
5	90	1840	376.4	0.18	1.82	88	100	84	64	2.5
5	95	1845	380.3	0.17	1.72	88	100	84	64	3
5	100	1850	384.2	0.18	1.82	85	99	85	64	3
6	105	1855	388.2	0.2	2.02	87	100	84	65	3.5
6	110	1900	392.2	0.2	2.02	87	100	84	65	3.5
6	115	1905	395.7	0.19	1.92	86	100	84	65	3.5
6	120	1910	400.234	0.19	1.92	86	100	85	66	3.5
	120	1940	400.259							
A-6	125	1945	404.3	0.2	2.02	87	88	82	66	3.5
6	130	1950	408.3	0.19	1.92	87	97	83	60	3.5
6	135	1955	412.2	0.19	1.92	86	97	83	59	3.5
6	140	2000	416	0.18	1.82	86	97	84	60	3.5
5	145	2005	419.3	0.18	1.82	85	98	84	62	3.5
5	150	2010	423.3	0.17	1.72	86	98	84	63	3.5
5	155	2015	427.1	0.18	1.82	86	97	84	64	3.5
5	160	2020	431	0.18	1.82	85	97	84	64	3.5
4	165	2025	434.6	0.14	1.42	85	97	84	65	3
4	170	2030	437.7	0.14	1.42	84	97	83	65	3
4	175	2035	441.1	0.14	1.42	84	97	83	64	3
4	180	2040	445	0.14	1.42	84	97	83	61	3
3	185	2045	446.5	0.05	0.51	84	94	83	61	2
3	190	2050	448.9	0.05	0.51	84	94	83	63	1
3	195	2055	450.7	0.05	0.51	83	94	83	63	1
3	200	2100	453.1	0.05	0.51	83	94	82	62	1
2	205	2105	455.5	0.1	1.01	83	96	82	62	2
2	210	2110	458.3	0.1	1.01	83	96	82	61	2
2	215	2115	462.3	0.1	1.01	84	96	83	61	2
2	220	2120	464.9	0.11	1.11	84	97	82	61	2
1	225	2125	468.2	0.11	1.11	82	97	82	62	2
1	230	2130	470.8	0.12	1.21	82	97	82	62	2
1	235	2135	473.9	0.12	1.21	82	98	82	63	2
1	240	2140	477.437	0.12	1.21	81	97	83	64	2

END

	Average Meter Temp (F)
B-1	84.5
1	83.5
1	90.5
1	91.5
2	91.0
2	90.5
2	90.0
2	89.5
3	87.0
3	86.0
3	86.0
3	86.0
4	89.0
4	90.0
4	90.5
4	90.5
5	92.0
5	92.0
5	92.0
5	92.0
6	92.0
6	92.0
6	92.0
6	92.5
0	
A-6	2.5
6	90.0
6	90.0
6	90.5
5	91.0
5	91.0
5	90.5
5	90.5
4	90.5
4	90.0
4	90.0
4	90.0
3	88.5
3	88.5
3	88.5
3	88.0
2	89.0
2	89.0
2	89.5
2	89.5
1	89.5
1	89.5
1	90.0
1	90.0

END

87.885 42

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MODIFIED METHOD 5 DATA SHEET

Run 3
Page 1 of 2

Plant	US INTCC	XAD Trap Number	–	Meter Box Number	A-40	
Date	9/23/97	Filter Heater Setting (°F)	108	Meter delta H @	1.791	
Operator	MWH	Probe Length & Type	4' ~~108~~	DGM Factor (Y)	.984	
Sampling Location	INLET T.O.	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.) GLASS	.310	
Sample Type	SB PM	Minimum Sample Volume (ft3)	–	Ambient Temperature (°F) RAIN	75	
Run Number	3	Initial Leak Check	.001@10"	Assumed Moisture (% H2O)	3	
Static Pressure (±) (in. H2O)	-7.0"	Final Leak Check	.002@10"	K-Factor	10.13	
Barometric Pressure (in. H2O)	29.89					

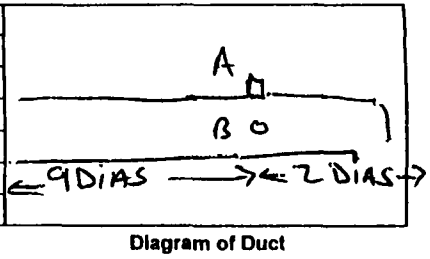

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every _____ minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent ~~Filter Hop Exit~~ Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	
B-1	0	17:10	327.687												
1	5	17:15	330.6	.11	81	1.11	1.11	98	84	94	88	81	71	2.0	45
1	10	17:20	333.6	.11	82	1.11	1.11	111	82	96	96	81	66	2.0	45
1	15	17:25	337.0	.11	83	1.11	1.11	117	100	98	99	82	63	2.0	45
2	20	17:30	340.0	.11	84	1.11	1.11	120	128	112	100	83	63	2.0	45
2	25	17:35	342.8	.10	85	1.01	1.01	117	124	116	99	83	63	2.0	45
2	30	17:40	346.0	.09	86	.91	.91	116	114	116	98	83	64	2.0	45
2	35	17:45	348.3	.09	87	.91	.91	112	107	114	97	83	65	2.0	45
2	40	17:50	351.2	.09	86	.91	.91	111	104	112	96	83	66	2.0	45
3	45	17:55	352.6	.02	85	.20	.20	110	101	109	92	82	65	2.0	45
3	50	18:00	353.8	.02	86	.20	.20	111	104	108	90	82	66	2.0	45
3	55	18:05	355.3	.02	86	.20	.20	110	105	108	90	82	66	2.0	45
3	60	18:10	357.1	.02	87	.20	.20	110	106	108	90	82	67	2.0	45
4	65	18:15	359.7	.11	86	1.11	1.11	112	106	109	96	82	67	2.0	45
4	70	18:20	363.4	.11	87	1.11	1.11	112	107	110	98	82	69	2.0	45
4	75	18:25	365.9	.11	87	1.11	1.11	109	107	110	98	83	64	2.0	45
4	80	18:30	369.2	.11	87	1.11	1.11	109	107	110	98	83	64	2.0	45
5	85	18:35	373.7	.16	88	1.62	1.62	111	108	110	100	84	64	2.5	45
5	90	18:40	376.4	.18	88	1.82	1.82	109	108	111	100	84	64	2.5	45
5	95	18:45	380.3	.17	88	1.72	1.72	109	108	110	100	84	64	3.0	45
6	100	18:50	384.2	.18	85	1.82	1.82	107	106	109	99	85	64	3.0	45
6	105	18:55	388.2	.20	87	2.02	2.02	109	107	109	100	84	65	3.5	45
6	110	19:00	392.2	.20	87	2.02	2.02	111	102	110	100	84	65	3.5	45
6	115	19:05	395.7	.19	86	1.92	1.92	109	107	110	100	84	65	3.5	45
6	120	19:10	400.1234	.19	86	1.92	1.92	109	107	110	100	85	66	3.5	45

Comments:

Plant	US INTEC	Location	INLET T.O.	Run Number	3
Date	9/23/	Sample Type	PM - METHSA	Operator	MWH

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent ~~Temp~~ FILTER EXIT (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)	
	:120	19:40	400.259												
A-6	125	19:45	404.3	.20	87	2.02	2.02	112	97	108	88	82	66	3.5	45
6	130	19:50	408.3	.19	87	1.92	1.92	114	98	115	97	83	60	3.5	45
6	135	19:55	412.2	.19	86	1.92	1.92	99	98	111	97	83	59	3.5	45
6	140	20:00	416.0	.18	86	1.82	1.82	102	98	109	97	84	60	3.5	45
5	145	20:05	419.3	.18	85	1.82	1.82	105	99	110	98	84	62	3.5	45
5	150	20:10	423.3	.17	86	1.72	1.72	106	100	110	98	84	63	3.5	45
5	155	20:15	427.1	.18	86	1.82	1.82	103	100	110	97	84	64	3.5	45
5	160	20:20	431.0	.18	85	1.82	1.82	107	100	111	97	84	64	3.5	45
4	165	20:25	434.6	.14	85	1.42	1.42	104	100	111	97	84	65	3.0	45
4	170	20:30	437.7	.14	84	1.42	1.42	104	100	111	97	83	65	3.0	45
4	175	20:35	441.1	.14	84	1.42	1.42	106	100	111	97	83	64	3.0	45
4	180	20:40	445.0	.14	84	1.42	1.42	105	101	111	97	83	61	3.0	45
3	185	20:45	446.5	.05	84	0.51	0.51	104	105	110	94	83	61	2.0	45
3	190	20:50	448.9	.05	84	0.51	0.51	107	106	110	94	83	63	1.0	45
3	195	20:55	450.7	.05	83	0.51	0.51	109	107	110	94	83	63	1.0	45
3	200	21:00	453.1	.05	83	0.51	0.51	108	108	111	94	82	62	1.0	45
2	205	21:05	455.5	.10	83	1.01	1.01	109	109	112	96	82	62	2.0	45
2	210	21:10	458.3	.10	83	1.01	1.01	109	109	112	96	82	61	2.0	45
2	215	21:15	462.3	.10	84	1.01	1.01	110	110	112	96	83	61	2.0	45
2	220	21:20	464.9	.11	84	1.11	1.11	111	111	112	97	82	61	2.0	45
1	225	21:25	468.2	.11	82	1.11	1.11	113	111	113	97	82	62	2.0	45
1	230	21:30	470.8	.12	82	1.21	1.21	113	112	113	97	82	62	2.0	45
1	235	21:35	473.9	.12	82	1.21	1.21	112	111	113	98	82	63	2.0	45
1	240	21:40	477.437	.12	81	1.21	1.21	109	112	113	97	83	64	2.0	45

Comments:

ERG
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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-23-97
Sampling Location	THERMAL OXIDIZER INLET
Sample Type	5A
Run Number	3
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	091297-11 3"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100ml	MGB	648.0	596.2	51.8
2	H_2O	100ml	GB	613.8	598.2	15.6
3	M.T.		MGB	504.6	498.9	5.7
4	S.G.		MGB	830.9	800.1	30.8
5						
6						
7						
					Total Weight Gain (g)	103.9

Facility:	US Intec
Date:	09/22/97
Location:	T.O. Outlet
Run Number:	1
Sample Type:	M5A

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	30.18
Absolute Stack Pressure (in Hg)	30.18
Stack Static Pressure (in H2O)	0.00
Average Stack Temperature (°F)	400.54
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	151.686
Average Meter Pressure (in H2O)	1.14
Average Meter Temperature (°F)	88.29
Moisture Collected (g)	151.60
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9990
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.615
Standard Metered Volume (dscf)	147.623
Standard Metered Volume (dscm)	4.181
Stack Moisture (%V)	4.62
Mole Fraction Dry Stack Gas	0.954
Dry Molecular Weight	29.06
Wet Molecular Weight	28.55
Stack Gas Velocity (fpm)	1920.73
Stack Gas Velocity (mpm)	585.44
Volumetric Flow Rate (acfm)	12833.07
Volumetric Flow Rate (acmm)	363.43
Volumetric Flow Rate (dscfm)	7573.84
Volumetric Flow Rate (dscmm)	214.49
Percent Isokinetic	103.52
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/22/97	Nozzle ID (in)	0.31	Moisture Collected (g)	151.6
Sampling Location	T.O. Outlet	Meter Box Number	A-37	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.735	O2 Percent	19
Run Number	1	Dry Gas Meter Factor (Yd)	0.999	N2 Percent	79.1
Operator	MKO	K Factor	5.68	Particulate Catch (g)	
Ambient Temperature	84	Probe Heater Setting	160	Stack Geometry (R or C)?	c
Barometric Pressure	30.18	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	0	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.007@15"	Final Leak Check	.020@3"		

US Intec
09/22/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1450	489.300							
B-1	10	1500	494.770	0.15	0.85	404	82	82	63	1
2	20	1510	501.040	0.17	0.96	400	90	83	62	1
3	30	1520	506.270	0.15	0.85	400	91	83	59	1
4	40	1530	511.850	0.18	1.02	400	93	85	60	1
5	50	1540	517.620	0.15	0.86	405	95	87	53	1
6	60	1550	523.750	0.16	0.91	402	97	88	52	1
7	70	1600	529.120	0.18	1.02	402	97	87	54	1
8	80	1610	534.850	0.17	0.96	399	96	86	56	1
9	90	1620	540.630	0.16	0.96	404	97	86	56	1
10	100	1630	547.130	0.2	1.13	404	91	80	59	2
11	110	1640	553.630	0.22	1.24	407	94	80	61	2
12	120	1650	560.580	0.25	1.42	409	95	81	61	2
	130	1725	561.884							
A-1	140	1735	568.350	0.24	1.36	399	96	84	46	1
2	150	1745	573.430	0.24	1.36	398	96	83	47	1
3	160	1755	587.550	0.23	1.3	397	94	81	55	1
4	170	1805	589.670	0.22	1.24	397	93	81	57	1
5	180	1815	595.430	0.21	1.19	395	94	81	58	1
6	190	1825	603.170	0.22	1.24	397	93	82	61	1
7	200	1835	608.530	0.19	1.07	404	94	82	62	1
8	210	1845	615.040	0.21	1.19	399	94	82	61	1
9	220	1855	621.350	0.23	1.3	399	94	81	62	1
10	230	1905	628.630	0.21	1.24	396	95	82	63	1
11	240	1915	635.340	0.25	1.42	397	93	81	57	1
12	250	1925	642.290	0.22	1.24	399	94	82	58	1

END

		Average Meter Temp (F)
	A-1	82.0
	2	86.5
	3	87.0
	4	89.0
	5	91.0
	6	92.5
	7	92.0
	8	91.0
	9	91.5
	10	85.5
	11	87.0
	12	88.0
	0	
	A-1	90.0
	2	89.5
	3	87.5
	4	87.0
	5	87.5
	6	87.5
	7	88.0
	8	88.0
	9	87.5
	10	88.5
	11	87.0
	12	88.0

END

88.29167

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MODIFIED METHOD 5 DATA SHEET

Run ____
Page 1 of ____

Plant	U.S. Zinc	XAD Trap Number		Meter Box Number	A-37
Date	9-22-97	Filter Heater Setting (°F)	110 ± 18	Meter delta H @	1.735
Operator	MKO	Probe Length & Type	4' Glass	DGM Factor (Y)	.989
Sampling Location	Outlet Thermal Ox	Probe Heater Setting (°F)	160°F	Nozzle Type & ID (in)	.310
Sample Type	5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	84°F
Run Number	1	Initial Leak Check	0.007 at 15"	Assumed Moisture (% H2O)	6.0
Static Pressure (±) (in. H2O)	0.00	Final Leak Check	0.020 at 3"	K-Factor	5.68
Barometric Pressure (in. H2O)	30.18				

5A

Diagram of Duct

O2 19.90
CO2 1.9 90

Schematic of Traverse Point Layout

Read and record all data every 10 minutes

Exit Filter

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap Temp.~~ (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1450	489.30	.15		.85	.85							
B 1	10	1500	494.77	[illegible]	404	[illegible]	[illegible]	159	92	90	87	87	63	1.0
2	20	1510	501.04	.19	400	.96	.96	130	138	99	90	83	62	1.0
3	30	1520	506.27	.15	400	.85	.85	118	93	111	91	83	57	1.0
4	40	1530	511.85	.18	400	1.02	1.02	125	99	120	93	85	60	1.0
5	50	1540	517.62	.13	405	.85	.85	151	94	125	95	87	53	1.0
6	60	1550	523.75	.16	402	.91	.91	131	94	121	97	86	57	1.0
7	70	1600	529.12	.18	402	1.02	1.02	119	89	118	97	87	54	1.0
8	80	1610	534.85	.17	399	.96	.96	105	88	117	96	86	56	1.0
9	90	1620	540.63	.16	404	.96	.96	105	89	118	99	86	56	1.0
10	100	1630	547.13	.20	404	1.13	1.13	109	87	117	96	80	59	2.0
11	110	1640	553.63	.22	407	1.24	1.24	110	85	122	96	80	61	2.0
12	120	1650	560.58	.25	409	1.42	1.42	112	87	124	95	81	61	2.0
			Leak Check		0.010 at 6"									
	0	1725	561.881											
A 1	10	1735	568.35	.24	399	1.36	1.36	115	85	103	96	84	46	1.0
2	20	1745	573.45	.21	398	1.36	1.36	115	85	116	96	83	49	1.0
3	30	1755	582.55	.23	397	1.30	1.30	121	87	121	94	81	55	1.0
4	40	1805	589.67	.22	392	1.24	1.24	109	82	119	93	81	57	1.0
5	50	1815	595.43	.21	395	1.19	1.19	120	82	119	94	81	58	1.0
6	60	1825	603.17	.22	397	1.24	1.24	121	83	119	93	82	61	1.0
7	70	1835	608.53	.19	404	1.07	1.07	123	81	121	94	82	62	1.0
8	80	1845	615.04	.21	399	1.19	1.19	118	85	120	94	82	61	1.0
9	90	1855	621.35	.23	397	1.30	1.30	130	84	124	94	81	62	1.0
10	100	1905	628.63	.21	396	1.24	1.24	128	85	124	95	82	63	1.0
11	110	1915	635.34	.25	397	1.42	1.42	106	83	124	93	81	57	1.0
12	120	1925	642.29	.22	399	1.24	1.24	109	83	122	94	82	58	1.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9/22/97
Sampling Location	Outlet Thermal Oxidizer
Sample Type	SA
Run Number	1
Impinger Box Number	
Recovery Person	MA
Recovery Rinses	TCE
Sample Identification	
Filter Number →	091297-23 4"
XAD Number	NA

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight Final (g)	Initial (g)	Weight Gain (g)	
1	H_2O ~~MT~~	100ml	MGS		592.8 ~~1503~~	716.5	124
2	H_2O	100ml	GS ~~GS~~		641.1	621.1	(20)
3	MT ~~H_2O~~	~~100 ml~~	MGS		450.3	456.8	6.5
4	S.G.		MGS		702.9	744.0	41.1
5							
6							
7							
					Total Weight Gain (g)	151.6	

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Outlet
Run Number:	2
Sample Type:	M5A

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.92
Stack Static Pressure (in H2O)	0.00
Average Stack Temperature (°F)	401.88
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	147.917
Average Meter Pressure (in H2O)	1.07
Average Meter Temperature (°F)	85.54
Moisture Collected (g)	155.10
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9830
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.588
Standard Metered Volume (dscf)	141.111
Standard Metered Volume (dscm)	3.996
Stack Moisture (%V)	4.93
Mole Fraction Dry Stack Gas	0.951
Dry Molecular Weight	29.06
Wet Molecular Weight	28.52
Stack Gas Velocity (fpm)	1878.02
Stack Gas Velocity (mpm)	572.42
Volumetric Flow Rate (acfm)	12547.68
Volumetric Flow Rate (acmm)	355.35
Volumetric Flow Rate (dscfm)	7306.53
Volumetric Flow Rate (dscmm)	206.92
Percent Isokinetic	102.58
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	155.1
Sampling Location	T.O. Outlet	Meter Box Number	A-37	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.839	O2 Percent	19
Run Number	2	Dry Gas Meter Factor (Yd)	0.983	N2 Percent	79.1
Operator	MKO	K Factor	5.68	Particulate Catch (g)	
Ambient Temperature	84	Probe Heater Setting	125	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	0	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	0.010@10"	Final Leak Check	0.006@10"		

US Intec
09/23/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1015	644.743							
B-12	10	1025	651.73	0.23	1.3	409	86	79	58	1
11	20	1035	657.95	0.22	1.13	412	93	82	61	1
10	30	1045	664.4	0.2	1.13	410	94	83	61	1
9	40	1055	670.73	0.18	1.02	417	94	82	48	1
8	50	1105	677.03	0.16	0.9	411	95	82	48	1
7	60	1115	681.35	0.16	0.9	406	96	83	50	1
6	70	1125	687.53	0.17	0.96	404	95	83	48	1
5	80	1135	692.75	0.15	0.85	397	94	82	49	1
4	90	1145	698.94	0.15	0.85	399	95	83	50	1
3	100	1155	703.84	0.15	0.85	381	87	78	50	1
2	110	1205	710.14	0.16	0.9	389	88	78	50	1
1	120	1215	714.83	0.14	0.78	385	89	79	50	1
		1240	714.89							
A-12	10	1250	721.35	0.22	1.24	396	85	77	50	1
11	20	1300	726.89	0.2	1.13	402	86	77	49	1
10	30	1310	733.94	0.17	0.96	408	88	77	52	1
9	40	1320	739.85	0.16	0.9	405	89	78	51	1
8	50	1330	745.53	0.17	0.96	404	90	78	52	1
7	60	1340	751.13	0.18	1.02	403	91	78	52	1
6	70	1350	758.43	0.23	1.3	401	92	78	51	1
5	80	1400	765.23	0.23	1.3	403	92	79	52	1
4	90	1410	773.02	0.24	1.38	403	92	79	53	1
3	100	1420	779.05	0.23	1.3	400	93	80	54	1
2	110	1430	785.92	0.24	1.38	399	93	80	53	1
1	120	1440	792.72	0.21	1.19	401	93	81	56	1

END

	Average Meter Temp (F)
A-1	82.5
2	87.5
3	88.5
4	88.0
5	88.5
6	89.5
7	89.0
8	88.0
9	89.0
10	82.5
11	83.0
12	84.0
0	
A-12	81.0
11	81.5
10	82.5
9	83.5
8	84.0
7	84.5
6	85.0
5	85.5
4	85.5
3	86.5
2	86.5
1	87.0

END

85.54167

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MODIFIED METHOD 5 DATA SHEET

Run 2
Page 1 of 1

Plant	US Tutec	XAD Trap Number		Meter Box Number	~~39~~ 37
Date	9-23-97	Filter Heater Setting (°F)	120°F ~~250~~	Meter delta H @	1.839
Operator	MKO	Probe Length & Type	4' 5/16	DGM Factor (Y)	.983
Sampling Location	Oxidizer outlet	Probe Heater Setting (°F)	125	Nozzle Type & ID (in.)	.310
Sample Type	Outlet S-A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	84°F
Run Number	2	Initial Leak Check	0.010 at 10"	Assumed Moisture (% H2O)	6%
Static Pressure (±) (in. H2O)	0.00	Final Leak Check	0.010 at 10"	K-Factor	5168
Barometric Pressure (in. H2O)	29.92				

O_2 · 19%
CO_2 · 1.9%

Diagram of Duct

Schematic of Traverse Point Layout

5A

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ Cyclone Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1015	644.743											
B 12	10	1025	651.73	.23	409	1.30	1.30	140	83	95	86	79	58	1.0
11	20	1035	657.95	.22	412	1.24	1.13	164	84	111	93	82	61	1.0
10	30	1045	664.40	.20	410	1.13	1.13	170	85	123	94	83	61	1.0
9	40	1055	670.73	.18	411	1.02	1.02	168	93	125	94	82	48	1.0
8	50	1105	677.05	.16	411	.90	.90	162	94	125	95	82	48	1.0
7	60	1115	681.35	.16	406	.96	.90	158	95	123	96	83	50	1.0
6	70	1125	687.53	.17	404	.96	.96	132	95	122	95	83	48	1.0
5	80	1135	692.75	.15	397	.85	.85	103	83	117	94	82	49	1.0
4	90	1145	698.44	.15	399	.85	.85	103	84	114	95	83	50	1.0
3	100	1155	703.84	.15	381	.85	.85	95	77	98	87	78	50	1.0
2	110	1205	710.14	.16	389	.90	.90	98	79	98	88	78	50	1.0
1	120	1215	714.83	.14	385	.78	.78	99	80	99	89	79	50	1.0
			Leak	check		0.010 at 10"								
	0	1240	714.89											
A 12	10	1250	721.35	.22	396	1.24	1.24	170	80	99	85	77	50	1.0
11	20	1300	726.89	.20	402	1.13	1.13	161	84	110	86	77	49	1.0
10	30	1310	733.94	.17	408	.96	.96	160	87	115	88	77	52	1.0
9	40	1320	737.85	.16	405	.90	.90	158	89	115	89	78	51	1.0
8	50	1330	745.53	.17	404	.96	.96	163	87	116	90	78	52	1.0
7	60	1340	751.13	.18	403	1.02	1.02	161	90	117	91	78	52	1.0
6	70	1350	758.43	.23	401	1.30	1.30	150	96	122	92	78	51	1.0
5	80	1400	765.23	.23	403	1.30	1.30	129	90	125	92	79	52	1.0
4	90	1410	772.02	.24	403	1.38	1.38	107	91	124	92	79	53	1.0
3	100	1420	779.05	.23	400	1.30	1.30	105	90	122	93	80	54	1.0
2	110	1430	785.72	.24	399	1.38	1.38	97	90	125	93	80	53	1.0
1	120	1440	792.12	.21	401	1.19	1.19	98	91	124	93	81	56	1.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-23-97
Sampling Location	OUTLET THERMAL OXIDIZER
Sample Type	5A
Run Number	2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	OK M.A.
Filter Number	~~091297-22~~ 4"
XAD Number	N/A

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight Final (g)	Impinger Weight Initial (g)	Impinger Weight Weight Gain (g)
1	H_2O	100ml	MGS	680.4	578.7	101.7
2	H_2O	100ml	GS	636.4	614.9	21.5
3	MT		MGS	479.6	475.5	4.1
4	S.G.		MGS	769.1	741.3	27.8
5						
6						
7						
					Total Weight Gain (g)	155.1

Facility:	US Intec
Date:	09/23/97
Location:	T.O. Outlet
Run Number:	3
Sample Type:	M5A

Total Sampling Time (min)	240.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.92
Stack Static Pressure (in H2O)	0.00
Average Stack Temperature (°F)	401.63
Stack Area (sq in)	962.11
Actual Meter Volume (cu ft)	144.935
Average Meter Pressure (in H2O)	1.05
Average Meter Temperature (°F)	83.73
Moisture Collected (g)	145.10
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9830
Nozzle Diameter (in)	0.310
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.578
Standard Metered Volume (dscf)	138.740
Standard Metered Volume (dscm)	3.929
Stack Moisture (%V)	4.70
Mole Fraction Dry Stack Gas	0.953
Dry Molecular Weight	29.06
Wet Molecular Weight	28.54
Stack Gas Velocity (fpm)	1860.44
Stack Gas Velocity (mpm)	567.06
Volumetric Flow Rate (acfm)	12430.24
Volumetric Flow Rate (acmm)	352.02
Volumetric Flow Rate (dscfm)	7257.58
Volumetric Flow Rate (dscmm)	205.53
Percent Isokinetic	101.53
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.31	Moisture Collected (g)	145.1
Sampling Location	T.O. Outlet	Meter Box Number	A-37	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.839	O2 Percent	19
Run Number	3	Dry Gas Meter Factor (Yd)	0.983	N2 Percent	79.1
Operator	MKO	K Factor	5.68	Particulate Catch (g)	
Ambient Temperature	78	Probe Heater Setting	125	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	35
Static Pressure (Ps)	0	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.006@9"	Final Leak Check	0.007@7"		

US Intec
09/23/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1710	792.839							
B-12	10	1720	800.49	0.23	1.3	405	78	77	54	1
11	20	1730	805.62	0.2	1.13	408	90	79	57	1
10	30	1740	812.42	0.21	1.19	407	92	79	60	1
9	40	1750	818.27	0.17	0.96	406	92	79	64	1
8	50	1800	824.55	0.16	0.9	401	91	79	60	1
7	60	1810	829.48	0.16	0.9	402	92	79	60	1
6	70	1820	835.45	0.18	1.02	399	92	79	57	1
5	80	1830	841.23	0.15	0.85	399	91	76	57	1
4	90	1840	846.35	0.16	0.9	399	92	79	58	1
3	100	1850	851.77	0.15	0.85	397	92	79	58	1
2	110	1900	857.49	0.15	0.85	398	92	79	58	1
1	120	1910	863.25	0.16	0.9	395	93	80	60	
		1940	863.28							
A-12	10	1950	869.66	0.2	1.13	408	80	78	567	1
11	20	2000	875.86	0.2	1.13	406	88	77	55	1
10	30	2010	881.35	0.17	0.96	406	89	72	58	1
9	40	2020	887.2	0.17	0.96	404	89	77	60	1
8	50	2030	893.03	0.16	0.9	402	88	77	61	1
7	60	2040	899.04	0.18	1.02	399	88	77	60	1
6	70	2050	905.45	0.21	1.19	398	89	77	60	1
5	80	2100	911.9	0.21	1.19	399	90	77	60	1
4	90	2110	918.63	0.23	1.3	399	91	77	60	1
3	100	2120	925.43	0.23	1.3	400	91	77	60	1
2	110	2130	932.26	0.21	1.18	401	91	78	61	1
1	120	2140	937.804	0.21	1.19	401	92	78	62	1

END

	Average Meter Temp (F)
A-1	77.5
2	84.5
3	85.5
4	85.5
5	85.0
6	85.5
7	85.5
8	83.5
9	85.5
10	85.5
11	85.5
12	86.5
0	
A-12	79.0
11	82.5
10	80.5
9	83.0
8	82.5
7	82.5
6	83.0
5	83.5
4	84.0
3	84.0
2	84.5
1	85.0

END

83.72917

Eastern Research Group, Inc.

MODIFIED METHOD 5 DATA SHEET

Run ____
Page 1 of ____

Plant	U.S. Infac	XAD Trap Number		Meter Box Number	A-37
Date	9-13-97	Filter Heater Setting (°F)	120 °F	Meter delta H @	1.839
Operator	MKO	Probe Length & Type	4' glass	DGM Factor (Y)	.983
Sampling Location outlet	Oxidizer	Probe Heater Setting (°F)	125	Nozzle Type & ID (in.)	.310
Sample Type	5-A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	78°F
Run Number	3	Initial Leak Check	0.006 at 9"	Assumed Moisture (% H2O)	6.70
Static Pressure (±) (in. H2O)	0.00	Final Leak Check	0.007 at 7"	K-Factor	5.68
Barometric Pressure (in. H2O)	29.92				

5-A

Diagram of Duct

Schematic of Traverse Point Layout

O2 - 19.90
CO2 - 1.9 %

Read and record all data every 10 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap Temp.~~ Exit Filter (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1710	792.839											
B-12	10	1720	799.45	.23	405	1.30	1.30	168	80	93	78	77	54	1.0
11	20	1730	805.62	.18	408	1.17	1.17	160	93	122	90	78	57	1.0
10	30	1740	812.42	.21	407	1.19	1.19	171	100	124	92	79	60	1.0
9	40	1750	818.27	.17	406	.96	.96	171	88	124	92	79	64	1.0
8	50	1800	824.55	.16	401	.90	.90	166	86	122	91	79	60	1.0
7	60	1810	829.98	.16	402	.90	.90	164	87	123	92	79	60	1.0
6	70	1820	835.45	.18	399	1.02	1.02	129	84	115	92	79	57	1.0
5	80	1830	841.53	.15	399	.85	.85	113	83	115	91	76	57	1.0
4	90	1840	846.35	.16	399	.90	.90	112	82	112	92	79	58	1.0
3	100	1850	851.77	.15	397	.85	.85	114	87	117	92	79	58	1.0
2	110	1900	857.49	.15	398	.85	.85	116	86	113	92	79	58	1.0
1	120	1910	863.125	.16	395	.90	.90	117	87	114	93	80	60	1.0
			Leak	Check	0.007	at 7"								
		1940												
A	0	1940	863.28											
12	10	1950	869.66	.20	408	1.13	1.13	173	80	92	80	78	67	1.0
11	20	2000	875.86	.20	406	1.13	1.13	170	83	118	88	77	55	1.0
10	30	2010	881.35	.17	406	.96	.96	169	83	124	89	77	58	1.0
9	40	2020	887.20	.17	404	.96	.96	164	83	116	89	77	60	1.0
8	50	2030	893.03	.16	402	.90	.90	163	88	114	88	77	61	1.0
7	60	2040	899.04	.18	399	1.02	1.02	160	89	113	88	77	60	1.0
6	70	2050	905.45	.21	398	1.19	1.19	137	87	115	89	77	60	1.0
5	80	2100	911.90	.21	399	1.19	1.19	166	85	110	90	77	60	1.0
4	90	2110	918.63	.23	399	1.30	1.30	160	88	124	91	77	60	1.0
3	100	2120	925.43	.23	400	1.30	1.30	160	88	125	91	77	60	1.0
2	110	2130	932.26	.21	401	1.19	1.19	160	88	121	91	78	61	1.0
1	120	2140	939.804	.21	401	1.19	1.19	162	87	123	92	78	62	1.0

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-23-97
Sampling Location	THERMAL OXIDIZER OUTLET
Sample Type	SA
Run Number	3
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	091297-30 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100ml	MGB	655.7	566.6	89.1
2	H_2O	100ml	GB	656.0	631.5	24.5
3	M.T.		MGB	461.3	456.7	4.6
4	S.G.		MGB	776.4	749.5	26.9
5						
6						
7						
					Total Weight Gain (g)	145.1

24

Facility:	US Intec
Date:	09/23/97
Location:	APP Stack
Run Number:	1
Sample Type:	M5A

Total Sampling Time (min)	60.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.92
Stack Static Pressure (in H2O)	0.01
Average Stack Temperature (°F)	99.33
Stack Area (sq in)	706.86
Actual Meter Volume (cu ft)	45.916
Average Meter Pressure (in H2O)	1.83
Average Meter Temperature (°F)	87.46
Moisture Collected (g)	31.40
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.246
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.730
Standard Metered Volume (dscf)	43.772
Standard Metered Volume (dscm)	1.240
Stack Moisture (%V)	3.27
Mole Fraction Dry Stack Gas	0.967
Dry Molecular Weight	29.06
Wet Molecular Weight	28.70
Stack Gas Velocity (fpm)	2427.53
Stack Gas Velocity (mpm)	739.91
Volumetric Flow Rate (acfm)	11916.12
Volumetric Flow Rate (acmm)	337.46
Volumetric Flow Rate (dscfm)	10880.48
Volumetric Flow Rate (dscmm)	308.14
Percent Isokinetic	99.72
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

9/24/97

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/23/97	Nozzle ID (in)	0.246	Moisture Collected (g)	31.4
Sampling Location	APP Stack	Meter Box Number	A-40	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.791	O2 Percent	19
Run Number	1	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	Jackson	K Factor	3.71	Particulate Catch (g)	
Ambient Temperature	80	Probe Heater Setting	108	Stack Geometry (R or C)?	C
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	30
Static Pressure (Ps)	0.01	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.008@15"	Final Leak Check	.005@15"		

US Intec
09/23/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1325	477.623							
Y-1	5	1330	480.8	0.34	1.26	97	89	80	66	1
2	10	1335	484.6	0.48	1.78	97	94	80	62	1
3	15	1340	488.7	0.57	2.12	98	95	80	60	1
4	20	1345	491.9	0.34	1.26	102	96	81	62	1
5	25	1350	495.4	0.39	1.44	100	95	81	62	1
6	30	1355	498.853	0.41	1.52	100	95	81	60	1
	30	1401	498.895							
X-1	35	1406	502.8	0.47	1.75	96	89	81	59	1
2	40	1411	506.8	0.52	1.93	98	94	81	58	1
3	45	1416	510.7	0.56	2.08	99	95	81	59	1
4	50	1421	515.1	0.65	2.41	100	95	82	61	1.5
5	55	1426	519.8	0.67	2.49	102	95	82	63	1.5
6	60	1431	523.581	0.52	1.93	103	95	82	65	1

END

	Average Meter Temp (F)
Y-1	84.5
2	87.0
3	87.5
4	88.5
5	88.0
6	88.0
X-1	85.0
2	87.5
3	88.0
4	88.5
5	88.5
6	88.5

END

87.45833

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~~MODIFIED~~ METHOD 5A DATA SHEET

Run 1
Page 1 of 1

Plant	U.S Intec	XAD Trap Number	NA	Meter Box Number	A-40
Date	9/24/97	Filter Heater Setting (°F)	108	Meter delta H @	1.791
Operator	Jackson	Probe Length & Type (boro.)	4'	DGM Factor (Y)	0.984
Sampling Location	APP Stack	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.246
Sample Type	M5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	80
Run Number	1	Initial Leak Check @ 15" Hg	0.008	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	+.01	Final Leak Check @ 15" Hg	0.005	K-Factor	3.71 (Sto 02)
Barometric Pressure (in. H2O)	29.92				

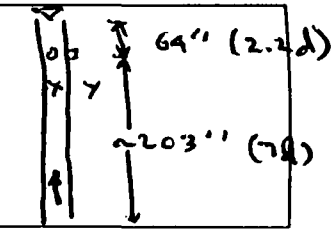

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent~~ Filter Exit Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1325	477.623											
Y-1	5	1330	480.8	.34	97	1.26	1.26	103	99	95	89	80	66	1
2	10	1335	484.6	.48	97	1.78	1.78	104	101	96	94	80	62	1
3	15	1340	488.7	.57	98	2.12	2.12	103	109	95	95	80	60	1
4	20	1345	491.9	.34	102	1.26	1.26	102	113	96	96	81	62	1
5	25	1350	495.4	.39	100	1.44	1.44	105	116	95	95	81	62	1
6	30	1355	498.853	.41	100	1.52	1.52	107	118	96	95	81	60	1
		1401	498.895											
	30	1406	502.8	.47	96	1.75	1.75	104	116	98	89	81	59	1
X-1	35	1411	506.8	.52	98	1.93	1.93	107	117	100	94	81	58	1
2	40	1416	510.7	.56	99	2.08	2.08	103	118	101	95	81	59	1
3	45	1421	515.1	.65	100	2.41	2.41	102	118	101	95	82	61	1.5
4	50	1426	519.8	.67	102	2.49	2.49	106	118	102	95	82	63	1.5
5	55	1431	523.581	.52	103	1.93	1.93	108	119	103	95	82	65	1
6	60													

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-24-97
Sampling Location	APP ~~SBS~~ VENT OUTLET
Sample Type	5A
Run Number	~~2~~ 1
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	091297-17 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100 ml	MGB	594.0	584.6	9.4
2	H_2O	100 ml	GB	590.2	582.4	7.8
3	MT		MGB	478.4	475.3	3.1
4	S.G.		MGB	764.9	753.5	11.4
5						
6						
7						
					Total Weight Gain (g)	31.4

Facility:	US Intec
Date:	09/24/97
Location:	APP Stack
Run Number:	2
Sample Type:	M5A

Total Sampling Time (min)	60.0
Corrected Barometric Pressure (in Hg)	29.83
Absolute Stack Pressure (in Hg)	29.83
Stack Static Pressure (in H2O)	0.01
Average Stack Temperature (°F)	100.67
Stack Area (sq in)	706.86
Actual Meter Volume (cu ft)	46.831
Average Meter Pressure (in H2O)	1.91
Average Meter Temperature (°F)	88.75
Moisture Collected (g)	32.80
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.246
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.740
Standard Metered Volume (dscf)	44.409
Standard Metered Volume (dscm)	1.258
Stack Moisture (%V)	3.37
Mole Fraction Dry Stack Gas	0.966
Dry Molecular Weight	29.06
Wet Molecular Weight	28.69
Stack Gas Velocity (fpm)	2485.69
Stack Gas Velocity (mpm)	757.64
Volumetric Flow Rate (acfm)	12201.62
Volumetric Flow Rate (acmm)	345.55
Volumetric Flow Rate (dscfm)	11070.51
Volumetric Flow Rate (dscmm)	313.52
Percent Isokinetic	99.43
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/24/97	Nozzle ID (in)	0.246	Moisture Collected (g)	32.8
Sampling Location	APP Stack	Meter Box Number	A-40	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.791	O2 Percent	19
Run Number	2	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	Jackson	K Factor	3.71	Particulate Catch (g)	
Ambient Temperature	80	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.83	Heater Box Setting		Stack Diameter (in)	30
Static Pressure (Ps)	0.01	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.012@15"	Final Leak Check	.014@15"		

US Intec
09/24/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1510	523.88							
X-1	5	1515	527.7	0.49	1.82	99	91	80	66	1.5
2	10	1520	531.7	0.54	2.01	99	96	81	58	1.5
3	15	1525	535.7	0.58	2.15	102	97	81	60	2
4	20	1530	540.1	0.61	2.27	101	98	82	62	2
5	25	1535	544.5	0.65	2.41	102	100	83	65	2
6	30	1540	548.893	0.63	2.34	103	99	84	60	2
	30	1550	549.04							
Y-1	35	1555	553.1	0.49	1.82	99	92	83	62	1.5
2	40	1600	556.7	0.55	2.04	98	96	83	57	1.5
3	45	1605	561	0.57	2.12	99	95	83	58	2
4	50	1610	564.2	0.35	1.3	103	93	82	59	1
5	55	1615	567.6	0.39	1.45	102	94	82	60	1
6	60	1620	570.858	0.32	1.19	101	94	81	60	1

END

	Average Meter Temp (F)
X-1	85.5
2	88.5
3	89.0
4	90.0
5	91.5
6	91.5
Y-1	87.5
2	89.5
3	89.0
4	87.5
5	88.0
6	87.5

END

88.75

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~~MODIFIED~~ METHOD 5A DATA SHEET

Plant	U.S. Inter	XAD Trap Number	N.A.	Meter Box Number	A-40
Date	9/24/97	Filter Heater Setting (°F)	108	Meter delta H @	1.791
Operator	Jackson	Probe Length & Type (burn)	4'	DGM Factor (Y)	0.984
Sampling Location	App Stack	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.246
Sample Type	MSA	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	80
Run Number	2	Initial Leak Check @ 15" Hg	0.012	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	+.01	Final Leak Check @ 15" Hg	0.014	K-Factor	3.71 (St. 02)
Barometric Pressure (in. H2O)	29.83				

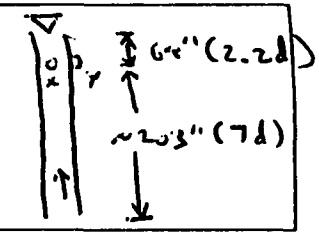

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Filter Exit

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1505	523.880											
X-1	5	1515	527.7	.49	99	1.82	1.82	106	110	95	91	80	66	1.5
2	10	1520	531.7	.54	99	2.01	2.01	111	113	95	96	81	58	1.5
3	15	1525	535.7	.58	102	2.15	2.15	112	115	96	97	81	60	2
4	20	1530	540.1	.61	101	2.27	2.27	111	114	97	98	82	62	2
5	25	1535	544.5	.65	102	2.41	2.41	111	117	100	100	83	65	2
6	30	1540	548.893	.63	103	2.39	2.34	112	118	101	99	84	60	2
		1545	549.040											
	30	1550	553.1	.49	99	1.82	1.82	113	119	99	92	83	82	1.5
Y-1	35	1555	556.7	.55	98	2.04	2.04	109	119	103	96	83	57	1.5
2	40	1600	561.0	.57	99	2.12	2.12	107	119	102	95	83	58	2
3	45	1605	564.2	.35	103	1.30	1.30	105	118	102	93	82	59	1
4	50	1610	567.6	.39	102	1.45	1.45	107	117	102	94	82	60	1
5	55	1615	570.858	.32	101	1.19	1.19	108	118	103	94	81	60	1
6	60													

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

ERG
Eastern Research Group, Inc.

MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-24-97
Sampling Location	APP VENT OUTLET
Sample Type	5A
Run Number	2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	091297-35 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100ml	MGB	598.8	585.1	13.7
2	H_2O	100ml	GB	608.0	602.0	6.0
3	M.T.		MGB	481.0	478.7	2.3
4	S.G.		MGB	782.3	771.5	10.8
5						
6						
7						
					Total Weight Gain (g)	32.8

Facility:	US Intec
Date:	09/24/97
Location:	APP Stack
Run Number:	3
Sample Type:	M5A

Total Sampling Time (min)	60.0
Corrected Barometric Pressure (in Hg)	29.83
Absolute Stack Pressure (in Hg)	29.83
Stack Static Pressure (in H2O)	0.01
Average Stack Temperature (°F)	95.50
Stack Area (sq in)	706.86
Actual Meter Volume (cu ft)	46.969
Average Meter Pressure (in H2O)	1.91
Average Meter Temperature (°F)	86.13
Moisture Collected (g)	28.00
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9840
Nozzle Diameter (in)	0.246
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.746
Standard Metered Volume (dscf)	44.754
Standard Metered Volume (dscm)	1.267
Stack Moisture (%V)	2.87
Mole Fraction Dry Stack Gas	0.971
Dry Molecular Weight	29.06
Wet Molecular Weight	28.75
Stack Gas Velocity (fpm)	2478.44
Stack Gas Velocity (mpm)	755.43
Volumetric Flow Rate (acfm)	12165.99
Volumetric Flow Rate (acmm)	344.54
Volumetric Flow Rate (dscfm)	11198.54
Volumetric Flow Rate (dscmm)	317.14
Percent Isokinetic	99.06
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/24/97	Nozzle ID (in)	0.246	Moisture Collected (g)	28
Sampling Location	APP Stack	Meter Box Number	A-40	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.791	O2 Percent	19
Run Number	3	Dry Gas Meter Factor (Yd)	0.984	N2 Percent	79.1
Operator	Jackson	K Factor	3.71	Particulate Catch (g)	
Ambient Temperature	78	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.83	Heater Box Setting		Stack Diameter (in)	30
Static Pressure (Ps)	0.01	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.011@15"	Final Leak Check	.005@15"		

US Intec
09/24/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1632	571.133							
Y-1	5	1637	574.6	0.42	1.56	93	89	79	58	1
2	10	1642	578.9	0.53	1.97	93	92	80	56	1
3	15	1647	582.7	0.58	2.15	94	92	80	58	105
4	20	1652	586.3	0.42	1.56	99	91	80	61	1
5	25	1657	590.2	0.46	1.71	99	90	80	62	1
6	30	1702	593.707	0.44	1.63	98	91	80	62	1
	30	1705	593.81							
X-1	35	1710	597.1	0.37	1.37	93	90	80	65	1
2	40	1715	601	0.51	1.89	94	92	80	64	1
3	45	1720	605.3	0.57	2.12	95	94	81	64	1
4	50	1725	609.3	0.64	2.38	95	94	81	64	1.5
5	55	1730	613.8	0.66	2.45	99	95	81	65	1.5
6	60	1735	618.205	0.58	2.15	94	93	82	65	1.5

END

	Average Meter Temp (F)
Y-1	84.0
2	86.0
3	86.0
4	85.5
5	85.0
6	85.5
X-1	85.0
2	86.0
3	87.5
4	87.5
5	88.0
6	87.5

END

86.125

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~~MODIFIED~~ METHOD 5A DATA SHEET

Run 3
Page 1 of 1

Plant	U.S. Intec	XAD Trap Number	N.A.	Meter Box Number	A-40
Date	9/ /97	Filter Heater Setting (°F)	108	Meter delta H @	1.791
Operator	Jackson	Probe Length & Type (boro)	4'	DGM Factor (Y)	0.984
Sampling Location	App Stack	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.246
Sample Type	M5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	78
Run Number	3	Initial Leak Check @ 15" Hg	0.011	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	+0.01	Final Leak Check @ 15" Hg	0.005	K-Factor	3.71
Barometric Pressure (in. H2O)					

(rd 02)

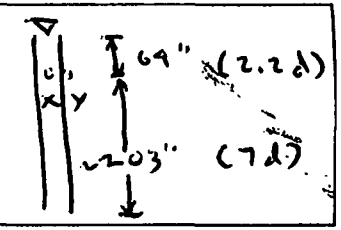

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Filter Exit

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1632	571.133											
Y-1	5	1637	574.6	.42	93	1.56	1.56	95	104	95	89	79	58	1
2	10	1642	578.9	.53	93	1.97	1.97	97	106	95	92	80	56	1
3	15	1647	582.7	.58	94	2.15	2.15	98	107	95	92	80	58	1.5
4	20	1652	586.3	.42	99	1.56	1.56	98	108	95	91	80	61	1
5	25	1657	590.2	.46	99	1.71	1.71	100	109	96	90	80	62	1
6	30	1703	593.707	.44	98	1.63	1.63	102	110	96	91	80	62	1
			5											
	30	1705	593.810											
X-1	35	1710	597.1	.37	93	1.37	1.37	103	112	95	90	80	65	1
2	40	1715	601.0	.51	94	1.89	1.89	103	112	98	92	80	64	1
3	45	1720	605.3	.57	95	2.12	2.12	105	114	97	94	81	64	1
4	50	1725	609.3	.64	95	2.38	2.38	106	114	97	94	81	69	1.5
5	55	1730	613.8	.66	99	2.45	2.45	104	116	98	95	81	65	1.5
6	60	1735	618.205	.58	94	2.15	2.15	104	117	99	93	82	65	1.5

Comments: Process shut down at 1730.

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	A.P.
Date	9-24-97
Sampling Location	APP VENT OUTLET
Sample Type	5A
Run Number	3
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	
Sample Identification	
Filter Number	091297-18 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100g	MGB	598.5	589.6	8.9
2	H_2O	100g	GB	578.6	573.5	5
3	M.T.		MGB	480.2	477.2	3.0
4	S.G.		MGB	775.8	764.8	11.0
5						
6						
7						
					Total Weight Gain (g)	28.0

Facility:	US Intec
Date:	09/24/97
Location:	SBS Stack
Run Number:	1
Sample Type:	M5A

Total Sampling Time (min)	60.0
Corrected Barometric Pressure (in Hg)	29.92
Absolute Stack Pressure (in Hg)	29.92
Stack Static Pressure (in H2O)	0.01
Average Stack Temperature (°F)	101.58
Stack Area (sq in)	706.86
Actual Meter Volume (cu ft)	46.275
Average Meter Pressure (in H2O)	1.71
Average Meter Temperature (°F)	87.46
Moisture Collected (g)	28.20
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.246
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.744
Standard Metered Volume (dscf)	44.641
Standard Metered Volume (dscm)	1.264
Stack Moisture (%V)	2.89
Mole Fraction Dry Stack Gas	0.971
Dry Molecular Weight	29.06
Wet Molecular Weight	28.74
Stack Gas Velocity (fpm)	2413.14
Stack Gas Velocity (mpm)	735.52
Volumetric Flow Rate (acfm)	11845.47
Volumetric Flow Rate (acmm)	335.46
Volumetric Flow Rate (dscfm)	10814.86
Volumetric Flow Rate (dscmm)	306.28
Percent Isokinetic	102.31
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/24/97	Nozzle ID (in)	0.246	Moisture Collected (g)	28.2
Sampling Location	SBS Stack	Meter Box Number	A-39	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.7	O2 Percent	19
Run Number	1	Dry Gas Meter Factor (Yd)	0.996	N2 Percent	79.1
Operator	Jackson	K Factor	3.53	Particulate Catch (g)	
Ambient Temperature	85	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.92	Heater Box Setting		Stack Diameter (in)	30
Static Pressure (Ps)	0.01	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.010@15"	Final Leak Check	0.016@15"		

US Intec
09/24/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1435	349.998							
X-1	5	1440	353.6	0.48	1.69	99	83	83	63	2
2	10	1445	357.5	0.5	1.76	100	93	82	51	2
3	15	1450	361.7	0.55	1.94	102	93	83	52	2
4	20	1455	365.8	0.57	2.01	102	91	84	54	3
5	25	1500	370.2	0.6	2.11	103	91	84	54	3
6	30	1505	374.388	0.57	2.01	102	91	84	56	3
	30	1508	374.455							
Y-1	35	1513	378.1	0.4	1.41	103	91	84	59	2
2	40	1518	382	0.47	1.66	102	92	84	59	2
3	45	1523	386.1	0.56	1.97	103	93	84	59	3
4	50	1528	389.2	0.29	1.02	102	93	84	60	1
5	55	1533	392.9	0.42	1.48	100	92	84	62	2
6	60	1538	396.34	0.41	1.45	101	92	84	62	2

END

	Average Meter Temp (F)
X-1	83.0
2	87.5
3	88.0
4	87.5
5	87.5
6	87.5
Y-1	87.5
2	88.0
3	88.5
4	88.5
5	88.0
6	88.0

END

87.45833

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~~MODIFIED~~ METHOD 5 DATA SHEET

Run [redacted]
Page 1 of 1

Plant	U.S. Intec	XAD Trap Number	N.A.	Meter Box Number	A-39
Date	9/24/97	Filter Heater Setting (°F)	108	Meter delta H @	1.700
Operator	Jackson	Probe Length & Type (boro.)	4'	DGM Factor (Y)	0.996
Sampling Location	SBS Stack	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.246
Sample Type	M5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	85
Run Number	1	Initial Leak Check @ 15" Hg	0.010	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	+0.01	Final Leak Check @ 15" Hg	0.016	K-Factor	3.53
Barometric Pressure (in. H2O)	29.92				(Rev 0.1)

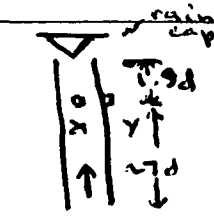

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Filter Exit

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1435 ~~1240~~	349.998											
X-1	5	1440	353.6	.48	99	1.69	1.69	118	114	107	83	83	63	2
2	10	1445	357.5	.50	100	1.76	1.76	119	115	116	93	82	51	2
3	15	1450	361.7	.55	102	1.94	1.94	118	117	117	93	83	52	2
4	20	1455	365.8	.57	102	2.01	2.01	114	116	119	91	84	54	3
5	25	1500	370.2	.60	103	2.11	2.11	110	117	118	91	84	54	3
6	30	1505	374.388	.57	102	2.01	2.01	116	117	118	91	84	56	3
		1508	374.455											
Y-1	35	1513	378.1	.40	103	1.41	1.41	113	118	117	91	84	59	2
2	40	1518	382.0	.47	102	1.66	1.66	118	118	119	92	84	59	2
3	45	1523	386.1	.56	103	1.97	1.97	118	119	118	93	84	59	3
4	50	1528	389.2	.29	102	1.02	1.02	118	119	118	93	84	60	1
5	55	1533	392.9	.42	100	1.48	1.48	115	119	118	92	84	62	2
6	60	1538	396.340	.41	101	1.45	1.45	115	118	118	92	84	62	2

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actuai				Inlet (Tm in)	Outlet (Tm out)		

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-24-97
Sampling Location	SBS VENT OUTLET
Sample Type	5A
Run Number	1
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	091297-19 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight			
				Final (g)	Initial (g)	Weight Gain (g)	
1	H_2O	100ml	MGB	618.9	603.7 ~~[illegible]~~	15.2	
2	H_2O	100ml	GB	630.0	626.3	3.7	
3	MT		MGB	487.9	486.6	1.3	
4	S.G.		MGB	717.1	709.1 ~~[illegible]~~ M.A.	8.0	IMPINGER BROKEN ROOF
5							
6							
7							
					Total Weight Gain (g)	28.2	

Facility:	US Intec
Date:	09/25/97
Location:	SBS Stack
Run Number:	2
Sample Type:	M5A

Total Sampling Time (min)	60.0
Corrected Barometric Pressure (in Hg)	29.86
Absolute Stack Pressure (in Hg)	29.86
Stack Static Pressure (in H2O)	0.01
Average Stack Temperature (°F)	93.08
Stack Area (sq in)	706.86
Actual Meter Volume (cu ft)	50.677
Average Meter Pressure (in H2O)	1.91
Average Meter Temperature (°F)	77.75
Moisture Collected (g)	21.70
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.246
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.828
Standard Metered Volume (dscf)	49.682
Standard Metered Volume (dscm)	1.407
Stack Moisture (%V)	2.02
Mole Fraction Dry Stack Gas	0.980
Dry Molecular Weight	29.06
Wet Molecular Weight	28.84
Stack Gas Velocity (fpm)	2534.15
Stack Gas Velocity (mpm)	772.41
Volumetric Flow Rate (acfm)	12439.47
Volumetric Flow Rate (acmm)	352.29
Volumetric Flow Rate (dscfm)	11612.33
Volumetric Flow Rate (dscmm)	328.86
Percent Isokinetic	106.05
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/25/97	Nozzle ID (in)	0.246	Moisture Collected (g)	21.7
Sampling Location	SBS Stack	Meter Box Number	A-39	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.7	O2 Percent	19
Run Number	2	Dry Gas Meter Factor (Yd)	0.996	N2 Percent	79.1
Operator	Jackson	K Factor	3.53	Particulate Catch (g)	
Ambient Temperature	68	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.86	Heater Box Setting		Stack Diameter (in)	30
Static Pressure (Ps)	0.01	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.006@15"	Final Leak Check	.006@15"		

US Intec
09/25/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	922	396.737							
Y-1	5	927	400.5	0.45	1.59	94	76	71	52	2
2	10	932	404.4	0.5	1.76	95	82	71	49	3
3	15	937	408.4	0.52	1.83	94	83	72	51	3
4	20	942	412.4	0.4	1.41	95	82	72	52	2
5	25	947	415.8	0.47	1.66	91	81	72	55	2
6	30	952	419.876	0.56	1.97	91	82	73	56	3
	30	956	420.016							
X-1	35	1001	424.4	0.52	1.83	91	83	73	55	3
2	40	1006	428.7	0.58	2.04	92	84	73	56	3
3	45	1011	433.5	0.59	2.08	92	85	74	58	4
4	50	1016	438.1	0.6	2.12	93	85	74	60	4
5	55	1021	442.8	0.65	2.29	95	85	74	61	4
6	60	1026	447.554	0.66	2.33	94	85	74	61	4

END

	Average Meter Temp (F)
Y-1	73.5
2	76.5
3	77.5
4	77.0
5	76.5
6	77.5
X-1	78.0
2	78.5
3	79.5
4	79.5
5	79.5
6	79.5

END

77.75

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~~MODIFIED~~ METHOD 5A DATA SHEET

Run 2
Page 1 of 1

Plant	U.S. Intec	XAD Trap Number	N.A	Meter Box Number	A-39
Date	9/25/97	Filter Heater Setting (°F)	108	Meter delta H @	1.700
Operator	Jackson	Probe Length & Type (boro.)	4'	DGM Factor (Y)	0.996
Sampling Location	SBS Stack	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.246
Sample Type	M5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	68
Run Number	2	Initial Leak Check @ 15" Hg	0.006	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	+.01	Final Leak Check @ 15" Hg	0.006	K-Factor	3.53
Barometric Pressure (in. H2O)	29.86				

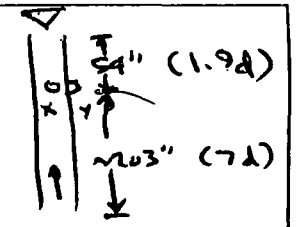

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Filter Exit

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Orifice Pressure Differential (delta H, in.H2O) Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	0922	396.737											
Y-1	5	0927	400.5	.45	94	1.59	1.59	98	107	95	76	71	52	2
2	10	0932	404.4	.50	95	1.76	1.76	108	104	95	82	71	49	3
3	15	0937	408.4	.52	94	1.83	1.83	109	104	96	83	72	51	3
4	20	0942	412.4	.40	95	1.41	1.41	112	106	96	82	72	52	2
5	25	0947	415.8	.47	91	1.66	1.66	110	108	95	81	72	55	2
6	30	0952	419.876	.56	91	1.97	1.97	108	107	95	82	73	56	3
	30	0956	420.016											
X-1	35	1001	424.4	.52	91	1.83	1.83	109	110	95	83	73	55	3
2	40	1006	428.7	.58	92	2.04	2.04	117	113	97	84	73	56	3
3	45	1011	433.5	.59	92	2.08	2.08	117	113	97	85	74	58	4
4	50	1016	438.1	.60	93	2.12	2.12	116	114	98	85	74	60	4
5	55	1021	442.8	.65	95	2.29	2.29	116	113	98	85	74	61	4
6	60	1026	447.554	.66	94	2.33	2.33	116	113	99	85	74	61	4

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-24-97
Sampling Location	SBS VENT OUTLET
Sample Type	5A
Run Number	2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	TCE
Sample Identification	
Filter Number	091297-29 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100ml	MGB	584.7	583.0	1.7
2	H_2O	100 ml	GB	632.6	626.8	5.8
3	MT		MGB	471.3	469.2	2.1
4	S.G.		MGB	759.0	746.9	12.1
5						
6						
7						
					Total Weight Gain (g)	21.7

Facility:	US Intec
Date:	09/25/97
Location:	SBS Stack
Run Number:	3
Sample Type:	M5A

Total Sampling Time (min)	60.0
Corrected Barometric Pressure (in Hg)	29.86
Absolute Stack Pressure (in Hg)	29.86
Stack Static Pressure (in H2O)	0.01
Average Stack Temperature (°F)	93.25
Stack Area (sq in)	706.86
Actual Meter Volume (cu ft)	48.024
Average Meter Pressure (in H2O)	1.84
Average Meter Temperature (°F)	81.17
Moisture Collected (g)	20.00
Carbon Dioxide Concentration (%V)	1.9
Oxygen Concentration (%V)	19.0
Nitrogen Concentration (%V)	79.1
Dry Gas Meter Factor	0.9960
Nozzle Diameter (in)	0.246
Pitot Constant	0.84
Average Sampling Rate (dscfm)	0.780
Standard Metered Volume (dscf)	46.789
Standard Metered Volume (dscm)	1.325
Stack Moisture (%V)	1.98
Mole Fraction Dry Stack Gas	0.980
Dry Molecular Weight	29.06
Wet Molecular Weight	28.85
Stack Gas Velocity (fpm)	2487.63
Stack Gas Velocity (mpm)	758.23
Volumetric Flow Rate (acfm)	12211.12
Volumetric Flow Rate (acmm)	345.82
Volumetric Flow Rate (dscfm)	11400.65
Volumetric Flow Rate (dscmm)	322.87
Percent Isokinetic	101.73
Percent Excess Air	N/A
Concentration (g/dscm)	0.00
Concentration (kg/hr)	0.00
Concentration (ppmv)	0.00
Emissions (lb/hr)	0.00

Plant	US Intec	Probe Length & Type	4' glass	Height of Location (ft)	0
Date	09/25/97	Nozzle ID (in)	0.246	Moisture Collected (g)	20
Sampling Location	SBS Stack	Meter Box Number	A-39	CO2 Percent	1.9
Sample Type	M5A	Meter Delta H@	1.7	O2 Percent	19
Run Number	3	Dry Gas Meter Factor (Yd)	0.996	N2 Percent	79.1
Operator	Jackson	K Factor	3.53	Particulate Catch (g)	
Ambient Temperature	80	Probe Heater Setting	108	Stack Geometry (R or C)?	c
Barometric Pressure	29.86	Heater Box Setting		Stack Diameter (in)	30
Static Pressure (Ps)	0.01	Pitot Constant	0.84	Stack Width (If Rectangle)	
Intial Leak Check	.008@15"	Final Leak Check	.007@15"		

US Intec
09/25/97
M5A

Traverse Point Location	Sampling Time (min)	Clock Time (24 hr)	Dry Gas Meter Reading Vm (ft³)	Velocity Head (ΔP) (in H2O)	Orifice Pressure Diff (ΔH) (in H2O)	Stack Temp Ts (F)	Dry Gas Meter Temperature Tm in (F)	Tm out (F)	Impinger Exit Temp (F)	Pump Vacuum (in H2O)
	0	1040	447.782							
X-1	5	1045	451.8	0.5	1.76	92	81	74	62	7
2	10	1050	455.8	0.56	1.97	92	85	75	58	8
3	15	1055	460	0.55	1.94	91	85	75	61	8
4	20	1100	464.3	0.61	2.15	92	86	76	62	9
5	25	1105	468.7	0.66	2.33	94	87	77	64	11
6	30	1110	473.198	0.64	2.26	95	86	77	62	11
	30	1114	473.309							
Y-1	35	1119	477	0.43	1.52	94	80	77	58	7
2	40	1124	480.9	0.47	1.66	95	86	78	56	7
3	45	1129	484.9	0.5	1.76	96	86	79	56	7
4	50	1134	488.2	0.37	1.3	93	85	79	58	5
5	55	1139	492.1	0.48	1.69	94	87	79	59	7
6	60	1144	495.917	0.5	1.76	91	89	79	59	7

END

	Average Meter Temp (F)
Y-1	77.5
2	80.0
3	80.0
4	81.0
5	82.0
6	81.5
X-1	78.5
2	82.0
3	82.5
4	82.0
5	83.0
6	84.0

END

81.16667

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~~MODIFIED~~ METHOD 5A DATA SHEET

Run 3
Page 1 of 1

Plant	U.S. Inter	XAD Trap Number	N.A.	Meter Box Number	A-39
Date	9/25/97	Filter Heater Setting (°F)	108	Meter delta H @	1.700
Operator	Jackson	Probe Length & Type (bore.)	4'	DGM Factor (Y)	0.996
Sampling Location	SBS Stack	Probe Heater Setting (°F)	108	Nozzle Type & ID (in.)	0.246
Sample Type	M5A	Minimum Sample Volume (ft3)		Ambient Temperature (°F)	80
Run Number	3	Initial Leak Check @ 15" Hg	0.008	Assumed Moisture (% H2O)	3
Static Pressure (±) (in. H2O)	+.01	Final Leak Check @ 15" Hg	0.007	K-Factor	3.53
Barometric Pressure (in. H2O)	29.86				

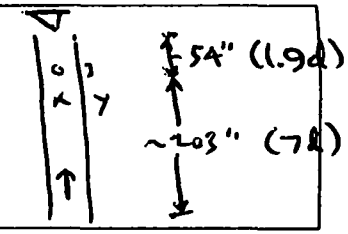

Diagram of Duct

Schematic of Traverse Point Layout

Read and record all data every 5 minutes

Filter Bait

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O) Desired	Actual	Probe Temp. (°F)	Filter Temp. (°F)	~~Adsorbent Trap~~ Adsorbent Temp. (°F)	Dry Gas Meter Inlet (Tm in)	Dry Gas Meter Outlet (Tm out)	Impinger Exit Temp. (°F)	Pump Vacuum (in.Hg)
	0	1040	447.782											
X-1	5	1045	451.8	.50	92	1.76	1.76	101	104	95	81	74	62	7
2	10	1050	455.8	.56	92	1.97	1.97	108	106	95	85	75	58	8
3	15	1055	460.0	.55	91	1.94	1.94	114	109	95	85	75	61	8
4	20	1100	464.3	.61	92	2.15	2.15	118	112	95	86	76	62	9
5	25	1105	468.7	.66	94	2.33	2.33	118	113	95	87	77	64	11
6	30	1110	473.198	.64	95	2.26	2.26	118	113	96	86	77	62	11
	30	1114	473.309											
Y-1	35	1119	477.0	.43	94	1.52	1.52	116	117	96	80	77	58	7
2	40	1124	480.9	.47	95	1.66	1.66	114	119	98	86	78	56	7
3	45	1129	484.9	.50	96	1.76	1.76	118	119	98	86	79	56	7
4	50	1134	488.2	.37	93	1.30	1.30	111	115	99	85	79	58	5
5	55	1139	492.1	.48	94	1.69	1.69	109	114	99	87	79	59	7
6	60	1144	495.917	.50	91	1.76	1.76	111	113	99	89	79	59	7

Comments:

Plant		Location		Run Number	
Date		Sample Type		Operator	

Traverse Point Number	Sampling Time (min)	Clock Time (24hr)	Gas Meter Reading ((Vm),ft3)	Velocity Head ((delta Ps), in.H2O)	Stack Ts (°F)	Orifice Pressure Differential (delta H, in.H2O)		Probe Temp. (°F)	Filter Temp. (°F)	Adsorbent Trap Temp. (°F)	Dry Gas Meter		Impinger Exit Temp. (°F)	Pump Vacuum* (in.Hg)
						Desired	Actual				Inlet (Tm in)	Outlet (Tm out)		

Comments:

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	A.P.
Date	9-25-97
Sampling Location	SBS VENT OUTLET
Sample Type	5A
Run Number	3
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	
Sample Identification	
Filter Number	091297-34 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100g	MGB	605.7	603.6	2.1
2	H_2O	100g	GB	626.5	624.8	1.7
3	M.T.		MGB	491.5	488.0	3.5
4	S.G.		MGB	729.0	716.3	12.7
5						
6						
7						
					Total Weight Gain (g)	20.0

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-23-97
Sampling Location	THERMAL OXIDIZER OUTLET
Sample Type	~~FB1~~ 5A
Run Number	FB1
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	
Sample Identification	
Filter Number	091297-21 4"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100ml			566.4	
2	H_2O	100ml			631.4	
3	MT				456.2	
4	S.G.				749.3	
5						
6						
7						
					Total Weight Gain (g)	

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	P.A.
Date	9-23-97
Sampling Location	THERMAL OXIDIZER INLET
Sample Type	5A
Run Number	FB2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	
Sample Identification	
Filter Number	091297-12 3"
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	H_2O	100 ml			595.9	
2	H_2O	100 ml			598.2	
3	MT				498.7	
4	S.G.				799.7	
5						
6						
7						
					Total Weight Gain (g)	

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	PA
Date	9-23-97
Sampling Location	
Sample Type	FIELD BLANK OUTLET D/F
Run Number	FB1
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	MT			431.7	431.8	
2	H_2O	100ml			569.7	
3	H_2O	100ml			576.8	
4	MT				497.5	
5	S.G.				744.0	
6						
7						
					Total Weight Gain (g)	

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MOISTURE RECOVERY FORM FOR METHOD 4

Plant	DA
Date	9-23-97
Sampling Location	
Sample Type	FIELD BLANK INLET D/F
Run Number	FB2
Impinger Box Number	
Recovery Person	M.A.
Recovery Rinses	
Sample Identification	
Filter Number	
XAD Number	

Impinger Number	Impinger Solution	Amount of Solution (g)	Impinger Tip Configuration	Impinger Weight		
				Final (g)	Initial (g)	Weight Gain (g)
1	MT				475.9	
2	H_2O	100 ml			610.6	
3	H_2O	100 ml			590.7	
4	MT				458.3	
5	S.G.				752.6	
6						
7						
				Total Weight Gain (g)		

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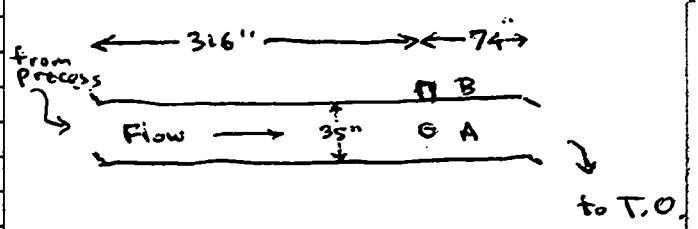
Traverse Point Location Form

Plant	U.S. Intec	Sample Ports Information	Number	I.D. (in)
Date	9/21/97		2 @ 90°	4"
Sampling Location	T.C. Inlet			
Total Duct Depth (Distance A)	39"			
(Inside Far Wall to Outside of Nipple/Port)				
Nipple/Port Length (Distance B)	4"			
(Inside Near Wall to Outside End of Nipple/Port)				
Stack Depth (Dist A – Dist B)	35"			
Stack Width (If rectangular)	N.A.			
Nearest Upstream Disturbance	(9.03 dia) 316"			
Nearest Downstream Disturbance	(2.11 dia) 74"			
Calculator	B. Jackson			



Schematic of Sampling Location (Cross Section of Duct)

1	2	3	4	5	6
Traverse Point Number	Percent Fraction of Stack ID	Stack ID (in)	Product of Columns 2 & 3 (to nearest 1/8 inch)	Distance B (in)	Traverse Point Location from Outside of Nipple (sum of columns 4 & 5)
A,B - 1	.044	35	1 1/2	4	5 1/2
2	.146		5 1/8		9 1/8
3	.296		10 3/8		14 3/8
4	.704		24 5/8		28 5/8
5	.854		29 7/8		33 7/8
6	.956		33 1/2		37 1/2

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PERCENT OF STACK DIAMETER FROM INSIDE WALL TO TRAVERSE POINT

Traverse point number on a diameter [a]	Number of traverse point on a diameter											
	2	4	6	8	10	12	14	16	18	20	22	24
1	14.6	6.7	4.4	3.2	2.6	2.1	1.8	1.6	1.4	1.3	1.1	1.1
2	85.4	25.0	14.6	10.5	8.2	6.7	5.7	4.9	4.4	3.9	3.5	3.2
3		75.0	29.6	19.4	14.6	11.8	9.9	8.5	7.5	6.7	6.0	5.5
4		93.3	70.4	32.3	22.6	17.7	14.6	12.5	10.9	9.7	8.7	7.9
5			85.4	67.7	34.2	25.0	20.1	16.9	14.6	12.9	11.6	10.5
6			95.6	80.6	65.8	35.6	26.9	22.0	18.8	16.5	14.6	13.2
7				89.5	77.4	64.4	36.6	28.3	23.6	20.4	18.0	16.1
8				96.8	85.4	75.0	63.4	37.5	29.6	25.0	21.8	19.4
9					91.8	82.3	73.1	62.5	38.2	30.6	26.2	23.0
10					97.4	88.2	79.9	71.7	61.8	38.8	31.5	27.2
11						93.3	85.4	78.0	70.4	61.2	39.3	32.3
12						97.9	90.1	83.1	76.4	69.4	60.7	39.8
13							94.3	87.5	81.2	75.0	68.5	60.2
14							98.2	91.5	85.4	79.6	73.8	67.7
15								95.1	89.1	83.5	78.2	72.8
16								98.4	92.5	87.1	82.0	77.0
17									95.6	90.3	85.4	80.6
18									98.6	93.3	88.4	83.9
19										96.1	91.3	86.8
20										98.7	94.0	89.5
21											96.5	92.1
22											98.9	94.5
23												96.8
24												98.9

[a] Points numbered from far side to near side of the stack.

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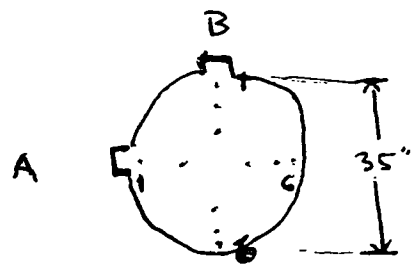
Preliminary Velocity Traverse Form and Cyclonic Flow Check

Plant	U.S. Intec
Date	9/21/97
Location	T.O. Inlet
Stack ID (in)	35
Barometric Pressure (in Hg)	30.04
Ambient Temperature (°F) 1020 mBar	86
Static Pressure (in H2O)	-7.0
Operators	Hartman / Jackson
Checked By	



Schematic of Traverse Point Layout
(Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)
A - 1	.20	92	-45				
2	.20	92					
3	.10	92					
4	.10	92					
5	.20	92					
6	.22	92	+45				
B - 1	.18	93	-45			93	
2	.17	93					
3	.09	93					
4	.10	93					
5	.17	93					
6	.20	93	+45				

* Average of Absolute Values of All Angles >20° Require Alignment Approach Sampling.

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K-FACTOR CALCULATION FORM

Plant	U.S. Intec	Operator	Hartman/Jackson
Date	9/21/97	Used for runs	1, 2 and 3
Location/Sampling Train		T.O. Inlet	M23 M5A

C_p (S-type: 0.84; Std: 0.99)	A-39 0.84	A-40 0.84
P_b (barometric pressure at location)	30.04	30.04
D_n (nozzle diameter, inches)	.315	.315
B_w (moisture in gas stream, fractional percent)	.03	.03
P_m (barometric pressure at meter, Hg) = (Average ΔH / 13.6) + P_b 1.7	30.16	30.16
$\Delta H@$ (pressure differential of orifice in meterbox, H_2O) 8	0.996 1.700	0.984 1.791
P_s (stack pressure, in. Hg) = P_b ± (stack static pressure (in. H_2O) / 13.6) -7"	29.52	29.52
T_s (average stack temperature, °R) = 92°F + 460 = ___ °R	552	552
T_m (average meter temperature, °R) = $T_{ambient}$ + 20°F + 460 = ___ °R	570	570
M_d (molecular weight of stack gas, dry, lb/lb-mole) = (0.44 x %CO_2) + (0.32 x %O_2) + (0.28 x %N_2)	29	29
M_s (molecular weight of stack gas with water vapor, lb/lb-mole) = [M_d x (1 - B_w)] + [18 x B_w]	28.67	28.67
$K = (846.720)(D_n)^4(\Delta H@)(C_p)^2(1-B_w)^2(M_d/M_s)(P_s/P_m)(T_m/T_s)$	9.62	10.13

9.5 10.17

$\Delta H = K\Delta P$
Correlation Chart

1		2		3	
ΔH	ΔP	ΔH	ΔP	ΔH	ΔP

Comments: _____

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Preliminary Velocity Traverse Form and Cyclonic Flow Check

Plant	U.S. Entec
Date	
Location	Outlet Oxidizer
Stack ID (in)	35"
Barometric Pressure (in Hg)	
Ambient Temperature (°F)	
Static Pressure (in H2O)	
Operators	MKO
Checked By	

Schematic of Traverse Point Layout
(Cross Section of Duct)

Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)	Traverse Point Number	Velocity Head ΔP, (in H2O)	Stack Temperature Ts, (°F)	Cyclonic Flow Angle (± °)
A 1	.18	363	0 +	.424			
2	.21	394	0 +	.458			
3	.21	400	0 +	.458			
4	.21	401	0 +	.458			
5	.20	405	0 +	.447			
6	.18	402	0 +	.424			
7	.16	408	0 -	.400			
8	.15	405	0 -	.387			
9	.18	409	0 -	.424			
10	.19	407	0 -	.435			
11	.20	411	0 -	.447			
12	.20	420	0 -	.447			
Avg	.189	401					
B 1	.10	335	0 +	.316			
2	.14	365	0 +	.374			
3	.14	381	0 +	.374			
4	.17	391	0 +	.412			
5	.16	394	0 +	.400			
6	.16	406	0 +	.400			
7	.19	411	0 -	.435			
8	.17	415	0 -	.412			
9	.19	406	0 -	.435			
10	.20	407	0 -	.447			
11	.21	407	0 -	.458			
12	.23	405	0 -	.479			
Avg	.171	393					
Tot	.180	397					
	.4218						

* Average of Absolute Values of All Angles >20° Require Alignment Approach Sampling.

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K-FACTOR CALCULATION FORM

Plant	US INTEC	Operator	MO/DH
Date	9/22/97	Used for runs	
Location/Sampling Train		OUTLET THERMAL OXIDIZER	

C_p (S-type: 0.84; Std: 0.99)	.84	.84
P_b (barometric pressure at location)	30.03	30.03
D_n (nozzle diameter, inches)	.310	
B_w (moisture in gas stream, fractional percent)	.06	.06
P_m (barometric pressure at meter, Hg) = (Average ΔH / 13.6) + P_b	30.18 ~~30.18~~	30.18 ~~30.18~~
$\Delta H@$ (pressure differential of orifice in meterbox, H_2O)	1.735	1.828
P_s (stack pressure, in. Hg) = P_b ± (stack static pressure (in. H_2O) / 13.6)	30.03	30.03
T_s (average stack temperature, °R) = 397 °F + 460 = ___ °R	857	857
T_m (average meter temperature, °R) = $T_{ambient}$ + 20 °F + 460 = ___ °R	560	560
M_d (molecular weight of stack gas, dry, lb/lb-mole) = (0.44 x %CO_2) + (0.32 x %O_2) + (0.28 x %N_2)	29	29
M_s (molecular weight of stack gas with water vapor, lb/lb-mole) = [M_d x (1 - B_w)] + [18 x B_w]	28.34	28.34
$K = (846.720)(D_n)^4(\Delta H@)(C_p)^2(1-B_w)^2(M_d/M_s)(P_s/P_m)(T_m/T_s)$	5.68	5.98

$\Delta H = K\Delta P$
Correlation Chart

1		2		3	
ΔH	ΔP	ΔH	ΔP	ΔH	ΔP

Comments: _____

.315 k = 5.857
.390

Metal Bi V

A = .37

ΔH_e = 1.735

y = .999

.31
k = 13.76
5.857 = .315
.390

k = 14.50

k = 6.171 N .315

A = .38

y = .984

ΔH_e = 1.828

Appendix B

Particulate Matter Raw Data

From Page No.__

WA 104 Asphalt Plant # Port Angeles

R.H. 63% Temp 69°F

Filters for 5A Tare Wts. for 3" (8.26 cm) filters

	9/12/97 1st Wt	Weigh 2 9/15/97 RH 63% Temp 67°F	WEIGHING FILTERS
091297-01	0.3466	0.3464	
02	0.3474	0.3474	
03	0.3468	0.3467	
04	0.3447	0.3447	
05	0.3466	0.3466	
06	0.3472	0.3472	.3844
07	0.3461 JM	0.3461	
08	~~0.3456~~ 0.3457	0.3457	
09	0.3453 JM	0.3453	.4061
10	~~0.3454~~ 0.3453	0.3454	
11	0.3378	0.3379	.3787
12	0.3365	0.3365	.3365
13	0.3373	0.3373	
14	0.3357	0.3357	

Inlet

To Page No.__

m Page No.

WH 104

9-30-97 10-1-97

TEMP - 69°F 70°F

R.H. - 52% 50%

Filters for 5A Tare Wts. for 4" Filters

	1st Wt 9/12/97	Weigh 2 9/15/97 RH 63% Temp. 67°F	FIL + RGS WEIGH(1)
091297 -15	0.6064	0.6064	
-16	0.6137	0.6137	
-17	0.6189	0.6188	.6241
-18	0.6040	0.6039	.6095
-19	0.6042	0.6043	.6080
-20	0.6060	0.6060	.6061
-21	0.6092	0.6092	.6095 4ma.
-22	0.6258	0.6258	.6265
-23	0.6149	0.6150	.6155
-24	0.6052	0.6050	.6054 62ma.
-25	0.6137	0.6135	
-26	0.6115	0.6115	
-27	0.6208	0.6207	
-28	0.6063	0.6063	
-29	0.6149	0.6148	.6170
-30	0.6134	0.6134	.6145
-31	0.6115	0.6115	
-32	0.6191	0.6190	
-33	0.6101	0.6101	
-34	0.6065	0.6065	.6085
-35	0.6045	0.6044	.6106

BAL. CAL 9-30-97 10-1-97

1G - 1.0000 1.0000

2G - 2.0000 2.0000

Outlet T.O.

Outlet 2 rod wts

To Page No.

nessed & Understood by me,	Date	Invented by	Date
		Recorded by JTM	9/12/97

Project No. U.S. Intec
Book No. Asphalt Radin

METHOD 5A 3" FILTERS

TITLE TARE AND TARE+RESIDUE WTS. FOR PORT AR

From Page No.

FILTER I.D.	9-12-97 TARE WT.	9-13-97 TARE WT.	TARE AVE.	9-30-97 TARE+RES	10-1-97 TARE+RES	TARE+RES AVE.	TARE+RES − TARE
091297-01	.3466	.3464	.3465				
02	.3474	.3474	.3474				
03	.3468	.3467	.3468				
04	.3447	.3447	.3447				
05	.3466	.3466	.3466				
TO In 2 06	.3472	.3472	.3472	.3844	.3842	.3843	.037
07	.3461	.3461	.3461				
08	.3457	.3457	.3457				
TO In 1 09	.3453	.3453	.3453	.4061	.4060	.4061	.0609
10	.3453	.3454	.3454				
TO In 3 11	.3378	.3379	.3379	.3787	.3786	.3787	.0309
TO In FBLK2 12	.3365	.3365	.3365	.3365	.3364	.3365	~~.000~~
13	.3373	.3373	.3373				.000
14	.3357	.3357	.3357				
TEMP.	69°F	67°F		69°F	70°F		
R.H.	63%	63%		52%	50%		

Net Wt.

Inlet T.O. 5A Filters

To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
			10/1/97

1 1 1

Project No. Normal Keeping

TITLE TARE AND TARE + RESIDUE WTS. FOR PORT ARTHUR

Book No.

From Page No.

FILTER I.D.	9-12-97 TARE WT.	9-15-97 TARE WT.	TARE AVE.	9-30-97 TARE+ RES.	10-1-97 TARE+ RES	TARE+ RES AVE.	TARE+RES − TARE
091297-15	.6064	.6064	.6064				
16	.6137	.6137	.6137				
APP 1 17	.6189	.6188	.6189	.6241	.6241	.6241	.0052
APP 3 18	.6040	.6039	.6040	.6095	.6092	.6094	.0054
SBS 1 19	.6042	.6043	.6043	.6080	.6077	.6079	.0036
SBS FBK 4 20	.6060	.6060	.6060	.6061	.6059	.6060	.0000
TO out FB1 21	.6092	.6092	.6092	.6094	.6094	.6094	.0002
TO out 2 22	.6258	.6258	.6258	.6265	.6263	.6264	.0006
TO out 1 23	.6149	.6150	.6150	.6155	.6154	.6155	.0005
APP FBK 3 24	.6052	.6050	.6051	.6052	.6052	.6052	.0001
25	.6137	.6135	.6136				
26	.6115	.6115	.6115				
27	.6208	.6207	.6208				
28	.6063	.6063	.6063				
SBS 2 29	.6149	.6148	.6149	.6170	.6168	.6169	.002
TO out 3 30	.6134	.6134	.6134	.6145	.6142	.6144	.001
31	.6115	.6115	.6115				
32	.6191	.6190	.6191				
33	.6101	.6101	.6101				
SBS 3 34	.6065	.6065	.6065	.6085	.6081	.6083	.0018
APP 2 35	.6045	.6044	.6045	.6106	.6106	.6106	.0061
TEMP.	69°F	67°F		69°F	70°F		
R.H.	63%	63%		52%	50%		

out of T.O. + 2 rod wts

5th Filter

To Page No.

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by Mac Hollie	10/1/97

METHOD 5A PROBE RINSE

22

Project No._____

Book No._____

TITLE TARE AND TARE + RESIDUE WTS. FOR PORT ARTHUR

From Page No.___

P.A. I.D.	BEAKER #	TARE WT. JAR	TEST SITE WT. JAR +SAMPLE	LAB WT. JAR +SAMPLE	(9-26-97) BEAKER TARE WT.	(9-28-97) BEAKER TARE WT.	(9-29-97) BEAKER TARE WT.	BEAKER TARE WT AVE.	(10-1-97 A.M.) WT BEAKER + RES
TOI USI-52	1	395.2	757.6	758.9	108.5165	108.5164	108.5163	108.5164	108.5200
TOD 1 -22	2	391.3	959.0	959.5	110.4478	110.4482	110.4480	110.4480	110.4505
TOI 2 -54	3	269.1	714.2	715.1	109.9931	109.9934	109.9927	109.9931	109.9966
TOD 2 -24	4	270.0	757.7	758.8	110.0974	110.0973	110.0971	110.0973	110.0987
TOI 3 -56	5	267.6	583.0	583.7	106.3529	106.3535	106.3520	106.3528	106.3550
TOD 3 -26	6	267.8	772.6	773.6	121.0366	121.0364	121.0368	121.0366	121.0377
SBS 1 -62	7	268.6	628.8	629.5	106.6809	106.6809	106.6787	106.6802	106.6859
SBS 2 -64	8	268.8	623.2	624.2	101.0631	101.0629	101.0618	101.0626	101.0656
APP 1 -72	9	267.9	693.7	694.5	110.2359	110.2360	110.2353	110.2357	110.2411
APP 2 -74	10	268.2	629.9	630.5	123.4312	123.4313	123.4287	123.4304	123.4350
SBS 3 -66	11	268.7	715.6	716.4	109.1800	109.1802	109.1787	109.1796	109.1831
APP 3 -76	12	268.9	700.8	701.9	101.4493	101.4493	101.4484	101.4490	101.4515
TOD FB1 -28	13	268.3	607.1	607.5	105.7592	105.7594	105.7583	105.7590	105.7580
TOI FB2 -58	14	267.7	400.4	400.8	109.9253	109.9256	109.9252	109.9254	109.9230
SBS FB3 -68	15	268.3	630.5	631.3	120.2160	120.2165	120.2154	120.2160	120.2169
APP FB4 -78	16	267.9	557.6	558.4	113.6035	113.6045	113.6029	113.6036	113.6039
TOD RB2 -89	17	266.4	595.5	595.6	102.0943	102.0948	102.0936	102.0942	102.0940
TOI RB2 -90	18	268.3	629.4	630.4	108.6113	108.6118	108.6112	108.6114	108.6110
TOD RB3 -91	19	266.1	636.1	636.8	119.4902	119.4905	119.4889	119.4899	119.4894
TOD RB4 -92	20	270.3	576.7	577.7	103.0652	103.0661	103.0645	103.0653	103.0649
RB1 -30	21	268.2	466.3	466.8	116.6330	116.6331	116.6322	116.6328	116.6309
RB2 -60	22	268.3	438.1	438.2	113.5818	113.5824	113.5811	113.5818	113.5814
RB3 -80	23	267.7	454.0	454.7	110.7256	110.7260	110.7253	110.7256	110.7240
RB4 -70	24	268.0	453.2	453.8	103.9297	103.9306	103.9290	103.9298	103.9283
	25				110.2943	110.2950	110.2938	110.2944	110.2937
TEMP.					71°F	74°F	67°F		68°F
R.H.					55%	60%	51%		50%

Avg. Beaker Tare wt.

To Page No.____

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by Mark Noble	10/3/97

TITLE _____ Book No. _____

F(10-1-97) P.M. WT. BEAKER+RES	(10-2-97) A.M. WT. BEAKER+RES.	10-3-97 WT BEAKER+RES	WT. BEAKER + RES AVE.	BEAKER+RES − BEAKER
108.5197	108.5190	108.5199	108.5194	0.0030
110.4504	110.4496	110.4505	110.4501	0.0021
109.9966	109.9958	109.9962	109.9960	0.0029
110.0986	110.0981	110.0990	110.0986	0.0013
106.3551	106.3545	106.3552	106.3549	0.0021
121.0380	121.0386		121.0383	0.0017
106.6870	106.6870	106.6870	106.6870	0.0068
101.0658	101.0655	101.0658	101.0657	0.0031
110.2416	110.2412	110.2410	110.2411	0.0054
123.4355	123.4356	123.4356	123.4356	0.0052
109.1838	109.1834	109.1840	109.1837	0.0041
101.4518	101.4517	101.4517	101.4517	0.0027
105.7584	105.7580	105.7586	105.7583	-0.0007
109.9240	109.9246	109.9242	109.9244	-0.001
120.2178	120.2183	120.2182	120.2183	0.0023
113.6045	113.6040	113.6046	113.6043	0.0007
102.0953	102.0943	102.0954	102.0949	0.0007
108.6116	108.6107	108.6115	108.6111	-0.0003
119.4902	119.4898	119.4904	119.4919	0.0020
103.0654	103.0655	103.0656	103.0656	0.0003
116.6320	116.6320	116.6331	116.6326	-0.0002
113.5806	113.5805	113.5813	113.5809	-0.0009
110.7246	110.7250	110.7246	110.7248	-0.0008
103.9284	103.9295	103.9288	103.9292	-0.0006
110.2932	110.2947	110.2933	110.2937	-0.0007
68°F	68°F	67°F		
50%	43%	47%		

Avg Beaker + Residue wt.

Wt. of Residue

To Page No. ____

Witnessed & Understood by me,	Date	Invented by	Date
		Recorded by Mgr Adk	10/3/97

Appendix C

Dioxin/Furan Raw Data

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:	October 20, 1997
Client ID:	Eastern Research Group
P.O. Number:	
TLI Project Number:	43431

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Rev. 05/08/97

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Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

Overview

Ten M23 samples were received from Eastern Research Group at 7.0 °C in good condition on September 29, 1997 and were stored in a refrigerator at 4°C. Only the results for nine of the samples are included in this data package. 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 sample handling by Triangle Laboratories will be discussed in the QC Remarks section below. Results reported relate only to the items tested.

Quality Control Samples

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

Quality Control Remarks

This release of this particular set of Eastern Research Group 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: All the field samples were processed through additional clean-up procedures. An additional blank, identified as CleanUp BLK, was initiated at that time.

Mass Spectrometry: None

Data Review: None

Other Comments: Any analytes found in the TLI Blank or the cleanup 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 Eastern Research Group 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

Kenneth Varley
Report Preparation Chemist

Quality Control

VIJAY S. CHHABRA
Report Preparation Chemist

The total number of pages in the data package is : 269 .

TRIANGLE LABS

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. Certification 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 .

Revised 10/15/97 RM

Printed 10/15/97

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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. Certification 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. October 31, 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 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, 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

Appendix C. Dioxin/Furan
Raw 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

CHAIN OF CUSTODY - US Intec
US EPA - Asphalt Plants, Port Arthur, TX

RELINQUISHED BY: Marc Cuble **DATE:** 9-29-97 **RECEIVED BY:** [illegible] **DATE:** 9/29/97
RELINQUISHED BY: _____ **DATE:** _____ **RECEIVED BY:** _____ **DATE:** _____

	SAMPLE ID	FIELD ID						SAMPLE TYPE	PRESERVATIVE	COMMENTS
✓	USI-34	USI-	-	M23-	TIN-	XAD-	1	METHOD 23, THERMAL INLET, RUN 1	XAD Trap	D/F ANALYSIS
✓	USI-4	USI-	-	M23-	TOUT-	XAD-	1	METHOD 23, THERMAL OUT, RUN 1	XAD Trap	D/F ANALYSIS
✓	USI-38	USI-	-	M23-	TIN-	XAD-	2	METHOD 23, THERMAL INLET, RUN 2	XAD Trap	D/F ANALYSIS
✓	USI-8	USI-	-	M23-	TOUT-	XAD-	2	METHOD 23, THERMAL OUT, RUN 2	XAD Trap	D/F ANALYSIS
✓	USI-12	USI-	-	M23-	TOUT-	XAD-	3	METHOD 23, THERMAL OUT, RUN 3	XAD Trap	D/F ANALYSIS
✓	USI-42	USI-	-	M23-	TIN-	XAD-	3	METHOD 23, THERMAL INLET, RUN 3	XAD Trap	D/F ANALYSIS
✓	USI-16	USI-	-	M23-	TOUT-	XAD-	FB1	METHOD 23, THERMAL OUT, FB	XAD Trap	D/F ANALYSIS
✓	USI-46	USI-	-	M23-	TIN-	XAD-	FB2	METHOD 23, THERMAL INLET, FB2	XAD Trap	D/F ANALYSIS
✓	USI-20	USI-	-	M23-	TOUT-	XAD-	RB1	METHOD 23, THERMAL OUT, RB1	XAD Trap	D/F ANALYSIS
✓	USI-50	USI-	-	M23-	TIN-	XAD-	RB2	METHOD 23, THERMAL INLET, RB2	XAD Trap	A7 ERG

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CHAIN OF CUSTODY - US Intec
US EPA - Asphalt Plants, Port Arthur, TX

RELINQUISHED BY: Marc Cuble DATE: 9-29-97 RECEIVED BY: Bill Hung DATE: 9/29/97 2:15 PM
RELINQUISHED BY: DATE: RECEIVED BY: DATE:

SAMPLE ID	FIELD ID	SAMPLE TYPE	PRESERVATIVE	COMMENTS
USI-21	USI- - M5A- TOUT- F- 1	METHOD 5A, THERMAL OUT, RUN 1	Filter	AZ ERG
USI-3	USI- - M23- TOUT- F- 1	METHOD 23, THERMAL OUT, RUN 1	Filter	D/F ANALYSIS
USI-33	USI- - M23- TIN- F- 1	METHOD 23, THERMAL INLET, RUN 1	Filter	D/F ANALYSIS
USI-51	USI- - M5A- TIN- F- 1	METHOD 5A, THERMAL INLET, RUN 1	Filter	AZ ERG
USI-61	USI- - M5A- SBSOUT- F- 1	METHOD 5A, SBS VENT OUT, RUN 1	Filter	AZ ERG
USI-71	USI- - M5A- APPOUT- F- 1	METHOD 5A, APP VENT OUT, RUN 1	Filter	AZ ERG
USI-23	USI- - M5A- TOUT- F- 2	METHOD 5A, THERMAL OUT, RUN 2	Filter	AZ ERG
USI-37	USI- - M23- TIN- F- 2	METHOD 23, THERMAL INLET, RUN 2	Filter	D/F ANALYSIS
USI-53	USI- - M5A- TIN- F- 2	METHOD 5A, THERMAL INLET, RUN 2	Filter	AZ ERG
USI-63	USI- - M5A- SBSOUT- F- 2	METHOD 5A, SBS VENT OUT, RUN 2	Filter	AZ ERG
USI-7	USI- - M23- TOUT- F- 2	METHOD 23, THERMAL OUT, RUN 2	Filter	D/F ANALYSIS
USI-73	USI- - M5A- APPOUT- F- 2	METHOD 5A, APP VENT OUT, RUN 2	Filter	AZ ERG
USI-11	USI- - M23- TOUT- F- 3	METHOD 23, THERMAL OUT, RUN 3	Filter	D/F ANALYSIS
USI-25	USI- - M5A- TOUT- F- 3	METHOD 5A, THERMAL OUT, RUN 3	Filter	AZ ERG
USI-41	USI- - M23- TIN- F- 3	METHOD 23, THERMAL INLET, RUN 3	Filter	D/F ANALYSIS
USI-55	USI- - M5A- TIN- F- 3	METHOD 5A, THERMAL INLET, RUN 3	Filter	AZ ERG
USI-65	USI- - M5A- SBSOUT- F- 3	METHOD 5A, SBS VENT OUT, RUN 3	Filter	AZ ERG
USI-75	USI- - M5A- APPOUT- F- 3	METHOD 5A, APP VENT OUT, RUN 3	Filter	AZ ERG
USI-27	USI- - M5A- TOUT- F- FB	METHOD 5A, THERMAL OUT, FB1	Filter	AZ ERG
USI-15	USI- - M23- TOUT- F- FB1	METHOD 23, THERMAL OUT, FB1	Filter	D/F ANALYSIS
USI-45	USI- - M23- TIN- F- FB2	METHOD 23, THERMAL INLET, FB2	Filter	D/F ANALYSIS
USI-57	USI- - M5A- TIN- F- FB2	METHOD 5A, THERMAL INLET, FB2	Filter	AZ ERG
USI-67	USI- - M5A- SBSOUT- F- FB3	METHOD 5A, SBS VENT OUT, FB3	Filter	AZ ERG
USI-77	USI- - M5A- APPOUT- F- FB4	METHOD 5A, APP VENT OUT, FB4	Filter	AZ ERG
USI-29	USI- - M5A- TOUT- F- RB	METHOD 5A, THERMAL OUT, RB1	Filter	AZ ERG
USI-19	USI- - M23- TOUT- F- RB1	METHOD 23, THERMAL OUT, RB1	Filter 4"	D/F ANALYSIS
USI-49	USI- - M23- TIN- F- RB2	METHOD 23, THERMAL INLET, RB2	Filter 3"	D/F ANALYSIS
USI-59	USI- - M5A- TIN- F- RB2	METHOD 5A, THERMAL INLET, RB2	Filter	AZ ERG
USI-69	USI- - M5A- SBSOUT- F- RB3	METHOD 5A, SBS VENT OUT, RB3	Filter	AZ ERG
USI-79	USI- - M5A- APPOUT- F- RB4	METHOD 5A, APP VENT OUT, RB4	Filter	AZ ERG

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CHAIN OF CUSTODY - US Intec
US EPA - Asphalt Plants, Port Arthur, TX

RELINQUISHED BY: Marc Cuble **DATE:** 9-29-97 **RECEIVED BY:** [illegible] **DATE:** 9/29/97 1315
RELINQUISHED BY: _____ **DATE:** _____ **RECEIVED BY:** _____ **DATE:** _____

SAMPLE ID	FIELD ID						SAMPLE TYPE	PRESERVATIVE	COMMENTS
✓ USI-1	USI-	-	M23-	TOUT-	PR-	1	METHOD 23, THERMAL OUT, RUN 1	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-31	USI-	-	M23-	TIN-	PR-	1	METHOD 23, THERMAL INLET, RUN 1	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-35	USI-	-	M23-	TIN-	PR-	2	METHOD 23, THERMAL INLET, RUN 2	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-5	USI-	-	M23-	TOUT-	PR-	2	METHOD 23, THERMAL OUT, RUN 2	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-39	USI-	-	M23-	TIN-	PR-	3	METHOD 23, THERMAL INLET, RUN 3	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-9	USI-	-	M23-	TOUT-	PR-	3	METHOD 23, THERMAL OUT, RUN 3	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-13	USI-	-	M23-	TOUT-	PR-	FB1	METHOD 23, THERMAL OUT, FB1	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-43	USI-	-	M23-	TIN-	PR-	FB2	METHOD 23, THERMAL INLET, FB2	MeCl2/Acetone Probe Rinse	D/F ANALYSIS
✓ USI-17	USI-	-	M23-	TOUT-	PR-	RB1	METHOD 23, THERMAL OUT, RB1	MeCl2/Acetone Probe Rinse	~~ARCHIVED IN ERG~~ D/F ANA
✓ USI-47	USI-	-	M23-	TIN-	PR-	RB2	METHOD 23, THERMAL INLET, RB2	MeCl2/Acetone Probe Rinse	ARCHIVED IN ERG

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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 43431
Client: ERG02 - Eastern Research Group

Date Received 09/29/97 By [illegible]

Carrier and Number MARC AUBLE

Book 185

Page 5

Ice Chest ICE PACKS Temp 7.0 C

TLI Number.. mR/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
185-5-1A	USI-33-M23 T.INLET RUN#1		FILTER	LA 10/1/97								
	USI-33-M23 T.INLET RUN#1	C01										
185-5-1B	USI-33-M23 T.INLET RUN#1		XAD									
	USI-33-M23 T.INLET RUN#1	C01										
185-5-1C	USI-33-M23 T.INLET RUN#1		ACE/MECL2									
	USI-33-M23 T.INLET RUN#1	C01										
185-5-1D	USI-33-M23 T.INLET RUN#1		TOLUENE									
	USI-33-M23 T.INLET RUN#1	C01										
185-5-2A	USI-37-M23 T.INLET RUN#2		FILTER									
	USI-37-M23 T.INLET RUN#2	C01										
185-5-2B	USI-37-M23 T.INLET RUN#2		XAD			USED						
	USI-37-M23 T.INLET RUN#2	C01										
185-5-2C	USI-37-M23 T.INLET RUN#2		ACE/MECL2									
	USI-37-M23 T.INLET RUN#2	C01										
185-5-2D	USI-37-M23 T.INLET RUN#2		TOLUENE									
	USI-37-M23 T.INLET RUN#2	C01										
185-5-3A	USI-41-M23 T.INLET RUN#3		FILTER									
	USI-41-M23 T.INLET RUN#3	C01										
185-5-3B	USI-41-M23 T.INLET RUN#3		XAD									
	USI-41-M23 T.INLET RUN#3	C01										
185-5-3C	USI-41-M23 T.INLET RUN#3		ACE/MECL2									
	USI-41-M23 T.INLET RUN#3	C01										
185-5-3D	USI-41-M23 T.INLET RUN#3		TOLUENE									
	USI-41-M23 T.INLET RUN#3	C01										
185-5-4A	USI-41-M23 T.INLET FB2		FILTER									
	USI-41-M23 T.INLET FB2	C01										
185-5-4B	USI-41-M23 T.INLET FB2		XAD									
	USI-41-M23 T.INLET FB2	C01										

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 43431
Client: ERG02 - Eastern Research Group

Book 185

Date Received 09/29/97 By

Page 5

Ice Chest ICE PACKS Temp 7.0 C

Carrier and Number MARC AUBLE

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
185-5-4C	USI-41-M23 T.INLET FB2 USI-41-M23 T.INLET FB2	ACE/MECL2 C01	LA 10/1/97								
185-5-4D	USI-41-M23 T.INLET FB2 USI-41-M23 T.INLET FB2	TOLUENE C01									
185-5-5	USI-49-M23 T.INLET RB2 USI-49-M23 T.INLET RB2	FILTER C01	LA 10/1/97	LA 10/1/97							
185-5-6A	USI-3 -M23 T.OUTLET RUN#1 USI-3 -M23 T.OUTLET RUN#1	FILTER C01	LA 10/1/97								
185-5-6B	USI-3 -M23 T.OUTLET RUN#1 USI-3 -M23 T.OUTLET RUN#1	XAD C01									
185-5-6C	USI-3 -M23 T.OUTLET RUN#1 USI-3 -M23 T.OUTLET RUN#1	ACE/MECL2 C01									
185-5-6D	USI-3 -M23 T.OUTLET RUN#1 USI-3 -M23 T.OUTLET RUN#1	TOLUENE C01									
185-5-7A	USI-7 -M23 T.OUTLET RUN#2 USI-7 -M23 T.OUTLET RUN#2	FILTER C01									
185-5-7B	USI-7 -M23 T.OUTLET RUN#2 USI-7 -M23 T.OUTLET RUN#2	XAD C01									
185-5-7C	USI-7 -M23 T.OUTLET RUN#2 USI-7 -M23 T.OUTLET RUN#2	ACE/MECL2 C01									
185-5-7D	USI-7 -M23 T.OUTLET RUN#2 USI-7 -M23 T.OUTLET RUN#2	TOLUENE C01									
185-5-8A	USI-11-M23 T.OUTLET RUN#3 USI-11-M23 T.OUTLET RUN#3	FILTER C01									
185-5-8B	USI-11-M23 T.OUTLET RUN#3 USI-11-M23 T.OUTLET RUN#3	XAD C01									
185-5-8C	USI-11-M23 T.OUTLET RUN#3 USI-11-M23 T.OUTLET RUN#3	ACE/MECL2 C01									

USED

USED

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 43431 ,
Client: ERG02 - Eastern Research Group

Date Received 09/29/97 By [illegible]

Carrier and Number MARC AUBLE

Book 185 Page 5

Ice Chest ICE PACKS Temp 7.0 C

TLI Number.. mR/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
185-5-8D	USI-11-M23 T.OUTLET RUN#3 USI-11-M23 T.OUTLET RUN#3	 C01	TOLUENE	LA 10/1/97								
185-5-9A	USI-15-M23 T.OUTLET FB1 USI-15-M23 T.OUTLET FB1	 C01	FILTER									
185-5-9B	USI-15-M23 T.OUTLET FB1 USI-15-M23 T.OUTLET FB1	 C01	XAD									
185-5-9C	USI-15-M23 T.OUTLET FB1 USI-15-M23 T.OUTLET FB1	 C01	ACE/MECL2									
185-5-9D	USI-15-M23 T.OUTLET FB1 USI-15-M23 T.OUTLET FB1	 C01	TOLUENE									
185-5-10A	USI-19-M23 T.OUTLET RB1 USI-19-M23 T.OUTLET RB1	 C01	FILTER									
185-5-10B	USI-19-M23 T.OUTLET RB1 USI-19-M23 T.OUTLET RB1	 C01	XAD									
185-5-10C	USI-19-M23 T.OUTLET RB1 USI-19-M23 T.OUTLET RB1	 C01	ACE/MECL2									
185-5-10D	USI-19-M23 T.OUTLET RB1 USI-19-M23 T.OUTLET RB1	 C01	TOLUENE									

Receiving Remarks:

Archive Remarks:

TRIANGLE LABORATORIES, INC.
SAMPLE TRACKING AND PROJECT MANAGEMENT FORM

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

TLI Proj#: 43431-	Samples: 9	TurnAround.: 21 Day(s)
Prod Code: D23061	Matrix.: M23Train	Hold Time..: 30 Day(s)
DetectLim: 0.05 ng	Type...: A	Start Date.: ~~09/29~~/97 9/30 9/30/97
	Recvd..: 09/29/97	Ship By....: ~~10/18~~/97 10/17 mg
		DWL Due Dt.: 10/07/97

Analyte List.: M23/Tetra-Octa

Method.....: Method 23:Tetra-Octa (Tol Combined)
Client Proj..: Asphalt Roofing Project
Client.....: Eastern Research Group (ERG02)
P.O. No.....:
Contact.....: Jim McGaughey
Proj. Mgr....: Amy J. Boehm

Collect Dt/Tm: SeeCOC
Phone.....: 919/461-1209
Fax.....: 919/461-1579
Sample Origin:

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

Prespike Standard: USD-C, USD-S
Prespike Amount..: 4.0ng

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

Reporting Format: Report Option II

See MILES for Instructions/Communications.

Completed by: _____ DATE: _____

Reviewed by: _____ DATE: 9/29/97 (PMGT0197)

TRIANGLE LABORATORIES, INC.
Wet Lab MM5/PUF Observations
Project: 43431

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	03916	ADKINS	10/01	19:47	F
001		185-5-1A-D	M23 THERMAL INLET RUN#1	1	WHITE	WHITE/GRAY	WHITE		PETROLEUM	03916	ADKINS	10/01	19:47	F
002		185-5-2A-D	M23 THERMAL INLET RUN#2	1	WHITE	WHT/LT.BRN	WHITE		PETROLEUM	03916	ADKINS	10/01	19:47	F
003		185-5-3A-D	M23 THERMAL INLET RUN#3	1	WHITE	WHT/LT.BRN	WHITE		PETROLEUM	03916	ADKINS	10/01	19:47	F
004		185-5-4A-D	M23 THERMAL INLET FB2	1	WHITE	WHITE	WHITE		NONE	03916	ADKINS	10/01	19:47	F
005		185-5-6A-D	M23 THERMAL OUTLET RUN#1	1	WHITE	WHITE	WHITE		NONE	03916	ADKINS	10/01	19:47	F
006		185-5-7A-D	M23 THERMAL OUTLET RUN#2	1	WHITE	WHITE	WHITE		NONE	03916	ADKINS	10/01	19:47	F
007		185-5-8A-D	M23 THERMAL OUTLET RUN#3	1	WHITE	WHITE	WHITE		NONE	03916	ADKINS	10/01	19:47	F
008		185-5-9A-D	M23 THERMAL OUTLET FB1	1	WHITE	WHITE	WHITE		NONE	03916	ADKINS	10/01	19:47	F
009		185-5-10A-D	M23 THERMAL OUTLET RB1	1	WHITE	WHITE	WHITE		NONE	03916	ADKINS	10/01	19:47	F
010		TLI LCS	TLI LCS	0	WHITE				NONE		ADKINS	10/01	19:47	F
011		TLI LCSD	TLI LCSD	0	WHITE				NONE		ADKINS	10/01	19:47	F

*** End of Report ***

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43431

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	
1		ERG02-Eastern Research Group USI-33=M23 T.INLET RUN#1 Project:43431 185-5-1D	Toluene rinse
		ERG02-Eastern Research Group USI-33=M23 T.INLET RUN#1 Project:43431 185-5-1C	Acetone/$MeCl_2$ rinse
		ERG02-Eastern Research Group USI-33=M23 T.INLET RUN#1 Project:43431 185-5-1A	1 Filter white/gray particulate
		ERG02-Eastern Research Group USI-33=M23 T.INLET RUN#1 Project:43431 185-5-1B	Glasswool - white XAD - white with petroleum odor.
2		ERG02-Eastern Research Group USI-37=M23 T.INLET RUN#2 Project:43431 185-5-2D	Toluene Rinse
		ERG02-Eastern Research Group USI-37=M23 T.INLET RUN#2 Project:43431 185-5-2C	Acetone/$MeCl_2$ Rinse
		ERG02-Eastern Research Group USI-37=M23 T.INLET RUN#2 Project:43431 185-5-2A	1 Filter white / lt brown particulate
		ERG02-Eastern Research Group USI-37=M23 T.INLET RUN#2 Project:43431 185-5-2B	Glasswool white XAD white - petrol. odor

LA 10/1/97

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43431

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	
		ERG02-Eastern Research Group USI-41=M23 T.INLET RUN#3 Project:43431 185-5-3D	Toluene Rinse
3			
		ERG02-Eastern Research Group USI-41=M23 T.INLET RUN#3 Project:43431 185-5-3C	Acetone/$MeCl_2$ Rinse
		ERG02-Eastern Research Group USI-41=M23 T.INLET RUN#3 Project:43431 185-5-3A	1 Filter white/lt brown particulate
		ERG02-Eastern Research Group USI-41=M23 T.INLET RUN#3 Project:43431 185-5-3B	XAD white with petroleum odor Glasswool white
		ERG02-Eastern Research Group USI-41=M23 T.INLET FB2 Project:43431 185-5-4D	Toluene Rinse
4			
		ERG02-Eastern Research Group USI-41=M23 T.INLET FB2 Project:43431 185-5-4C	Acetone/$MeCl_2$ Rinse
		ERG02-Eastern Research Group USI-41=M23 T.INLET FB2 Project:43431 185-5-4A	1 Filter-white
		ERG02-Eastern Research Group USI-41=M23 T.INLET FB2 Project:43431 185-5-4B	Glasswool -white XAD -white

LA
10/1/97

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43431

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	
		ERG02-Eastern Research Group USI-3 =M23 T.OUTLET RUN#1 Project:43431 185-5-6D	Toluene Rinse
(5)		ERG02-Eastern Research Group USI-3 =M23 T.OUTLET RUN#1 Project:43431 185-5-6C	Acetone/$MeCl_2$ Rinse
		ERG02-Eastern Research Group USI-3 =M23 T.OUTLET RUN#1 Project:43431 185-5-6A	1 Filter -white
		ERG02-Eastern Research Group USI-3 =M23 T.OUTLET RUN#1 Project:43431 185-5-6B	Glasswool - white XAD - white
		ERG02-Eastern Research Group USI-7 =M23 T.OUTLET RUN#2 Project:43431 185-5-7D	Toluene Rinse
(6)		ERG02-Eastern Research Group USI-7 =M23 T.OUTLET RUN#2 Project:43431 185-5-7C	Acetone/$MeCl_2$ Rinse
		ERG02-Eastern Research Group USI-7 =M23 T.OUTLET RUN#2 Project:43431 185-5-7A	1 Filter -white
		ERG02-Eastern Research Group USI-7 =M23 T.OUTLET RUN#2 Project:43431 185-5-7B	1 Glasswool - white XAD -white

LA
10/1/97

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43431

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.

ate	Name	Comment / Decision / Resolution / Action / Observation	
		ERG02-Eastern Research Group USI-11=M23 T.OUTLET RUN#3 Project:43431 185-5-8D	Toluene Rinse
7		ERG02-Eastern Research Group USI-11=M23 T.OUTLET RUN#3 Project:43431 185-5-8C	Acetone/MeCl2 Rinse
		ERG02-Eastern Research Group USI-11=M23 T.OUTLET RUN#3 Project:43431 185-5-8A	1 Filter white
		ERG02-Eastern Research Group USI-11=M23 T.OUTLET RUN#3 Project:43431 185-5-8B	Glasswool white XAD white
		ERG02-Eastern Research Group USI-15=M23 T.OUTLET FB1 Project:43431 185-5-9D	Toluene Rinse
8		ERG02-Eastern Research Group USI-15=M23 T.OUTLET FB1 Project:43431 185-5-9C	Acetone/MeCl2 Rinse
		ERG02-Eastern Research Group USI-15=M23 T.OUTLET FB1 Project:43431 185-5-9A	1 Filter white
		ERG02-Eastern Research Group USI-15=M23 T.OUTLET FB1 Project:43431 185-5-9B	Glasswool-white XAD-white
			LA 10/1/97

TRIANGLE LABORATORIES OF RTP, INC.

PROJECT COMMUNICATION TRACKING FORM

TLI Project Number: 43431

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	
		ERG02-Eastern Research Group USI-19=M23 T.OUTLET RB1 Project:43431 185-5-10D	Toluene Rinse
		ERG02-Eastern Research Group USI-19=M23 T.OUTLET RB1 Project:43431 185-5-10C	Acetone/$MeCl_2$ Rinse
		ERG02-Eastern Research Group USI-19=M23 T.OUTLET RB1 Project:43431 185-5-10A	1 Filter - white
		ERG02-Eastern Research Group USI-19=M23 T.OUTLET RB1 Project:43431 185-5-10B	Glasswool white XAD - white.
		ROTOVAP SAMPLE (1-6) LA 10/1/97	MS 10.1.97
		Rotovap Sample rinses (7-9)	COD 10.1.97
			LA 10/1/97

TRIANGLE LABORATORIES, INC.

Dioxin Sample Preparation Tracking & Management Form

Project: 43431 Client: Eastern Research Group (ERG02)

Solvent(s)/Acid(s): Toluene / CH_2Cl_2 / Methanol Method: Method 23:Tetra-Octa (Tol Combined) Matrix: XAD Filters

Lot Numbers: 974861 / 973430 / 970704 Extraction Date: 10/1/97 JS

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

					LA		5400A ~~5351A~~	Chemist
					54016	5233D		Spike #
					USF 1	USF MX	USF-A	" ID
					7/02/98	12/17/97	7/2/98	" Expir
					10/1/97	10/1/97	10/2/97	" Date
					19.15		22.00	" Time
					0.1 ng/µl	0.01 ng/µl	0.1 ng/µl	" Conc.
					40 µl	40 µl	40 µl	" Vol.

S#.crd	TLI / SAMPLE / CLIENT ID / SAMPLE ID	GROSS WEIGHT Before	GROSS WEIGHT After	SAMPLE SIZE g / ml				Any Left yes/no
000	TLI Blank / TLI M23 Blank	—			JSY	LA 10/1/97	CK	yes/no
001	185-5-1A-D / M23 THERMAL INLET RUN#1	—			JSY		CK	yes/no
002	185-5-2A-D / M23 THERMAL INLET RUN#2	—			JSY		CK	yes/no
003	185-5-3A-D / M23 THERMAL INLET RUN#3	—			JSY		CK	yes/no
004	185-5-4A-D / M23 THERMAL INLET FB2	—			JSY		CK	yes/no
005	185-5-6A-D / M23 THERMAL OUTLET RUN#1	—			JSY		CK	yes/no
006	185-5-7A-D / M23 THERMAL OUTLET RUN#2	—			JSY		CK	yes/no
007	185-5-8A-D / M23 THERMAL OUTLET RUN#3	—			JSY		CK	yes/no
008	185-5-9A-D / M23 THERMAL OUTLET FB1	—			JSY		CK	yes/no
009	185-5-10A-D / M23 THERMAL OUTLET RB1	—			JSY		CK	yes/no

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

Comments: Blank used (Prep order 03916)

Supelco XAD (Lot # P1043) used for LCS, LCSD.

Initials: LA Date: 10/1/97

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 Preparation Tracking & Management Form

Project: 43431 Client: Eastern Research Group (ERG02)

Solvent(s)/Acid(s): Toluene / CH_2Cl_2 / Methanol Method: Method 23:Tetra-Octa (Tol Combined) Matrix: XAD Filters

Lot Numbers: 974861 / 973430 / 970704 Extraction Date: 10/1/97

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

	LA	LA	JS			Chemist
	5401 G	5233D	5400A			Spike #
	USF-I	USF-MX	USF-A			" ID
	7/02/98	12/17/97	7/2/98	/ /		" Expir
	10/1/97	10/1/97	10/7/97	/ /		" Date
	19 15	19 . 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.

#.crd	TLI / SAMPLE ID	/ CLIENT SAMPLE ID	GROSS WEIGHT Before	After	SAMPLE SIZE g / ml					Any Left yes/no
010	TLI LCS	TLI LCS	—	—	1	JSY	* JSY	CK		yes/no 50%
011	TLI LCSD	TLI LCSD	—	—	1	JSY	* JSY	CK		yes/no 50%
012	TLI Cleanup Blank				3.0ml	SBM VLE 10/9/97		SBM VLE 10/09/97		yes/no
										yes/no
										yes/no
										yes/no
										yes/no
										yes/no
										yes/no
										yes/no

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

Comments: _____

Initials: LA Date: 10/1/97

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.: 43431

Ext S#.crd and TLI Number	1	2	4A	6	3	4B	7	8	9
000 TLI Blank	LA 10/1/97	CK	MS 10-8-97	TMW 10-8-97	TMW 10-8-97	TMW 10-8-97	TMW 10-8-97	10/9/97	10/10/97
001 185-5-1A-D									
002 185-5-2A-D									
003 185-5-3A-D			MS 10.8.97						
004 185-5-4A-D								10/9/97	
005 185-5-6A-D			TMW 10-8-97						
006 185-5-7A-D			DSP/24 VERSION .8		TRIDECANE LOT# 27H064 TRI-1-1-3	DSP/24 VERSION .8	DSP/24 VERSION .8		
007 185-5-8A-D									
008 185-5-9A-D									
009 185-5-10A-D		10-7-97							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	10/1/97 10/2/97 LA
3) ADD TRIDECANE	19:30 11:30
4) ROTOVAP	40mL / 10mL / Dryness
5) COMBINE	
6) DIVIDE / LIPID DETERMINATION	20%/80% 50%/50% 5mL/20mL Other_____
7) SOLVENT EXCHANGE	
8) CLEANUP	DSP 260 / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
9) TRANSFER DSP-272 V.2	
10) ADDITIONAL CLEANUP	Mod. DSP 260 / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
11) FINAL TRANSFER	

Comments: SOLV. EXC. (ISO-OCTANE) LOT# 972995 AND TRIDECANE LOT# 27H064 TRI-1-1-3 TMW 10-8-97.

Rev 06/24/97 (PSTMF 4)

TRIANGLE LABORATORIES, INC.
DIOXIN SAMPLE EXTRACTION and CLEANUP TRACKING FORM
TLI Project No.. 43431

Ext S#.crd and TLI Number	1	2	4A	6	3	4B	7	8	9		
010 TLI LCS	LA 10/1/97	CK	TMW 10-8-97	TMW 10-8-97	TMW 10-8-97	TMW 10-8-97	TMW 10-8-97	SKM 10/9/97	10/10/97		
011 TLI LCSD											
		10-7-97	DSP/ZA VERSION: #8		TRIDECANE LOT#Z7H0614 TRI-1-1-3	DSP/ZA VERSION: 8					
012 TLI Cleanup Blk		SKM JLE 10/9/97						additional cleanup	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	10/1/97 10/2/97
3) ADD TRIDECANE	19:30 11:30 LA
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 DSP-272 V.2	
10) ADDITIONAL CLEANUP	Mod. DSP 260 / DSP 225 / DSP 115 / DSP 215 / DSP 267 / Other _____
11) FINAL TRANSFER	

Comments: SOLV. EXC. (ISO-OCTANE) LOT# 972945 AND TRIDECANE LOT# Z7H0614 TRI-1-1-3 TMW 10-8-97.

Rev 06/24/97 (PSTMF 4)

TRIANGLE LABORATORIES, INC.
Transfer Chain-of-Custody Form
Project 43431

Transfer From: DWLH5 To: DMS5

	Initials..	Date.....	Time...
Released by:	UR	10/10/97	90:15p
Accepted by:	ML	~~22~~ 10/10/97	22:30

MILES.ID.....		TLI_No.....	Cust.Id.....
43431-	-000	TLI Blank	TLI M23 Blank
43431-	-001	185-5-1A-D	M23 THERMAL INLET RUN#1
43431-	-002	185-5-2A-D	M23 THERMAL INLET RUN#2
43431-	-003	185-5-3A-D	M23 THERMAL INLET RUN#3
43431-	-004	185-5-4A-D	M23 THERMAL INLET FB2
43431-	-005	185-5-6A-D	M23 THERMAL OUTLET RUN#1
43431-	-006	185-5-7A-D	M23 THERMAL OUTLET RUN#2
43431-	-007	185-5-8A-D	M23 THERMAL OUTLET RUN#3
43431-	-008	185-5-9A-D	M23 THERMAL OUTLET FB1
43431-	-009	185-5-10A-D	M23 THERMAL OUTLET RB1
43431-	-010	TLI LCS	TLI LCS
43431-	-011	TLI LCSD	TLI LCSD
43431-	-012	TLI clean up Blank	

XfrCOC (Rev 11/01/94)

Additional comments or instructions:

TRIANGLE LABORATORIES, INC.

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

Required Detection Limit: 0.05 ng

PROJECT: 43431

SAMPLE INFORMATION

S#.crd	TLI / SAMPLE ID / CLIENT / SAMPLE ID	1ST COLUMN GC/MS FILENAME (COLUMN: DB5)	CONFIRM	2ND COLUMN CONFIRM FILENAME (COLUMN: DB225)	USF-RS 1 (VOLUME 20 µl, SOLN ID 52968)	USF-RS 2 (INIT. ML, DATE 10/10/97)	RS Conc 20 µl @ 100.0 PG/µl ANALYSIS COMMENTS (22:45)
000	TLI Blank / TLI M23 Blank	5976745	N	—			
001	185-5-1A-D / M23 THERMAL INLET RUN#1	5976746	N	—			
002	185-5-2A-D / M23 THERMAL INLET RUN#2	5976747	Y*	X973614			
003	185-5-3A-D / M23 THERMAL INLET RUN#3	5976748	Y*	P974239			
004	185-5-4A-D / M23 THERMAL INLET FB2	5976749	N	—			
005	185-5-6A-D / M23 THERMAL OUTLET RUN#1	5976756	N	—			
006	185-5-7A-D / M23 THERMAL OUTLET RUN#2	5976757	~~Y~~ N	—			
007	185-5-8A-D / M23 THERMAL OUTLET RUN#3	5976758	N	—			
008	185-5-9A-D / M23 THERMAL OUTLET FB1	5976759	N	—			
009	185-5-10A-D / M23 THERMAL OUTLET RB1	5976760	~~Y~~ N	—			
010	TLI LCS / TLI LCS	5976742	N	—			
011	TLI LCSD / TLI LCSD	5976743	N	—			
012	TLI clean up Blank	5976761		—			

Comments:

Type: A

Clean up Blank; only tolues in vial when sample was made transfer MS 10/16/97

* M23 requires THAT ANY DETECTED PEAK BE CONFIRMED BJG 10/16/97

Spike File: SPX23704

Amt of Extract: 50%

REV 03/07/95 (PSTMF 6)

Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
7QE	DB5	745B551	TOC	2.0ul	HRCLSC	ECD5
				Signature		10/15/97 Date

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
5976724	10/15/97	1805	—	5296R	—	RS100	Auto	1.9 E6	ML 10/15/97	
25		1844	435458	TLI Blank	0	TLI Ash Blank		5.6 E6		
26		1922		186-20-2	1	N-14 = Xip-7089		5.3 E6		
27		2001		LCS	2	TLI LCS		9.5 E6		
28		2039		LCSD	3	TLI LCSD		7.1 E6		
29		2118	43586	186-61-1	1	N-017		5.3 E6		
30		2154	435378	TLI Blank	0	TLI Water Blank		2.2 E6		
31		2235		186-12-3A	1	NW-1		1.9 E6		
32		23:24	—	4513	—	B250 Concal 5.0	MO #3	4.2 E6	ML 10/15/97	Good E613 Hm 10/16/97
5976733	10/16/97	0:26	—	5035	—	MIT Con Cal 50	MIT #3	5.9 E5	Hm 10/16/97	Good Ending Hm 10/16/97
5976734	10/16/97	1:53	—	5170B	—	RTC HK	RTC HK	2.6%	Hm 10/16/97	Δ SDL Hm 10/16/97 NG Fast and Leak Hm 10/16/97
5976735	10/16/97	2:51	—	5170B	—	RTC HK	RTC HK	—	Hm 10/16/97	NG QC Deflections Hm
5976736	10/16/97	4:09	—	5170B	—	RTC HK	RTC HK	2.5%	Hm 10/16/97	Good Hm 10/16/97

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: _____
ConCal Due: _____

s:\qa\forms\hrrunlog.doc (02/05/97)

Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
705	DB5	7458551	102	2.0 µl	FPLUS2	FPLUS

Signature: [signature] Date: 10/16/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
5976737	10/16/97	5:09	—	45146	—	~~8~~ M23 CC 50	M-0 50	5.4 B5	JRM 10/16/97	Good JRM 10/16/97
5976738	10/16/97	6:13	—	5036	—	MIT CC 50	met 24	5.5 C5	JRM 10/16/97	Good BJG 10/16/97
5976739	10/16/97	9:12	—	52460	—	R5100	Auto	9.6 E5	JRM 10/16/97	Clean BJG 10/16/97
5976740	10/16/97	8:01	43545A	TL1 LCS	2	~~TL1 LCSD~~ LCS	AUTO	7.6 E5	BJG 10/16/97	
5976741	10/16/97	9:12	43545A	TL1 LCSD	3	TL1 LCSD	AUTO	7.6 E5	BJG 10/16/97	
5976742		9:51	43431	TL1 LCS	10	TL1 LCS		8.3 E5		
5976743		10:31	43431	TL1 LCSD	11	TL1 LCSD		5.6 E5		
5976744		11:10 ~~11:31~~	—	5296	—	~~TL1 M23 BLANK~~ R5100		4.5 E5		Clean BJG 10/16/97
5976745		11:50	43431	TL1 BLANK	0	TL1 M23 BLANK		7.2 E5		
5976746		12:29		185-5-1A-D	1	M23 THERMAL INLET RUN #1		1.1 E6		
5976747		13:08		185-5-2A-D	2	M23 THERMAL INLET RUN #2		1.3 E6		
5976748		13:48		185-5-3A-D	3	M23 THERMAL INLET RUN #3		1.3 E6		
5976749	10/16/97	14:27	43431	185-5-4A-D	4	M23 THERMAL INLET FB	AUTO	9.8 E5	BJG 10/16/97	

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: 11:09
ConCal Due: 12:09 (5:09 PM)

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

Triangle Laboratories, Inc.
Run Log

Instrument ID	Column Type	Column ID	Plot Name	Inj. Vol.	Acquisition	G/C
705	D35	7458551	T02	2.0 µl	18:05	18:05

Signature: [illegible] Date: 10/16/97

Filename	Date*	Time*	Project #	Sample#	No.	Client Sample ID	Syr	332	Operator/Date	Comments**
5976750	10/16/97	15:06	43431	185-5-6A-D	5	M23 THERMAL OUTLET RUN	AUTO	8.9 ES	BJG 10/16/97	
5976751	1	15:46	43517	185-91-3	3	970419 = 97624728	1	8.7	1	
5976752	10/16/97	16:26	43517	185-91-4	4	970420 = METHOD BLANK	AUTO	8.7 ES	BJG 10/16/97	
5976753	10/16/97	17:38	—	5170B	—	Retention Window Check	RTCHK	18%	MS 10/16/97	Good MS 10/16/97
5976754	10/16/97	18:32	—	45146	—	M23 Conc 50.0	M-0 50.0	8.1 ES	MS 10/16/97	Good Begin. M23 MS 10/16/97
5976755	10/16/97	19:36	—	5036	—	MIT Conc 50.0	MIT #4 5036	5.7 ES	MS 10/16/97	Good Begin M23 MIT But not needed ... MS 10/16/97
5976756	10/16/97	20:40	—	5296V	—	RS-100	RS-100	4.3 ES	MS 10/16/97	
5976757	10/16/97	21:31	43431	185-5-7A-D	6	M23 THERMAL OUTLET	Auto	9.4 ES	MS 10/16/97	
5976758	10/16/97	22:10		185-5-8A-D	7	M23 THERMAL OUTLET RUN #3	Auto	9.7 ES	MS 10/16/97	
5976759	10/16/97	22:50		185-5-9A-D	8	M23 THERMAL OUTLET FBL		9.0 ES		
5976760	10/16/97	23:29		185-5-10A-D	9	M23 THERMAL OUTLET RBL		8.1 ES		
5976761	10/17/97	00:08	43431	TLI Clean-Up	12	TLI Clean-Up Blank	Auto	1.9 ES	MS 10/16/97	
5976762	10/17/97	0:47	43462	TLI LCS	9	TLI LCS	Auto	9.8 ES	MS 10/16/97	

* Transcribed from chromatographic data
** Dated initials required

ConCal Due: 17:04 (5:04 PM)
ConCal Due: _____

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

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 27709-3485
Fax # 919-544-5491

TRIANGLE LABORATORIES, INC.
Sample Result Summary for Project 43431
Method 8290X Full Screen Analyses (DB-5)

10/21/97

Data File	S976745	S976746	S976747	S976748
Sample ID	TLI M23 Blank	M23 THERMAL INL ET RUN#1	M23 THERMAL INL ET RUN#2	M23 THERMAL INL ET RUN#3
Units	ng	ng	ng	ng
Extraction Date	10/01/97	10/01/97	10/01/97	10/01/97
Analysis Date	10/16/97	10/16/97	10/16/97	10/16/97
Instrument	S	S	S	S
Matrix	XAD	M23TRAIN	M23TRAIN	M23TRAIN
Extraction Type				
Analytes				
2378-TCDD	(0.008)	(0.006)	(0.005)	(0.005)
12378-PeCDD	(0.01)	(0.01)	(0.009)	(0.01)
123478-HxCDD	(0.01)	(0.01)	(0.01)	(0.01)
123678-HxCDD	(0.01)	(0.01)	(0.008)	(0.008)
123789-HxCDD	(0.01)	(0.01)	(0.008)	(0.009)
1234678-HpCDD	(0.01)	(0.01)	(0.01)	(0.01)
OCDD	(0.02)	0.02	(0.02)	(0.02)
2378-TCDF	(0.006)	(0.004)	(0.003)	(0.003)
12378-PeCDF	(0.008)	(0.008)	(0.005)	(0.006)
23478-PeCDF	(0.008)	(0.008)	(0.005)	(0.006)
123478-HxCDF	(0.008)	(0.008)	(0.006)	(0.006)
123678-HxCDF	(0.006)	(0.006)	(0.004)	(0.005)
234678-HxCDF	(0.008)	{0.01}	(0.006)	(0.006)
123789-HxCDF	(0.009)	(0.008)	(0.006)	(0.007)
1234678-HpCDF	(0.01)	(0.01)	(0.007)	(0.008)
1234789-HpCDF	(0.01)	(0.01)	(0.01)	(0.01)
OCDF	(0.02)	(0.02)	(0.01)	(0.01)
TOTAL TCDD	(0.008)	(0.006)	0.01	{0.006}
TOTAL PeCDD	(0.01)	(0.01)	(0.009)	(0.01)
TOTAL HxCDD	(0.01)	(0.01)	(0.009)	(0.009)
TOTAL HpCDD	(0.01)	(0.01)	(0.01)	(0.01)
TOTAL TCDF	(0.006)	(0.004)	(0.003)	(0.003)
TOTAL PeCDF	(0.008)	(0.008)	(0.005)	(0.006)
TOTAL HxCDF	(0.007)	{0.01}	(0.005)	(0.006)
TOTAL HpCDF	(0.01)	(0.01)	(0.008)	(0.009)
Other Standards Percent Recovery Summary (% Rec)				
37Cl-TCDD	104	104	98.4	106
13C12-PeCDF 234	91.9	86.2	85.7	86.6
13C12-HxCDF 478	81.3	93.7	91.8	92.9
13C12-HxCDD 478	74.9	89.1	87.2	86.7
13C12-HpCDF 789	92.0	104	97.8	97.9
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	90.0	99.3	87.4	94.1
13C12-HxCDF 234	99.1	104	96.5	103
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	74.6	108	99.4	104
13C12-2378-TCDD	65.7	92.9	90.6	87.2
13C12-PeCDF 123	72.1	78.2	79.2	76.9
13C12-PeCDD 123	71.0	74.0	77.0	73.0

TRIANGLE LABORATORIES, INC.
Sample Result Summary for Project 43431
Method 8290X Full Screen Analyses (DB-5)

10/21/97

Data File	S976745	S976746	S976747	S976748
Sample ID	TLI M23 Blank	M23 THERMAL INL ET RUN#1	M23 THERMAL INL ET RUN#2	M23 THERMAL INL ET RUN#3
Units	ng	ng	ng	ng
Extraction Date	10/01/97	10/01/97	10/01/97	10/01/97
Analysis Date	10/16/97	10/16/97	10/16/97	10/16/97
Instrument	S	S	S	S
Matrix	XAD	M23TRAIN	M23TRAIN	M23TRAIN
Extraction Type				

Internal Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 678	99.3	105	97.0	104
13C12-HxCDD 678	97.1	96.1	91.5	96.1
13C12-HpCDF 678	81.5	89.2	84.9	85.5
13C12-HpCDD 678	99.8	100	97.1	95.0
13C12-OCDD	93.0	88.5	93.9	84.3

TRIANGLE LABORATORIES, INC.
Sample Result Summary for Project 43431
Method 8290X Full Screen Analyses (DB-5)

10/21/97

Data File	S976749	S976750	S976757	S976758
Sample ID	M23 THERMAL INLET FB2	M23 THERMAL OUTLET RUN#1	M23 THERMAL OUTLET RUN#2	M23 THERMAL OUTLET RUN#3
Units	ng	ng	ng	ng
Extraction Date	10/01/97	10/01/97	10/01/97	10/01/97
Analysis Date	10/16/97	10/16/97	10/16/97	10/16/97
Instrument	S	S	S	S
Matrix	M23TRAIN	M23TRAIN	M23TRAIN	M23TRAIN
Extraction Type				
Analytes				
2378-TCDD	(0.005)	0.009	(0.009)	(0.01)
12378-PeCDD	(0.007)	(0.008)	(0.01)	(0.02)
123478-HxCDD	(0.009)	(0.01)	(0.01)	(0.02)
123678-HxCDD	(0.007)	(0.008)	(0.01)	(0.02)
123789-HxCDD	(0.007)	(0.008)	(0.01)	(0.02)
1234678-HpCDD	(0.01)	(0.01)	0.02	(0.02)
OCDD	(0.01)	{0.07}	(0.02)	{0.03}
2378-TCDF	(0.003)	(0.004)	(0.006)	(0.009)
12378-PeCDF	(0.005)	(0.005)	(0.009)	(0.01)
23478-PeCDF	(0.005)	(0.005)	(0.009)	(0.01)
123478-HxCDF	(0.005)	(0.006)	(0.008)	(0.01)
123678-HxCDF	(0.004)	(0.004)	(0.006)	(0.01)
234678-HxCDF	(0.005)	0.01	(0.008)	(0.01)
123789-HxCDF	(0.006)	(0.006)	(0.01)	(0.01)
1234678-HpCDF	(0.007)	(0.007)	(0.01)	(0.02)
1234789-HpCDF	(0.009)	(0.01)	(0.02)	(0.02)
OCDF	(0.01)	(0.01)	(0.02)	(0.02)
TOTAL TCDD	(0.005)	0.009	(0.009)	(0.01)
TOTAL PeCDD	(0.007)	(0.008)	(0.01)	(0.02)
TOTAL HxCDD	(0.008)	(0.008)	(0.01)	(0.02)
TOTAL HpCDD	(0.01)	(0.01)	0.05	(0.02)
TOTAL TCDF	(0.003)	{0.009}	(0.006)	(0.009)
TOTAL PeCDF	(0.005)	(0.005)	(0.009)	(0.01)
TOTAL HxCDF	(0.005)	0.01	(0.008)	(0.01)
TOTAL HpCDF	(0.008)	(0.008)	(0.01)	(0.02)
Other Standards Percent Recovery Summary (% Rec)				
37Cl-TCDD	97.4	95.2	98.0	97.3
13C12-PeCDF 234	89.3	94.4	91.7	96.2
13C12-HxCDF 478	80.2	79.3	78.9	75.5
13C12-HxCDD 478	80.7	77.6	70.5	72.6
13C12-HpCDF 789	94.7	90.5	92.5	90.0
Other Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 789	82.9	79.9	85.1	60.4
13C12-HxCDF 234	92.9	86.8	93.9	69.3
Internal Standards Percent Recovery Summary (% Rec)				
13C12-2378-TCDF	81.7	78.1	87.8	58.1
13C12-2378-TCDD	75.3	74.2	81.7	53.0
13C12-PeCDF 123	76.4	70.4	81.5	49.7
13C12-PeCDD 123	78.4	72.1	82.3	50.7

TRIANGLE LABORATORIES, INC.
Sample Result Summary for Project 43431
Method 8290X Full Screen Analyses (DB-5)

10/21/97

Data File	S976749	S976750	S976757	S976758
Sample ID	M23 THERMAL INLET FB2	M23 THERMAL OUTLET RUN#1	M23 THERMAL OUTLET RUN#2	M23 THERMAL OUTLET RUN#3
Units	ng	ng	ng	ng
Extraction Date	10/01/97	10/01/97	10/01/97	10/01/97
Analysis Date	10/16/97	10/16/97	10/16/97	10/16/97
Instrument	S	S	S	S
Matrix	M23TRAIN	M23TRAIN	M23TRAIN	M23TRAIN
Extraction Type				
Internal Standards Percent Recovery Summary (% Rec)				
13C12-HxCDF 678	97.7	94.1	101	76.7
13C12-HxCDD 678	89.2	88.3	103	74.0
13C12-HpCDF 678	75.4	76.7	75.2	57.0
13C12-HpCDD 678	90.1	88.5	94.5	66.6
13C12-OCDD	90.7	95.1	95.8	70.2

TRIANGLE LABORATORIES, INC.
Sample Result Summary for Project 43431
Method 8290X Full Screen Analyses (DB-5)

Data File	S976759	S976760	S976761
Sample ID	M23 THERMAL OUT LET FB1	M23 THERMAL OUT LET RB1	CleanUp Blk
Units	ng	ng	ng
Extraction Date	10/01/97	10/01/97	10/01/97
Analysis Date	10/16/97	10/16/97	10/17/97
Instrument	S	S	S
Matrix	M23TRAIN	M23TRAIN	XAD
Extraction Type			
Analytes			
2378-TCDD	(0.009)	(0.006)	(0.002)
12378-PeCDD	(0.01)	(0.009)	(0.003)
123478-HxCDD	(0.01)	(0.009)	(0.004)
123678-HxCDD	(0.01)	(0.007)	(0.003)
123789-HxCDD	(0.01)	(0.008)	(0.003)
1234678-HpCDD	(0.01)	(0.01)	(0.004)
OCDD	{0.01}	(0.02)	(0.007)
2378-TCDF	(0.006)	(0.004)	(0.001)
12378-PeCDF	(0.009)	(0.006)	(0.002)
23478-PeCDF	(0.009)	(0.006)	(0.002)
123478-HxCDF	(0.008)	(0.006)	(0.002)
123678-HxCDF	(0.006)	(0.004)	(0.002)
234678-HxCDF	(0.008)	(0.005)	{0.006}
123789-HxCDF	(0.008)	(0.006)	(0.003)
1234678-HpCDF	(0.01)	(0.008)	(0.003)
1234789-HpCDF	(0.01)	(0.01)	(0.004)
OCDF	(0.01)	(0.01)	(0.005)
TOTAL TCDD	0.01	(0.006)	(0.002)
TOTAL PeCDD	(0.01)	(0.009)	(0.003)
TOTAL HxCDD	(0.01)	(0.008)	(0.003)
TOTAL HpCDD	(0.01)	(0.01)	(0.004)
TOTAL TCDF	(0.006)	(0.004)	(0.001)
TOTAL PeCDF	(0.009)	(0.006)	(0.002)
TOTAL HxCDF	(0.007)	(0.005)	{0.006}
TOTAL HpCDF	(0.01)	(0.01)	(0.003)

Other Standards Percent Recovery Summary (% Rec)

37Cl-TCDD	97.9	95.7	
13C12-PeCDF 234	95.0	96.9	
13C12-HxCDF 478	76.4	77.7	
13C12-HxCDD 478	71.9	74.5	
13C12-HpCDF 789	86.2	93.2	

Other Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 789	65.5	58.7	78.6
13C12-HxCDF 234	72.6	65.6	81.5

Internal Standards Percent Recovery Summary (% Rec)

13C12-2378-TCDF	58.7	55.8	71.1
13C12-2378-TCDD	54.4	52.8	70.0
13C12-PeCDF 123	54.9	50.4	66.1
13C12-PeCDD 123	56.8	55.0	62.0

TRIANGLE LABORATORIES, INC.
Sample Result Summary for Project 43431
Method 8290X Full Screen Analyses (DB-5)

Data File	S976759	S976760	S976761
Sample ID	M23 THERMAL OUT LET FB1	M23 THERMAL OUT LET RB1	CleanUp Blk
Units	ng	ng	ng
Extraction Date	10/01/97	10/01/97	10/01/97
Analysis Date	10/16/97	10/16/97	10/17/97
Instrument	S	S	S
Matrix	M23TRAIN	M23TRAIN	XAD
Extraction Type			

Internal Standards Percent Recovery Summary (% Rec)

13C12-HxCDF 678	78.8	68.5	80.5
13C12-HxCDD 678	76.9	67.3	77.0
13C12-HpCDF 678	60.9	49.7	73.9
13C12-HpCDD 678	73.5	63.2	75.0
13C12-OCDD	77.1	60.9	72.6

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

Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: TLI M23 Blank — Analysis File: S976745

Client Project:	Asphalt Roofing Project				
Sample Matrix:	XAD	Date Received:	/ /	Spike File:	SPX23704
TLI ID:	TLI Blank	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976737
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% 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	0.008				—
1,2,3,7,8-PeCDD	ND	0.01				—
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	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	ND	0.02				—
2,3,7,8-TCDF	ND	0.006				—
1,2,3,7,8-PeCDF	ND	0.008				—
2,3,4,7,8-PeCDF	ND	0.008				—
1,2,3,4,7,8-HxCDF	ND	0.008				—
1,2,3,6,7,8-HxCDF	ND	0.006				—
2,3,4,6,7,8-HxCDF	ND	0.008				—
1,2,3,7,8,9-HxCDF	ND	0.009				—
1,2,3,4,6,7,8-HpCDF	ND	0.01				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.02				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.008		—
Total PeCDD	ND		0.01		—
Total HxCDD	ND		0.01		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.006		—
Total PeCDF	ND		0.008		—
Total HxCDF	ND		0.007		—
Total HpCDF	ND		0.01		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:03 10/20/97

Eastern Research Group

TLI Project: **43431** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **TLI M23 Blank** Analysis File: **S976745**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.0	74.6	40%-130%	0.74	20:23	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.6	65.7	40%-130%	0.82	21:10	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.9	72.1	40%-130%	1.42	24:42	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.8	71.0	40%-130%	1.41	25:49	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	4.0	99.3	40%-130%	0.49	28:28	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.9	97.1	40%-130%	1.26	29:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.3	81.5	25%-130%	0.42	31:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	4.0	99.8	25%-130%	1.00	32:04	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.4	93.0	25%-130%	0.87	34:33	—

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.2	104	70%-140%		21:12	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.7	91.9	70%-140%	1.47	25:27	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.3	81.3	70%-140%	0.49	28:22	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.0	74.9	70%-140%	1.21	29:06	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.7	92.0	70%-140%	0.39	32:25	—

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.6	90.0	40%-130%	0.49	29:43	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	4.0	99.1	40%-130%	0.49	28:59	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:58	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.18	29:29	—

Data Reviewer: KL 10/20/97

X237_PSR v2.00. LARS 6.10.04

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Printed: 19:03 10/20/97

Initial ....Date...

Data Review By: K 10/20/97 Calculated Noise Area: 0.44

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 S976745B.dbf
10/20/97 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						0.825-1.102			
304-306	DC	NL		0:00	RO	0.95	0.65			0.000			
	DC	SN		19:39	RO	2.11	0.48			0.964			
D	d	SN		19:53	RO	0.61	1.47			0.975			
	DC	SN		21:38	RO	0.61	0.51			1.061			
	DC	WH		22:36	RO	0.62	0.87			1.109			
304-306			0	Peaks			0.00						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318	DC	NL		0:00	RO	0.33	0.34			0.000			
	DC	WL		19:13	RO	0.58	10.14			0.943			
				20:23		0.74	622.51	265.01	357.50	1.000	13C12-2378-TCDF	ISO	
				20:55		0.66	7.78	3.10	4.68	1.026			
316-318			2	Peaks			630.29						

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

TCDD				0.65-0.89						0.856-1.059			
320-322	DC	NL		0:00	RO	1.09	0.58			0.000			
	DC	SN		20:36	RO	1.92	0.44			0.973			
	DC	SN		21:11	RO	0.93	0.53			1.001	2378-TCDD	AN	
	DC	SN		21:22	RO	7.50	0.07			1.009			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.38			0.000			
	DC	WL		18:11			0.49			0.859			
	DC	WL		18:36			0.43			0.879			
	DC	WL		18:54			0.40			0.893			
				19:35			1.61	1.61		0.925			
	DC	SN		19:53			0.29			0.939			
	DC	SN		20:08			0.35			0.951			
	DC	SN		20:27			0.36			0.966			
	DC	SN		20:35			0.34			0.972			
				21:12			389.33	389.33		1.002	37Cl-TCDD	SUR1	
				21:29			5.59	5.59		1.015			
				21:47			0.80	0.80		1.029			
	DC	SN		21:47			0.33			1.029			
	DC	SN		21:56			0.38			1.036			
	DC	SN		22:11			0.52			1.048			
				22:19			0.69	0.69		1.054			
	DC	SN		22:23			0.15			1.057			
	DC	SN		22:33			0.25			1.065			
	DC	SN		22:39			0.22			1.070			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		22:53			0.52			1.081			
328			5	Peaks			398.02						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	2.20	0.62			0.000			
	DC	WL		18:31	RO	1.69	0.46			0.875			
	DC	WL		18:41	RO	1.67	0.53			0.883			
				19:46	RO	1.04	1.33	0.78	0.75	0.934			
				19:53	RO	0.55	3.31	1.44	2.63	0.939			
				20:58		0.82	633.20	285.72	347.48	0.991	13C12-1234-TCDD	RS1	
				21:10		0.82	443.66	200.06	243.60	1.000	13C12-2378-TCDD	IS1	
				21:33		0.80	13.67	6.07	7.60	1.018			
				21:51	RO	0.64	2.71	1.18	1.83	1.032			
	DC	SN		22:07	RO	0.44	0.71			1.045			
332-334			6	Peaks			1,097.88						

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

PeCDF				1.32-1.78						0.907-1.080			
340-342	DC	NL		0:00	RO	0.72	0.38			0.000			
	DC	SN		22:33	RO	2.35	0.43			0.913			
	DC	SN		23:48	RO	0.59	0.76			0.964			
	DC	SN		24:11	RO	1.27	0.69			0.979			
	DC	SN		24:51	RO	0.19	0.18			1.006			
	DC	SN		25:00	RO	1.24	0.76			1.012			
	DC	SN		25:27	RO	1.09	0.95			1.030	23478-PeCDF	AN	
	DC	WH		26:45	RO	0.84	0.35			1.083			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	0.92	0.20			0.000			
	DC	SN		22:28	RO	0.47	0.44			0.910			
				23:48		1.49	16.12	9.65	6.47	0.964			
				24:22	RO	1.83	2.98	2.14	1.17	0.987			
				24:42		1.42	517.58	303.74	213.84	1.000	13C12-PeCDF 123	IS2	
				25:02	RO	2.06	5.23	4.22	2.05	1.013			
				25:05	RO	2.39	1.43	1.34	0.56	1.016			
				25:27		1.47	461.43	274.87	186.56	1.030	13C12-PeCDF 234	SUR2	
				25:42		1.58	4.10	2.51	1.59	1.040			
352-354			7	Peaks			1,008.87						

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

PeCDD				1.32-1.78						0.921-1.026			
356-358	DC	NL		0:00	RO	1.20	0.20			0.000			
	DC	SN		23:53	RO	0.26	0.28			0.925			
	DC	SN		24:32		1.76	0.47			0.950			
	DC	SN		24:42	RO	2.36	0.28			0.957			
	DC	SN		25:00	RO	0.36	0.26			0.968			
	DC	SN		25:23	RO	0.93	0.44			0.983			
	DC	SN		25:40	RO	0.53	0.53			0.994			
	DC	SN		25:48	RO	0.56	0.23			0.999			

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	26:21	RO	2.33	0.31			1.021			
	DC		WH	26:38	RO	0.19	0.10			1.032			
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	0.20			0.000			
	DC		SN	24:06	RO	1.22	0.36			0.934			
	DC		SN	24:18		1.63	0.63			0.941			
	DC		SN	24:50	RO	2.16	1.25			0.962			
	DC		SN	25:00	RO	2.00	0.18			0.968			
	DC		SN	25:15	RO	1.25	0.33			0.978			
	DC		SN	25:24		1.32	0.44			0.984			
	DC		SN	25:42	RO	1.00	0.26			0.995			
				25:49		1.41	285.41	167.18	118.23	1.000	13C12-PeCDD 123	IS3	
				25:58		1.44	45.58	26.89	18.69	1.006			
	DC		SN	26:22	RO	0.67	0.71			1.021			
	DC		SN	26:47	RO	1.00	0.48			1.037			
368-370			2	Peaks			330.99						

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

HxCDF				1.05-1.43					0.956-1.053				
374-376	DC		NL	0:00	RO	2.58	0.27			0.000			
	DC		SN	27:20		1.33	0.42			0.960			
	DC		SN	27:23	RO	1.45	0.25			0.962			
	DC		SN	27:42	RO	2.00	0.22			0.973			
	DC		SN	27:45		1.20	0.22			0.975			
	DC		SN	27:50	RO	1.94	0.36			0.978			
	d	D	SN	28:21		1.28	1.39			0.996	123478-HxCDF	AN	
	DC		SN	28:31	RO	4.50	0.18			1.002			
	DC		SN	28:37	RO	3.00	0.09			1.005			
	DC		SN	28:40	RO	0.76	0.29			1.007			
	DC		SN	28:46	RO	2.63	0.18			1.011			
	DC		SN	28:50		1.11	0.19			1.013			
	d	D	SN	28:58		1.38	1.88			1.018	234678-HxCDF	AN	
	DC		SN	29:06	RO	2.00	0.27			1.022			
	DC		SN	29:19	RO	1.67	0.07			1.030			
	DC		SN	29:29	RO	0.35	0.13			1.036			
	DC		SN	29:33	RO	0.50	0.07			1.038			
	DC		SN	29:37	RO	0.50	0.22			1.040			
	DC		SN	29:48	RO	0.90	0.47			1.047			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59					0.860-1.140				
384-386	DC		NL	0:00	RO	0.67	0.23			0.000			
				27:21	RO	0.62	2.94	1.20	1.95	0.961			
				27:30	RO	0.62	6.16	2.54	4.08	0.966			
	DC		SN	27:48	RO	1.57	0.35			0.977			
	DC		SN	28:09	RO	0.96	0.38			0.989			
				28:22		0.49	361.75	118.69	243.06	0.996	13C12-HxCDF 478	SUR3	
				28:28		0.49	464.16	152.61	311.55	1.000	13C12-HxCDF 678	IS4	
	DC		SN	28:48	RO	0.26	0.71			1.012			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				28:51		0.53	2.02	0.70	1.32	1.013			
				28:59		0.49	428.56	141.04	287.52	1.018	13C12-HxCDF 234		ALT2
				29:16	RO	0.26	1.95	0.66	2.56	1.028			
	DC	SN		29:36	RO	1.23	0.65			1.040			
				29:43		0.49	338.41	111.26	227.15	1.044	13C12-HxCDF 789		ALT1
	DC	SN		30:05		0.49	1.53			1.057			
	DC	SN		30:10	RO	1.07	0.82			1.060			
	DC	SN		30:16	RO	0.40	0.74			1.063			
384-386			8	Peaks			1,605.95						

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

HxCDD				1.05-1.43						0.950-1.015			
390-392	DC	NL		0:00	RO	0.59	0.18			0.000			
	DC	SN		27:49	RO	0.32	0.20			0.953			
	DC	SN		27:59	RO	0.38	0.09			0.959			
	DC	SN		28:07	RO	0.35	0.16			0.963			
	DC	SN		28:15	RO	0.87	0.23			0.968			
	DC	SN		28:21		1.23	1.05			0.971			
	DC	SN		28:28		1.24	0.47			0.975			
	DC	SN		28:35	RO	4.29	0.31			0.979			
	DC	SN		28:50	RO	0.96	0.45			0.988			
	DC	SN		29:11	RO	5.08	0.27			1.000	123678-HxCDD		AN
	DC	SN		29:30		1.29	0.39			1.011	123789-HxCDD		AN
	DC	SN		29:37	RO	0.31	0.07			1.015			
	DC	WH		29:44	RO	1.92	0.54			1.019			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC	NL		0:00	RO	1.00	0.20			0.000			
	DC	WL		27:46	RO	0.78	0.25			0.951			
	DC	WL		27:52	RO	0.30	0.11			0.955			
	DC	WL		27:57	RO	0.88	0.27			0.958			
	DC	WL		28:03	RO	0.71	0.36			0.961			
	DC	SN		28:17	RO	0.89	0.43			0.969			
	DC	SN		28:49	RO	0.31	0.16			0.987			
				29:06		1.21	273.17	149.31	123.86	0.997	13C12-HxCDD 478		SUR4
				29:11		1.26	374.96	208.88	166.08	1.000	13C12-HxCDD 678		IS5
				29:29		1.18	388.08	210.33	177.75	1.010	13C12-HxCDD 789		RS2
	DC	SN		29:56		1.34	0.89			1.026			
402-404			3	Peaks			1,036.21						

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

HpCDF				0.88-1.20						0.996-1.046			
408-410	DC	NL		0:00	RO	2.54	0.27			0.000			
	DC	SN		31:14	RO	1.22	0.73			1.002	1234678-HpCDF		AN
	DC	SN		31:26		1.13	0.83			1.008			
	DC	SN		31:46	RO	2.50	0.24			1.019			
	DC	SN		31:57	RO	5.25	0.16			1.025			
	DC	WH		33:00	RO	0.41	0.33			1.058			
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						0.936-1.128			
418-420	DC	NL		0:00	RO	0.74	0.50			0.000			
				31:11		0.42	280.52	83.42	197.10	1.000	13C12-HpCDF	678	IS6
	DC	SN		31:36	RO	3.20	0.14			1.013			
	DC	SN		31:51	RO	2.22	0.46			1.021			
	DC	SN		32:13	RO	0.91	0.62			1.033			
				32:25		0.39	198.96	56.29	142.67	1.040	13C12-HpCDF	789	SUR5
	DC	SN		32:46	RO	0.93	0.59			1.051			
	DC	SN		32:51	RO	0.76	0.49			1.053			
				32:55	RO	0.90	0.96	0.60	0.67	1.056			
418-420			3	Peaks			480.44						

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

HpCDD				0.88-1.20						0.977-1.006			
424-426	DC	NL		0:00		1.08	0.27			0.000			
	DC	SN		31:25	RO	4.00	0.22			0.980			
	DC	SN		31:30		0.92	0.48			0.982			
	DC	SN		31:42	RO	1.88	0.33			0.989			
	DC	SN		31:52	RO	0.39	0.24			0.994			
	DC	SN		32:08	RO	1.97	0.59			1.002			
	DC	WH		32:36	RO	0.74	0.33			1.017			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00		1.17	0.63			0.000			
				31:29		1.13	2.15	1.14	1.01	0.982			
				32:04		1.00	315.69	158.12	157.57	1.000	13C12-HpCDD	678	IS7
436-438			2	Peaks			317.84						

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

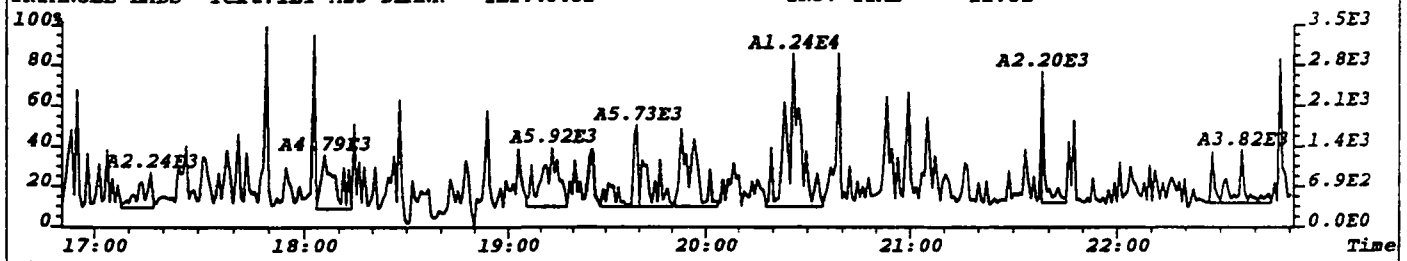
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00	RO	1.50	0.19			0.000			
	DC	SN		31:12	RO	1.42	0.23			0.903			
	DC	SN		31:17	RO	0.26	0.13			0.905			
	DC	SN		31:54	RO	0.60	0.32			0.923			
	DC	SN		32:06		0.97	0.63			0.929			
	DC	SN		32:16	RO	1.29	0.40			0.934			
	DC	SN		32:35		0.89	0.36			0.943			
	DC	SN		33:12		0.97	0.61			0.961			
	DC	SN		33:18	RO	1.41	0.32			0.964			
	DC	SN		33:26	RO	0.65	0.51			0.968			
	DC	SN		33:34	RO	1.63	0.15			0.972			
	DC	SN		33:46		0.86	0.26			0.977			
	DC	SN		34:11	RO	2.11	0.17			0.989			
	DC	SN		34:15	RO	1.55	0.21			0.991			
	DC	SN		34:24	RO	0.28	0.17			0.996			
	DC	SN		34:53	RO	0.30	0.40			1.010			
	DC	SN		35:14	RO	2.19	0.49			1.020			
	DC	SN		35:29		0.98	0.79			1.027			
	DC	SN		35:38	RO	0.39	0.32			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.
	DC	SN		35:47	RO	3.83	0.11			1.036			
	DC	SN		35:57	RO	0.64	0.45			1.041			
442-444		0	Peaks				0.00						
OCDD				0.76-1.02						0.884-1.116			
458-460	DC	NL		0:00		0.89	0.17			0.000			
	DC	SN		34:33		0.82	0.69			1.000	OCDD		AN
	DC	SN		34:42	RO	1.62	0.40			1.004			
	DC	SN		34:57	RO	0.29	0.19			1.012			
458-460		0	Peaks				0.00						
13C12-OCDD				0.76-1.02						0.997-1.006			
470-472	DC	NL		0:00		0.80	0.18			0.000			
				34:33		0.87	374.44	173.76	200.68	1.000	13C12-OCDD		IS8
	DC	WH		35:01		0.87	2.37			1.014			
470-472		1	Peak				374.44						

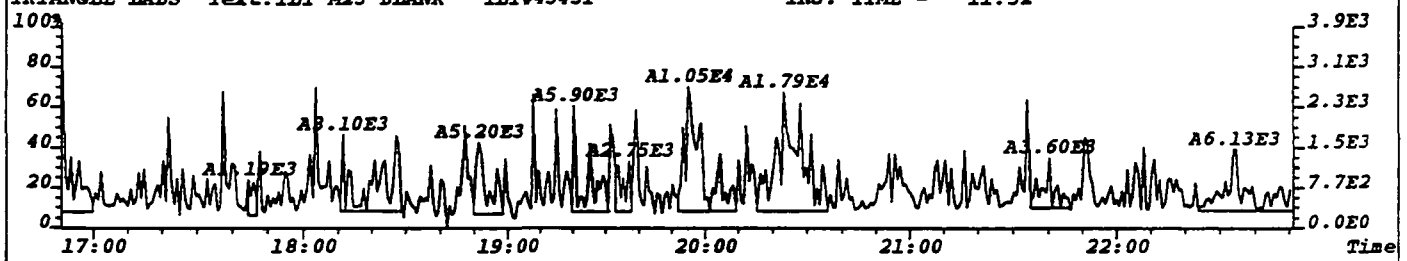
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

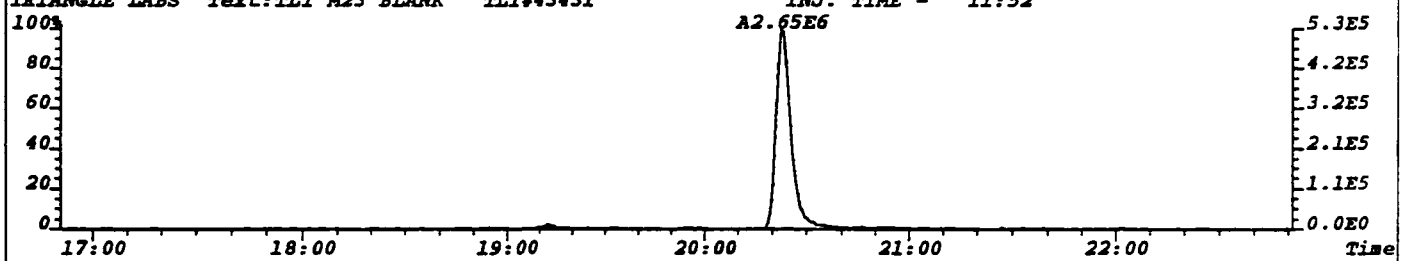
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:175
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,700.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



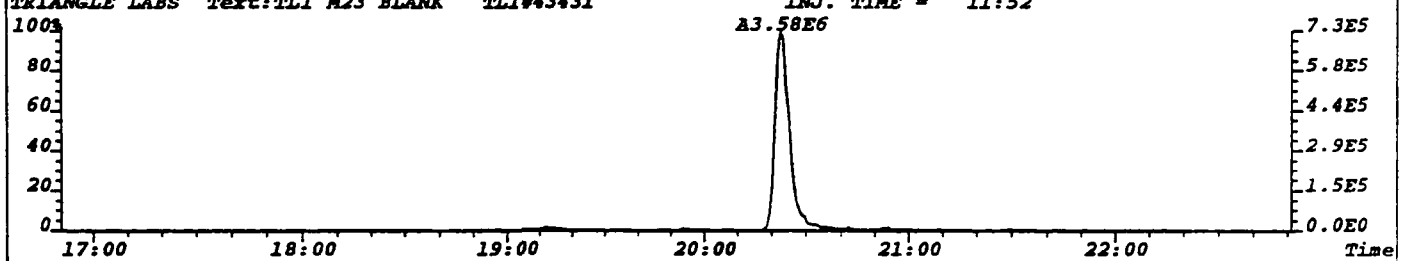
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:183
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,732.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



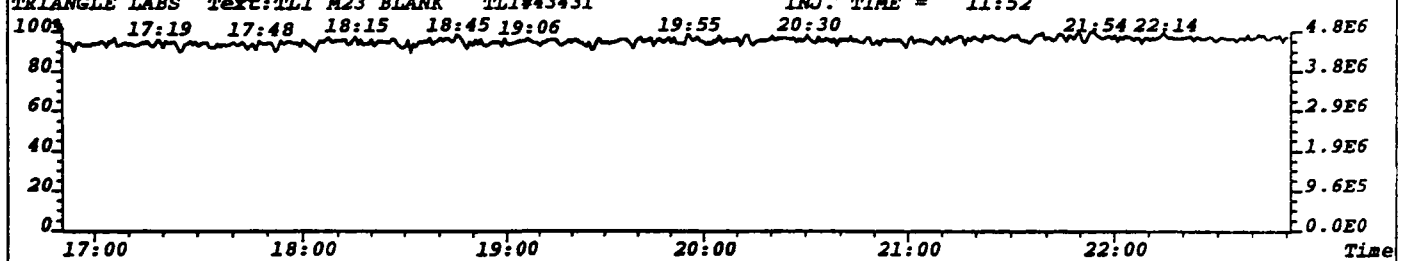
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:76
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



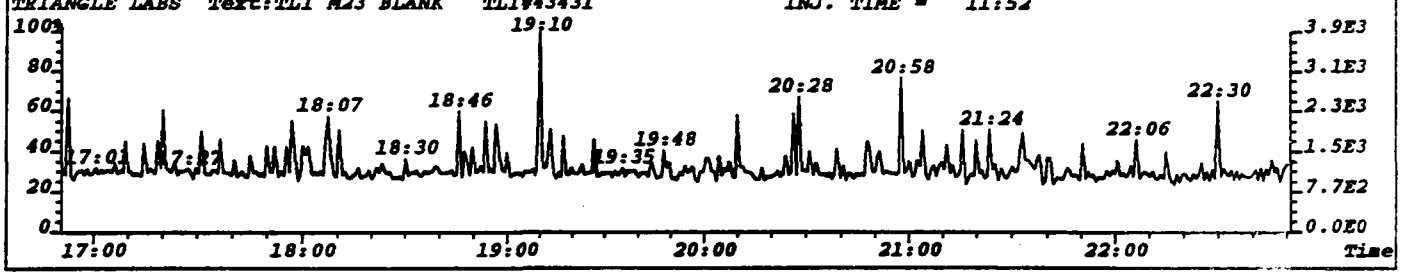
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:226
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,904.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



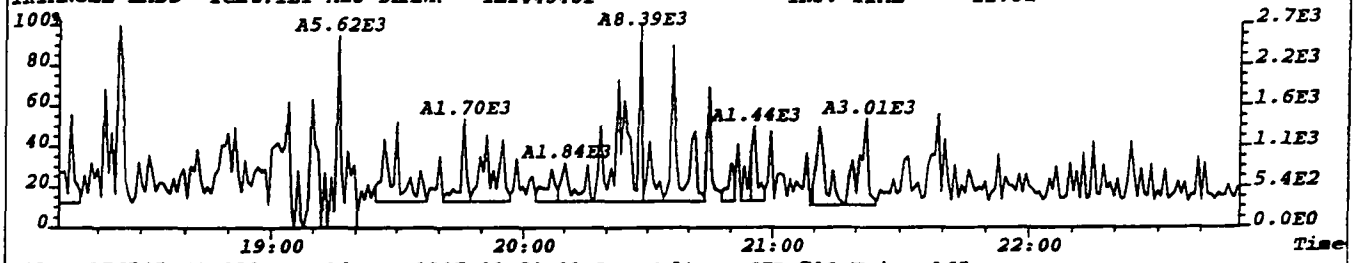
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



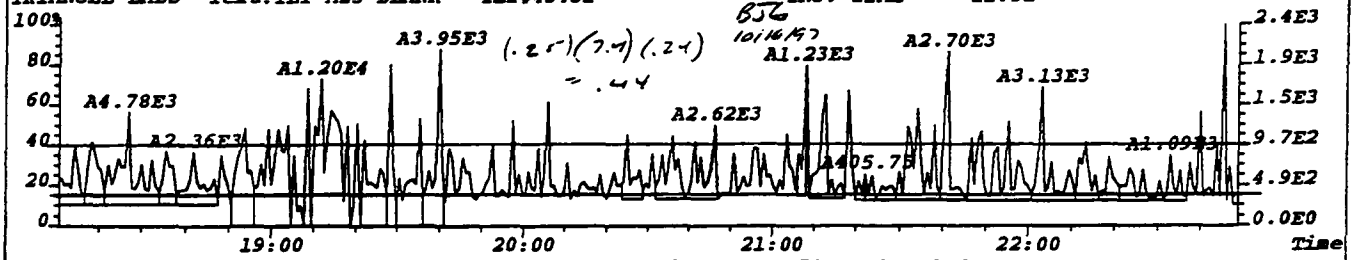
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



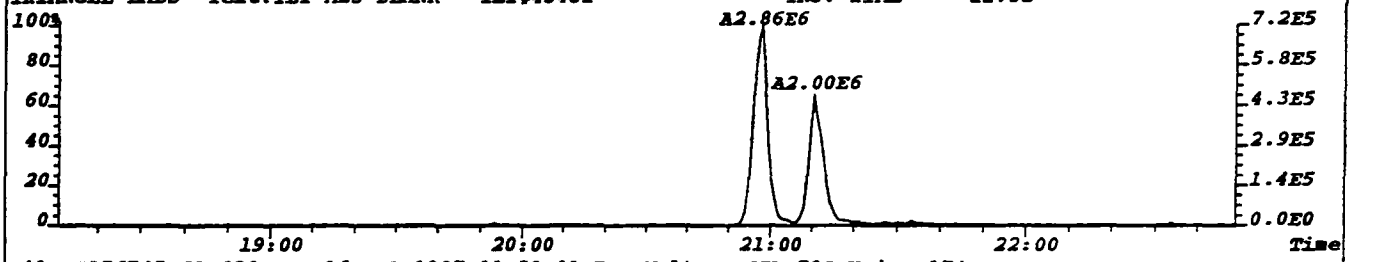
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:181
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,724.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



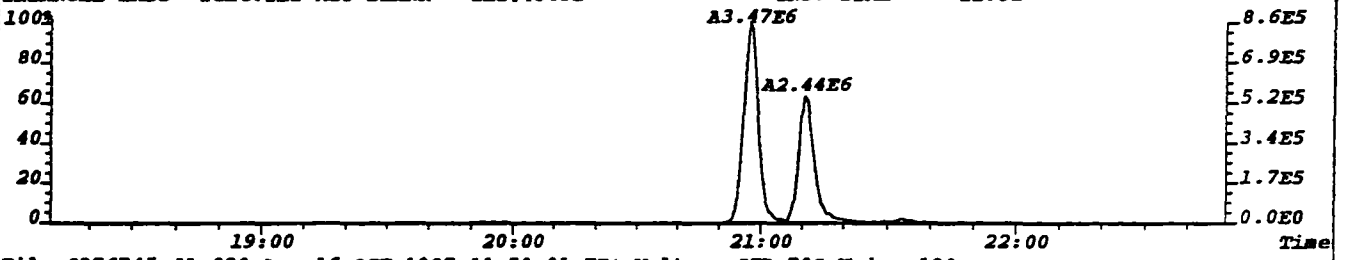
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:165
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,660.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



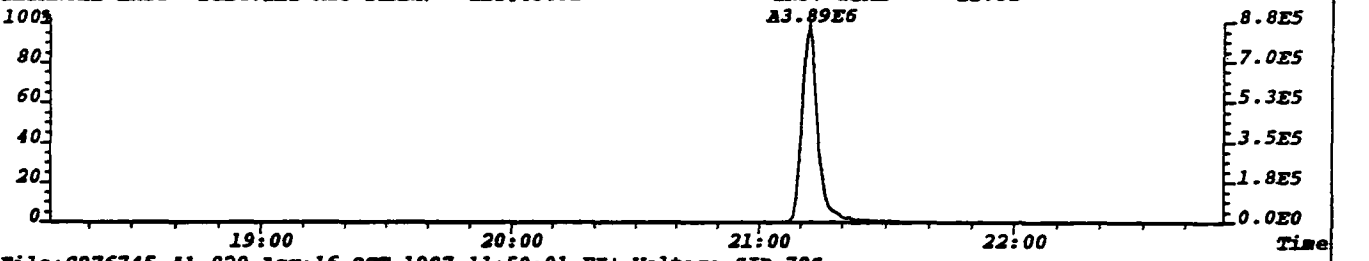
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:386
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1544.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



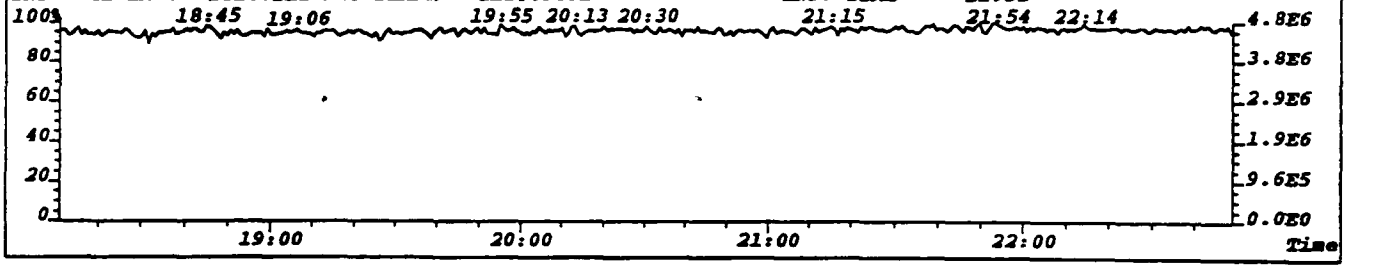
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:174
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,696.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



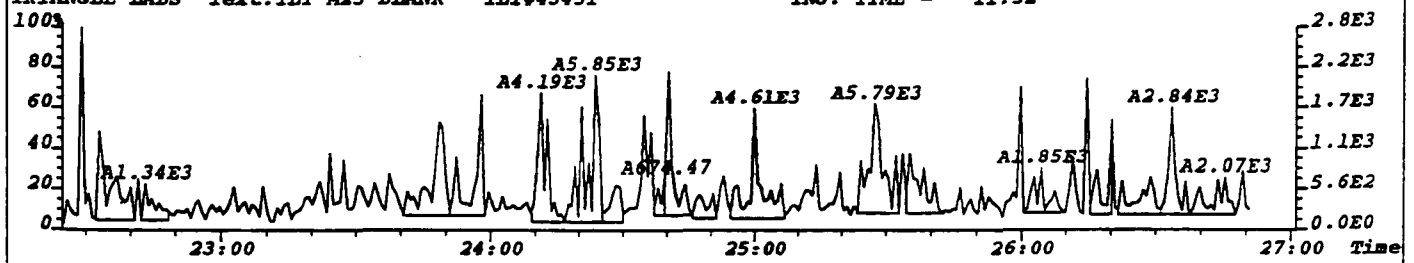
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:190
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,760.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



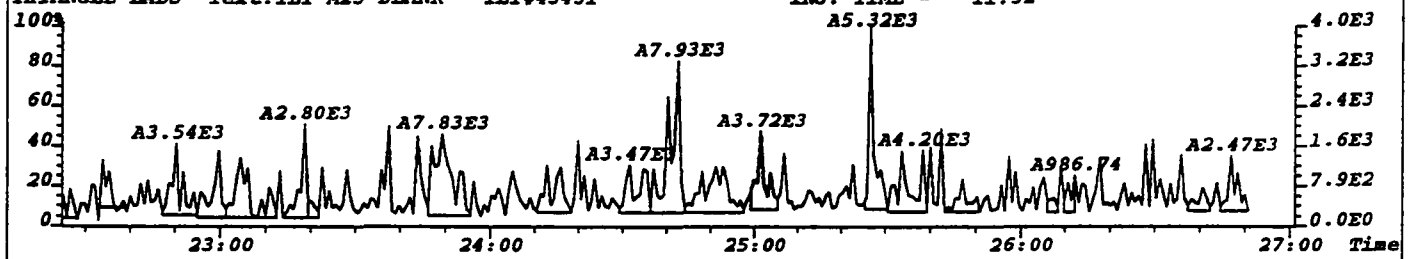
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



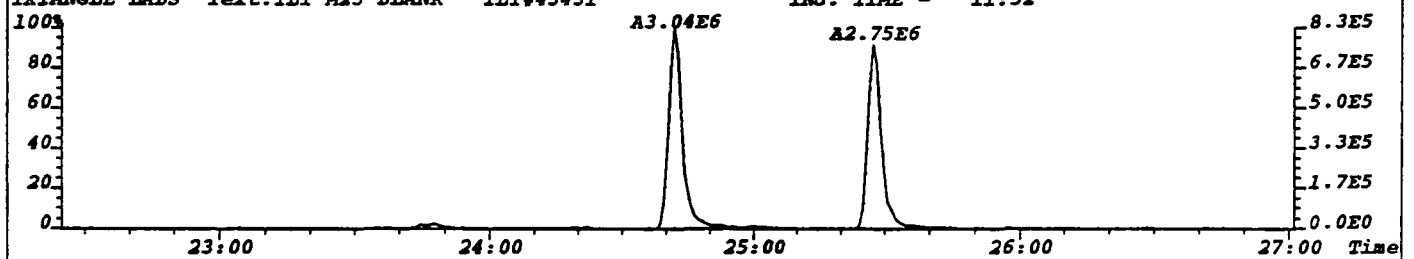
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:114
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,456.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



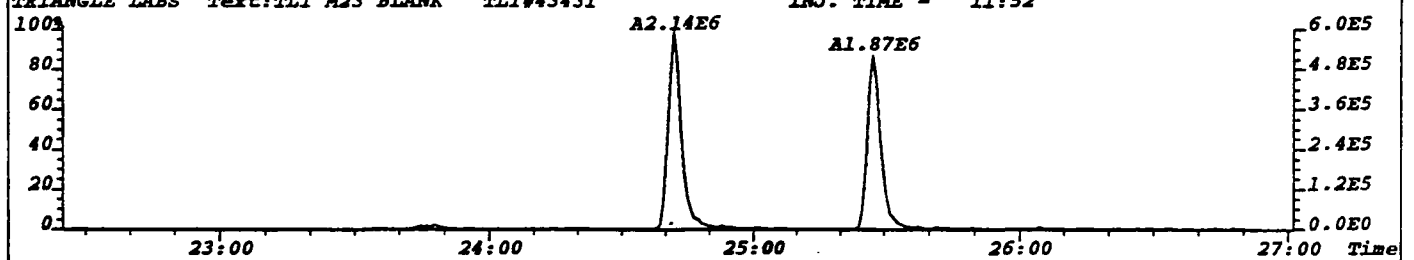
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:160
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,640.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



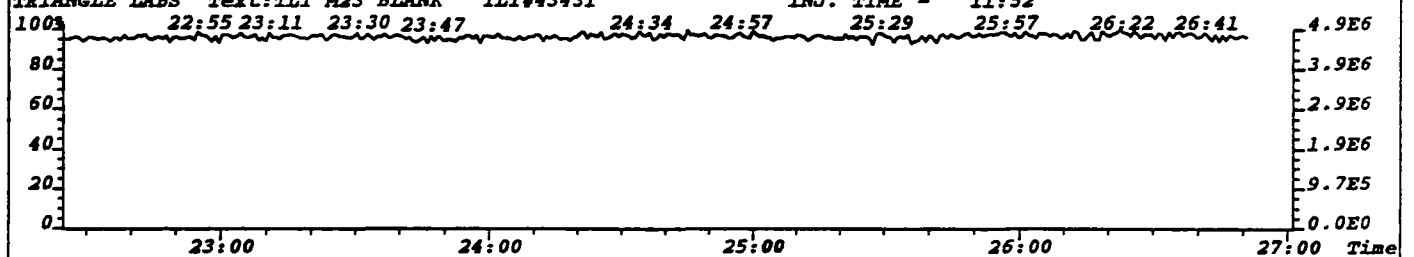
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:59
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



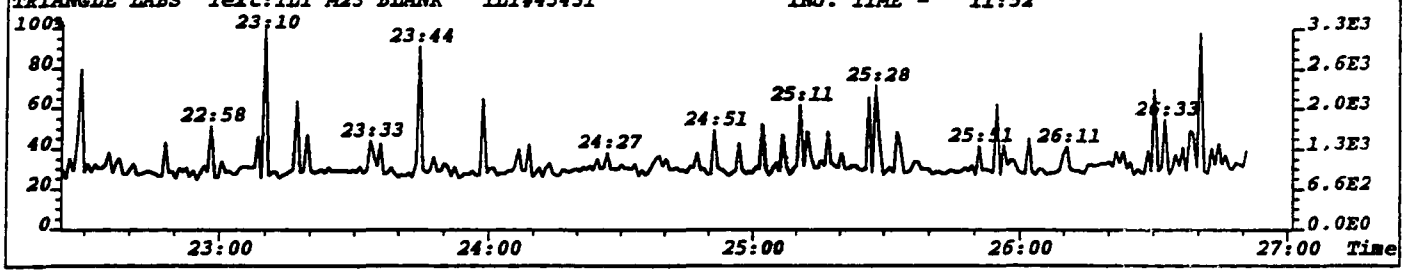
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:63
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



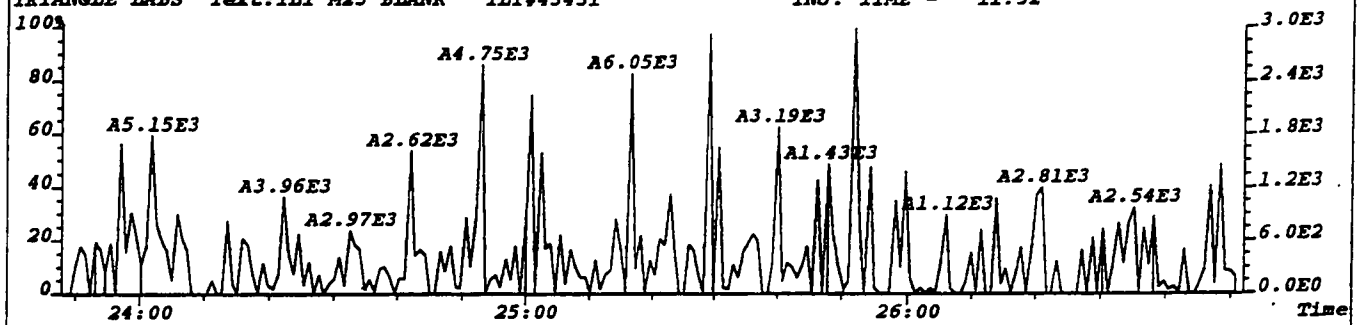
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



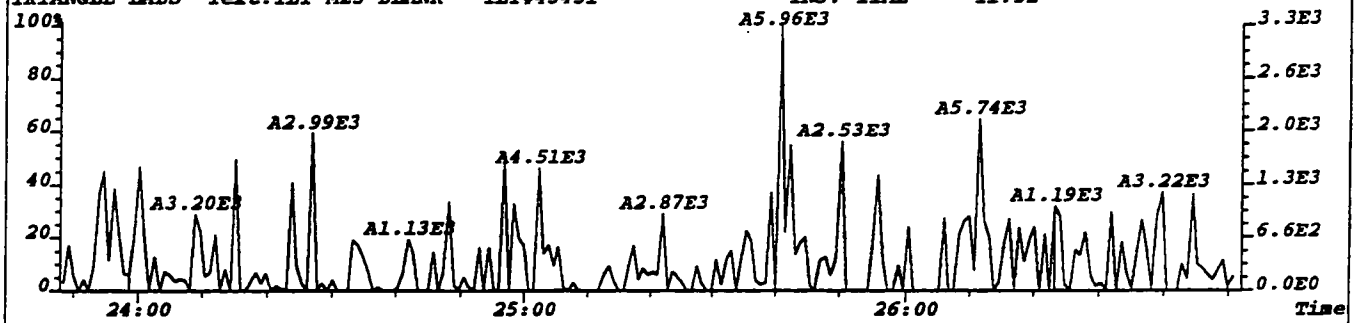
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



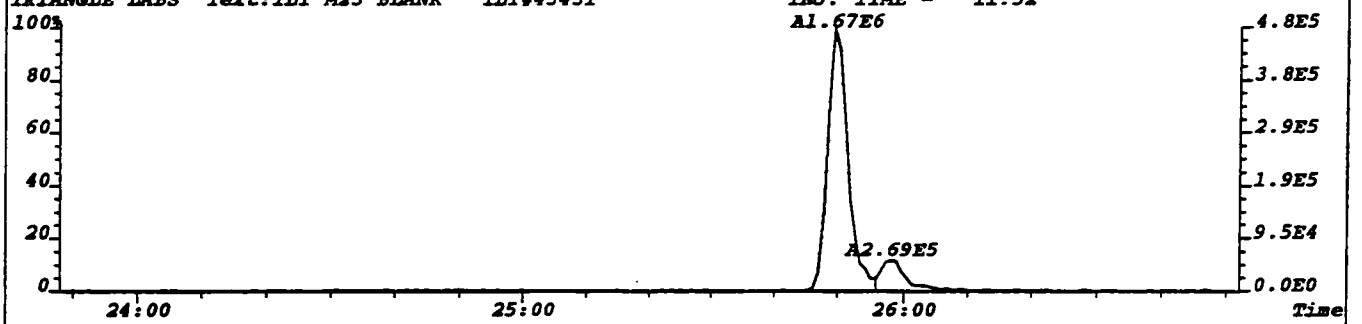
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:62
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



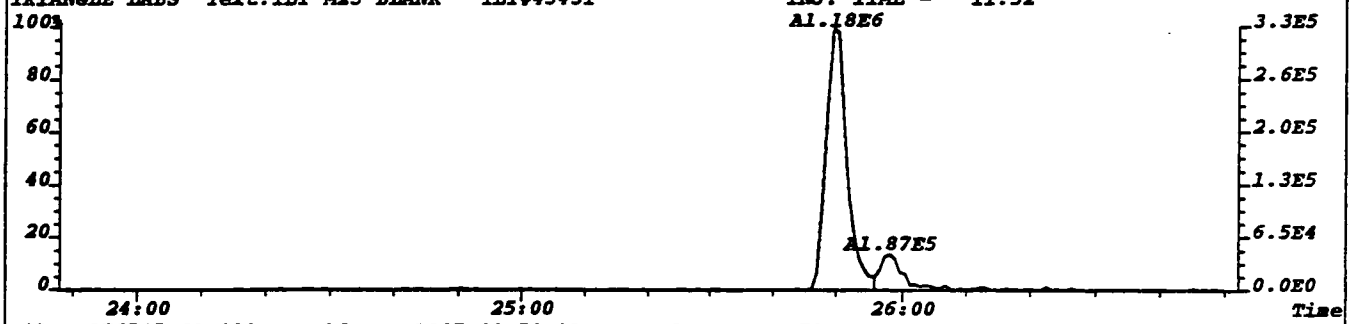
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:50
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



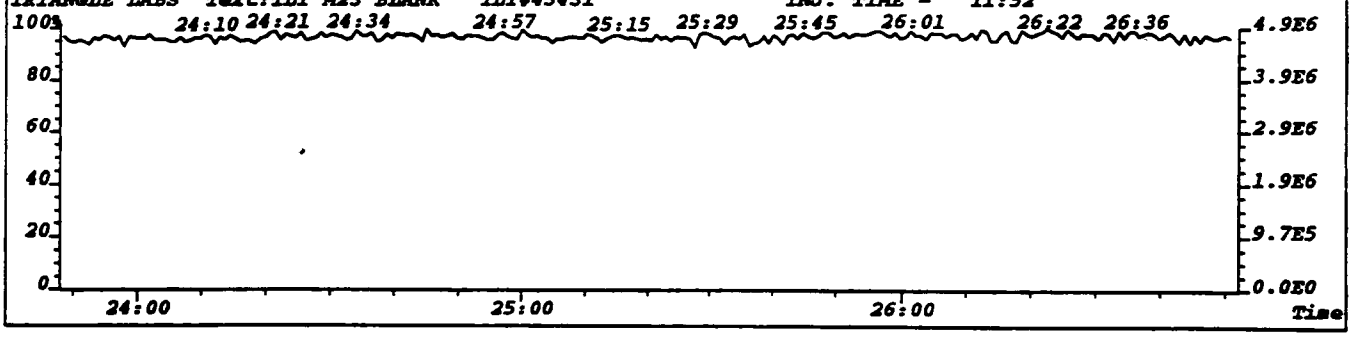
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:58
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



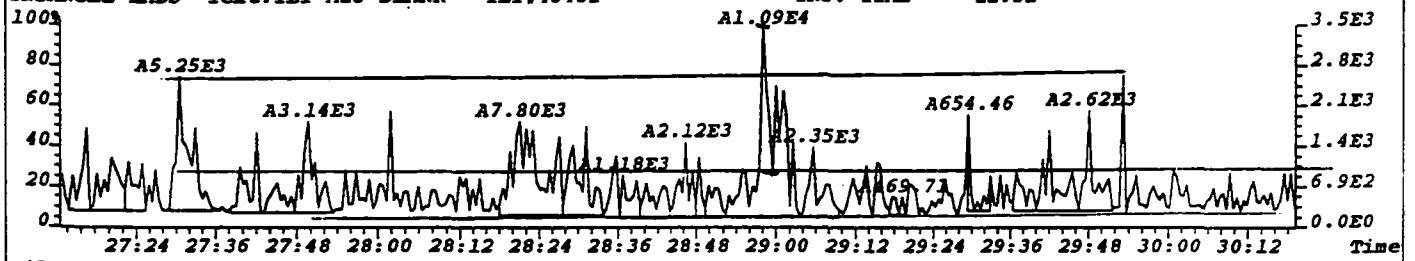
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:49
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



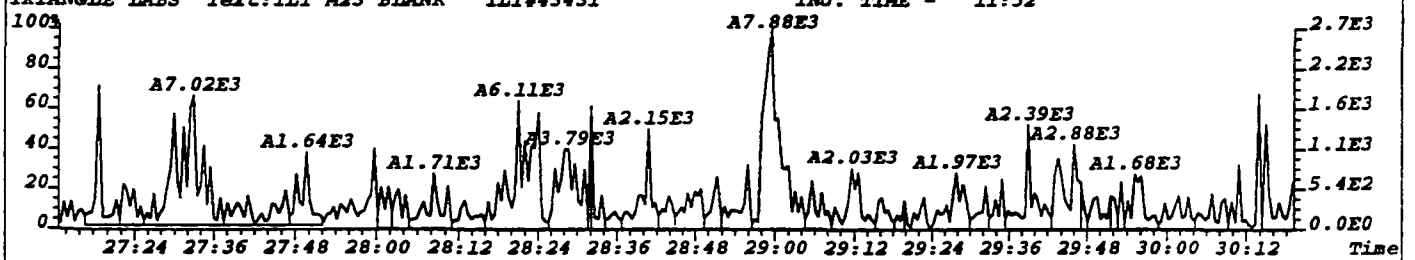
File:S976745 #1-829 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



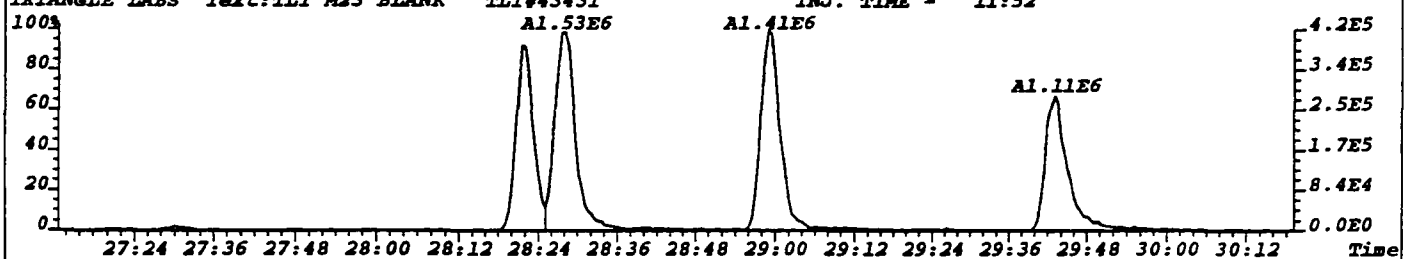
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:155
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,620.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



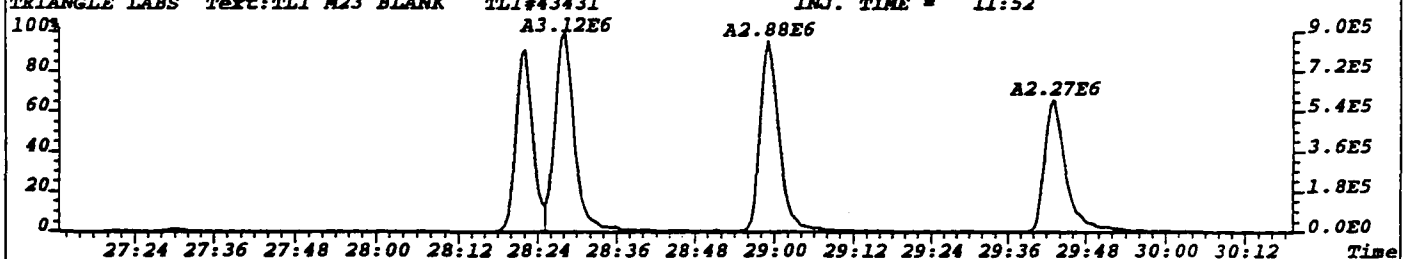
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:58
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



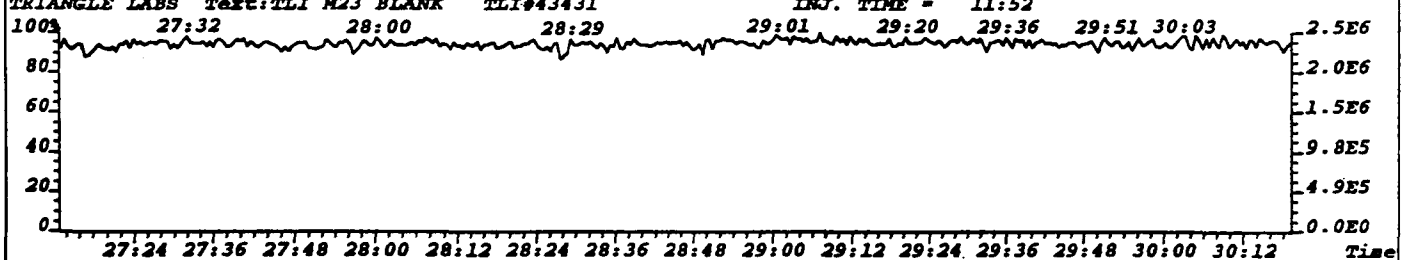
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:48
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



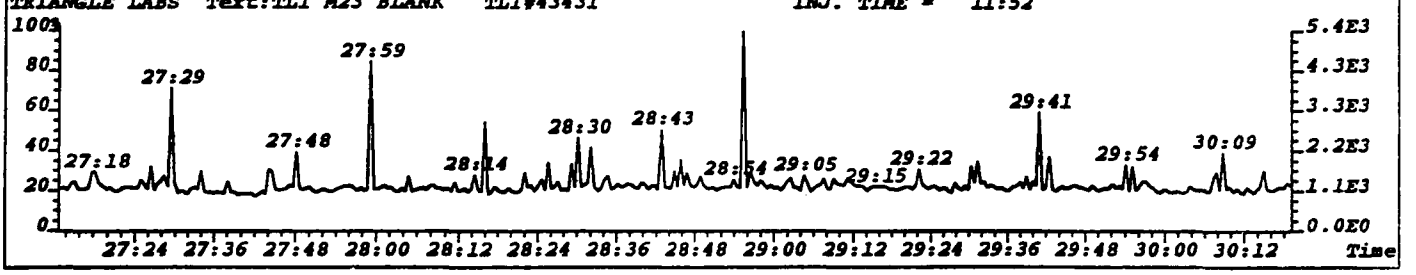
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:76
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



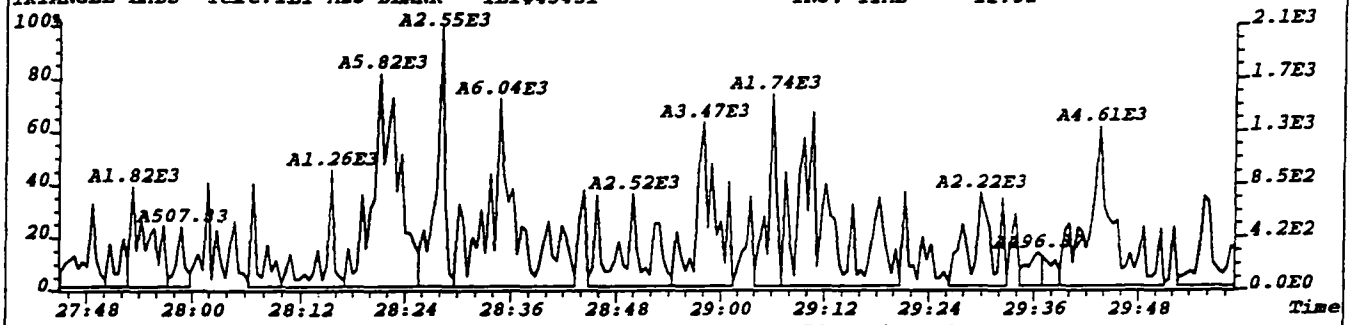
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



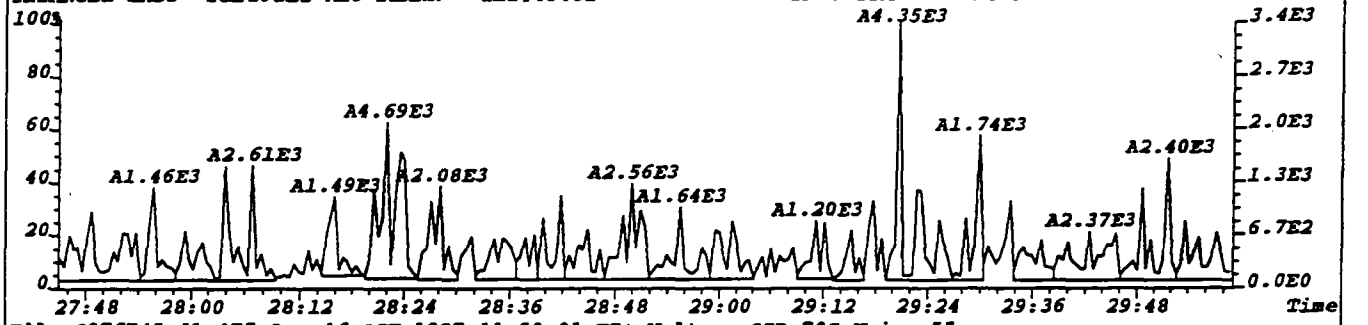
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



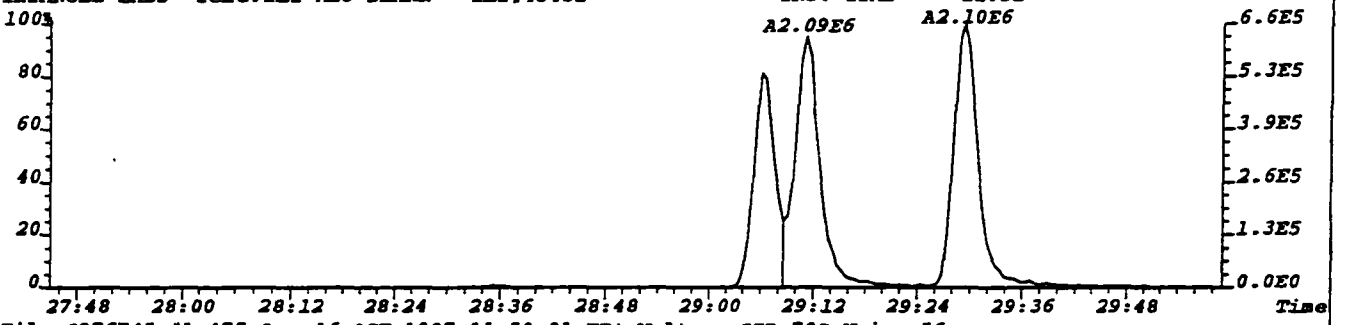
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:50
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



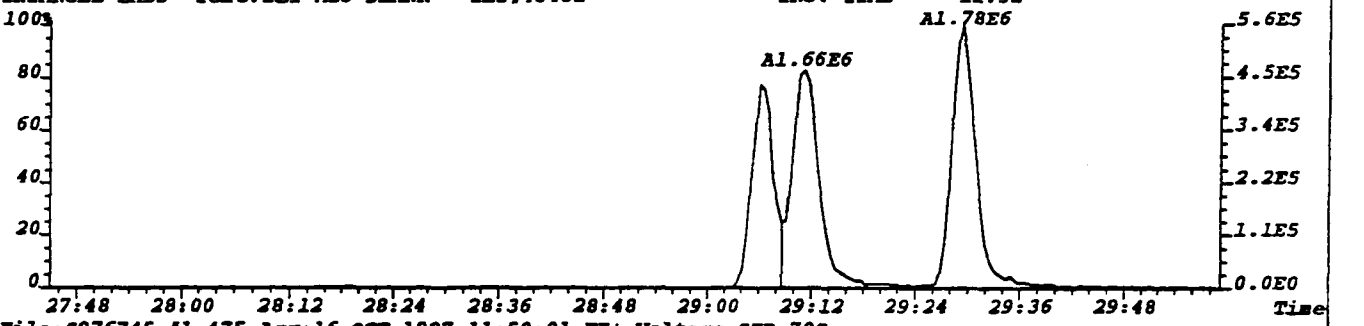
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:83
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,332.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



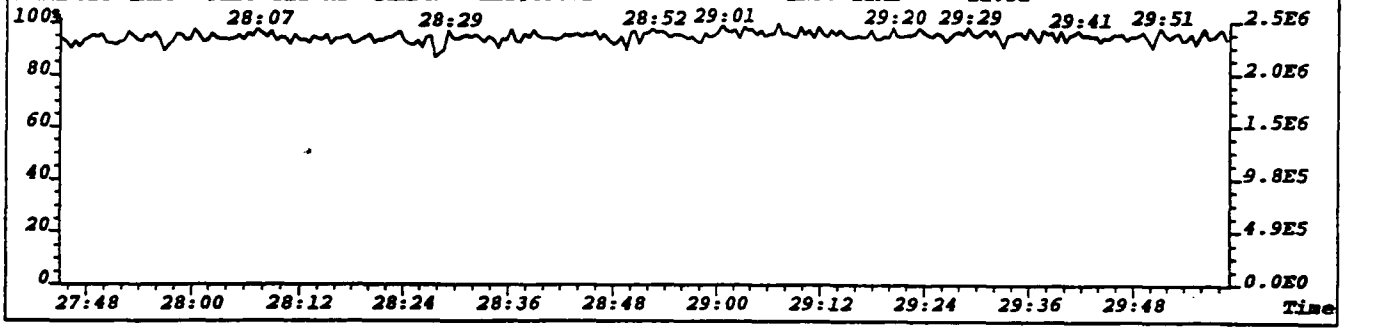
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:55
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



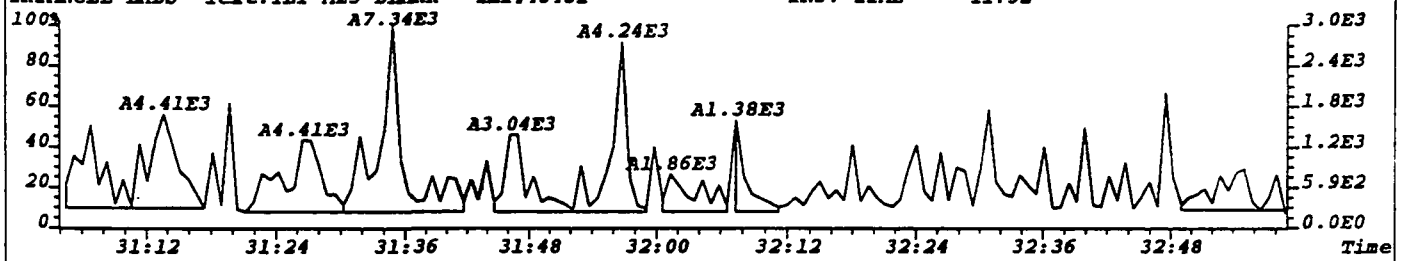
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:56
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



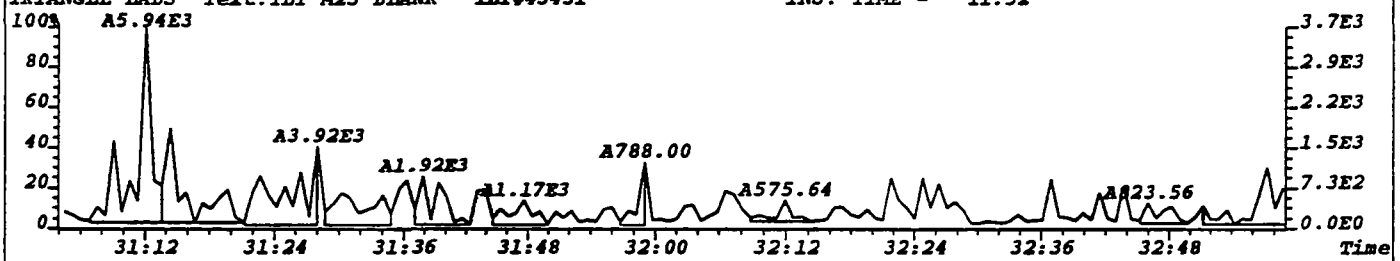
File:S976745 #1-475 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



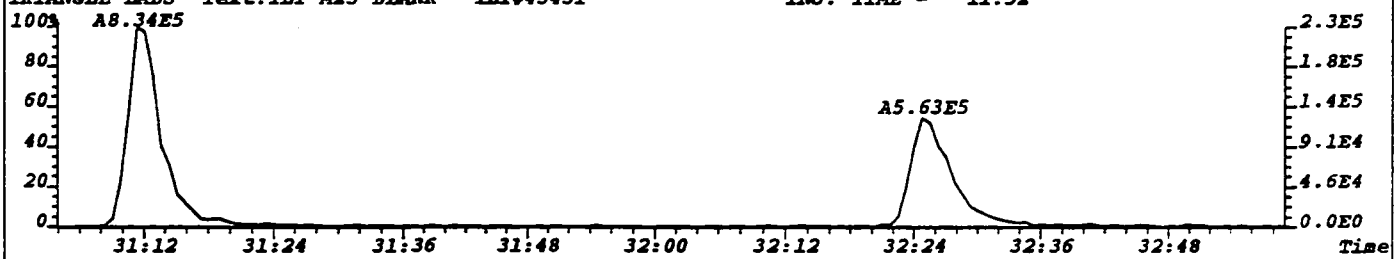
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:163
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,652.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



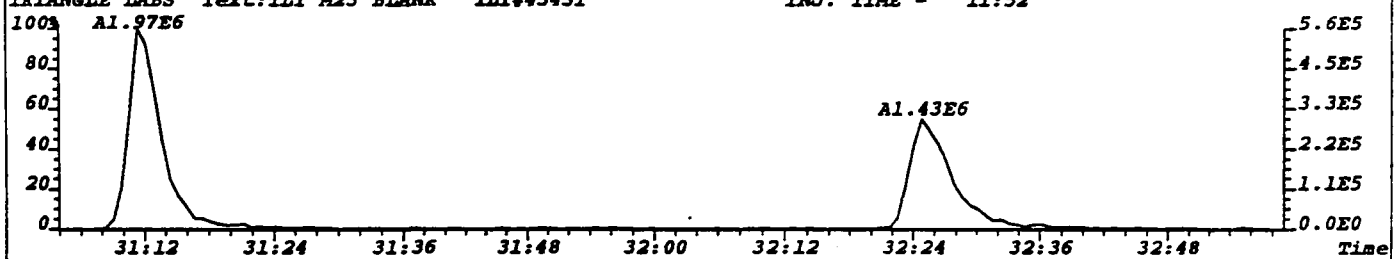
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:67
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



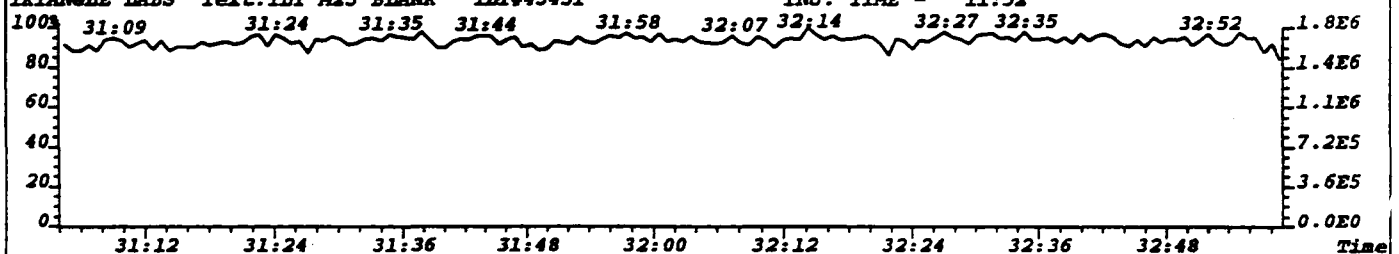
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:128
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,512.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



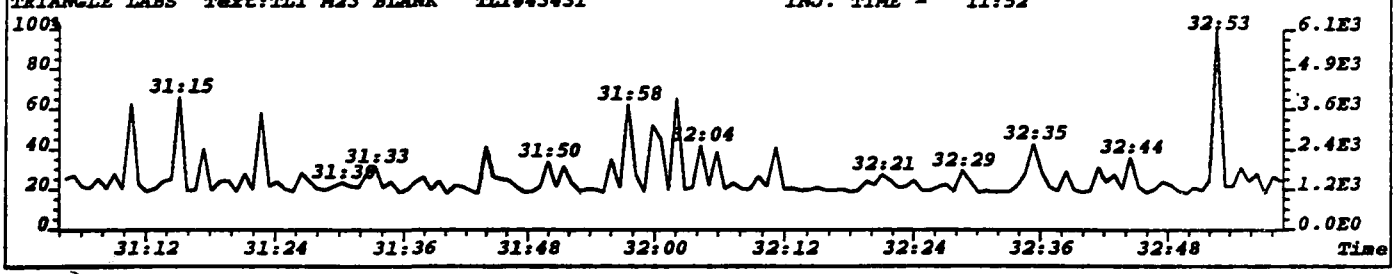
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:176
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,704.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



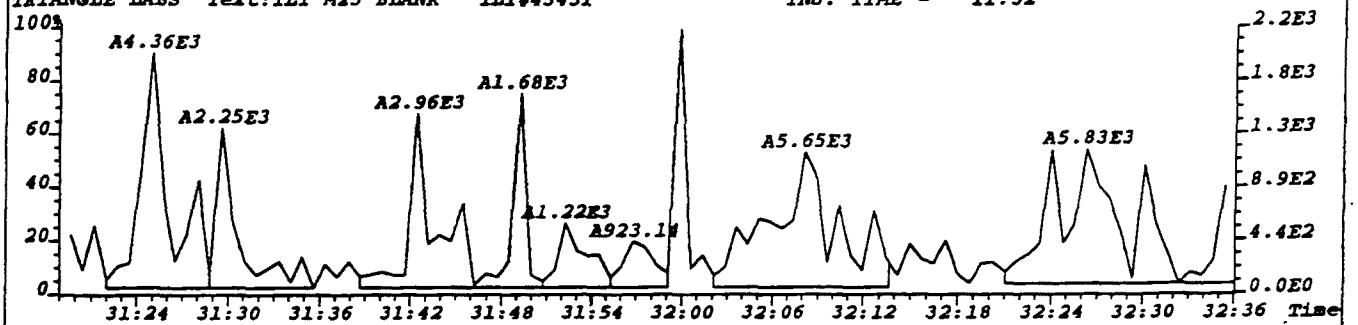
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



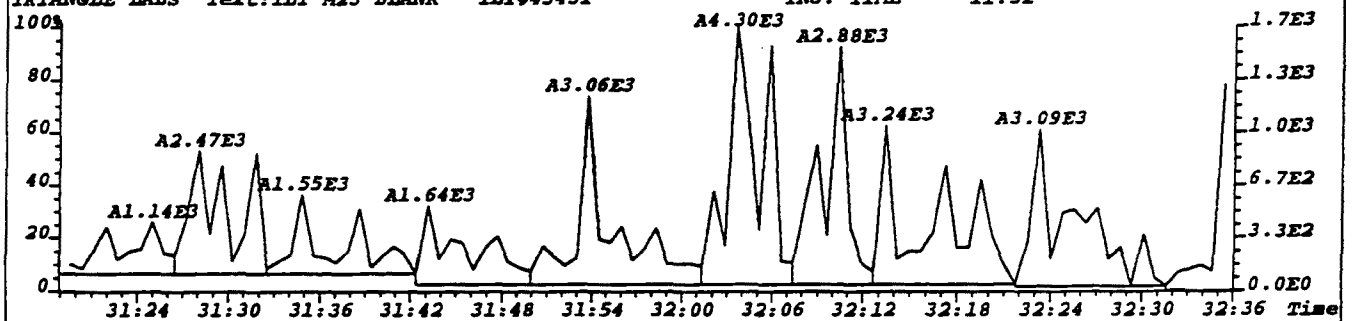
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



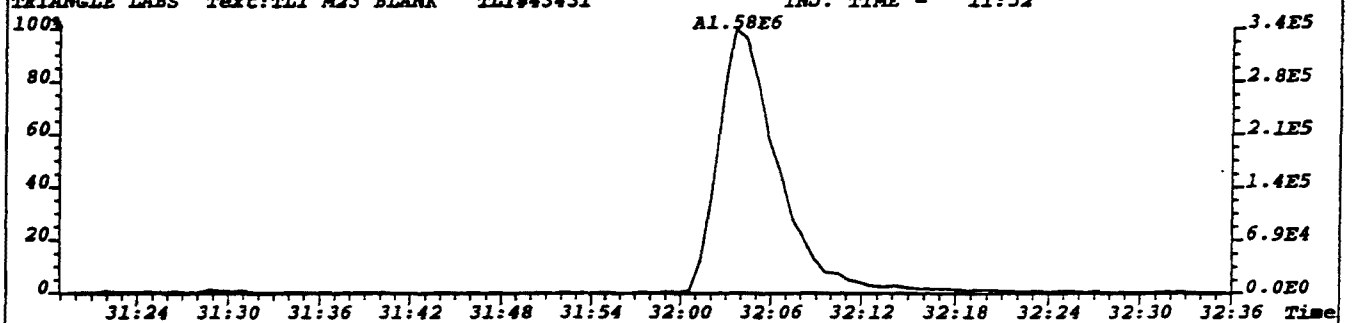
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:72
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,288.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



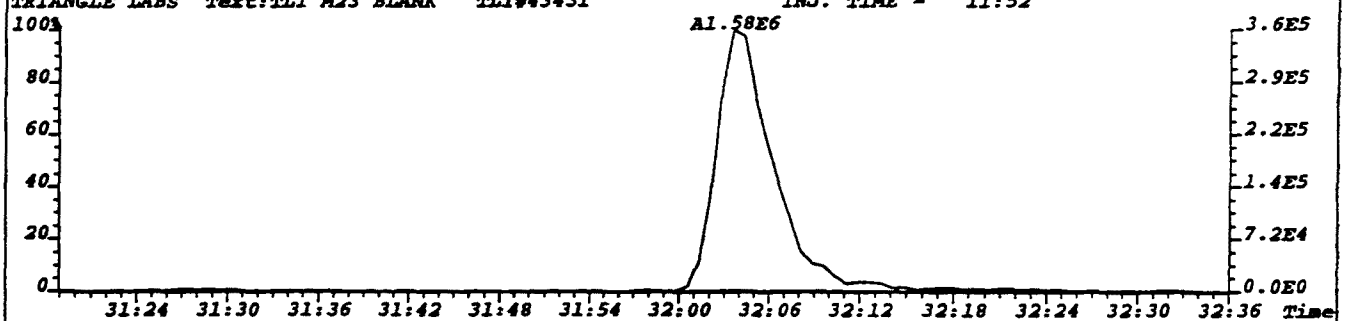
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:66
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



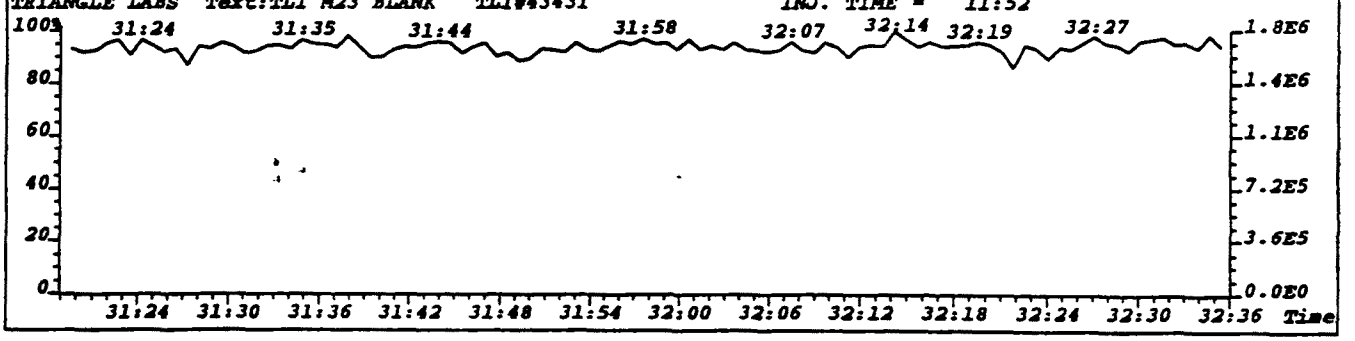
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:171
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,684.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



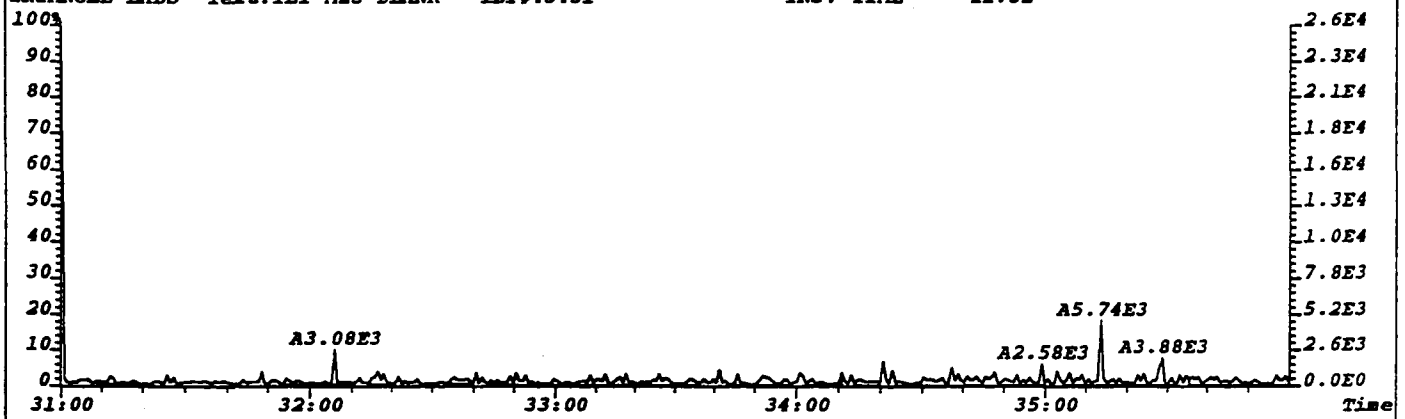
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:143
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,572.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



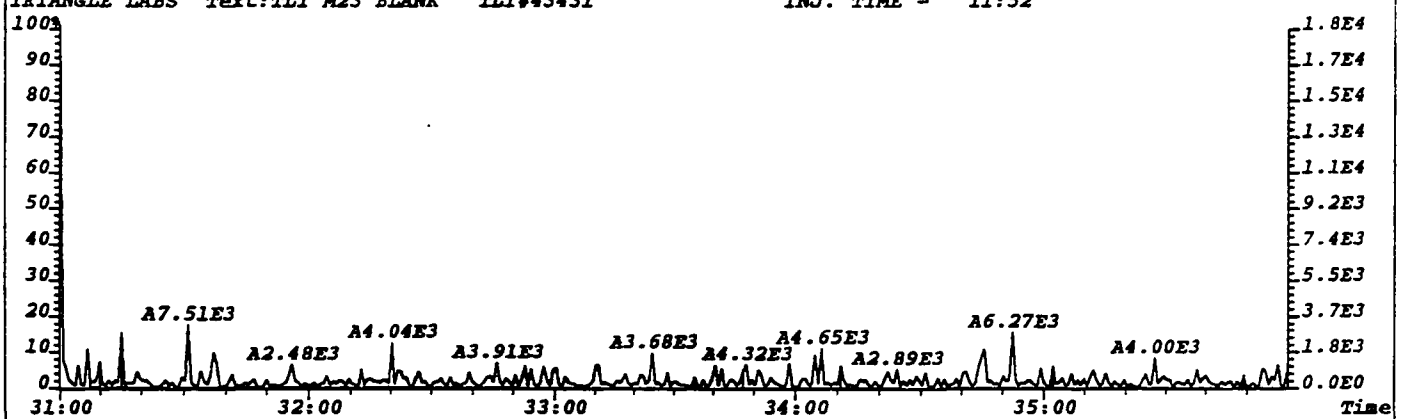
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



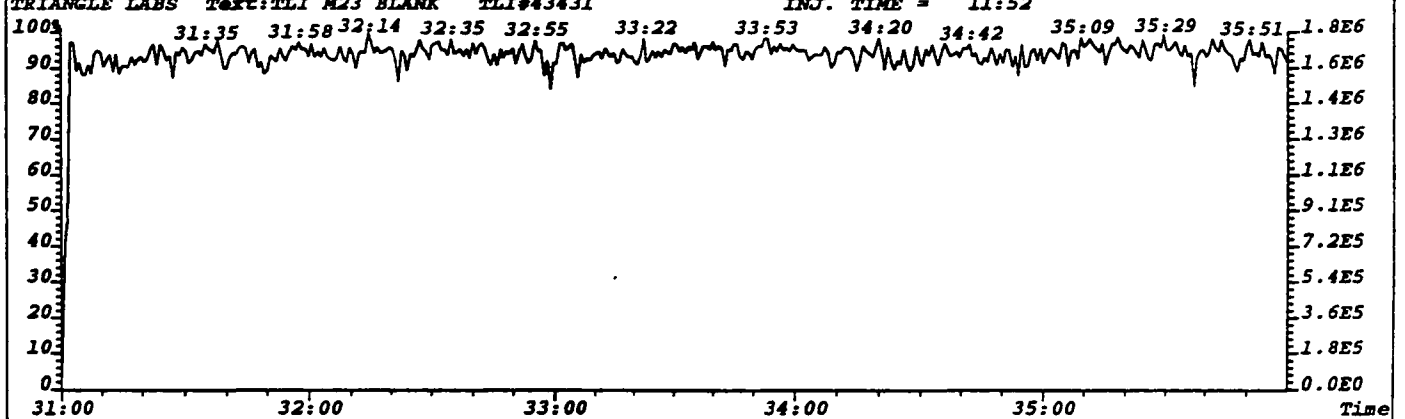
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:74
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



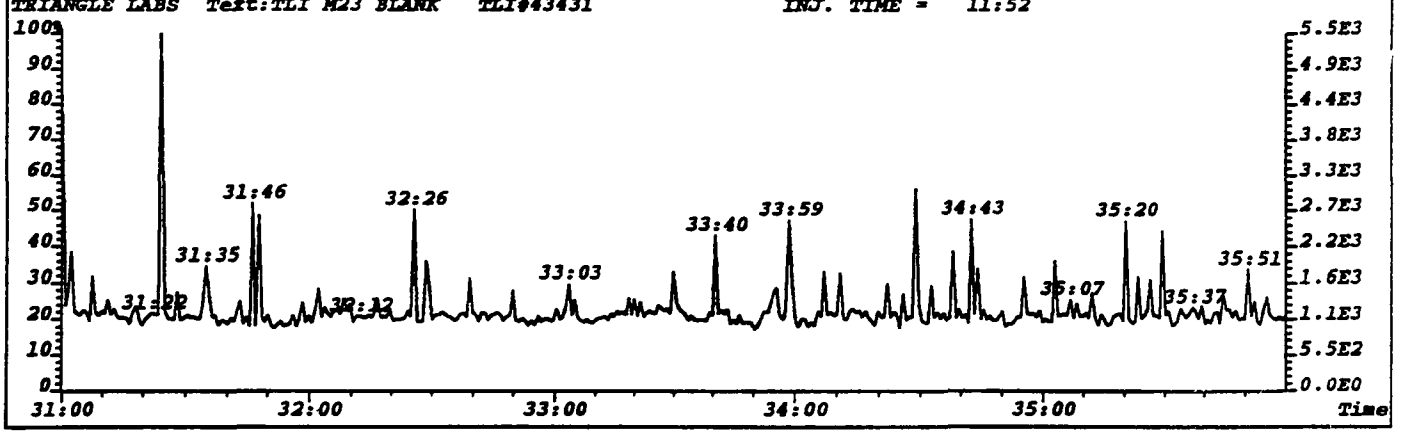
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:48
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



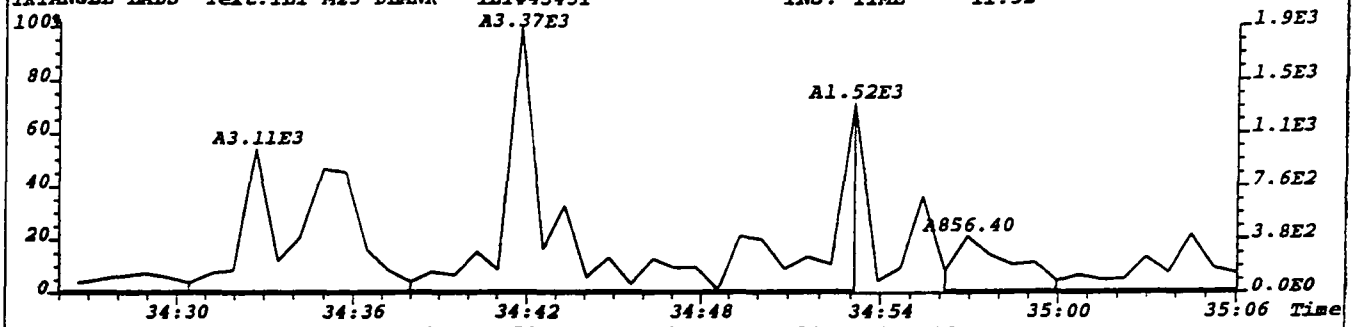
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52

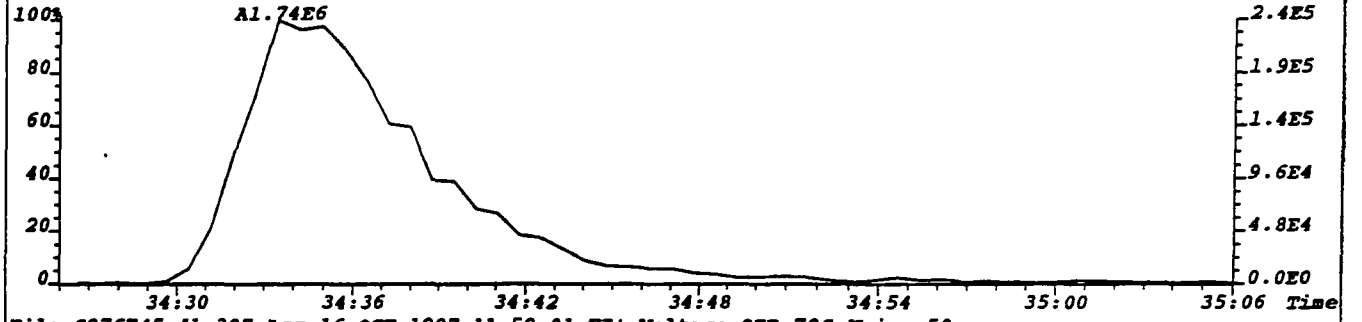


File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:42
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52

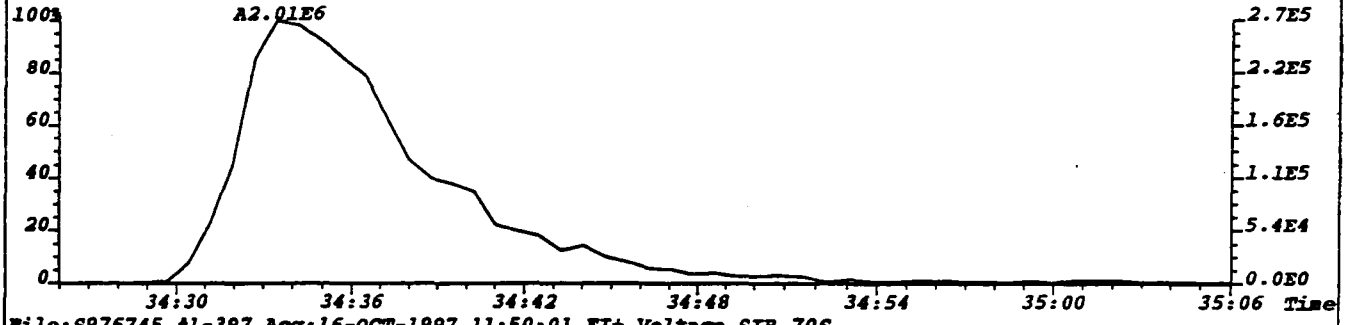


File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:46
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,184.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52

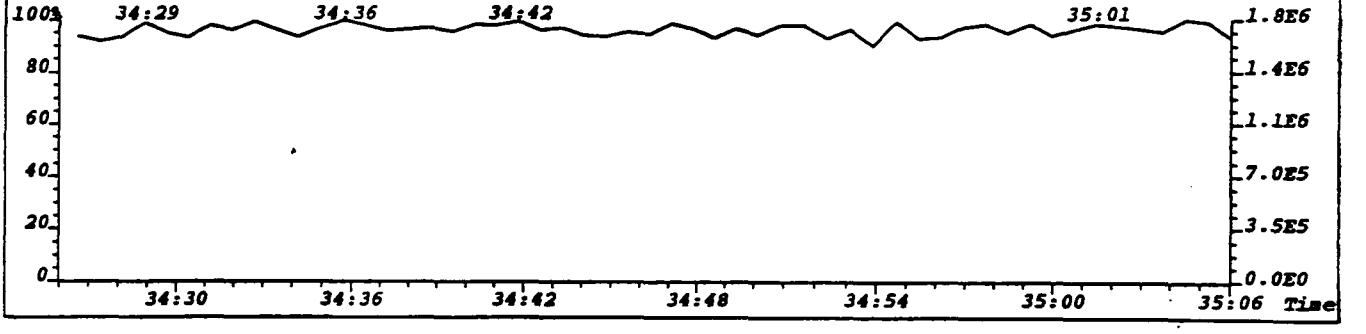
File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:42
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52

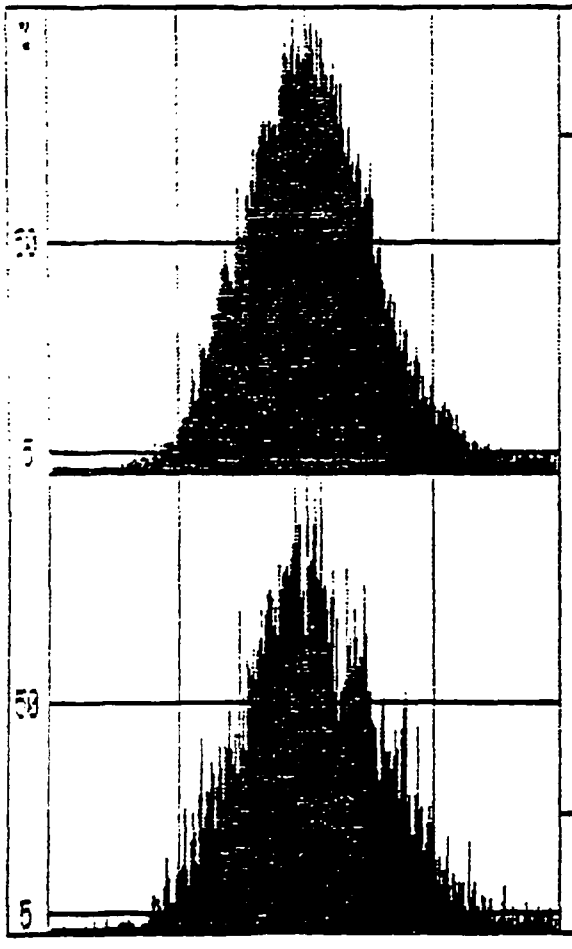


File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S Noise:50
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52



File:S976745 #1-397 Acq:16-OCT-1997 11:50:01 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI M23 BLANK TLI#43431 INJ. TIME = 11:52





Channel I 330.3792 Peak top
Height 1.67 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S376741
Resolution	10000
Group number	2
Ionization mode	EI-
Switching	VOLTAGE
Ref. masses	292.3625, 416.3760

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	329	Q	356		
I	331	R	358		

Ref. mass 416.3760 Peak top
Height .34 volts Span 200 ppm

Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL INLET RUN#1 — Analysis File: S976746

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-1A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976737
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% 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	0.006				—
1,2,3,7,8-PeCDD	ND	0.01				—
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	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	0.02			1.01	34:36	—
2,3,7,8-TCDF	ND	0.004				—
1,2,3,7,8-PeCDF	ND	0.008				—
2,3,4,7,8-PeCDF	ND	0.008				—
1,2,3,4,7,8-HxCDF	ND	0.008				—
1,2,3,6,7,8-HxCDF	ND	0.006				—
2,3,4,6,7,8-HxCDF	EMPC		0.01			—
1,2,3,7,8,9-HxCDF	ND	0.008				—
1,2,3,4,6,7,8-HpCDF	ND	0.01				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.02				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.006		—
Total PeCDD	ND		0.01		—
Total HxCDD	ND		0.01		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.004		—
Total PeCDF	ND		0.008		—
Total HxCDF	EMPC			0.01	—
Total HpCDF	ND		0.01		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:04 10/20/97

Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL INLET RUN#1 — Analysis File: S976746

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	4.3	108	40%-130%	0.76	20:23	___
$^{13}C_{12}$-2,3,7,8-TCDD	3.7	92.9	40%-130%	0.80	21:12	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.1	78.2	40%-130%	1.53	24:43	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	3.0	74.0	40%-130%	1.56	25:50	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	4.2	105	40%-130%	0.50	28:29	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.8	96.1	40%-130%	1.26	29:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.6	89.2	25%-130%	0.42	31:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	4.0	100	25%-130%	1.00	32:04	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.1	88.5	25%-130%	0.87	34:35	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.1	104	70%-140%		21:14	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.4	86.2	70%-140%	1.49	25:28	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.7	93.7	70%-140%	0.48	28:23	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.6	89.1	70%-140%	1.23	29:07	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	4.1	104	70%-140%	0.44	32:26	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	4.0	99.3	40%-130%	0.47	29:43	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	4.2	104	40%-130%	0.48	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	1.22	29:30	___

Data Reviewer: _____ 10/20/97

X237_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: 19:04 10/20/97

Initial ....Date...

Data Review By: K 10/20/97 Calculated Noise Area: 0.67

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 S976746B.dbf
10/20/97 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				0.825-1.102			
304-306		DC	NL	0:00		0.84	0.70			0.000			
	D	d	SN	19:55	RO	1.25	1.88			0.977			
		DC	SN	22:13	RO	0.53	1.10			1.090			
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318		DC	NL	0:00	RO	0.48	0.37			0.000			
				19:30	RO	0.52	2.05	0.89	1.70	0.957			
				19:52		0.73	6.80	2.88	3.92	0.975			
				20:23		0.76	1,296.86	560.71	736.15	1.000	13C12-2378-TCDF	ISO	
				20:52	RO	0.59	6.11	2.66	4.52	1.024			
		DC	WH	22:38	RO	0.64	8.85			1.110			
316-318			4	Peaks			1,311.82						

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

TCDD						0.65-0.89				0.856-1.059			
320-322		DC	NL	0:00	RO	1.54	0.23			0.000			
	D	d	SN	18:18		0.82	1.98			0.863			
		DC	SN	18:51	RO	2.87	0.55			0.889			
		DC	SN	19:07	RO	0.22	0.51			0.902			
		DC	SN	19:16	RO	1.83	0.21			0.909			
		DC	SN	19:40	RO	1.55	0.39			0.928			
		DC	SN	19:52	RO	1.18	0.80			0.937			
		DC	SN	20:06	RO	2.61	0.41			0.948			
		DC	SN	20:12	RO	3.75	0.21			0.953			
		DC	SN	20:24	RO	4.62	0.51			0.962			
		DC	SN	20:36		0.76	0.60			0.972			
		DC	SN	20:48	RO	1.76	0.44			0.981			
	D	d	SN	21:13	RO	0.98	2.60			1.001	2378-TCDD		AN
		DC	SN	21:47	RO	1.14	0.37			1.028			
		DC	SN	22:13	RO	0.98	0.97			1.048			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328		DC	NL	0:00			0.14			0.000			
		DC	SN	19:20			0.55			0.912			
				19:39			3.60	3.60		0.927			
				21:14			784.67	784.67		1.002	37Cl-TCDD		SUR1
				21:32			1.82	1.82		1.016			
		DC	SN	21:57			0.45			1.035			
		DC	SN	21:59			0.47			1.037			
		DC	SN	22:14			0.67			1.049			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				22:41			1.42	1.42		1.070			
	DC	SN		22:56			0.46			1.082			
328			4	Peaks			791.51						
13C12-TCDD				0.65-0.89					0.906-1.094				
332-334	DC	NL		0:00	RO	4.42	0.21			0.000			
				19:54	RO	1.16	4.60	3.01	2.60	0.939			
	DC	SN		20:14		0.72	1.31			0.954			
	DC	SN		20:34	RO	1.82	0.90			0.970			
				20:59		0.81	907.42	406.43	500.99	0.990	13C12-1234-TCDD	RS1	
				21:12		0.80	898.59	400.72	497.87	1.000	13C12-2378-TCDD	IS1	
				21:34	RO	0.91	15.49	7.98	8.75	1.017			
	DC	SN		22:26	RO	1.50	0.57			1.058			
332-334			4	Peaks			1,826.10						

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

PeCDF				1.32-1.78					0.907-1.080				
340-342	DC	NL		0:00	RO	1.00	0.16			0.000			
	DC	SN		22:38	RO	0.07	0.07			0.916			
	DC	SN		22:54	RO	0.30	0.10			0.927			
	DC	SN		23:04	RO	0.31	0.18			0.933			
	DC	SN		23:14	RO	0.56	0.15			0.940			
	DC	SN		23:32	RO	0.31	0.08			0.952			
	DC	SN		23:40	RO	0.63	0.33			0.958			
	DC	SN		23:59	RO	0.33	0.16			0.970			
	DC	SN		24:36	RO	2.52	0.74			0.995			
D	d	SN		24:44	RO	1.03	1.66			1.001	12378-PeCDF		AN
	DC	SN		25:04	RO	3.29	0.36			1.014			
	DC	SN		25:12	RO	0.19	0.10			1.020			
	DC	SN		26:08	RO	0.91	0.48			1.057			
	DC	SN		26:30		1.52	1.56			1.072			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78					0.838-1.162				
352-354	DC	NL		0:00	RO	1.11	0.16			0.000			
	DC	SN		22:29		1.54	0.89			0.910			
				24:20	RO	2.44	3.06	2.93	1.20	0.984			
				24:43		1.53	803.75	486.46	317.29	1.000	13C12-PeCDF 123	IS2	
				25:01		1.50	5.53	3.32	2.21	1.012			
				25:28		1.49	672.24	402.01	270.23	1.030	13C12-PeCDF 234	SUR2	
	DC	SN		25:54	RO	2.11	1.63			1.048			
				26:08	RO	0.98	1.43	0.87	0.89	1.057			
				26:29	RO	2.05	2.35	1.89	0.92	1.071			
352-354			6	Peaks			1,488.36						

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

PeCDD				1.32-1.78					0.921-1.026				
356-358	DC	NL		0:00	RO	1.00	0.15			0.000			
	DC	SN		24:12	RO	0.54	0.48			0.937			
	DC	SN		24:25	RO	2.06	0.46			0.945			

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		24:34	RO	2.38	0.20			0.951			
	DC	SN		24:41	RO	1.23	0.53			0.955			
	DC	SN		24:52	RO	0.10	0.08			0.963			
	DC	SN		25:08	RO	0.37	0.12			0.973			
	DC	SN		25:31	RO	4.57	0.54			0.988			
	DC	SN		25:52	RO	1.20	0.69			1.001	12378-PeCDD	AN	
	DC	SN		26:21		1.59	0.44			1.020			
	DC	WH		26:43	RO	0.59	0.72			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	1.10	0.18			0.000			
	DC	SN		25:12	RO	2.03	0.74			0.975			
				25:50		1.56	426.17	259.70	166.47	1.000	13C12-PeCDD 123	IS3	
				25:59		1.50	44.09	26.48	17.61	1.006			
	DC	SN		26:22		1.58	1.03			1.021			
	DC	SN		26:37	RO	0.63	0.72			1.030			
368-370			2	Peaks			470.26						

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

HxCDF				1.05-1.43						0.956-1.053			
374-376	DC	NL		0:00	RO	0.92	0.40			0.000			
	DC	SN		27:14	RO	1.80	0.34			0.956			
	DC	SN		27:24	RO	2.25	0.18			0.962			
	DC	SN		27:32	RO	0.77	0.61			0.967			
	DC	SN		27:42	RO	1.73	0.34			0.972			
	DC	SN		28:01	RO	7.00	0.07			0.984			
	DC	SN		28:05		1.40	0.12			0.986			
	DC	SN		28:23	RO	1.47	1.30			0.996	123478-HxCDF	AN	
	DC	SN		28:30		1.27	1.34			1.001	123678-HxCDF	AN	
	DC	SN		28:43	RO	2.00	0.27			1.008			
	DC	SN		28:44	RO	2.50	0.22			1.009			
				28:59	RO	0.96	2.96	1.64	1.70	1.018	234678-HxCDF	AN	
	DC	SN		29:12	RO	1.91	0.52			1.025			
	DC	SN		29:18	RO	0.75	0.33			1.029			
	DC	SN		29:21	RO	1.04	0.51			1.030			
	DC	SN		29:34	RO	0.69	0.49			1.038			
D	d	SN		29:43		1.24	1.90			1.043	123789-HxCDF	AN	
	DC	SN		29:55	RO	0.81	0.52			1.050			
	DC	SN		29:59	RO	0.21	0.23			1.053			
	DC	WH		30:11	RO	0.51	0.42			1.060			
	DC	WH		30:22	RO	0.70	0.47			1.066			
374-376			1	Peak			2.96						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	0.67	0.54			0.000			
	DC	SN		27:17	RO	1.16	0.29			0.958			
	DC	SN		27:22	RO	0.67	0.74			0.961			
	DC	SN		27:31	RO	0.37	1.21			0.966			
				28:23		0.48	649.15	211.44	437.71	0.996	13C12-HxCDF 478	SUR3	
				28:29		0.50	722.34	239.85	482.49	1.000	13C12-HxCDF 678	IS4	

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				28:47	RO	0.31	2.69	0.91	2.92	1.011			
				28:59		0.48	666.16	216.73	449.43	1.018	13C12-HxCDF	234	ALT2
				29:12	RO	0.74	2.91	1.42	1.93	1.025			
	DC	SN		29:19		0.54	1.22			1.029			
	DC	SN		29:25	RO	0.37	0.98			1.033			
	DC	SN		29:28	RO	0.36	0.71			1.035			
	DC	SN		29:33	RO	0.93	0.60			1.037			
				29:43		0.47	550.62	177.03	373.59	1.043	13C12-HxCDF	789	ALT1
				29:59	RO	1.10	1.74	1.27	1.15	1.053			
	DC	SN		30:10	RO	0.33	0.86			1.059			
384-386			7	Peaks			2,595.61						

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

HxCDD				1.05-1.43					0.950-1.015				
390-392	DC	NL		0:00	RO	1.45	0.25			0.000			
	DC	SN		27:54	RO	0.44	0.38			0.955			
	DC	SN		27:55	RO	0.27	0.20			0.956			
	DC	SN		28:28	RO	1.47	0.72			0.975			
	DC	SN		28:37	RO	0.37	0.13			0.980			
	DC	SN		28:40		1.17	0.13			0.982			
	DC	SN		28:50	RO	0.95	0.34			0.987			
	DC	SN		28:56	RO	2.00	0.22			0.991			
	DC	SN		29:00	RO	1.52	0.69			0.993			
	DC	SN		29:08	RO	0.95	0.63			0.998	123478-HxCDD		AN
	DC	SN		29:13	RO	2.23	0.78			1.001	123678-HxCDD		AN
	DC	SN		29:31		1.21	1.15			1.011	123789-HxCDD		AN
	DC	WH		29:44	RO	1.78	0.60			1.018			
	DC	WH		29:51	RO	4.25	0.09			1.022			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43					0.966-1.034				
402-404	DC	NL		0:00	RO	0.46	0.20			0.000			
				28:35		1.28	2.67	1.50	1.17	0.979			
				29:07		1.23	474.01	261.15	212.86	0.997	13C12-HxCDD	478	SUR4
				29:12		1.26	546.84	304.41	242.43	1.000	13C12-HxCDD	678	IS5
				29:30		1.22	571.84	314.63	257.21	1.010	13C12-HxCDD	789	RS2
	DC	SN		29:42	RO	0.50	1.41			1.017			
	DC	SN		29:56		1.19	1.29			1.025			
402-404			4	Peaks			1,595.36						

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

HpCDF				0.88-1.20					0.996-1.046				
408-410	DC	NL		0:00	RO	1.59	2.12			0.000			
	DC	SN		31:14	RO	2.53	0.96			1.001	1234678-HpCDF		AN
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51					0.936-1.128				
418-420	DC	NL		0:00	RO	0.74	1.58			0.000			
				31:12		0.42	452.62	134.49	318.13	1.000	13C12-HpCDF	678	IS6
	DC	SN		31:34	RO	0.32	0.72			1.012			

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		32:07	RO	0.62	1.47			1.029			
				32:26		0.44	361.64	111.09	250.55	1.040	13C12-HpCDF 789	SUR5	
	DC	SN		32:53		0.50	2.22			1.054			
	DC	SN		32:57	RO	0.28	0.92			1.056			
418-420			2	Peaks			814.26						

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

HpCDD				0.88-1.20						0.977-1.006			
424-426	DC	NL		0:00	RO	5.20	0.31			0.000			
	DC	SN		32:05	RO	1.43	1.51			1.001	1234678-HpCDD	AN	
	DC	WH		32:26	RO	4.67	0.37			1.011			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	1.49	1.45			0.000			
				32:04		1.00	466.63	233.85	232.78	1.000	13C12-HpCDD 678	IS7	
	DC	SN		32:29	RO	0.60	0.57			1.013			
	DC	SN		32:36	RO	0.50	0.71			1.017			
436-438			1	Peak			466.63						

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

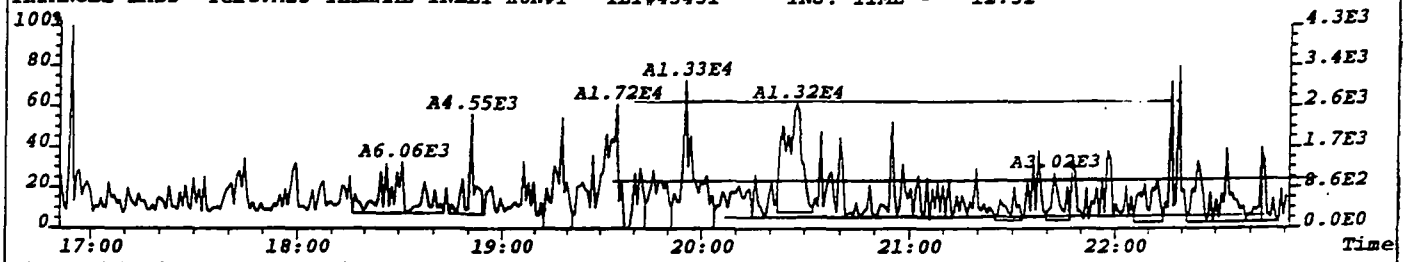
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00	RO	1.63	0.30			0.000			
	DC	SN		31:12	RO	0.38	0.45			0.902			
	DC	SN		31:23	RO	2.00	0.34			0.907			
	DC	SN		31:44		0.85	0.37			0.918			
	DC	SN		31:51	RO	1.18	0.32			0.921			
	DC	SN		31:57	RO	0.26	0.15			0.924			
	DC	SN		32:06	RO	1.10	0.55			0.928			
	DC	SN		32:10	RO	0.09	0.06			0.930			
	DC	SN		32:17		0.88	0.60			0.933			
	DC	SN		32:35	RO	1.24	0.70			0.942			
	DC	SN		32:44		0.81	0.29			0.947			
	DC	SN		33:02	RO	1.25	0.30			0.955			
	DC	SN		33:25	RO	1.14	0.40			0.966			
	DC	SN		33:43	RO	11.17	0.11			0.975			
	DC	SN		34:46	RO	0.36	1.04			1.005			
	DC	SN		35:00	RO	1.18	0.64			1.012			
442-444			0	Peaks			0.00						
OCDD				0.76-1.02						0.884-1.116			
458-460	DC	NL		0:00		0.83	0.22			0.000			
MK				34:36		1.01	1.63	0.82	0.81	1.000	OCDD	AN	
	DC	SN		34:48		0.92	0.48			1.006			
458-460			1	Peak			1.63						
13C12-OCDD				0.76-1.02						0.997-1.006			
470-472	DC	NL		0:00		1.00	0.18			0.000			
				34:35		0.87	525.17	245.01	280.16	1.000	13C12-OCDD	IS8	
	DC	WH		35:08	RO	0.73	1.00			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.
470-472			1 Peak				525.17						

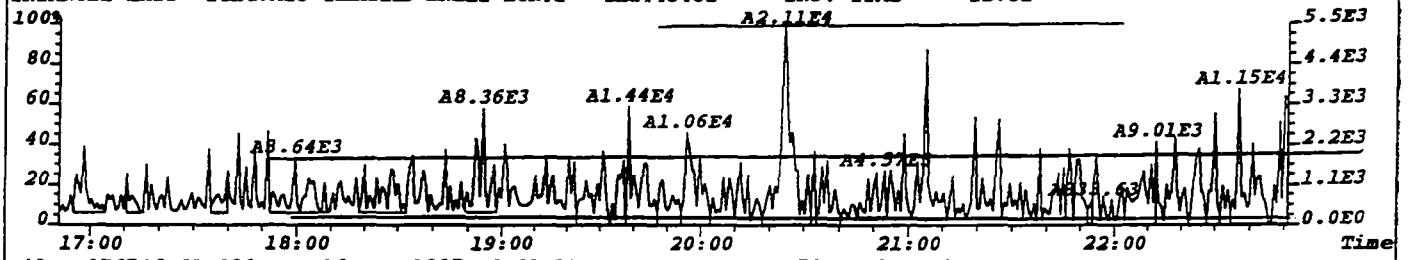
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

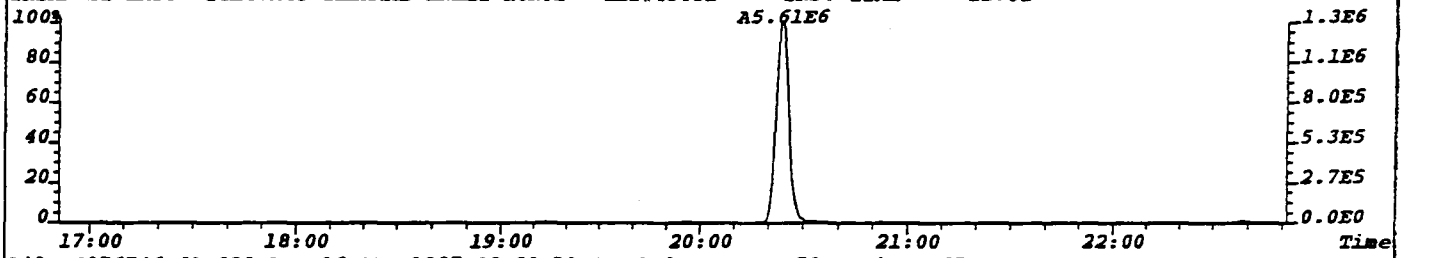
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:160
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,640.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



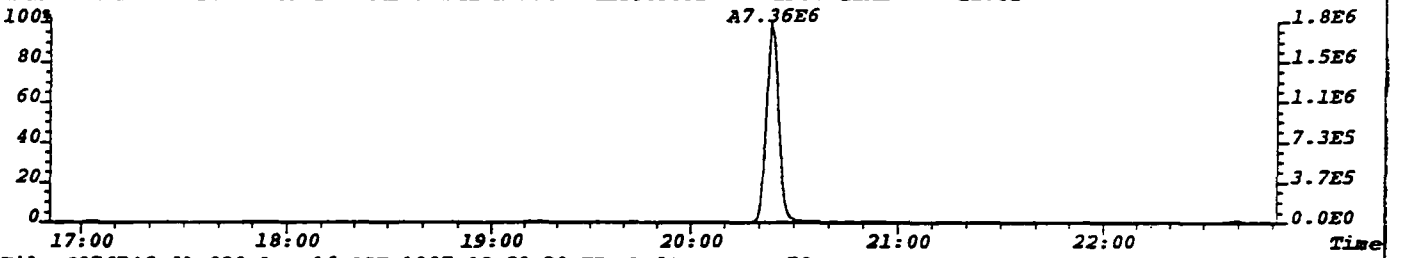
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:188
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,752.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



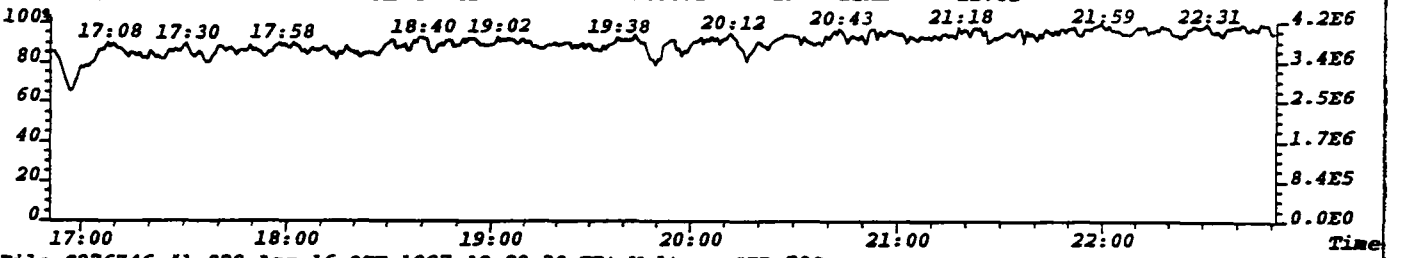
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:82
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



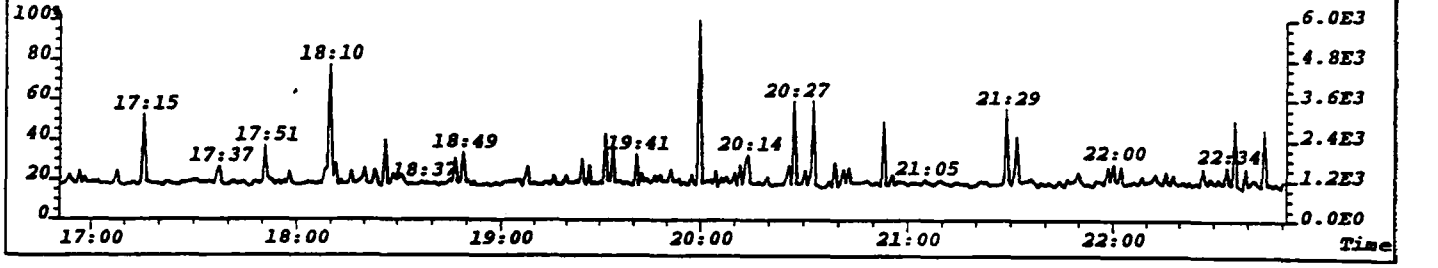
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:167
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,668.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



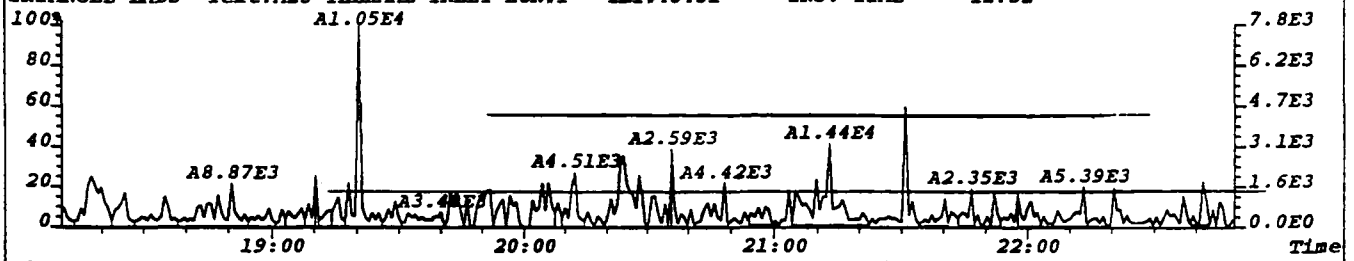
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



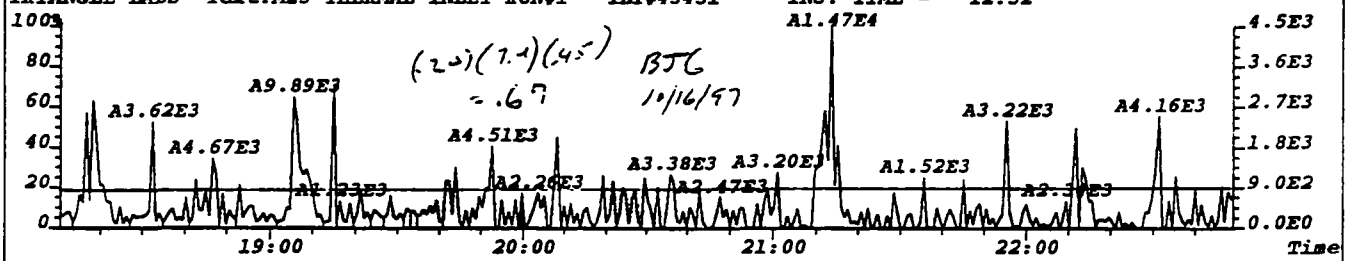
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:101
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,404.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32

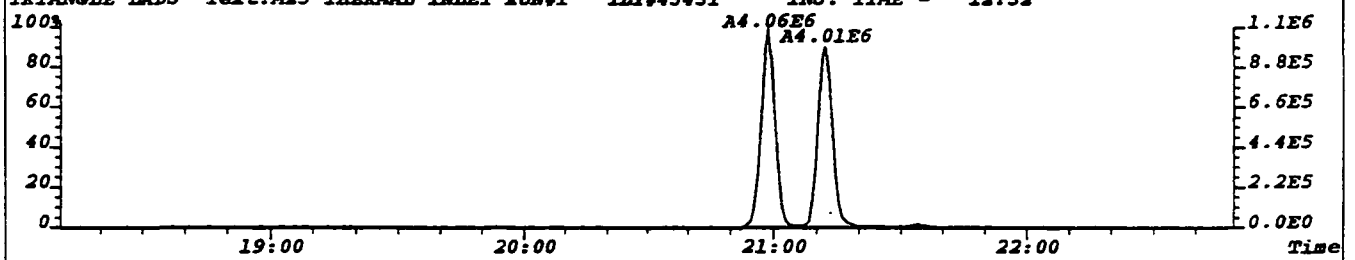


File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:63
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32

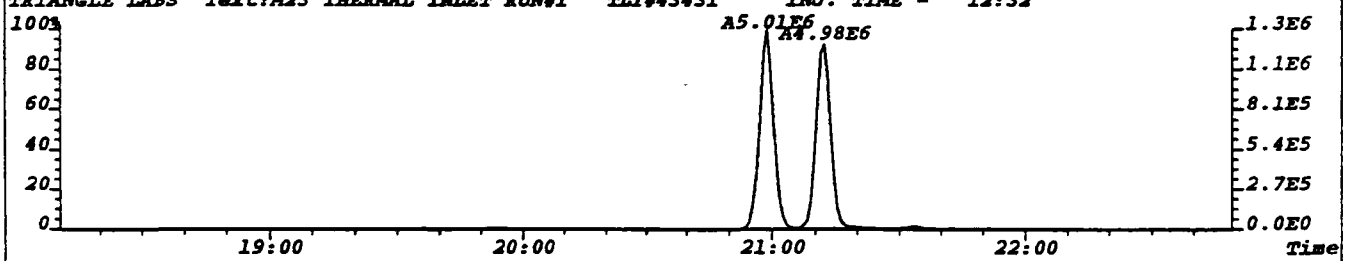


(.23)(7.1)(.45) BJG
= .67 10/16/97

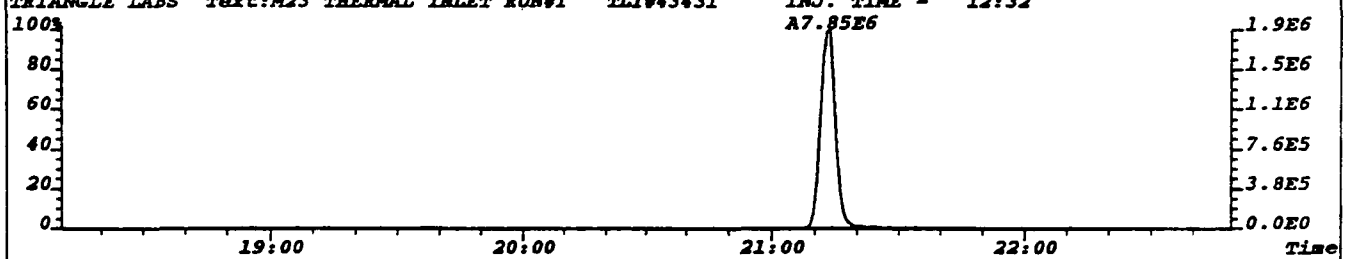
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:266
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1064.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



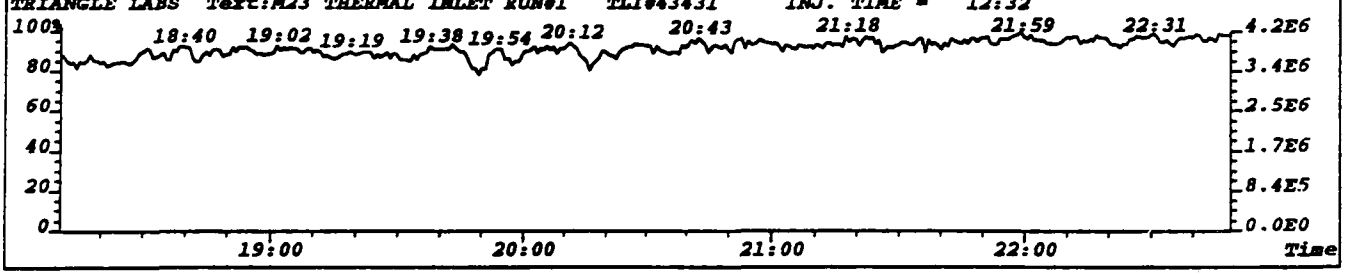
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:61
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



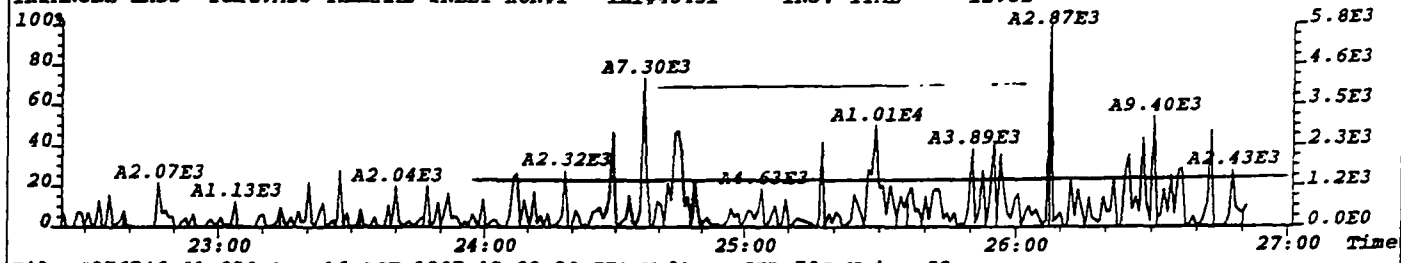
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:69
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



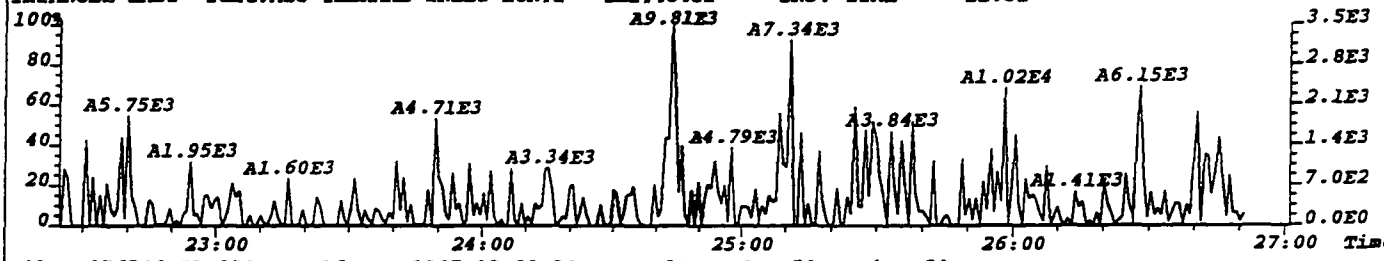
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



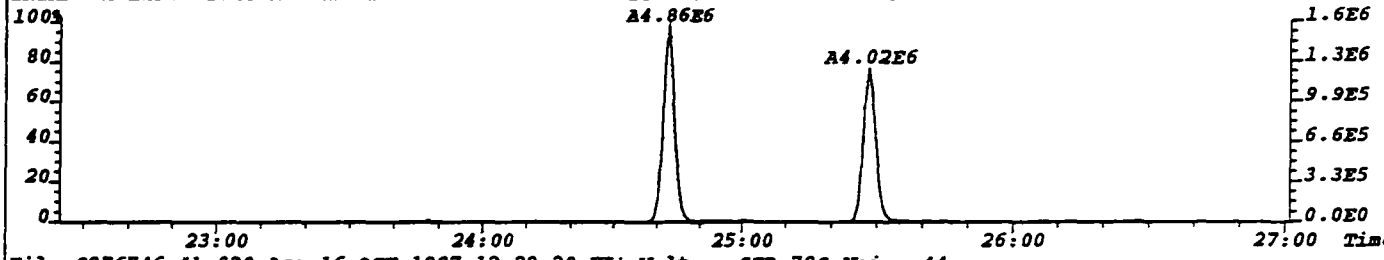
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:50
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



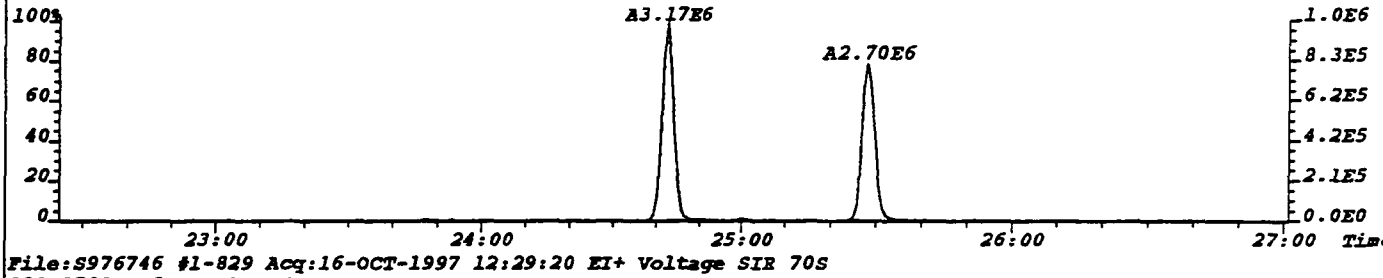
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:52
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



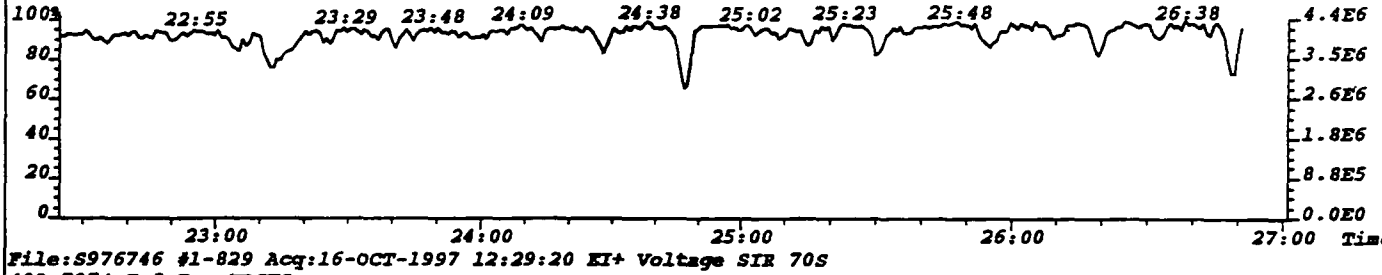
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:50
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



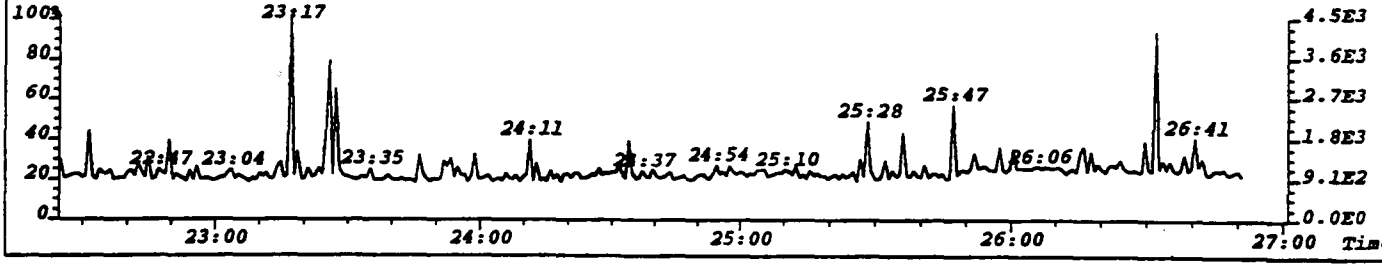
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:44
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



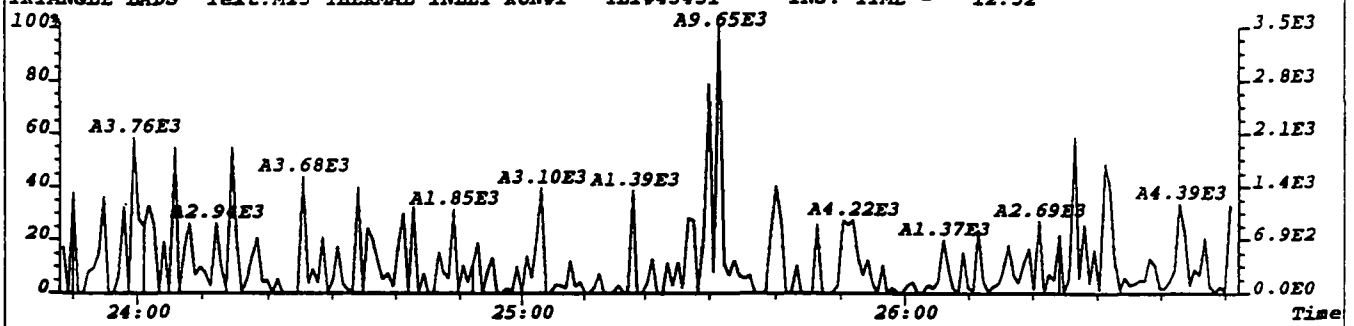
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



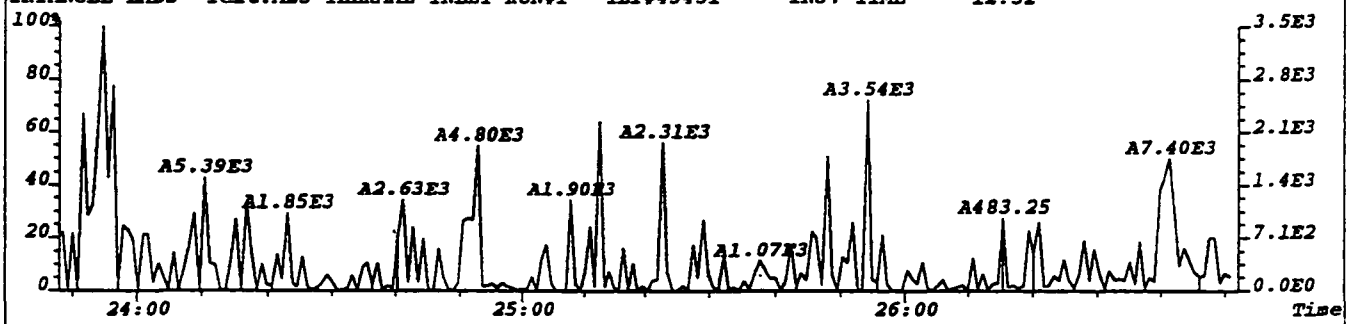
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



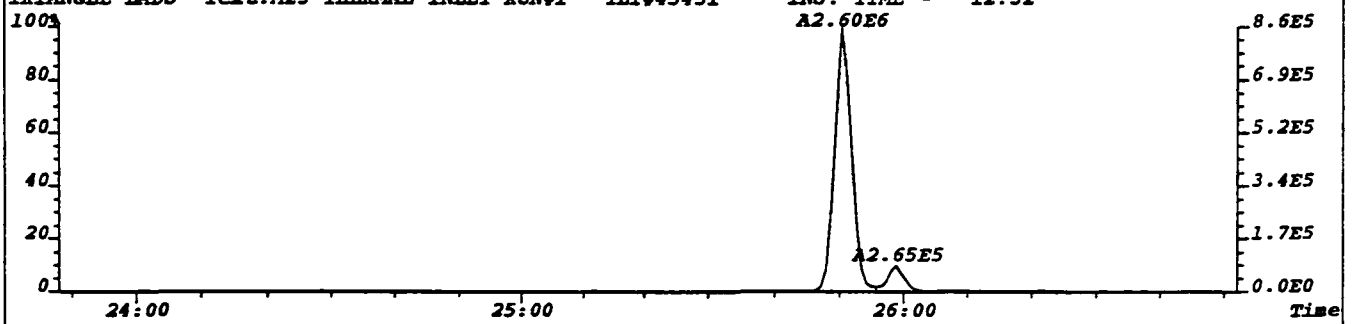
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:45
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



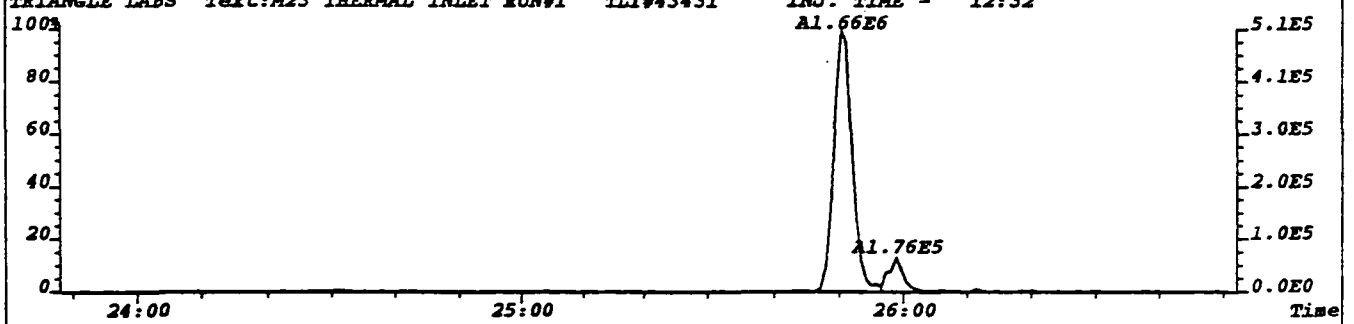
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:44
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



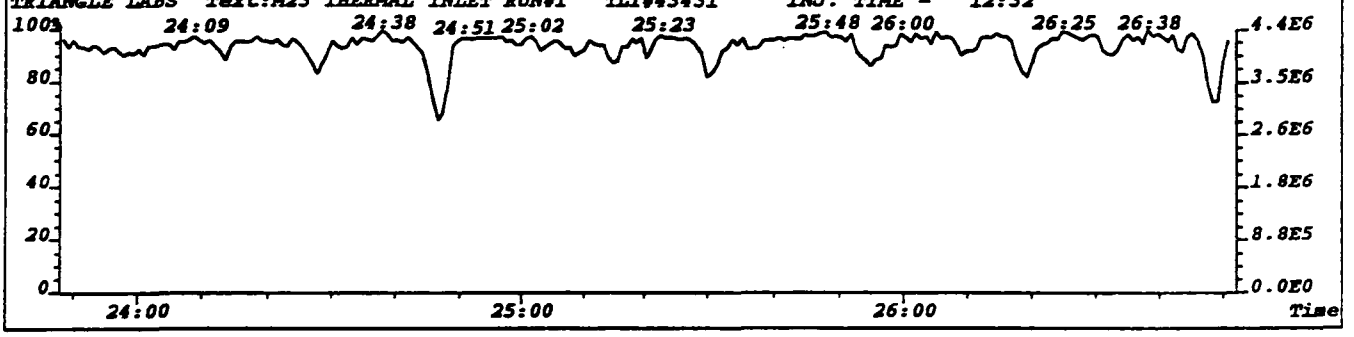
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:53
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,212.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



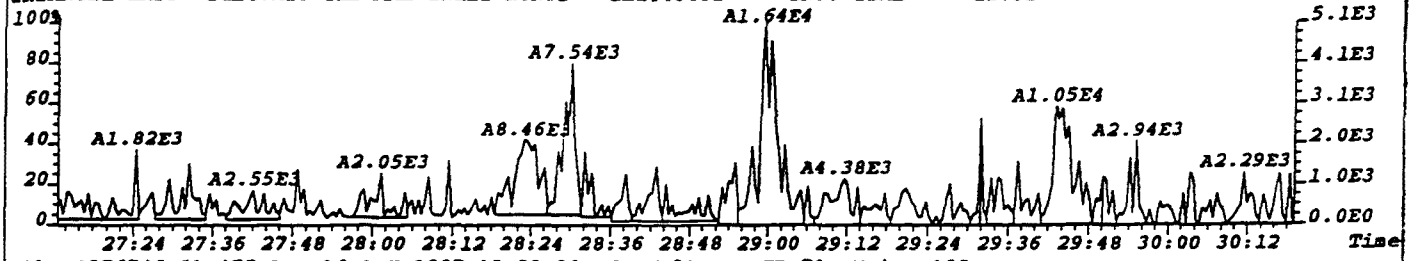
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:50
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



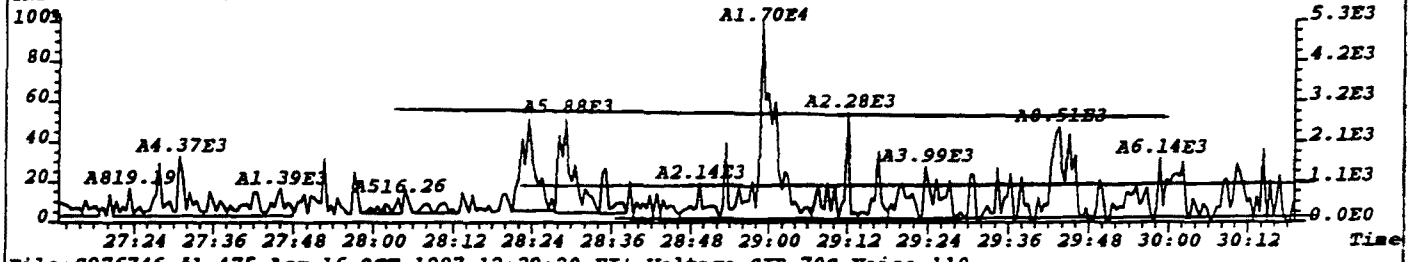
File:S976746 #1-829 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



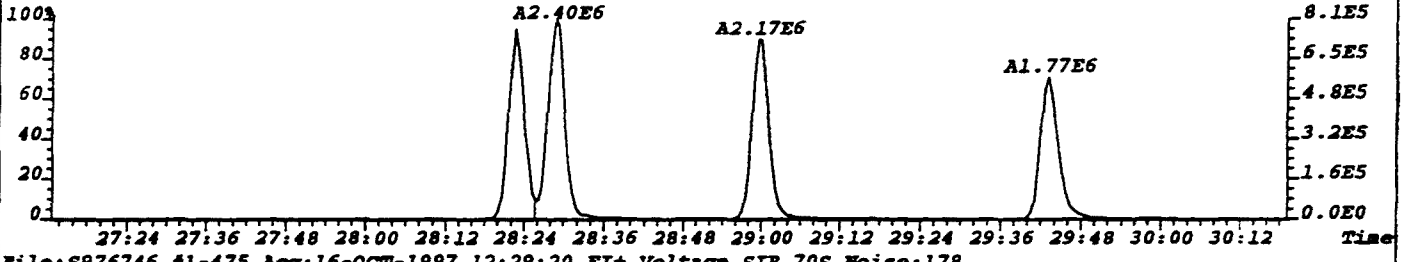
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:108
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,432.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



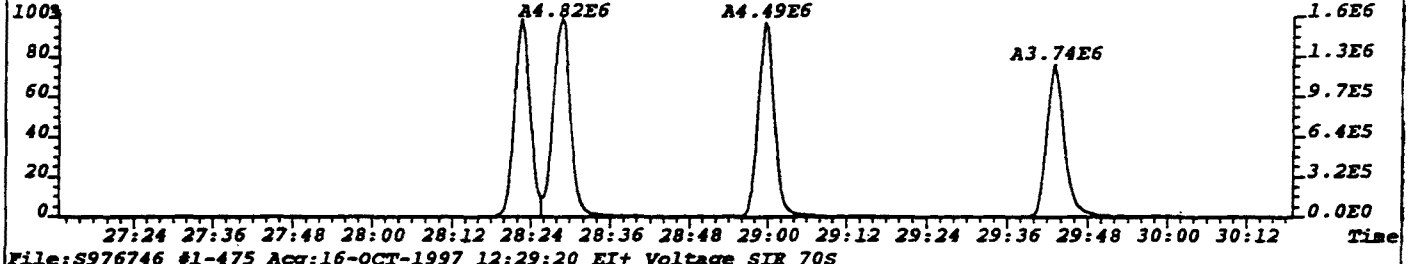
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:122
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,488.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



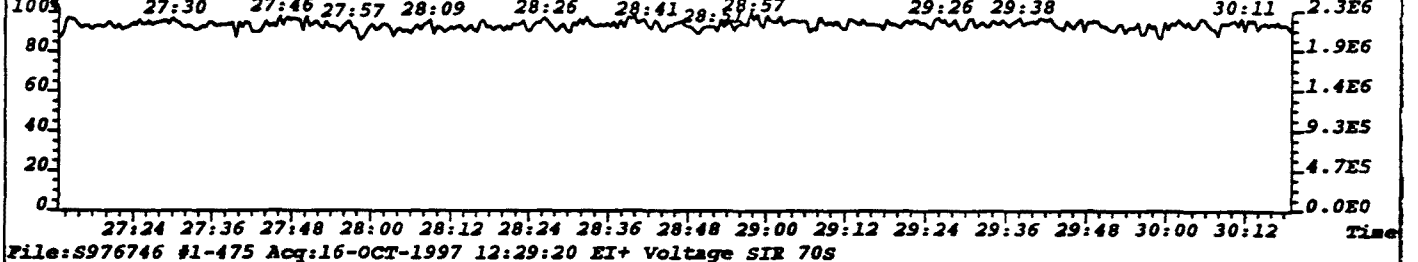
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:119
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,476.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



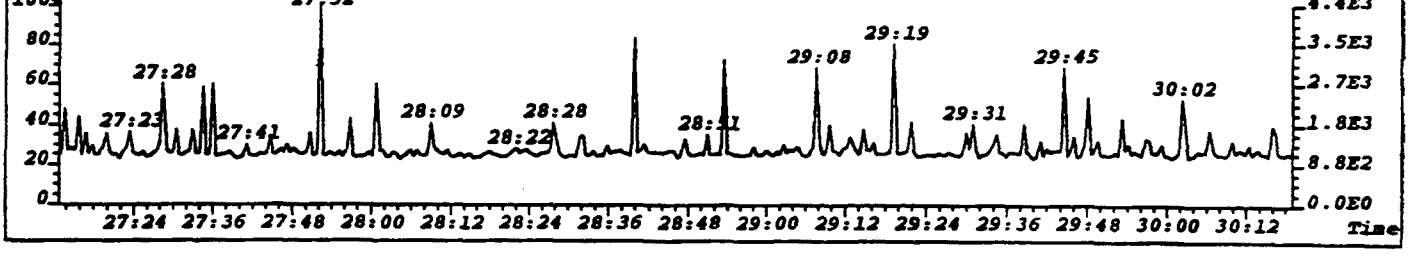
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:178
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,712.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



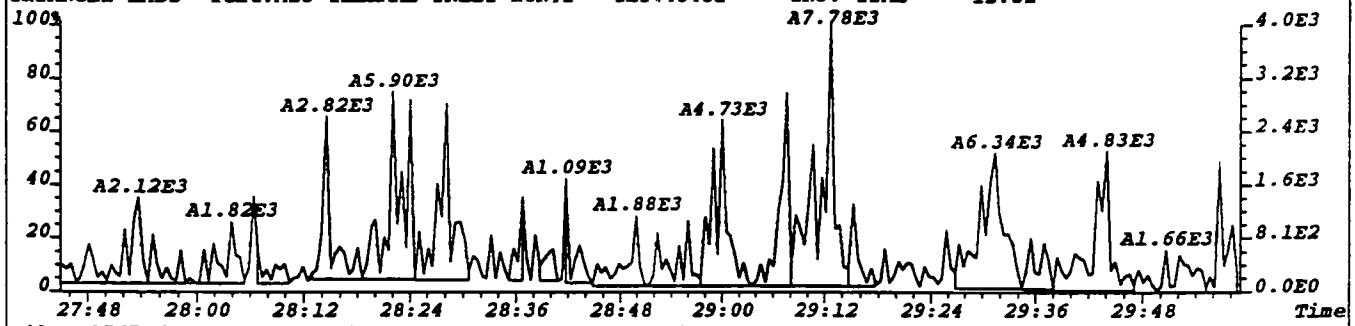
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



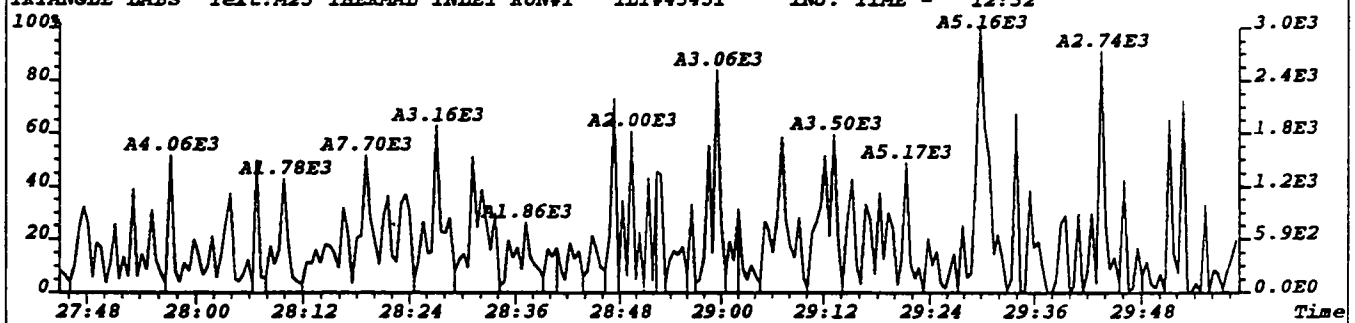
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



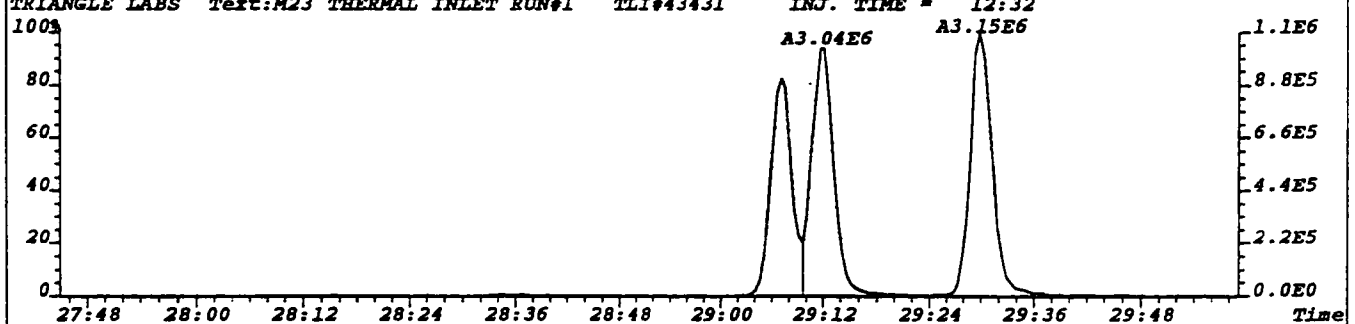
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:78
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,312.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



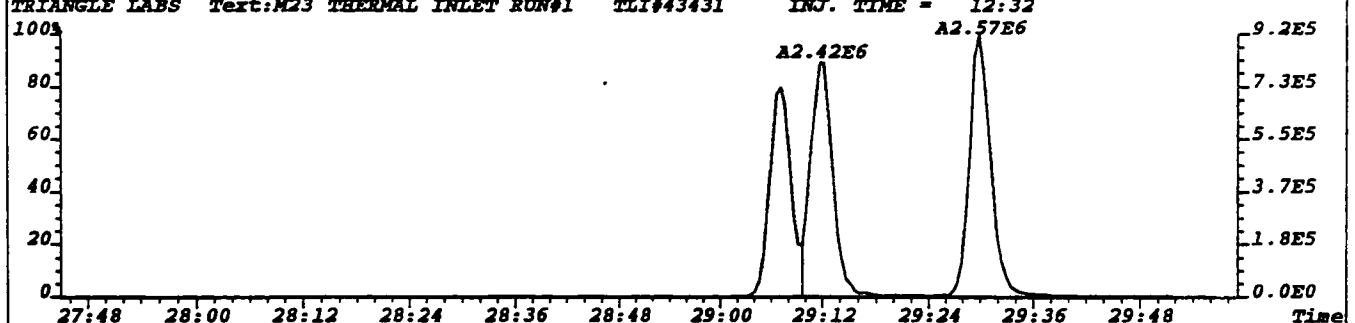
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:57
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



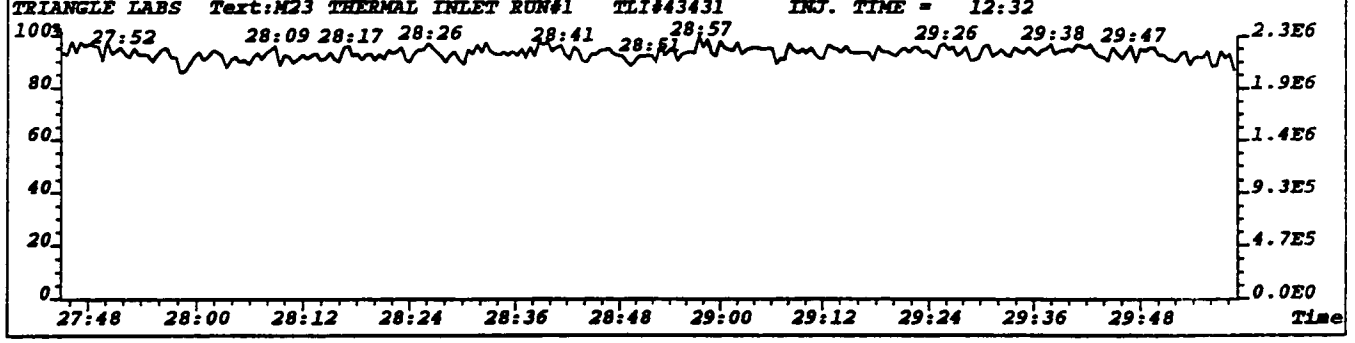
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:54
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



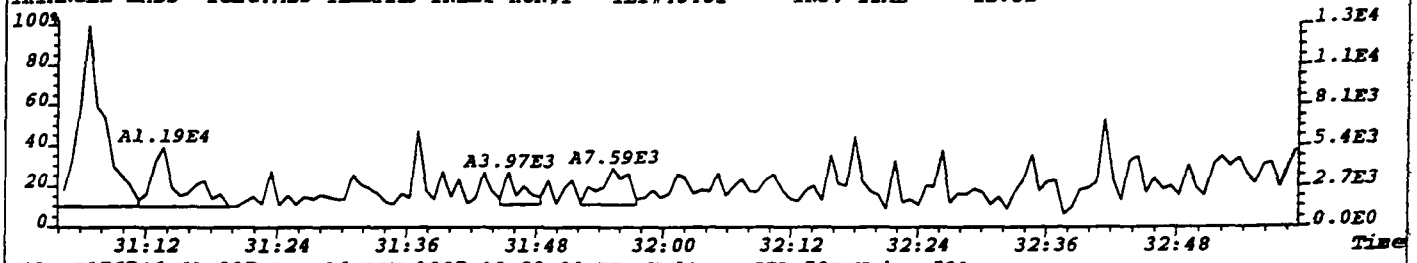
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:119
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,476.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



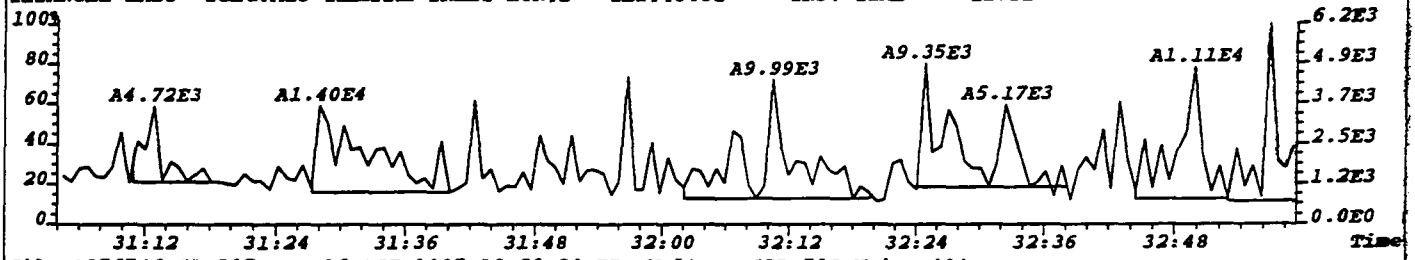
File:S976746 #1-475 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



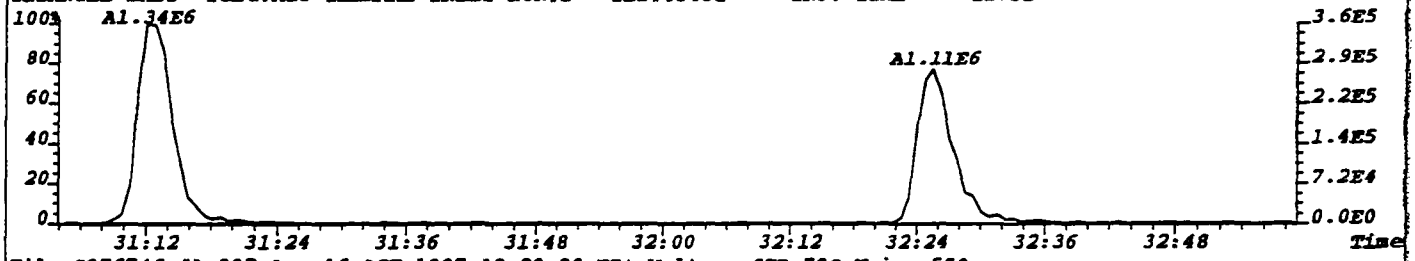
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:826
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,3304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



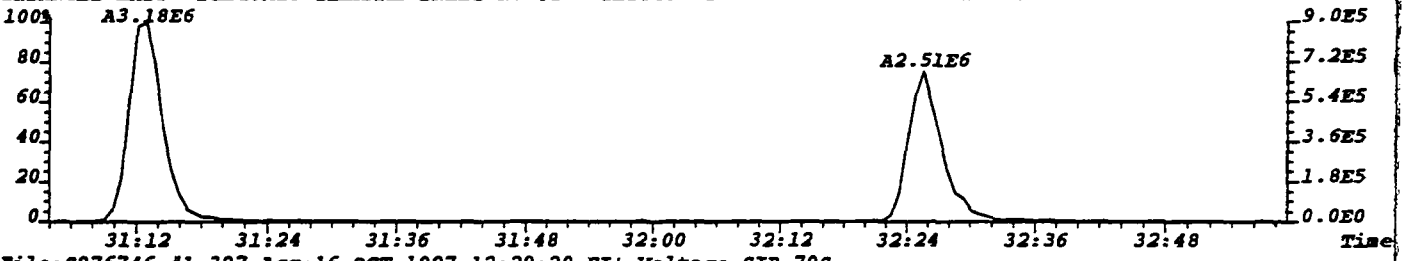
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:521
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2084.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



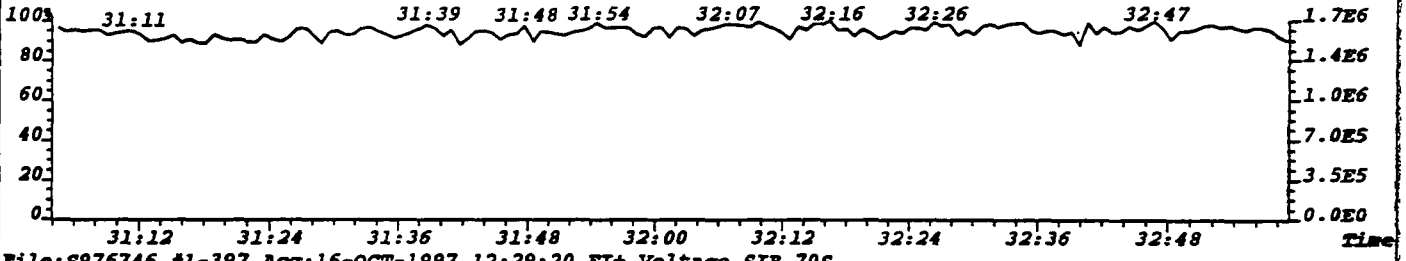
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:404
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1616.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



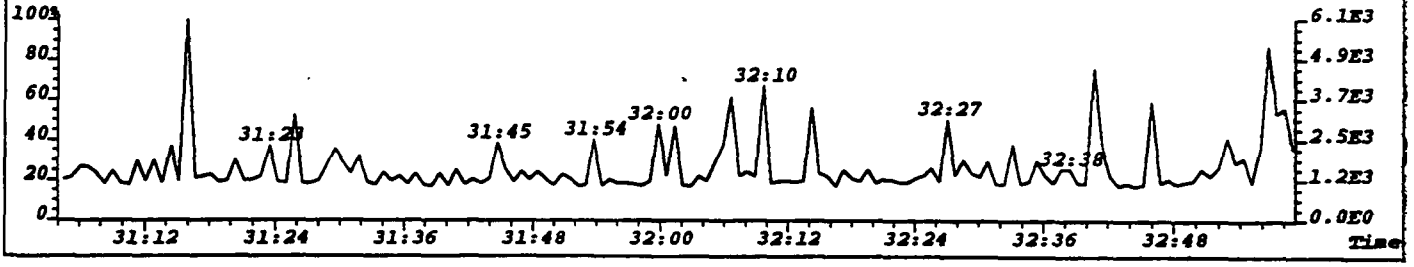
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:550
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



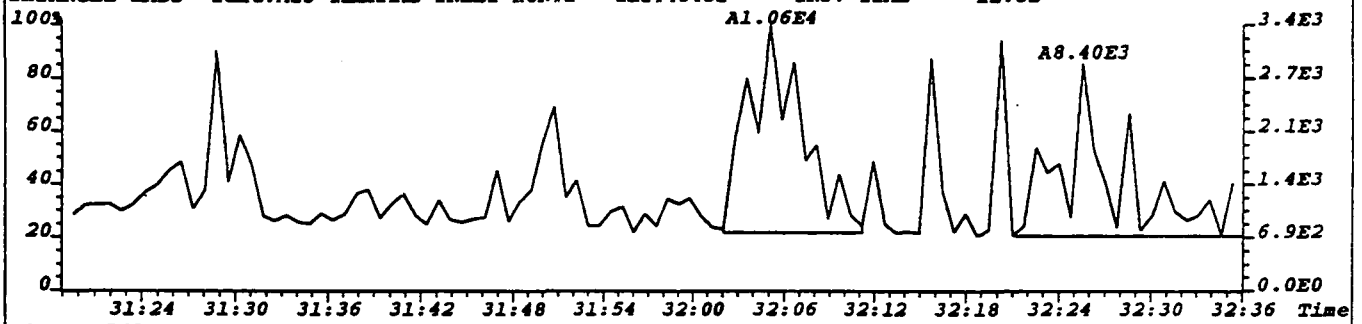
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



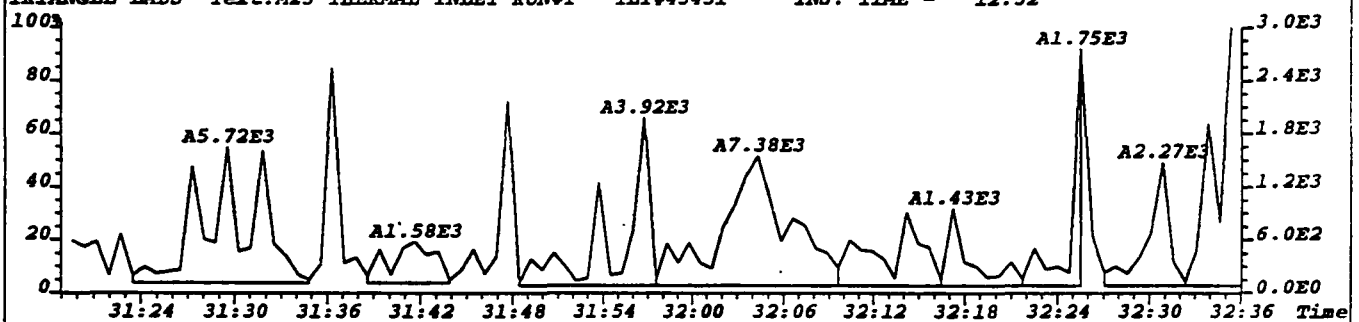
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



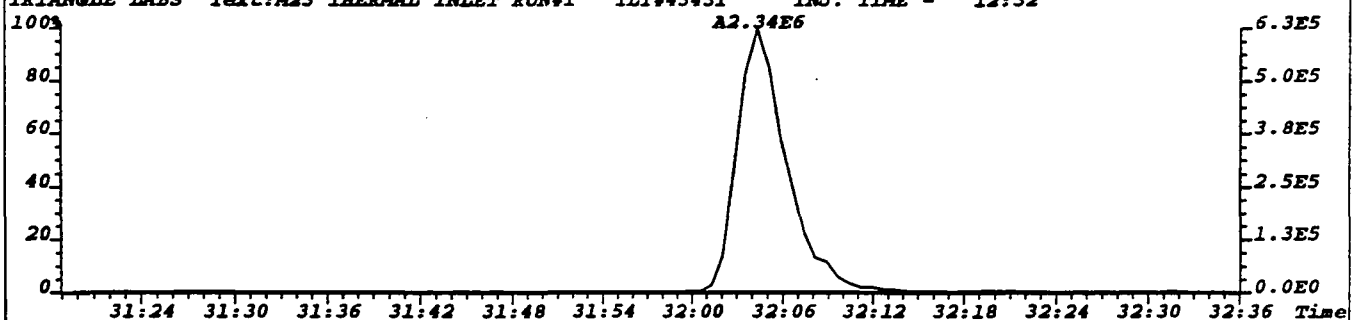
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:391
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1564.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



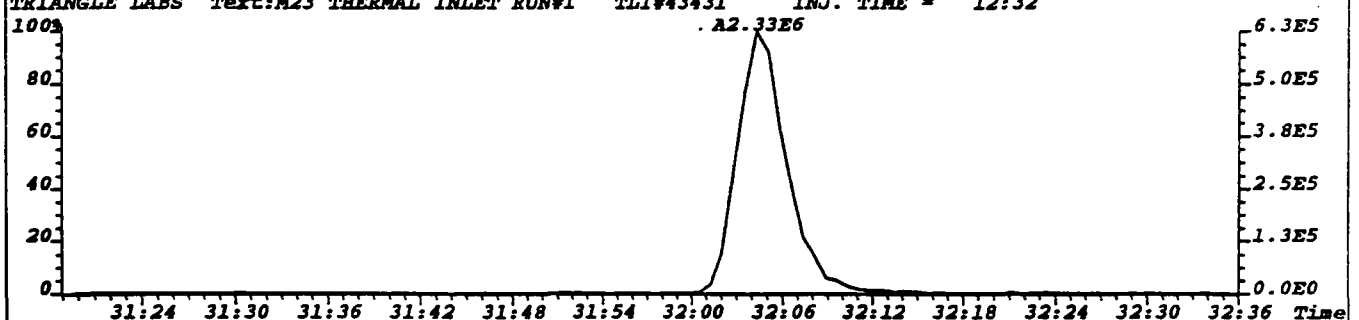
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:76
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



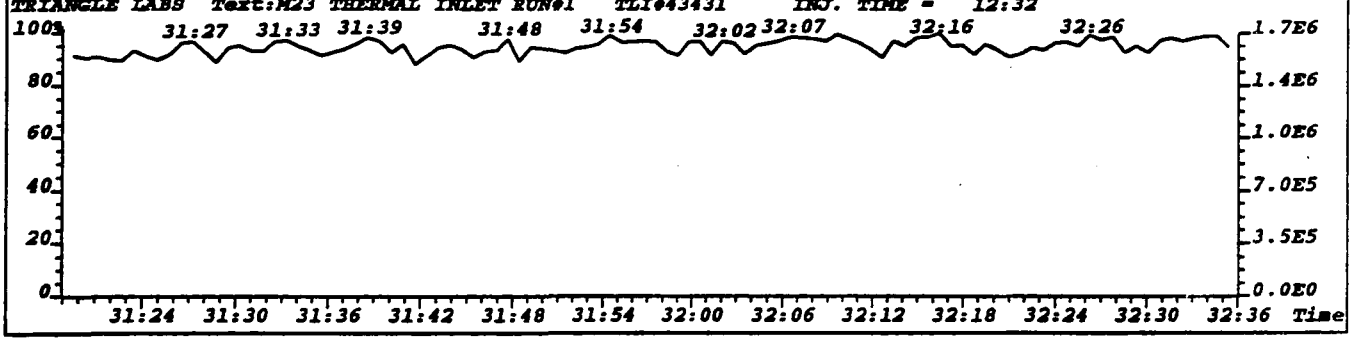
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:531
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2124.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



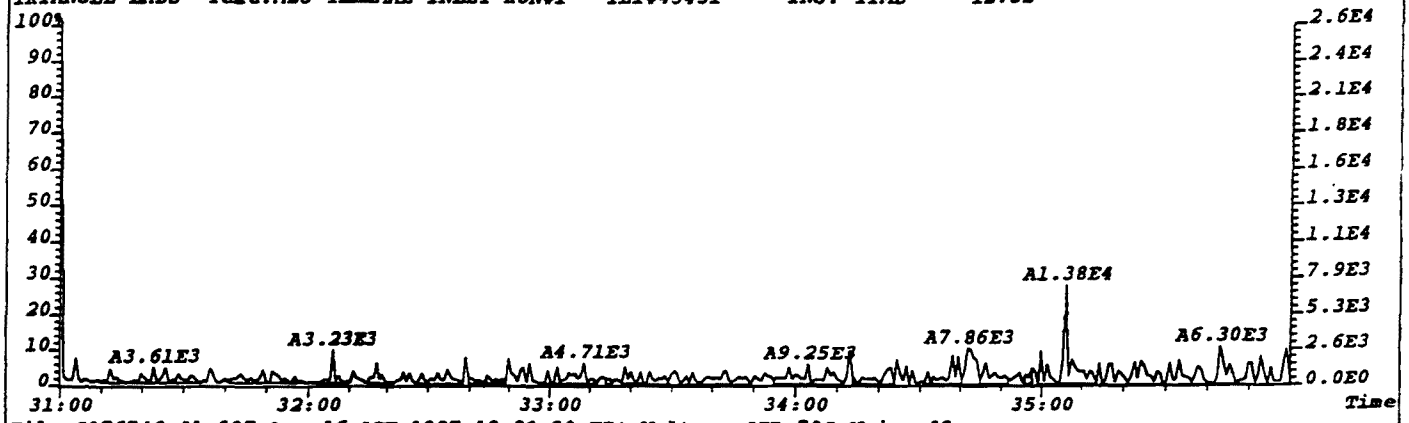
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:354
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1416.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



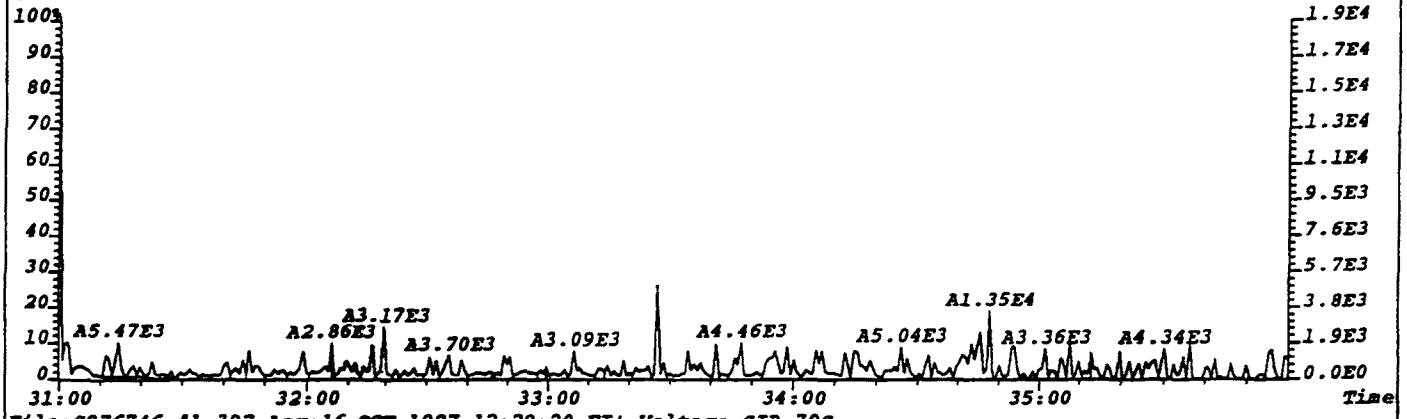
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



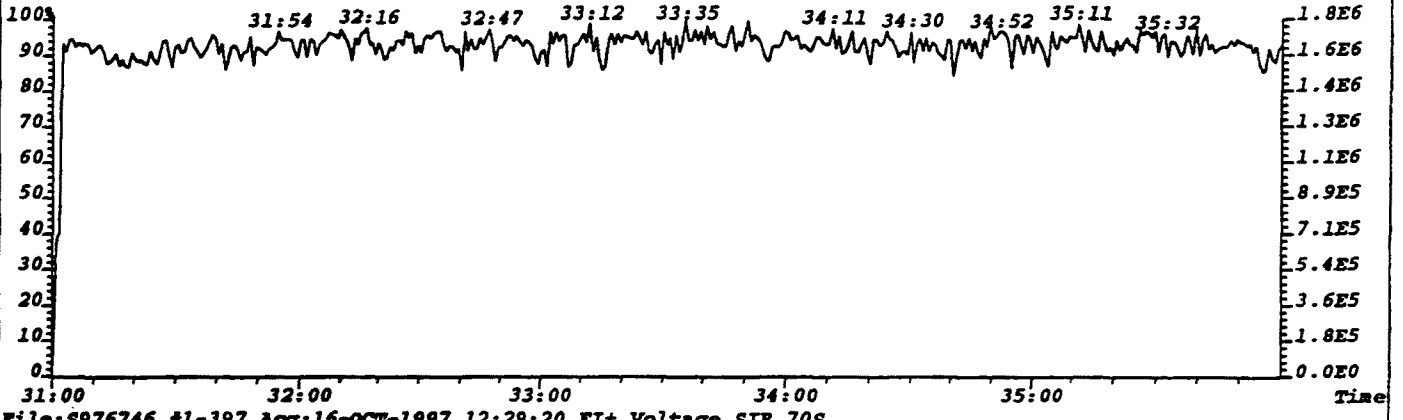
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:131
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,524.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



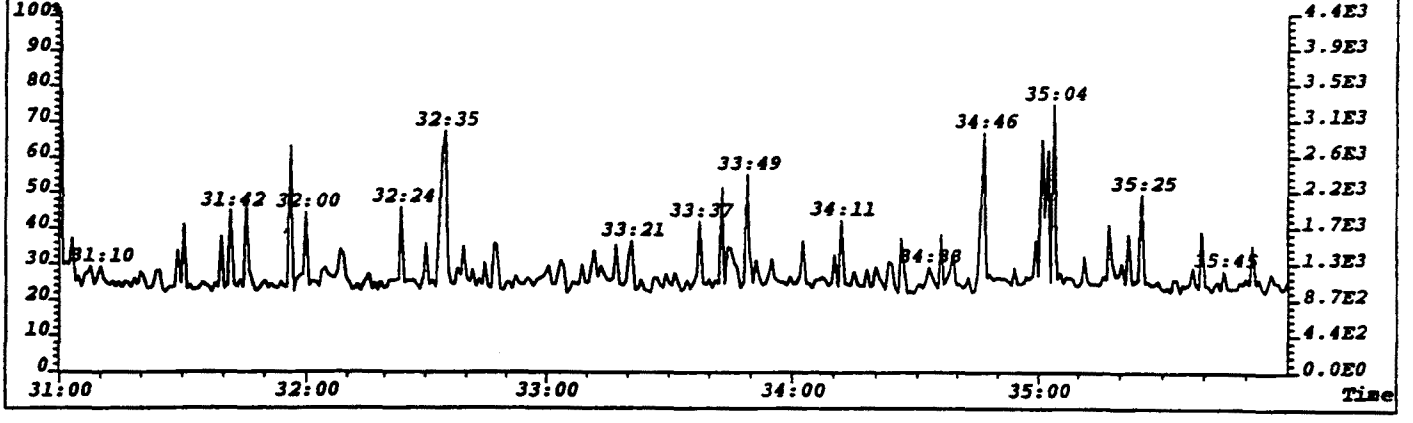
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:82
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,328.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



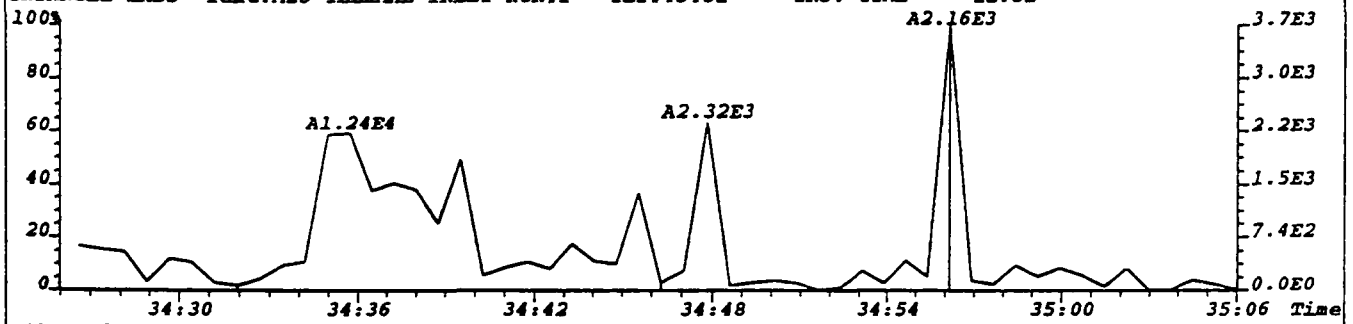
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



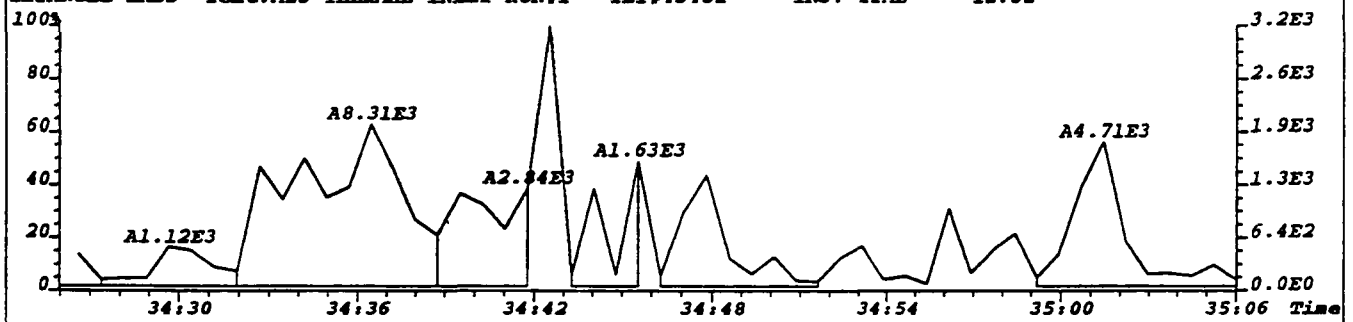
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



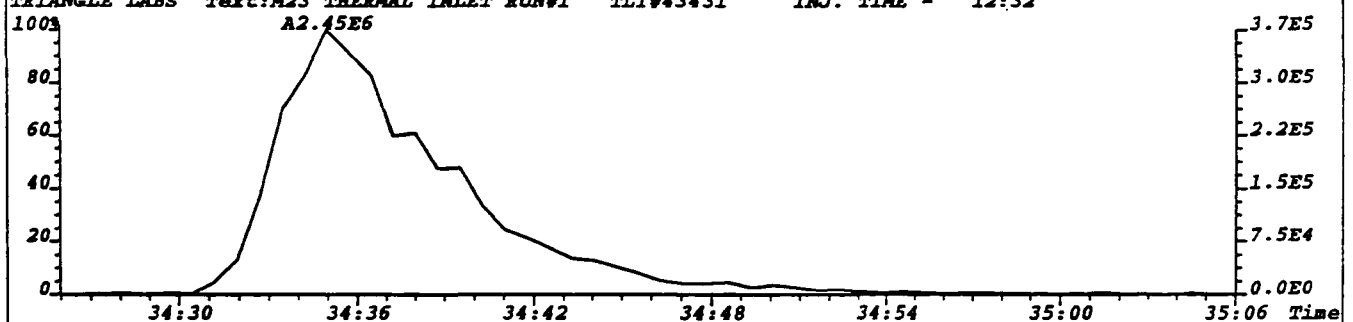
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:49
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



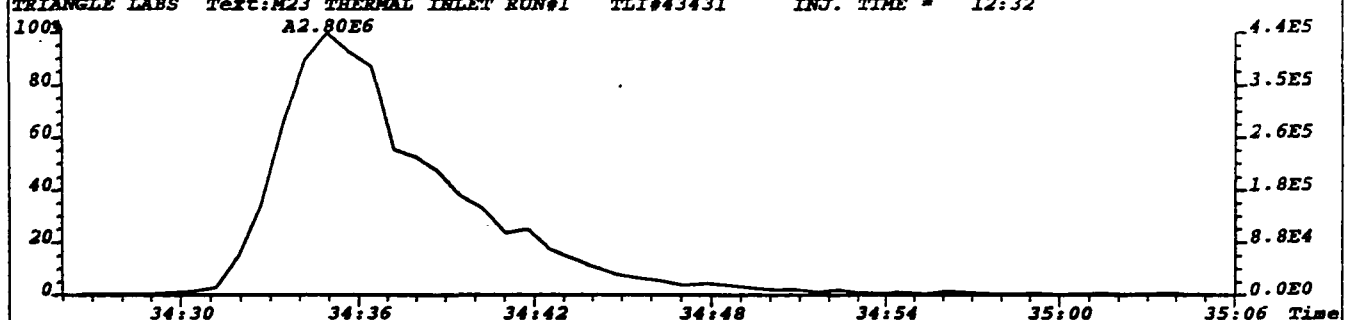
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:58
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



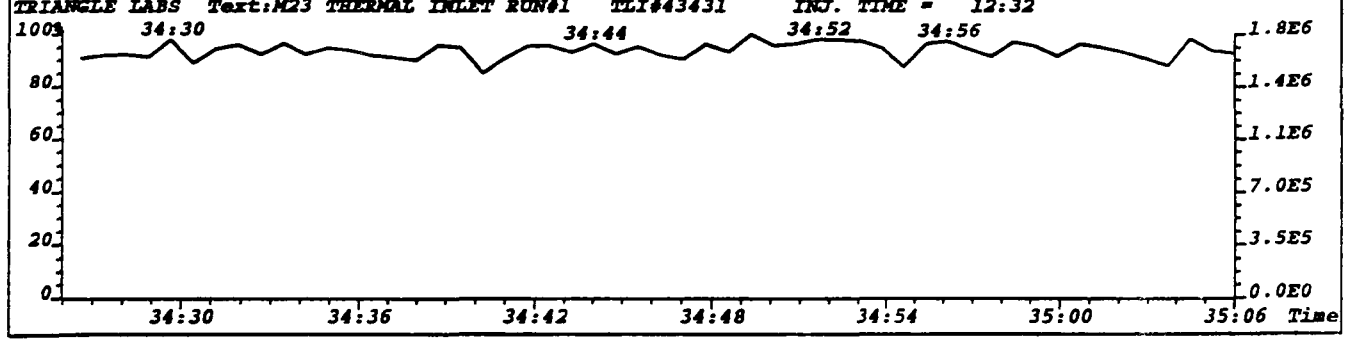
File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:47
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32

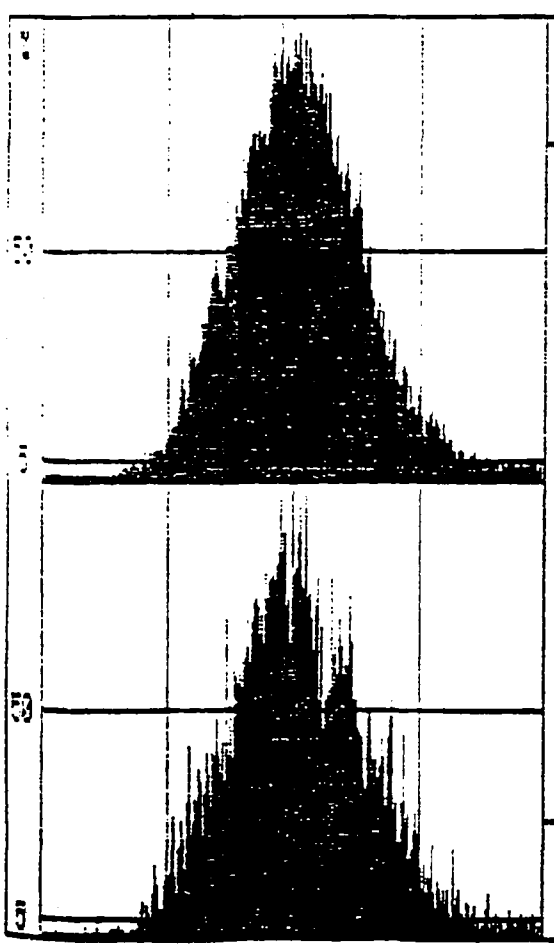


File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S Noise:46
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,184.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32



File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32





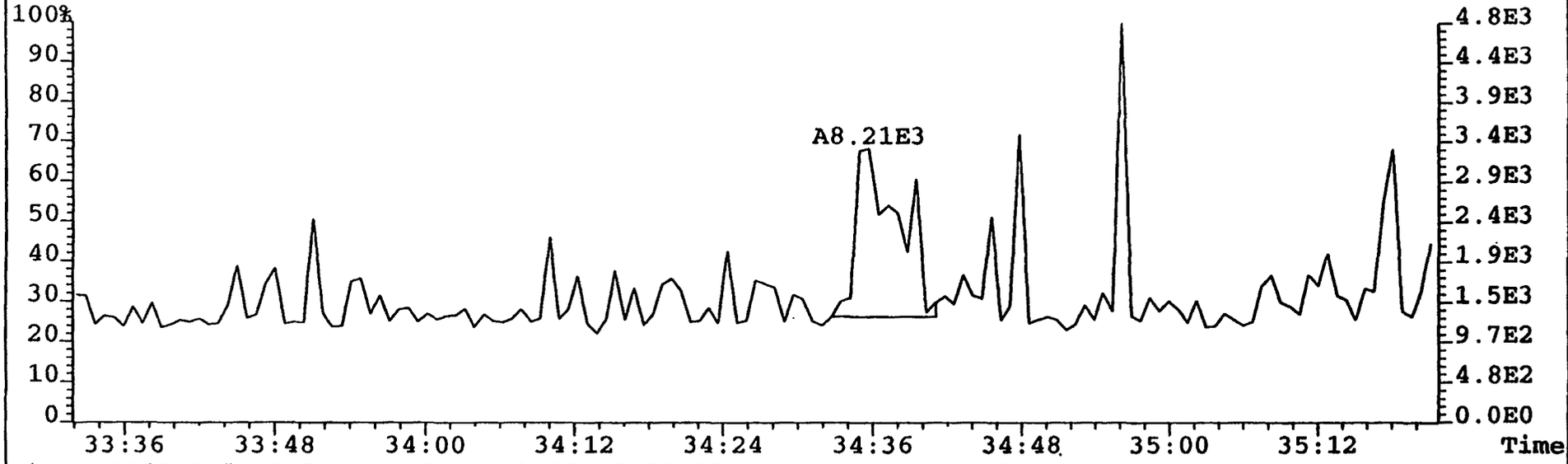
Channel I 330.3752 Peak top
Height 1.57 volts Span 200 ppm

System file name	EPOUS
Data file name	A:S376741
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.3825, 416.3760

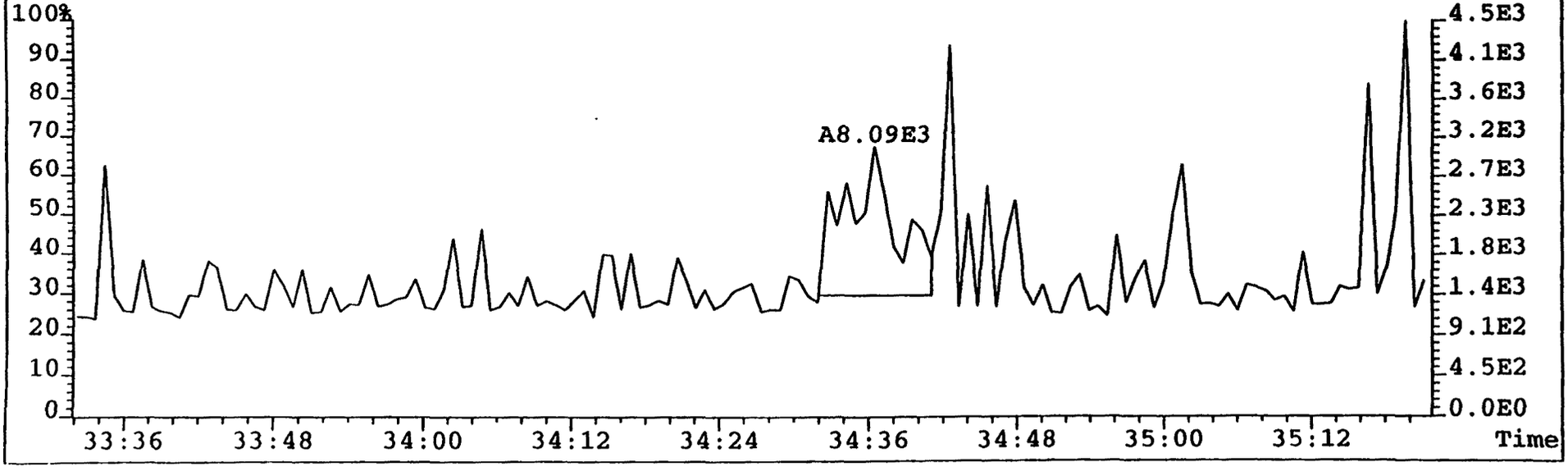
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Ref. mass 416.3760 Peak top
Height .34 volts Span 200 ppm

File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32 File Text:M23 THERMAL I»



File:S976746 #1-397 Acq:16-OCT-1997 12:29:20 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#1 TLI#43431 INJ. TIME = 12:32 File Text:M23 THERMAL I»



Eastern Research Group

TLI Project: **43431** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **M23 THERMAL INLET RUN#2** Analysis File: **S976747**

Client Project:	**Asphalt Roofing Project**				
Sample Matrix:	**M23TRAIN**	Date Received:	**09/29/97**	Spike File:	**SPX23704**
TLI ID:	**185-5-2A-D**	Date Extracted:	**10/01/97**	ICal:	**SF56117**
		Date Analyzed:	**10/16/97**	ConCal:	**S976737**
Sample Size:	**1.000**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**S976745**	% 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	0.005				—
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	0.008				—
1,2,3,7,8,9-HxCDD	ND	0.008				—
1,2,3,4,6,7,8-HpCDD	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	ND	0.02				—
2,3,7,8-TCDF	ND	0.003				—
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	ND	0.006				—
1,2,3,6,7,8-HxCDF	ND	0.004				—
2,3,4,6,7,8-HxCDF	ND	0.006				—
1,2,3,7,8,9-HxCDF	ND	0.006				—
1,2,3,4,6,7,8-HpCDF	ND	0.007				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.01				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	0.01	1			—
Total PeCDD	ND		0.009		—
Total HxCDD	ND		0.009		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.003		—
Total PeCDF	ND		0.005		—
Total HxCDF	ND		0.005		—
Total HpCDF	ND		0.008		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:13 10/21/97

Eastern Research Group

TLI Project: 43431 Method 23 PCDD/PCDF Analysis (a)
Client Sample: M23 THERMAL INLET RUN#2 Analysis File: S976747

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	4.0	99.4	40%-130%	0.76	20:23	___
$^{13}C_{12}$-2,3,7,8-TCDD	3.6	90.6	40%-130%	0.82	21:11	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.2	79.2	40%-130%	1.51	24:42	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	3.1	77.0	40%-130%	1.49	25:50	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.9	97.0	40%-130%	0.49	28:29	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.7	91.5	40%-130%	1.22	29:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.4	84.9	25%-130%	0.40	31:13	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.9	97.1	25%-130%	1.01	32:04	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.5	93.9	25%-130%	0.85	34:35	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.9	98.4	70%-140%		21:12	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.4	85.7	70%-140%	1.47	25:27	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.7	91.8	70%-140%	0.48	28:22	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.5	87.2	70%-140%	1.25	29:07	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.9	97.8	70%-140%	0.43	32:25	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.5	87.4	40%-130%	0.49	29:43	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.9	96.5	40%-130%	0.49	28:59	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:58	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.22	29:29	___

Data Reviewer: _____ 10/21/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:13 10/21/97

Initial ....Date...

Data Review By: KU 10/21/97 Calculated Noise Area: 0.60

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 S976747B.dbf
10/21/97 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						0.825-1.102			
304-306		DC	NL	0:00	RO	0.97	1.27			0.000			
	D	d	SN	20:25		0.65	4.08			1.002	2378-TCDF		AN
		DC	SN	20:36	RO	1.02	0.90			1.011			
		DC	WH	22:49	RO	2.96	0.48			1.119			
304-306			0	Peaks			0.00						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318		DC	NL	0:00	RO	0.94	1.27			0.000			
		DC	WL	17:02	RO	0.47	1.84			0.836			
		DC	WL	19:11	RO	0.51	3.52			0.941			
				19:55		0.76	7.42	3.21	4.21	0.977			
				20:23		0.76	1,453.10	626.09	827.01	1.000	13C12-2378-TCDF		ISO
				20:52		0.81	10.09	4.53	5.56	1.024			
		DC	WH	21:36	RO	0.93	2.05			1.060			
		DC	WH	22:17		0.83	1.54			1.093			
		DC	WH	22:38		0.85	7.84			1.110			
316-318			3	Peaks			1,470.61						

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

TCDD				0.65-0.89						0.856-1.059			
320-322		DC	NL	0:00		0.86	1.06			0.000			
				18:17		0.78	3.08	1.35	1.73	0.863			
		DC	SN	18:31	RO	1.09	0.41			0.874			
		DC	SN	18:43	RO	0.19	0.41			0.884			
		DC	SN	19:03	RO	0.49	1.10			0.899			
		DC	SN	19:17	RO	0.94	0.87			0.910			
		DC	SN	19:20	RO	0.28	0.57			0.913			
		DC	SN	19:58		0.81	0.65			0.943			
		DC	SN	20:54	RO	0.54	0.60			0.987			
		DC	SN	21:09	RO	0.50	1.43			0.998			
		DC	SN	21:30	RO	3.43	0.12			1.015			
		DC	SN	21:41		0.73	0.97			1.024			
		DC	SN	21:46	RO	2.53	0.30			1.028			
		DC	SN	21:51	RO	2.41	0.30			1.031			
320-322			1	Peak			3.08						
37Cl-TCDD										0.906-1.094			
328		DC	NL	0:00			0.58			0.000			
		DC	SN	19:28			0.52			0.919			
				19:38			3.46	3.46		0.927			
				19:55			1.33	1.33		0.940			
				21:12			888.10	888.10		1.001	37Cl-TCDD		SUR1

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				21:28			1.46	1.46		1.013			
				21:32			1.24	1.24		1.017			
				21:38			1.56	1.56		1.021			
				21:40			0.74	0.74		1.023			
				21:45			0.75	0.75		1.027			
		DC	SN	21:50			0.31			1.031			
		DC	SN	21:51			0.33			1.031			
				22:03			1.01	1.01		1.041			
				22:08			1.50	1.50		1.045			
				22:27			0.72	0.72		1.060			
				22:39			1.50	1.50		1.069			
				22:49			1.02	1.02		1.077			
328			13	Peaks			904.39						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334		DC	NL	0:00	RO	1.72	0.83			0.000			
				19:52	RO	1.27	6.60	4.75	3.73	0.938			
				20:12	RO	1.89	1.40	1.49	0.79	0.954			
		DC	SN	20:29	RO	0.47	1.08			0.967			
				20:58		0.82	1,108.94	498.15	610.79	0.990	13C12-1234-TCDD	RS1	
				21:11		0.82	1,070.60	482.73	587.87	1.000	13C12-2378-TCDD	IS1	
				21:32		0.84	19.14	8.74	10.40	1.017			
		DC	SN	21:43	RO	4.39	0.90			1.025			
		DC	SN	21:53	RO	0.42	0.64			1.033			
		DC	SN	21:59	RO	1.93	0.76			1.038			
332-334			5	Peaks			2,206.68						

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

PeCDF				1.32-1.78						0.907-1.080			
340-342		DC	NL	0:00	RO	0.90	0.59			0.000			
		DC	SN	22:59	RO	0.57	0.43			0.930			
		DC	SN	23:20	RO	1.81	0.41			0.945			
		DC	SN	23:26	RO	0.29	0.12			0.949			
		DC	SN	24:10	RO	1.26	1.45			0.978			
		DC	SN	25:05	RO	4.76	0.43			1.016			
	D	d	SN	25:30	RO	1.28	2.30			1.032	23478-PeCDF	AN	
		DC	SN	26:01	RO	0.34	0.33			1.053			
		DC	SN	26:12	RO	0.75	0.72			1.061			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354		DC	NL	0:00	RO	1.15	0.25			0.000			
				23:48		1.33	5.27	3.01	2.26	0.964			
				24:21	RO	1.20	5.10	3.10	2.58	0.986			
				24:42		1.51	994.76	598.72	396.04	1.000	13C12-PeCDF 123	IS2	
				25:00		1.73	7.93	5.02	2.91	1.012			
				25:27		1.47	826.93	491.62	335.31	1.030	13C12-PeCDF 234	SUR2	
		DC	SN	26:15	RO	0.82	0.38			1.063			
				26:26		1.49	3.71	2.22	1.49	1.070			
352-354			6	Peaks			1,843.70						

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: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.921-1.026			
356-358	DC	NL		0:00	RO	1.00	0.16			0.000			
	DC	SN		24:33	RO	1.10	0.36			0.950			
	DC	SN		25:01	RO	1.08	0.69			0.968			
	DC	SN		25:16	RO	1.91	0.28			0.978			
	DC	SN		26:23	RO	1.20	0.39			1.021			
356-358				0 Peaks			0.00						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	0.85	0.18			0.000			
				25:50		1.49	542.03	324.42	217.61	1.000	13C12-PeCDD 123	IS3	
				25:58		1.39	52.19	30.31	21.88	1.005			
	DC	SN		26:22	RO	0.83	0.95			1.021			
368-370				2 Peaks			594.22						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.956-1.053			
374-376	DC	NL		0:00		1.25	0.90			0.000			
	DC	SN		27:31	RO	0.66	0.98			0.966			
	DC	SN		27:33	RO	0.85	0.40			0.967			
	DC	SN		27:50	RO	1.51	0.87			0.977			
	DC	SN		28:00	RO	0.73	0.52			0.983			
	DC	SN		28:13	RO	0.33	0.33			0.991			
D	d	SN		28:23	RO	0.89	1.77			0.996	123478-HxCDF	AN	
D	d	SN		28:30		1.05	1.56			1.001	123678-HxCDF	AN	
	DC	SN		28:35	RO	2.27	0.34			1.004			
D	d	SN		29:00		1.38	3.50			1.018	234678-HxCDF	AN	
	DC	SN		29:15	RO	0.47	0.42			1.027			
	DC	SN		29:18		1.25	0.54			1.029			
	DC	SN		29:27		1.10	0.21			1.034			
	DC	SN		29:35		1.17	0.39			1.039			
	DC	SN		29:45	RO	2.00	0.54			1.044	123789-HxCDF	AN	
	DC	SN		29:51		1.26	0.43			1.048			
	DC	WH		30:08	RO	0.98	0.98			1.058			
	DC	WH		30:14	RO	0.93	0.45			1.061			
	DC	WH		30:20	RO	0.55	0.38			1.065			
374-376				0 Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	0.85	0.89			0.000			
				27:29	RO	0.36	2.96	1.00	2.76	0.965			
	DC	SN		27:53	RO	0.40	0.68			0.979			
				28:22		0.48	756.25	245.09	511.16	0.996	13C12-HxCDF 478	SUR3	
				28:29		0.49	858.62	283.92	574.70	1.000	13C12-HxCDF 678	IS4	
				28:42	RO	0.68	1.99	0.90	1.32	1.008			
				28:59		0.49	790.45	259.72	530.73	1.018	13C12-HxCDF 234	ALT2	
	DC	SN		29:24		0.58	1.17			1.032			
	DC	SN		29:28	RO	0.32	1.04			1.035			
	DC	SN		29:33		0.54	0.94			1.037			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				29:43		0.49	622.62	205.72	416.90	1.043	13C12-HxCDF	789	ALT1
		DC	SN	29:59	RO	0.77	1.24			1.053			
		DC	SN	30:07	RO	0.70	1.51			1.057			
384-386			6	Peaks			3,032.89						

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

HxCDD					1.05-1.43					0.950-1.015			
390-392		DC	NL	0:00	RO	0.43	0.40			0.000			
		DC	SN	27:48	RO	1.48	0.47			0.952			
		DC	SN	27:58	RO	0.46	0.49			0.958			
		DC	SN	28:02	RO	0.38	0.11			0.960			
		DC	SN	28:06		1.06	0.35			0.962			
		DC	SN	28:13	RO	1.03	0.60			0.966			
	D	d	SN	28:22	RO	0.67	1.82			0.971			
		DC	SN	28:35		1.36	1.58			0.979			
		DC	SN	28:43	RO	0.70	0.29			0.983			
		DC	SN	28:58	RO	0.93	0.74			0.992			
		DC	SN	29:13	RO	0.76	1.08			1.001	123678-HxCDD		AN
		DC	SN	29:20	RO	0.74	0.42			1.005			
		DC	SN	29:24	RO	1.00	0.31			1.007			
		DC	SN	29:37	RO	0.23	0.33			1.014			
		DC	WH	29:41	RO	0.82	0.83			1.017			
		DC	WH	29:50	RO	0.47	0.45			1.022			
		DC	WH	29:55	RO	0.73	0.20			1.025			
390-392			0	Peaks			0.00						
13C12-HxCDD					1.05-1.43					0.966-1.034			
402-404		DC	NL	0:00	RO	0.71	0.43			0.000			
				28:35		1.34	3.62	2.07	1.55	0.979			
		DC	SN	28:40	RO	0.59	0.36			0.982			
		DC	SN	28:52	RO	2.29	0.85			0.989			
				29:07		1.25	567.86	314.98	252.88	0.997	13C12-HxCDD	478	SUR4
				29:12		1.22	669.21	367.76	301.45	1.000	13C12-HxCDD	678	IS5
				29:29		1.22	734.97	403.39	331.58	1.010	13C12-HxCDD	789	RS2
				29:42		1.36	4.98	2.87	2.11	1.017			
				29:47	RO	1.54	1.88	1.29	0.84	1.020			
		DC	SN	29:53	RO	1.87	0.69			1.023			
		DC	SN	29:58	RO	0.59	0.40			1.026			
402-404			6	Peaks			1,982.52						

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

HpCDF					0.88-1.20					0.996-1.046			
408-410		DC	NL	0:00	RO	1.57	1.84			0.000			
		DC	SN	32:18	RO	1.89	0.94			1.035			
		DC	WH	32:51	RO	0.70	1.90			1.052			
		DC	WH	32:56		1.04	1.37			1.055			
408-410			0	Peaks			0.00						
13C12-HpCDF					0.37-0.51					0.936-1.128			
418-420		DC	NL	0:00	RO	0.77	1.84			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.
				31:13		0.40	553.32	158.49	394.83	1.000	13C12-HpCDF 678	IS6	
				31:26	RO	1.15	1.70	1.36	1.18	1.007			
		DC	SN	31:40	RO	0.31	1.28			1.014			
		DC	SN	32:01	RO	0.34	1.70			1.026			
	N			32:25		0.43	417.30	124.70	292.60	1.038	13C12-HpCDF 789	SUR5	
				32:41	RO	0.65	1.90	0.86	1.32	1.047			
418-420			4	Peaks			974.22						

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

HpCDD					0.88-1.20					0.977-1.006			
424-426		DC	NL	0:00	RO	1.34	1.02			0.000			
		DC	SN	31:28		1.12	1.21			0.981			
	D	d	SN	32:04	RO	1.23	2.45			1.000	1234678-HpCDD	AN	
		DC	WH	32:20	RO	0.27	0.67			1.008			
424-426			0	Peaks			0.00						
13C12-HpCDD					0.88-1.20					0.969-1.031			
436-438		DC	NL	0:00	RO	1.33	1.49			0.000			
				32:04		1.01	581.86	292.53	289.33	1.000	13C12-HpCDD 678	IS7	
				32:21	RO	1.80	2.98	2.63	1.46	1.009			
		DC	SN	32:39	RO	0.42	0.69			1.018			
436-438			2	Peaks			584.84						

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

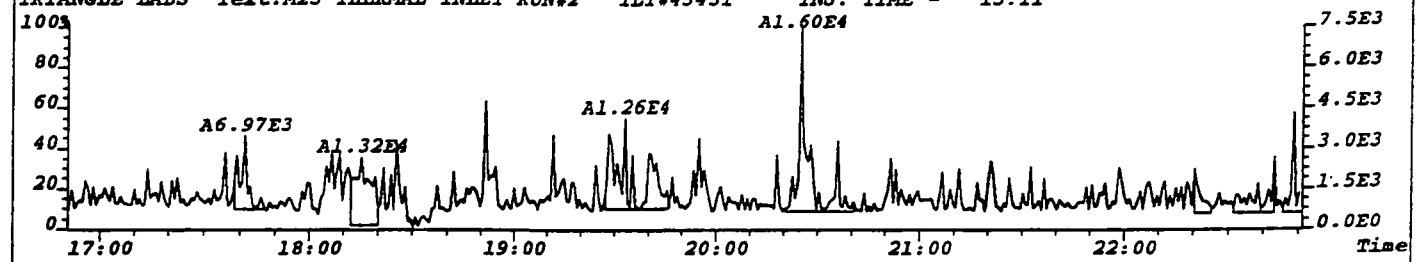
OCDF					0.76-1.02					0.884-1.116			
442-444		DC	NL	0:00		0.76	1.20			0.000			
		DC	SN	32:11	RO	0.06	0.21			0.931			
		DC	SN	32:23	RO	1.17	0.98			0.936			
		DC	SN	32:33	RO	0.52	0.96			0.941			
	D	d	SN	34:40		0.85	1.96			1.002	OCDF	AN	
		DC	SN	35:05	RO	2.96	1.06			1.014			
		DC	SN	35:37	RO	0.38	0.42			1.030			
		DC	SN	35:43		1.00	0.50			1.033			
442-444			0	Peaks			0.00						
OCDD					0.76-1.02					0.884-1.116			
458-460		DC	NL	0:00		0.95	0.72			0.000			
	D	d	SN	34:36		0.89	4.39			1.000	OCDD	AN	
458-460			0	Peaks			0.00						
13C12-OCDD					0.76-1.02					0.997-1.006			
470-472		DC	NL	0:00	RO	1.32	0.36			0.000			
				34:35		0.85	716.19	329.99	386.20	1.000	13C12-OCDD	IS8	
470-472			1	Peak			716.19						

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

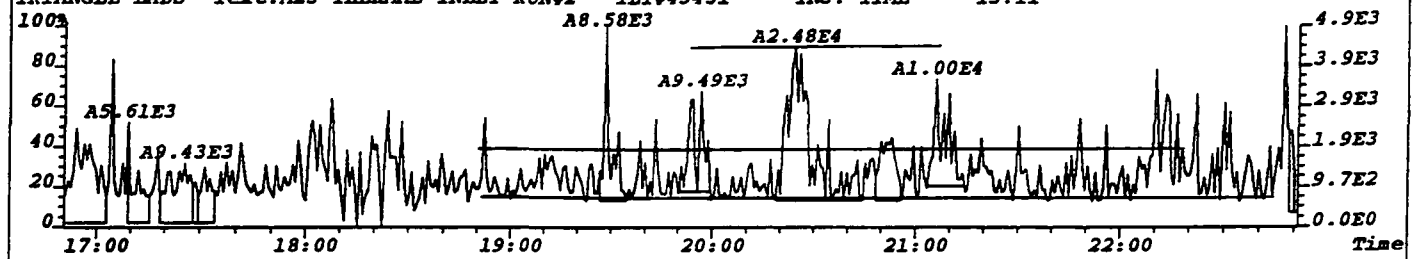
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

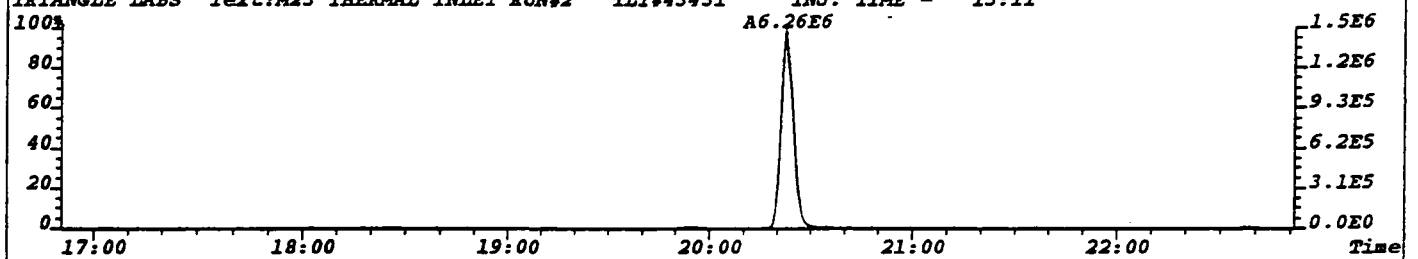
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:352
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1408.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



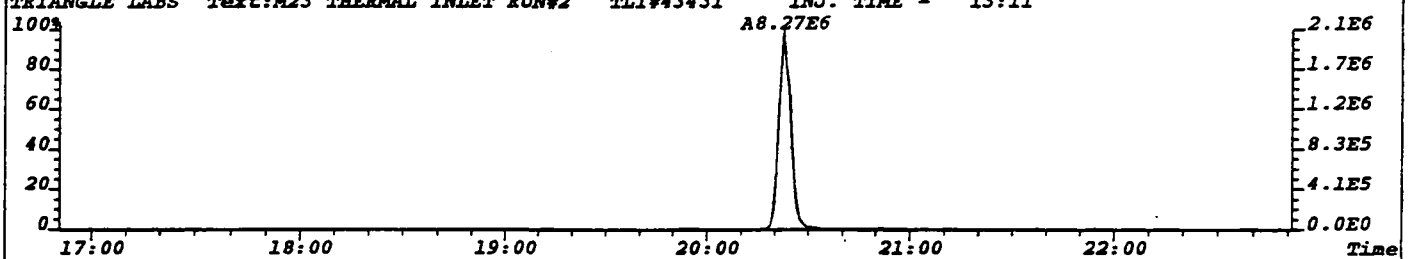
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:361
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1444.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



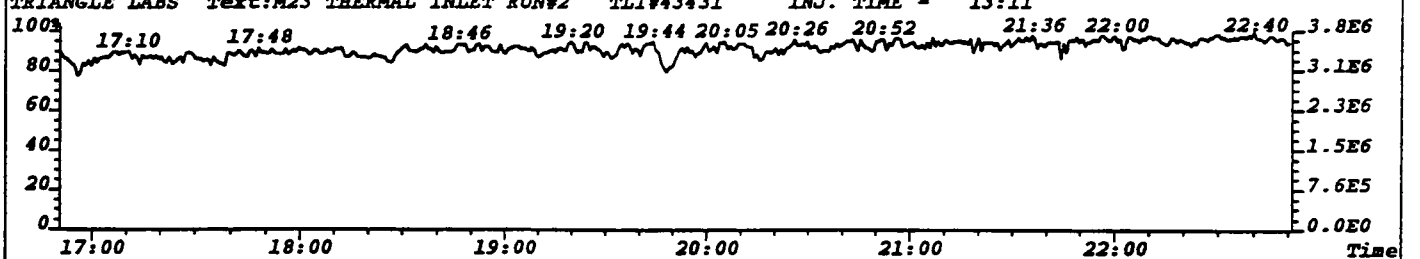
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:338
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



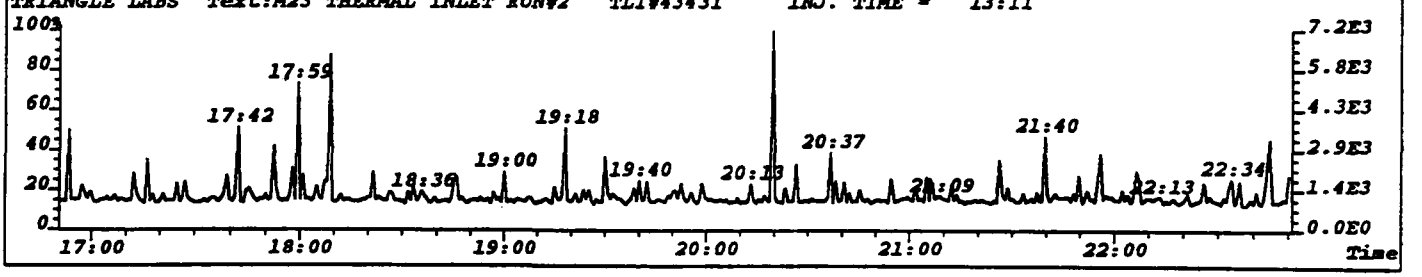
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:360
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1440.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



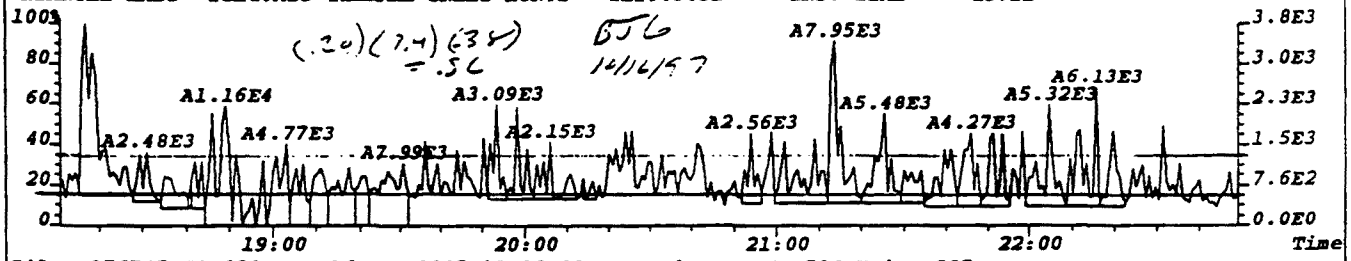
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



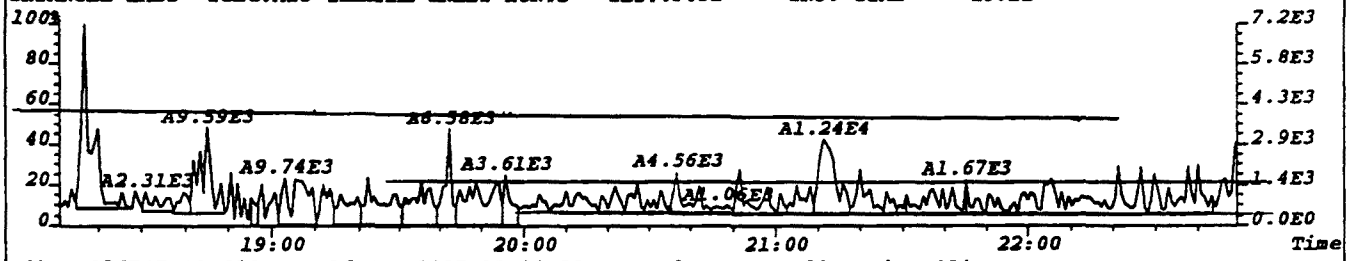
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



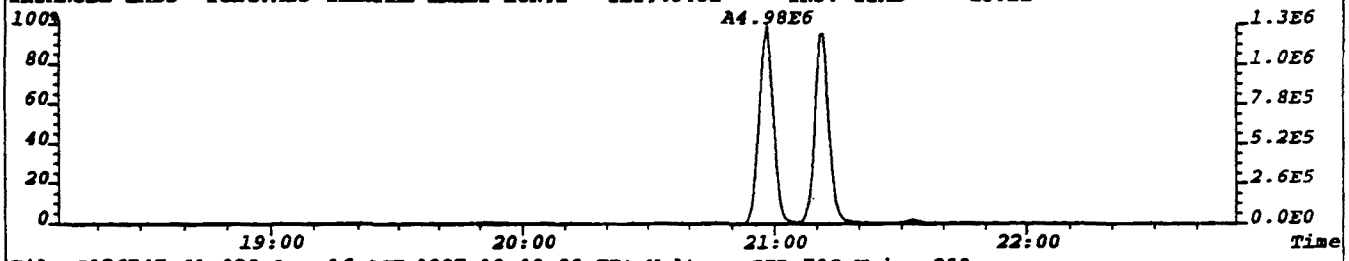
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:245
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,980.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



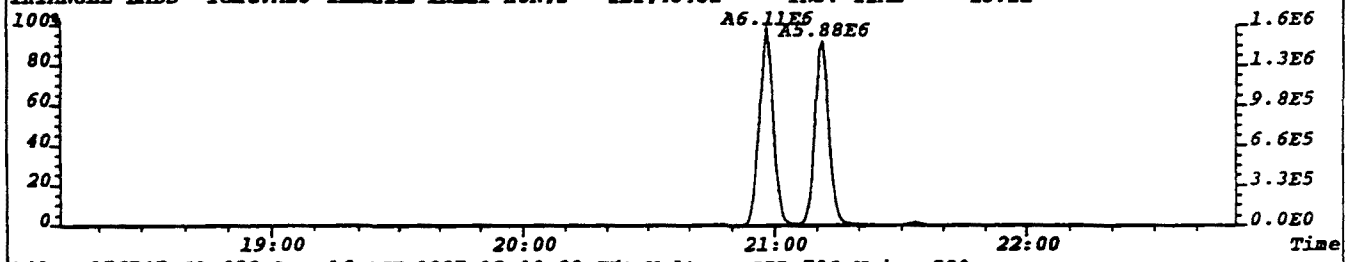
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:287
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



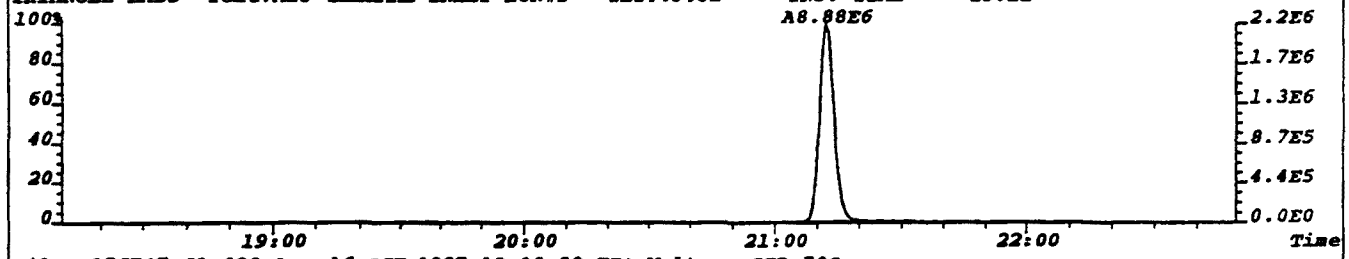
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:404
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1616.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



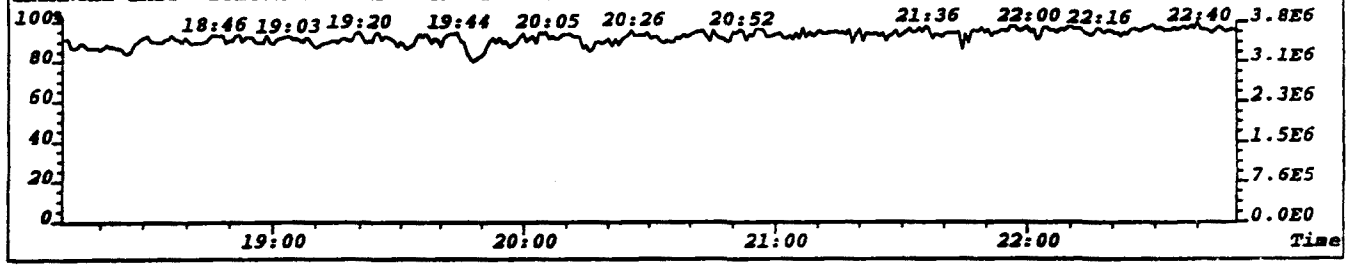
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:233
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,932.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



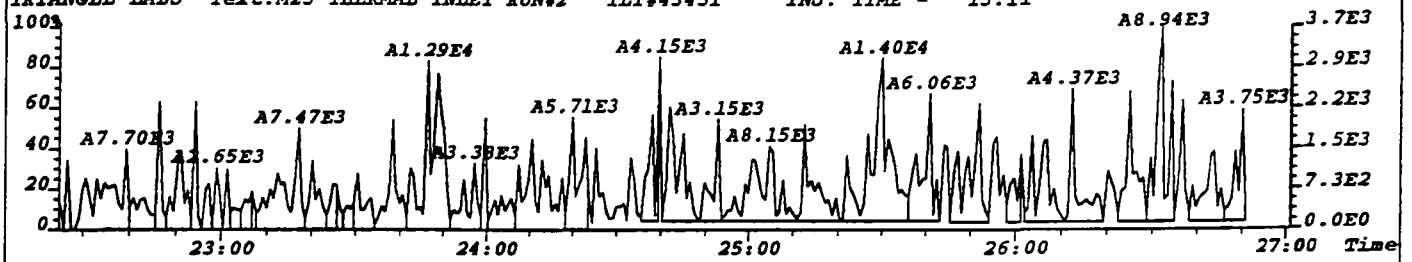
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:289
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



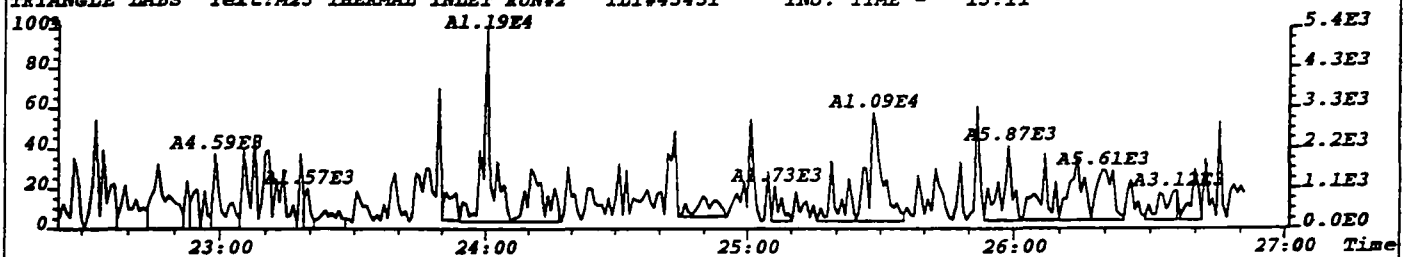
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



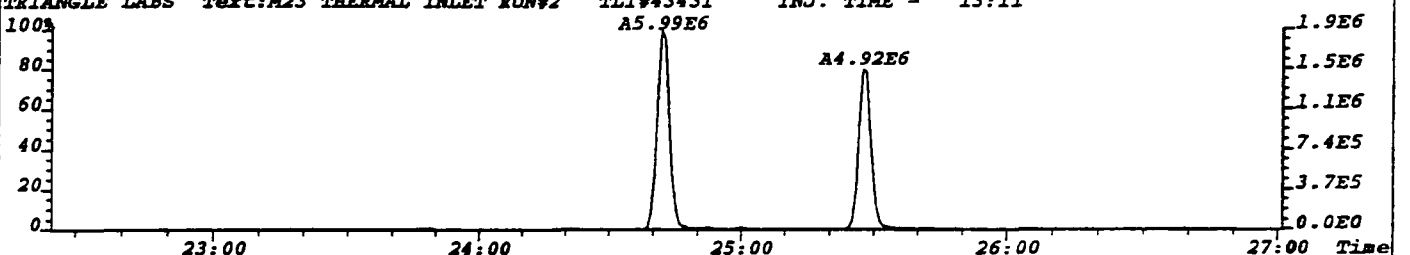
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:182
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,728.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



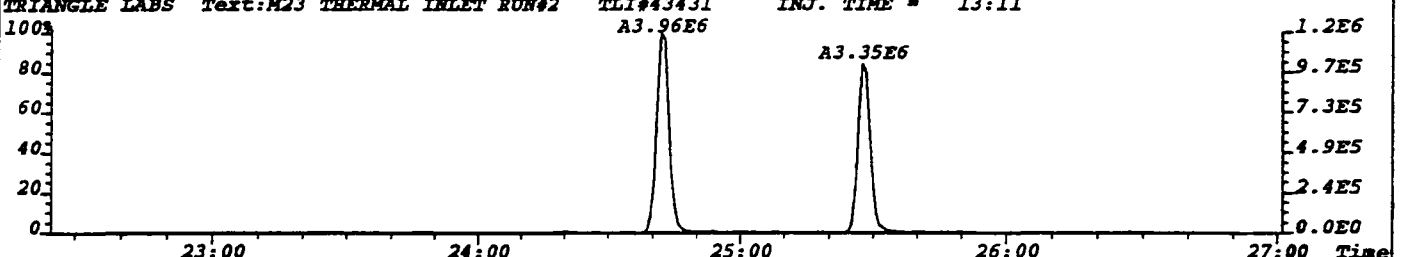
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:198
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,792.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



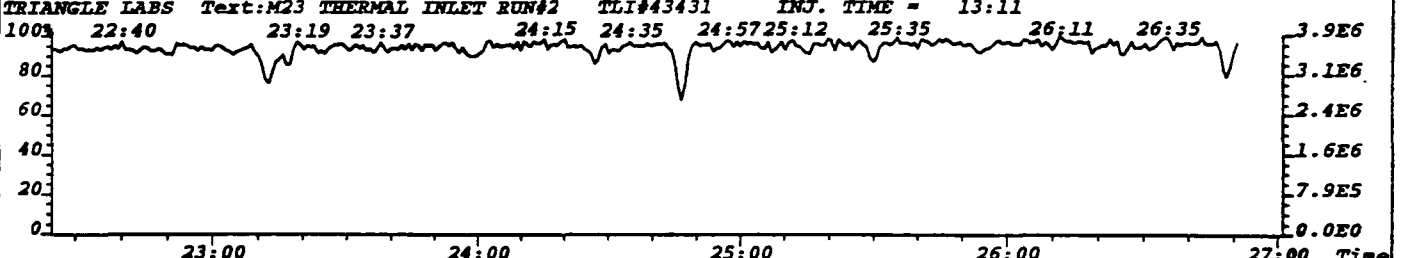
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:74
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



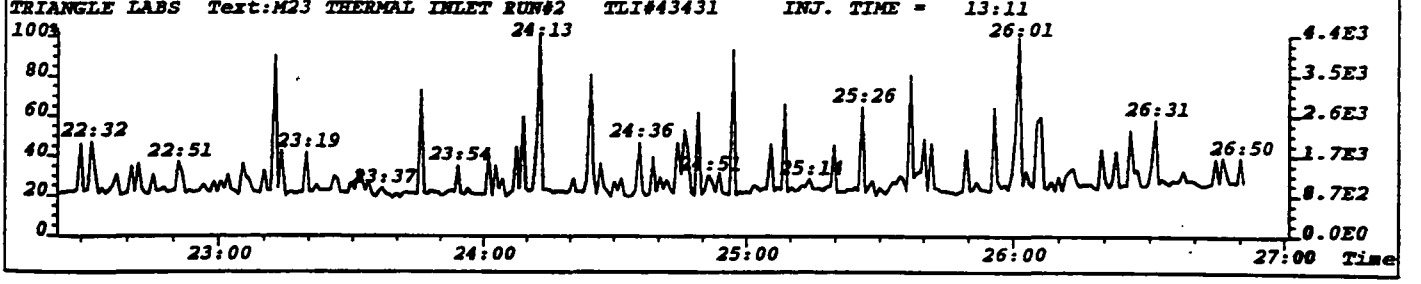
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:63
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



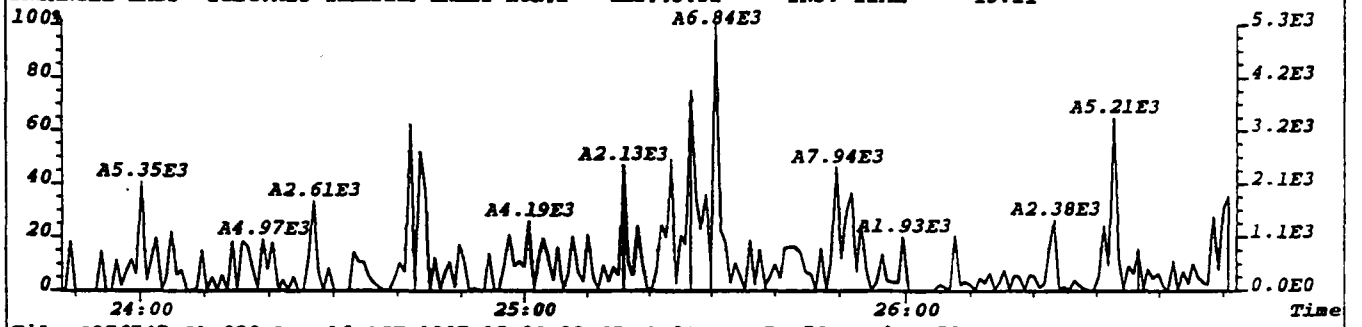
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



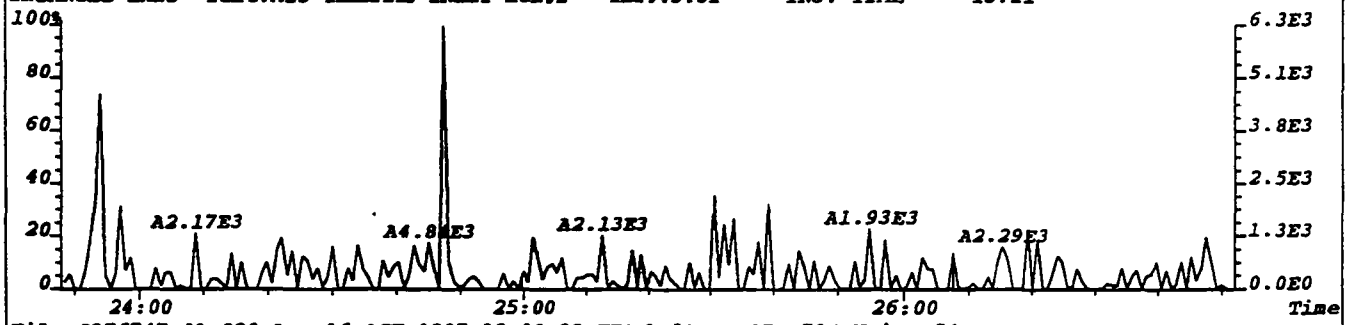
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



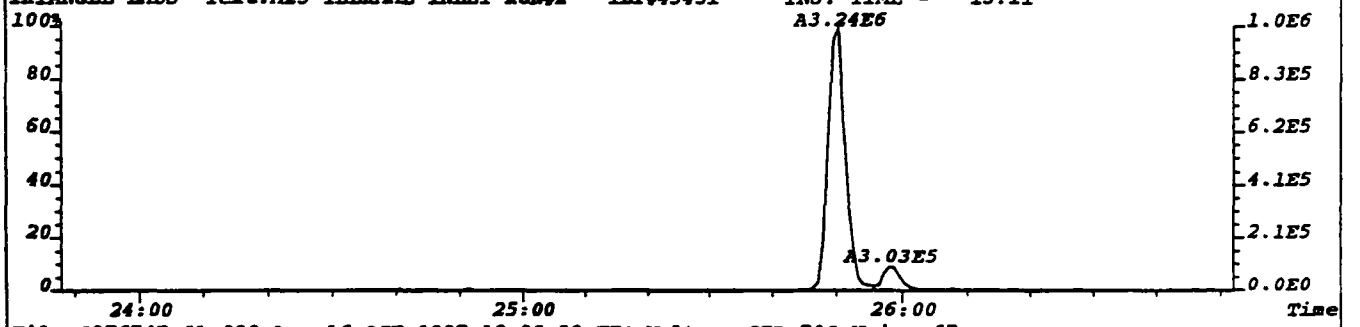
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:49
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



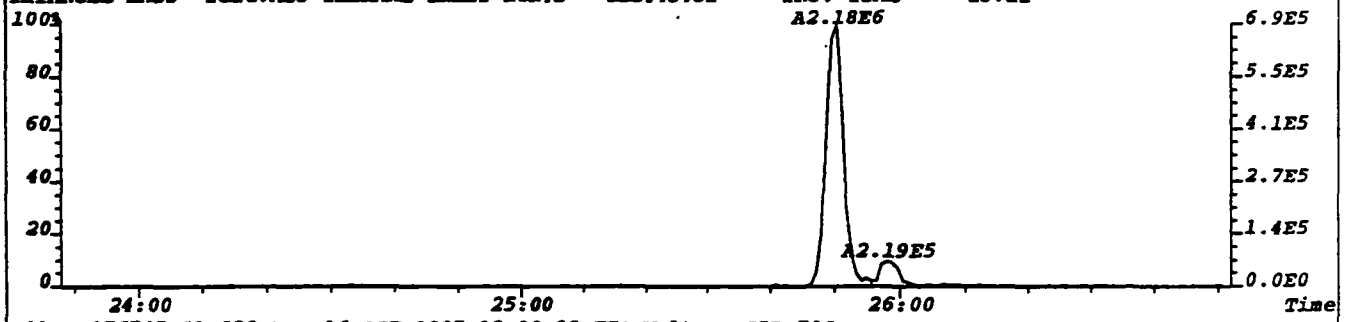
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:50
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



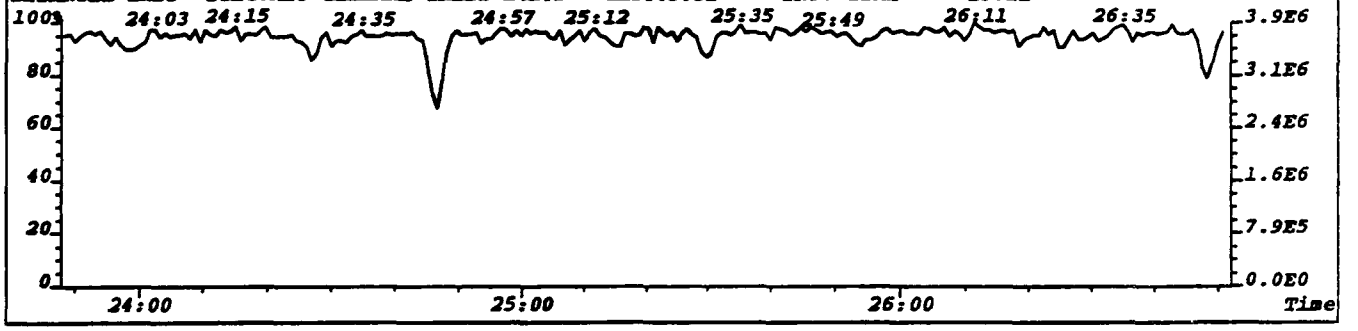
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:54
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



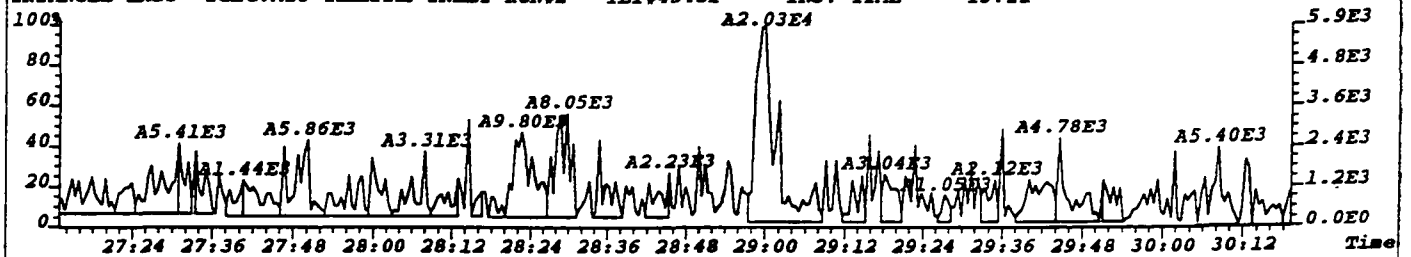
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:67
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



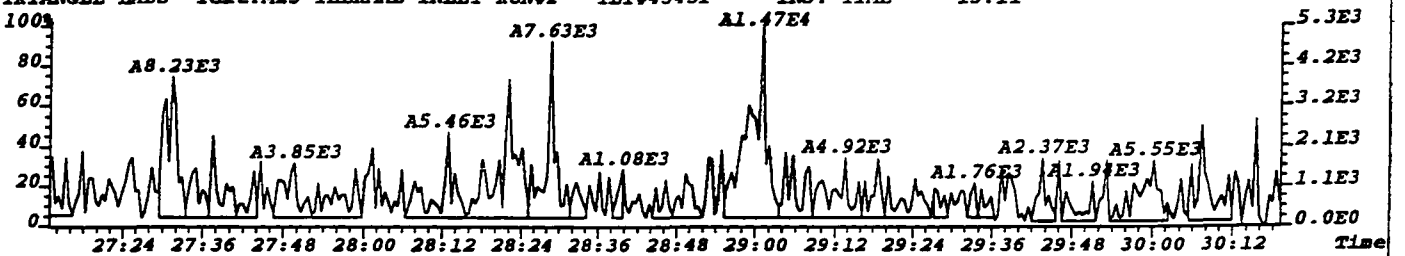
File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



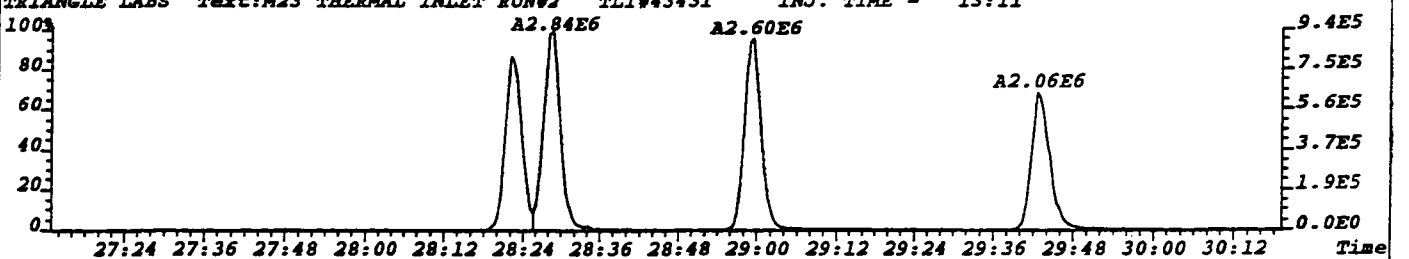
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:248
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,992.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



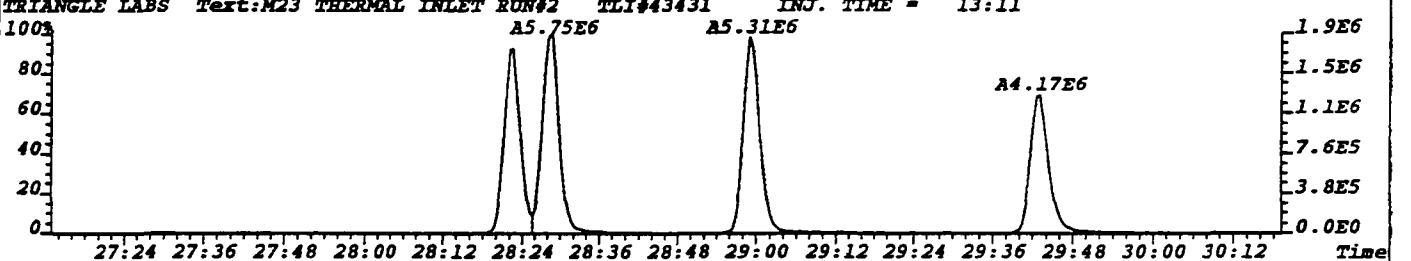
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:199
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,796.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



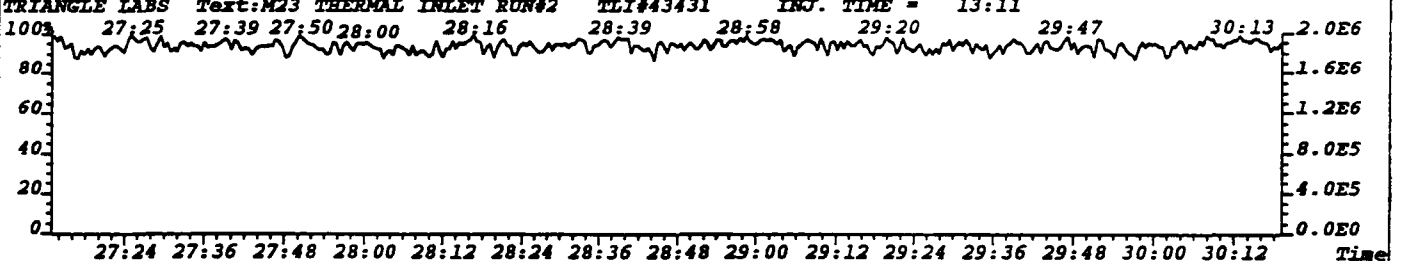
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:249
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,996.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



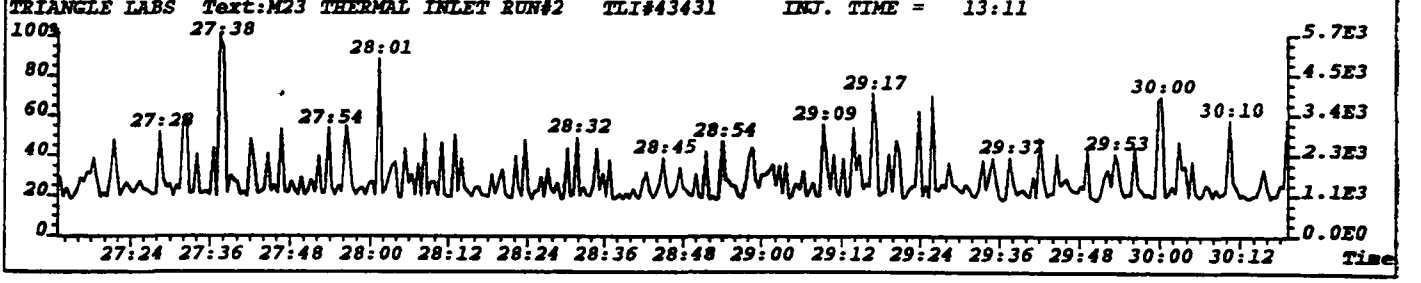
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:293
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



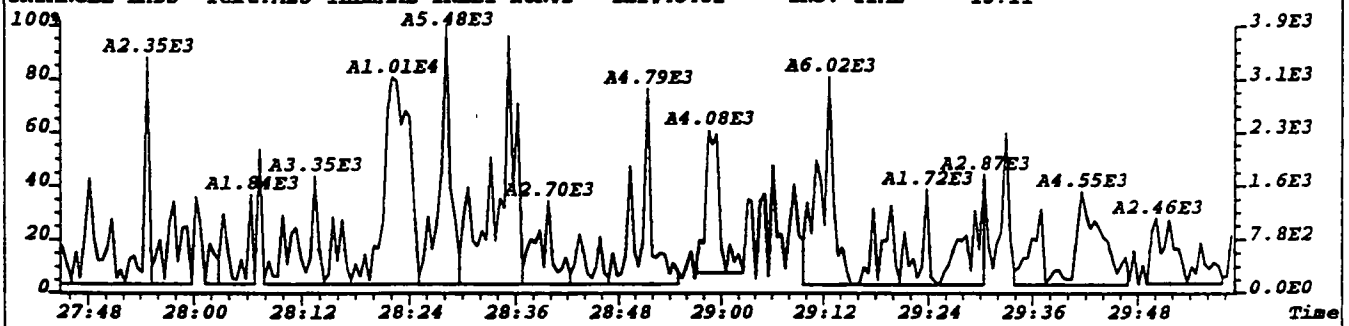
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



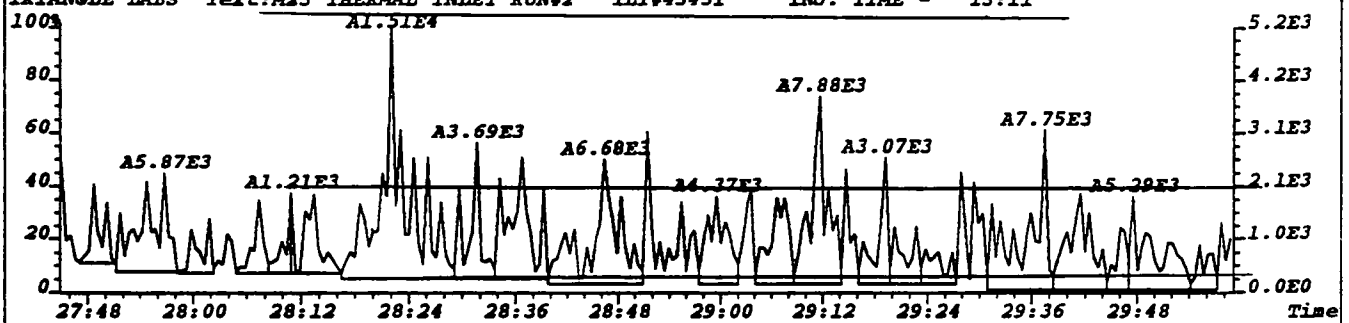
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



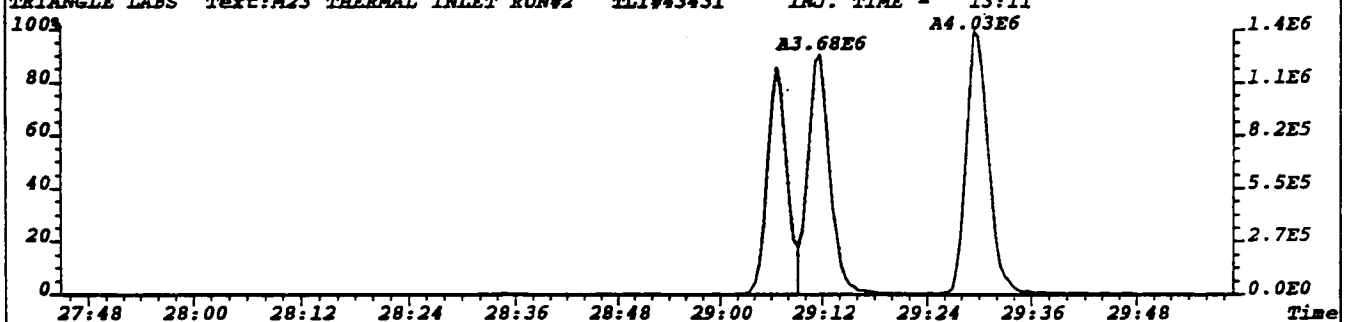
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:109
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,436.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



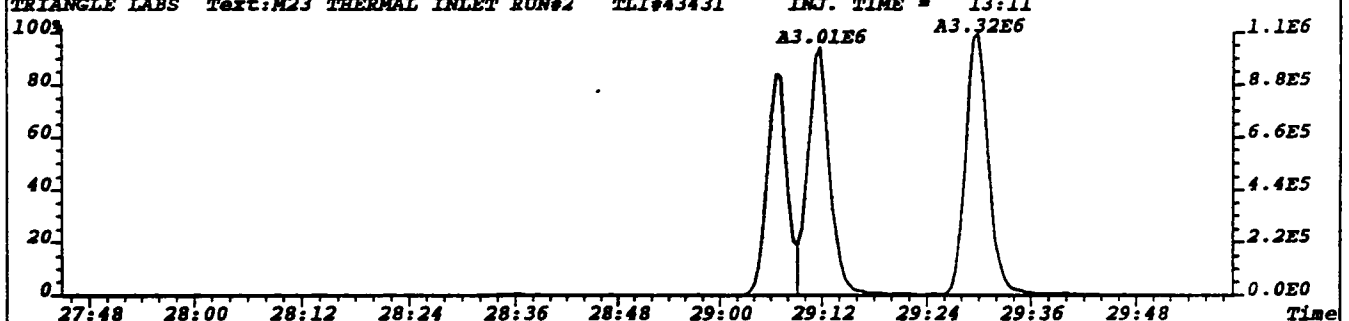
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:257
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1028.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



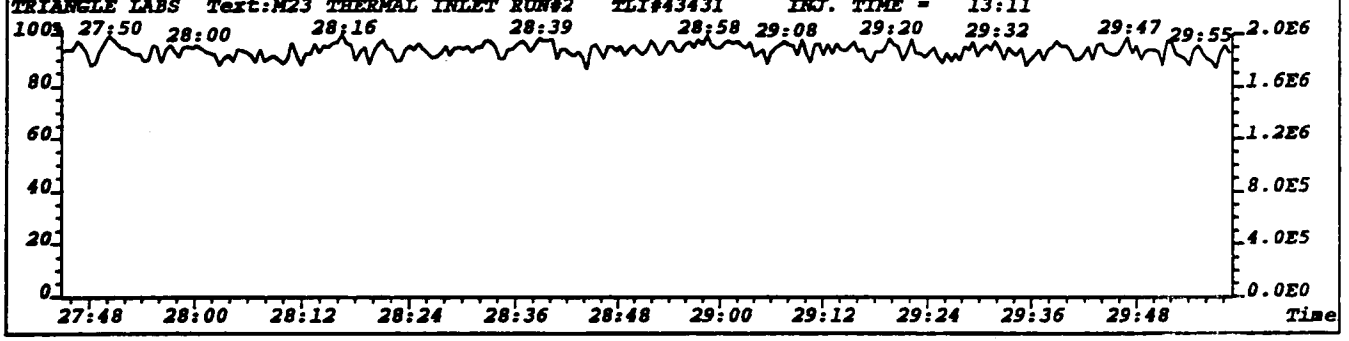
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:120
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,480.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



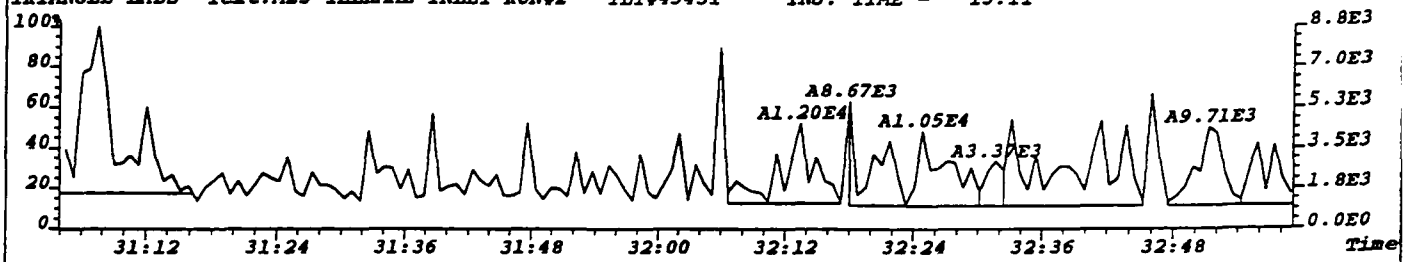
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:169
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,676.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



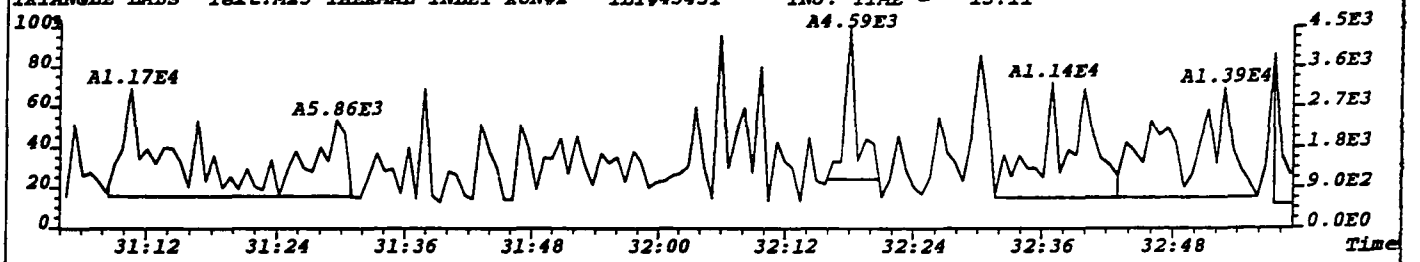
File:S976747 #1-475 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



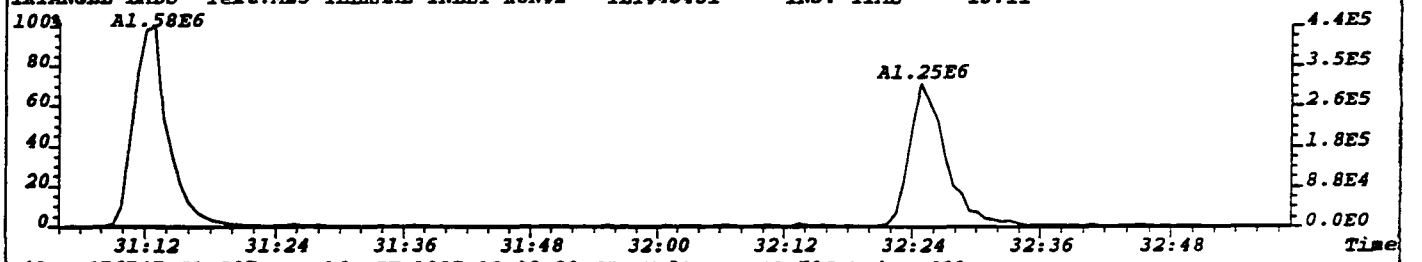
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:706
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2824.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



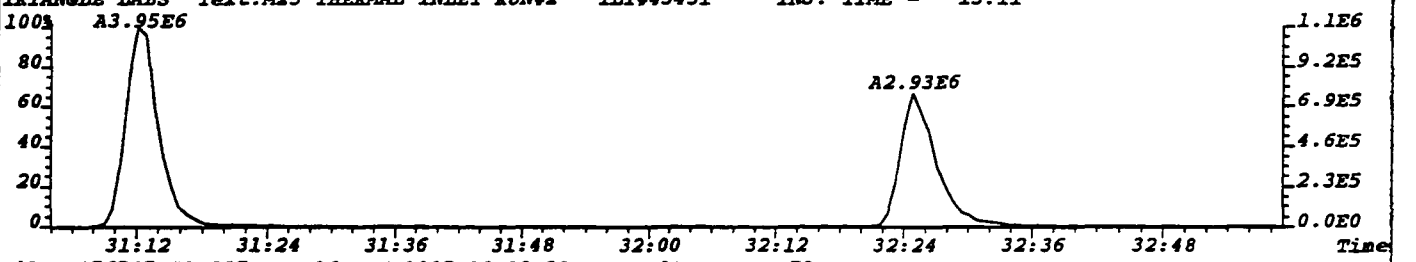
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:448
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1792.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



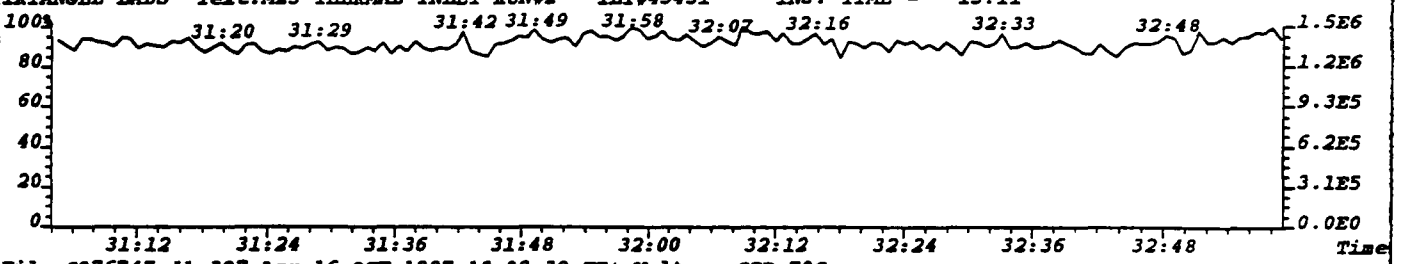
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:491
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1964.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



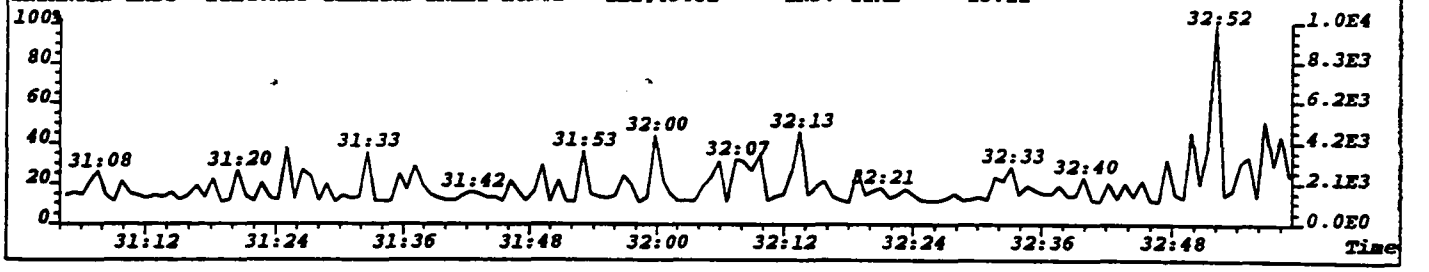
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:639
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2556.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



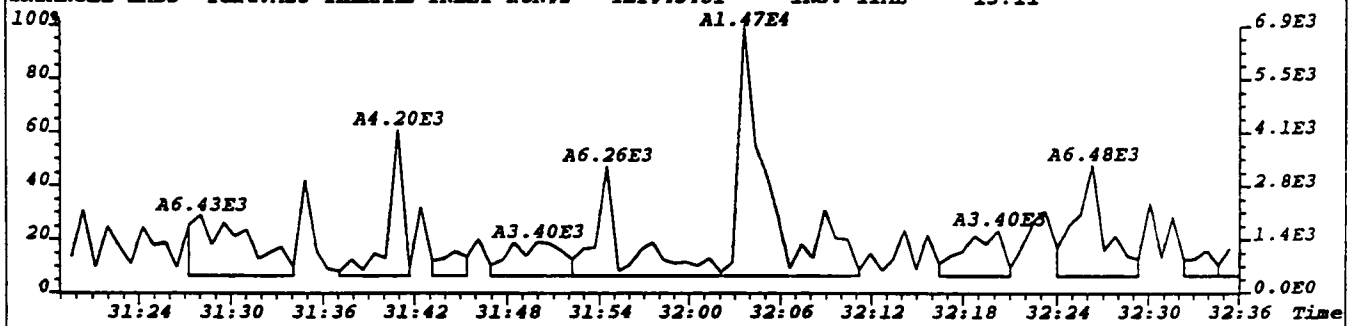
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



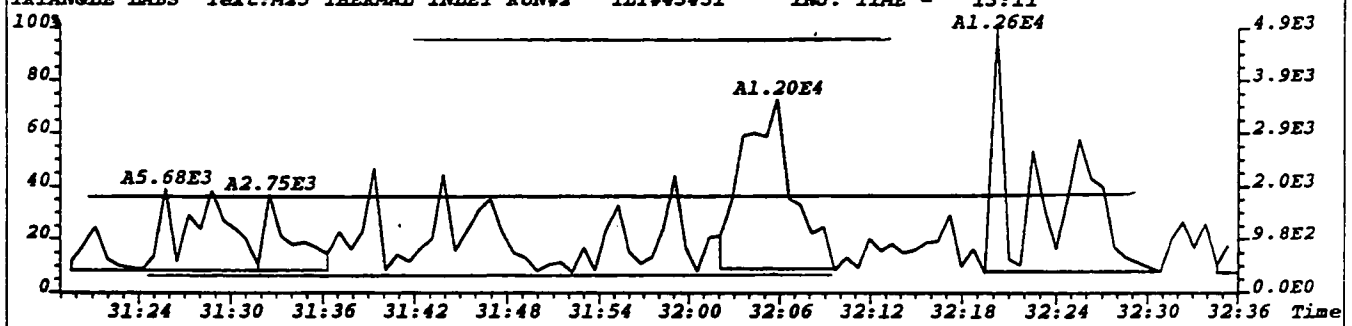
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



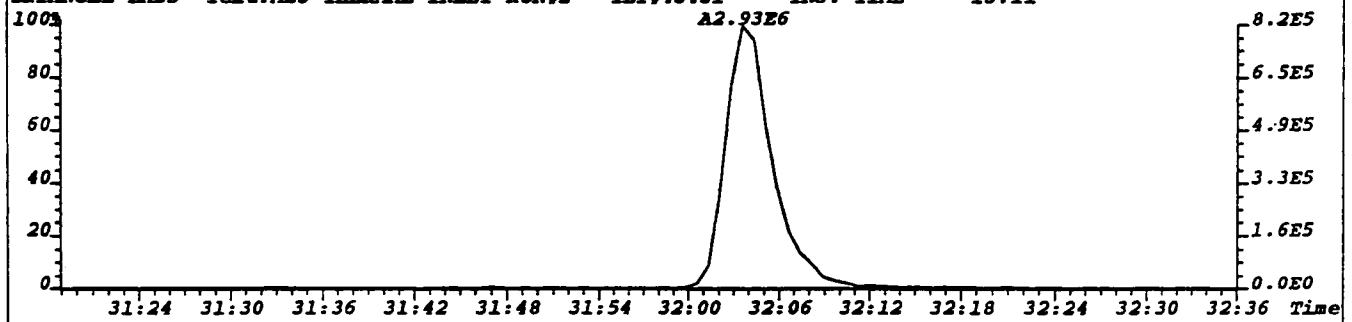
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:333
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1332.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



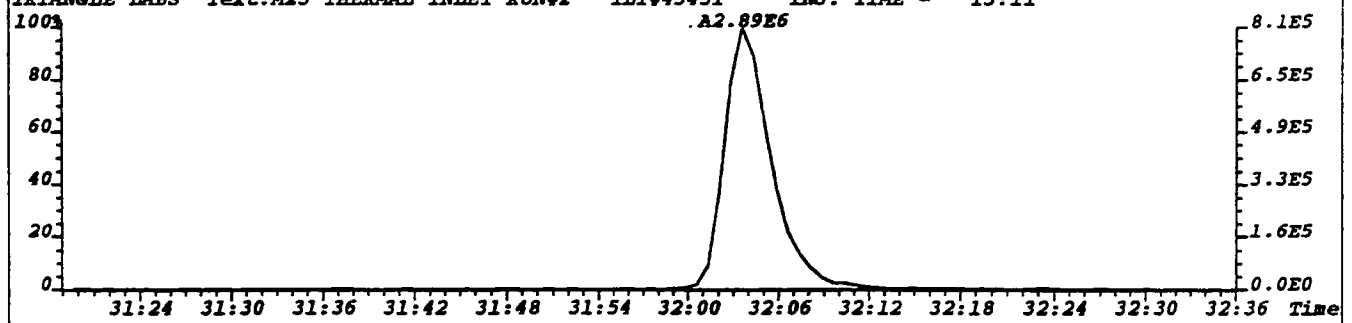
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:250
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1000.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



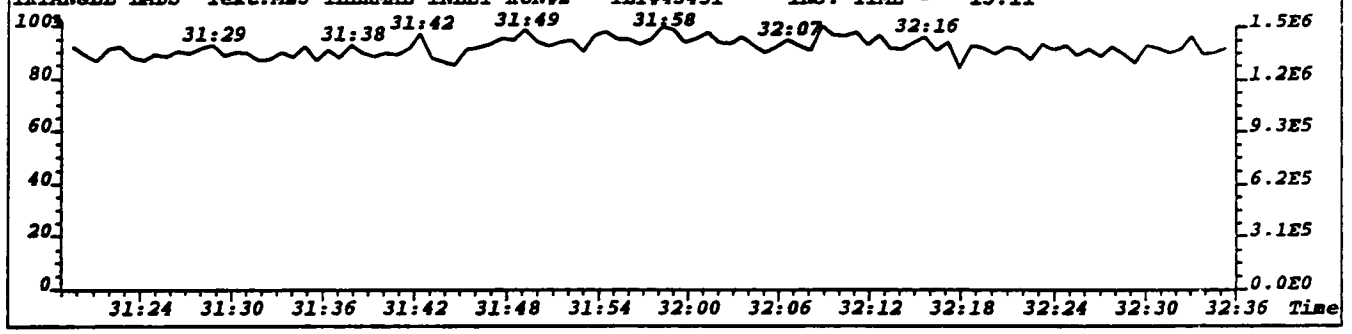
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:486
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1944.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



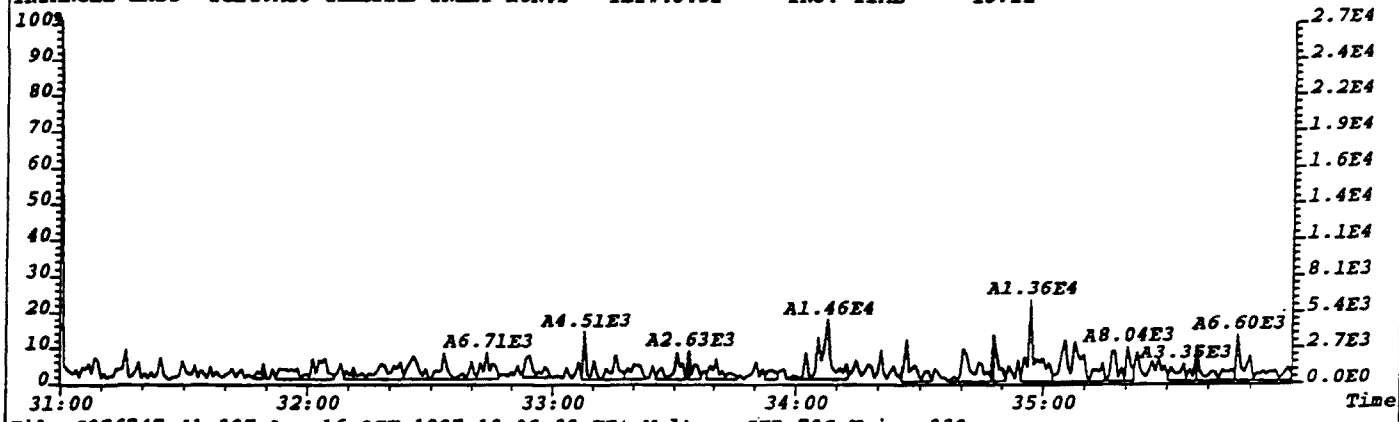
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:363
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1452.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



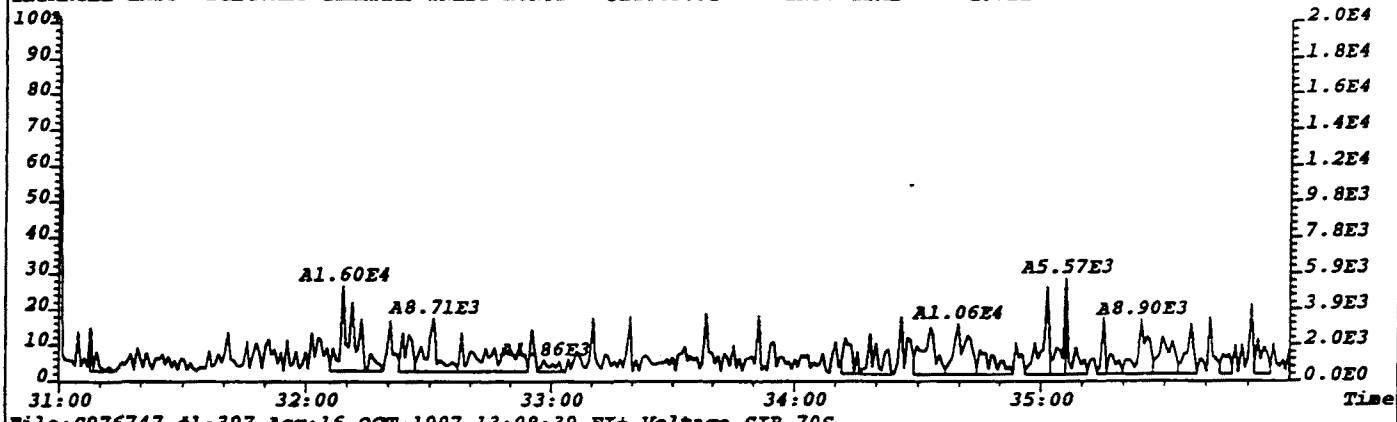
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



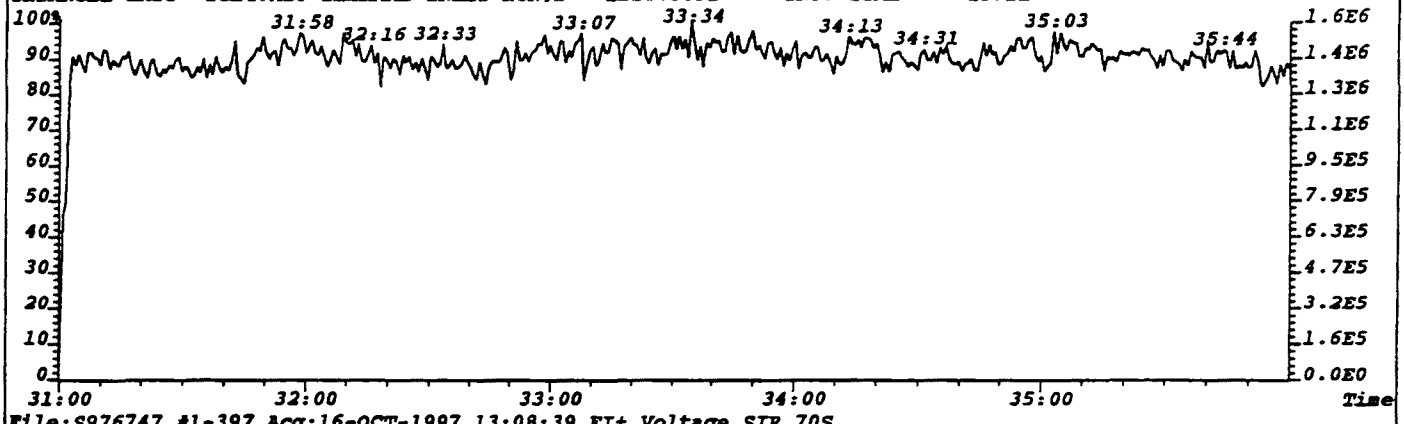
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:261
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1044.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



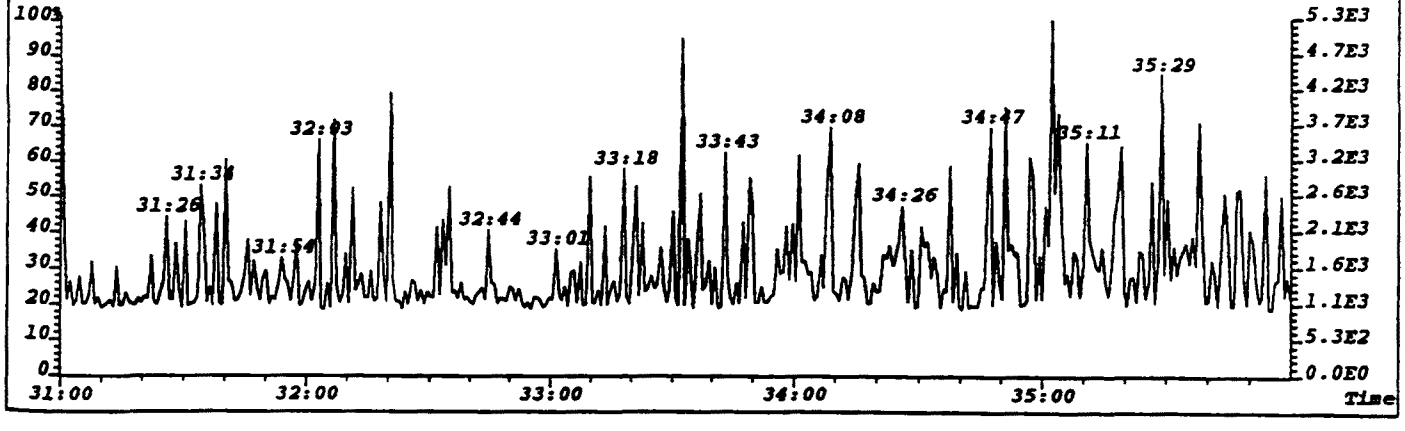
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:339
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1356.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



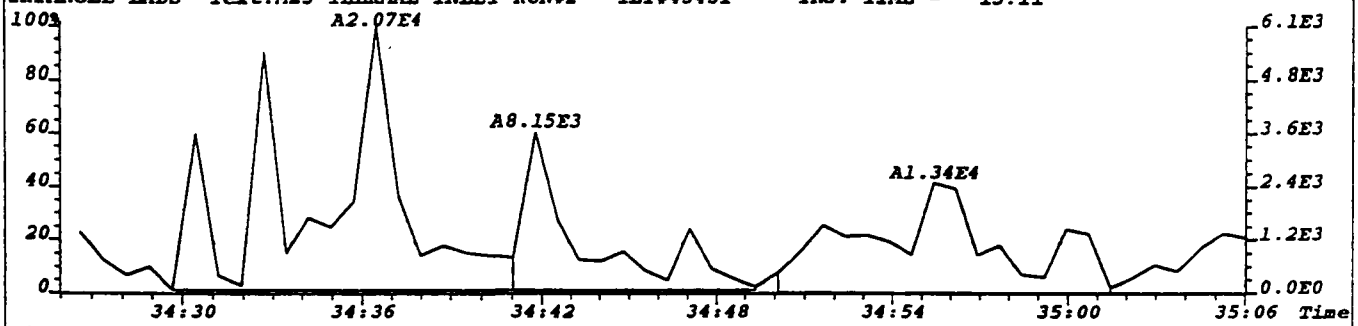
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



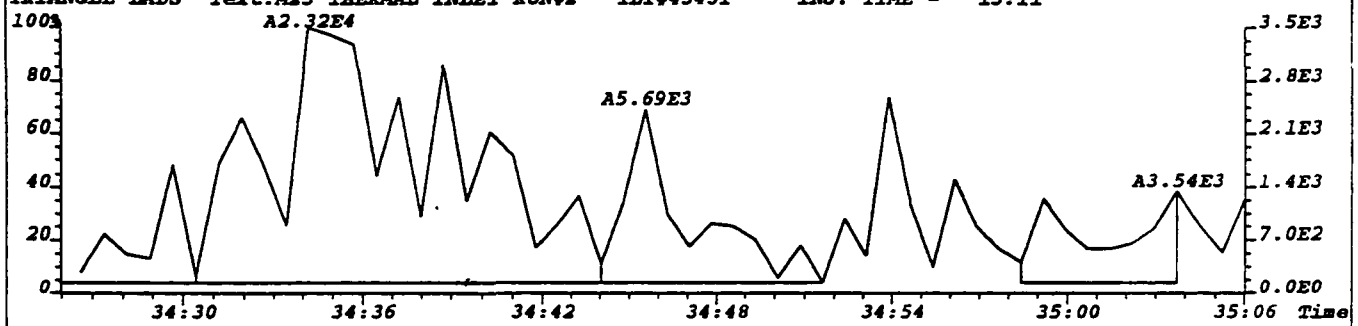
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



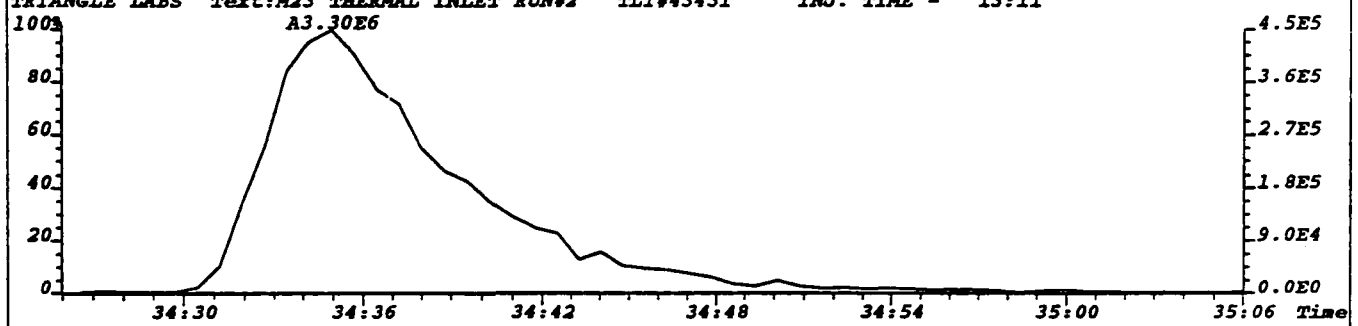
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:174
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,696.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



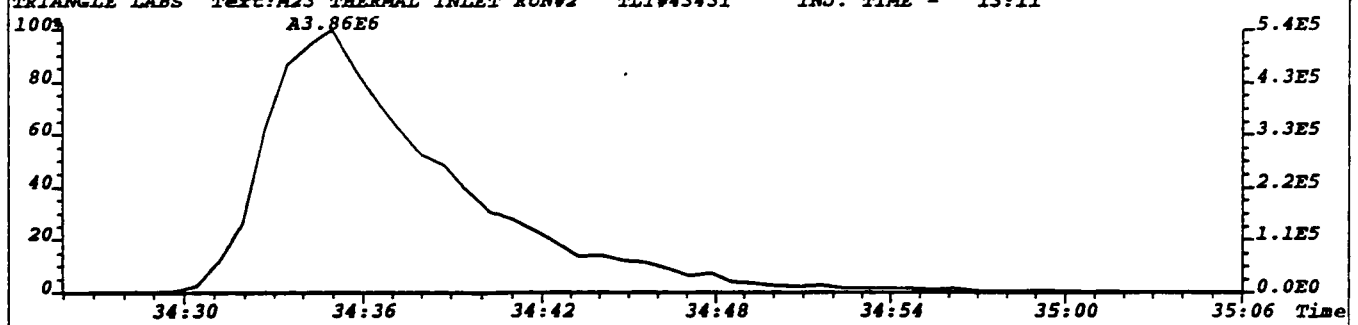
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:184
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,736.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



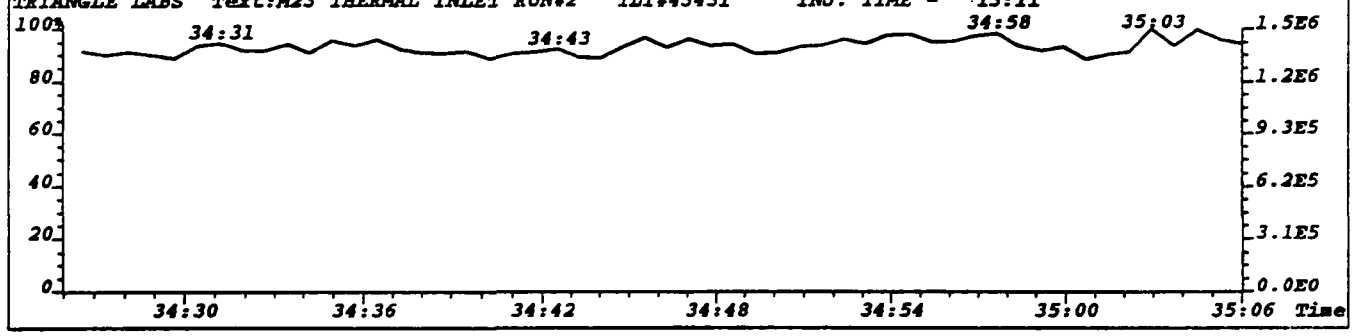
File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:126
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11

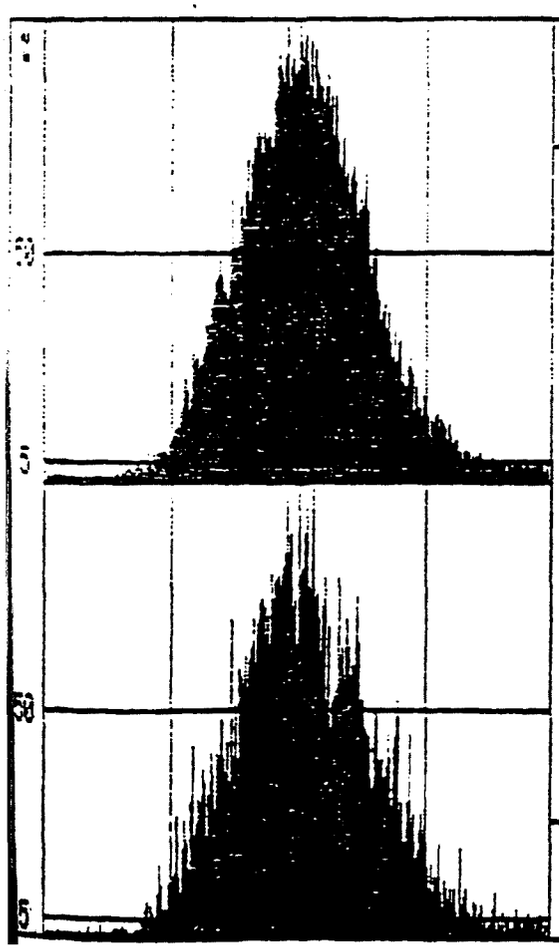


File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S Noise:96
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,384.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



File:S976747 #1-397 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11



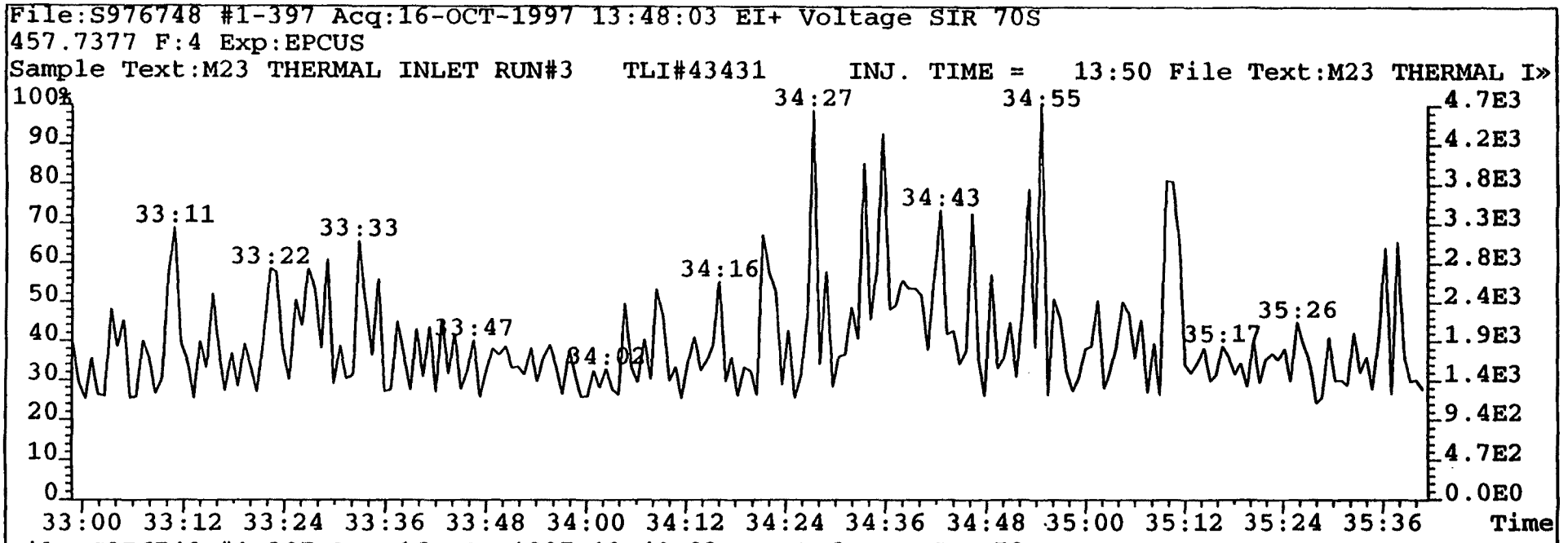


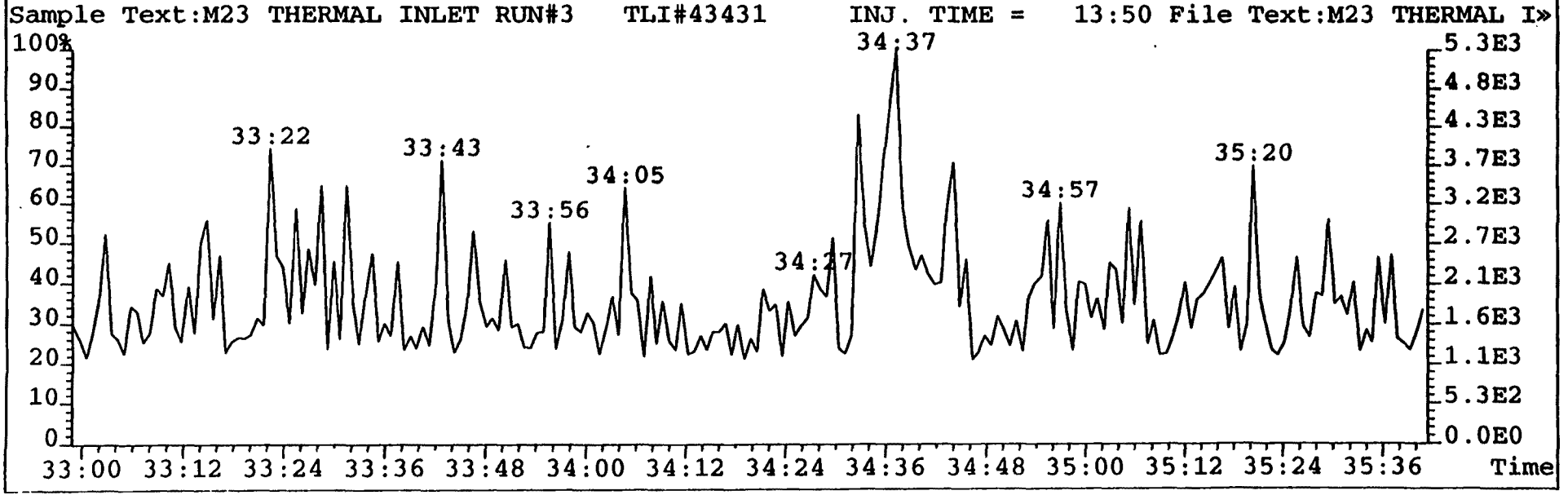
Channel I 330.9792 Peak top
Height 1.67 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S376741
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 .34 volts Span 200 ppm


File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50 File Text:M23 THERMAL I»
100%
90
80
70
60
50
40
30
20
10
0
33:11
33:22
33:33
33:47
34:02
34:16
34:27
34:43
34:55
35:17
35:26
4.7E3
4.2E3
3.8E3
3.3E3
2.8E3
2.4E3
1.9E3
1.4E3
9.4E2
4.7E2
0.0E0
33:00 33:12 33:24 33:36 33:48 34:00 34:12 34:24 34:36 34:48 35:00 35:12 35:24 35:36
Time


File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50 File Text:M23 THERMAL I»
100%
90
80
70
60
50
40
30
20
10
0
33:22
33:43
33:56
34:05
34:27
34:37
34:57
35:20
5.3E3
4.8E3
4.3E3
3.7E3
3.2E3
2.7E3
2.1E3
1.6E3
1.1E3
5.3E2
0.0E0
33:00 33:12 33:24 33:36 33:48 34:00 34:12 34:24 34:36 34:48 35:00 35:12 35:24 35:36
Time

Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL INLET RUN#3 — Analysis File: S976748

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-3A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976737
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% 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	0.005				—
1,2,3,7,8-PeCDD	ND	0.01				—
1,2,3,4,7,8-HxCDD	ND	0.01				—
1,2,3,6,7,8-HxCDD	ND	0.008				—
1,2,3,7,8,9-HxCDD	ND	0.009				—
1,2,3,4,6,7,8-HpCDD	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	ND	0.02				—
2,3,7,8-TCDF	ND	0.003				—
1,2,3,7,8-PeCDF	ND	0.006				—
2,3,4,7,8-PeCDF	ND	0.006				—
1,2,3,4,7,8-HxCDF	ND	0.006				—
1,2,3,6,7,8-HxCDF	ND	0.005				—
2,3,4,6,7,8-HxCDF	ND	0.006				—
1,2,3,7,8,9-HxCDF	ND	0.007				—
1,2,3,4,6,7,8-HpCDF	ND	0.008				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.01				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	EMPC			0.006	—
Total PeCDD	ND		0.01		—
Total HxCDD	ND		0.009		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.003		—
Total PeCDF	ND		0.006		—
Total HxCDF	ND		0.006		—
Total HpCDF	ND		0.009		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:14 10/21/97

Eastern Research Group

TLI Project: 43431 Method 23 PCDD/PCDF Analysis (a)
Client Sample: M23 THERMAL INLET RUN#3 Analysis File: S976748

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	4.2	104	40%-130%	0.77	20:23	___
$^{13}C_{12}$-2,3,7,8-TCDD	3.5	87.2	40%-130%	0.80	21:10	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.1	76.9	40%-130%	1.54	24:42	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.9	73.0	40%-130%	1.47	25:49	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	4.2	104	40%-130%	0.49	28:28	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.8	96.1	40%-130%	1.19	29:11	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.4	85.5	25%-130%	0.42	31:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.8	95.0	25%-130%	0.98	32:04	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	6.7	84.3	25%-130%	0.87	34:34	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	4.2	106	70%-140%		21:12	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.5	86.6	70%-140%	1.48	25:27	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.7	92.9	70%-140%	0.49	28:22	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.5	86.7	70%-140%	1.27	29:07	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.9	97.9	70%-140%	0.43	32:25	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.8	94.1	40%-130%	0.49	29:43	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	4.1	103	40%-130%	0.49	28:59	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:58	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.20	29:29	___

Data Reviewer: _____ 10/21/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:14 10/21/97

Initial ....Date...

Data Review By: K- 10/20/96 Calculated Noise Area: 0.56

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 S976748B.dbf
10/21/97 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						0.825-1.102			
304-306		DC	NL	0:00	RO	0.93	1.22			0.000			
	D	d	SN	20:23	RO	0.59	2.51			1.000	2378-TCDF		AN
		DC	SN	20:33	RO	2.03	0.67			1.008			
304-306			0	Peaks			0.00						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318		DC	NL	0:00	RO	0.91	1.22			0.000			
				19:53		0.76	9.43	4.07	5.36	0.975			
				20:23		0.77	1,444.44	628.47	815.97	1.000	13C12-2378-TCDF		ISO
				20:52	RO	0.42	5.75	2.50	5.89	1.024			
		DC	SN	21:10	RO	0.50	2.07			1.038			
		DC	WH	22:39	RO	0.59	4.74			1.111			
316-318			3	Peaks			1,459.62						

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

TCDD				0.65-0.89						0.856-1.059			
320-322		DC	NL	0:00	RO	1.05	0.71			0.000			
				18:18	RO	1.02	1.79	1.03	1.01	0.865			
		DC	SN	18:55	RO	0.26	0.41			0.894			
		DC	SN	20:32		0.75	1.38			0.970			
		DC	SN	21:12	RO	0.54	1.93			1.002	2378-TCDD		AN
		DC	SN	21:21	RO	0.09	0.11			1.009			
		DC	SN	21:48	RO	1.03	0.69			1.030			
		DC	WH	22:26	RO	1.16	0.57			1.060			
		DC	WH	22:43	RO	0.24	0.51			1.073			
320-322			1	Peak			1.79						
37Cl-TCDD										0.906-1.094			
328		DC	NL	0:00			0.57			0.000			
		DC	WL	19:04			0.42			0.901			
				19:15			1.32	1.32		0.909			
				19:37			6.26	6.26		0.927			
				21:12			870.80	870.80		1.002	37Cl-TCDD		SUR1
				21:31			2.78	2.78		1.017			
				21:39			1.72	1.72		1.023			
				21:43			1.84	1.84		1.026			
		DC	SN	21:52			0.90			1.033			
				22:03			1.00	1.00		1.042			
		DC	SN	22:07			0.49			1.045			
				22:38			1.05	1.05		1.069			
328			8	Peaks			886.77						

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	1.69	0.80			0.000			
	DC	WL		19:04	RO	0.48	1.38			0.901			
				19:52	RO	1.54	5.12	4.44	2.89	0.939			
				20:58		0.82	1,053.05	474.47	578.58	0.991	13C12-1234-TCDD	RS1	
				21:10		0.80	978.81	435.20	543.61	1.000	13C12-2378-TCDD	IS1	
				21:32	RO	0.92	18.04	9.37	10.19	1.017			
	DC	SN		22:13		0.69	1.82			1.050			
332-334			4	Peaks			2,055.02						

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

PeCDF				1.32-1.78						0.907-1.080			
340-342	DC	NL		0:00	RO	0.94	0.26			0.000			
	DC	SN		22:24	RO	2.29	0.71			0.907			
	DC	SN		22:34	RO	2.57	0.36			0.914			
	DC	SN		23:21		1.50	0.50			0.945			
	DC	SN		23:34	RO	2.33	0.54			0.954			
	DC	SN		23:44	RO	0.55	0.20			0.961			
	DC	SN		23:47	RO	0.29	0.26			0.963			
	DC	SN		24:06	RO	1.31	0.84			0.976			
	DC	SN		24:21	RO	2.11	0.46			0.986			
	DC	SN		25:07	RO	0.46	0.31			1.017			
	DC	SN		25:21	RO	0.49	0.71			1.026			
	DC	SN		26:12	RO	3.35	0.51			1.061			
	DC	SN		26:22	RO	0.44	0.13			1.067			
	DC	SN		26:27	RO	0.55	0.49			1.071			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	0.91	0.16			0.000			
	DC	SN		22:36	RO	2.18	1.15			0.915			
				23:48	RO	1.05	3.80	2.31	2.20	0.964			
				24:20		1.33	5.31	3.03	2.28	0.985			
				24:42		1.54	917.01	555.93	361.08	1.000	13C12-PeCDF 123	IS2	
				25:01		1.65	7.09	4.41	2.68	1.013			
				25:27		1.48	770.63	459.48	311.15	1.030	13C12-PeCDF 234	SUR2	
				26:27		1.39	3.47	2.02	1.45	1.071			
	DC	SN		26:48	RO	1.97	0.92			1.085			
352-354			6	Peaks			1,707.31						

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

PeCDD				1.32-1.78						0.921-1.026			
356-358	DC	NL		0:00		1.50	0.25			0.000			
	DC	SN		23:54	RO	0.13	0.12			0.926			
	DC	SN		23:59	RO	0.32	0.23			0.929			
	DC	SN		24:44	RO	2.77	0.77			0.958			
	DC	SN		25:04	RO	2.67	0.23			0.971			
	DC	SN		25:20	RO	2.57	0.54			0.981			
	DC	SN		26:08	RO	1.06	0.56			1.012			
	DC	WH		26:42		1.69	0.43			1.034			

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			0 Peaks				0.00						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	1.20	0.20			0.000			
	DC	SN		24:51	RO	2.00	0.59			0.963			
				25:49		1.47	487.99	290.42	197.57	1.000	13C12-PeCDD 123	IS3	
				25:58		1.43	49.15	28.91	20.24	1.006			
	DC	SN		26:43	RO	0.71	0.41			1.035			
368-370			2 Peaks				537.14						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.956-1.053			
374-376	DC	NL		0:00	RO	0.80	0.63			0.000			
	DC	WL		27:11	RO	0.49	0.31			0.955			
	DC	SN		27:16	RO	6.80	0.11			0.958			
	DC	SN		27:21	RO	9.25	0.09			0.961			
	DC	SN		27:25	RO	3.38	0.18			0.963			
	DC	SN		27:40	RO	0.22	0.20			0.972			
	DC	SN		27:55	RO	1.00	0.36			0.981			
	DC	SN		27:57	RO	1.52	0.47			0.982			
	DC	SN		28:18	RO	0.76	0.56			0.994			
	DC	SN		28:29	RO	0.98	0.70			1.001	123678-HxCDF	AN	
D	d	SN		29:01		1.20	2.07			1.019	234678-HxCDF	AN	
	DC	SN		29:06	RO	0.12	0.09			1.022			
	DC	SN		29:19		1.25	0.36			1.030			
	DC	SN		29:25		1.17	0.26			1.033			
	DC	SN		29:37	RO	0.18	0.13			1.040			
	DC	SN		29:45	RO	0.86	0.76			1.045	123789-HxCDF	AN	
	DC	WH		30:19	RO	0.47	0.27			1.065			
374-376			0 Peaks				0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	1.34	0.62			0.000			
	DC	SN		27:31	RO	0.39	1.51			0.967			
				28:22		0.49	682.36	224.82	457.54	0.996	13C12-HxCDF 478	SUR3	
				28:28		0.49	765.57	252.41	513.16	1.000	13C12-HxCDF 678	IS4	
				28:39		0.47	3.59	1.15	2.44	1.006			
	DC	SN		28:48	RO	0.22	1.30			1.012			
				28:59		0.49	704.67	230.60	474.07	1.018	13C12-HxCDF 234	ALT2	
				29:12	RO	0.98	2.57	1.67	1.70	1.026			
	DC	SN		29:23	RO	0.32	1.04			1.032			
	DC	SN		29:28	RO	0.14	0.80			1.035			
				29:43		0.49	558.78	183.30	375.48	1.044	13C12-HxCDF 789	ALT1	
384-386			6 Peaks				2,717.54						
---------- Above: HxCDF / HxCDD Follows ----------													
HxCDD				1.05-1.43						0.950-1.015			
390-392	DC	NL		0:00	RO	0.65	0.40			0.000			
	DC	SN		27:47	RO	0.34	0.20			0.952			
	DC	SN		28:28	RO	3.00	0.43			0.975			

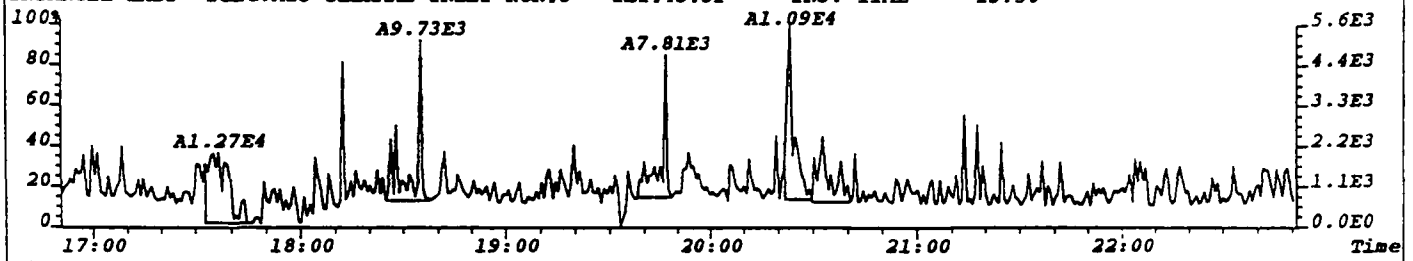
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
		DC	SN	28:37	RO	0.91	0.38			0.981			
		DC	SN	28:44	RO	0.59	0.23			0.985			
		DC	SN	29:01		1.10	0.86			0.994			
		DC	SN	29:07	RO	2.68	0.49			0.998	123478-HxCDD	AN	
		DC	SN	29:24	RO	0.85	0.63			1.007			
		DC	SN	29:27	RO	0.15	0.11			1.009	123789-HxCDD	AN	
		DC	WH	29:56	RO	0.81	0.54			1.026			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404		DC	NL	0:00	RO	0.62	0.33			0.000			
		DC	WL	28:05	RO	5.00	0.11			0.962			
		DC	WL	28:10	RO	0.80	0.36			0.965			
		DC	SN	28:18	RO	0.62	0.23			0.970			
				28:35	RO	0.74	1.82	1.01	1.37	0.979			
		DC	SN	28:43	RO	1.58	0.43			0.984			
		DC	SN	28:58		1.14	0.60			0.993			
				29:07		1.27	493.71	276.06	217.65	0.998	13C12-HxCDD 478	SUR4	
				29:11		1.19	585.42	317.79	267.63	1.000	13C12-HxCDD 678	IS5	
				29:29		1.20	612.50	333.95	278.55	1.010	13C12-HxCDD 789	RS2	
				29:47		1.19	2.26	1.23	1.03	1.021			
		DC	SN	29:58	RO	0.34	0.85			1.027			
402-404			5	Peaks			1,695.71						
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF				0.88-1.20						0.996-1.046			
408-410		DC	NL	0:00	RO	1.34	1.94			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	0.60	1.64			0.000			
				31:12		0.42	464.61	137.92	326.69	1.000	13C12-HpCDF 678	IS6	
				32:25		0.43	350.66	105.24	245.42	1.039	13C12-HpCDF 789	SUR5	
		DC	SN	32:55		0.49	2.12			1.055			
418-420			2	Peaks			815.27						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD				0.88-1.20						0.977-1.006			
424-426		DC	NL	0:00	RO	1.54	0.71			0.000			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438		DC	NL	0:00		1.05	1.33			0.000			
		DC	SN	31:30	RO	2.89	0.73			0.982			
				32:04		0.98	474.35	235.34	239.01	1.000	13C12-HpCDD 678	IS7	
				32:19	RO	0.55	1.88	0.96	1.75	1.008			
		DC	SN	32:29	RO	2.17	0.59			1.013			
		DC	SN	32:32	RO	0.60	0.67			1.015			
436-438			2	Peaks			476.23						

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	0.51	0.42			0.000			
		DC	SN	31:41	RO	1.05	1.42			0.917			
		DC	SN	31:54		1.02	1.23			0.923			
		DC	SN	32:12	RO	3.40	0.28			0.932			
		DC	SN	32:22	RO	0.70	1.02			0.936			
		DC	SN	32:49	RO	1.22	1.12			0.949			
		DC	SN	32:54		0.96	0.53			0.952			
		DC	SN	33:04	RO	0.25	0.38			0.957			
		DC	SN	33:17		0.76	1.64			0.963			
		DC	SN	33:26	RO	2.17	0.57			0.967			
		DC	SN	33:34	RO	0.34	0.47			0.971			
		DC	SN	33:51	RO	3.63	0.45			0.979			
		DC	SN	34:08	RO	1.17	0.55			0.987			
		DC	SN	34:21	RO	1.88	0.96			0.994			
		DC	SN	34:28	RO	1.58	0.72			0.997			
		DC	SN	34:43	RO	0.66	1.49			1.004			
				35:12		0.87	2.02	0.94	1.08	1.018			
		DC	SN	35:32	RO	0.31	0.47			1.028			
		DC	SN	35:43	RO	0.61	0.91			1.033			
442-444			1	Peak			2.02						
OCDD						0.76-1.02				0.884-1.116			
458-460		DC	NL	0:00	RO	1.08	0.45			0.000			
	D	d	SN	34:36	RO	1.06	3.78			1.001	OCDD		AN
		DC	SN	34:56	RO	1.22	1.46			1.011			
458-460			0	Peaks			0.00						
13C12-OCDD						0.76-1.02				0.997-1.006			
470-472		DC	NL	0:00	RO	0.67	0.47			0.000			
				34:34		0.87	535.75	249.54	286.21	1.000	13C12-OCDD		IS8
		DC	WH	34:58	RO	0.33	1.68			1.012			
		DC	WH	35:06	RO	0.70	1.61			1.015			
470-472			1	Peak			535.75						

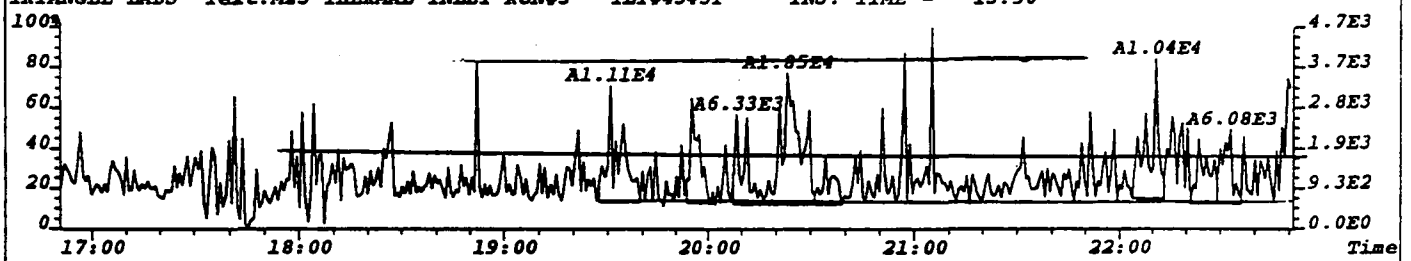
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

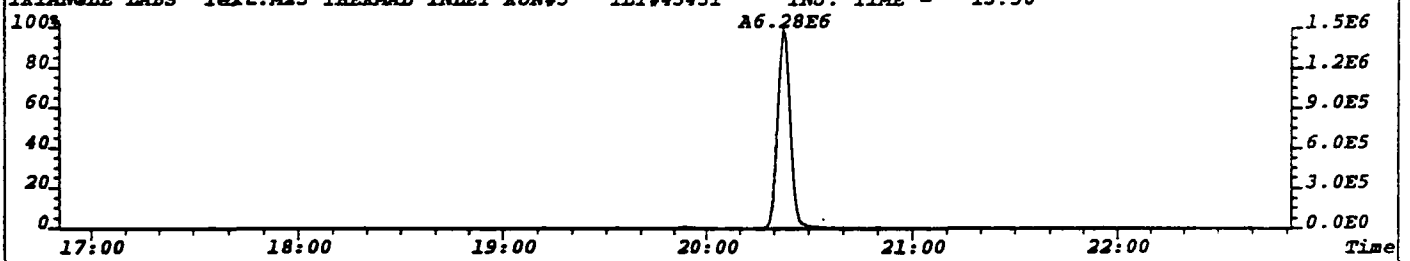
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:318
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1272.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



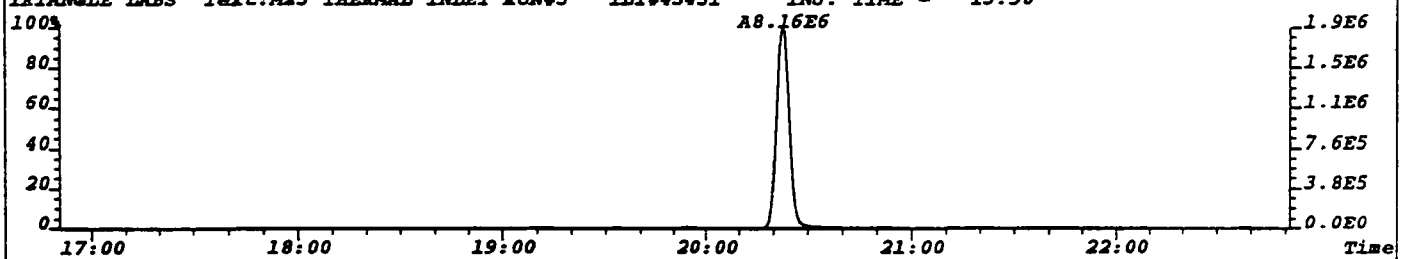
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:343
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1372.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



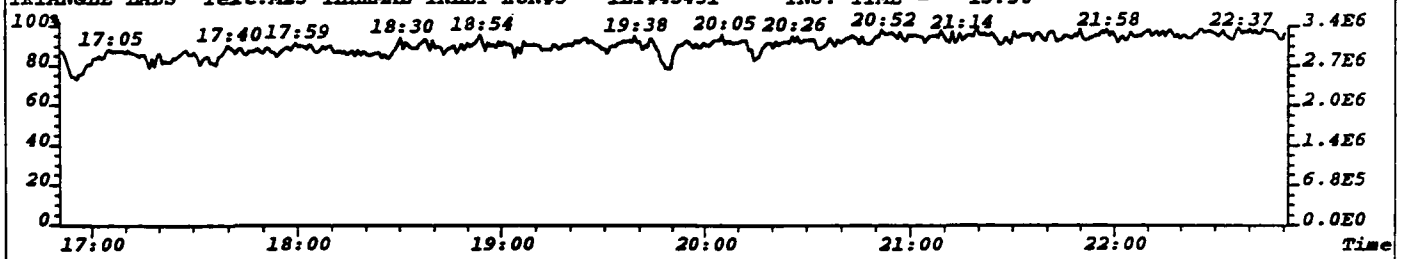
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:316
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



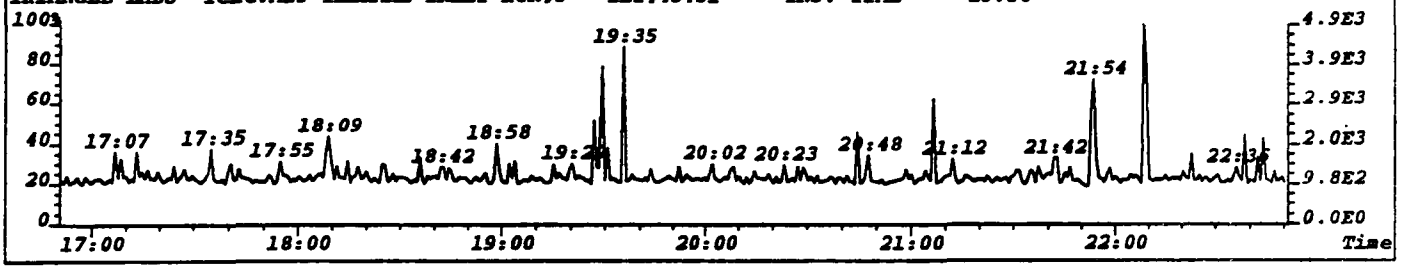
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:343
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1372.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



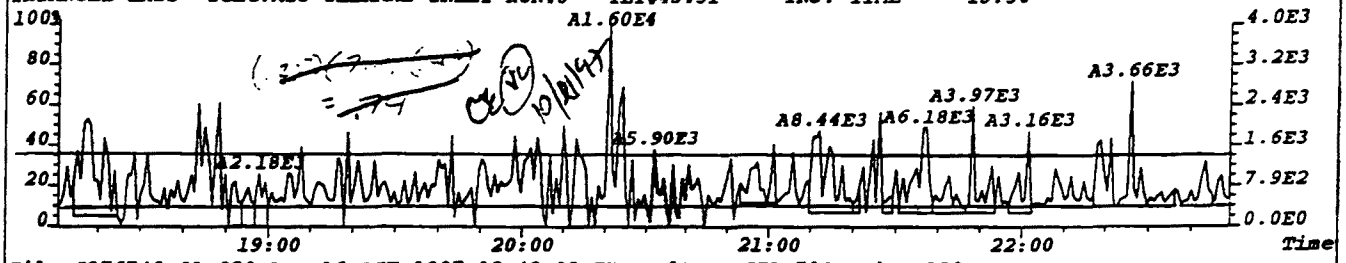
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



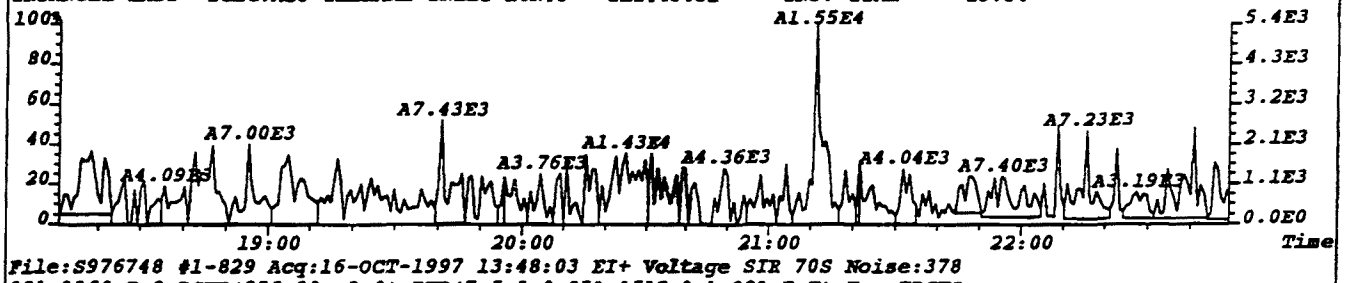
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



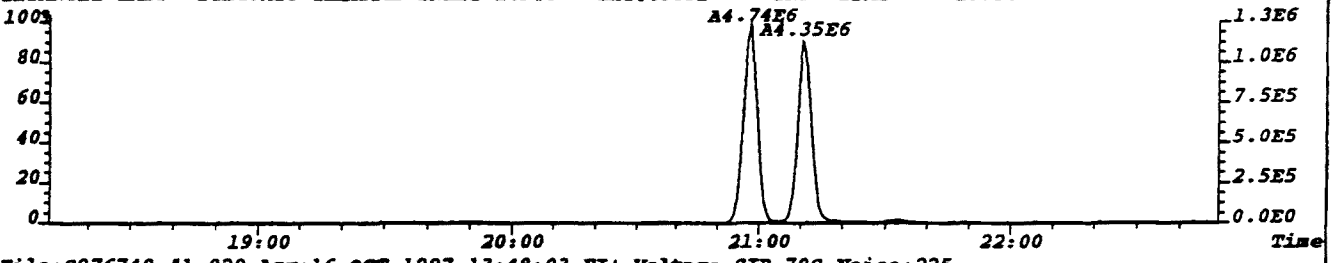
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:208
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,832.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



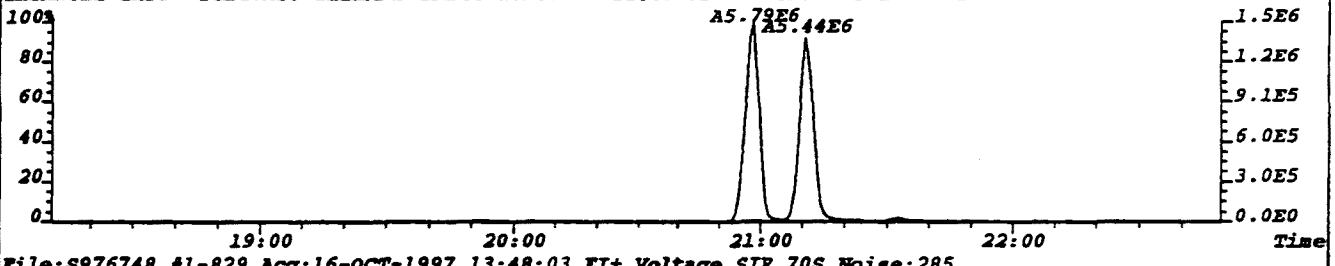
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:198
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,792.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



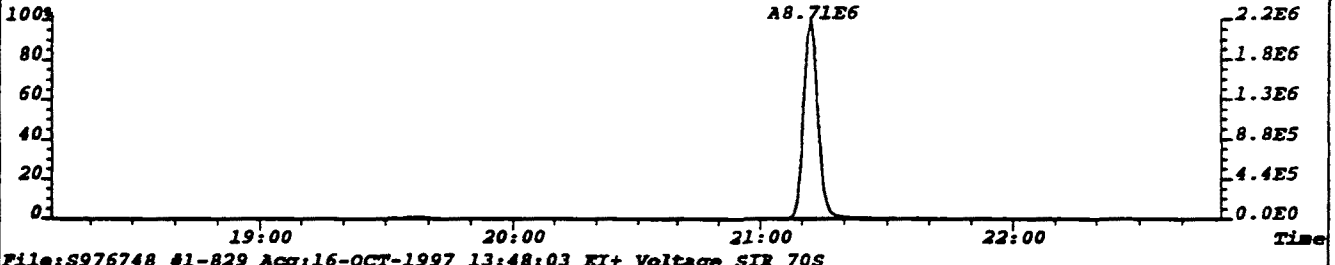
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:378
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1512.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



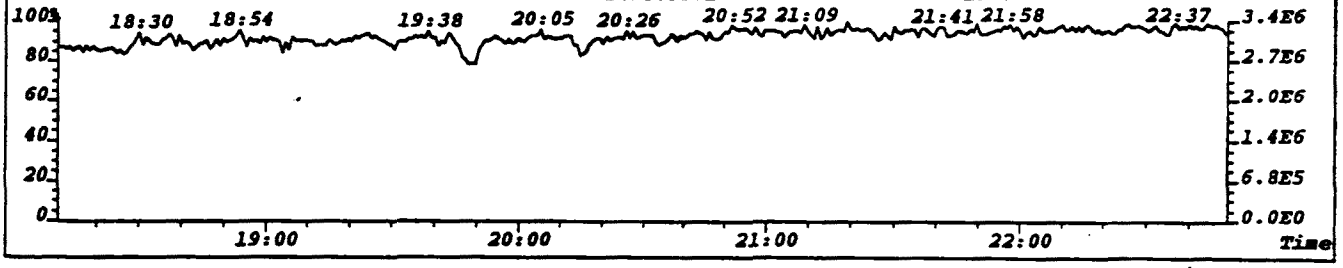
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:225
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,900.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



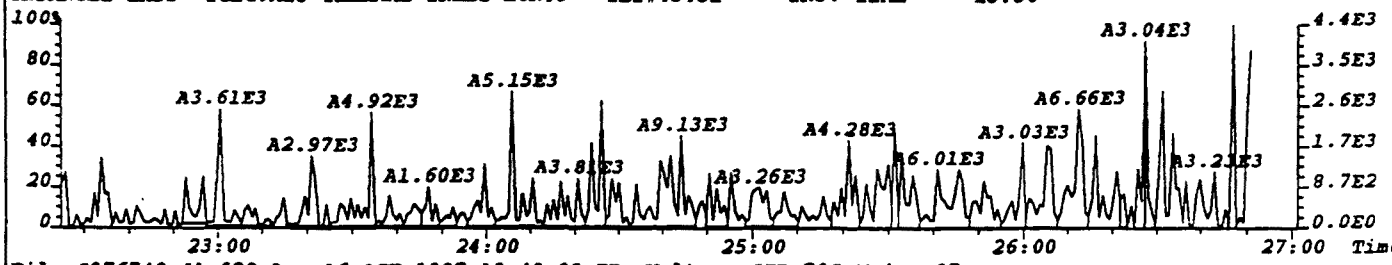
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:285
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1140.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



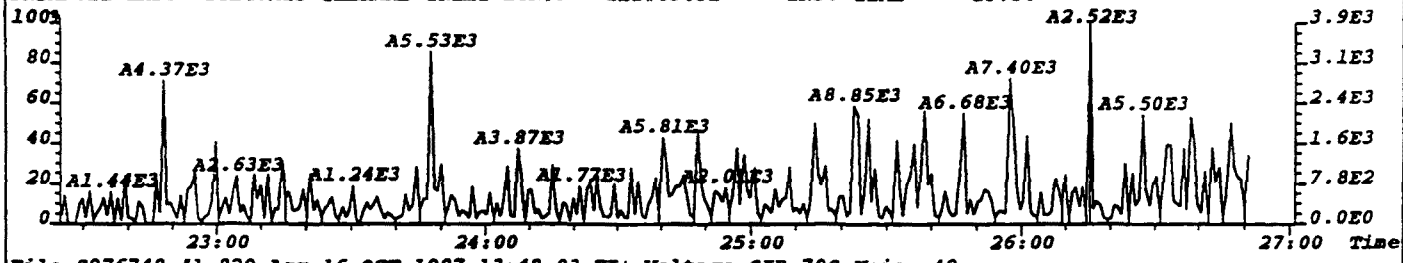
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



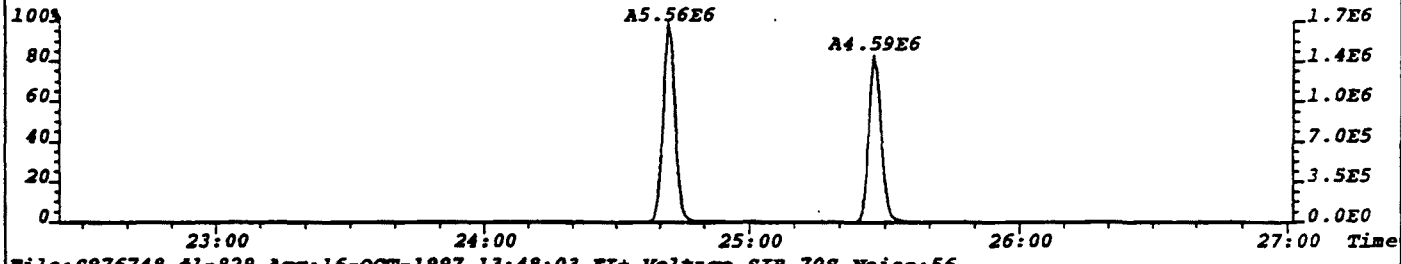
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:80
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,320.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



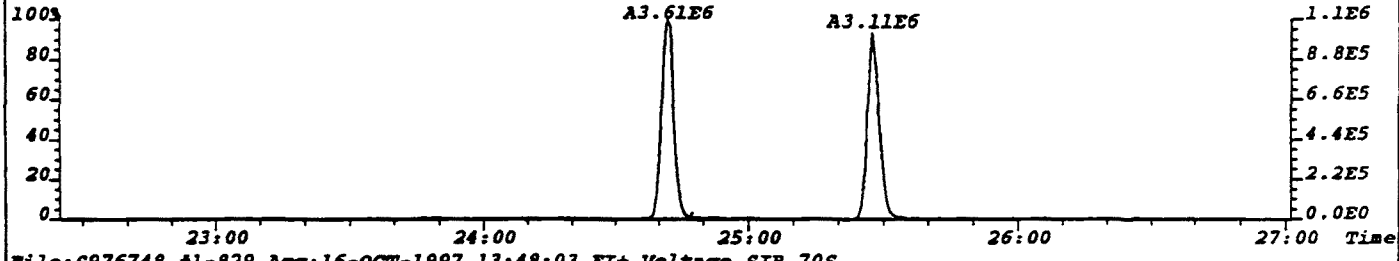
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:87
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



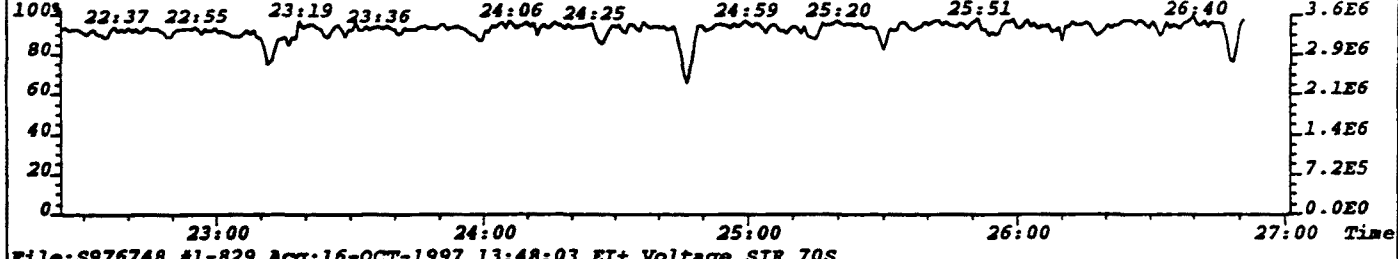
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:49
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



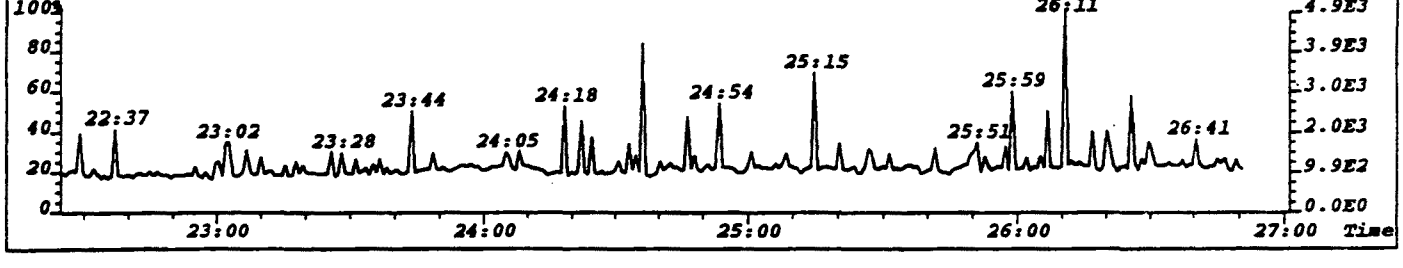
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:56
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



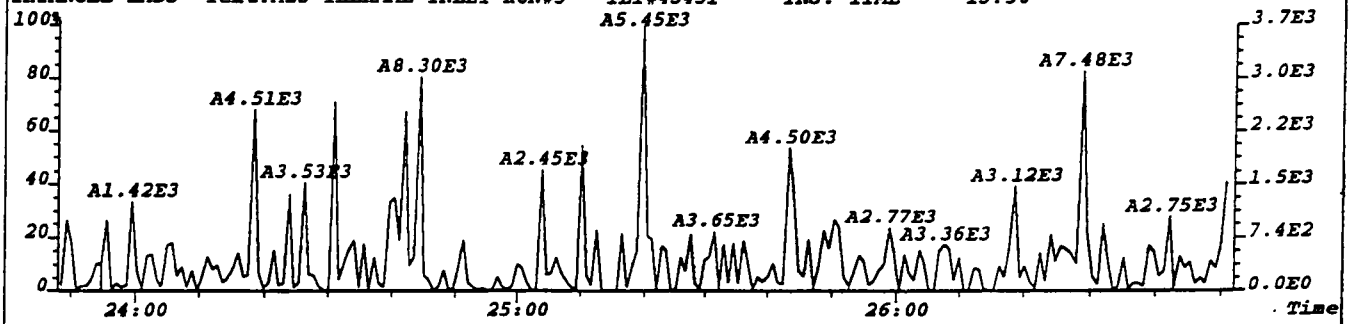
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



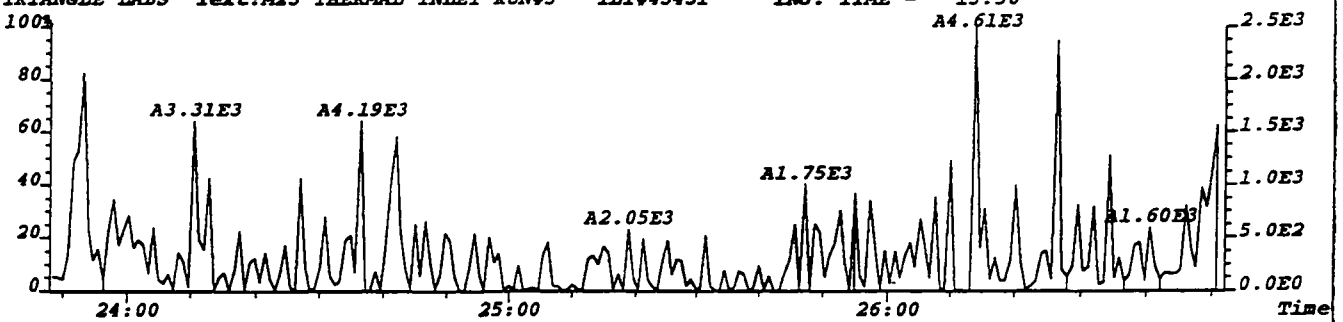
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



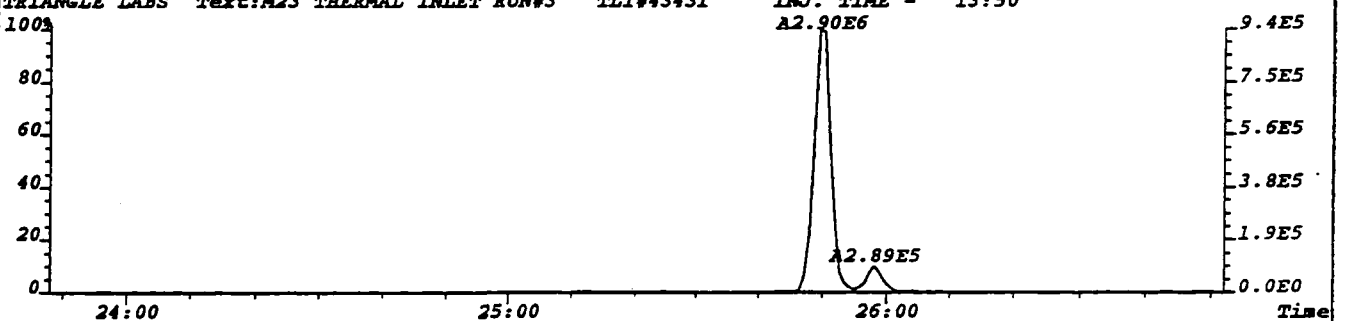
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:76
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,304.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



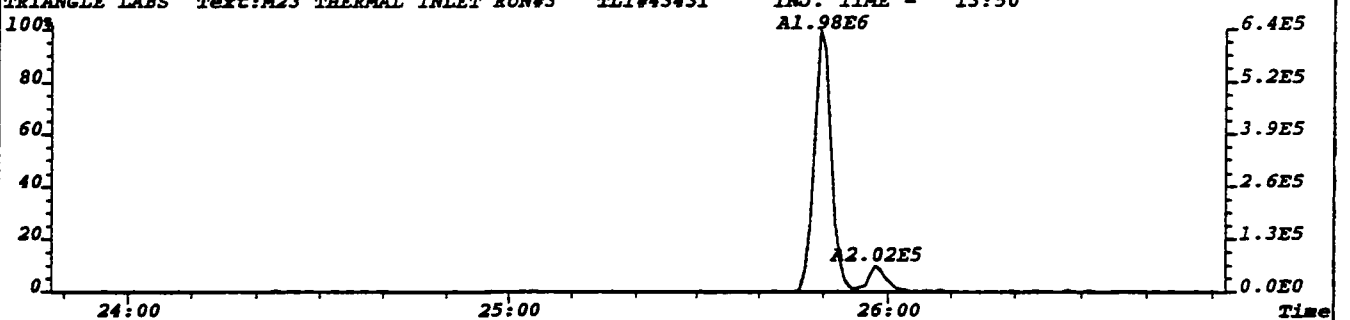
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:48
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



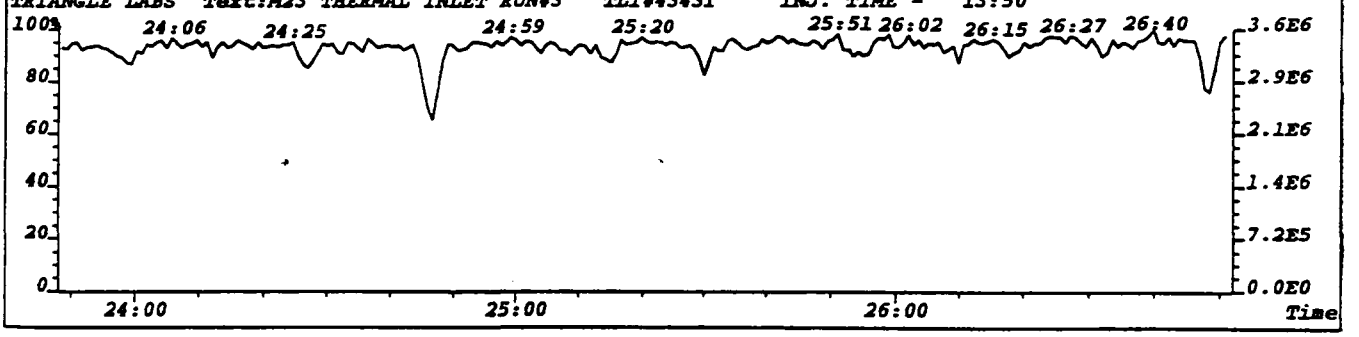
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:60
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



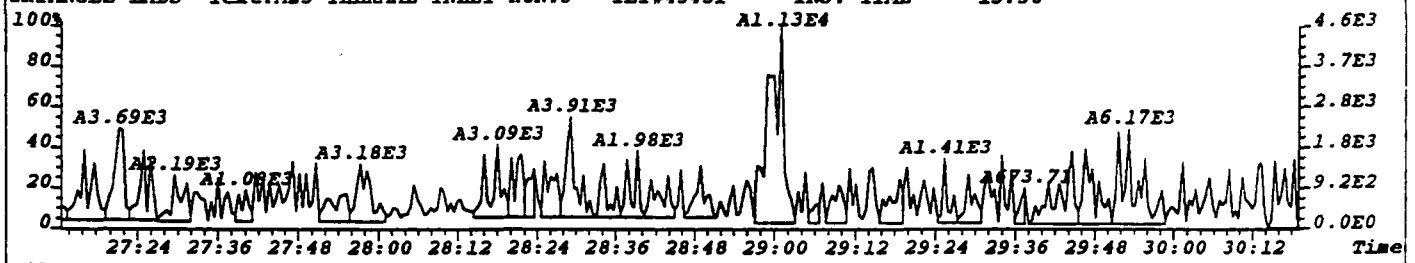
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:48
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



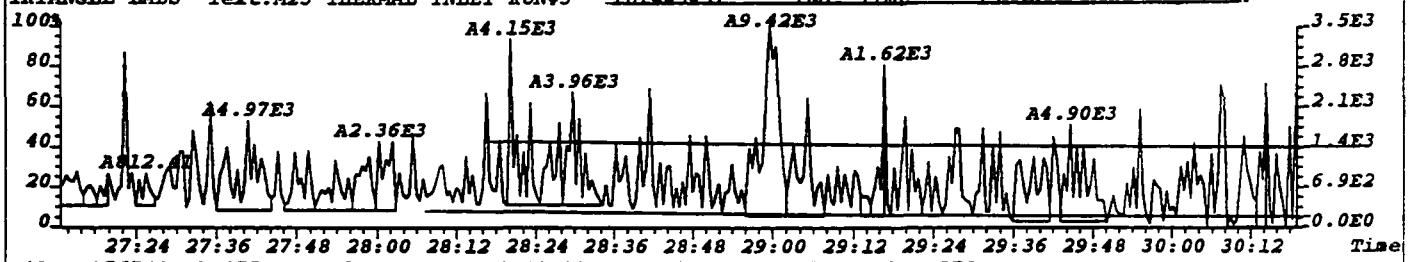
File:S976748 #1-829 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



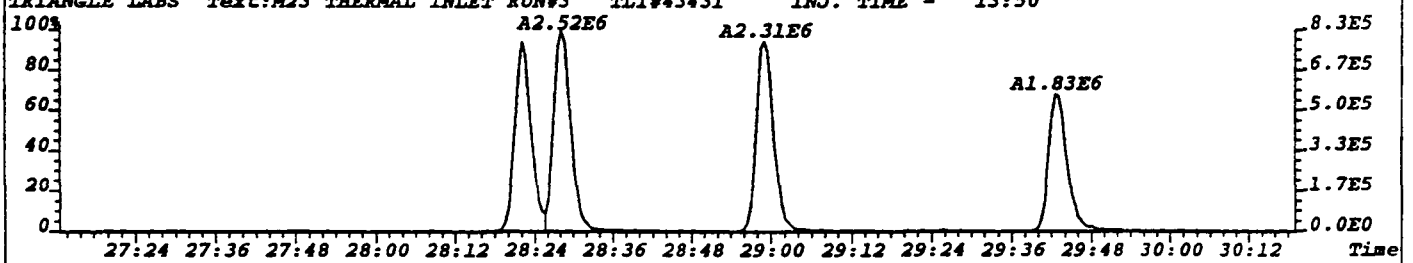
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:174
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,696.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



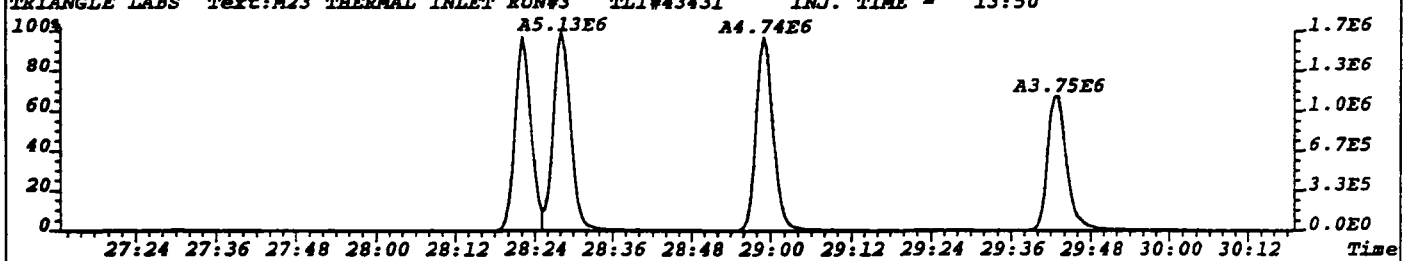
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:221
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,884.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



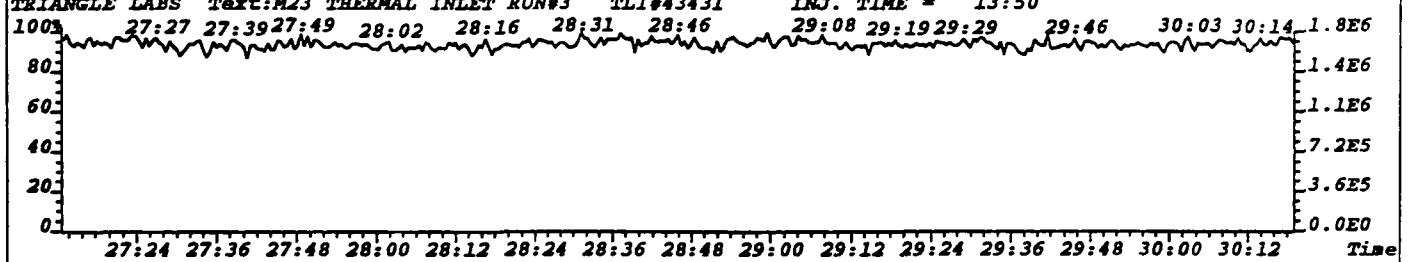
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:273
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1092.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



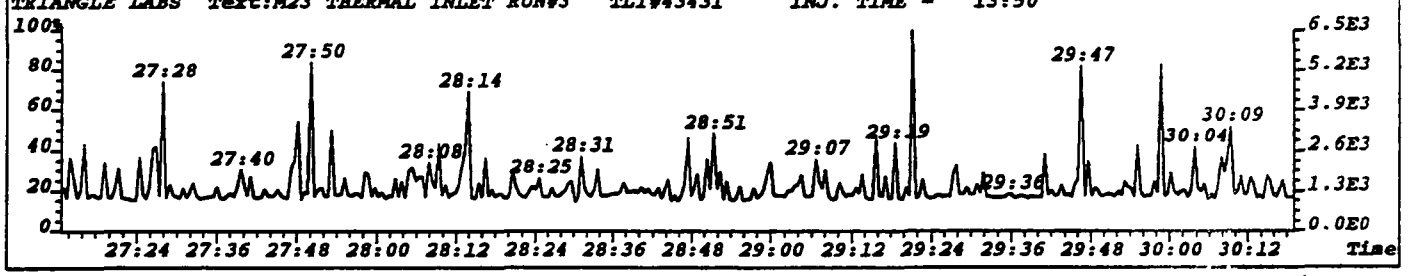
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:207
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,828.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



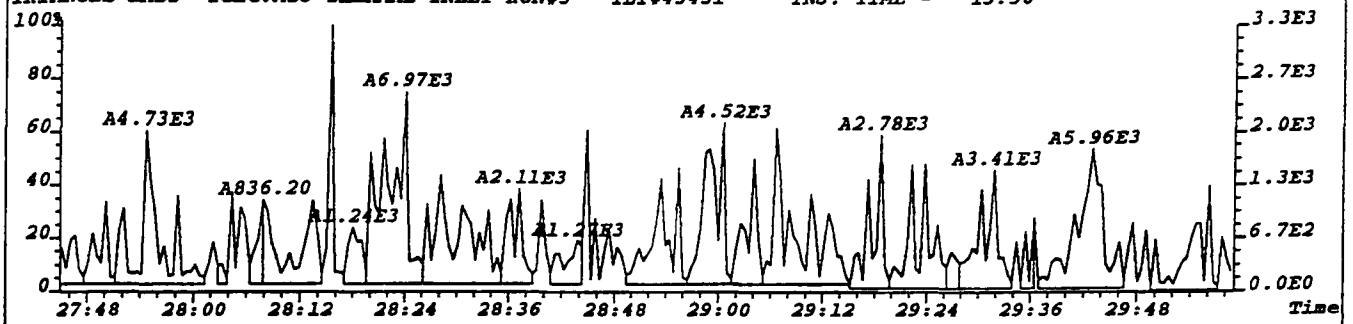
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



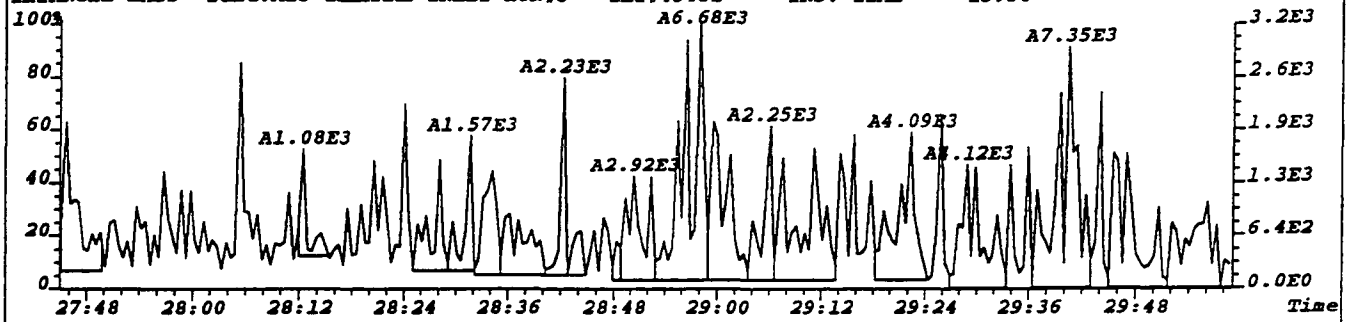
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



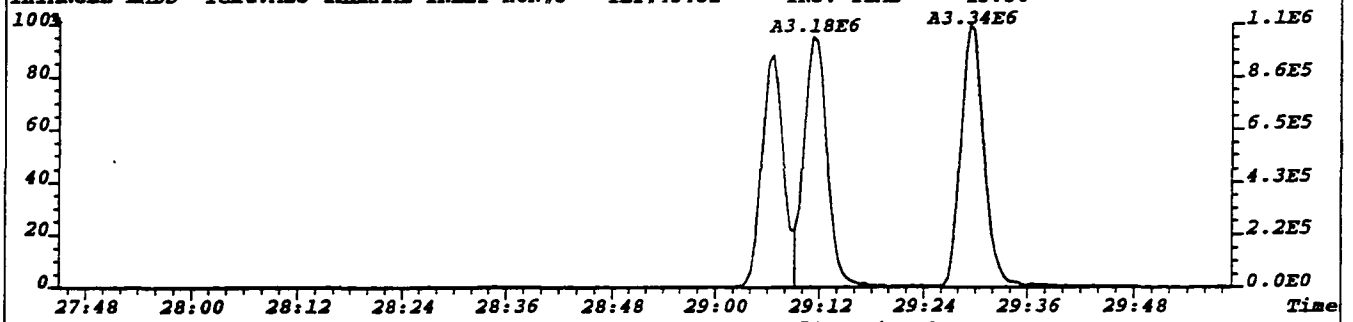
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:108
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,432.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



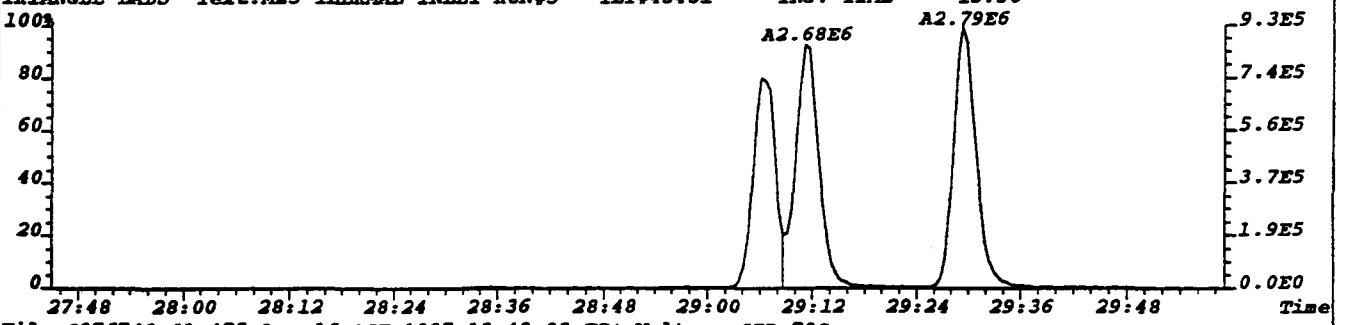
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:170
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,680.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



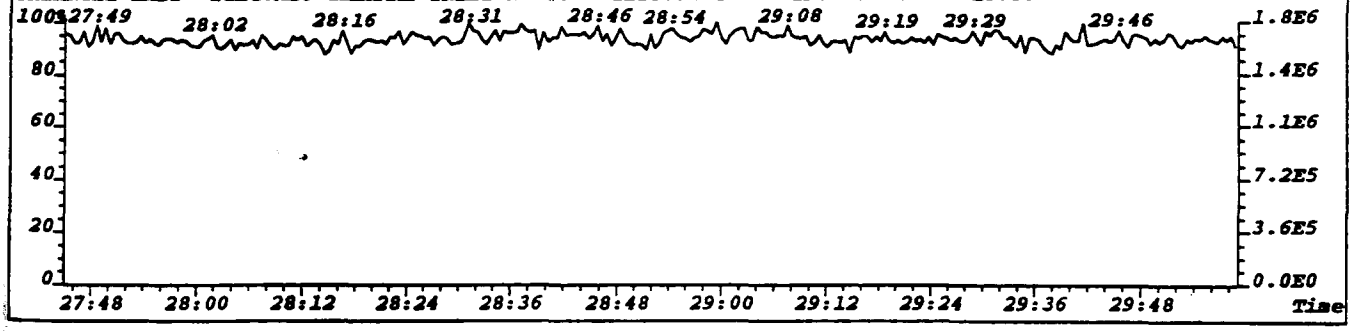
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:88
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



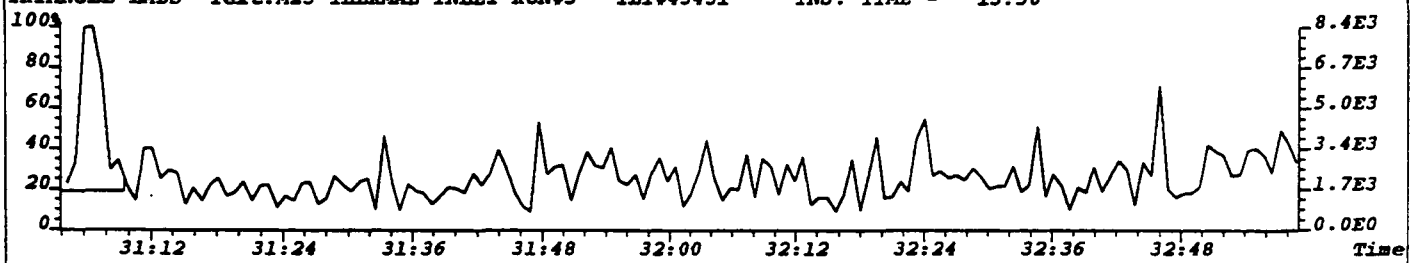
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:143
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,572.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



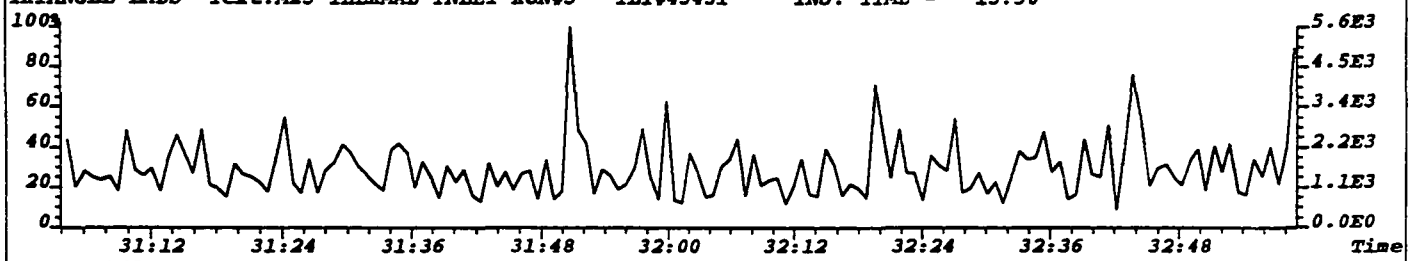
File:S976748 #1-475 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



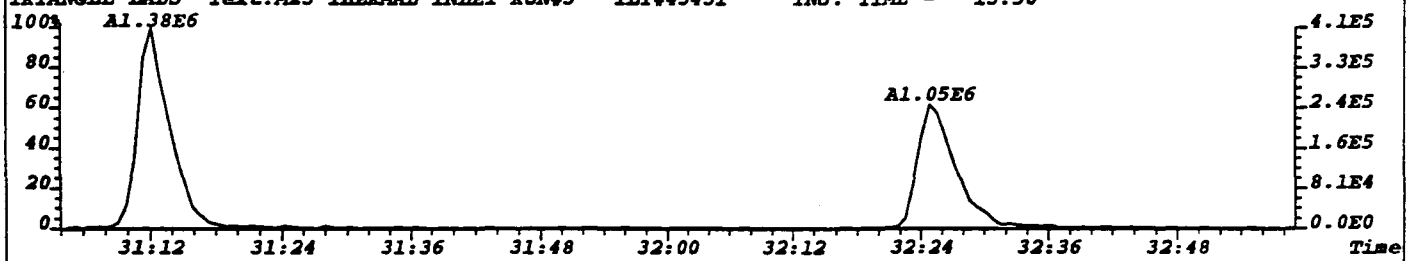
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:633
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2532.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



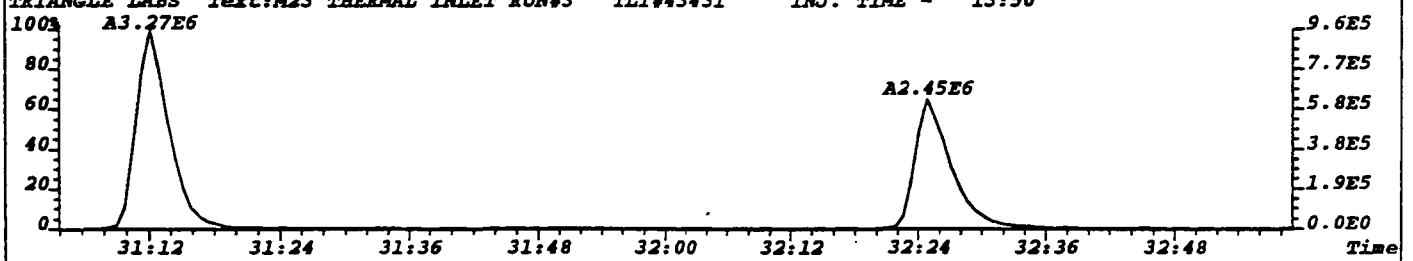
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:473
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1892.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



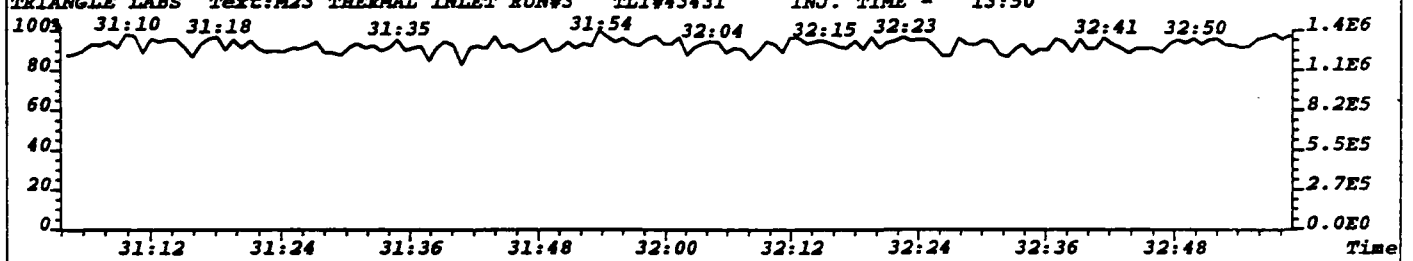
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:338
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



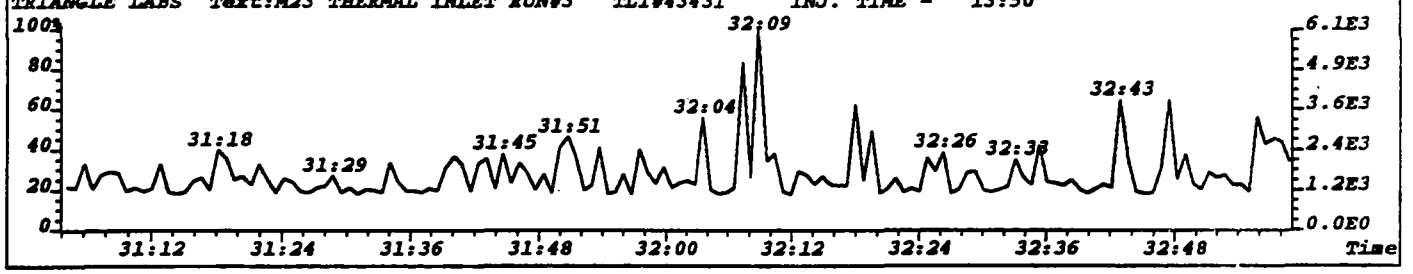
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:569
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



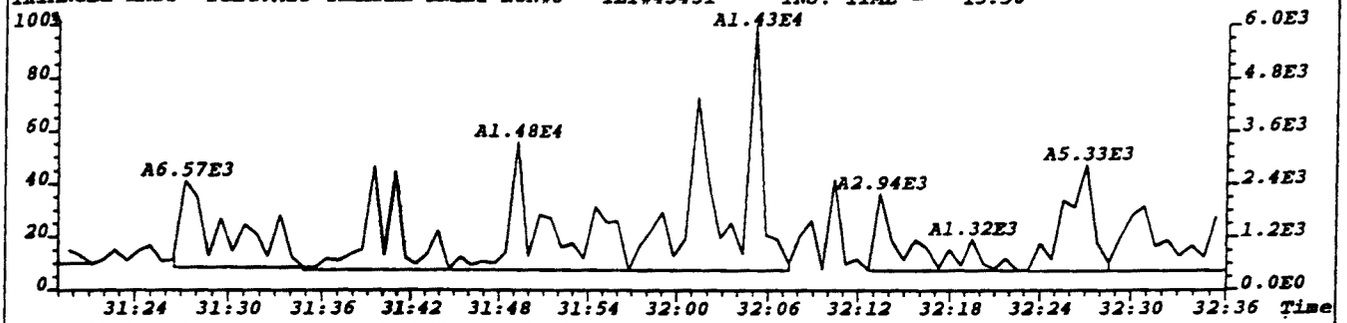
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



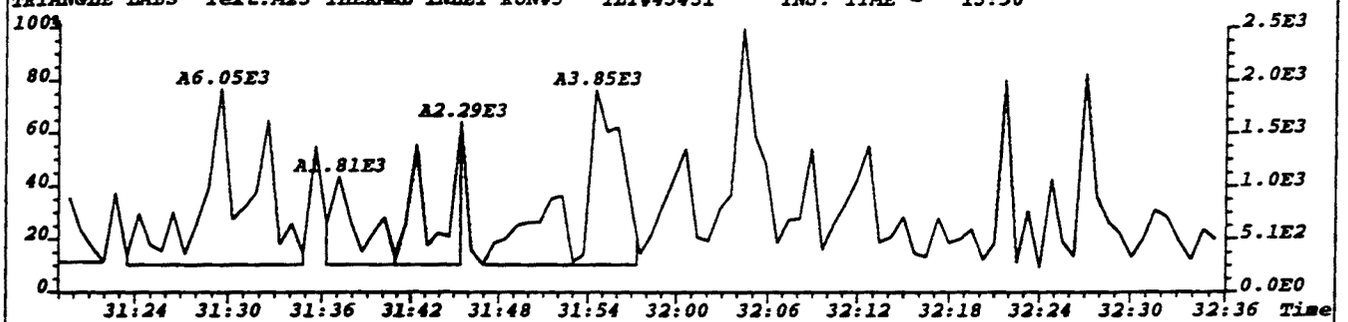
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



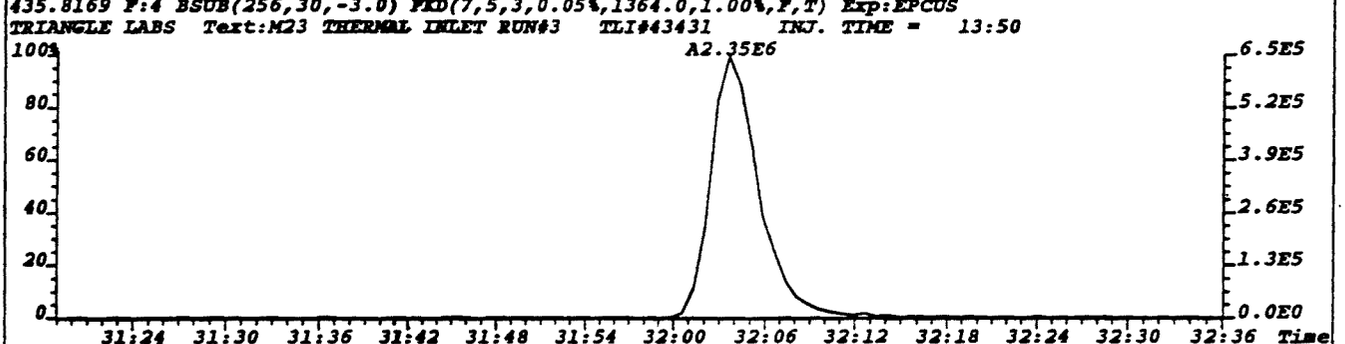
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:272
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1088.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



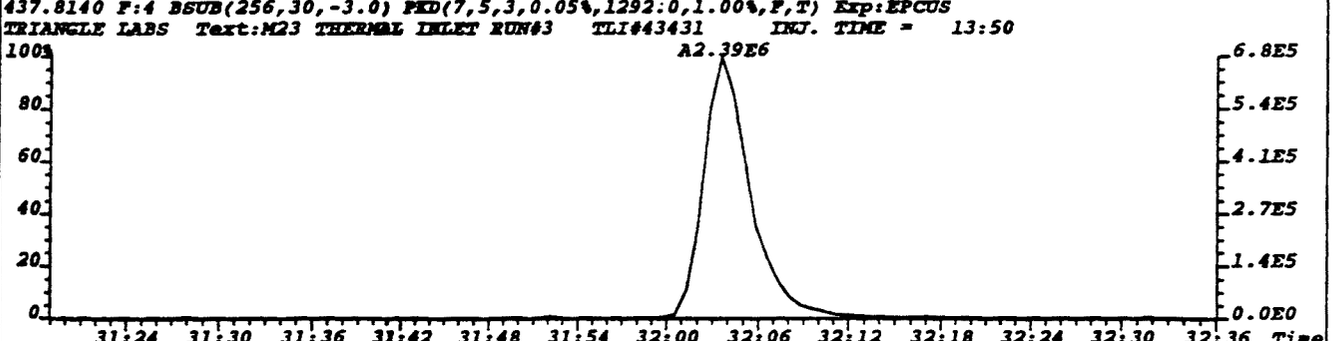
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:176
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,704.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



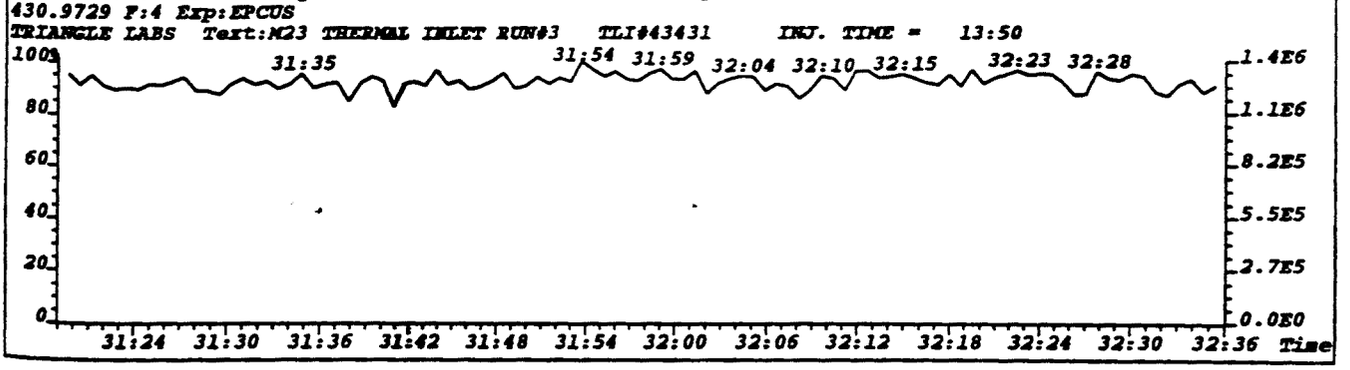
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:341
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



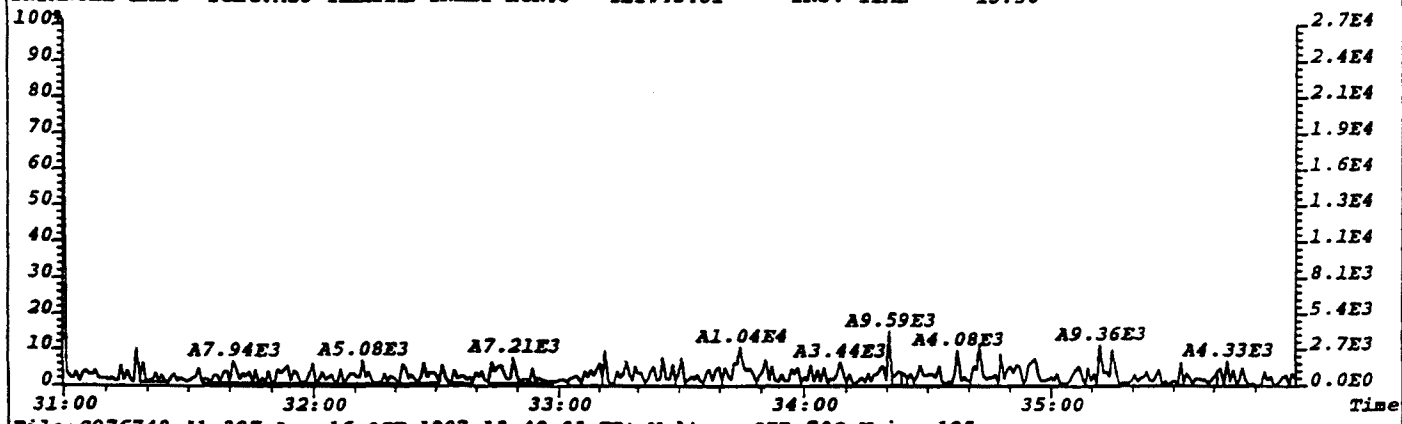
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:323
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1292.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



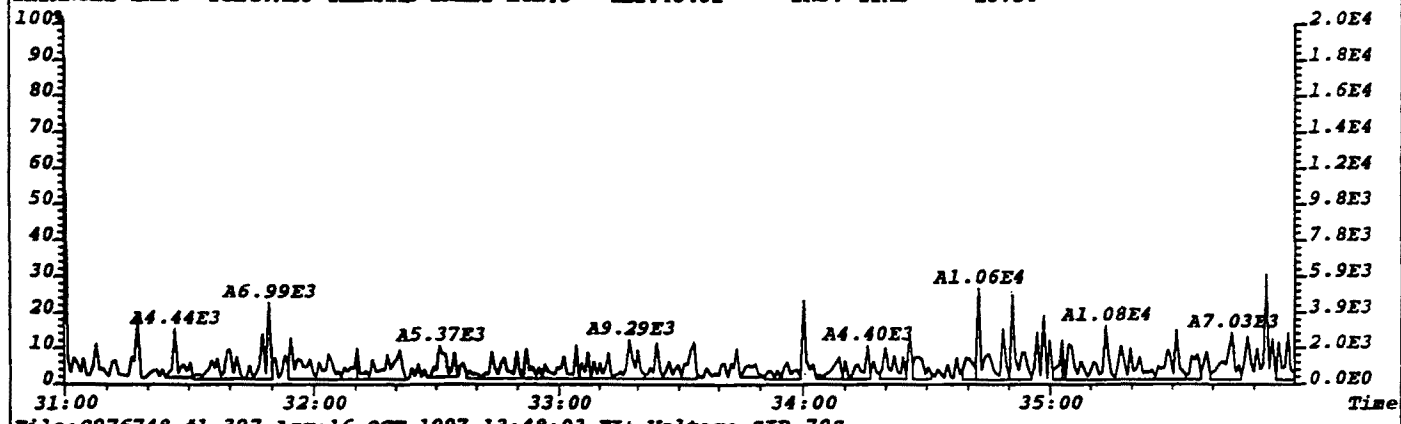
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



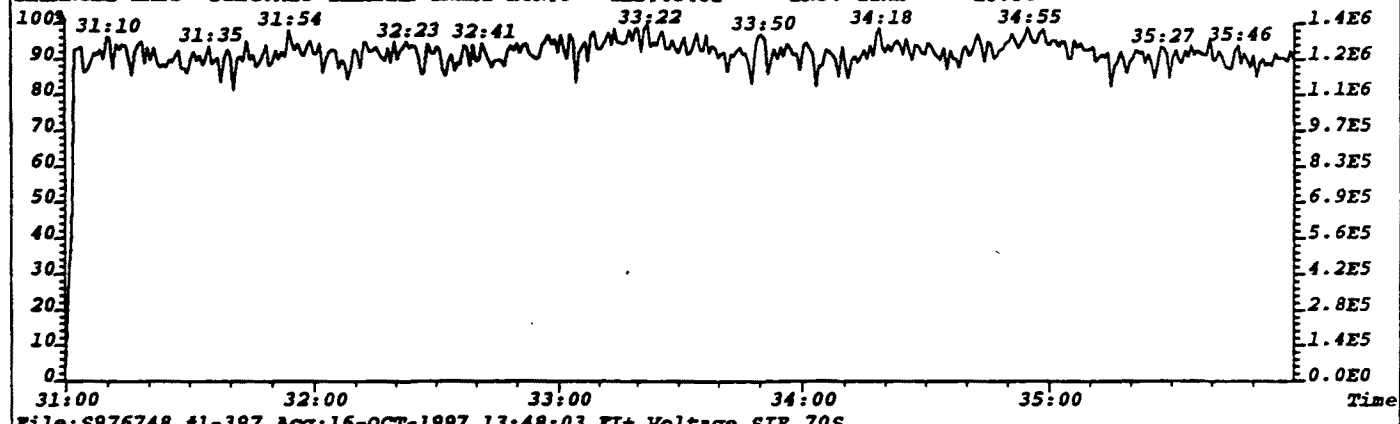
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:102
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,408.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



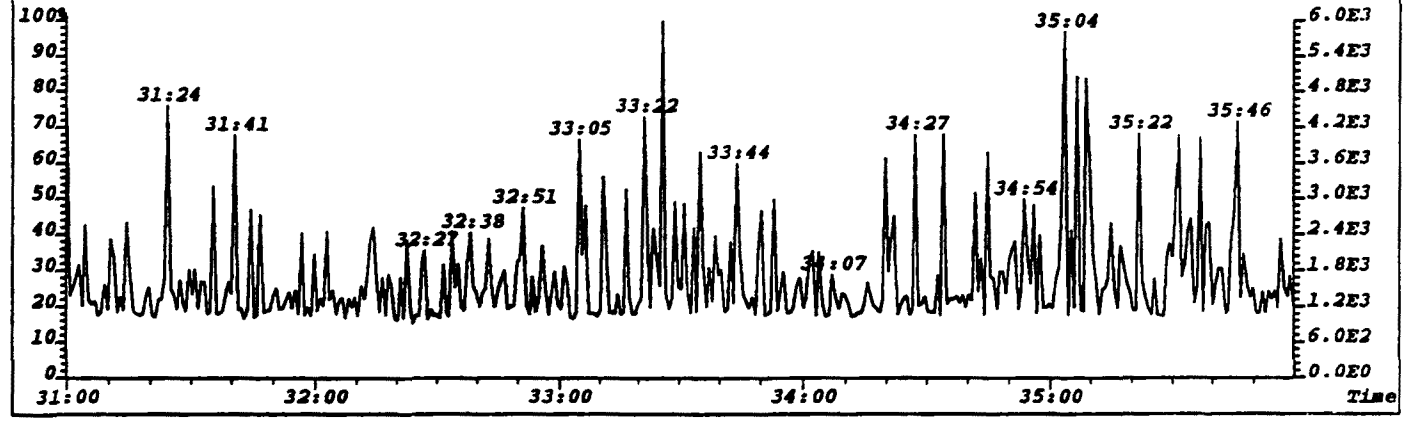
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:195
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,780.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



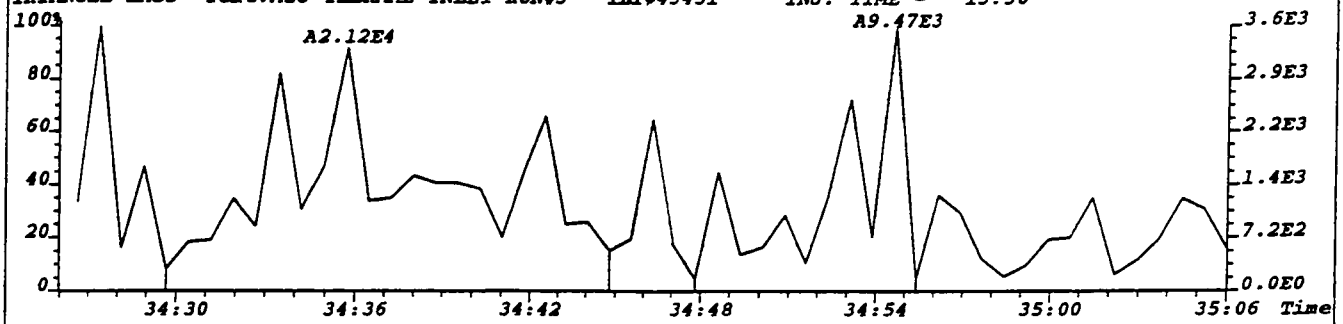
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



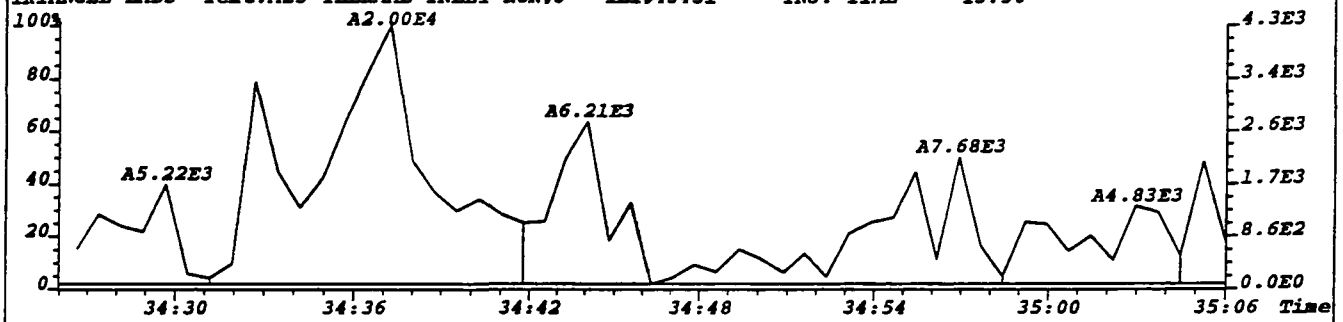
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



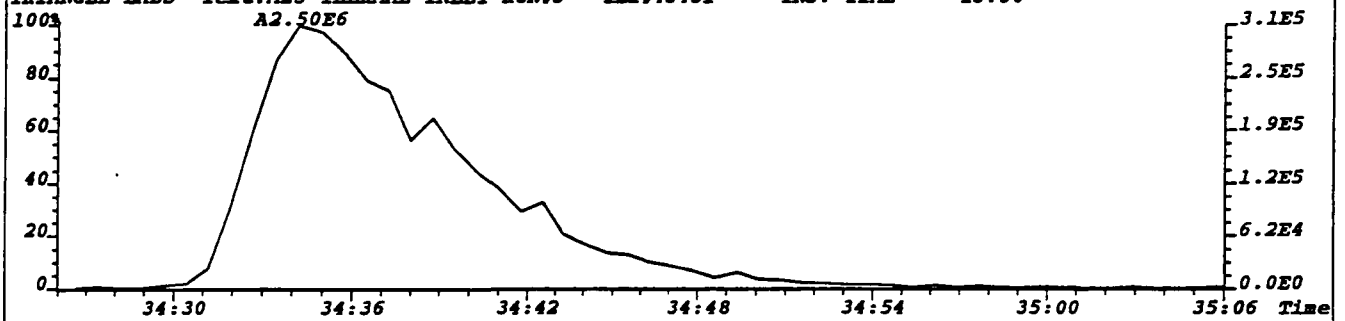
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:129
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,516.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



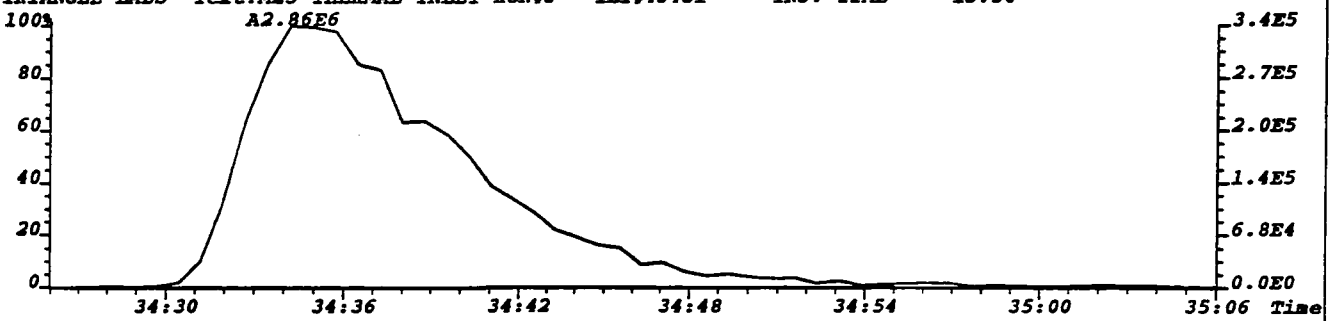
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:118
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,472.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



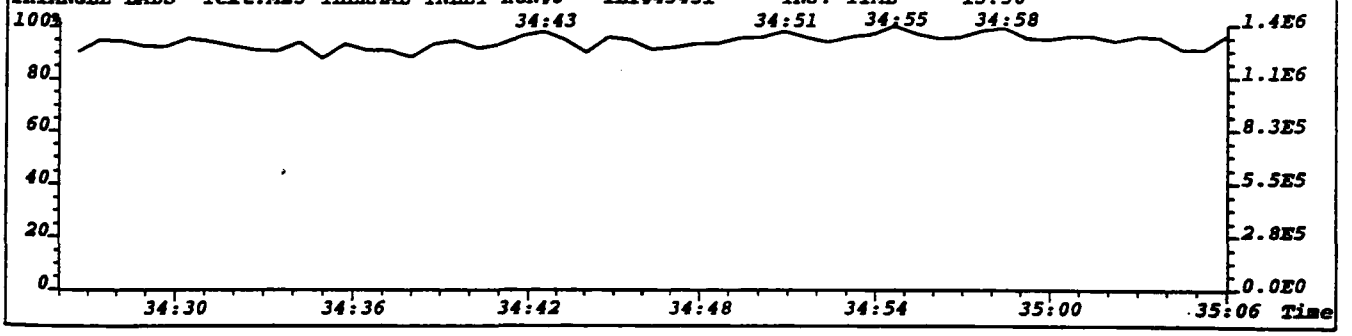
File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:108
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,432.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50

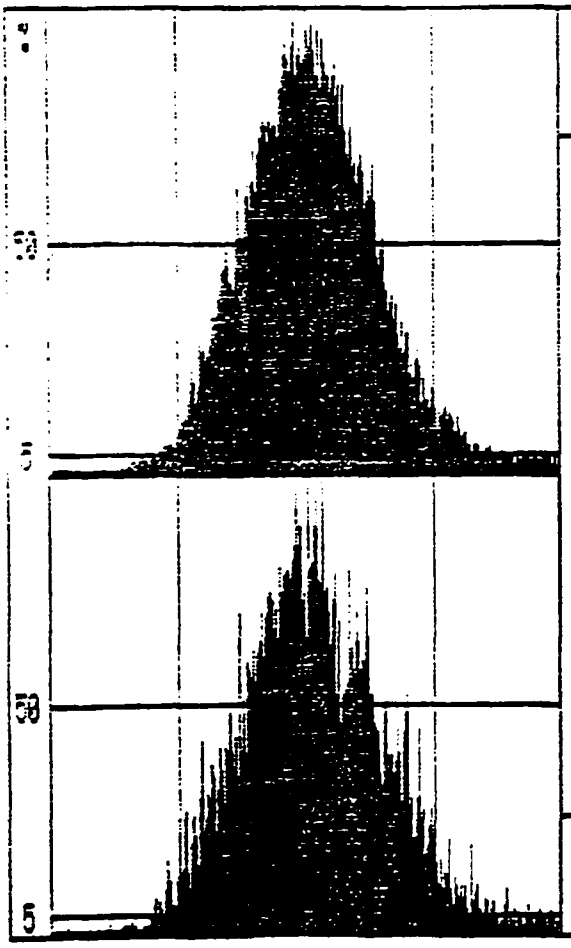


File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S Noise:163
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,652.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50



File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50





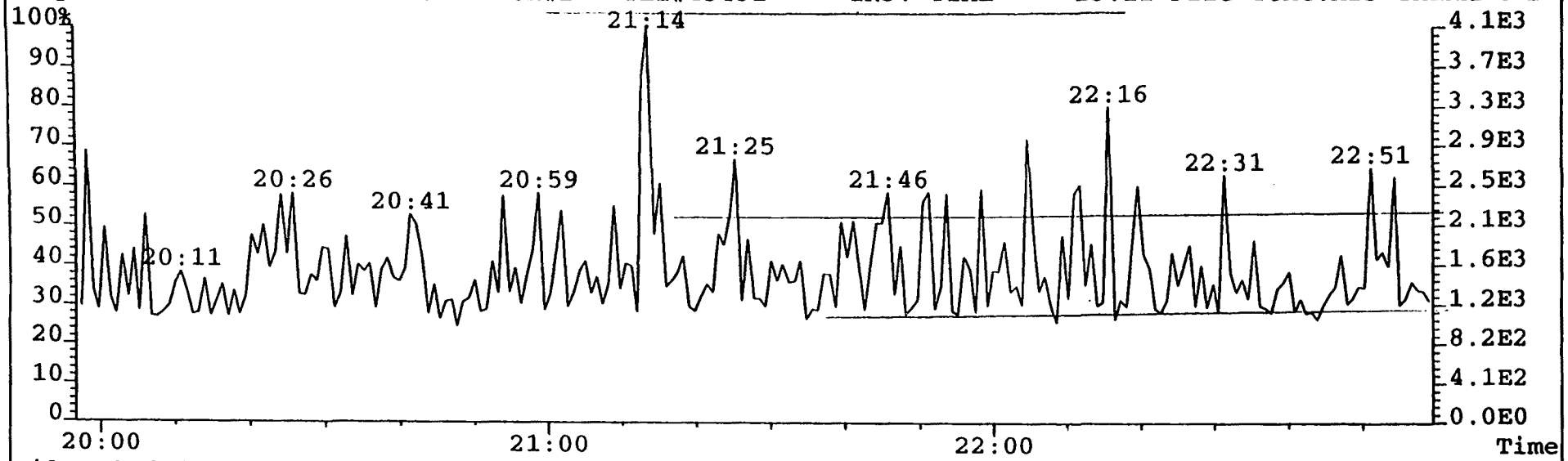
Channel I 330.3792 Peak top
Height 1.67 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S976741
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.3825, 416.9760

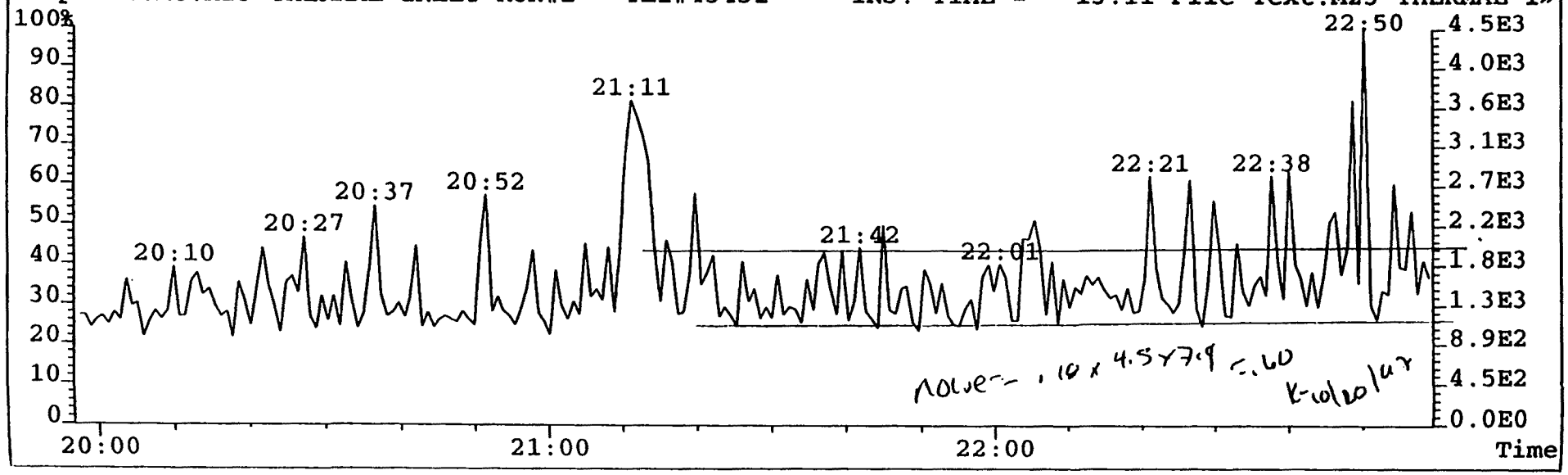
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Ref. mass 416.9760 Peak top
Height .34 volts Span 200 ppm

File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11 File Text:M23 THERMAL I»



File:S976747 #1-829 Acq:16-OCT-1997 13:08:39 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#2 TLI#43431 INJ. TIME = 13:11 File Text:M23 THERMAL I»



Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL INLET FB2 — Analysis File: S976749

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-4A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976737
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% 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	0.005				—
1,2,3,7,8-PeCDD	ND	0.007				—
1,2,3,4,7,8-HxCDD	ND	0.009				—
1,2,3,6,7,8-HxCDD	ND	0.007				—
1,2,3,7,8,9-HxCDD	ND	0.007				—
1,2,3,4,6,7,8-HpCDD	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	ND	0.01				—
2,3,7,8-TCDF	ND	0.003				—
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	ND	0.005				—
1,2,3,6,7,8-HxCDF	ND	0.004				—
2,3,4,6,7,8-HxCDF	ND	0.005				—
1,2,3,7,8,9-HxCDF	ND	0.006				—
1,2,3,4,6,7,8-HpCDF	ND	0.007				—
1,2,3,4,7,8,9-HpCDF	ND	0.009				—
1,2,3,4,6,7,8,9-OCDF	ND	0.01				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.005		—
Total PeCDD	ND		0.007		—
Total HxCDD	ND		0.008		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.003		—
Total PeCDF	ND		0.005		—
Total HxCDF	ND		0.005		—
Total HpCDF	ND		0.008		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:14 10/21/97

Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL INLET FB2 — Analysis File: S976749

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.3	81.7	40%-130%	0.77	20:22	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.0	75.3	40%-130%	0.83	21:10	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.1	76.4	40%-130%	1.46	24:41	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	3.1	78.4	40%-130%	1.48	25:49	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.9	97.7	40%-130%	0.48	28:28	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.6	89.2	40%-130%	1.22	29:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.0	75.4	25%-130%	0.42	31:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.6	90.1	25%-130%	1.03	32:04	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.3	90.7	25%-130%	0.87	34:34	—

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.9	97.4	70%-140%		21:11	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.6	89.3	70%-140%	1.49	25:27	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.2	80.2	70%-140%	0.51	28:22	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.2	80.7	70%-140%	1.22	29:06	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.8	94.7	70%-140%	0.44	32:25	—

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.3	82.9	40%-130%	0.49	29:43	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.7	92.9	40%-130%	0.49	28:59	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.85	20:56	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.22	29:29	—

Data Reviewer: K 10/21/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:14 10/21/97

Initial ....Date...

Data Review By: K 10/21/91 Calculated Noise Area: 0.38

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 S976749B.dbf
10/21/97 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						0.825-1.102			
304-306	DC	NL		0:00	RO	1.08	0.67			0.000			
	DC	SN		19:05	RO	2.19	0.28			0.937			
	DC	SN		22:16		0.72	1.03			1.093			
	DC	WH		22:44		0.79	0.75			1.116			
304-306			0	Peaks			0.00						
13C12-TCDF				0.65-0.89						0.951-1.049			
316-318	DC	NL		0:00	RO	1.22	1.03			0.000			
	DC	WL		19:11		0.83	17.34			0.942			
				19:31	RO	0.52	2.16	0.94	1.81	0.958			
				19:56	RO	0.55	6.46	2.81	5.08	0.979			
				20:22		0.77	924.18	401.00	523.18	1.000	13C12-2378-TCDF	ISO	
				20:51		0.72	8.77	3.66	5.11	1.024			
	DC	WH		22:16	RO	1.16	0.90			1.093			
316-318			4	Peaks			941.57						

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

TCDD				0.65-0.89						0.856-1.059			
320-322		DC	NL	0:00	RO	1.47	0.60			0.000			
	D	d	SN	19:12	RO	2.07	0.97			0.907			
		DC	SN	19:24	RO	1.12	0.44			0.917			
		DC	SN	19:38		0.89	1.02			0.928			
		DC	SN	19:48	RO	3.78	0.32			0.935			
		DC	SN	19:50		0.79	0.93			0.937			
		DC	SN	20:04	RO	3.00	0.42			0.948			
		DC	SN	20:15	RO	2.86	0.64			0.957			
	D	d	SN	20:21	RO	0.57	1.15			0.961			
		DC	SN	21:34	RO	0.06	0.07			1.019			
		DC	SN	21:46	RO	0.13	0.14			1.028			
		DC	SN	22:02	RO	1.13	0.67			1.041			
		DC	SN	22:06	RO	0.57	0.37			1.044			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328		DC	NL	0:00			0.20			0.000			
		DC	WL	18:26			0.51			0.871			
		DC	WL	18:56			0.23			0.894			
				19:37			4.43	4.43		0.927			
				19:54			0.60	0.60		0.940			
				20:54			0.53	0.53		0.987			
				21:11			565.36	565.36		1.001	37Cl-TCDD	SUR1	
				21:30			4.13	4.13		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.
				21:41			1.34	1.34		1.024			
				21:46			1.06	1.06		1.028			
				21:53			0.65	0.65		1.034			
				21:58			1.17	1.17		1.038			
				22:41			0.56	0.56		1.072			
	DC	SN		22:47			0.26			1.076			
328			10	Peaks			579.83						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	2.75	0.21			0.000			
	DC	WL		18:48	RO	0.53	0.67			0.888			
	DC	SN		20:39	RO	0.90	0.85			0.976			
				20:56		0.85	858.00	393.68	464.32	0.989	13C12-1234-TCDD	RS1	
				21:10		0.83	688.56	312.52	376.04	1.000	13C12-2378-TCDD	IS1	
				21:32		0.86	16.38	7.58	8.80	1.017			
				21:47	RO	0.55	2.23	0.97	1.76	1.029			
	DC	SN		22:17	RO	1.67	0.48			1.053			
332-334			4	Peaks			1,565.17						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF				1.32-1.78						0.907-1.080			
340-342	DC	NL		0:00	RO	1.09	0.20			0.000			
	DC	SN		22:33	RO	0.50	0.46			0.914			
	DC	SN		23:07	RO	0.11	0.10			0.937			
	DC	SN		23:33		1.75	0.44			0.954			
	DC	SN		23:40	RO	3.54	0.33			0.959			
	DC	SN		23:48		1.32	0.44			0.964			
	DC	SN		24:04	RO	0.57	0.21			0.975			
	DC	SN		24:21	RO	1.17	0.44			0.986			
	DC	SN		24:33	RO	1.07	0.25			0.995			
	DC	SN		25:22	RO	1.00	0.12			1.028			
	DC	SN		25:56	RO	1.06	0.30			1.051			
	DC	SN		26:08	RO	1.82	0.28			1.059			
	DC	SN		26:17		1.53	0.86			1.065			
	DC	SN		26:24		1.55	0.28			1.070			
	DC	WH		26:43		1.36	0.26			1.082			
	DC	WH		26:48	RO	0.96	0.41			1.086			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	0.91	0.16			0.000			
	DC	SN		22:27	RO	0.77	0.49			0.910			
				23:48	RO	1.86	19.07	13.88	7.48	0.964			
				24:19	RO	1.27	4.98	3.03	2.38	0.985			
				24:41		1.46	742.24	440.86	301.38	1.000	13C12-PeCDF 123	IS2	
				25:00	RO	0.97	6.73	4.09	4.21	1.013			
				25:27		1.49	642.91	384.39	258.52	1.031	13C12-PeCDF 234	SUR2	
	DC	SN		26:22		1.50	0.45			1.068			
				26:30	RO	1.22	1.76	1.07	0.88	1.074			
352-354			6	Peaks			1,417.69						

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: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.921-1.026			
356-358	DC	NL		0:00	RO	1.11	0.16			0.000			
	DC	SN		23:55	RO	0.50	0.58			0.926			
	DC	SN		24:21	RO	0.49	0.31			0.943			
	DC	SN		24:40	RO	0.66	0.38			0.955			
	DC	SN		25:13	RO	1.25	0.25			0.977			
	DC	SN		25:28	RO	6.11	0.23			0.986			
	DC	SN		26:11	RO	0.86	0.30			1.014			
	DC	SN		26:21	RO	3.92	0.31			1.021			
	DC	WH		26:41	RO	0.69	0.67			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	1.11	0.16			0.000			
	DC	SN		24:11	RO	2.53	0.38			0.937			
	DC	SN		24:43	RO	1.17	0.35			0.957			
	DC	SN		24:49	RO	3.81	0.54			0.961			
	DC	SN		25:02	RO	1.30	0.43			0.970			
	DC	SN		25:16	RO	0.51	0.54			0.979			
				25:49		1.48	427.05	254.78	172.27	1.000	13C12-PeCDD 123	IS3	
				25:57		1.48	48.85	29.14	19.71	1.005			
368-370			2	Peaks			475.90						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.956-1.053			
374-376	DC	NL		0:00	RO	0.80	0.36			0.000			
	DC	SN		27:27	RO	2.20	0.22			0.964			
	DC	SN		27:37	RO	9.67	0.07			0.970			
	DC	SN		27:47	RO	1.53	0.96			0.976			
	DC	SN		28:22		1.17	0.78			0.996	123478-HxCDF	AN	
	DC	SN		28:28	RO	0.86	0.34			1.000	123678-HxCDF	AN	
	DC	SN		28:34	RO	0.70	0.25			1.004			
	DC	SN		28:45	RO	3.57	0.16			1.010			
	DC	SN		28:48		1.27	0.50			1.012			
D	d	SN		29:00	RO	0.82	1.35			1.019	234678-HxCDF	AN	
	DC	SN		29:10	RO	1.56	0.36			1.025			
	DC	SN		29:12	RO	2.19	0.36			1.026			
	DC	SN		29:24	RO	0.27	0.18			1.033			
	DC	SN		29:28	RO	1.83	0.27			1.035			
	DC	SN		29:55	RO	0.60	0.27			1.051			
	DC	SN		29:58	RO	0.65	0.36			1.053			
	DC	WH		30:07	RO	0.72	0.38			1.058			
	DC	WH		30:19	RO	4.82	0.25			1.065			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00		0.58	0.49			0.000			
				27:23		0.54	3.18	1.11	2.07	0.962			
				27:30		0.49	8.58	2.83	5.75	0.966			

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		27:41		0.44	0.36			0.972			
				28:22		0.51	480.11	161.66	318.45	0.996	13C12-HxCDF 478	SUR3	
				28:28		0.48	624.30	202.17	422.13	1.000	13C12-HxCDF 678	IS4	
				28:41		0.44	6.26	1.91	4.35	1.008			
				28:47		0.44	3.20	0.98	2.22	1.011			
				28:59		0.49	549.51	181.77	367.74	1.018	13C12-HxCDF 234	ALT2	
				29:15	RO	1.06	2.39	1.68	1.58	1.028			
				29:21		0.46	1.78	0.56	1.22	1.031			
	DC	SN		29:28	RO	0.27	1.10			1.035			
	DC	SN		29:36	RO	1.15	0.41			1.040			
				29:43		0.49	426.68	140.13	286.55	1.044	13C12-HxCDF 789	ALT1	
	DC	SN		30:04	RO	0.32	0.59			1.056			
	DC	SN		30:05	RO	0.82	0.68			1.057			
				30:10	RO	0.74	1.34	0.66	0.89	1.060			
	DC	SN		30:18	RO	0.97	0.54			1.064			
384-386			11	Peaks			2,107.33						

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

HxCDD				1.05-1.43						0.950-1.015			
390-392	DC	NL		0:00	RO	0.58	0.20			0.000			
	DC	SN		27:48	RO	1.75	0.99			0.953			
	DC	SN		28:17	RO	0.71	0.18			0.969			
	DC	SN		28:22		1.31	0.81			0.972			
	DC	SN		28:28		1.15	0.56			0.975			
	DC	SN		28:39	RO	0.42	0.20			0.982			
	DC	SN		28:42	RO	0.12	0.07			0.983			
	DC	SN		28:59	RO	3.45	0.45			0.993			
	DC	SN		29:21	RO	0.13	0.13			1.006			
	DC	SN		29:31	RO	0.52	0.23			1.011	123789-HxCDD		AN
	DC	WH		29:43	RO	1.46	0.78			1.018			
	DC	WH		29:54	RO	0.46	0.23			1.025			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC	NL		0:00	RO	0.90	0.34			0.000			
				28:34	RO	0.73	2.02	1.12	1.53	0.979			
	DC	SN		28:39	RO	3.13	0.36			0.982			
				29:06		1.22	369.96	203.06	166.90	0.997	13C12-HxCDD 478	SUR4	
				29:11		1.22	471.07	258.82	212.25	1.000	13C12-HxCDD 678	IS5	
				29:29		1.22	530.79	291.99	238.80	1.010	13C12-HxCDD 789	RS2	
				29:45	RO	2.72	1.50	1.82	0.67	1.019			
				29:53		1.20	2.49	1.36	1.13	1.024			
				29:59	RO	0.76	0.92	0.51	0.67	1.027			
402-404			7	Peaks			1,378.75						

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

HpCDF				0.88-1.20						0.996-1.046			
408-410	DC	NL		0:00		0.94	0.62			0.000			
	DC	SN		31:20	RO	2.38	0.16			1.005			
	DC	SN		31:40	RO	0.84	0.53			1.015			

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	31:47	RO	2.06	0.37			1.019			
		DC	SN	32:01		1.00	0.82			1.027			
		DC	SN	32:08	RO	9.58	0.24			1.030			
	D	d	SN	32:16		0.90	1.16			1.035			
		DC	SN	32:25	RO	3.13	0.16			1.040	1234789-HpCDF	AN	
		DC	WH	32:44	RO	0.60	0.75			1.050			
		DC	WH	32:48	RO	0.30	0.37			1.052			
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420		DC	NL	0:00	RO	0.98	0.72			0.000			
				31:11		0.42	355.22	105.09	250.13	1.000	13C12-HpCDF 678	IS6	
				31:50	RO	1.22	0.72	0.61	0.50	1.021			
				31:54	RO	1.31	1.01	0.92	0.70	1.023			
		DC	SN	32:04		0.46	1.50			1.028			
		DC	SN	32:09	RO	1.20	0.65			1.031			
				32:25		0.44	259.48	79.74	179.74	1.040	13C12-HpCDF 789	SUR5	
		DC	SN	32:57	RO	1.41	0.42			1.057			
418-420			4	Peaks			616.43						

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

HpCDD				0.88-1.20						0.977-1.006			
424-426		DC	NL	0:00	RO	0.67	0.27			0.000			
		DC	SN	32:10	RO	3.78	0.37			1.003			
		DC	WH	32:26	RO	3.09	0.67			1.011			
		DC	WH	32:33		0.89	0.85			1.015			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438		DC	NL	0:00		0.97	1.18			0.000			
				31:27	RO	0.71	2.51	1.28	1.80	0.981			
		DC	SN	31:42	RO	2.08	0.51			0.989			
		DC	SN	31:51	RO	1.50	0.45			0.993			
		DC	SN	31:54	RO	0.83	0.37			0.995			
				32:04		1.03	389.67	197.32	192.35	1.000	13C12-HpCDD 678	IS7	
				32:19	RO	0.58	1.98	1.01	1.74	1.008			
436-438			3	Peaks			394.16						

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

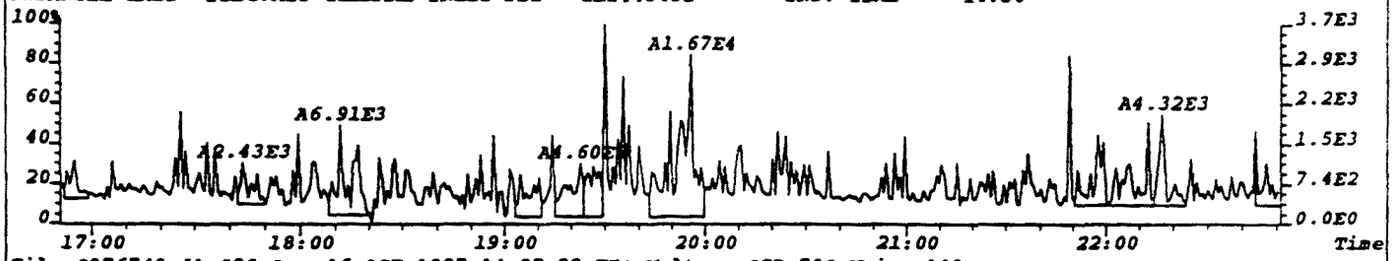
OCDF				0.76-1.02						0.884-1.116			
442-444		DC	NL	0:00	RO	0.71	0.42			0.000			
		DC	SN	31:43	RO	1.85	0.77			0.918			
				31:56		0.80	1.10	0.49	0.61	0.924			
		DC	SN	32:22	RO	0.18	0.15			0.936			
		DC	SN	32:29	RO	0.69	0.23			0.940			
		DC	SN	32:36	RO	1.16	0.83			0.943			
		DC	SN	32:43	RO	11.00	0.11			0.946			
		DC	SN	33:01	RO	2.17	0.23			0.955			
		DC	SN	33:15	RO	0.34	0.30			0.962			
		DC	SN	33:22	RO	2.75	0.08			0.965			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		33:41	RO	0.44	0.59			0.974			
	DC	SN		33:56	RO	0.66	0.53			0.982			
	DC	SN		34:15	RO	0.06	0.04			0.991			
	DC	SN		34:24		0.90	0.78			0.995			
				34:49	RO	0.49	1.21	0.57	1.17	1.007			
442-444			2	Peaks			2.31						
OCDD				0.76-1.02					0.884-1.116				
458-460	DC	NL		0:00	RO	1.11	0.17			0.000			
	DC	SN		34:29	RO	1.78	0.43			0.998			
D	d	SN		34:38	RO	0.47	1.81			1.002	OCDD		AN
458-460			0	Peaks			0.00						
13C12-OCDD				0.76-1.02					0.997-1.006				
470-472	DC	NL		0:00	RO	1.09	0.21			0.000			
				34:34		0.87	499.87	232.32	267.55	1.000	13C12-OCDD		IS8
	DC	WH		35:04		0.98	2.61			1.014			
470-472			1	Peak			499.87						

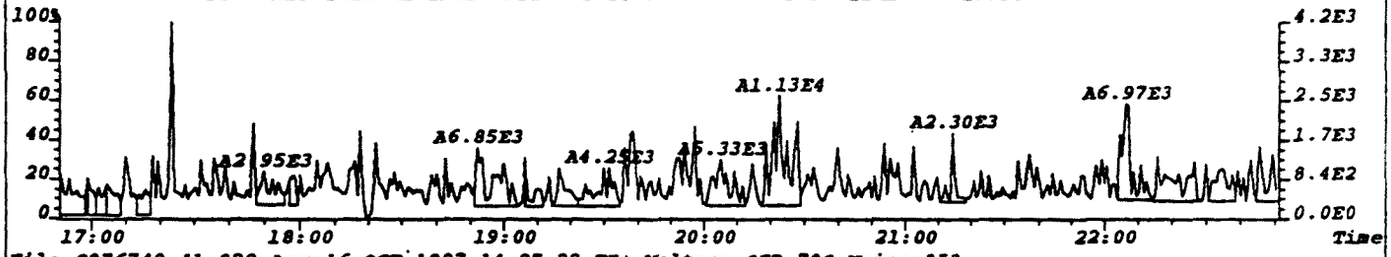
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

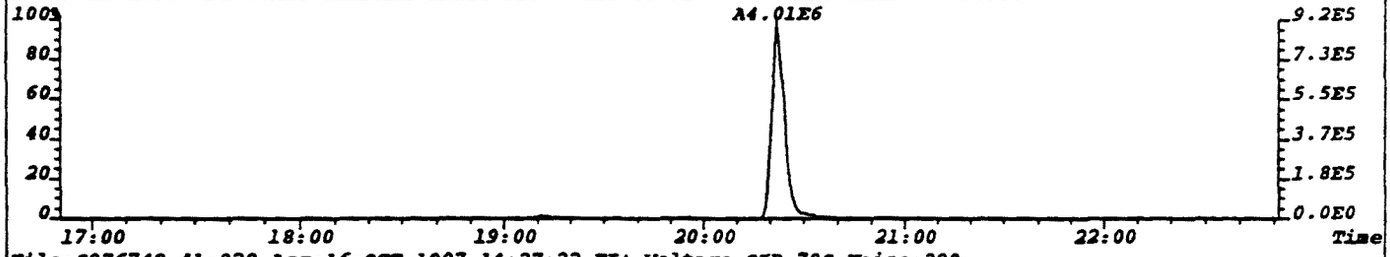
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:203
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,812.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



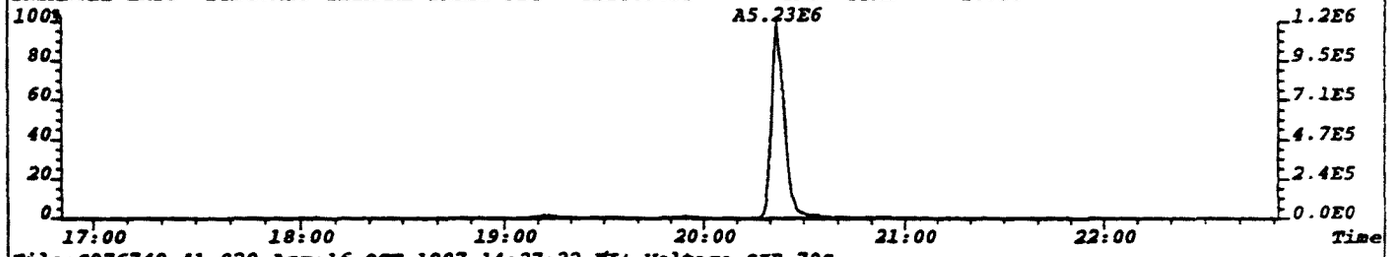
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:189
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,756.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



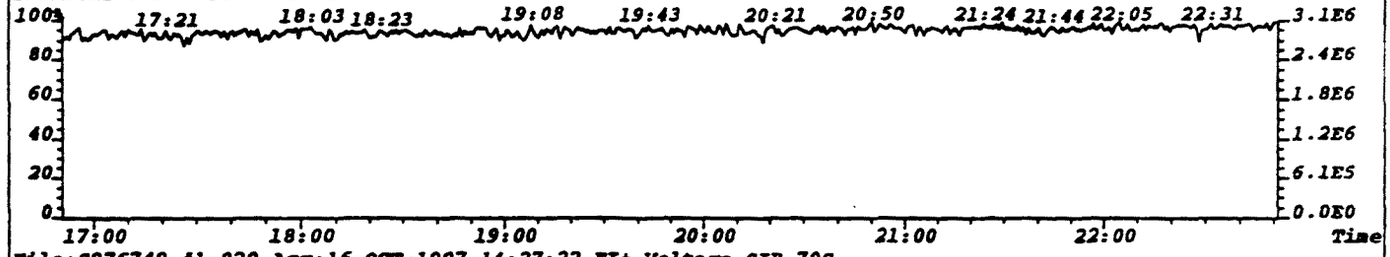
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:353
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1412.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



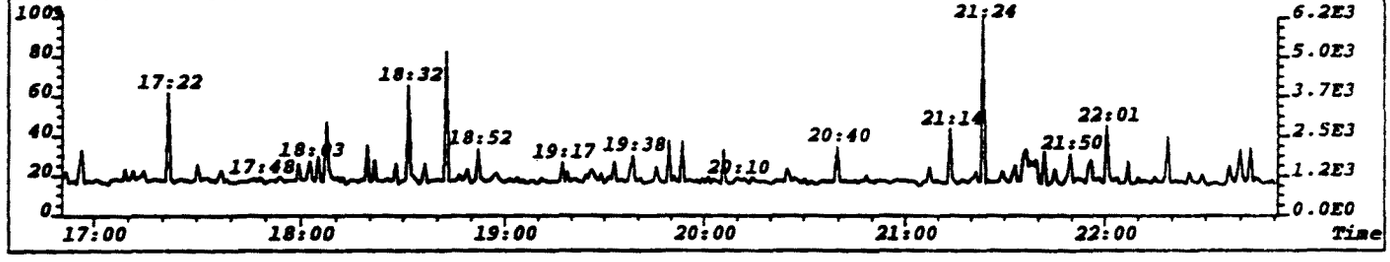
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:290
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



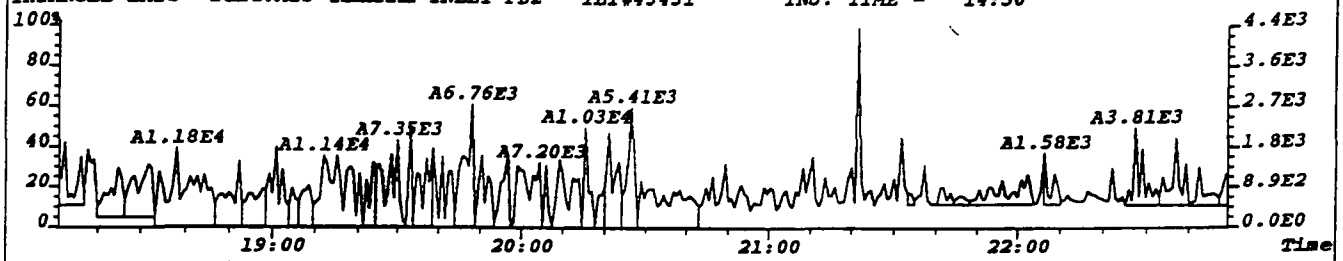
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



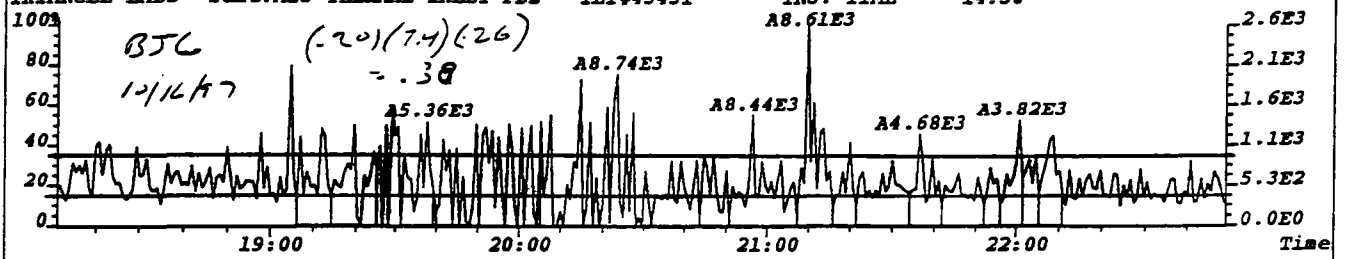
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



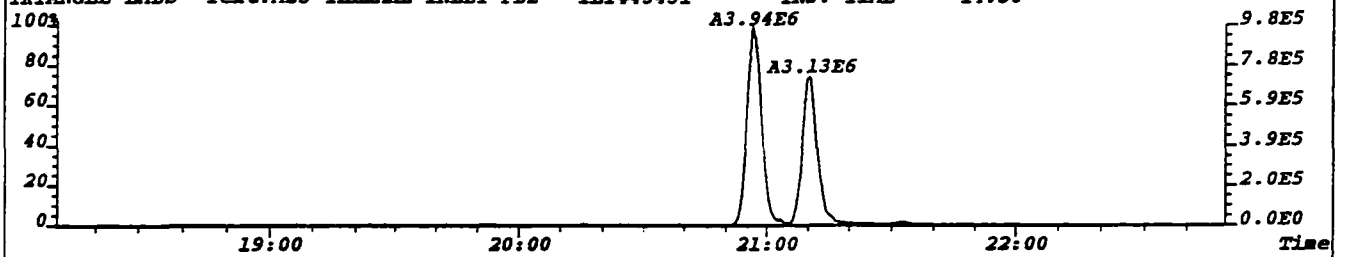
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:248
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,992.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



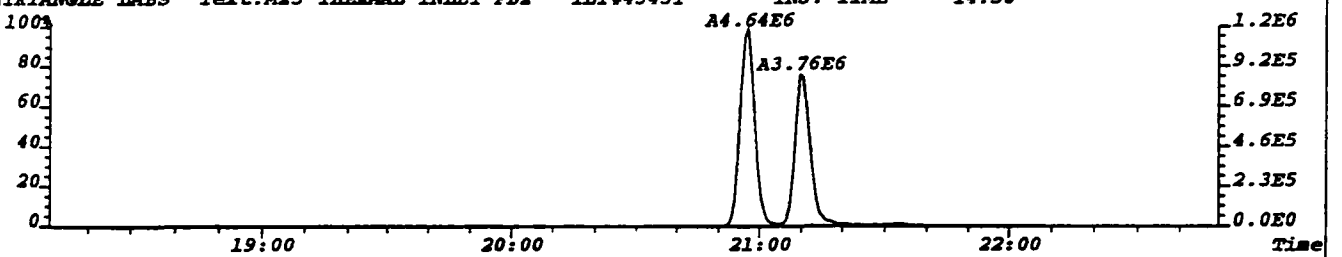
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:170
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,680.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



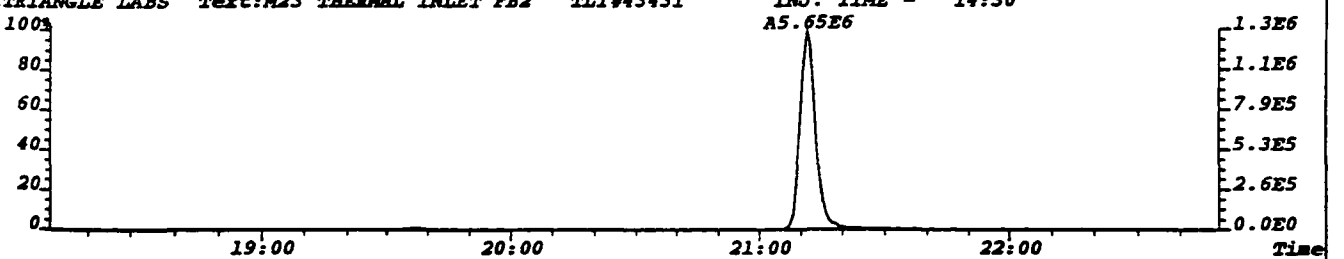
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:164
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,656.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



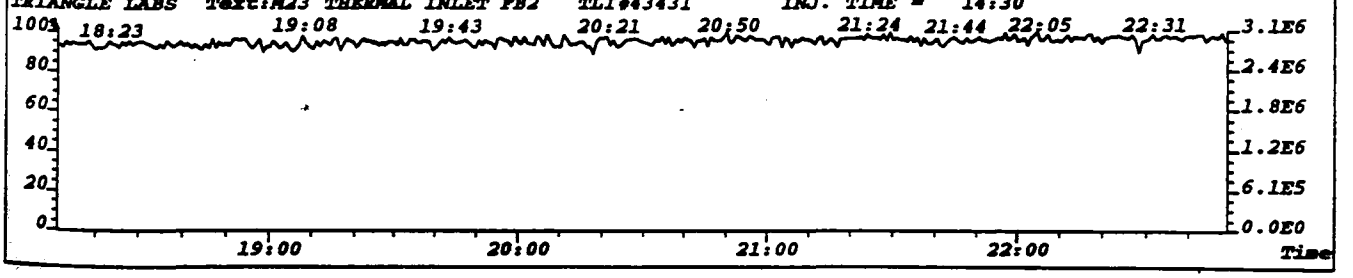
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:58
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



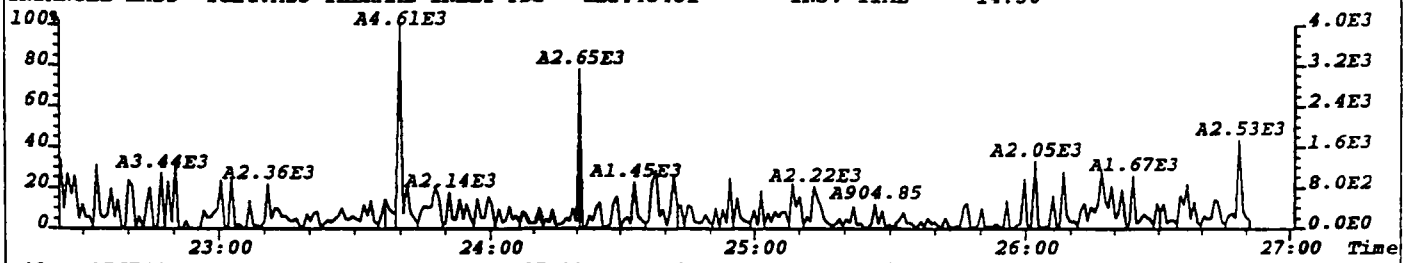
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:98
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,392.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



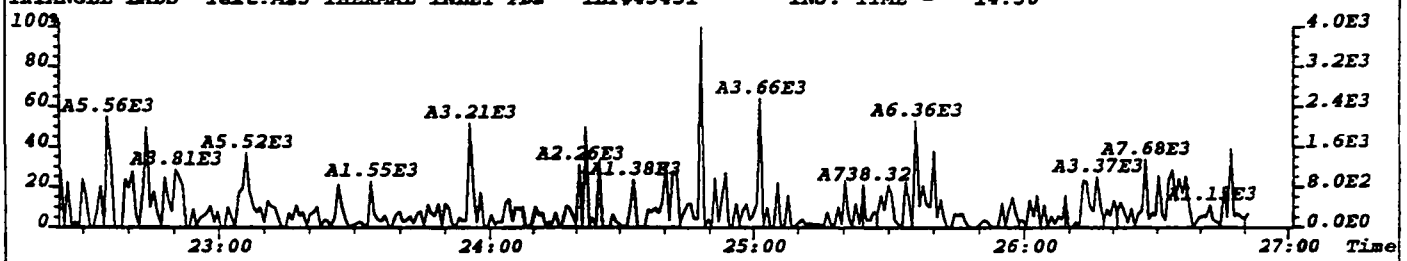
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



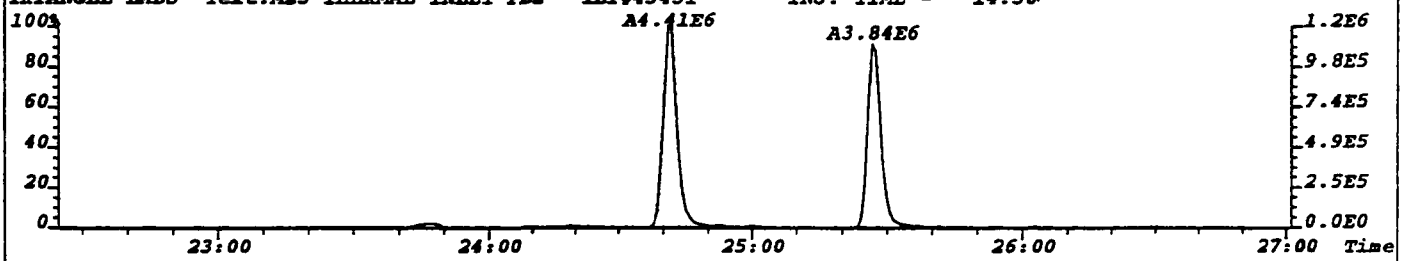
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:62
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



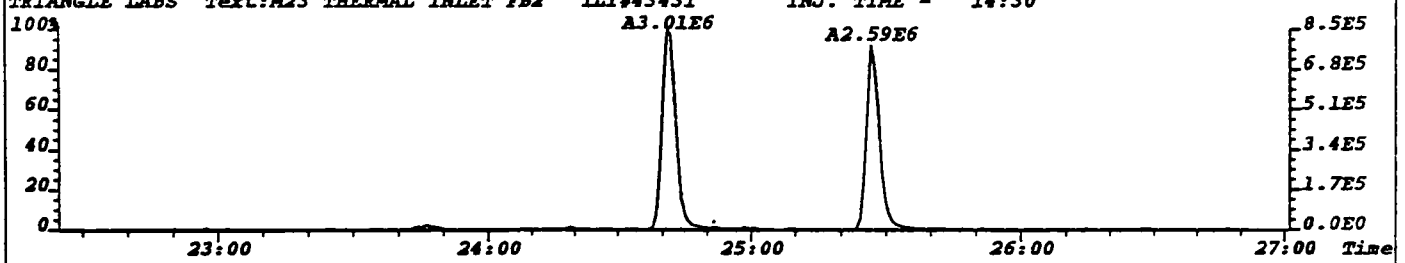
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:57
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



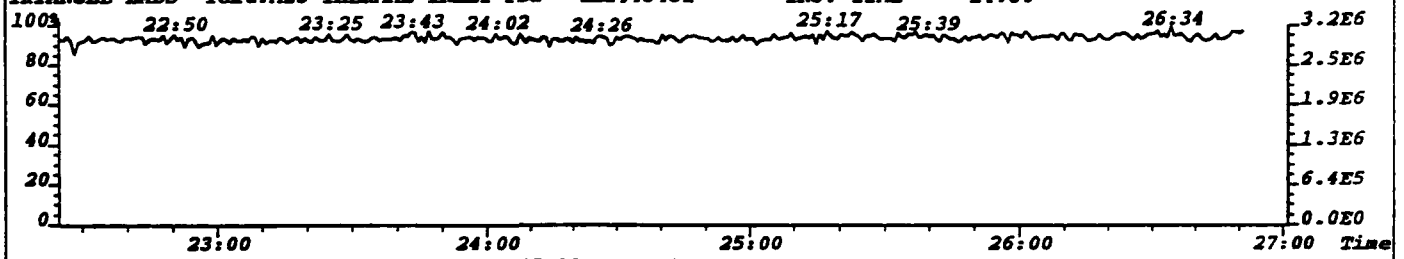
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:48
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



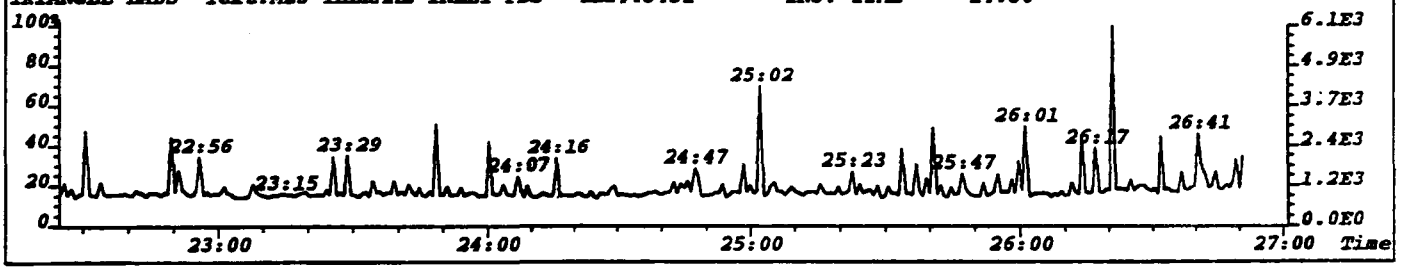
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:55
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



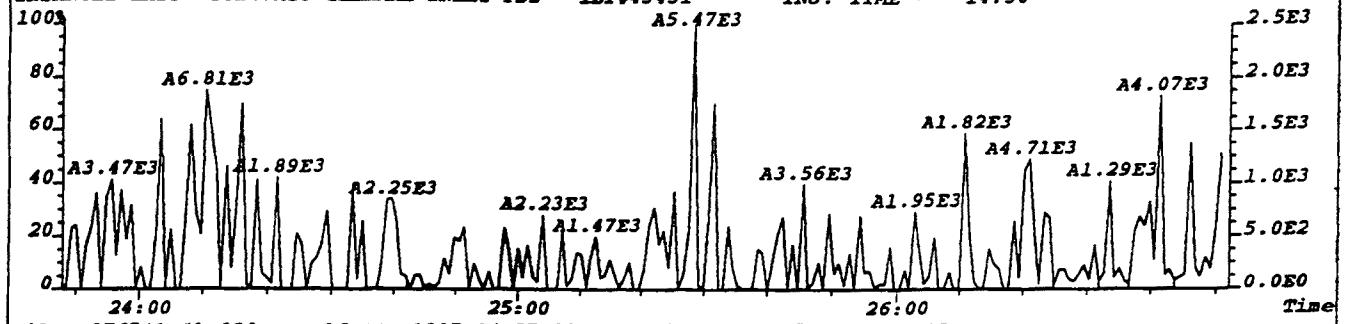
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



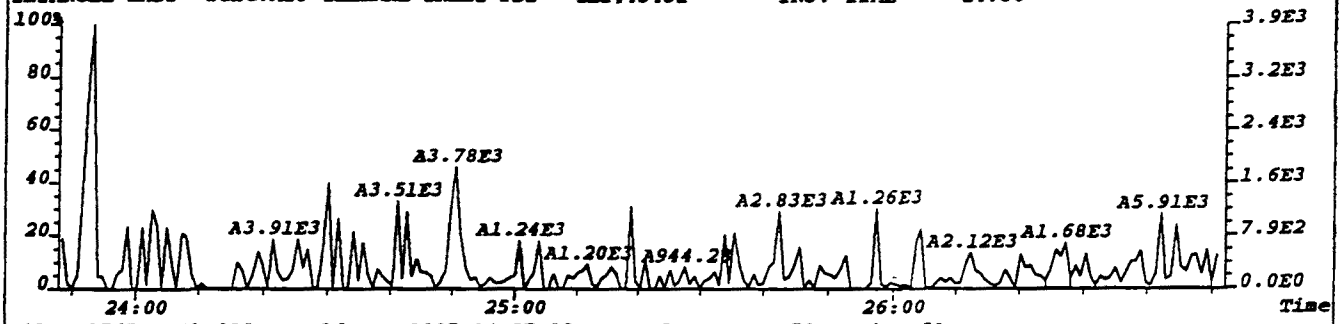
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



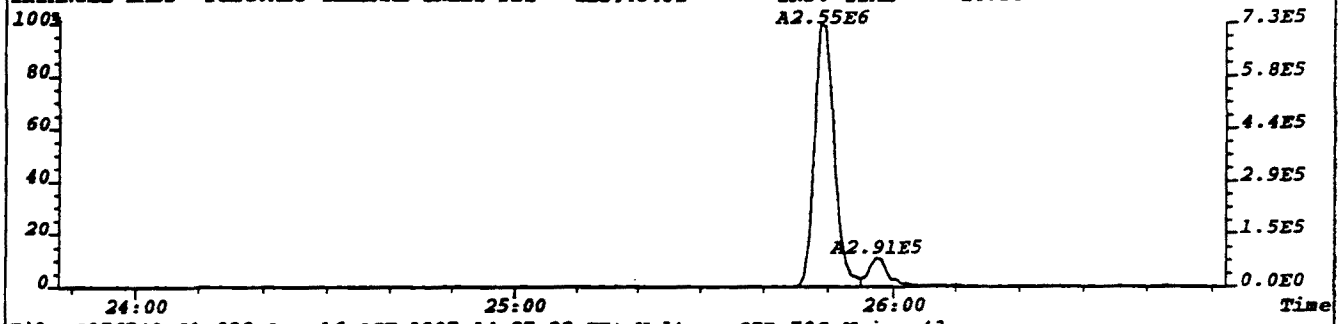
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:48
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



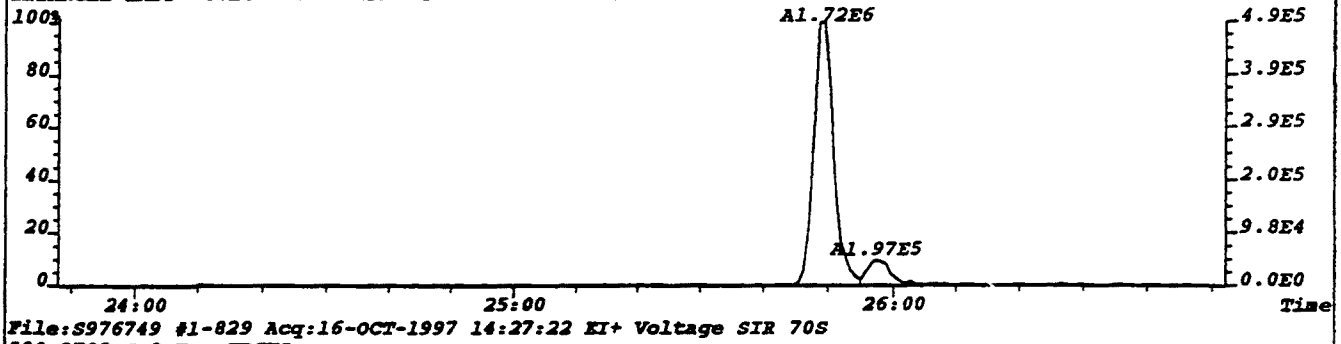
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:45
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



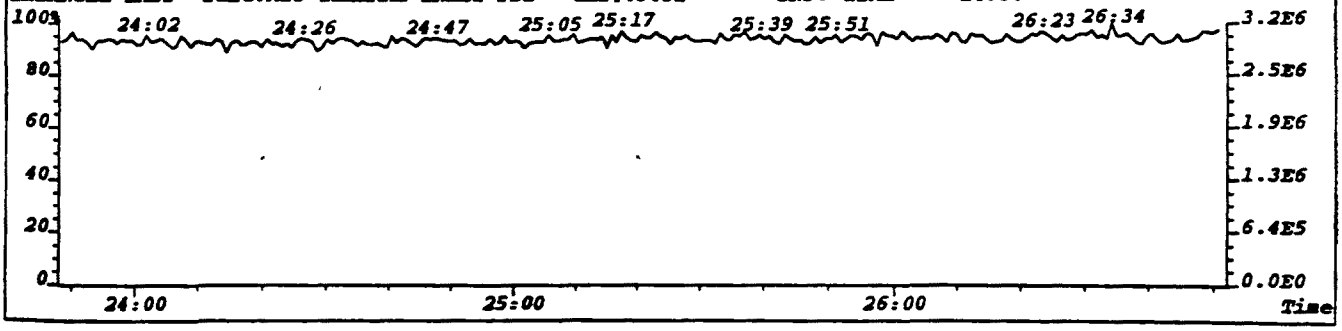
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:51
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



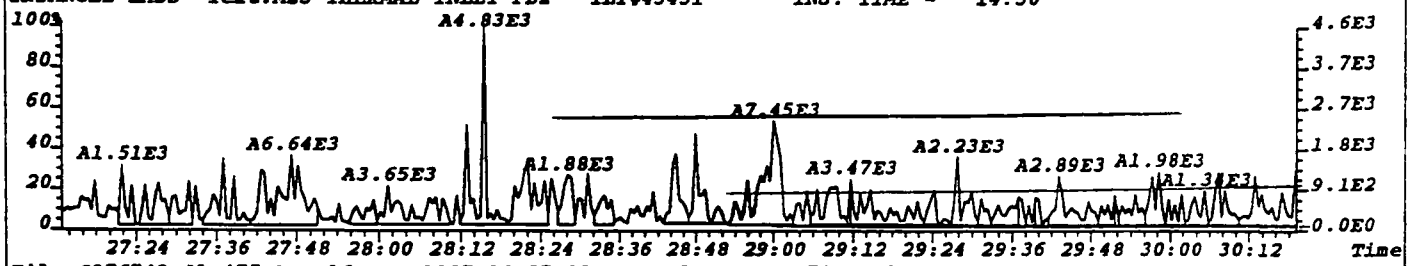
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:43
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



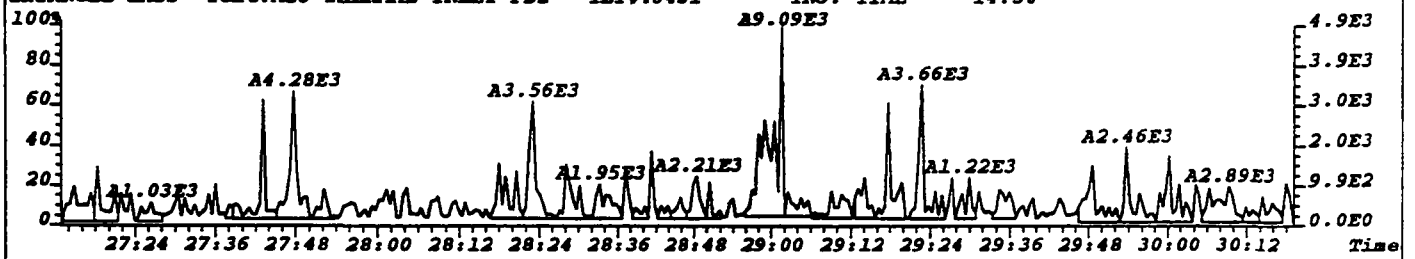
File:S976749 #1-829 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



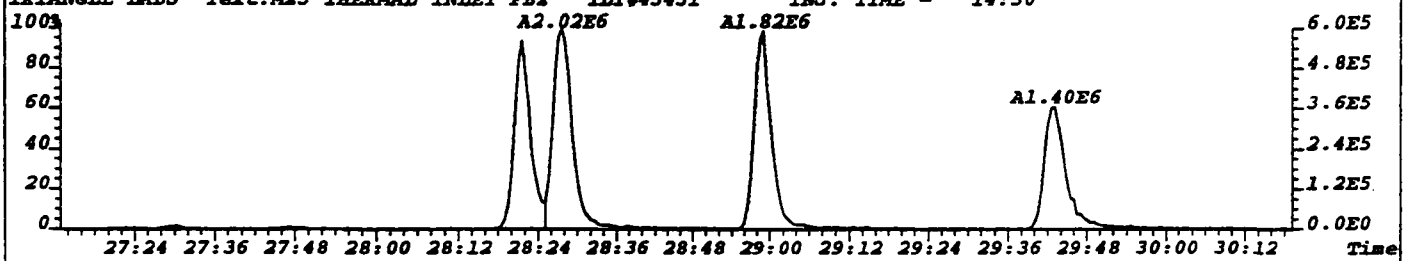
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:99
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,396.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



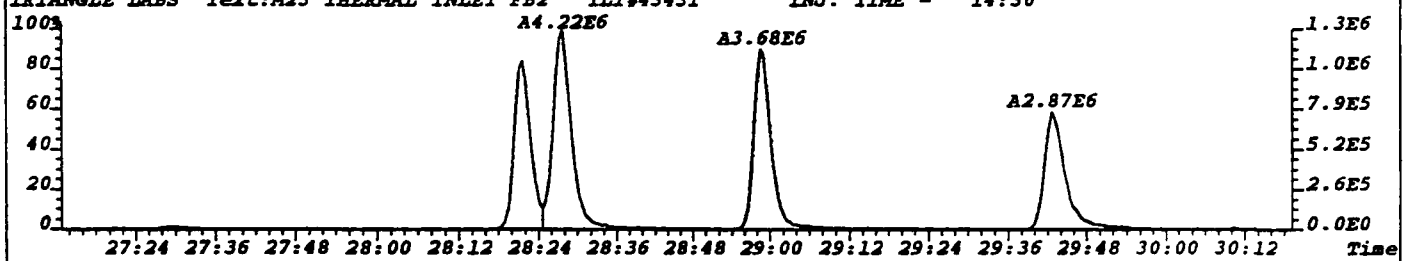
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:125
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,500.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



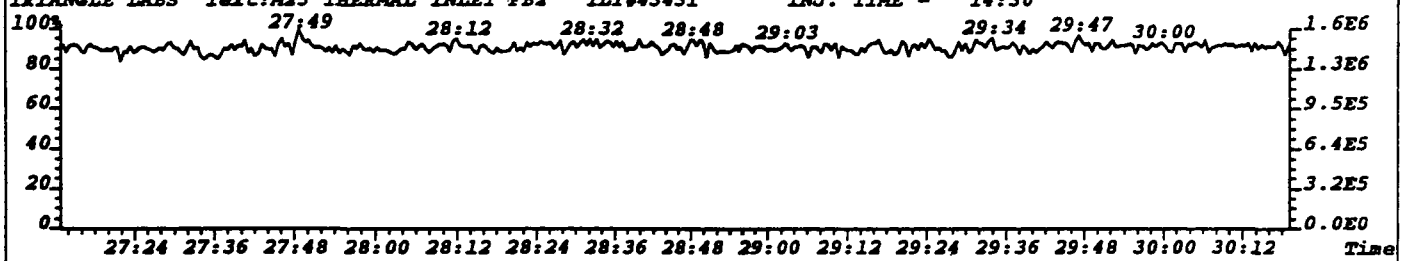
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:91
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



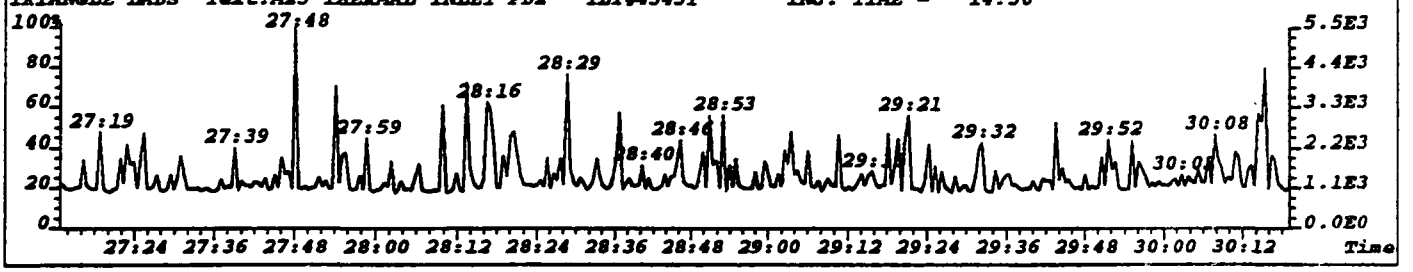
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:153
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,612.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



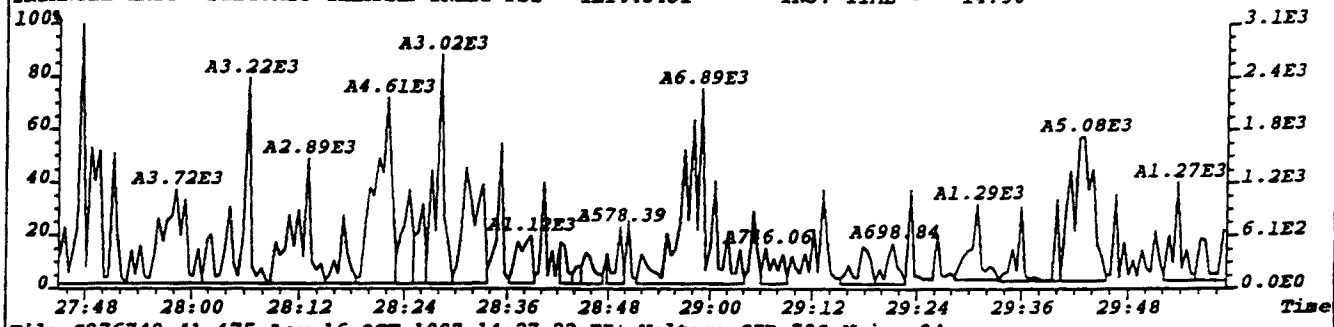
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



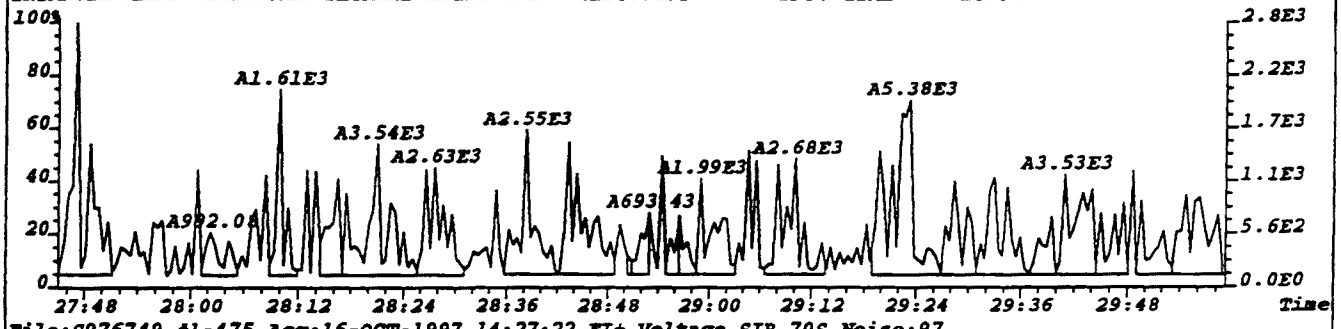
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



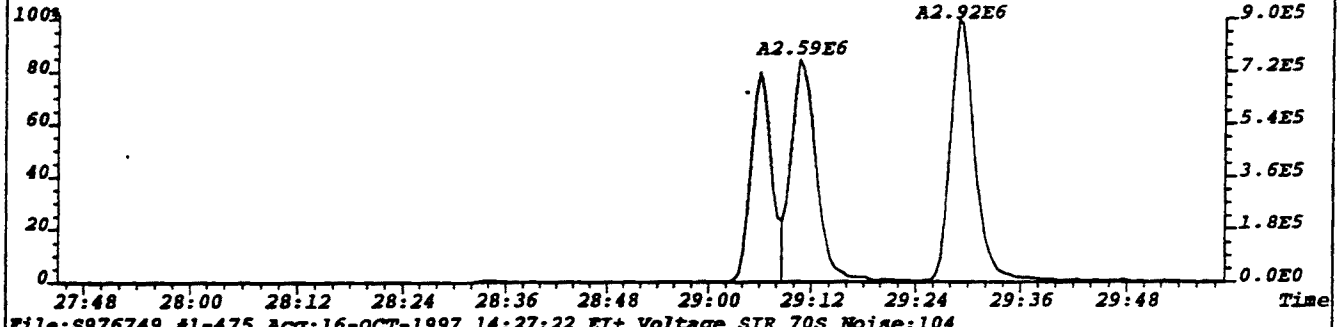
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:57
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



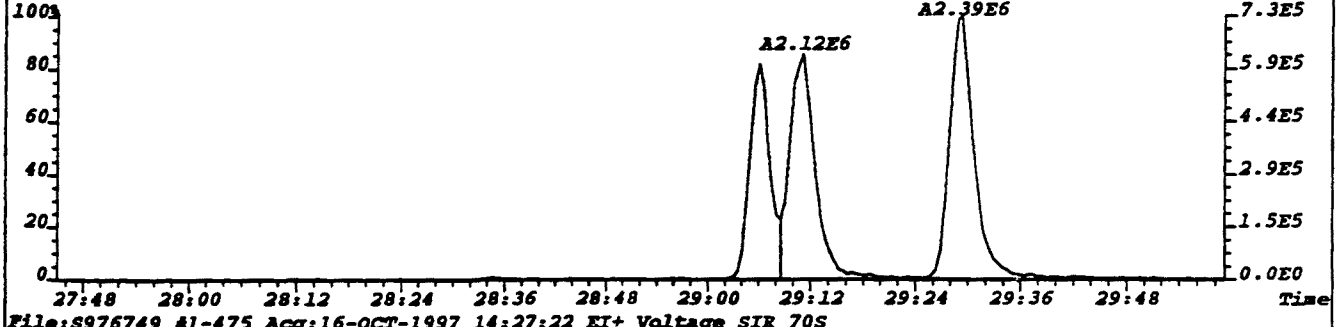
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:94
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,376.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



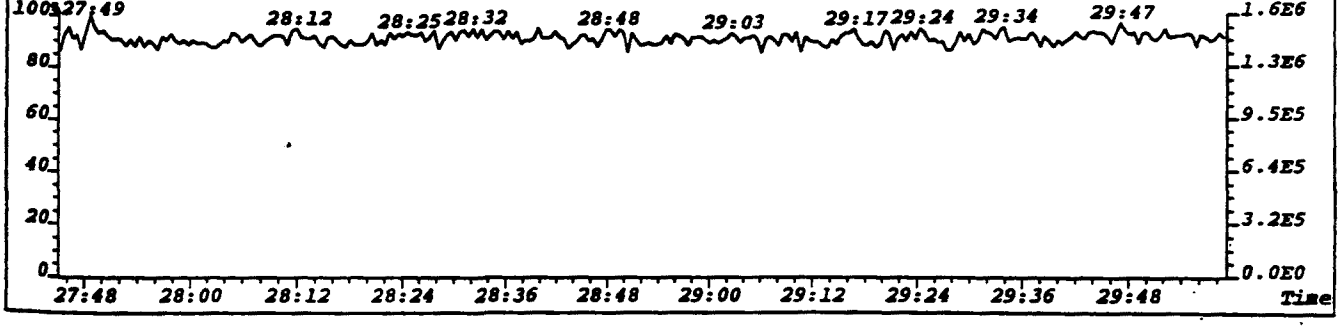
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:97
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,388.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



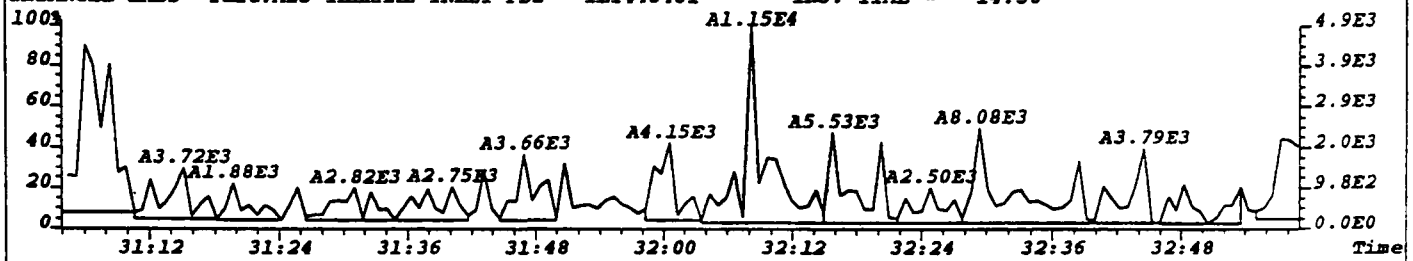
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:104
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,416.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



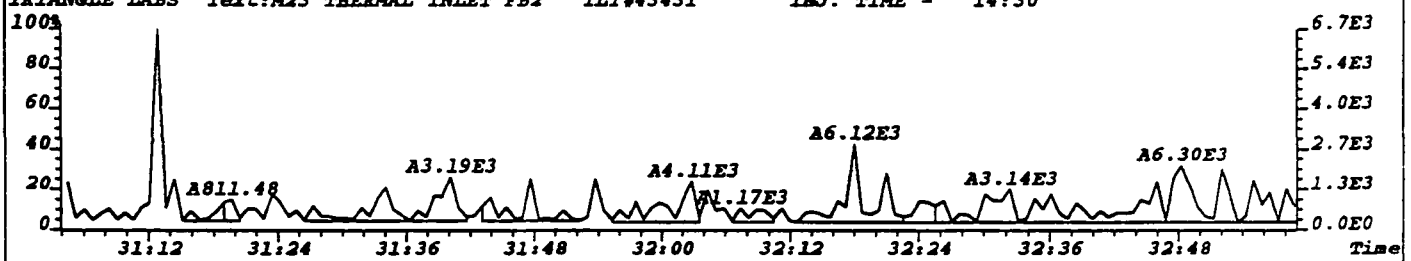
File:S976749 #1-475 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



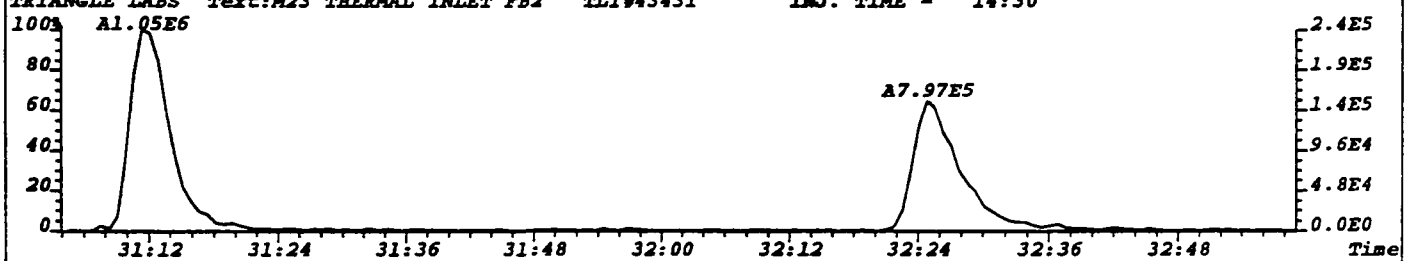
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:152
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,608.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



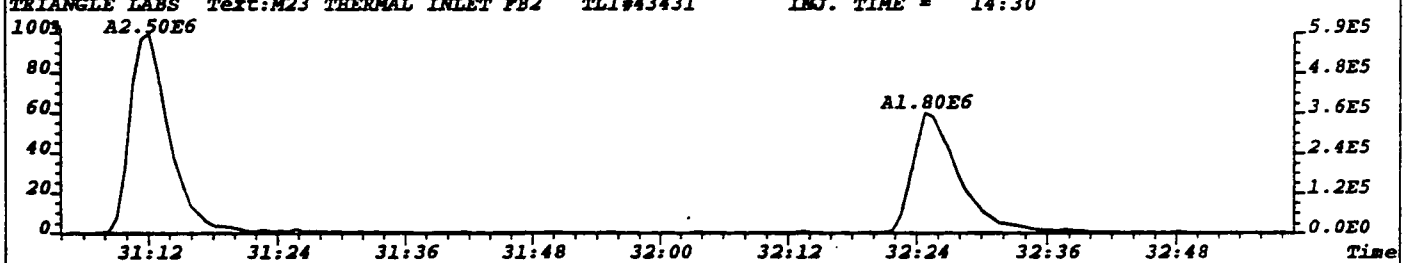
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:159
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,636.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



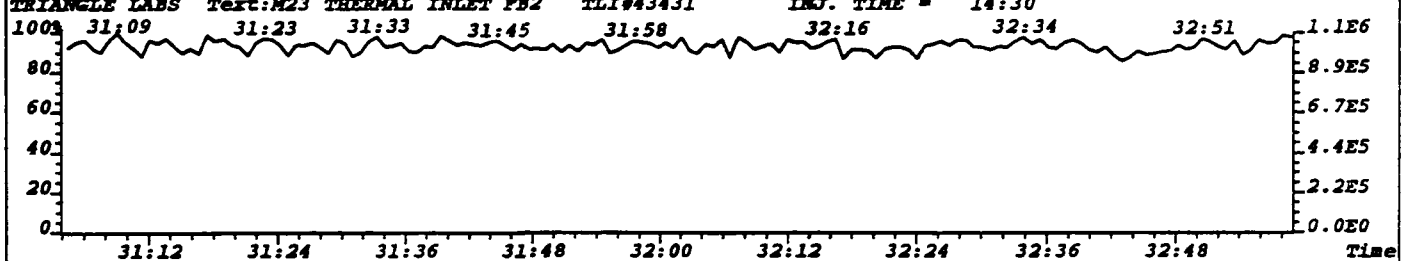
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:246
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,984.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



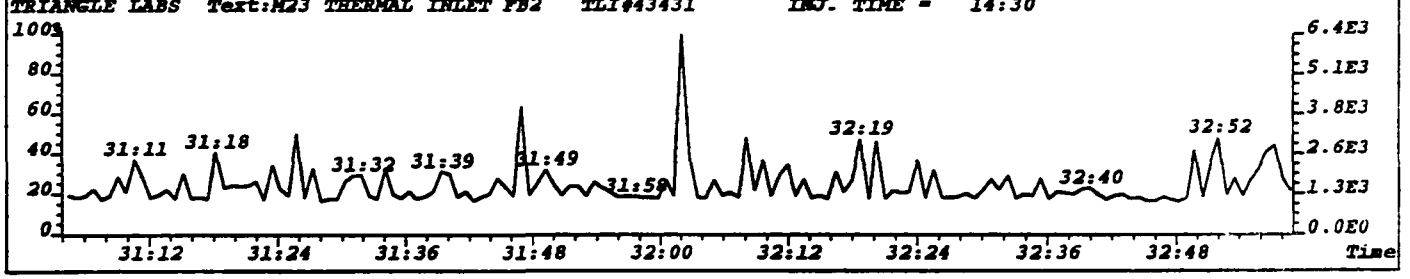
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:250
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1000.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



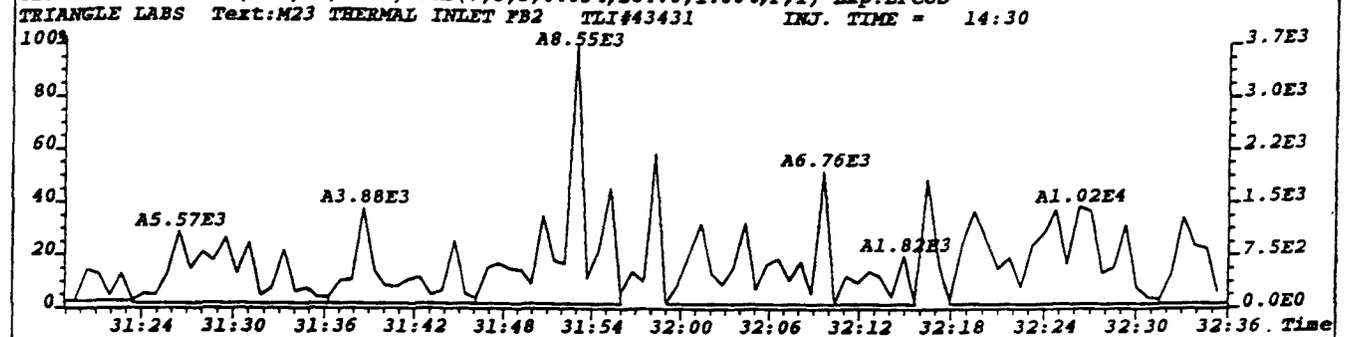
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



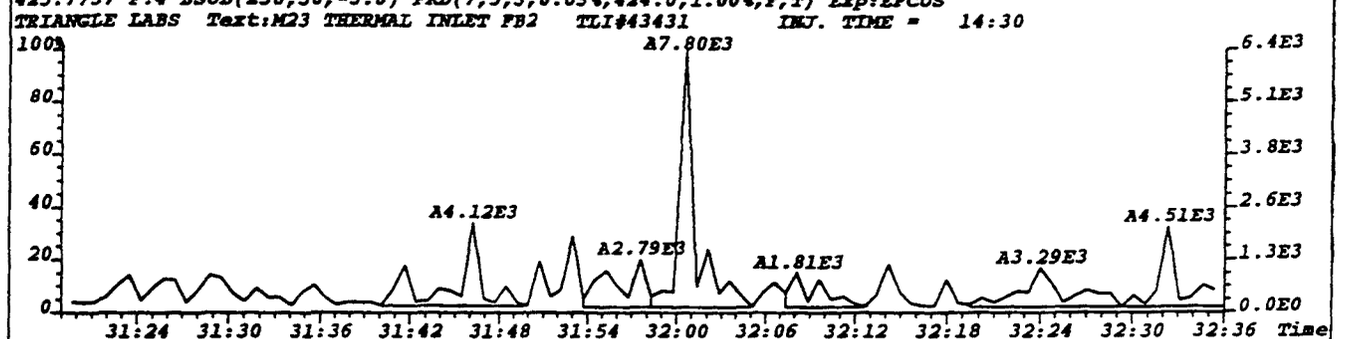
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



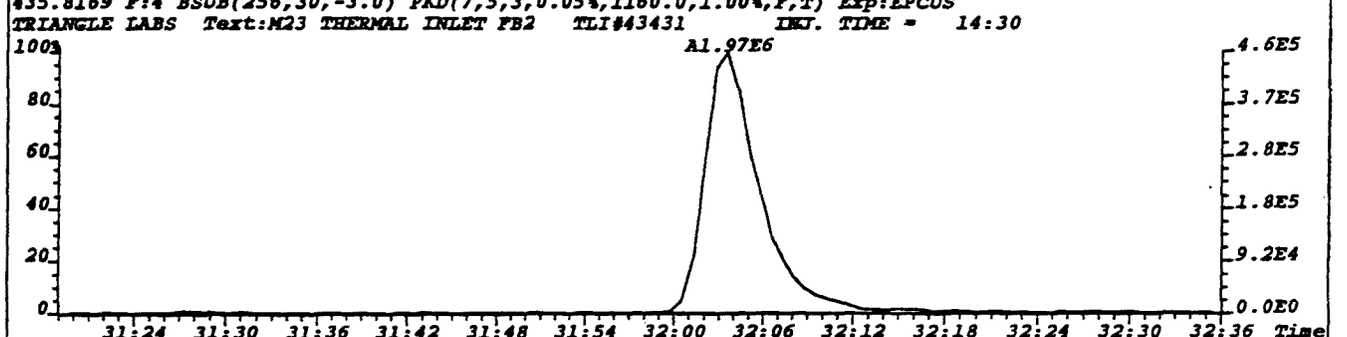
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:71
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



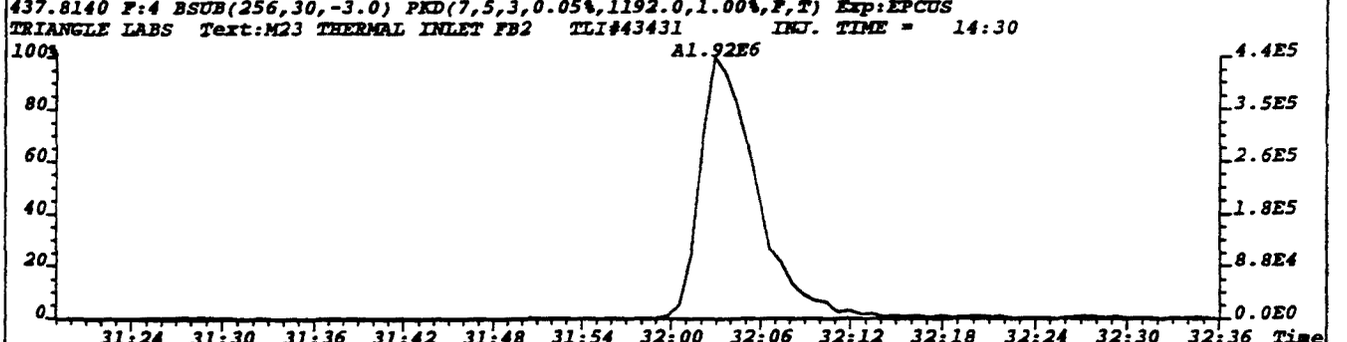
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:106
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,424.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



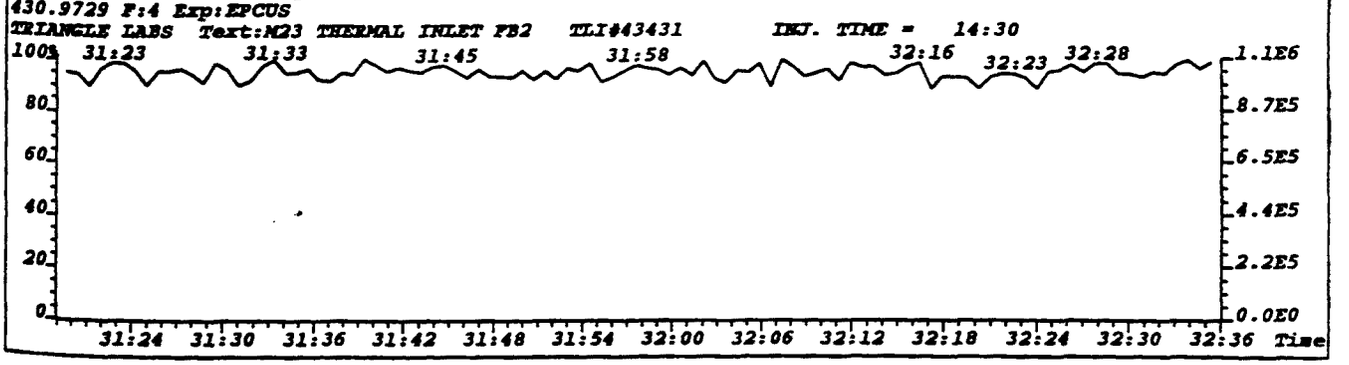
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:290
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



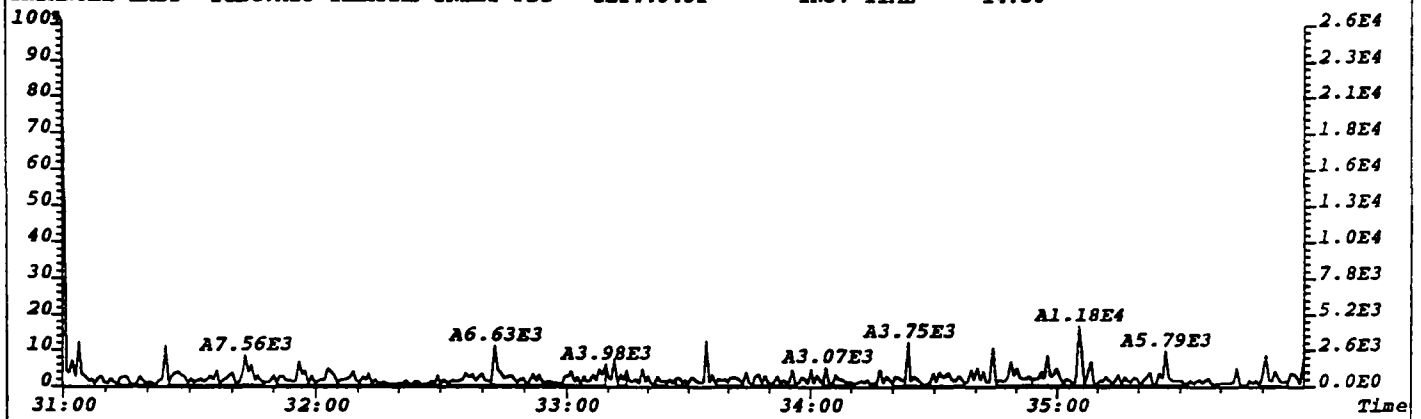
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:298
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



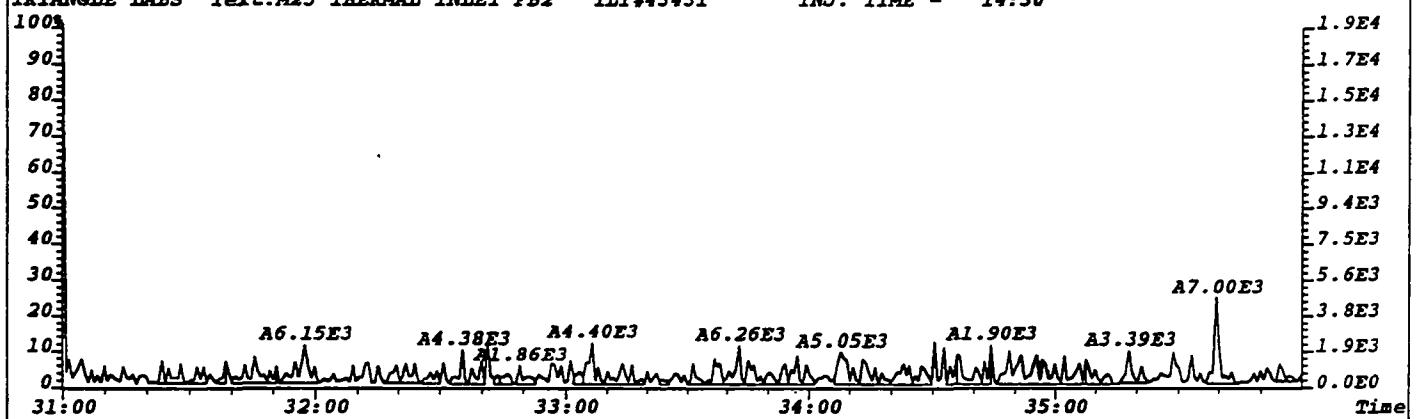
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



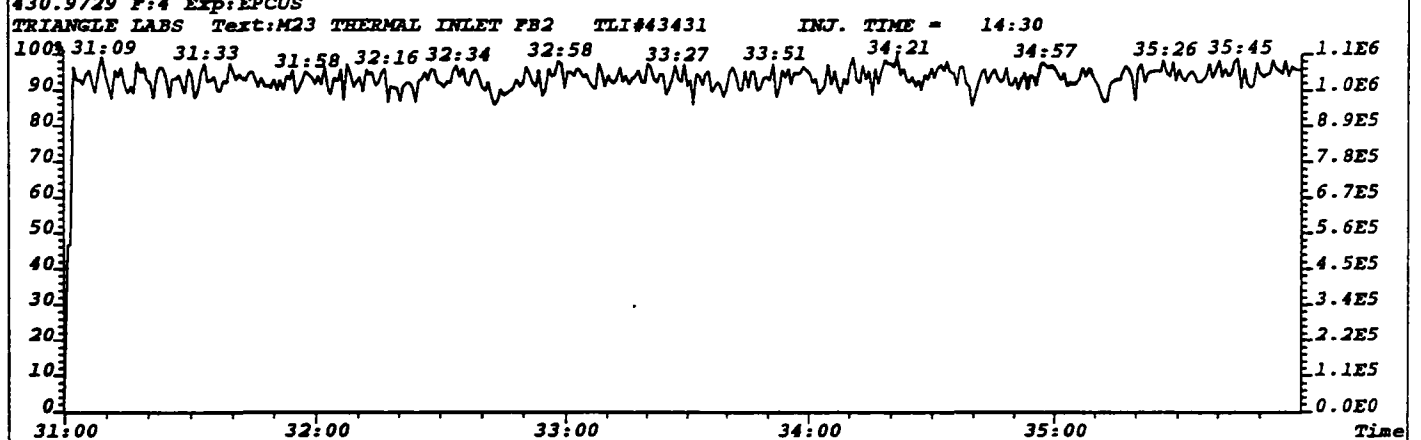
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:98
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,392.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



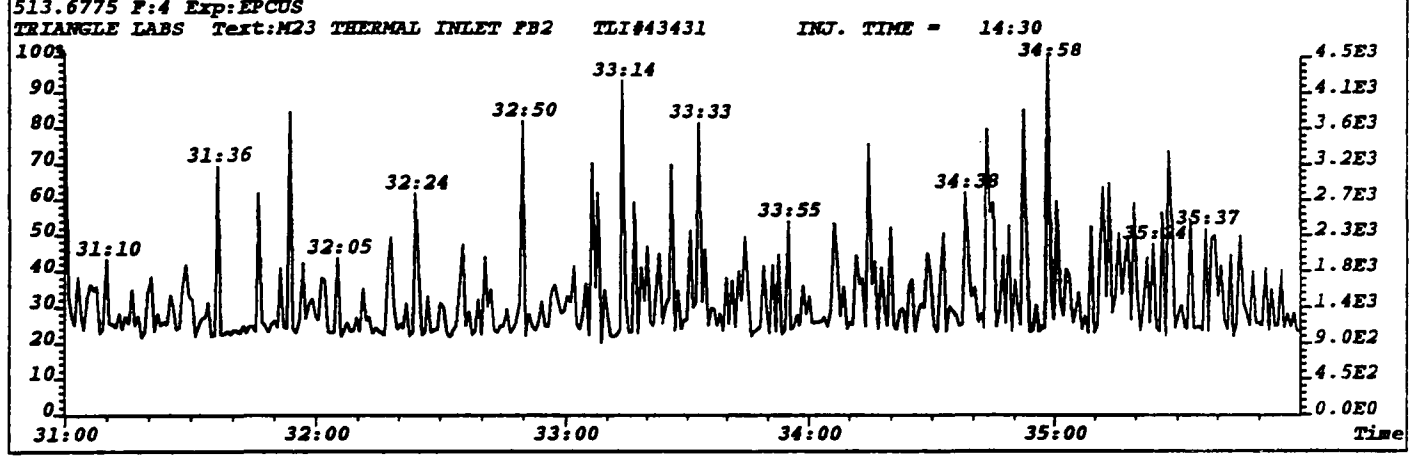
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:138
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,552.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



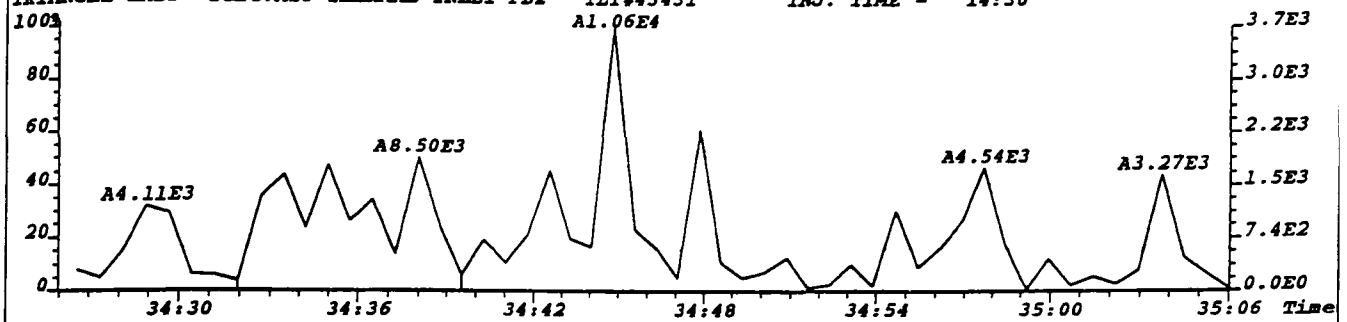
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



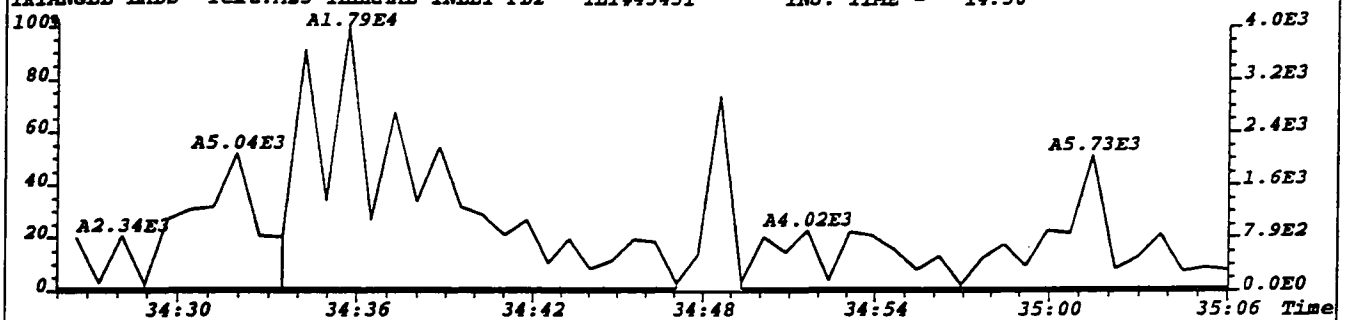
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



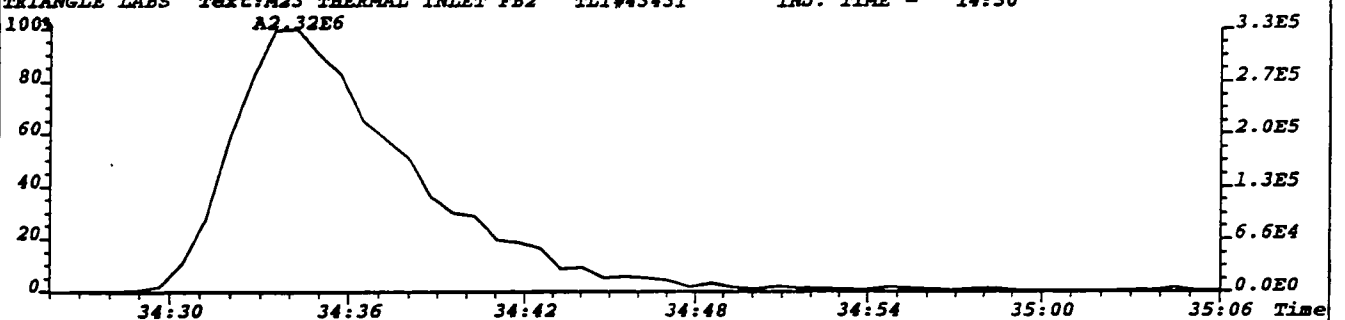
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:52
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



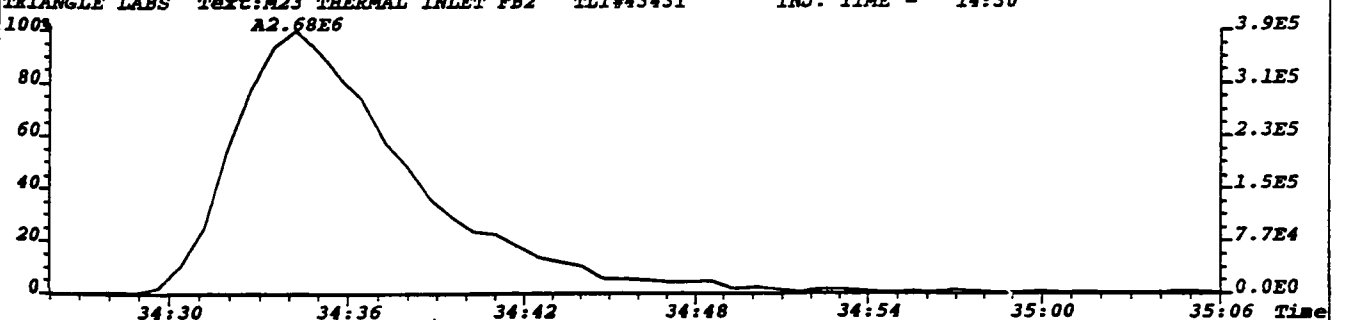
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:43
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



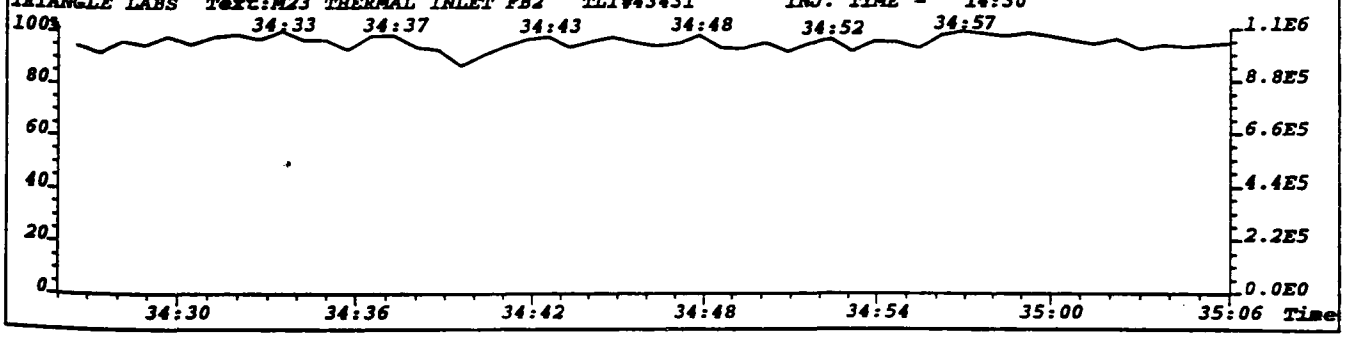
File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:60
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30

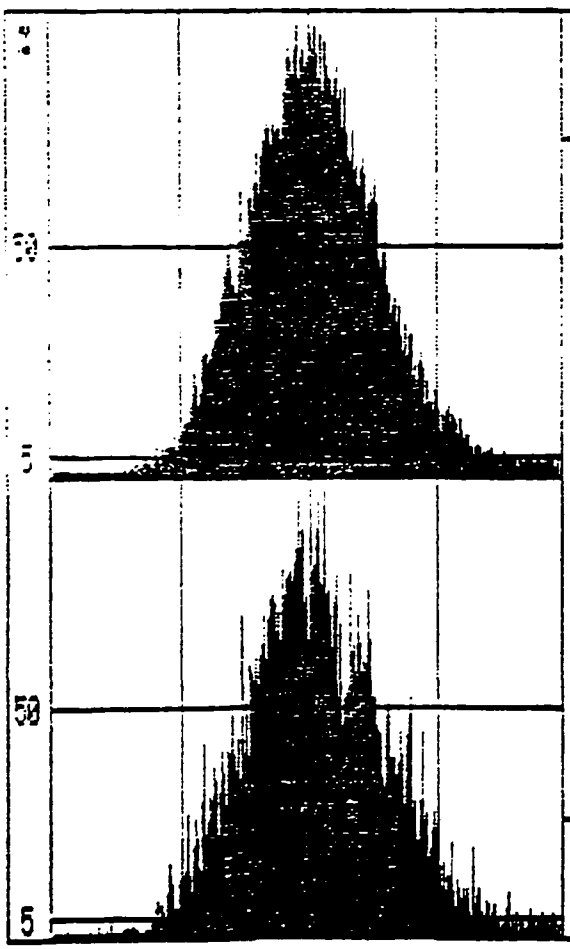


File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S Noise:56
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30



File:S976749 #1-397 Acq:16-OCT-1997 14:27:22 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL INLET FB2 TLI#43431 INJ. TIME = 14:30





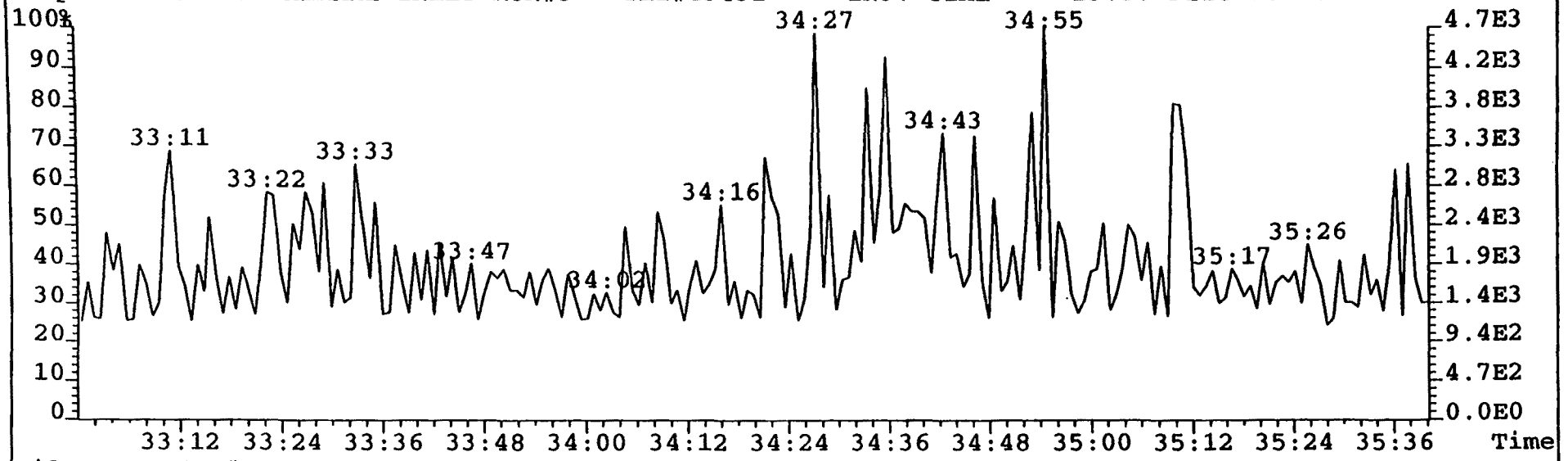
Channel I 330.3792 Peak top
Height 1.67 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S976741
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

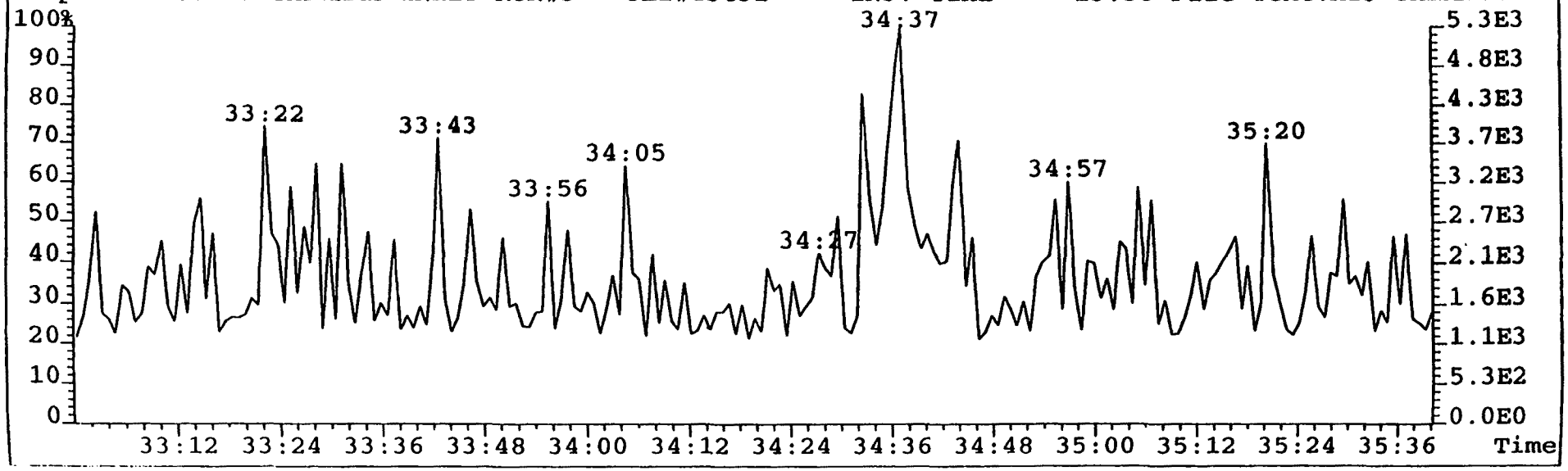
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Ref. mass 416.9760 Peak top
Height .34 volts Span 200 ppm

File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50 File Text:M23 THERMAL I»



File:S976748 #1-397 Acq:16-OCT-1997 13:48:03 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL INLET RUN#3 TLI#43431 INJ. TIME = 13:50 File Text:M23 THERMAL I»



Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET RUN#1 — Analysis File: S976750

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-6A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976737
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% 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	0.009			0.80	21:12	—
1,2,3,7,8-PeCDD	ND	0.008				—
1,2,3,4,7,8-HxCDD	ND	0.01				—
1,2,3,6,7,8-HxCDD	ND	0.008				—
1,2,3,7,8,9-HxCDD	ND	0.008				—
1,2,3,4,6,7,8-HpCDD	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	EMPC		0.07			—
2,3,7,8-TCDF	ND	0.004				—
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	ND	0.006				—
1,2,3,6,7,8-HxCDF	ND	0.004				—
2,3,4,6,7,8-HxCDF	0.01			1.31	29:00	—
1,2,3,7,8,9-HxCDF	ND	0.006				—
1,2,3,4,6,7,8-HpCDF	ND	0.007				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.01				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	0.009	1			—
Total PeCDD	ND		0.008		—
Total HxCDD	ND		0.008		—
Total HpCDD	ND		0.01		—
Total TCDF	EMPC			0.009	—
Total PeCDF	ND		0.005		—
Total HxCDF	0.01	1			—
Total HpCDF	ND		0.008		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:15 10/21/97

Eastern Research Group

TLI Project: 43431 Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET RUN#1 Analysis File: S976750

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.1	78.1	40%-130%	0.76	20:22	—
$^{13}C_{12}$-2,3,7,8-TCDD	3.0	74.2	40%-130%	0.80	21:10	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.8	70.4	40%-130%	1.49	24:41	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.9	72.1	40%-130%	1.41	25:49	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.8	94.1	40%-130%	0.49	28:27	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.5	88.3	40%-130%	1.17	29:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.1	76.7	25%-130%	0.42	31:11	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.5	88.5	25%-130%	1.04	32:03	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.6	95.1	25%-130%	0.87	34:33	—

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.8	95.2	70%-140%		21:11	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.8	94.4	70%-140%	1.50	25:27	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.2	79.3	70%-140%	0.50	28:21	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.1	77.6	70%-140%	1.26	29:06	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.6	90.5	70%-140%	0.42	32:24	—

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.2	79.9	40%-130%	0.50	29:43	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.5	86.8	40%-130%	0.50	28:58	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:56	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.21	29:29	—

Data Reviewer: KU 10/21/97

X237_PSR v2.00, LARS 6.10.04

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Initial ....Date...

Data Review By: K- 10/21/91 Calculated Noise Area: 0.38

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 S976750B.dbf
10/21/97 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					0.825-1.102			
304-306	DC	NL		0:00		0.87	1.16			0.000			
				18:55	RO	1.31	2.21	1.64	1.25	0.929			
304-306			1	Peak			2.21						
13C12-TCDF					0.65-0.89					0.951-1.049			
316-318	DC	NL		0:00	RO	1.08	0.67			0.000			
	DC	WL		19:12	RO	1.00	13.56			0.943			
				19:32	RO	1.74	2.02	1.98	1.14	0.959			
				19:53		0.74	5.89	2.50	3.39	0.976			
				20:08	RO	0.60	1.36	0.59	0.98	0.989			
				20:22		0.76	812.36	350.88	461.48	1.000	13C12-2378-TCDF	ISO	
				20:50	RO	1.11	7.10	4.46	4.01	1.023			
	DC	WH		21:24	RO	2.67	0.53			1.051			
	DC	WH		22:35	RO	0.52	1.91			1.109			
316-318			5	Peaks			828.73						

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

TCDD					0.65-0.89					0.856-1.059			
320-322	DC	SN		18:28		0.67	0.10			0.872			
	DC	SN		18:54		0.82	0.31			0.893			
	DC	SN		20:35		0.78	0.73			0.972			
	DC	SN		20:52		0.78	0.89			0.986			
MKTN				21:12		0.80	1.67	0.74	0.93	1.002	2378-TCDD	AN	
	DC	SN		21:35	RO	2.94	0.30			1.020			
	DC	SN		22:07	RO	0.63	0.39			1.045			
	DC	WH		22:28	RO	0.38	0.11			1.061			
	DC	WH		22:32		0.86	0.41			1.065			
	DC	WH		22:39	RO	3.29	0.12			1.070			
320-322			1	Peak			1.67						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.12			0.000			
	DC	WL		18:46			0.29			0.887			
				19:36			7.76	7.76		0.926			
	DC	SN		19:52			0.43			0.939			
	DC	SN		20:03			0.21			0.947			
	DC	SN		20:11			0.30			0.954			
				20:46			0.50	0.50		0.981			
				21:11			500.94	500.94		1.001	37Cl-TCDD	SUR1	
				21:31			2.80	2.80		1.017			
				21:37			0.51	0.51		1.021			
				21:44			1.40	1.40		1.027			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				21:51			0.48	0.48		1.032			
				21:57			0.72	0.72		1.037			
	DC	SN		22:11			0.39			1.048			
	DC	SN		22:11			0.24			1.048			
				22:20			0.58	0.58		1.055			
	DC	SN		22:27			0.27			1.061			
				22:39			0.66	0.66		1.070			
	DC	SN		22:50			0.19			1.079			
328			10	Peaks			516.35						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	4.20	0.18			0.000			
	DC	WL		18:54	RO	1.15	0.60			0.893			
				19:52	RO	1.24	3.26	2.28	1.84	0.939			
				20:56		0.82	789.03	356.20	432.83	0.989	13C12-1234-TCDD	RS1	
				21:10		0.80	624.36	277.43	346.93	1.000	13C12-2378-TCDD	IS1	
				21:33		0.82	15.17	6.85	8.32	1.018			
				21:44		0.74	1.64	0.70	0.94	1.027			
				22:01	RO	1.44	0.85	0.69	0.48	1.040			
				22:23	RO	1.90	0.90	0.97	0.51	1.057			
332-334			7	Peaks			1,435.21						

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

PeCDF				1.32-1.78						0.907-1.080			
340-342	DC	NL		0:00	RO	0.82	0.15			0.000			
	DC	SN		22:44	RO	0.85	0.48			0.921			
	DC	SN		23:47	RO	1.30	0.92			0.964			
	DC	SN		24:54	RO	0.86	0.31			1.009			
	DC	SN		25:15	RO	0.35	0.12			1.023			
	DC	SN		25:38	RO	0.23	0.08			1.038			
	DC	SN		25:54	RO	0.23	0.18			1.049			
	DC	SN		26:17	RO	1.27	0.54			1.065			
	DC	SN		26:29	RO	0.56	0.46			1.073			
	DC	WH		26:43	RO	0.73	0.18			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	1.11	0.16			0.000			
				23:46		1.65	20.98	13.06	7.92	0.963			
				24:18		1.65	5.23	3.26	1.97	0.984			
				24:41		1.49	629.47	376.55	252.92	1.000	13C12-PeCDF 123	IS2	
				25:00	RO	0.89	5.07	3.08	3.45	1.013			
				25:27		1.50	576.36	345.56	230.80	1.031	13C12-PeCDF 234	SUR2	
				25:59		1.66	1.73	1.08	0.65	1.053			
	DC	SN		26:12	RO	6.71	0.54			1.061			
				26:29	RO	1.18	2.16	1.31	1.11	1.073			
352-354			7	Peaks			1,241.00						

---------- 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	0.89	0.13			0.000			
	DC	SN		24:07	RO	0.44	0.20			0.934			
	DC	SN		24:18	RO	0.45	0.16			0.941			
	DC	SN		24:52	RO	0.38	0.30			0.963			
	DC	SN		25:37	RO	0.39	0.18			0.992			
	DC	SN		26:01	RO	0.67	0.16			1.008			
	DC	WH		26:34	RO	5.27	0.28			1.029			
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	0.15			0.000			
				24:42	RO	1.25	1.23	0.75	0.60	0.957			
				24:51	RO	2.00	1.35	1.06	0.53	0.963			
	DC	SN		25:02	RO	2.48	0.74			0.970			
	DC	SN		25:26	RO	2.82	0.43			0.985			
				25:49		1.41	361.17	211.47	149.70	1.000	13C12-PeCDD 123	IS3	
				25:57		1.70	51.25	32.27	18.98	1.005			
				26:22	RO	2.49	1.40	1.37	0.55	1.021			
	DC	SN		26:36	RO	0.84	0.43			1.030			
368-370			5	Peaks			416.40						

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

HxCDF				1.05-1.43						0.956-1.053			
374-376	DC	NL		0:00		1.33	0.21			0.000			
	DC	SN		27:23	RO	7.86	0.16			0.963			
	DC	SN		27:31	RO	2.05	0.43			0.967			
	DC	SN		27:50	RO	0.47	0.14			0.978			
	DC	SN		28:15	RO	0.71	0.18			0.993			
	DC	SN		28:22		1.16	0.93			0.997	123478-HxCDF	AN	
	DC	SN		28:28	RO	0.75	0.54			1.001	123678-HxCDF	AN	
	DC	SN		28:36	RO	0.69	0.20			1.005			
	DC	SN		28:40	RO	1.60	0.11			1.008			
	DC	SN		28:43	RO	0.40	0.07			1.009			
	DC	SN		28:52	RO	4.00	0.22			1.015			
				29:00		1.31	1.87	1.06	0.81	1.019	234678-HxCDF	AN	
	DC	SN		29:08	RO	0.13	0.07			1.024			
	DC	SN		29:15	RO	0.08	0.02			1.028			
	DC	SN		29:23	RO	1.00	0.43			1.033			
	DC	SN		29:34	RO	0.78	0.25			1.039			
	DC	SN		29:51		1.22	0.20			1.049			
	DC	SN		29:56	RO	2.80	0.11			1.052			
	DC	WH		30:06	RO	1.62	0.29			1.058			
	DC	WH		30:13	RO	3.25	0.18			1.062			
374-376			1	Peak			1.87						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	0.80	0.23			0.000			
				27:21	RO	0.70	2.73	1.26	1.81	0.961			
				27:30		0.46	8.44	2.64	5.80	0.967			
				28:21		0.50	428.54	142.09	286.45	0.996	13C12-HxCDF 478	SUR3	

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				28:27		0.49	563.40	185.14	378.26	1.000	13C12-HxCDF 678	IS4	
				28:44	RO	1.23	2.19	1.79	1.45	1.010			
				28:45		0.45	3.31	1.03	2.28	1.011			
				28:58		0.50	481.31	160.47	320.84	1.018	13C12-HxCDF 234	ALT2	
		DC	SN	29:23	RO	0.86	0.44			1.033			
	N			29:43		0.50	385.12	128.28	256.84	1.045	13C12-HxCDF 789	ALT1	
				30:02	RO	0.80	2.67	1.41	1.77	1.056			
		DC	SN	30:11	RO	0.30	0.71			1.061			
		DC	SN	30:15	RO	0.42	0.89			1.063			
384-386			9	Peaks			1,877.71						

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

HxCDD						1.05-1.43				0.950-1.015			
390-392		DC	NL	0:00		1.43	0.17			0.000			
		DC	WL	27:41	RO	2.43	0.16			0.949			
		DC	SN	27:47	RO	2.45	0.25			0.952			
		DC	SN	28:04	RO	0.33	0.07			0.962			
		DC	SN	28:09	RO	0.88	0.13			0.965			
		DC	SN	28:15	RO	1.67	0.07			0.968			
		DC	SN	28:23		1.17	0.65			0.973			
		DC	SN	28:27	RO	6.71	0.16			0.975			
		DC	SN	28:33	RO	0.75	0.65			0.978			
		DC	SN	28:48	RO	1.80	0.22			0.987			
		DC	SN	28:57	RO	2.00	0.29			0.992			
		DC	SN	29:03	RO	0.36	0.16			0.995			
		DC	SN	29:13	RO	1.00	0.51			1.001	123678-HxCDD	AN	
		DC	SN	29:19		1.08	0.27			1.005			
		DC	SN	29:29	RO	0.69	0.72			1.010	123789-HxCDD	AN	
		DC	SN	29:37	RO	0.62	0.14			1.015			
		DC	WH	29:54	RO	0.33	0.13			1.025			
		DC	WH	30:00	RO	2.17	0.13			1.028			
390-392			0	Peaks			0.00						
13C12-HxCDD						1.05-1.43				0.966-1.034			
402-404		DC	NL	0:00		1.22	0.20			0.000			
		DC	WL	27:52	RO	0.90	0.51			0.955			
		DC	WL	28:07		1.15	0.28			0.963			
				28:34		1.17	2.63	1.42	1.21	0.979			
		DC	SN	28:50		1.33	0.21			0.988			
				29:06		1.26	329.80	183.65	146.15	0.997	13C12-HxCDD 478	SUR4	
				29:11		1.17	436.58	235.76	200.82	1.000	13C12-HxCDD 678	IS5	
				29:29		1.21	497.17	271.91	225.26	1.010	13C12-HxCDD 789	RS2	
				29:46	RO	2.22	2.04	2.02	0.91	1.020			
		DC	SN	29:55	RO	3.85	0.87			1.025			
				30:02	RO	0.96	1.35	0.75	0.78	1.029			
402-404			6	Peaks			1,269.57						

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

HpCDF						0.88-1.20				0.996-1.046			
408-410		DC	NL	0:00	RO	2.53	0.39			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.
	D		d	SN	31:14	RO	0.73	1.12			1.002	1234678-HpCDF	AN	
			DC	SN	31:59	RO	1.43	0.71			1.026			
			DC	SN	32:08	RO	8.60	0.10			1.030			
			DC	SN	32:16	RO	2.08	0.49			1.035			
			DC	SN	32:34	RO	1.24	0.51			1.044			
			DC	WH	32:47	RO	2.14	0.43			1.051			
408-410				0	Peaks			0.00						
13C12-HpCDF					0.37-0.51						0.936-1.128			
418-420			DC	NL	0:00	RO	1.29	0.50			0.000			
					31:11		0.42	338.11	99.94	238.17	1.000	13C12-HpCDF 678	IS6	
			DC	SN	31:30	RO	1.07	0.60			1.010			
					31:41	RO	0.82	0.88	0.50	0.61	1.016			
			DC	SN	32:04	RO	0.75	0.75			1.028			
					32:24		0.42	235.96	70.31	165.65	1.039	13C12-HpCDF 789	SUR5	
			DC	SN	32:57		0.42	1.26			1.057			
418-420				3	Peaks			574.95						

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

HpCDD					0.88-1.20						0.977-1.006			
424-426			DC	NL	0:00		0.89	0.34			0.000			
	D		d	SN	31:27		0.96	1.53			0.981			
			DC	SN	31:41		0.91	0.61			0.989			
			DC	SN	31:56		1.09	0.48			0.996			
	D		d	SN	32:04	RO	0.86	1.31			1.001	1234678-HpCDD	AN	
			DC	SN	32:08		1.03	0.63			1.003			
			DC	WH	32:36	RO	0.72	0.26			1.017			
424-426				0	Peaks			0.00						
13C12-HpCDD					0.88-1.20						0.969-1.031			
436-438			DC	NL	0:00		0.90	0.57			0.000			
					31:27		0.93	3.08	1.48	1.60	0.981			
					32:03		1.04	358.65	182.76	175.89	1.000	13C12-HpCDD 678	IS7	
			DC	SN	32:36	RO	0.10	0.20			1.017			
436-438				2	Peaks			361.73						

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

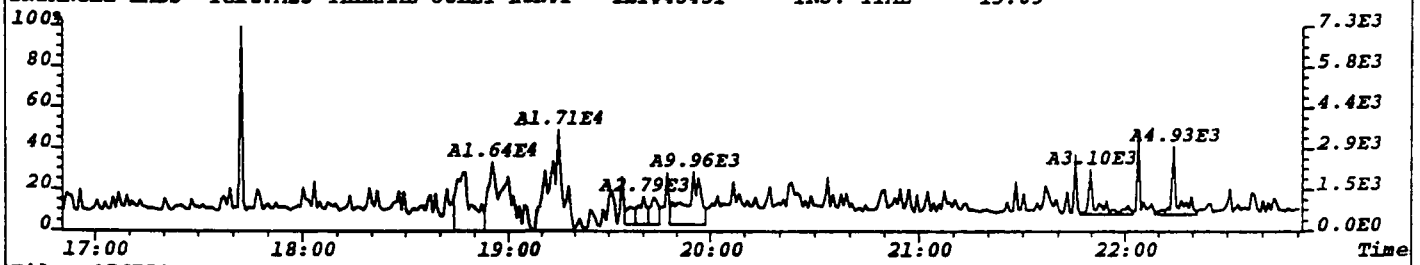
OCDF					0.76-1.02						0.884-1.116			
442-444			DC	NL	0:00	RO	1.10	0.19			0.000			
			DC	SN	31:16	RO	1.31	0.49			0.905			
			DC	SN	31:25	RO	0.60	0.25			0.909			
			DC	SN	31:31	RO	0.33	0.23			0.912			
			DC	SN	31:41		0.83	0.44			0.917			
			DC	SN	32:02	RO	1.48	0.40			0.927			
			DC	SN	34:17	RO	0.40	0.36			0.992			
			DC	SN	34:55	RO	3.80	0.76			1.011			
			DC	SN	35:03	RO	0.39	0.25			1.014			
			DC	SN	35:52	RO	0.20	0.15			1.038			
442-444				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.
OCDD						0.76-1.02				0.884-1.116			
458-460		DC	NL	0:00	RO	1.11	0.17			0.000			
M				34:35	RO	0.72	4.78	2.25	3.12	1.001	OCDD		AN
		DC	SN	34:47	RO	1.19	0.68			1.007			
		DC	SN	35:01	RO	0.57	0.62			1.014			
458-460			1	Peak			4.78						
13C12-OCDD						0.76-1.02				0.997-1.006			
470-472		DC	NL	0:00		1.00	0.22			0.000			
				34:33		0.87	490.73	227.97	262.76	1.000	13C12-OCDD		IS8
470-472			1	Peak			490.73						

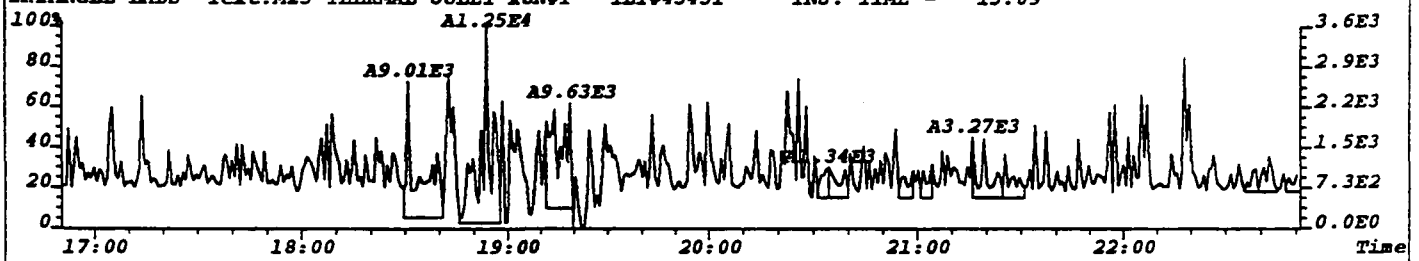
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

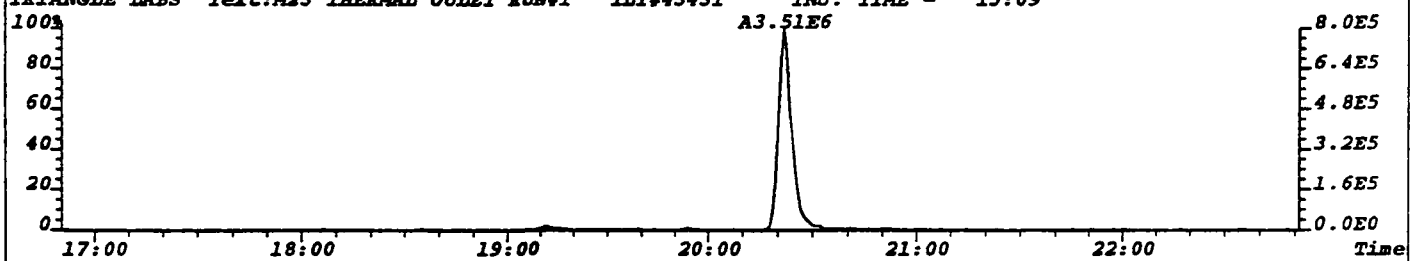
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:271
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1084.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



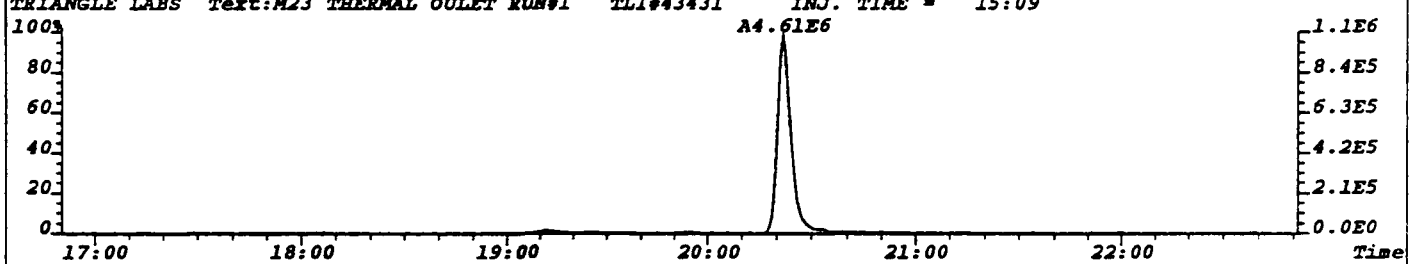
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:311
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



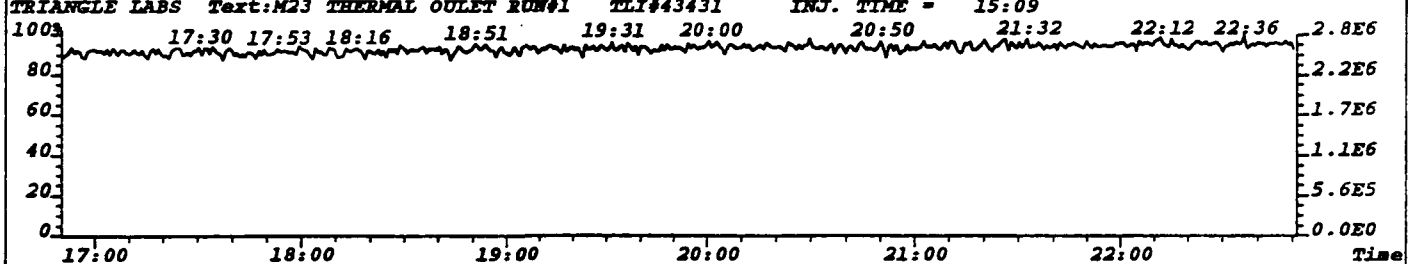
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:204
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,816.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



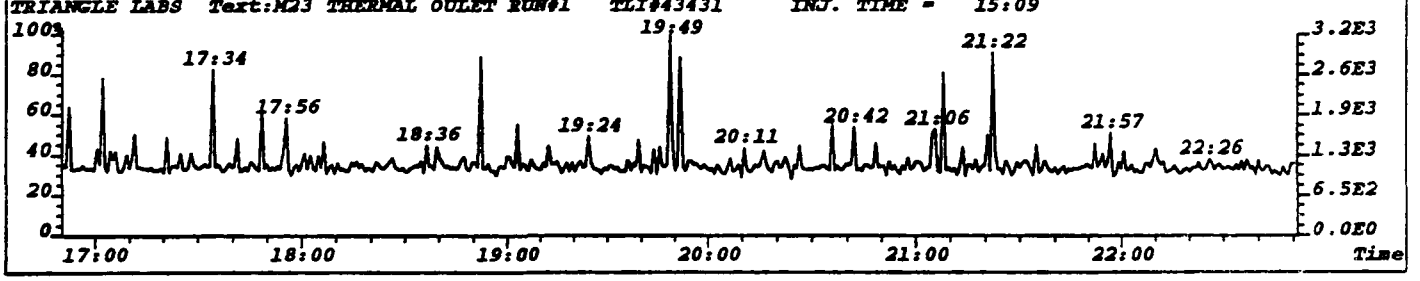
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:189
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,756.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



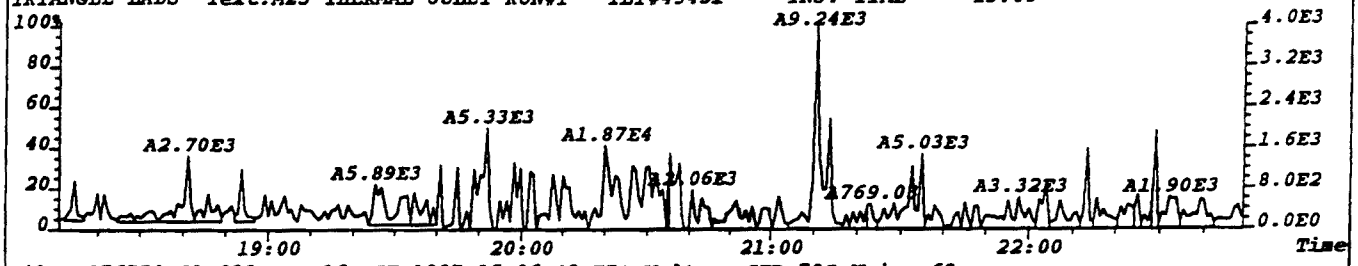
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



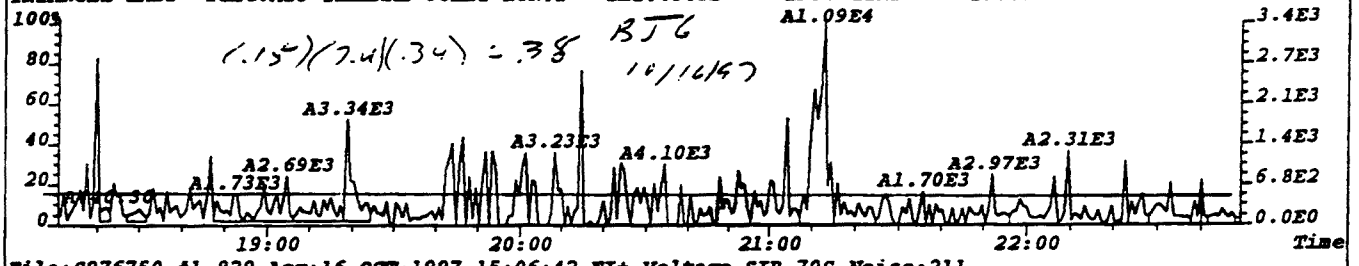
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



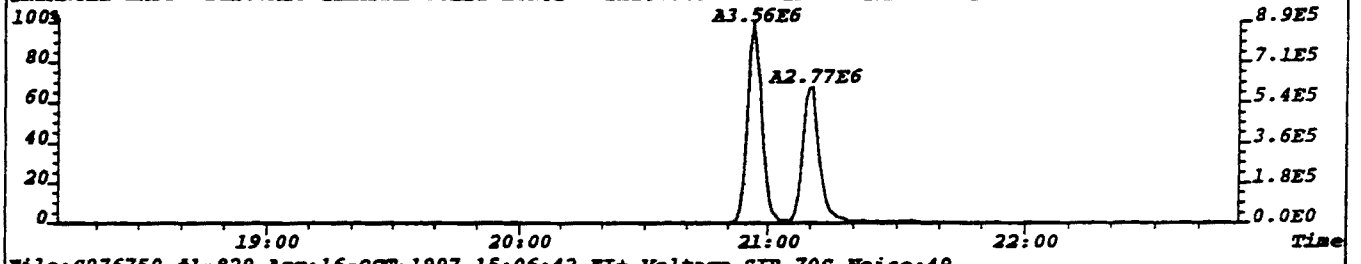
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:91
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



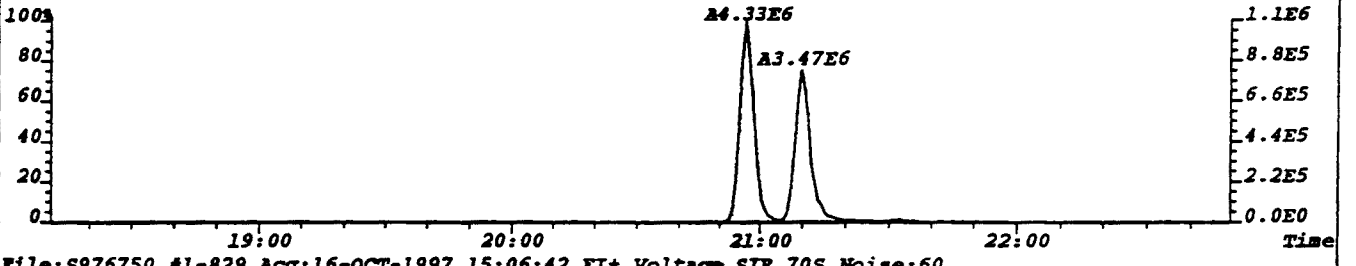
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:62
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



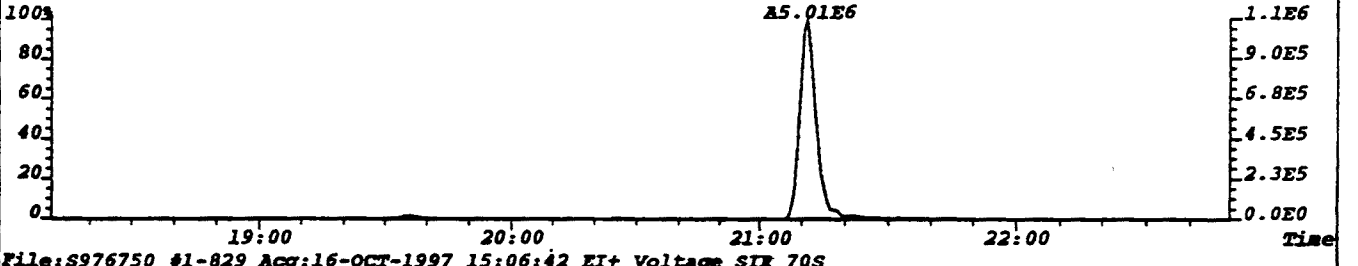
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:211
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,844.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



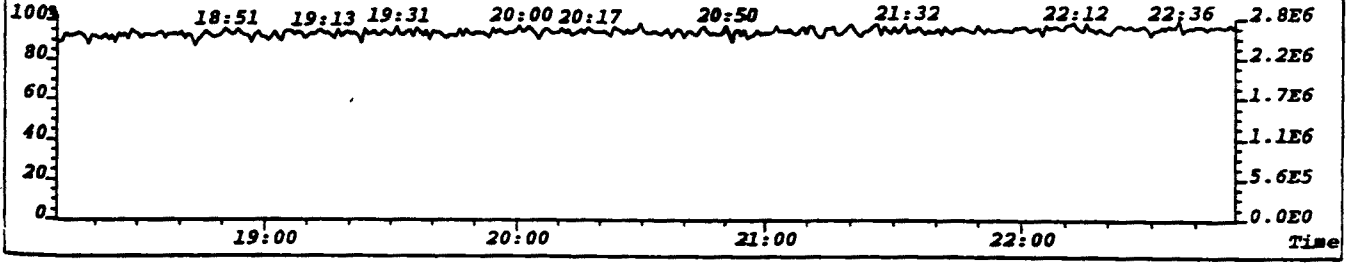
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:49
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



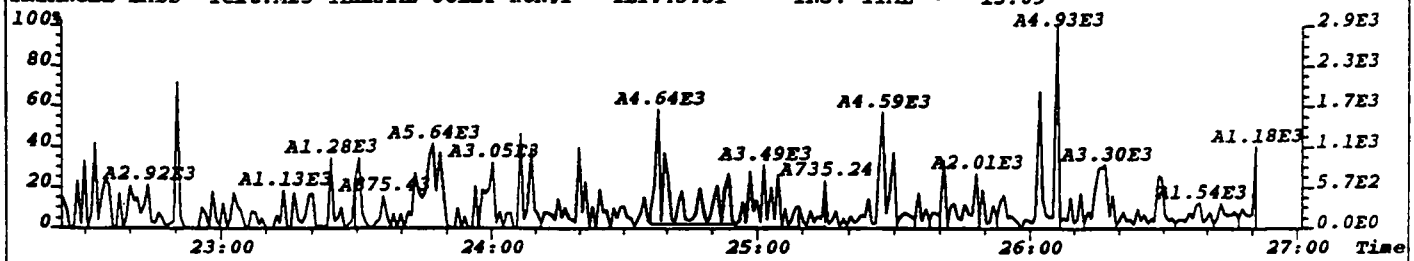
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:60
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



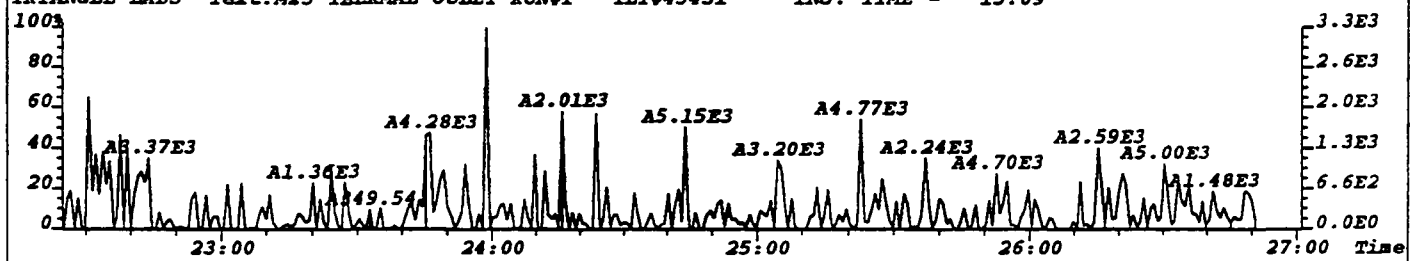
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



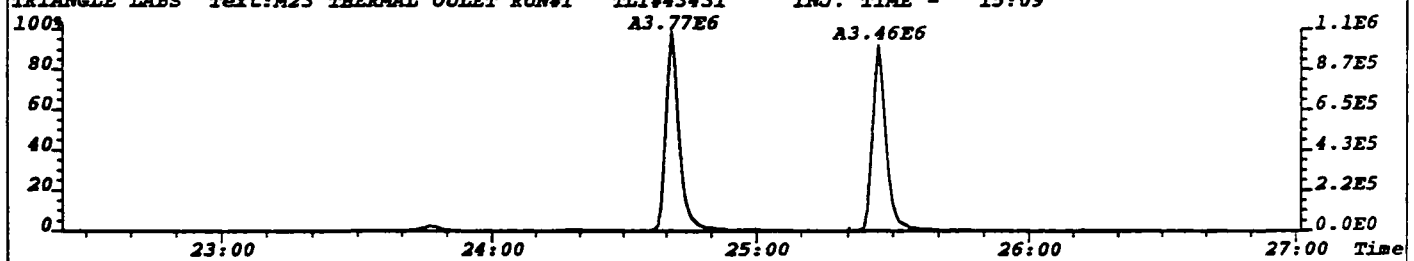
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:47
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



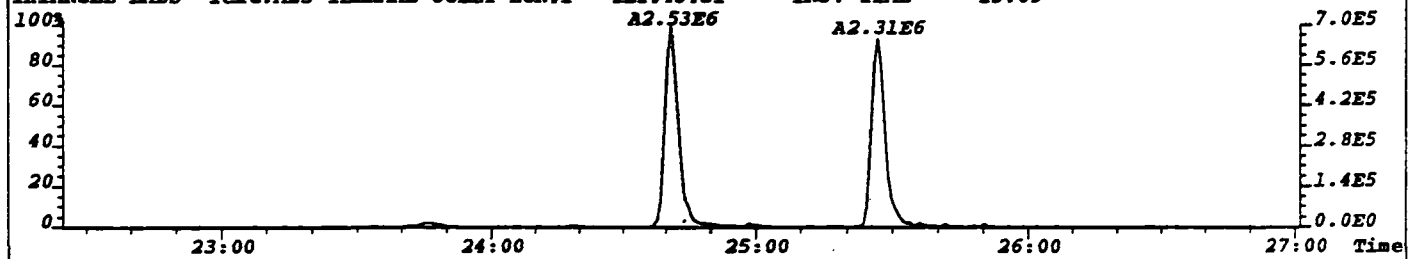
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:54
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,216.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



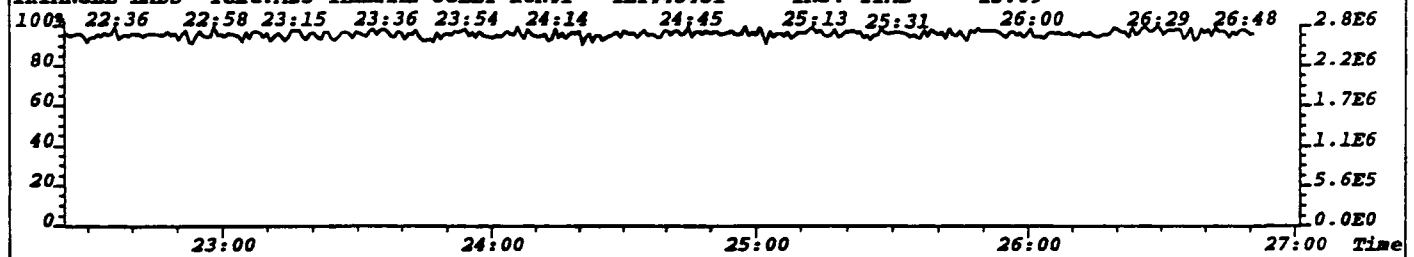
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:48
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



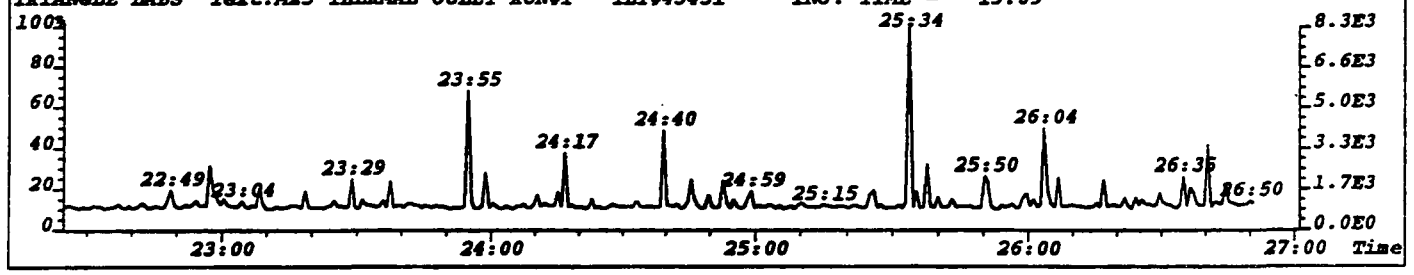
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:43
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



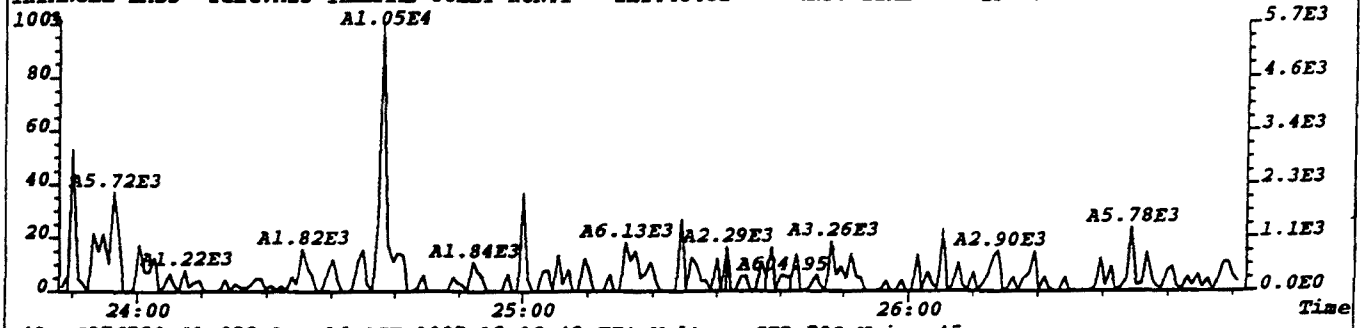
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



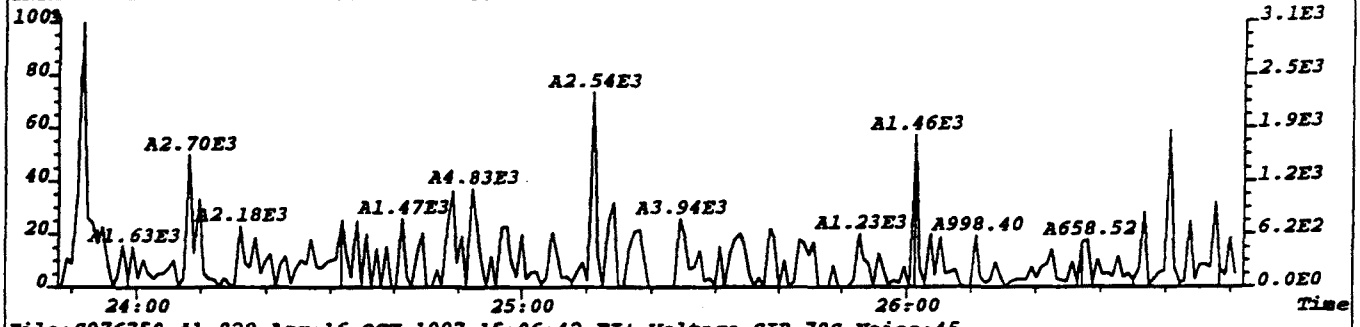
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



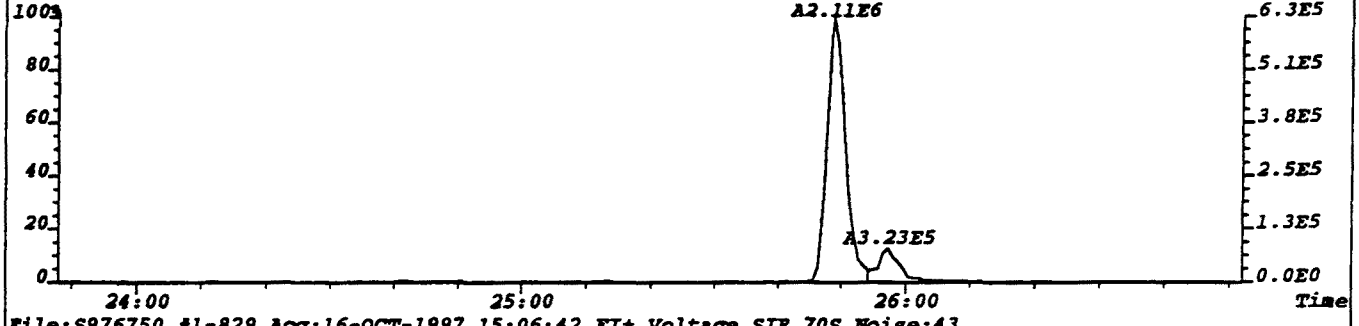
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:39
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



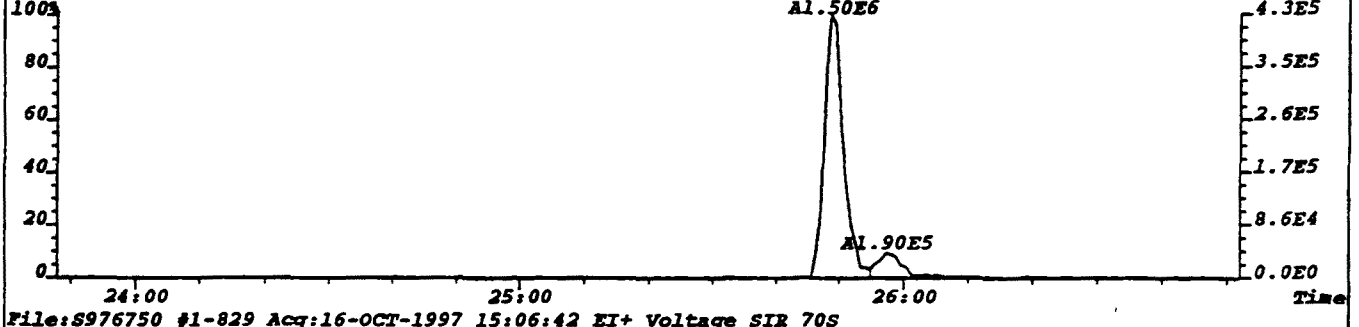
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:45
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



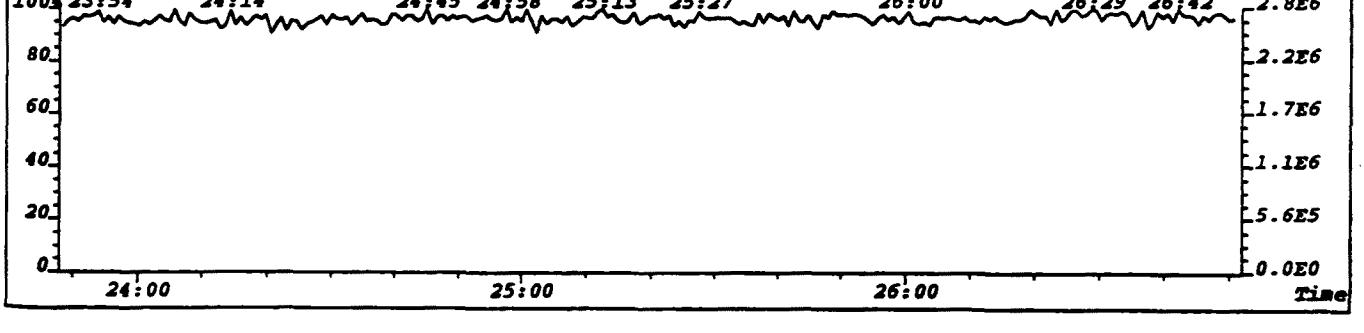
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:45
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



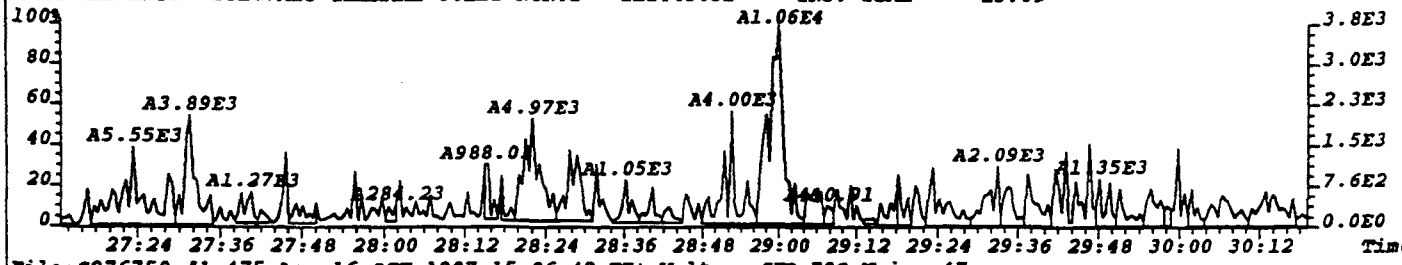
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:43
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



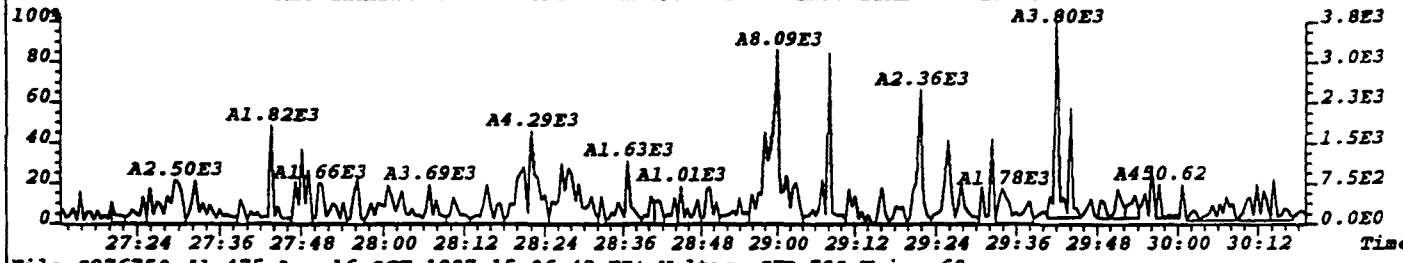
File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



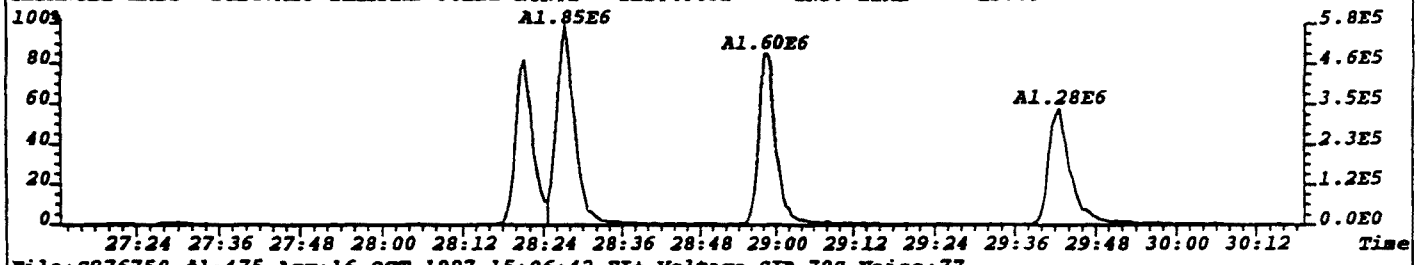
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:62
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



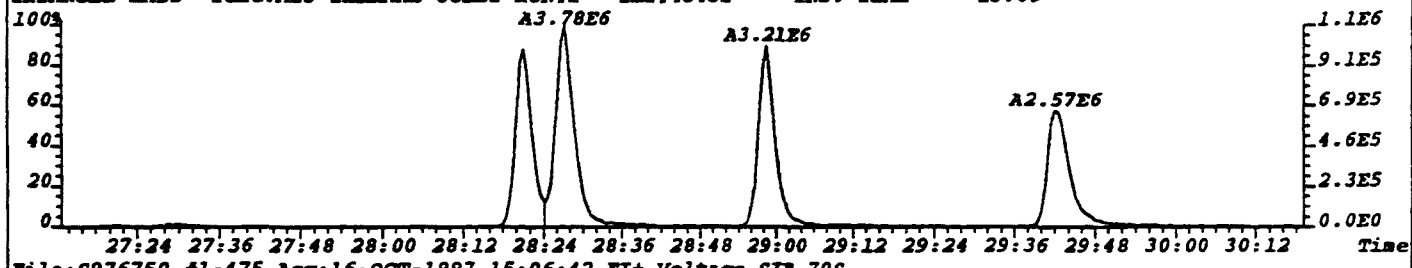
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:47
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



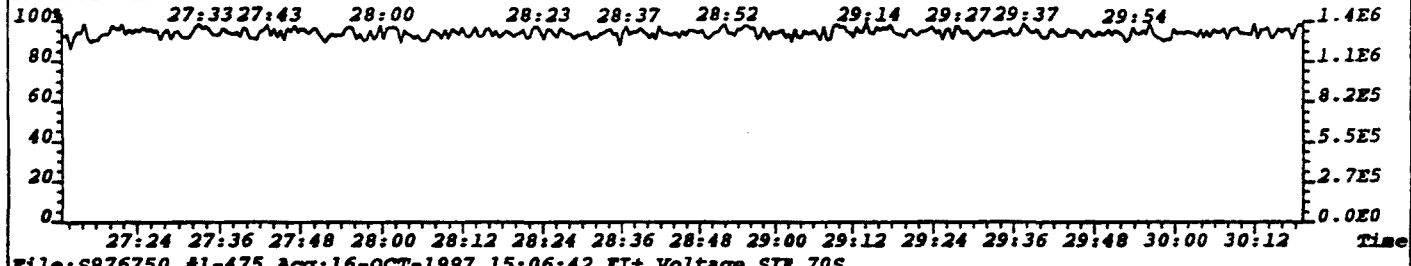
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:60
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,240.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



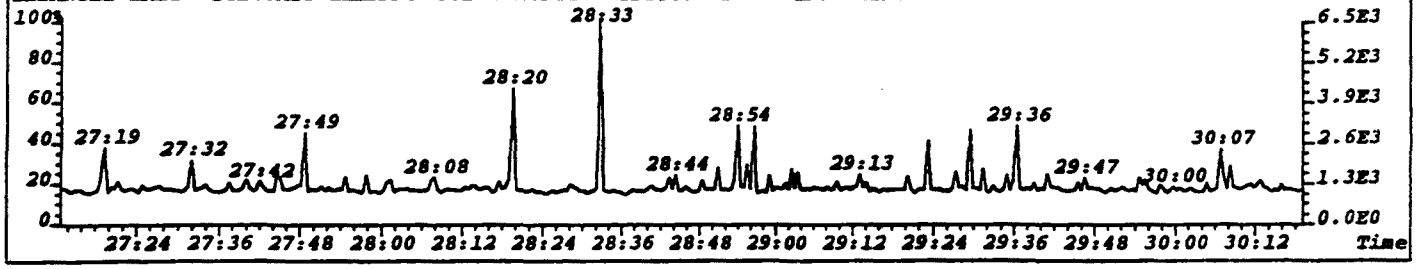
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:77
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,308.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



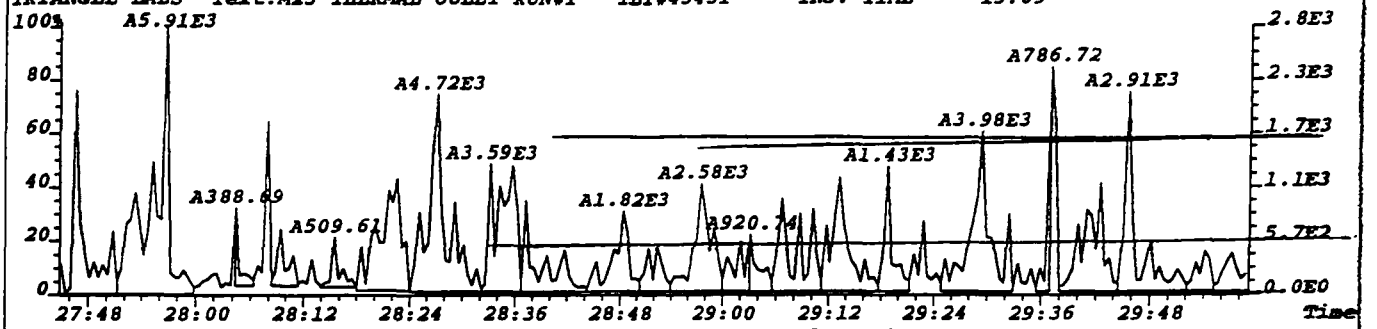
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



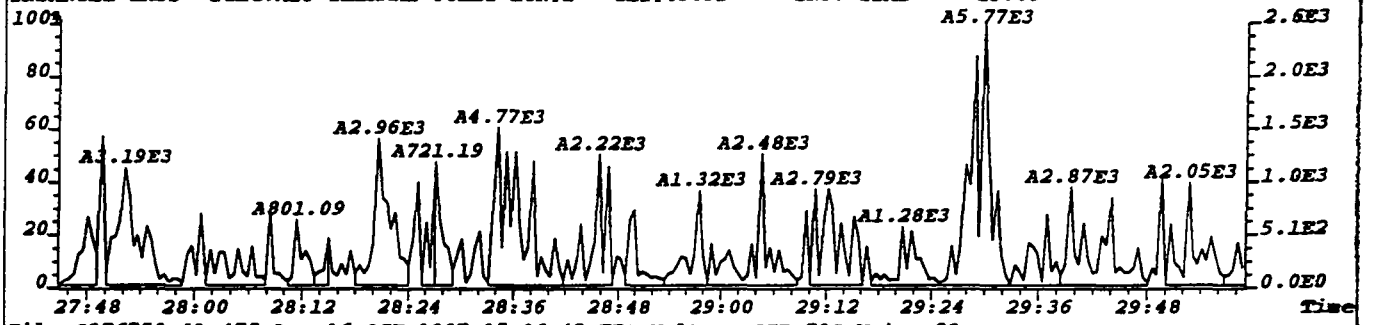
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



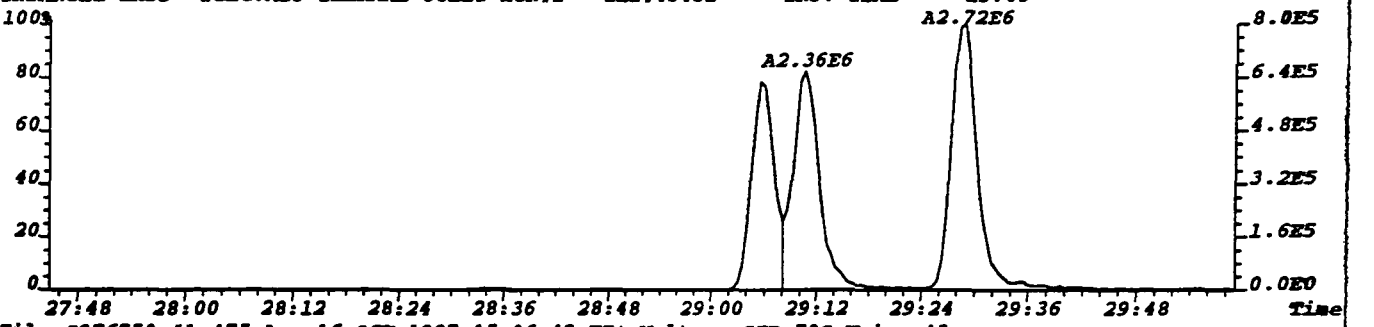
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:51
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



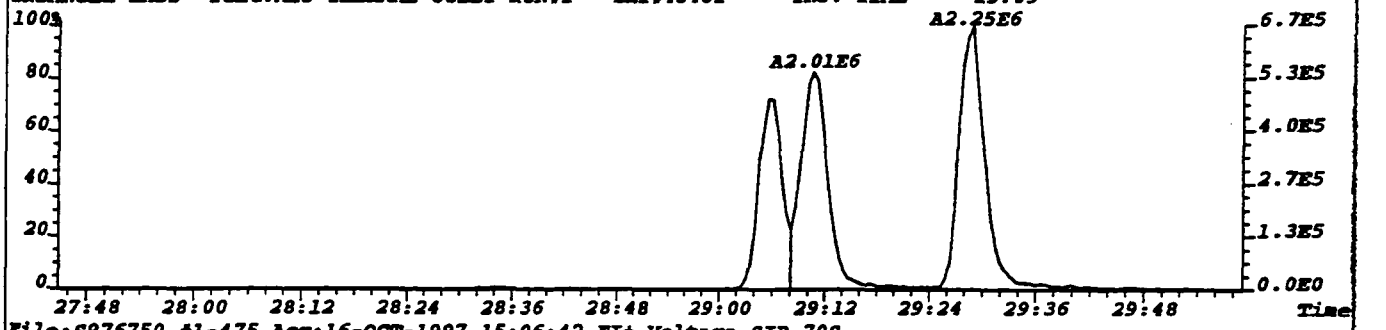
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:37
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



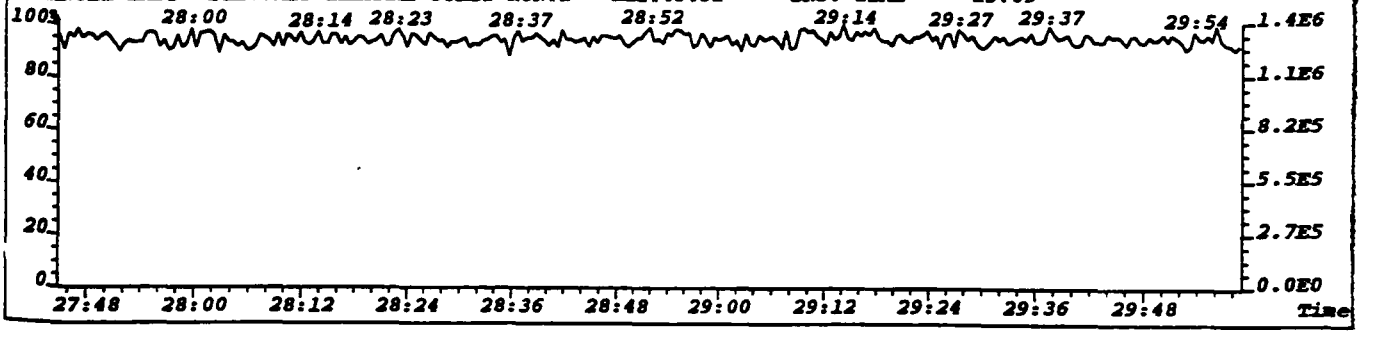
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:53
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,212.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



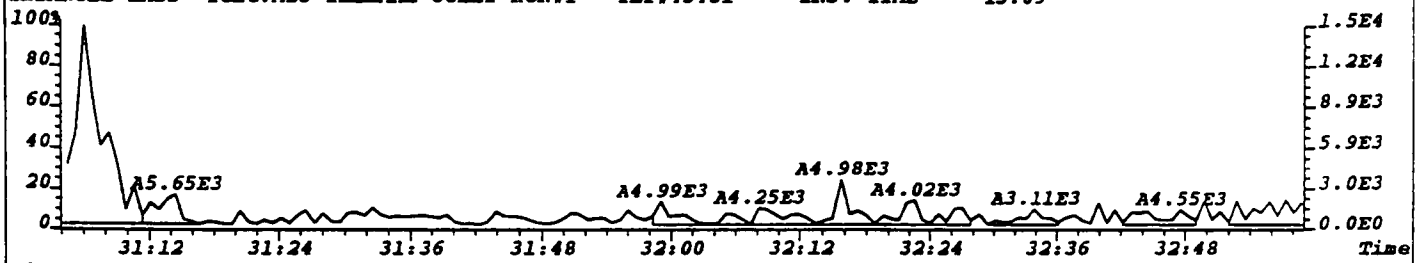
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:43
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



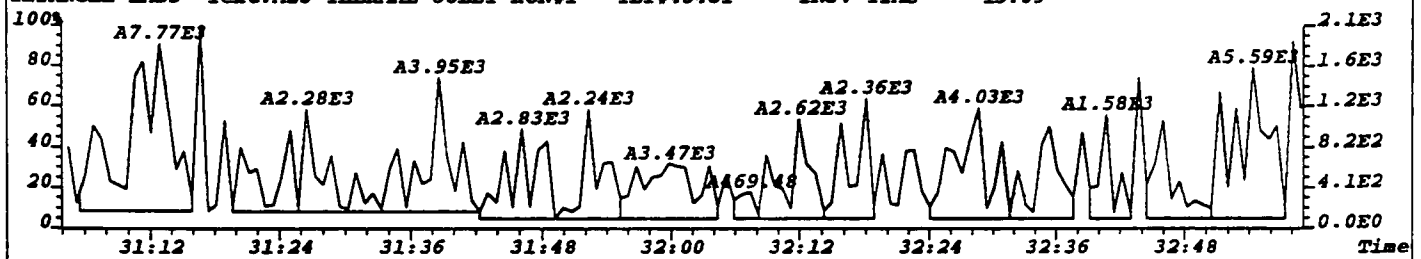
File:S976750 #1-475 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



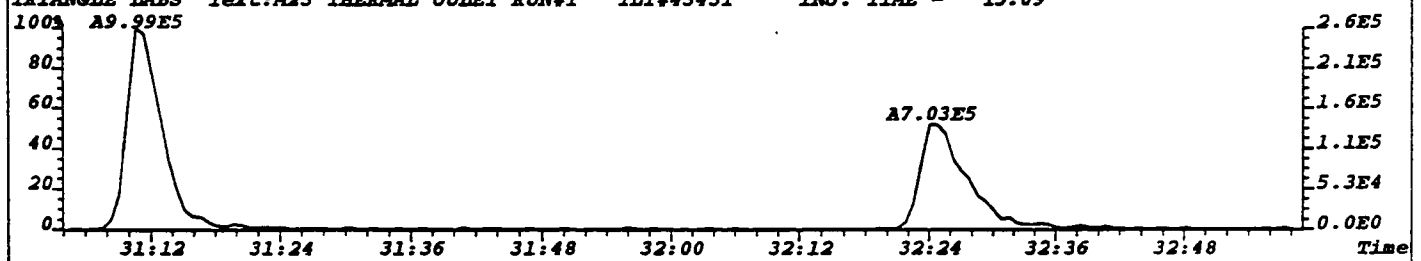
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:238
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,952.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



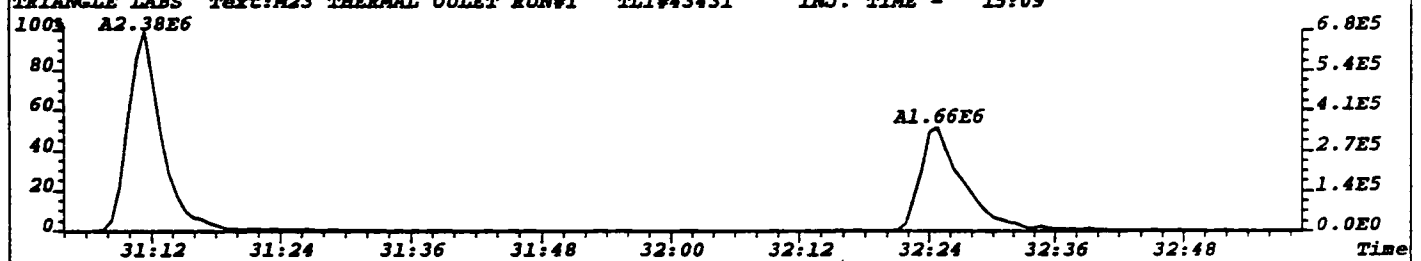
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:94
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,376.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



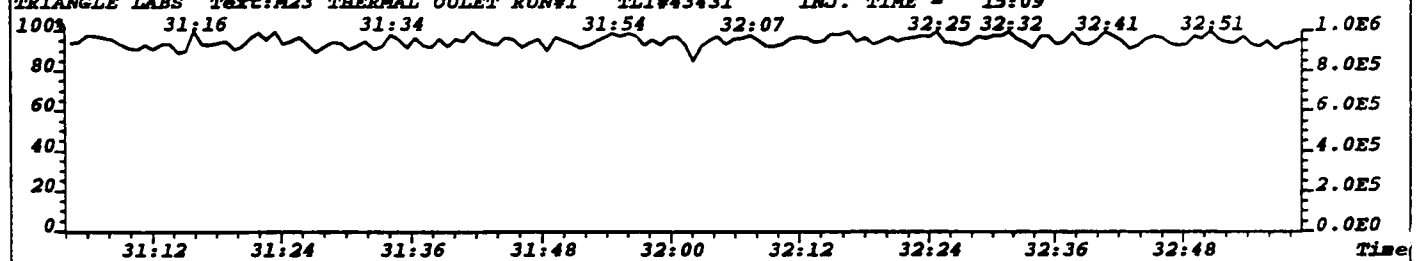
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:225
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,900.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



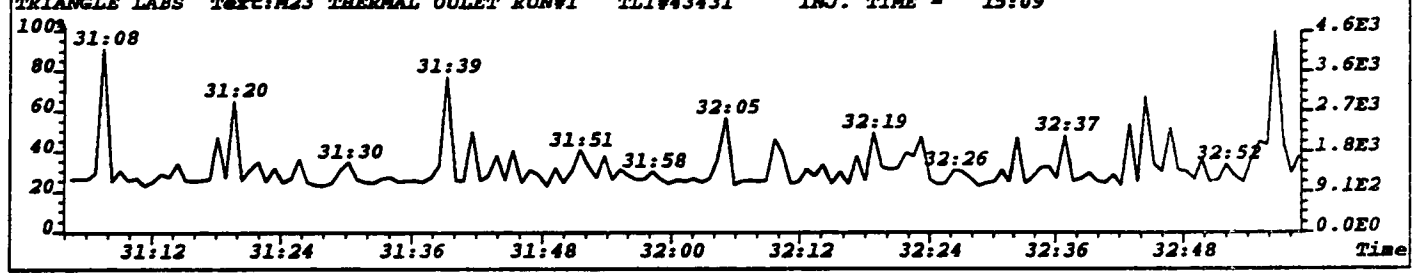
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:173
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,692.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



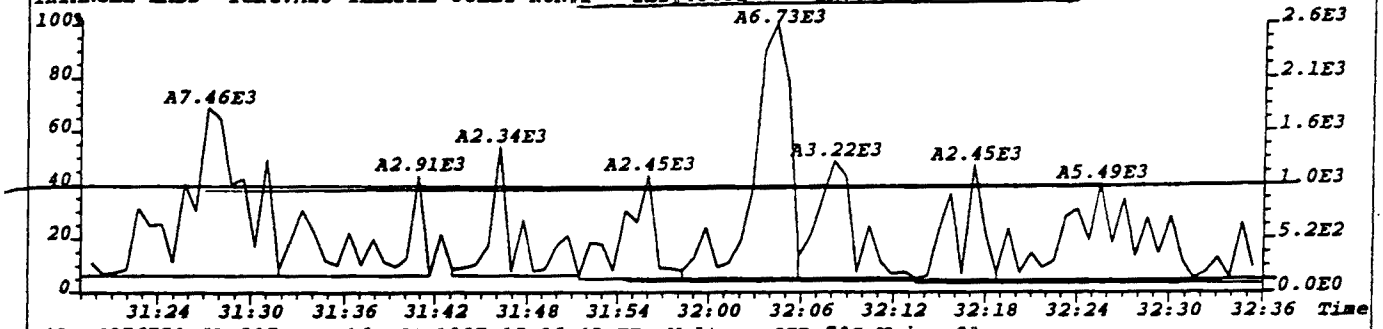
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



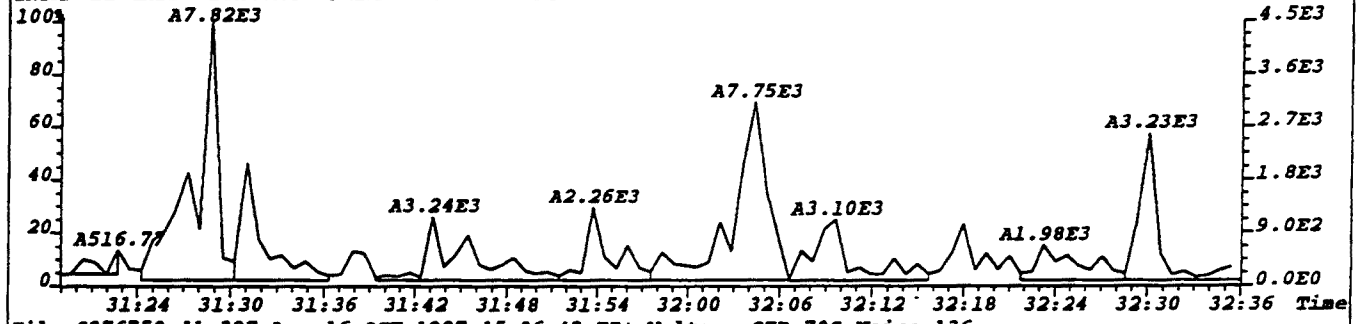
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



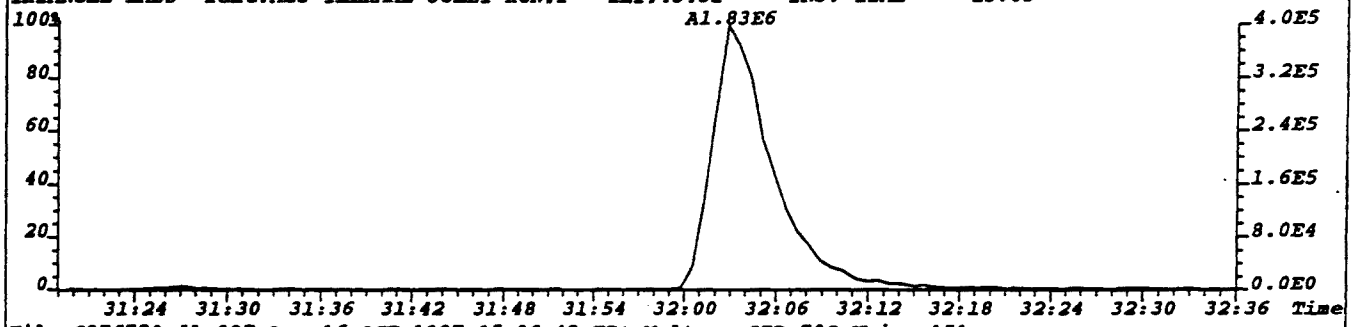
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:80
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,320.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



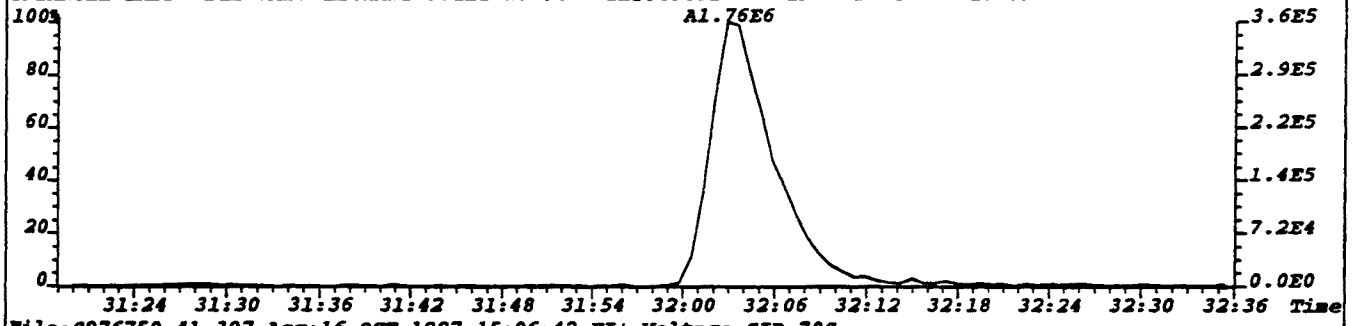
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:91
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



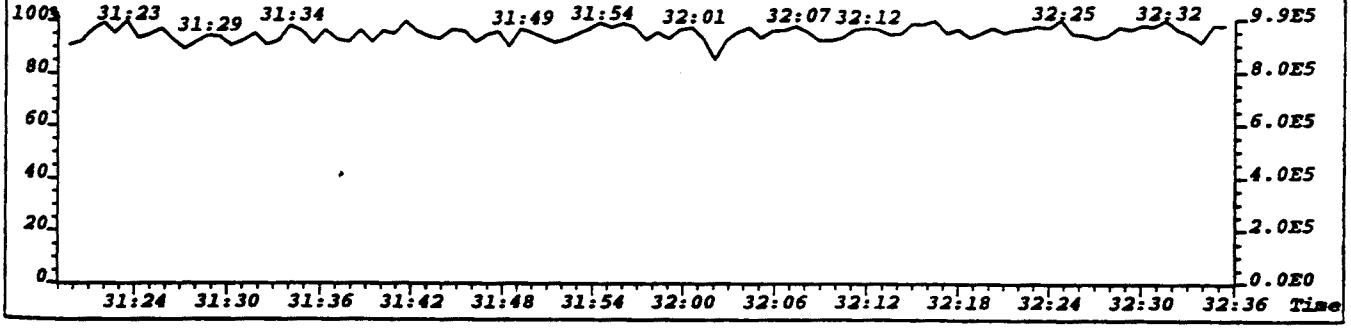
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:136
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,544.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



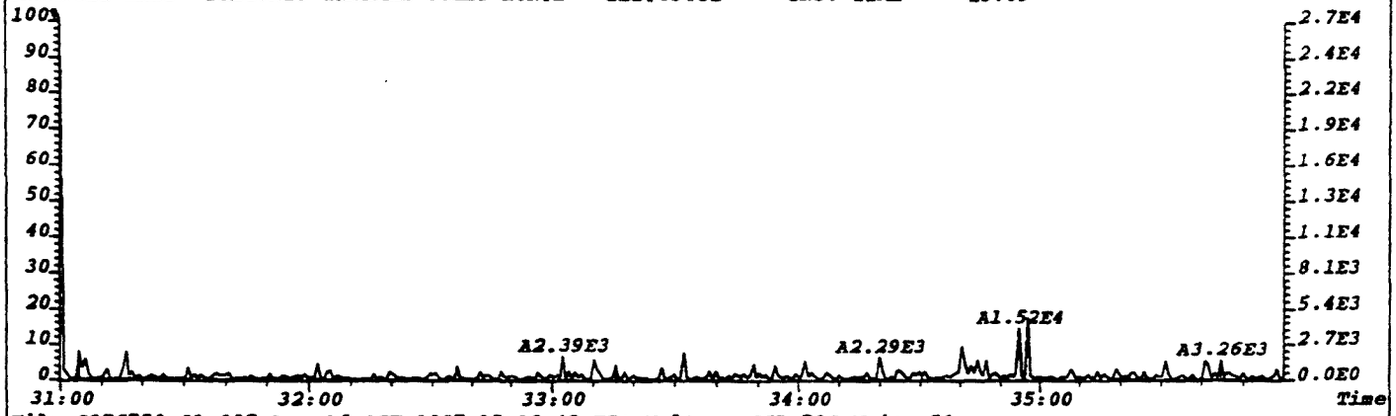
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:151
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,604.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



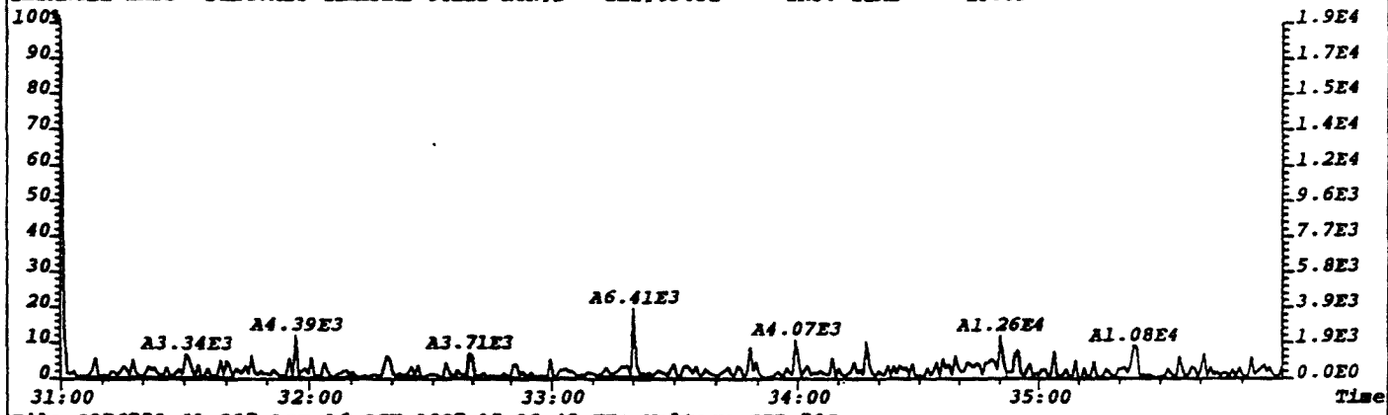
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



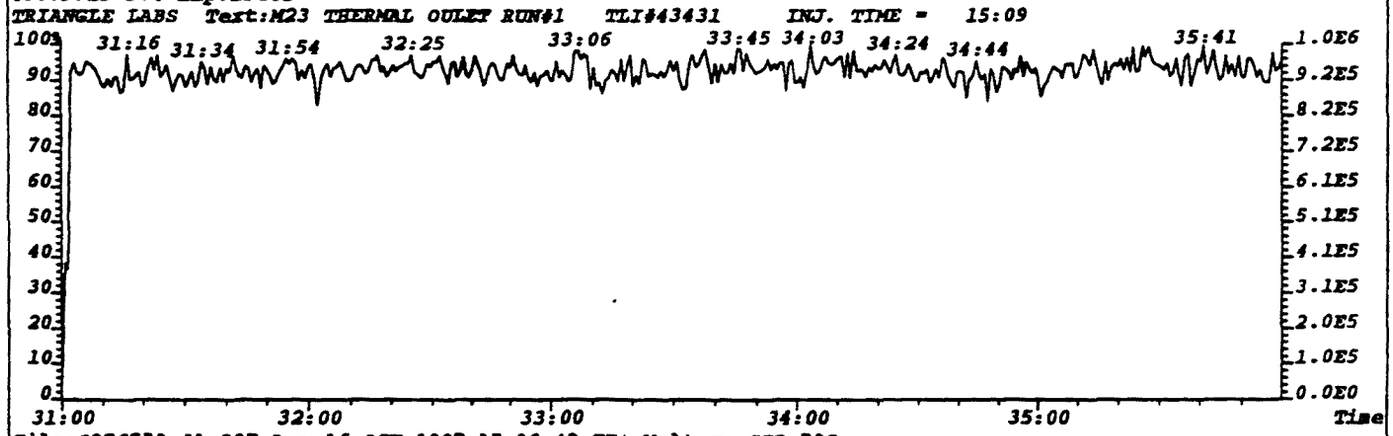
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:55
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



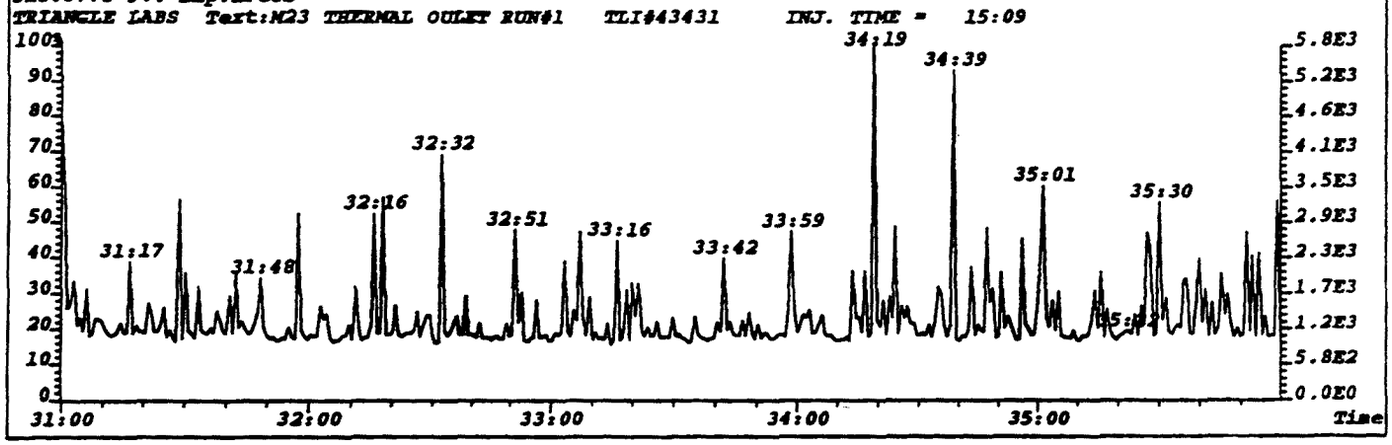
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:50
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



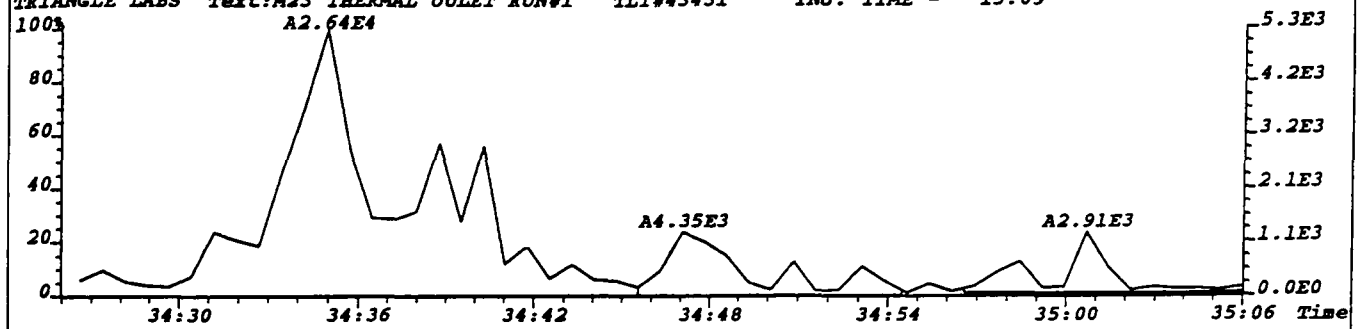
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



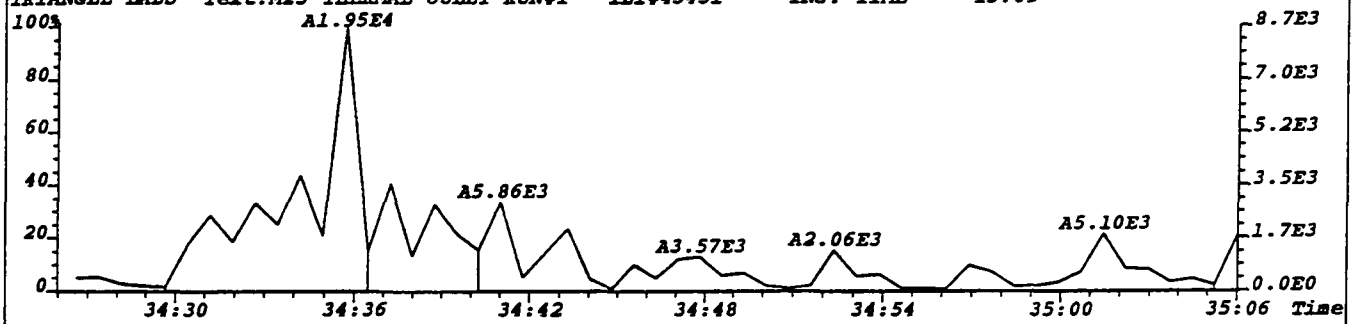
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



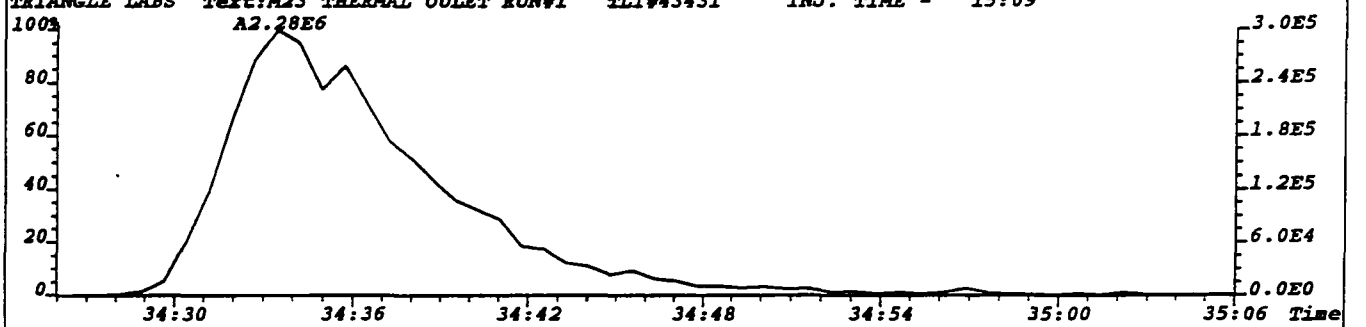
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:50
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



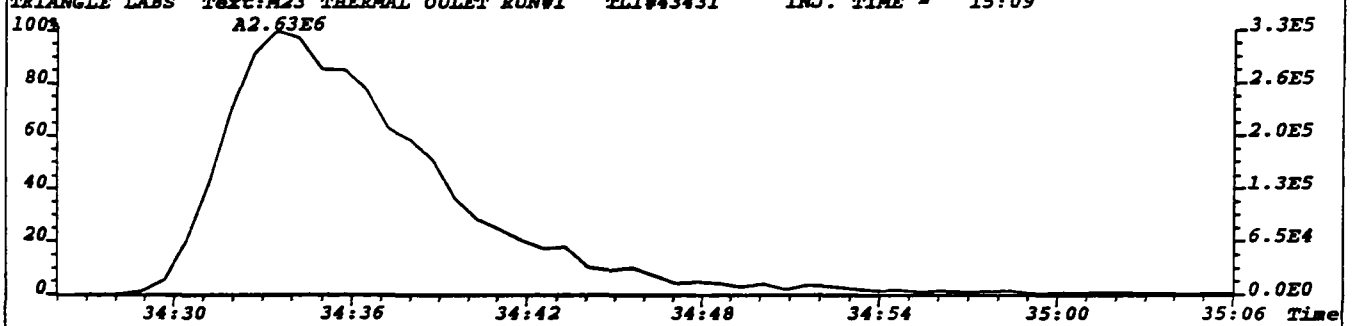
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:45
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



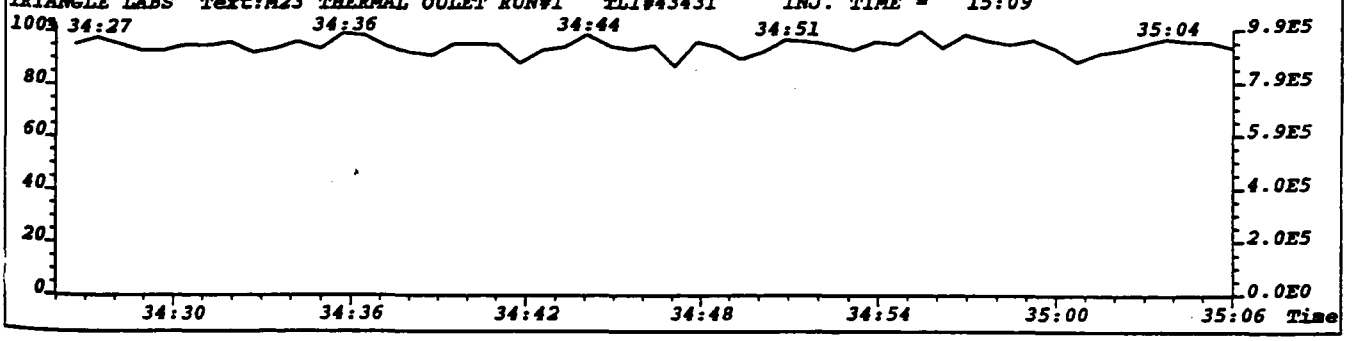
File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:57
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09

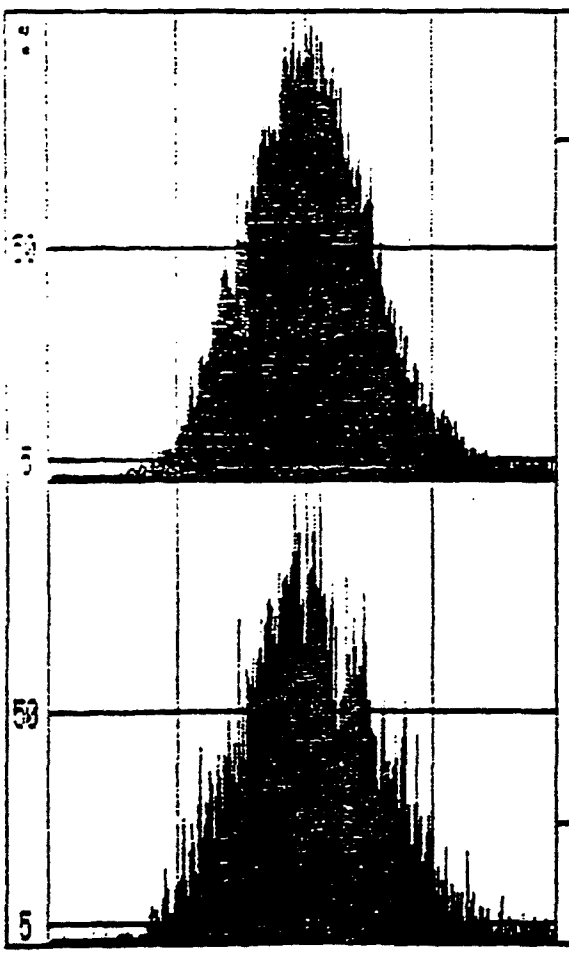


File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S Noise:53
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,212.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09



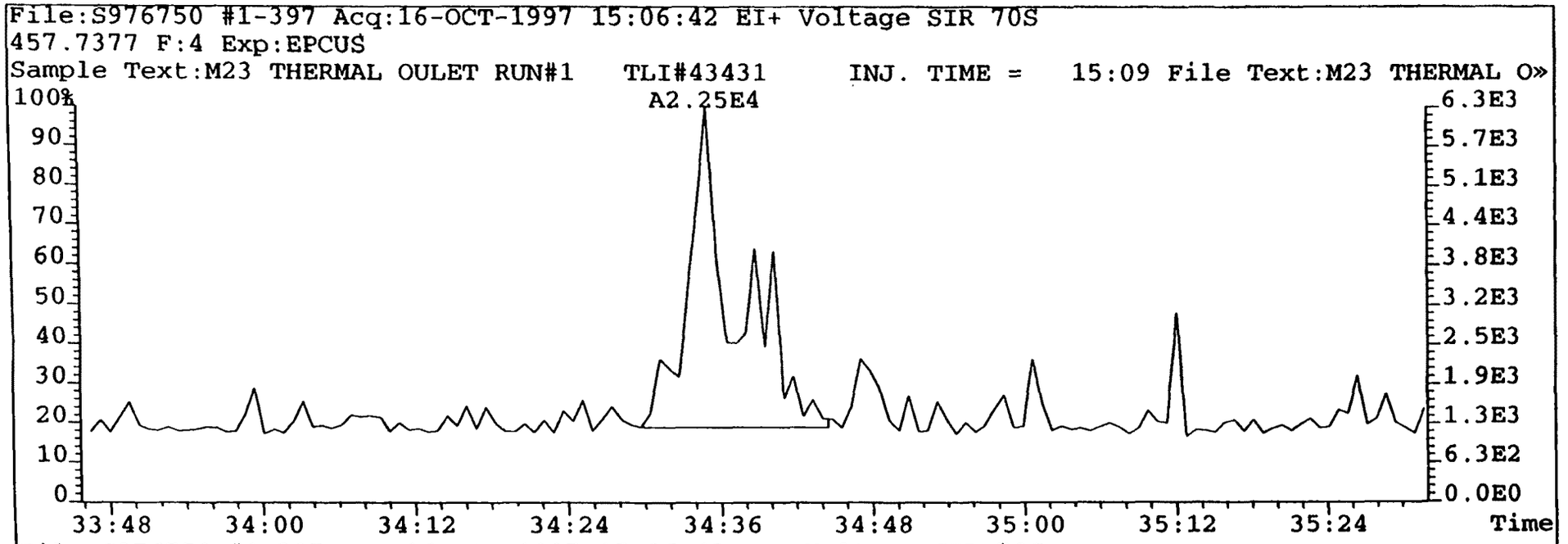


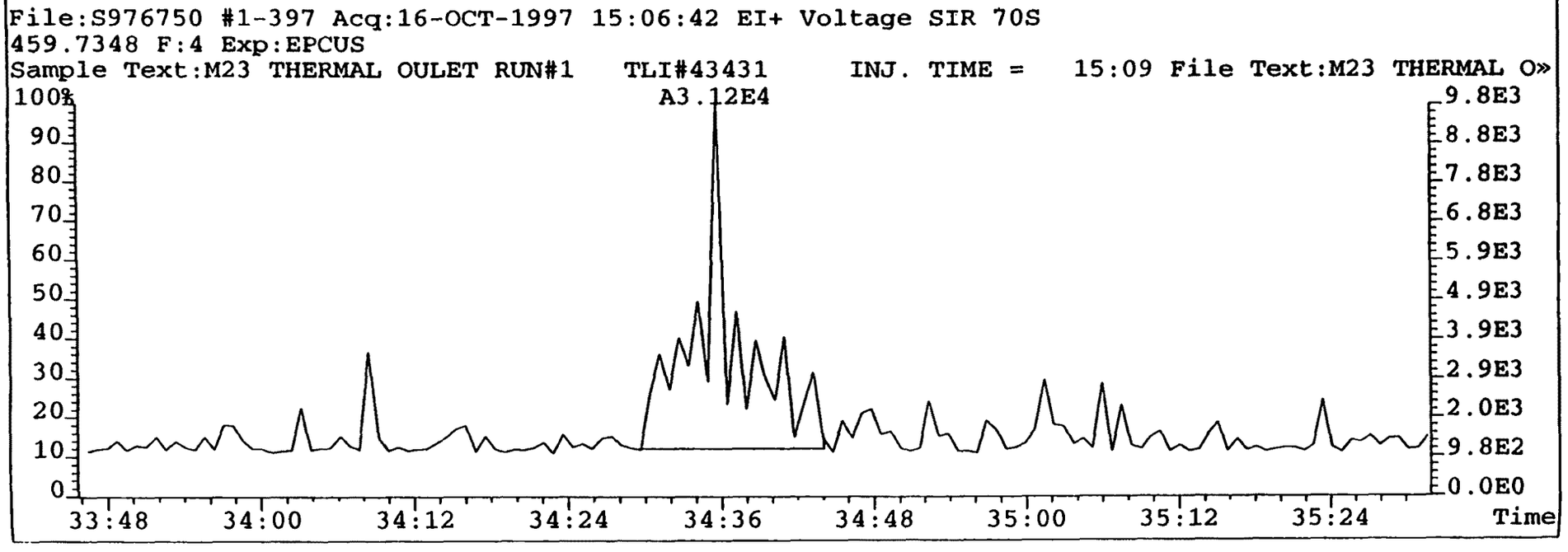
Channel I 330.3792 Peak top
Height 1.67 volts Span 200 ppm

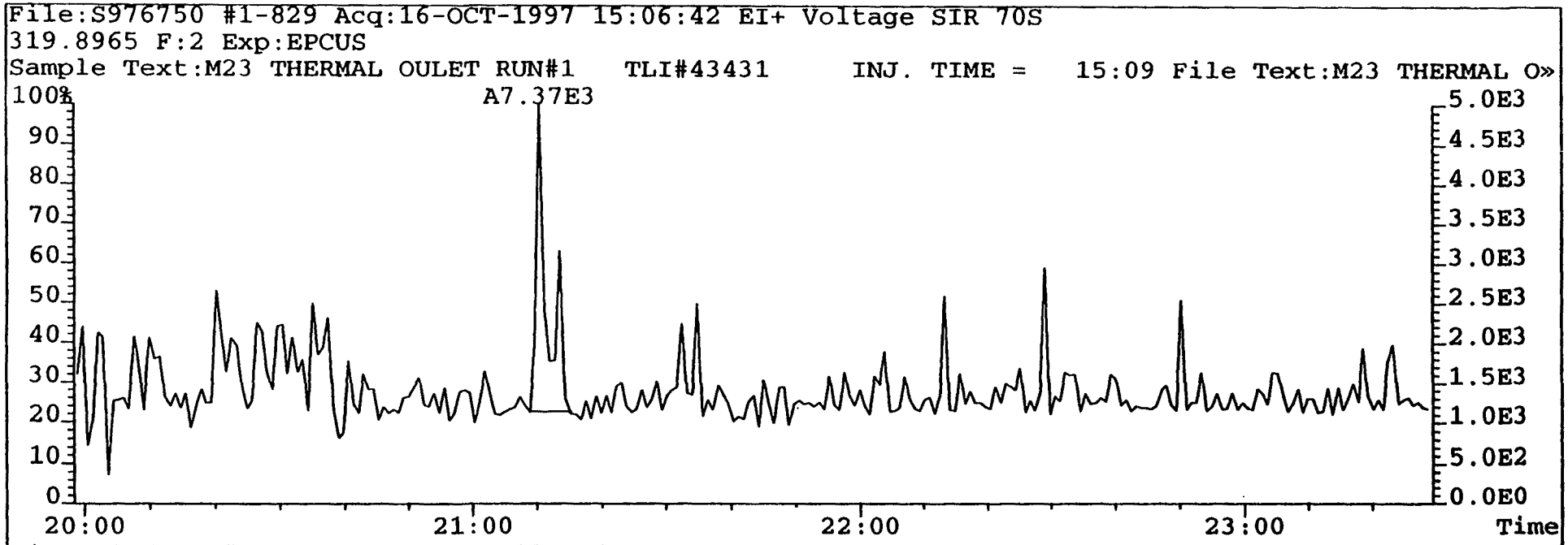
System file name	EPCU6
Data file name	A:S376741
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.3825, 416.9760

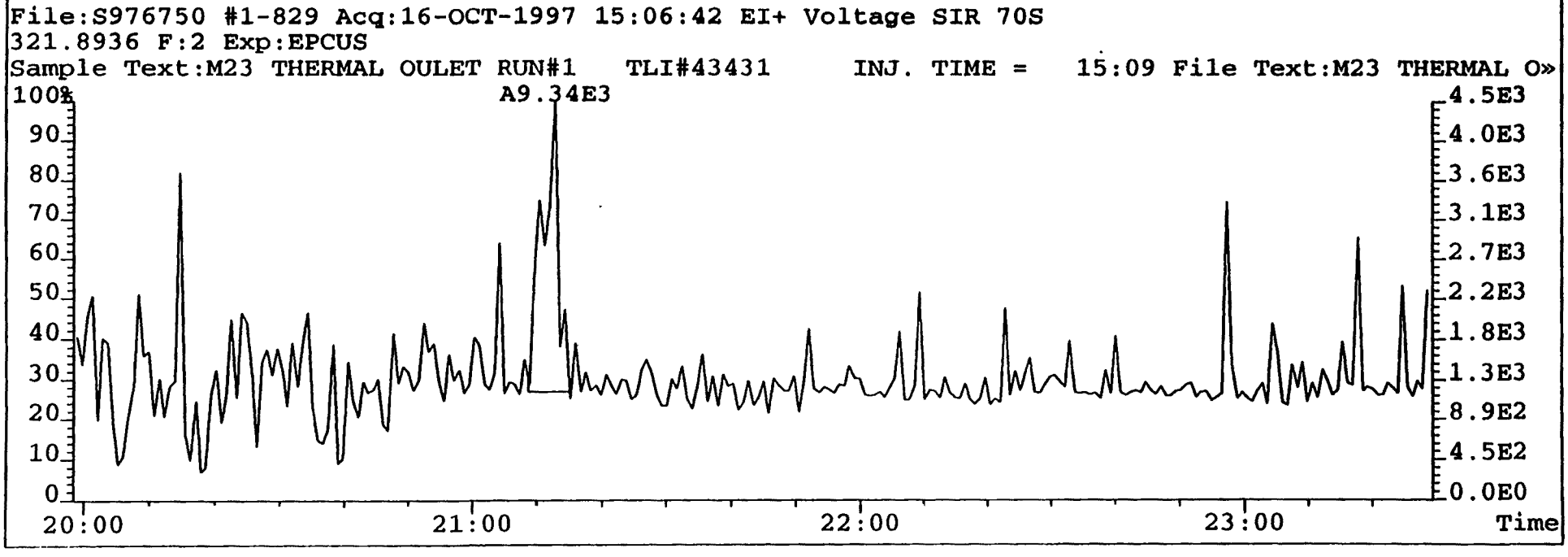
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Ref. mass 416.9760 Peak top
Height .34 volts Span 200 ppm


File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09 File Text:M23 THERMAL O»
A2.25E4
100%
90
80
70
60
50
40
30
20
10
0
6.3E3
5.7E3
5.1E3
4.4E3
3.8E3
3.2E3
2.5E3
1.9E3
1.3E3
6.3E2
0.0E0
33:48
34:00
34:12
34:24
34:36
34:48
35:00
35:12
35:24
Time


File:S976750 #1-397 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09 File Text:M23 THERMAL O»
A3.12E4
100%
90
80
70
60
50
40
30
20
10
0
9.8E3
8.8E3
7.8E3
6.8E3
5.9E3
4.9E3
3.9E3
2.9E3
2.0E3
9.8E2
0.0E0
33:48
34:00
34:12
34:24
34:36
34:48
35:00
35:12
35:24
Time


File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09 File Text:M23 THERMAL O»
A7.37E3
100%
90
80
70
60
50
40
30
20
10
0
5.0E3
4.5E3
4.0E3
3.5E3
3.0E3
2.5E3
2.0E3
1.5E3
1.0E3
5.0E2
0.0E0
20:00
21:00
22:00
23:00
Time


File:S976750 #1-829 Acq:16-OCT-1997 15:06:42 EI+ Voltage SIR 70S
321.8936 F:2 Exp:EPCUS
Sample Text:M23 THERMAL OULET RUN#1 TLI#43431 INJ. TIME = 15:09 File Text:M23 THERMAL O»
A9.34E3
100%
90
80
70
60
50
40
30
20
10
0
4.5E3
4.0E3
3.6E3
3.1E3
2.7E3
2.2E3
1.8E3
1.3E3
8.9E2
4.5E2
0.0E0
20:00
21:00
22:00
23:00
Time

Eastern Research Group

TLI Project: **43431** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **M23 THERMAL OUTLET RUN#2** Analysis File: **S976757**

Client Project:	**Asphalt Roofing Project**				
Sample Matrix:	**M23TRAIN**	Date Received:	**09/29/97**	Spike File:	**SPX23704**
TLI ID:	**185-5-7A-D**	Date Extracted:	**10/01/97**	ICal:	**SF56117**
		Date Analyzed:	**10/16/97**	ConCal:	**S976754**
Sample Size:	**1.000**	Dilution Factor:	**n/a**	% Moisture:	**n/a**
Dry Weight:	**n/a**	Blank File:	**S976745**	% Lipid:	**n/a**
GC Column:	**DB-5**	Analyst:	**MS**	% Solids:	**n/a**

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.009				—
1,2,3,7,8-PeCDD	ND	0.01				—
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	0.02			1.00	32:07	—
1,2,3,4,6,7,8,9-OCDD	ND	0.02				—
2,3,7,8-TCDF	ND	0.006				—
1,2,3,7,8-PeCDF	ND	0.009				—
2,3,4,7,8-PeCDF	ND	0.009				—
1,2,3,4,7,8-HxCDF	ND	0.008				—
1,2,3,6,7,8-HxCDF	ND	0.006				—
2,3,4,6,7,8-HxCDF	ND	0.008				—
1,2,3,7,8,9-HxCDF	ND	0.01				—
1,2,3,4,6,7,8-HpCDF	ND	0.01				—
1,2,3,4,7,8,9-HpCDF	ND	0.02				—
1,2,3,4,6,7,8,9-OCDF	ND	0.02				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.009		—
Total PeCDD	ND		0.01		—
Total HxCDD	ND		0.01		—
Total HpCDD	0.05	2			—
Total TCDF	ND		0.006		—
Total PeCDF	ND		0.009		—
Total HxCDF	ND		0.008		—
Total HpCDF	ND		0.01		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:07 10/20/97

Eastern Research Group

TLI Project: 43431 Method 23 PCDD/PCDF Analysis (a)
Client Sample: M23 THERMAL OUTLET RUN#2 Analysis File: S976757

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	3.5	87.8	40%-130%	0.77	20:25	___
$^{13}C_{12}$-2,3,7,8-TCDD	3.3	81.7	40%-130%	0.78	21:13	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	3.3	81.5	40%-130%	1.49	24:43	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	3.3	82.3	40%-130%	1.52	25:51	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	4.0	101	40%-130%	0.50	28:29	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	4.1	103	40%-130%	1.21	29:12	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.0	75.2	25%-130%	0.42	31:13	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.8	94.5	25%-130%	0.98	32:04	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	7.7	95.8	25%-130%	0.88	34:36	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.9	98.0	70%-140%		21:14	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.7	91.7	70%-140%	1.50	25:29	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.2	78.9	70%-140%	0.49	28:23	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	2.8	70.5	70%-140%	1.20	29:08	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.7	92.5	70%-140%	0.42	32:27	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.4	85.1	40%-130%	0.50	29:44	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.8	93.9	40%-130%	0.48	29:00	___

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	1.19	29:30	___

Data Reviewer: KJ 10/20/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:07 10/20/97

Initial ....Date...

Data Review By: K 10/30/97 Calculated Noise Area: 0.73

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 S976757B.dbf
10/20/97 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				0.826-1.103			
304-306		DC	NL	0:00		0.83	1.17			0.000			
		DC	SN	16:59	RO	0.97	1.08			0.832			
	D	d	SN	20:00	RO	1.03	1.61			0.980			
	D	d	SN	20:26		0.89	2.86			1.001	2378-TCDF		AN
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318		DC	NL	0:00		0.80	1.19			0.000			
		DC	WL	19:16		0.82	17.56			0.944			
				19:59		0.86	6.52	3.01	3.51	0.979			
				20:25		0.77	936.79	406.84	529.95	1.000	13C12-2378-TCDF		ISO
				20:54	RO	0.55	5.82	2.53	4.60	1.024			
		DC	SN	21:08	RO	0.22	0.92			1.035			
		DC	WH	21:40	RO	0.24	0.53			1.061			
		DC	WH	22:09	RO	1.52	0.99			1.085			
316-318			3	Peaks			949.13						

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

TCDD						0.65-0.89				0.858-1.060			
320-322		DC	NL	0:00		0.72	1.03			0.000			
		DC	SN	19:22	RO	1.38	0.51			0.913			
	D	d	SN	21:03	RO	0.57	2.00			0.992			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328		DC	NL	0:00			0.60			0.000			
		DC	WL	18:10			0.56			0.856			
		DC	WL	18:32			1.35			0.874			
		DC	WL	18:45			0.98			0.884			
		DC	WL	18:48			0.51			0.886			
		DC	WL	18:51			0.46			0.888			
		DC	WL	18:56			0.56			0.892			
		DC	WL	19:10			1.50			0.903			
				19:32			0.81	0.81		0.921			
				19:38			6.50	6.50		0.925			
				19:53			0.82	0.82		0.937			
				20:05			1.24	1.24		0.947			
				20:19			1.50	1.50		0.958			
				20:29			0.89	0.89		0.965			
				20:37			0.94	0.94		0.972			
				21:14			582.26	582.26		1.001	37Cl-TCDD		SUR1
				21:37			1.29	1.29		1.019			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				21:39			1.67	1.67		1.020			
	DC	SN		21:45			0.76			1.025			
				21:50			1.50	1.50		1.029			
	DC	SN		21:56			0.47			1.034			
	DC	SN		22:02			0.58			1.038			
	DC	SN		22:10			0.50			1.045			
				22:40			1.85	1.85		1.068			
328			12	Peaks			601.27						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	2.50	0.74			0.000			
	DC	WL		18:31		0.80	1.51			0.873			
	DC	WL		18:56	RO	1.28	0.76			0.892			
	DC	WL		19:05	RO	6.11	0.34			0.899			
	DC	SN		19:16		0.65	0.94			0.908			
				19:25	RO	1.13	1.49	0.95	0.84	0.915			
	DC	SN		19:44	RO	6.31	0.87			0.930			
	DC	SN		20:04	RO	4.80	0.78			0.946			
N				20:59		0.80	809.13	358.55	450.58	0.989	13C12-1234-TCDD	RS1	
				21:13		0.78	704.64	308.71	395.93	1.000	13C12-2378-TCDD	IS1	
				21:36		0.80	15.12	6.71	8.41	1.018			
	DC	SN		21:44	RO	1.57	1.06			1.024			
332-334			4	Peaks			1,530.38						

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

PeCDF				1.32-1.78						0.908-1.080			
340-342	DC	NL		0:00	RO	0.68	0.35			0.000			
	DC	SN		22:43	RO	0.20	0.33			0.919			
	DC	SN		23:26		1.68	0.59			0.948			
	DC	SN		24:36	RO	0.33	0.39			0.995			
	DC	SN		24:43	RO	2.74	0.79			1.000	12378-PeCDF	AN	
	DC	SN		25:02		1.60	0.65			1.013			
	DC	SN		25:20	RO	1.00	0.92			1.025			
	DC	SN		25:40	RO	0.45	0.58			1.038			
	DC	SN		25:49	RO	1.95	0.56			1.045			
	DC	SN		26:19		1.68	1.10			1.065			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	0.78	0.23			0.000			
				23:48		1.41	25.68	15.04	10.64	0.963			
				24:21	RO	1.21	4.20	2.55	2.10	0.985			
				24:43		1.49	747.56	447.80	299.76	1.000	13C12-PeCDF 123	IS2	
				25:02	RO	1.12	8.11	4.93	4.41	1.013			
	DC	SN		25:13		1.32	1.44			1.020			
				25:29		1.50	664.82	399.24	265.58	1.031	13C12-PeCDF 234	SUR2	
	DC	SN		25:55		1.69	2.02			1.049			
	DC	SN		26:20	RO	1.31	1.17			1.065			
				26:30	RO	0.85	1.73	1.05	1.23	1.072			
	DC	SN		26:42	RO	0.76	0.56			1.080			
352-354			6	Peaks			1,452.10						

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: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.921-1.027			
356-358	DC	NL		0:00	RO	2.08	0.31			0.000			
	DC	SN		23:57	RO	3.94	0.46			0.926			
	DC	SN		24:22	RO	0.55	0.38			0.943			
	DC	SN		25:05		1.57	1.31			0.970			
	DC	SN		25:24	RO	0.89	0.41			0.983			
	DC	SN		25:31	RO	2.03	1.56			0.987			
	DC	SN		26:30	RO	3.13	0.38			1.025			
	DC	WH		26:37	RO	4.85	0.33			1.030			
356-358			0	Peaks			0.00						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	0.93	0.21			0.000			
	DC	SN		23:52	RO	2.47	0.48			0.923			
	DC	SN		24:00	RO	2.79	0.87			0.928			
	DC	SN		24:53	RO	0.53	1.18			0.963			
	DC	SN		25:30	RO	1.94	0.43			0.986			
	DC	SN		25:37		1.70	0.73			0.991			
				25:51		1.52	422.75	254.67	168.08	1.000	13C12-PeCDD 123	IS3	
				26:00	RO	1.26	53.32	32.41	25.71	1.006			
	DC	SN		26:33	RO	2.15	0.69			1.027			
368-370			2	Peaks			476.07						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.957-1.054			
374-376	DC	NL		0:00	RO	2.00	0.27			0.000			
	DC	SN		27:59	RO	1.57	0.31			0.982			
	DC	SN		28:09	RO	1.75	0.27			0.988			
	DC	SN		28:23	RO	2.10	0.69			0.996	123478-HxCDF	AN	
	DC	SN		28:30		1.13	0.81			1.001	123678-HxCDF	AN	
	DC	SN		28:41	RO	0.54	0.25			1.007			
	DC	SN		28:44		1.06	0.33			1.009			
	DC	SN		28:48	RO	2.14	0.16			1.011			
D	d	SN		29:02	RO	0.92	1.68			1.019	234678-HxCDF	AN	
	DC	SN		29:12	RO	3.13	0.36			1.025			
	DC	SN		29:17	RO	1.50	0.27			1.028			
	DC	SN		29:22		1.14	0.30			1.031			
	DC	SN		29:26	RO	4.67	0.20			1.033			
	DC	SN		29:34	RO	2.00	0.07			1.038			
	DC	SN		30:00	RO	4.50	0.22			1.053			
	DC	WH		30:05	RO	0.37	0.13			1.056			
	DC	WH		30:10	RO	2.88	0.18			1.059			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00		0.53	0.49			0.000			
				27:22		0.52	4.01	1.37	2.64	0.961			
				27:32		0.49	10.39	3.42	6.97	0.967			
	DC	SN		27:42		0.47	0.66			0.972			

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	28:11	RO	0.78	0.60			0.989			
				28:23		0.49	546.25	180.70	365.55	0.996	13C12-HxCDF 478	SUR3	
				28:29		0.50	721.72	239.74	481.98	1.000	13C12-HxCDF 678	IS4	
		DC	SN	28:44	RO	0.21	2.19			1.009			
				28:53	RO	0.31	2.43	0.82	2.68	1.014			
				29:00		0.48	620.79	200.75	420.04	1.018	13C12-HxCDF 234	ALT2	
				29:17		0.47	3.26	1.04	2.22	1.028			
				29:25		0.46	2.68	0.85	1.83	1.033			
		DC	SN	29:32	RO	0.25	0.77			1.037			
				29:44		0.50	489.04	162.31	326.73	1.044	13C12-HxCDF 789	ALT1	
				30:05	RO	0.75	2.54	1.26	1.68	1.056			
		DC	SN	30:15	RO	2.11	0.27			1.062			
		DC	SN	30:21	RO	0.21	0.21			1.066			
384-386			10	Peaks			2,403.11						

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

HxCDD				1.05-1.43					0.951-1.016				
390-392		DC	NL	0:00	RO	0.52	0.20			0.000			
		DC	SN	27:52	RO	0.65	0.20			0.954			
		DC	SN	28:02	RO	1.86	0.16			0.960			
		DC	SN	28:08	RO	4.50	0.09			0.963			
		DC	SN	28:16	RO	0.25	0.11			0.968			
		DC	SN	28:23	RO	2.06	1.12			0.972			
		DC	SN	28:28	RO	2.65	0.45			0.975			
	D	d	SN	28:38	RO	0.84	2.35			0.981			
		DC	SN	28:46	RO	0.22	0.18			0.985			
		DC	SN	29:00	RO	1.45	0.49			0.993			
		DC	SN	29:09	RO	0.84	0.83			0.998	123478-HxCDD	AN	
		DC	SN	29:14	RO	2.72	0.72			1.001	123678-HxCDD	AN	
		DC	SN	29:31	RO	0.81	1.21			1.011	123789-HxCDD	AN	
		DC	WH	30:00	RO	0.44	0.13			1.027			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43					0.966-1.034				
402-404		DC	NL	0:00	RO	0.38	0.20			0.000			
				28:35	RO	0.96	3.63	2.01	2.09	0.979			
				29:08		1.20	415.94	227.23	188.71	0.998	13C12-HxCDD 478	SUR4	
				29:12		1.21	606.75	332.37	274.38	1.000	13C12-HxCDD 678	IS5	
				29:30		1.19	593.17	322.79	270.38	1.010	13C12-HxCDD 789	RS2	
				29:45	RO	1.53	2.96	2.02	1.32	1.019			
				29:50		1.31	2.08	1.18	0.90	1.022			
		DC	SN	29:56	RO	0.79	1.32			1.025			
402-404			6	Peaks			1,624.53						

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

HpCDF				0.88-1.20					0.996-1.047				
408-410		DC	NL	0:00	RO	3.78	0.18			0.000			
		DC	SN	31:28	RO	0.82	0.98			1.008			
		DC	SN	31:35	RO	1.33	0.49			1.012			
		DC	SN	31:42		0.93	0.54			1.015			

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		31:54	RO	8.33	0.12			1.022			
	DC	SN		32:02	RO	4.89	0.18			1.026			
	DC	SN		32:16	RO	1.96	0.51			1.034			
	DC	SN		32:34	RO	2.13	0.49			1.043			
	DC	WH		32:59	RO	7.00	0.41			1.057			
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC	NL		0:00	RO	1.28	0.56			0.000			
				31:13		0.42	395.44	116.85	278.59	1.000	13C12-HpCDF	678	IS6
				31:30	RO	1.28	1.41	1.25	0.98	1.009			
	DC	SN		32:03	RO	1.20	0.94			1.027			
				32:27		0.42	282.05	83.57	198.48	1.040	13C12-HpCDF	789	SUR5
418-420			3	Peaks			678.90						

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

HpCDD				0.88-1.20						0.978-1.007			
424-426	DC	NL		0:00	RO	0.60	0.18			0.000			
				31:30		0.94	3.60	1.74	1.86	0.982			
	DC	SN		31:51	RO	1.93	0.29			0.993			
	DC	SN		31:58	RO	0.41	0.33			0.997			
M				32:07		1.00	2.68	1.34	1.34	1.002	1234678-HpCDD		AN
	DC	WH		32:27	RO	2.43	0.71			1.012			
424-426			2	Peaks			6.28						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	0.86	1.28			0.000			
				31:30		1.14	4.31	2.30	2.01	0.982			
				32:04		0.98	456.98	226.11	230.87	1.000	13C12-HpCDD	678	IS7
				32:24	RO	1.54	3.30	2.49	1.62	1.010			
	DC	SN		32:33	RO	2.39	0.67			1.015			
	DC	SN		32:37	RO	1.55	0.59			1.017			
436-438			3	Peaks			464.59						

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

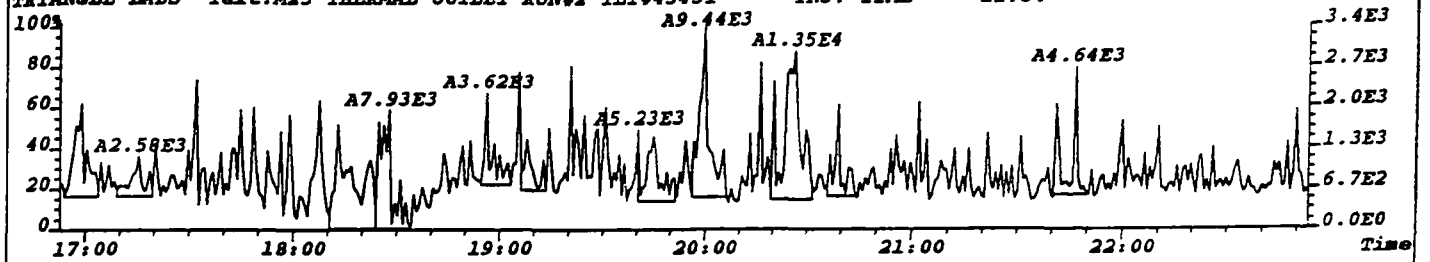
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00	RO	0.71	0.64			0.000			
	DC	SN		31:28	RO	0.26	0.19			0.909			
	DC	SN		33:40	RO	0.56	0.72			0.973			
	DC	SN		34:21		0.95	0.43			0.993			
	DC	SN		34:38	RO	0.32	0.15			1.001			
	DC	SN		34:49	RO	1.04	1.06			1.006			
	DC	SN		35:10	RO	3.26	0.43			1.016			
	DC	SN		35:23	RO	1.06	1.17			1.023			
	DC	SN		35:30	RO	0.53	0.53			1.026			
	DC	SN		35:43	RO	1.04	0.49			1.032			
442-444			0	Peaks			0.00						
OCDD				0.76-1.02						0.884-1.116			
458-460	DC	NL		0:00	RO	0.67	0.17			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.
D	d		SN	34:36		0.95	2.60			1.000	OCDD	AN	
	DC		SN	34:48	RO	2.11	0.34			1.006			
	DC		SN	35:00		1.00	0.48			1.012			
	DC		SN	35:06		0.84	0.59			1.014			
458-460			0	Peaks			0.00						
13C12-OCDD						0.76-1.02				0.998-1.007			
470-472	DC		NL	0:00		1.00	0.22			0.000			
				34:36		0.88	589.86	276.37	313.49	1.000	13C12-OCDD	IS8	
470-472			1	Peak			589.86						

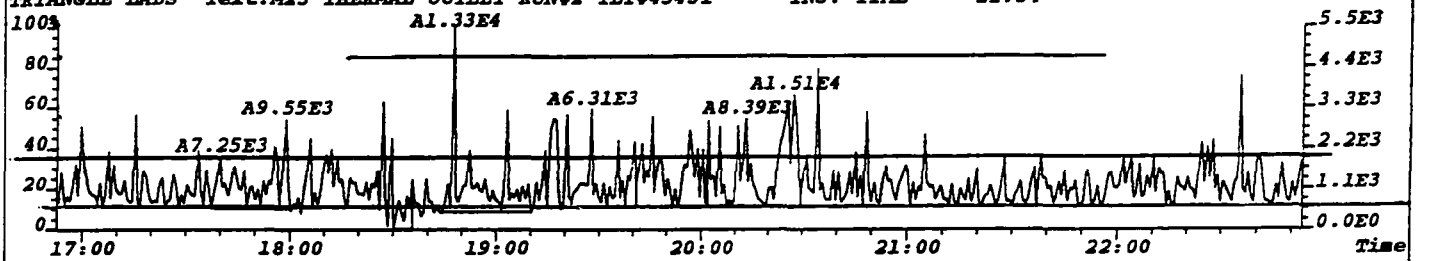
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

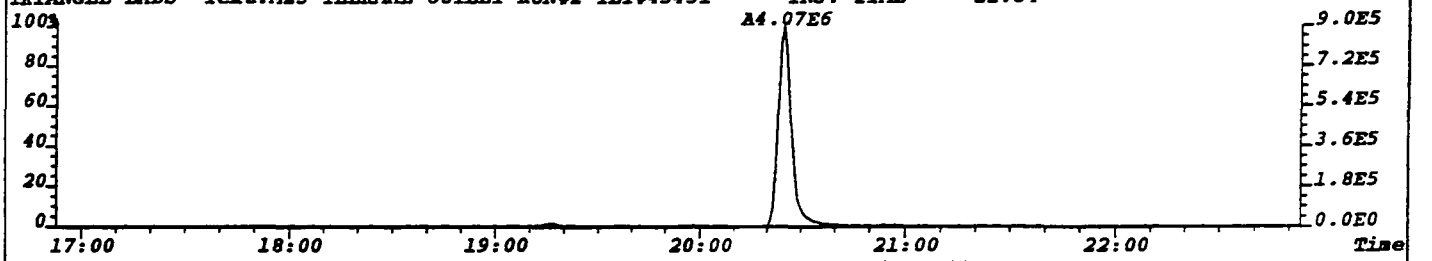
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:264
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1056.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



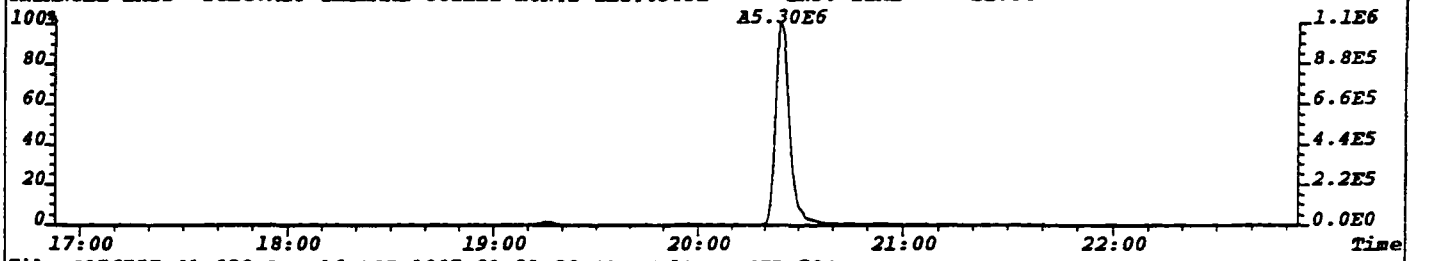
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:321
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



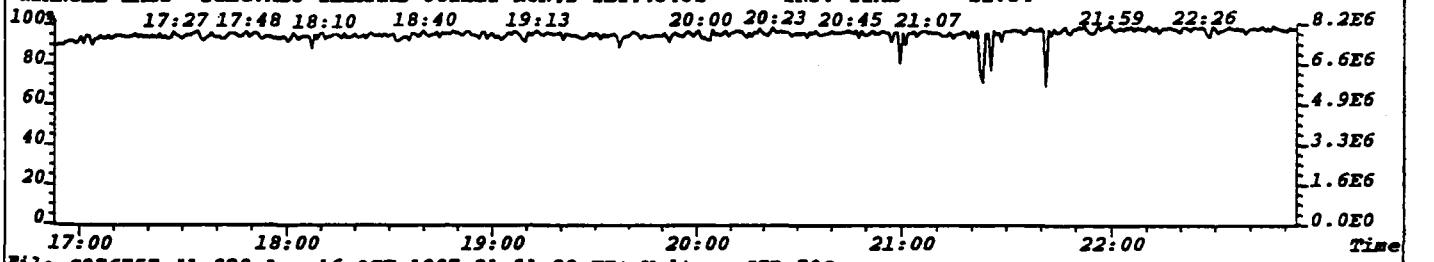
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:263
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1052.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



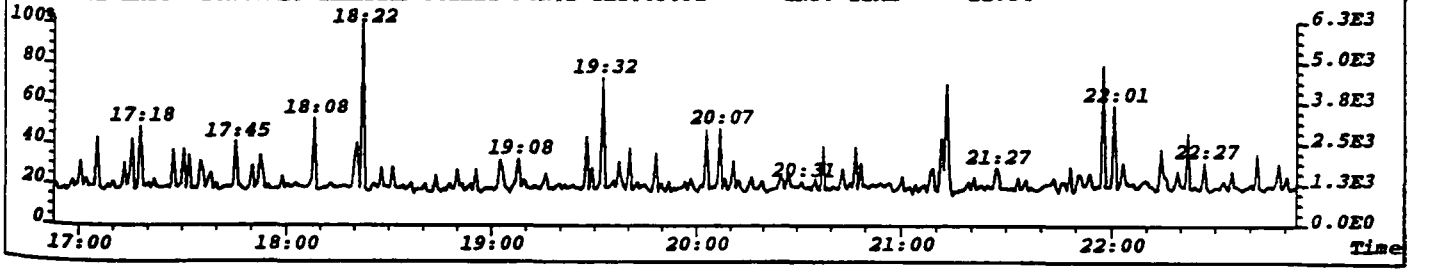
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:329
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1316.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



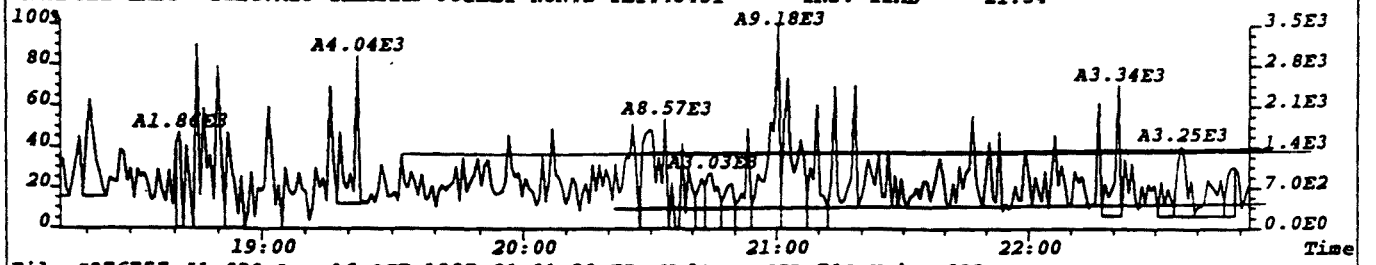
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



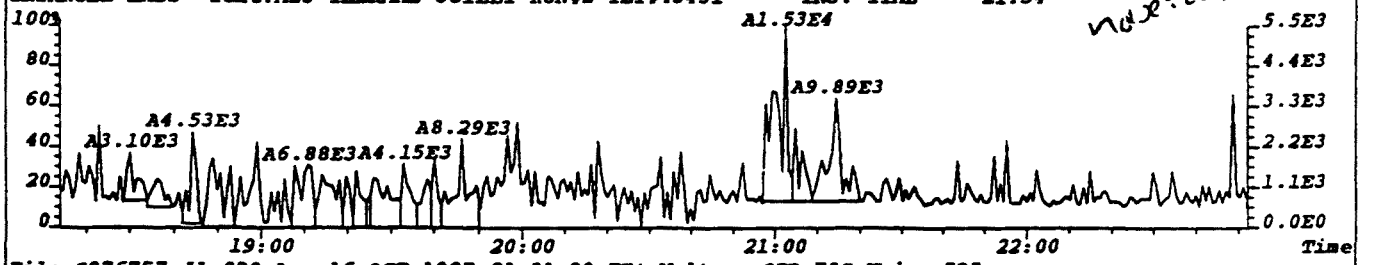
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



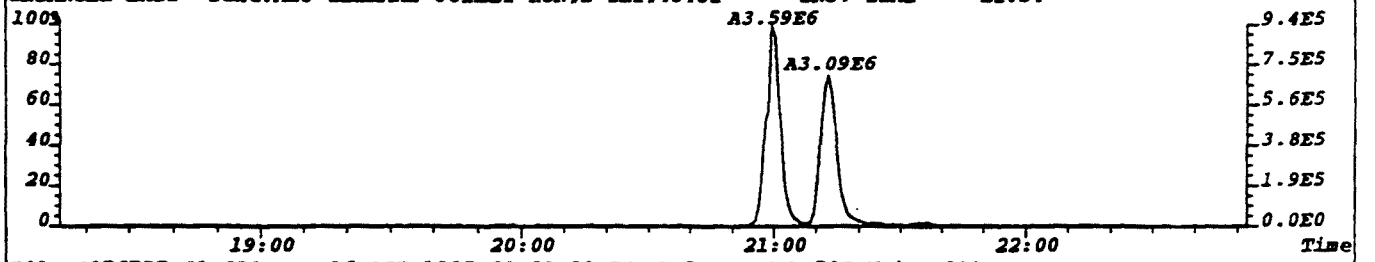
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:217
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,868.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



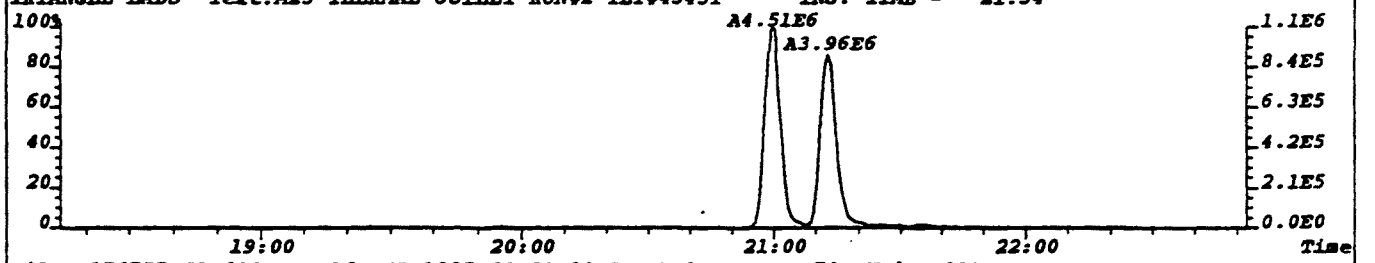
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:298
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



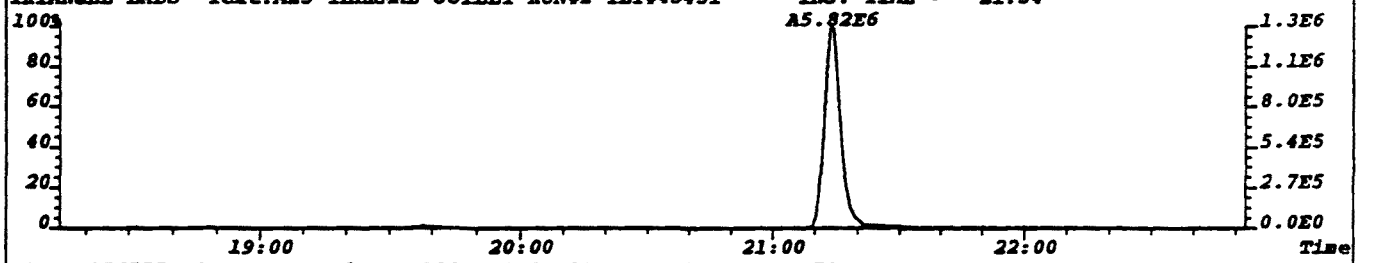
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:525
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2100.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



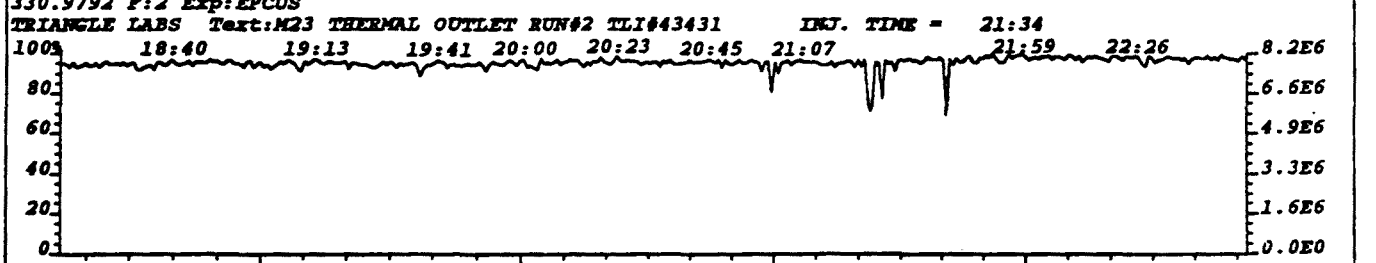
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:208
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,832.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



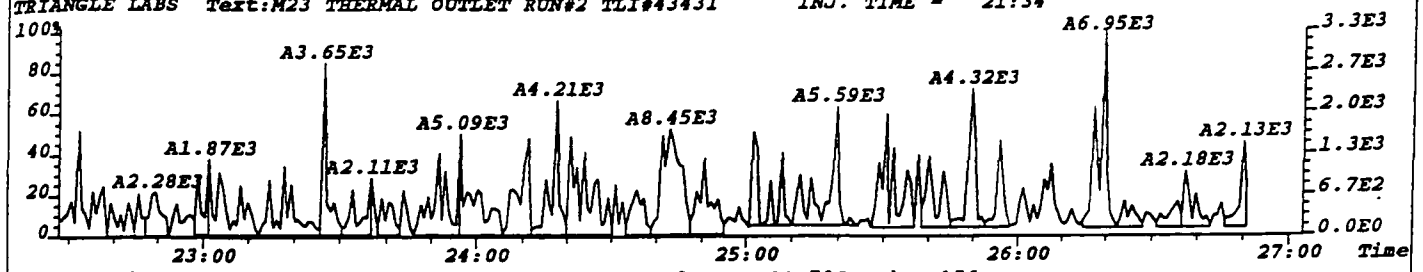
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:301
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



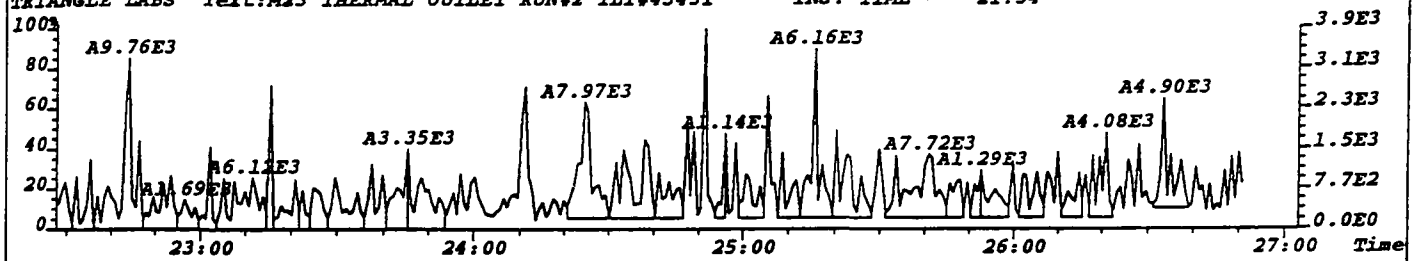
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



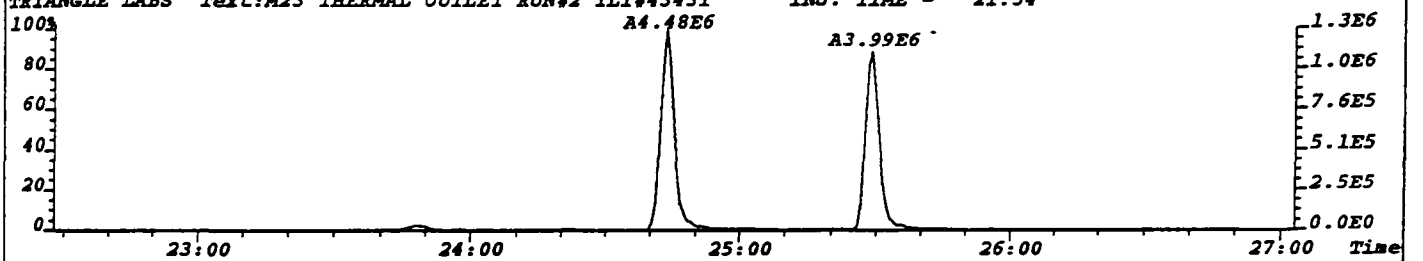
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:103
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,412.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



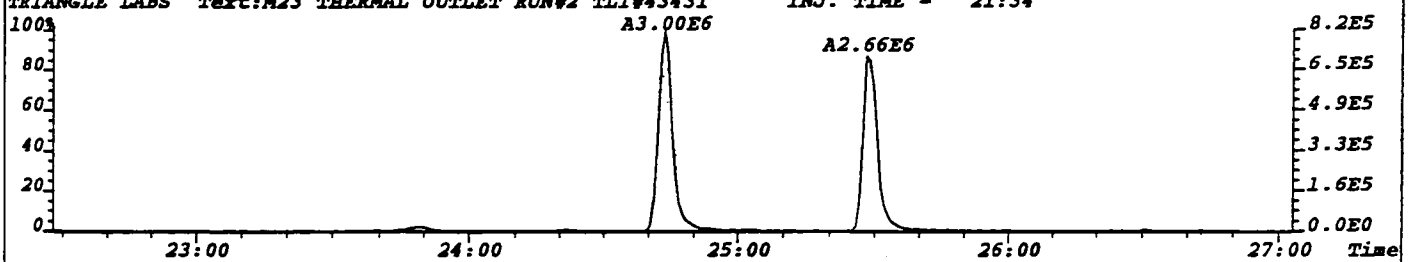
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:156
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,624.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



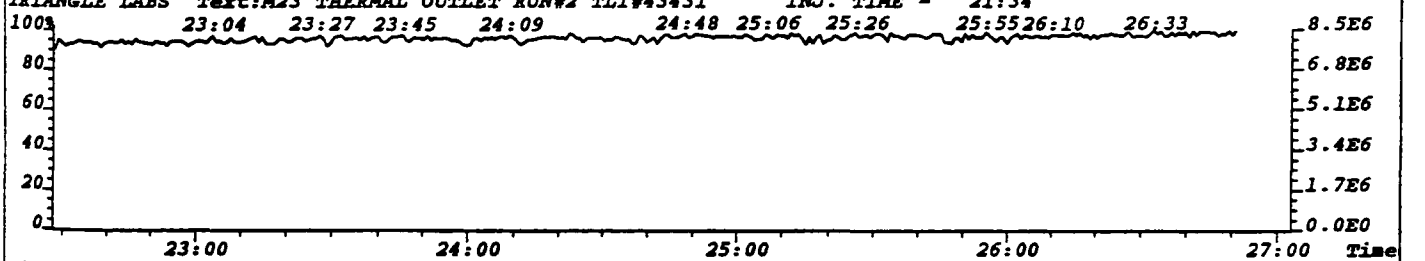
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:71
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



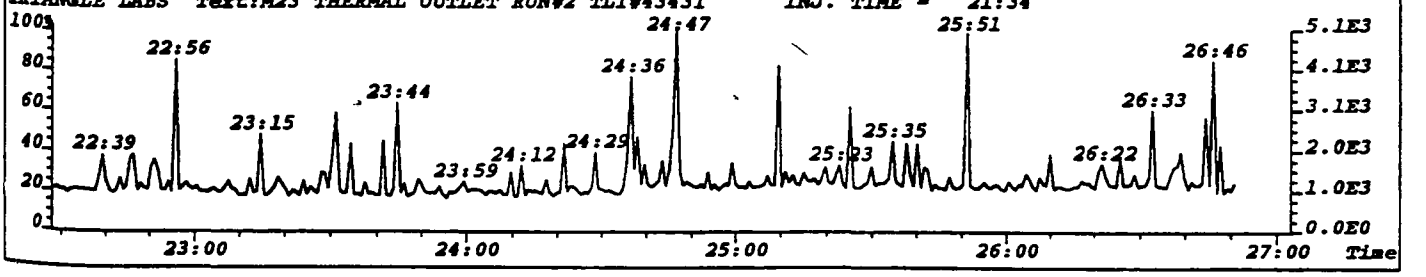
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:92
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,368.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



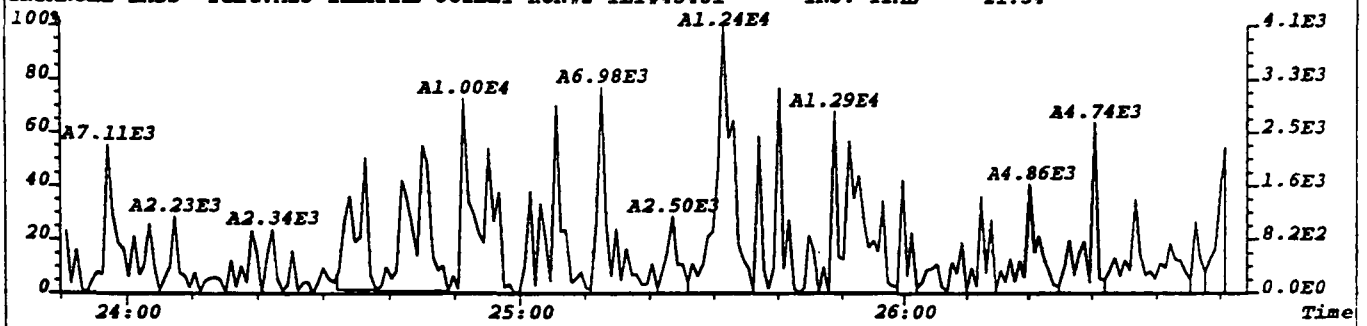
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



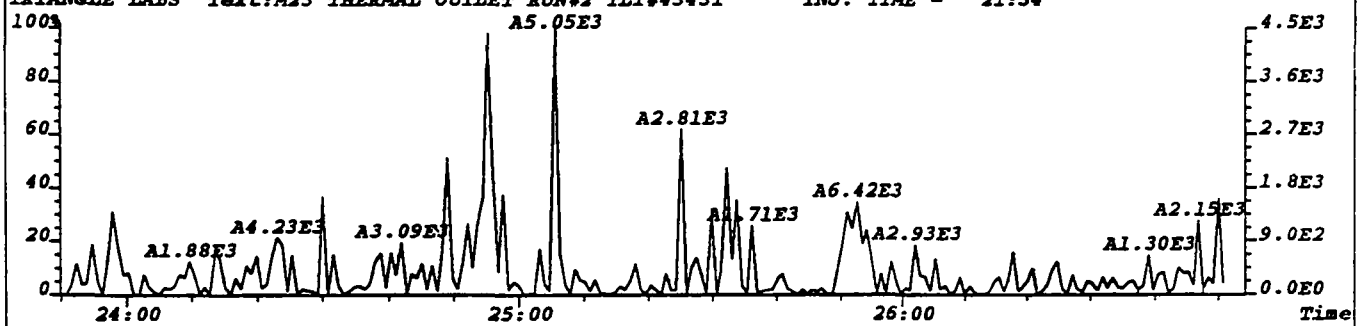
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



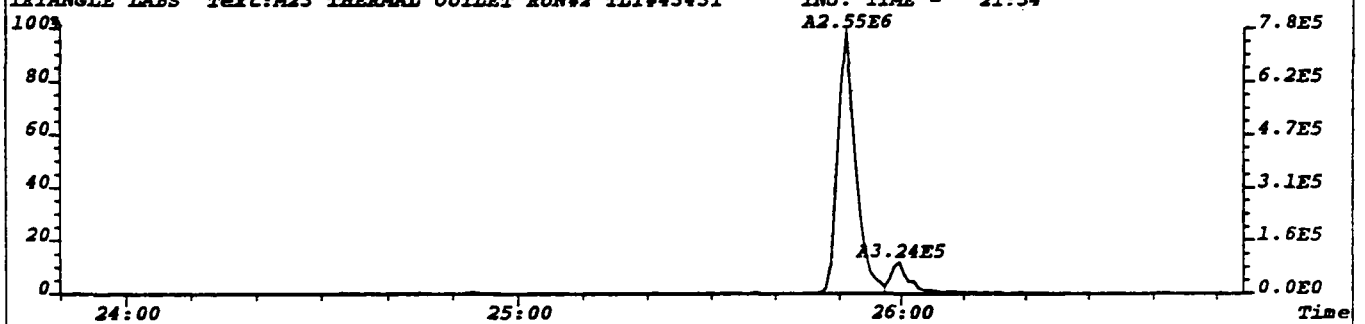
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:126
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



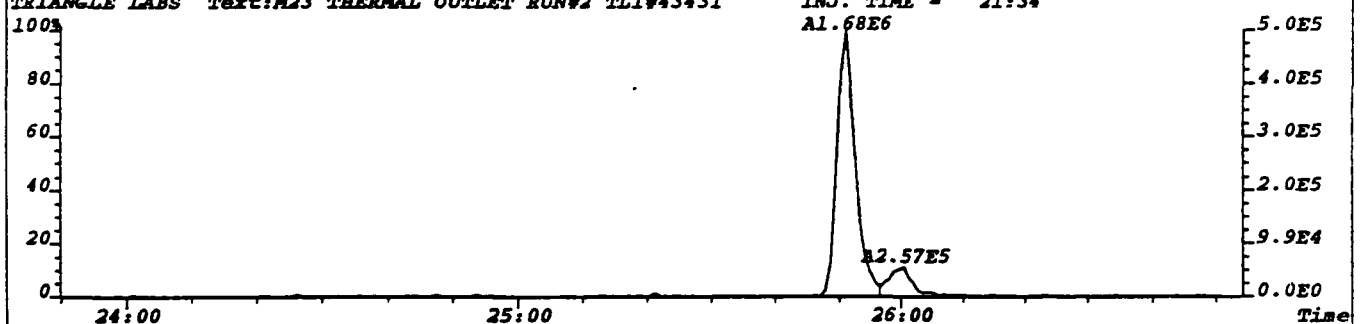
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:61
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



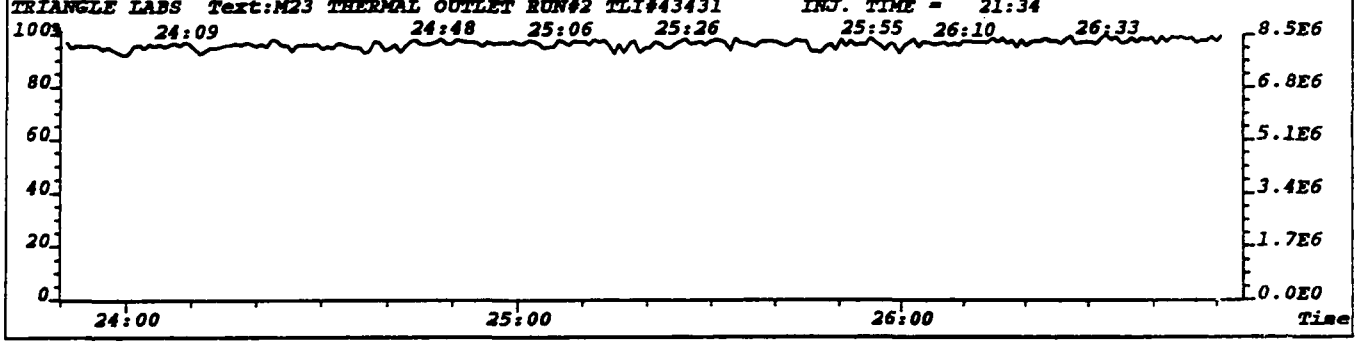
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:66
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



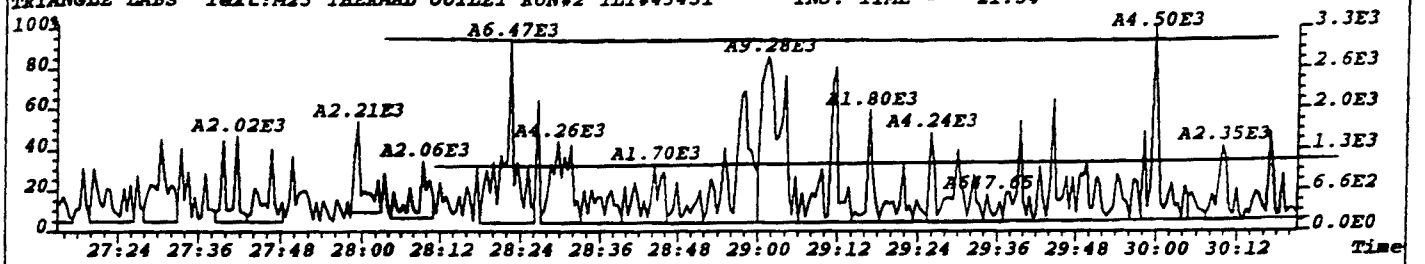
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:71
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



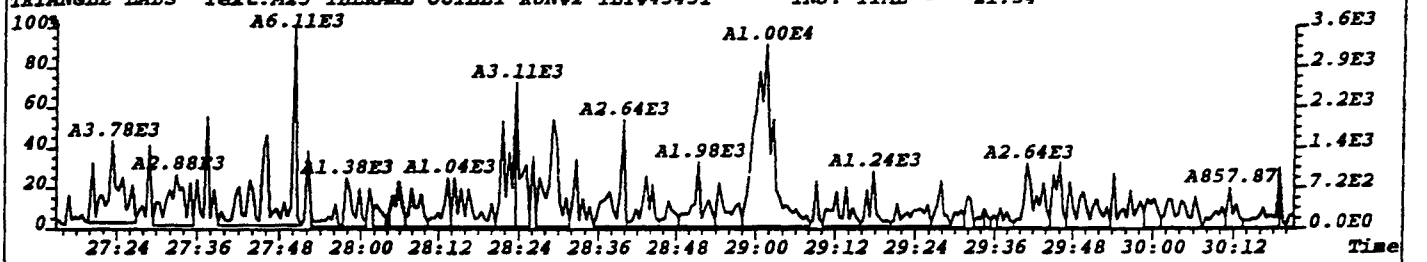
File:S976757 #1-829 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



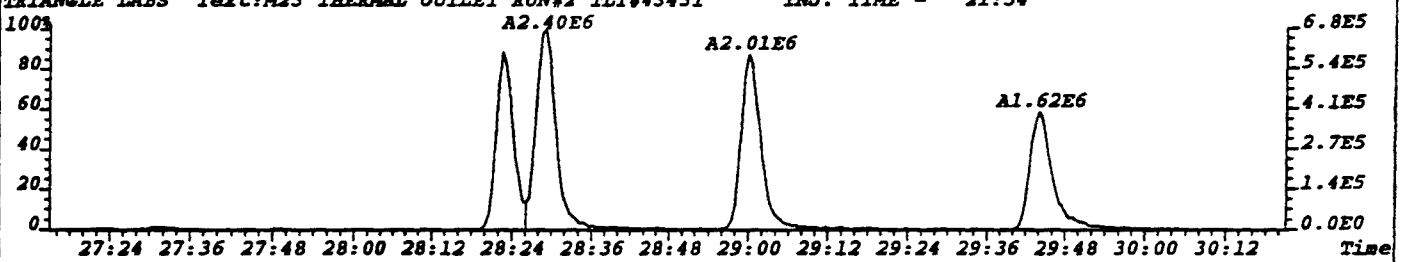
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:118
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,472.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



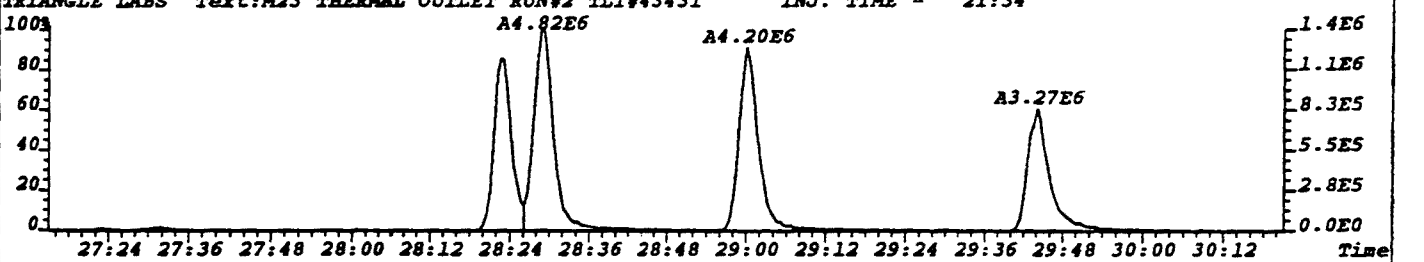
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:62
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



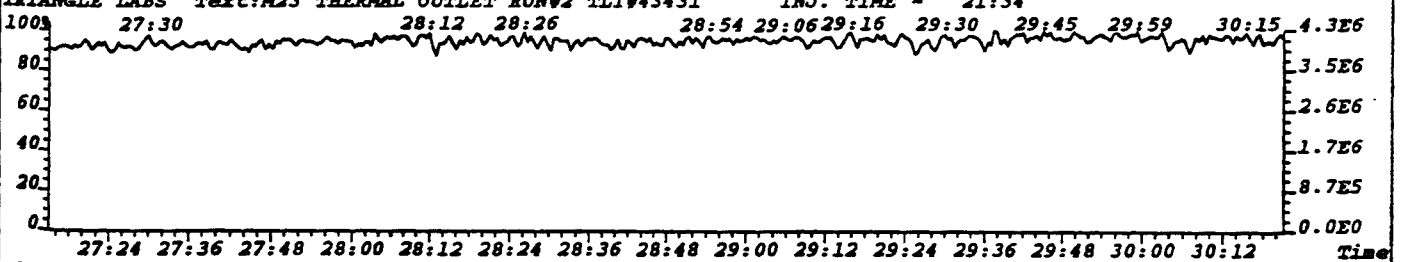
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:87
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



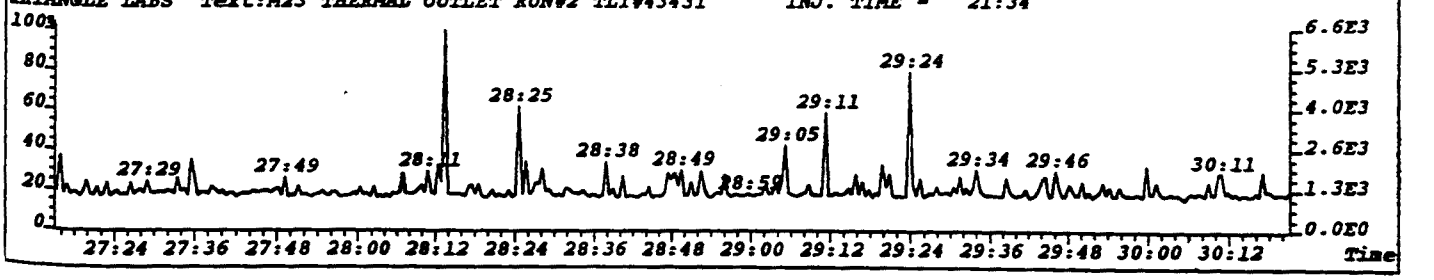
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:161
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,644.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



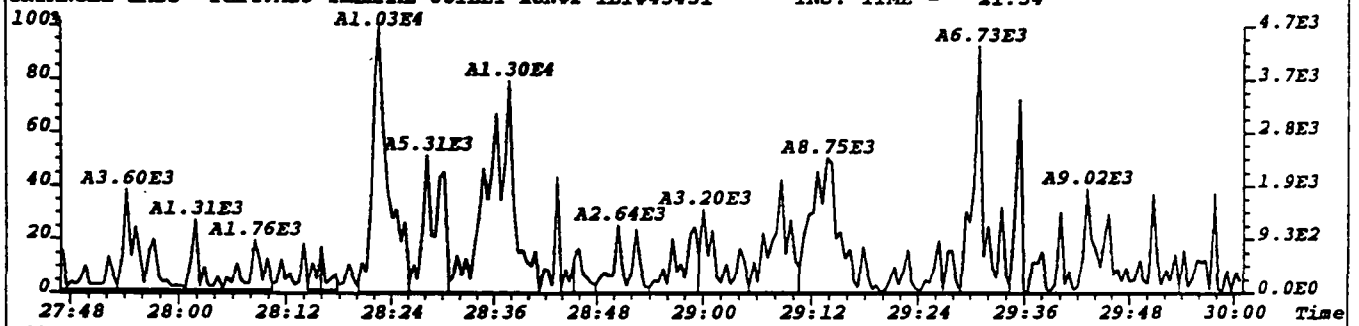
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



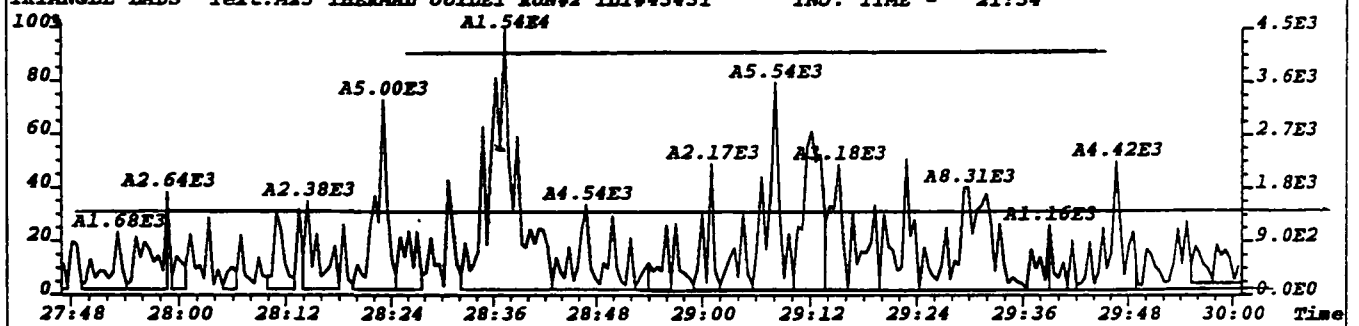
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



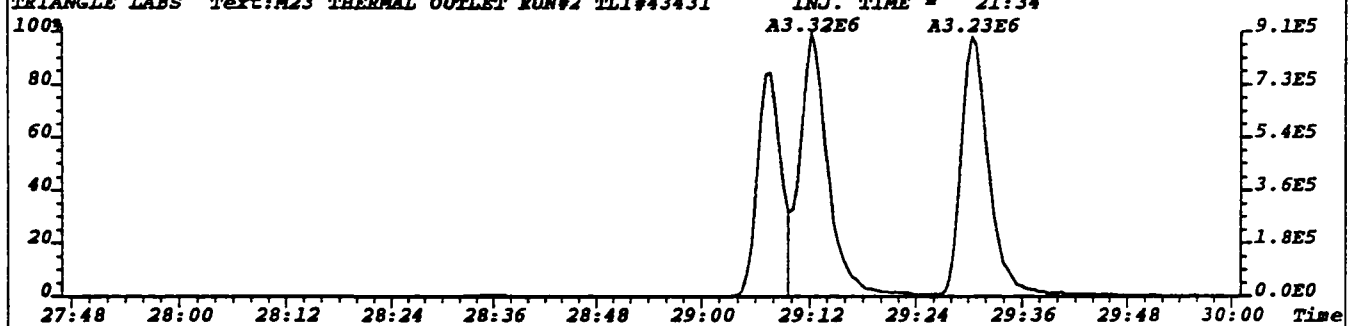
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:55
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



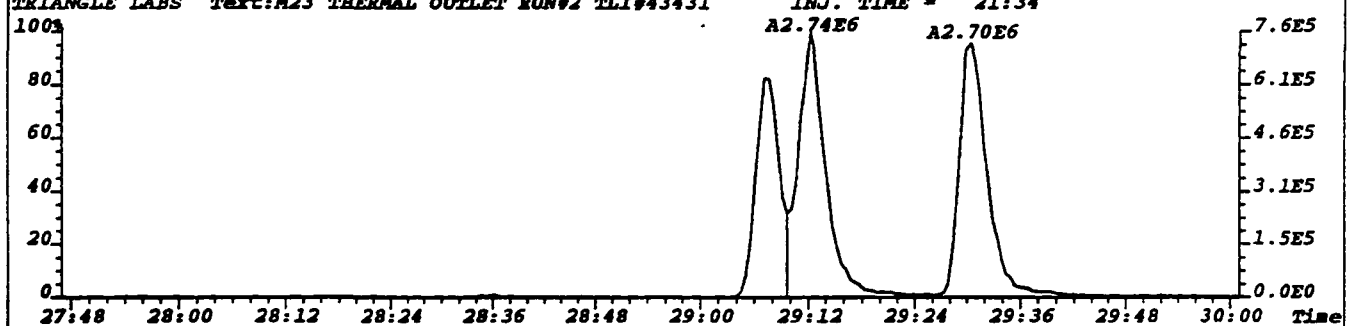
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:103
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,412.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



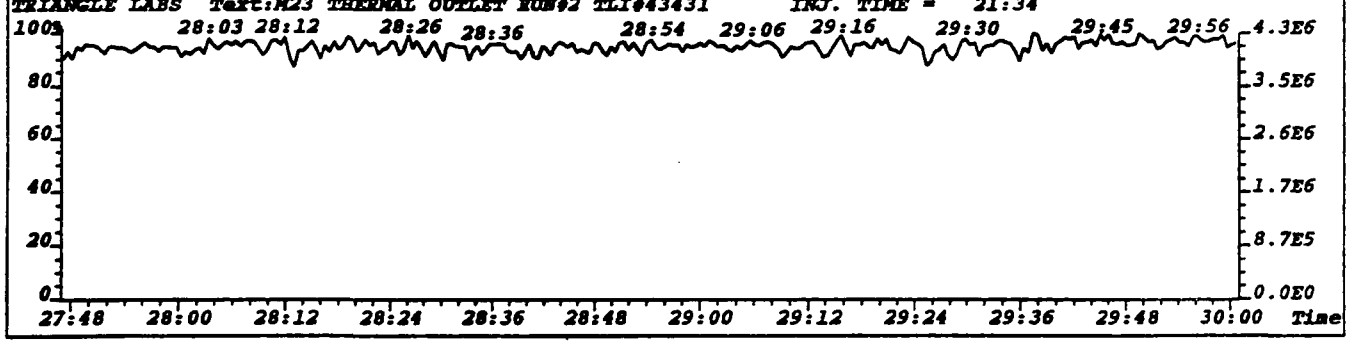
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:57
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



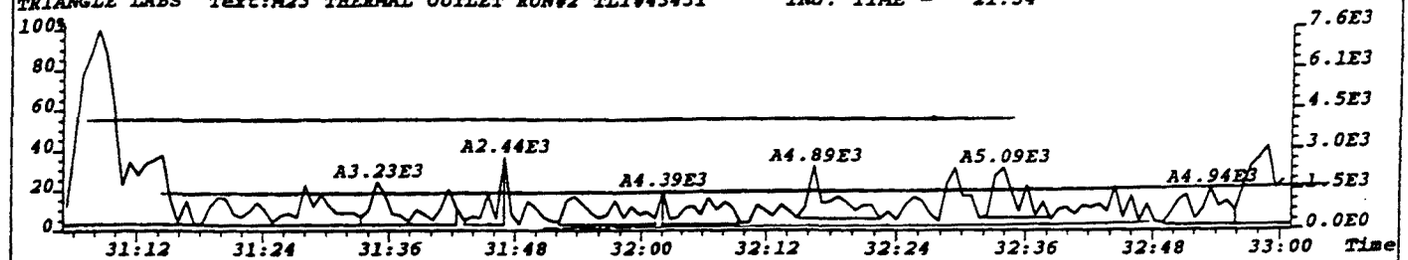
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:146
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,584.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



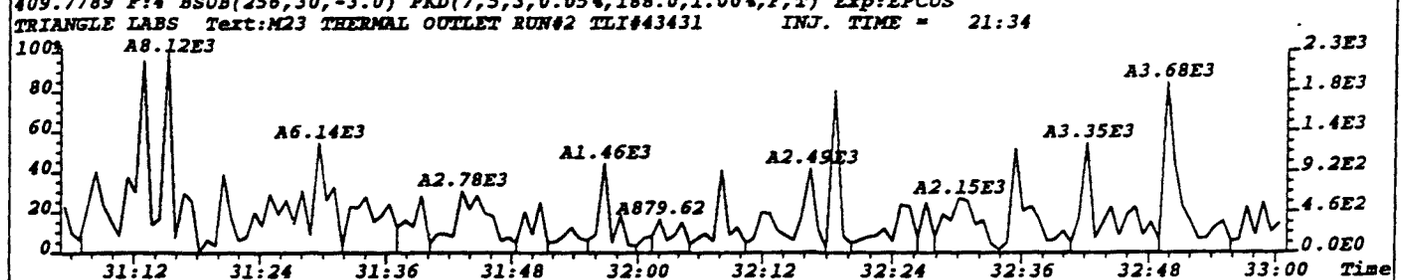
File:S976757 #1-475 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



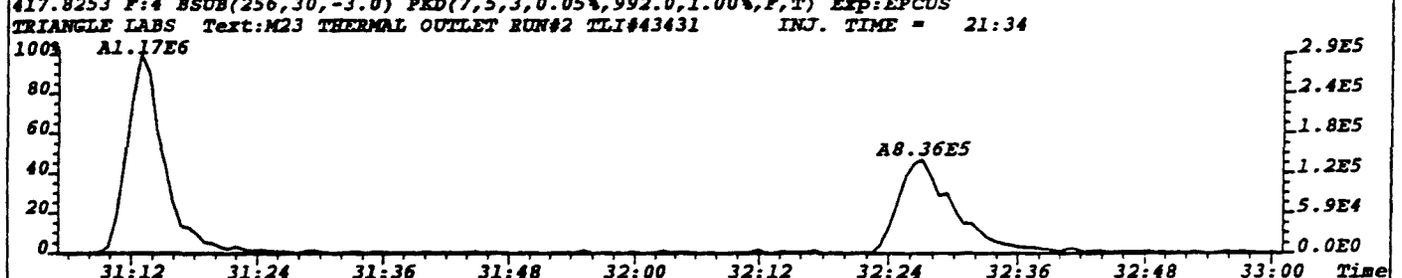
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:170
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,680.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



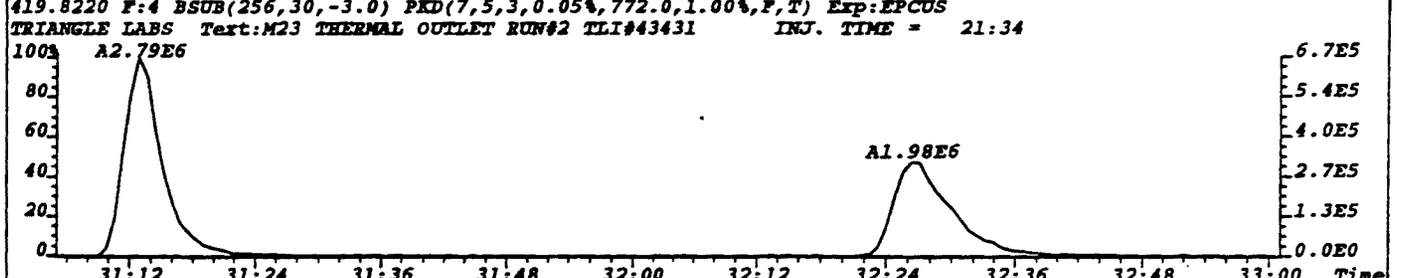
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:47
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



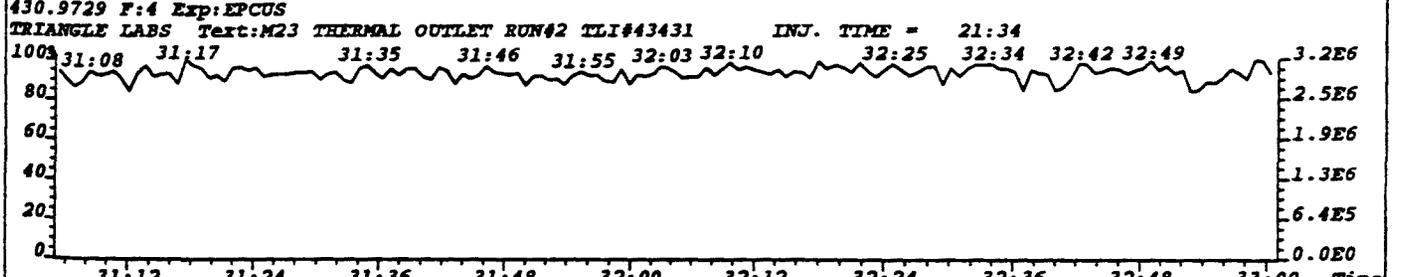
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:248
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,992.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



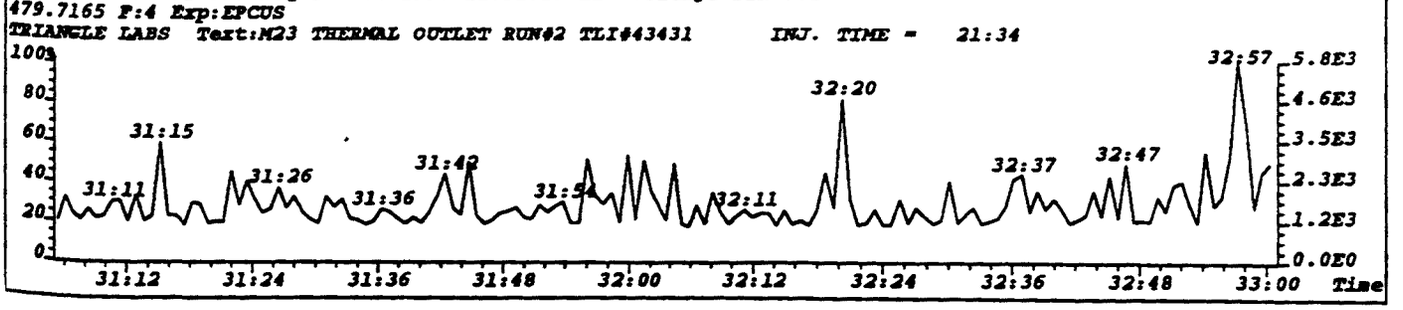
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:193
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,772.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



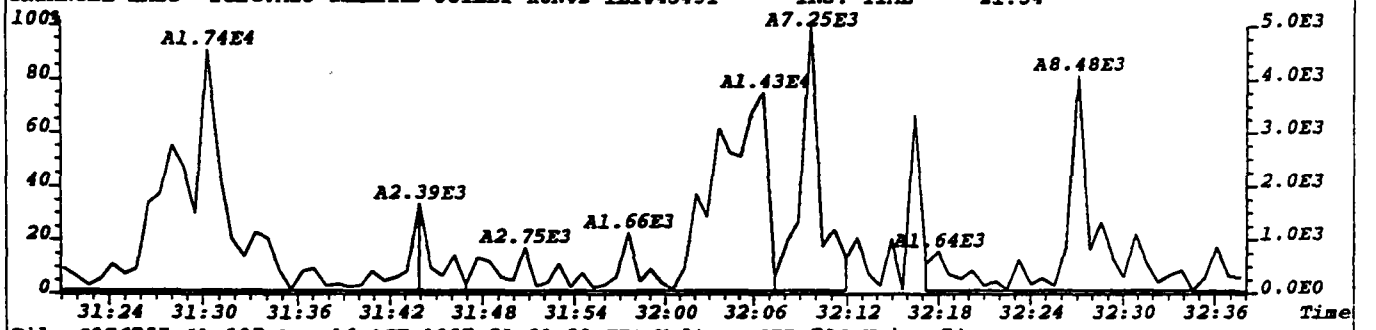
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



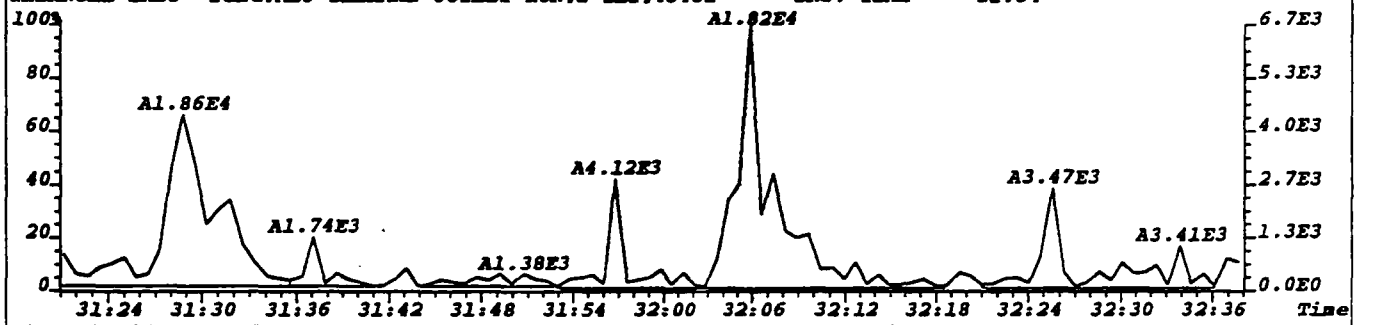
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



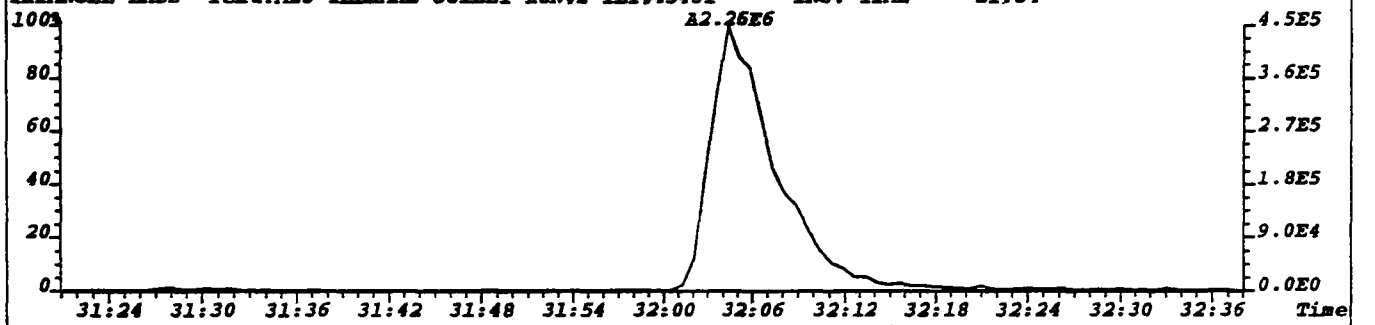
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:46
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,184.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



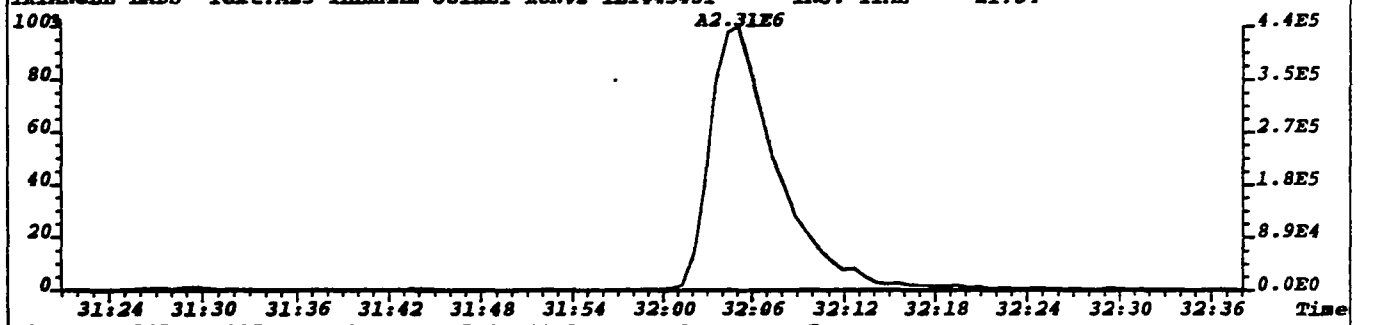
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:74
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



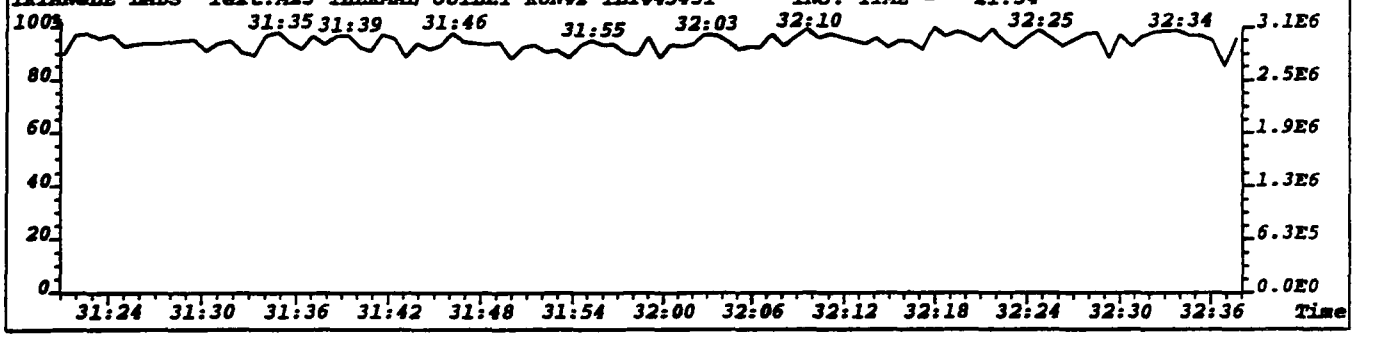
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:327
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1308.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



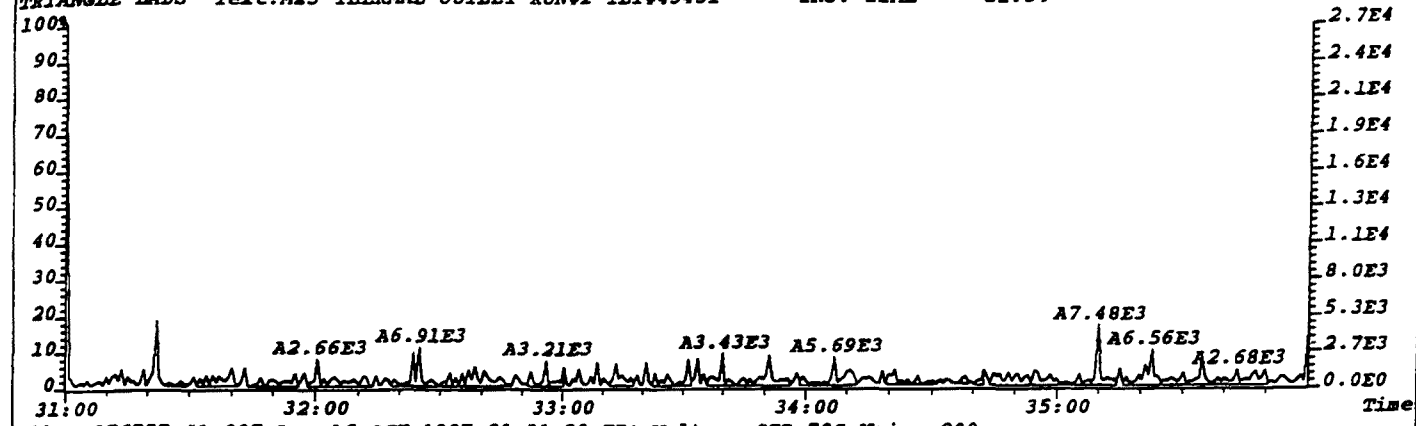
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:380
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1520.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



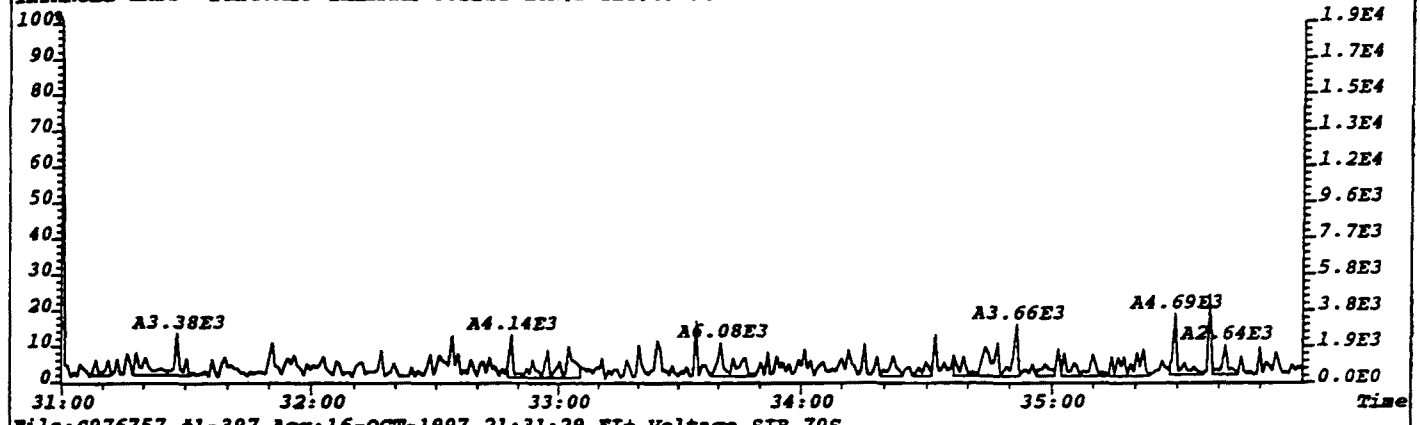
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



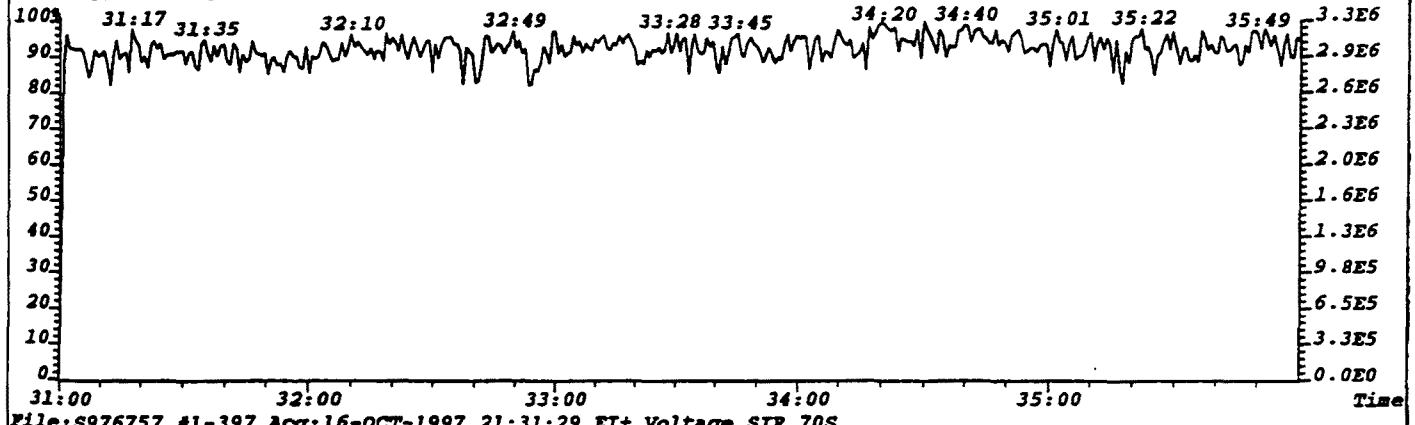
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:152
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,608.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



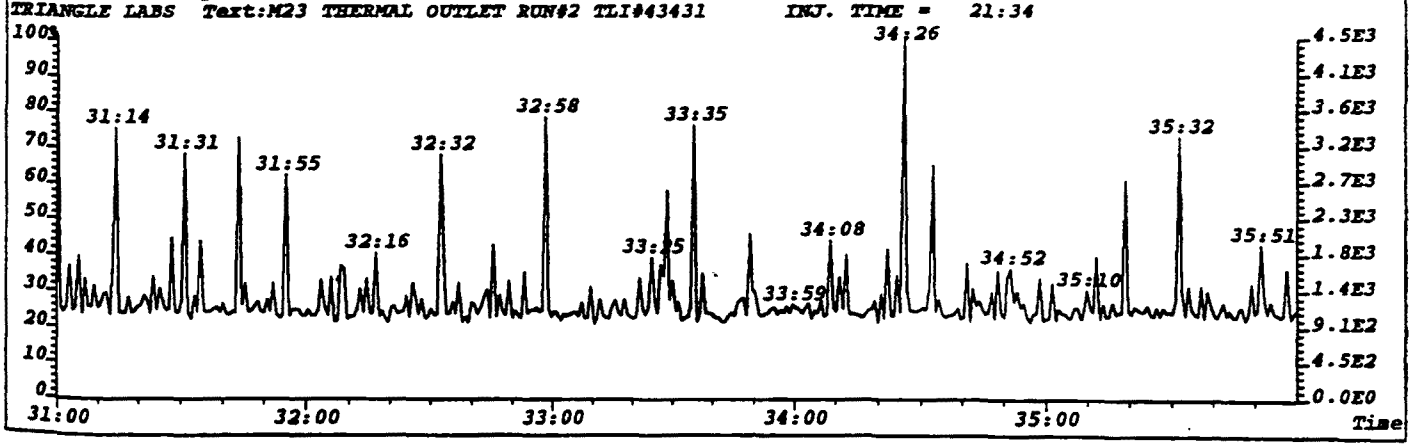
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:209
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,836.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



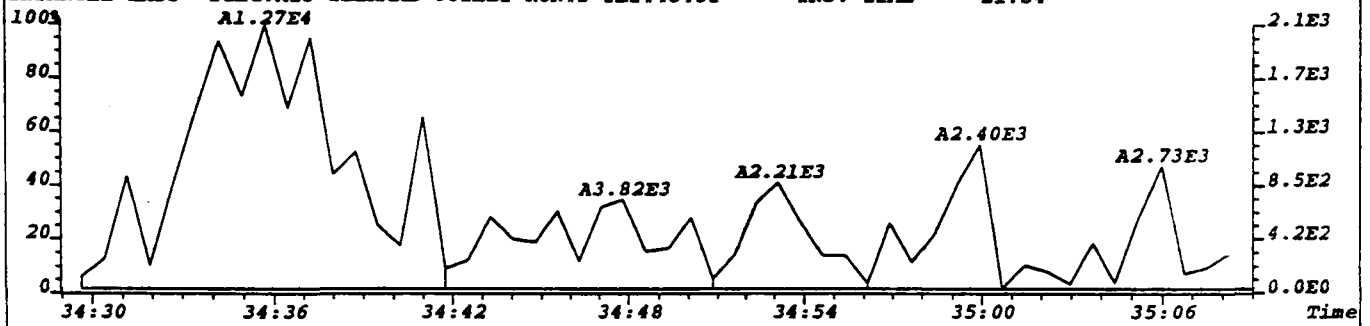
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



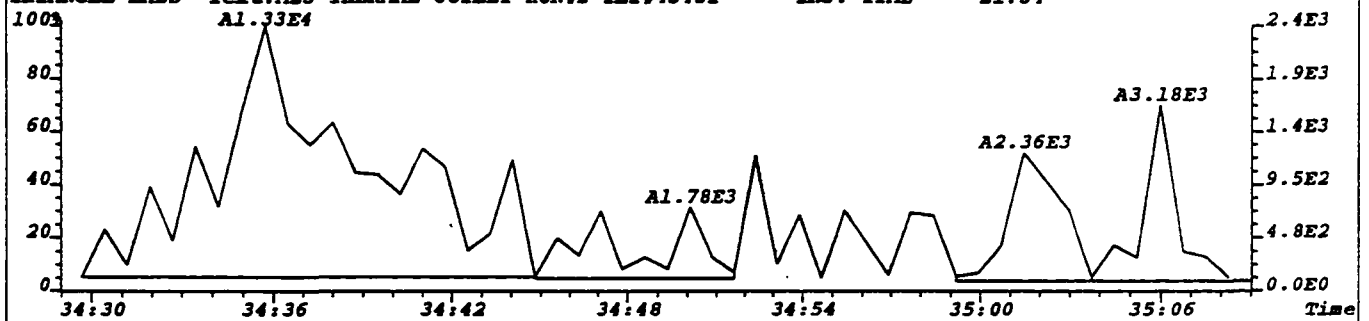
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



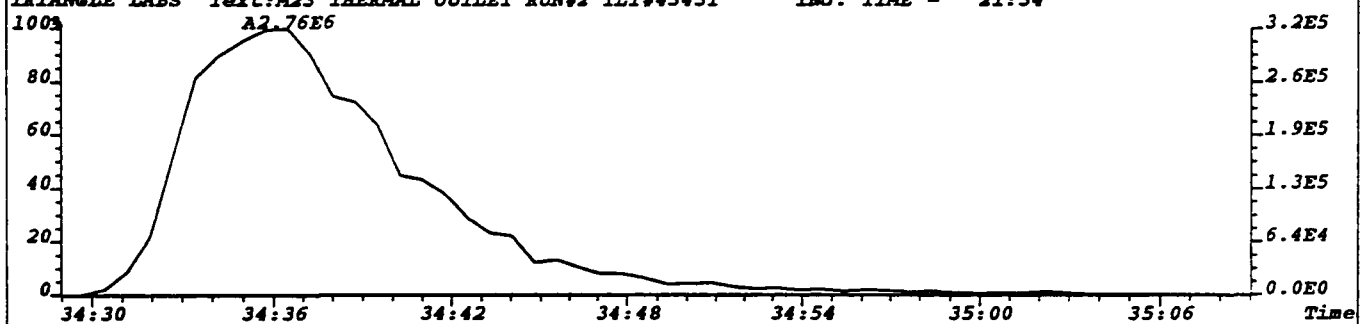
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:38
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,152.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



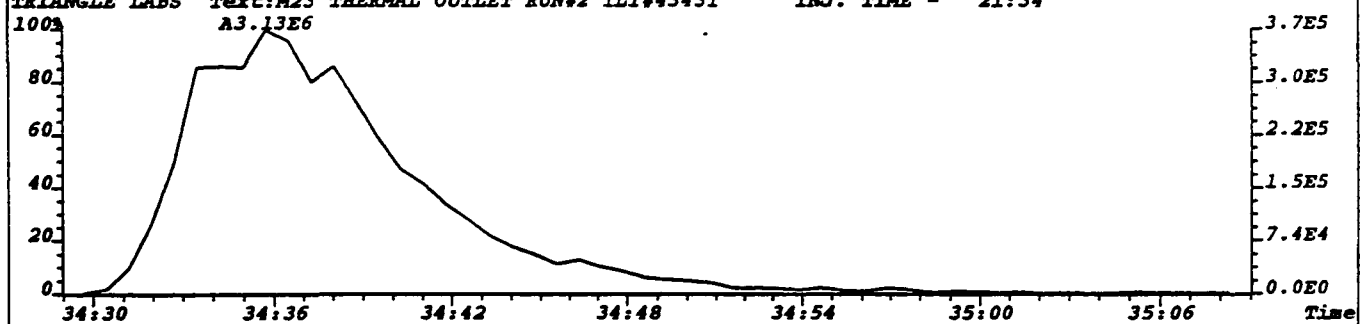
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:62
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



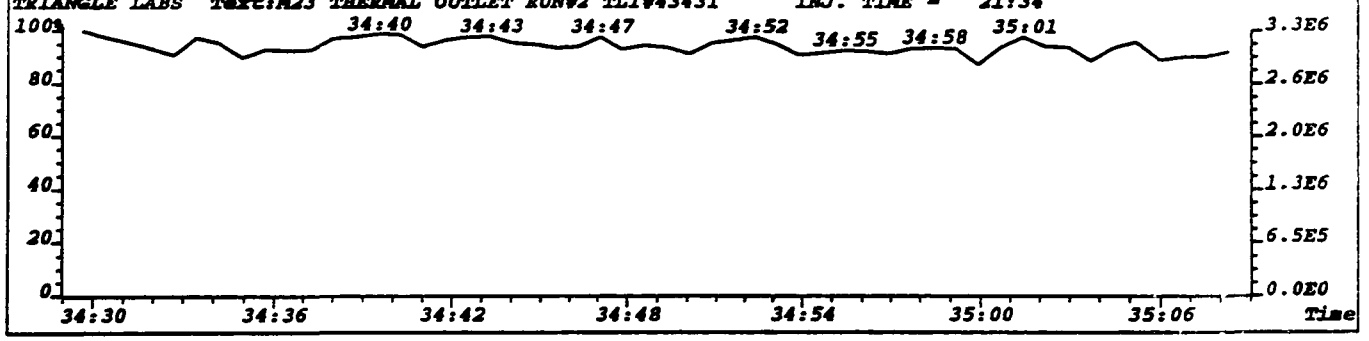
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:57
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34

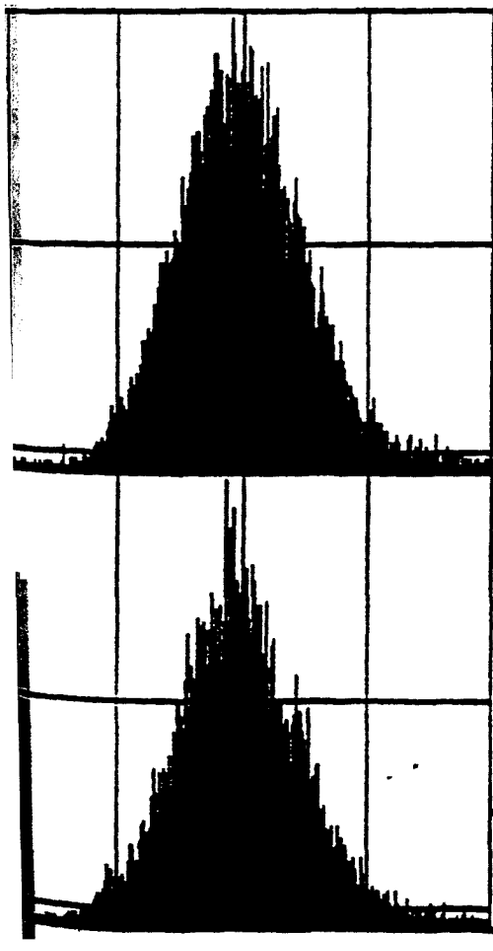


File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S Noise:57
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34



File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34





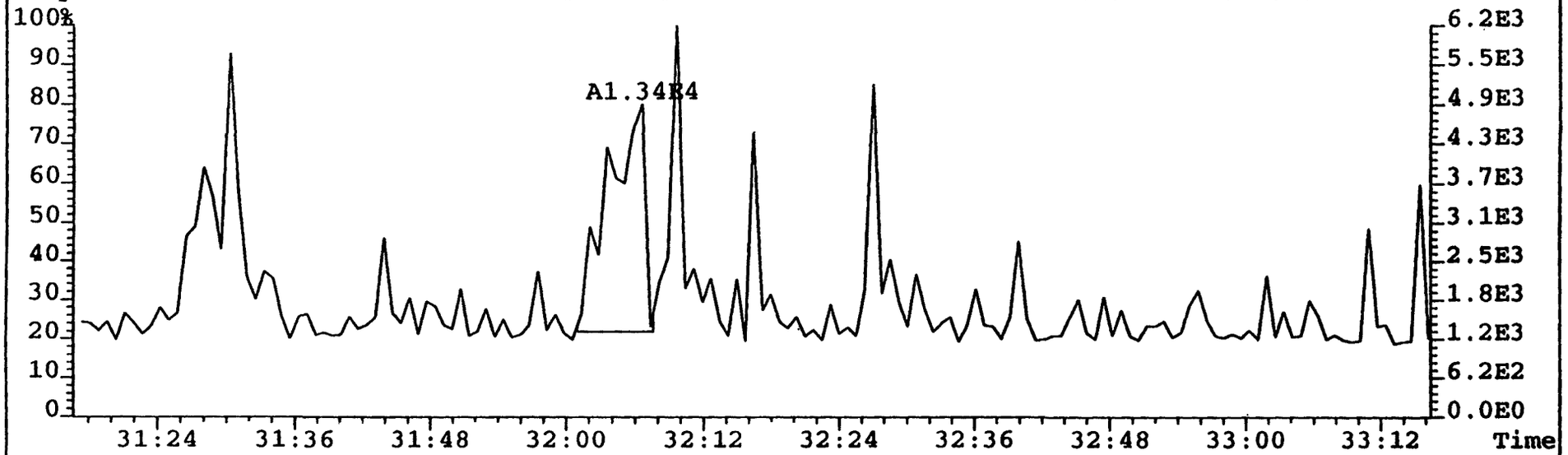
Ref. mass 292.9825 Peak top
Height .62 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S976756
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

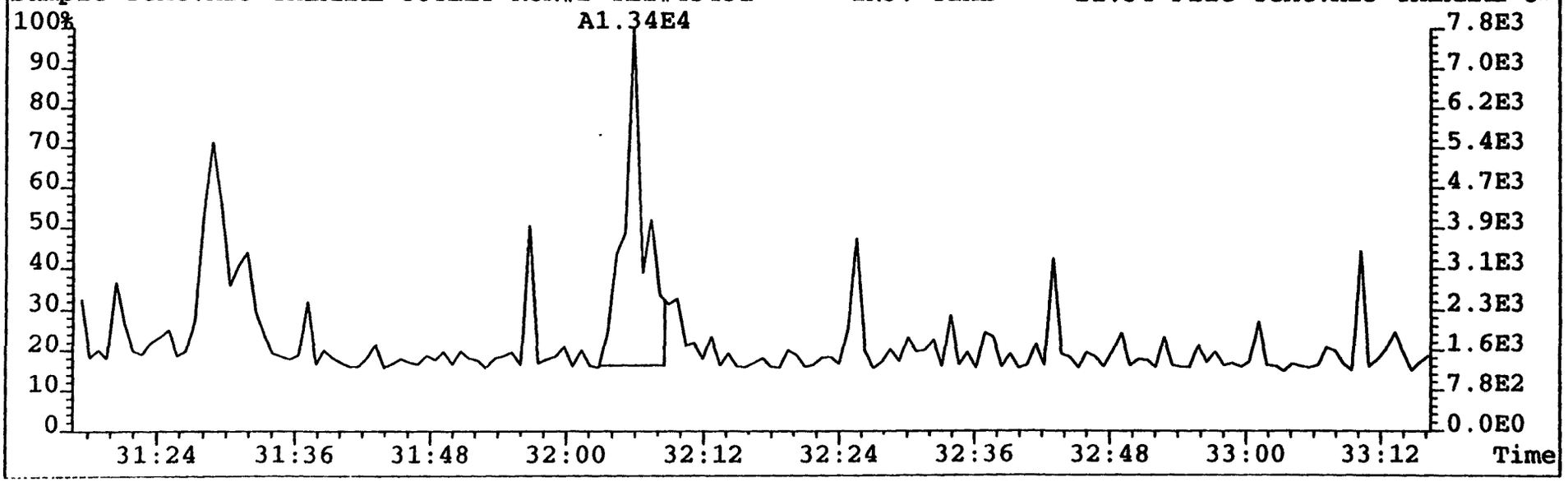
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	329	Q	355		
I	331	R	358		

Channel I 330.9792 Peak top
Height .68 volts Span 200 ppm

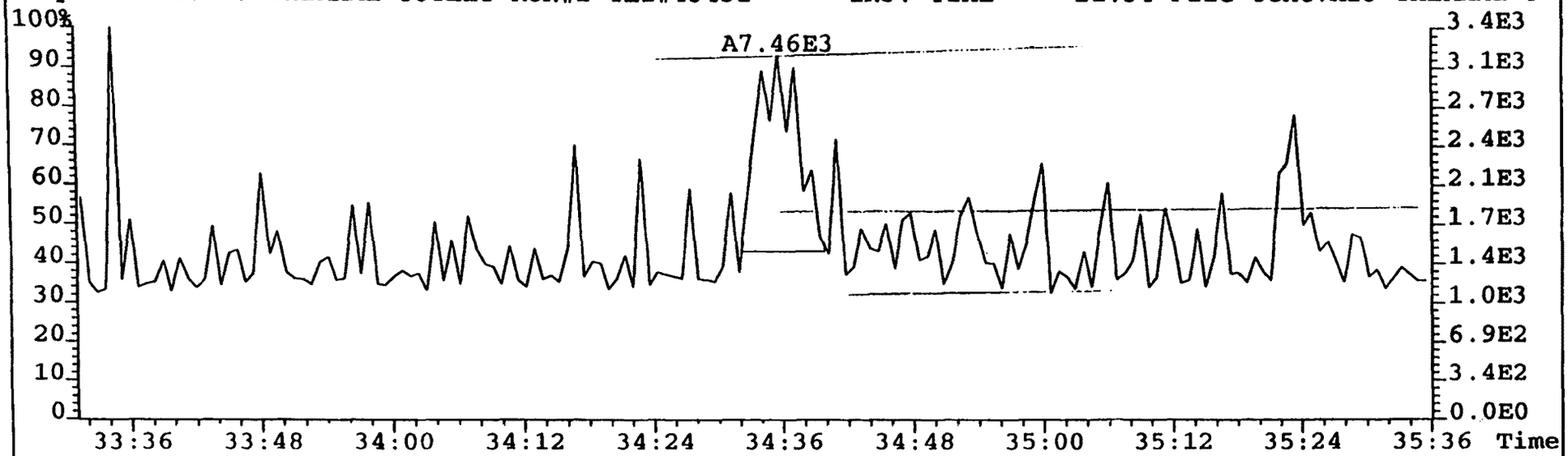
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
423.7766 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34 File Text:M23 THERMAL O»



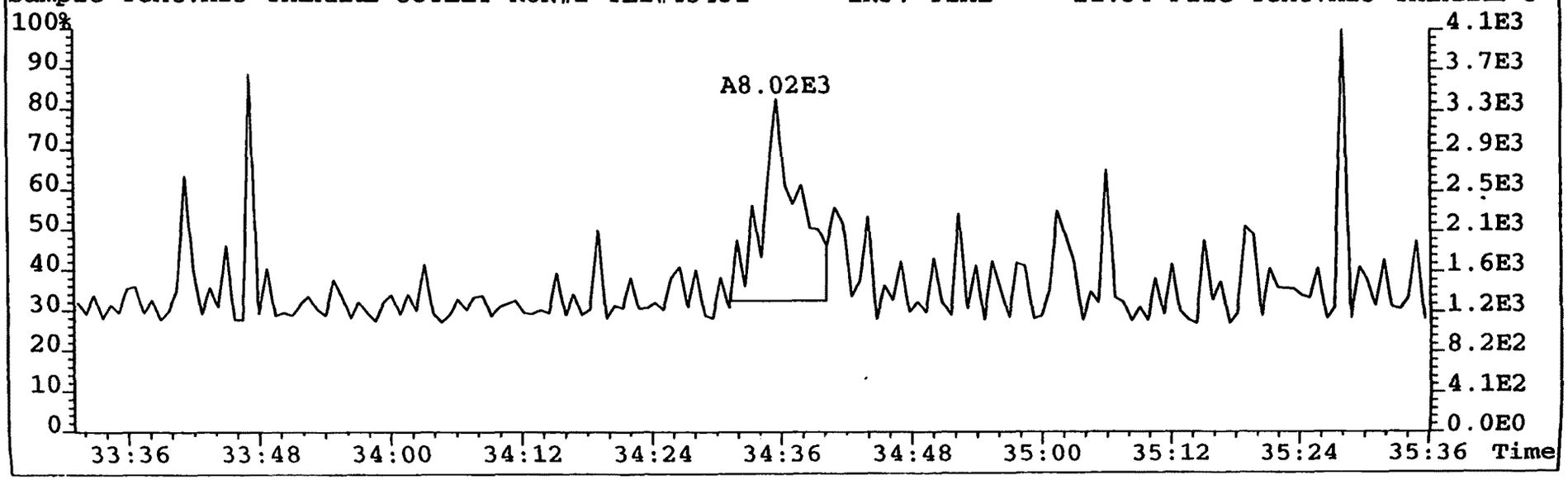
File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
425.7737 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34 File Text:M23 THERMAL O»



File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34 File Text:M23 THERMAL O»



File:S976757 #1-397 Acq:16-OCT-1997 21:31:29 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#2 TLI#43431 INJ. TIME = 21:34 File Text:M23 THERMAL O»



Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET RUN#3 — Analysis File: S976758

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-8A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976754
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MS	% 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	0.02				—
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	0.02				—
1,2,3,4,6,7,8,9-OCDD	EMPC		0.03			—
2,3,7,8-TCDF	ND	0.009				—
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	0.02				—
1,2,3,4,6,7,8,9-OCDF	ND	0.02				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.01		—
Total PeCDD	ND		0.02		—
Total HxCDD	ND		0.02		—
Total HpCDD	ND		0.02		—
Total TCDF	ND		0.009		—
Total PeCDF	ND		0.01		—
Total HxCDF	ND		0.01		—
Total HpCDF	ND		0.02		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:08,10/20/97

Eastern Research Group

TLI Project: 43431 Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET RUN#3 Analysis File: S976758

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.3	58.1	40%-130%	0.75	20:25	___
$^{13}C_{12}$-2,3,7,8-TCDD	2.1	53.0	40%-130%	0.80	21:13	___
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.0	49.7	40%-130%	1.45	24:43	___
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.0	50.7	40%-130%	1.45	25:51	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.1	76.7	40%-130%	0.50	28:30	___
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.0	74.0	40%-130%	1.29	29:13	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.3	57.0	25%-130%	0.42	31:14	___
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.7	66.6	25%-130%	1.02	32:06	___
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	5.6	70.2	25%-130%	0.88	34:37	___

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.9	97.3	70%-140%		21:14	___
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.8	96.2	70%-140%	1.43	25:29	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.0	75.5	70%-140%	0.48	28:24	___
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	2.9	72.6	70%-140%	1.19	29:08	___
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.6	90.0	70%-140%	0.40	32:28	___

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.4	60.4	40%-130%	0.50	29:45	___
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.8	69.3	40%-130%	0.47	29:01	___

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	20:59	___
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.19	29:31	___

Data Reviewer: KU 10/20/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:08 10/20/97

Initial ....Date...

Data Review By: K- 10/20/97 Calculated Noise Area: 0.73

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 S976758B.dbf
10/20/97 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				0.826-1.103			
304-306	DC	NL		0:00		0.84	1.05			0.000			
	DC	SN		17:25	RO	1.91	0.62			0.853			
	DC	SN		19:30	RO	6.75	0.14			0.955			
	DC	SN		20:28	RO	1.15	1.31			1.002	2378-TCDF		AN
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC	NL		0:00	RO	0.55	1.38			0.000			
	DC	WL		19:14		0.67	12.94			0.942			
				19:57	RO	0.60	4.55	1.98	3.28	0.977			
				20:25		0.75	688.83	296.06	392.77	1.000	13C12-2378-TCDF		ISO
				21:01	RO	0.35	2.57	1.12	3.23	1.029			
	DC	WH		22:27		0.68	1.81			1.100			
	DC	WH		22:41		0.67	4.78			1.111			
316-318			3	Peaks			695.95						

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

TCDD						0.65-0.89				0.858-1.060			
320-322	DC	NL		0:00	RO	1.01	1.54			0.000			
	DC	SN		19:53	RO	0.37	0.90			0.937			
	DC	SN		20:00	RO	0.46	0.71			0.943			
	DC	SN		21:51		0.65	0.33			1.030			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.75			0.000			
	DC	WL		18:18			0.63			0.863			
	DC	WL		18:28			1.23			0.870			
	DC	WL		18:47			1.22			0.885			
	DC	WL		18:53			0.22			0.890			
	DC	WL		19:03			1.58			0.898			
	DC	SN		19:16			0.74			0.908			
				19:38			3.95	3.95		0.925			
	DC	SN		19:57			0.83			0.940			
	DC	SN		20:04			0.35			0.946			
				21:14			416.76	416.76		1.001	37Cl-TCDD		SUR1
				21:29			3.12	3.12		1.013			
				21:36			1.96	1.96		1.018			
	DC	SN		22:02			0.63			1.038			
				22:05			0.95	0.95		1.041			
	DC	SN		22:11			0.36			1.046			
	DC	SN		22:15			0.30			1.049			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		22:28			0.37			1.059			
328			5	Peaks			426.74						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334	DC	NL		0:00	RO	1.67	1.29			0.000			
	DC	WL		19:08	RO	3.25	1.58			0.902			
				19:56		0.80	4.24	1.89	2.35	0.940			
	DC	SN		20:16	RO	3.46	0.85			0.955			
N				20:59		0.83	899.76	408.25	491.51	0.989	13C12-1234-TCDD	RS1	
				21:13		0.80	508.34	226.53	281.81	1.000	13C12-2378-TCDD	IS1	
				21:36		0.80	14.23	6.32	7.91	1.018			
	DC	SN		21:47	RO	0.14	0.55			1.027			
				21:51	RO	0.48	2.30	1.00	2.10	1.030			
332-334			5	Peaks			1,428.87						

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

PeCDF				1.32-1.78						0.908-1.080			
340-342	DC	NL		0:00	RO	0.83	0.39			0.000			
	DC	SN		22:38	RO	1.06	0.56			0.916			
	DC	SN		22:57	RO	0.48	0.36			0.929			
	DC	SN		23:01	RO	0.23	0.16			0.931			
	DC	SN		23:11	RO	0.13	0.12			0.938			
	DC	SN		23:18	RO	0.29	0.07			0.943			
	DC	SN		23:48	RO	0.98	1.05			0.963			
	DC	SN		24:08	RO	1.23	0.26			0.976			
	DC	SN		24:51	RO	1.17	0.23			1.005			
	DC	SN		25:18	RO	0.18	0.15			1.024			
	DC	SN		25:27	RO	0.30	0.35			1.030			
	DC	SN		25:41	RO	1.03	1.02			1.039			
	DC	SN		26:12	RO	0.65	0.18			1.060			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354	DC	NL		0:00	RO	0.59	0.21			0.000			
				24:21	RO	1.08	4.51	2.74	2.54	0.985			
				24:43		1.45	506.98	300.12	206.86	1.000	13C12-PeCDF 123	IS2	
				25:29		1.43	473.15	278.21	194.94	1.031	13C12-PeCDF 234	SUR2	
				25:56		1.58	4.07	2.49	1.58	1.049			
				26:31	RO	1.07	1.76	1.07	1.00	1.073			
352-354			5	Peaks			990.47						

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

PeCDD				1.32-1.78						0.921-1.027			
356-358	DC	NL		0:00	RO	1.07	0.25			0.000			
	DC	SN		24:36	RO	4.17	0.15			0.952			
	DC	SN		24:54	RO	2.45	0.28			0.963			
	DC	SN		25:20	RO	1.04	0.86			0.980			
	DC	SN		26:00	RO	2.69	0.41			1.006			
	DC	SN		26:11	RO	0.84	0.43			1.013			
	DC	SN		26:22		1.55	0.28			1.020			

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		26:29	RO	1.10	0.38			1.025			
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	0.23			0.000			
	DC	SN		24:43	RO	0.96	1.09			0.956			
	DC	SN		24:52	RO	1.12	1.27			0.962			
	DC	SN		25:31	RO	1.30	0.21			0.987			
				25:51		1.45	289.73	171.46	118.27	1.000	13C12-PeCDD 123	IS3	
				26:00		1.57	37.91	23.14	14.77	1.006			
	DC	SN		26:25	RO	0.84	0.95			1.022			
	DC	SN		26:33	RO	0.63	0.51			1.027			
	DC	SN		26:43	RO	0.46	0.31			1.034			
368-370			2	Peaks			327.64						

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

HxCDF				1.05-1.43						0.957-1.054			
374-376	DC	NL		0:00	RO	3.40	0.22			0.000			
	DC	SN		27:33	RO	6.50	0.22			0.967			
	DC	SN		27:39		1.18	0.24			0.970			
	DC	SN		28:24	RO	0.85	0.72			0.996	123478-HxCDF	AN	
	DC	SN		28:30	RO	1.78	0.92			1.000	123678-HxCDF	AN	
	DC	SN		28:37	RO	3.25	0.09			1.004			
	DC	SN		28:43	RO	0.18	0.07			1.008			
	DC	SN		28:46	RO	0.29	0.13			1.009			
	DC	SN		28:56	RO	2.50	0.09			1.015			
	DC	SN		29:01	RO	1.45	1.59			1.018	234678-HxCDF	AN	
	DC	SN		29:12	RO	0.80	0.14			1.025			
	DC	SN		29:27	RO	0.50	0.22			1.033			
	DC	SN		29:31	RO	0.38	0.14			1.036			
	DC	SN		29:48	RO	1.79	0.43			1.046	123789-HxCDF	AN	
	DC	WH		30:11	RO	0.29	0.13			1.059			
	DC	WH		30:23		1.33	0.42			1.066			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	1.23	0.33			0.000			
	DC	SN		27:22		0.51	2.30			0.960			
				27:31		0.49	7.22	2.36	4.86	0.965			
	DC	SN		27:55	RO	0.18	0.21			0.980			
	DC	SN		28:03	RO	0.34	0.44			0.984			
	DC	SN		28:07		0.44	0.36			0.987			
				28:24		0.48	360.69	117.63	243.06	0.996	13C12-HxCDF 478	SUR3	
				28:30		0.50	497.94	164.89	333.05	1.000	13C12-HxCDF 678	IS4	
				28:39	RO	0.73	6.34	3.07	4.20	1.005			
				28:48	RO	1.09	1.60	1.16	1.06	1.011			
	DC	SN		28:53	RO	0.39	0.98			1.013			
				29:01		0.47	416.38	133.45	282.93	1.018	13C12-HxCDF 234	ALT2	
	DC	SN		29:26	RO	2.13	0.59			1.033			
	DC	SN		29:33		0.46	0.60			1.037			
	DC	SN		29:39	RO	0.83	0.95			1.040			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				29:45		0.50	315.77	105.29	210.48	1.044	13C12-HxCDF	789	ALT1
	DC	SN		30:01	RO	0.41	1.87			1.053			
	DC	SN		30:17	RO	1.01	1.09			1.063			
384-386			7	Peaks			1,605.94						

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

HxCDD				1.05-1.43						0.951-1.016			
390-392	DC	NL		0:00	RO	0.41	0.23			0.000			
	DC	SN		27:50	RO	2.00	0.11			0.953			
	DC	SN		28:17	RO	1.69	0.36			0.968			
	DC	SN		28:24	RO	1.45	0.74			0.972			
	DC	SN		28:41		1.06	0.33			0.982			
	DC	SN		29:04	RO	2.62	0.47			0.995			
	DC	SN		29:16		1.23	0.49			1.002			
	DC	SN		29:19	RO	0.85	0.20			1.003			
	DC	SN		29:25		1.15	0.28			1.007			
	DC	SN		29:32	RO	0.41	0.40			1.011	123789-HxCDD		AN
	DC	SN		29:36	RO	0.75	0.22			1.013			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC	NL		0:00	RO	0.57	0.29			0.000			
	DC	WL		27:49	RO	0.57	0.22			0.952			
				28:37	RO	0.98	1.86	1.03	1.05	0.979			
	DC	SN		28:44	RO	0.55	0.33			0.983			
	DC	SN		28:49	RO	1.00	0.29			0.986			
	DC	SN		28:53	RO	0.94	0.27			0.989			
				29:08		1.19	280.32	152.19	128.13	0.997	13C12-HxCDD	478	SUR4
				29:13		1.29	396.69	223.12	173.57	1.000	13C12-HxCDD	678	IS5
				29:31		1.19	539.03	292.63	246.40	1.010	13C12-HxCDD	789	RS2
				29:45	RO	0.76	6.20	3.43	4.50	1.018			
	DC	SN		29:51		1.06	1.48			1.022			
	DC	SN		30:01	RO	2.02	1.84			1.027			
402-404			5	Peaks			1,224.10						

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

HpCDF				0.88-1.20						0.996-1.047			
408-410	DC	NL		0:00	RO	2.06	0.35			0.000			
	DC	SN		31:27	RO	1.79	0.57			1.007			
	DC	SN		31:36	RO	1.33	0.92			1.012			
	DC	SN		31:41	RO	0.47	0.33			1.014			
	DC	SN		32:05	RO	2.69	0.33			1.027			
	DC	SN		32:29	RO	1.62	1.55			1.040	1234789-HpCDF		AN
	DC	WH		32:54	RO	4.71	0.29			1.053			
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC	NL		0:00	RO	1.38	0.42			0.000			
				31:14		0.42	272.63	80.67	191.96	1.000	13C12-HpCDF	678	IS6
	DC	SN		31:38	RO	0.59	1.70			1.013			

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		31:42	RO	0.82	0.88			1.015			
	DC	SN		32:01	RO	0.78	0.94			1.025			
	DC	SN		32:12	RO	0.84	0.73			1.031			
				32:28		0.40	189.25	54.53	134.72	1.039	13C12-HpCDF 789	SUR5	
	DC	SN		32:54		0.51	1.33			1.053			
418-420			2	Peaks			461.88						

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

HpCDD				0.88-1.20						0.978-1.007			
424-426	DC	NL		0:00	RO	0.77	0.20			0.000			
	DC	SN		31:30	RO	1.68	0.82			0.981			
	DC	SN		32:00	RO	0.18	0.14			0.997			
	DC	WH		32:28	RO	0.54	0.37			1.011			
	DC	WH		32:35	RO	1.53	0.39			1.015			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00		1.11	0.99			0.000			
				31:30	RO	1.87	1.94	1.78	0.95	0.981			
	DC	SN		31:38	RO	1.75	0.33			0.985			
				32:06		1.02	292.73	147.85	144.88	1.000	13C12-HpCDD 678	IS7	
	DC	SN		32:38		1.11	0.80			1.017			
436-438			2	Peaks			294.67						

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

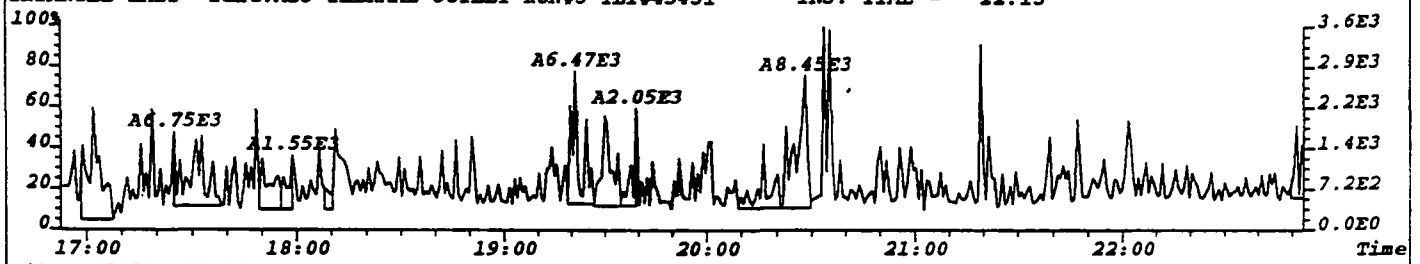
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00		0.76	0.51			0.000			
	DC	SN		31:17	RO	1.27	0.96			0.904			
	DC	SN		32:01	RO	0.59	0.40			0.925			
	DC	SN		32:04	RO	2.68	0.36			0.926			
	DC	SN		32:16		0.88	0.45			0.932			
	DC	SN		32:19	RO	0.16	0.13			0.934			
	DC	SN		32:38	RO	0.68	0.40			0.943			
	DC	SN		32:53	RO	0.05	0.08			0.950			
	DC	SN		33:14	RO	0.55	0.51			0.960			
	DC	SN		33:57	RO	2.10	0.40			0.981			
	DC	SN		34:24		1.00	0.44			0.994			
	DC	SN		34:34	RO	1.59	0.32			0.999			
	DC	SN		34:44	RO	0.72	1.51			1.003	OCDF		AN
	DC	SN		35:01	RO	0.35	0.23			1.012			
	DC	SN		35:08	RO	9.00	0.04			1.015			
	DC	SN		35:45	RO	2.67	0.17			1.033			
442-444			0	Peaks			0.00						
OCDD				0.76-1.02						0.884-1.116			
458-460	DC	NL		0:00		1.00	0.18			0.000			
	MKTN			34:38	RO	0.66	1.74	0.82	1.24	1.000	OCDD		AN
458-460			1	Peak			1.74						

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				0.998-1.007			
470-472		DC	NL	0:00		0.83	0.22			0.000			
				34:37		0.88	392.65	183.47	209.18	1.000	13C12-OCDD	IS8	
470-472				1 Peak			392.65						

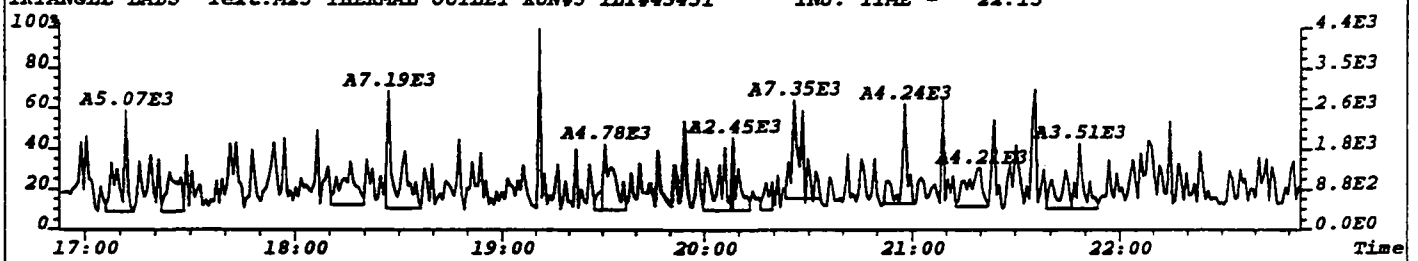
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

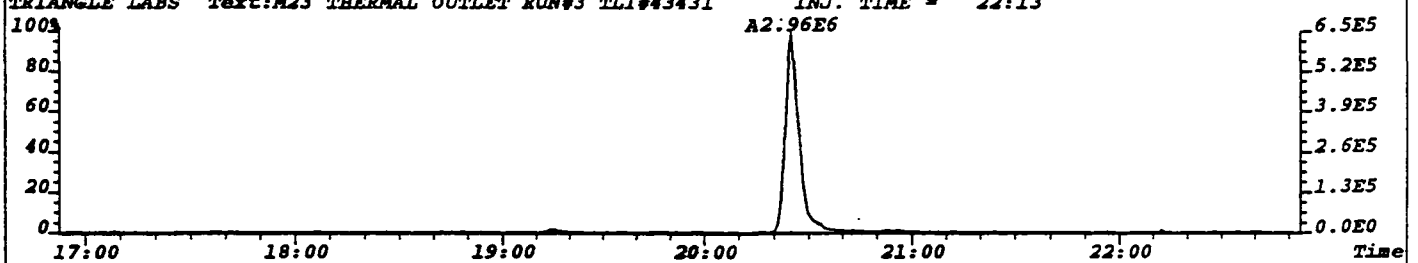
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:242
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,968.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



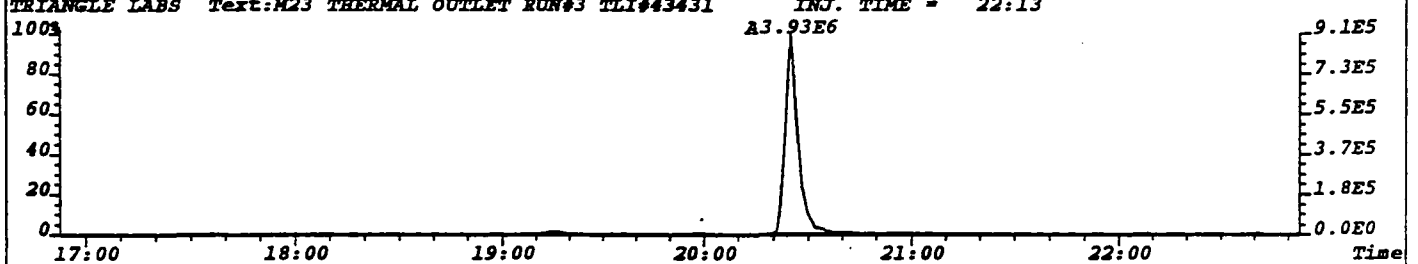
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:287
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1148.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



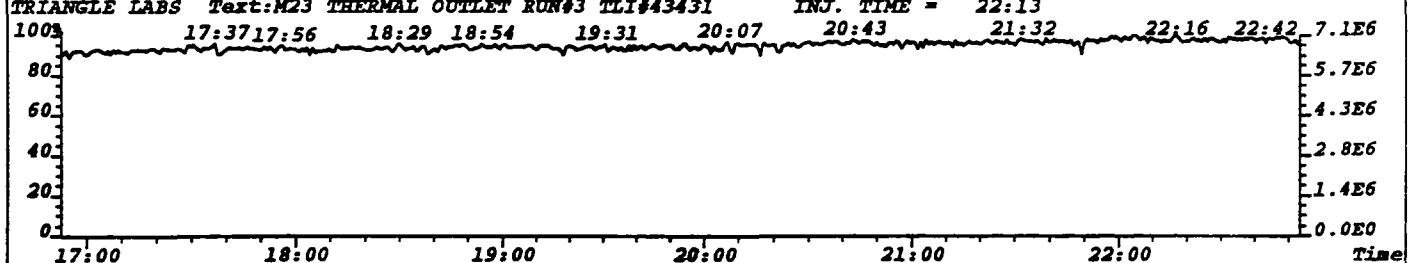
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:299
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



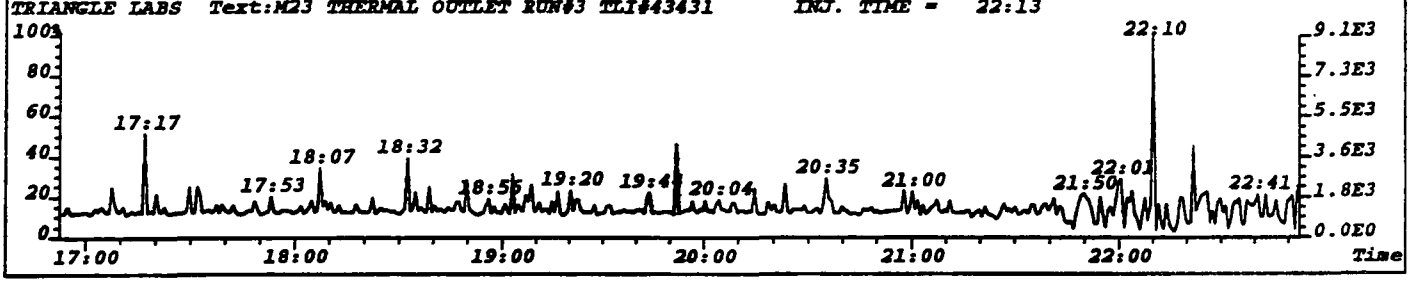
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:545
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,2180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



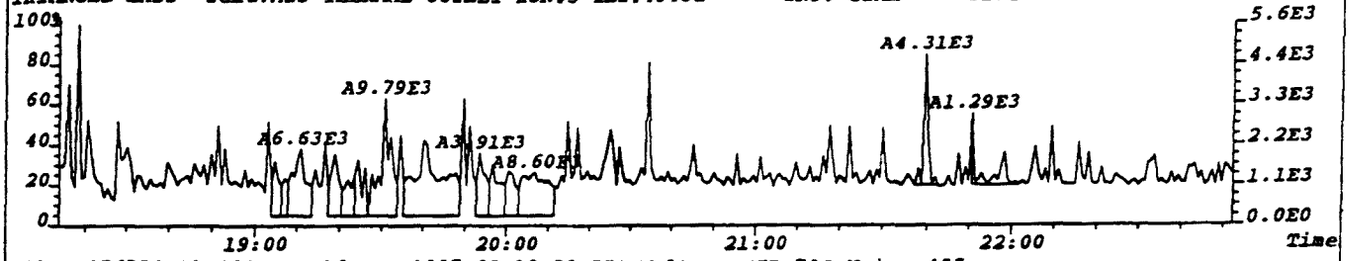
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



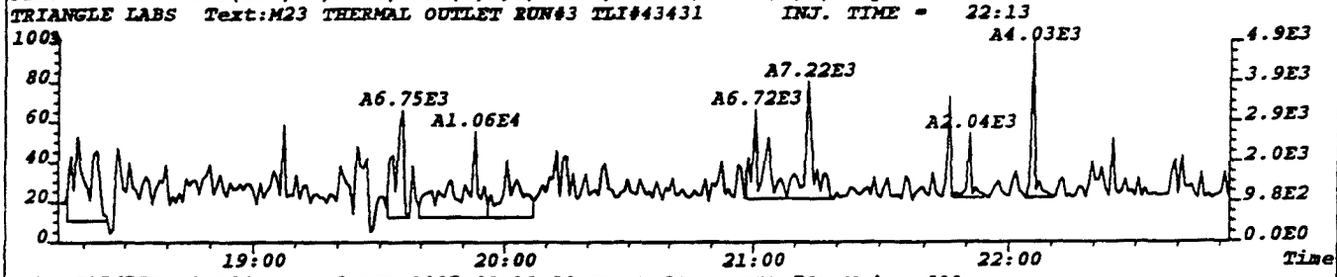
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



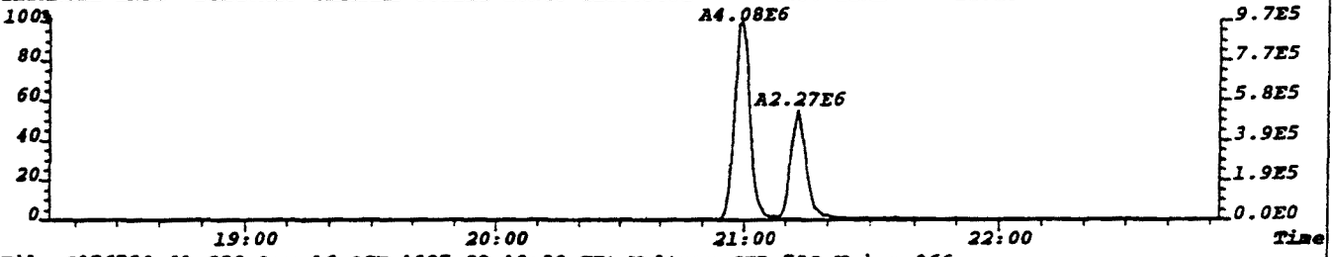
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:440
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1760.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



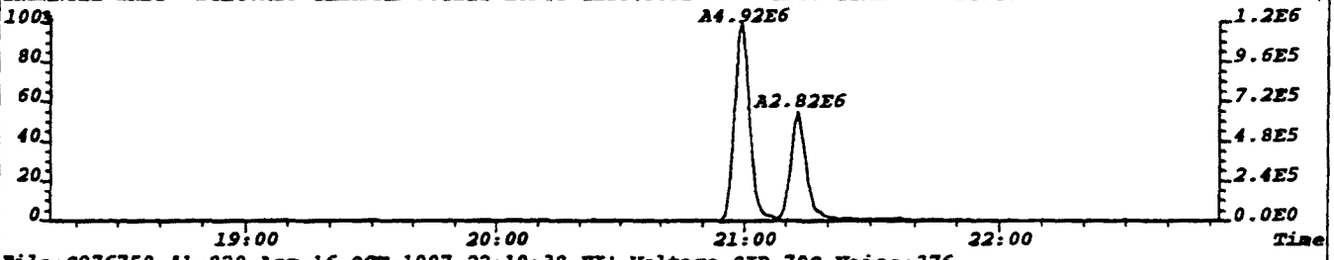
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:435
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1740.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



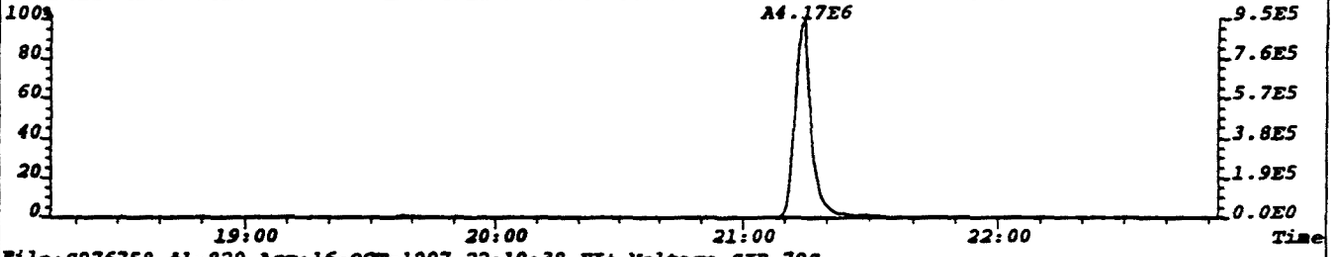
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:608
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2432.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



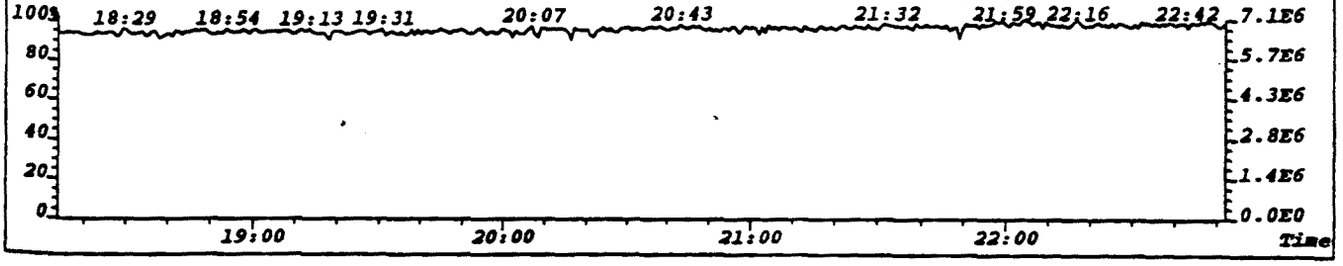
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:366
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1464.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



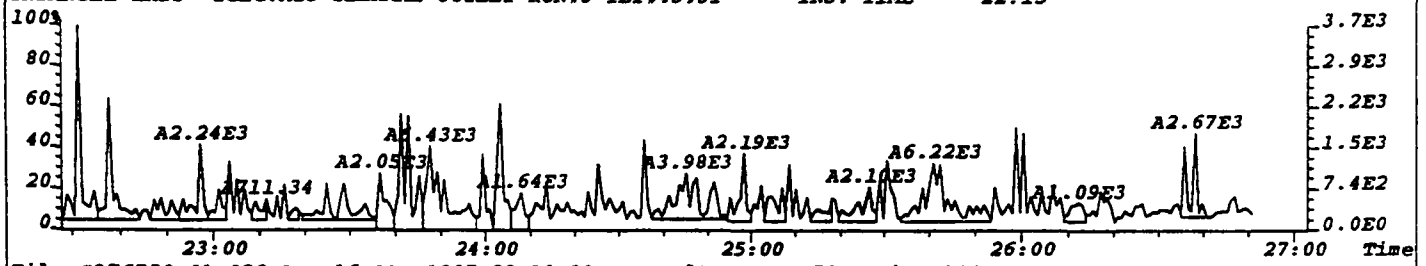
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:376
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



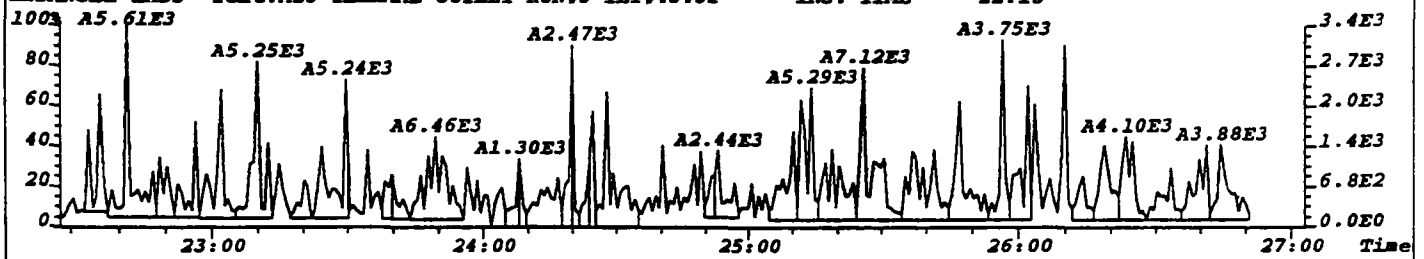
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



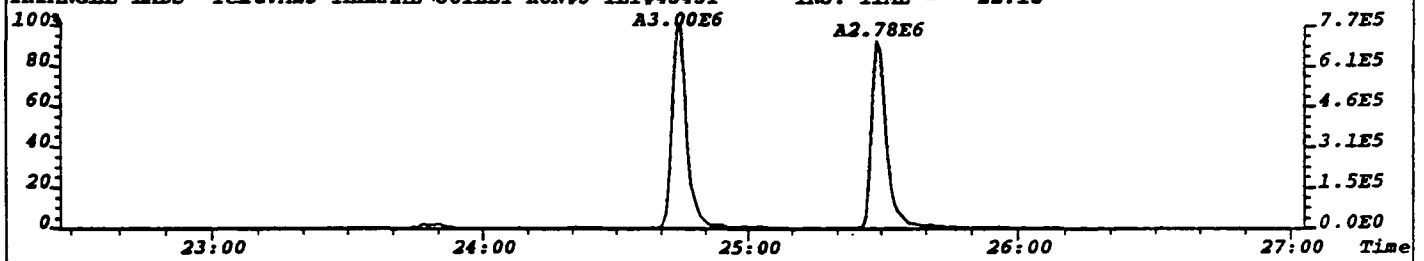
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:120
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,480.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



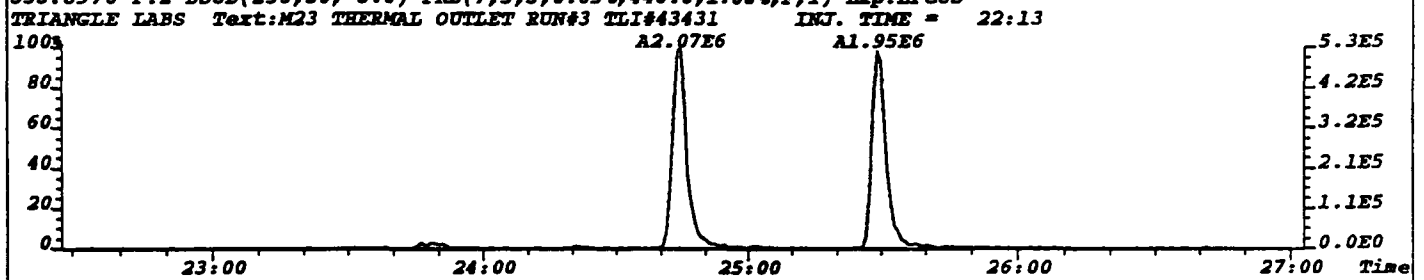
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:144
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,576.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



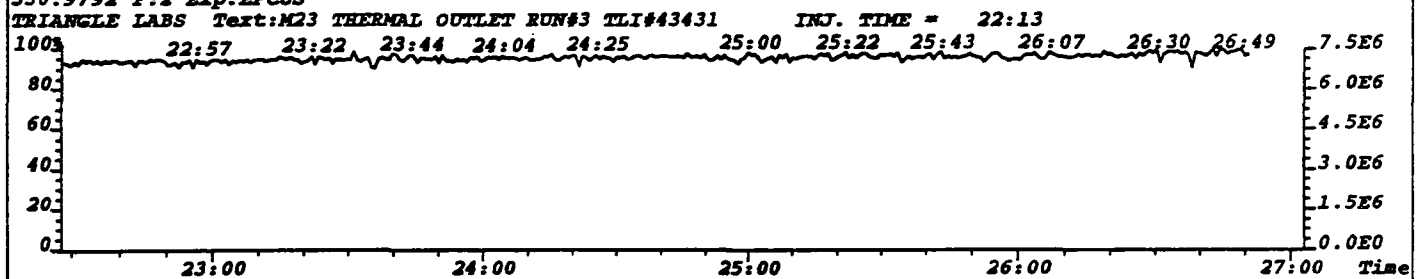
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:67
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



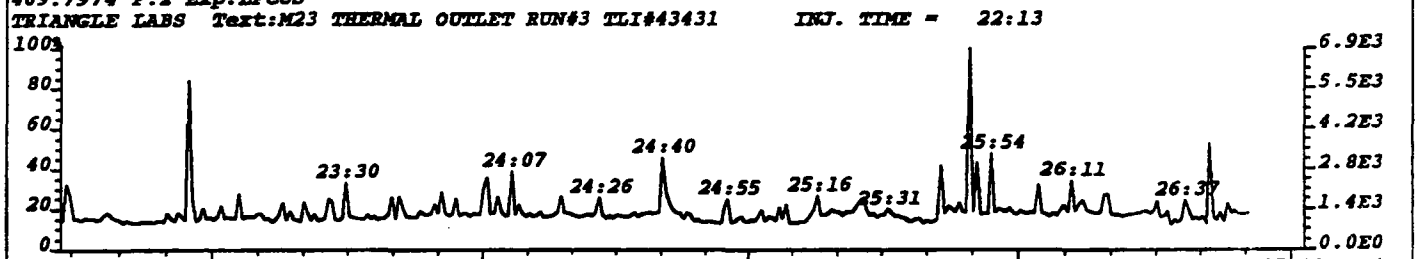
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:110
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,440.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



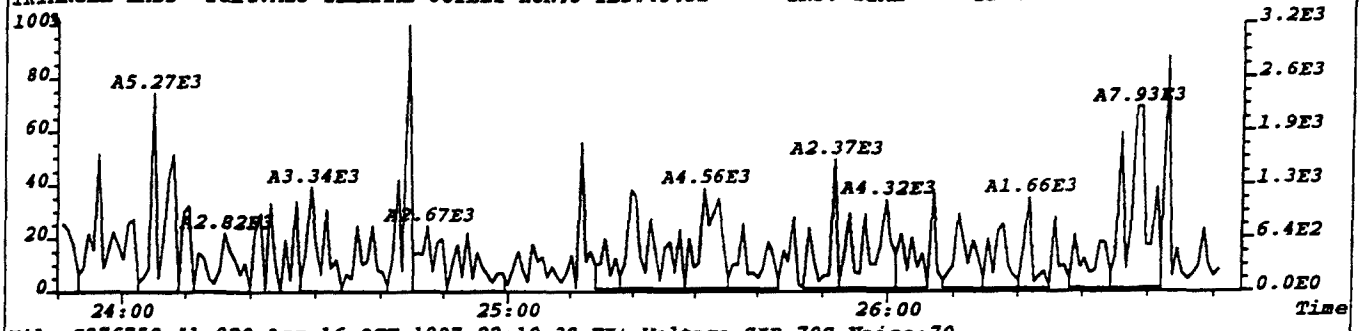
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



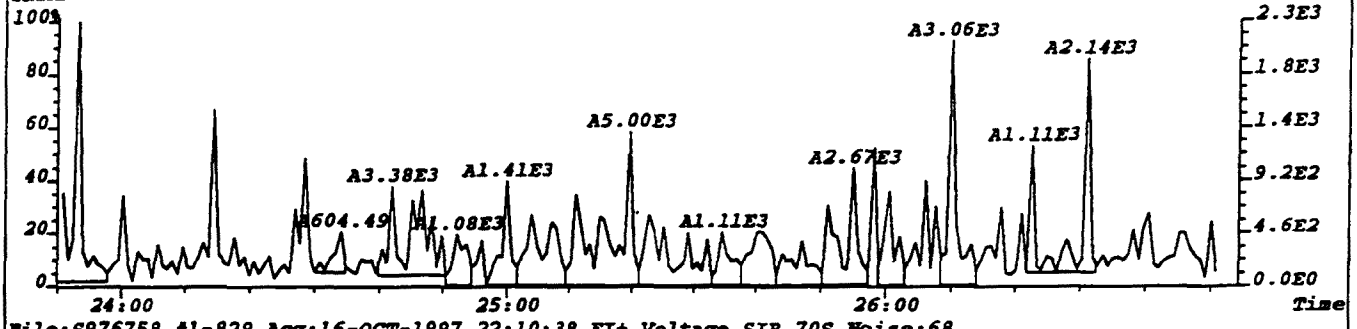
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



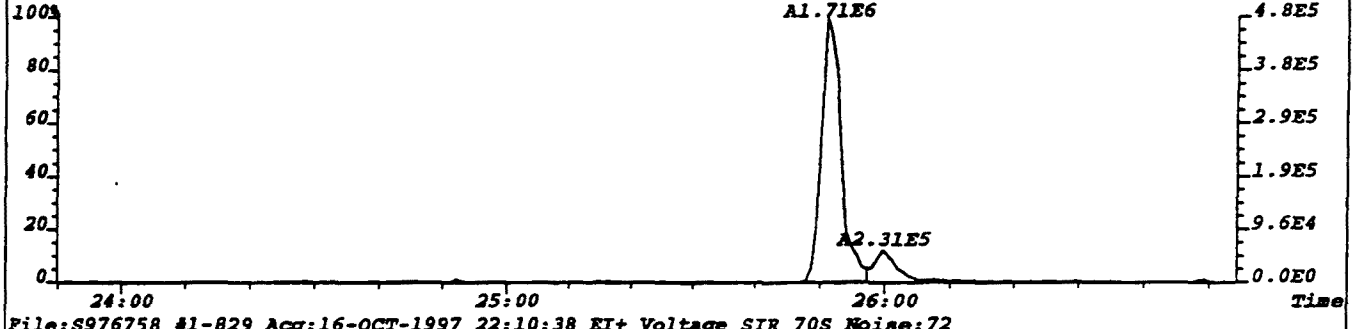
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:74
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



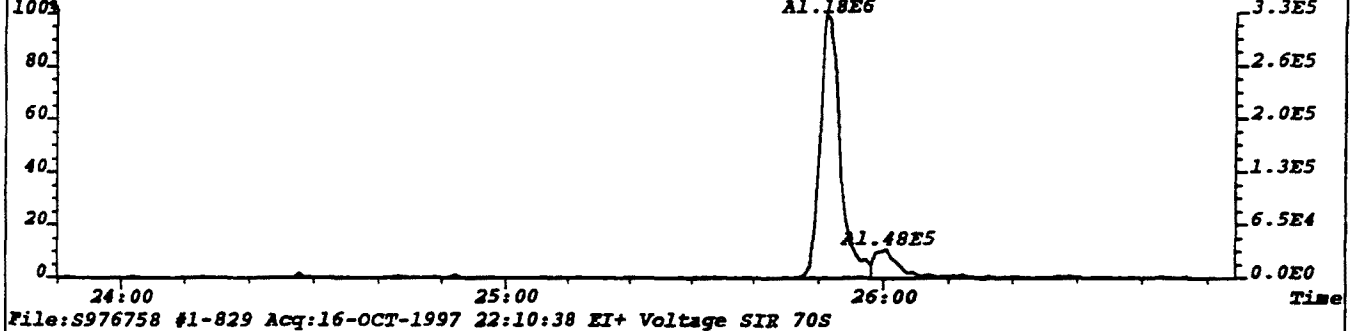
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:70
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,280.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



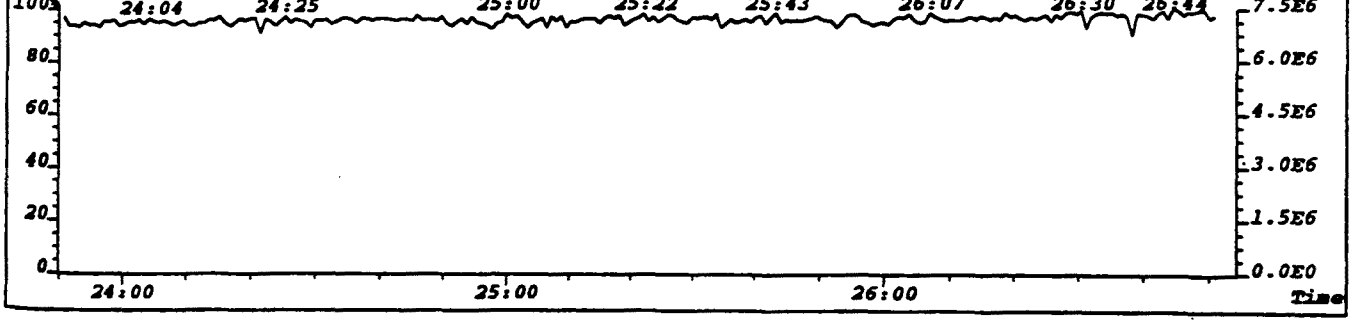
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:68
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,272.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



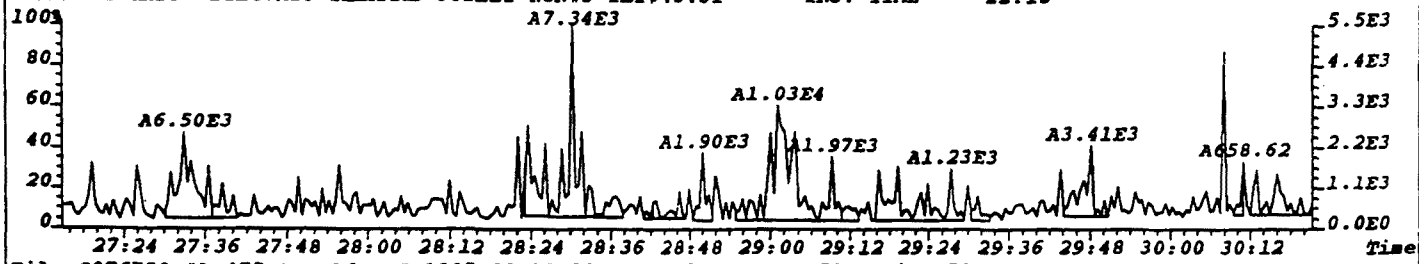
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:72
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,288.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



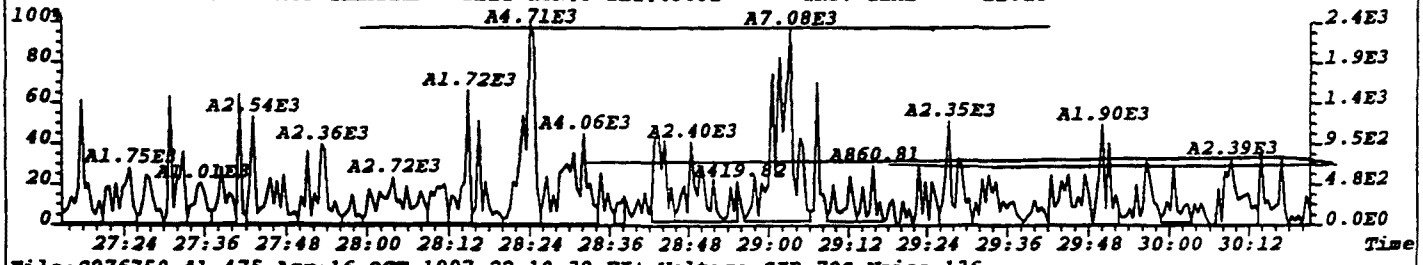
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



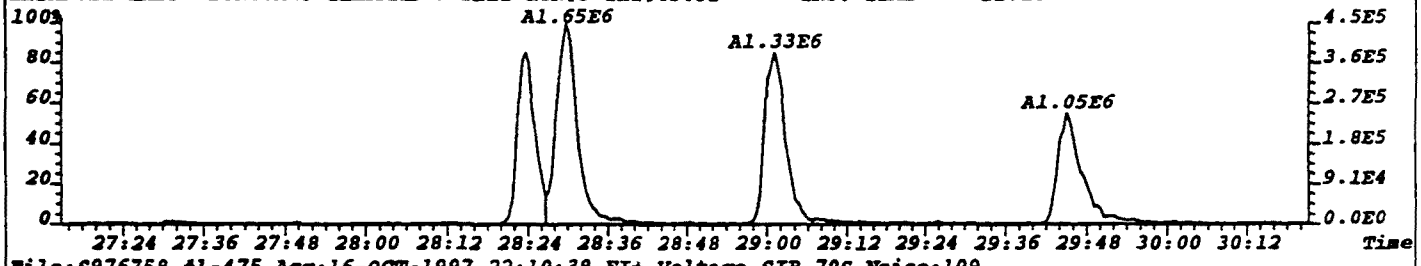
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:171
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,684.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



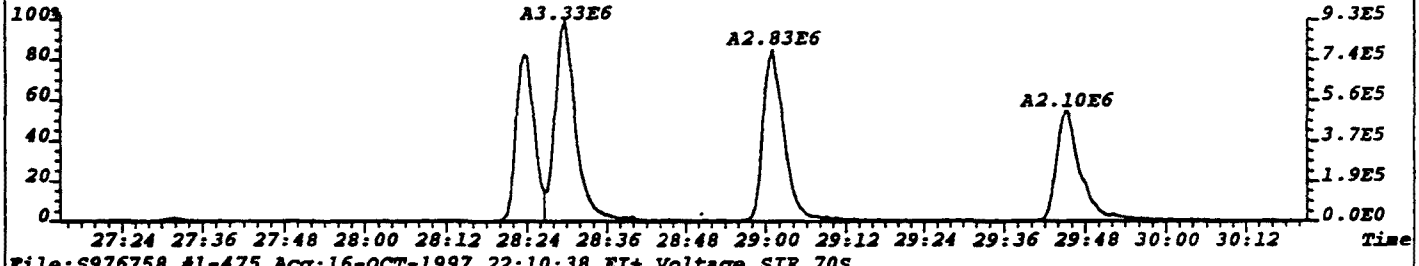
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:50
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



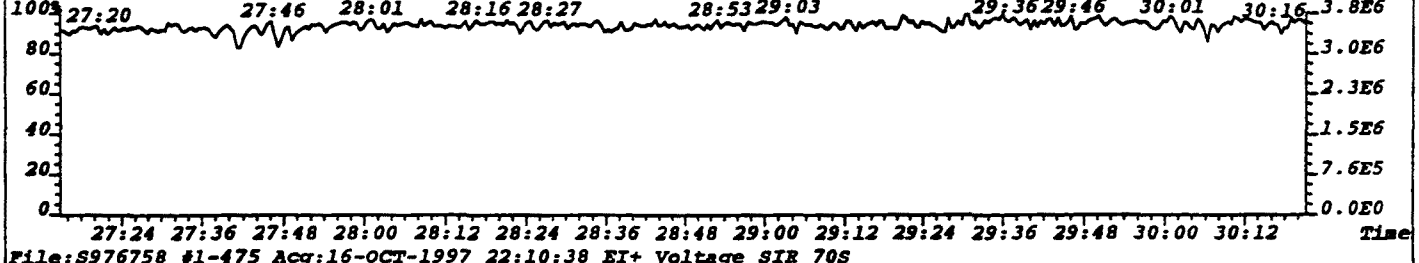
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:136
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,544.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



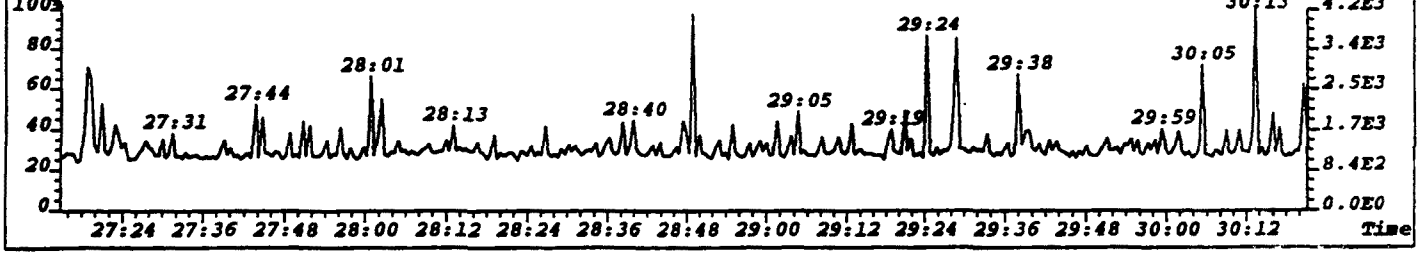
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:109
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,436.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



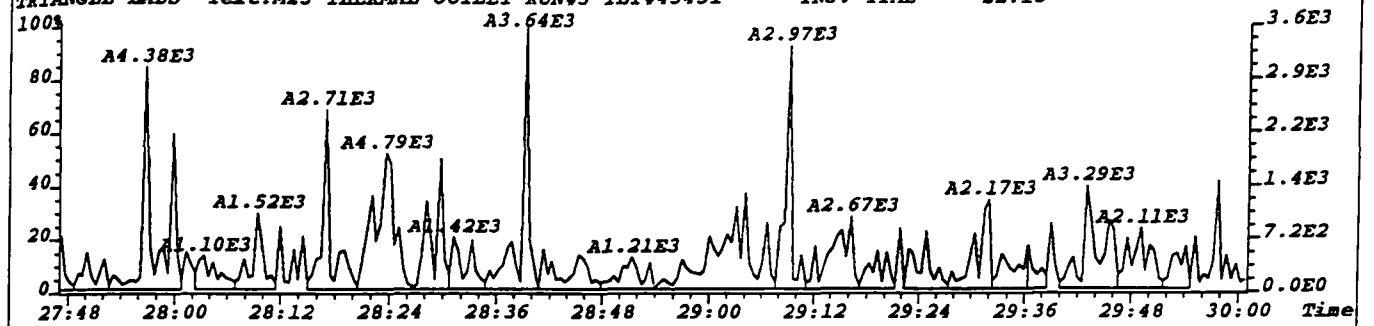
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



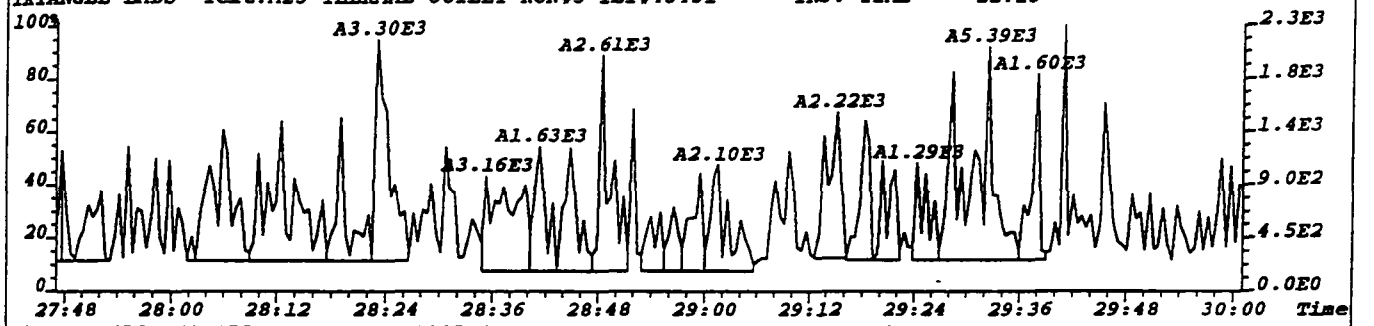
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



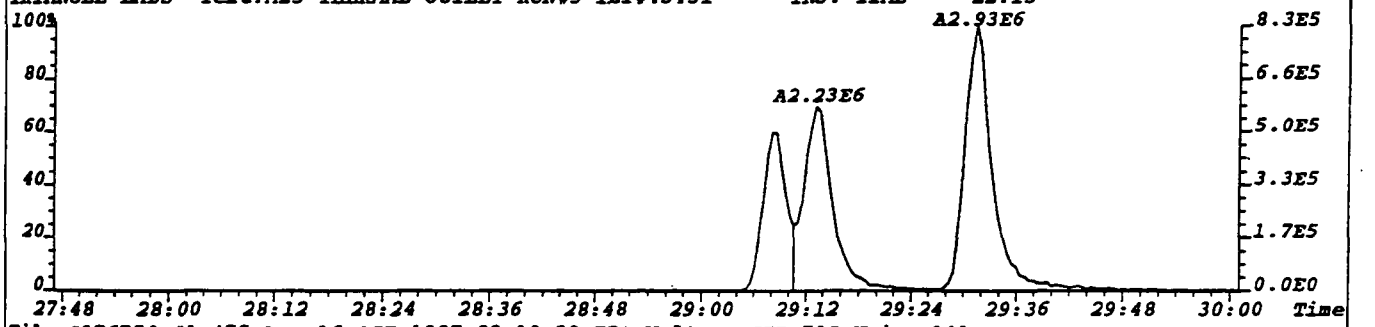
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:63
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,252.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



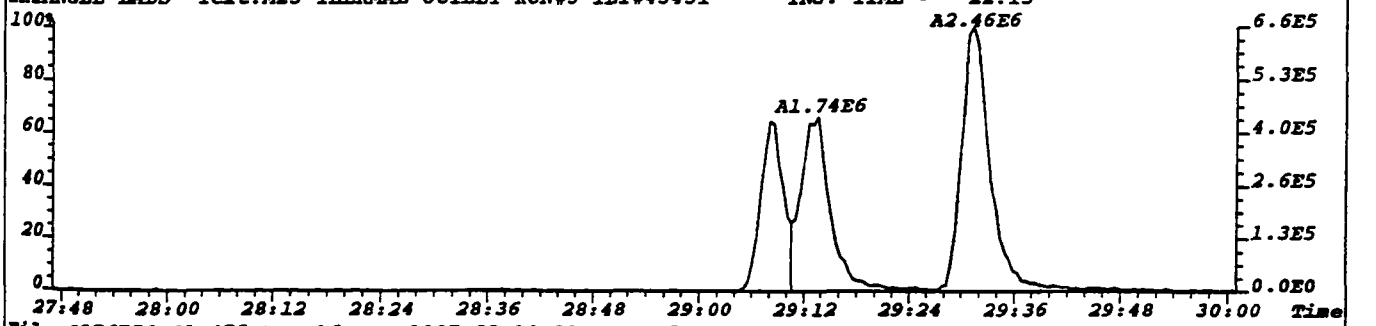
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:158
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,632.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



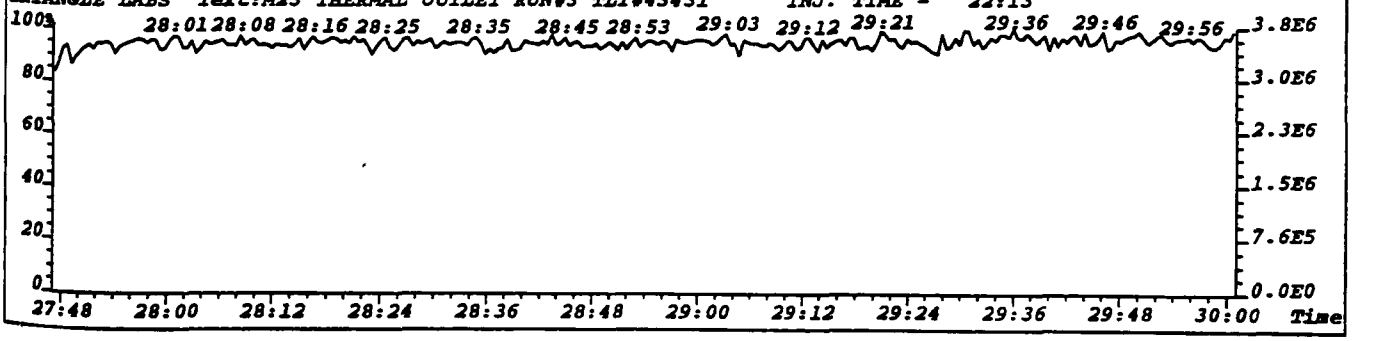
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:79
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,316.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



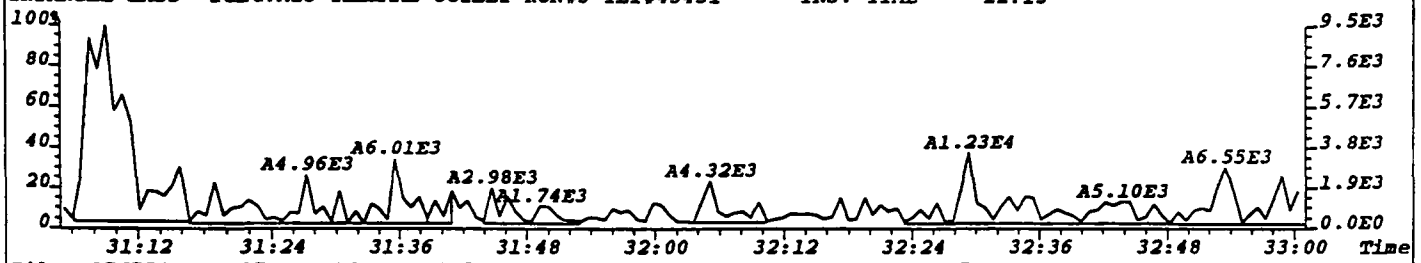
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:141
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,564.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



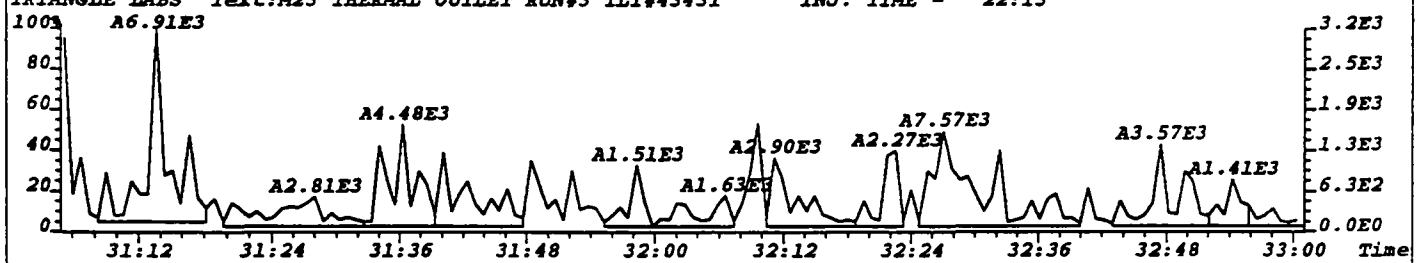
File:S976758 #1-475 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



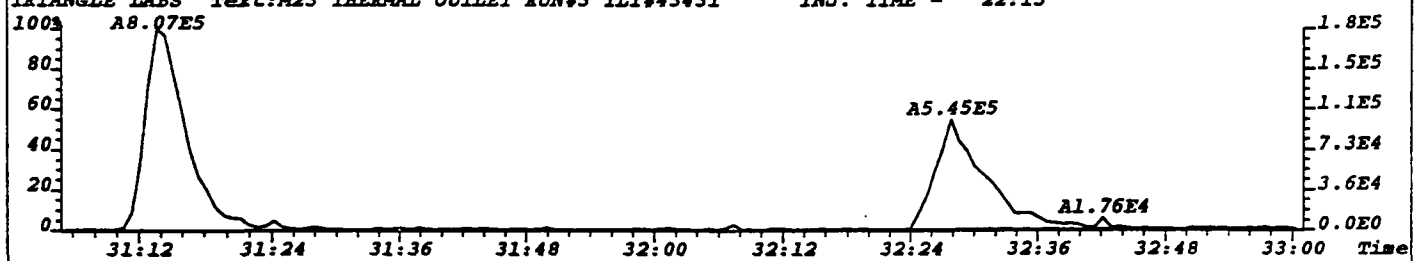
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:173
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,692.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



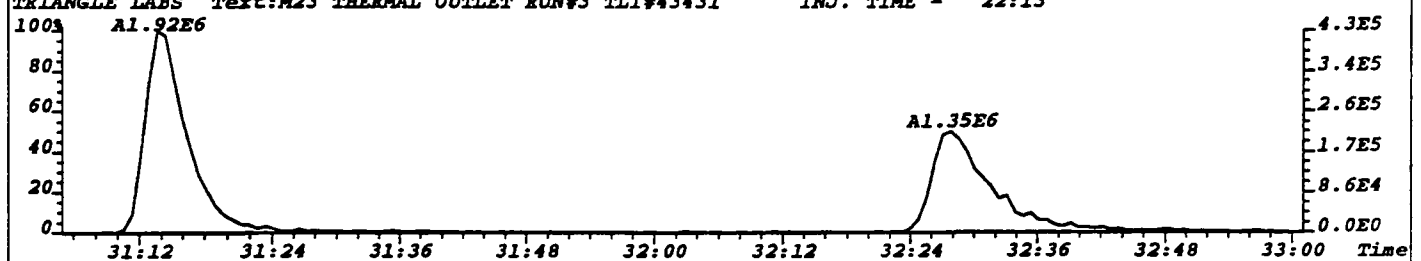
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:87
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



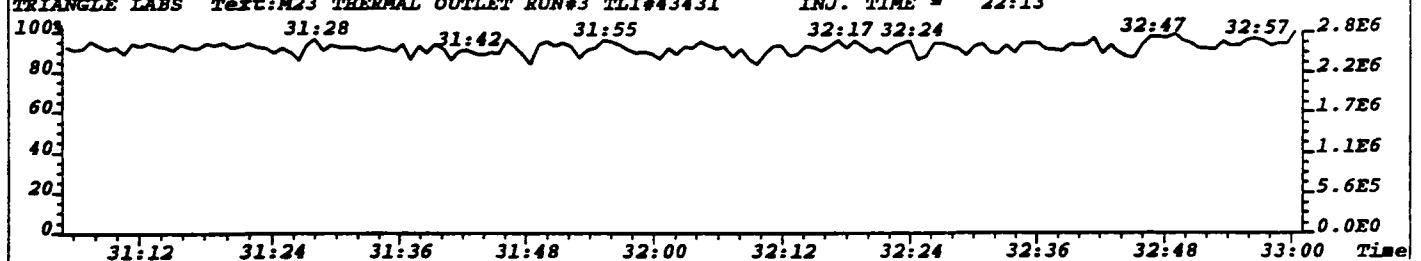
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:200
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,800.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



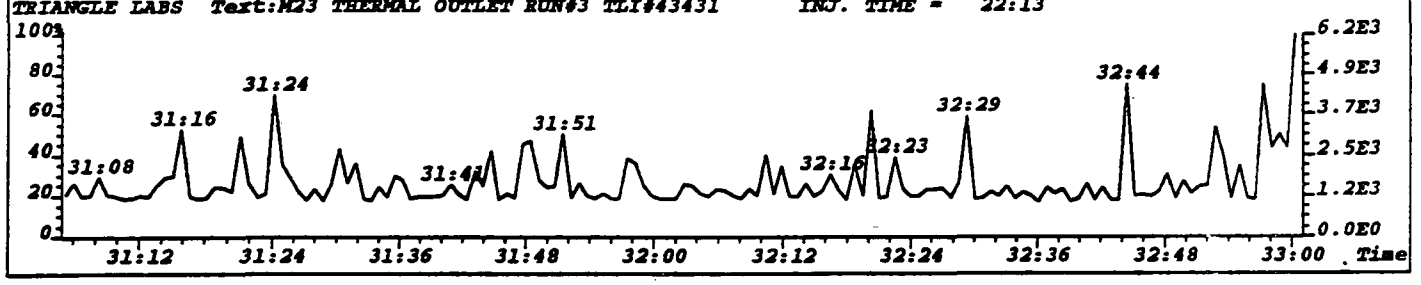
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:143
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,572.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



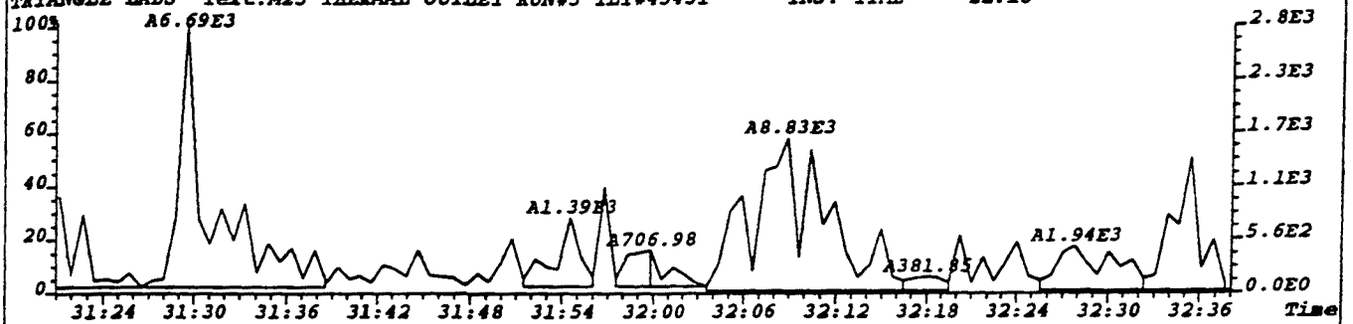
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



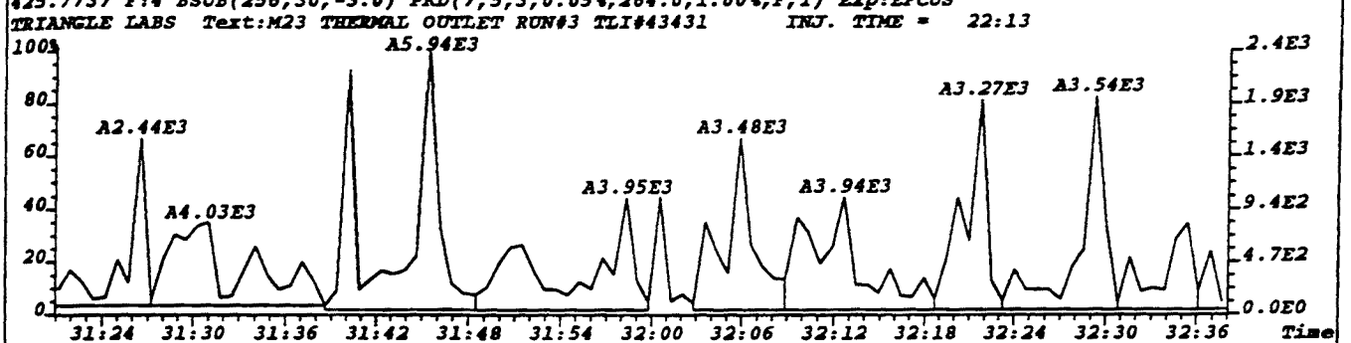
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



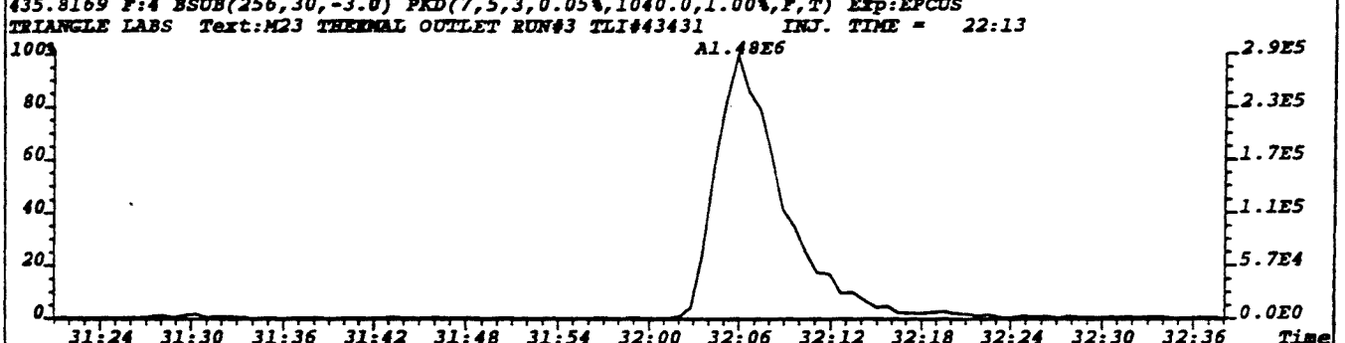
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:51
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



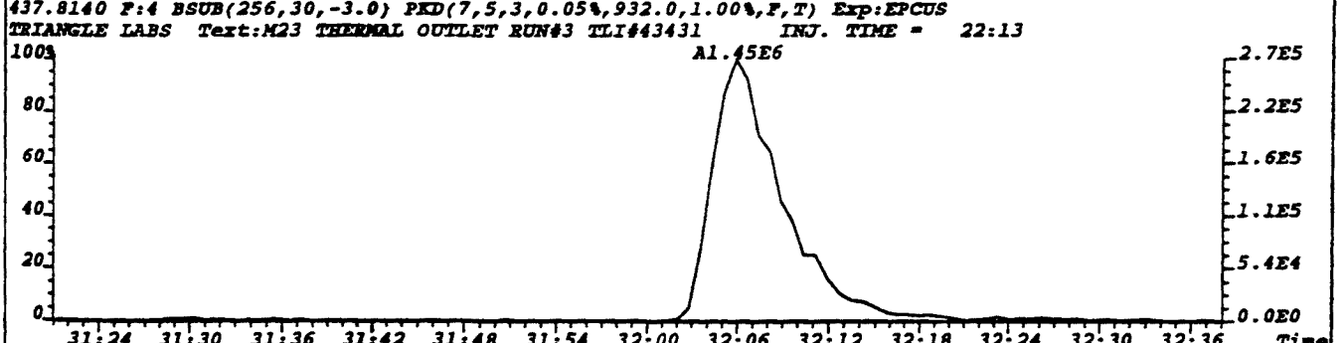
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:66
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



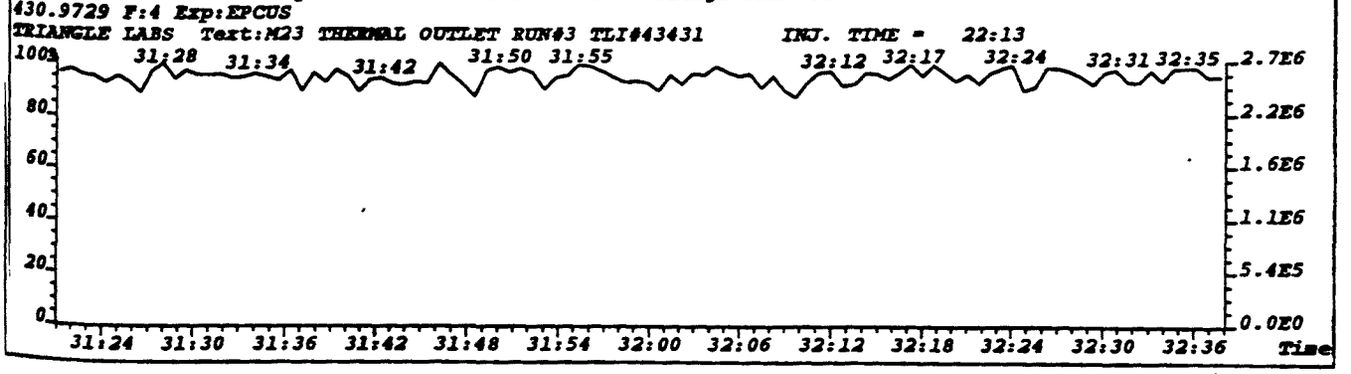
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:260
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1040.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



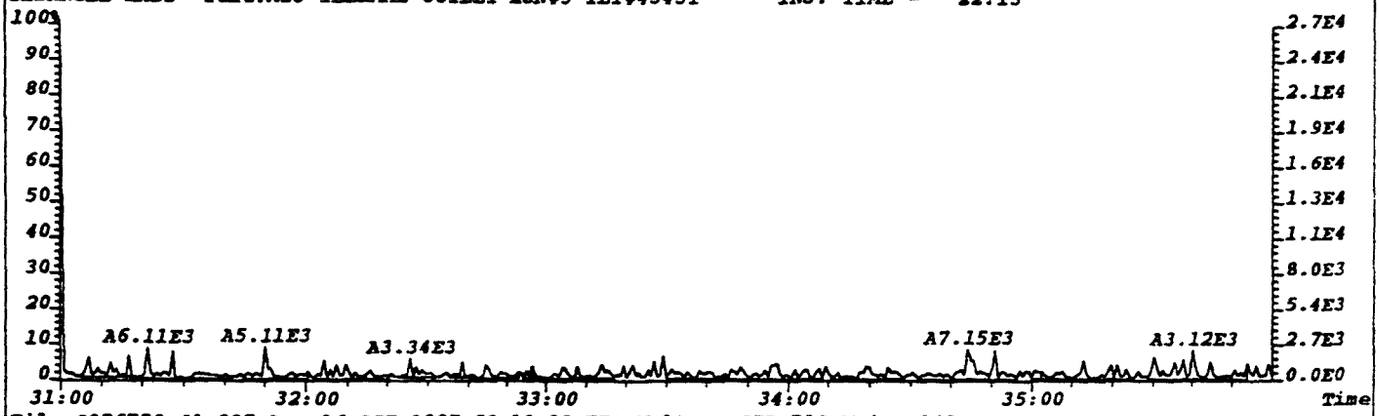
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:233
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,932.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



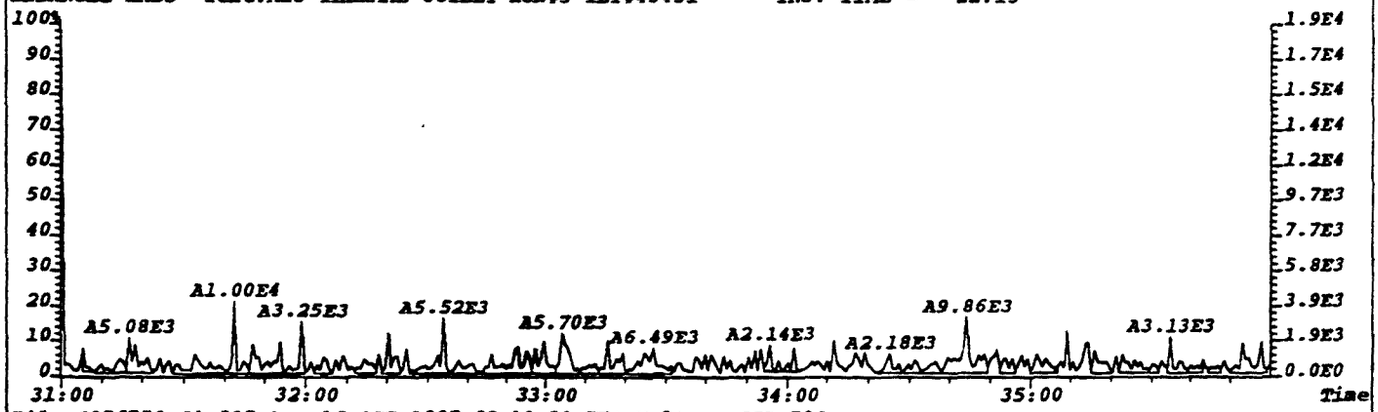
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



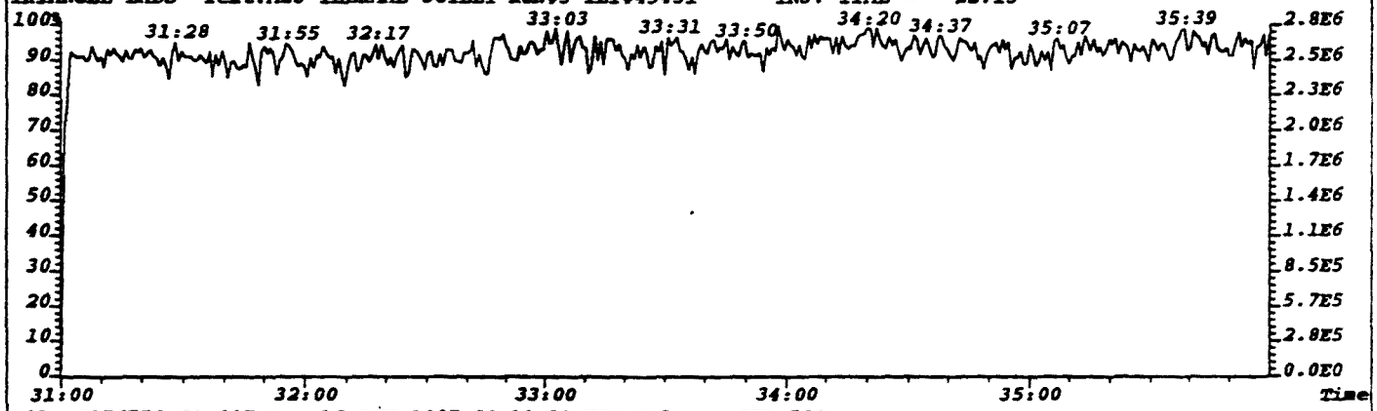
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:112
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,448.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



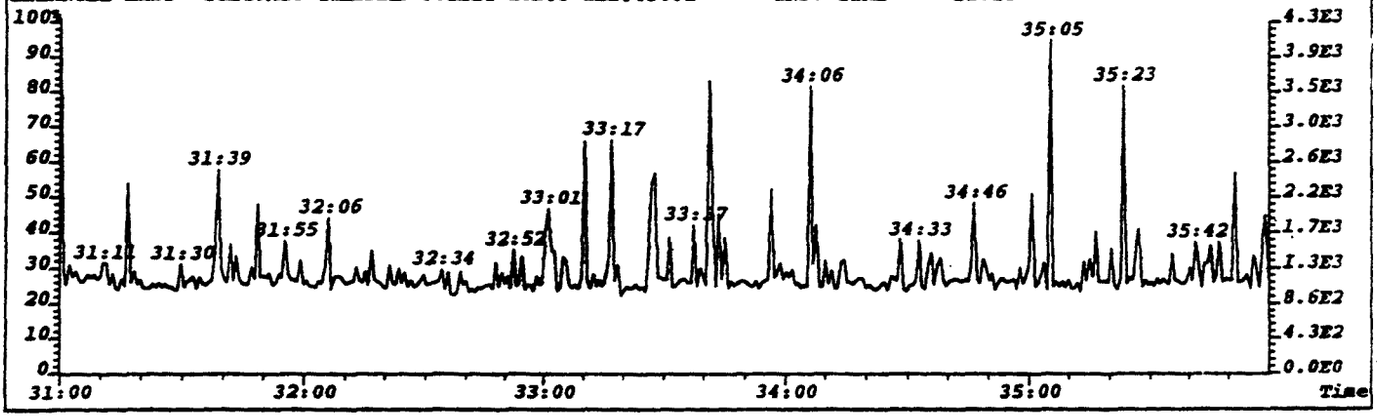
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:143
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,572.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



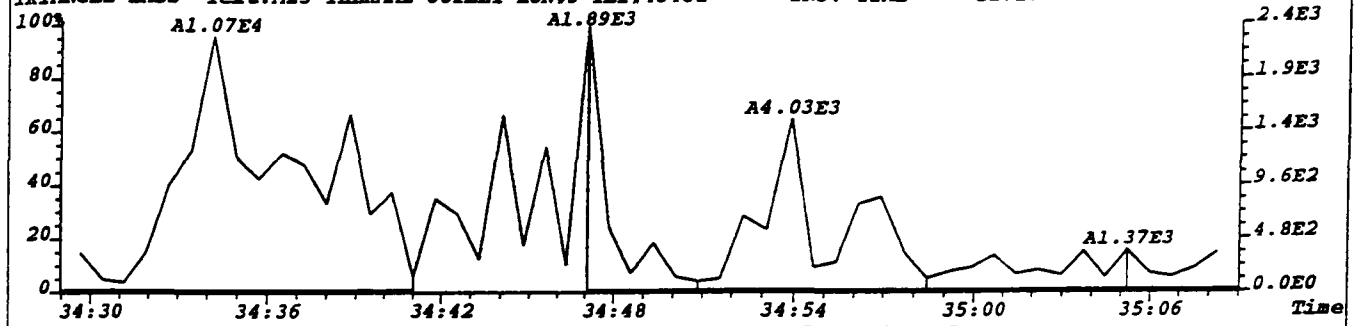
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



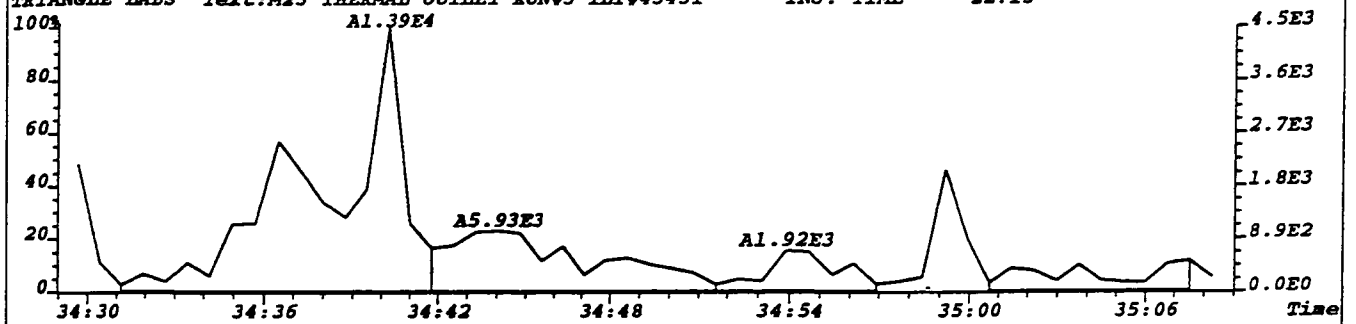
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



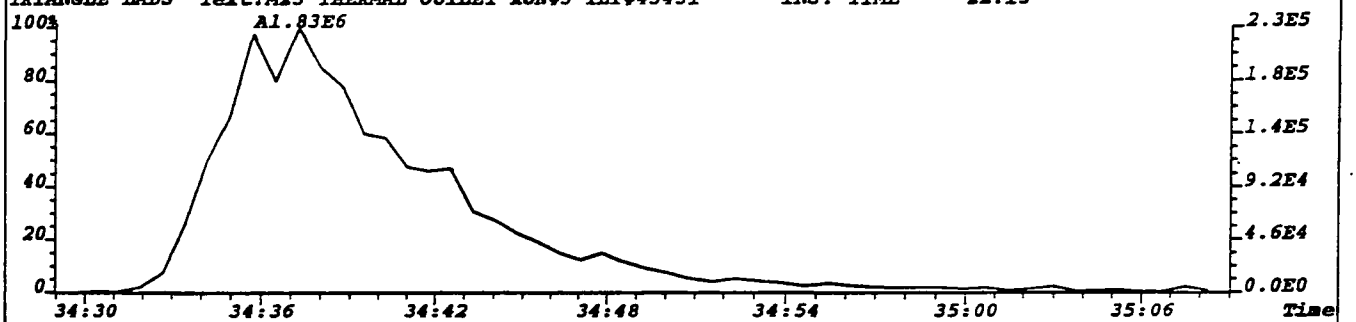
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:45
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



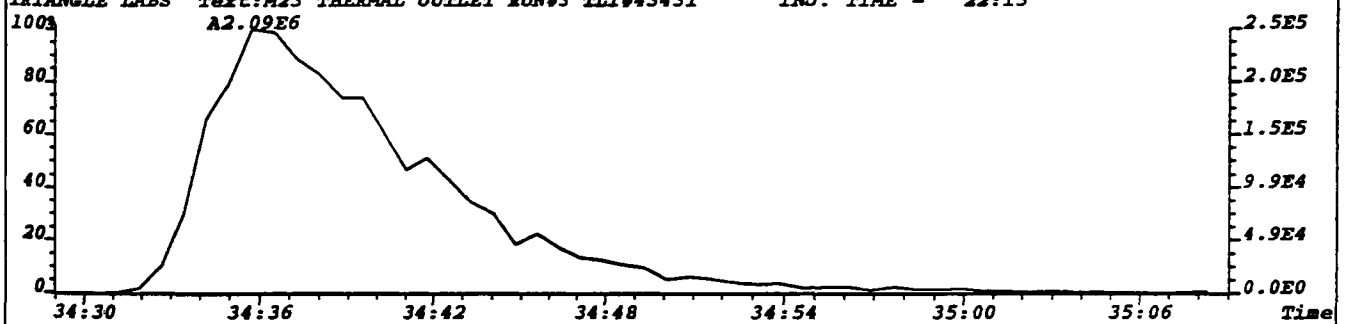
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:47
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



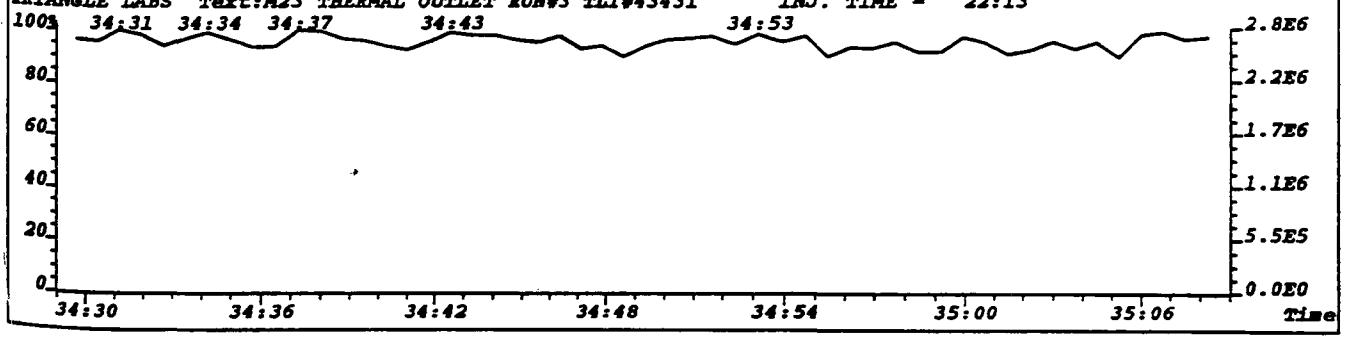
File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:52
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13

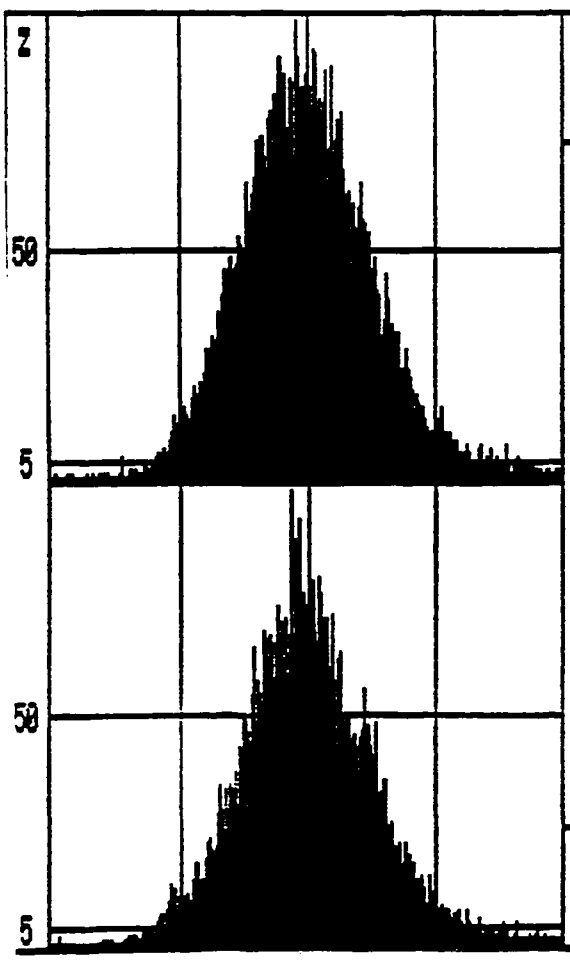


File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S Noise:62
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,248.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13



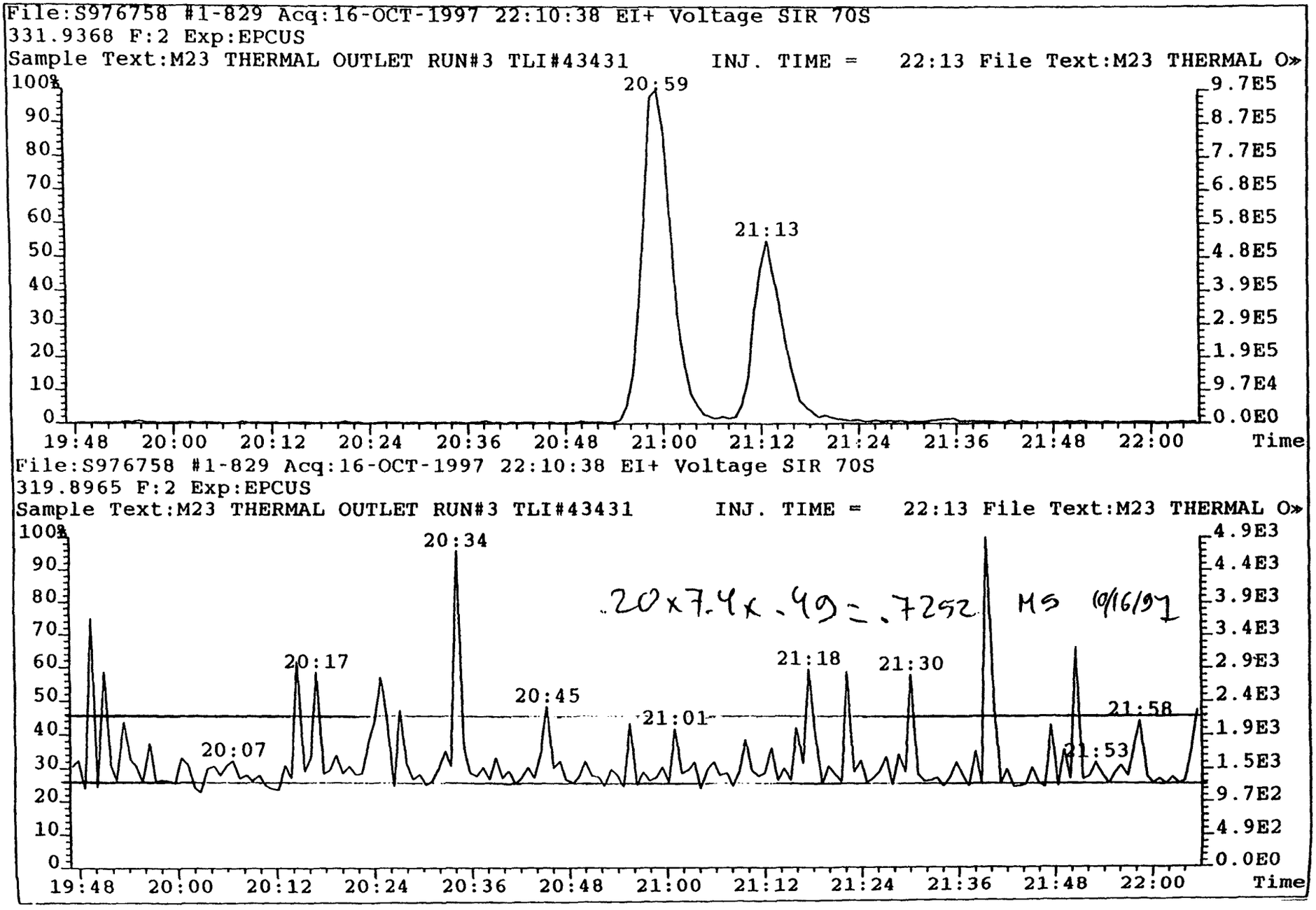


Ref. mass 292.9825 Peak top
Height .62 volts Span 200 ppm

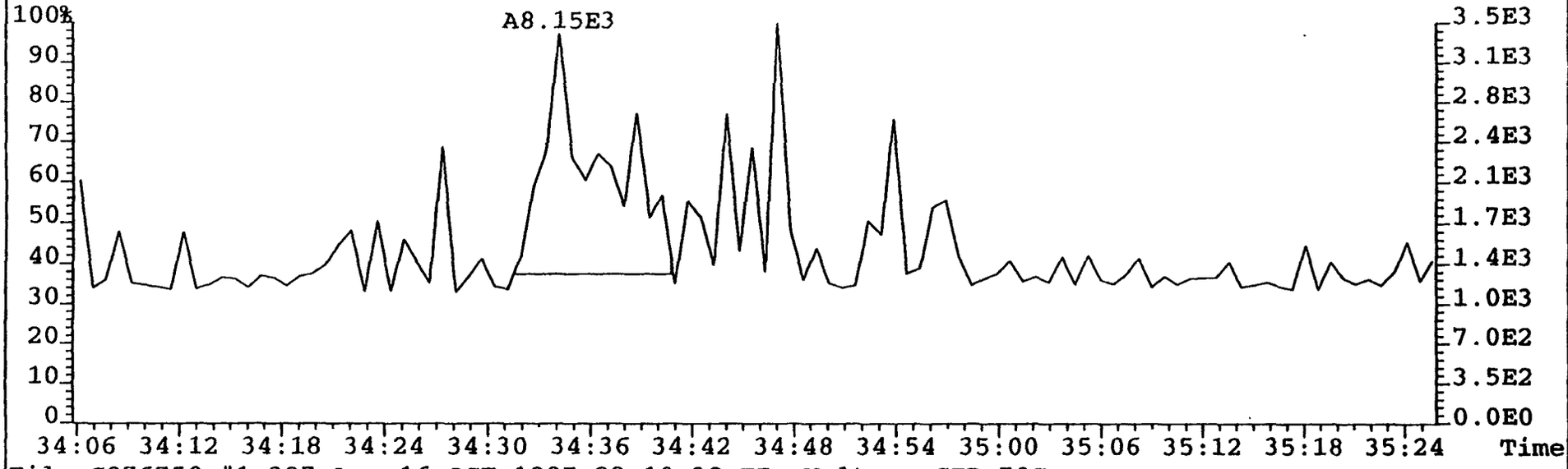
System file name	EPCUS
Data file name	A:S976756
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

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	329	Q	356		
I	331	R	358		

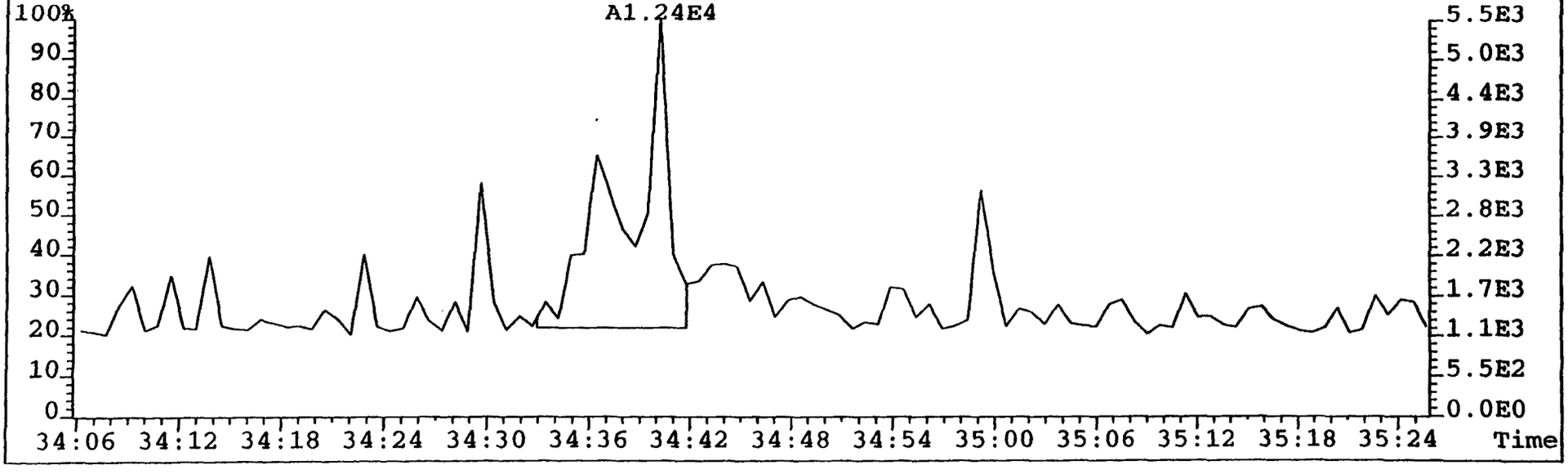
Channel I 330.9792 Peak top
Height .68 volts Span 200 ppm


File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13 File Text:M23 THERMAL O»
20:59
21:13
Time
File:S976758 #1-829 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13 File Text:M23 THERMAL O»
20:34
20:17
20:07
20:45
21:01
21:18
21:30
21:53
21:58
.20x7.4x.49=.7252 MS 10/16/97
Time

File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13 File Text:M23 THERMAL O»



File:S976758 #1-397 Acq:16-OCT-1997 22:10:38 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET RUN#3 TLI#43431 INJ. TIME = 22:13 File Text:M23 THERMAL O»



Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET FB1 — Analysis File: S976759

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-9A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976754
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MS	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.009				—
1,2,3,7,8-PeCDD	ND	0.01				—
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	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	EMPC		0.01			—
2,3,7,8-TCDF	ND	0.006				—
1,2,3,7,8-PeCDF	ND	0.009				—
2,3,4,7,8-PeCDF	ND	0.009				—
1,2,3,4,7,8-HxCDF	ND	0.008				—
1,2,3,6,7,8-HxCDF	ND	0.006				—
2,3,4,6,7,8-HxCDF	ND	0.008				—
1,2,3,7,8,9-HxCDF	ND	0.008				—
1,2,3,4,6,7,8-HpCDF	ND	0.01				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.01				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	0.01	1			—
Total PeCDD	ND		0.01		—
Total HxCDD	ND		0.01		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.006		—
Total PeCDF	ND		0.009		—
Total HxCDF	ND		0.007		—
Total HpCDF	ND		0.01		—

X237_PSR v2.00, LARS 6.10.04

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TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET FB1 — Analysis File: S976759

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.3	58.7	40%-130%	0.79	20:25	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.2	54.4	40%-130%	0.80	21:13	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.2	54.9	40%-130%	1.55	24:43	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.3	56.8	40%-130%	1.40	25:51	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.2	78.8	40%-130%	0.48	28:29	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.1	76.9	40%-130%	1.20	29:13	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.4	60.9	25%-130%	0.42	31:13	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.9	73.5	25%-130%	0.98	32:05	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	6.2	77.1	25%-130%	0.84	34:36	—

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.9	97.9	70%-140%		21:14	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.8	95.0	70%-140%	1.52	25:29	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.1	76.4	70%-140%	0.50	28:23	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	2.9	71.9	70%-140%	1.18	29:08	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.4	86.2	70%-140%	0.40	32:26	—

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.6	65.5	40%-130%	0.48	29:44	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.9	72.6	40%-130%	0.48	29:01	—

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	1.22	29:31	—

Data Reviewer: K 10/20/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:09 10/20/97

Initial ....Date...

Data Review By: K- 10/20/97 Calculated Noise Area: 0.49

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 S976759B.dbf
10/20/97 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				0.826-1.103			
304-306	DC	NL		0:00		0.81	1.21			0.000			
	DC	SN		18:59	RO	6.31	0.51			0.930			
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC	NL		0:00	RO	0.51	0.71			0.000			
	DC	WL		19:16	RO	0.63	13.91			0.944			
				19:57	RO	0.98	5.22	2.89	2.95	0.977			
				20:25		0.79	637.95	281.01	356.94	1.000	13C12-2378-TCDF	ISO	
316-318			2	Peaks			643.17						

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

TCDD						0.65-0.89				0.858-1.060			
320-322	DC	NL		0:00	RO	1.15	0.69			0.000			
	DC	SN		18:46	RO	4.00	0.16			0.885			
	DC	SN		19:00	RO	1.00	0.41			0.896			
	DC	SN		19:05	RO	1.42	0.46			0.899			
	DC	SN		19:20	RO	1.16	0.97			0.911			
	DC	SN		19:24		0.66	0.93			0.914			
				19:32		0.89	1.34	0.63	0.71	0.921			
320-322			1	Peak			1.34						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.21			0.000			
	DC	WL		18:14			0.67			0.859			
	DC	WL		18:27			0.43			0.870			
	DC	WL		18:37			0.34			0.877			
	DC	WL		18:43			0.29			0.882			
	DC	WL		18:45			0.30			0.884			
	DC	WL		18:56			0.08			0.892			
	DC	WL		18:56			0.14			0.892			
	DC	SN		19:13			0.27			0.906			
	DC	SN		19:21			0.39			0.912			
	DC	SN		19:30			0.26			0.919			
				19:40			3.47	3.47		0.927			
				19:47			0.82	0.82		0.932			
	DC	SN		20:12			0.38			0.952			
	DC	SN		20:45			0.37			0.978			
	DC	SN		21:04			0.46			0.993			
				21:14			394.54	394.54		1.001	37Cl-TCDD		SUR1
				21:29			6.33	6.33		1.013			
	DC	SN		21:46			0.59			1.026			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				21:56			0.84	0.84		1.034			
				22:02			0.93	0.93		1.038			
				22:16			0.66	0.66		1.049			
				22:24			0.84	0.84		1.056			
		DC	SN	22:29			0.39			1.060			
		DC	SN	22:37			0.37			1.066			
		DC	SN	22:43			0.33			1.071			
328				8 Peaks			408.43						
13C12-TCDD				0.65-0.89					0.906-1.094				
332-334		DC	NL	0:00	RO	5.62	0.23			0.000			
				19:53	RO	1.30	4.67	3.44	2.64	0.937			
		DC	SN	20:26	RO	6.96	0.46			0.963			
	N			20:59		0.81	824.42	367.87	456.55	0.989	13C12-1234-TCDD	RS1	
				21:13		0.80	478.04	212.36	265.68	1.000	13C12-2378-TCDD	IS1	
				21:36		0.75	12.26	5.24	7.02	1.018			
		DC	SN	21:43	RO	1.68	0.67			1.024			
				21:51	RO	1.57	2.41	2.14	1.36	1.030			
332-334				5 Peaks			1,321.80						
---------- Above: TCDD / PeCDF Follows ----------													
PeCDF				1.32-1.78					0.908-1.080				
340-342		DC	NL	0:00	RO	0.87	0.21			0.000			
		DC	SN	22:36	RO	13.00	0.05			0.914			
		DC	SN	24:09	RO	0.43	0.26			0.977			
		DC	SN	24:40	RO	0.14	0.20			0.998			
		DC	SN	25:06	RO	0.65	0.25			1.016			
		DC	SN	25:34	RO	0.68	0.31			1.034			
		DC	SN	25:46	RO	0.50	0.08			1.042			
		DC	SN	25:59	RO	1.08	0.64			1.051			
		DC	SN	26:19	RO	0.42	0.44			1.065			
		DC	SN	26:33	RO	1.29	0.30			1.074			
		DC	SN	26:40	RO	0.30	0.36			1.079			
340-342				0 Peaks			0.00						
13C12-PeCDF				1.32-1.78					0.838-1.162				
352-354		DC	NL	0:00	RO	1.11	0.16			0.000			
		DC	SN	22:49	RO	1.19	0.53			0.923			
		DC	SN	23:06	RO	1.00	0.28			0.935			
		DC	SN	23:13	RO	1.05	0.35			0.939			
				23:47		1.51	20.32	12.22	8.10	0.962			
		DC	SN	24:05		1.43	0.34			0.974			
				24:21		1.33	4.48	2.56	1.92	0.985			
				24:43		1.55	512.87	311.37	201.50	1.000	13C12-PeCDF 123	IS2	
				25:09	RO	1.11	2.45	1.49	1.34	1.018			
				25:29		1.52	472.57	285.31	187.26	1.031	13C12-PeCDF 234	SUR2	
		DC	SN	26:19		1.62	0.55			1.065			
		DC	SN	26:32	RO	2.15	1.38			1.073			
352-354				5 Peaks			1,012.69						

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: PeCDF / PeCDD Follows ----------													
PeCDD				1.32-1.78						0.921-1.027			
356-358	DC	NL		0:00		1.56	0.23			0.000			
	DC	SN		23:52	RO	0.21	0.12			0.923			
	DC	SN		24:28	RO	2.05	0.54			0.946			
	DC	SN		24:52	RO	2.13	0.20			0.962			
	DC	SN		25:36	RO	1.05	0.69			0.990			
	DC	SN		25:46	RO	1.00	0.18			0.997			
	DC	SN		26:16		1.33	0.28			1.016			
	DC	WH		26:37	RO	8.20	0.13			1.030			
	DC	WH		26:45	RO	0.69	0.44			1.035			
356-358			0	Peaks			0.00						
13C12-PeCDD				1.32-1.78						0.845-1.155			
368-370	DC	NL		0:00	RO	1.25	0.16			0.000			
	DC	SN		24:07	RO	0.29	0.12			0.933			
	DC	SN		24:54	RO	2.57	0.36			0.963			
	DC	SN		25:18	RO	1.00	0.41			0.979			
				25:51		1.40	297.60	173.45	124.15	1.000	13C12-PeCDD 123	IS3	
				25:59	RO	1.95	35.80	27.37	14.04	1.005			
	DC	SN		26:22	RO	0.59	0.72			1.020			
368-370			2	Peaks			333.40						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.957-1.054			
374-376	DC	NL		0:00	RO	1.86	0.31			0.000			
	DC	SN		27:43	RO	1.58	0.27			0.973			
	DC	SN		27:50	RO	0.29	0.18			0.977			
	DC	SN		28:00		1.20	0.44			0.983			
	DC	SN		28:25	RO	0.81	0.45			0.998	123478-HxCDF	AN	
	DC	SN		28:30		1.30	0.53			1.001	123678-HxCDF	AN	
	DC	SN		28:47		1.40	0.36			1.011			
	DC	SN		28:53	RO	2.33	0.07			1.014			
	DC	SN		29:01		1.14	0.92			1.019	234678-HxCDF	AN	
	DC	SN		29:05	RO	0.54	0.13			1.021			
	DC	SN		29:15	RO	2.29	0.31			1.027			
	DC	SN		29:32	RO	4.00	0.22			1.037			
	DC	SN		29:58	RO	0.81	0.23			1.052			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	0.38	0.33			0.000			
				27:23	RO	0.63	4.00	1.66	2.65	0.961			
				27:31		0.48	9.43	3.06	6.37	0.966			
	DC	SN		27:41	RO	0.42	0.68			0.972			
	DC	SN		27:56	RO	0.31	0.38			0.981			
				28:23		0.50	385.64	127.92	257.72	0.996	13C12-HxCDF 478	SUR3	
				28:29		0.48	526.49	170.68	355.81	1.000	13C12-HxCDF 678	IS4	
				28:43		0.47	6.41	2.06	4.35	1.008			
	DC	SN		28:49	RO	0.15	1.18			1.012			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				29:01		0.48	449.20	145.34	303.86	1.019	13C12-HxCDF 234	ALT2	
				29:15	RO	0.27	2.72	0.92	3.38	1.027			
				29:19	RO	0.75	2.02	1.01	1.34	1.029			
	DC	SN		29:25	RO	0.74	1.10			1.033			
	DC	SN		29:34	RO	0.35	0.98			1.038			
				29:44		0.48	352.12	113.48	238.64	1.044	13C12-HxCDF 789	ALT1	
				30:02	RO	1.72	1.09	1.24	0.72	1.054			
	DC	SN		30:11	RO	0.15	0.59			1.060			
	DC	SN		30:13	RO	0.28	0.50			1.061			
384-386			10	Peaks			1,739.12						

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

HxCDD						1.05-1.43				0.951-1.016			
390-392	DC	NL		0:00	RO	1.50	0.22			0.000			
	DC	SN		27:48	RO	0.38	0.05			0.952			
	DC	SN		27:57	RO	0.71	0.27			0.957			
	DC	SN		28:13		1.09	0.23			0.966			
	DC	SN		28:24	RO	3.70	0.22			0.972			
	DC	SN		28:28	RO	3.83	0.27			0.974			
	DC	SN		28:40	RO	0.95	0.33			0.981			
	DC	SN		28:43	RO	1.00	0.09			0.983			
	DC	SN		28:47	RO	1.71	0.16			0.985			
	DC	SN		28:53	RO	1.64	0.31			0.989			
	DC	SN		29:05	RO	0.14	0.05			0.995			
	DC	SN		29:15	RO	0.62	0.51			1.001	123678-HxCDD	AN	
	DC	SN		29:25	RO	0.67	0.14			1.007			
	DC	WH		29:47	RO	0.46	0.31			1.019			
	DC	WH		29:53	RO	0.89	0.29			1.023			
	DC	WH		30:01		1.15	0.28			1.027			
390-392			0	Peaks			0.00						
13C12-HxCDD						1.05-1.43				0.966-1.034			
402-404	DC	NL		0:00	RO	1.00	0.16			0.000			
	DC	WL		27:47	RO	0.59	0.31			0.951			
				28:37		1.11	3.10	1.63	1.47	0.979			
				29:08		1.18	297.15	160.61	136.54	0.997	13C12-HxCDD 478	SUR4	
				29:13		1.20	424.56	231.28	193.28	1.000	13C12-HxCDD 678	IS5	
				29:31		1.22	554.98	305.35	249.63	1.010	13C12-HxCDD 789	RS2	
				29:51	RO	0.58	1.79	0.99	1.71	1.022			
				29:51	RO	1.85	2.22	1.83	0.99	1.022			
402-404			6	Peaks			1,283.80						

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

HpCDF						0.88-1.20				0.996-1.047			
408-410	DC	NL		0:00	RO	1.38	0.16			0.000			
	DC	SN		31:40	RO	0.46	0.37			1.014			
	DC	SN		31:53	RO	0.76	0.43			1.021			
	DC	SN		32:07	RO	2.52	0.43			1.029			
	DC	SN		32:28	RO	1.31	0.65			1.040	1234789-HpCDF	AN	
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						0.936-1.128			
418-420	DC	NL		0:00	RO	0.97	0.43			0.000			
				31:13		0.42	299.60	89.34	210.26	1.000	13C12-HpCDF	678	IS6
	DC	SN		32:10	RO	1.09	0.50			1.030			
				32:26		0.40	199.22	57.26	141.96	1.039	13C12-HpCDF	789	SUR5
	DC	SN		32:46	RO	1.63	0.82			1.050			
				32:51	RO	0.35	3.80	1.16	3.28	1.052			
418-420			3	Peaks			502.62						

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

HpCDD				0.88-1.20						0.978-1.007			
424-426	DC	NL		0:00	RO	1.38	0.16			0.000			
	DC	SN		31:35	RO	2.06	0.33			0.984			
	DC	SN		31:45	RO	3.64	0.22			0.990			
	DC	SN		32:11	RO	1.50	0.33			1.003			
	DC	WH		32:27	RO	3.08	0.24			1.011			
	DC	WH		32:37	RO	3.31	0.33			1.017			
424-426			0	Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	1.29	0.84			0.000			
				31:30		0.89	3.29	1.55	1.74	0.982			
	DC	SN		31:47	RO	0.37	0.22			0.991			
				32:05		0.98	332.23	164.27	167.96	1.000	13C12-HpCDD	678	IS7
	DC	SN		32:36	RO	0.50	0.43			1.016			
436-438			2	Peaks			335.52						

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

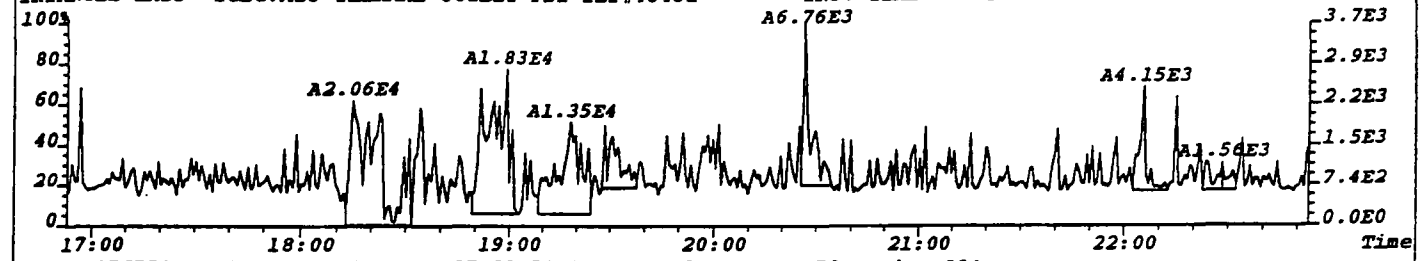
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00	RO	0.41	0.23			0.000			
	DC	SN		31:32		0.83	0.33			0.911			
	DC	SN		32:00		0.95	0.72			0.925			
	DC	SN		32:26	RO	0.64	0.34			0.937			
	DC	SN		32:43	RO	0.33	0.40			0.946			
	DC	SN		33:02	RO	1.07	0.57			0.955			
	DC	SN		33:20	RO	0.13	0.11			0.963			
	DC	SN		33:38	RO	0.39	0.25			0.972			
	DC	SN		33:49	RO	3.05	0.42			0.977			
	DC	SN		34:02		0.78	0.57			0.984			
	DC	SN		34:10	RO	0.50	0.49			0.987			
	DC	SN		34:18	RO	1.13	0.28			0.991			
	DC	SN		34:36	RO	0.53	0.36			1.000			
	DC	SN		34:55	RO	0.49	0.36			1.009			
	DC	SN		35:05	RO	0.27	0.59			1.014			
	DC	SN		35:11	RO	1.83	0.43			1.017			
	DC	SN		35:20	RO	0.42	0.42			1.021			
	DC	SN		35:36	RO	0.38	0.49			1.029			
442-444			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.
OCDD				0.76-1.02						0.884-1.116			
458-460		DC	NL	0:00		0.89	0.17			0.000			
M				34:36	RO	0.73	0.79	0.37	0.51	1.000	OCDD		AN
		DC	SN	34:48	RO	0.52	0.28			1.006			
		DC	SN	34:58	RO	3.89	0.17			1.011			
		DC	SN	35:05	RO	1.33	0.23			1.014			
458-460			1	Peak			0.79						
13C12-OCDD				0.76-1.02						0.998-1.007			
470-472		DC	NL	0:00		1.00	0.18			0.000			
				34:36		0.84	444.34	203.05	241.29	1.000	13C12-OCDD		IS8
		DC	WH	35:11	RO	0.36	1.06			1.017			
470-472			1	Peak			444.34						

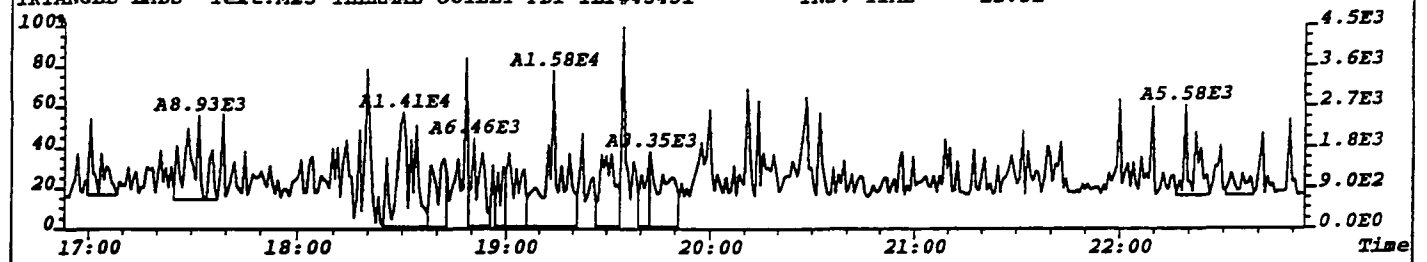
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

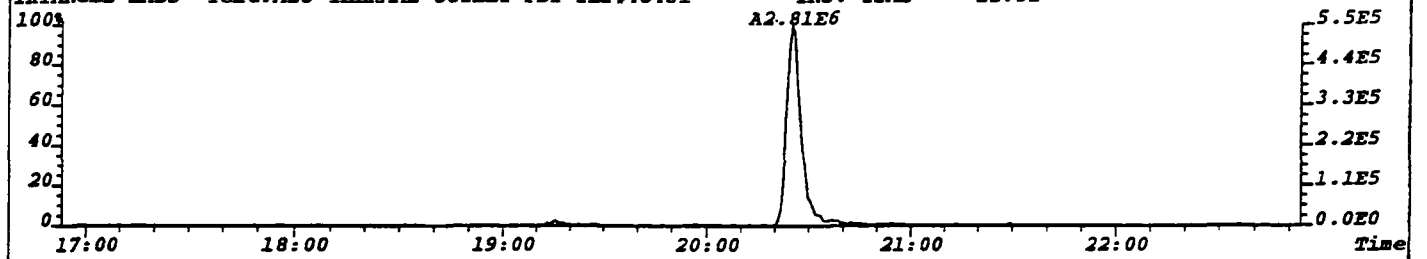
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:272
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1088.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



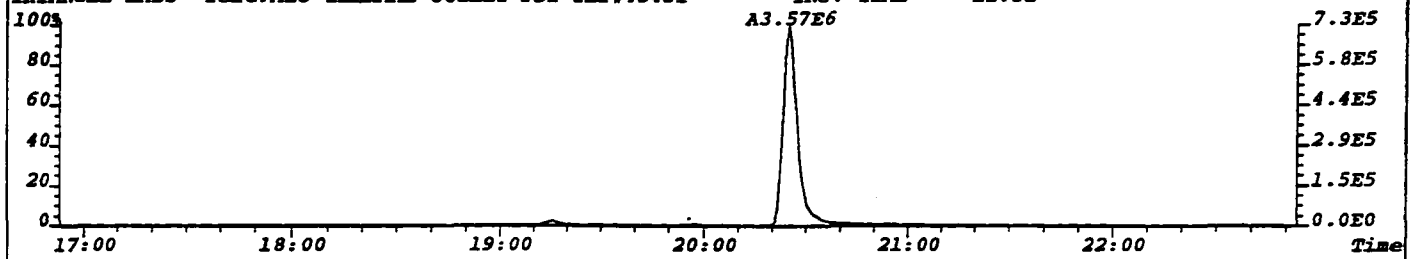
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:334
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1336.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



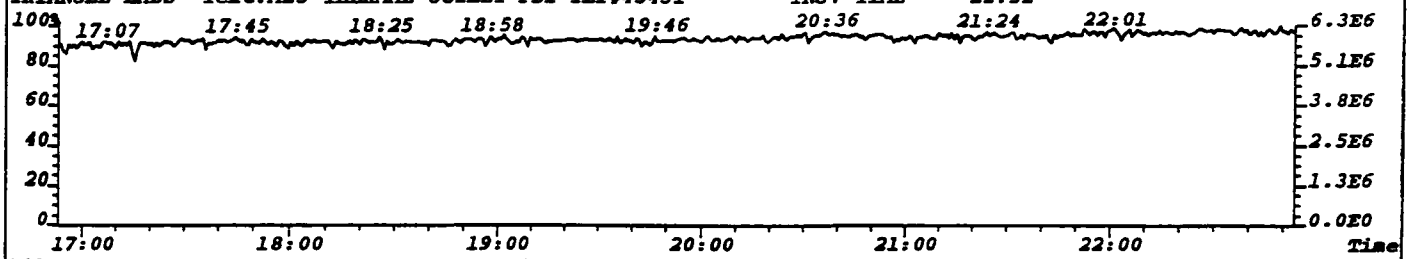
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:154
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,616.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



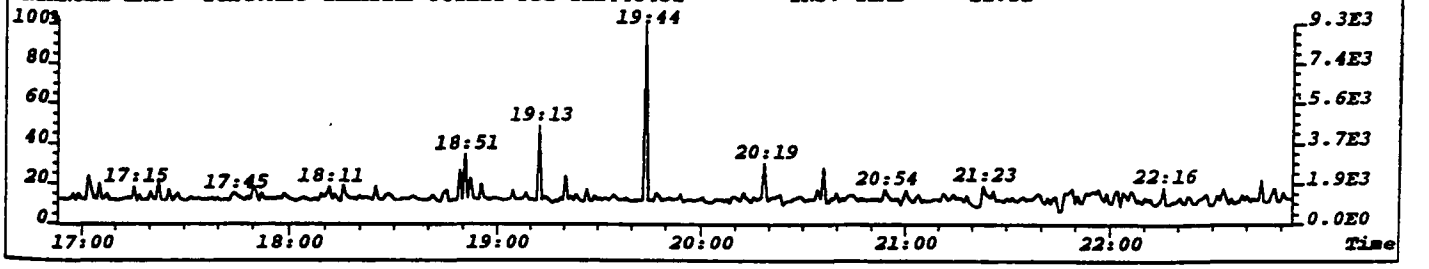
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:305
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



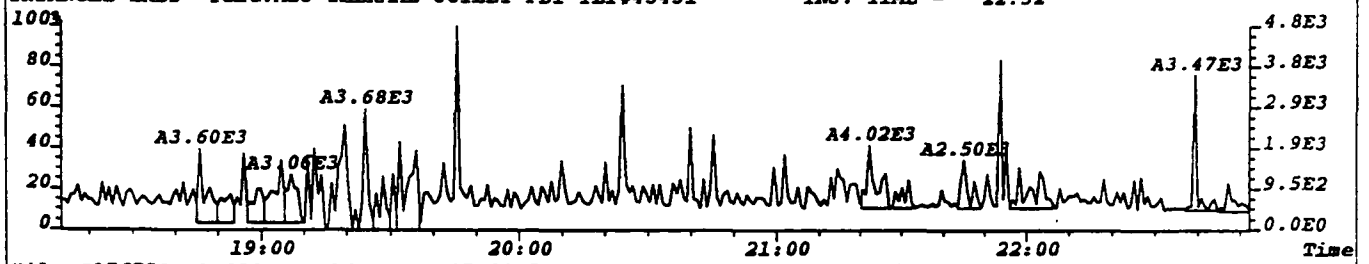
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



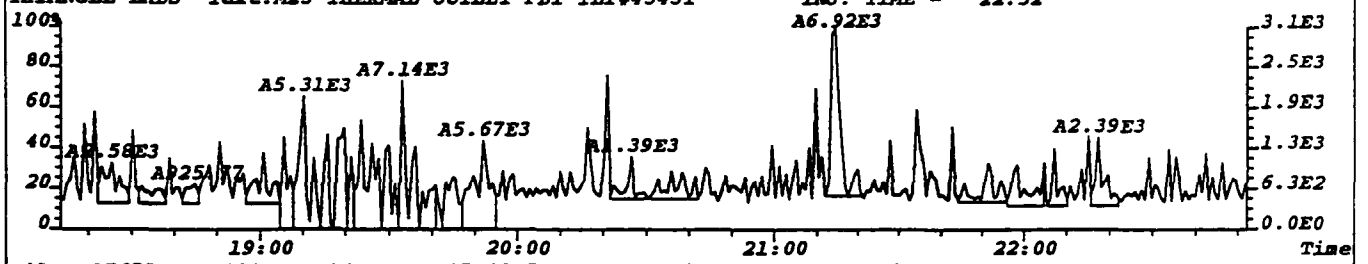
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



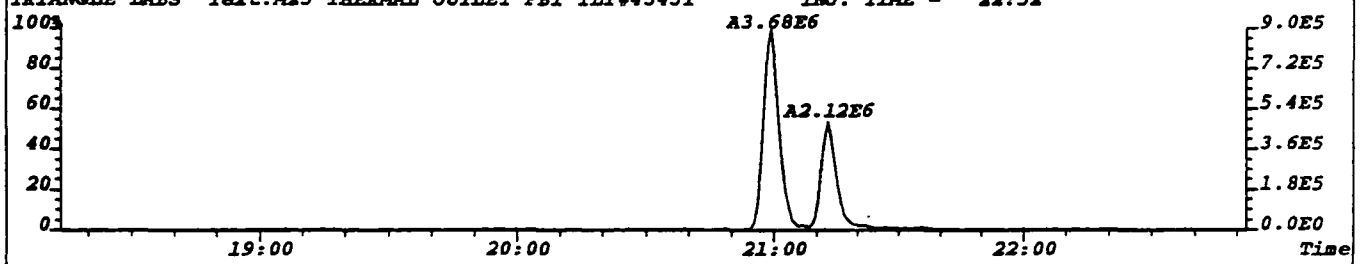
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:227
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,908.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



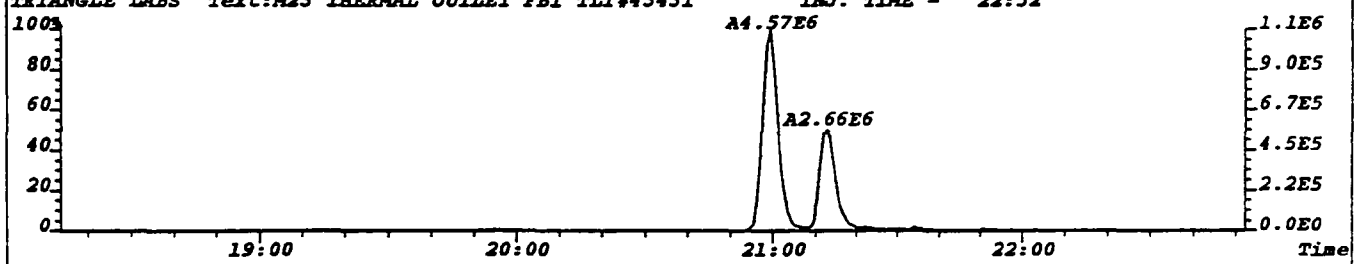
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:196
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,784.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



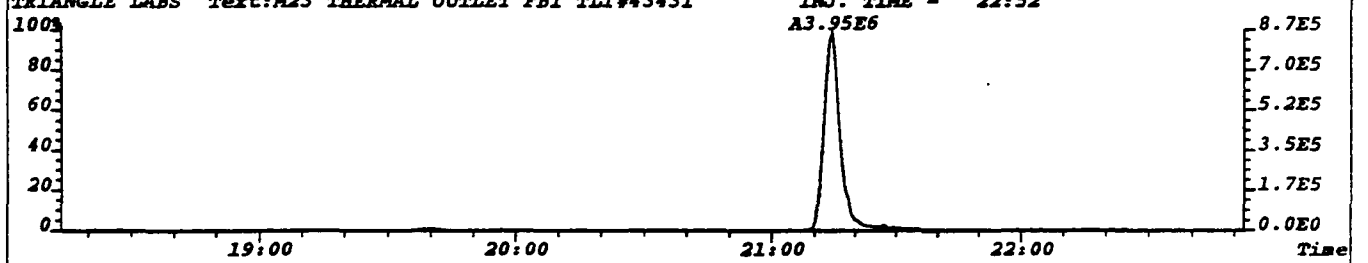
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:364
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1456.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



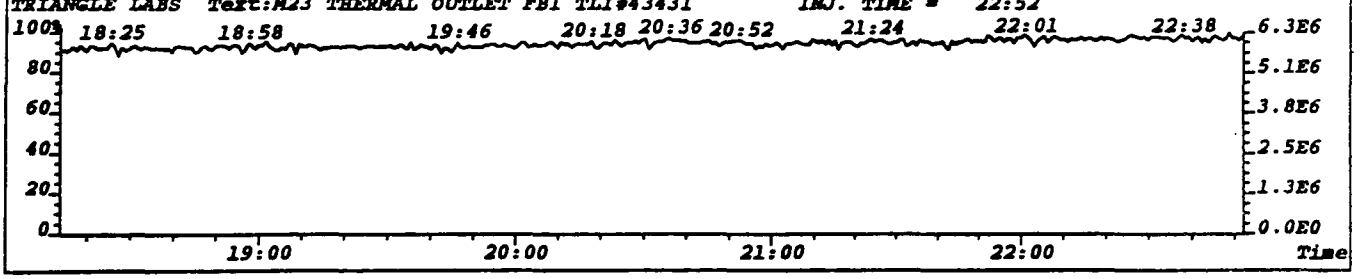
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:67
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



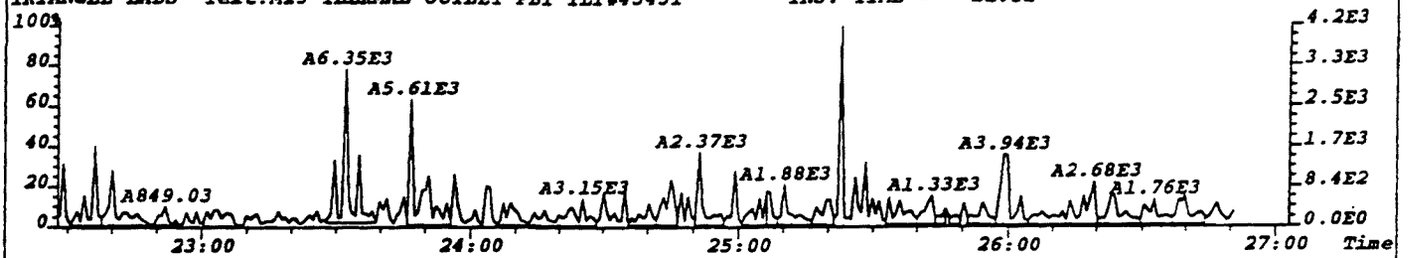
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:106
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,424.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



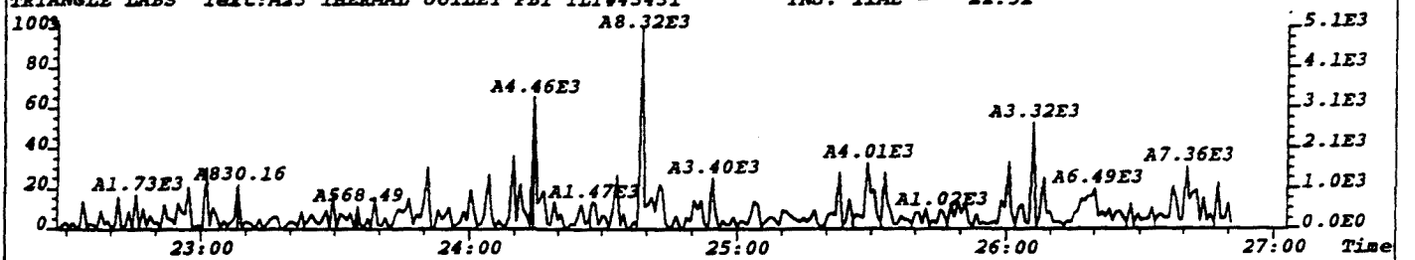
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



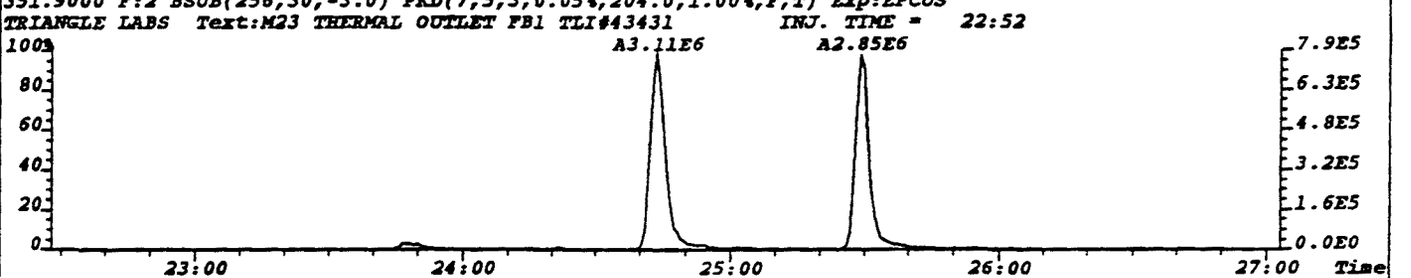
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:66
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



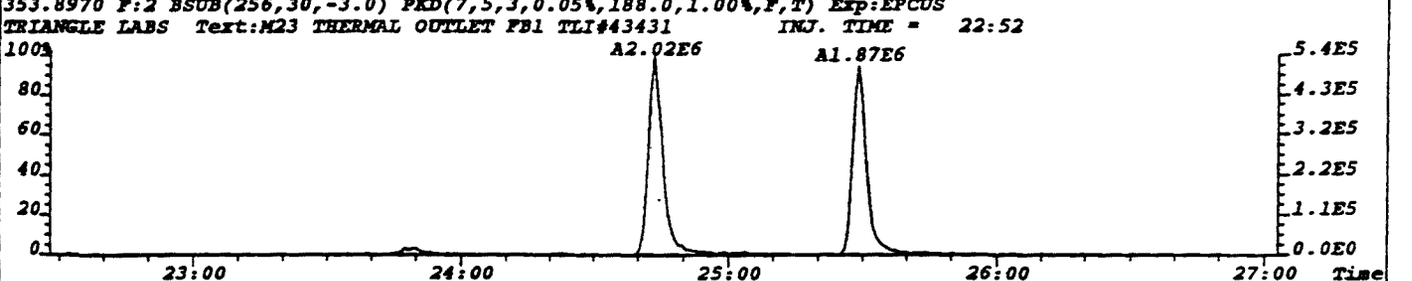
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:75
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,300.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



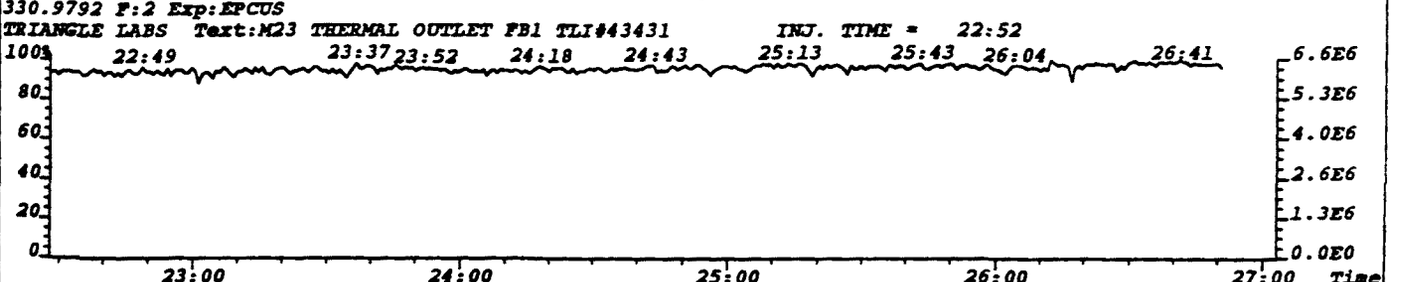
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:51
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



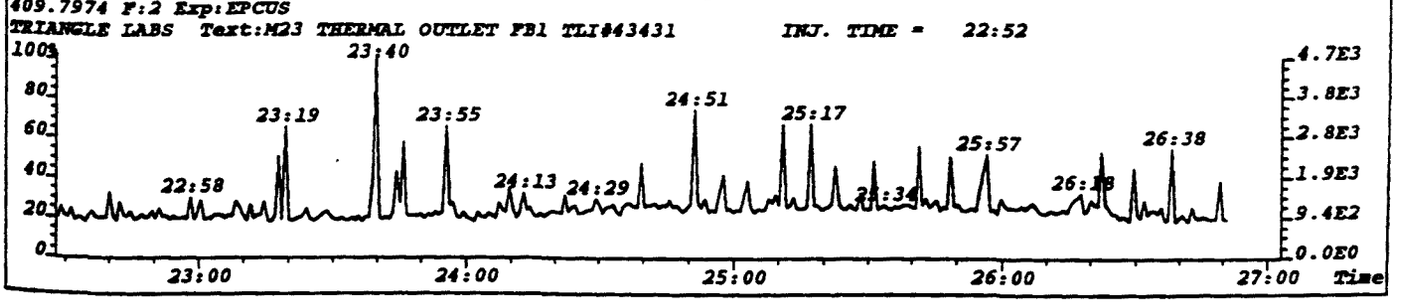
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:47
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



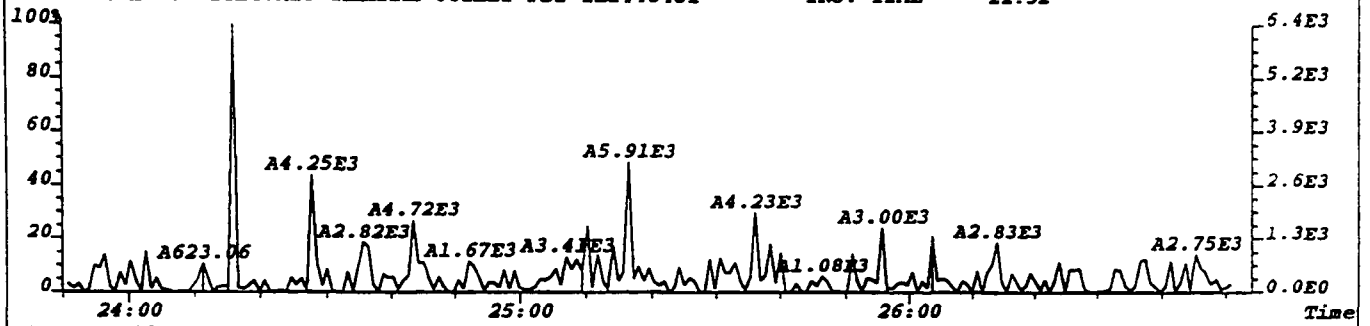
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



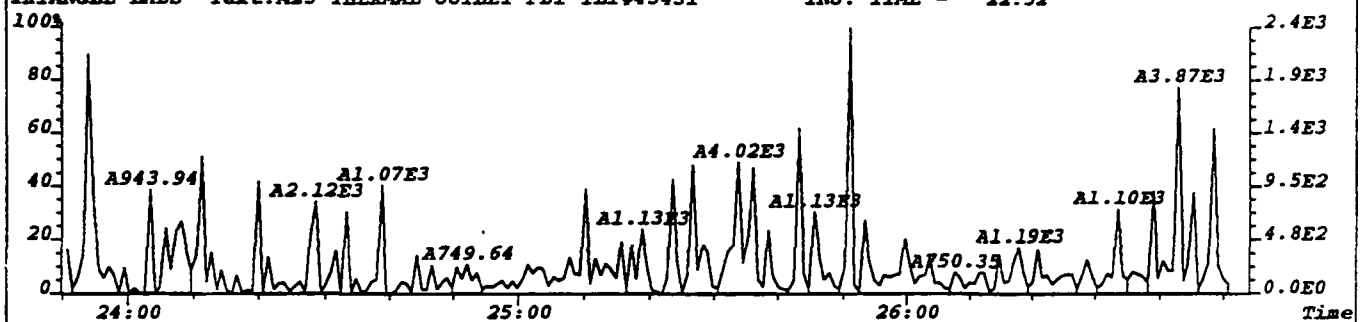
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



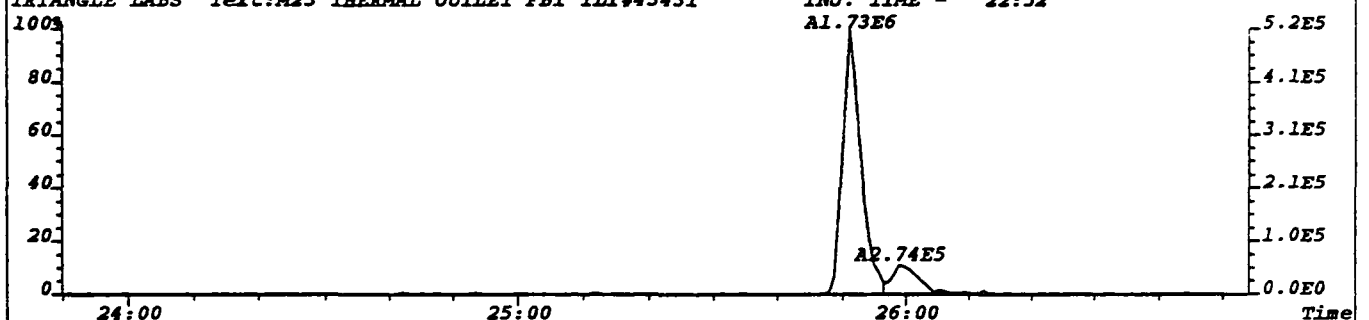
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:68
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,272.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



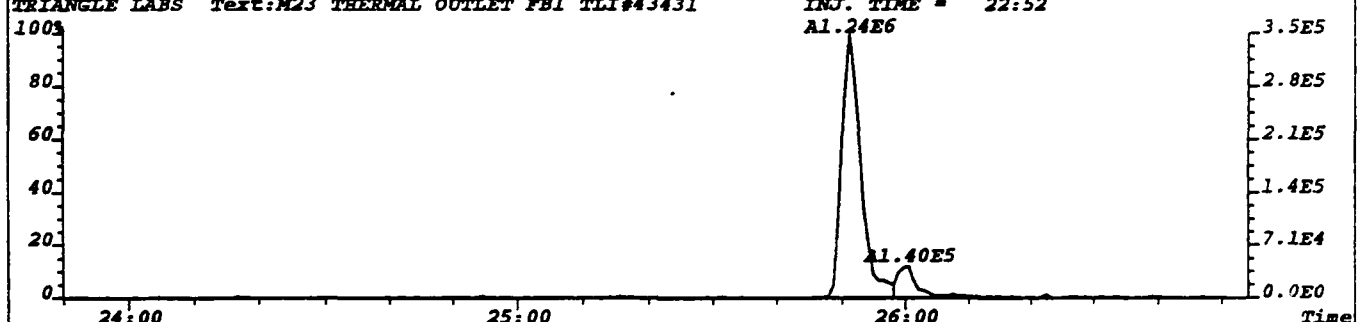
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:44
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



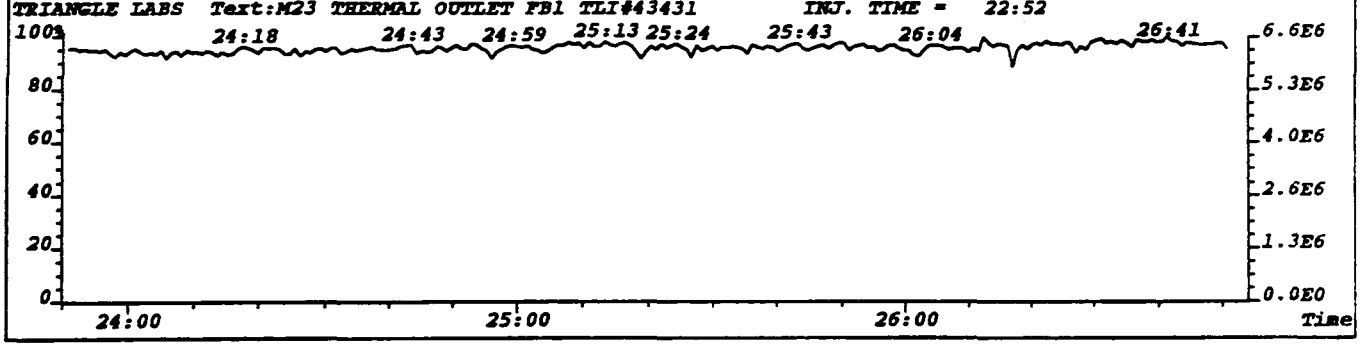
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:49
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



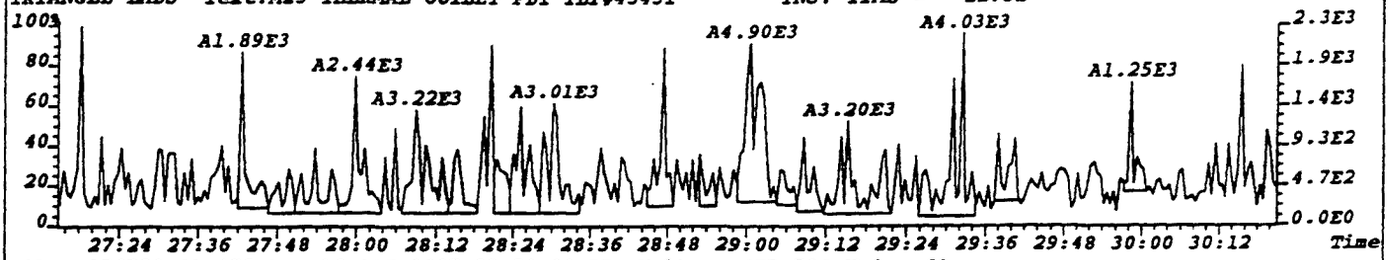
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:40
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



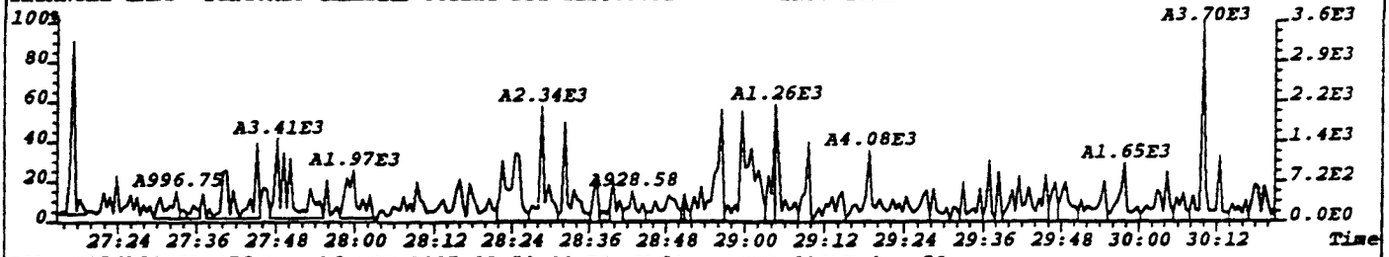
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



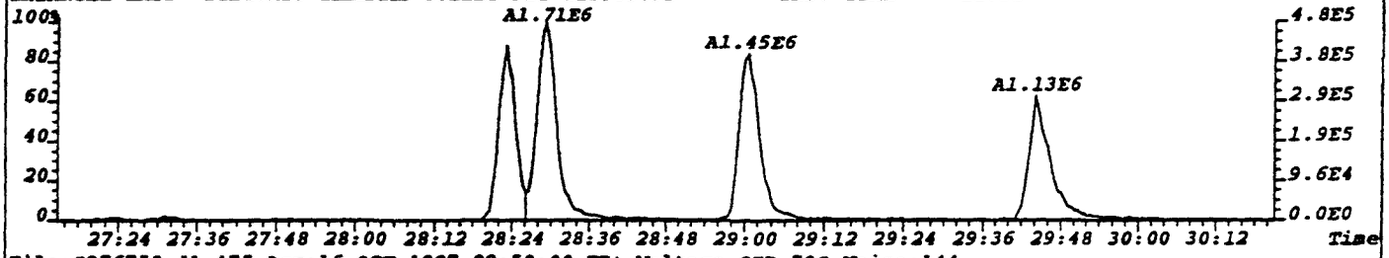
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:130
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,520.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



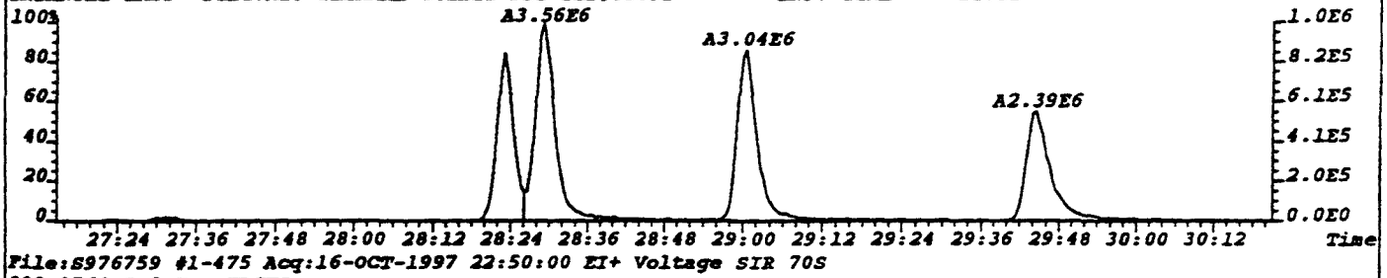
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:69
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



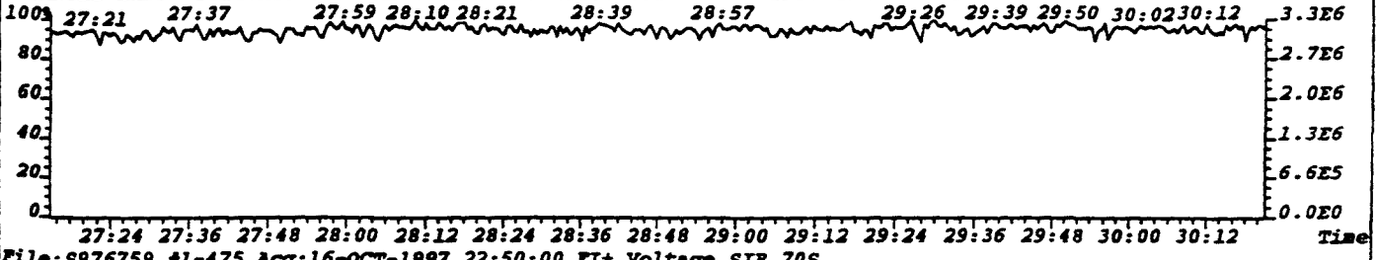
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:53
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,212.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



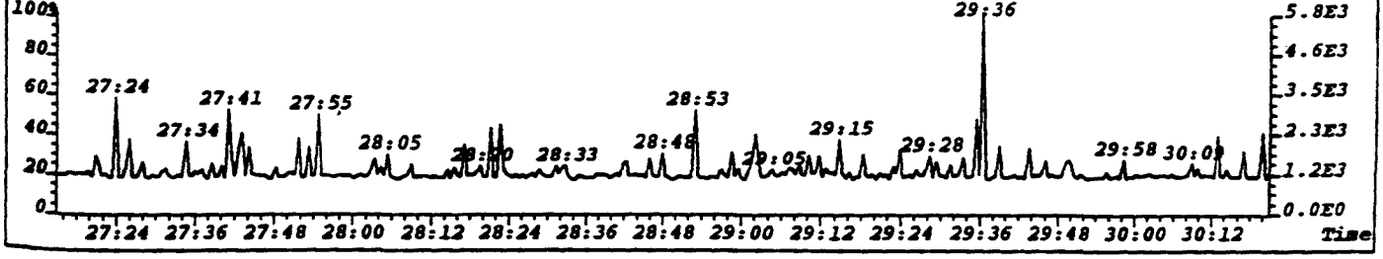
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:144
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,576.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



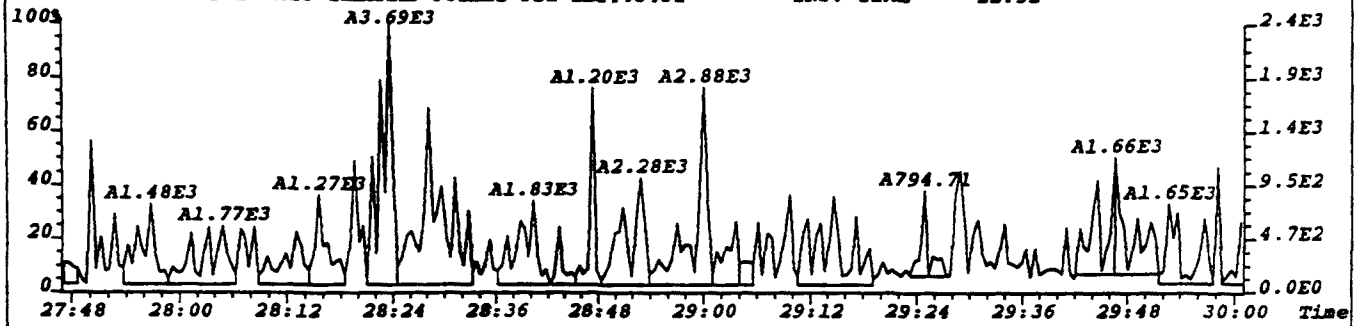
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



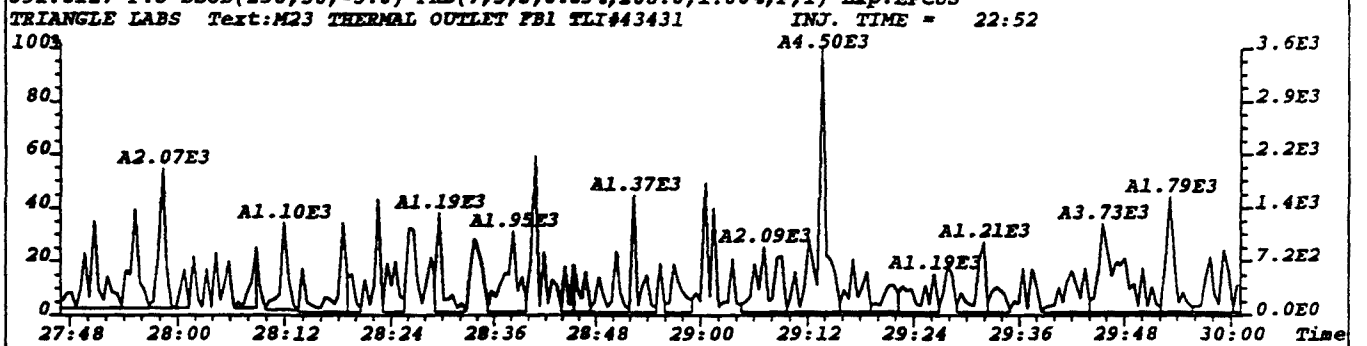
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



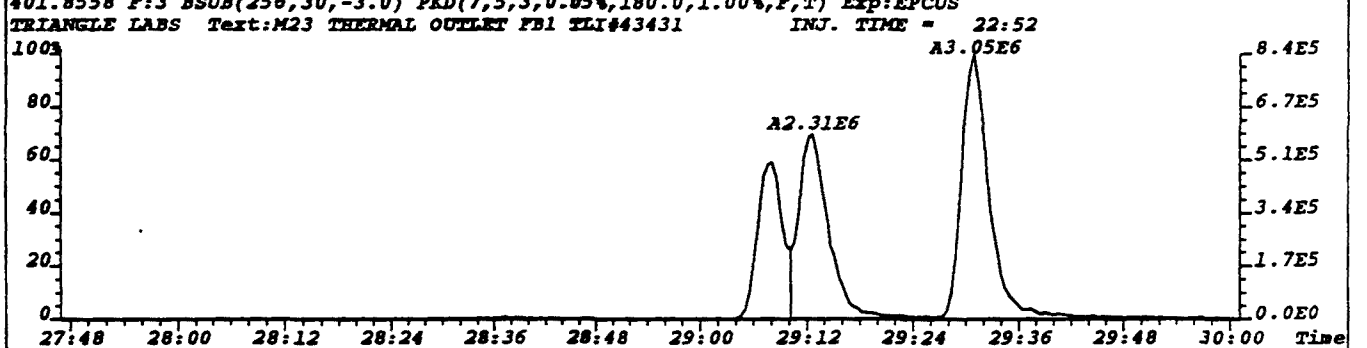
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:73
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,292.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



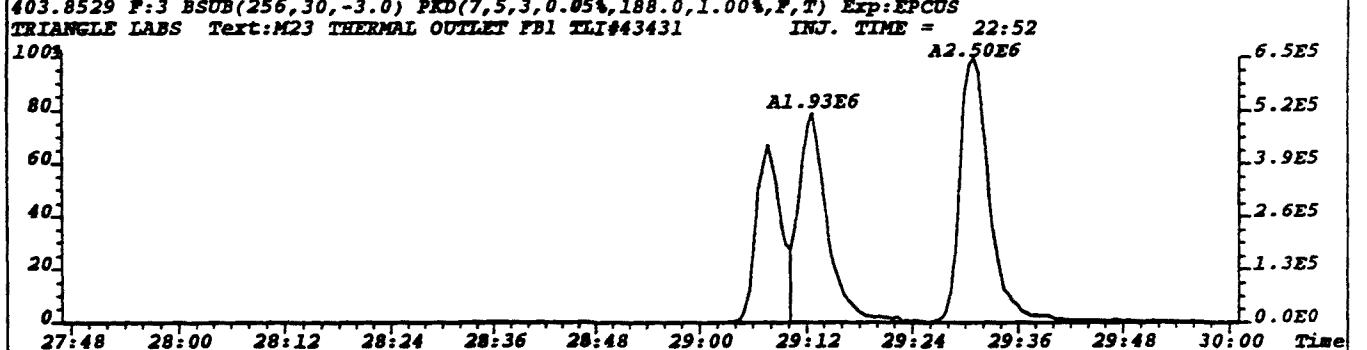
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:52
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



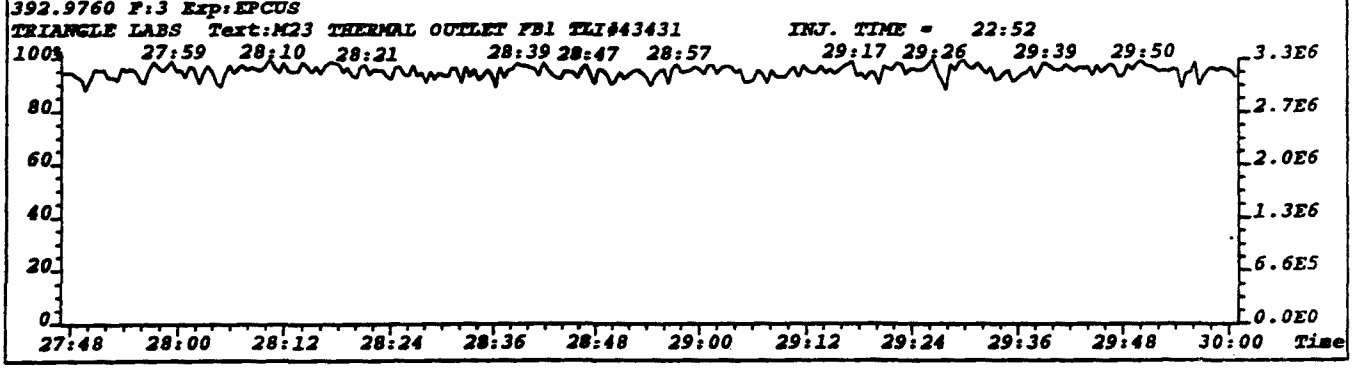
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:45
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



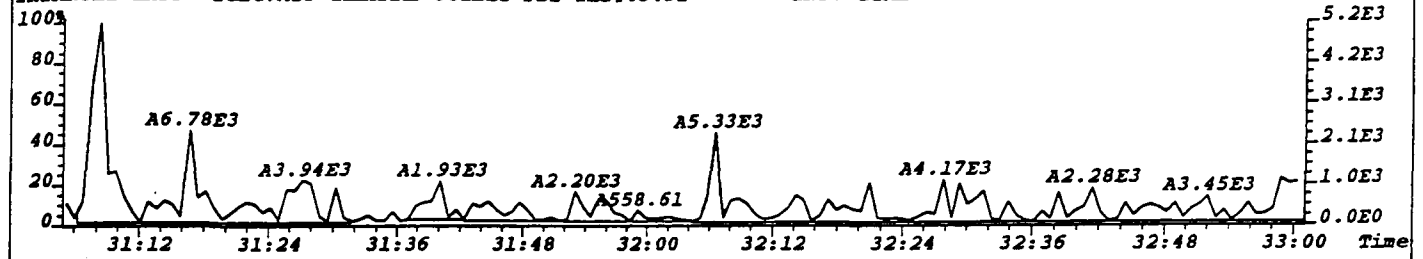
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:47
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



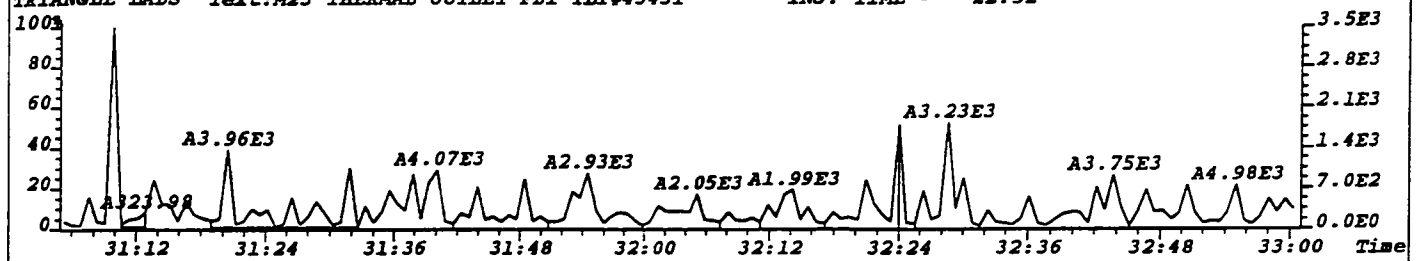
File:S976759 #1-475 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



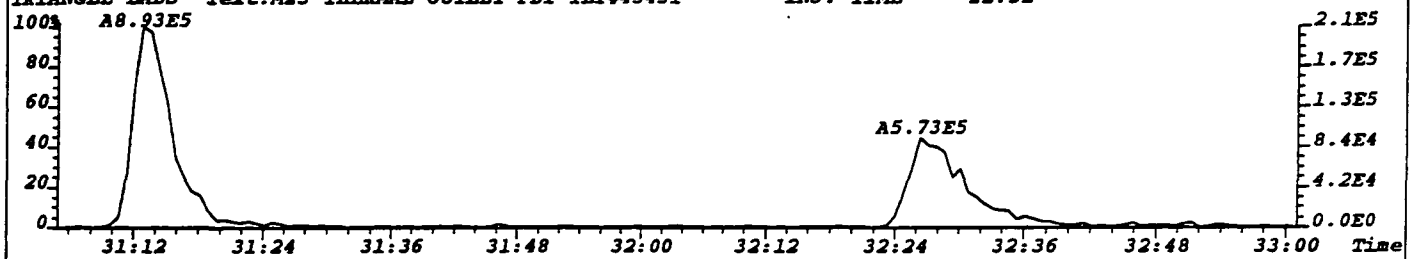
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:56
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,224.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



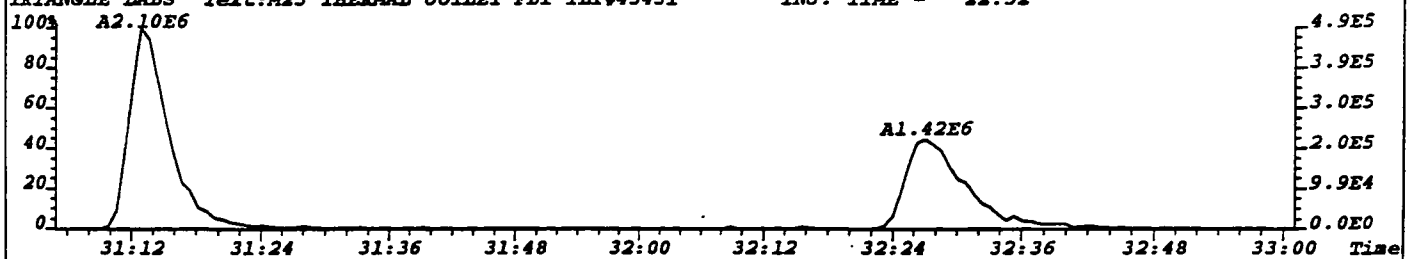
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:39
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



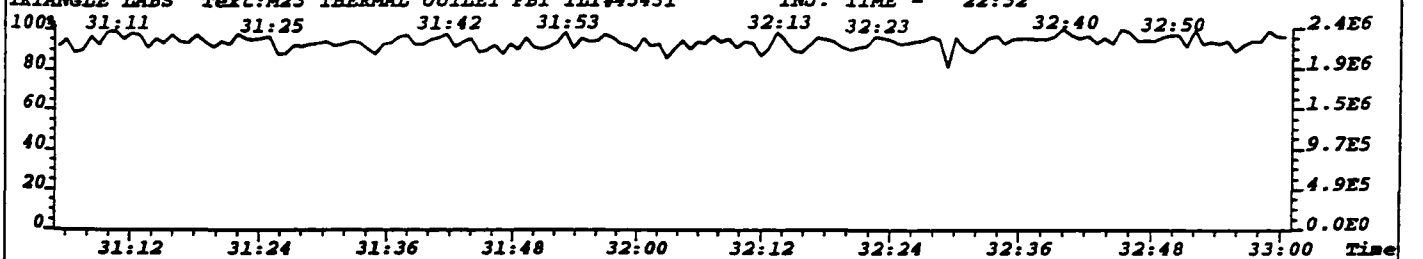
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:144
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,576.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



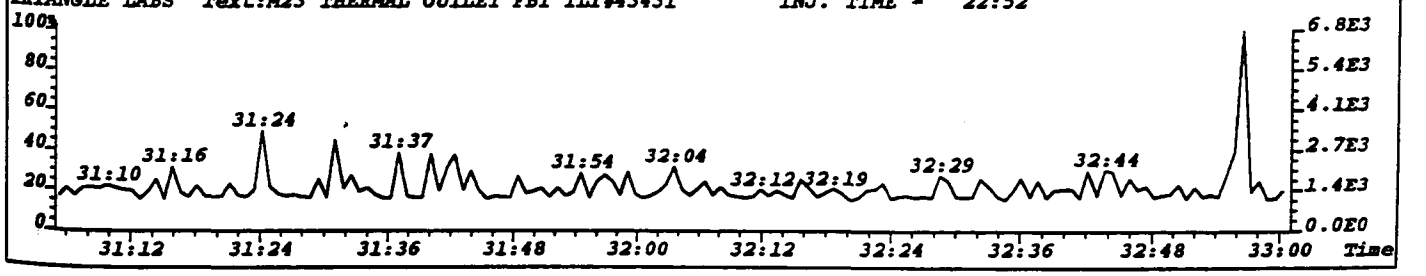
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:149
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,596.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



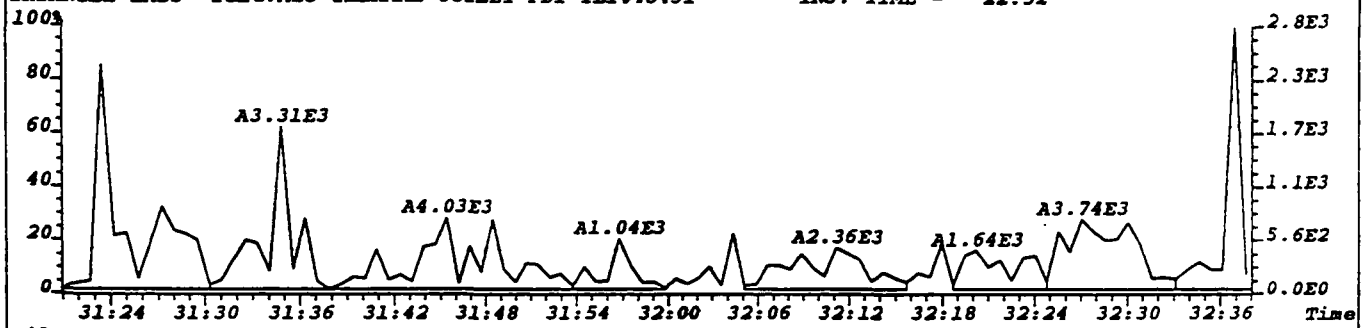
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



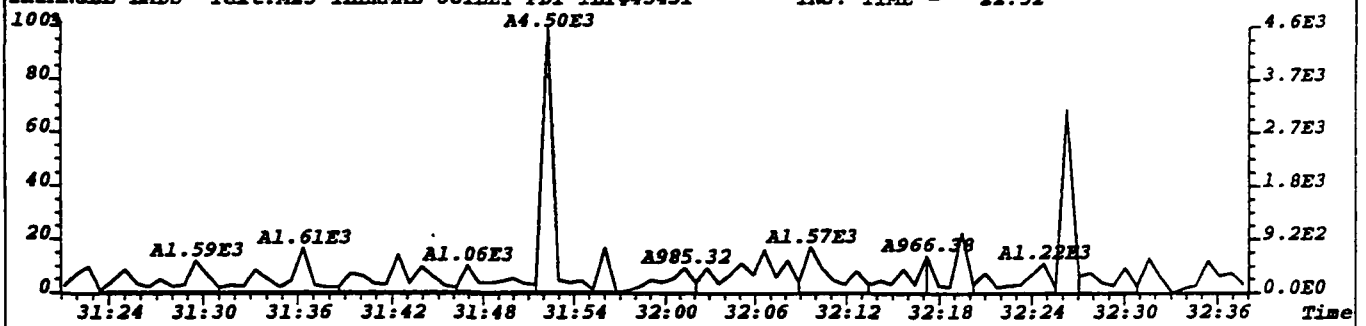
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



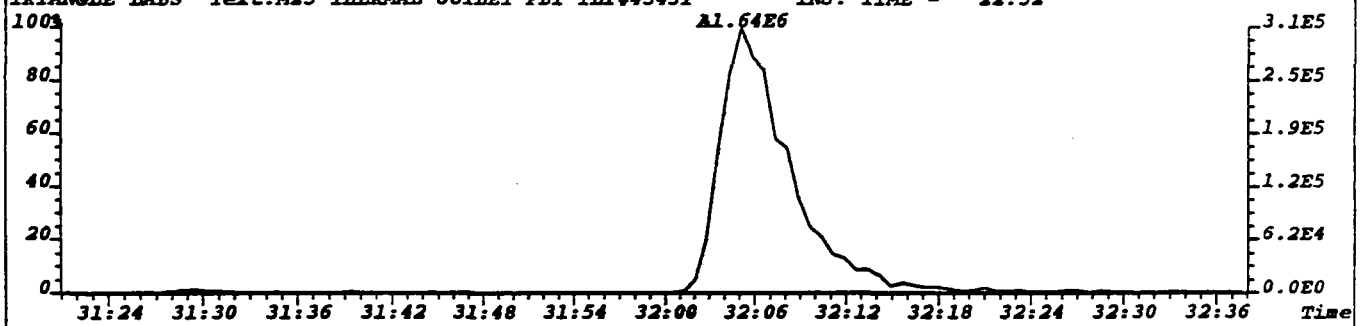
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:55
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



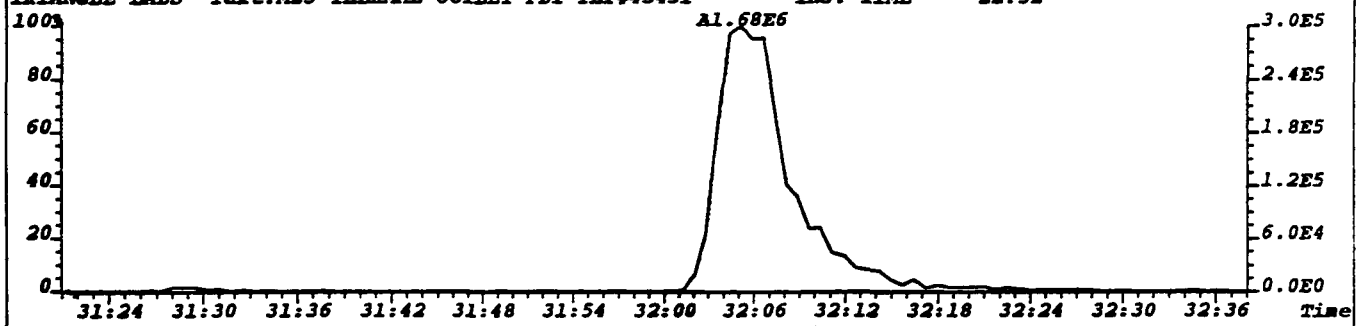
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:42
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



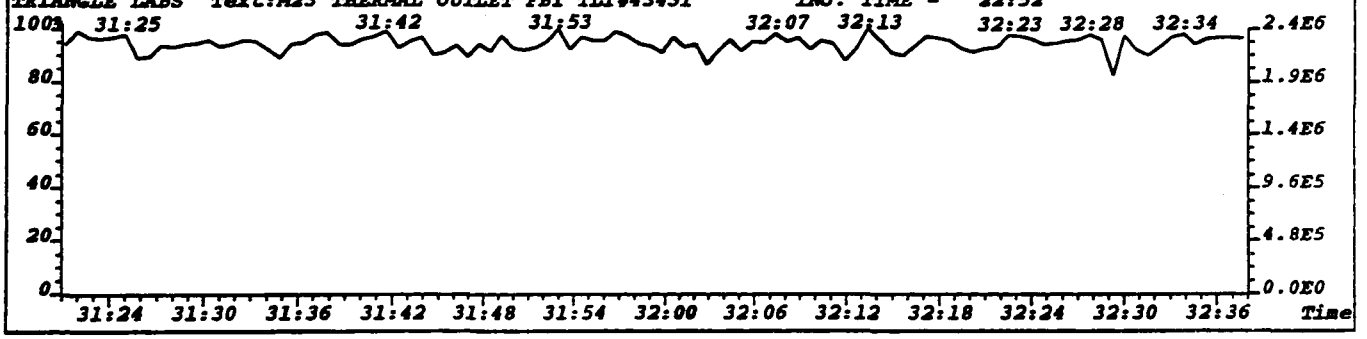
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:266
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1064.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



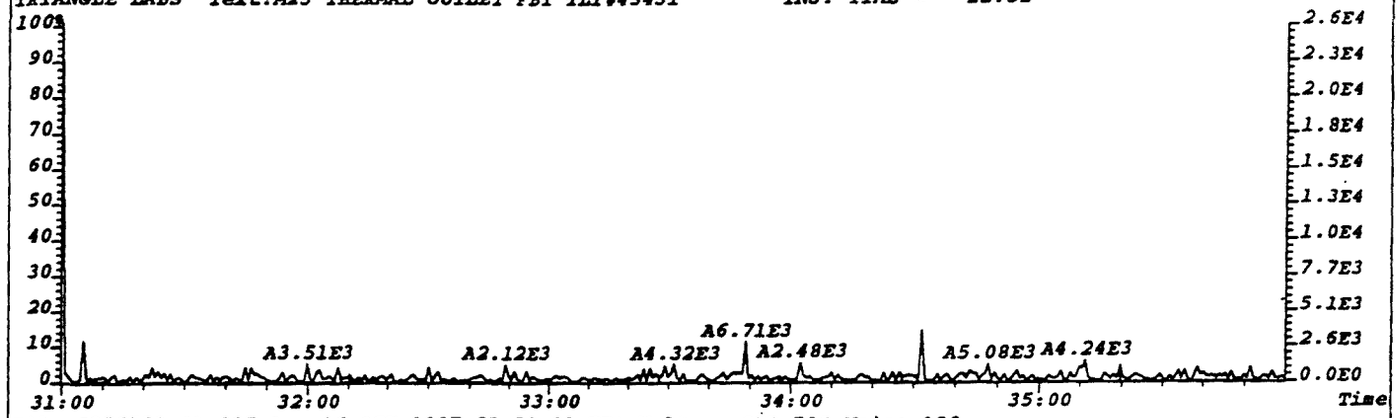
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:205
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,820.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



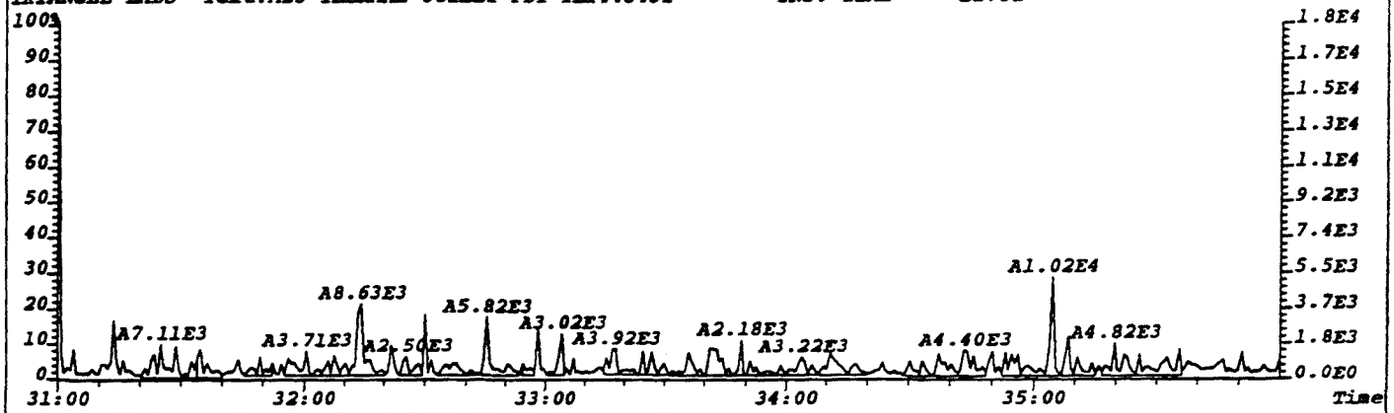
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



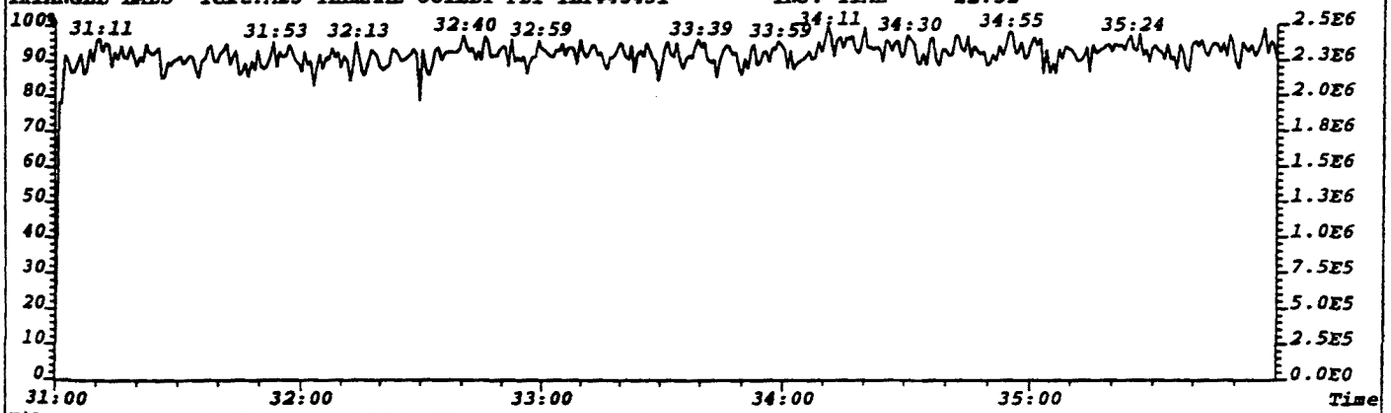
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:53
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,212.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



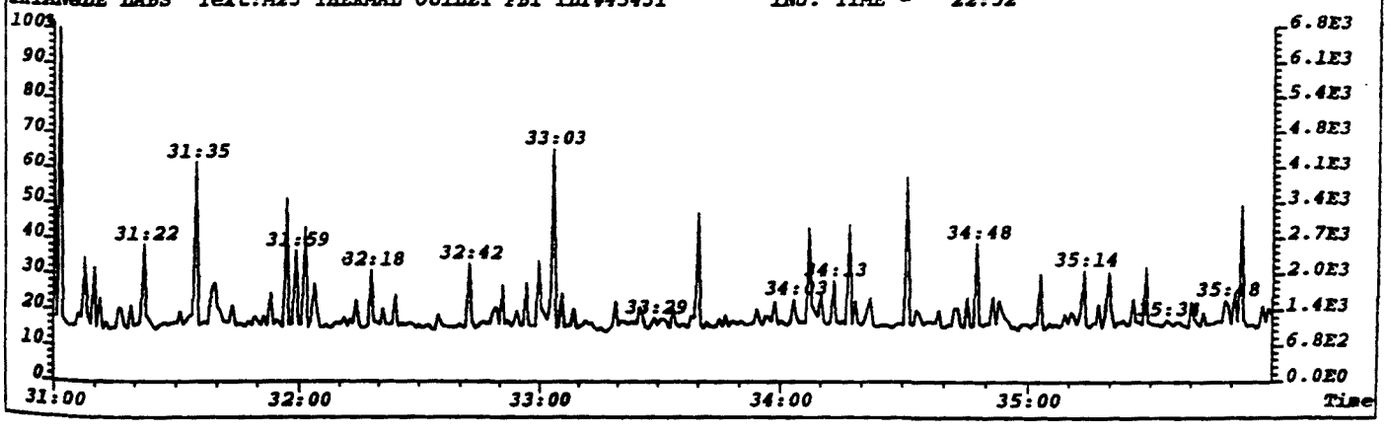
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:133
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,532.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



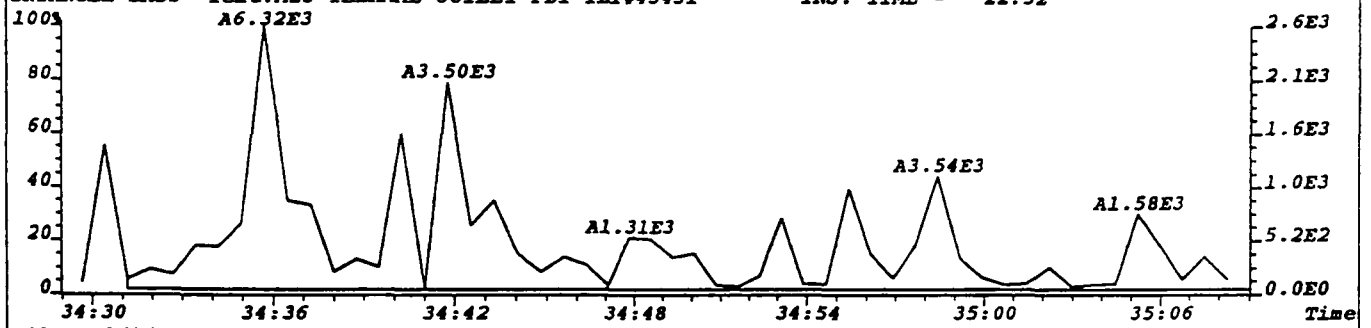
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



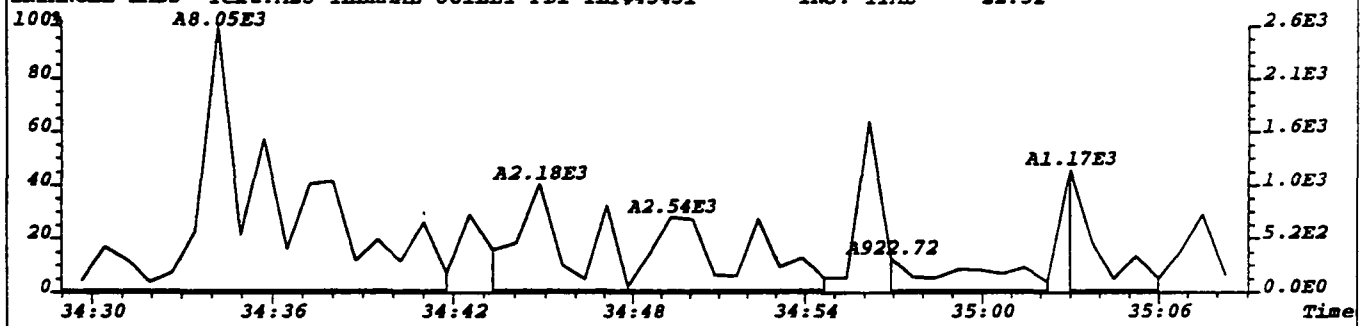
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



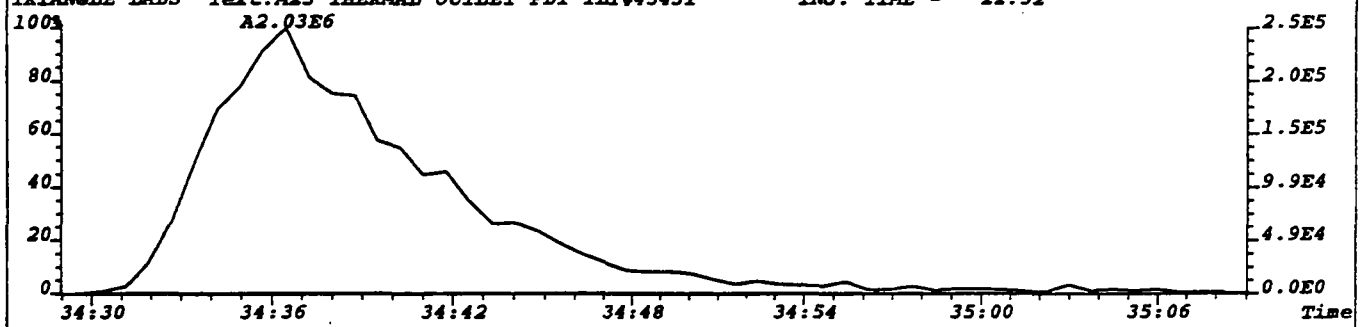
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:42
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,168.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



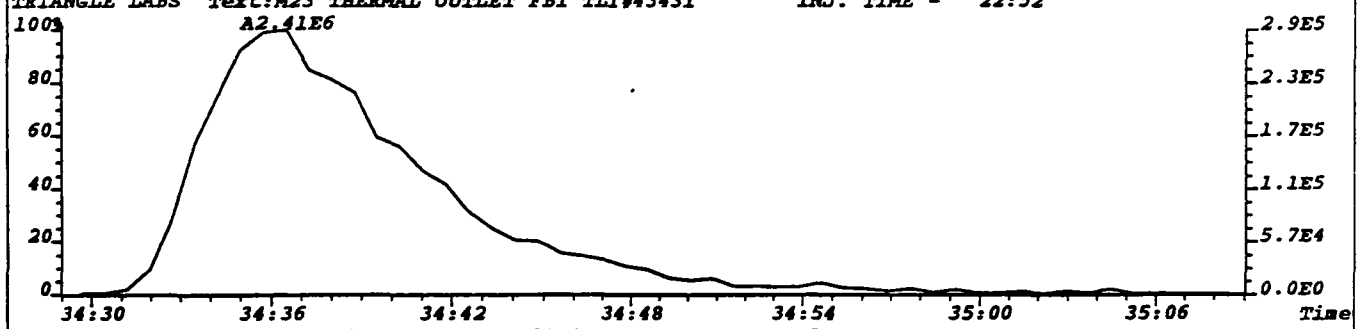
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:44
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



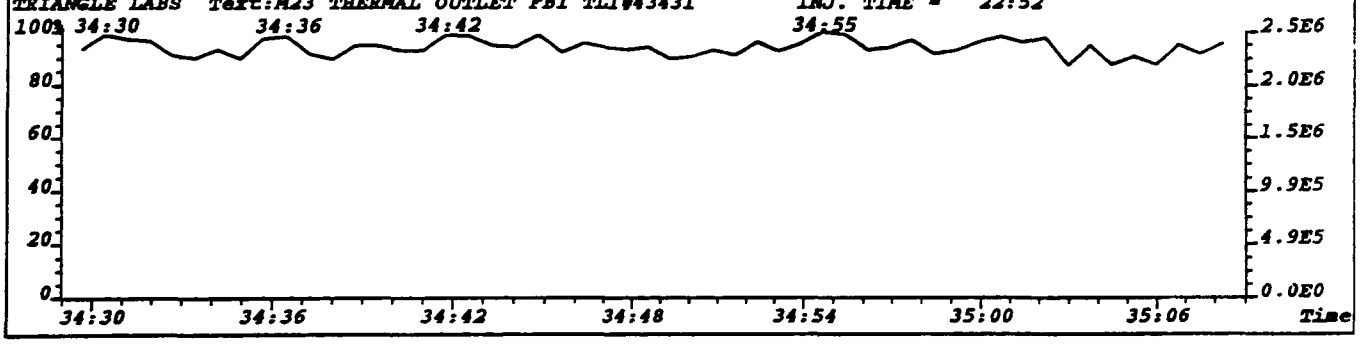
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:47
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52

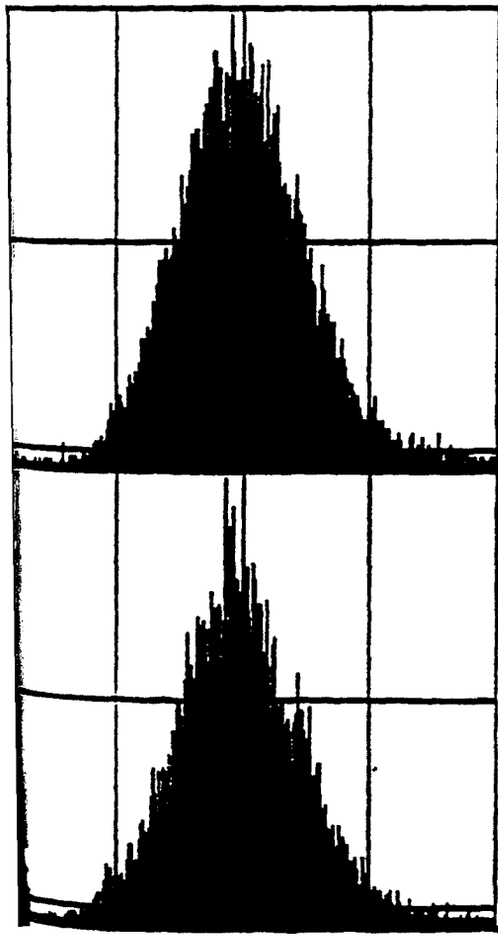


File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S Noise:44
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52



File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52





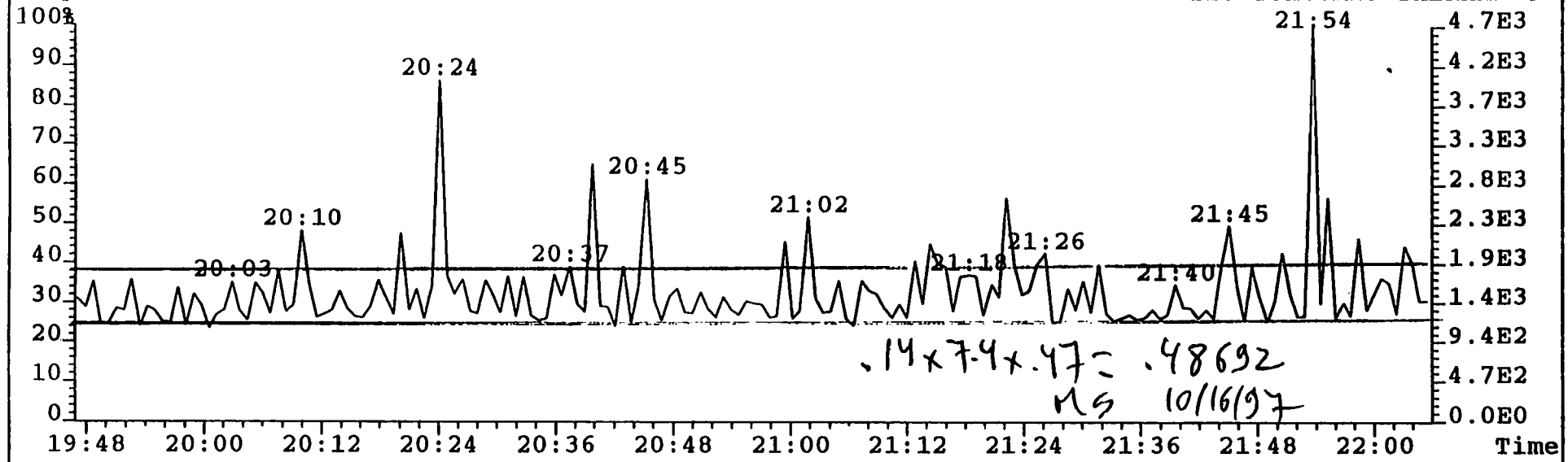
Ref. mass 292.9825 Peak top
Height .62 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S976756
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	418
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	329	Q	356		
I	331	R	358		

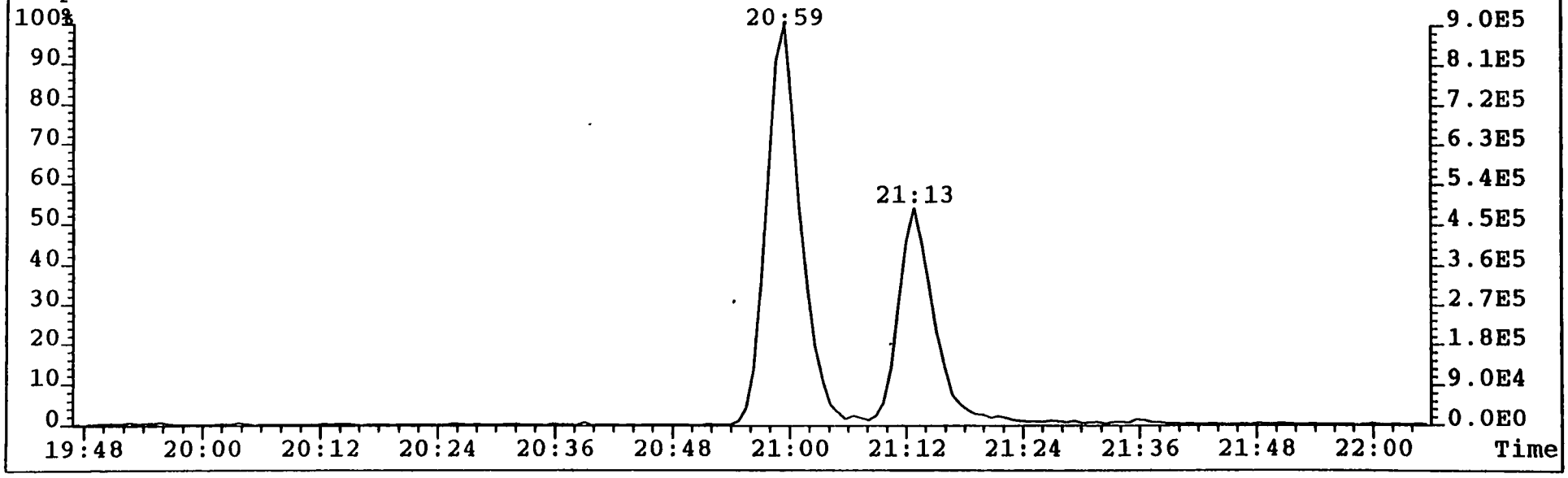
Channel I 330.9792 Peak top
Height .68 volts Span 200 ppm

File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
319.8965 F:2 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52 File Text:M23 THERMAL O»

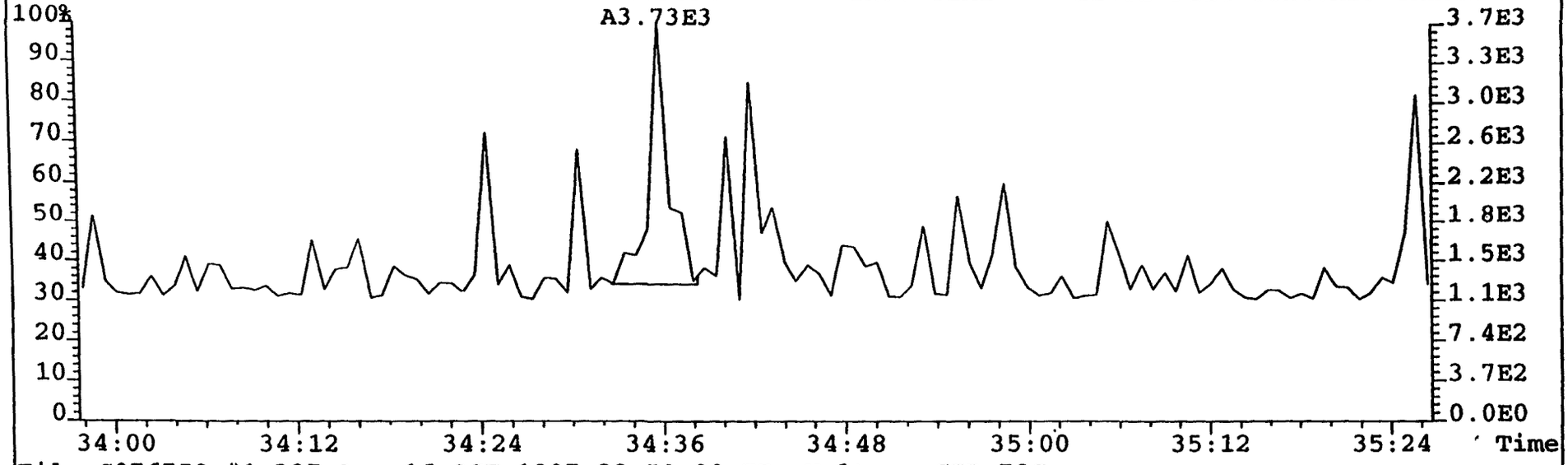


.14 x 7.4 x .47 = .48692
MS 10/16/97

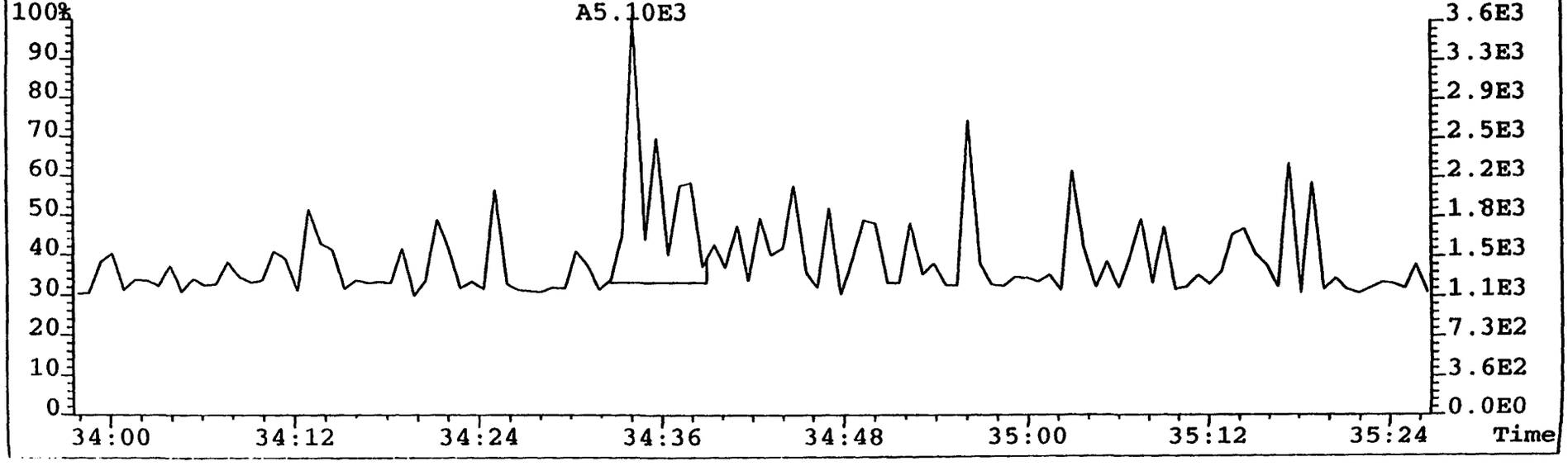
File:S976759 #1-829 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
331.9368 F:2 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52 File Text:M23 THERMAL O»



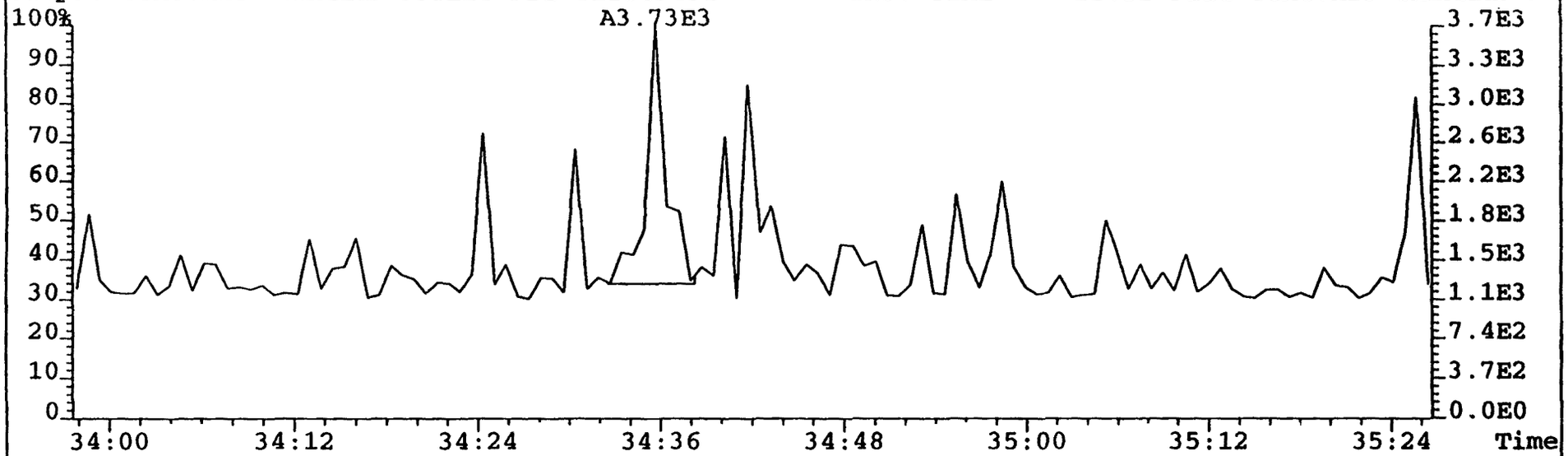
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52 File Text:M23 THERMAL O»



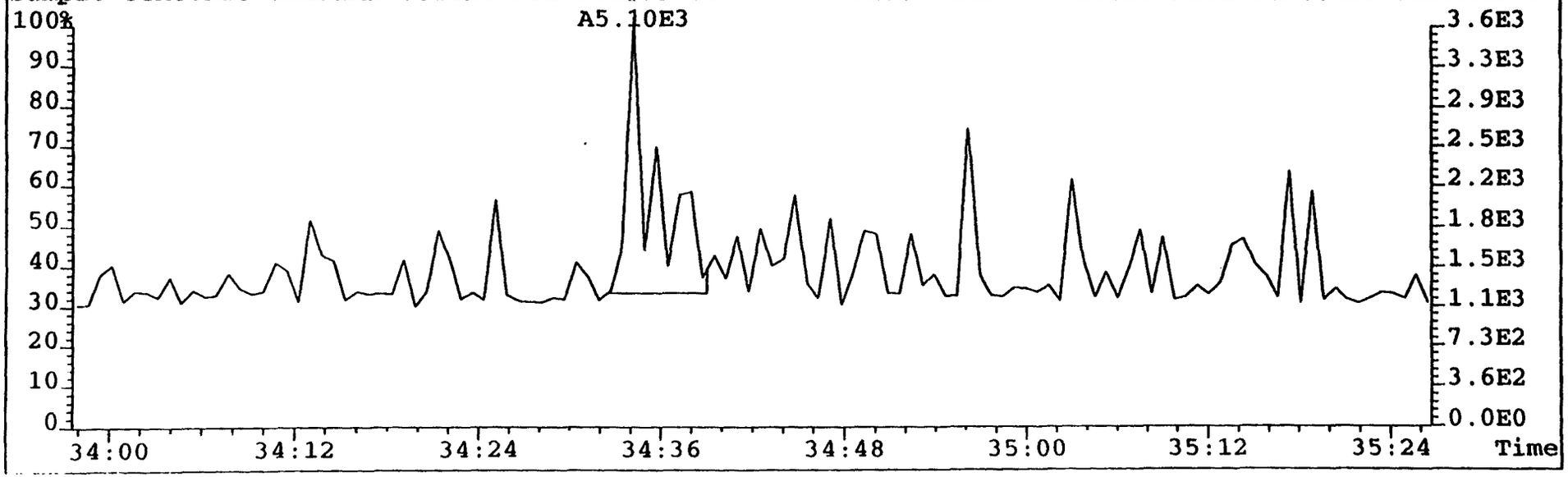
File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52 File Text:M23 THERMAL O»



File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
457.7377 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52 File Text:M23 THERMAL O»



File:S976759 #1-397 Acq:16-OCT-1997 22:50:00 EI+ Voltage SIR 70S
459.7348 F:4 Exp:EPCUS
Sample Text:M23 THERMAL OUTLET FB1 TLI#43431 INJ. TIME = 22:52 File Text:M23 THERMAL O»



Eastern Research Group

TLI Project: 43431 — Method 23 PCDD/PCDF Analysis (a)

Client Sample: M23 THERMAL OUTLET RB1 — Analysis File: S976760

Client Project:	Asphalt Roofing Project				
Sample Matrix:	M23TRAIN	Date Received:	09/29/97	Spike File:	SPX23704
TLI ID:	185-5-10A-D	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/16/97	ConCal:	S976754
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MS	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.006				—
1,2,3,7,8-PeCDD	ND	0.009				—
1,2,3,4,7,8-HxCDD	ND	0.009				—
1,2,3,6,7,8-HxCDD	ND	0.007				—
1,2,3,7,8,9-HxCDD	ND	0.008				—
1,2,3,4,6,7,8-HpCDD	ND	0.01				—
1,2,3,4,6,7,8,9-OCDD	ND	0.02				—
2,3,7,8-TCDF	ND	0.004				—
1,2,3,7,8-PeCDF	ND	0.006				—
2,3,4,7,8-PeCDF	ND	0.006				—
1,2,3,4,7,8-HxCDF	ND	0.006				—
1,2,3,6,7,8-HxCDF	ND	0.004				—
2,3,4,6,7,8-HxCDF	ND	0.005				—
1,2,3,7,8,9-HxCDF	ND	0.006				—
1,2,3,4,6,7,8-HpCDF	ND	0.008				—
1,2,3,4,7,8,9-HpCDF	ND	0.01				—
1,2,3,4,6,7,8,9-OCDF	ND	0.01				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.006		—
Total PeCDD	ND		0.009		—
Total HxCDD	ND		0.008		—
Total HpCDD	ND		0.01		—
Total TCDF	ND		0.004		—
Total PeCDF	ND		0.006		—
Total HxCDF	ND		0.005		—
Total HpCDF	ND		0.01		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:09 10/20/97

Eastern Research Group

TLI Project: **43431** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **M23 THERMAL OUTLET RB1** Analysis File: **S976760**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.2	55.8	40%-130%	0.74	20:26	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.1	52.8	40%-130%	0.78	21:13	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.0	50.4	40%-130%	1.55	24:44	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.2	55.0	40%-130%	1.42	25:52	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	2.7	68.5	40%-130%	0.49	28:30	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	2.7	67.3	40%-130%	1.27	29:13	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	2.0	49.7	25%-130%	0.42	31:14	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	2.5	63.2	25%-130%	0.99	32:06	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4.9	60.9	25%-130%	0.88	34:36	—

Surrogate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{37}Cl_4$-2,3,7,8-TCDD	3.8	95.7	70%-140%		21:14	—
$^{13}C_{12}$-2,3,4,7,8-PeCDF	3.9	96.9	70%-140%	1.48	25:29	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	3.1	77.7	70%-140%	0.49	28:24	—
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	3.0	74.5	70%-140%	1.15	29:09	—
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	3.7	93.2	70%-140%	0.40	32:29	—

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	2.3	58.7	40%-130%	0.51	29:45	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	2.6	65.6	40%-130%	0.49	29:01	—

Recovery Standards	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	20:59	—
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.23	29:31	—

Data Reviewer: KJ 10/20/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 19:09 10/20/97

Initial ....Date...

Data Review By: K 10/20/97 Calculated Noise Area: 0.36

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 S976760B.dbf
10/20/97 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				0.826-1.103			
304-306	DC	NL		0:00		0.79	1.31			0.000			
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC	NL		0:00		0.81	1.25			0.000			
	DC	WL		17:57	RO	1.50	0.71			0.878			
	DC	WL		18:07	RO	1.08	1.96			0.887			
	DC	WL		19:16		0.70	18.34			0.943			
				20:26		0.74	701.47	298.16	403.31	1.000	13C12-2378-TCDF	ISO	
				20:54		0.85	4.43	2.04	2.39	1.023			
316-318			2	Peaks			705.90						

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

TCDD						0.65-0.89				0.858-1.060			
320-322	DC	NL		0:00	RO	0.92	1.06			0.000			
	DC	SN		21:13	RO	0.37	0.32			1.000	2378-TCDD	AN	
	DC	SN		21:24	RO	1.14	0.39			1.009			
320-322			0	Peaks			0.00						
37Cl-TCDD										0.906-1.094			
328	DC	NL		0:00			0.64			0.000			
	DC	WL		18:16			0.46			0.861			
	DC	WL		18:21			0.43			0.865			
	DC	WL		18:24			0.19			0.867			
	DC	WL		18:25			0.70			0.868			
	DC	WL		18:35			0.33			0.876			
	DC	WL		18:39			0.47			0.879			
	DC	WL		18:41			0.94			0.881			
	DC	WL		18:51			0.39			0.888			
	DC	WL		18:54			0.40			0.891			
	DC	WL		18:58			0.95			0.894			
	DC	SN		19:31			0.23			0.920			
				19:38			4.06	4.06		0.925			
	DC	SN		19:47			0.33			0.932			
	DC	SN		20:11			0.44			0.951			
	DC	SN		20:25			0.28			0.962			
	DC	SN		20:34			0.27			0.969			
				20:45			0.77	0.77		0.978			
				21:14			433.18	433.18		1.001	37Cl-TCDD	SUR1	
				21:36			2.03	2.03		1.018			
				21:43			1.11	1.11		1.024			
				21:54			0.75	0.75		1.032			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
				22:04			1.82	1.82		1.040			
				22:11			0.69	0.69		1.046			
				22:17			0.70	0.70		1.050			
		DC	SN	22:26			0.24			1.057			
		DC	SN	22:30			0.19			1.060			
		DC	SN	22:34			0.23			1.064			
				22:46			0.51	0.51		1.073			
328			10	Peaks			445.62						
13C12-TCDD				0.65-0.89						0.906-1.094			
332-334		DC	NL	0:00	RO	1.75	1.12			0.000			
		DC	WL	18:55	RO	1.49	1.19			0.892			
		DC	WL	19:07	RO	1.16	1.88			0.901			
				19:30	RO	0.62	1.47	0.64	1.03	0.919			
	N			20:59		0.83	954.13	432.52	521.61	0.989	13C12-1234-TCDD	RS1	
				21:13		0.78	537.06	235.21	301.85	1.000	13C12-2378-TCDD	IS1	
				21:35		0.77	10.45	4.55	5.90	1.017			
				21:53	RO	1.56	1.84	1.62	1.04	1.031			
				22:08	RO	1.34	1.20	0.91	0.68	1.043			
				22:20		0.86	1.10	0.51	0.59	1.053			
332-334			7	Peaks			1,507.25						

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

PeCDF				1.32-1.78						0.908-1.080			
340-342		DC	NL	0:00		1.66	1.09			0.000			
		DC	SN	22:36	RO	0.68	0.35			0.914			
		DC	SN	26:41	RO	0.07	0.13			1.079			
		DC	WH	26:51	RO	0.31	0.15			1.086			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78						0.838-1.162			
352-354		DC	NL	0:00	RO	0.86	0.31			0.000			
		DC	SN	22:46		1.36	0.59			0.920			
		DC	SN	22:55	RO	0.59	0.38			0.927			
				23:49		1.42	28.95	16.99	11.96	0.963			
				24:21	RO	1.02	3.54	2.15	2.11	0.985			
				24:44		1.55	544.97	331.34	213.63	1.000	13C12-PeCDF 123	IS2	
				25:02	RO	0.70	6.66	4.05	5.75	1.012			
		DC	SN	25:16	RO	0.23	0.39			1.022			
				25:29		1.48	512.36	305.91	206.45	1.030	13C12-PeCDF 234	SUR2	
				25:53	RO	0.93	2.04	1.24	1.34	1.046			
				26:13	RO	0.92	1.12	0.68	0.74	1.060			
		DC	SN	26:18	RO	0.67	0.71			1.063			
				26:30	RO	1.99	2.45	1.91	0.96	1.071			
		DC	SN	26:41	RO	0.59	0.39			1.079			
352-354			8	Peaks			1,102.09						

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

PeCDD				1.32-1.78						0.921-1.027			
356-358		DC	NL	0:00	RO	1.91	0.28			0.000			

Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
	DC	SN		24:07	RO	0.38	0.30			0.932			
	DC	SN		24:15	RO	0.79	0.49			0.938			
	DC	SN		24:43	RO	4.25	0.20			0.956			
	DC	SN		24:48	RO	0.33	0.12			0.959			
	DC	SN		24:57	RO	0.54	0.21			0.965			
	DC	SN		25:49		1.38	0.81			0.998			
	DC	SN		25:57	RO	4.25	0.20			1.003			
	DC	SN		26:18	RO	2.67	0.31			1.017			
	DC	WH		26:39	RO	6.33	0.38			1.030			
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	0.16			0.000			
	DC	SN		24:13	RO	0.87	0.33			0.936			
	DC	SN		24:29		1.55	0.51			0.947			
				24:45	RO	0.97	1.14	0.69	0.71	0.957			
	DC	SN		25:05	RO	4.40	0.38			0.970			
				25:52		1.42	333.30	195.54	137.76	1.000	13C12-PeCDD 123	IS3	
				26:00		1.40	40.87	23.87	17.00	1.005			
				26:11	RO	0.89	0.90	0.55	0.62	1.012			
	DC	SN		26:32	RO	0.83	0.58			1.026			
368-370			4	Peaks			376.21						
---------- Above: PeCDD / HxCDF Follows ----------													
HxCDF				1.05-1.43						0.957-1.054			
374-376	DC	NL		0:00	RO	1.83	0.27			0.000			
	DC	WL		27:14	RO	0.41	0.13			0.956			
	DC	SN		27:23		1.06	0.35			0.961			
	DC	SN		27:30	RO	0.50	0.09			0.965			
	DC	SN		27:40	RO	0.21	0.05			0.971			
	DC	SN		27:45	RO	1.63	0.18			0.974			
	DC	SN		28:04	RO	4.17	0.13			0.985			
	DC	SN		28:13	RO	2.27	0.34			0.990			
	DC	SN		28:25		1.31	0.60			0.997	123478-HxCDF	AN	
	DC	SN		28:30	RO	0.38	0.20			1.000	123678-HxCDF	AN	
	DC	SN		28:36		1.29	0.32			1.004			
	DC	SN		28:43	RO	0.65	0.23			1.008			
	DC	SN		28:53	RO	3.67	0.07			1.013			
	DC	SN		28:56	RO	0.40	0.07			1.015			
	DC	SN		29:17	RO	0.89	0.14			1.027			
	DC	SN		29:22	RO	3.88	0.18			1.030			
	DC	SN		29:34	RO	0.77	0.18			1.037			
	DC	SN		29:35		1.20	0.11			1.038			
	DC	SN		29:44		1.22	0.40			1.043			
	DC	SN		29:51	RO	0.95	0.38			1.047			
	DC	SN		29:57	RO	3.44	0.20			1.051			
	DC	WH		30:07	RO	2.54	0.29			1.057			
374-376			0	Peaks			0.00						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00		0.48	0.37			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.
				27:23	RO	0.64	4.42	1.87	2.93	0.961			
				27:31		0.51	10.41	3.52	6.89	0.965			
	DC	SN		27:41		0.56	0.42			0.971			
	DC	SN		27:50	RO	2.35	0.26			0.977			
	DC	SN		27:58	RO	2.31	0.24			0.981			
	DC	SN		28:11	RO	1.28	0.44			0.989			
				28:24		0.49	400.38	131.22	269.16	0.996	13C12-HxCDF 478	SUR3	
				28:30		0.49	537.44	176.06	361.38	1.000	13C12-HxCDF 678	IS4	
				28:48	RO	0.76	4.26	2.14	2.82	1.011			
				29:01		0.49	476.23	157.48	318.75	1.018	13C12-HxCDF 234	ALT2	
	DC	SN		29:23	RO	0.16	0.59			1.031			
	DC	SN		29:33	RO	0.31	1.15			1.037			
	DC	SN		29:38	RO	1.22	0.35			1.040			
				29:45		0.51	370.81	124.84	245.97	1.044	13C12-HxCDF 789	ALT1	
				29:58	RO	1.42	1.89	1.77	1.25	1.051			
	DC	SN		30:08	RO	0.25	0.92			1.057			
	DC	SN		30:14	RO	0.13	0.56			1.061			
	DC	SN		30:21	RO	1.14	0.66			1.065			
384-386			8	Peaks			1,805.84						

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

HxCDD					1.05-1.43					0.951-1.016			
390-392	DC	NL		0:00	RO	0.53	0.16			0.000			
	DC	SN		27:48	RO	1.67	0.07			0.952			
	DC	SN		27:53		1.36	0.26			0.954			
	DC	SN		28:15	RO	1.58	0.27			0.967			
	DC	SN		28:25	RO	3.67	0.20			0.973			
	DC	SN		28:30		1.18	0.37			0.975			
	DC	SN		28:42		1.43	0.17			0.982			
	DC	SN		28:48	RO	0.23	0.13			0.986			
	DC	SN		29:02	RO	1.83	0.52			0.994			
	DC	SN		29:13	RO	0.88	0.13			1.000	123678-HxCDD	AN	
	DC	SN		29:16	RO	0.21	0.07			1.002			
	DC	SN		29:31		1.05	0.39			1.010	123789-HxCDD	AN	
	DC	SN		29:33	RO	0.38	0.11			1.011			
	DC	SN		29:39		1.09	0.23			1.015			
390-392			0	Peaks			0.00						
13C12-HxCDD					1.05-1.43					0.966-1.034			
402-404	DC	NL		0:00	RO	1.00	0.18			0.000			
	DC	SN		28:22		1.09	0.48			0.971			
	DC	SN		28:30	RO	0.50	0.38			0.975			
				28:37	RO	1.47	3.61	2.36	1.61	0.979			
				29:09		1.15	316.13	168.83	147.30	0.998	13C12-HxCDD 478	SUR4	
				29:13		1.27	436.07	244.00	192.07	1.000	13C12-HxCDD 678	IS5	
				29:31		1.23	651.26	359.44	291.82	1.010	13C12-HxCDD 789	RS2	
				29:53	RO	0.65	1.17	0.65	1.00	1.023			
				30:02	RO	1.01	1.48	0.82	0.81	1.028			
402-404			6	Peaks			1,409.72						

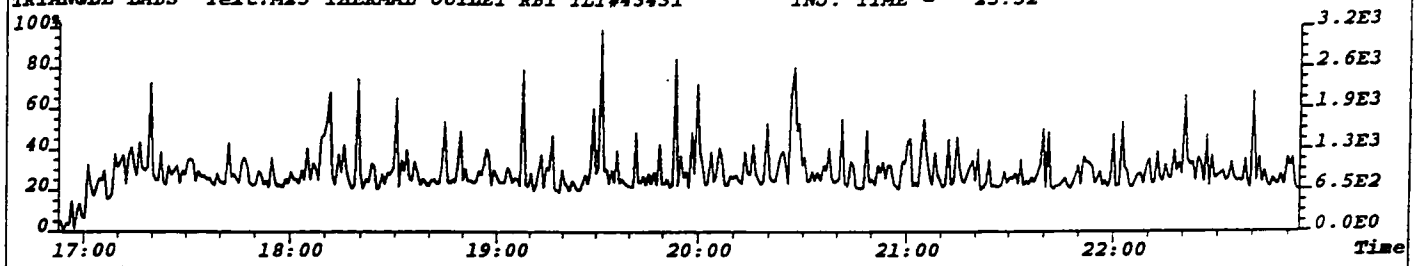
Compound/ M_Z....	QC.Log	Omit	Why	..RT.	OK	Ratio	Total.Area...	Area.Peak.1..	Area.Peak.2..	Rel.RT	Compound.Name..	ID..	Flags.
---------- Above: HxCDD / HpCDF Follows ----------													
HpCDF				0.88-1.20						0.996-1.047			
408-410	DC	NL		0:00	RO	3.20	0.20			0.000			
	DC	SN		31:36	RO	2.19	0.33			1.012			
	DC	SN		32:07	RO	0.30	0.16			1.028			
	DC	SN		32:12	RO	6.80	0.10			1.031			
	DC	SN		32:32	RO	5.91	0.22			1.042			
	DC	WH		32:44	RO	2.48	0.43			1.048			
	DC	WH		33:03	RO	0.69	0.49			1.058			
408-410				0 Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC	NL		0:00	RO	1.24	0.30			0.000			
				31:14		0.42	287.22	84.80	202.42	1.000	13C12-HpCDF 678	IS6	
	DC	SN		31:58	RO	0.97	0.42			1.023			
				32:29		0.40	206.47	58.68	147.79	1.040	13C12-HpCDF 789	SUR5	
				32:47	RO	0.91	2.16	1.37	1.50	1.050			
				32:59	RO	1.37	1.20	1.14	0.83	1.056			
418-420				4 Peaks			497.05						
---------- Above: HpCDF / HpCDD Follows ----------													
HpCDD				0.88-1.20						0.978-1.007			
424-426	DC	NL		0:00		1.00	0.36			0.000			
	DC	WL		31:22	RO	0.58	0.29			0.977			
	DC	SN		31:56	RO	0.36	0.29			0.995			
	DC	WH		32:29	RO	1.44	0.51			1.012			
424-426				0 Peaks			0.00						
13C12-HpCDD				0.88-1.20						0.969-1.031			
436-438	DC	NL		0:00	RO	2.62	0.27			0.000			
				31:29		1.05	4.48	2.29	2.19	0.981			
				32:06		0.99	335.57	166.78	168.79	1.000	13C12-HpCDD 678	IS7	
				32:27	RO	1.69	2.14	1.77	1.05	1.011			
436-438				3 Peaks			342.19						
---------- Above: HpCDD / Octa-CDD and CDF Follows ----------													
OCDF				0.76-1.02						0.884-1.116			
442-444	DC	NL		0:00	RO	1.19	0.30			0.000			
	DC	SN		31:54	RO	1.71	0.26			0.922			
	DC	SN		32:06	RO	0.11	0.06			0.928			
	DC	SN		32:22		0.94	0.33			0.935			
	DC	SN		32:55	RO	1.56	0.64			0.951			
	DC	SN		33:34	RO	0.57	0.28			0.970			
	DC	SN		33:58	RO	2.00	0.11			0.982			
	DC	SN		34:26	RO	4.86	0.26			0.995			
	DC	SN		34:36	RO	1.10	0.40			1.000			
	DC	SN		34:39	RO	1.71	0.45			1.001			
	DC	SN		34:55	RO	0.55	0.36			1.009			
	DC	SN		35:22	RO	1.29	0.40			1.022			

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		35:47	RO	0.51	0.64			1.034			
442-444		0	Peaks				0.00						
OCDD				0.76-1.02					0.884-1.116				
458-460	DC	NL		0:00		0.90	0.19			0.000			
	DC	SN		34:36	RO	1.83	0.57			1.000	OCDD		AN
	DC	SN		34:54	RO	0.29	0.25			1.009			
458-460		0	Peaks				0.00						
13C12-OCDD				0.76-1.02					0.998-1.007				
470-472	DC	NL		0:00	RO	1.22	0.17			0.000			
				34:36		0.88	411.73	192.15	219.58	1.000	13C12-OCDD		IS8
	DC	WH		35:08	RO	1.38	1.38			1.015			
470-472		1	Peak				411.73						

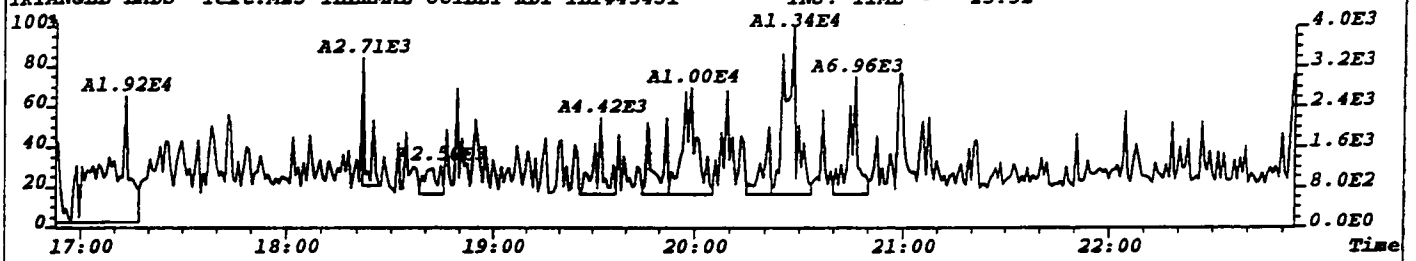
Column Description.....	"Why" Code Description.....	QC Log Desc.....
M_Z -Nominal Ion Mass(es)	WL-Below Retention Time Window	A-Peak Added
..RT. -Retention Time (mm:ss)	WH-Above Retention Time Window	K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions	SN-Below Signal to Noise Level	D-Peak Deleted
OK -RO=Ratio Outside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

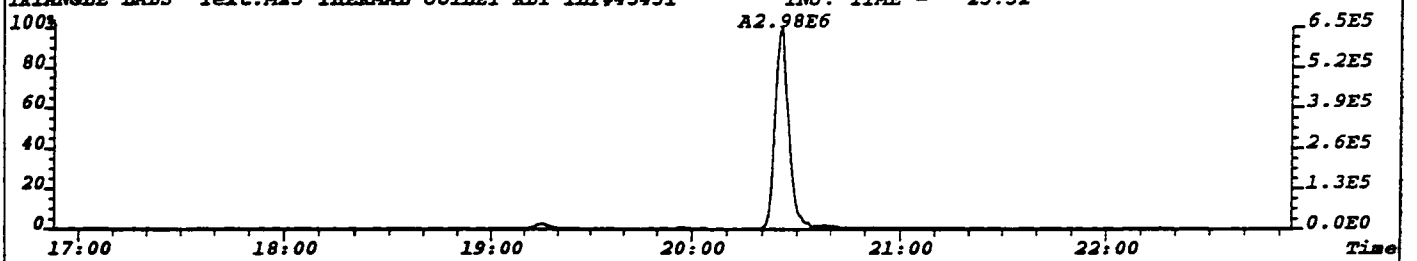
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:290
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1160.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



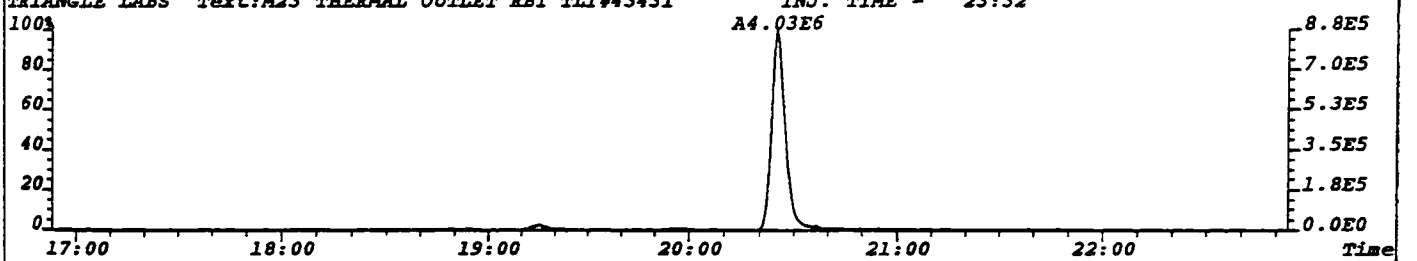
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:363
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1452.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



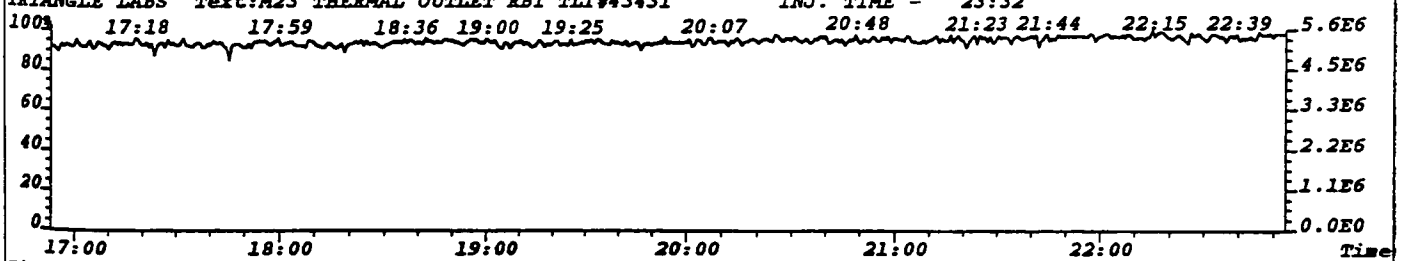
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:279
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1116.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



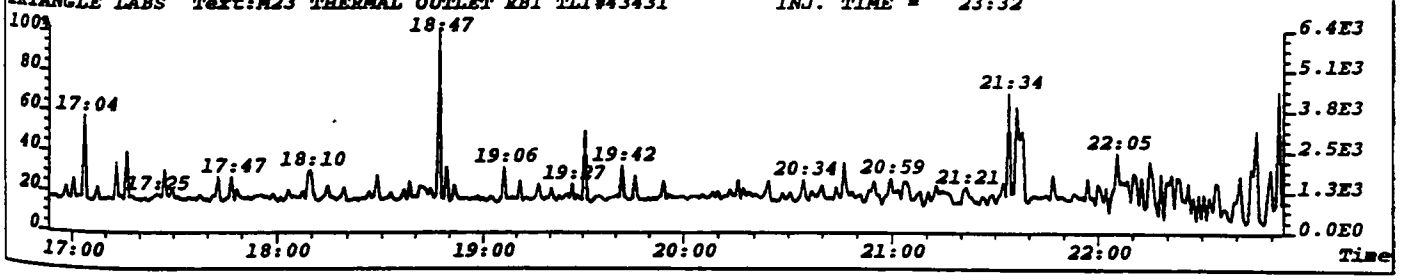
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:344
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1376.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



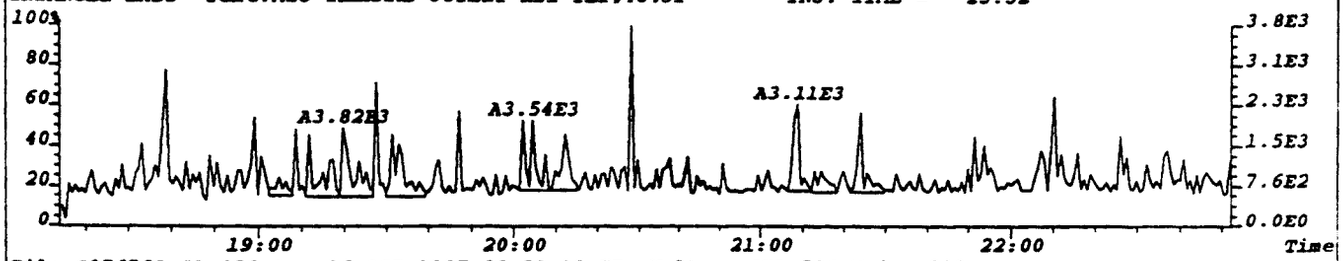
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



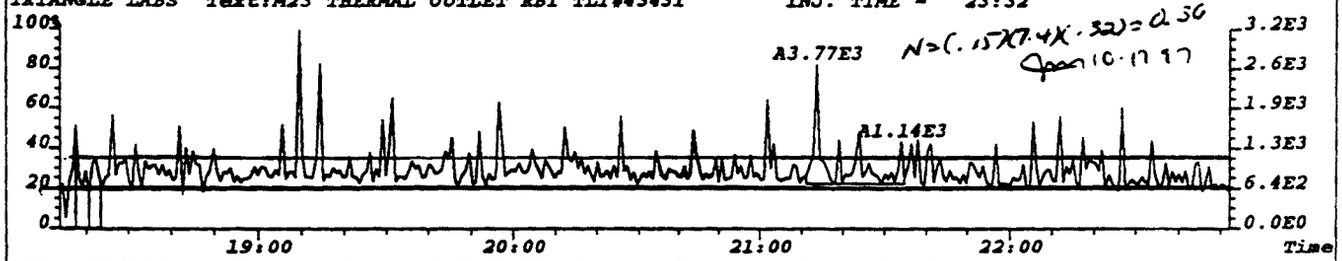
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



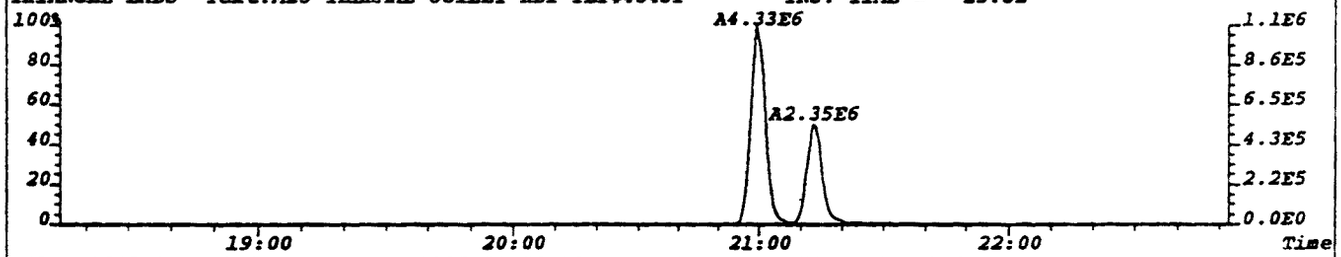
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:276
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1104.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



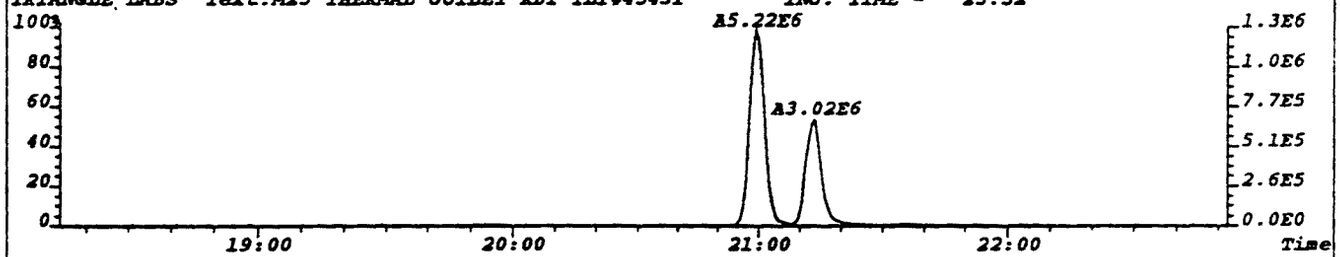
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:300
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



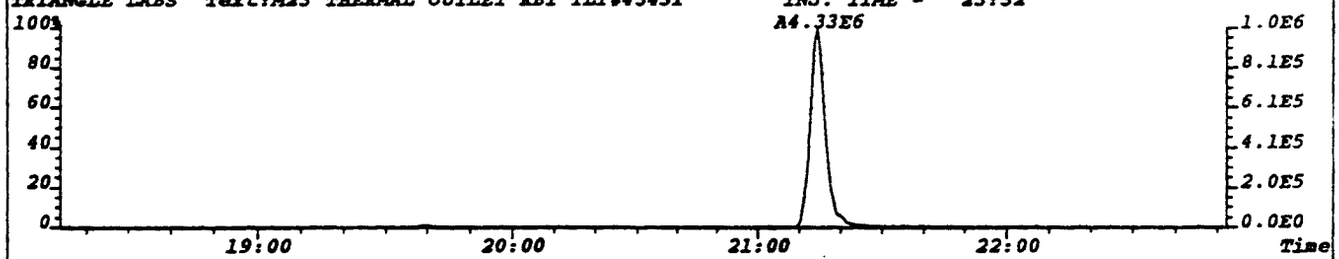
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:548
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2192.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



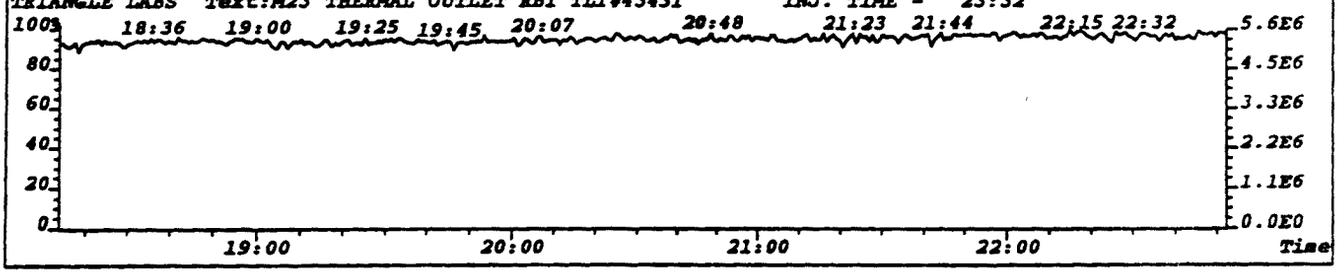
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:316
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1264.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



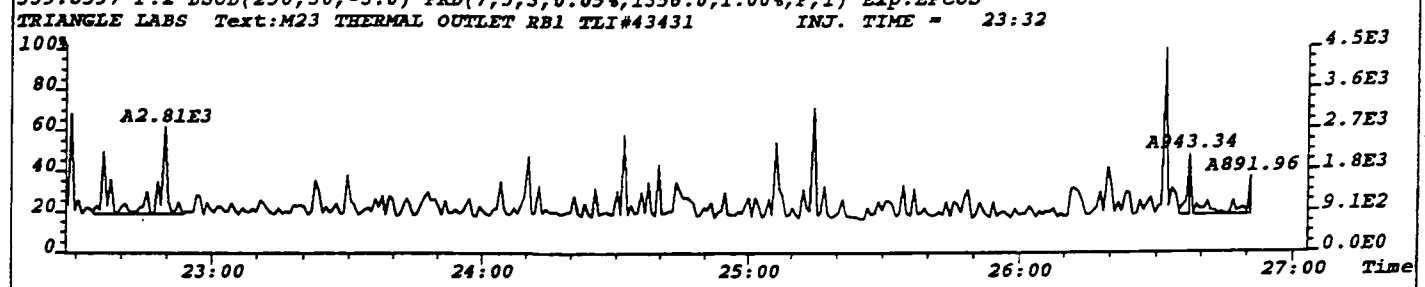
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:319
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



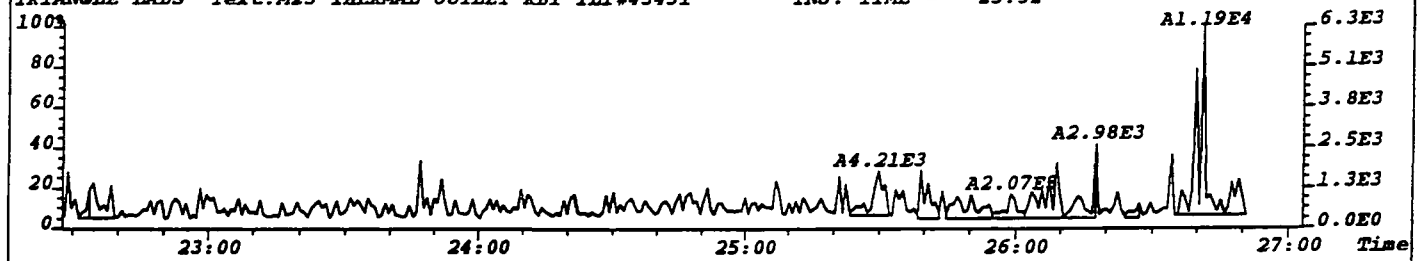
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



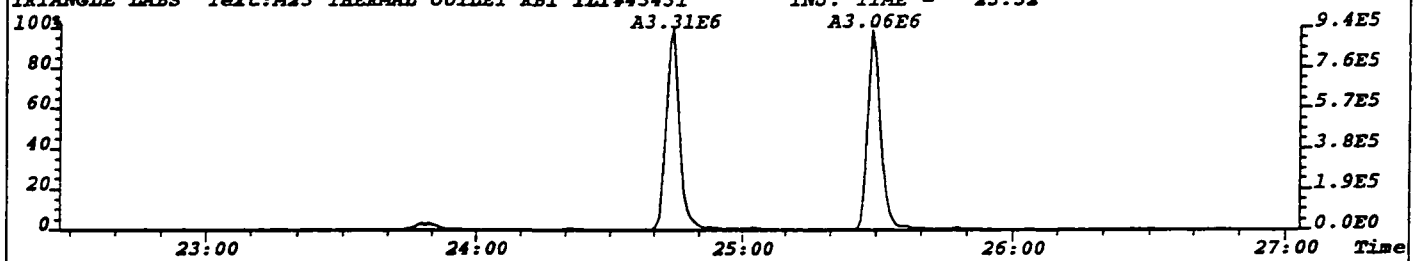
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:339
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1356.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



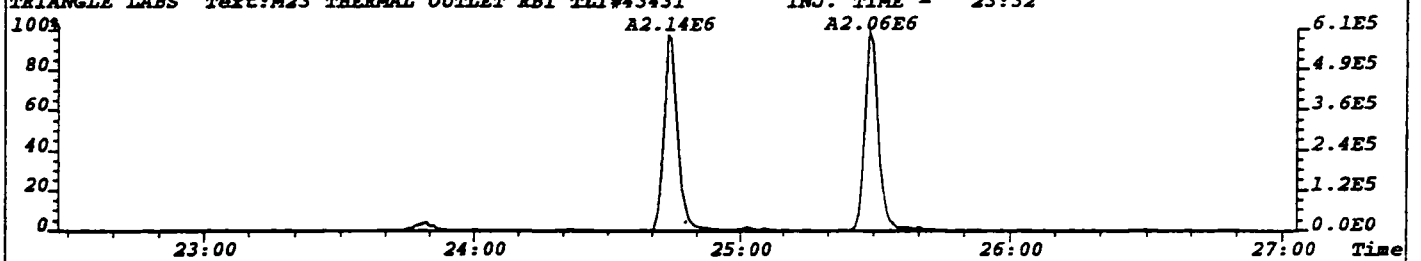
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:207
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,828.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



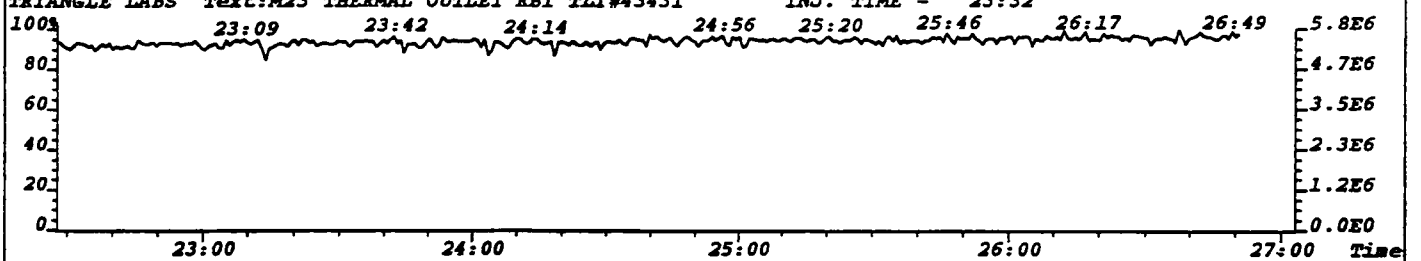
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:93
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,372.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



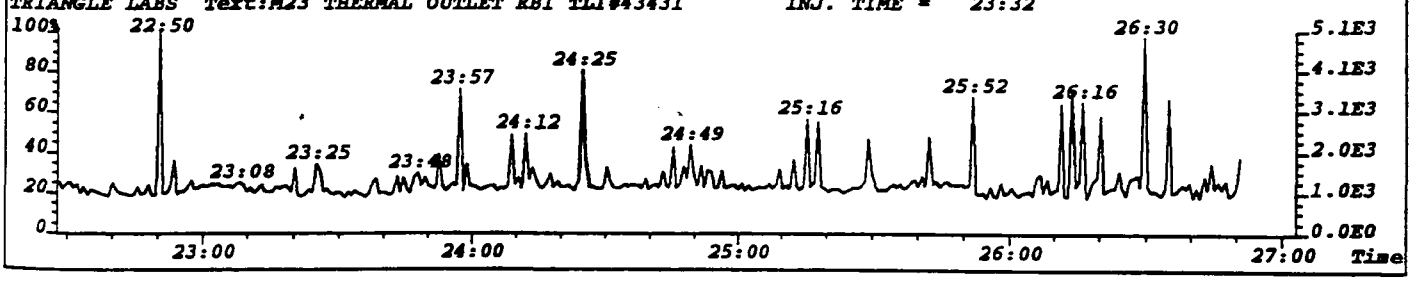
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:111
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,444.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



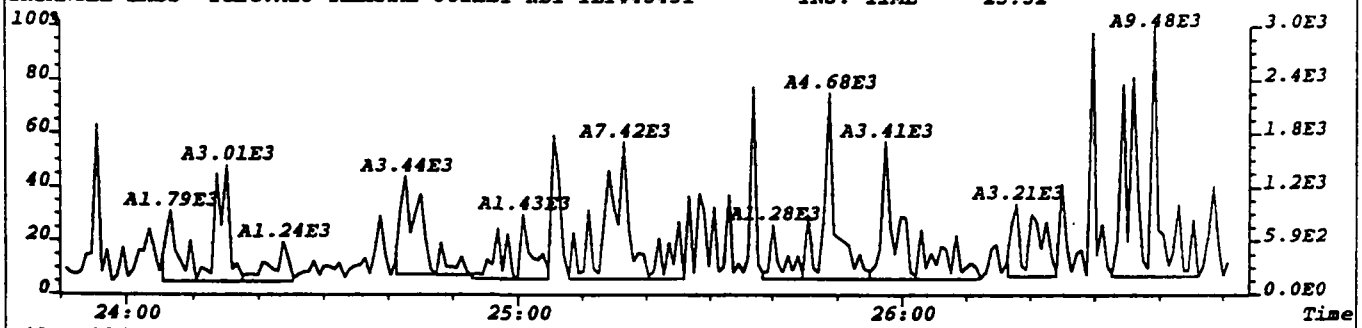
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



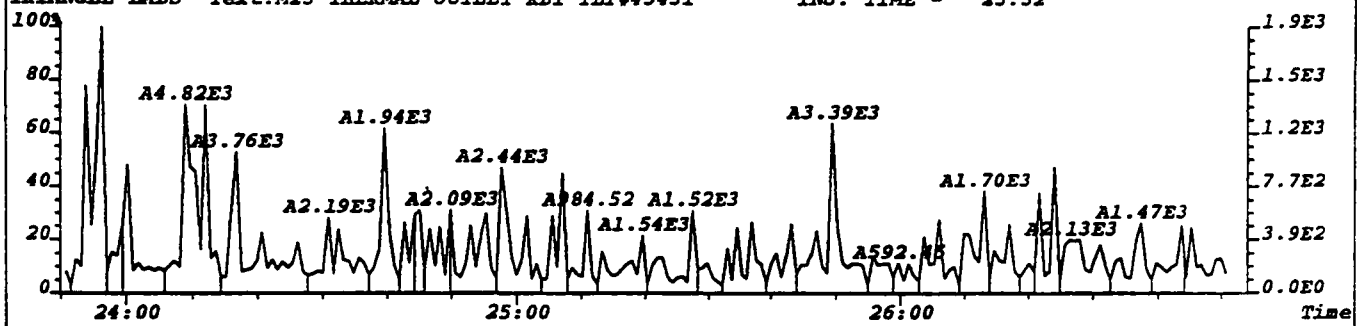
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



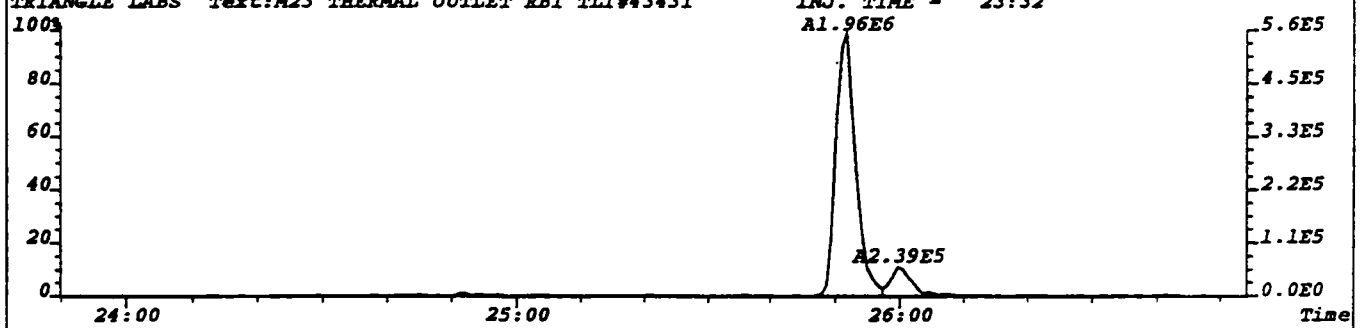
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:105
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,420.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



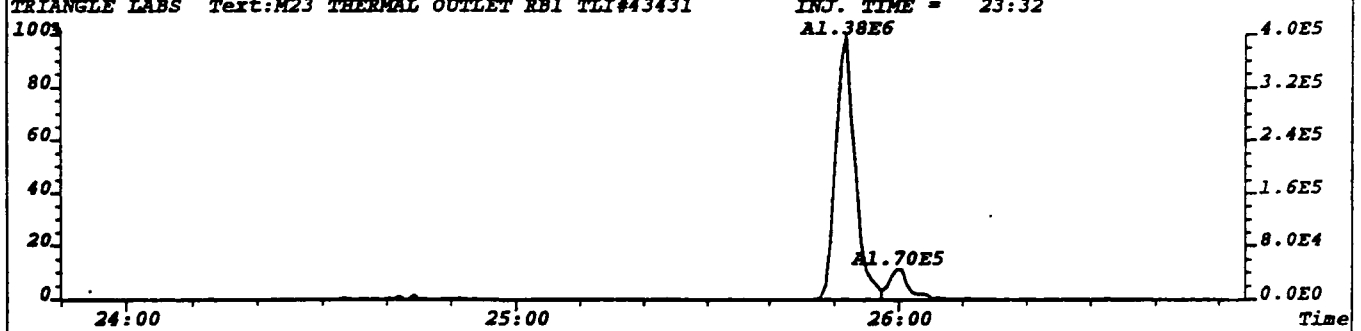
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:57
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



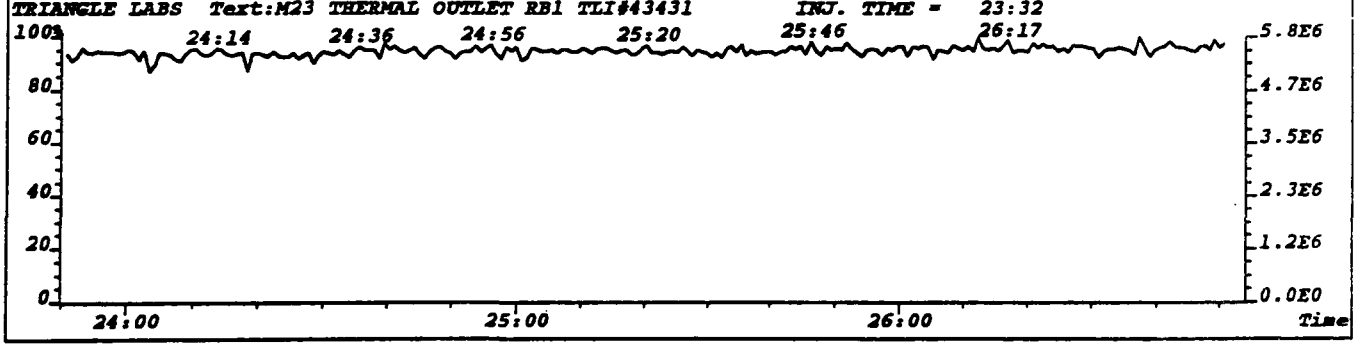
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:50
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



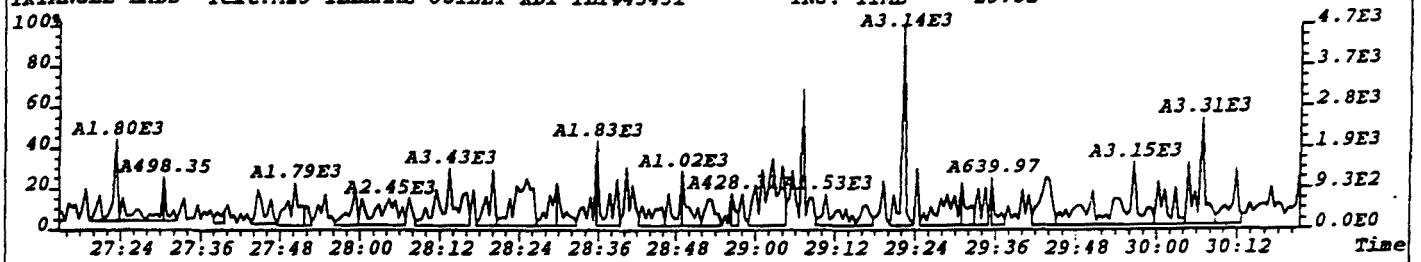
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:52
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



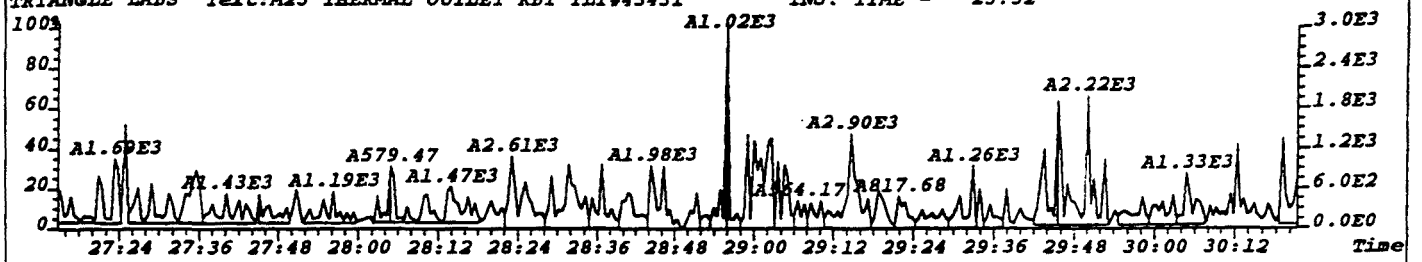
File:S976760 #1-829 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



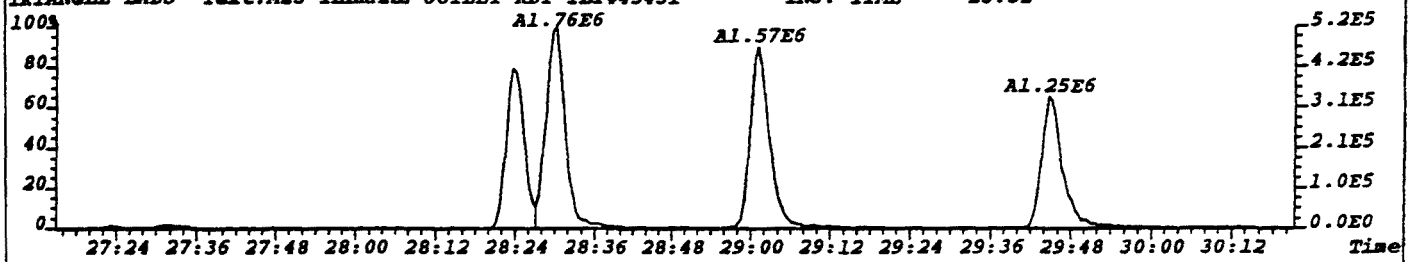
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:108
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,432.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



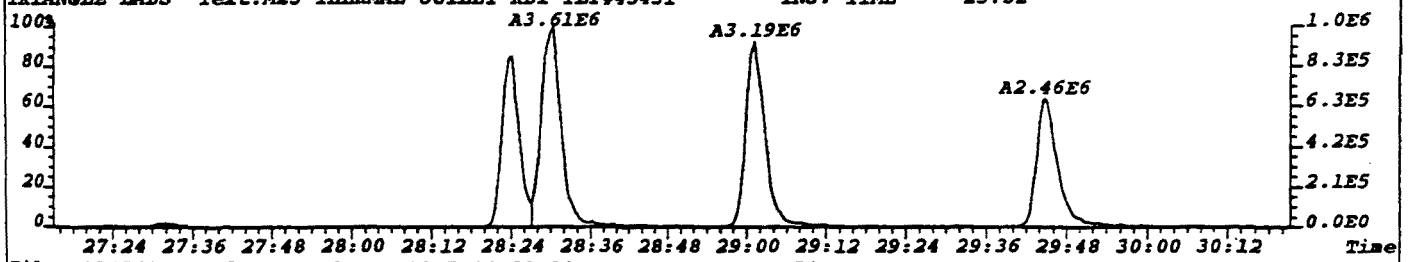
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:61
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,244.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



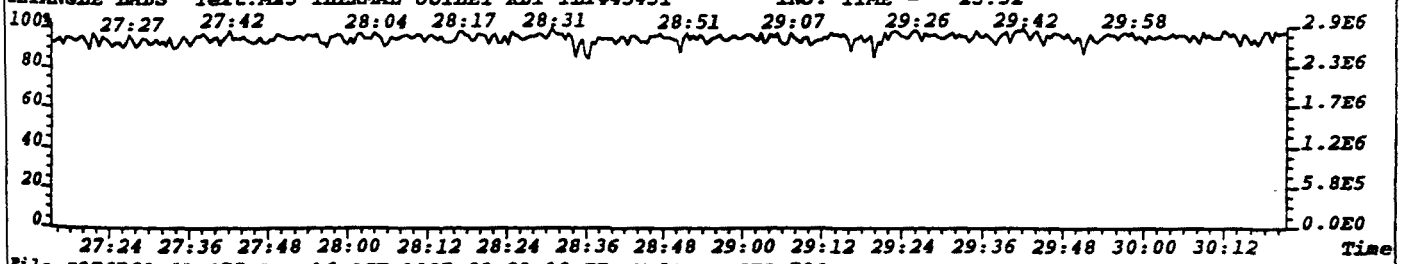
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:59
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



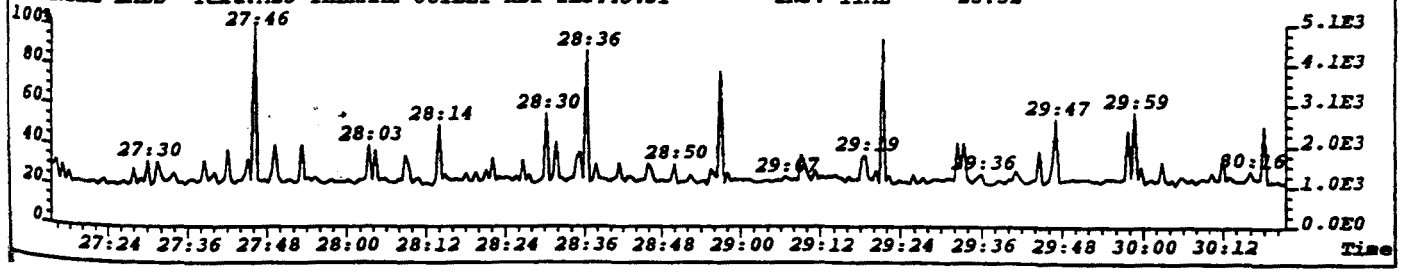
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:126
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



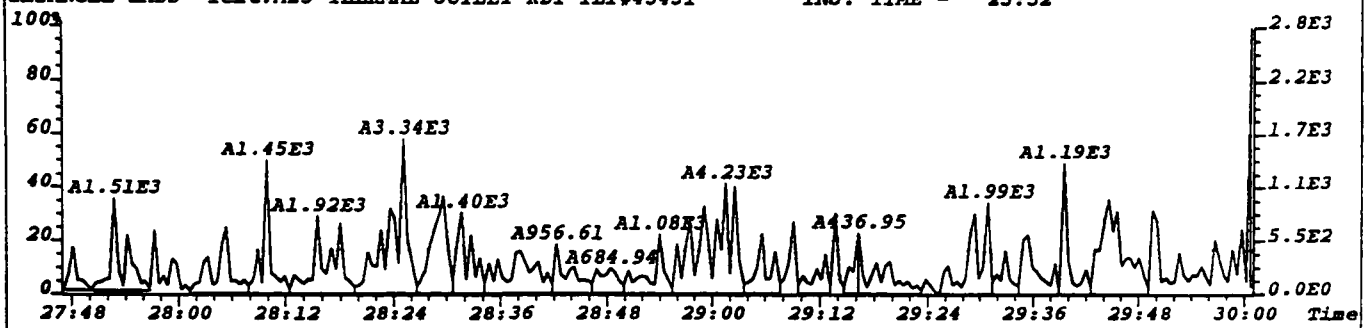
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



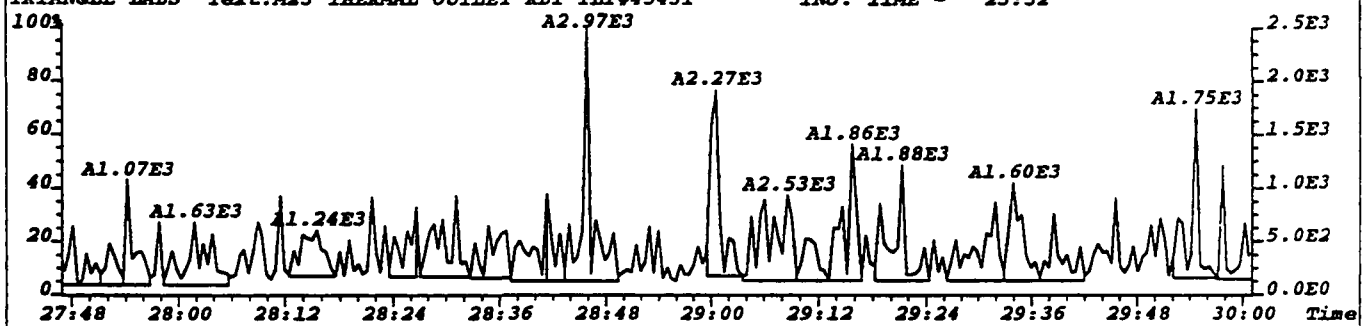
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



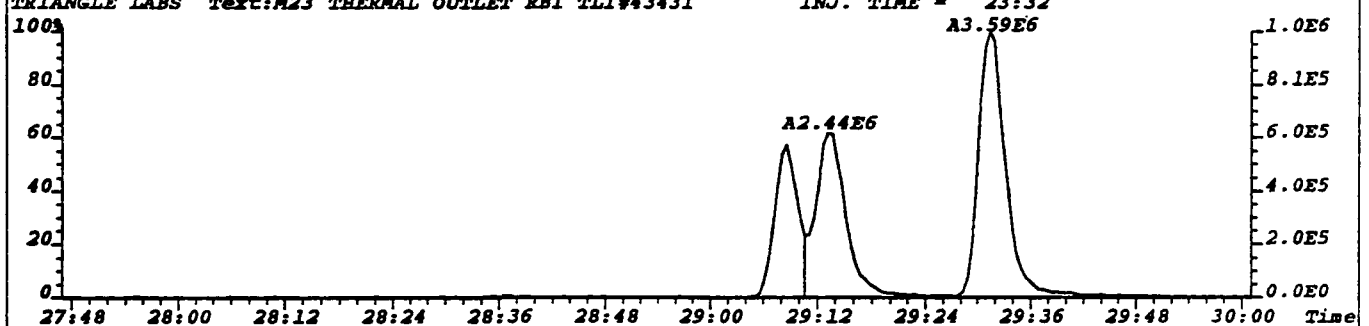
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:47
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,188.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



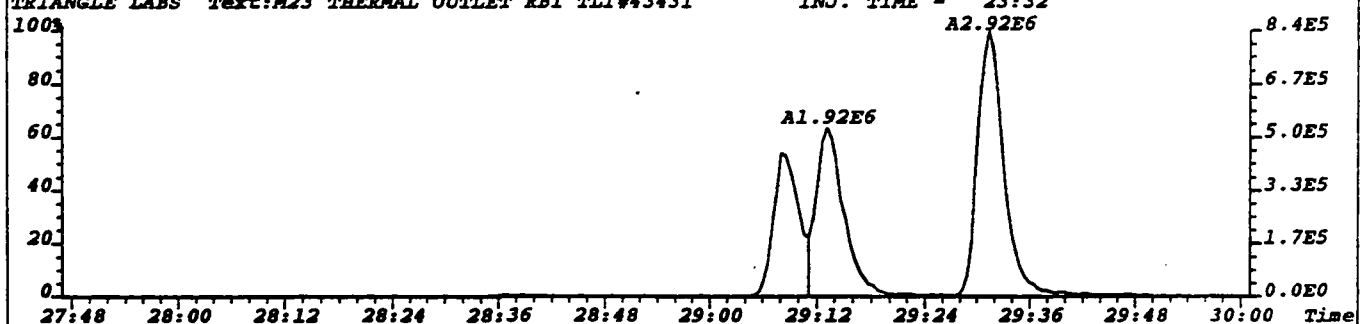
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:85
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,340.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



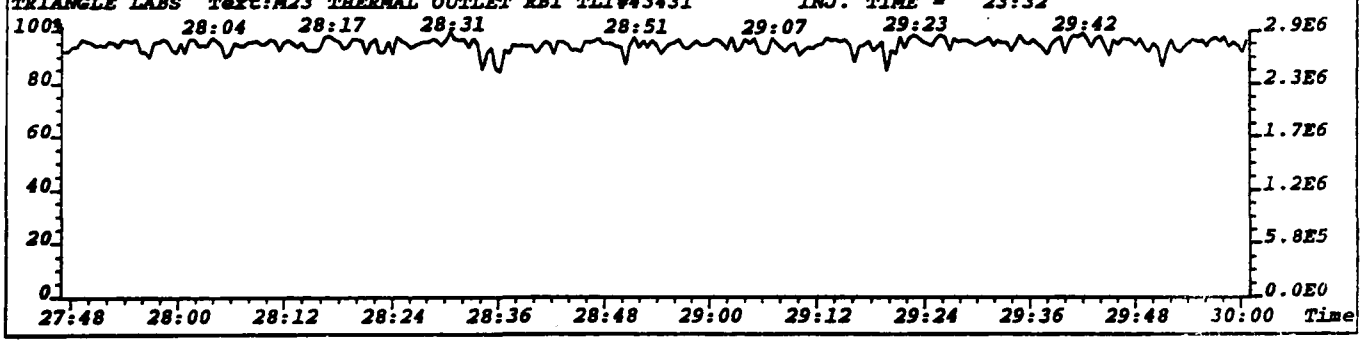
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:50
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



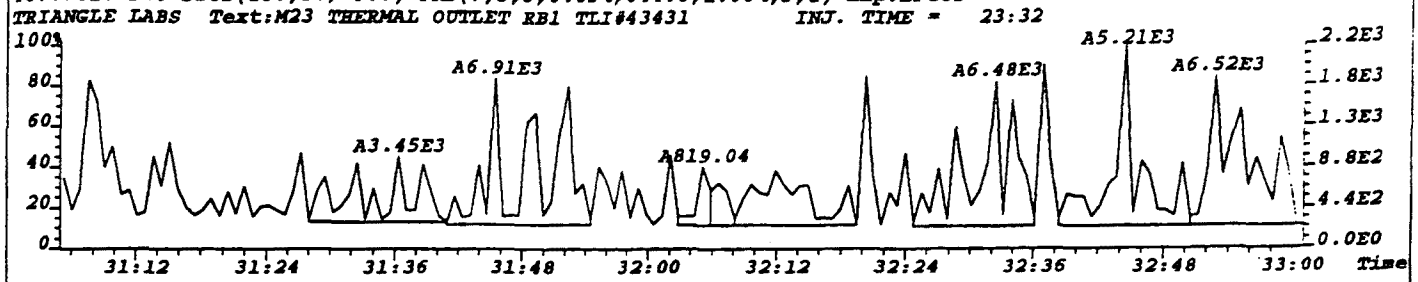
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:49
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



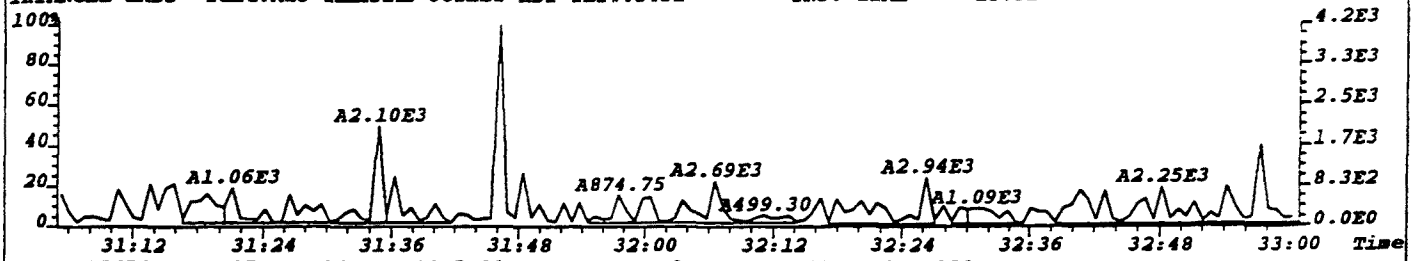
File:S976760 #1-475 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



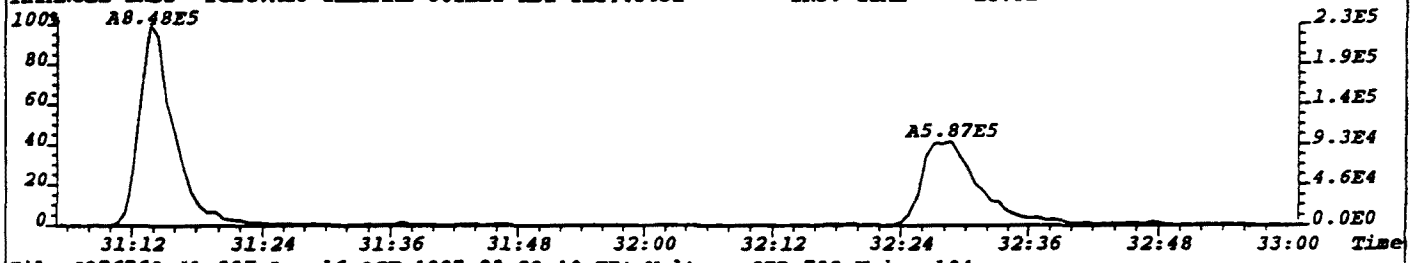
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:161
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,644.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



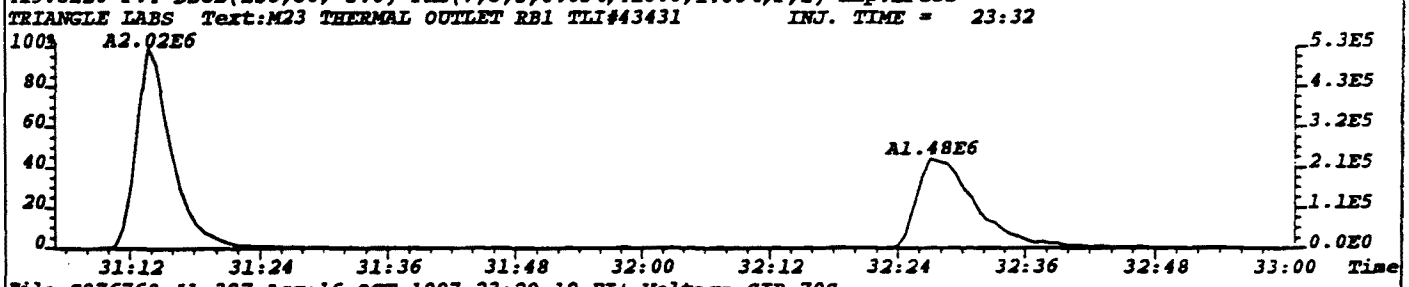
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:49
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



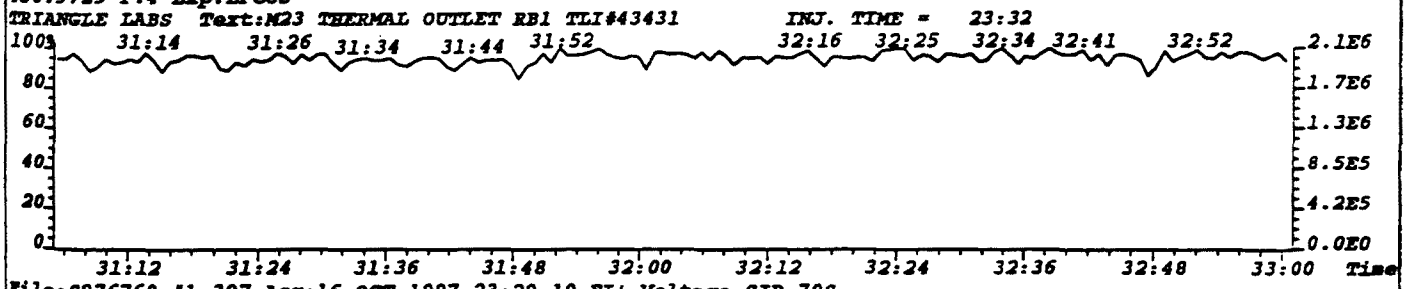
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:132
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,528.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



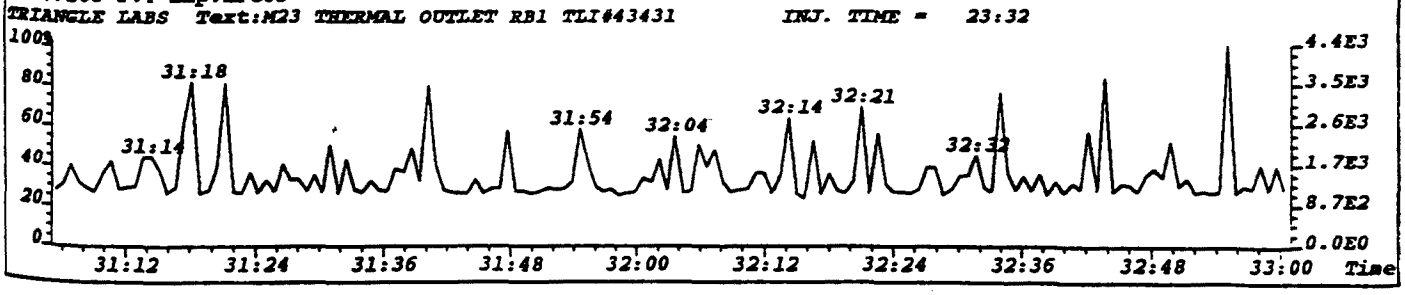
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:104
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,416.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



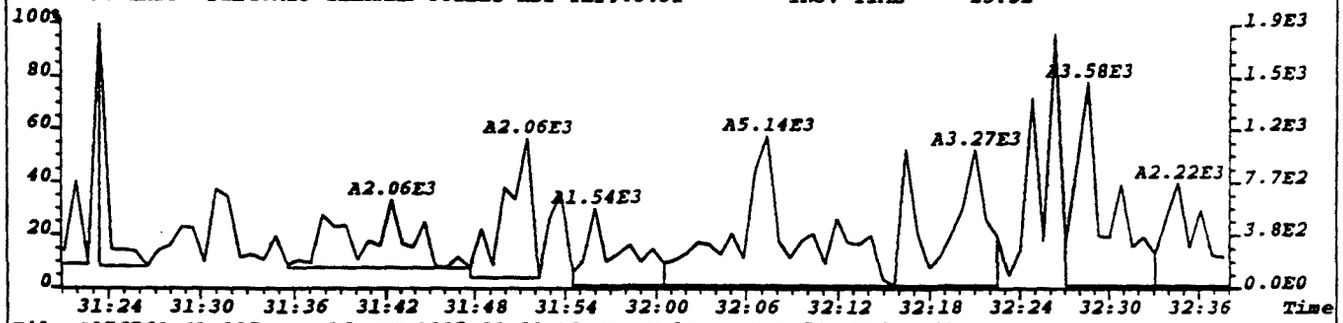
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



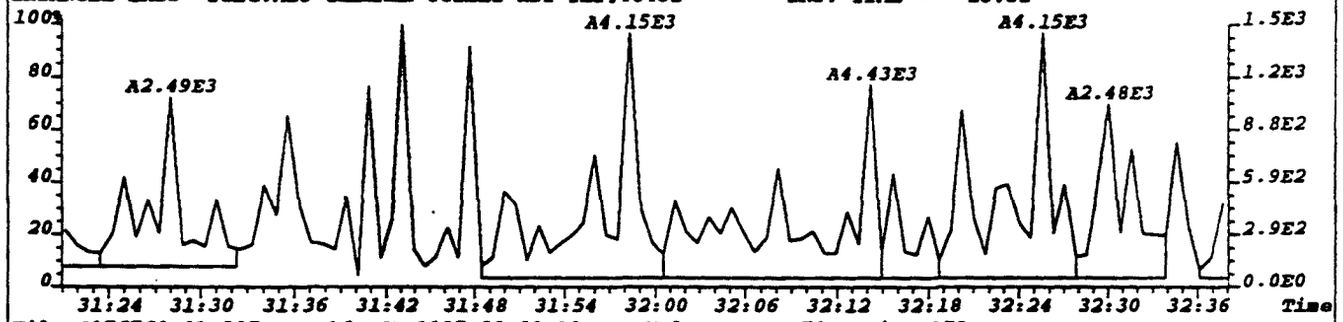
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



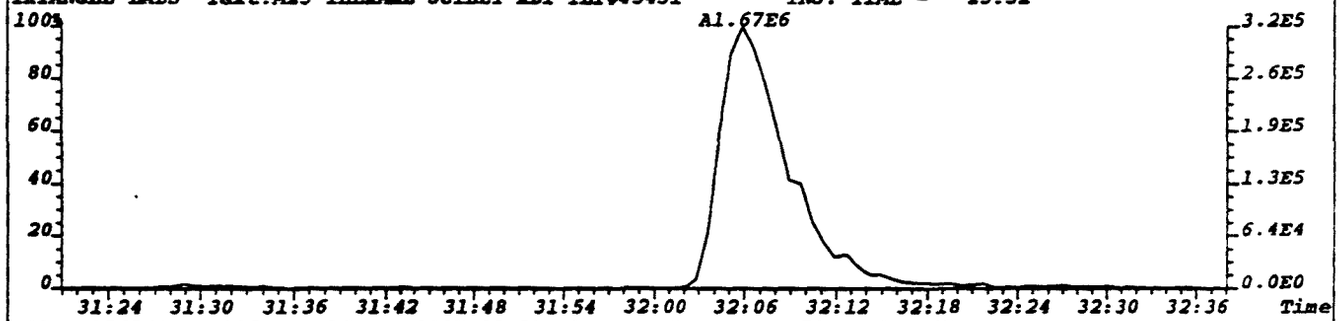
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:88
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,352.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



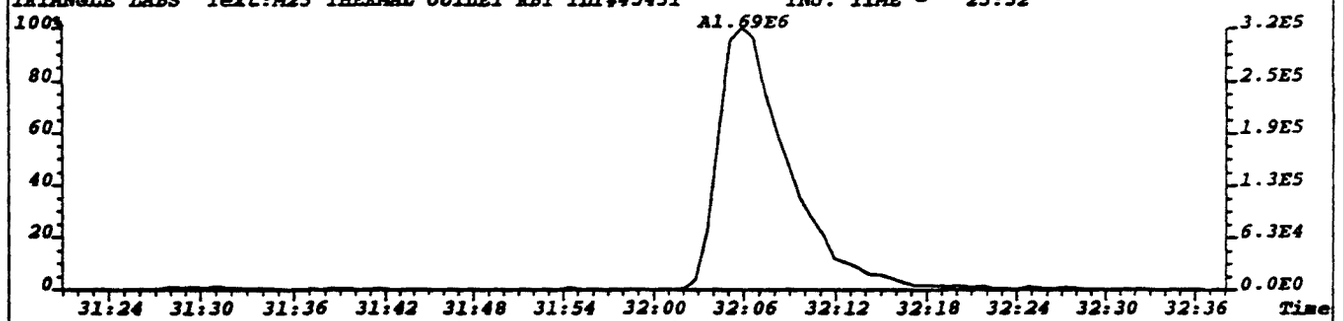
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:91
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



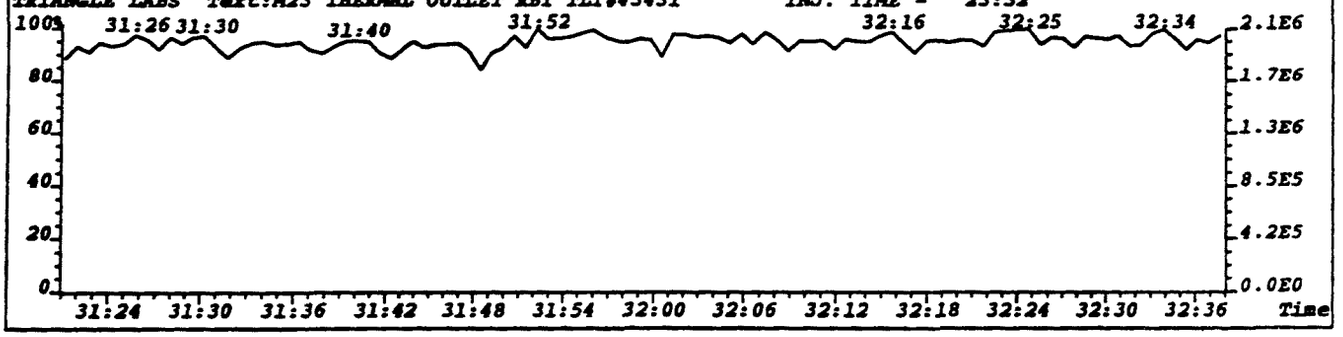
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:172
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,688.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



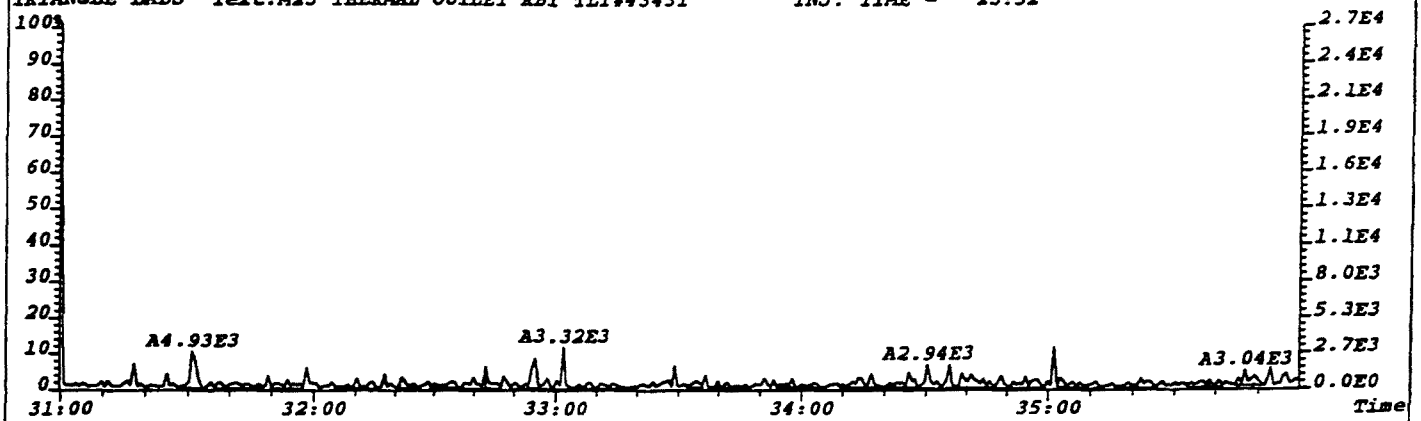
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:67
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,268.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



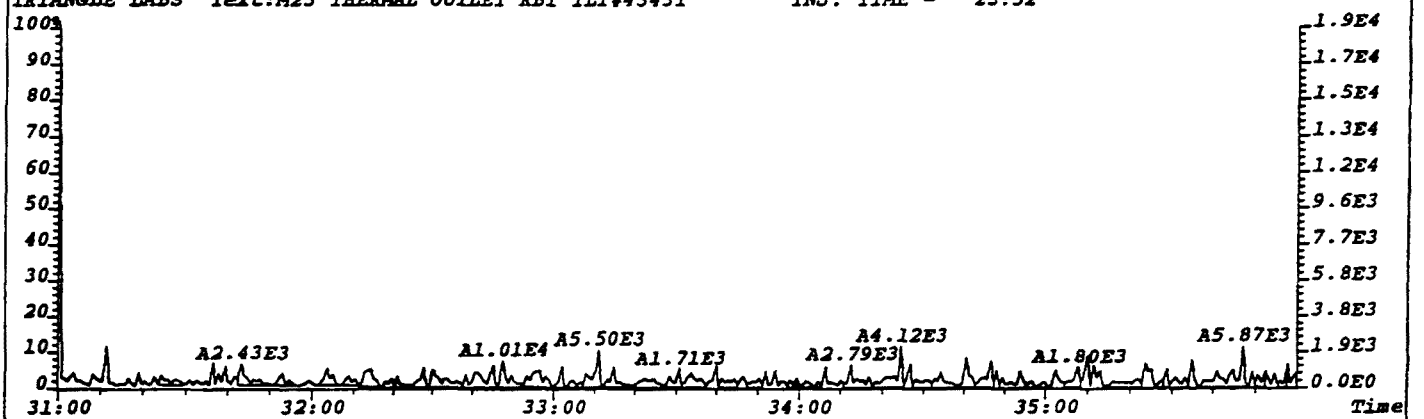
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



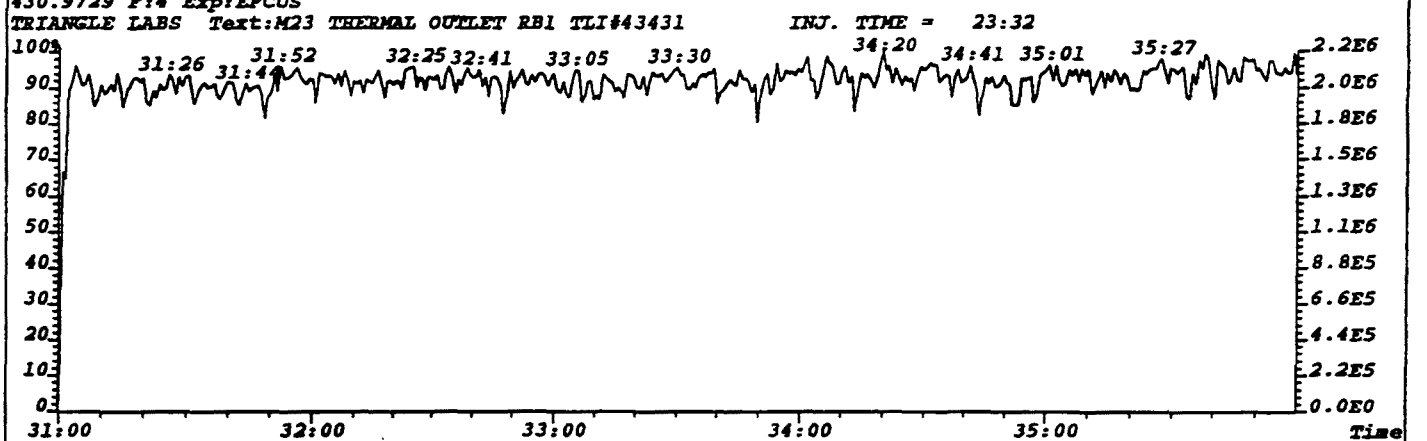
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:96
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,384.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



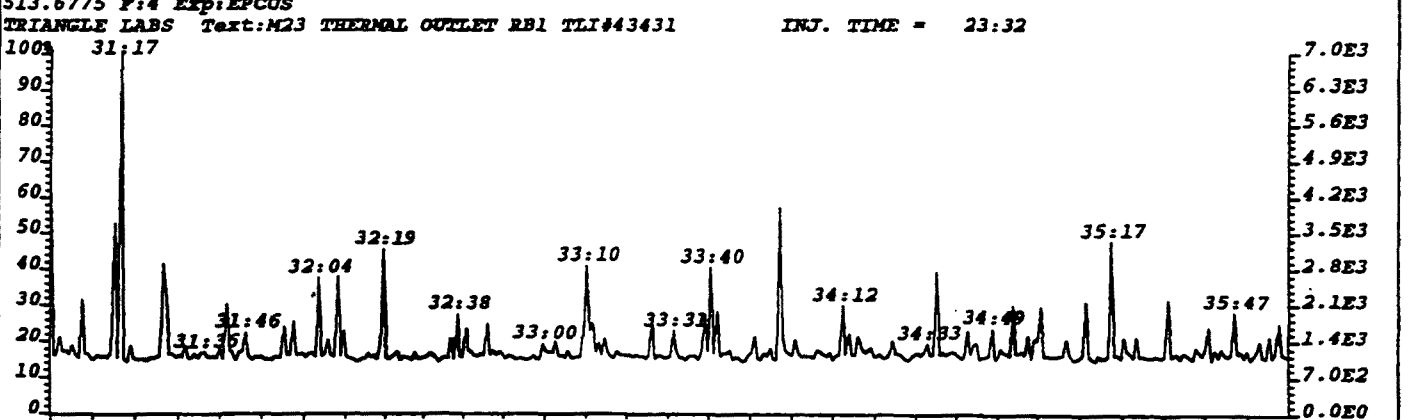
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:78
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,312.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



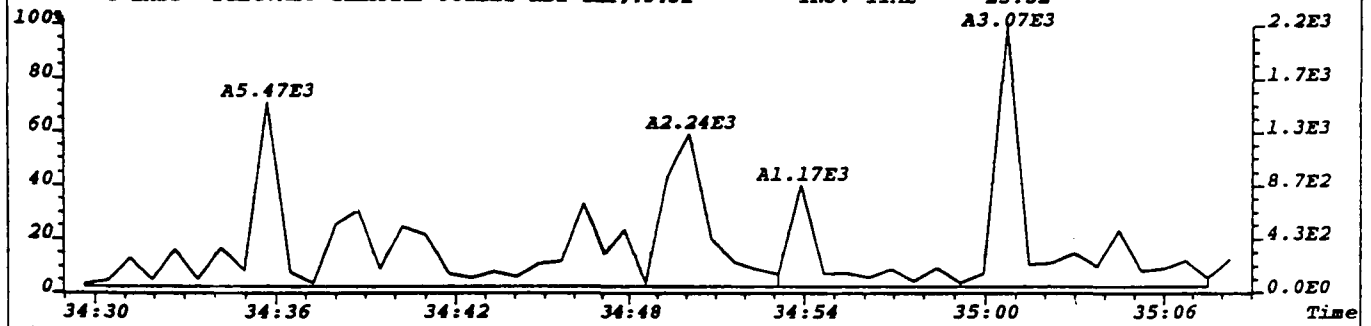
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



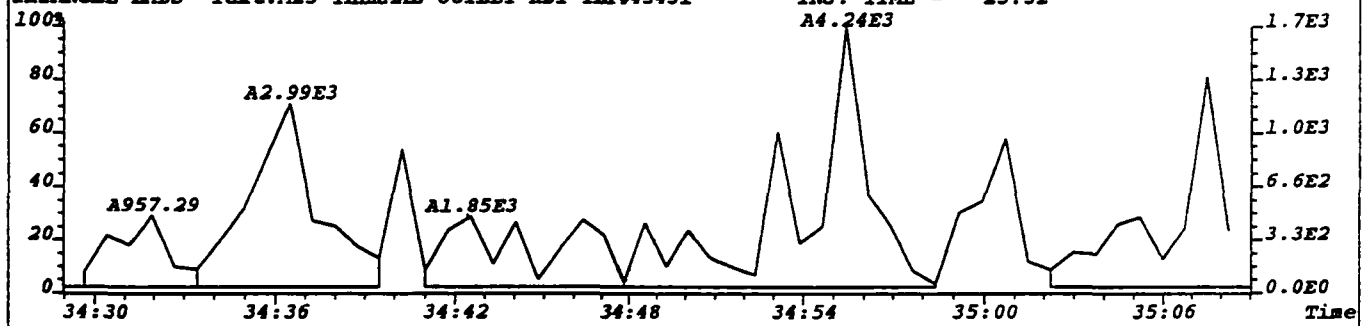
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



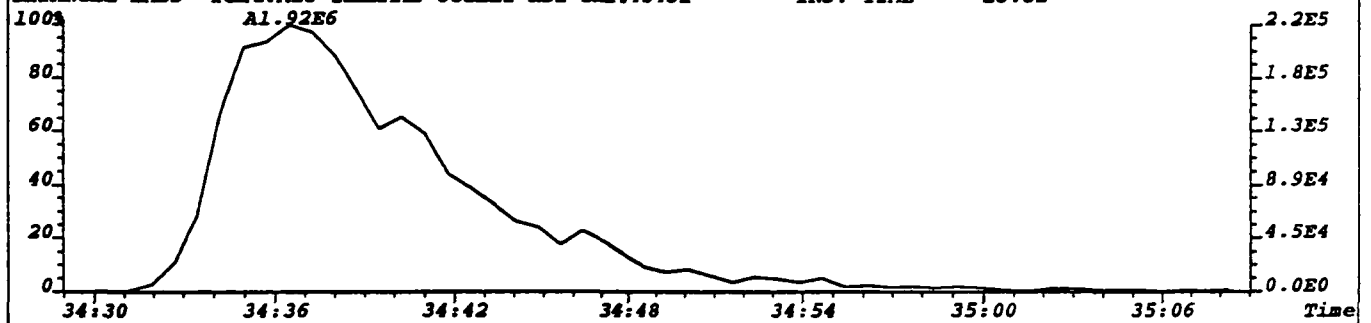
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:43
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



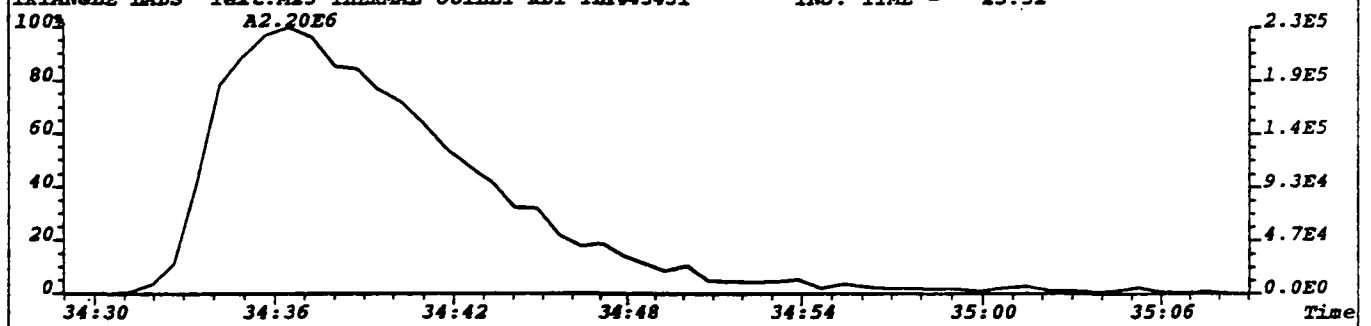
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:49
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



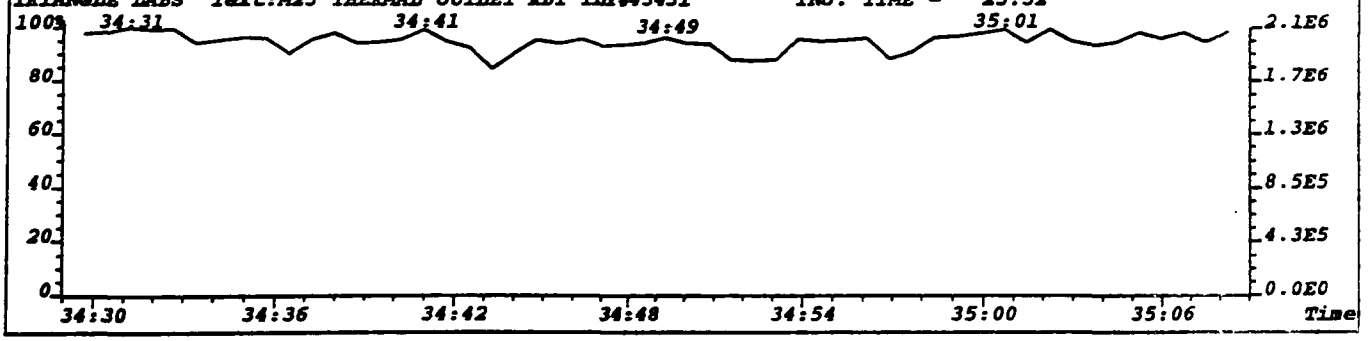
File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:55
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,220.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32

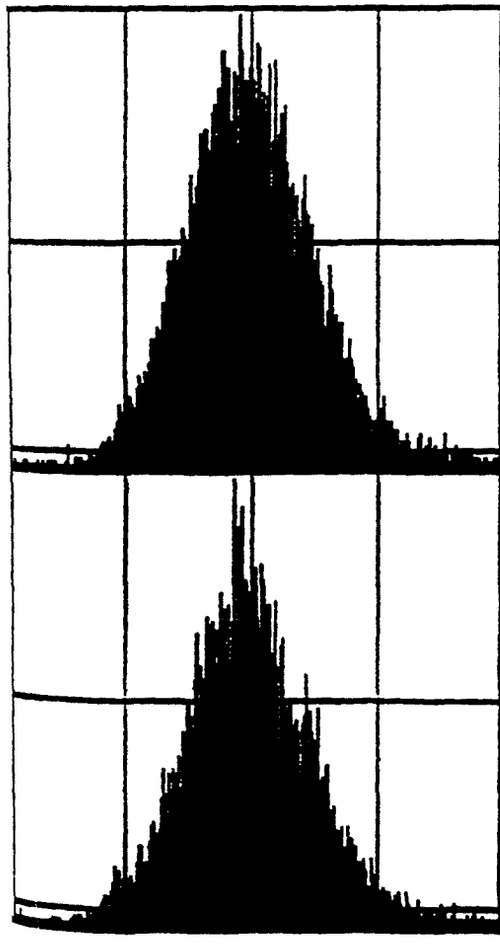


File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S Noise:45
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,180.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32



File:S976760 #1-397 Acq:16-OCT-1997 23:29:19 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:M23 THERMAL OUTLET RB1 TLI#43431 INJ. TIME = 23:32





Ref. mass 292.9825 Peak top
Height .62 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S976756
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	329	Q	355		
I	331	R	358		

Channel I 330.9792 Peak top
Height .68 volts Span 200 ppm

Eastern Research Group

TLI Project: **43431** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **CleanUp Blk** Analysis File: **S976761**

Client Project:	Asphalt Roofing Project				
Sample Matrix:	XAD	Date Received:	/ /	Spike File:	SPX23704
TLI ID:	TLI Clean-Up	Date Extracted:	10/01/97	ICal:	SF56117
		Date Analyzed:	10/17/97	ConCal:	S976754
Sample Size:	1.000	Dilution Factor:	n/a	% Moisture:	n/a
Dry Weight:	n/a	Blank File:	S976745	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MS	% Solids:	n/a

Analytes	Amt. (ng)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.002				—
1,2,3,7,8-PeCDD	ND	0.003				—
1,2,3,4,7,8-HxCDD	ND	0.004				—
1,2,3,6,7,8-HxCDD	ND	0.003				—
1,2,3,7,8,9-HxCDD	ND	0.003				—
1,2,3,4,6,7,8-HpCDD	ND	0.004				—
1,2,3,4,6,7,8,9-OCDD	ND	0.007				—
2,3,7,8-TCDF	ND	0.001				—
1,2,3,7,8-PeCDF	ND	0.002				—
2,3,4,7,8-PeCDF	ND	0.002				—
1,2,3,4,7,8-HxCDF	ND	0.002				—
1,2,3,6,7,8-HxCDF	ND	0.002				—
2,3,4,6,7,8-HxCDF	EMPC		0.006			—
1,2,3,7,8,9-HxCDF	ND	0.003				—
1,2,3,4,6,7,8-HpCDF	ND	0.003				—
1,2,3,4,7,8,9-HpCDF	ND	0.004				—
1,2,3,4,6,7,8,9-OCDF	ND	0.005				—

Totals	Amt. (ng)	Number	DL	EMPC	Flags
Total TCDD	ND		0.002		—
Total PeCDD	ND		0.003		—
Total HxCDD	ND		0.003		—
Total HpCDD	ND		0.004		—
Total TCDF	ND		0.001		—
Total PeCDF	ND		0.002		—
Total HxCDF	EMPC			0.006	—
Total HpCDF	ND		0.003		—

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:16 10/21/97

Eastern Research Group

TLI Project: **43431** Method 23 PCDD/PCDF Analysis (a)
Client Sample: **CleanUp Blk** Analysis File: **S976761**

Internal Standards	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	2.8	71.1	40%-130%	0.74	20:24	—
$^{13}C_{12}$-2,3,7,8-TCDD	2.8	70.0	40%-130%	0.79	21:12	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	2.6	66.1	40%-130%	1.48	24:43	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	2.5	62.0	40%-130%	1.41	25:51	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	3.2	80.5	40%-130%	0.50	28:29	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	3.1	77.0	40%-130%	1.20	29:13	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	3.0	73.9	25%-130%	0.42	31:13	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	3.0	75.0	25%-130%	0.98	32:05	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	5.8	72.6	25%-130%	0.86	34:35	—

Alternate Standards (Type A)	Amt. (ng)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	3.1	78.6	40%-130%	0.50	29:44	—
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	3.3	81.5	40%-130%	0.50	29:00	—

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	1.20	29:30	—

Data Reviewer: kc 10/21/97

X237_PSR v2.00, LARS 6.10.04

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Printed: 11:16 10/21/97

Initial ....Date...

Data Review By: K- 10/30/4 Calculated Noise Area: 0.29

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 S976761B.dbf
10/21/97 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				0.826-1.103			
304-306	DC	NL		0:00		0.78	0.89			0.000			
	DC	SN		17:12	RO	0.64	0.83			0.843			
304-306			0	Peaks			0.00						
13C12-TCDF						0.65-0.89				0.951-1.049			
316-318	DC	NL		0:00	RO	0.61	1.06			0.000			
				19:56	RO	0.49	6.87	2.99	6.11	0.977			
				20:24		0.74	1,636.09	698.48	937.61	1.000	13C12-2378-TCDF	IS0	
				20:55	RO	0.58	10.53	4.58	7.95	1.025			
316-318			3	Peaks			1,653.49						

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

TCDD						0.65-0.89				0.858-1.060			
320-322		DC	NL	0:00		0.89	1.04			0.000			
	D	d	SN	18:16	RO	1.71	1.03			0.862			
		DC	SN	18:36	RO	0.24	0.34			0.877			
	D	d	SN	18:45		0.83	1.19			0.884			
		DC	SN	18:50	RO	1.37	0.53			0.888			
		DC	SN	18:53	RO	0.27	0.46			0.891			
320-322			0	Peaks			0.00						
13C12-TCDD						0.65-0.89				0.906-1.094			
332-334		DC	NL	0:00	RO	1.75	1.13			0.000			
				19:54	RO	0.56	5.40	2.35	4.20	0.939			
				20:59		0.81	1,746.38	781.56	964.82	0.990	13C12-1234-TCDD	RS1	
				21:12		0.79	1,303.29	573.84	729.45	1.000	13C12-2378-TCDD	IS1	
				21:35		0.73	27.85	11.73	16.12	1.018			
				21:58		0.77	1.17	0.51	0.66	1.036			
332-334			5	Peaks			3,084.09						

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

PeCDF						1.32-1.78				0.908-1.080			
340-342		DC	NL	0:00	RO	0.63	0.28			0.000			
		DC	SN	23:33	RO	1.31	0.28			0.953			
		DC	SN	23:52		1.33	0.56			0.966			
		DC	SN	24:08	RO	0.71	0.28			0.976			
		DC	SN	24:17	RO	1.18	0.33			0.982			
		DC	SN	24:24	RO	0.65	0.46			0.987			
		DC	SN	24:33	RO	0.29	0.16			0.993			
		DC	SN	24:43	RO	0.18	0.12			1.000			
		DC	SN	24:45	RO	0.38	0.20			1.001	12378-PeCDF		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	24:50	RO	1.90	0.26			1.005			
		DC	SN	25:02	RO	0.09	0.12			1.013			
		DC	SN	25:11	RO	0.26	0.30			1.019			
		DC	SN	25:19		1.62	0.34			1.024			
		DC	SN	25:26	RO	0.21	0.16			1.029			
		DC	SN	25:34	RO	1.00	0.46			1.034			
		DC	SN	26:02	RO	0.77	0.56			1.053			
		DC	WH	26:48		1.33	0.56			1.084			
340-342			0	Peaks			0.00						
13C12-PeCDF				1.32-1.78					0.838-1.162				
352-354		DC	NL	0:00	RO	0.88	0.23			0.000			
				24:21	RO	1.27	4.18	2.54	2.00	0.985			
				24:43		1.48	1,307.71	779.42	528.29	1.000	13C12-PeCDF 123	IS2	
				25:02		1.51	9.98	6.01	3.97	1.013			
		DC	SN	25:09	RO	7.43	0.89			1.018			
				25:16	RO	2.67	2.17	2.27	0.85	1.022			
				25:30		1.51	9.65	5.80	3.85	1.032	13C12-PeCDF 234	SUR2	
				26:30		1.44	3.80	2.24	1.56	1.072			
352-354			6	Peaks			1,337.49						

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

PeCDD				1.32-1.78					0.921-1.027				
356-358		DC	NL	0:00		1.36	0.26			0.000			
		DC	SN	24:10	RO	1.17	0.56			0.935			
		DC	SN	24:19	RO	0.33	0.13			0.941			
		DC	SN	24:33	RO	0.30	0.13			0.950			
	D	d	SN	24:43		1.63	1.34			0.956			
		DC	SN	25:09	RO	3.07	0.36			0.973			
		DC	SN	25:18	RO	1.31	0.35			0.979			
		DC	SN	25:27	RO	0.95	0.30			0.985			
		DC	SN	25:38	RO	6.50	0.05			0.992			
		DC	SN	25:41	RO	2.07	0.36			0.994			
		DC	SN	26:11		1.67	0.32			1.013			
		DC	SN	26:19	RO	1.25	0.41			1.018			
		DC	SN	26:30		1.70	0.54			1.025			
356-358			0	Peaks			0.00						
13C12-PeCDD				1.32-1.78					0.845-1.155				
368-370		DC	NL	0:00		1.50	0.25			0.000			
				25:51		1.41	687.08	402.21	284.87	1.000	13C12-PeCDD 123	IS3	
				26:00		1.53	87.03	52.57	34.46	1.006			
				26:11	RO	1.89	2.83	2.10	1.11	1.013			
				26:19	RO	0.60	1.33	0.81	1.36	1.018			
				26:38	RO	0.76	0.69	0.42	0.55	1.030			
		DC	SN	26:48	RO	2.08	0.64			1.037			
368-370			5	Peaks			778.96						

---------- Above: PeCDD / HxCDF 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.
HxCDF				1.05-1.43						0.957-1.054			
374-376	DC	NL		0:00	RO	1.80	0.22			0.000			
	DC	SN		27:17	RO	0.27	0.05			0.958			
	DC	SN		27:22	RO	0.71	0.18			0.961			
	DC	SN		27:29	RO	3.25	0.09			0.965			
	DC	SN		27:39	RO	0.90	0.34			0.971			
	DC	SN		27:43		1.33	0.14			0.973			
	DC	SN		27:49	RO	0.50	0.34			0.977			
	DC	SN		27:58	RO	2.58	0.27			0.982			
	DC	SN		28:12	RO	4.00	0.16			0.990			
	DC	SN		28:18	RO	2.17	0.13			0.994			
	DC	SN		28:23	RO	11.00	0.07			0.996	123478-HxCDF	AN	
	DC	SN		28:32	RO	4.18	0.25			1.002	123678-HxCDF	AN	
	DC	SN		28:37	RO	1.56	0.20			1.005			
	DC	SN		28:49	RO	3.73	0.25			1.012			
M				29:01	RO	0.81	1.81	1.00	1.24	1.019	234678-HxCDF	AN	
	DC	SN		29:11	RO	0.30	0.13			1.025			
	DC	SN		29:17	RO	0.44	0.13			1.028			
	DC	SN		29:49		1.25	0.09			1.047			
	DC	SN		29:54	RO	0.80	0.22			1.050			
	DC	WH		30:02	RO	0.85	0.52			1.054			
	DC	WH		30:10	RO	0.86	0.22			1.059			
	DC	WH		30:13	RO	2.63	0.18			1.061			
	DC	WH		30:23	RO	1.03	0.60			1.067			
374-376			1	Peak			1.81						
13C12-HxCDF				0.43-0.59						0.860-1.140			
384-386	DC	NL		0:00	RO	0.31	0.27			0.000			
	DC	SN		27:32	RO	0.28	0.89			0.967			
				28:29		0.50	1,044.92	346.78	698.14	1.000	13C12-HxCDF 678	IS4	
				28:51	RO	0.24	1.78	0.60	2.54	1.013			
				29:00		0.50	979.88	324.52	655.36	1.018	13C12-HxCDF 234	ALT2	
				29:21	RO	0.29	2.10	0.71	2.42	1.030			
				29:25	RO	0.41	1.21	0.41	0.99	1.033			
	DC	SN		29:27	RO	0.27	0.62			1.034			
				29:31	RO	1.87	0.83	1.03	0.55	1.036			
				29:44		0.50	821.50	272.88	548.62	1.044	13C12-HxCDF 789	ALT1	
				30:10	RO	0.36	1.84	0.62	1.74	1.059			
384-386			8	Peaks			2,854.06						

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

HxCDD				1.05-1.43						0.951-1.016			
390-392	DC	NL		0:00	RO	0.74	0.25			0.000			
	DC	SN		28:02	RO	0.79	0.27			0.959			
	DC	SN		28:10	RO	0.80	0.36			0.964			
	DC	SN		28:15		1.14	0.30			0.967			
	DC	SN		28:26	RO	0.68	0.23			0.973			
	DC	SN		28:30	RO	2.80	0.45			0.975			
	DC	SN		28:55	RO	0.38	0.14			0.990			
	DC	SN		29:00	RO	2.17	0.52			0.993			
	DC	SN		29:05	RO	2.00	0.20			0.995			

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	RO	0.73	0.20			0.997	123478-HxCDD	AN	
	DC	SN		29:14	RO	0.35	0.14			1.001	123678-HxCDD	AN	
	DC	SN		29:18	RO	0.50	0.18			1.003			
	DC	SN		29:23		1.25	0.18			1.006			
	DC	SN		29:25	RO	0.33	0.07			1.007			
	DC	SN		29:31		1.38	0.31			1.010	123789-HxCDD	AN	
	DC	SN		29:35	RO	0.41	0.34			1.013			
	DC	WH		29:44	RO	6.83	0.13			1.018			
	DC	WH		29:50	RO	0.23	0.13			1.021			
	DC	WH		29:57	RO	0.61	0.25			1.025			
390-392			0	Peaks			0.00						
13C12-HxCDD				1.05-1.43						0.966-1.034			
402-404	DC	NL		0:00	RO	0.48	0.22			0.000			
				28:36		1.19	2.94	1.60	1.34	0.979			
				29:13		1.20	825.76	450.44	375.32	1.000	13C12-HxCDD 678	IS5	
				29:30		1.20	1,078.51	588.49	490.02	1.010	13C12-HxCDD 789	RS2	
				29:51		1.12	2.10	1.11	0.99	1.022			
				29:54	RO	2.21	0.87	0.86	0.39	1.023			
402-404			5	Peaks			1,910.18						

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

HpCDF				0.88-1.20						0.996-1.047			
408-410	DC	NL		0:00	RO	2.00	0.18			0.000			
	DC	SN		31:39	RO	2.12	0.35			1.014			
	DC	SN		32:03	RO	0.60	0.41			1.027			
	DC	SN		32:32	RO	0.40	0.59			1.042			
	DC	WH		32:53	RO	0.73	0.88			1.053			
408-410			0	Peaks			0.00						
13C12-HpCDF				0.37-0.51						0.936-1.128			
418-420	DC	NL		0:00	RO	2.00	0.29			0.000			
				31:13		0.42	707.31	208.03	499.28	1.000	13C12-HpCDF 678	IS6	
				31:31	RO	0.93	2.79	1.80	1.94	1.010			
				31:40	RO	0.83	1.48	0.85	1.03	1.014			
	DC	SN		32:09	RO	0.25	0.56			1.030			
				32:27	RO	1.02	0.78	0.55	0.54	1.040	13C12-HpCDF 789	SUR5	
	DC	SN		32:41	RO	0.63	0.55			1.047			
418-420			4	Peaks			712.36						

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

HpCDD				0.88-1.20						0.978-1.007			
424-426	DC	NL		0:00		1.20	0.22			0.000			
	DC	SN		31:25	RO	0.53	0.41			0.979			
	DC	SN		31:50	RO	26.00	0.02			0.992			
	DC	SN		31:59		1.08	0.27			0.997			
	DC	SN		32:19	RO	0.35	0.12			1.007			
	DC	WH		32:29	RO	0.19	0.14			1.012			
	DC	WH		32:34	RO	0.28	0.22			1.015			
424-426			0	Peaks			0.00						

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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-HpCDD                     0.88-1.20                                   0.969-1.031
436-438          DC  NL   0:00 RO  1.27          1.82                            0.000
                         32:05     0.98        659.22        326.26        332.96  1.000 13C12-HpCDD 678 IS7
436-438                1 Peak                   659.22

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

OCDF                            0.76-1.02                                   0.884-1.116
442-444          DC  NL   0:00 RO  1.33          0.34                            0.000
                 DC  SN  31:27 RO  0.27          0.45                            0.909
                 DC  SN  32:31 RO  0.43          0.49                            0.940
                 DC  SN  32:49 RO  7.50          0.11                            0.949
                 DC  SN  33:03 RO  8.00          0.08                            0.956
                 DC  SN  33:31 RO  0.17          0.30                            0.969
                 DC  SN  33:54 RO  1.48          0.62                            0.980
                 DC  SN  34:18 RO  0.39          0.57                            0.992
                 DC  SN  34:36 RO  1.56          0.30                            1.000
                 DC  SN  34:59 RO  4.63          0.15                            1.012
                 DC  SN  35:18 RO  5.60          0.09                            1.021
                 DC  SN  35:48 RO  1.06          0.32                            1.035
                 DC  SN  36:00 RO  0.53          0.45                            1.041
442-444                0 Peaks                   0.00

OCDD                            0.76-1.02                                   0.884-1.116
458-460          DC  NL   0:00 RO  1.13          0.15                            0.000
                 DC  SN  34:42 RO  1.11          0.34                            1.003
                 DC  SN  34:50 RO  0.50          0.21                            1.007
                 DC  SN  35:05 RO  0.35          0.17                            1.014
458-460                0 Peaks                   0.00

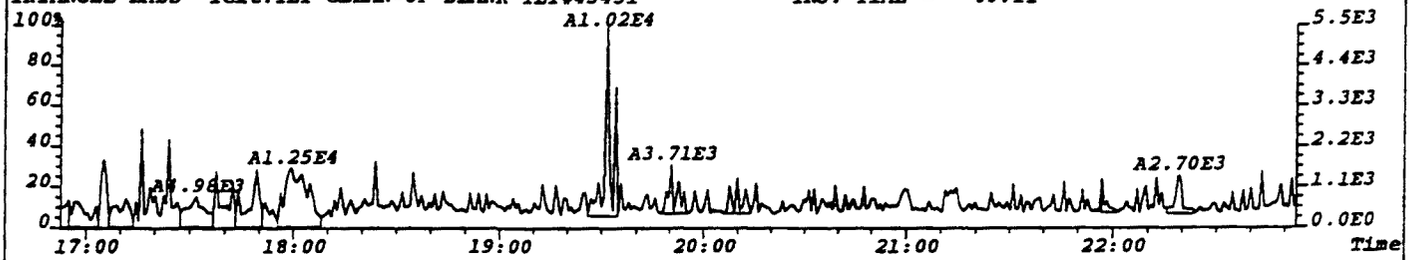
13C12-OCDD                      0.76-1.02                                   0.998-1.007
470-472          DC  NL   0:00 RO  1.60          0.19                            0.000
                         34:35     0.86        812.59        376.33        436.26  1.000 13C12-OCDD      IS8
                 DC  WH  35:02 RO  1.69          2.91                            1.013
470-472                1 Peak                   812.59


Column Description............  "Why" Code Description.........  QC Log Desc.........

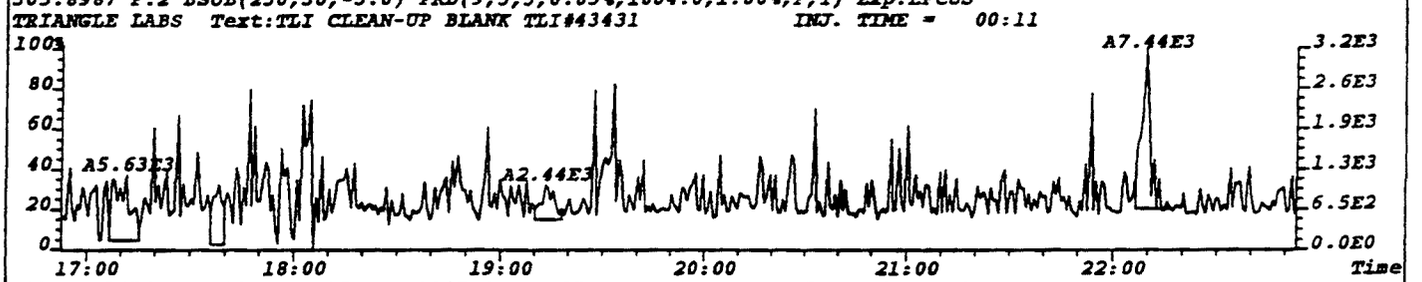
M_Z   -Nominal Ion Mass(es)     WL-Below Retention Time Window   A-Peak Added
..RT. -Retention Time (mm:ss)   WH-Above Retention Time Window   K-Peak Kept
Rat.1 -Ratio of M/M+2 Ions      SN-Below Signal to Noise Level   D-Peak Deleted
OK    -RO=Ratio Outside Limits  <M-Below Method Detection Limit  T-Time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

*** End of Report ***
```

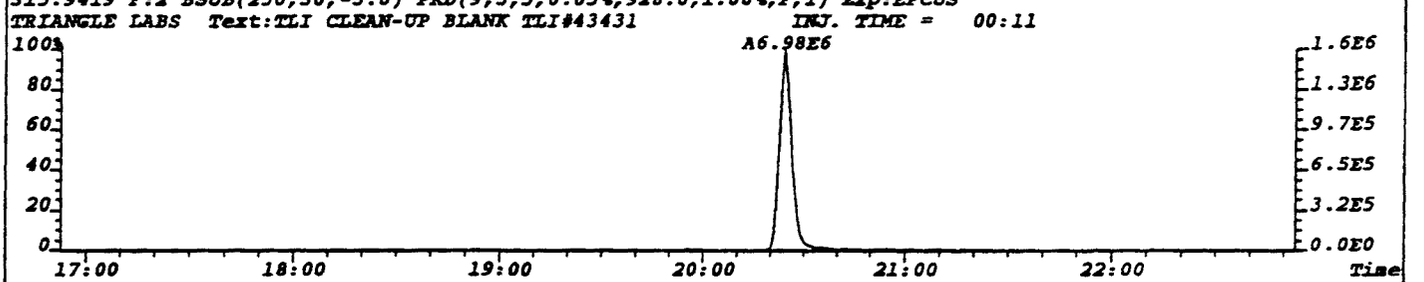
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:193
303.9016 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,772.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



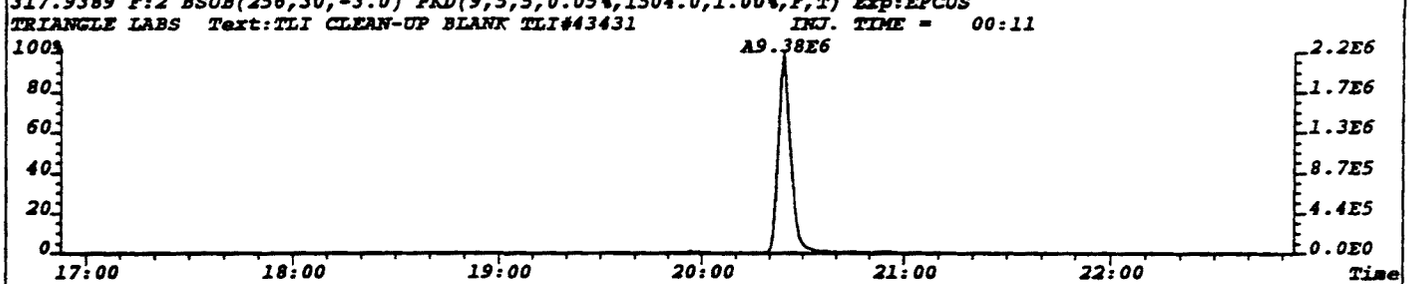
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:251
305.8987 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1004.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



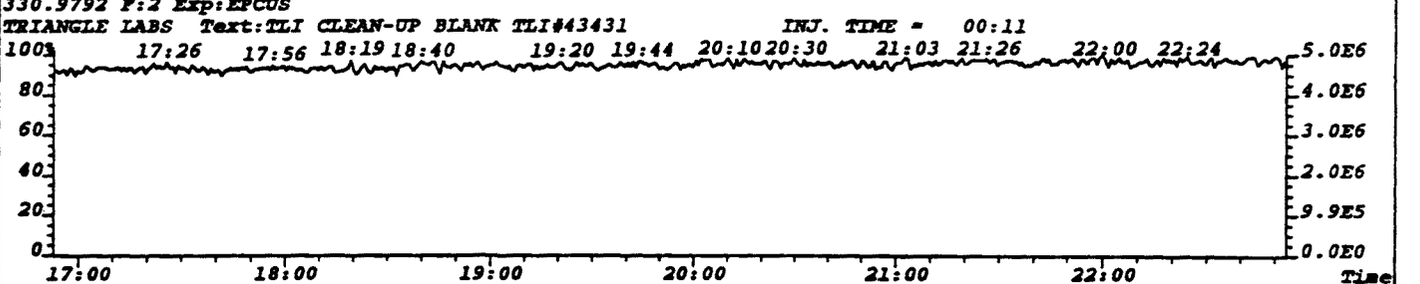
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:232
315.9419 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,928.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



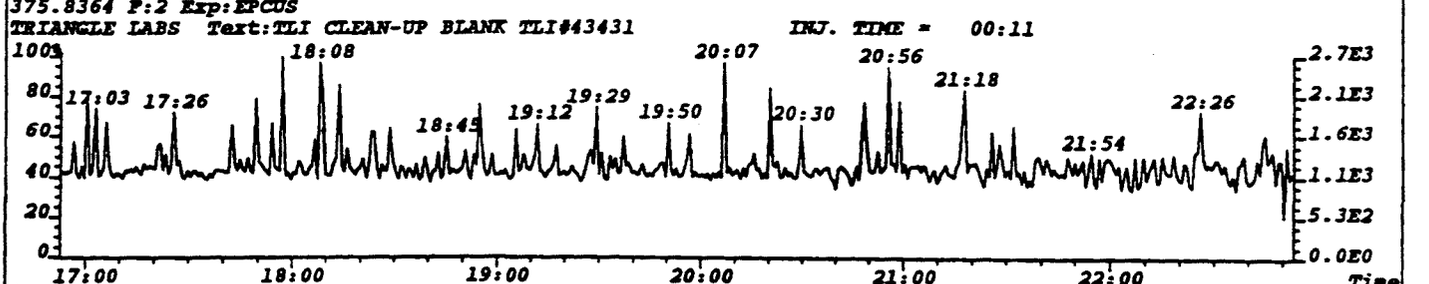
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:376
317.9389 F:2 BSUB(256,30,-3.0) PKD(9,5,5,0.05%,1504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



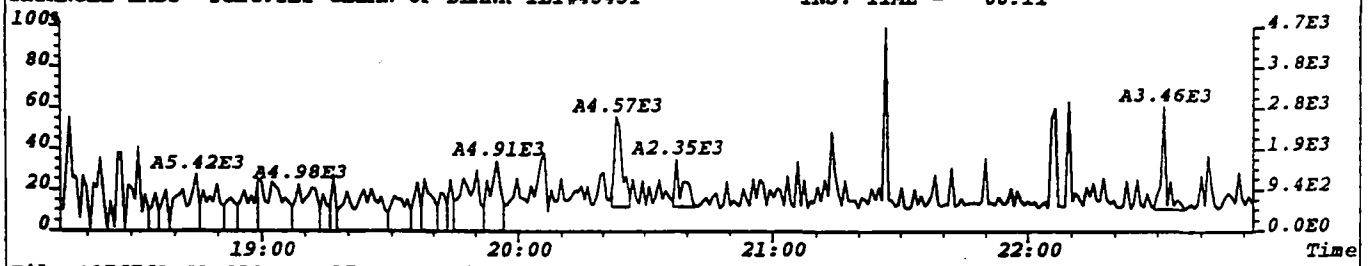
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



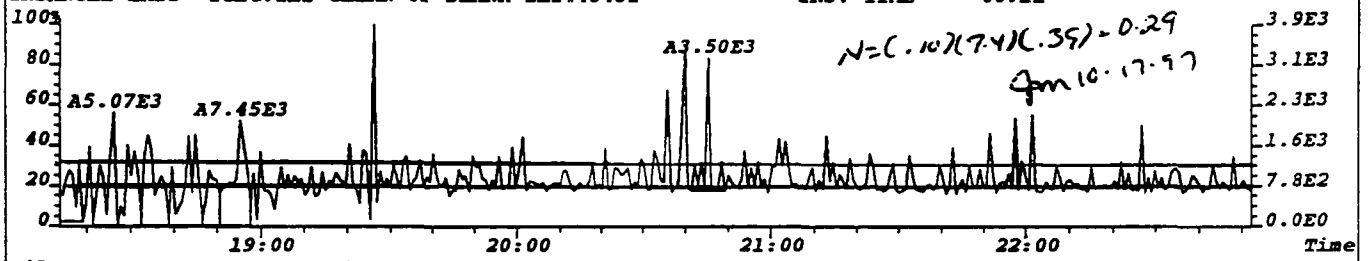
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
375.8364 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



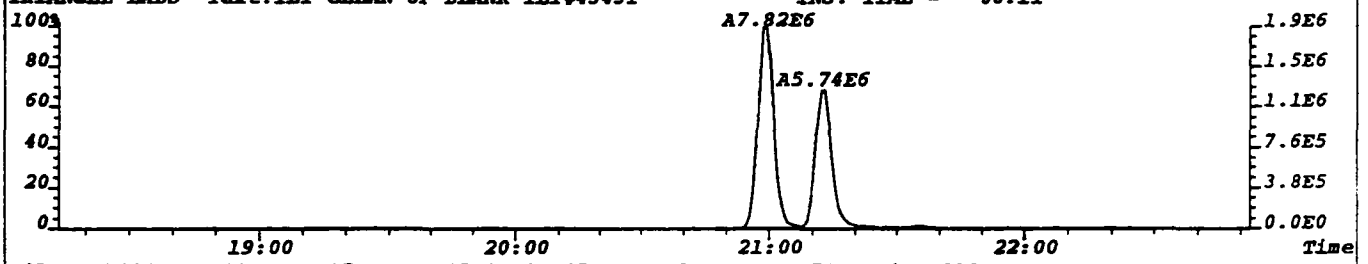
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:244
319.8965 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,976.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



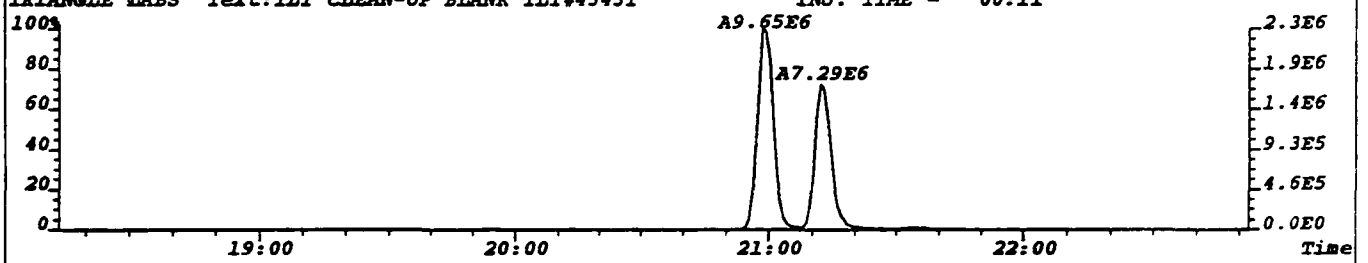
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:277
321.8936 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1108.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



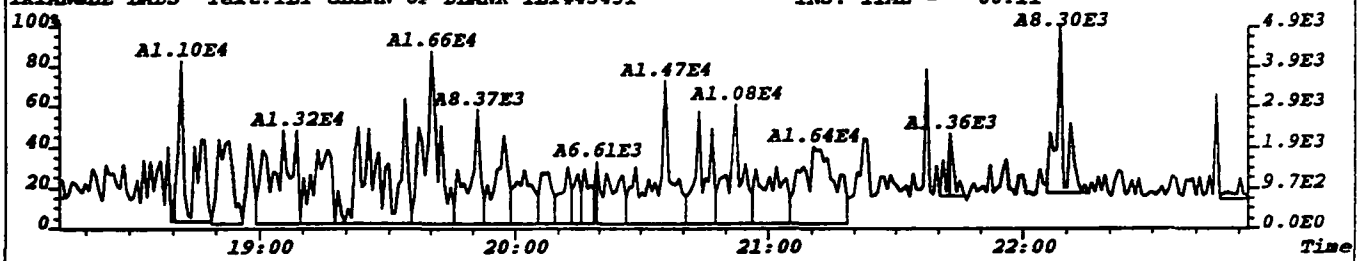
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:559
331.9368 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2236.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



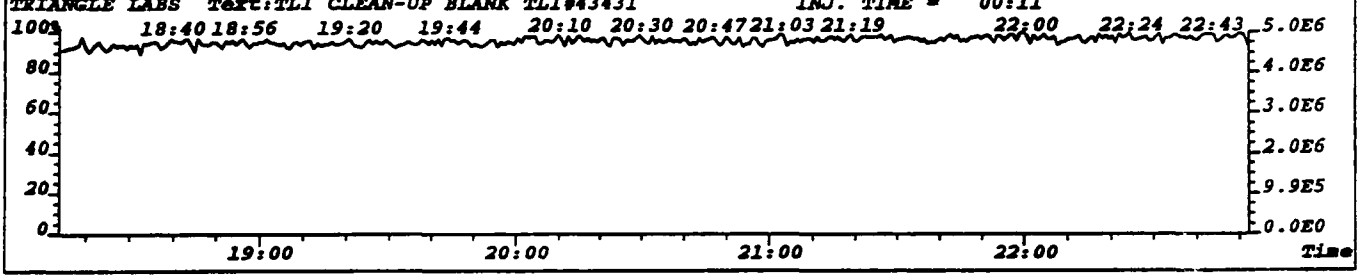
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:319
333.9338 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1276.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



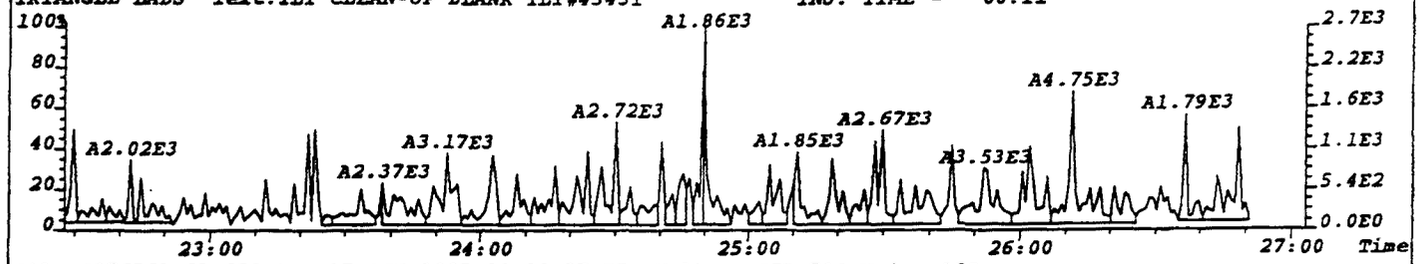
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:342
327.8847 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1368.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



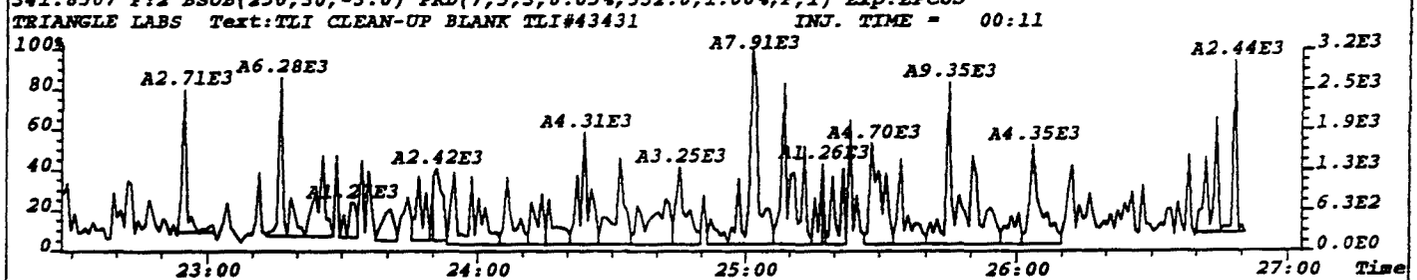
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



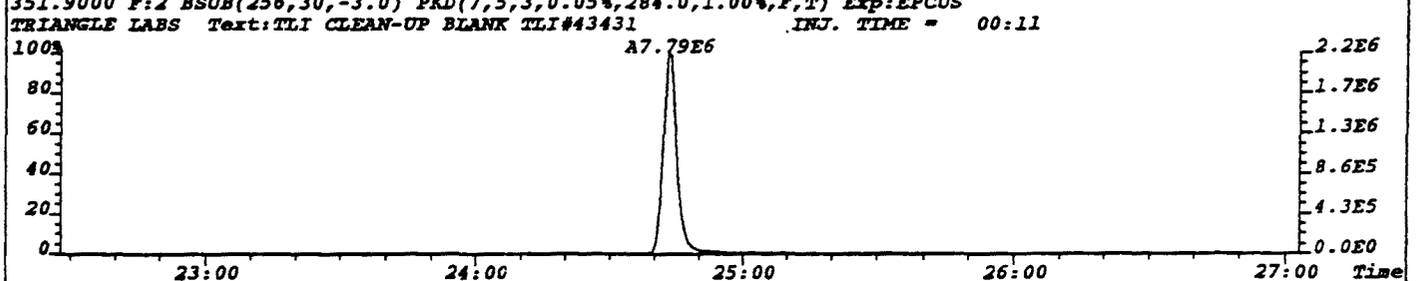
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:87
339.8597 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,348.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



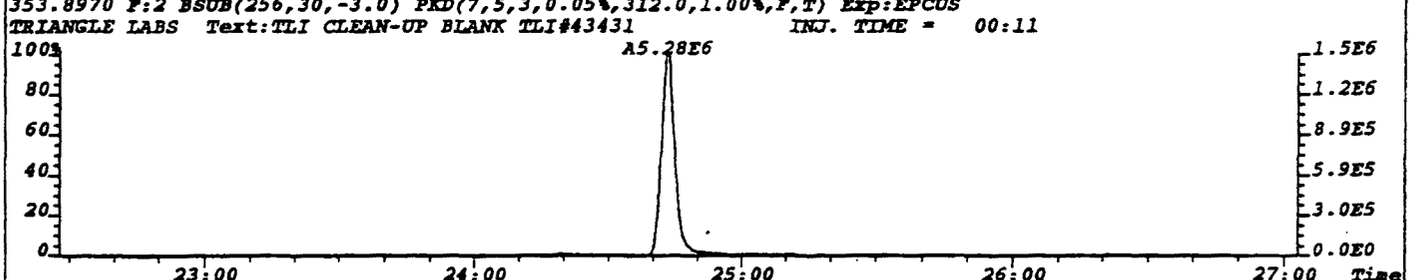
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:133
341.8567 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,532.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



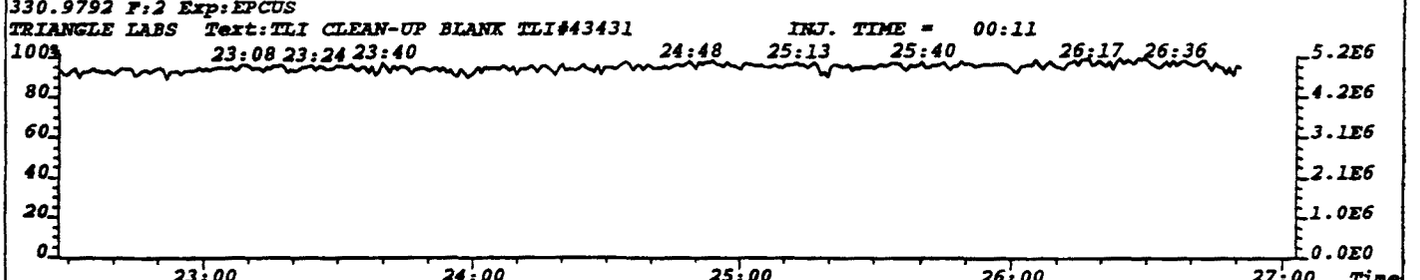
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:71
351.9000 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



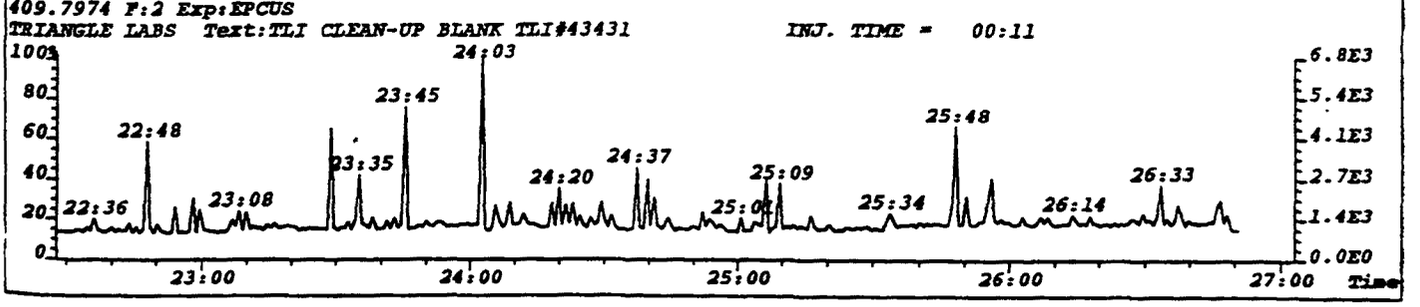
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:78
353.8970 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,312.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



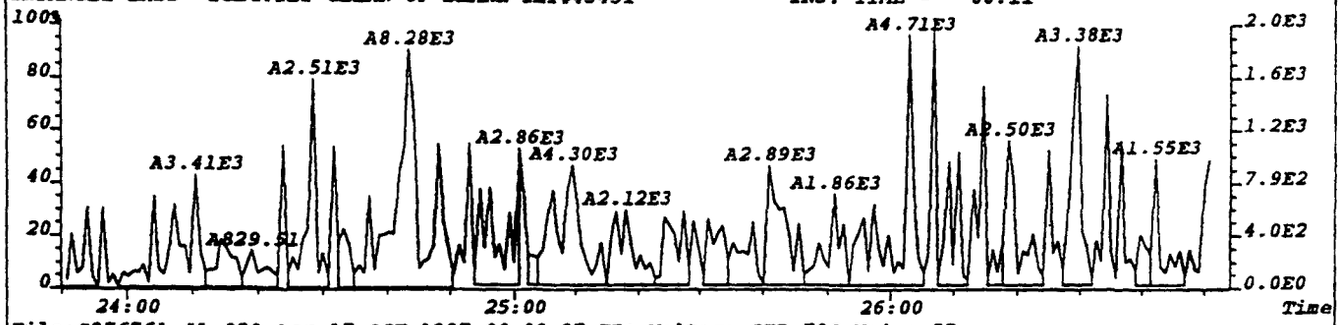
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



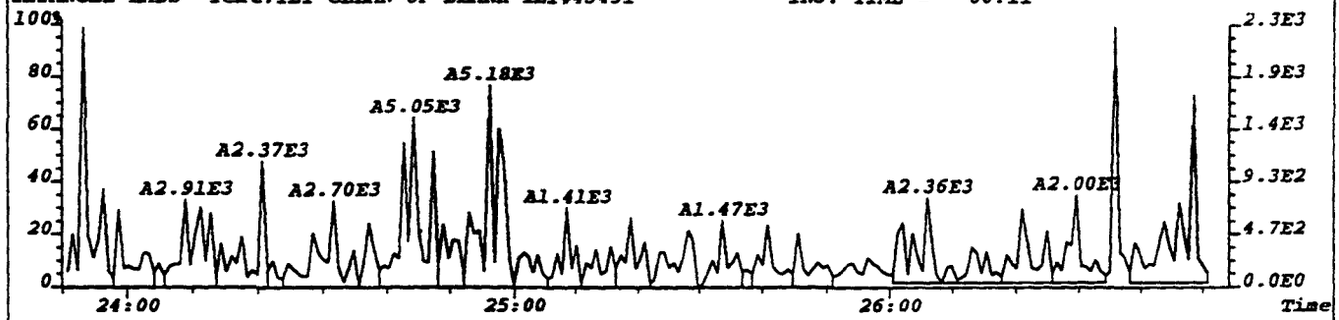
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
409.7974 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



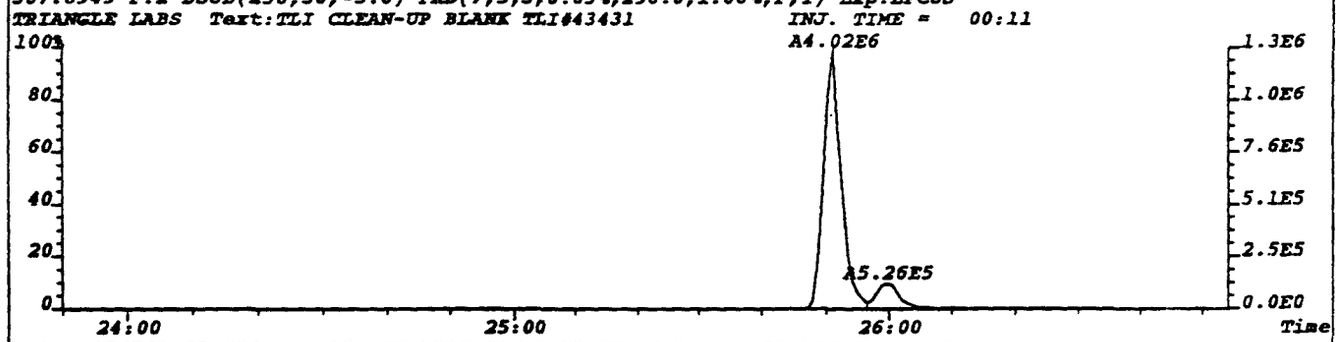
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:75
355.8546 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,300.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



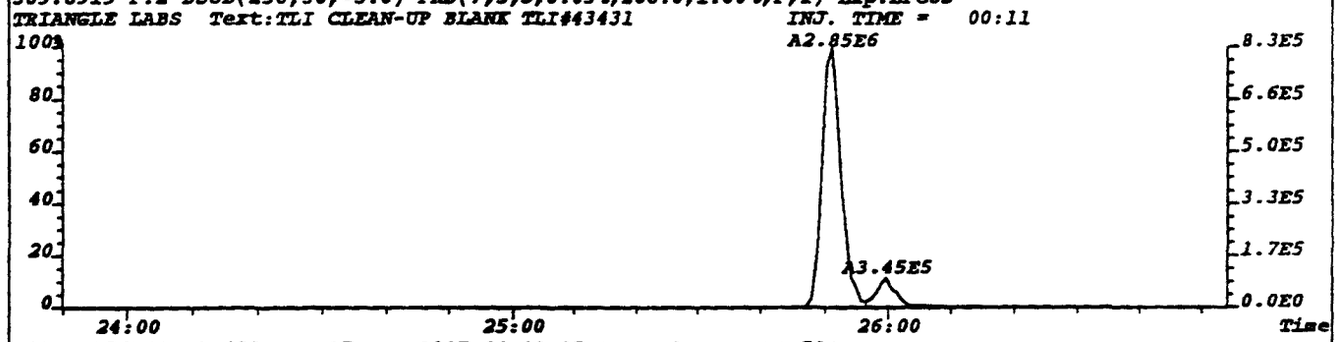
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:57
357.8516 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,228.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



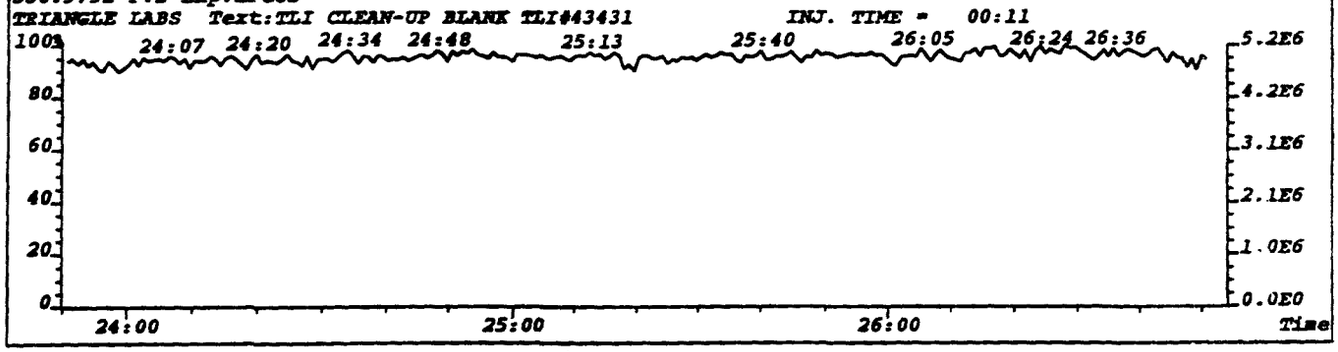
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:74
367.8949 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,296.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



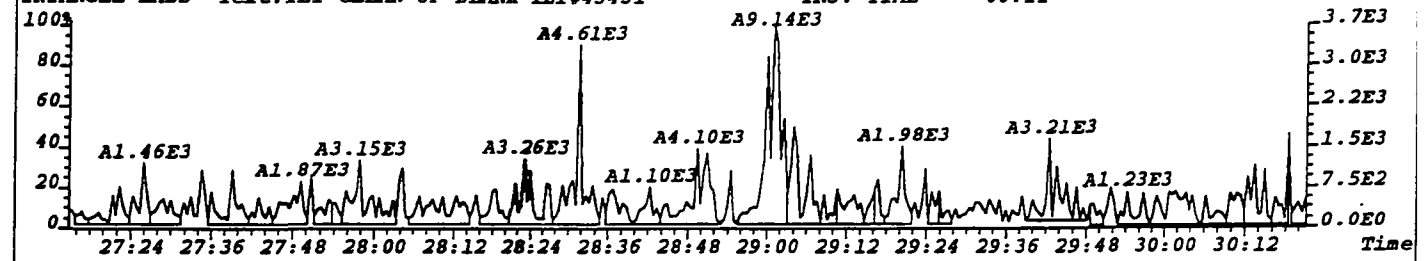
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:52
369.8919 F:2 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,208.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



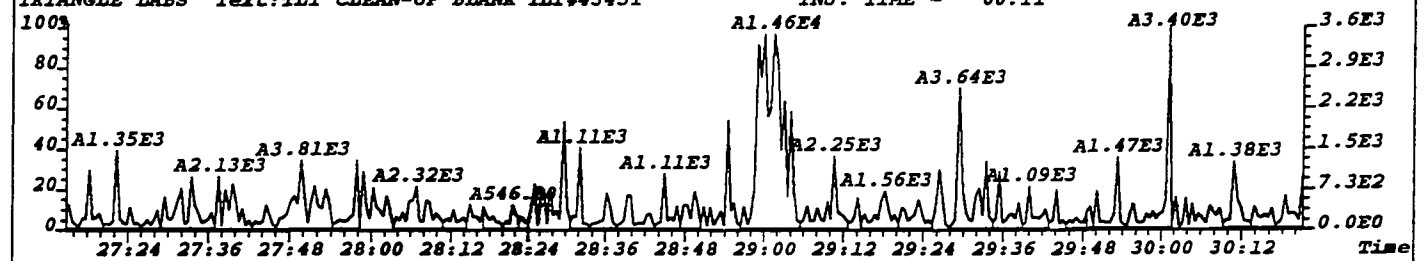
File:S976761 #1-829 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
330.9792 F:2 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



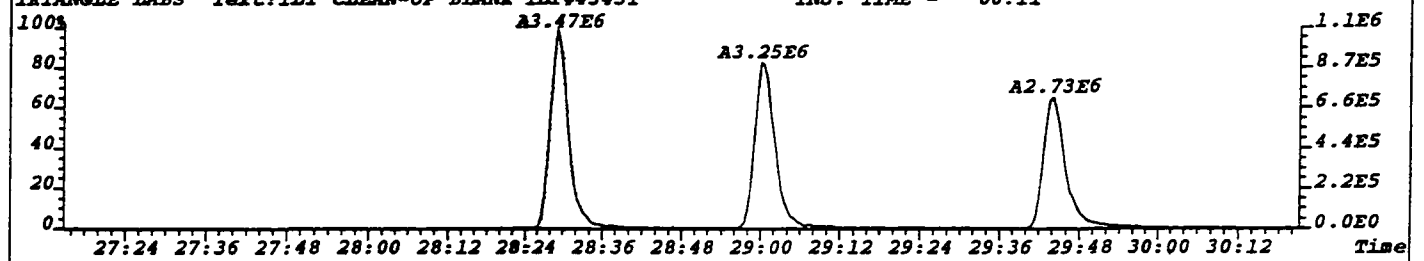
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:91
373.8208 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



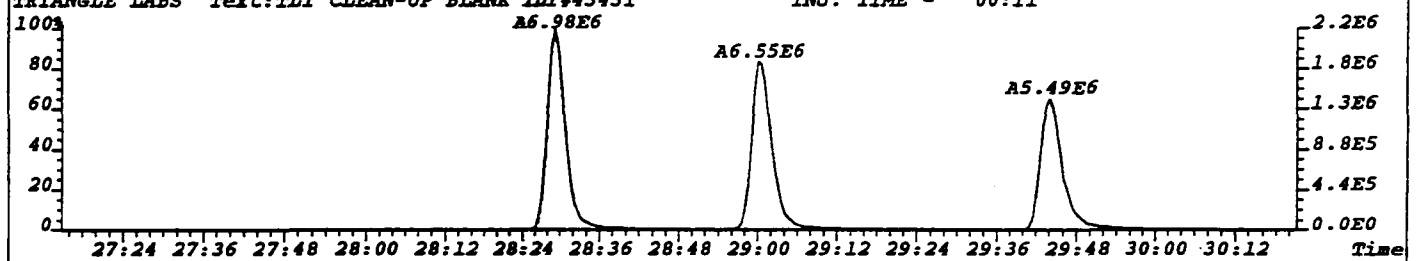
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:50
375.8178 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,200.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



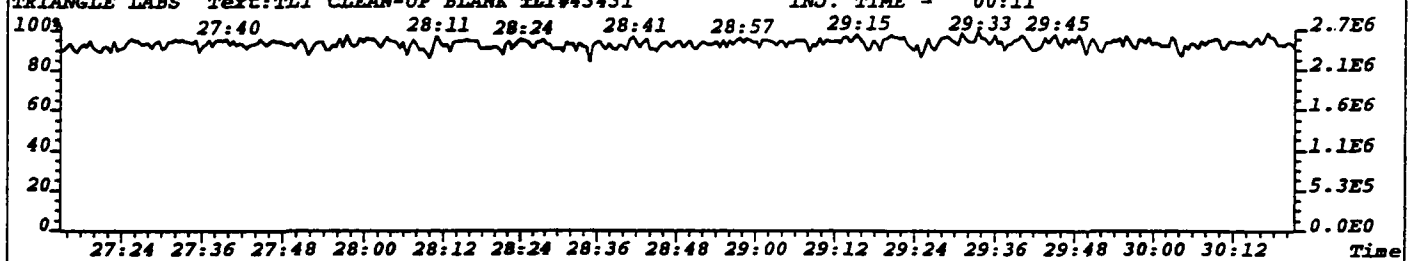
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:44
383.8639 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,176.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



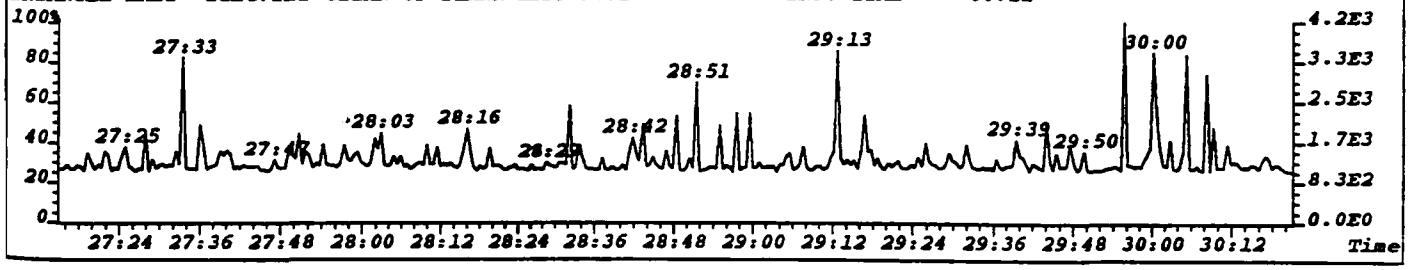
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:146
385.8610 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,584.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



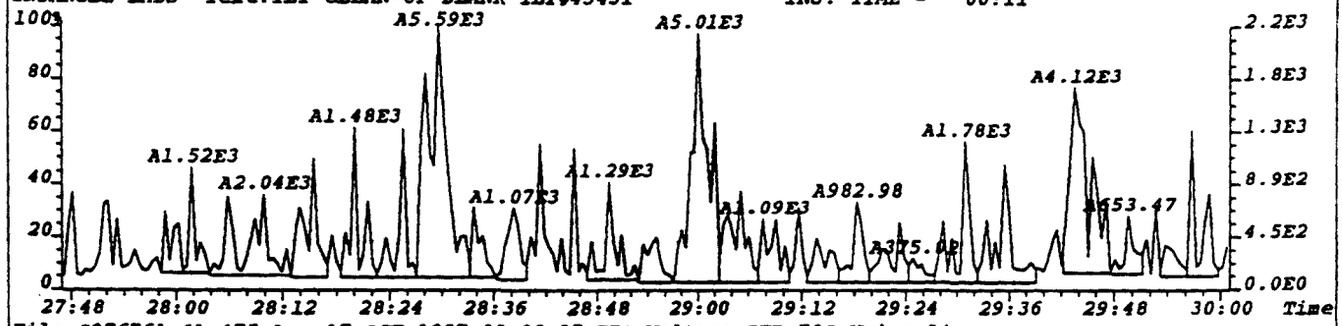
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



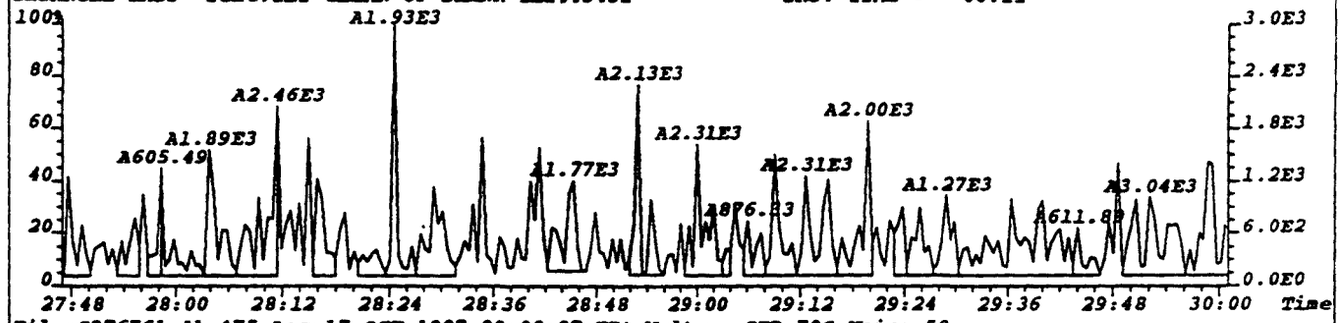
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
445.7555 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



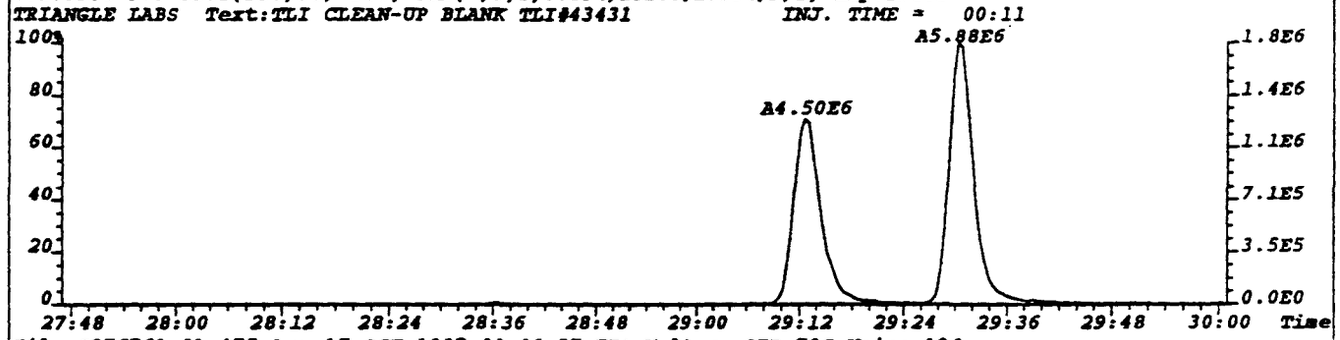
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:71
389.8156 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,284.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



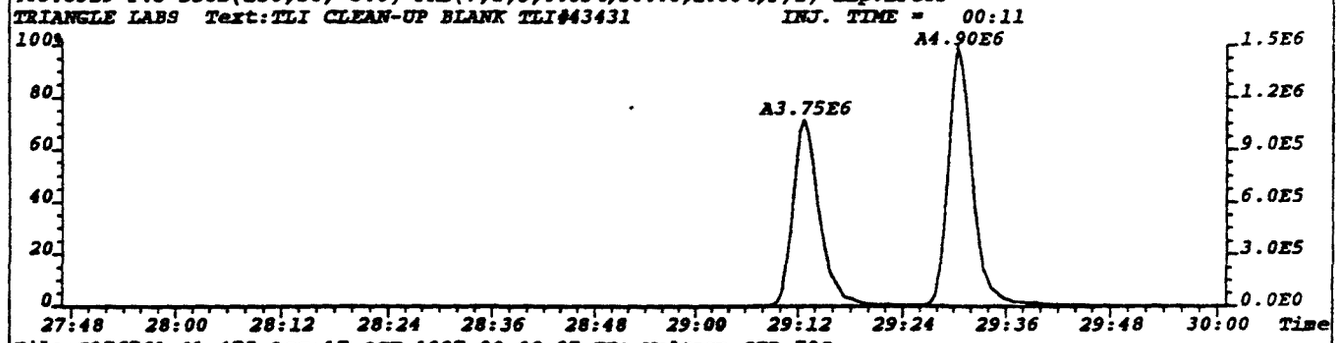
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:94
391.8127 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,376.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



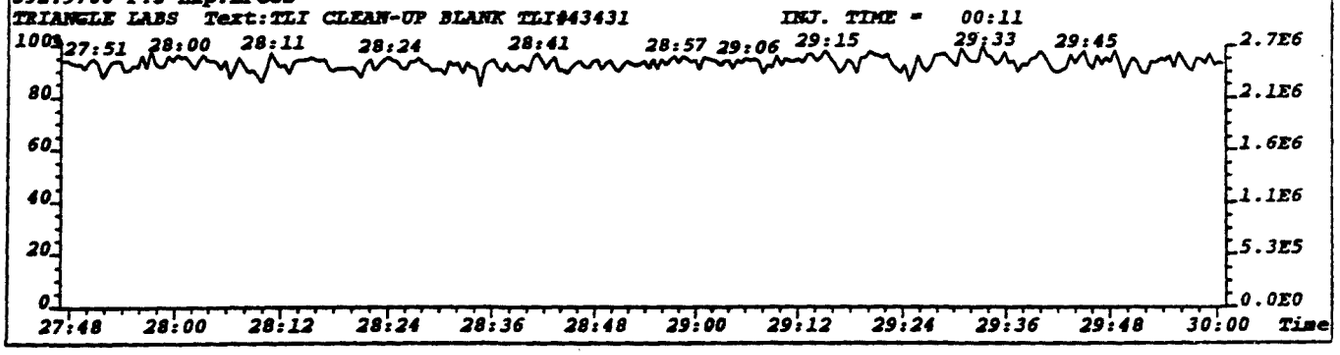
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:58
401.8558 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



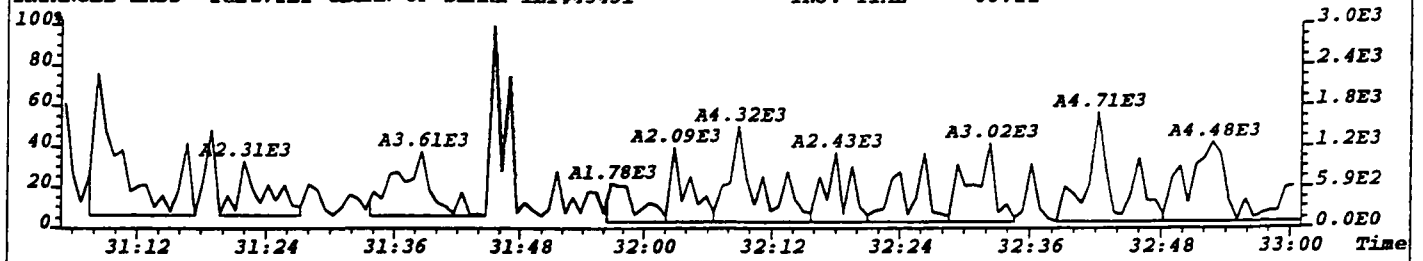
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:126
403.8529 F:3 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,504.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



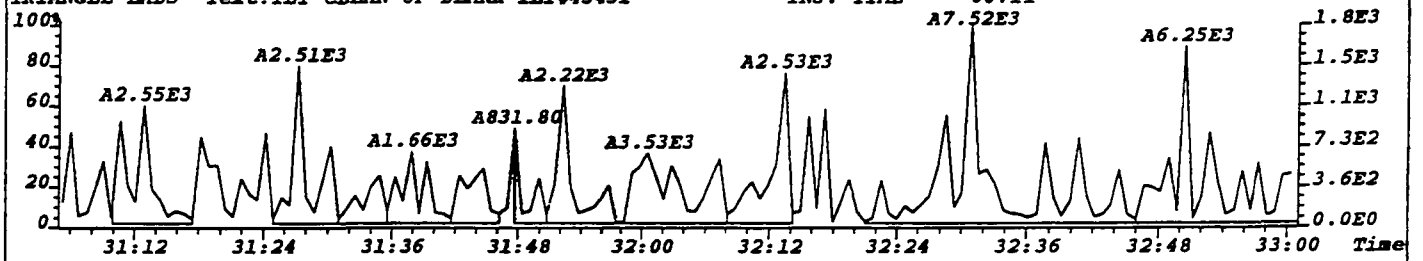
File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
392.9760 F:3 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



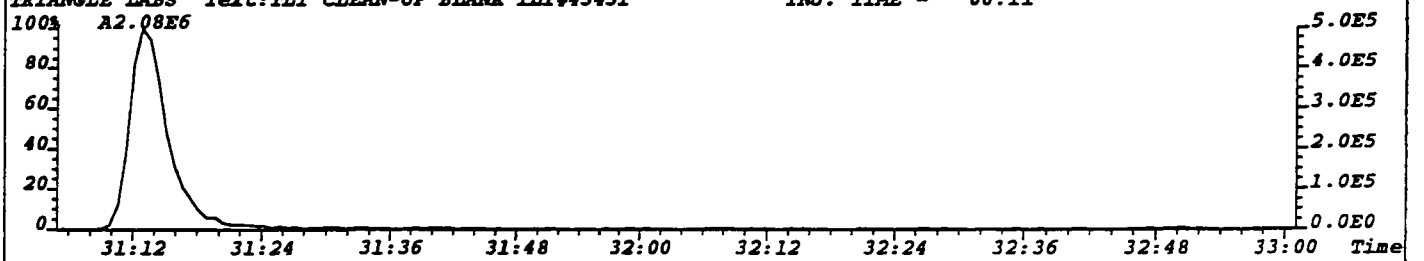
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:91
407.7818 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



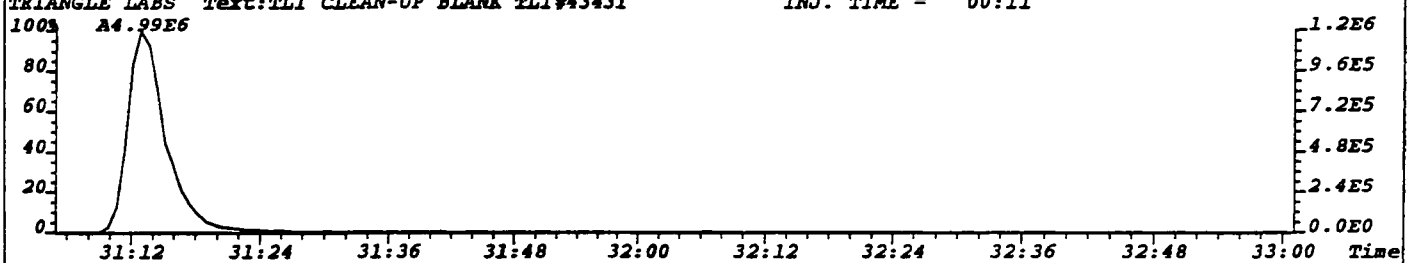
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:43
409.7789 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



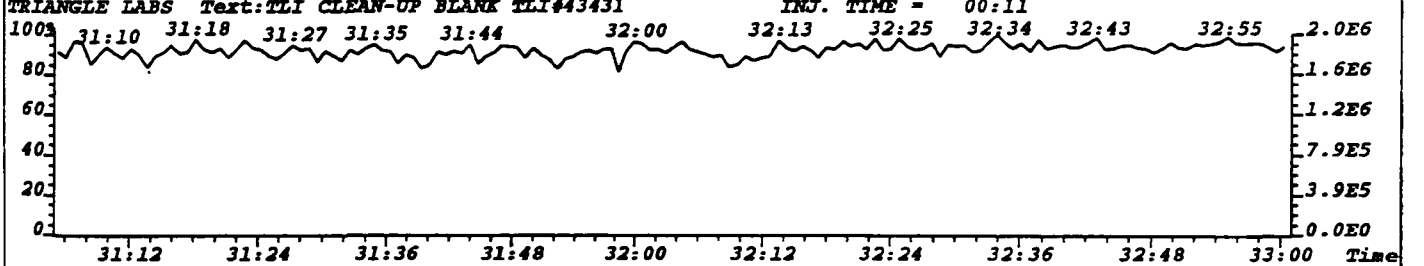
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:198
417.8253 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,792.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



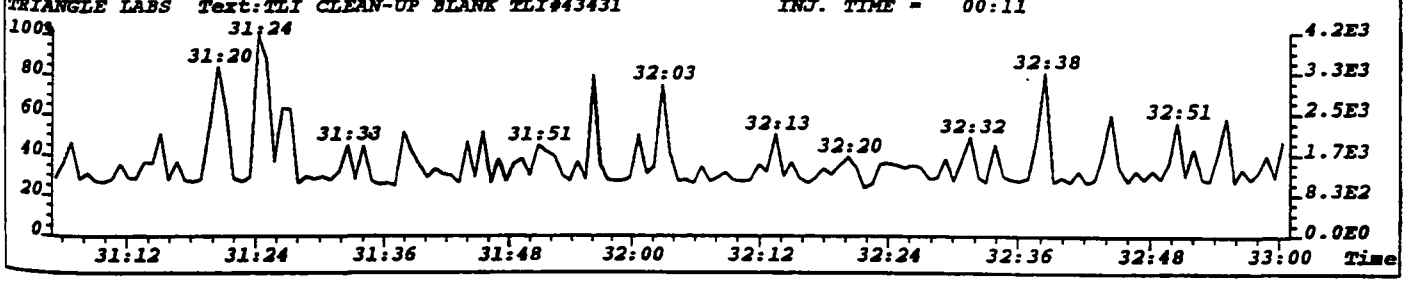
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:100
419.8220 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,400.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



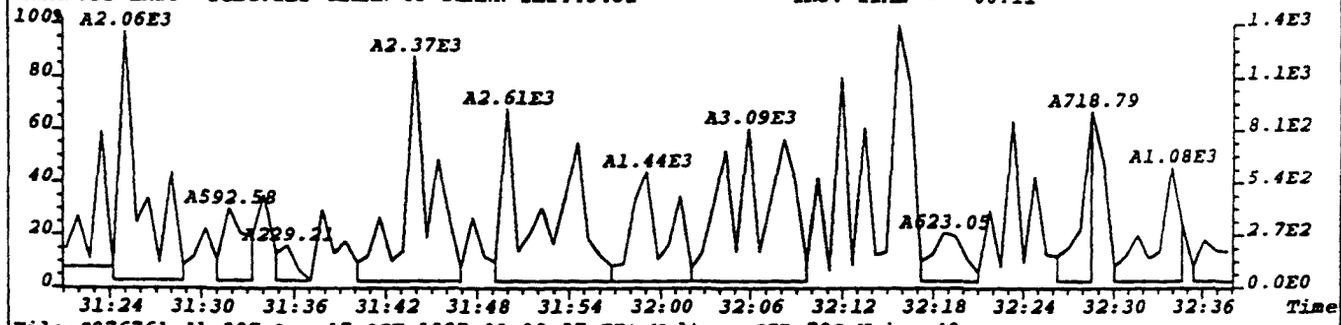
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



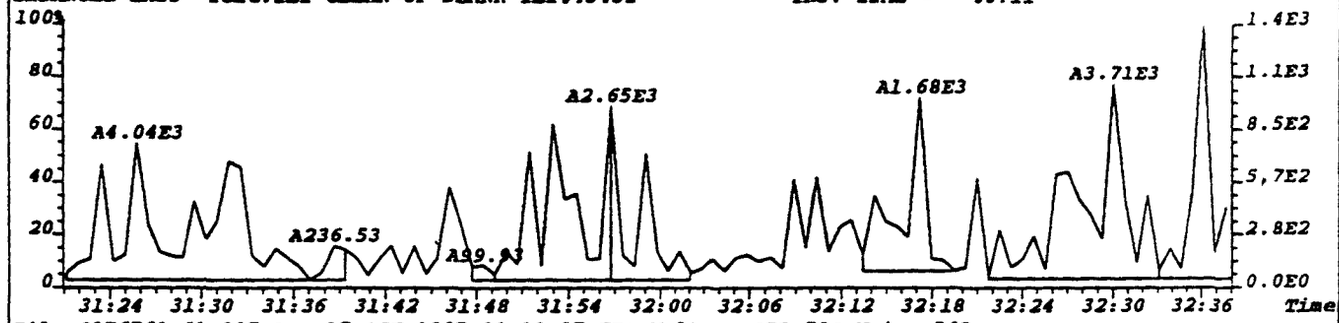
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
479.7165 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



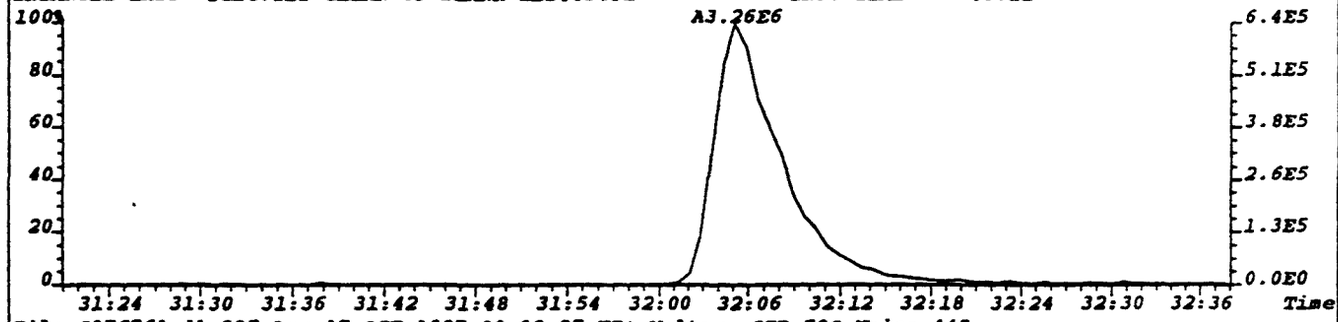
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:58
423.7766 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,232.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



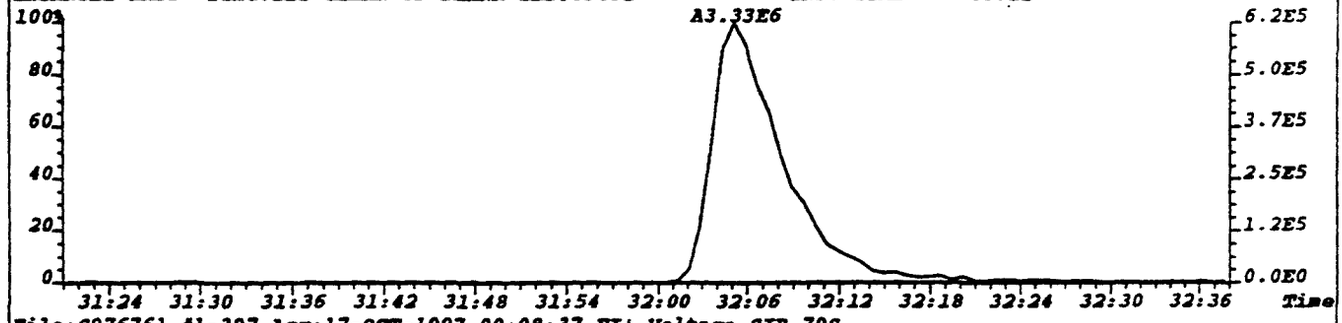
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:49
425.7737 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,196.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



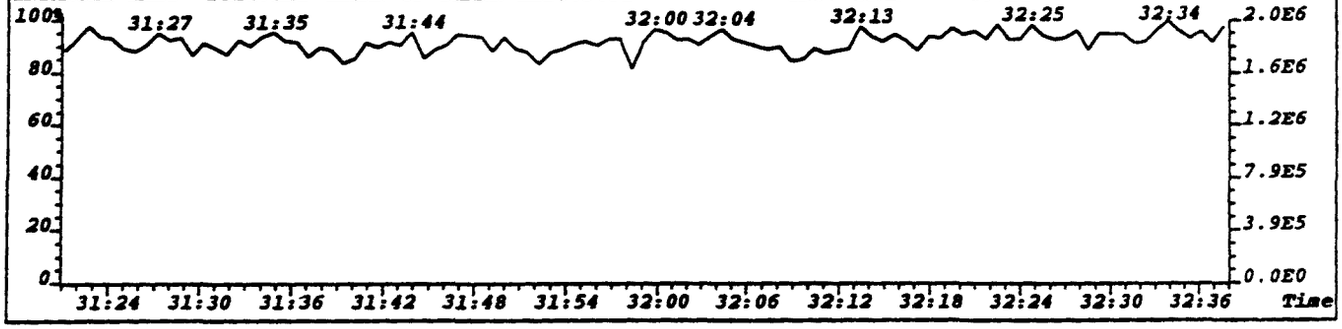
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:565
435.8169 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,2260.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



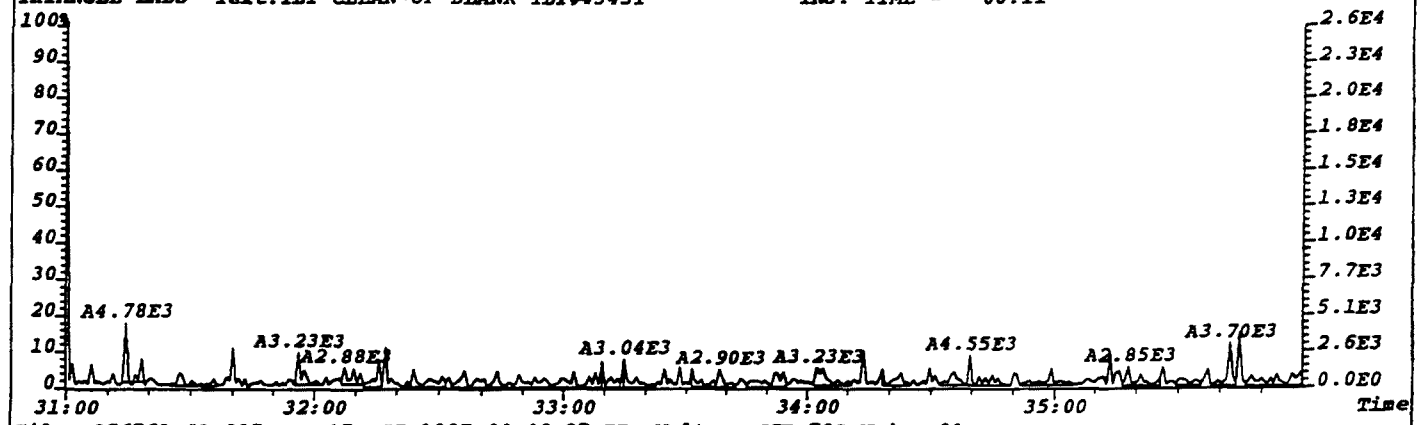
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:445
437.8140 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,1780.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



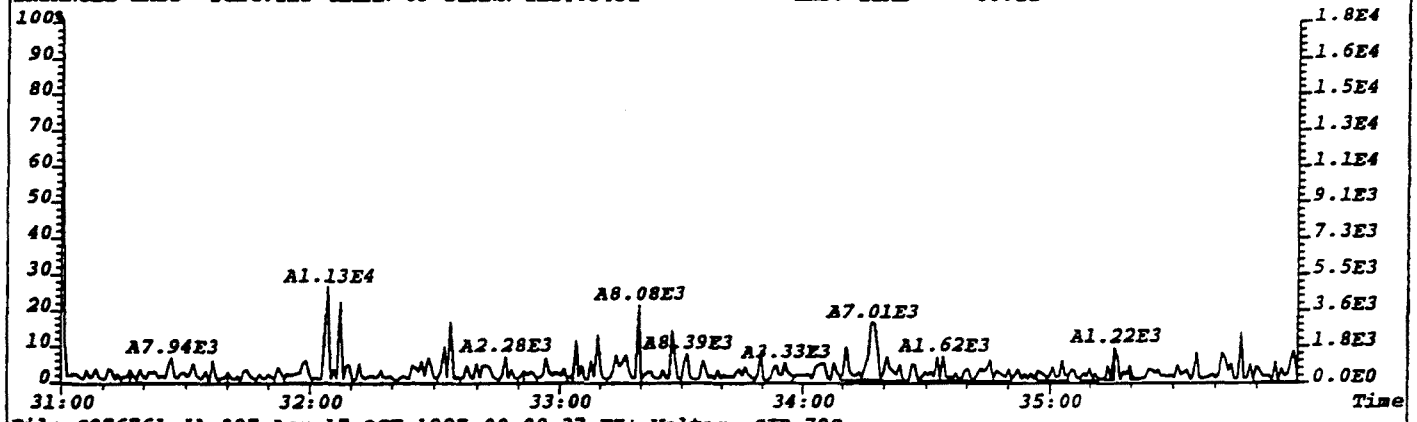
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



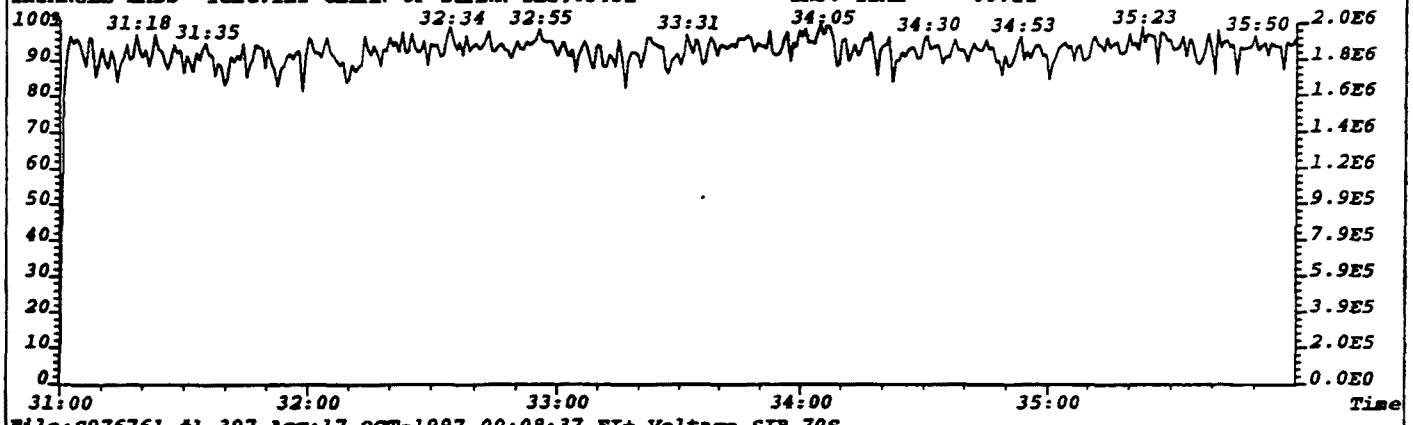
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:119
441.7428 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,476.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



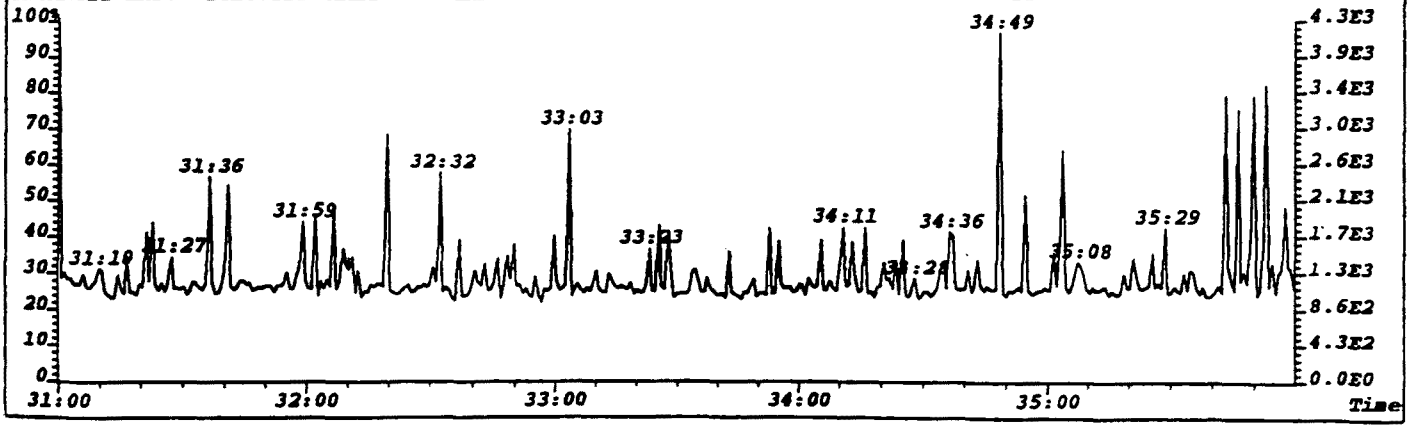
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:91
443.7399 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,364.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



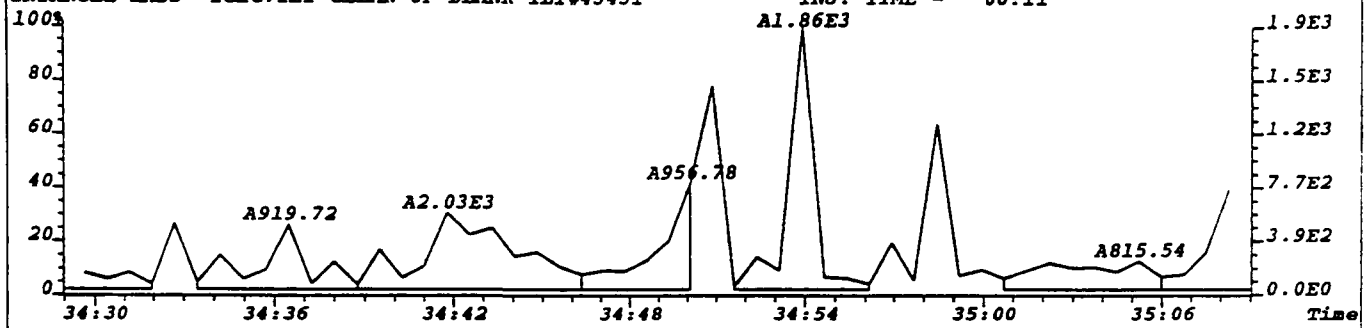
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



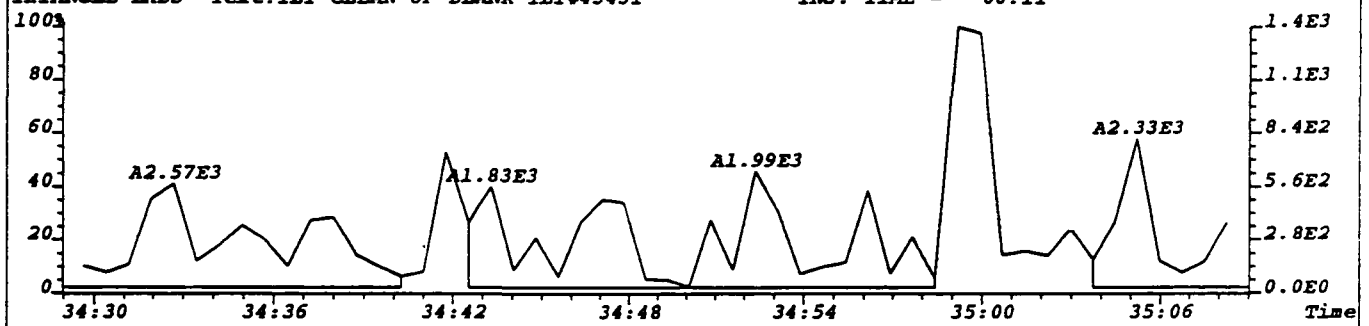
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
513.6775 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



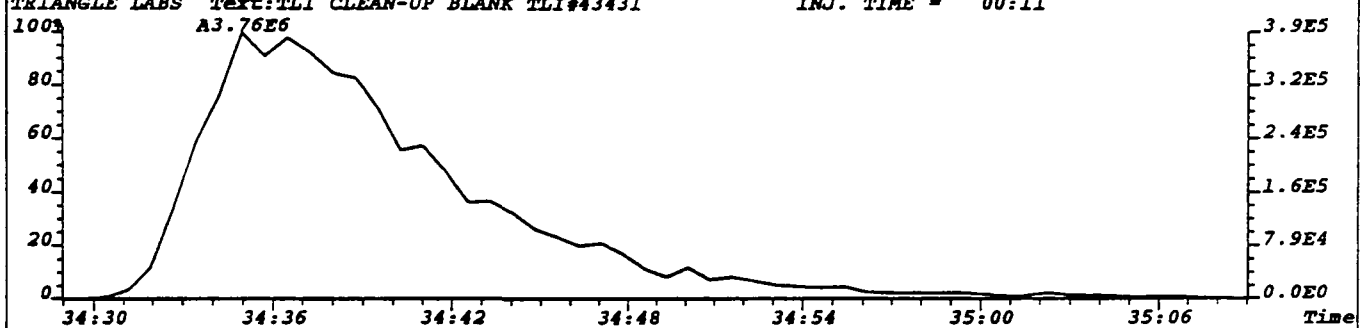
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:43
457.7377 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,172.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



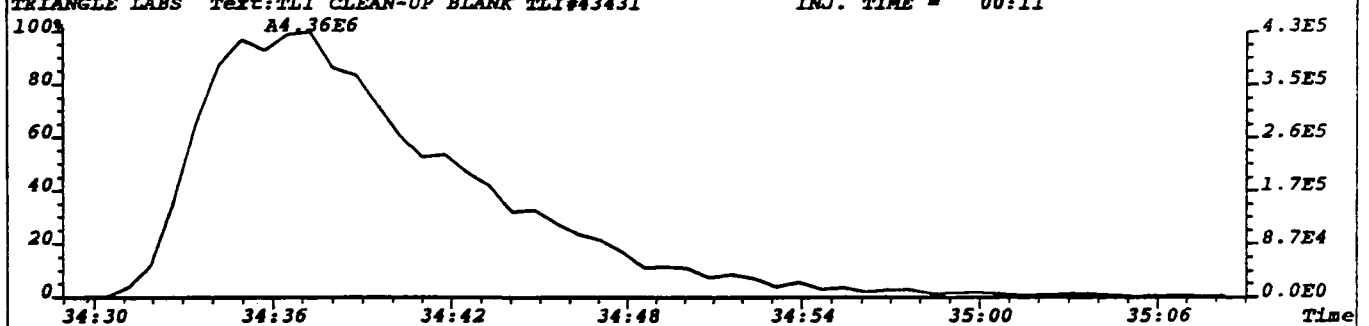
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:39
459.7348 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,156.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



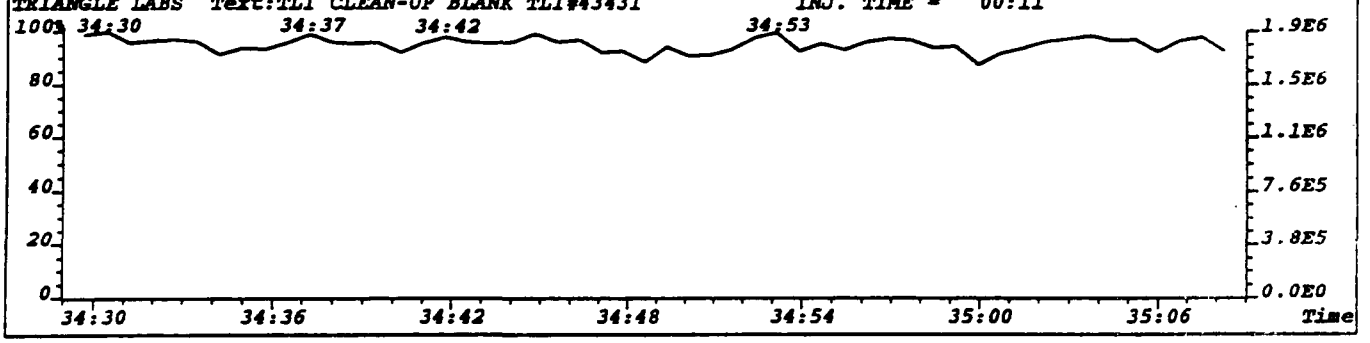
File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:80
469.7779 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,320.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11

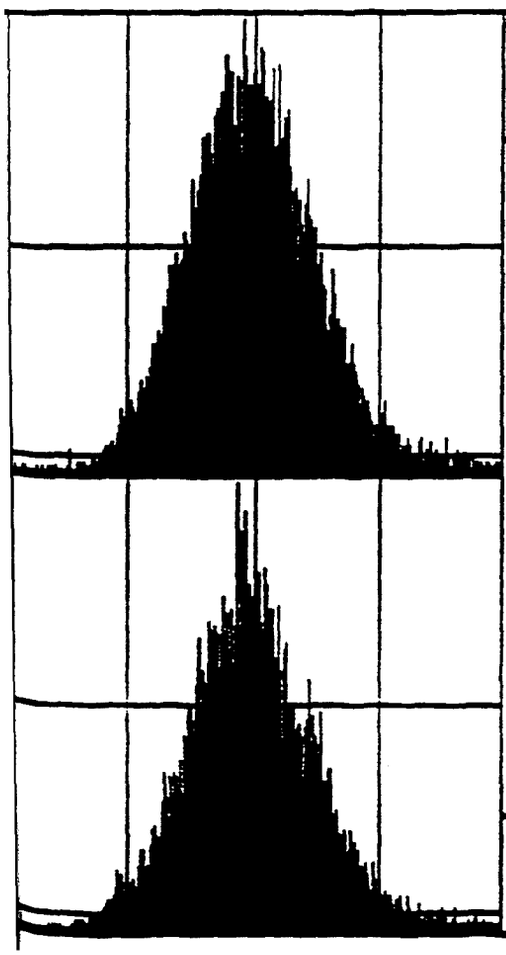


File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S Noise:51
471.7750 F:4 BSUB(256,30,-3.0) PKD(7,5,3,0.05%,204.0,1.00%,F,T) Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11



File:S976761 #1-397 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
430.9729 F:4 Exp:EPCUS
TRIANGLE LABS Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11





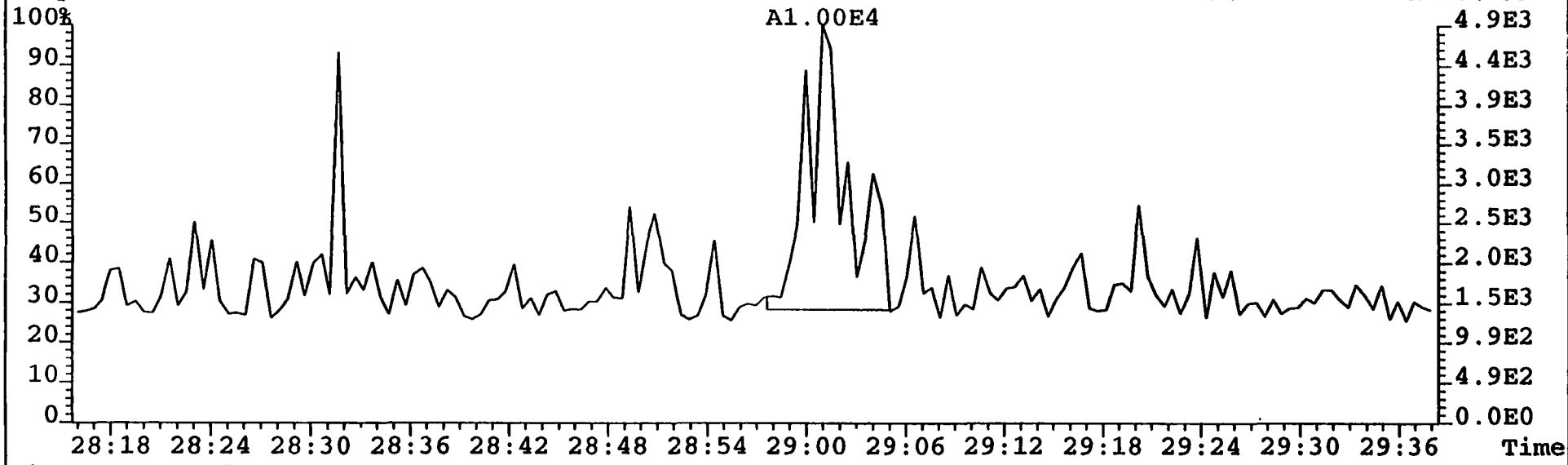
Ref. mass 292.9825 Peak top
Height .62 volts Span 200 ppm

System file name	EPCUS
Data file name	A:S976756
Resolution	10000
Group number	2
Ionization mode	EI+
Switching	VOLTAGE
Ref. masses	292.9825, 416.9760

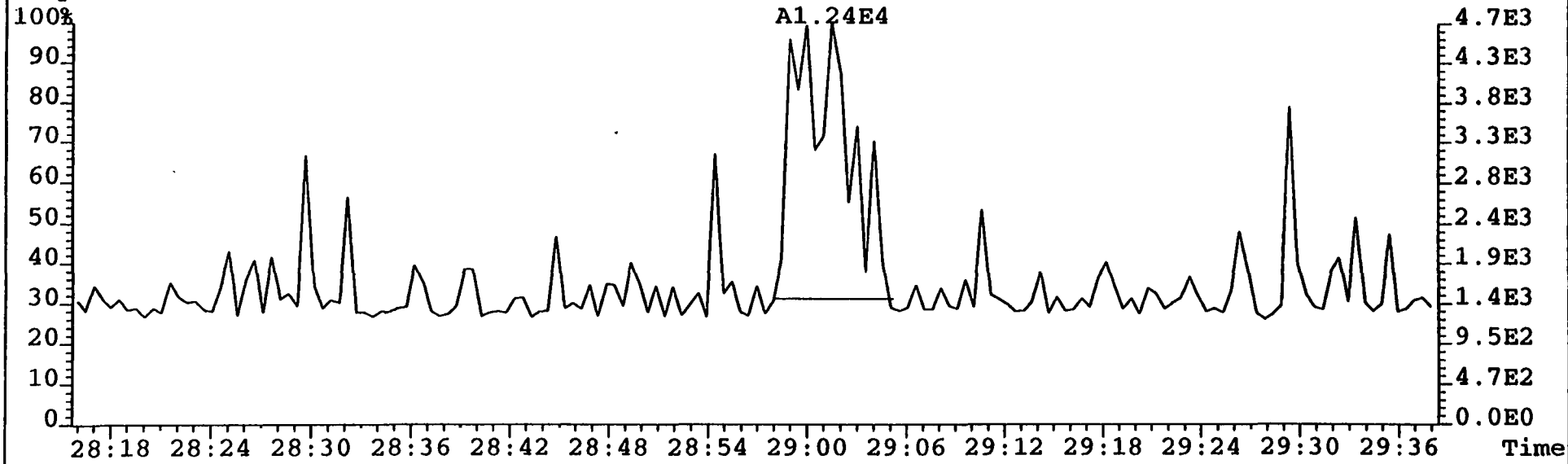
A	293	J	331	S	368
B	304	K	332	T	370
C	306	L	334	U	376
D	316	M	340	V	410
E	318	N	342		
F	320	O	352		
G	322	P	354		
H	328	Q	356		
I	331	R	358		

Channel I 330.9792 Peak top
Height .68 volts Span 200 ppm

File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
373.8208 F:3 Exp:EPCUS
Sample Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11 File Text:TLI CLEAN-UP »



File:S976761 #1-475 Acq:17-OCT-1997 00:08:37 EI+ Voltage SIR 70S
375.8178 F:3 Exp:EPCUS
Sample Text:TLI CLEAN-UP BLANK TLI#43431 INJ. TIME = 00:11 File Text:TLI CLEAN-UP »



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: 10/16/97

TRIANGLE LABORATORIES, INC.
Continuing Calibration for S976754

Analysis Date....: 10/16/97 Method.....: M237
Operator..... MS 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		0:27 14:27			2.087	-2.087	100.0%
Total MCDD	0.000		1:15 15:15			1.625	-1.625	100.0%
Total DCDF	0.000		7:27 15:27			0.687	-0.687	100.0%
Total DCDD	0.000		8:15 16:15			1.326	-1.326	100.0%
Total TriCDF	0.000		11:27 18:27			1.082	-1.082	100.0%
Total TriCDD	0.000		13:15 19:15			0.933	-0.933	100.0%
2378-TCDF	1.123	0.80	16:53 22:33	20:28	1.0008	1.251	-0.128	-10.2%
TOTAL TCDF	1.123	0.80				1.251	-0.128	-10.2%
2378-TCDD	1.154	0.78	18:14 22:32	21:16	1.0008	1.191	-0.037	-3.1%
TOTAL TCDD	1.154	0.78				1.191	-0.037	-3.1%
12378-PeCDF	1.057	1.52	22:28 26:43	24:45	1.0007	1.111	-0.054	-4.9%
23478-PeCDF	1.107	1.50		25:31	1.0317	1.115	-0.008	-0.7%
TOTAL PeCDF	1.082	1.51				1.113	-0.031	-2.8%
12378-PeCDD	1.281	1.57	23:50 26:34	25:53	1.0006	1.256	0.025	2.0%
TOTAL PeCDD	1.281	1.57				1.256	0.025	2.0%
123478-HxCDF	0.994	1.25	27:15 30:01	28:24	0.9971	1.215	-0.221	-18.2%
123678-HxCDF	1.370	1.26		28:30	1.0006	1.574	-0.204	-13.0%
234678-HxCDF	0.998	1.25		29:01	1.0187	1.247	-0.249	-20.0%
123789-HxCDF	0.889	1.23		29:45	1.0445	1.105	-0.216	-19.5%
TOTAL HxCDF	1.063	1.25				1.285	-0.222	-17.3%
123478-HxCDD	0.779	1.22	27:47 29:41	29:09	0.9977	0.953	-0.174	-18.3%
123678-HxCDD	1.045	1.23		29:13	1.0000	1.133	-0.088	-7.7%

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Printed: 23:12 10/16/97

123789-HxCDD	0.963	1.22		29:31	1.0103	1.091	-0.128	-11.7%
TOTAL HxCDD	0.929	1.22				1.059	-0.130	-12.3%
1234678-HpCDF	1.445	1.05	31:05 32:41	31:14	1.0005	1.543	-0.098	-6.4%
1234789-HpCDF	1.074	1.03		32:27	1.0395	1.184	-0.110	-9.3%
TOTAL HpCDF	1.260	1.04				1.363	-0.103	-7.6%
1234678-HpCDD	0.959	1.04	31:21 32:18	32:05	1.0005	1.068	-0.109	-10.2%
TOTAL HpCDD	0.959	1.04				1.068	-0.109	-10.2%
OCDF	1.375	0.91	30:34 38:34	34:43	1.0043	1.493	-0.118	-7.9%
OCDD	0.977	0.92	30:34 38:34	34:37	1.0014	1.105	-0.128	-11.5%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.942		19:15 23:15	21:16	1.0008	0.843	0.099	11.7%
13C12-PeCDF 234	0.962	1.47	20:44 28:44	25:30	1.0310	0.970	-0.008	-0.8%
13C12-HxCDF 478	0.874	0.50		28:23	0.9965	0.959	-0.085	-8.9%
13C12-HxCDF 234	0.830	0.50		29:00	1.0181	0.926	-0.096	-10.4%
13C12-HxCDF 789	0.727	0.50		29:44	1.0439	0.805	-0.078	-9.7%
13C12-HxCDD 478	0.857	1.23		29:08	0.9971	0.973	-0.116	-11.9%
13C12-HpCDF 789	0.758	0.41	29:13 35:13	32:26	1.0390	0.771	-0.013	-1.7%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.475	0.74	19:27 21:27	20:27	1.0000	1.318	0.157	11.9%
13C12-2378-TCDD	1.102	0.81	19:15 23:15	21:15	1.0000	1.066	0.036	3.4%
13C12-PeCDF 123	1.098	1.50	20:44 28:44	24:44	1.0000	1.133	-0.035	-3.1%
13C12-PeCDD 123	0.588	1.54	21:52 29:52	25:52	1.0000	0.635	-0.047	-7.5%
13C12-HxCDF 678	1.424	0.49	24:29 32:29	28:29	1.0000	1.204	0.220	18.3%
13C12-HxCDD 678	1.075	1.21	28:13 30:13	29:13	1.0000	0.995	0.080	8.1%

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Date: 10/16/97 TRIANGLE LABORATORIES, INC.

Continuing Calibration for S976754

13C12-HpCDF 678	0.894	0.44	29:13 35:13	31:13	1.0000	0.887	0.007	0.8%
13C12-HpCDD 678	0.825	1.00	31:04 33:04	32:04	1.0000	0.815	0.010	1.3%
13C12-OCDD	0.531	0.88	34:29 34:49	34:34	1.0000	0.519	0.012	2.4%

Recovery Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-1234-TCDD	1.000	0.83		21:03	0.9906	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.22		29:30	1.0097	1.000	0.000	0.0%

QC Front End Check: 1.6559

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Date: 10/16/97

TRIANGLE LABORATORIES, INC.
Continuing Calibration for S976737

Analysis Date....: 10/16/97 Method.....: M237
Operator.....: HLM 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		0:26 14:26			2.087	-2.087	100.0%
Total MCDD	0.000		1:14 15:14			1.625	-1.625	100.0%
Total DCDF	0.000		7:26 15:26			0.687	-0.687	100.0%
Total DCDD	0.000		8:14 16:14			1.326	-1.326	100.0%
Total TriCDF	0.000		11:26 18:26			1.082	-1.082	100.0%
Total TriCDD	0.000		13:14 19:14			0.933	-0.933	100.0%
2378-TCDF	1.151	0.79	16:51 22:31	20:27	1.0008	1.251	-0.100	-8.0%
TOTAL TCDF	1.151	0.79				1.251	-0.100	-8.0%
2378-TCDD	1.136	0.78	18:11 22:29	21:14	1.0000	1.191	-0.055	-4.6%
TOTAL TCDD	1.136	0.78				1.191	-0.055	-4.6%
12378-PeCDF	1.055	1.51	22:25 26:41	24:44	1.0007	1.111	-0.056	-5.1%
23478-PeCDF	1.058	1.55		25:30	1.0317	1.115	-0.057	-5.1%
TOTAL PeCDF	1.056	1.53				1.113	-0.057	-5.1%
12378-PeCDD	1.330	1.54	23:48 26:32	25:52	1.0006	1.256	0.074	5.9%
TOTAL PeCDD	1.330	1.54				1.256	0.074	5.9%
123478-HxCDF	0.974	1.26	27:13 29:59	28:23	0.9965	1.215	-0.241	-19.9%
123678-HxCDF	1.379	1.25		28:29	1.0000	1.574	-0.195	-12.4%
234678-HxCDF	0.997	1.27		29:00	1.0181	1.247	-0.250	-20.0%
123789-HxCDF	0.883	1.27		29:44	1.0439	1.105	-0.222	-20.1%
TOTAL HxCDF	1.058	1.26				1.285	-0.227	-17.7%
123478-HxCDD	0.756	1.27	27:45 29:39	29:08	0.9977	0.953	-0.197	-20.7%
123678-HxCDD	1.028	1.17		29:12	1.0000	1.133	-0.105	-9.2%

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123789-HxCDD	0.931	1.22		29:30	1.0103	1.091	-0.160	-14.6%
TOTAL HxCDD	0.905	1.21				1.059	-0.154	-14.5%
1234678-HpCDF	1.455	1.03	31:04 32:39	31:13	1.0005	1.543	-0.088	-5.7%
1234789-HpCDF	1.114	1.07		32:26	1.0395	1.184	-0.070	-5.9%
TOTAL HpCDF	1.284	1.05				1.363	-0.079	-5.8%
1234678-HpCDD	0.980	1.04	31:19 32:16	32:04	1.0000	1.068	-0.088	-8.2%
TOTAL HpCDD	0.980	1.04				1.068	-0.088	-8.2%
OCDF	1.385	0.90	30:33 38:33	34:40	1.0034	1.493	-0.108	-7.3%
OCDD	0.999	0.89	30:33 38:33	34:34	1.0005	1.105	-0.106	-9.6%

Other Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
37Cl-TCDD	0.920		19:14 23:14	21:15	1.0008	0.843	0.077	9.1%
13C12-PeCDF 234	0.918	1.47	20:43 28:43	25:29	1.0310	0.970	-0.052	-5.4%
13C12-HxCDF 478	0.838	0.51		28:23	0.9965	0.959	-0.121	-12.6%
13C12-HxCDF 234	0.810	0.50		28:59	1.0176	0.926	-0.116	-12.5%
13C12-HxCDF 789	0.693	0.49		29:43	1.0433	0.805	-0.112	-13.9%
13C12-HxCDD 478	0.833	1.26		29:07	0.9971	0.973	-0.140	-14.4%
13C12-HpCDF 789	0.778	0.42	29:12 35:12	32:26	1.0395	0.771	0.007	0.8%

Internal Standard Summary

Name	RF	Ratio 1&2	RT Lo/High	RT	Rel. RT	ICal RF	Delta RF	%D
13C12-2378-TCDF	1.364	0.74	19:26 21:26	20:26	1.0000	1.318	0.046	3.5%
13C12-2378-TCDD	1.023	0.81	19:14 23:14	21:14	1.0000	1.066	-0.043	-4.0%
13C12-PeCDF 123	0.960	1.48	20:43 28:43	24:43	1.0000	1.133	-0.173	-15.3%
13C12-PeCDD 123	0.476	1.48	21:51 29:51	25:51	1.0000	0.635	-0.159	-25.0%
13C12-HxCDF 678	1.459	0.51	24:29 32:29	28:29	1.0000	1.204	0.255	21.2%
13C12-HxCDD 678	1.092	1.17	28:12 30:12	29:12	1.0000	0.995	0.097	9.8%

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Date: 10/16/97

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Continuing Calibration for S976737

13C12-HpCDF 678	0.854	0.45	29:12 35:12	31:12	1.0000	0.887	-0.033	-3.7%
13C12-HpCDD 678	0.757	1.12	31:04 33:04	32:04	1.0000	0.815	-0.058	-7.1%
13C12-OCDD	0.529	0.88	34:26 34:46	34:33	1.0000	0.519	0.010	2.0%

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		21:01	0.9898	1.000	0.000	0.0%
13C12-HxCDD 789	1.000	1.20		29:30	1.0103	1.000	0.000	0.0%

QC Front End Check: 2.0140

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TRIANGLE LABORATORIES, INC. Date: 06/10/97

Initial Calibration Summary for SF55117

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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TRIANGLE LABORATORIES, INC. Date: 06/10/97

Initial Calibration Summary for SF56117

13C12-PeCDD 123	0.535	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 D

Summary of Process Data

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TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

1. REPORT NO. EPA- 454/R-99-026B	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE Asphalt Roofing Emissions Test Report Modified Bitumen Process Final Report U.S.Intec, Port Arthur Texas		5. REPORT DATE August 1999
		6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) EMAD		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Environmental Protection Agency Office of Air Quality Planning and Standards Research Triangle Park, NC 27711		10. PROGRAM ELEMENT NO.
		11. CONTRACT/GRANT NO. 68-D-7-0001
12. SPONSORING AGENCY NAME AND ADDRESS Director Office of Air Quality Planning and Standards Office of Air and Radiation U.S. Environmental Protection Agency Research Triangle Park, NC 27711		13. TYPE OF REPORT AND PERIOD COVERED Final
		14. SPONSORING AGENCY CODE EPA/200/04
15. SUPPLEMENTARY NOTES		

16. ABSTRACT

The asphalt roofing industry is among the categories of major sources for which national emission standards for hazardous air pollutants (NESHAPS) are to be issued by November 2000 pursuant to Section 112 of the Clean Air Act. The asphalt roofing industry category includes facilities that have the following specific processes: asphalt blowing stills; modified bitumen production; a saturator/coater process; and fiberglass mat production.

Source tests are required to quantify and characterize the particulate matter (PM) and hazardous air pollutant (HAP) emissions, and the performance of a thermal oxidizer used to control emissions associated with a modified bitumen facility.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Hazardous Air Pollutants (NESHAP) Method 5A, Method 23, PM		

18. DISTRIBUTION STATEMENT Release Unlimited	19. SECURITY CLASS *(Report)* Unclassified	21. NO. OF PAGES 464
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