US EPA RECORDS CENTER REGION 5
444918

QUANT REPORT

Operator ID: RDR
Output File: ^A5642::D2
Data File: >A5642::L1
Name: 0.5 ug/ml PAH STD
Misc: IN#MBA;RDW;061193 0002

Quant Rev: A
Quant Time: 930625 10:38
Injected at: 930625 09:45
Dilution Factor: 1.00000

RT: # 1

ID File: I_0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 10:38

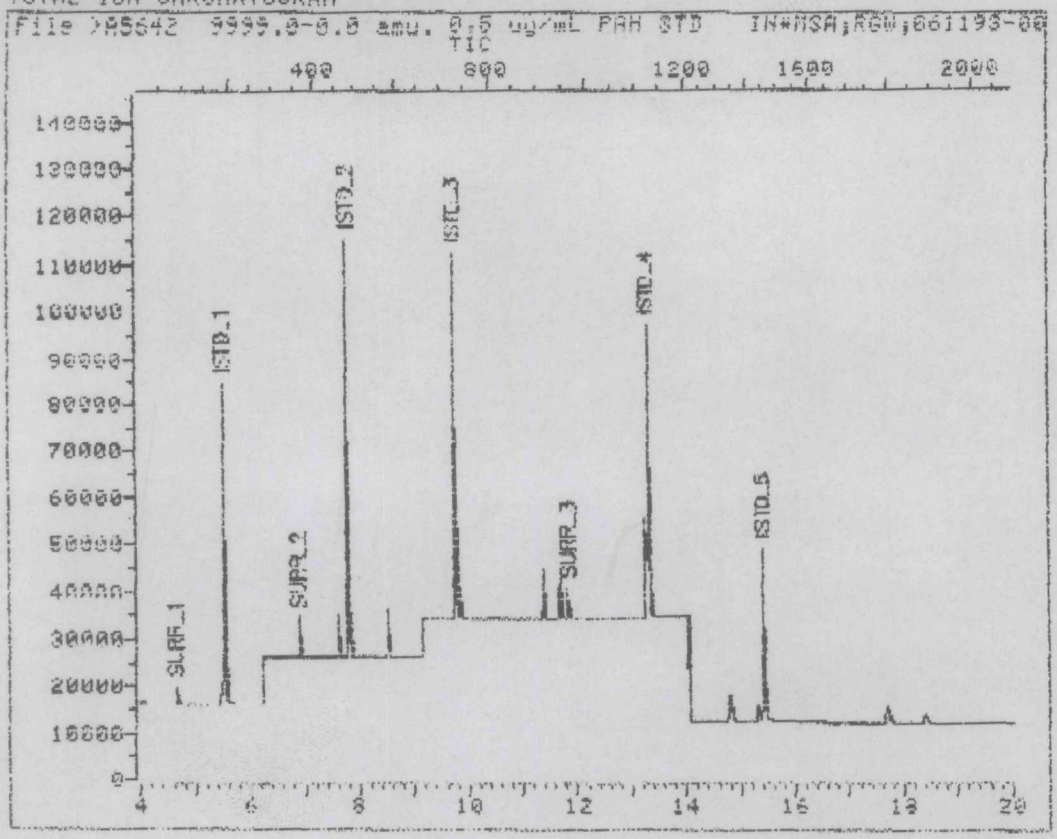
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.49	136.0	22167	5.00	ppb	94
2)	Nitrobenzene d5 (surr.)	4.62	85.0	2901	.44	ppb	88
3)	Naphthalene	5.52	128.0	8557	.54	ppb	99
4)	*Acenaphthene d10	7.28	164.0	44642	5.00	ppb	87
5)	2 Fluorobiphenyl (surr.)	6.88	172.0	7030	.45	ppb	97
6)	Acenaphthylene	7.58	152.0	8359	.37	ppb	98
7)	Acenaphthene	7.82	153.0	5936	.42	ppb	91
8)	Fluorene	8.49	166.0	6132	.41	ppb	92
9)	*Phenanthrene-d10	9.73	188.0	86926	5.00	ppb	97
10)	Phenanthrene	9.75	178.0	9425	.38	ppb	92
11)	Anthracene	9.82	178.0	8874	.34	ppb	98
12)	Fluoranthene	11.35	202.0	10323	.33	ppb	99
13)	*Chrysene-d12	13.27	240.0	66763	5.00	ppb	94
14)	Pyrene	11.66	202.0	10321	.48	ppb	99
15)	Terphenyl-d14 (surr.)	11.83	244.0	5983	.72	ppb	98
16)	Benzo(a)Anthracene	13.26	228.0	8529	.47	ppb	98
17)	Chrysene	13.31	228.0	9312	.50	ppb	98
18)	*Perylene-d12	15.40	264.0	60266	5.00	ppb	90
19)	Benzo(b)Fluoranthene	14.76	252.0	7398	.41	ppb	92
20)	Benzo(k)Fluoranthene	14.80	252.0	8224	.50	ppb	82
21)	Benzo(a)Pyrene	15.31	252.0	6382	.39	ppb	93
22)	Indeno(1,2,3-cd)Pyrene	17.49	276.0	6669	.42	ppb	87
23)	Dibenzo(a,h)Anthracene	17.68	278.0	5073	.44	ppb	92
24)	Benzo(g,h,i)Perylene	18.32	276.0	5883	.39	ppb	90

* Compound is IRTD

2

RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:00PM ; 314 434 4570→ 3126631090;# 4
314-434-4570 AM TECH ANALYTICAL 707 P04 JUL 16 '93 15:56

TOTAL ION CHROMATOGRAM



Data File: >A5642::!1 Quant Output File: >A5642::D2
Name: 0.5 ug/ml PAH STD
Misc: IN#MSA;RGW;061193 0002 RTI # 1

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 10:39

Operator ID: RDR
Quant Time: 930625 10:38
Injected at: 930625 09:45

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RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:01PM ; 314 434 4570→ 3126631090;# 5
314-434-4570 AM TECH ANALYTICAL 707 P05 JUL 16 '93 15:56

QUANT REPORT

Operator ID: RDB
Output File: ^A5643::D2
Data File: >A5643::L1
Name: 1.0 ug/ml PAH STD
Misc: IN#MSA;RDW;061193-0003

Quant Rev: 6 Quant Time: 930625 10:41
Injected at: 930625 10:11
Dilution Factor: 1.00000

RTI # 9

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 10:38

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.49	136.0	62023	5.00	ppb	97
2)	Nitrobenzene-d5 (surr.)	4.63	82.0	5396	.95	ppb	90
3)	Naphthalene	5.52	128.0	14894	1.09	ppb	99
4)	*Acenaphthene-d10	7.78	164.0	38598	5.00	ppb	88
5)	2-Fluorobiphenyl (surr.)	6.88	172.0	12661	.94	ppb	98
6)	Acenaphthylene	7.58	152.0	15061	.77	ppb	98
7)	Acenaphthene	7.82	153.0	10268	.84	ppb	92
8)	Fluorene	8.48	166.0	10715	.82	ppb	91
9)	*Phenanthrene-d10	9.72	188.0	74004	5.00	ppb	97
10)	Phenanthrene	9.76	178.0	16423	.78	ppb	97
11)	Anthracene	9.82	178.0	15444	.69	ppb	98
12)	Fluoranthene	11.35	202.0	18404	.68	ppb	99
13)	*Chrysene-d12	13.27	240.0	55500	5.00	ppb	95
14)	Pyrene	11.65	202.0	18598	1.03	ppb	99
15)	Terphenyl-d14 (surr.)	11.82	244.0	10457	1.50	ppb	99
16)	Benzo(a)Anthracene	13.25	228.0	15117	.99	ppb	98
17)	Chrysene	13.30	228.0	16552	1.07	ppb	98
18)	*Perylene-d12	15.40	264.0	51465	5.00	ppb	90
19)	Benzo(b)Fluoranthene	14.76	252.0	13977	.90	ppb	94
20)	Benzo(k)Fluoranthene	14.80	252.0	13923	.99	ppb	88
21)	Benzo(a)Pyrene	15.31	252.0	12027	.87	ppb	94
22)	Indeno(1,2,3-cd)Pyrene	17.68	276.0	12241	.90	ppb	87
23)	Dibenzo(a,h)Anthracene	17.68	278.0	9252	.94	ppb	91
24)	Benzo(g,h,i)Perylene	18.36	276.0	10724	.84	ppb	90

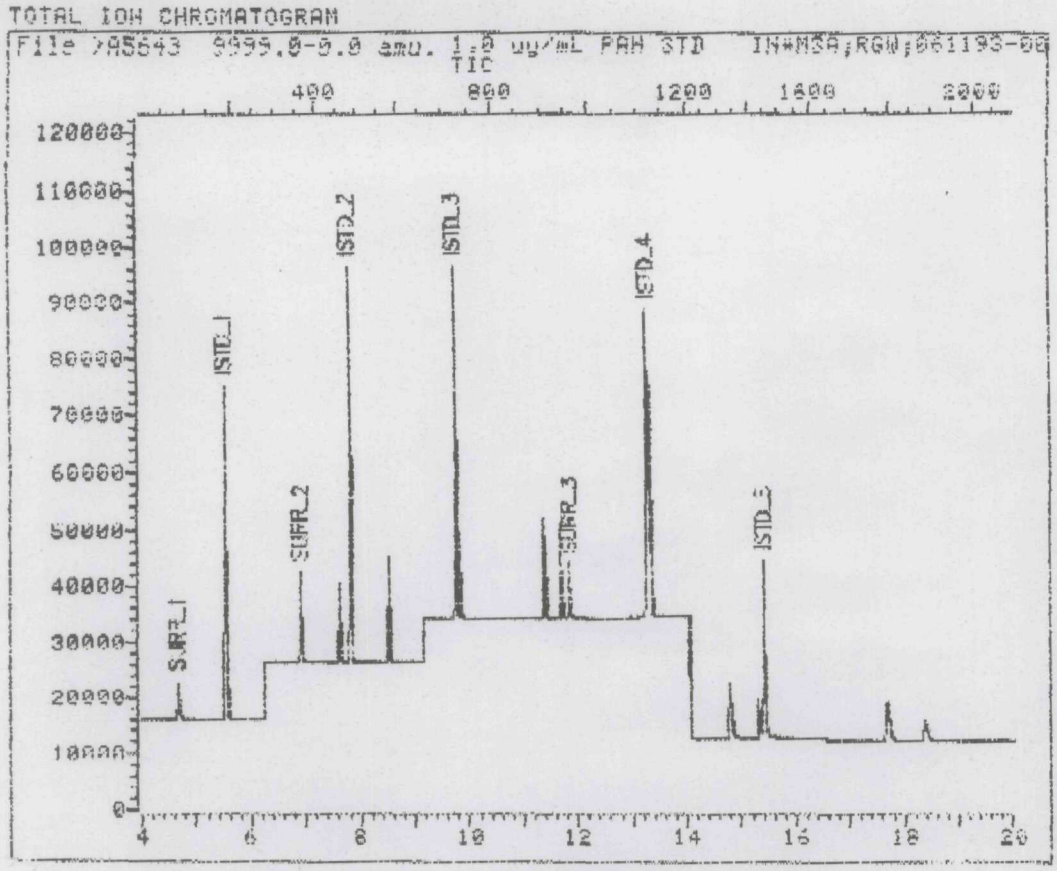
* Compound is ISTD

R 7/10/93

4

RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:02PM ; 314 434 4570→ 3126631090;# 6
314-434-4570 AM TECH ANALYTICAL 707 P06 JUL 16 '93 15:57

TOTAL ION CHROMATOGRAM



Data File: >A5643::L1 Quant Output File: ^A5643::D2
Name: 1.0 ug/ml PAH STD
Misc: IN#MSA;RGW;061193-0003 BTL # 2

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 10:38

Operator ID: RDB
Quant Time: 930625 10:41
Injected at: 930625 10:11

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RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:02PM ; 314 434 4570→ 3126631090;# 7
314-434-4570 AM TECH ANALYTICAL 707 P07 JUL 16 '93 15:57

QUANT REPORT

Operator ID: RDB
Output File: ^A5644::D2
Data File: >A5644::L1
Name: 2.5 ug/mL PAH STD
Misc: IN#MSA;RDW;061193-0004

Quant Rev: 6
Quant Time: 930625 10:59
Injected at: 930625 10:37
Dilution Factor: 1.00000

RTL # 3

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 10:38

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.49	136.0	96406	5.00	ppb	96
2)	Nitrobenzene-d5 (surr.)	4.62	82.0	21849	2.48	ppb	89
3)	Naphthalene	5.51	128.0	56910	2.68	ppb	99
4)	*Acenaphthene-d10	7.28	164.0	61073	5.00	ppb	87
5)	2-Fluorobiphenyl (surr.)	6.87	172.0	49749	2.33	ppb	98
6)	Acenaphthylene	7.58	152.0	60216	1.95	ppb	98
7)	Acenaphthene	7.82	153.0	39942	2.07	ppb	99
8)	Fluorene	8.48	166.0	42733	2.07	ppb	93
9)	*Phenanthrene-d10	9.73	188.0	118134	5.00	ppb	97
10)	Phenanthrene	9.75	178.0	63423	1.88	ppb	98
11)	Anthracene	9.81	178.0	63184	1.77	ppb	98
12)	Fluoranthene	11.34	202.0	74614	1.72	ppb	99
13)	*Chrysene-d12	13.26	240.0	88624	5.00	ppb	95
14)	Pyrene	11.65	202.0	74816	2.59	ppb	99
15)	Terphenyl-d14 (surr.)	11.82	244.0	41242	3.72	ppb	99
16)	Benzo(a)Anthracene	13.24	228.0	59921	2.46	ppb	97
17)	Chrysene	13.31	228.0	64976	2.63	ppb	98
18)	*Perylene-d12	15.39	264.0	80297	5.00	ppb	89
19)	Benzo(b)Fluoranthene	14.75	252.0	53065	2.20	ppb	95
20)	Benzo(k)Fluoranthene	14.79	252.0	57798	2.65	ppb	91
21)	Benzo(a)Pyrene	15.30	252.0	49901	2.32	ppb	92
22)	Indeno(1,2,3-cd)Pyrene	17.67	276.0	48999	2.31	ppb	87
23)	Dibenzo(a,h)Anthracene	17.67	278.0	36426	2.38	ppb	91
24)	Benzo(g,h,i)Perylene	18.35	276.0	41661	2.10	ppb	89

.* Compound is ISTD

7-16-93

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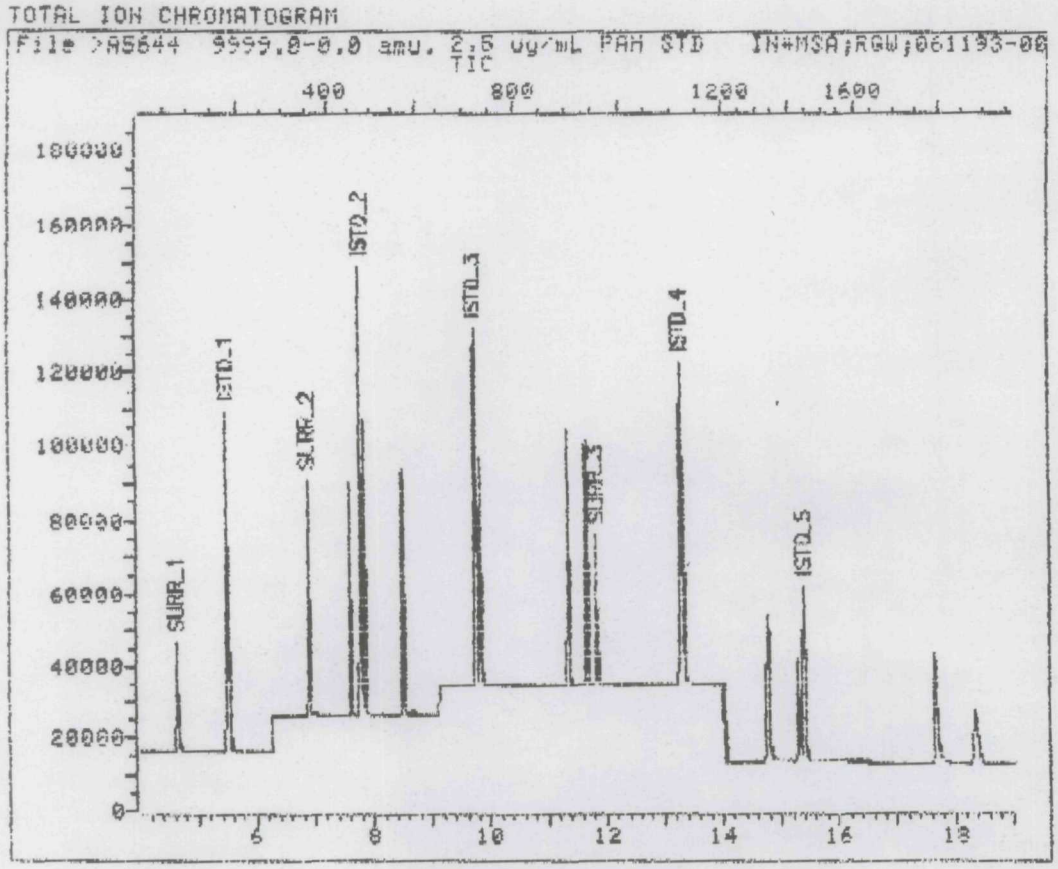
RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:03PM ; 314 434 4570→ 3126631090;# 8
314-434-4570 AM TECH ANALYTICAL 707 P08 JUL 16 '93 15:58

TOTAL ION CHROMATOGRAM



Data File: >A5644::11 Quant Output File: <A5644::D2
Name: 2.5 ug/mL PAH STD
Misc: IN#MSA;RGW;061193-0004 RTI # 3

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 10:38

Operator ID: RGB
Quant Time: 930625 10:59
Injected at: 930625 10:37

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RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:03PM ; 314 434 4570→ 3126631090;# 9
314-434-4570 AM TECH ANALYTICAL 707 P09 JUL 16 '93 15:59

QUANT REPORT

Operator ID: RMR
Output File: ^A5645::D2
Data File: >A5645::L1
Name: 5.0 ug/ml PAH STD
Misc: IN#MSA;RCW;061193-0005

Quant Rev: 6
Quant Time: 931625 11:24
Injected at: 931625 11:03
Dilution Factor: 1.00000

RTI # 4

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 11:04

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.49	136.0	97755	5.10	ppb	97
2)	Nitrobenzene-d5 (surr.)	4.62	82.0	48866	5.51	ppb	88
3)	Naphthalene	5.51	128.0	117916	5.11	ppb	99
4)	*Acenaphthene-d10	7.78	164.0	41746	5.10	ppb	88
5)	2-Fluorobiphenyl (surr.)	6.88	172.0	105643	5.25	ppb	98
6)	Acenaphthylene	7.58	152.0	130379	5.35	ppb	98
7)	Acenaphthene	7.82	153.0	83691	5.18	ppb	93
8)	Fluorene	8.48	166.0	92020	5.32	ppb	97
9)	*Phenanthrene-d10	9.72	188.0	119862	5.00	ppb	97
10)	Phenanthrene	9.76	178.0	135545	5.27	ppb	98
11)	Anthracene	9.81	178.0	137440	5.36	ppb	97
12)	Fluoranthene	11.35	202.0	162881	5.38	ppb	99
13)	*Chrysene-d12	13.27	240.0	91391	5.00	ppb	94
14)	Pyrene	11.65	202.0	165905	5.38	ppb	99
15)	Terphenyl-d14 (surr.)	11.82	244.0	87695	5.15	ppb	99
16)	Benzo(a)Anthracene	13.25	228.0	135289	5.49	ppb	97
17)	Chrysene	13.30	228.0	143269	5.35	ppb	98
18)	*Perylene-d12	15.39	264.0	84262	5.00	ppb	89
19)	Benzo(b)Fluoranthene	14.75	252.0	131882	5.92	ppb	94
20)	Benzo(k)Fluoranthene	14.78	252.0	120627	4.97	ppb	91
21)	Benzo(a)Pyrene	15.30	252.0	115095	5.49	ppb	91
22)	Indeno(1,2,3-cd)Pyrene	17.67	276.0	113894	5.54	ppb	86
23)	Dibenzo(a,h)Anthracene	17.67	278.0	85887	5.62	ppb	90
24)	Benzo(g,h,i)Perylene	18.34	276.0	96392	5.51	ppb	89

* Compound is ISTD

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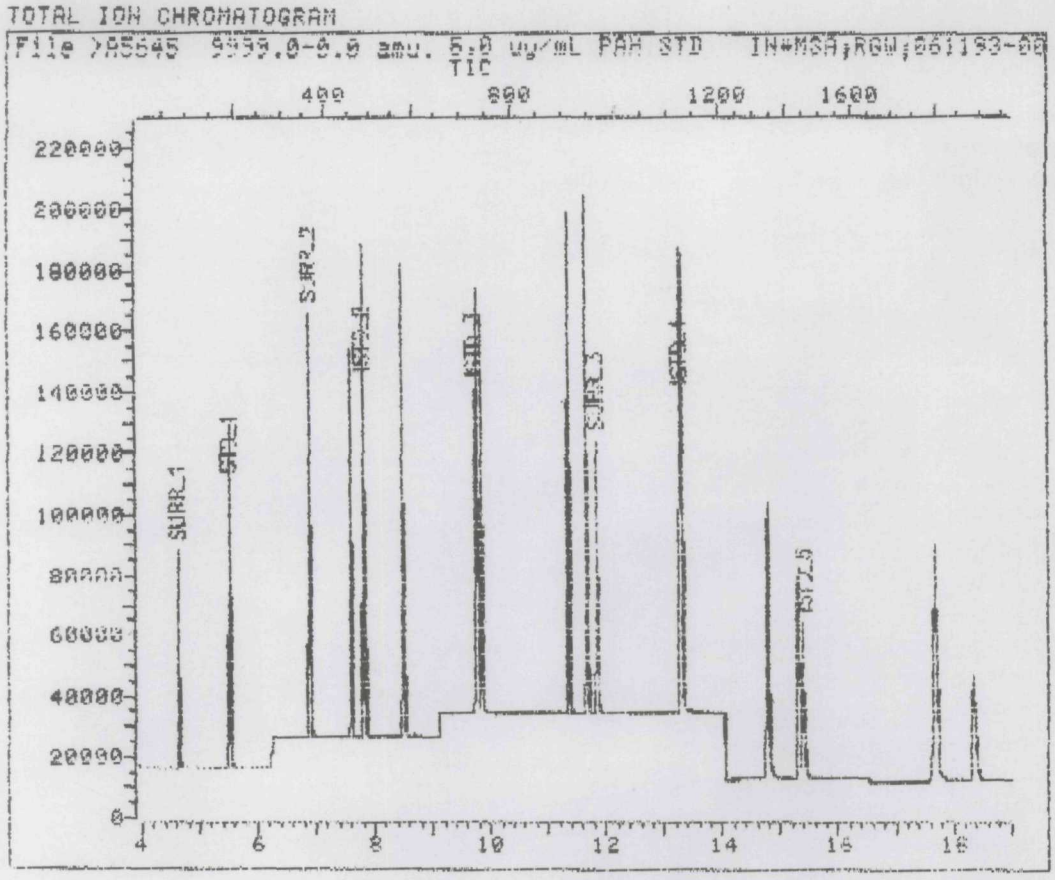
RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:04PM ; 314 434 4570→ 3126631090:#10
314-434-4570 AM TECH ANALYTICAL 707 P10 JUL 16 '93 15:59

TOTAL ION CHROMATOGRAM



Data File: >A5645::L1 Quant Output File: ^A5645::D2
Name: 5.0 ug/mL PAH STD
Misc: IN#MSA;RGW;061193-0005 RTL# 4

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 11:04

Operator ID: RDR
Quant Time: 930625 11:24
Injected at: 930625 11:03

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RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:04PM ; 314 434 4570→ 3126631090:#11
314-434-4570 AM TECH ANALYTICAL 707 P11 JUL 16 '93 16:00

QUANT REPORT

Operator ID: RMB
Output File: ^A5646::D2
Data File: >A5646::L1
Name: 10.0 ug/ml PAH STD
Misc: IN#MSA;RCW;061193-0006

Quant Rev: 6 Quant Time: 930625 11:50
Injected at: 930625 11:28
Dilution Factor: 1.00000

RT: # 5

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 11:04

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.48	136.0	97491	5.00	ppb	96
2)	Nitrobenzene-d5 (surr.)	4.62	82.0	91974	10.41	ppb	88
3)	Naphthalene	5.51	128.0	215943	9.38	ppb	99
4)	*Acenaphthene-d10	7.77	164.0	60924	5.00	ppb	90
5)	2-Fluorobiphenyl (surr.)	6.88	172.0	184199	9.28	ppb	99
6)	Acenaphthylene	7.57	152.0	242009	10.07	ppb	98
7)	Acenaphthene	7.82	153.0	151559	9.51	ppb	93
8)	Fluorene	8.48	166.0	167112	9.80	ppb	93
9)	*Phenanthrene-d10	9.72	188.0	119597	5.00	ppb	98
10)	Phenanthrene	9.75	178.0	244389	9.52	ppb	98
11)	Anthracene	9.82	178.0	250356	9.78	ppb	98
12)	Fluoranthene	11.34	202.0	300946	9.94	ppb	99
13)	*Chrysene-d12	13.26	240.0	86187	5.00	ppb	93
14)	Pyrene	11.65	202.0	299744	10.30	ppb	99
15)	Terphenyl-d14 (surr.)	11.82	244.0	140600	8.76	ppb	99
16)	Benzo(a)Anthracene	13.25	228.0	252348	10.83	ppb	98
17)	Chrysene	13.30	228.0	263523	10.43	ppb	99
18)	*Perylene-d12	15.39	264.0	79973	5.00	ppb	82
19)	Benzo(b)Fluoranthene	14.75	252.0	234980	11.12	ppb	95
20)	Benzo(k)Fluoranthene	14.79	252.0	234467	10.18	ppb	91
21)	Benzo(a)Pyrene	15.30	252.0	216600	10.90	ppb	90
22)	Indeno(1,2,3-cd)Pyrene	17.68	276.0	214367	10.98	ppb	86
23)	Dibenzo(a,h)Anthracene	17.67	278.0	161457	11.13	ppb	90
24)	Benzo(g,h,i)Perylene	18.35	276.0	185069	11.15	ppb	88

* Compound is ISTD

7/6/93

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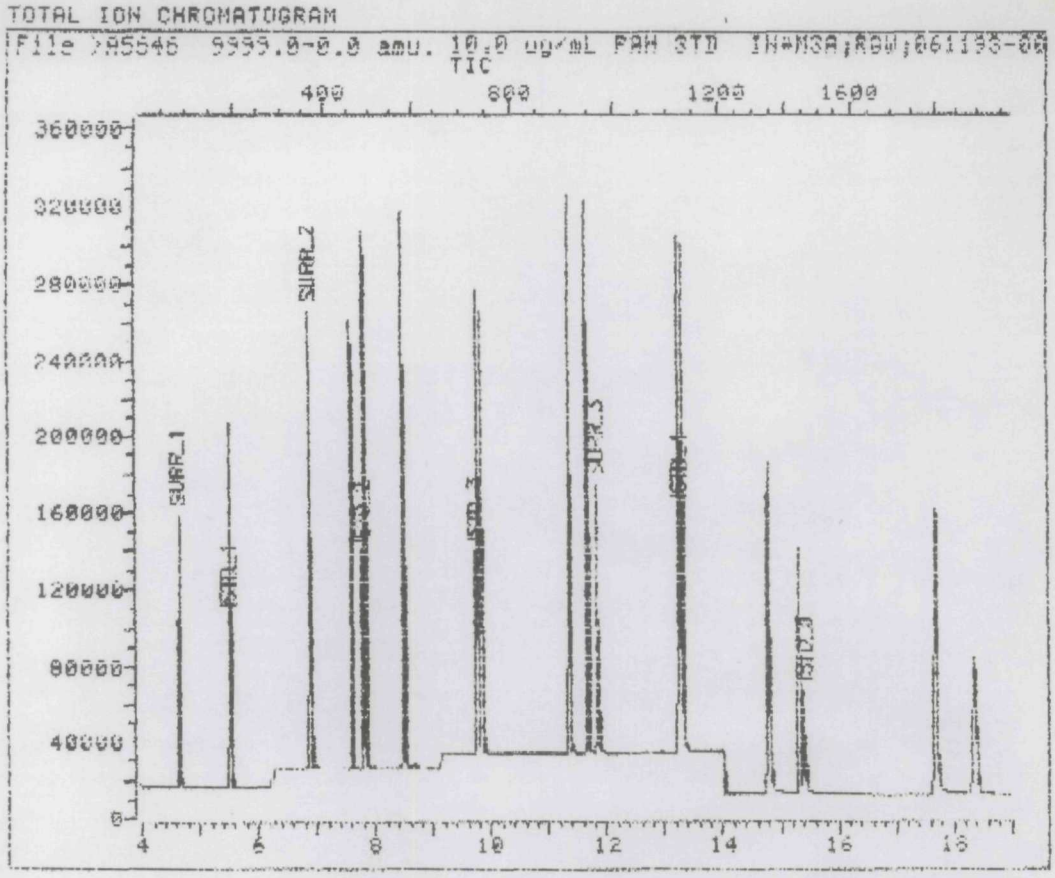
RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:05PM ; 314 434 4570→ 3126631090;#12
314-434-4570 AM TECH ANALYTICAL 707 P12 JUL 16 '93 16:00

TOTAL ION CHROMATOGRAM



Data File: >A5646::L1 Quant Output File: ^A5646::Q2
Name: 10.0 ug/mL PAH STD
Misc: IN#MSA;RGW;061193-0006 RTL# 5

Id File: I_0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930625 11:04

Operator ID: RGR
Quant Time: 930625 11:50
Injected at: 930625 11:28

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RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:05PM ; 314 434 4570→ 3126631090;#13
314-434-4570 AM TECH ANALYTICAL 707 P13 JUL 16 '93 16:01

Initial Calibration Data
HSL Compounds

Case No: Instrument ID:

Contractor: Calibration Date: 06/25/93

Contract No:

Minimum $\overline{RF}$ for SPCC is Maximum % RSD for CCC is %

Laboratory ID:	205642	205643	205644	205645	205646					
Compound	RF .50	RF 1.00	RF 2.50	RF 5.00	RF 10.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Nitrobenzene d5 (surr.)	.40234	.43600	.46397	.49988	.47171	.849	.46944	8.148		
Naphthalene	1.18677	1.20068	1.18063	1.20624	1.10250	1.005	1.17637	3.388		
2 Fluorobiphenyl (surr.)	1.52457	1.63309	1.62917	1.71093	1.51171	.884	1.61389	4.646		
Acenaphthylene	1.87224	1.95455	1.97194	2.11154	1.98615	.975	1.93998	4.351		
Acenaphthene	1.32954	1.33254	1.30801	1.35541	1.24384	1.006	1.31382	3.242		
Fluorene	1.37456	1.39056	1.39941	1.49030	1.37148	1.091	1.40596	3.488		
Phenanthrene	1.09001	1.10960	1.07375	1.13084	1.02172	1.003	1.08518	3.817		
Anthracene	1.02082	1.04346	1.06970	1.14665	1.04666	1.010	1.06547	4.558		
Fluoranthene	1.19331	1.24345	1.26391	1.35890	1.25812	1.162	1.26341	4.769		
Pyrene	1.55341	1.66919	1.68839	1.81633	1.73892	.878	1.69305	5.692		
Terphenyl d14 (surr.)	.89616	.94287	.93829	.95956	.81562	.991	.90883	6.272		
Benzo(a)Anthracene	1.27260	1.36189	1.35295	1.48580	1.46396	.999	1.38828	6.186		
Chrysene	1.39478	1.49112	1.46633	1.56265	1.52829	1.003	1.48974	4.392		
Benzo(b)Fluoranthene	1.21746	1.35791	1.32172	1.56514	1.46912	.959	1.38622	9.700		
Benzo(k)Fluoranthene	1.35339	1.35962	1.47941	1.43157	1.46591	.961	1.40863	3.714		
Benzo(a)Pyrene	1.05026	1.16846	1.24051	1.36592	1.35421	.994	1.23635	10.692		
Indeno(1,2,3 cd)Pyrene	1.08249	1.18895	1.22044	1.35167	1.34095	1.148	1.23989	8.699		
Dibenzo(a,h)Anthracene	.83484	.89886	.90298	1.01929	1.00945	1.148	.93394	8.422		
Benzo(g,h,i)Perylene	.96014	1.04187	1.03262	1.14396	1.15202	1.192	1.06974	7.429		

7/16/93

RF Response Factor (Subscript is amount in ppb)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

RCV BY:XEROX TELECOPIER 7010 ; 7-16-93 4:00PM ; 314 434 4570→ 3126631090;# 3
314-434-4570 AM TECH ANALYTICAL 707 P03 JUL 16 '93 15:55

Initial Calibration Data
HSL Compounds

Case No: Instrument ID:

Contractor: Calibration Date: 06/25/93

Contract No:

Minimum $\overline{RF}$ for SPCC is Maximum % RSD for CCC is %

Laboratory ID:	>05642	>05643	>05644	>05645	>05646					
Compound	RF .50	RF 1.00	RF 2.50	RF 5.00	RF 10.00	$\overline{RRT}$	$\overline{RF}$	% RSD	CCC	SPCC
Nitrobenzene d5 (surr.)	.40234	.43500	.46322	.49988	.47121	.849	.46244	8.148		
Naphthalene	1.18677	1.20068	1.18063	1.20624	1.10750	1.005	1.17637	3.398		
2 Fluorobiphenyl (surr.)	1.57457	1.64309	1.62917	1.71093	1.51121	.884	1.61389	4.646		
Acenaphthylene	1.87224	1.95455	1.97194	2.11154	1.98615	.925	1.97928	4.351		
Acenaphthene	1.32954	1.33254	1.30801	1.35541	1.24384	1.006	1.31382	3.242		
Fluorene	1.37456	1.39055	1.39941	1.49030	1.37148	1.091	1.40526	3.480		
Phenanthrene	1.09001	1.10960	1.07325	1.13084	1.02122	1.003	1.08518	3.817		
Anthracene	1.02082	1.04346	1.06970	1.14665	1.04666	1.010	1.06547	4.558		
Fluoranthene	1.19331	1.24345	1.26321	1.35890	1.25812	1.162	1.26341	4.759		
Pyrene	1.55341	1.66919	1.68839	1.81533	1.73892	.878	1.69305	5.692		
Terphenyl d14 (surr.)	.89616	.94207	.93029	.95956	.81562	.891	.90883	6.272		
Benzo(a)Anthracene	1.27750	1.36189	1.35225	1.48580	1.46396	.999	1.38828	6.186		
Chrysene	1.39478	1.49112	1.46633	1.56265	1.52829	1.003	1.48974	4.397		
Benzo(b)Fluoranthene	1.21746	1.35291	1.32172	1.56514	1.46912	.959	1.38622	9.200		
Benzo(k)Fluoranthene	1.35339	1.35267	1.43961	1.43157	1.46591	.961	1.40863	3.214		
Benzo(a)Pyrene	1.05026	1.16846	1.24291	1.36592	1.35421	.994	1.23635	10.697		
Indeno(1,2,3 cd)Pyrene	1.09249	1.18995	1.22044	1.35167	1.34025	1.148	1.23992	8.699		
Dibenzo(a,h)Anthracene	.83484	.89886	.90728	1.01929	1.00945	1.148	.93394	8.422		
Benzo(g,h,i)Perylene	.96814	1.04187	1.03767	1.14396	1.15202	1.192	1.06924	7.429		

7/16/93

RF Response Factor (Subscript is amount in ppb)

$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

%RSD Percent Relative Standard Deviation

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

314-434-4570 AM TECH ANALYTICAL 707 P03 JUL 16 '93 15:55

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 6983.01
Sample Matrix: Tissue
Date/Time Analyzed: 930706 09:27
Data File: >A5770::!1
Aquarius Output File: ^A5770::D2
Method Ref.: Modified SW846-8270, CLP Methodolog.

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	ND
Acenaphthylene	5	ND
Acenaphthene	5	ND
Fluorene	5	ND
Phenanthrene	5	12 B
Anthracene	5	ND
Fluoranthene	5	ND
Pyrene	5	ND
Benzo(a)Anthracene	5	ND
Chrysene	5	ND
Benzo(b)Fluoranthene	5	ND
Benzo(k)Fluoranthene	5	ND
Benzo(a)Pyrene	5	ND
Indeno(1,2,3-cd)Pyrene	5	ND
Dibenzo(a,h)Anthracene	5	ND
Benzo(g,h,i)Perylene	5	ND

Surrogate Recovery

2-Fluorobiphenyl (30-115) 61%
Terphenyl-d14 (18-137) 59%

ND = Not detected above reporting limit
* = Recovery Outside QC Limits

Comments: _____

Analyst: R.W. Hoh Date: 7/6/93
Approved: R. Young Date: 7-6-93

000002

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 6923.02
Sample Matrix: Tissue
Date/Time Analyzed: 930706 09:52
Data File:)A5771::L1
Aquarius Output File: ^A5771::D2
Method Ref.: Modified SW846 8270. CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	5.6
Acenaphthylene	5	ND
Acenaphthene	5	5.1
Fluorene	5	ND
Phenanthrene	5	20 B
Anthracene	5	ND
Fluoranthene	5	ND
Pyrene	5	ND
Benzo(a)Anthracene	5	ND
Chrysene	5	ND
Benzo(b)Fluoranthene	5	ND
Benzo(k)Fluoranthene	5	ND
Benzo(a)Pyrene	5	ND
Indeno(1,2,3-cd)Pyrene	5	ND
Dibenzo(a,h)Anthracene	5	ND
Benzo(g,h,i)Perylene	5	ND

Surrogate Recovery

2-Fluorobiphenyl (30-115) 68%
Terphenyl-d14 (18-137) 84%

ND = Not detected above reporting limit
* = Recovery Outside QC Limits

Comments: _____

Analyst: R. Wilhelm Date: 7/6/93
Approved: A. Zawel Date: 7-6-93

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 6983.03
Sample Matrix: Tissue
Date/Time Analyzed: 930706 10:18
Data File: :05772::11
Aquarius Output File: ^05772::02
Method Ref.: Modified SW846 8270, CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	ND
Acenaphthylene	5	ND
Acenaphthene	5	ND
Fluorene	5	ND
Phenanthrene	5	13 B
Anthracene	5	ND
Fluoranthene	5	ND
Pyrene	5	ND
Benzo(a)Anthracene	5	ND
Chrysene	5	ND
Benzo(b)Fluoranthene	5	ND
Benzo(k)Fluoranthene	5	ND
Benzo(a)Pyrene	5	ND
Indeno(1,2,3-cd)Pyrene	5	ND
Dibenzo(a,h)Anthracene	5	ND
Benzo(g,h,i)Perylene	5	ND

Surrogate Recovery

2-Fluorobiphenyl (30-115) 58%
Terphenyl-d14 (18-137) 78%

ND = Not detected above reporting limit
* = Recovery Outside QC Limits

Comments: _____

Analyst: R. Wilhelm Date: 7/6/93
Approved: R. Zavel Date: 7-6-93

000004

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 6983.04
Sample Matrix: Tissue
Date/Time Analyzed: 930706 10:43
Data File: >A5723::11, >A5725::11
Aquarius Output File: ^A5723::D2, ^A5725::D2
Method Ref.: Modified SW846-8270, CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	8.8
Acenaphthylene	5	ND
Acenaphthene	5	ND
Fluorene	5	ND
Phenanthrene	5	12 B
Anthracene	5	ND
Fluoranthene	5	ND
Pyrene	50	ND
Benzo(a)Anthracene	50	ND
Chrysene	50	ND
Benzo(b)Fluoranthene	50	ND
Benzo(k)Fluoranthene	50	ND
Benzo(a)Pyrene	50	ND
Indeno(1,2,3-cd)Pyrene	50	ND
Dibenzo(a,h)Anthracene	50	ND
Benzo(g,h,i)Perylene	50	ND

AY 7-6-93

Surrogate Recovery

2-Fluorobiphenyl (30-115) 80%
Terphenyl-d14 (18-137) 81%

ND = Not detected above reporting limit
* = Recovery Outside QC Limits

Comments: _____

Analyst: R. Wilhd Date: 7/6/93

Approved: _____ Date: _____

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 0626931-01 BLK
Sample Matrix: Tissue
Date/Time Analyzed: 930702 07:48
Data File: >A5755::!1
Aquarius Output File: ^A5755::D2
Method Ref.: Modified SW846-8270, CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	ND
Acenaphthylene	5	ND
Acenaphthene	5	ND
Fluorene	5	ND
Phenanthrene	5	9
Anthracene	5	ND
Fluoranthene	5	ND
Pyrene	5	ND
Benzo(a)Anthracene	5	ND
Chrysene	5	ND
Benzo(b)Fluoranthene	5	ND
Benzo(k)Fluoranthene	5	ND
Benzo(a)Pyrene	5	ND
Indeno(1,2,3-cd)Pyrene	5	ND
Dibenzo(a,h)Anthracene	5	ND
Benzo(g,h,i)Perylene	5	ND

Surrogate Recovery

2-Fluorobiphenyl (30-115) 41%
Terphenyl-d14 (18-137) 43%

ND = Not detected above reporting limit
* - Recovery Outside QC Limits

Comments: Fish Blank

Analyst: R. Wilhol Date: 7/6/93
Approved: M. Young Date: 7-6-93

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 062893-02 BLK
Sample Matrix: ~~Tissue~~ Reagent Blank AY 7-6-93
Date/Time Analyzed: 930702 07:23
Data File: >05754::L1
Aquarius Output File: ^A5754::D2
Method Ref.: Modified SW846-8270, CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	ND
Acenaphthylene	5	ND
Acenaphthene	5	ND
Fluorene	5	ND *
Phenanthrene	5	ND
Anthracene	5	ND
Fluoranthene	5	ND
Pyrene	5	ND
Benzo(a)Anthracene	5	ND
Chrysene	5	ND
Benzo(b)Fluoranthene	5	ND
Benzo(k)Fluoranthene	5	ND
Benzo(a)Pyrene	5	ND
Indeno(1,2,3-cd)Pyrene	5	ND
Dibenzo(a,h)Anthracene	5	ND
Benzo(g,h,i)Perylene	5	ND

Surrogate Recovery

2-Fluorobiphenyl (30-115) 32%
Terphenyl-d14 (18-137) 44%

ND = Not detected above reporting limit
* = Recovery Outside QC Limits

Comments: Reagent Blank
+ appeared to be present but below the reporting limit AY

Analyst: R. Wilhelm Date: 7/6/93
Approved: A. Young Date: 7-6-93

000007

TISSUE PAH SPIKE BLANK/SPIKE BLANK DUPLICATE WORKSHEET
American Technical and Analytical Services, Inc.

BLK ID: 0626931-01 BLK

Compound	Amount Added (ug/kg)	Blank Conc. (ug/kg)	SPK1 Conc. (ug/kg)	SPK1 % Rec.	QC Limits Rec.
Naphthalene	500	0	265	53	27 - 111
Acenaphthylene	500	0	318	64	25 - 114
Acenaphthene	500	0	317	63	25 - 121
Fluorene	500	0	292	58	31 - 120
Phenanthrene	500	9	324	63	33 - 118
Anthracene	500	0	322	64	33 - 112
Fluoranthene	500	0	286	57	36 - 113
Pyrene	500	0	361	72	29 - 126
Benzo(a)Anthracene	500	0	323	65	35 - 126
Chrysene	500	0	311	62	32 - 129
Benzo(b)Fluoranthene	500	0	470	94	35 - 139
Benzo(k)Fluoranthene	500	0	458	92	37 - 136
Benzo(a)Pyrene	500	0	469	94	34 - 134
Indeno(1,2,3-cd)Pyrene ...	500	0	405	81	31 - 138
Dibenzo(a,h)Anthracene ...	500	0	432	86	34 - 132
Benzo(g,h,i)Perylene	500	0	404	81	29 - 141

Compound	Amount Added (ug/kg)	SPK2 Conc. (ug/kg)	SPK2 % Rec.	RPD	QC Limits RPD	QC Limits Rec.
Naphthalene	500	269	54	2	37	27 - 111
Acenaphthylene	500	342	68	8	24	25 - 114
Acenaphthene	500	342	68	8	22	25 - 121
Fluorene	500	339	68	15	17	31 - 120
Phenanthrene	500	373	73	14*	13	33 - 118
Anthracene	500	365	73	12	13	33 - 112
Fluoranthene	500	344	69	19	41	36 - 113
Pyrene	500	406	81	12	18	29 - 126
Benzo(a)Anthracene	500	394	79	20*	13	35 - 126
Chrysene	500	369	74	17*	11	32 - 129
Benzo(b)Fluoranthene	500	650	130	32*	23	35 - 139
Benzo(k)Fluoranthene	500	511	102	11	16	37 - 136
Benzo(a)Pyrene	500	577	115	21*	15	34 - 134
Indeno(1,2,3-cd)Pyrene ...	500	503	101	21*	21	31 - 138
Dibenzo(a,h)Anthracene ...	500	540	108	22*	16	34 - 132
Benzo(g,h,i)Perylene	500	500	100	21	23	29 - 141

RPD: 7 out of 16 outside limits.
Rec: 0 out of 32 outside limits.
** QC limits are advisory only **

Analyst: R Walker Date: 7/6/93

Approved by: A. Young Date: 7-6-93

FORM III PAH-1

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 0626931-01 SPK
Sample Matrix: Tissue
Date/Time Analyzed: 930702 08:39
Data File: >A5757::11
Aquarius Output File: ^A5757::D2
Method Ref.: Modified SW846 8270, CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	260
Acenaphthylene	5	320
Acenaphthene	5	320
Fluorene	5	290
Phenanthrene	5	320
Anthracene	5	320
Fluoranthene	5	290
Pyrene	5	360
Benzo(a)Anthracene	5	320
Chrysene	5	310
Benzo(b)Fluoranthene	5	470
Benzo(k)Fluoranthene	5	460
Benzo(a)Pyrene	5	470
Indeno(1,2,3-cd)Pyrene	5	410
Dibenzo(a,h)Anthracene	5	430
Benzo(g,h,i)Perylene	5	400

Surrogate Recovery

2-Fluorobiphenyl (30-115) 61%
Terphenyl-d14 (18-137) 51%

ND = Not detected above reporting limit
* = Recovery Outside QC Limits

Comments: _____

Analyst: R. Willet Date: 7/6/93
Approved: R. Towne Date: 7-6-93

000009

MS120 ANALYSIS SHEET
American Technical & Analytical Services, Inc.

ATAS #: 0626931-02 SPK
Sample Matrix: Tissue
Date/Time Analyzed: 930702 09:04
Data File: >A5758::!1
Aquarius Output File: ^A5758::D2
Method Ref.: Modified SW846-8270, CLP Methodology

Results reported in ug/kg or parts per billion (ppb).

Compound	Reporting Limit	Results
Naphthalene	5	270
Acenaphthylene	5	340
Acenaphthene	5	340
Fluorene	5	340
Phenanthrene	5	370
Anthracene	5	360
Fluoranthene	5	340
Pyrene	5	410
Benzo(a)Anthracene	5	390
Chrysene	5	370
Benzo(b)Fluoranthene	5	650
Benzo(k)Fluoranthene	5	510
Benzo(a)Pyrene	5	580
Indeno(1,2,3-cd)Pyrene	5	500
Dibenzo(a,h)Anthracene	5	540
Benzo(g,h,i)Perylene	5	500

Surrogate Recovery

2-Fluorobiphenyl (30-115) 60%
Terphenyl-d14 (18-137) 52%

ND = Not detected above reporting limit
* = Recovery Outside QC limits

Comments: _____

Analyst: R W. Wol Date: 7/6/93
Approved: M. Zaruel Date: 7-6-93

INITIAL CALIBRATION MASS CHROMATOGRAMS

Continuing Calibration Check
HSL Compounds

Case No: | Calibration Date: 07/02/93

Contractor: | Time: 06:28

Contract No: | Laboratory ID: >05752

Instrument ID: | Initial Calibration Date: 06/25/93

Minimum $\overline{RF}$ for SPCC is | Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC SPCC
Nitrobenzene-d5 (surr.)	.45944	.42801	5.40	
Naphthalene	1.17637	1.10716	5.88	
2-Fluorobiphenyl (surr.)	1.61389	1.55564	3.61	
Acenaphthylene	1.97928	1.98608	.38	
Acenaphthene	1.31387	1.30822	.43	
Fluorene	1.40526	1.46454	4.22	
Phenanthrene	1.08518	1.10369	1.71	
Anthracene	1.06547	1.14556	7.52	
Fluoranthene	1.26341	1.34339	6.33	
Pyrene	1.69305	1.36826	19.18	
Terphenyl-d14 (surr.)	.90883	1.00498	10.57	
Benzo(a)Anthracene	1.38828	1.15712	16.65	
Chrysene	1.48974	1.27118	14.67	
Benzo(b)Fluoranthene	1.38627	1.35611	2.18	
Benzo(k)Fluoranthene	1.40963	1.47484	4.70	
Benzo(a)Pyrene	1.23635	1.30862	5.88	
Indeno(1,2,3-cd)Pyrene	1.23982	1.20822	2.55	
Dibenzo(a,h)Anthracene	.93394	1.00628	7.79	
Benzo(g,h,i)Perylene	1.06974	1.03976	2.80	

Rickes

M 7-6-93

RF - Response Factor from daily standard file at 2.50 ppb

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 07/06/93

Contractor: Time: 08:56

Contract No: Laboratory ID: >05769

Instrument ID: Initial Calibration Date: 06/25/93

Minimum $\overline{RF}$ for SPCC is Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Nitrobenzene-d5 (surr.)	.45744	.44429	1.88		
Naphthalene	1.17437	1.13997	3.25		
2-Fluorobiphenyl (surr.)	1.61389	1.46929	8.96		
Acenaphthylene	1.97998	1.89921	4.05		
Acenaphthene	1.31387	1.24003	5.62		
Fluorene	1.40526	1.45979	3.38		
Phenanthrene	1.08518	1.08084	.40		
Anthracene	1.06547	1.11947	5.07		
Fluoranthene	1.26341	1.36259	7.85		
Pyrene	1.69305	1.45981	13.82		
Terphenyl-d14 (surr.)	.90883	.99880	9.90		
Benzo(a)Anthracene	1.38828	1.31464	5.30		
Chrysene	1.48974	1.34536	9.69		
Benzo(b)Fluoranthene	1.38627	1.22946	11.31		
Benzo(k)Fluoranthene	1.40863	1.29535	8.04		
Benzo(a)Pyrene	1.23635	1.16757	5.56		
Indeno(1,2,3-cd)Pyrene	1.23982	1.12701	9.10		
Dibenzo(a,h)Anthracene	.93394	.89998	3.71		
Benzo(g,h,i)Perylene	1.06974	.98533	7.89		

R 7/6/93

AV 7-6-93

RF - Response Factor from daily standard file at 2.50 ppb

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HPL Compounds

Case No: Calibration Date: 07/06/93

Contractor: Time: 12:20

Contract No: Laboratory ID: >05774

Instrument ID: Initial Calibration Date: 06/25/93

Minimum $\overline{RF}$ for SPCC is Maximum % Diff for CCC is %

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC
Nitrobenzene-d5 (surr.)	.45244	.42773	5.46		
Naphthalene	1.17637	1.11384	5.32		
2-Fluorobiphenyl (surr.)	1.61389	1.60290	.68		
Acenaphthylene	1.97928	2.11311	6.76		
Acenaphthene	1.31387	1.35193	2.90		
Fluorene	1.40526	1.55795	10.87		
Phenanthrene	1.08518	1.14660	5.66		
Anthracene	1.06547	1.18439	11.16		
Fluoranthene	1.26341	1.46262	15.77		
Pyrene	1.69385	1.43930	14.99		
Terphenyl-d14 (surr.)	.90883	.96015	5.65		
Benzo(a)Anthracene	1.38828	1.26228	9.04		
Chrysene	1.49974	1.33125	10.64		
Benzo(b)Fluoranthene	1.38627	1.59281	14.84		
Benzo(k)Fluoranthene	1.40863	1.65696	17.63		
Benzo(a)Pyrene	1.23635	1.47648	19.42		
Indeno(1,2,3-cd)Pyrene	1.23982	1.30833	5.53		
Dibenzo(a,h)Anthracene	.93394	1.15449	23.61		
Benzo(g,h,i)Perylene	1.06974	1.12246	4.93		

7/06/93

AY 7-6-93

RF - Response Factor from daily standard file at 2.50 ppb

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
Polynuclear Aromatic Hydrocarbons Target Ratio Worksheet

Data File Name: >A5752::L1 Standard ID: 2.5 ug/mL PAH STD.

	Ratio	Standard	Upper limit	Lower limit
Naphthalene	127/128	.130	.150	.110
	129/128	.109	.125	.093
Acenaphthylene	151/152	.195	.224	.166
	153/152	.132	.152	.112
Acenaphthene	154/153	.953	1.096	.810
	152/153	.464	.534	.394
Fluorene	165/166	.905	1.041	.769
	167/166	.134	.154	.114
Phenanthrene	176/178	.182	.209	.155
	179/178	.153	.176	.130
Anthracene	176/178	.177	.204	.150
	179/178	.153	.176	.130
Fluoranthene	200/202	.194	.223	.165
	203/202	.168	.193	.143
Pyrene	200/202	.196	.225	.167
	203/202	.172	.198	.146
Benzo(a)anthracene	226/228	.251	.289	.213
	229/228	.195	.224	.166
Chrysene	226/228	.275	.316	.234
	229/228	.195	.224	.166
Benzo(b)fluoranthene	253/252	.227	.261	.193
	126/252	.153	.176	.130
Benzo(k)fluoranthene	253/252	.220	.253	.187
	126/252	.182	.209	.155
Benzo(a)pyrene	253/252	.231	.266	.196
	126/252	.183	.210	.156
Indeno(1,2,3-cd)pyrene	277/276	.261	.300	.222
	138/276	.329	.378	.280
Dibenzo(a,h)anthracene	279/278	.231	.266	.196
	139/178	.208	.239	.177
Benzo(g,h,i)perylene	277/276	.248	.285	.211
	138/276	.281	.323	.239

Rykes AV 7-6-93

QUANT REPORT

Operator ID: RDB
Output File: ^A5752::D2
Data File: >A5752::!1
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA:RDW:061193-0004

Quant Rev: 6
Quant Time: 930702 06:50
Injected at: 930702 06:28
Dilution Factor: 1.00000

RTI # 1

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930701 09:20

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.41	136.0	119123	5.00	ppb	96
2)	Nitrobenzene-d5 (surr.)	4.54	82.0	25493	2.35	ppb	84
3)	Naphthalene	5.44	128.0	65944	2.35	ppb	99
4)	*Acenaphthene-d10	7.70	164.0	78464	5.00	ppb	86
5)	2-Fluorobiphenyl (surr.)	6.80	172.0	61031	2.46	ppb	97
6)	Acenaphthylene	7.50	152.0	77946	2.50	ppb	97
7)	Acenaphthene	7.74	153.0	51324	2.58	ppb	91
8)	Fluorene	8.39	166.0	57457	2.47	ppb	91
9)	*Phenanthrene-d10	9.64	188.0	162995	5.00	ppb	97
10)	Phenanthrene	9.66	178.0	89948	2.20	ppb	97
11)	Anthracene	9.73	178.0	93360	2.20	ppb	97
12)	Fluoranthene	11.25	202.0	109483	2.15	ppb	99
13)	*Chrysene-d12	13.17	240.0	160925	5.00	ppb	88
14)	Pyrene	11.56	202.0	110094	1.59	ppb	98
15)	Terphenyl-d14 (surr.)	11.74	244.0	80857	1.96	ppb	99
16)	Benzo(a)Anthracene	13.16	228.0	93105	1.80	ppb	97
17)	Chrysene	13.21	228.0	102282	1.90	ppb	97
18)	*Perylene-d12	15.26	264.0	131852	5.00	ppb	85
19)	Benzo(b)Fluoranthene	14.64	252.0	89403	1.71	ppb	93
20)	Benzo(k)Fluoranthene	14.67	252.0	97230	2.09	ppb	88
21)	Benzo(a)Pyrene	15.16	252.0	85745	1.99	ppb	91
22)	Indeno(1,2,3-cd)Pyrene	17.47	276.0	79653	2.96	ppb	81
23)	Dibenzo(a,h)Anthracene	17.46	278.0	66368	3.16	ppb	89
24)	Benzo(g,h,i)Perylene	18.12	276.0	68547	3.41	ppb	85

* Compound in ISTD

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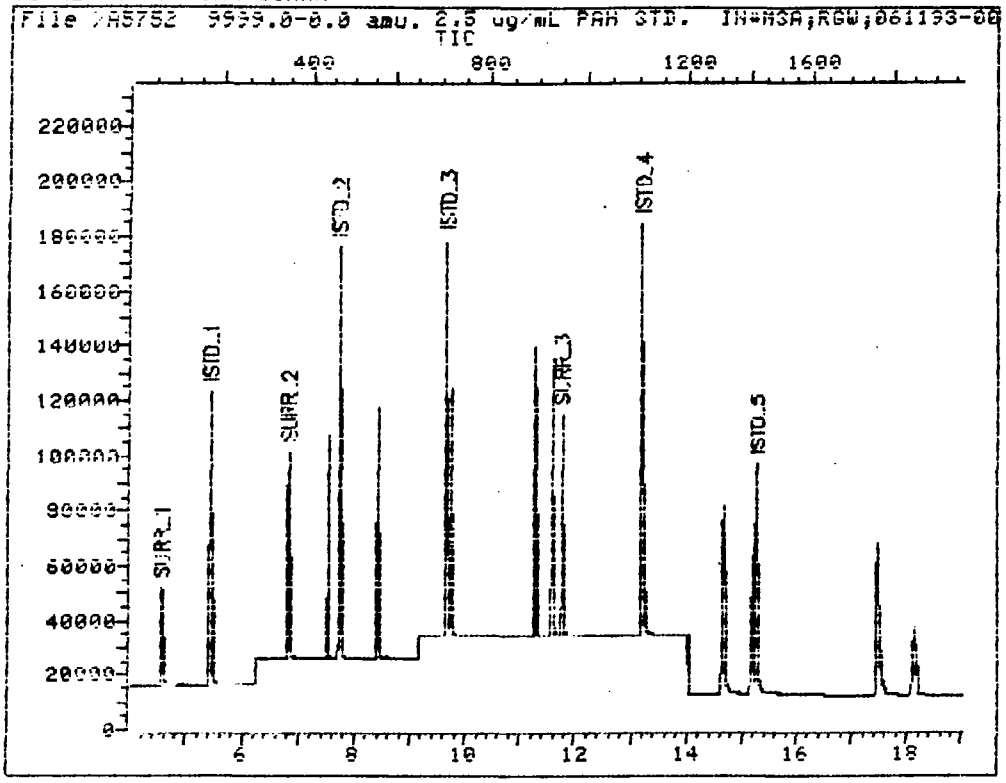
TOTAL ION CHROMATOGRAM



Data File: >A5752::11 Quant Output File: ^A5752::D2

Name: 2.5 ug/mL PAH STD.

Misc: IN*MSA;RGW;061193-0004 RTI # 1

Id File: I_A120::QT

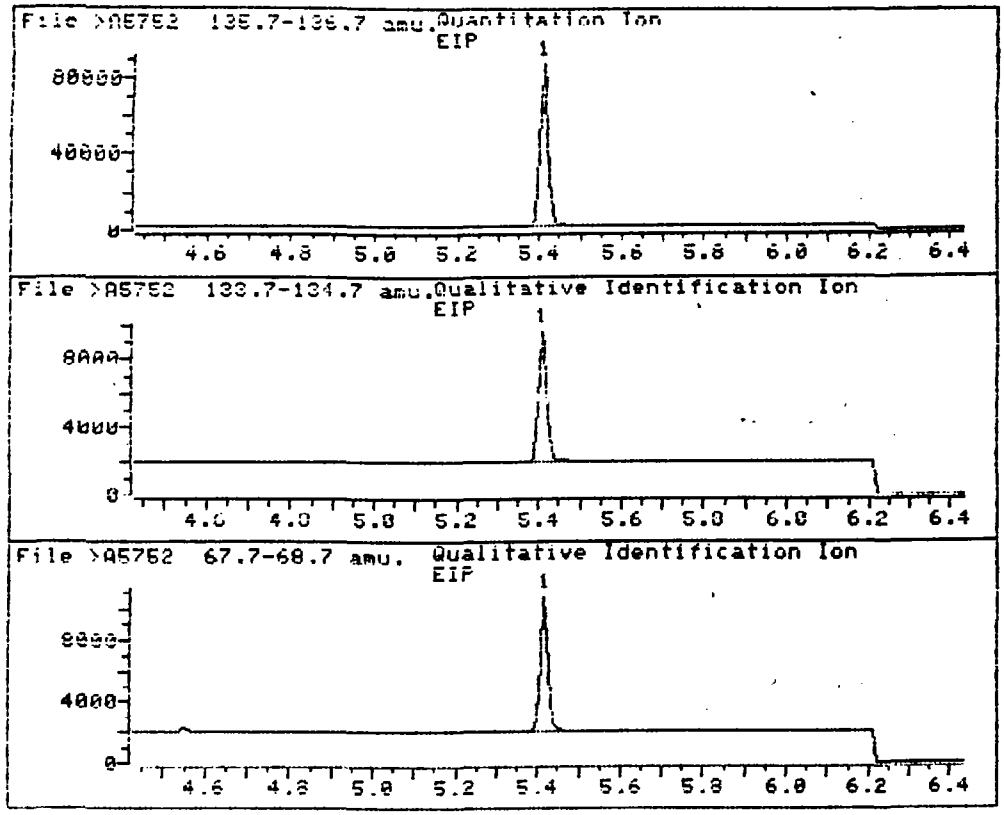
Title: PAH SIM ANALYSIS

Last Calibration: 930701 09:20

Operator ID: RDR

Quant Time: 930702 06:50

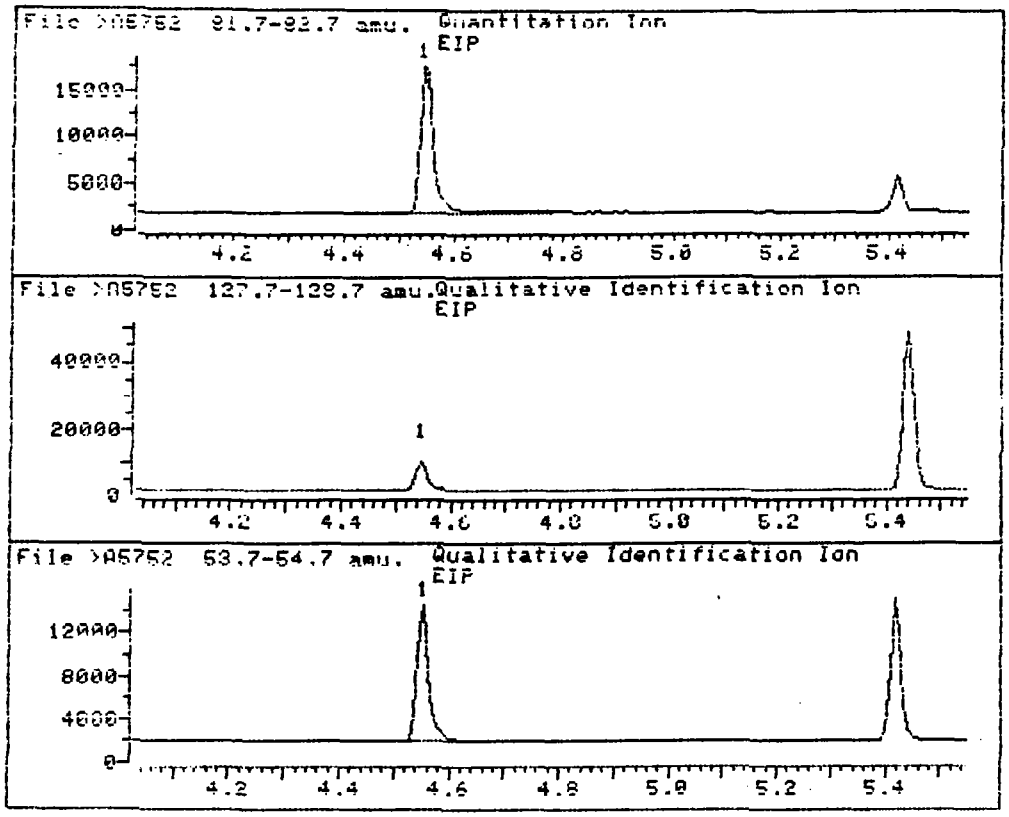
Injected at: 930702 06:28



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

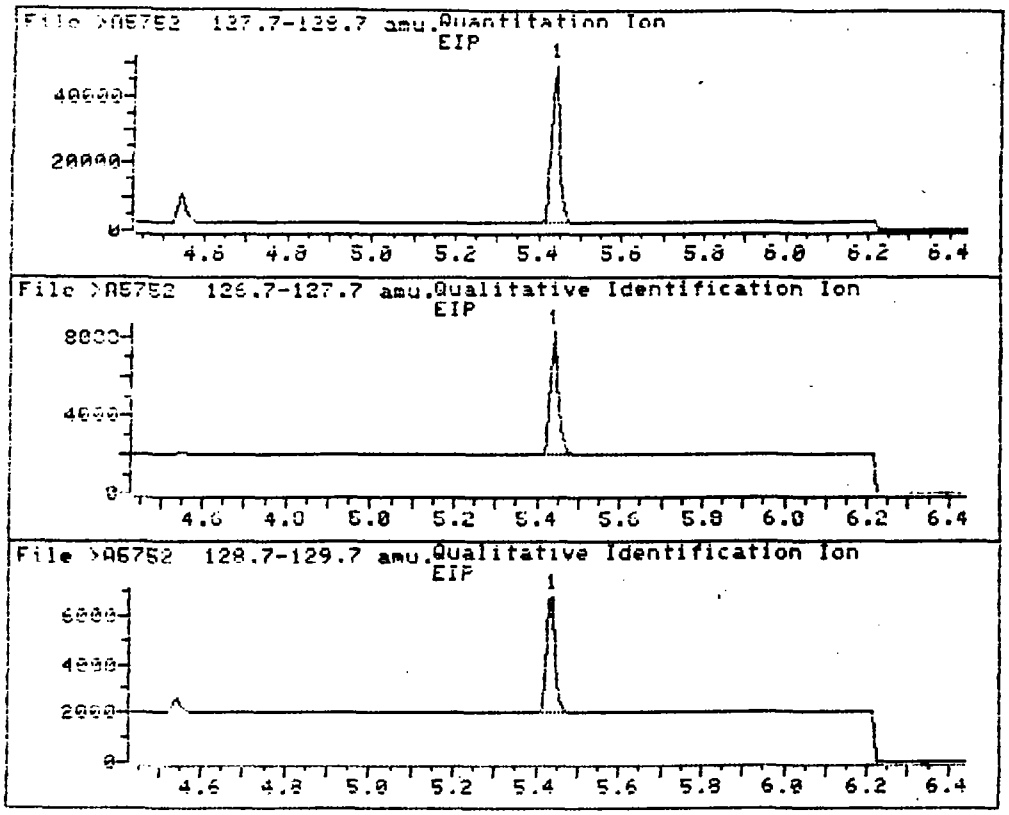
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.41	5.00	ppb	96	119123	11018	11879		
	169	119123			1.000	.092	.100		



Data File: >A5752::1.1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 2
Compound Name: Nitrobenzene-d5 (surr.)
Quant Ion: 82.0

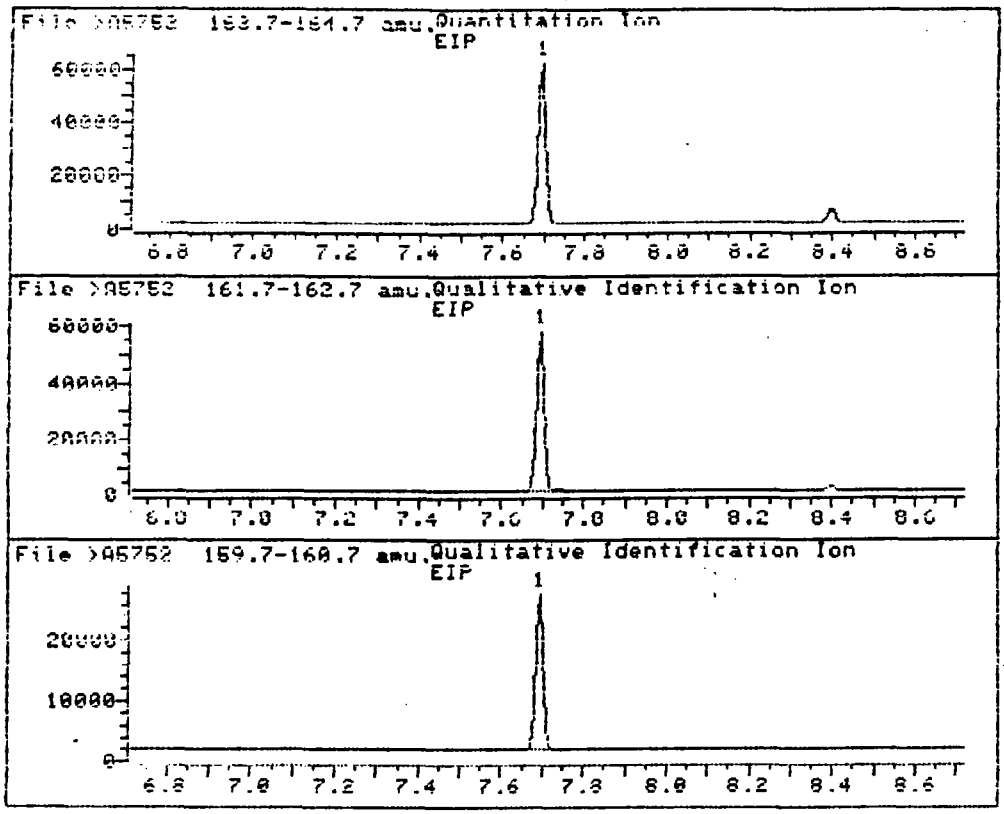
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 82.0	128.0	54.0
1	4.54	2.35	ppb	84	25493	13044	19309
	64	25493			1.000	.512	.757



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RCW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

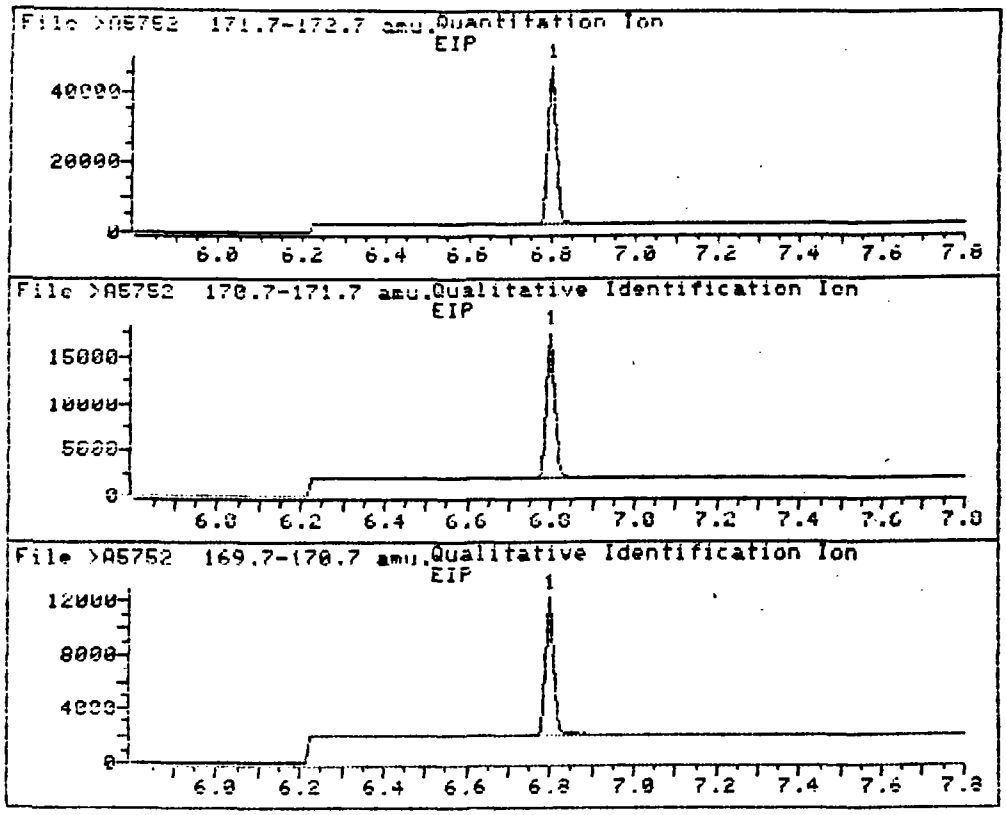
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.44	2.35	ppb	99	65944	8543	7174		
	173	65944			1.000	.130	.109		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

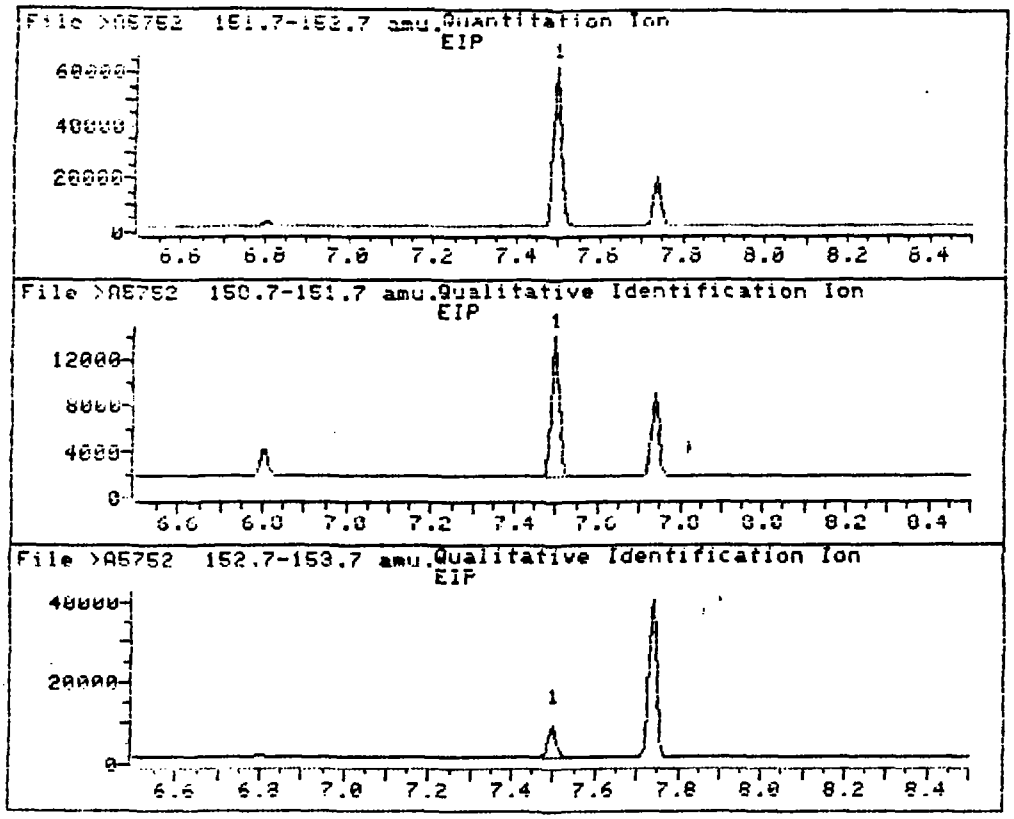
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.70	5.00	ppb	86	78464	72800	33006		
	464	78464			1.000	.928	.421		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

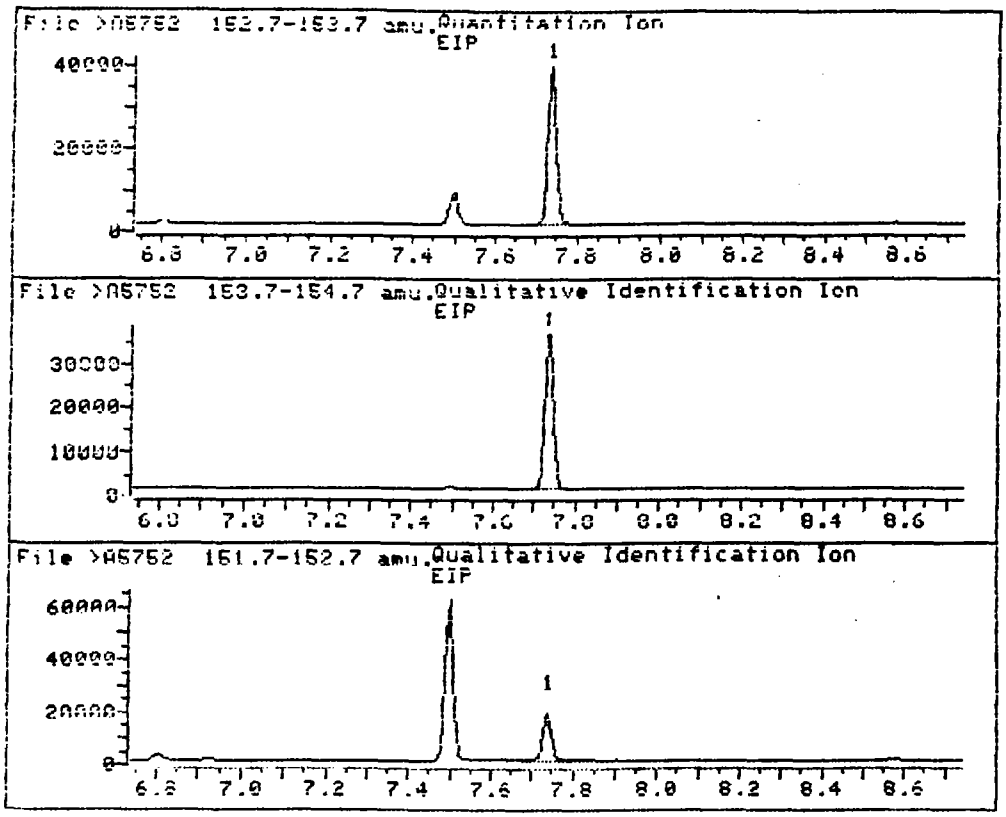
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.80	2.46	ppb	97	61031	20673	13232		
	345	61031			1.000	.339	.217		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 6
Compound Name: Acenaphthylene
Quant Ion: 152.0

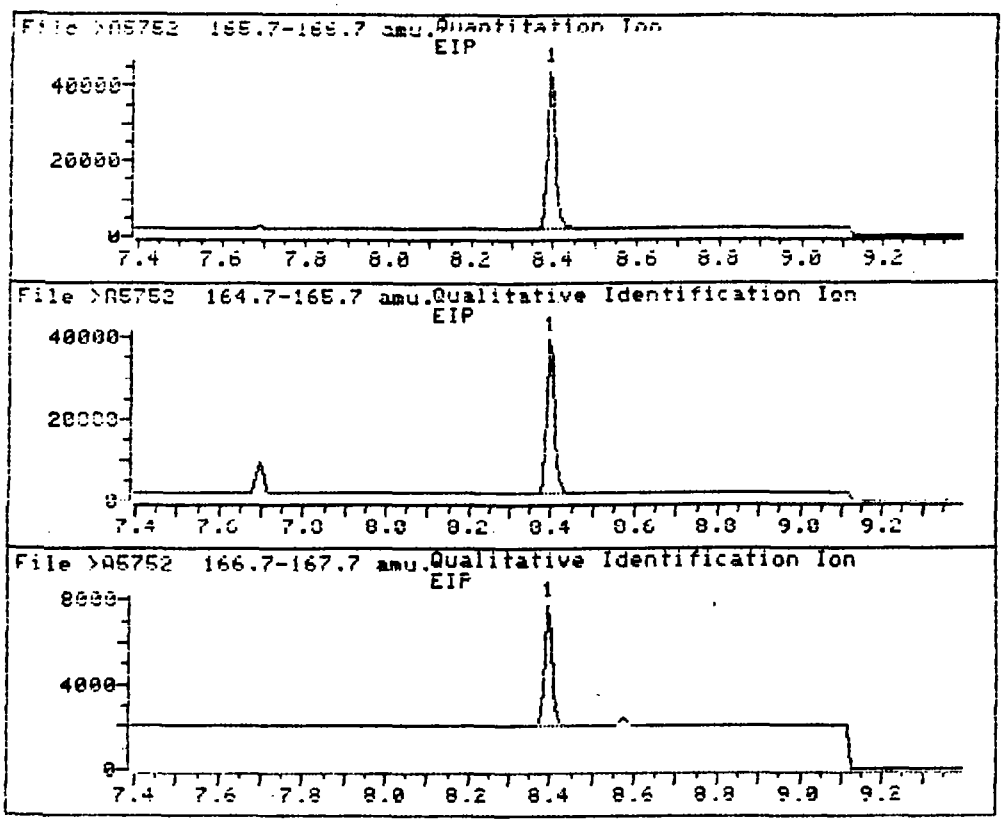
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 152.0	151.0	153.0		
1	7.50	2.50	ppb	97	77946	15212	10286		
	438	77946			1.000	.195	.132		



Data File: >A5752::!1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 153.0	154.0	152.0
1	7.74	2.58	ppb	91	51324	48922	23809
	470	51324			1.000	.953	.464



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0
1	8.39	2.47	ppb	91	57457	51978	7679
	557	57457			1.000	.905	.134

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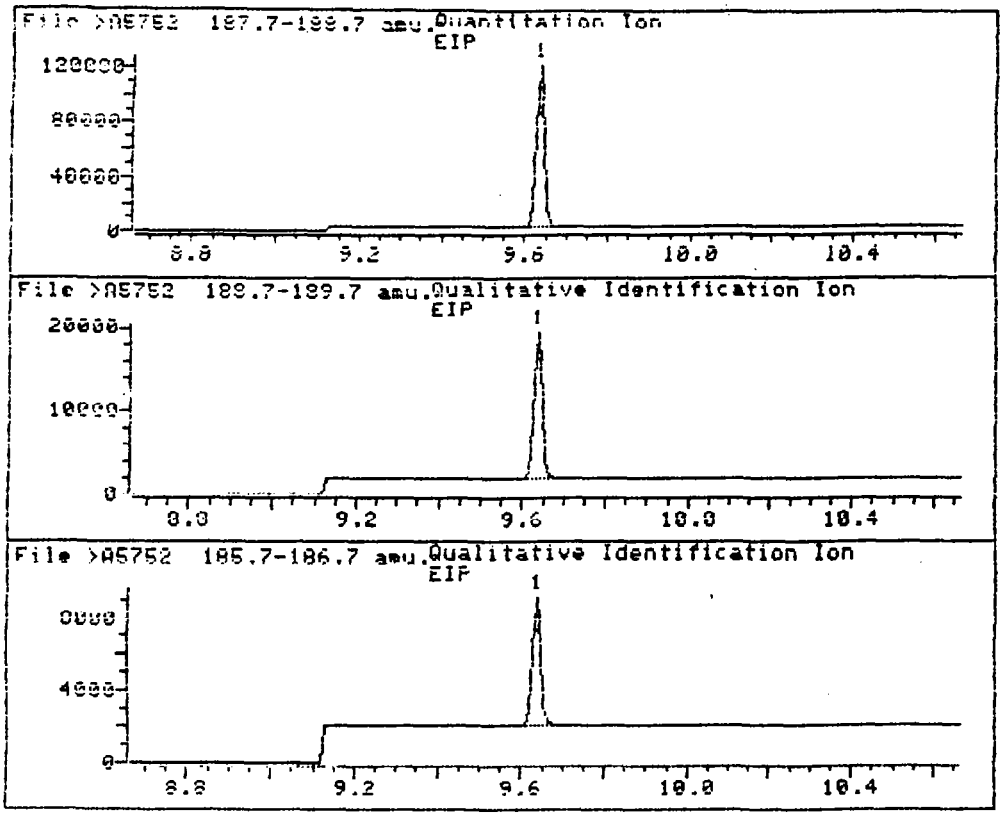
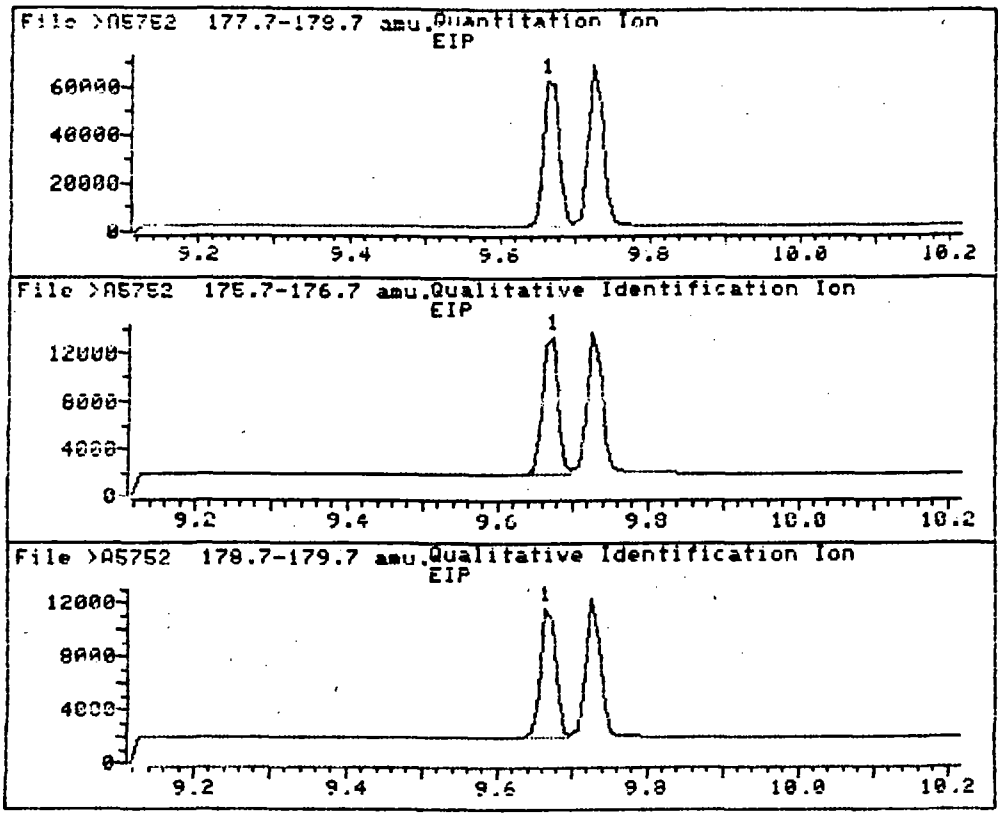


Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

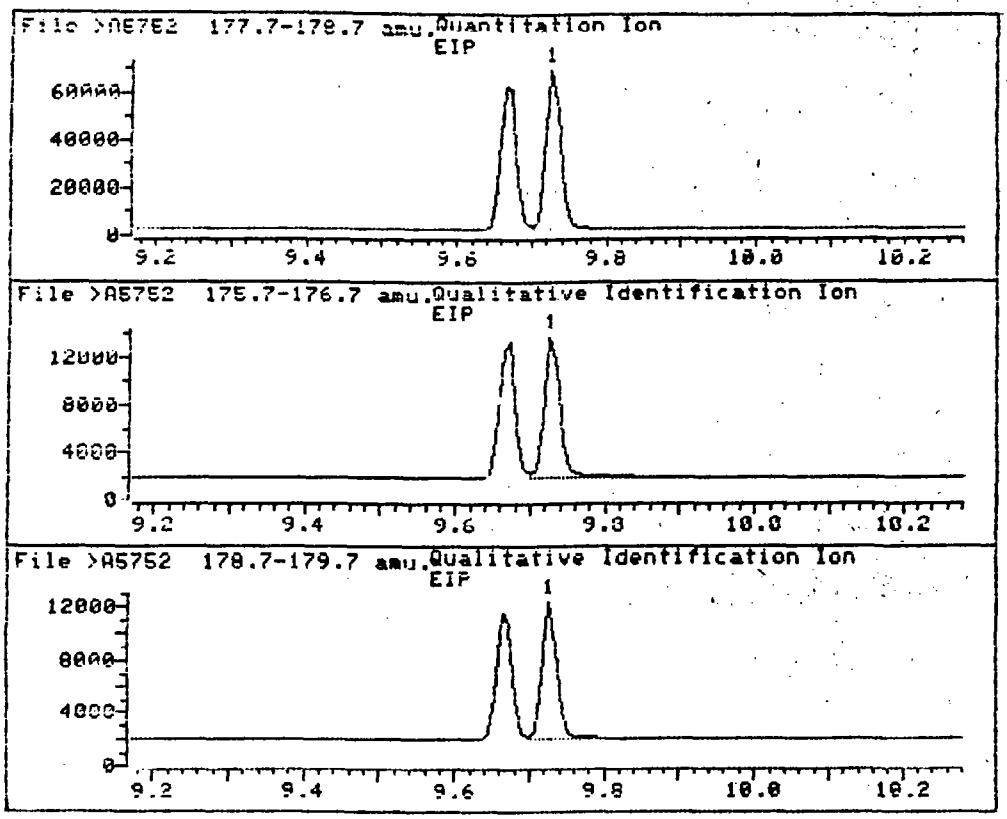
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.44	5.00	ppb	97	162995	24125	9943		
	711	162995			1.000	.148	.061		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.66	2.20	ppb	97	89948	16336	13748		
	714	89948			1.000	.182	.153		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 11
Compound Name: Anthracene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.73	2.20	ppb	97	93360	16494	14283		
	721	93360			1.000	.177	.153		

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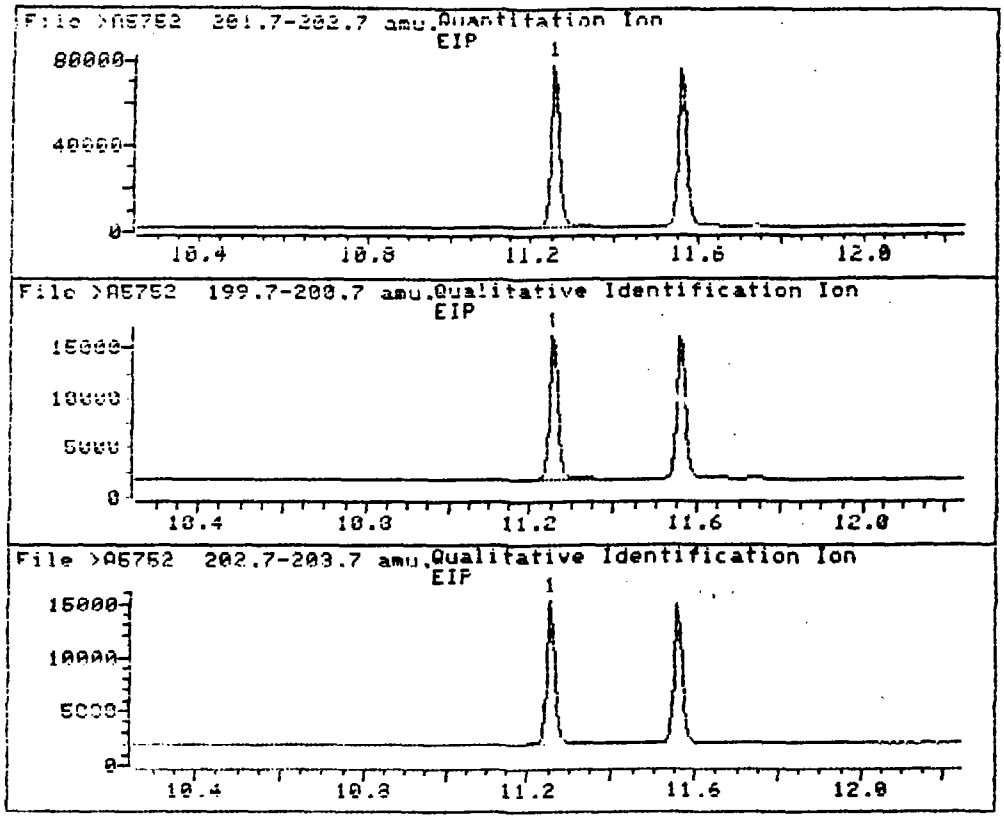
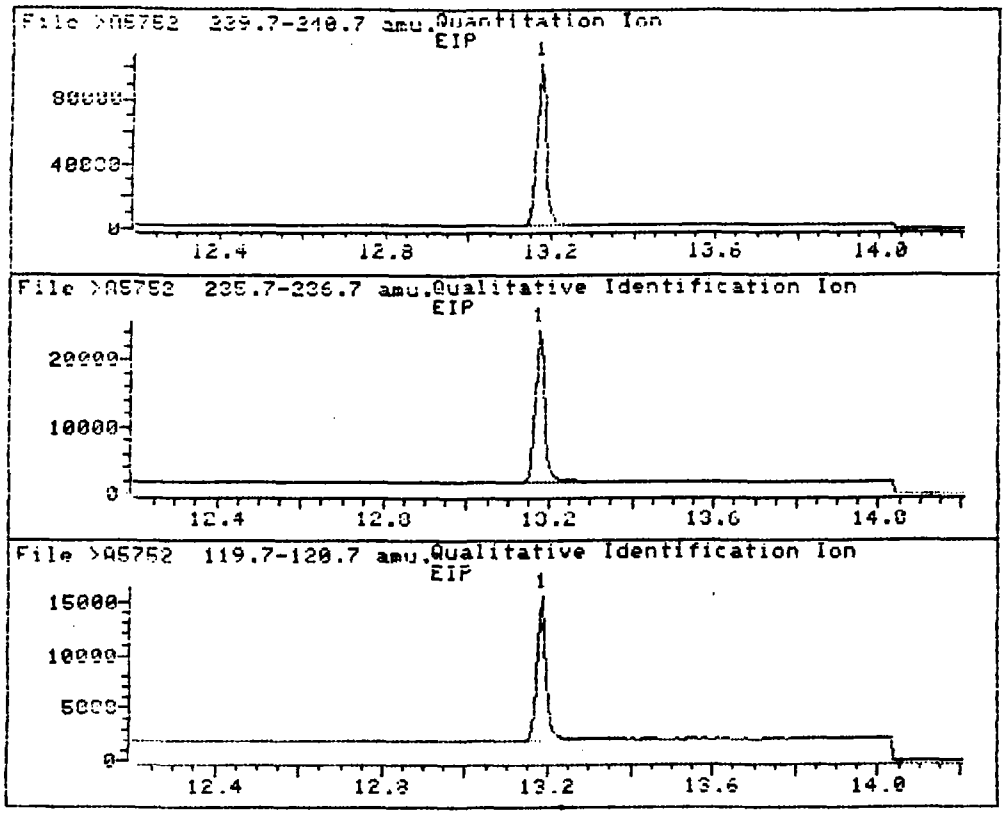


Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

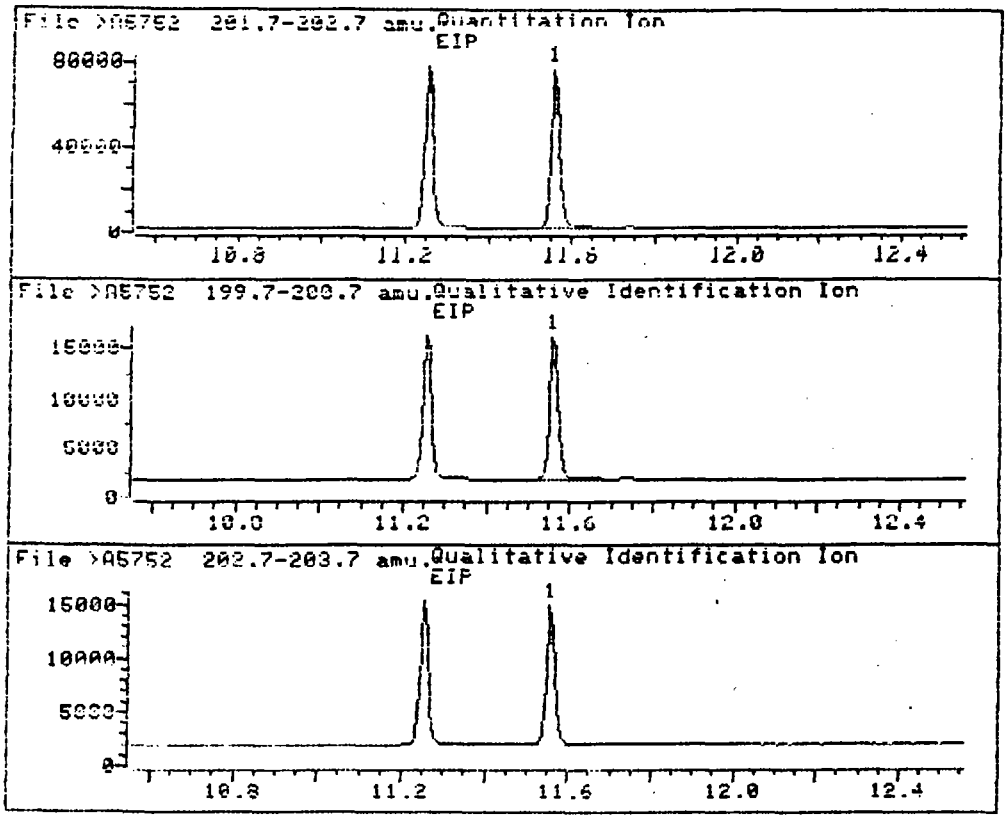
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.25	2.15	ppb	99	109483	21267	18398
	892	109483			1.000	.194	.168



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

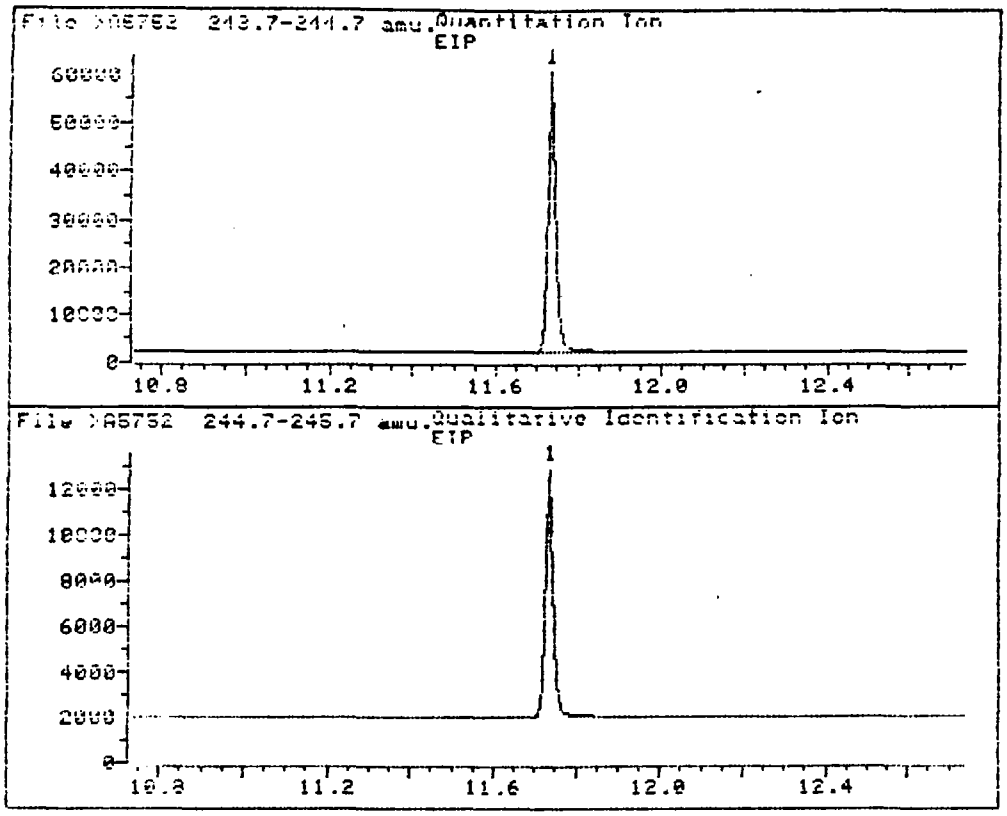
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.17	5.00	ppb	88	160925	36286	21939		
	1107	160925			1.000	.225	.136		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

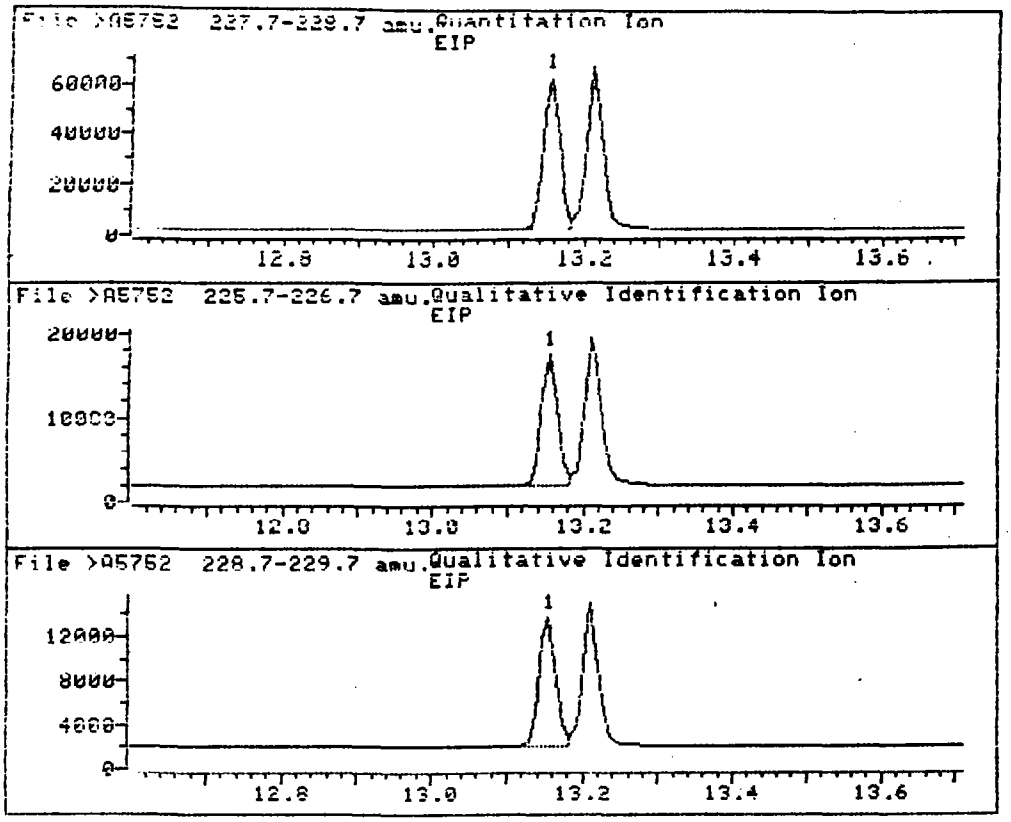
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.56	1.59	ppb	98	110094	21605	18889
	926	110094			1.000	.196	.172



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

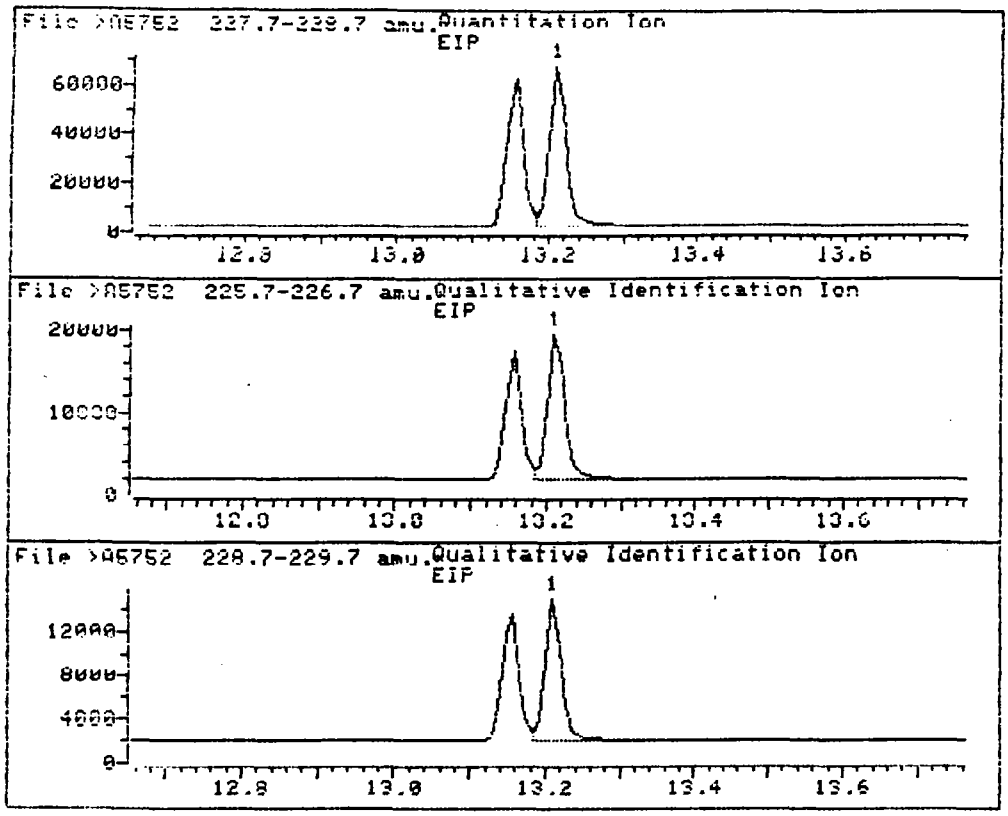
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.74	1.96	ppb	99	80857	15223
	946	80857			1.000	.188



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 16
Compound Name: Benzo(a)Anthracene
Quant Ion: 228.0

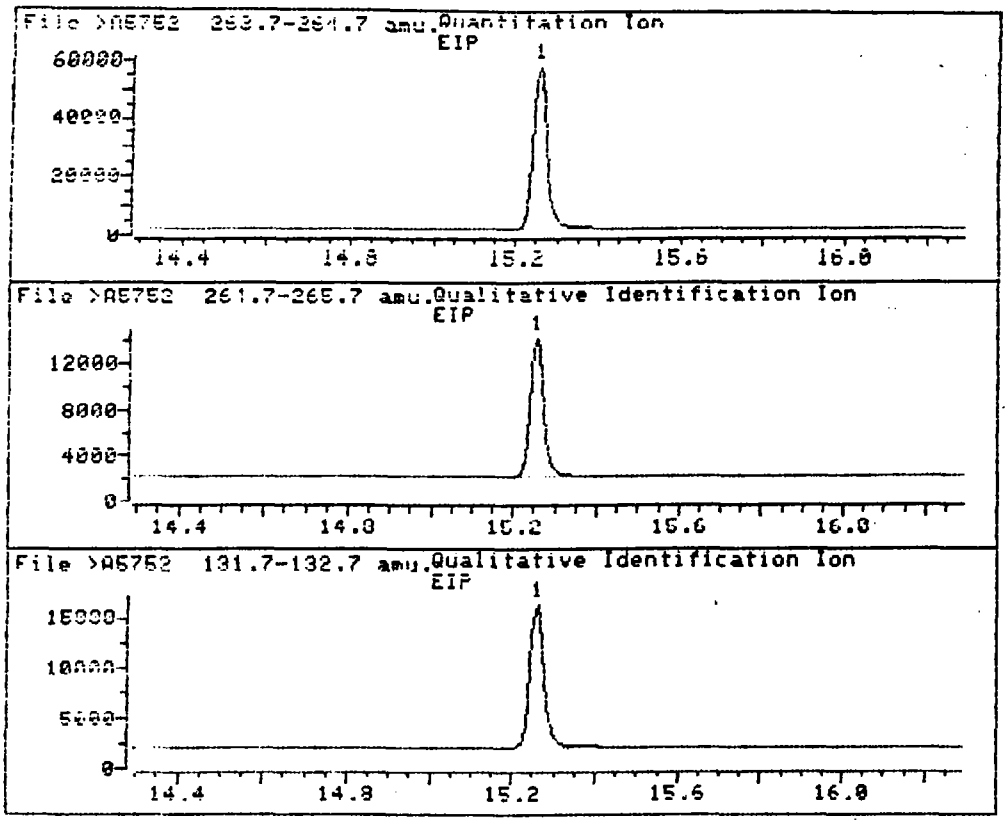
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0		
1	13.16	1.80	ppb	97	93105	23327	18173		
	1105	93105			1.000	.251	.195		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 17
Compound Name: Chrysene
Quant Ion: 228.0

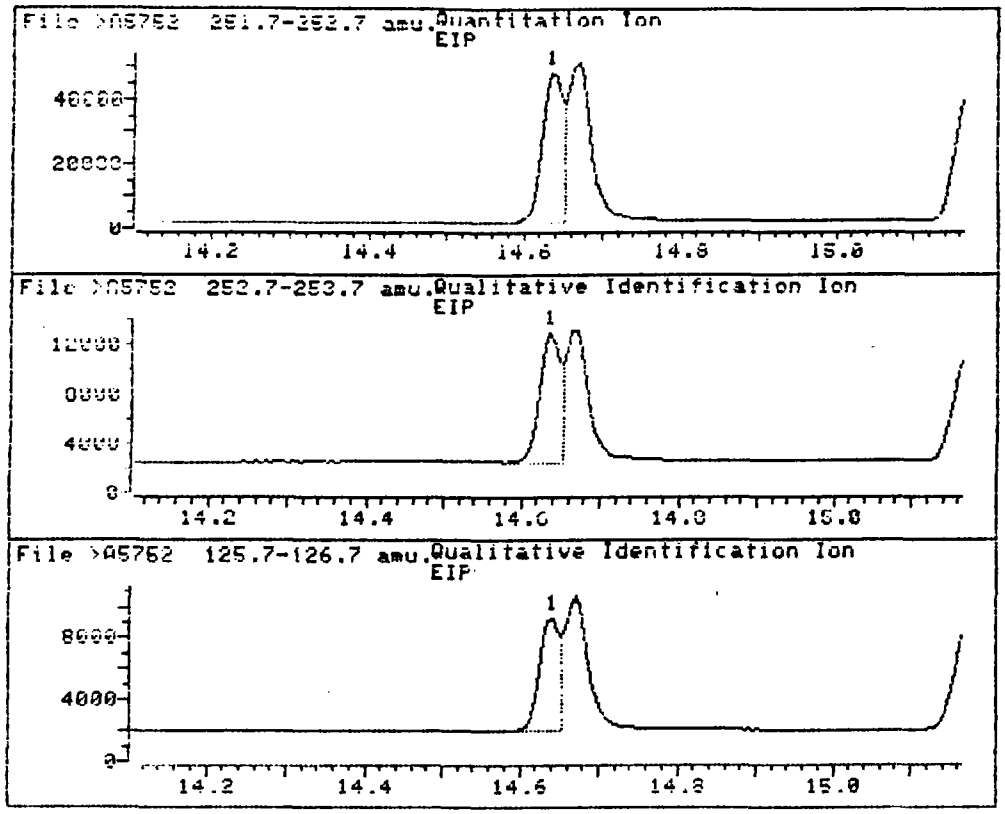
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0
1	13.21	1.90	ppb	97	102282	28130	19977
	1111	102282			1.000	.275	.195



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0
1	15.26	5.00	ppb	85	131852	28352	34574
	1418	131852			1.000	.215	.262



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 19
Compound Name: Benzo(b)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.64	1.71	ppb	93	89403	20319	13658		
	1309	89403			1.000	.227	.153		

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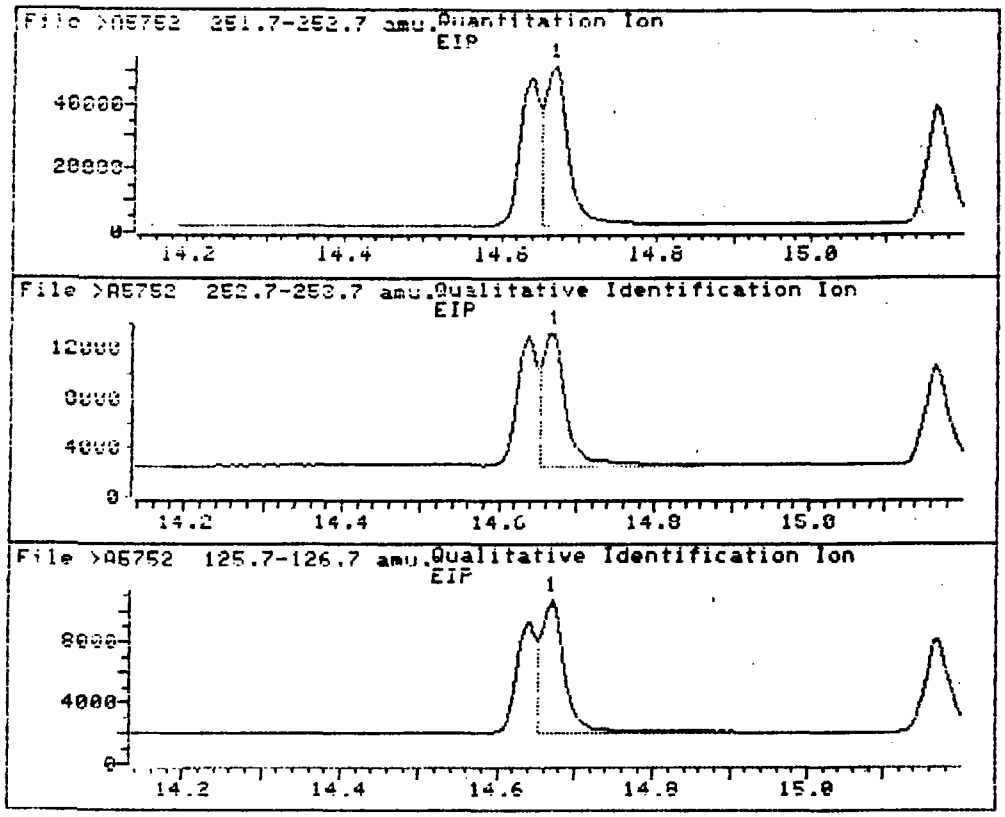
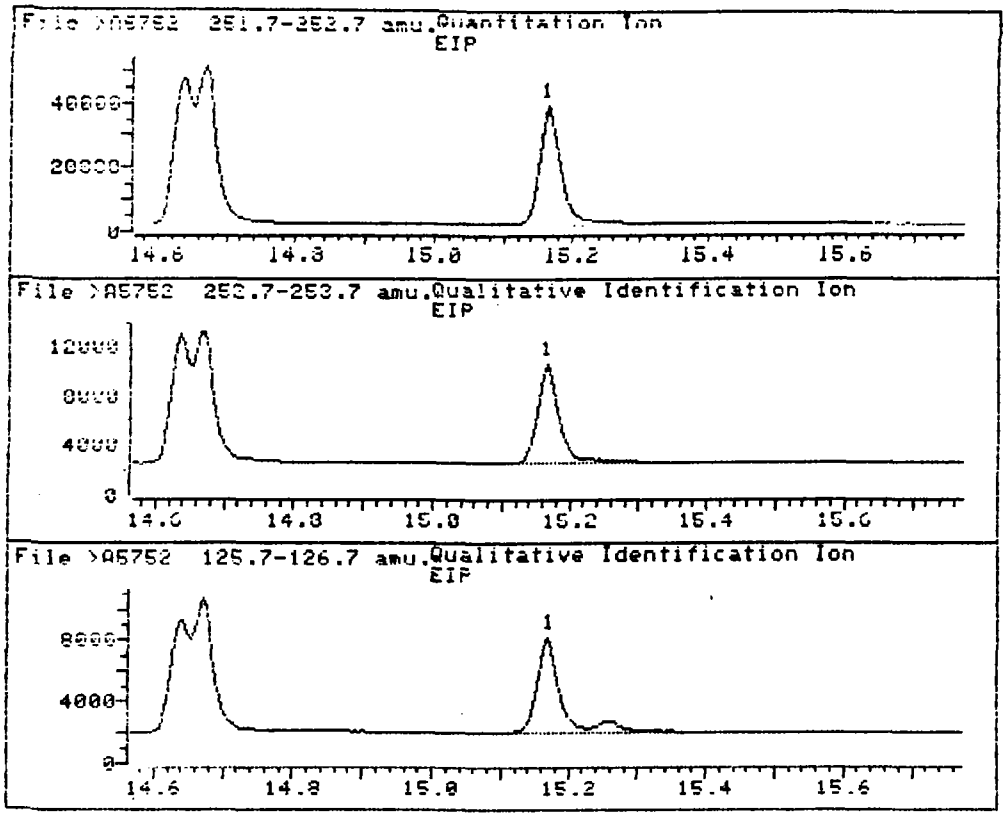


Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 28
Compound Name: Benzo(k)Fluoranthene
Quant Ion: 252.0

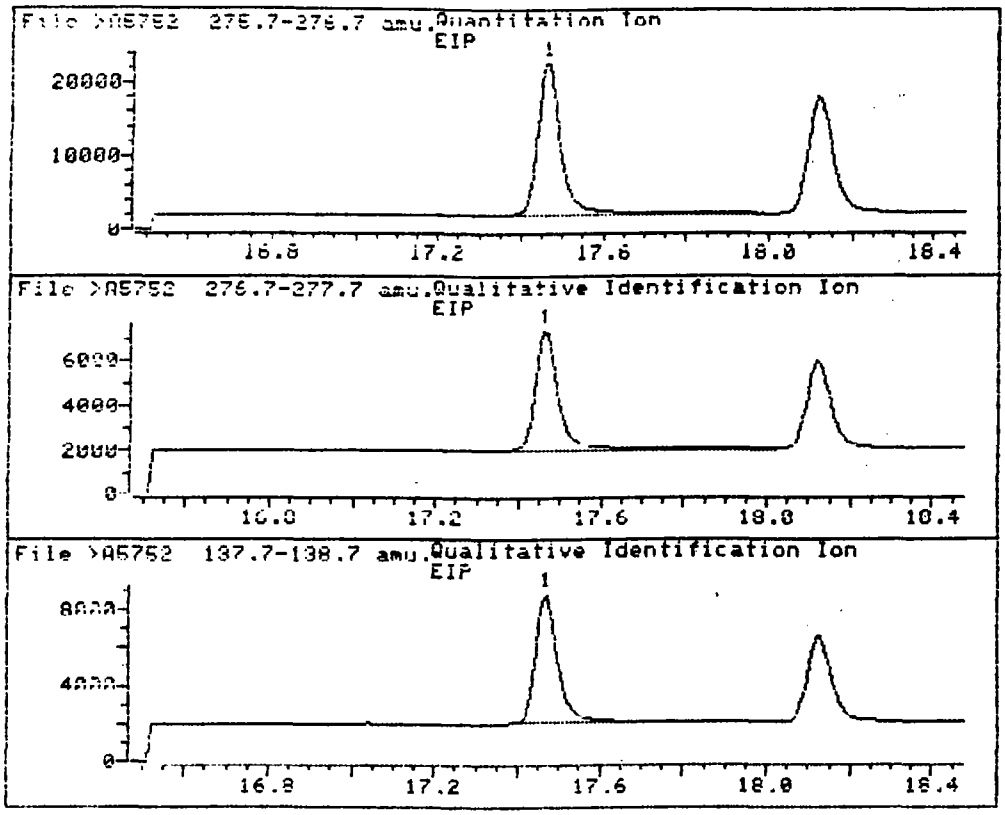
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.67	2.09	ppb	88	97230	21345	17673		
	1315	97230			1.000	.220	.182		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 21
Compound Name: Benzo(a)Pyrene
Quant Ion: 252.0

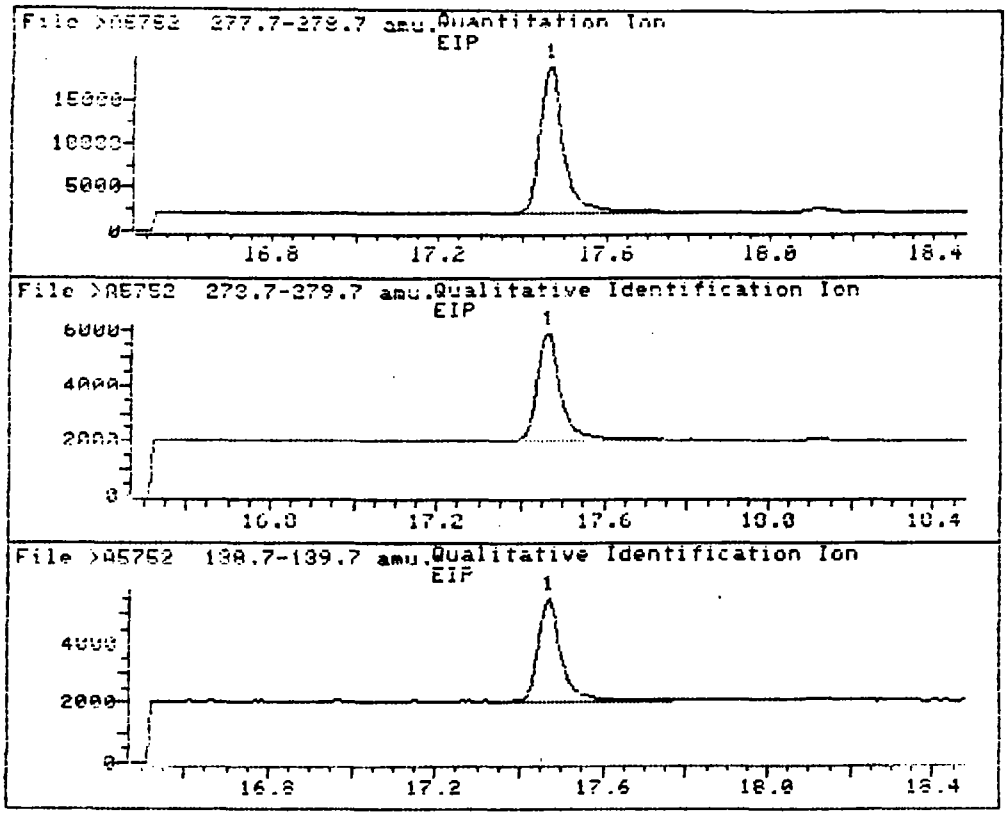
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	15.14	1.99	ppb	91	85745	19786	15650		
	1402	85745			1.000	.231	.183		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 22
Compound Name: Indeno(1,2,3-cd)Pyrene
Quant Ion: 276.0

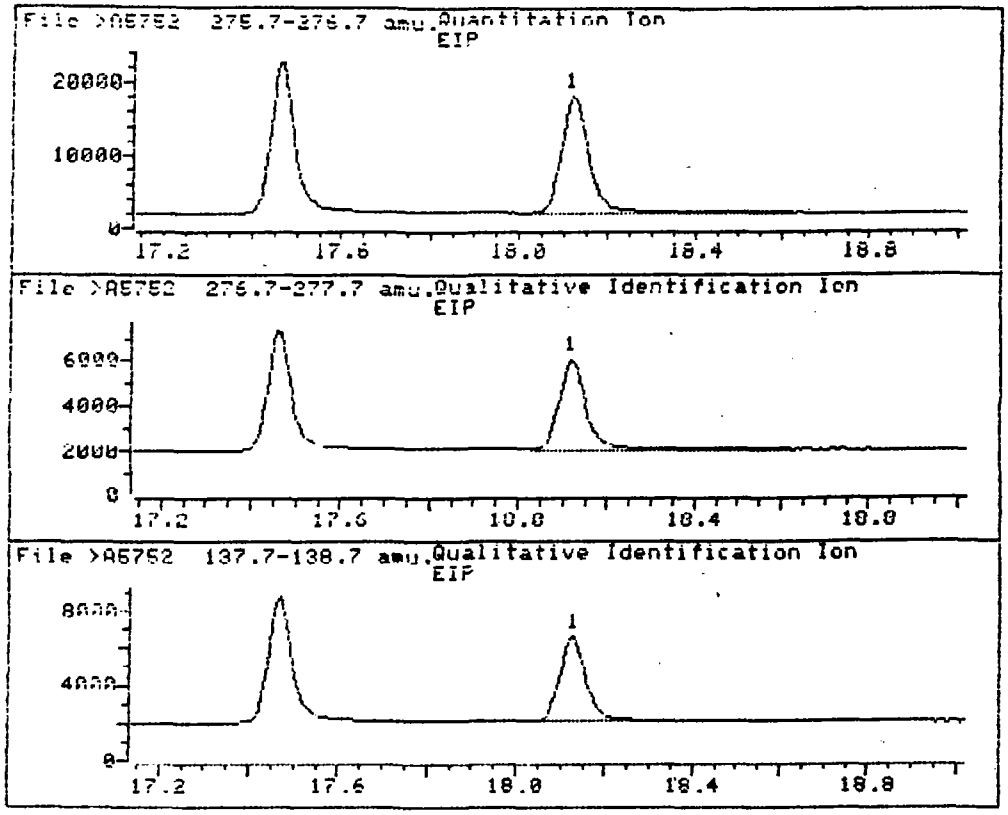
Hit #	R.T. Scan#	Conc Area	Units	n	Areas and Ratios 276.0	277.0	138.0		
1	17.47	2.96	ppb	81	79653	20761	26217		
	1762	79653			1.000	.261	.329		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 23
Compound Name: Dibenzo(a,h)Anthracene
Quant Ion: 278.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 278.0	279.0	139.0		
1	17.46	3.16	ppb	89	66368	15324	13790		
	1761	66368			1.000	.231	.208		



Data File: >A5752::L1 Quant Output File: ^A5752::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930702 06:50 Quant ID File: I_A120::QT
Injected at: 930702 06:28 Last Calibration: 930701 09:20

Compound No: 24
Compound Name: Benzo(g,h,i)Perylene
Quant Ion: 276.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0
1	18.12	3.41	ppb	85	68547	17031	19268
	1846	68547			1.000	.248	.281

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
Polynuclear Aromatic Hydrocarbons Target Ratio Worksheet

Data File Name: >A5769::L1 Standard ID: 2.5 ug/mL PAH STD.

	Ratio	Standard	Upper limit	Lower limit
Naphthalene	127/128	.130	.150	.110
	129/128	.110	.127	.094
Acenaphthylene	151/152	.196	.225	.167
	153/152	.132	.152	.112
Acenaphthene	154/153	.960	1.104	.816
	152/153	.463	.532	.394
Fluorene	165/166	.896	1.030	.762
	167/166	.135	.155	.115
Phenanthrene	176/178	.182	.209	.155
	179/178	.153	.176	.130
Anthracene	176/178	.178	.205	.151
	179/178	.152	.175	.129
Fluoranthene	200/202	.188	.216	.160
	203/202	.172	.198	.146
Pyrene	200/202	.191	.220	.162
	203/202	.177	.204	.150
Benzo(a)anthracene	226/228	.243	.279	.207
	229/228	.197	.227	.167
Chrysene	226/228	.267	.307	.227
	229/228	.196	.225	.167
Benzo(b)fluoranthene	253/252	.224	.258	.190
	126/252	.161	.185	.137
Benzo(k)fluoranthene	253/252	.214	.246	.182
	126/252	.192	.221	.163
Benzo(a)pyrene	253/252	.220	.253	.187
	126/252	.192	.221	.163
Indeno(1,2,3-cd)pyrene	277/276	.248	.285	.211
	138/276	.336	.386	.286
Dibenzo(a,h)anthracene	279/278	.231	.266	.196
	139/278	.219	.252	.186
Benzo(g,h,i)perylene	277/276	.237	.273	.201
	138/276	.287	.330	.244

7/6/93

QUANT REPORT

Operator ID: RDR
Output File: ^A5769::D2
Data File: :A5769::L1
Name: 2.5 ug/ml PAH STD.
Misc: IN4MSA:RDW:061193-0004

Quant Rev: 6
Quant Time: 930706 09:18
Injected at: 930706 08:56
Dilution Factor: 1.00000

RTL # 1

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.39	136.0	111477	5.00	ppb	96
2)	Nitrobenzene-d5 (surr.)	4.53	82.0	24764	2.60	ppb	83
3)	Naphthalene	5.41	128.0	63111	2.56	ppb	99
4)	*Acenaphthene-d10	7.67	164.0	79535	5.00	ppb	85
5)	2-Fluorobiphenyl (surr.)	6.78	172.0	58430	2.36	ppb	97
6)	Acenaphthylene	7.48	152.0	75527	2.39	ppb	98
7)	Acenaphthene	7.72	153.0	49313	2.37	ppb	91
8)	Fluorene	8.37	166.0	57774	2.48	ppb	90
9)	*Phenanthrene-d10	9.61	188.0	167022	5.00	ppb	97
10)	Phenanthrene	9.64	178.0	90262	2.45	ppb	97
11)	Anthracene	9.70	178.0	93488	2.44	ppb	97
12)	Fluoranthene	11.23	202.0	113791	2.54	ppb	98
13)	*Chrysene-d12	13.15	240.0	157202	5.00	ppb	91
14)	Pyrene	11.53	202.0	114680	2.67	ppb	98
15)	Terphenyl-d14 (surr.)	11.71	244.0	78507	2.48	ppb	99
16)	Benzo(a)Anthracene	13.13	228.0	103332	2.84	ppb	96
17)	Chrysene	13.19	228.0	105747	2.65	ppb	96
18)	*Perylene-d12	15.21	264.0	153353	5.00	ppb	87
19)	Benzo(b)Fluoranthene	14.60	252.0	94271	2.27	ppb	93
20)	Benzo(k)Fluoranthene	14.63	252.0	99323	2.20	ppb	88
21)	Benzo(a)Pyrene	15.13	252.0	89525	2.24	ppb	89
22)	Indeno(1,2,3-cd)Pyrene	17.40	276.0	86415	2.33	ppb	87
23)	Dibenzo(a,h)Anthracene	17.40	278.0	68954	2.23	ppb	88
24)	Benzo(g,h,i)Perylene	18.05	276.0	75552	2.37	ppb	85

* Compound is ISTD

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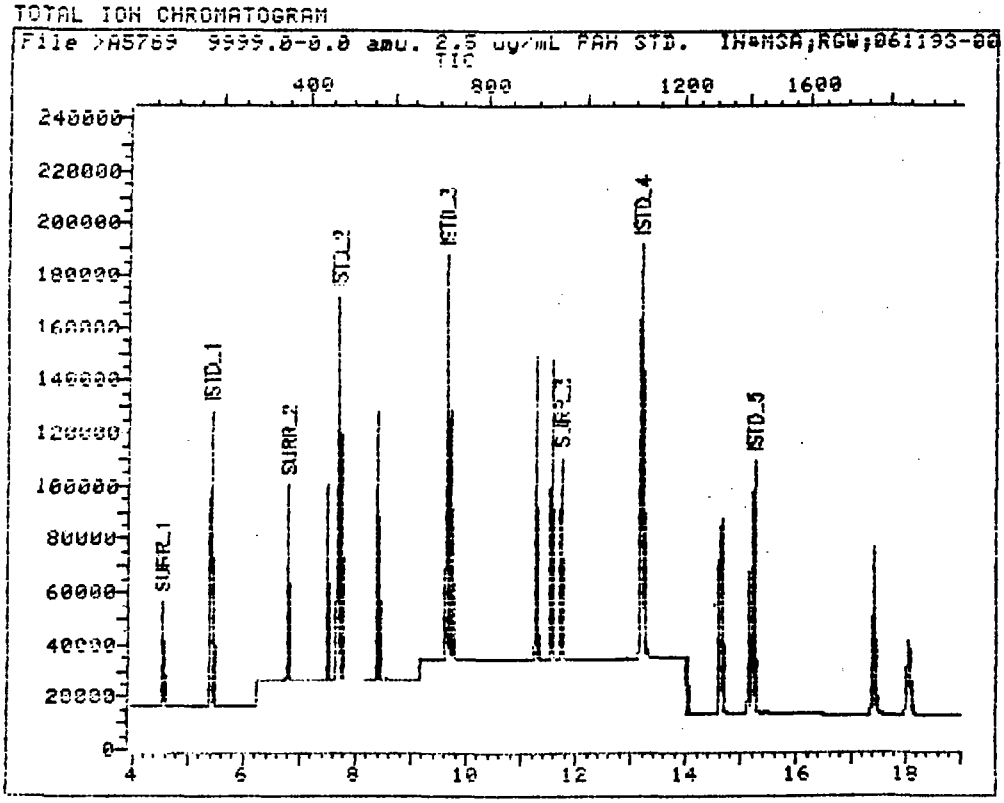
AY 7-6-93

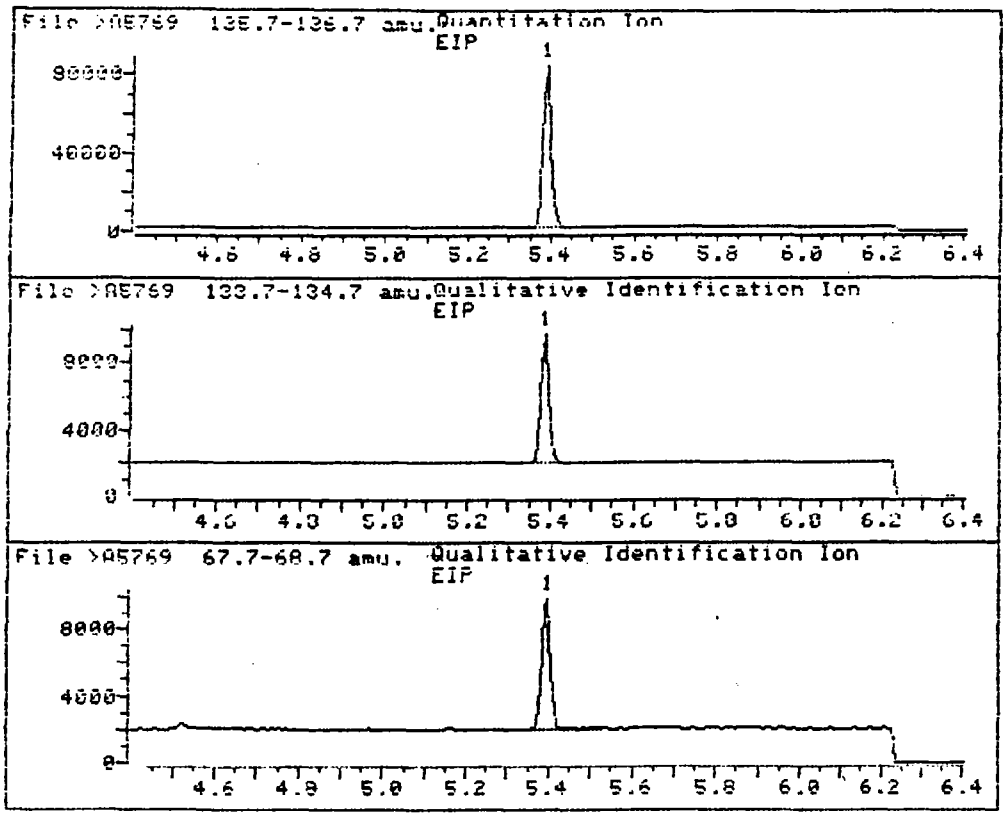
TOTAL ION CHROMATOGRAM



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

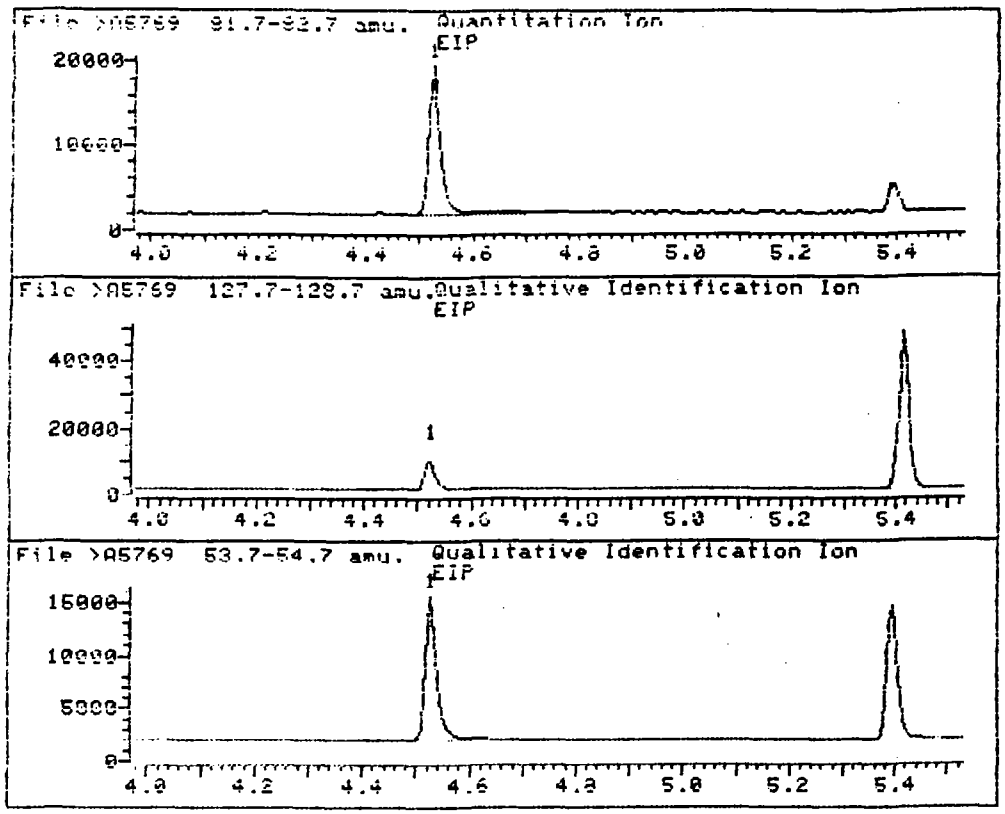
Operator ID: RGB
Quant Time: 930706 09:18
Injected at: 930706 08:56



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

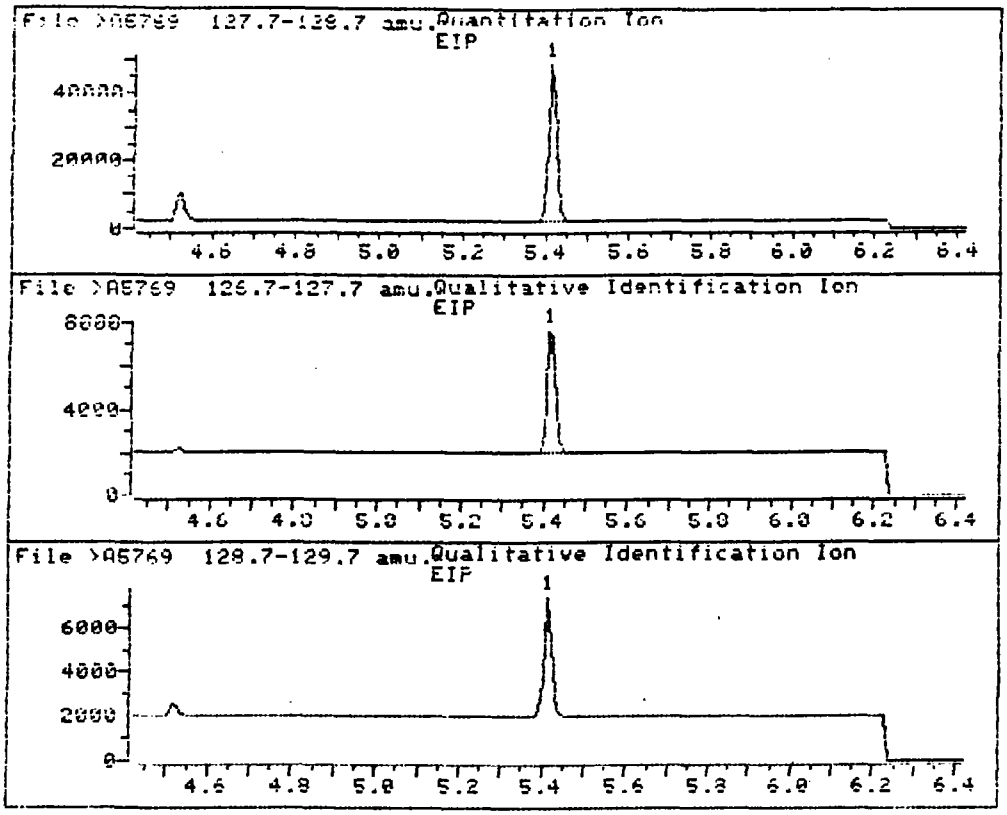
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.39	5.00	ppb	96	111477	10450	11159		
	173	111477			1.000	.094	.100		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 2
Compound Name: Nitrobenzene-d5 (surr.)
Quant Ion: 82.0

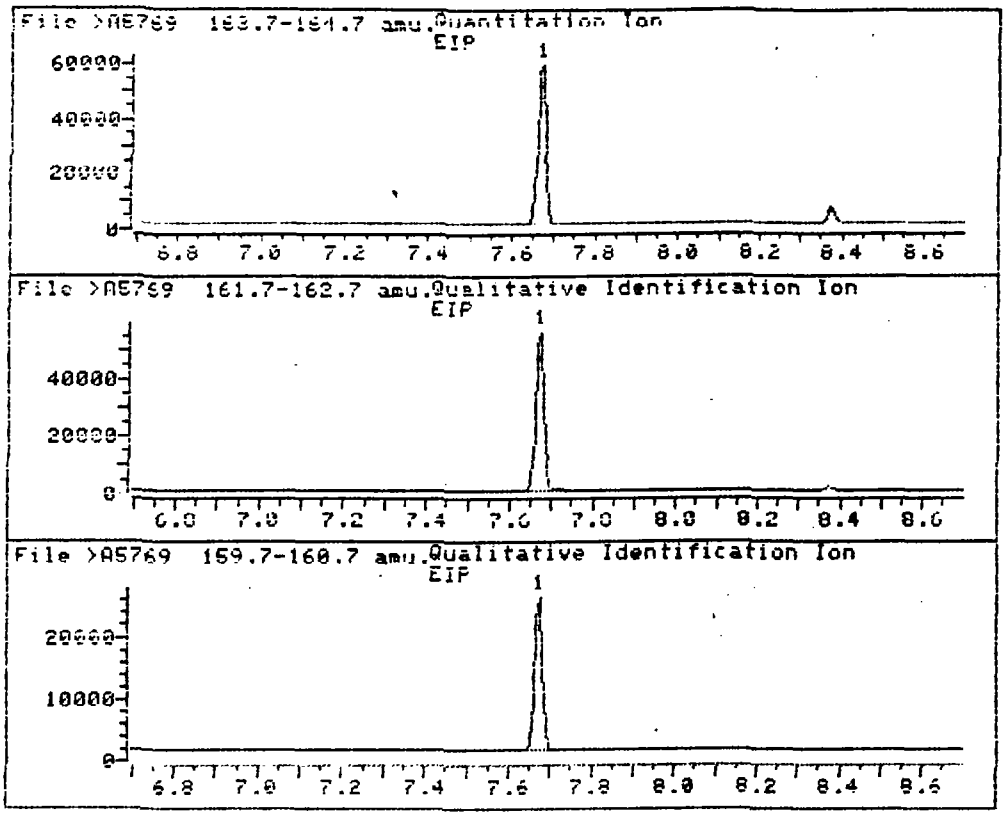
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 82.0	128.0	54.0
1	4.53	2.60	ppb	83	24764	12352	19242
	68	24764			1.000	.499	.777



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

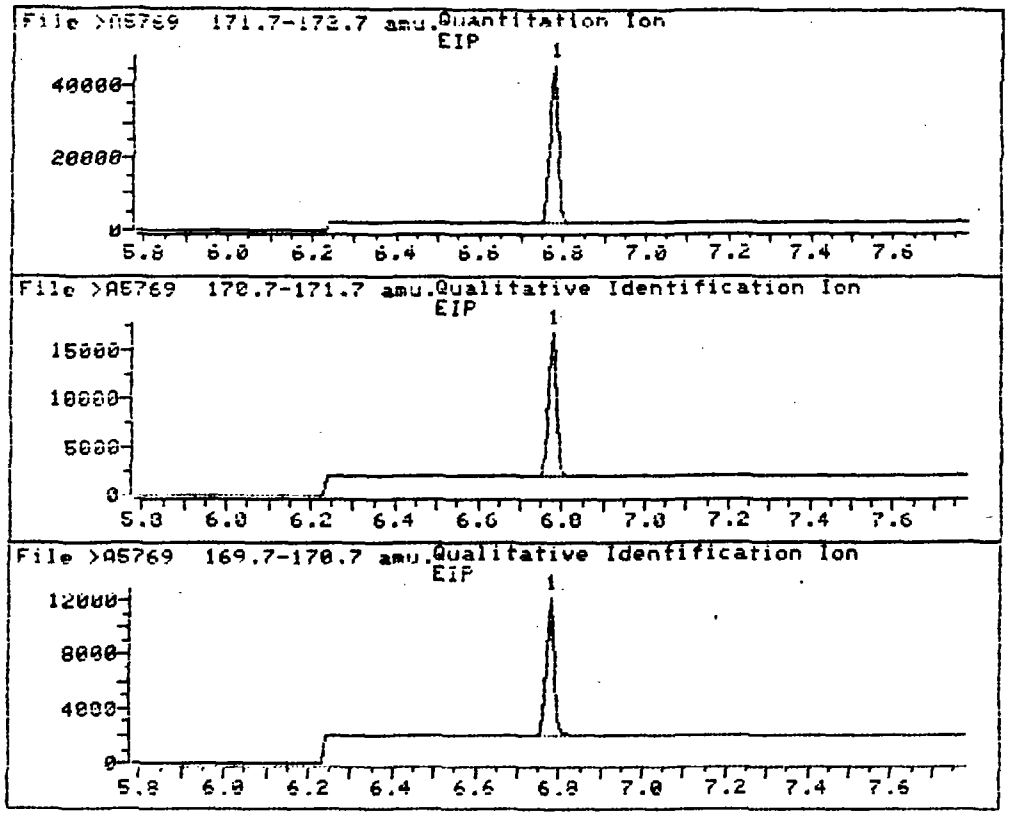
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.41	2.56	ppb	99	63111	8220	6960		
	176	63111			1.000	.130	.110		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

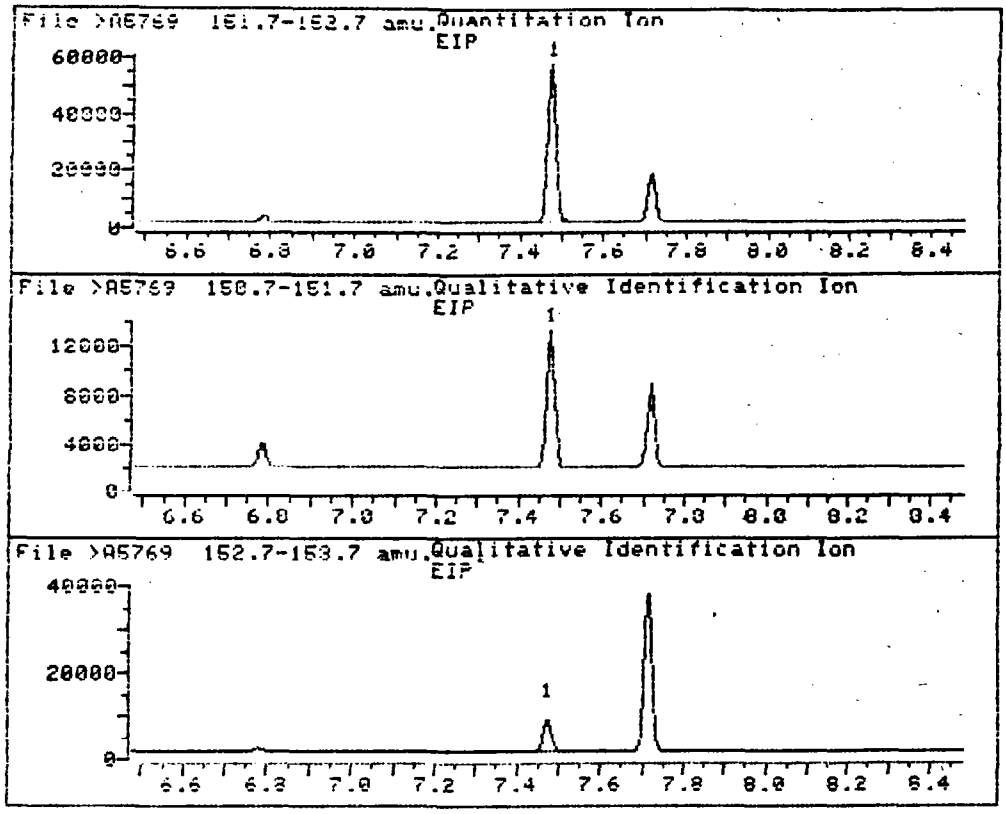
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.67	5.00	ppb	85	79535	73492	32504		
	467	79535			1.000	.924	.409		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

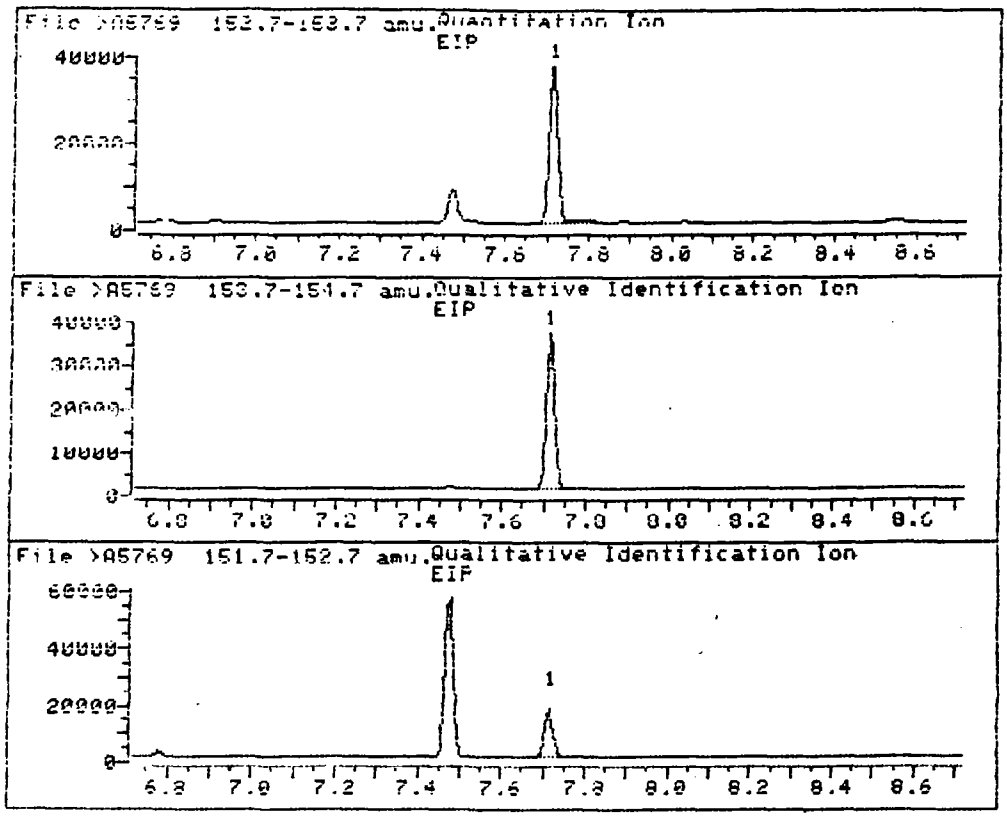
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.78	2.36	ppb	97	58430	19636	12724		
	348	58430			1.000	.336	.218		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 6
Compound Name: Acenaphthylene
Quant Ion: 152.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 152.0	151.0	153.0		
1	7.48	2.39	ppb	98	75527	14837	9934		
	441	75527			1.000	.196	.132		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RAW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 153.0	154.0	152.0		
1	7.22	2.37	ppb	91	49313	47318	22830		
	423	49313			1.000	.960	.463		

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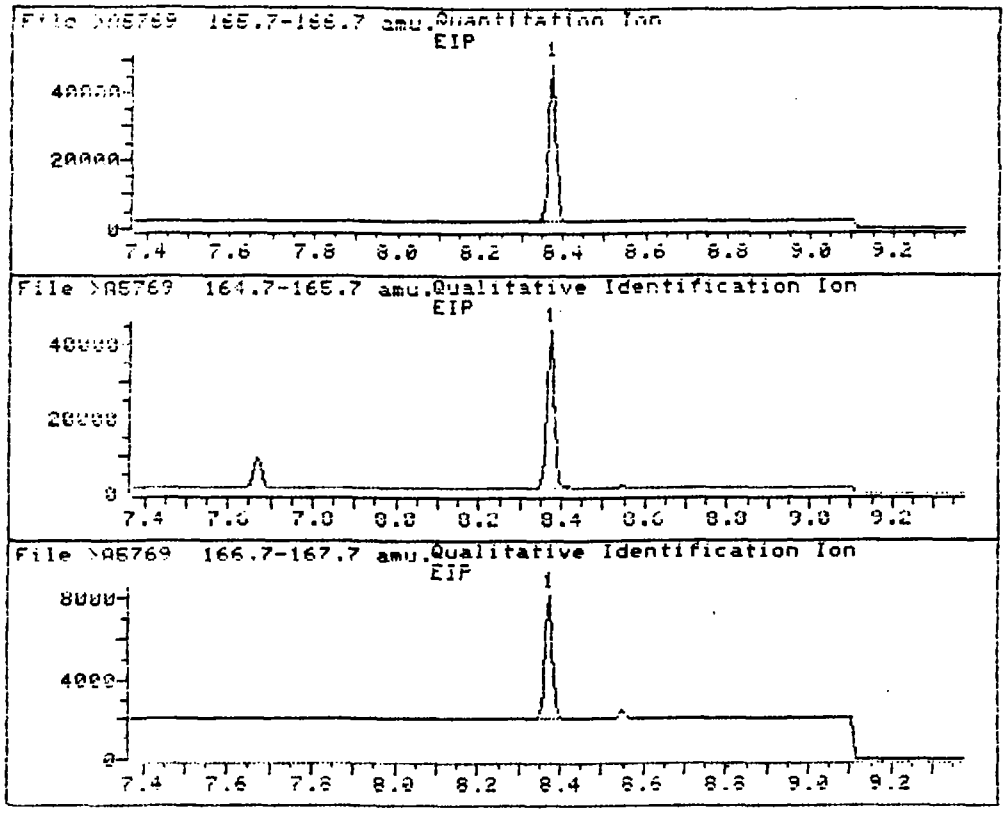
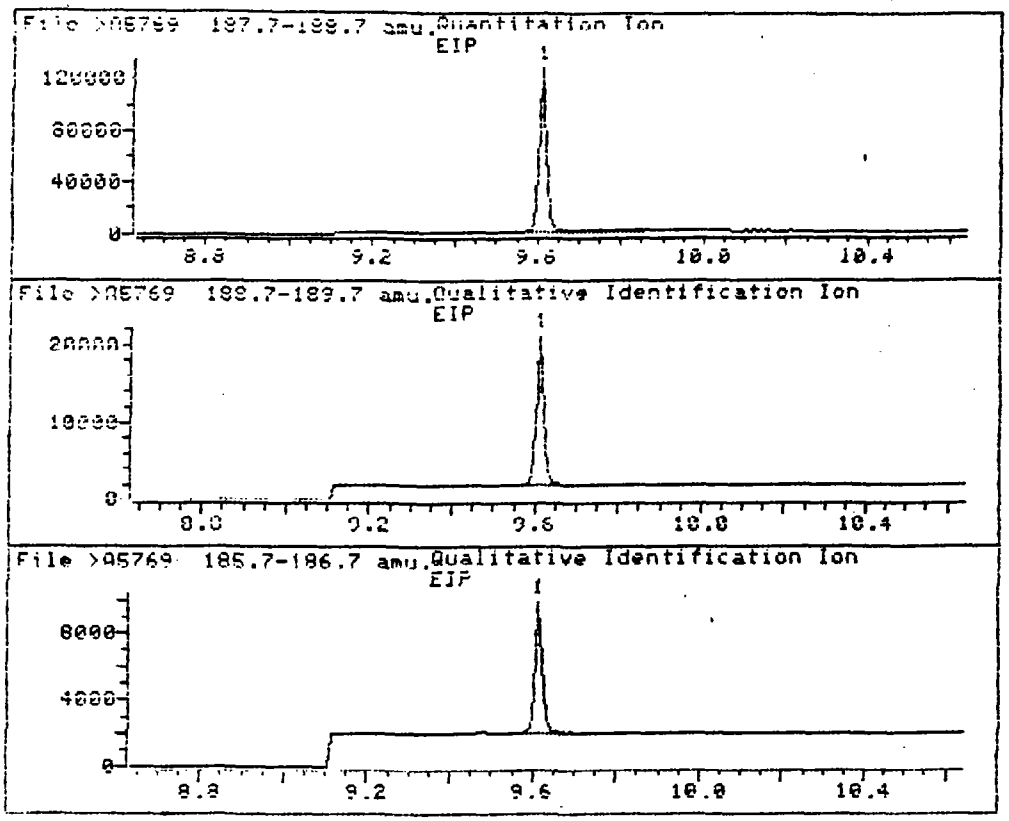


Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL # 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

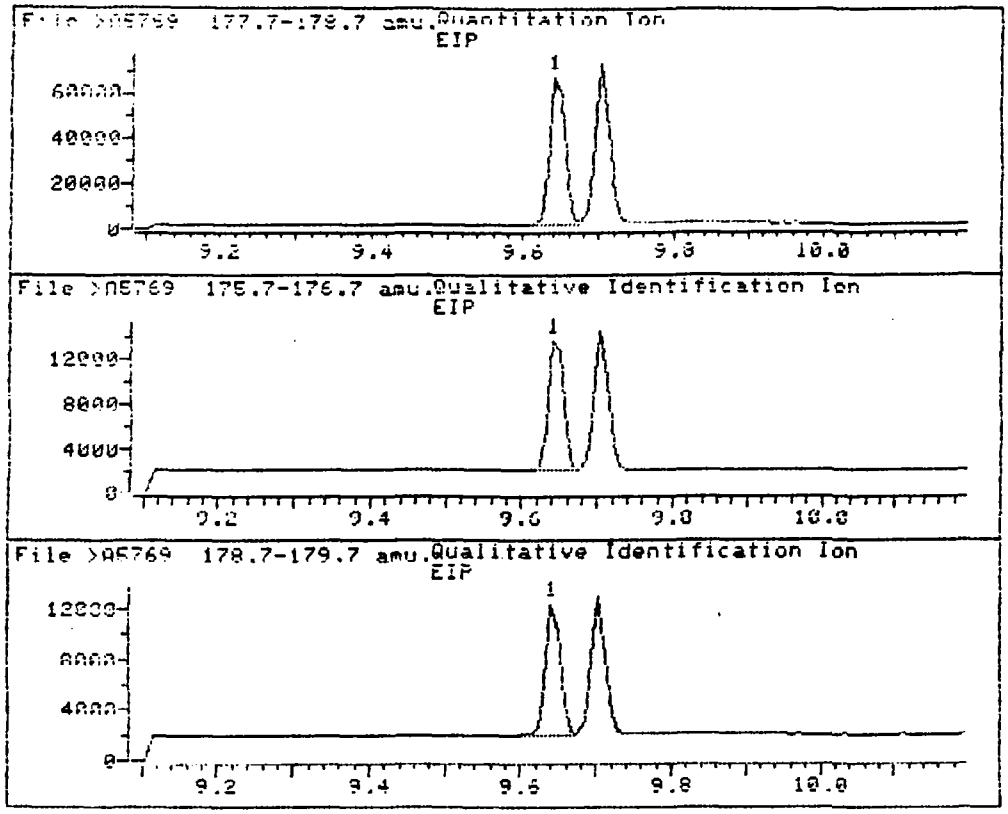
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0		
1	8.37	2.48	ppb	90	57774	51778	7774		
	560	57774			1.000	.896	.135		



Data File: >A5769::11 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A128::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

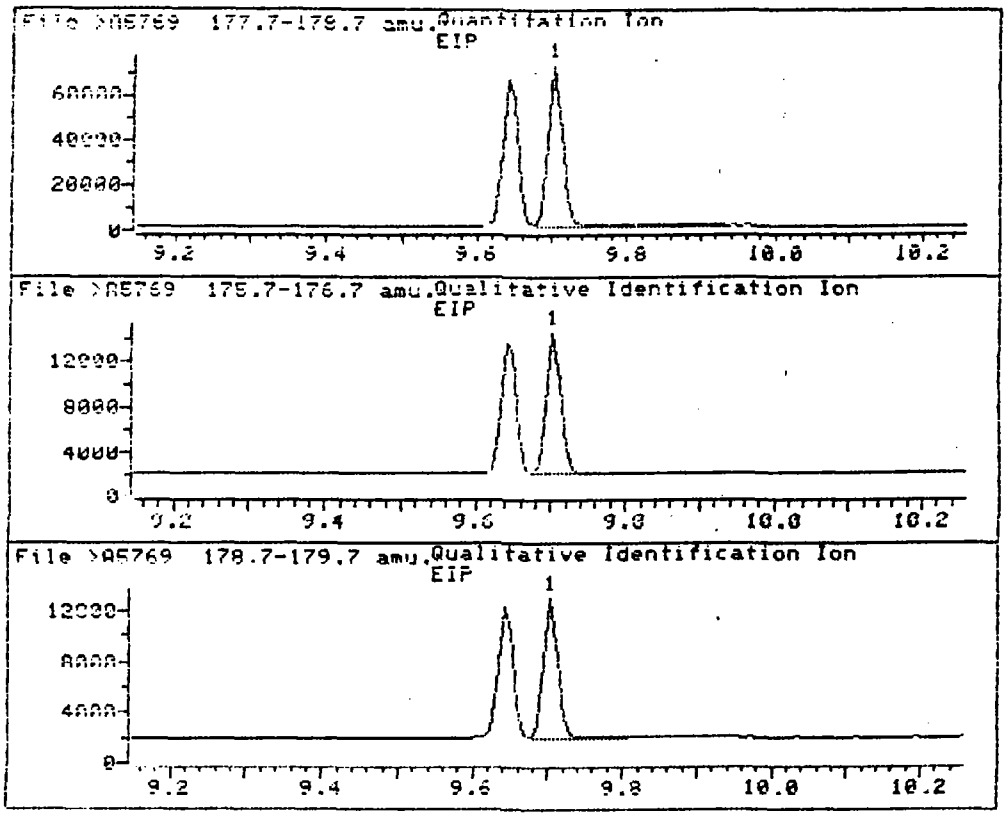
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.41	5.00	ppb	97	167022	25280	10129		
	714	167022			1.000	.151	.061		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0
1	9.64	2.45	pah	97	90262	16457	13779
	717	90262			1.000	.182	.153

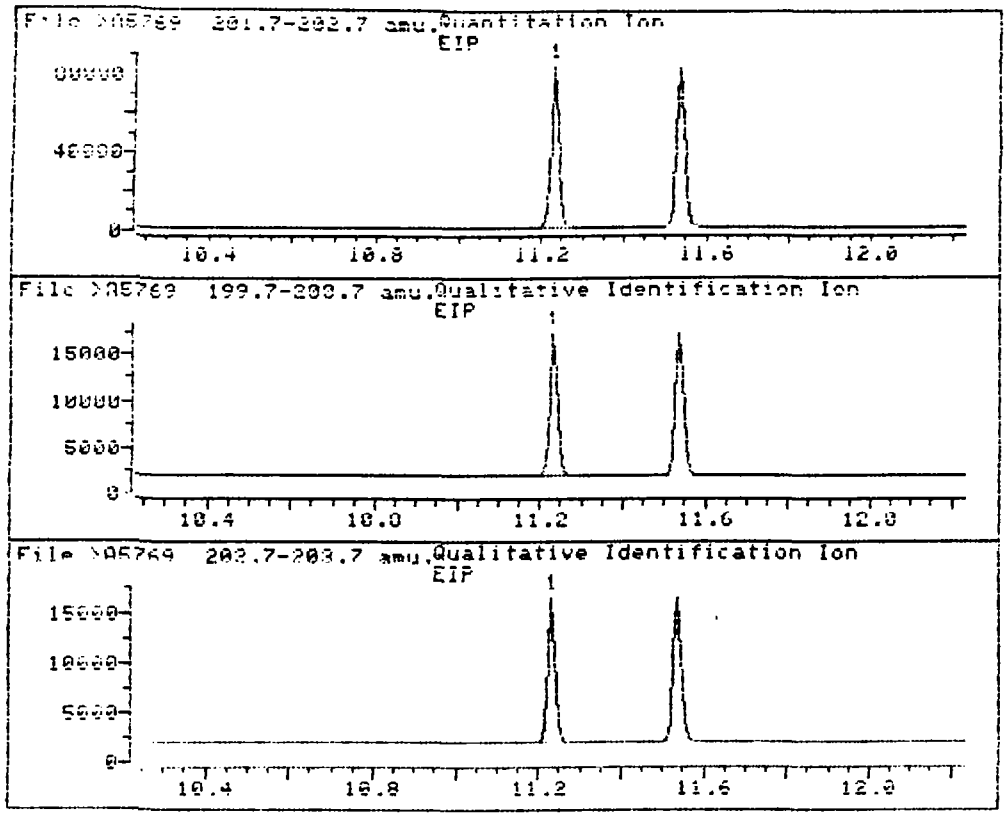


Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 11
Compound Name: Anthracene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.70	2.44	ppb	97	93488	16671	14250		
	794	93488			1.000	.178	.152		

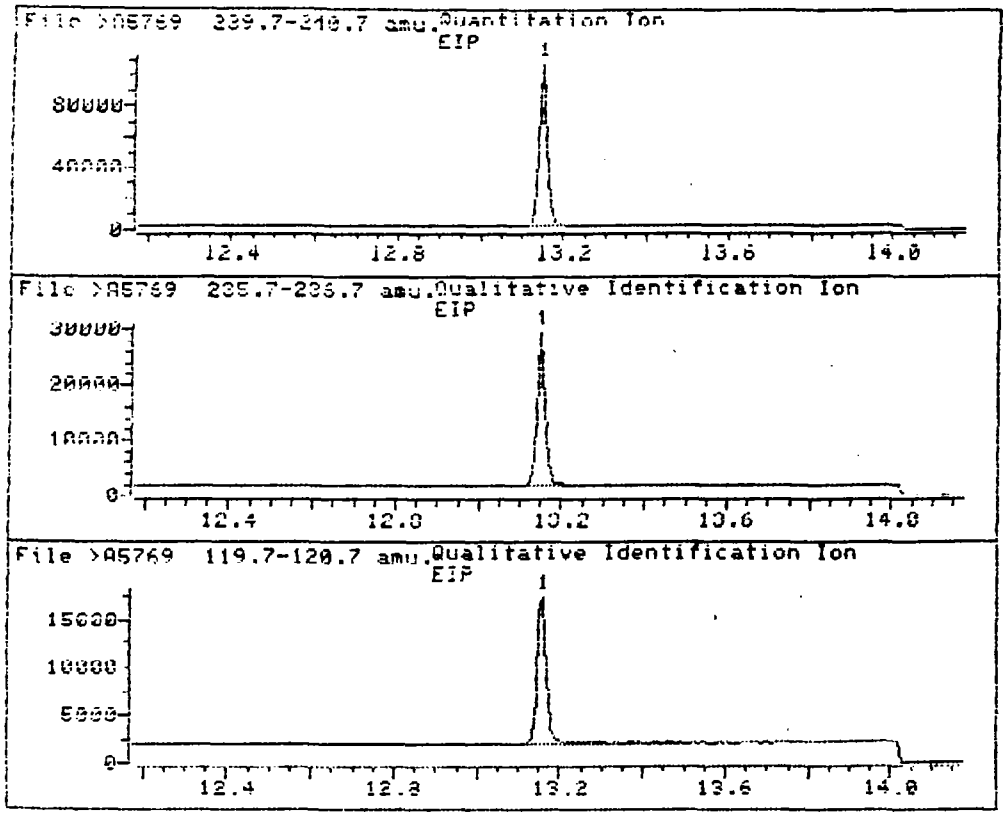
000054



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 RTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

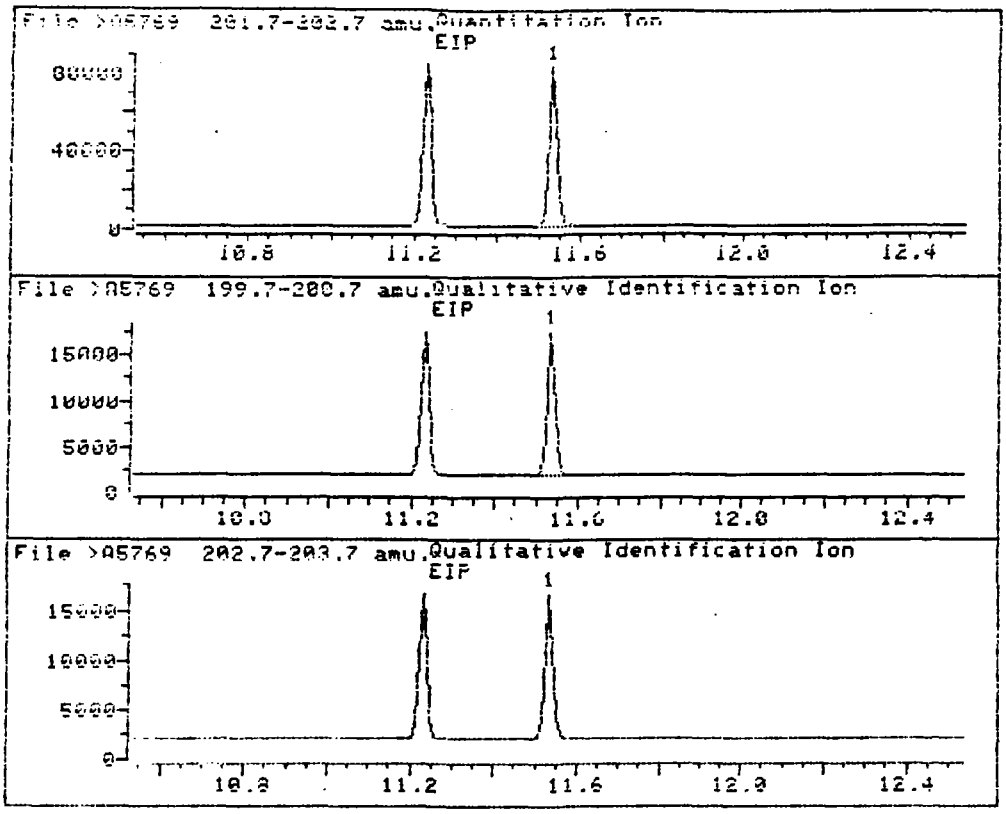
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.23	2.54	ppb	98	113791	21390	19626		
	895	113791			1.000	.188	.172		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml. PAH STD.
Misc: IN#MSA;ROW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

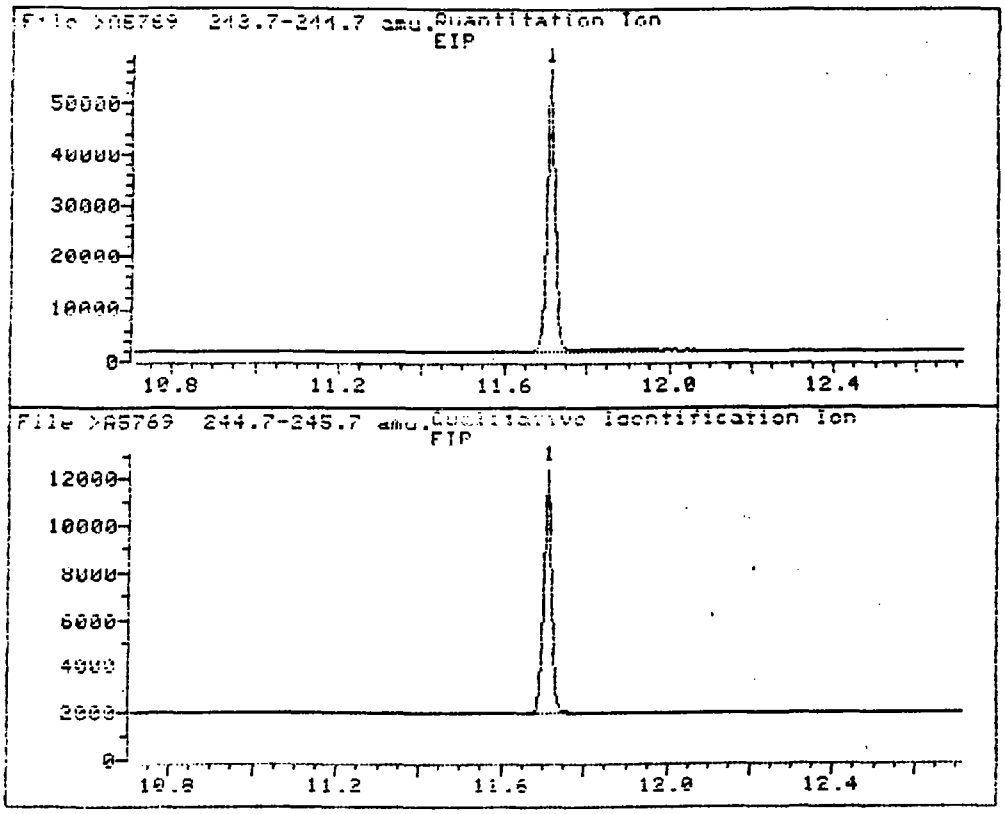
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.15	5.00	ppb	91	157202	40002	24469		
	1110	157202			1.000	.254	.156		



Data File: >05769::L1 Quant Output File: ^05769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

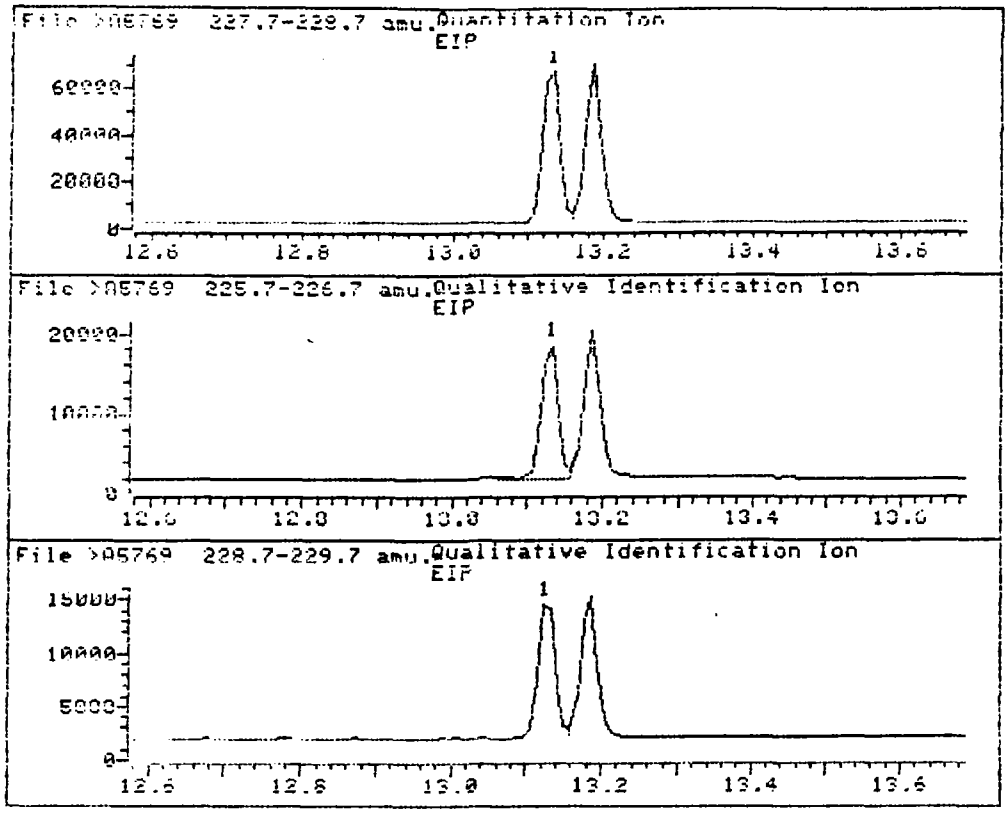
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.53	2.67	ppb	98	114680	21907	20342		
	929	114680			1.000	.191	.177		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

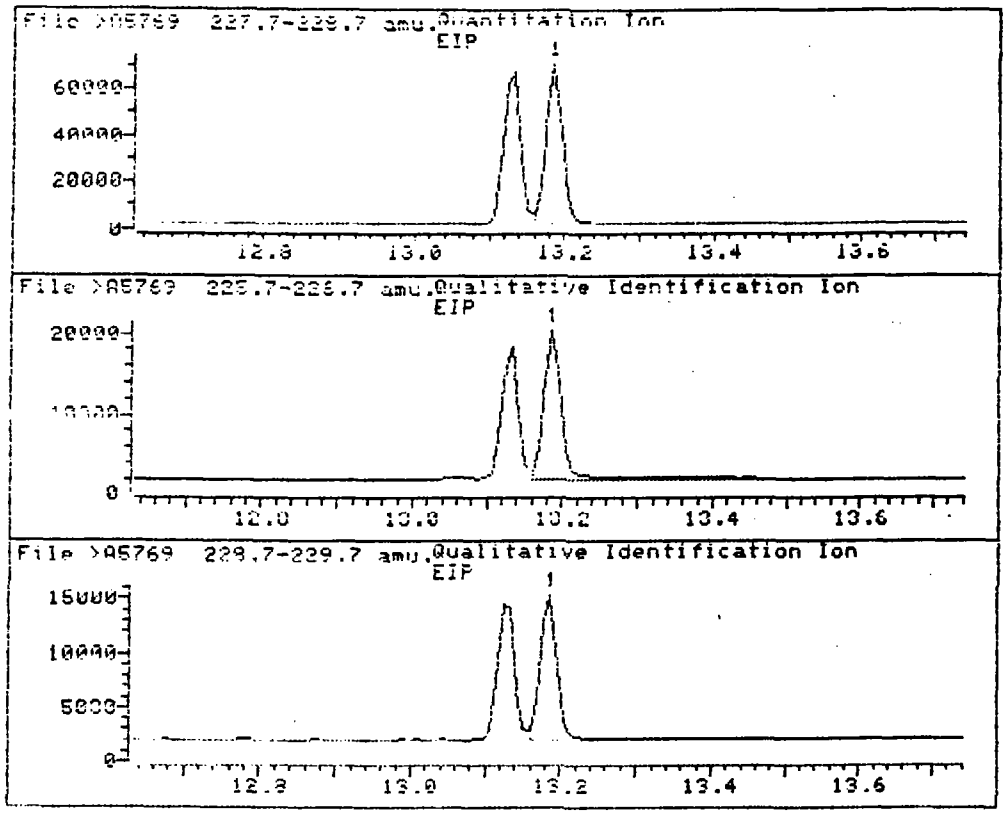
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.71	2.48	ppb	99	78507	15038
	949	78507			1.000	.192



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 16
Compound Name: Benzo(a)Anthracene
Quant Ion: 228.0

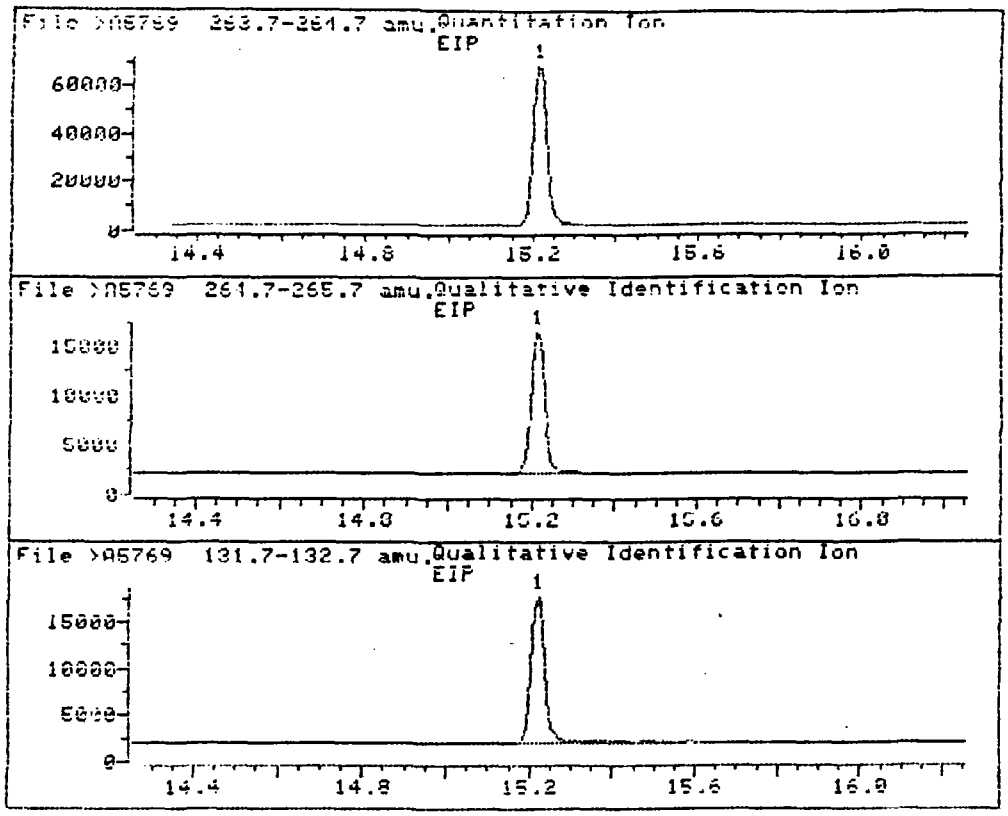
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0		
1	13.13	2.84	ppb	96	103332	25128	20398		
	1108	103332			1.000	.243	.197		



Data File: >A5769::1.1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 17
Compound Name: Chrysene
Quant Ion: 228.0

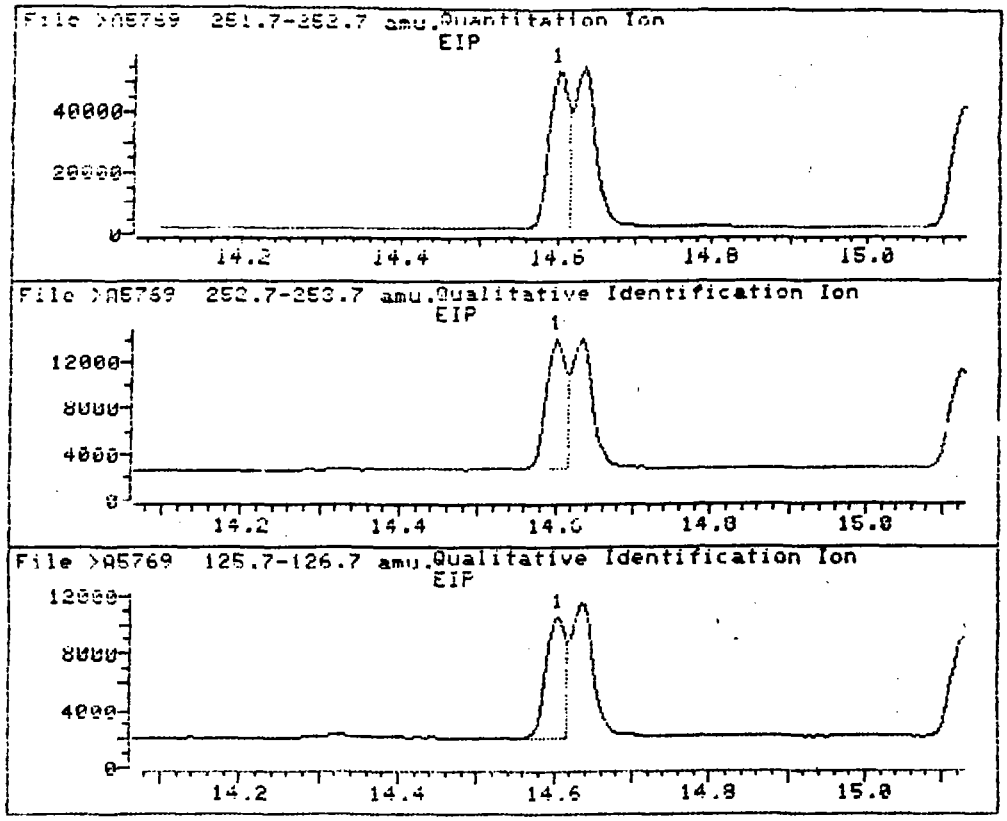
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0		
1	13.19	2.65	ppb	96	105747	28232	20695		
	1114	105747			1.000	.267	.196		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN&MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

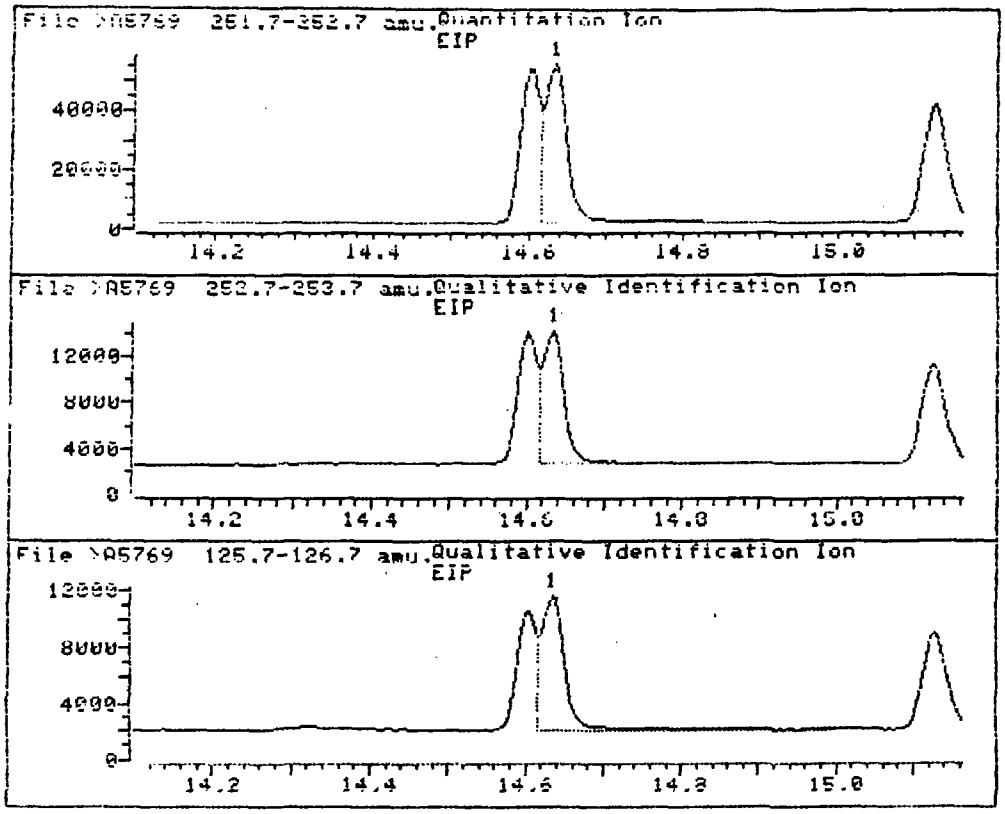
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0
1	15.21	5.00	ppb	87	153353	32627	35988
	1417	153353			1.000	.213	.235



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 19
Compound Name: Benzo(b)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.60	2.27	ppb	93	94271	21187	15147		
	1309	94271			1.000	.224	.161		

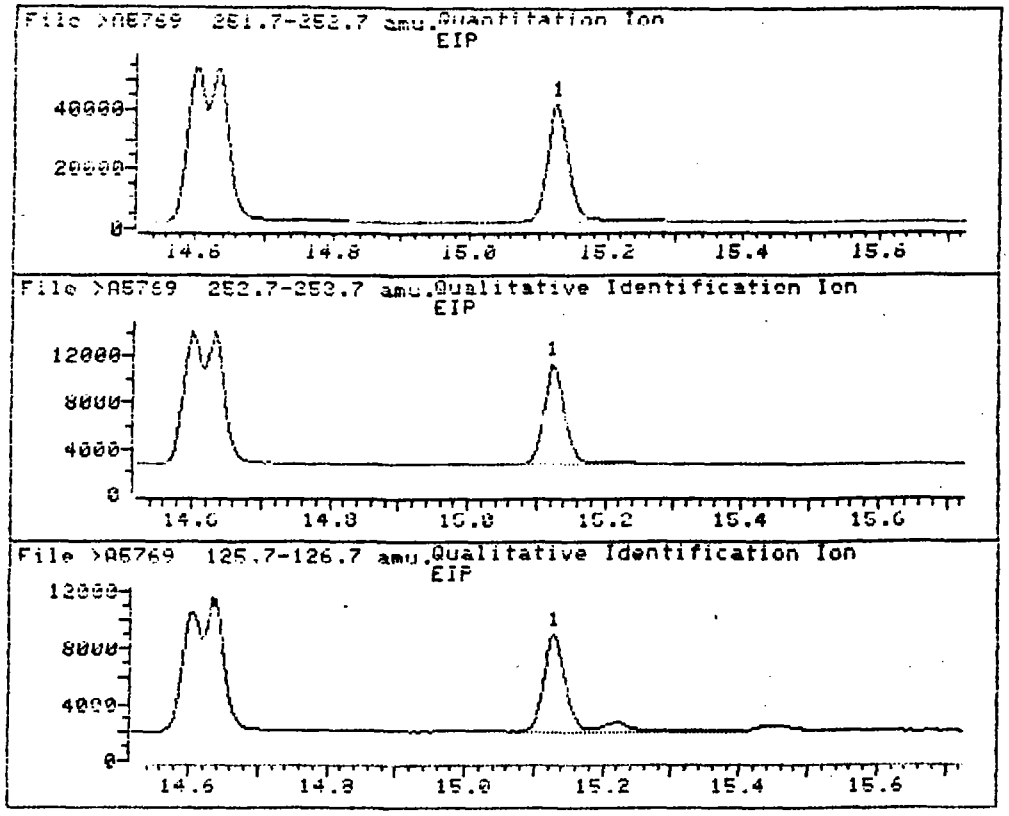


Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 20
Compound Name: Benzo(k)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.63	2.20	ppb	88	99323	21227	19049		
	1315	99323			1.000	.214	.192		

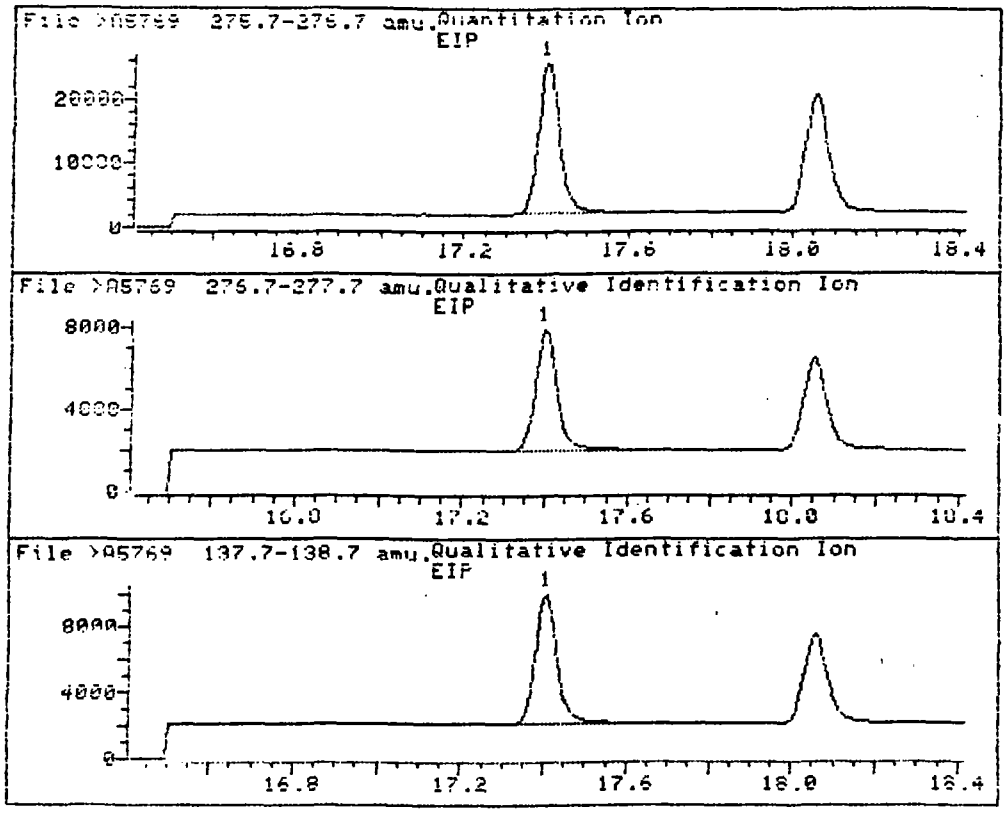
000063



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 21
Compound Name: Benzo(a)Pyrene
Quant Ion: 252.0

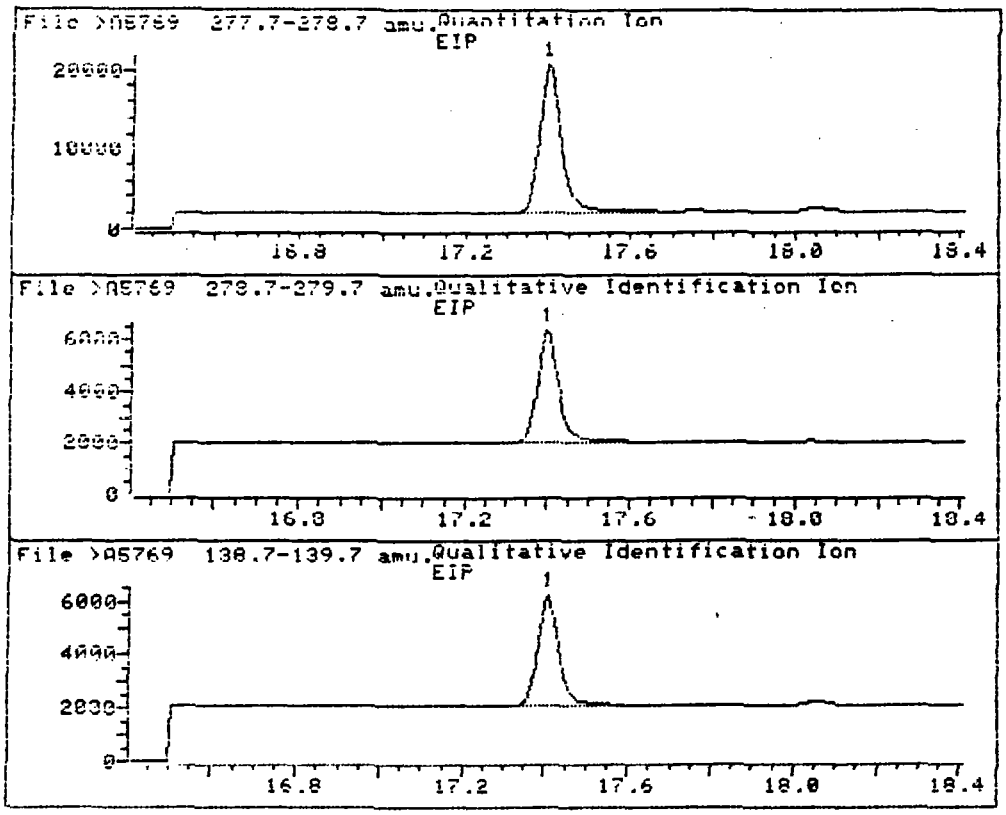
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	15.13	2.24	ppb	89	89525	19709	17212		
	1402	89525			1.000	.220	.192		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 22
Compound Name: Indeno(1,2,3-cd)Pyrene
Quant Ion: 276.0

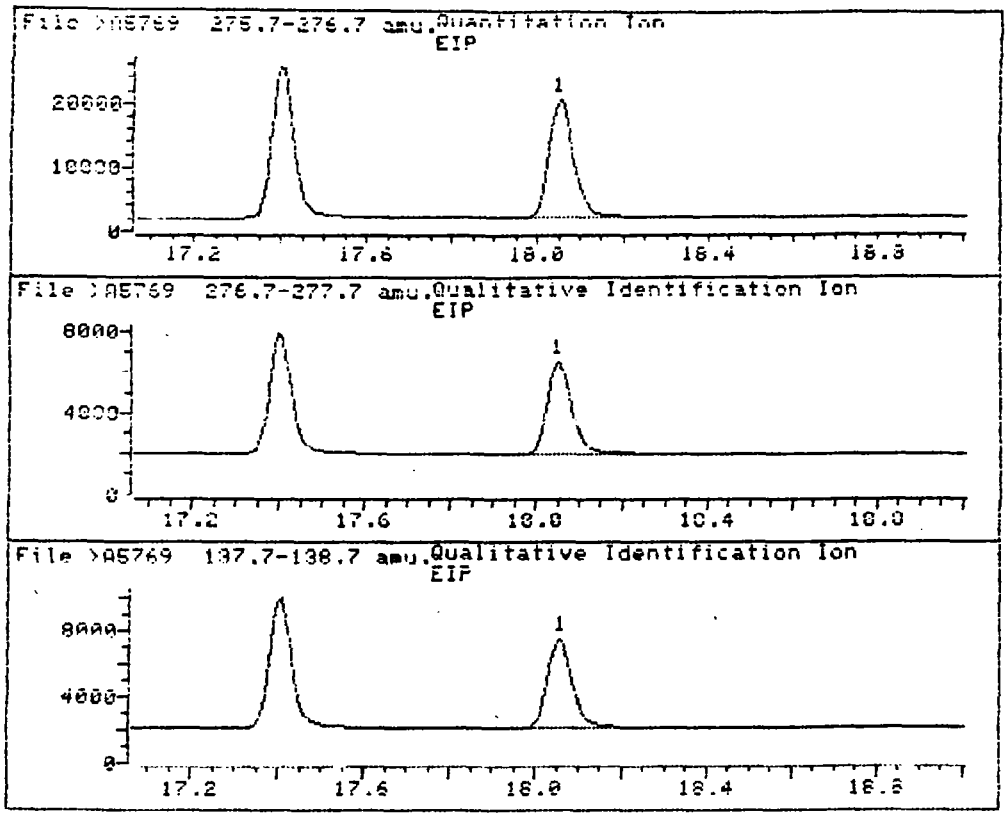
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0		
1	17.40	2.33	ppb	82	86415	21448	29013		
	1759	86415			1.000	.248	.336		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 23
Compound Name: Dibenzo(a,h)Anthracene
Quant Ion: 278.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 278.0	279.0	139.0		
1	17.40	2.23	ppb	88	68954	15910	15077		
	1759	68954			1.000	.231	.219		



Data File: >A5769::L1 Quant Output File: ^A5769::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 09:18 Quant ID File: I_A120::QT
Injected at: 930706 08:56 Last Calibration: 930702 06:59

Compound No: 24
Compound Name: Benzo(g,h,i)Perylene
Quant Ion: 276.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0
1	18.05	2.37	ppb	85	25552	17892	21665
	1843	25552			1.000	.237	.287

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
Polynuclear Aromatic Hydrocarbons Target Ratio Worksheet

Data File Name: >A5774::11 Standard ID: 2.5 ug/mL PAH STD.

	Ratio	Standard	Upper limit	Lower limit
Naphthalene	127/128	.131	.151	.111
	129/128	.109	.125	.093
Acenaphthylene	151/152	.197	.227	.167
	153/152	.130	.150	.110
Acenaphthene	154/153	.941	1.105	.817
	152/153	.465	.535	.395
Fluorene	165/166	.906	1.042	.770
	167/166	.133	.153	.113
Phenanthrene	176/178	.183	.210	.156
	179/178	.152	.175	.129
Anthracene	176/178	.178	.205	.151
	179/178	.153	.176	.130
Fluoranthene	200/202	.196	.225	.167
	203/202	.171	.197	.145
Pyrene	200/202	.197	.227	.167
	203/202	.175	.201	.149
Benzo(a)anthracene	226/228	.255	.293	.217
	229/228	.195	.224	.166
Chrysene	226/228	.280	.322	.238
	229/228	.195	.224	.166
Benzo(b)fluoranthene	253/252	.223	.256	.190
	126/252	.157	.181	.133
Benzo(k)fluoranthene	253/252	.211	.243	.179
	126/252	.187	.215	.159
Benzo(a)pyrene	253/252	.216	.248	.184
	126/252	.173	.199	.147
Indeno(1,2,3-cd)pyrene	277/276	.275	.316	.234
	138/276	.368	.423	.313
Dibenzo(a,h)anthracene	279/278	.229	.263	.195
	139/278	.223	.256	.190
Benzo(g,h,i)perylene	277/276	.258	.297	.219
	138/276	.316	.363	.269

AY 7-6-93

R 7/6/93

QUANT REPORT

Operator ID: ROB
Output File: ^A5774::D2
Data File: :A5774::11
Name: 2.5 ug/ml PAH STD.
Mine: IN4MS0:ROW:061193-0004

Quant Rev: 6
Quant Time: 930706 12:42
Injected at: 930706 12:20
Dilution Factor: 1.00000

RT! # 1

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

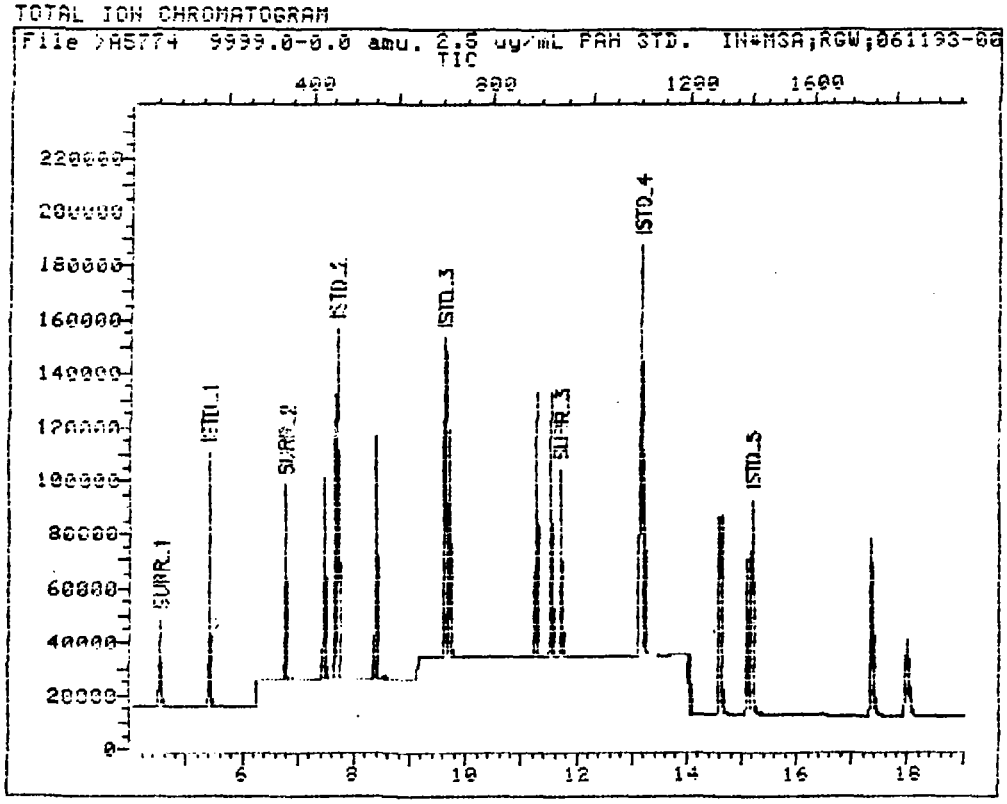
	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.36	136.0	100943	5.00	ppb	97
2)	Nitrobenzene-d5 (surr.)	4.51	82.0	21588	2.41	ppb	83
3)	Naphthalene	5.40	128.0	56217	2.46	ppb	99
4)	*Acenaphthene-d10	7.65	164.0	66431	5.00	ppb	87
5)	2-Fluorobiphenyl (surr.)	6.76	172.0	53241	2.73	ppb	98
6)	Acenaphthylene	7.45	152.0	70188	2.78	ppb	98
7)	Acenaphthene	7.70	153.0	44905	2.73	ppb	91
8)	Fluorene	8.35	166.0	51748	2.68	ppb	91
9)	*Phenanthrene-d10	9.58	188.0	145699	5.00	ppb	98
10)	Phenanthrene	9.62	178.0	83529	2.65	ppb	97
11)	Anthracene	9.68	178.0	86282	2.64	ppb	97
12)	Fluoranthene	11.21	202.0	106551	2.68	ppb	99
13)	*Chrysene-d12	13.12	240.0	152077	5.00	ppb	87
14)	Pyrene	11.50	202.0	109442	2.47	ppb	99
15)	Terphenyl-d14 (surr.)	11.68	244.0	73008	2.40	ppb	99
16)	Benzo(a)Anthracene	13.10	228.0	96020	2.40	ppb	97
17)	Chrysene	13.16	228.0	101226	2.47	ppb	98
18)	*Perylene-d12	15.17	264.0	120213	5.00	ppb	81
19)	Benzo(b)Fluoranthene	14.57	252.0	95690	3.24	ppb	93
20)	Benzo(k)Fluoranthene	14.60	252.0	99594	3.20	ppb	89
21)	Benzo(a)Pyrene	15.09	252.0	88741	3.16	ppb	89
22)	Indeno(1,2,3-cd)Pyrene	17.33	276.0	78639	2.90	ppb	76
23)	Dibenzo(a,h)Anthracene	17.33	278.0	69390	3.21	ppb	88
24)	Benzo(g,h,i)Perylene	17.97	276.0	67467	2.85	ppb	80

* Compound is ISTD

7/6/93

AV 7-6-93

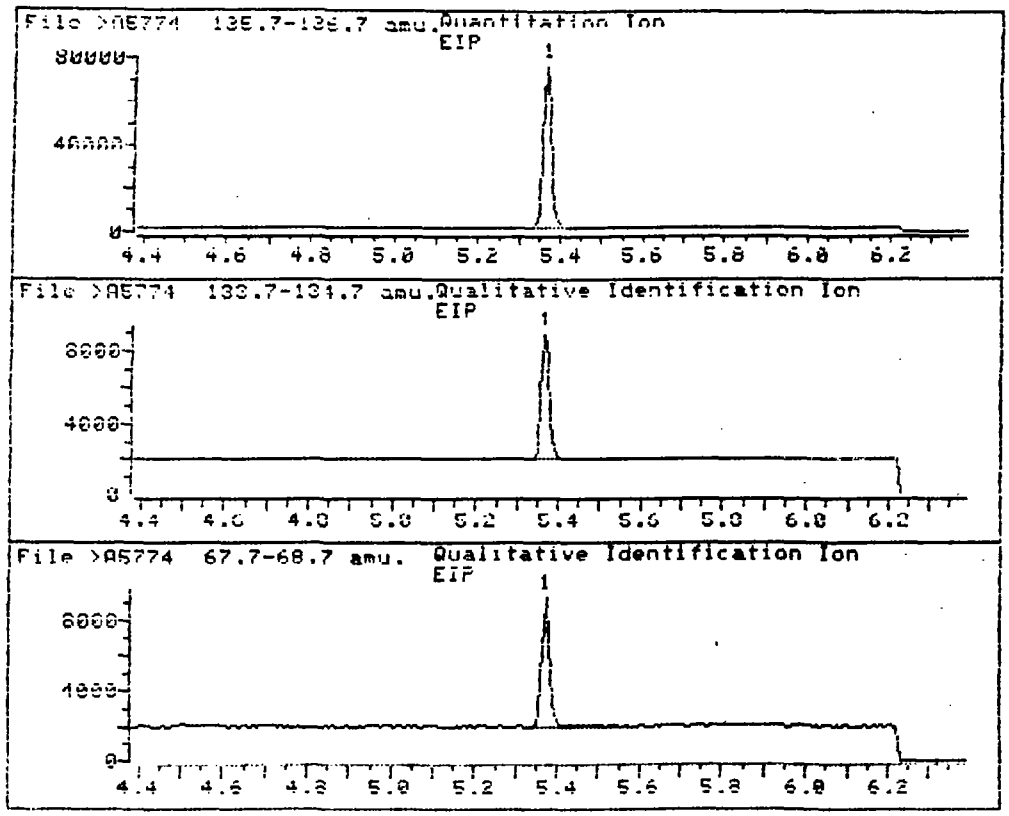
TOTAL ION CHROMATOGRAM



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

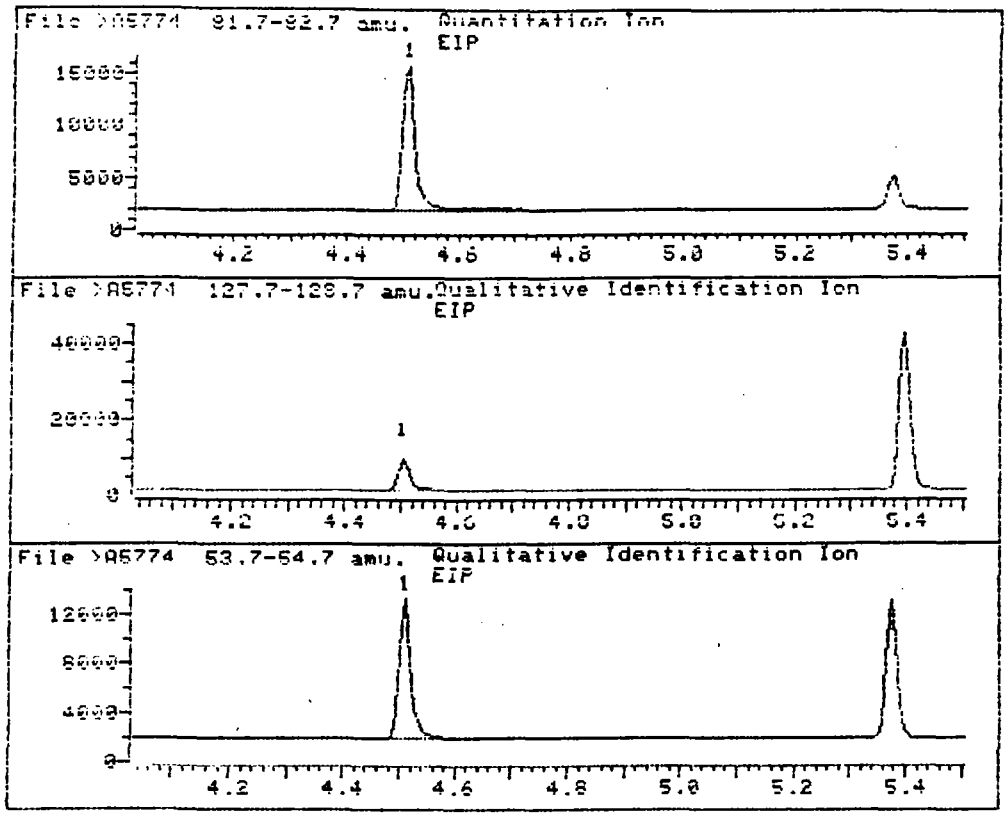
Operator ID: RDB
Quant Time: 930706 12:42
Injected at: 930706 12:20



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

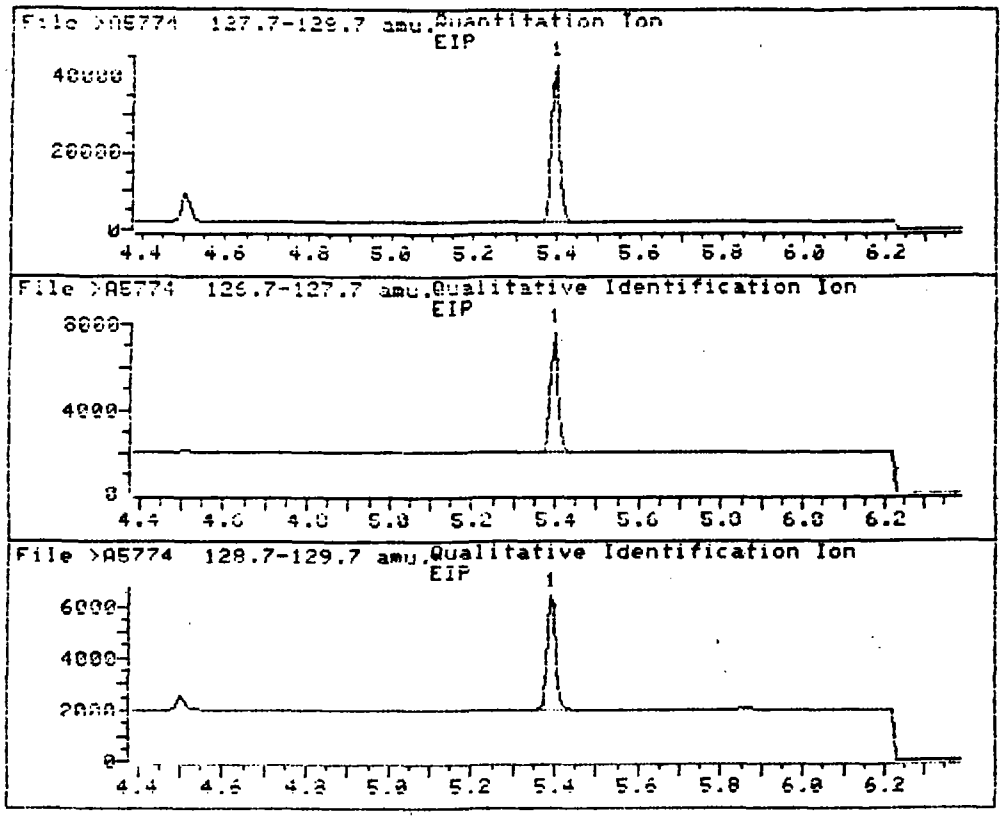
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.36	5.00	ppb	97	100943	9482	9454		
	163	100943			1.000	.094	.094		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RCW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 2
Compound Name: Nitrobenzene-d5 (surr.)
Quant Ion: 82.0

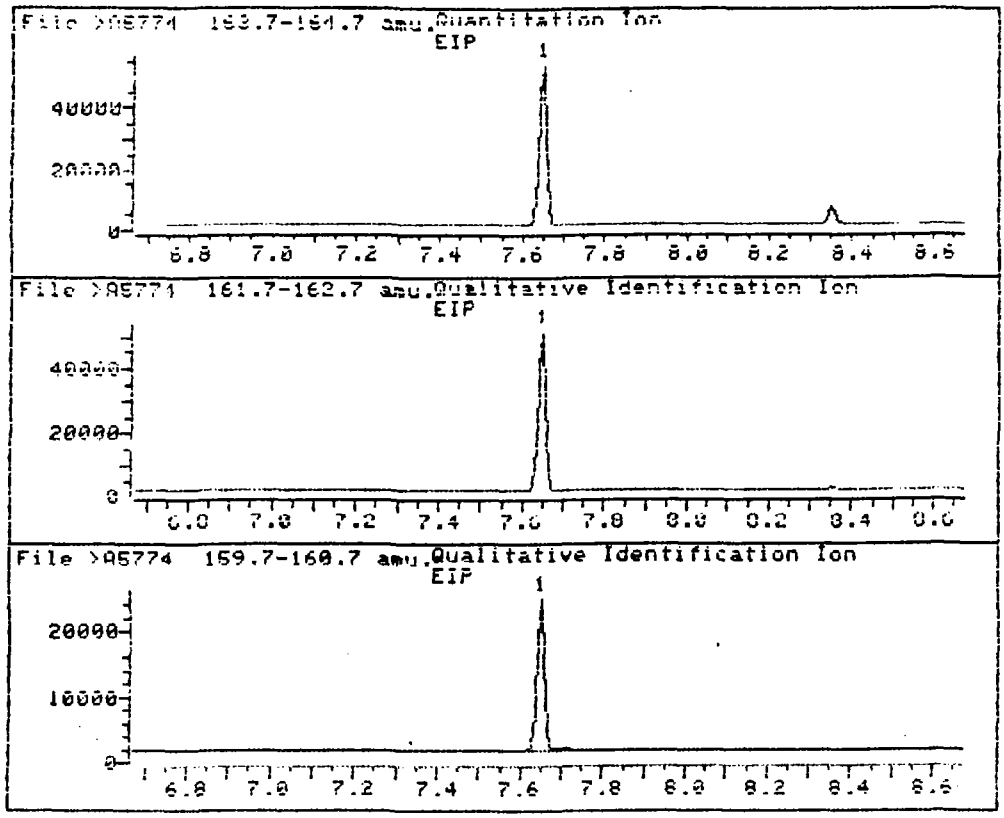
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 82.0	128.0	54.0		
1	4.51	2.41	ppb	83	21588	11086	16643		
	59	21588			1.000	.514	.771		



Data File: >A5774::!1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RCW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

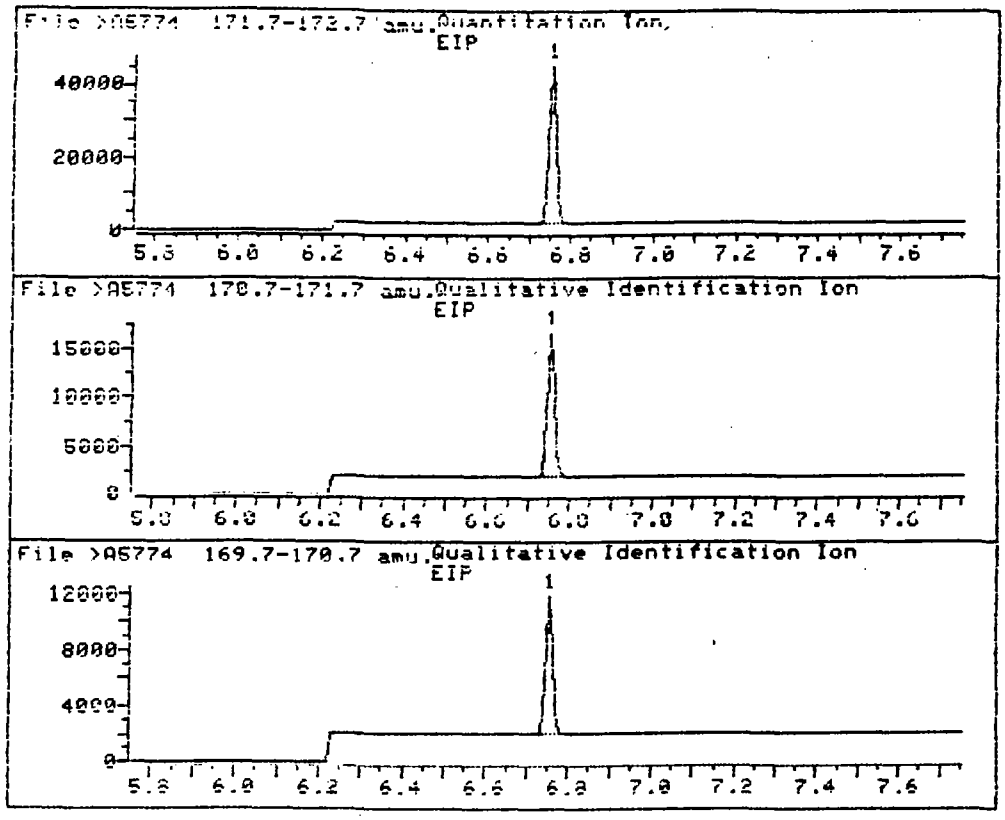
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.40	2.46	ppb	99	56217	7338	6109		
	167	56217			1.000	.131	.109		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.65	5.00	ppb	87	66431	62771	28547		
	457	66431			1.000	.945	.430		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.76	2.73	ppb	98	53941	18163	11663		
	338	53941			1.000	.341	.219		

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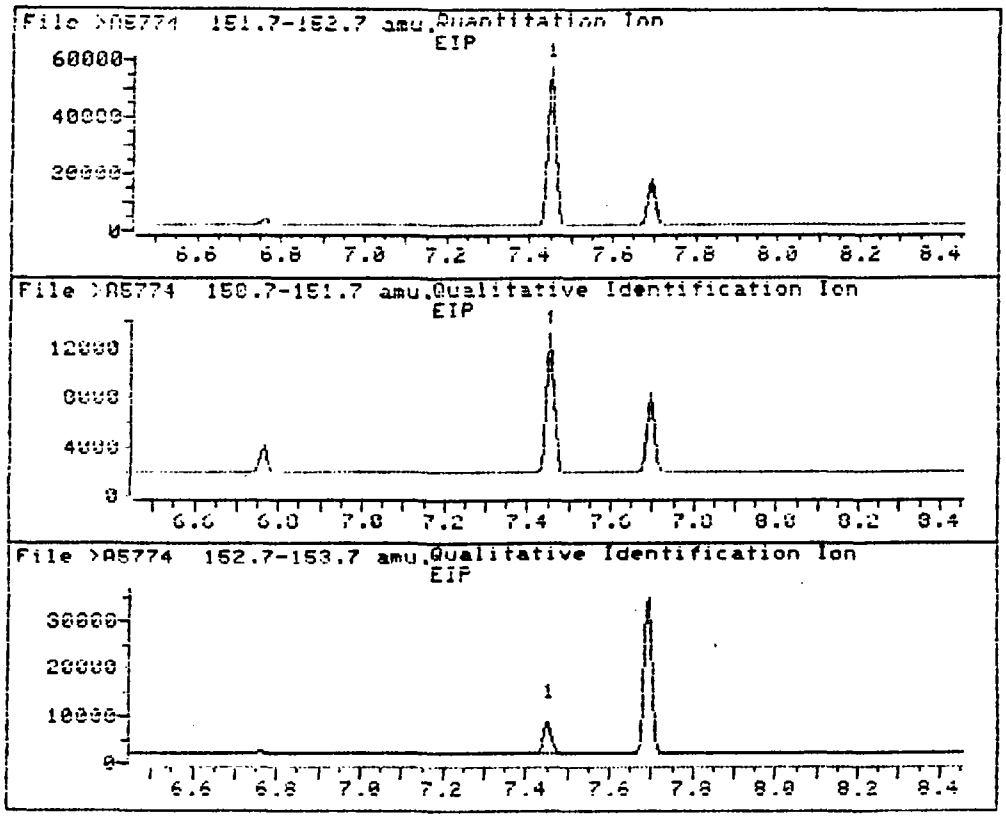
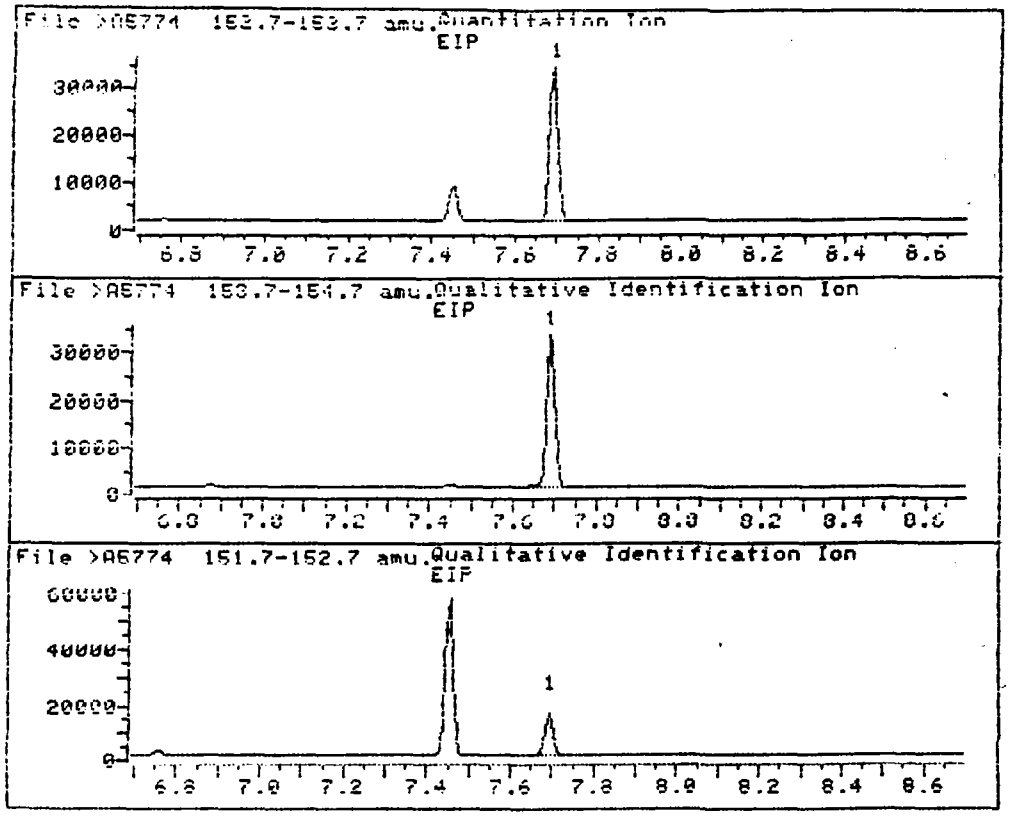


Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 6
Compound Name: Acenaphthylene
Quant Ion: 152.0

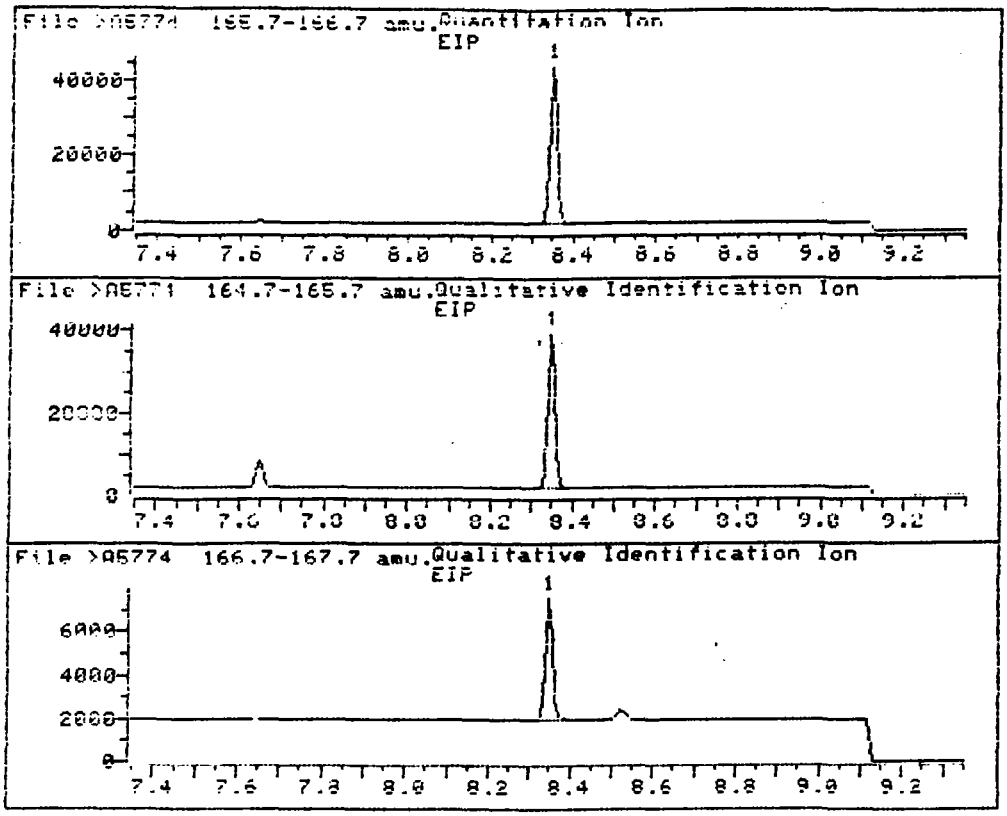
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 152.0	151.0	153.0
1	7.45	2.78	ppb	98	70188	13796	9147
	431	70188			1.000	.197	.130



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

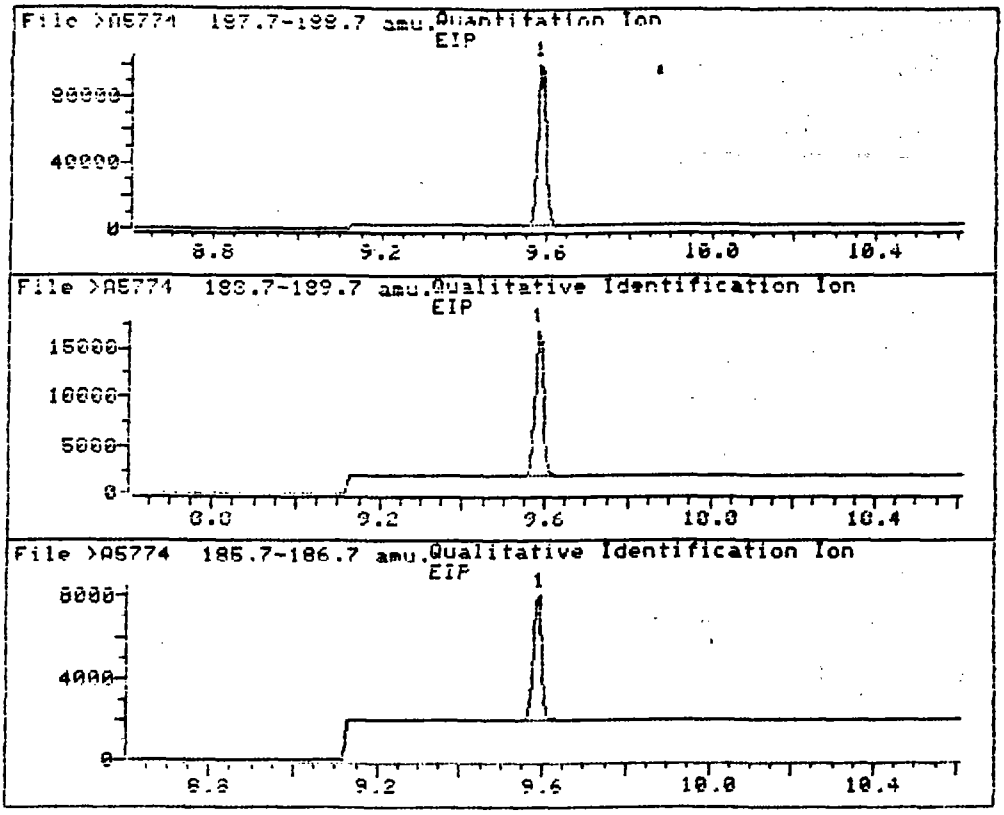
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 153.0	154.0	152.0
1	7.70	2.73	ppb	91	44905	43155	20869
	463	44905			1.000	.961	.465



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0
1	8.35	2.48	ppb	91	51748	46890	6874
	550	51748			1.000	.906	.133

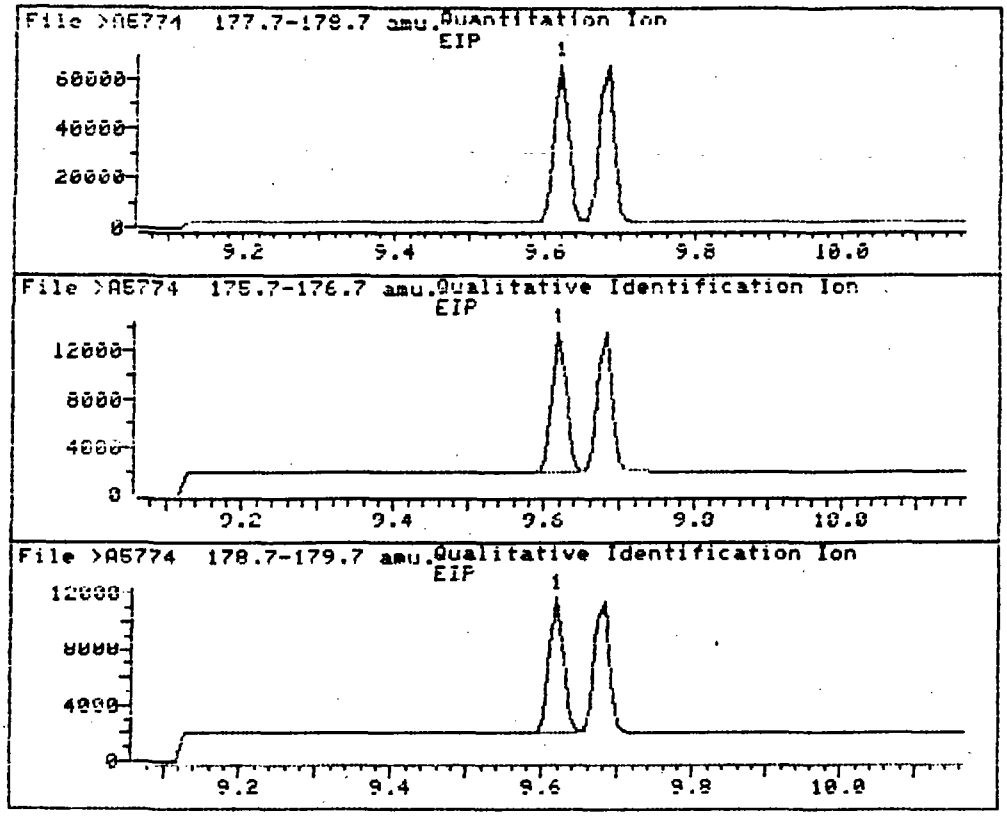


Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.58	5.00	ppb	98	145699	21800	9002		
	704	145699			1.000	.150	.062		

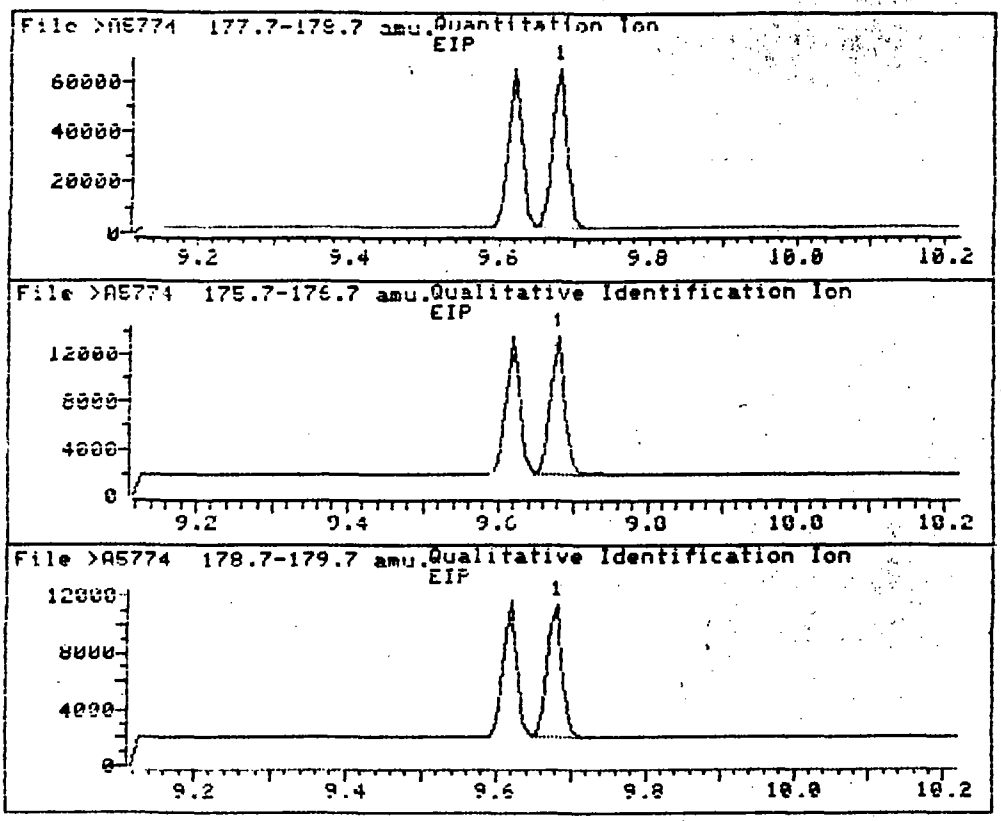
000080



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0
1	9.62	2.65	ppb	97	83529	15249	12728
	708	83529			1.000	.183	.152

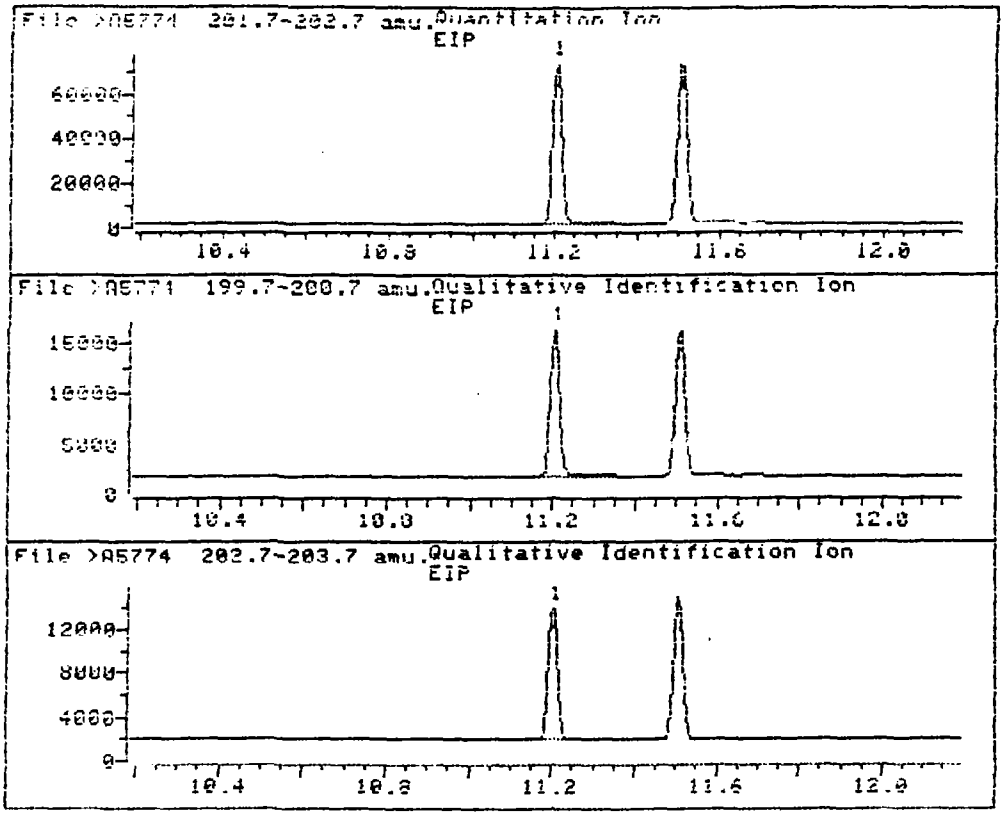


Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 11
Compound Name: Anthracene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.68	2.64	ppb	97	86282	15401	13237		
	715	86282			1.000	.178	.153		

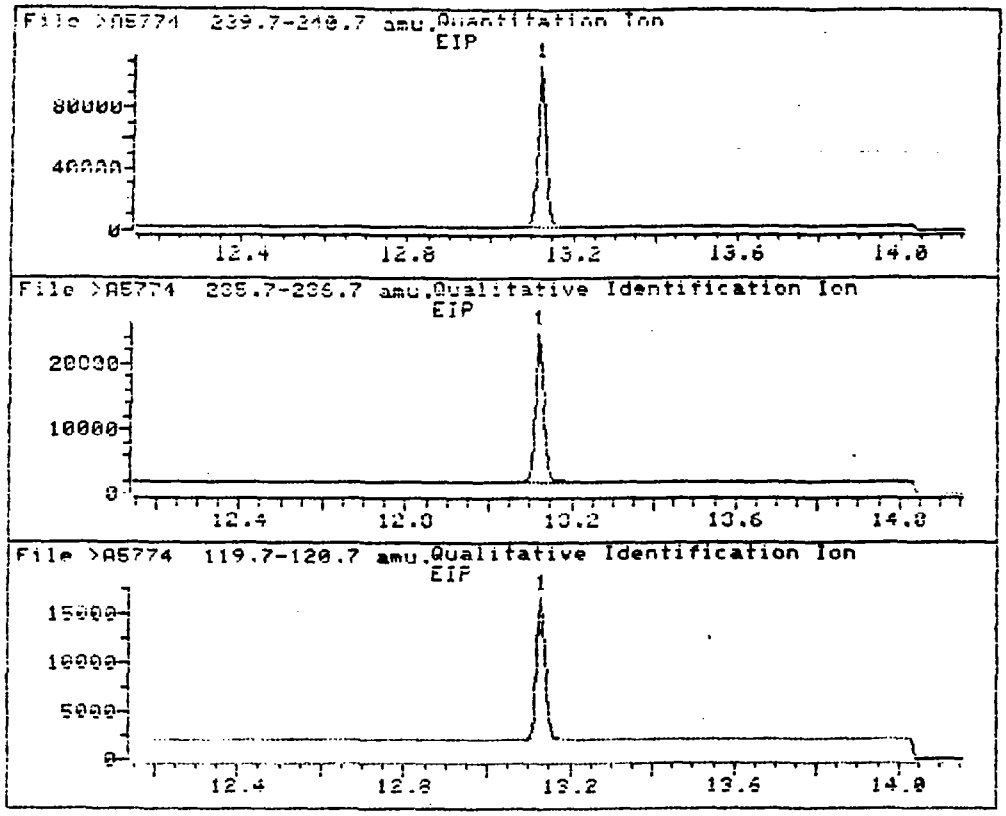
000082



Data File: >A5774::1.1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 RTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

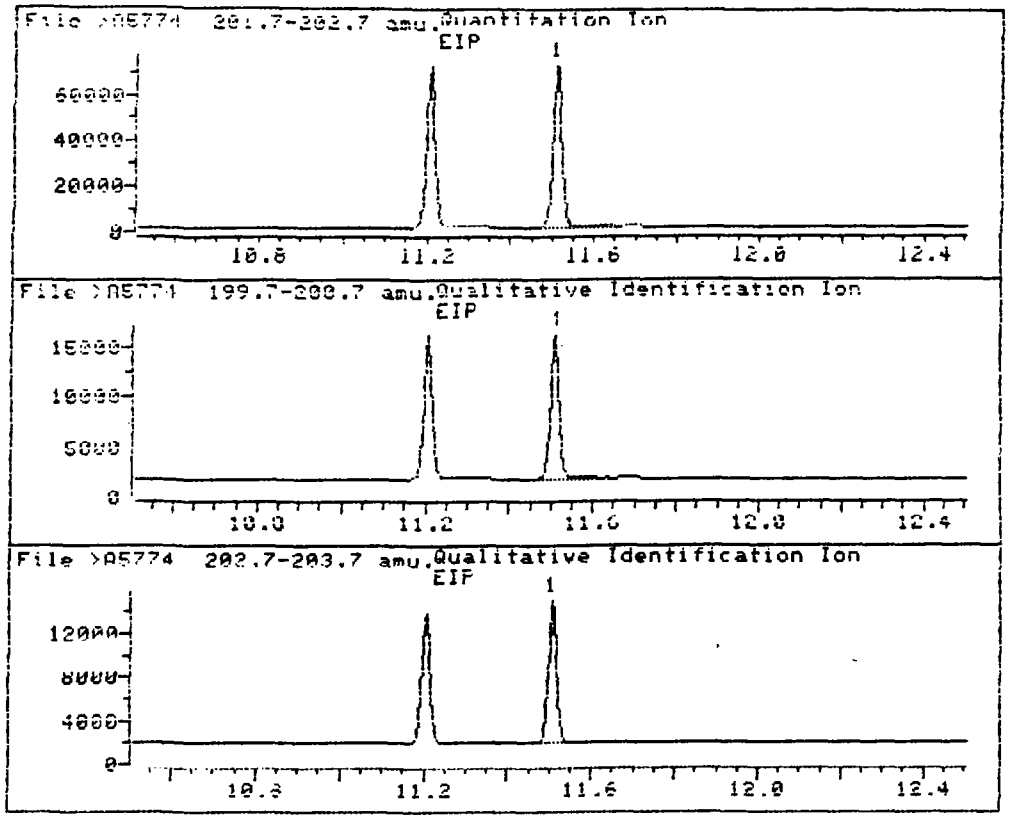
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.21	2.68	ppb	99	106551	20927	18239		
	886	106551			1.000	.196	.171		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RCW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

Hit #	R.T. Scan#	Conc Area	Units	Q	Areas and Ratios 240.0	236.0	120.0		
1	13.12	5.00	ppb	82	152077	33605	21676		
	1100	152077			1.000	.221	.143		

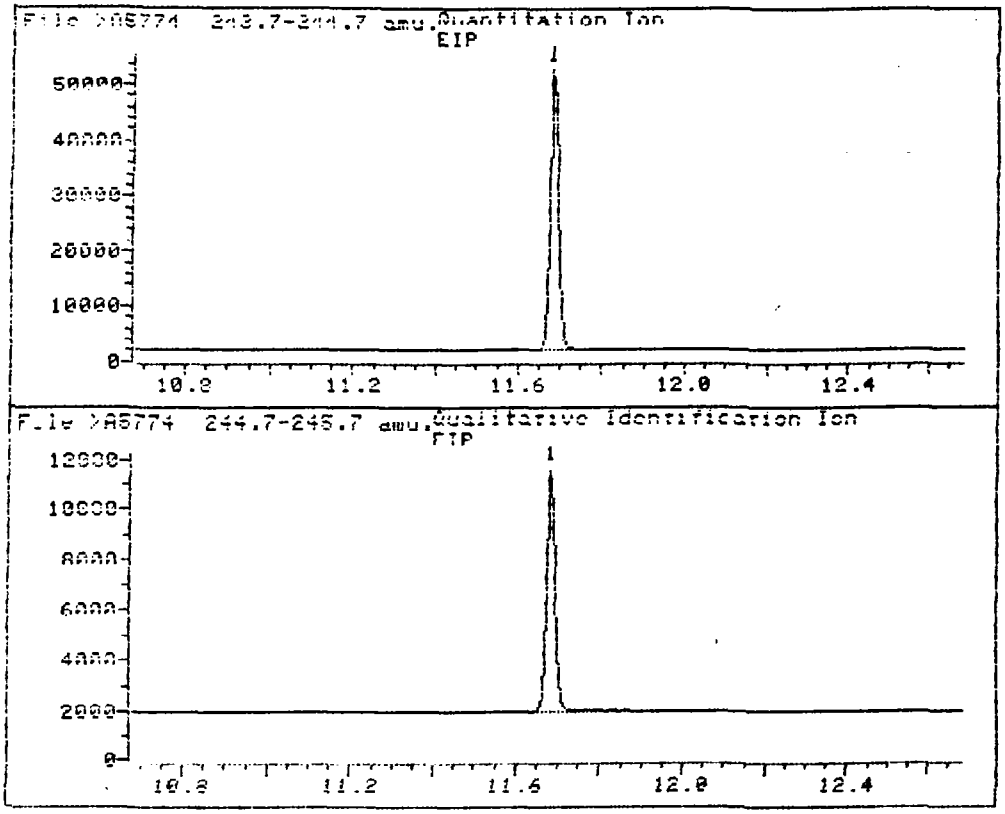


Data File: >A5774::11 Quant Output File: ^A5774::D2
Name: 2.5 ng/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.50	2.47	ppb	99	109442	21536	19202
	919	109442			1.000	.197	.175

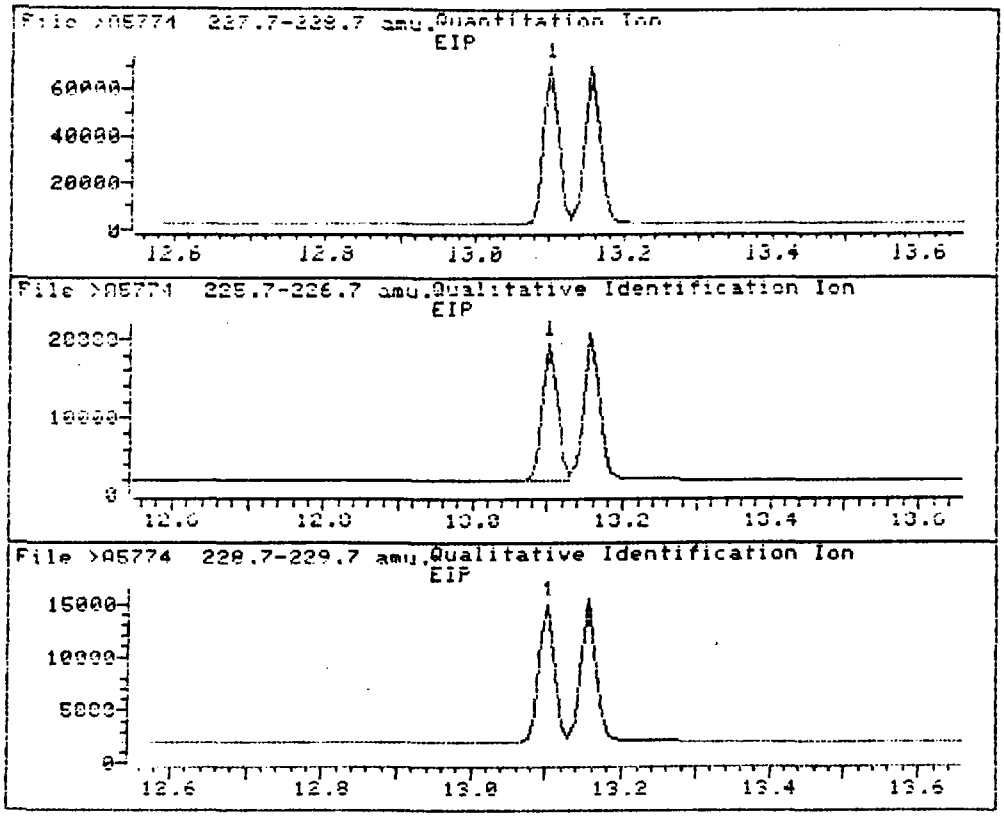
000085



Data File: >A5774::!1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN&MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 , Last Calibration: 930706 09:34

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

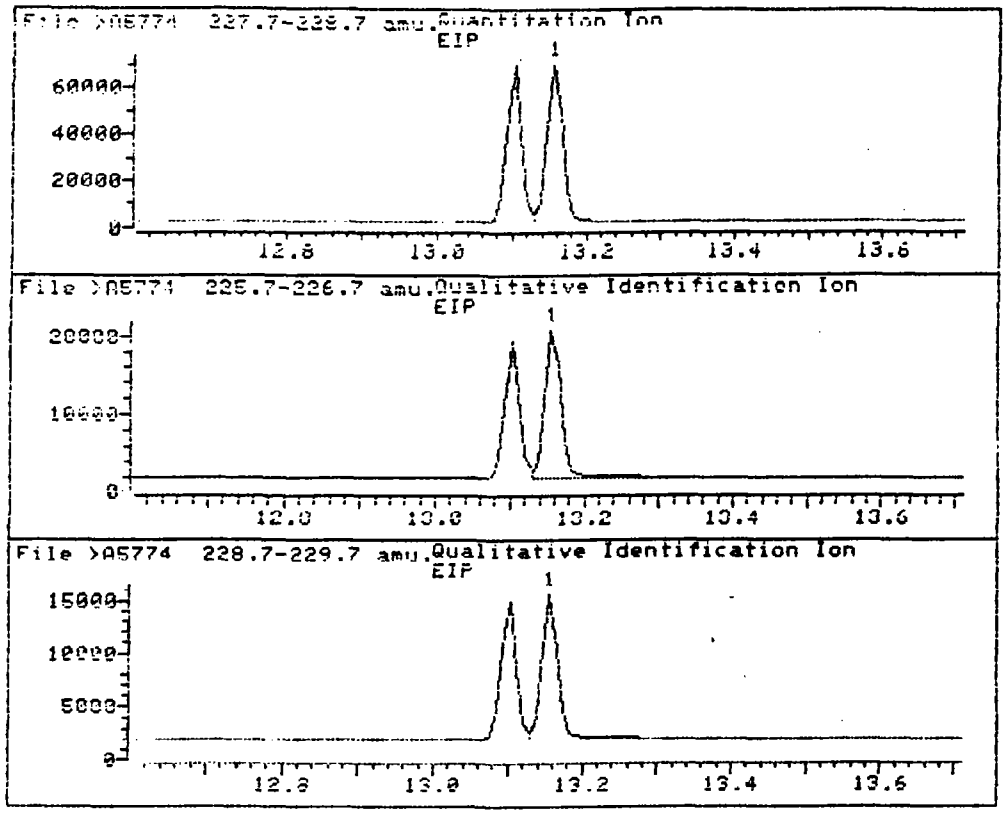
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.68	2.40	ppb	99	23008	13640
	939	23008			1.000	.187



Data File: >A5774::11 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 RTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 16
Compound Name: Benzo(a)Anthracene
Quant Ion: 228.0

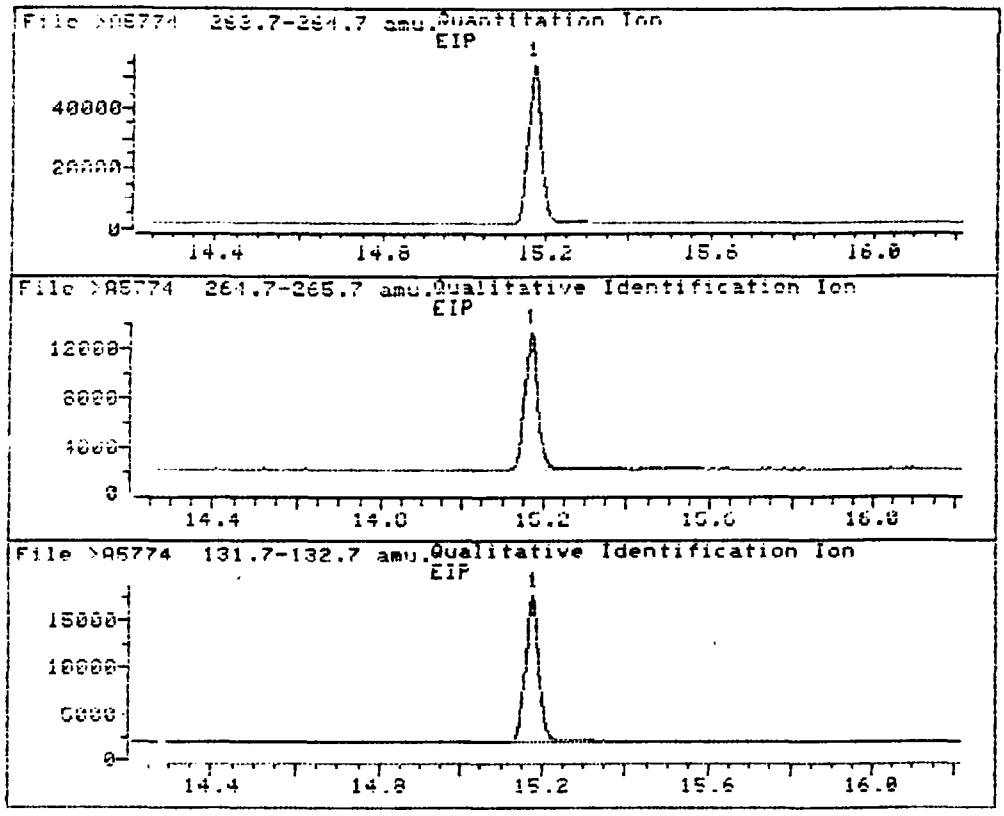
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0
1	13.10	2.40	ppb	97	96020	24445	18692
	1098	96020			1.000	.255	.195



Data File: >A5774::11 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 RTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 17
Compound Name: Chrysene
Quant Ion: 228.0

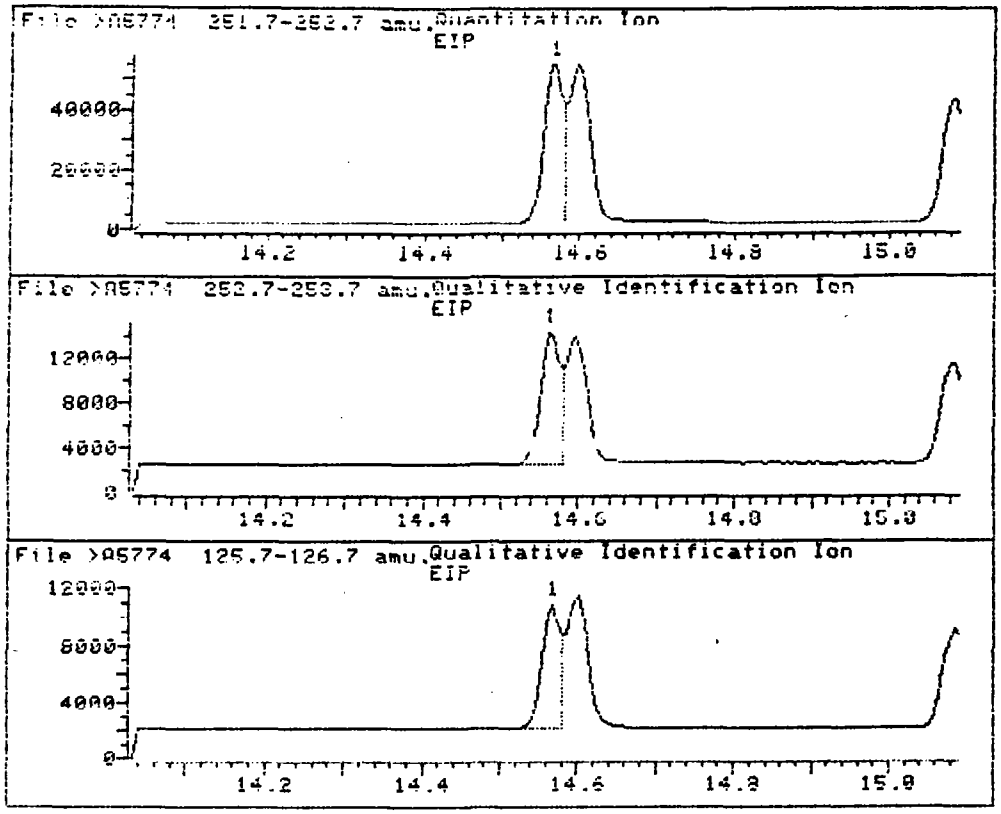
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0		
1	13.16	2.47	ppb	98	101226	28305	19732		
	1104	101226			1.000	.280	.195		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

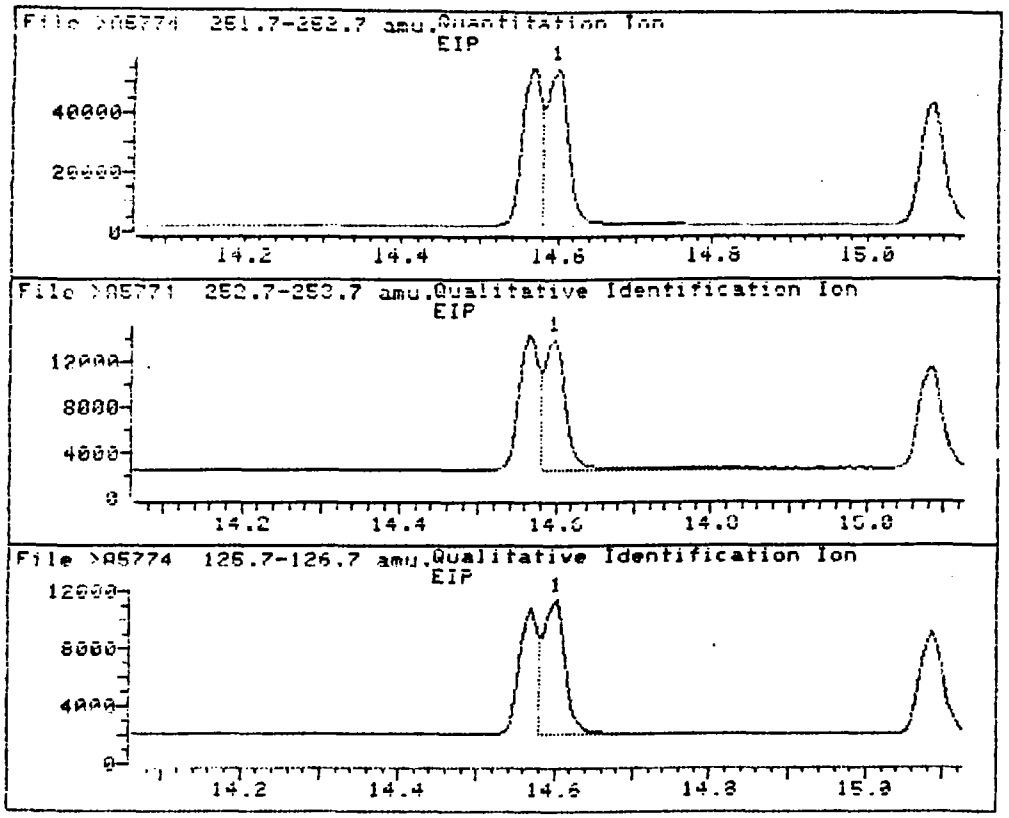
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.17	5.00	ppb	81	120213	25757	36496		
	1402	120213			1.000	.214	.304		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 19
Compound Name: Benzo(b)Fluoranthene
Quant Ion: 252.0

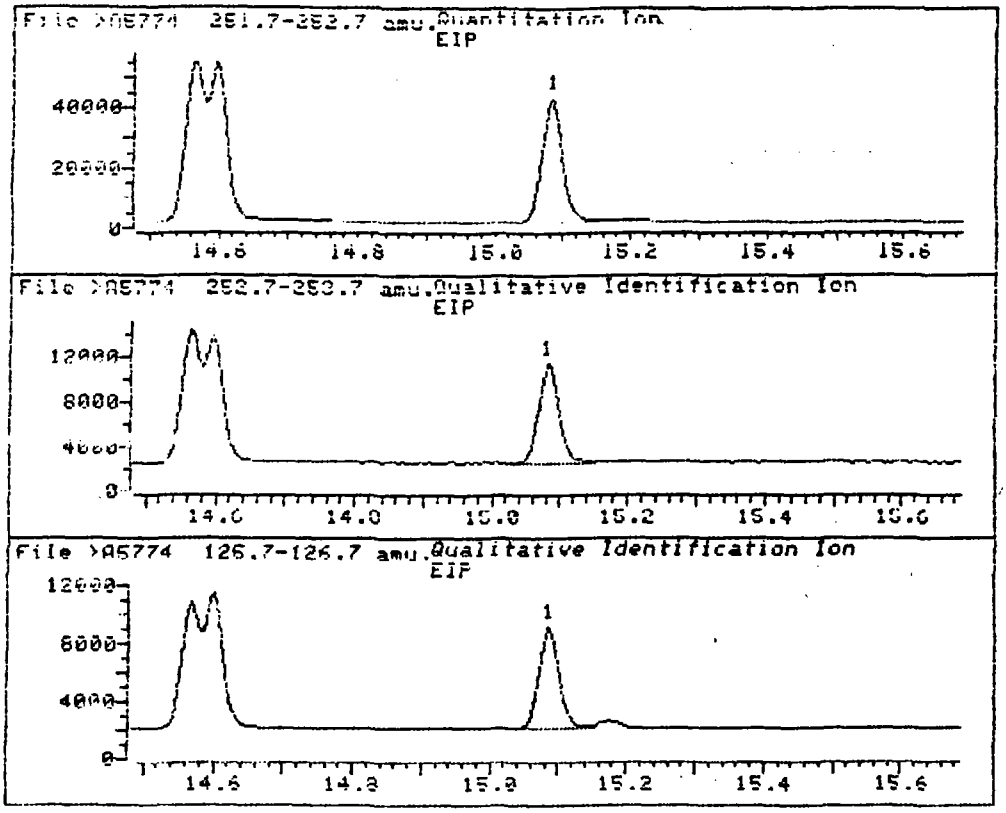
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0
1	14.52	3.24	ppb	93	95690	21366	14982
	1296	95690			1.000	.223	.157



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ng/ml PAH STD.
Misc: IN#MSA;RAW;061193-0004 RTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 28
Compound Name: Benzo(k)Fluoranthene
Quant Ion: 252.0

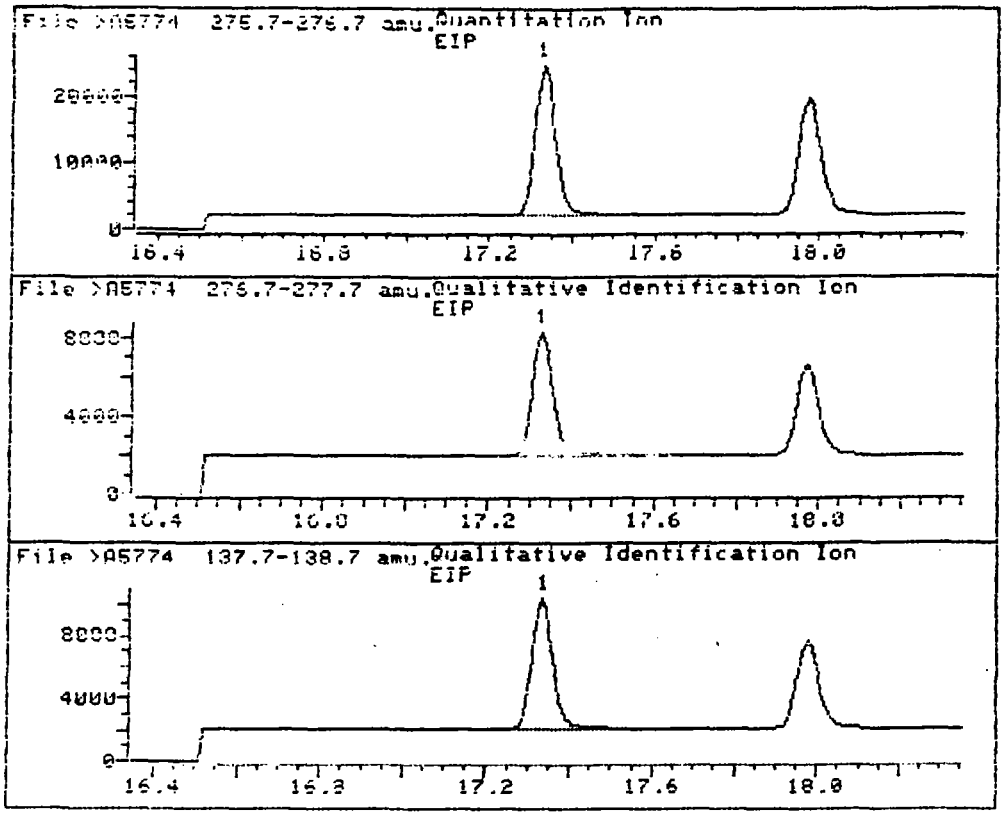
Hit #	R.T. Scan#	Conc Area	Units	n	Areas and Ratios 252.0	253.0	126.0		
1	14.60	3.20	ppb	89	99594	21042	18586		
	1301	99594			1.000	.211	.187		



Data File: >A5774::1.1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 21
Compound Name: Benzo(a)Pyrene
Quant Ion: 252.0

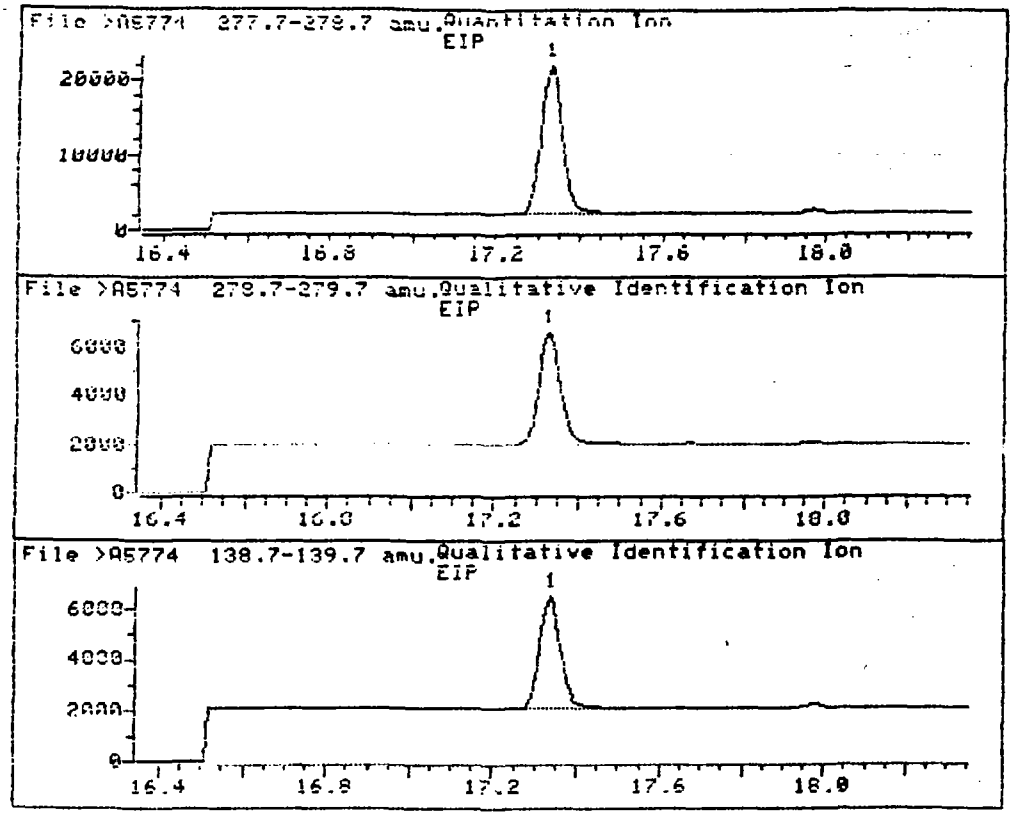
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	15.09	3.16	ppb	89	88741	19162	15311		
	1387	88741			1.000	.216	.173		



Data File: >A5774::1.1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 22
Compound Name: Indeno(1,2,3-cd)Pyrene
Quant Ion: 276.0

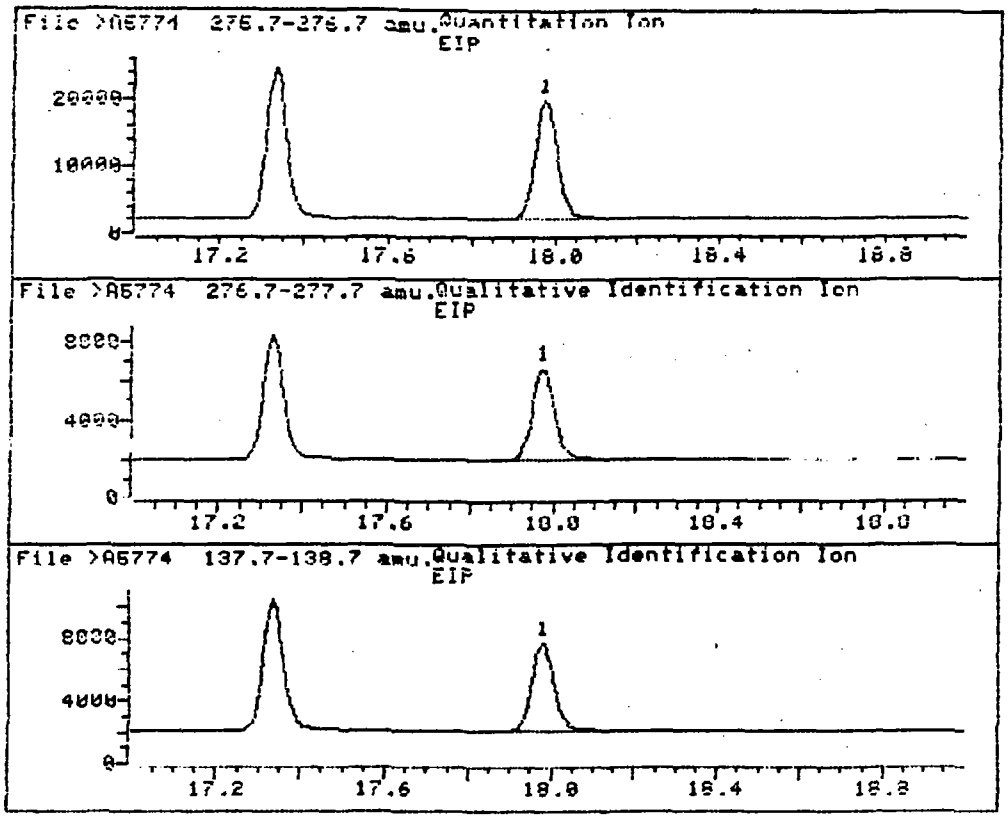
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0		
1	17.33	2.90	ppb	76	28639	21591	28967		
	1743	28639			1.000	.275	.368		



Data File: >A5774::11 Quant Output File: ^A5774::D2
Name: 2.5 ug/mL PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 23
Compound Name: Dibenzo(a,h)Anthracene
Quant Ion: 278.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 278.0	279.0	139.0		
1	17.33	3.21	ppb	88	69390	15869	15443		
	1743	69390			1.000	.229	.223		



Data File: >A5774::L1 Quant Output File: ^A5774::D2
Name: 2.5 ug/ml PAH STD.
Misc: IN#MSA;RGW;061193-0004 BTL# 1
Quant Time: 930706 12:42 Quant ID File: I_A120::QT
Injected at: 930706 12:20 Last Calibration: 930706 09:34

Compound No: 24
Compound Name: Benzo(g,h,i)Perylene
Quant Ion: 276.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0		
1	17.97	2.85	ppb	80	67467	17384	21315		
	1826	67467			1.000	.258	.316		

BLANK MASS CHROMATOGRAMS

QUANT REPORT

Operator ID: RDR Quant Rev: 6 Quant Time: 930702 07:44
Output File: ^A5754::D2 Injected at: 930702 07:23
Data File: >D5754::!1 Dilution Factor: 100.0000
Name: 062893-02 ~~BLK~~ Reagent BLANK A 7-6-93
Misc: IN#MSA:RGW BTL# 2

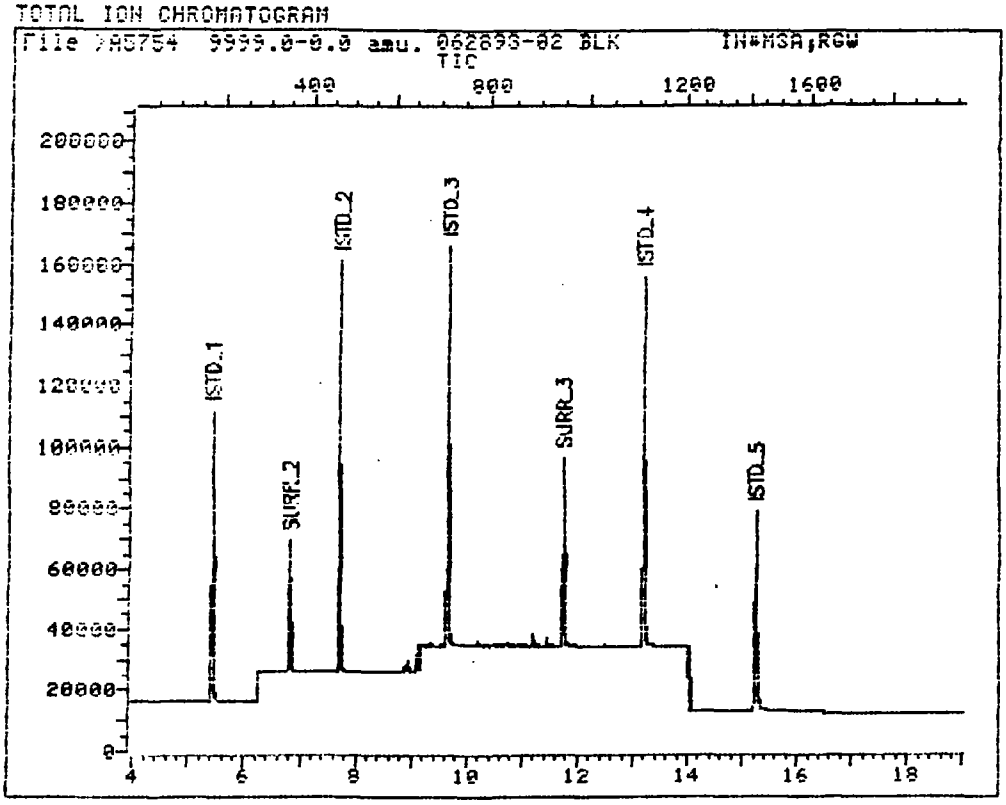
ID File: I 0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.40	136.0	111288	5.00	ppb	96
4)	*Acenaphthene-d10	7.69	164.0	70302	5.00	ppb	87
5)	2-Fluorobiphenyl (surr.)	6.79	172.0	35323	161.49	ppb 32	98
9)	*Phenanthrene-d10	9.63	188.0	152020	5.00	ppb	97
10)	~~Phenanthrene~~	~~9.66~~	~~178.0~~	~~1180~~	~~3.30~~	~~ppb~~	90
13)	*Chrysene-d12	13.16	240.0	143952	5.00	ppb	88
15)	Terphenyl-d14 (surr.)	11.73	244.0	64205	221.92	ppb 44	99
18)	*Perylene-d12	15.24	264.0	99214	5.00	ppb	84

* Compound is ISTD

7/2/93

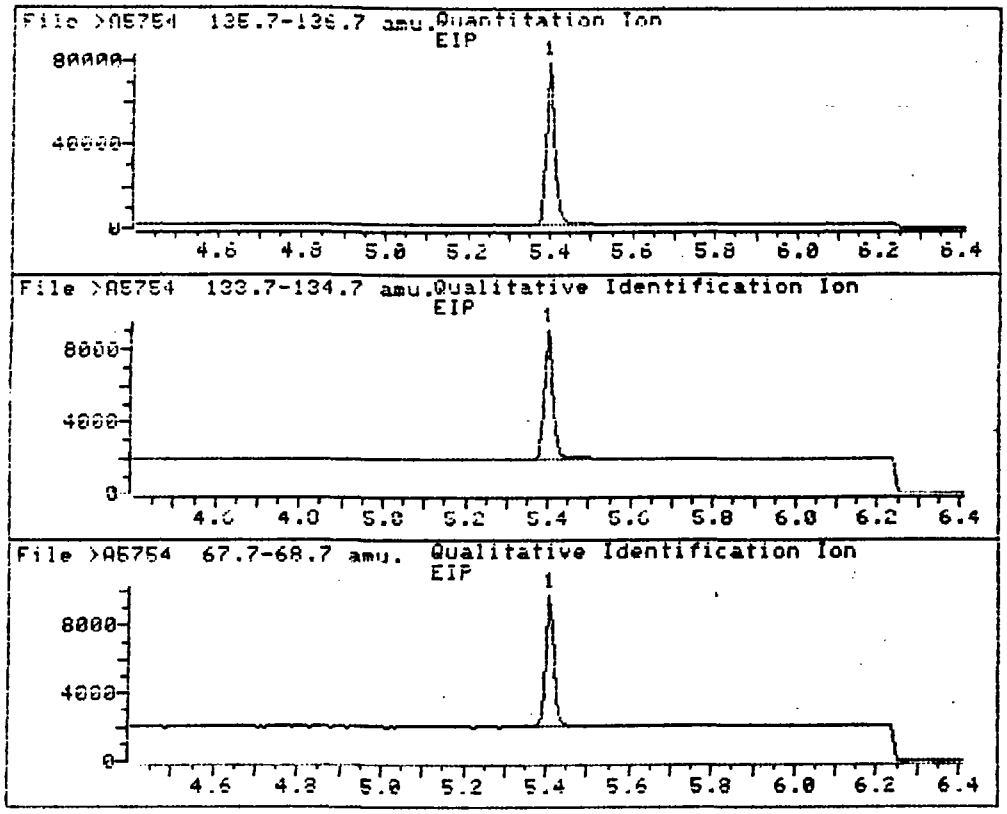
TOTAL ION CHROMATOGRAM



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2

Id File: I_0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

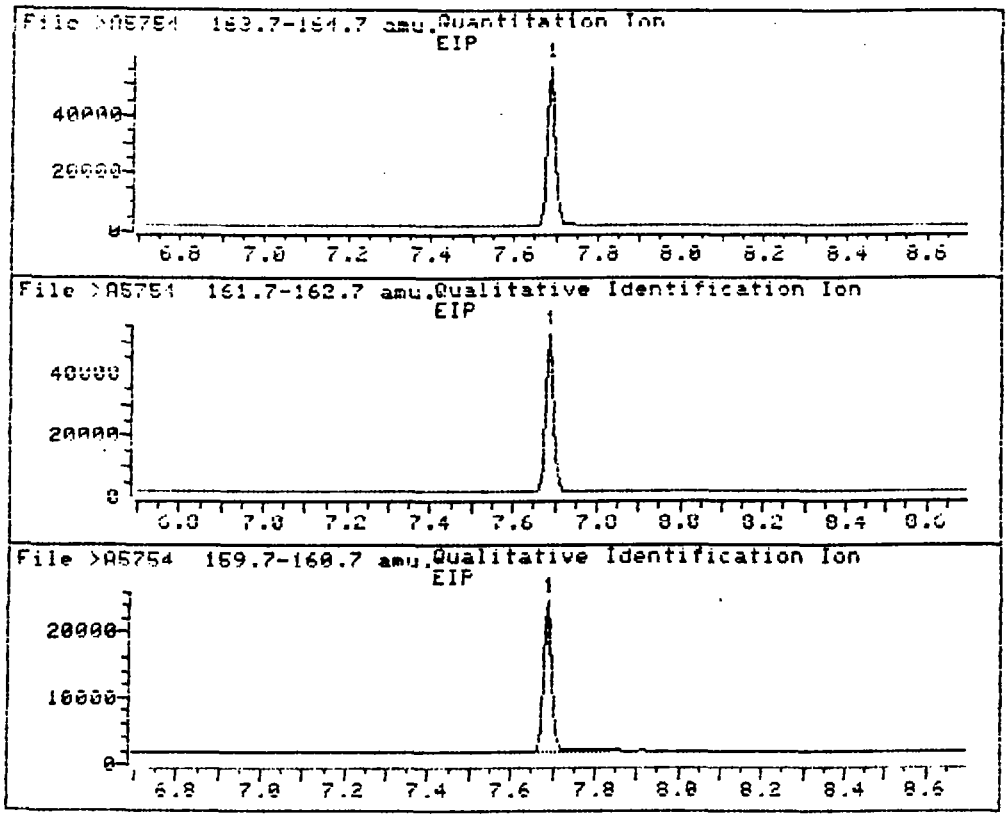
Operator ID: ROB
Quant Time: 930702 07:44
Injected at: 930702 07:23



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

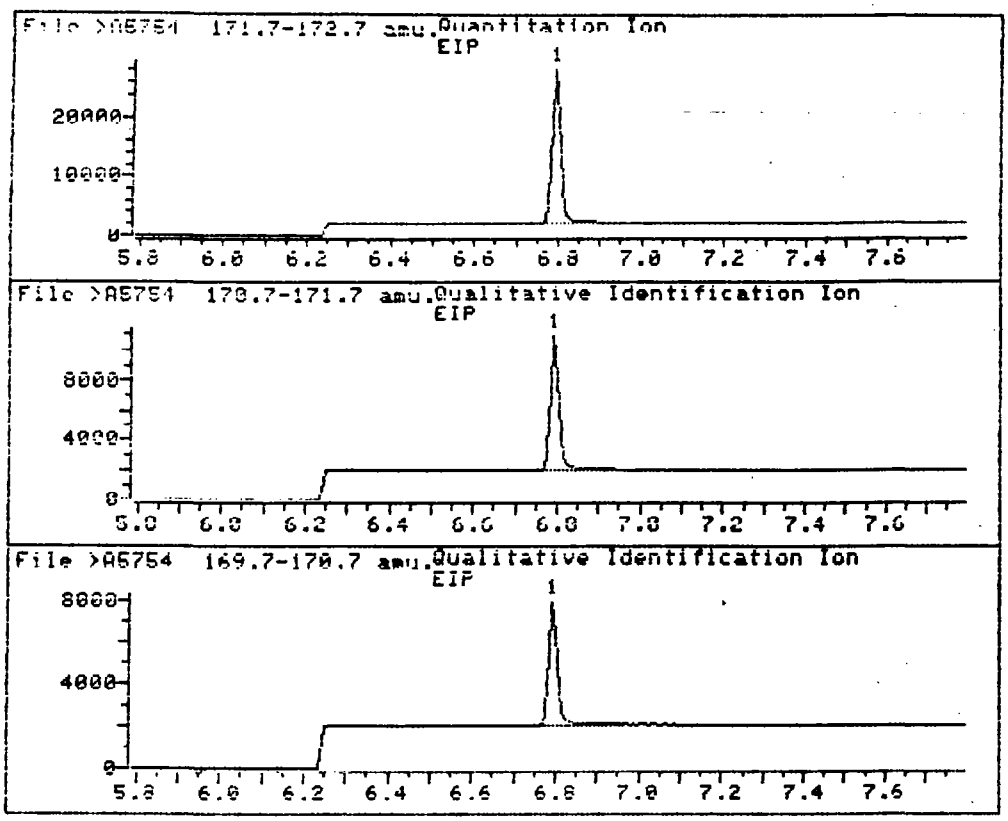
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.40	5.00	ppb	96	111288	10436	10896		
	173	111288			1.000	.094	.098		



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893 02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.69	5.00	ppb	82	70302	66559	29937		
	467	70302			1.000	.947	.426		

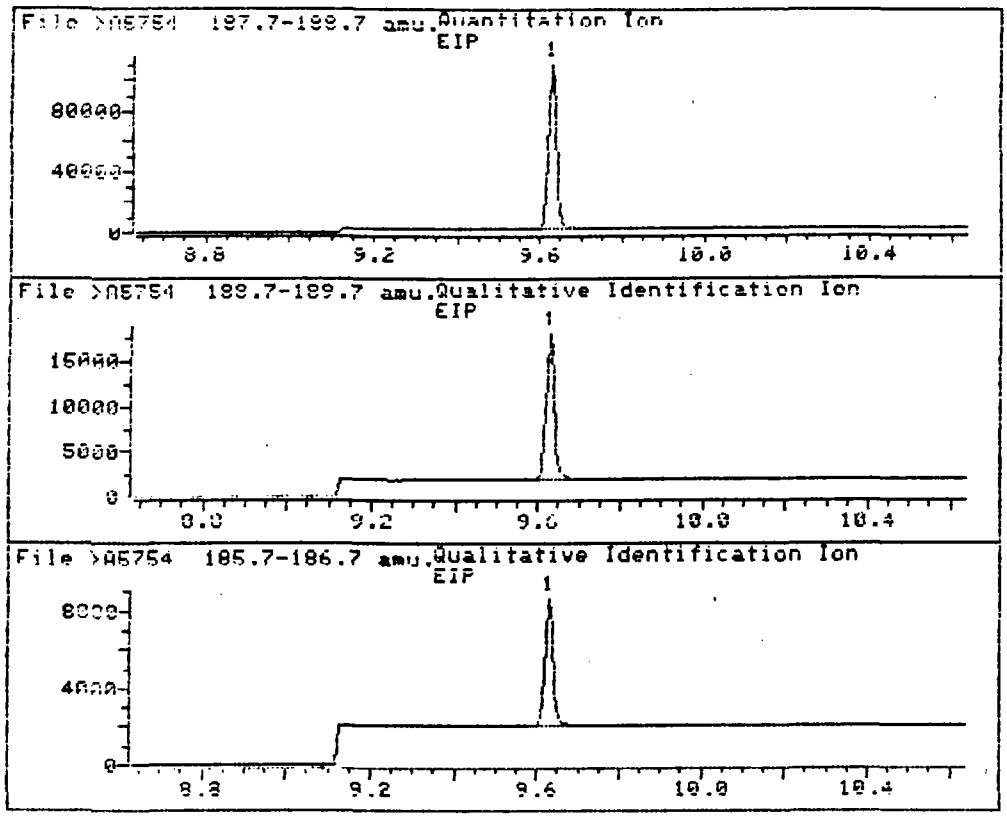


Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.79	161.49	ppb	98	35323	12068	7951		
	348	35323			1.000	.342	.225		

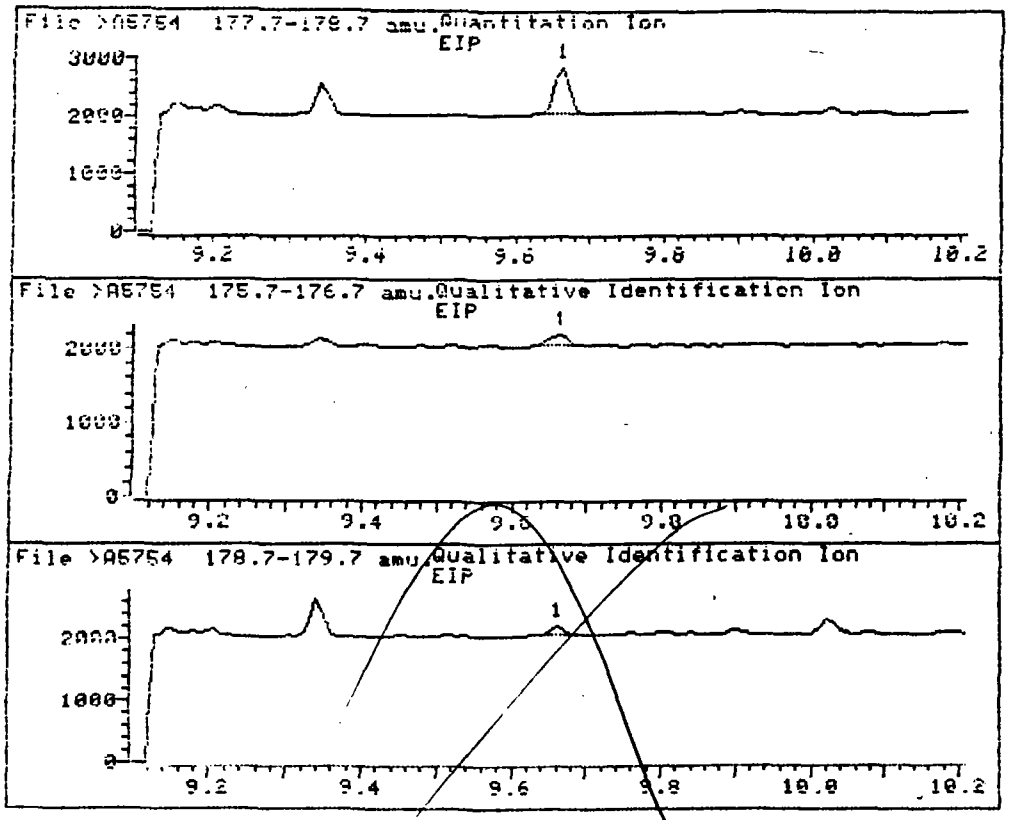
000101



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.63	5.00	ppb	97	152020	23144	9410		
	714	152020			1.000	.152	.062		

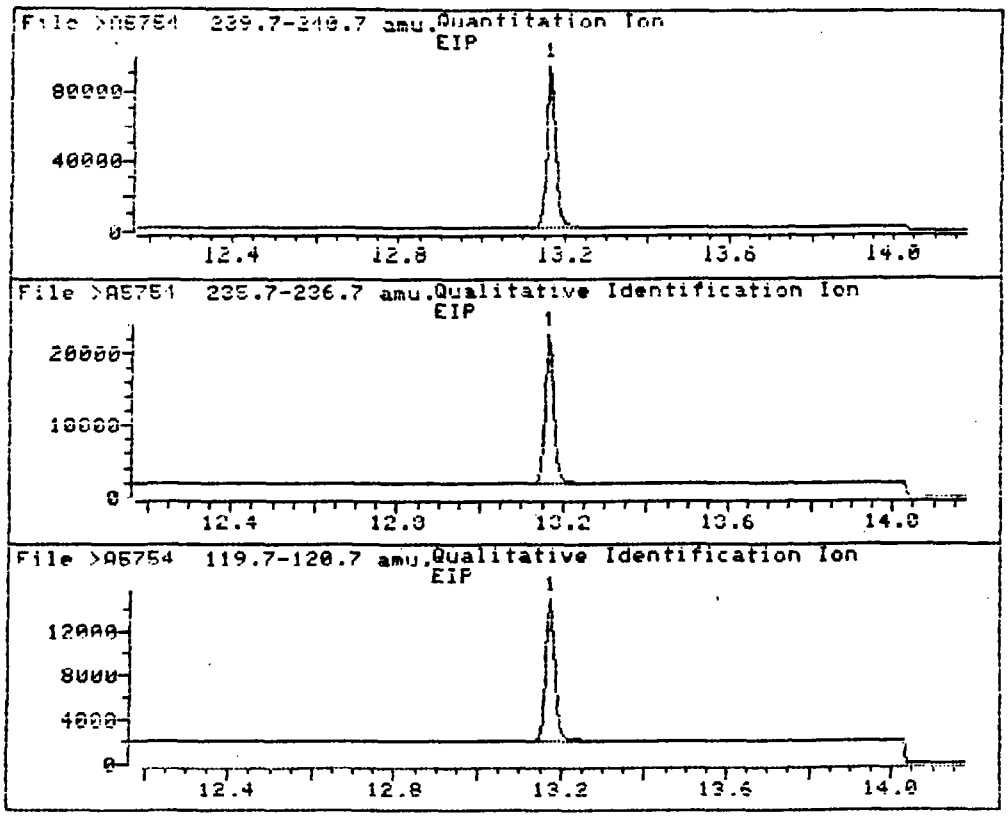


Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.66	3.30	ppb	90	1108	295	177		
	718	1108			1.000	.266	.160		

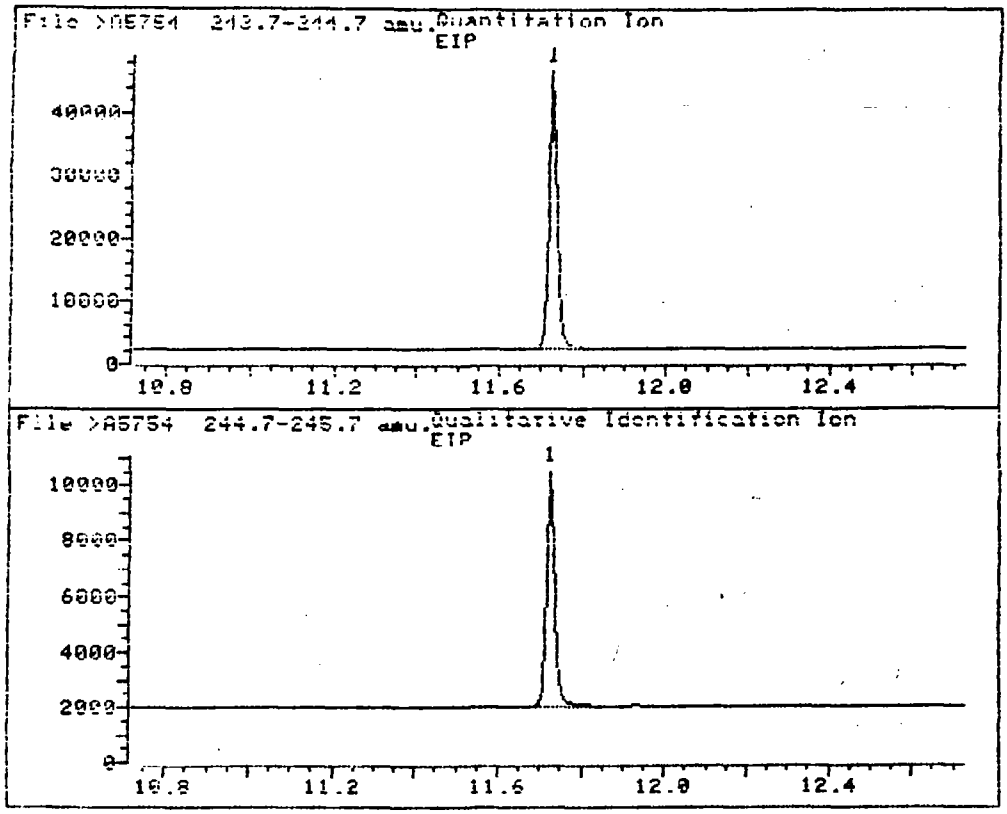
7/12/93



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893 02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

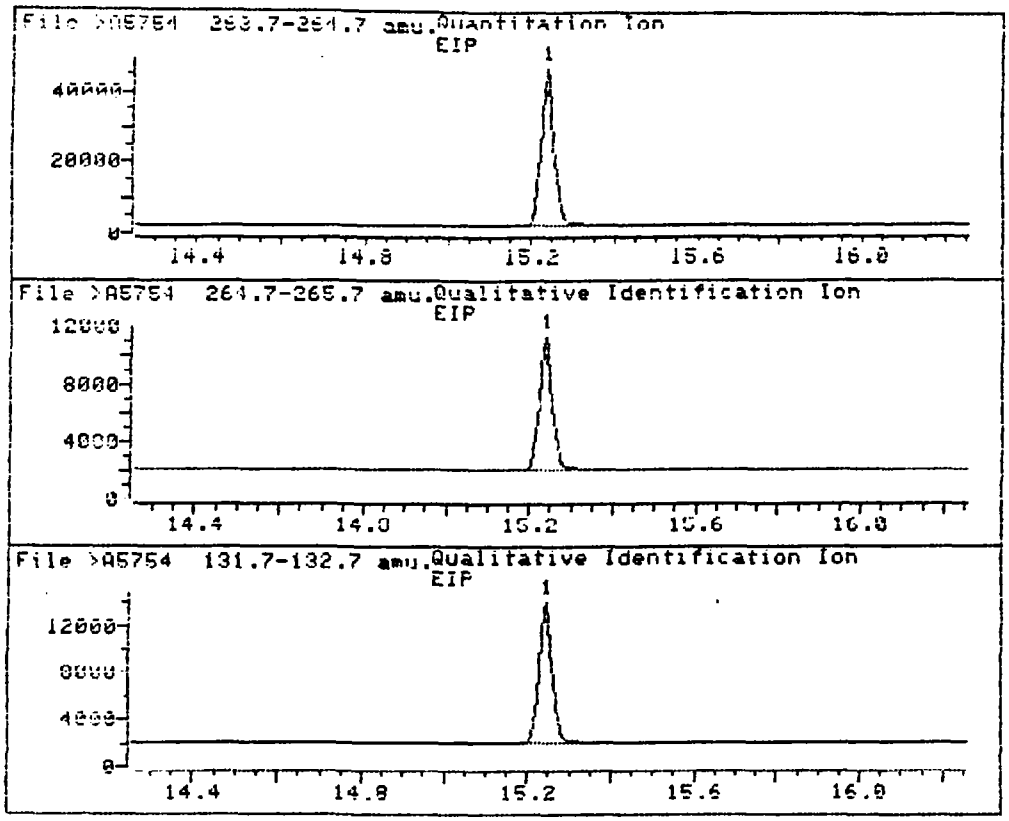
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.16	5.00	ppb	88	143952	32566	19962		
	1110	143952			1.000	.226	.139		



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0			
1	11.73	221.92	ppb	99	64205	12195			
	949	64205			1.000	.190			



Data File: >A5754::L1 Quant Output File: ^A5754::D2
Name: 062893-02 BLK
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930702 07:44 Quant ID File: I_A120::QT
Injected at: 930702 07:23 Last Calibration: 930702 06:59

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.24	5.00	ppb	84	99714	20927	27220		
	1419	99714			1.000	.210	.273		

QUANT REPORT

Operator ID: RDR
Output File: ^05755::D2
Data File: >05755::L1
Name: 0626931-01 BLK
Misc: IN#MSA;RGW

Quant Rev: 6
Quant Time: 930702 08:10
Injected at: 930702 07:48
Dilution Factor: 100.0000

BTL# 3

ID File: I 0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*Naphthalene-d8	5.40	136.0	110741	5.00	ppb		97
3)	~~Naphthalene~~	~~5.43~~	~~128.0~~	~~947~~	~~3.86~~	~~ppb~~		~~96~~
4)	*Acenaphthene-d10	7.69	164.0	67733	5.00	ppb		89
5)	2-Fluorobiphenyl (surr.)	6.79	172.0	43403	205.96	ppb	41	98
9)	*Phenanthrene-d10	9.63	188.0	147029	5.00	ppb		98
10)	Phenanthrene	9.65	178.0	2915	8.98	ppb		98
13)	*Chrysene-d12	13.16	240.0	139224	5.00	ppb		87
15)	Terphenyl-d14 (surr.)	11.73	244.0	60566	216.45	ppb	43	99
18)	*Perylene-d12	15.23	264.0	92148	5.00	ppb		82

* Compound is ISTD

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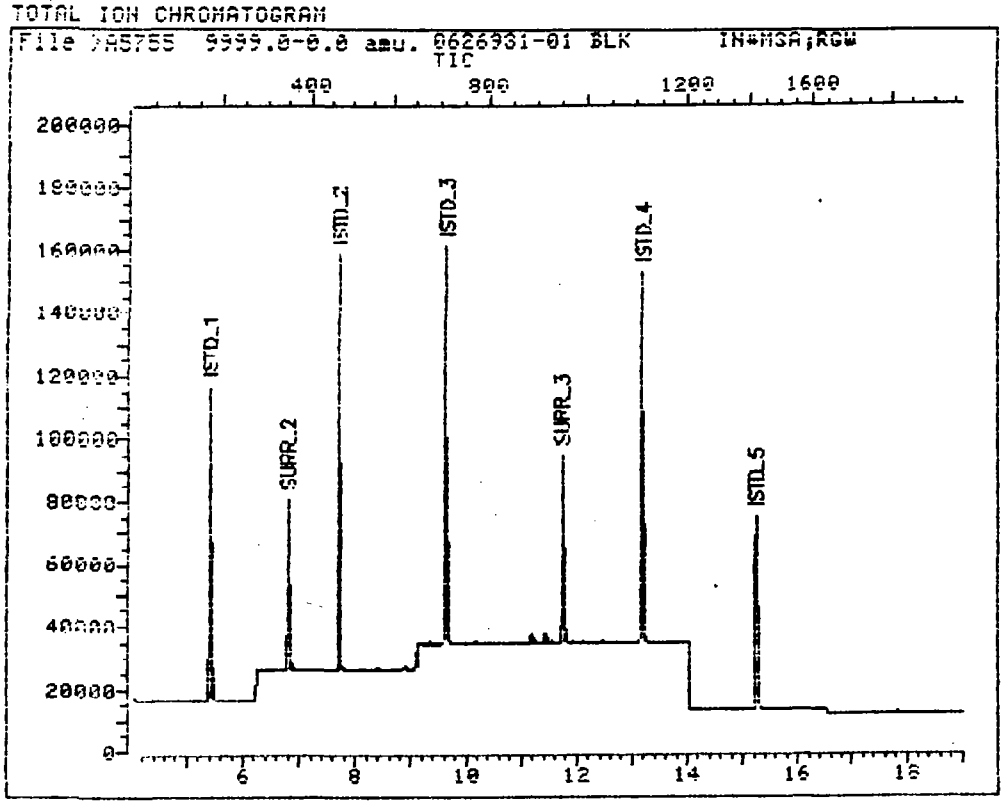
6-21 AL

TOTAL ION CHROMATOGRAM



Data File: >A5755::L1 Quant Output File: ^A5755::D2

Name: 0626931-01 BLK

Misc: IN#MSA;RGW BTL# 3

Id File: I_A120::QT

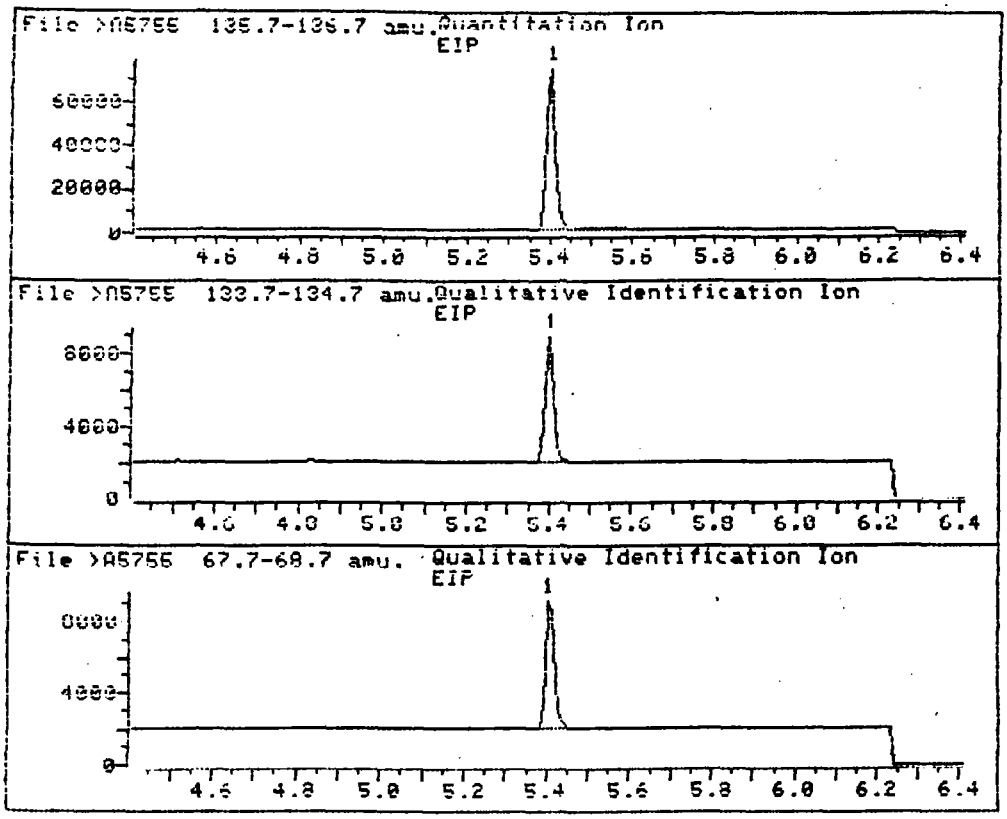
Title: PAH SIM ANALYSIS

Last Calibration: 930702 06:59

Operator ID: ROB

Quant Time: 930702 08:10

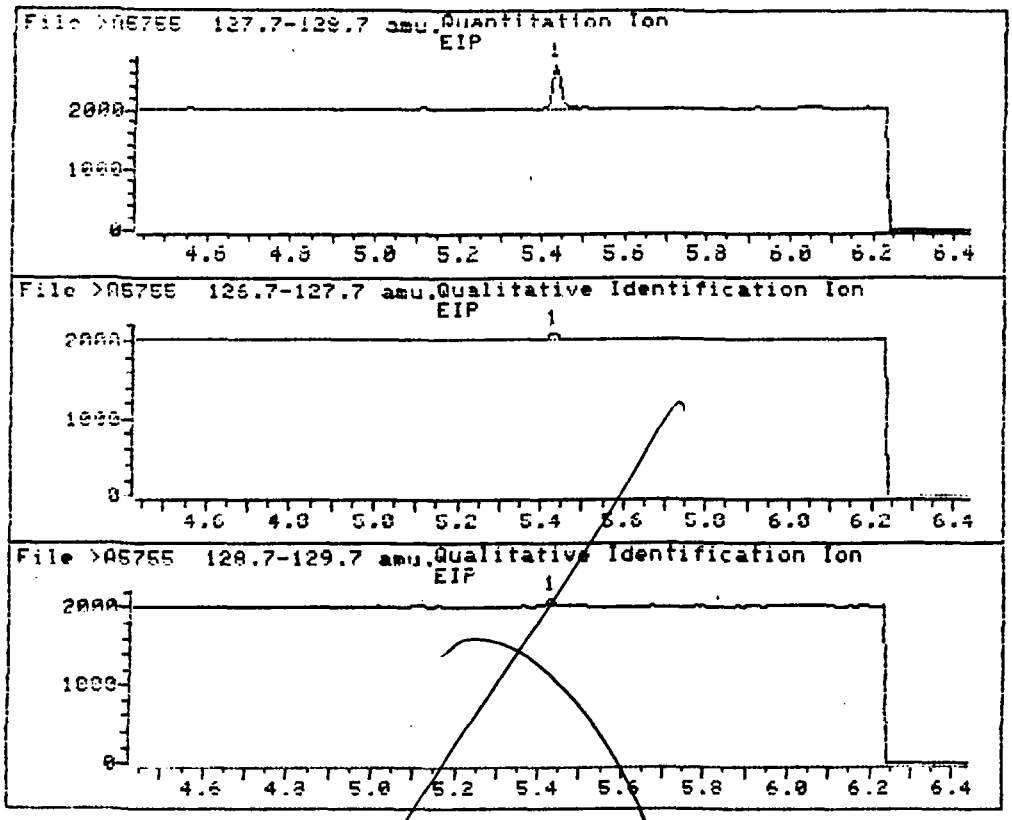
Injected at: 930702 07:48



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.40	5.00	ppb	97	110741	10444	10650		
	171	110741			1.000	.094	.096		



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.43	3.86	ppb	96	947	138	117		
	174	947			1.000	.146	.124		

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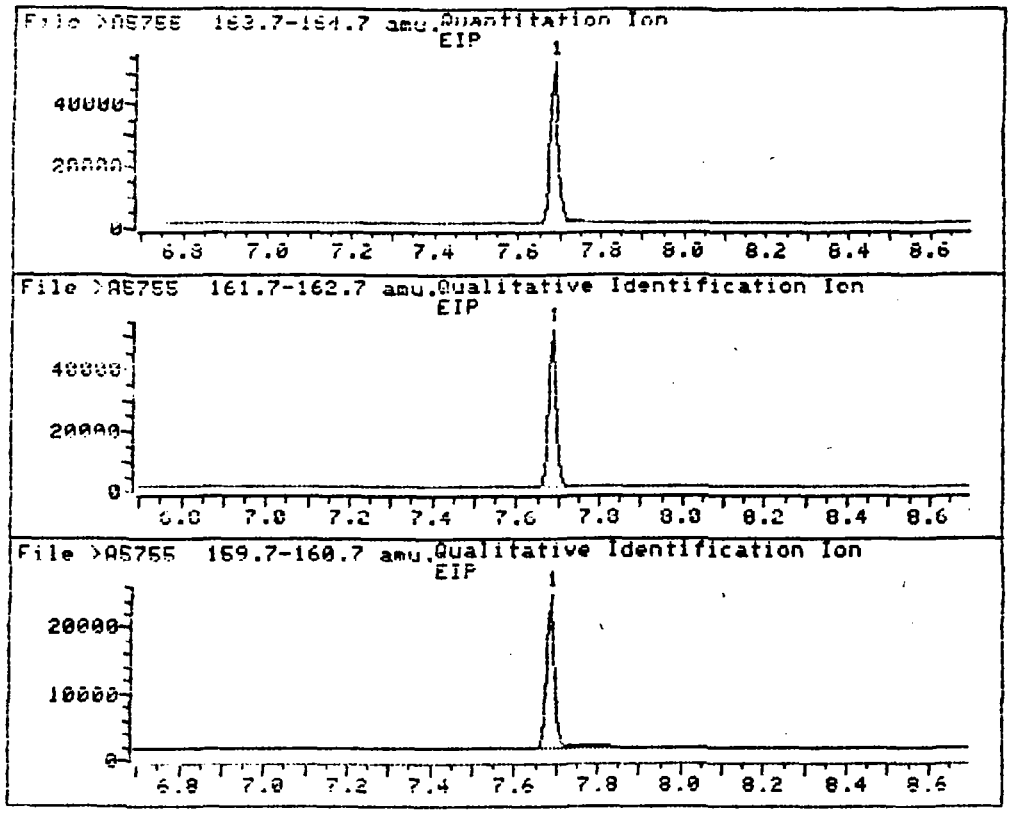
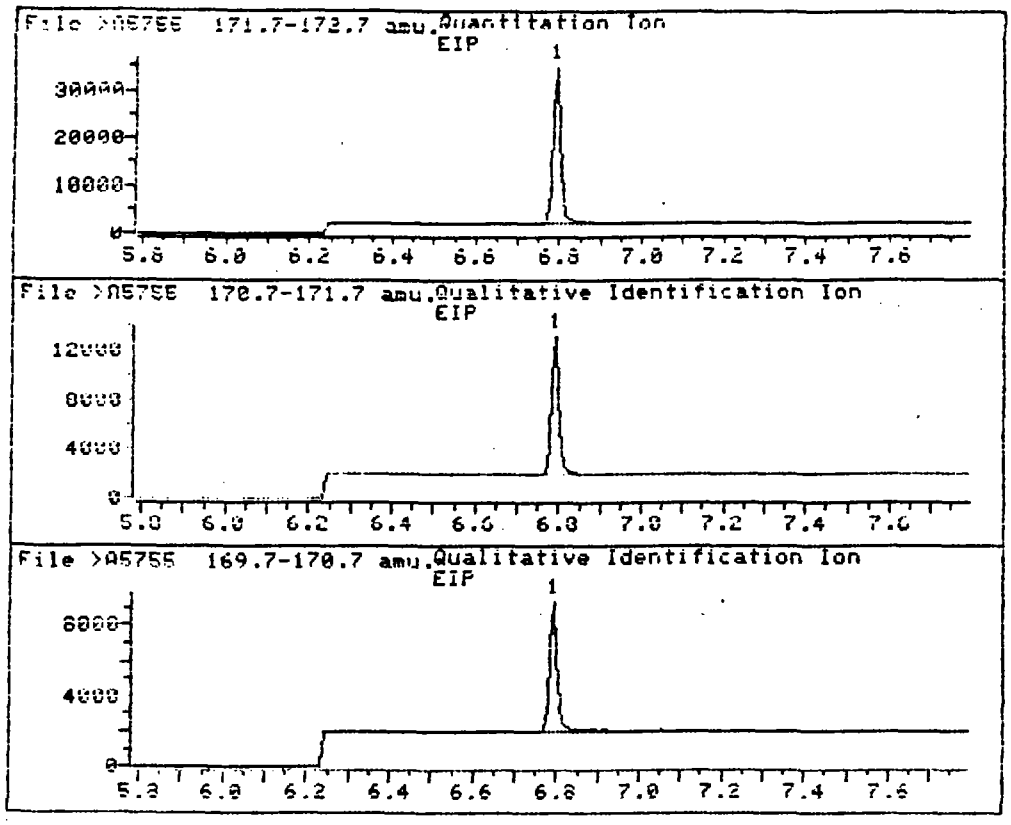


Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0624931 01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

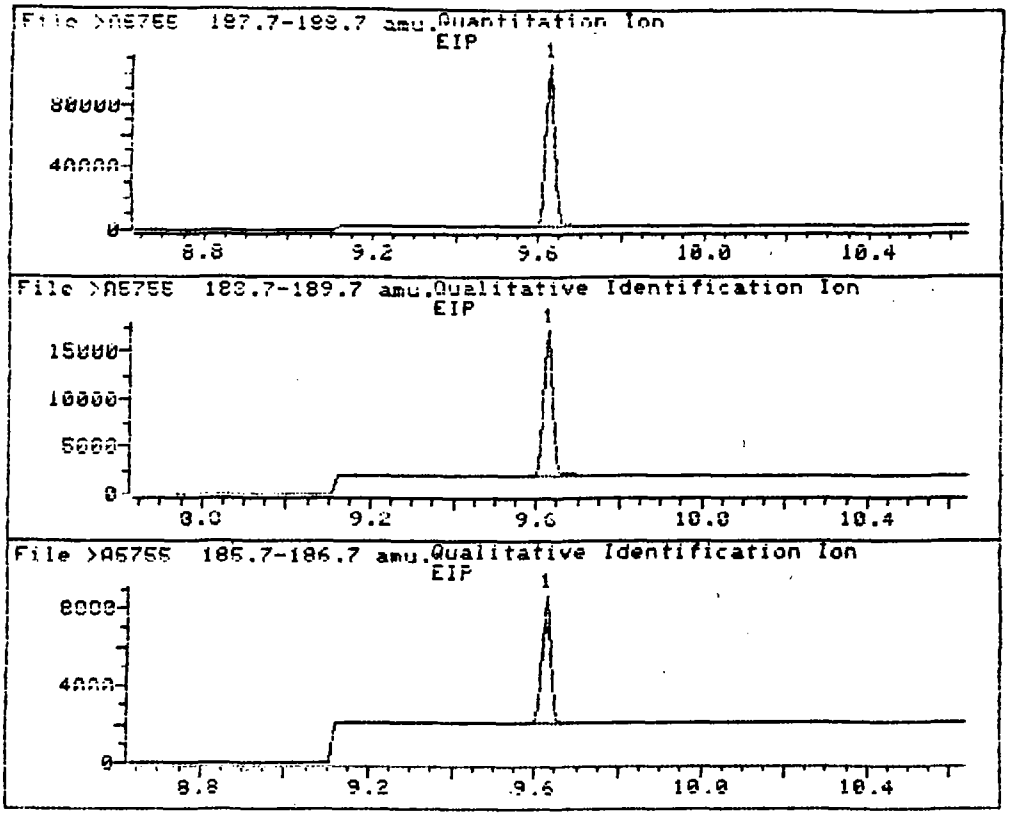
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.69	5.00	ppb	99	67733	64975	29322		
	465	67733			1.000	.959	.433		



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

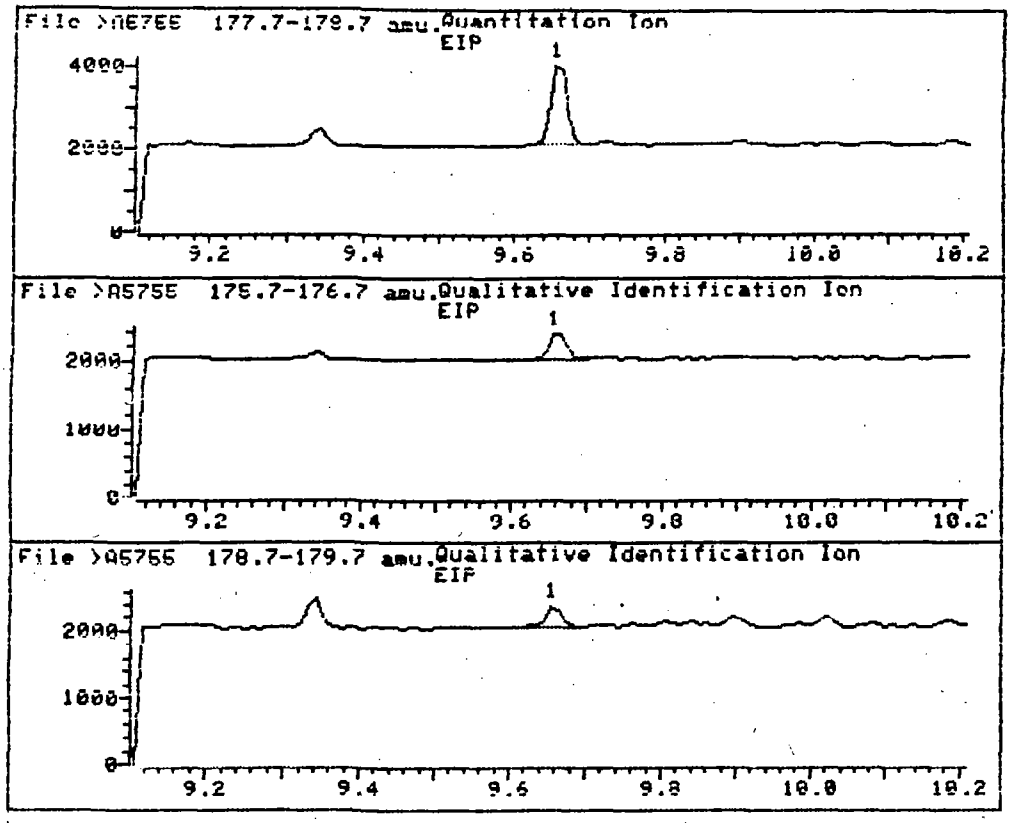
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.79	205.96	ppb	98	43403	14922	9658		
	346	43403			1.000	.344	.223		



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0
1	9.43	5.00	ppb	98	147029	22088	9219
	712	147029			1.000	.150	.063



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0
1	9.65	8.98	ppb	98	2915	572	476
	715	2915			1.000	.196	.163

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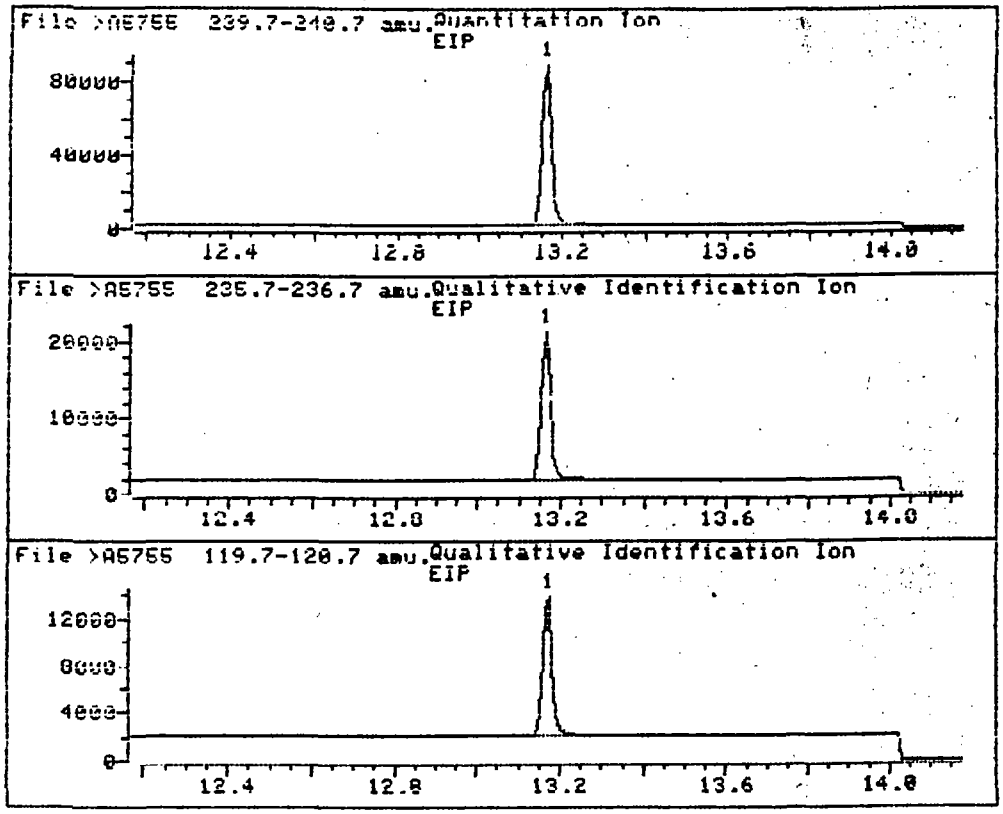
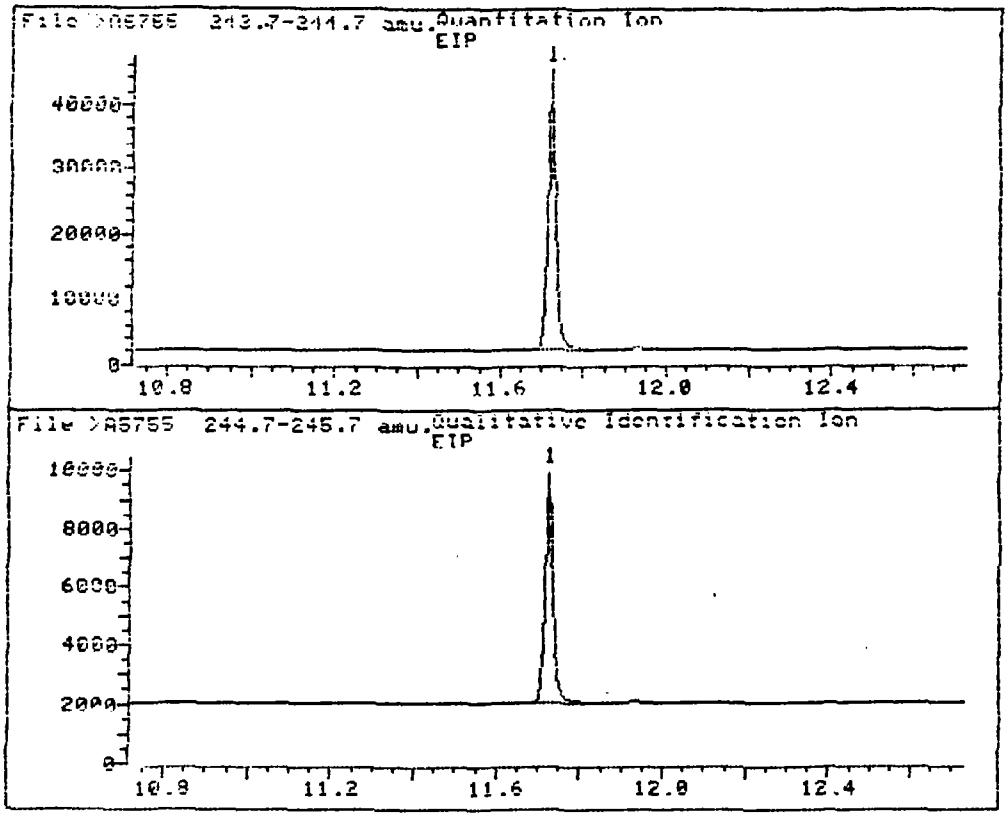


Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

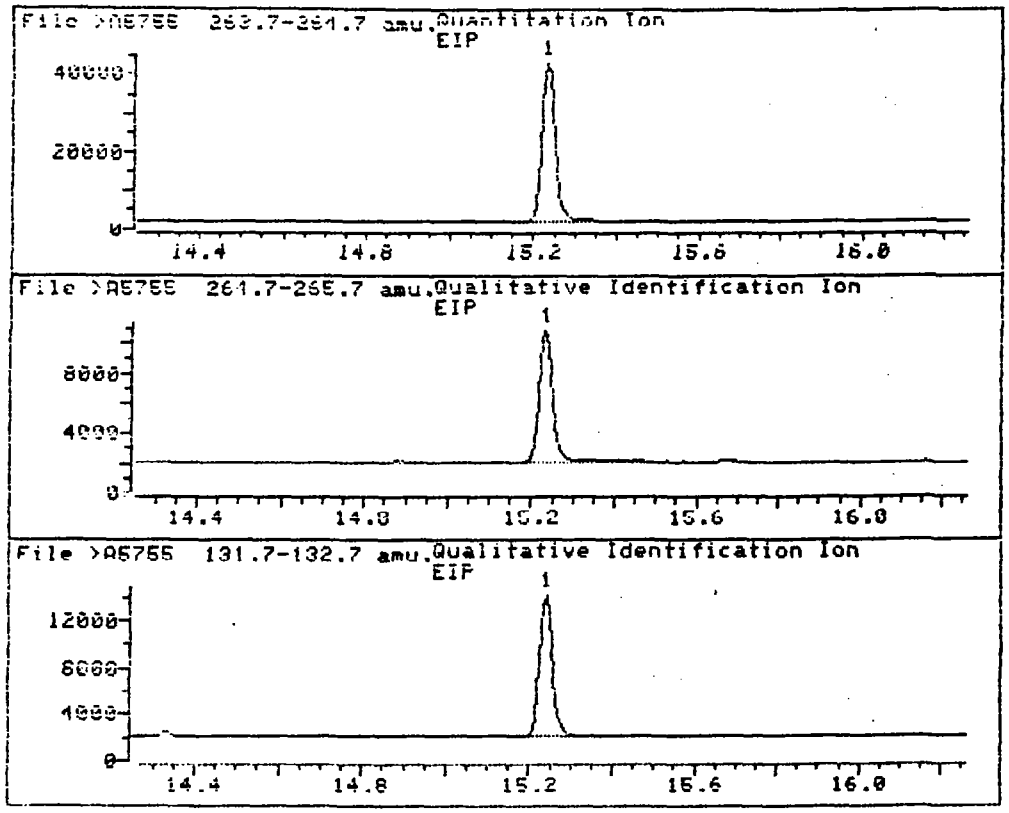
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0
1	13.16	5.00	ppb	87	139224	30772	19618
	1108	139224			1.000	.221	.141



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0626931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.73	216.45	ppb	99	60566	11571
	947	60566			1.000	.191



Data File: >A5755::L1 Quant Output File: ^A5755::D2
Name: 0426931-01 BLK
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930702 08:10 Quant ID File: I_A120::QT
Injected at: 930702 07:48 Last Calibration: 930702 06:59

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.23	5.00	ppb	82	92148	19575	27166		
	1417	92148			1.000	.212	.295		

QUANT REPORT

Operator ID: RDR
Output File: ^05757::D2
Data File: >05757::L1
Name: 0626931-01 SPK
Misc: IN#MSA;RGW

Quant Rev: 6 Quant Time: 930702 09:00
Injected at: 930702 08:39
Dilution Factor: 100.0000

BTL# 5

ID File: I 0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*Naphthalene-d8	5.40	136.0	106999	5.00	ppb		96
3)	Naphthalene	5.42	128.0	62721	264.72	ppb	53	99
4)	*Acenaphthene-d10	7.68	164.0	62634	5.00	ppb		91
5)	2-Fluorobiphenyl (surr.)	6.79	172.0	59470	305.17	ppb	61	98
6)	Acenaphthylene	7.49	152.0	79019	317.50	ppb	64	98
7)	Acenaphthene	7.73	153.0	51958	317.05	ppb	63	94
8)	Fluorene	8.38	166.0	53539	291.83	ppb	58	93
9)	*Phenanthrene-d10	9.62	188.0	136243	5.00	ppb		98
10)	Phenanthrene	9.66	178.0	97523	324.28	ppb	65	97
11)	Anthracene	9.72	178.0	100618	322.34	ppb	65	97
12)	Fluoranthene	11.25	202.0	104584	285.71	ppb	57	98
13)	*Chrysene-d12	13.16	240.0	115721	5.00	ppb		85
14)	Pyrene	11.55	202.0	114195	360.61	ppb	72	98
15)	Terphenyl-d14 (surr.)	11.72	244.0	59554	256.06	ppb	51	99
16)	Benzo(a)Anthracene	13.14	228.0	86440	322.77	ppb	65	98
17)	Chrysene	13.19	228.0	91411	310.71	ppb	62	99
18)	*Perylene-d12	15.23	264.0	67842	5.00	ppb		71
19)	Benzo(b)Fluoranthene	14.61	252.0	86439	469.77	ppb	94	93
20)	Benzo(k)Fluoranthene	14.65	252.0	91724	458.36	ppb	92	89
21)	Benzo(a)Pyrene	15.14	252.0	82841	469.42	ppb	94	88
22)	Indeno(1,2,3-cd)Pyrene	17.42	276.0	66465	405.43	ppb	81	67
23)	Dibenzo(a,h)Anthracene	17.41	278.0	58988	431.85	ppb	86	85
24)	Benzo(g,h,i)Perylene	18.07	276.0	57025	404.21	ppb	81	72

* Compound is ISTD

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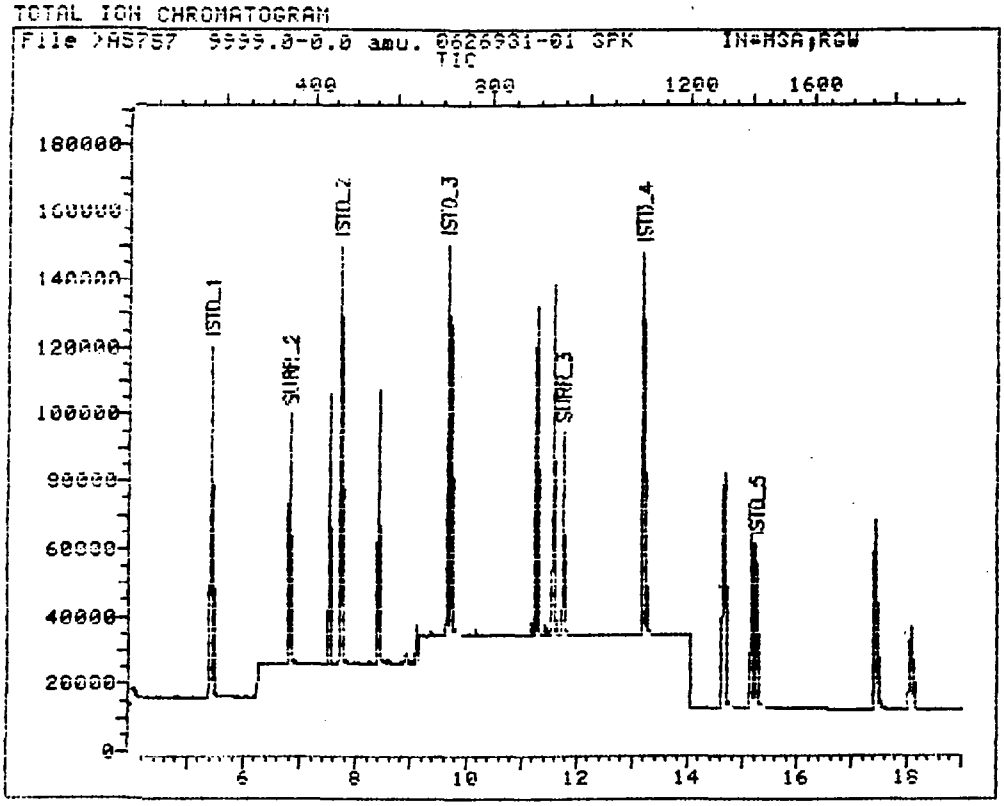
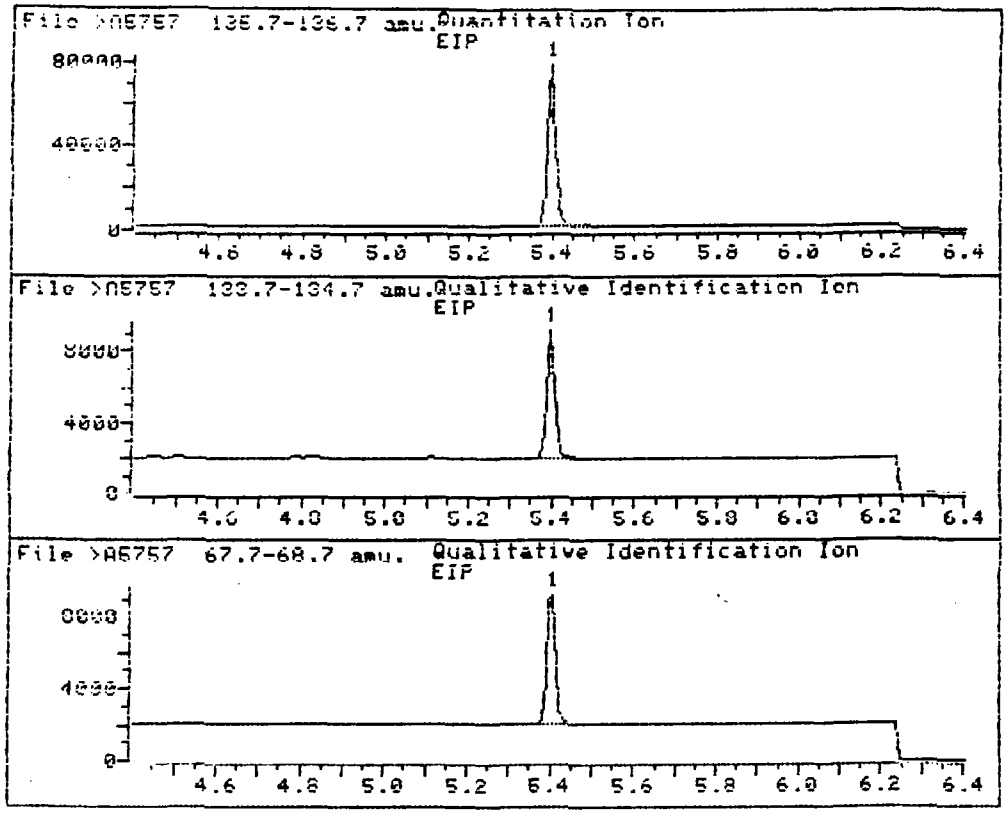
TOTAL ION CHROMATOGRAM



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931 01 SPK
Misc: IN#MSA;RGW BTL# 5

Id File: I_0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

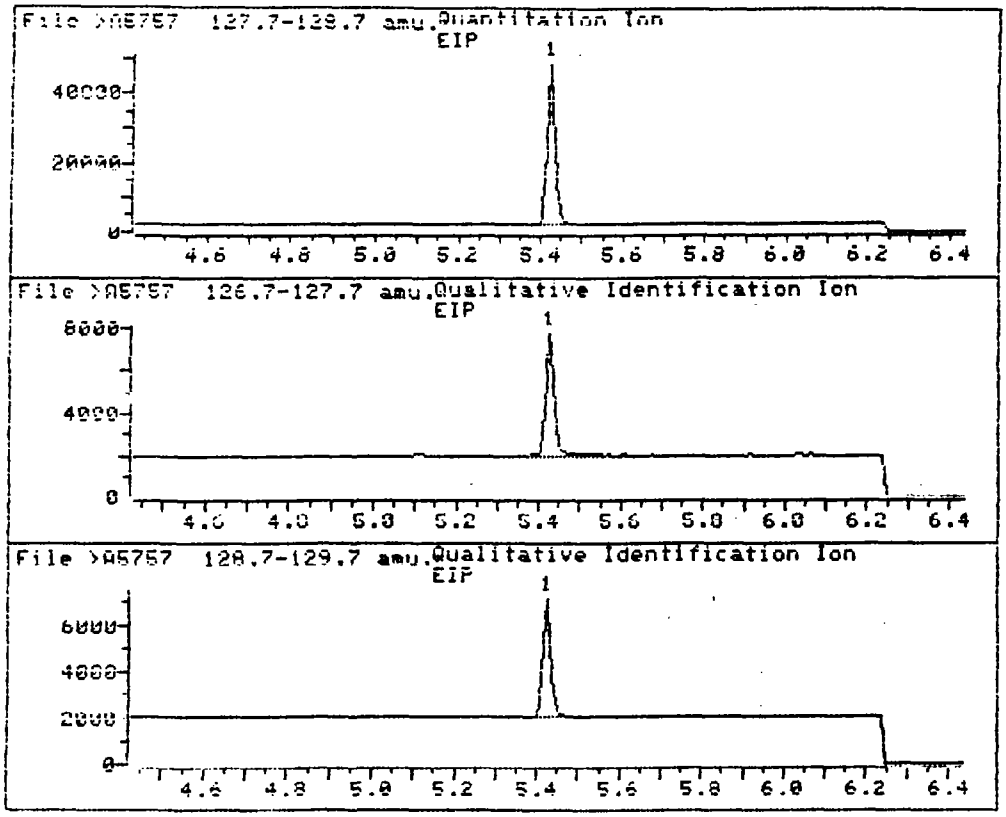
Operator ID: RDB
Quant Time: 930702 09:00
Injected at: 930702 08:39



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931 01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

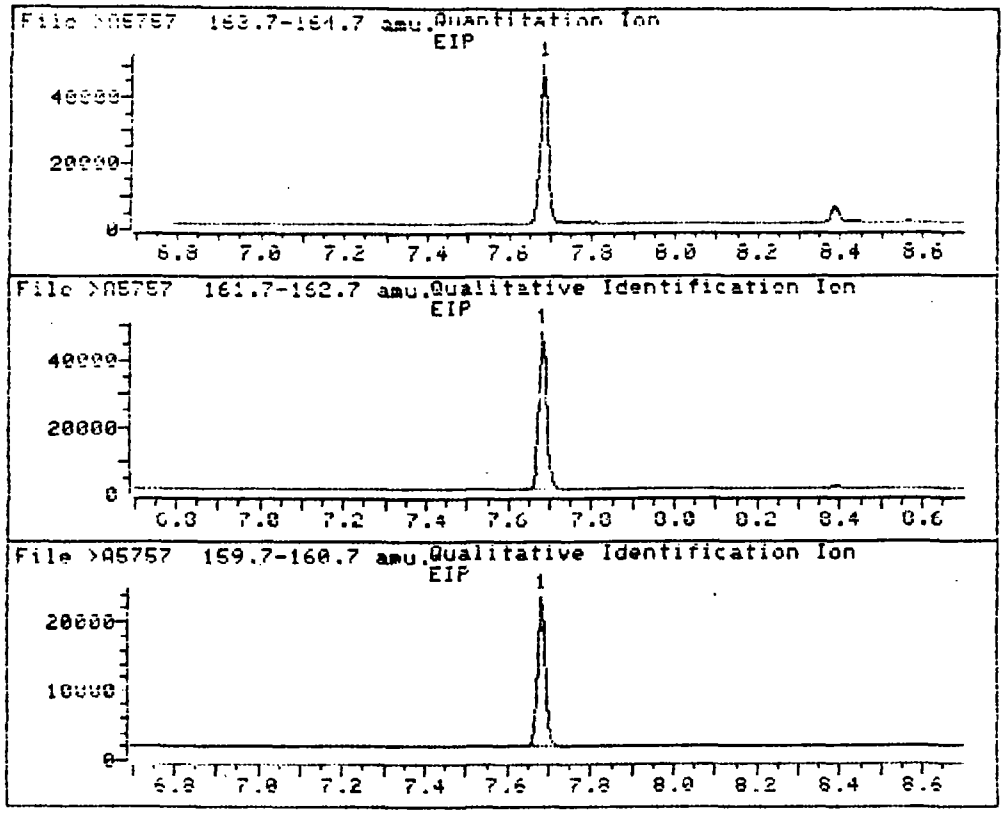
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.40	5.00	ppb	96	106999	10141	10635		
	170	106999			1.000	.095	.099		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

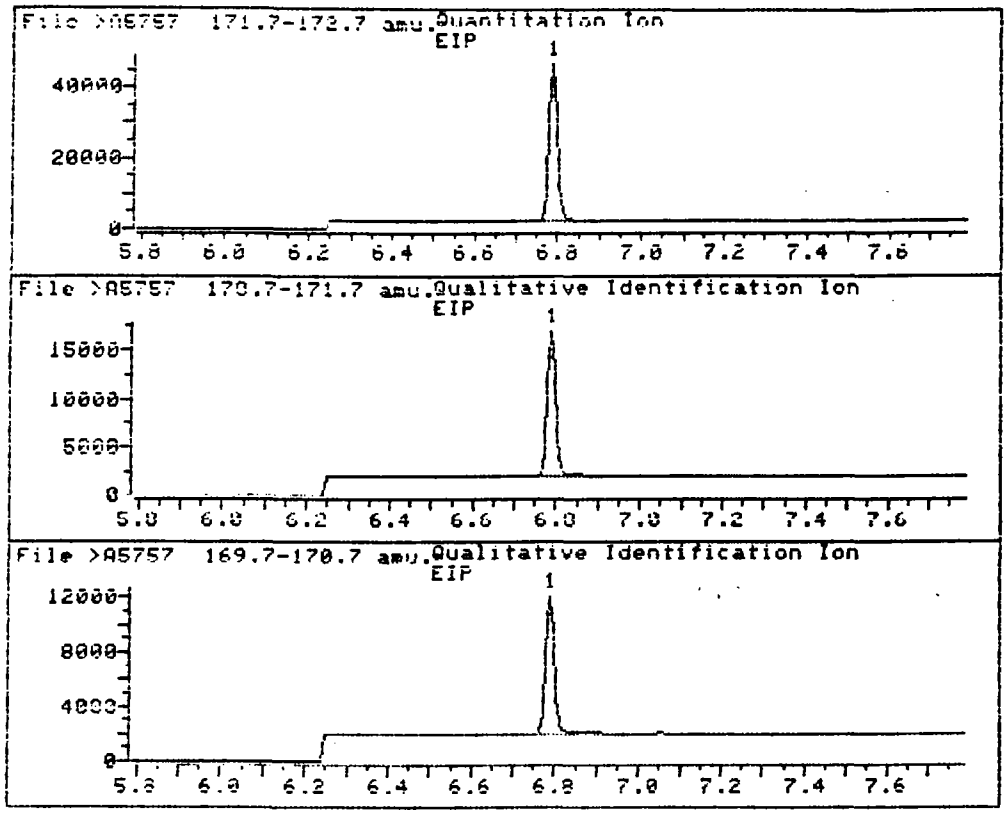
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.42	264.72	ppb	99	62721	8094	6857		
	173	62721			1.000	.129	.109		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

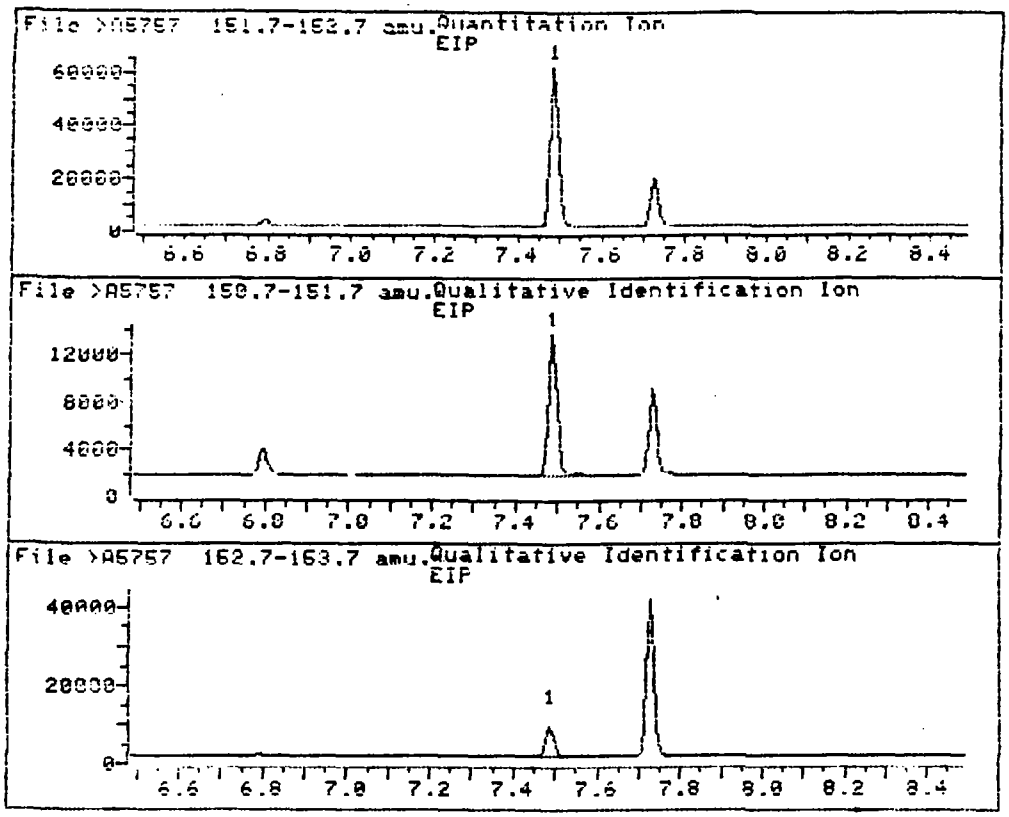
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.68	5.00	ppb	91	62634	61637	28292		
	464	62634			1.000	.984	.452		



Data File: >A5757::1.1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

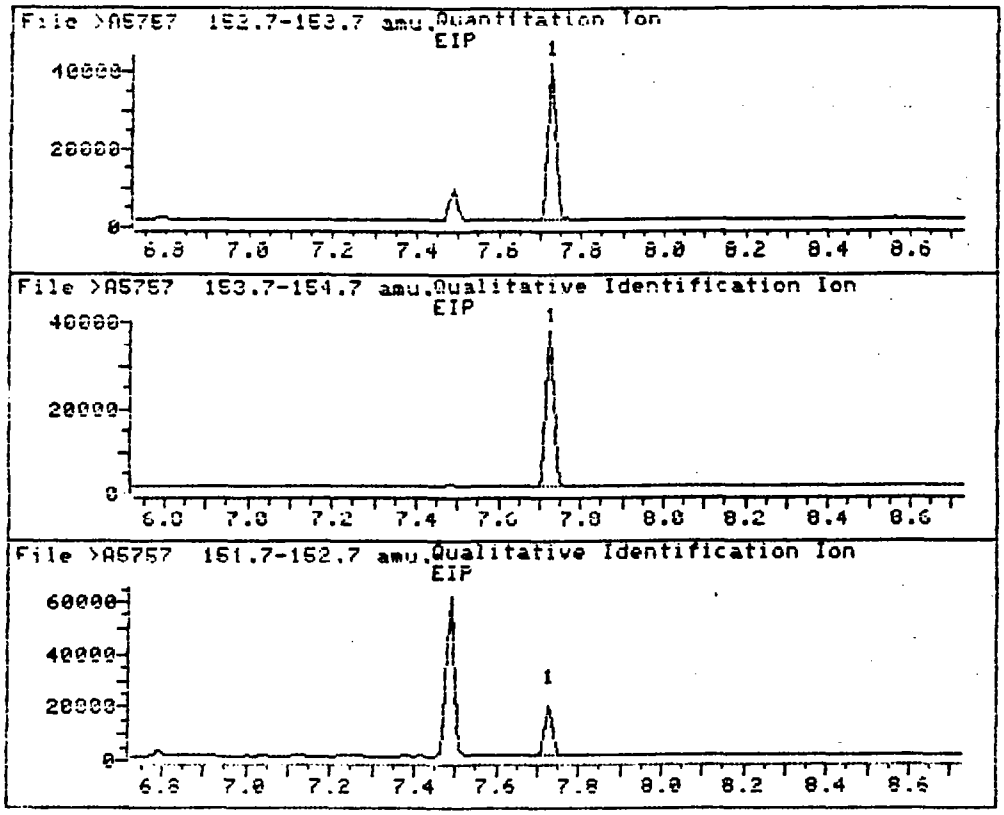
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.79	305.17	ppb	.98	59470	20449	13379		
	345	59470			1.000	.344	.225		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 6
Compound Name: Acenaphthylene
Quant Ion: 152.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 152.0	151.0	153.0		
1	7.49	317.50	ppb	98	79019	15523	10267		
	438	79019			1.000	.196	.130		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: A626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 153.0	154.0	152.0		
1	7.73	317.05	ppb	94	51958	47717	24373		
	470	51958			1.000	.918	.469		

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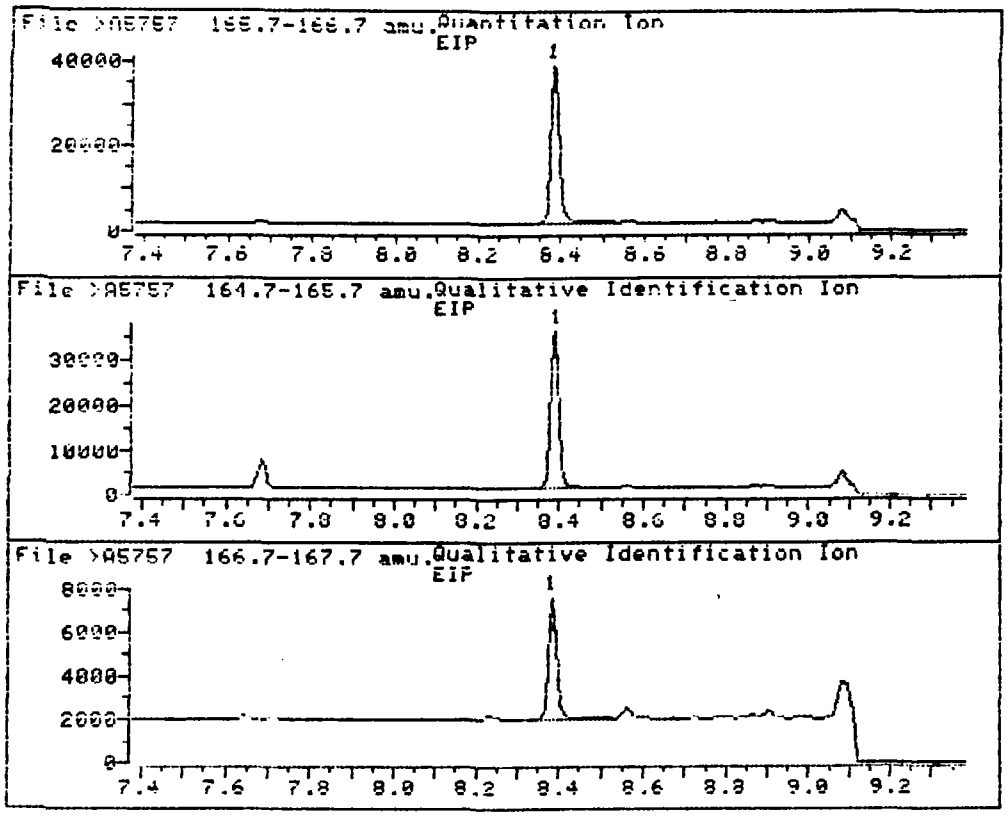
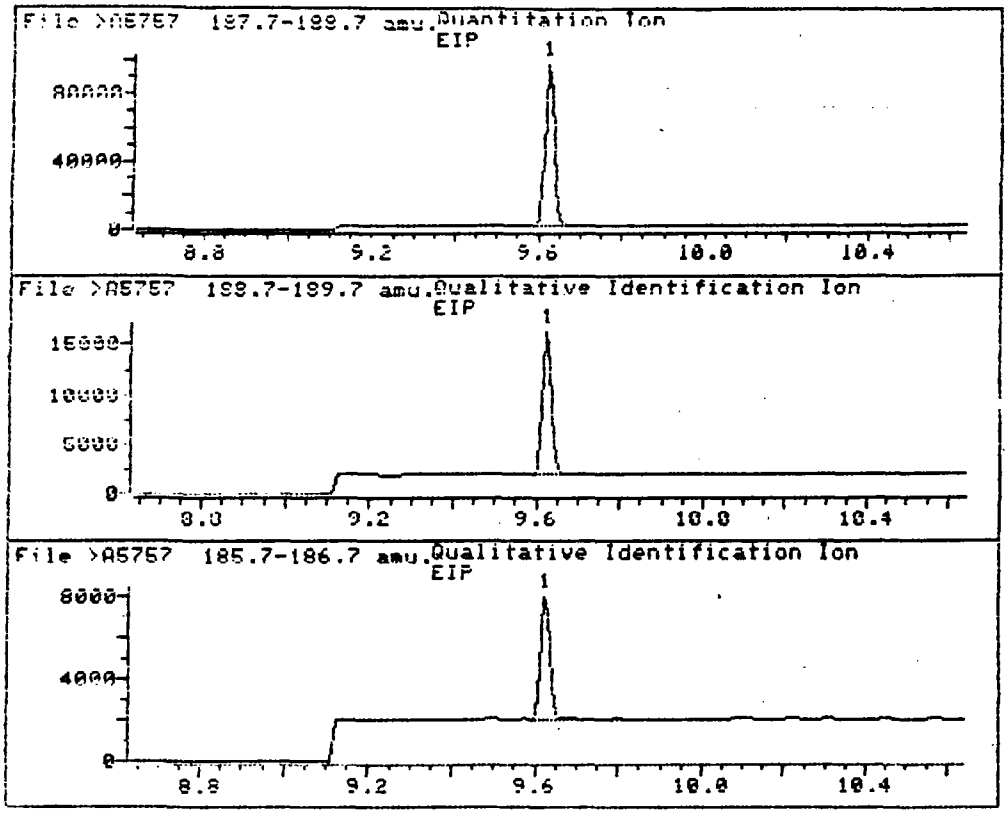


Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931 01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

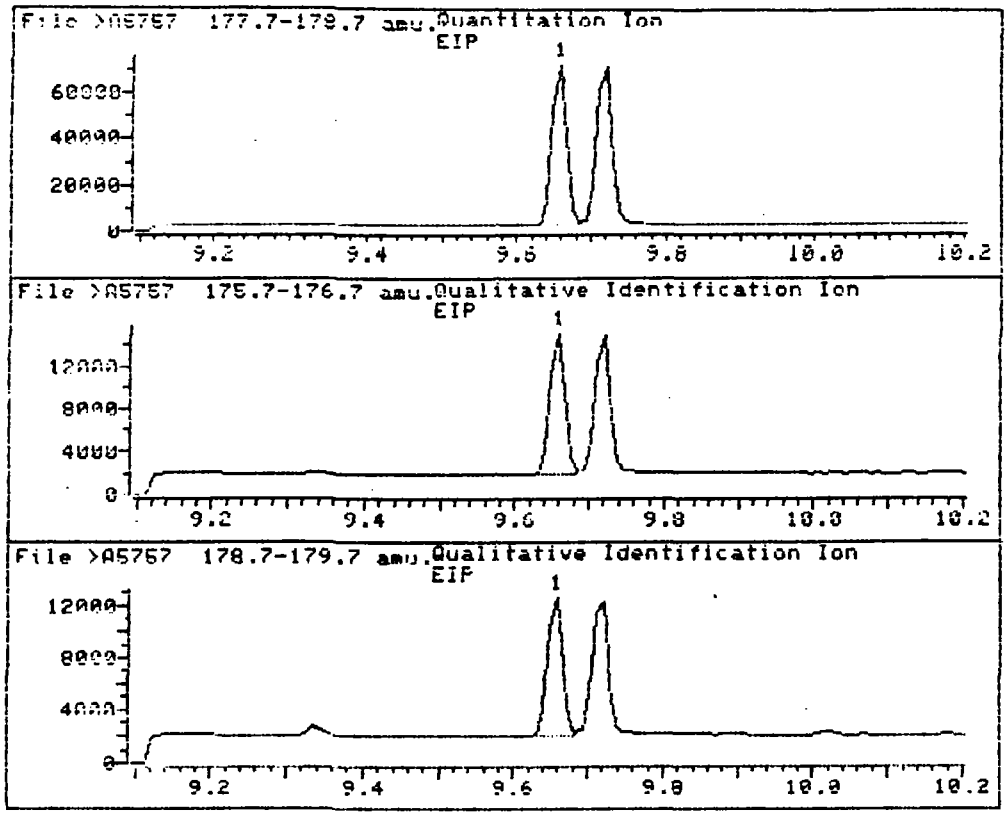
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0		
1	8.38	291.83	ppb	93	53539	49683	7955		
	557	53539			1.000	.928	.149		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

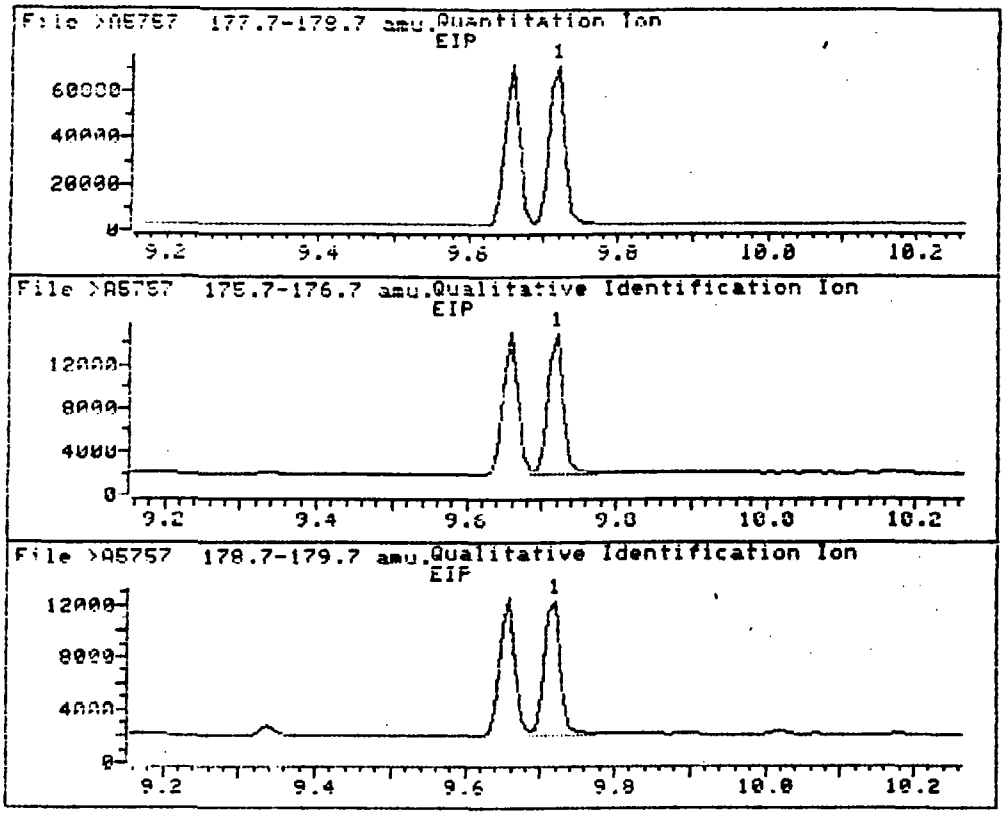
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.42	5.00	ppb	98	136243	20338	8711		
	711	136243			1.000	.149	.064		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

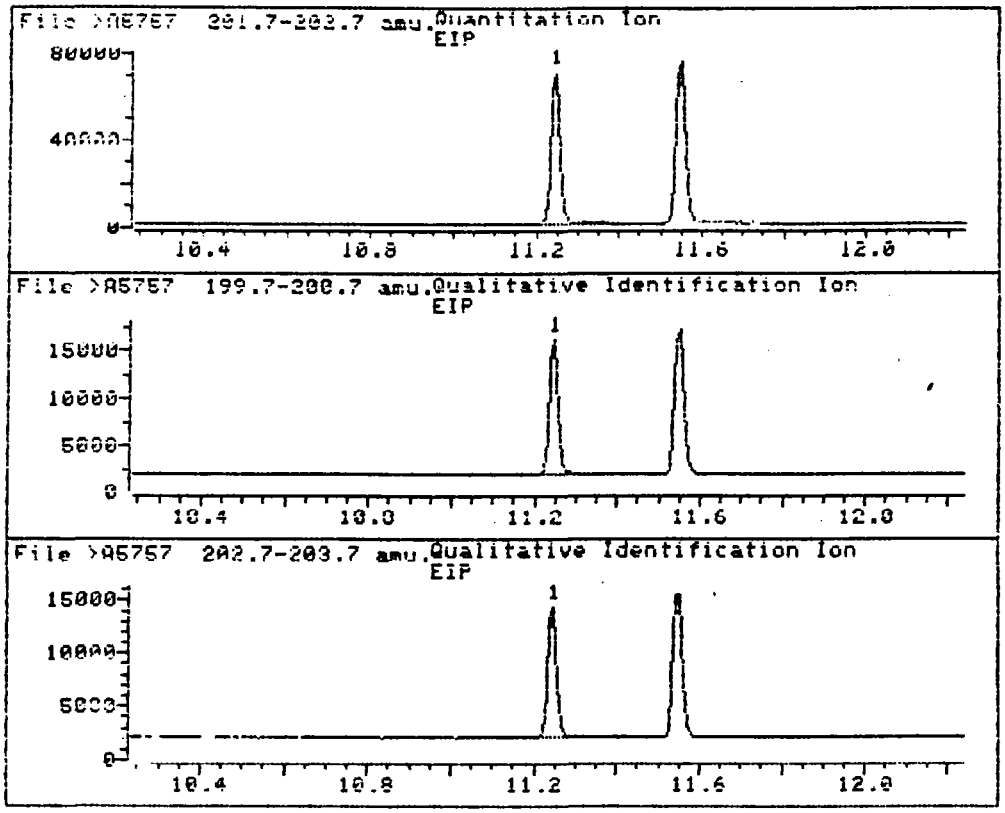
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0
1	9.66	324.28	ppb	97	97523	18031	14785
	715	97523			1.000	.185	.152



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 11
Compound Name: Anthracene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.72	322.34	ppb	97	100618	17989	15374		
	722	100618			1.000	.179	.153		

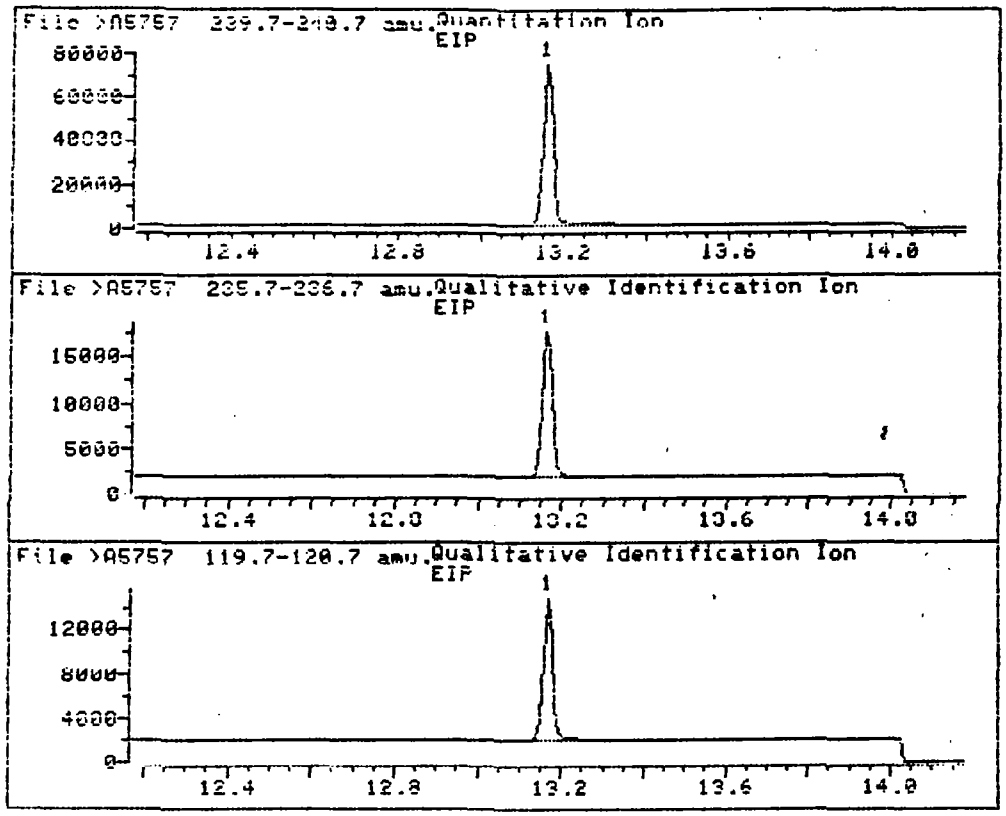


Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.25	285.71	ppb	98	104584	20952	18933
	893	104584			1.000	.200	.181

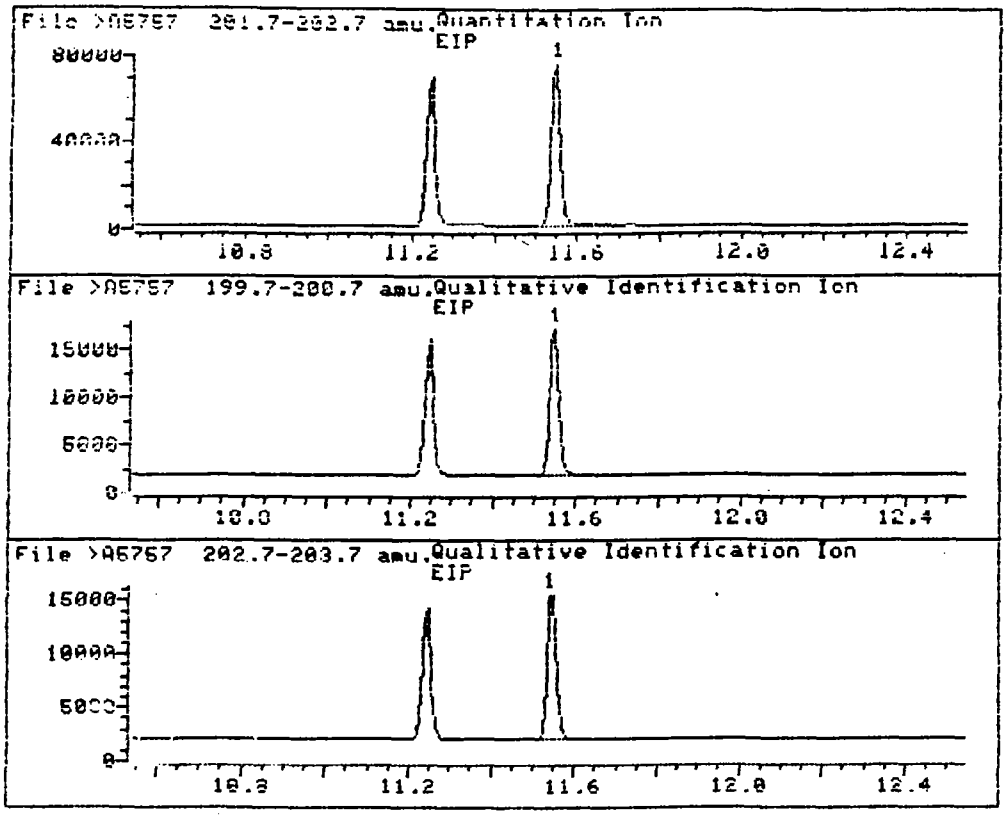
000130



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931 01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

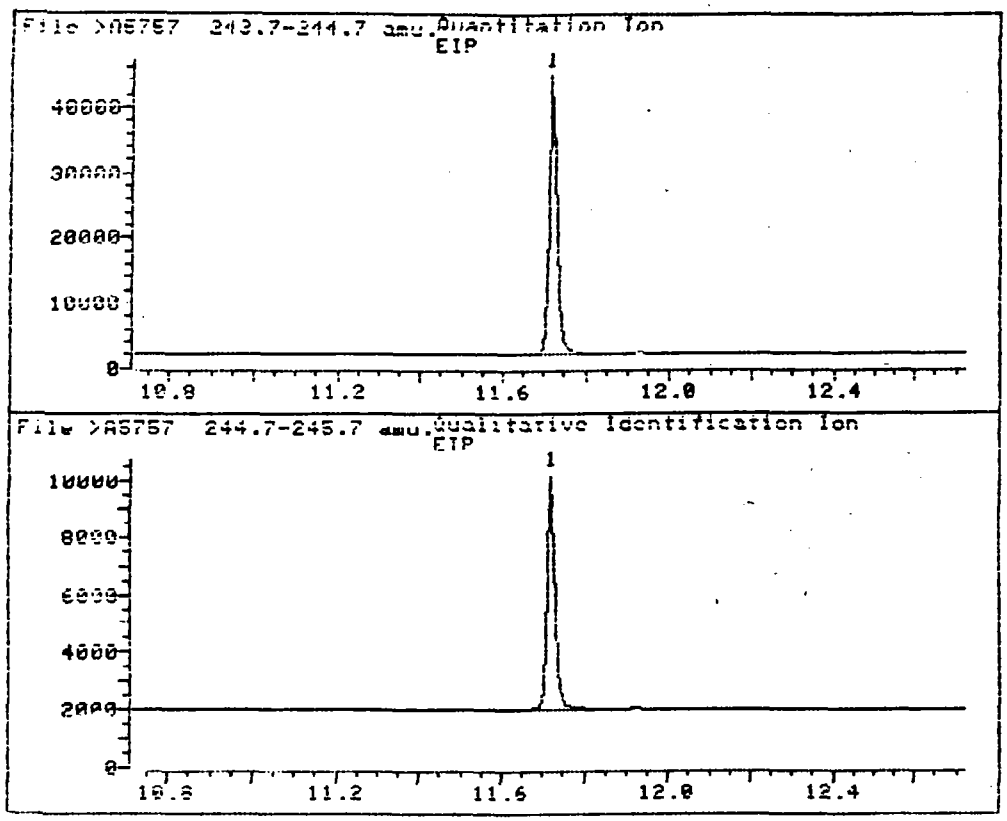
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0
1	13.16	5.00	ppb	85	115721	25318	19568
	1107	115721			1.000	.219	.169



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

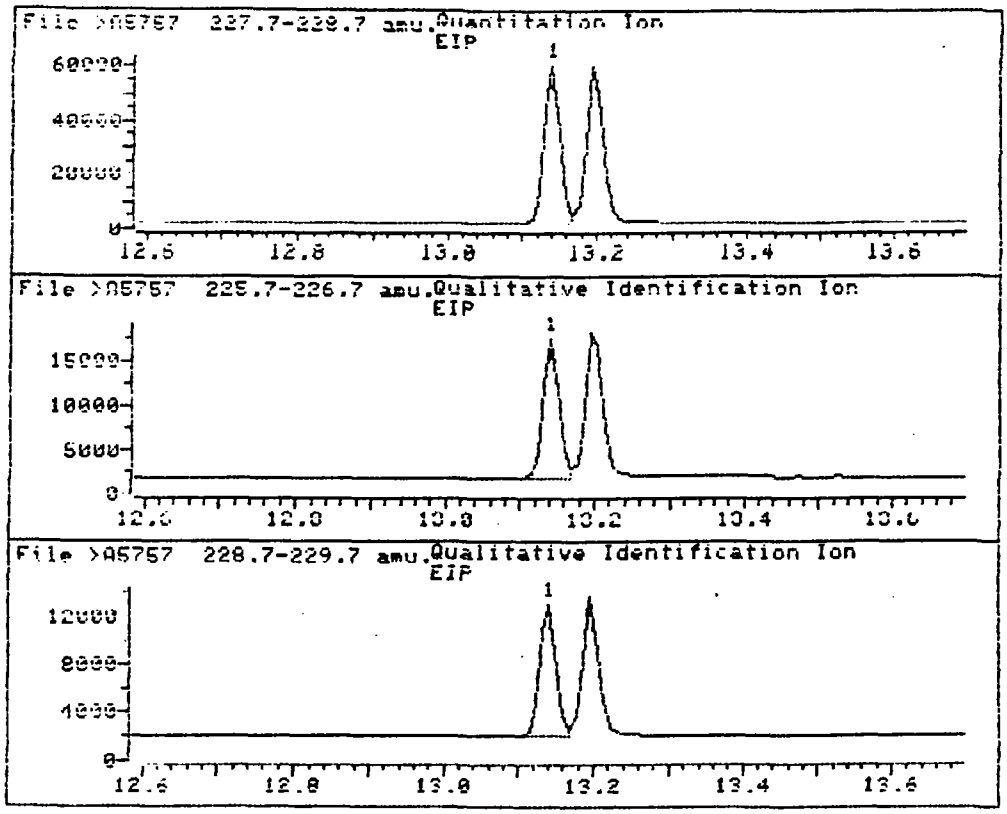
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.55	360.61	ppb	98	114195	23417	21372
	927	114195			1.000	.205	.187



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0424931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

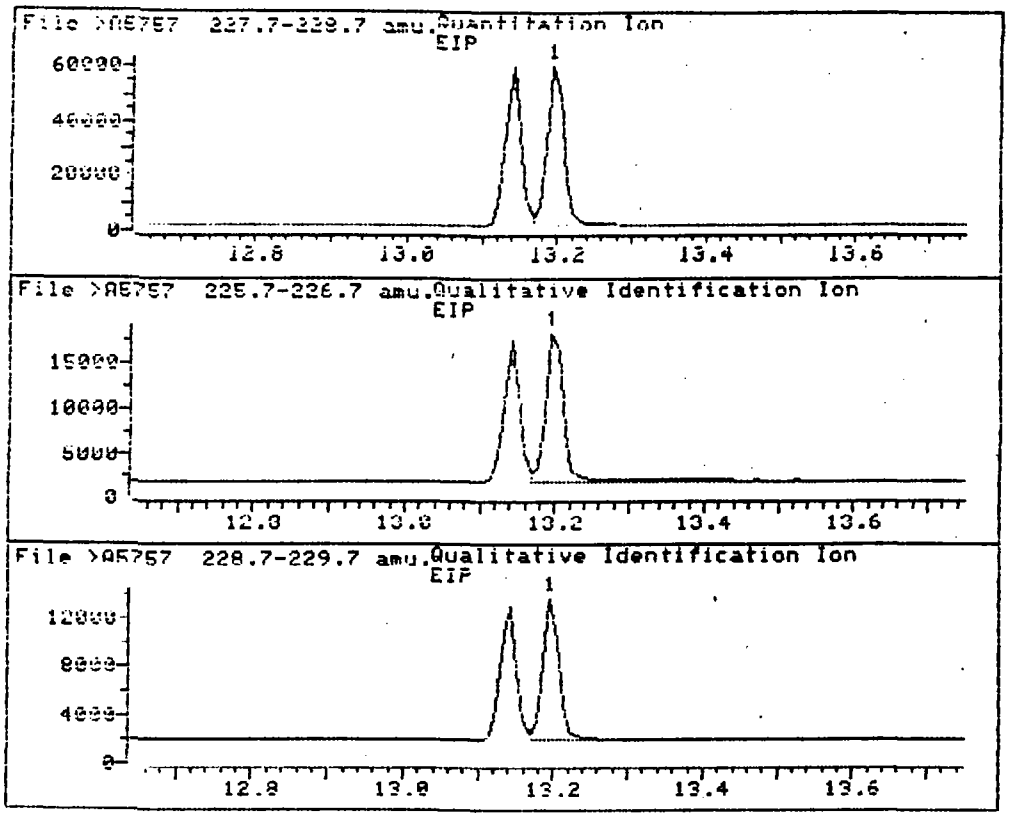
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.72	256.06	ppb	99	59554	11403
	946	59554			1.000	.191



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 16
Compound Name: Benzo(a)Anthracene
Quant Ion: 228.0

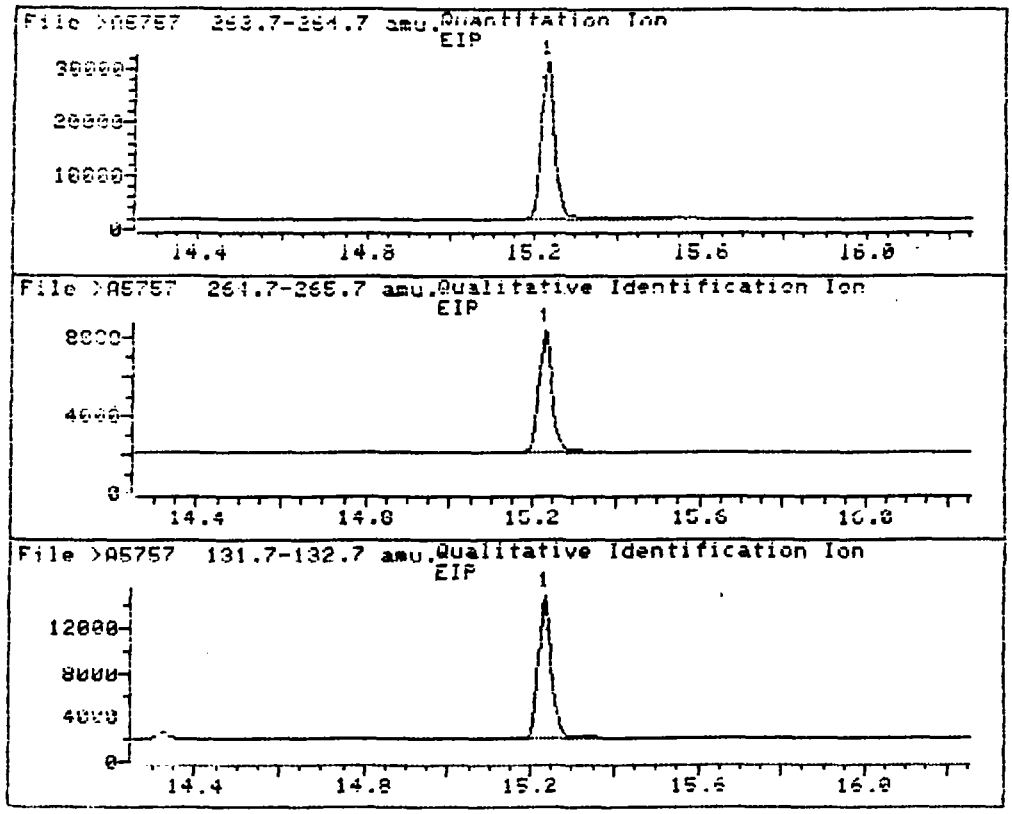
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0
1	13.14	322.77	ppb	98	86440	22647	16580
	1105	86440			1.000	.262	.192



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0606931 01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 17
Compound Name: Chrysene
Quant Ion: 228.0

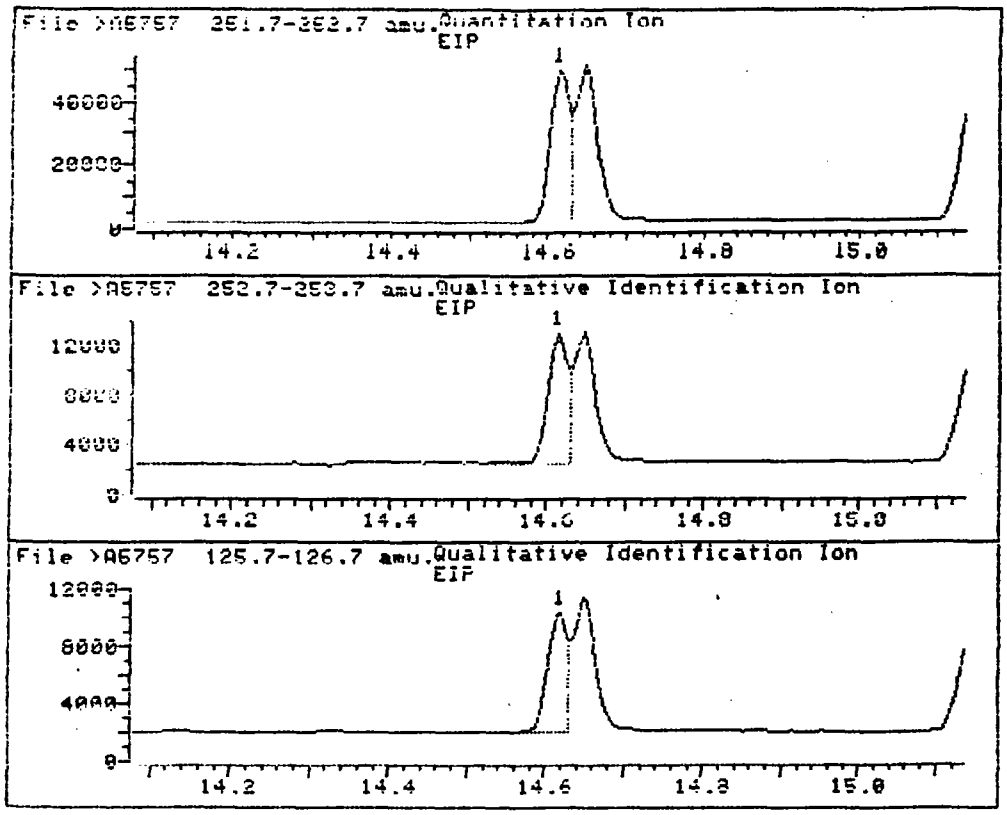
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0		
1	13.19	310.71	ppb	99	91411	26479	17634		
	1111	91411			1.000	.290	.193		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.23	5.00	ppb	71	67842	14177	28822		
	1415	67842			1.000	.209	.425		

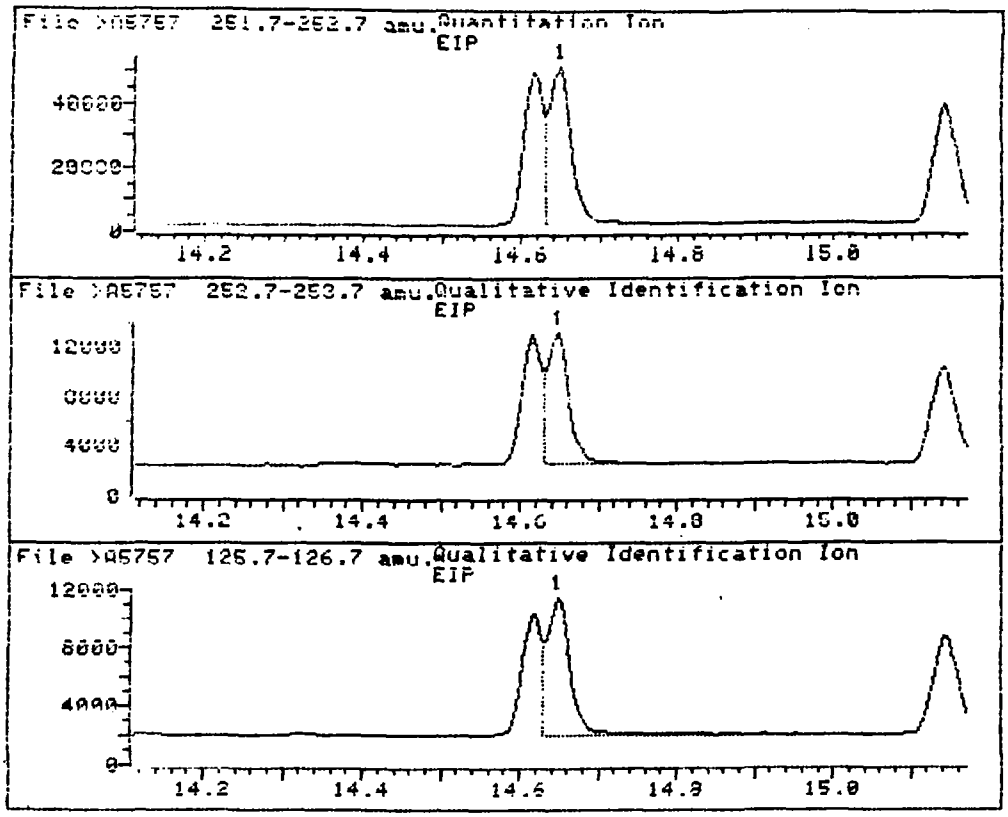


Data File: >A5757::L1 Quant Output File: ^A5752::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 19
Compound Name: Benzo(b)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.61	469.77	ppb	93	86439	18934	14526		
	1307	86439			1.000	.219	.168		

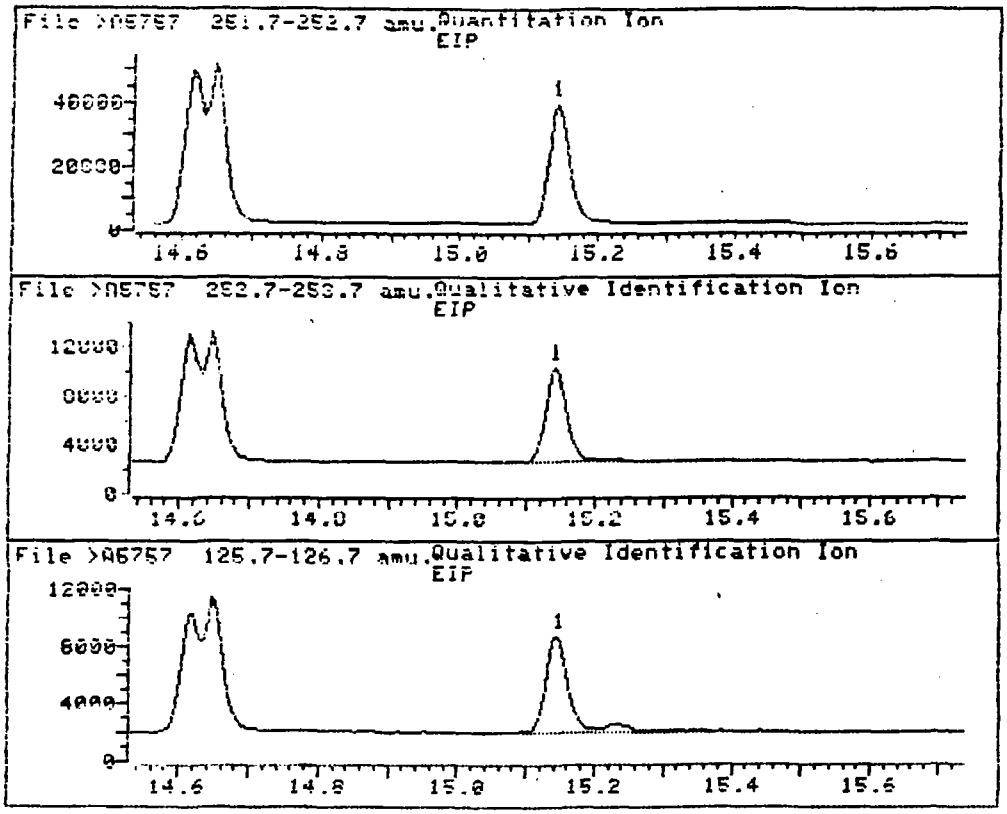
000137



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 20
Compound Name: Benzo(k)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.65	458.36	ppb	89	91724	19108	18141		
	1313	91724			1.000	.208	.198		

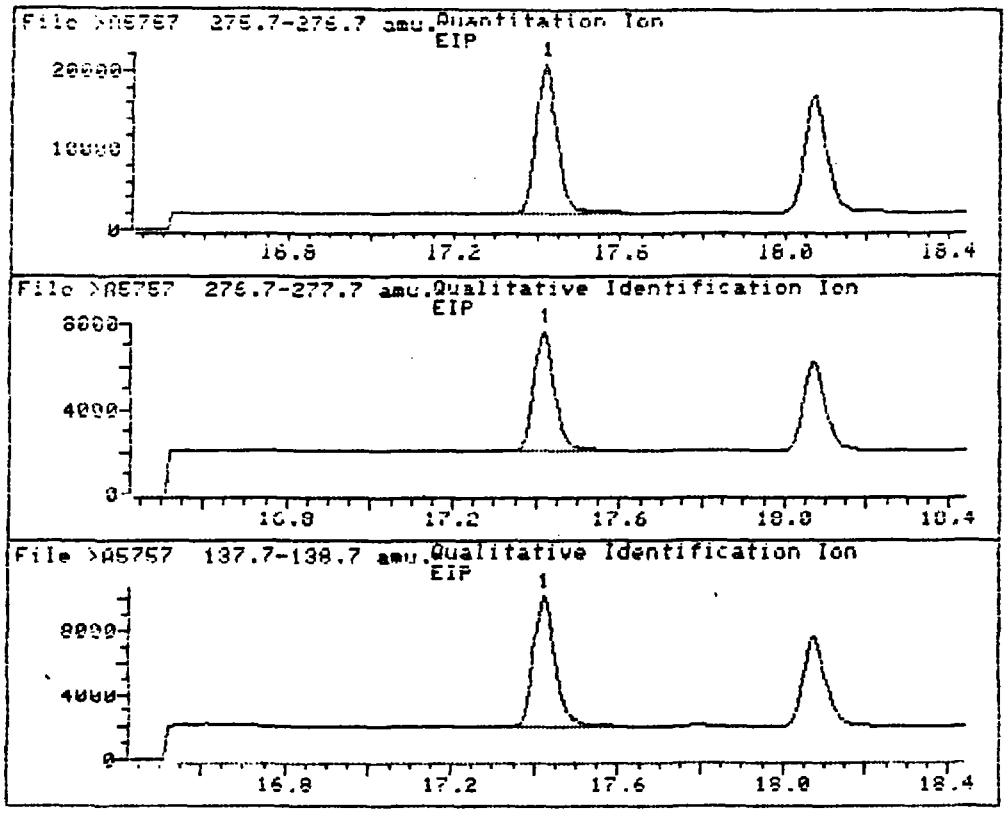


Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 21
Compound Name: Benzo(a)Pyrene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	15.14	449.42	ppb	88	82841	17973	16208		
	1400	82841			1.000	.217	.196		

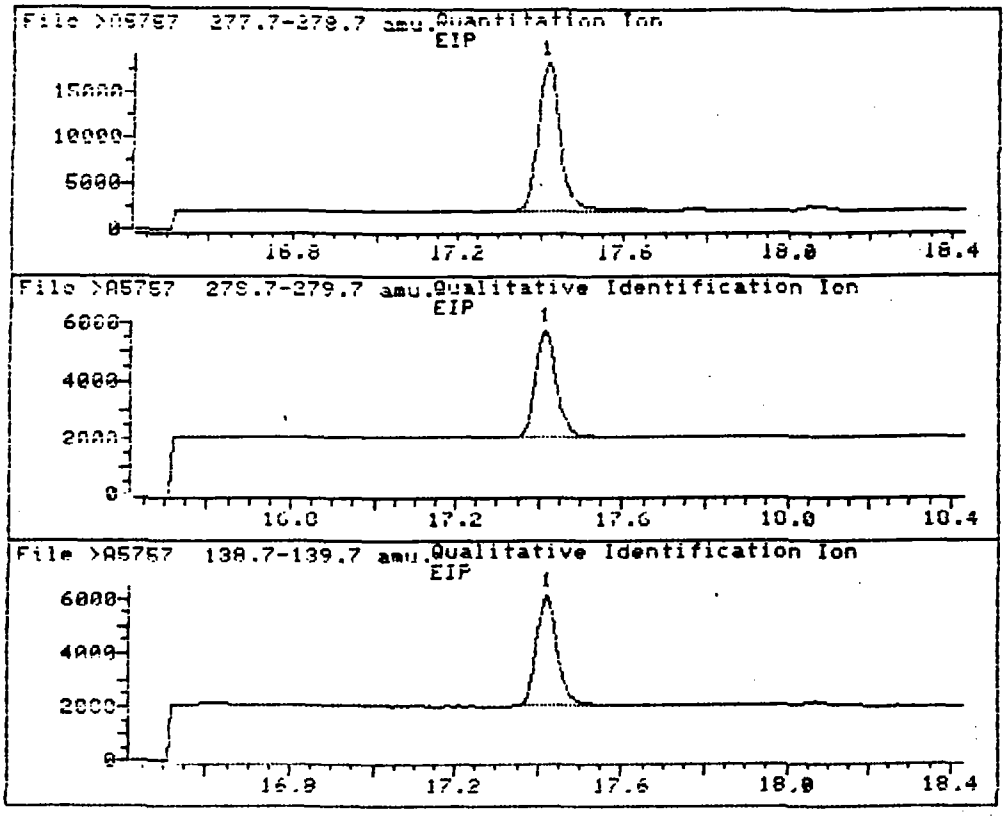
000139



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931-01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 22
Compound Name: Indeno(1,2,3-cd)Pyrene
Quant Ion: 276.0

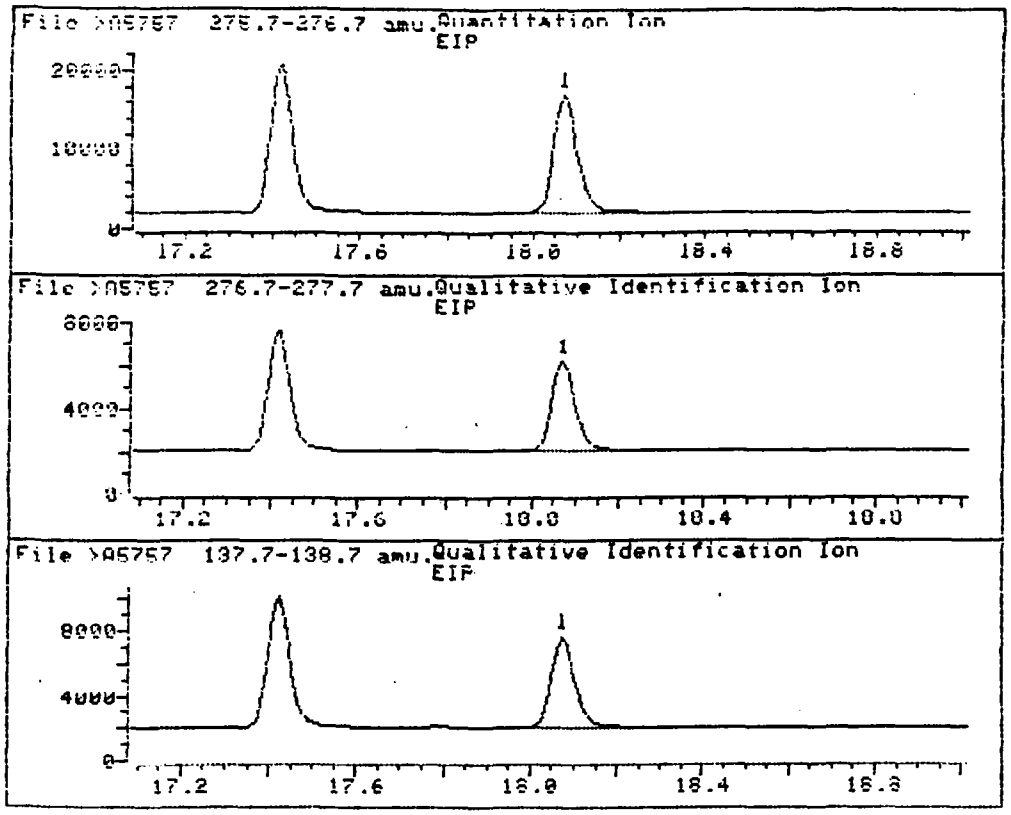
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0		
1	17.42	405.43	ppb	62	66465	19742	29154		
	1758	66465			1.000	.297	.439		



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931 01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 23
Compound Name: Dibenzo(a,h)Anthracene
Quant Ion: 278.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 278.0	279.0	139.0
1	17.41	431.85	ppb	85	58988	13320	14759
	1757	58988			1.000	.226	.250



Data File: >A5757::L1 Quant Output File: ^A5757::D2
Name: 0626931 01 SPK
Misc: IN#MSA;RGW BTL# 5
Quant Time: 930702 09:00 Quant ID File: I_A120::QT
Injected at: 930702 08:39 Last Calibration: 930702 06:59

Compound No: 24
Compound Name: Benzo(g,h,i)Perylene
Quant Ion: 276.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0
1	18.07	404.21	ppb	??	57025	16148	21178
	1842	57025			1.000	.283	.371

QUANT REPORT

Operator ID: RDR
Output File: ^A5758::D2
Data File: >A5758::1
Name: 0626931-02 SPK
Misc: IN#MSA:RGW

Quant Rev: 6
Quant Time: 930702 09:26
Injected at: 930702 09:04
Dilution Factor: 100.0000

BTI # 6

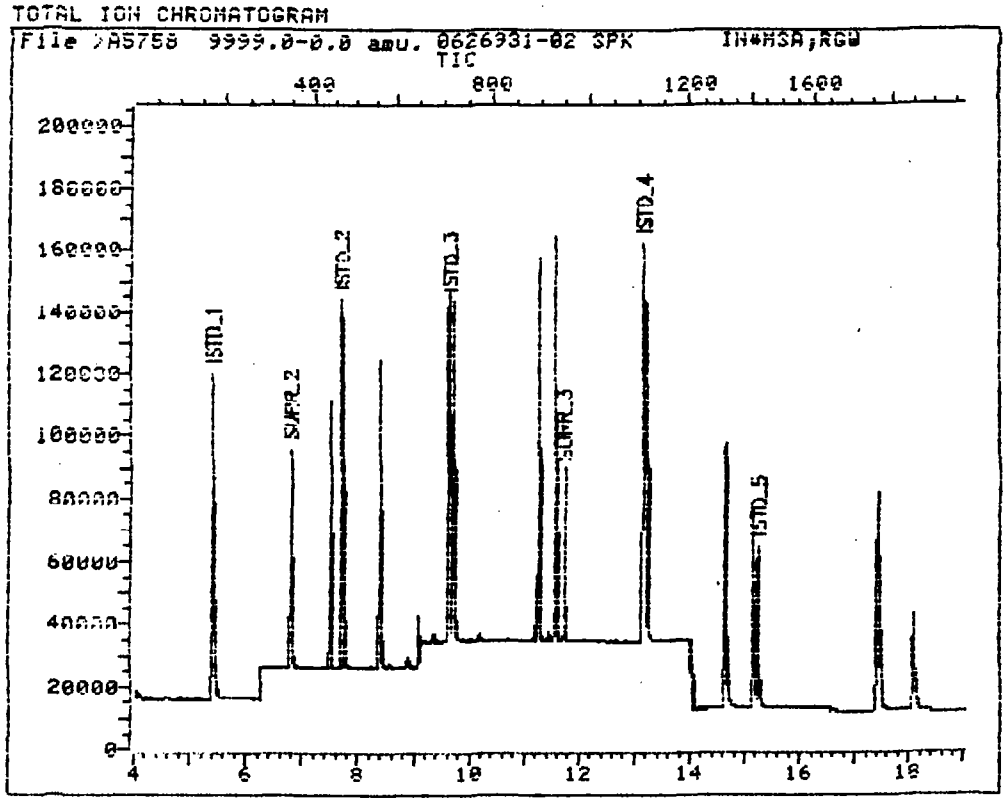
ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*Naphthalene-d8	5.40	136.0	106496	5.00	ppb		96
3)	Naphthalene	5.43	128.0	63493	269.25	ppb	54	99
4)	*Acenaphthene-d10	7.68	164.0	62674	5.00	ppb		91
5)	2 Fluorobiphenyl (surr.)	6.79	172.0	58564	300.33	ppb	60	98
6)	Acenaphthylene	7.49	152.0	85237	342.26	ppb	68	98
7)	Acenaphthene	7.73	153.0	56150	342.41	ppb	68	94
8)	Fluorene	8.39	166.0	62148	338.54	ppb	68	92
9)	*Phenanthrene-d10	9.63	188.0	135264	5.00	ppb		98
10)	Phenanthrene	9.66	178.0	111478	373.36	ppb	75	97
11)	Anthracene	9.72	178.0	113017	364.68	ppb	73	98
12)	Fluoranthene	11.25	202.0	125068	344.14	ppb	69	98
13)	*Chrysene-d12	13.16	240.0	118853	5.00	ppb		84
14)	Pyrene	11.55	202.0	132112	406.19	ppb	81	98
15)	Terphenyl d14 (surr.)	11.72	244.0	62035	259.70	ppb	52	99
16)	Benzo(a)Anthracene	13.14	228.0	108432	394.22	ppb	79	98
17)	Chrysene	13.21	228.0	111498	369.00	ppb	74	99
18)	*Perylene-d12	15.24	264.0	68706	5.00	ppb		69
19)	Benzo(b)Fluoranthene	14.62	252.0	121146	650.11	ppb	130	93
20)	Benzo(k)Fluoranthene	14.65	252.0	103477	510.59	ppb	102	88
21)	Benzo(a)Pyrene	15.14	252.0	103180	577.32	ppb	116	87
22)	Indeno(1,2,3-cd)Pyrene	17.43	276.0	83511	503.01	ppb	101	66
23)	Dibenzo(a,h)Anthracene	17.42	278.0	74669	539.78	ppb	108	85
24)	Benzo(g,h,i)Perylene	18.08	276.0	71396	499.71	ppb	100	71

* Compound is ISTD

RW 7-6-93

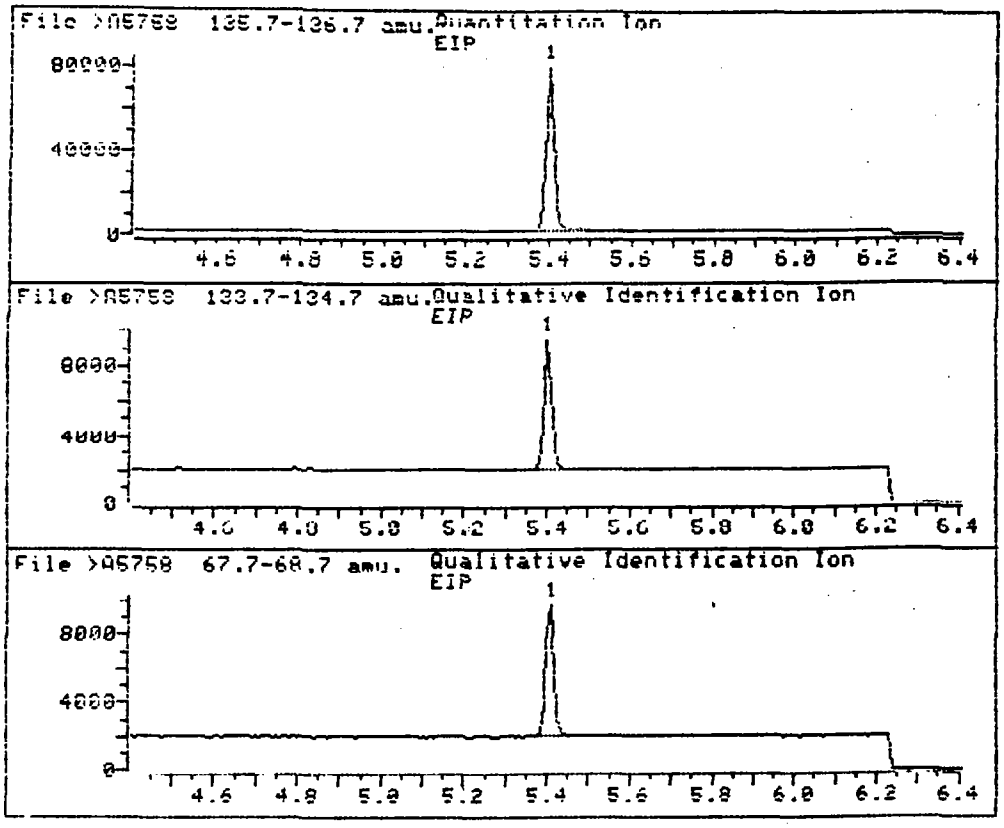
TOTAL ION CHROMATOGRAM



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931 02 SPK
Misc: IN#MSA;RGW BTL# 6

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930702 06:59

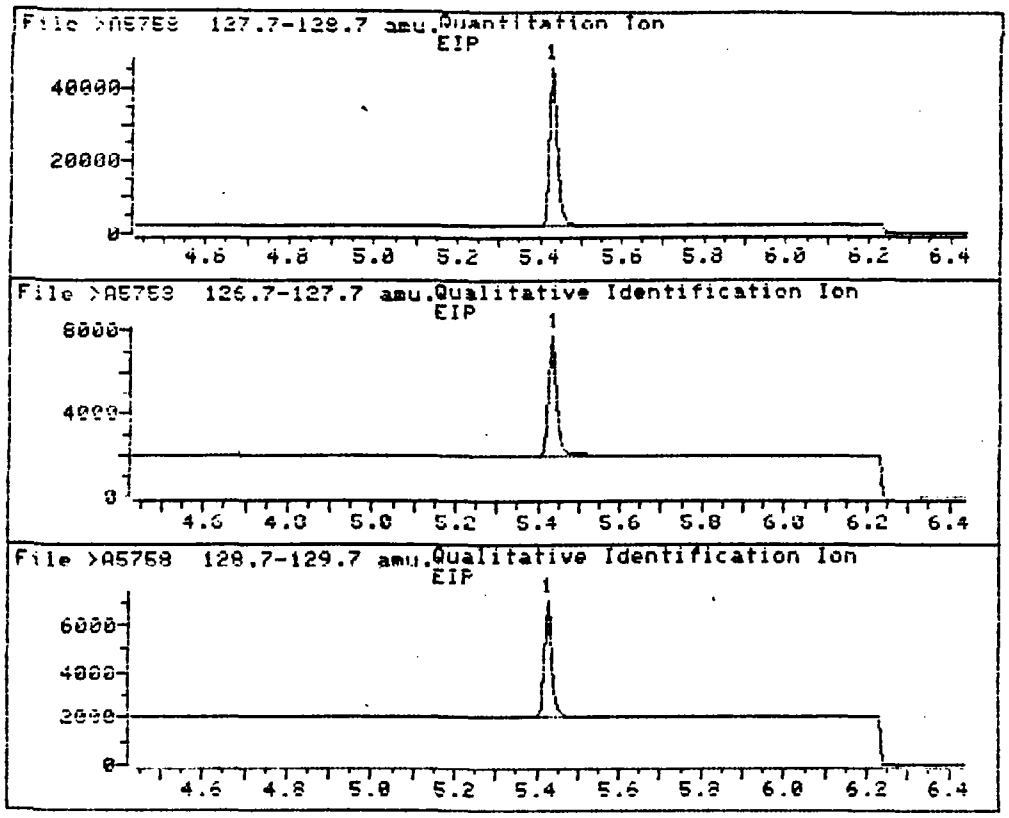
Operator ID: ROB
Quant Time: 930702 09:26
Injected at: 930702 09:04



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931 02 SPK
Misc: IN#MSA;RCW BTL# 6
Quant Time: 930702 09:06 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

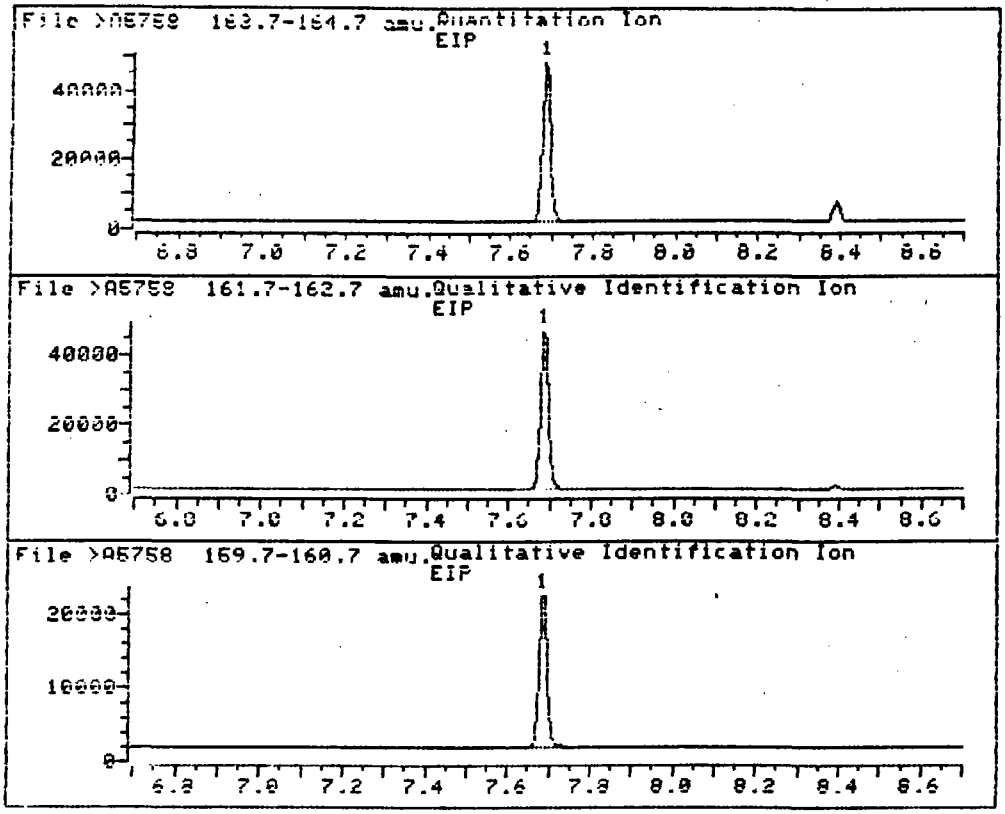
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.40	5.00	ppb	96	106496	10173	10806		
	171	106496			1.000	.096	.101		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

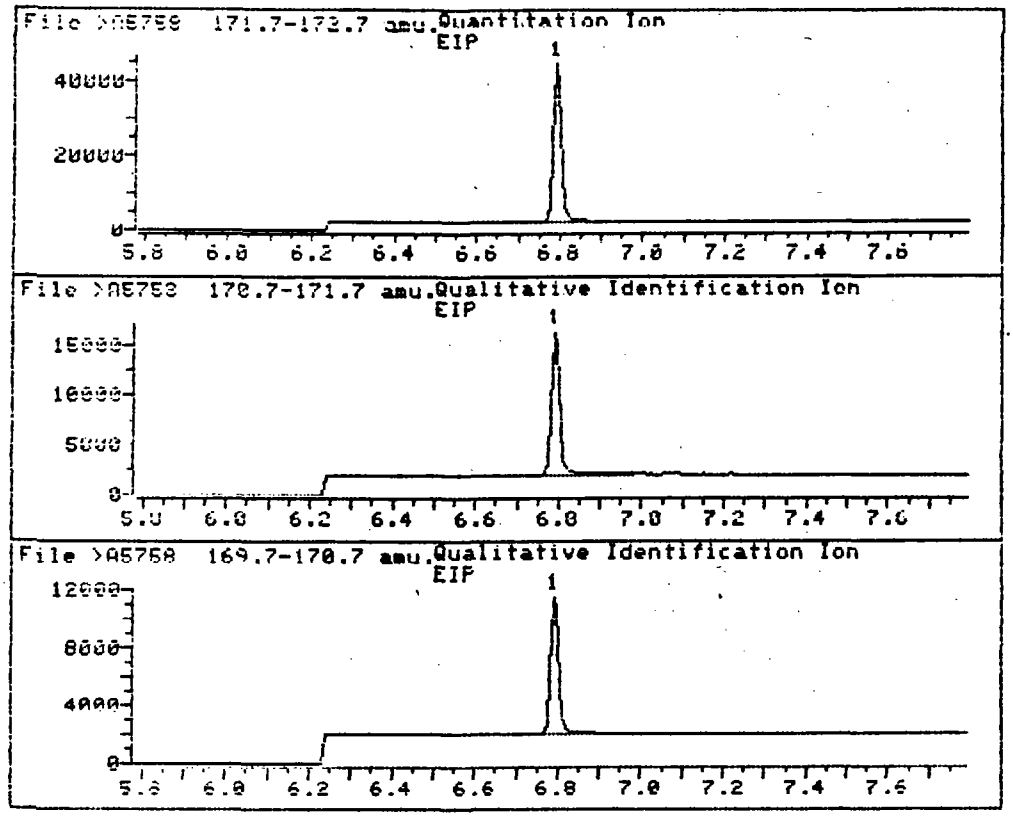
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.43	269.25	ppb	99	63493	8266	6929		
	174	63493			1.000	.130	.109		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

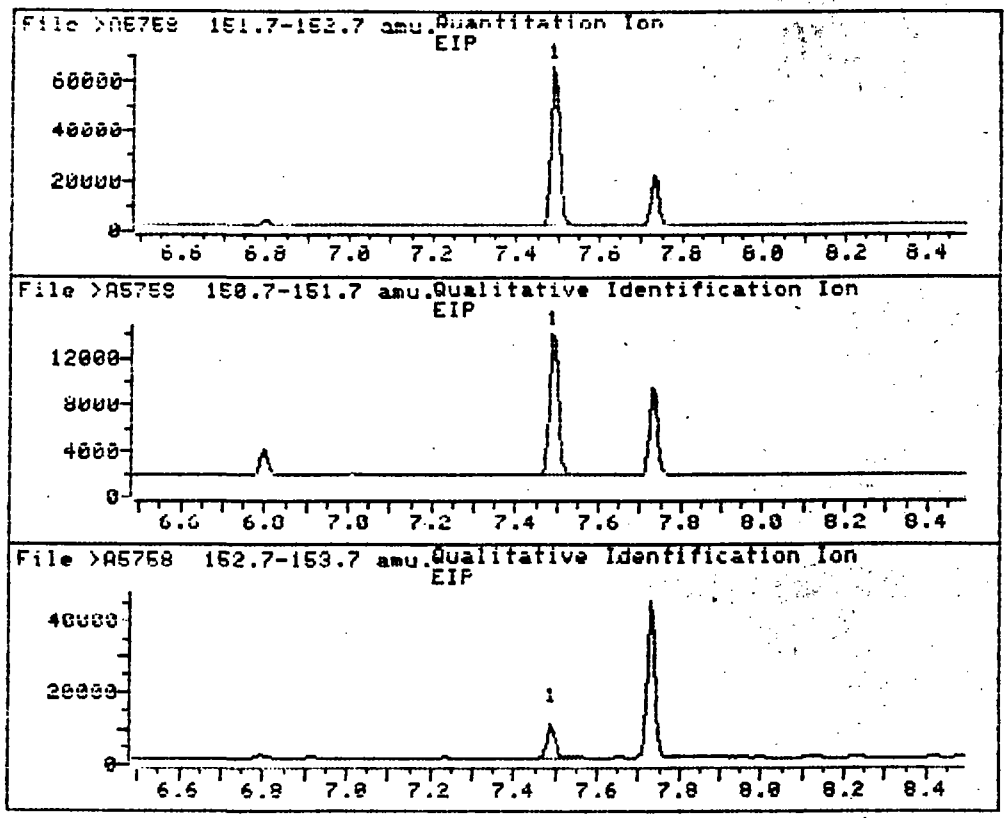
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.68	5.00	ppb	91	62674	61694	28766		
	465	62674			1.000	.984	.459		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.79	300.33	ppb	98	58564	20079	13185		
	346	58564			1.000	.343	.225		

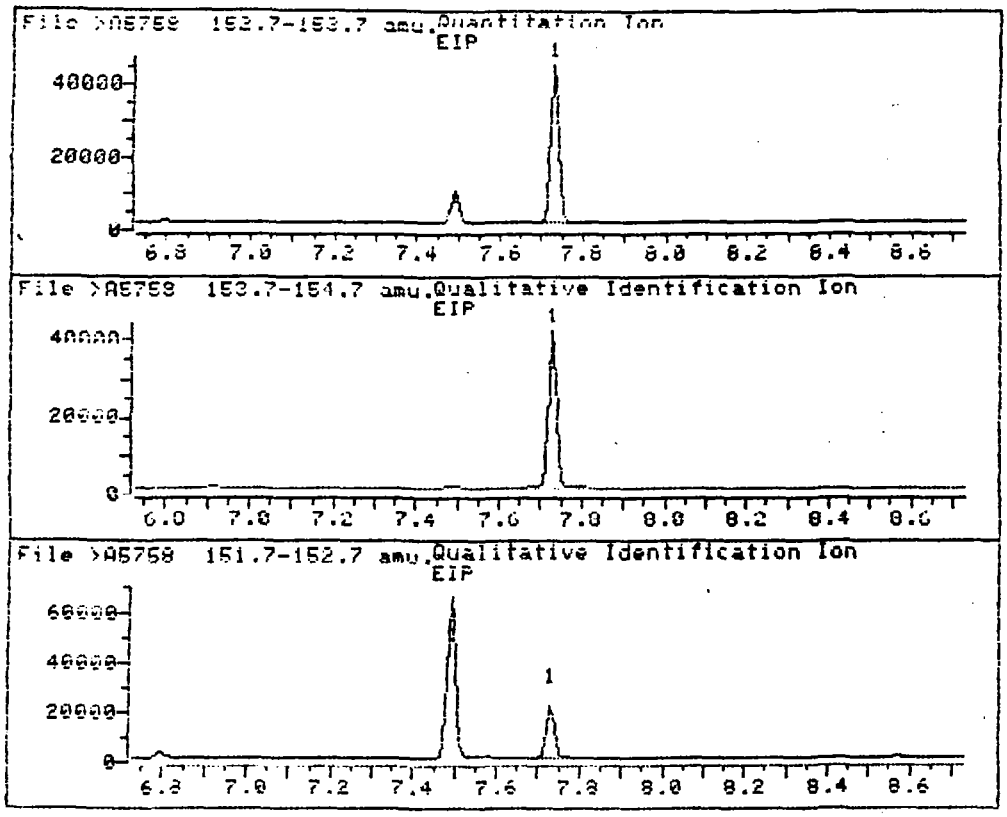


Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 6
Compound Name: Acenaphthylene
Quant Ion: 152.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 152.0	151.0	153.0		
1	7.49	342.26	ppb	98	85237	16771	11129		
	439	85237			1.000	.197	.131		

000149

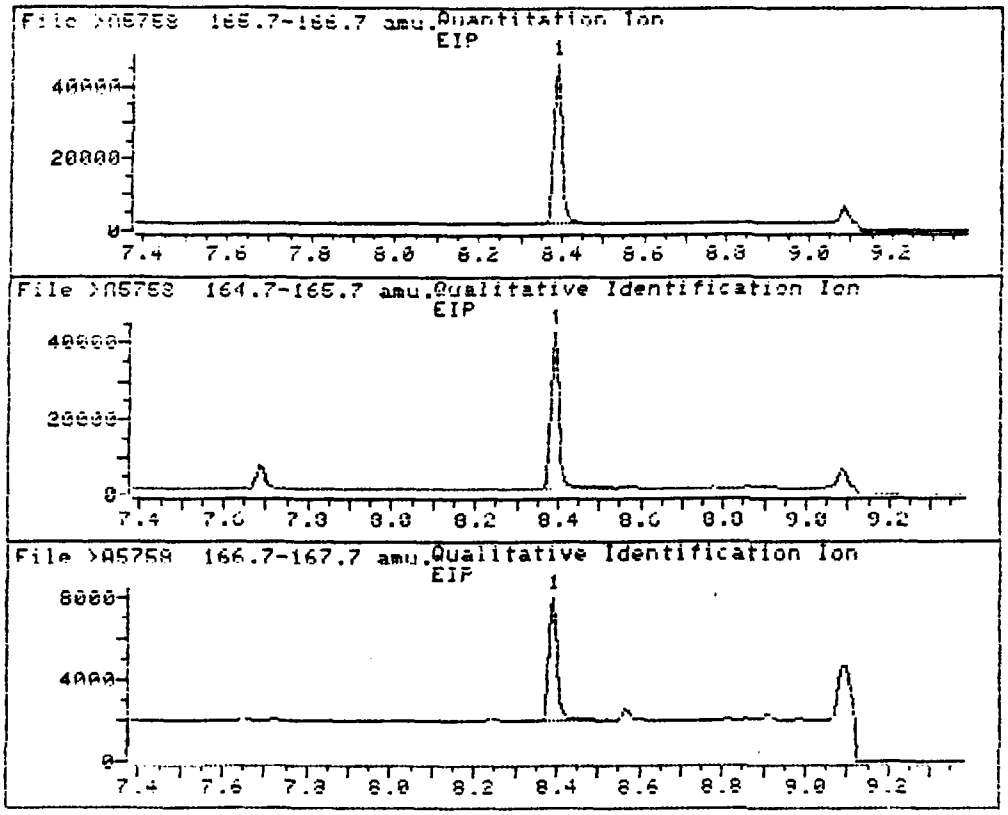


Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931 02 SPK
Misc: IN#MSA;RCW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

Hit #	R.T. Scan#	Conc Area	Units	η	153.0	154.0	152.0
1	7.73	749.41	ppb	94	56150	51694	26379
	471	56150			1.000	.921	.470

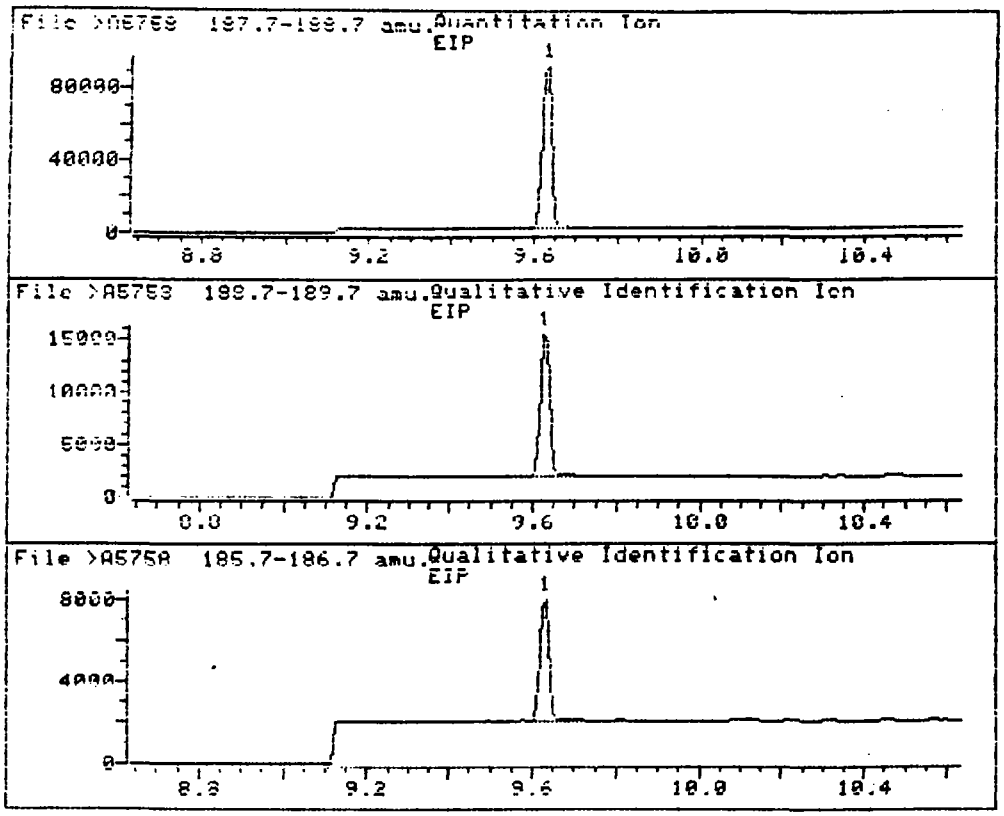
Areas and Ratios



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RAW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

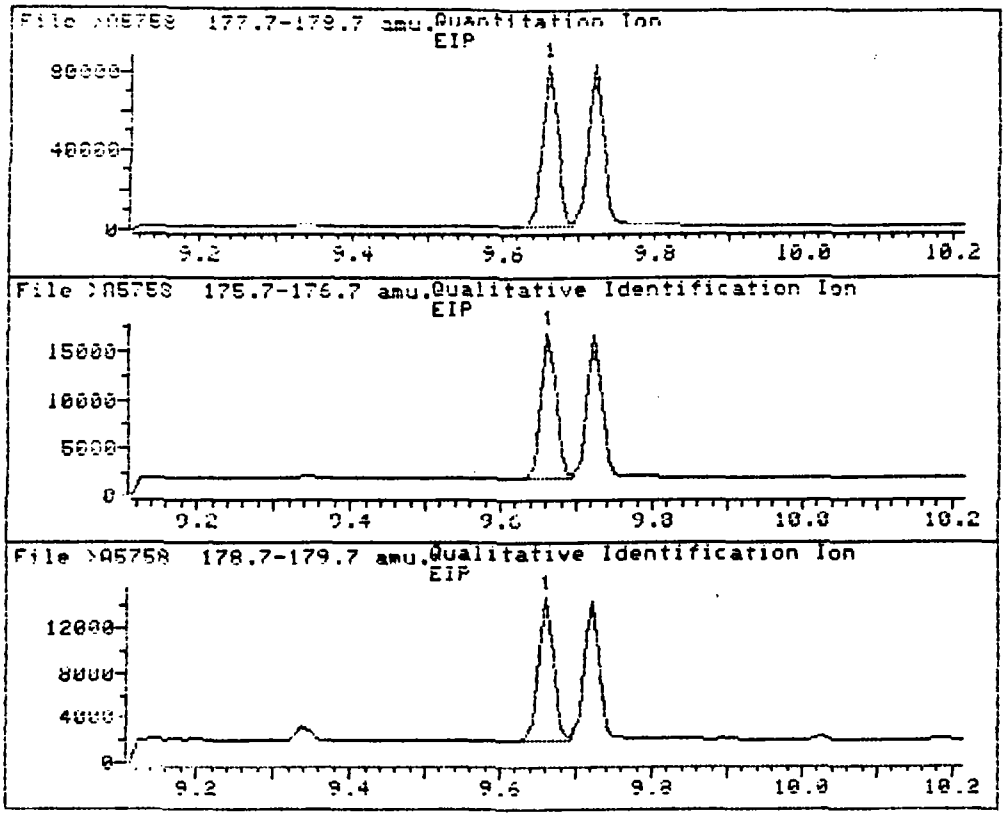
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0		
1	8.39	338.54	ppb	92	62148	57267	8948		
	559	62148			1.000	.921	.144		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931 02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.63	5.00	ppb	98	135264	20107	8671		
	713	135264			1.000	.149	.064		

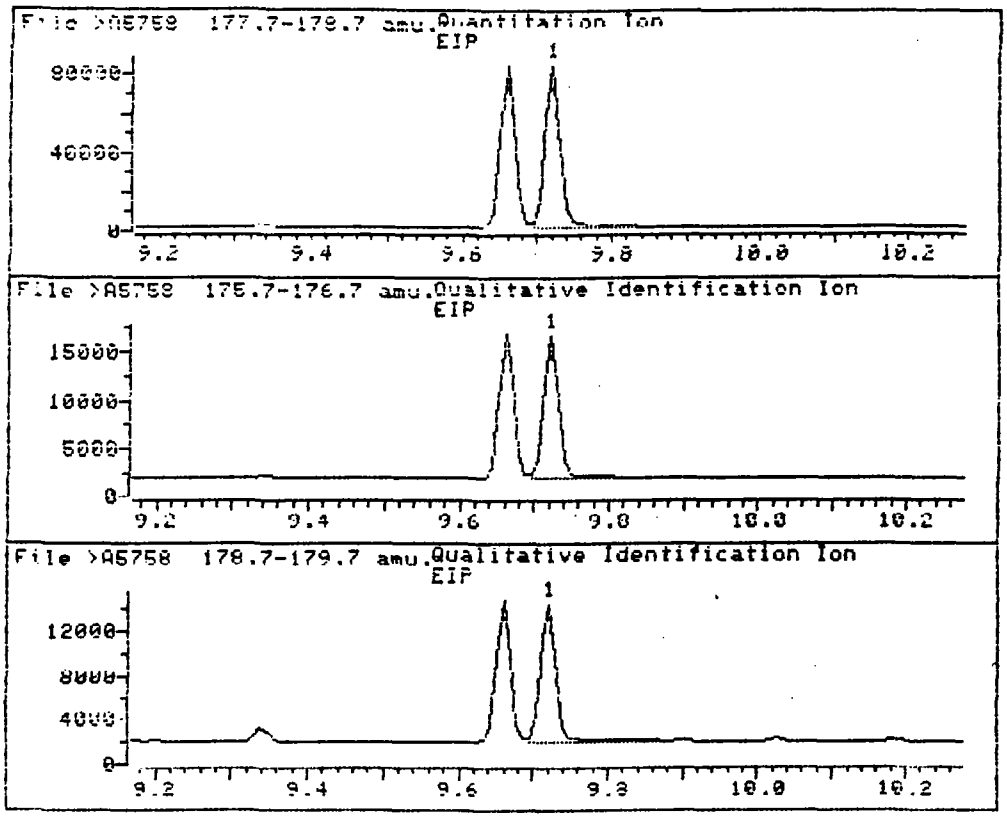


Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0426931 02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.66	373.36	ppb	97	111478	20465	17167		
	716	111478			1.000	.184	.154		

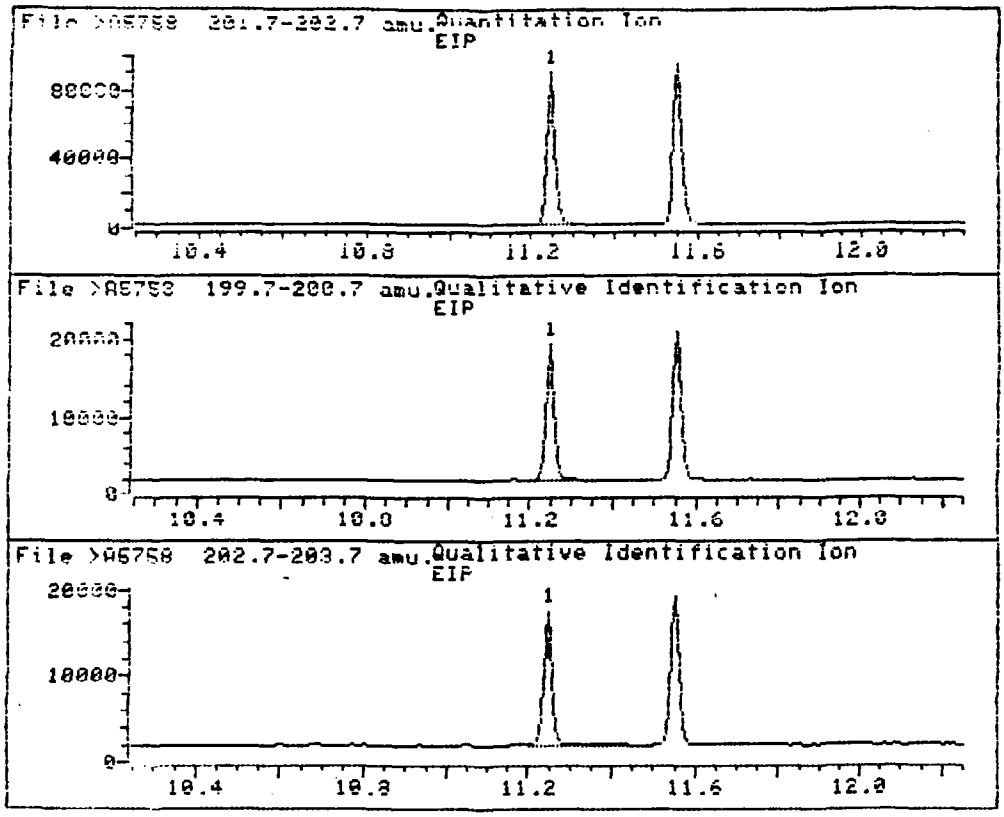
000153



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 11
Compound Name: Anthracene
Quant Ion: 178.0

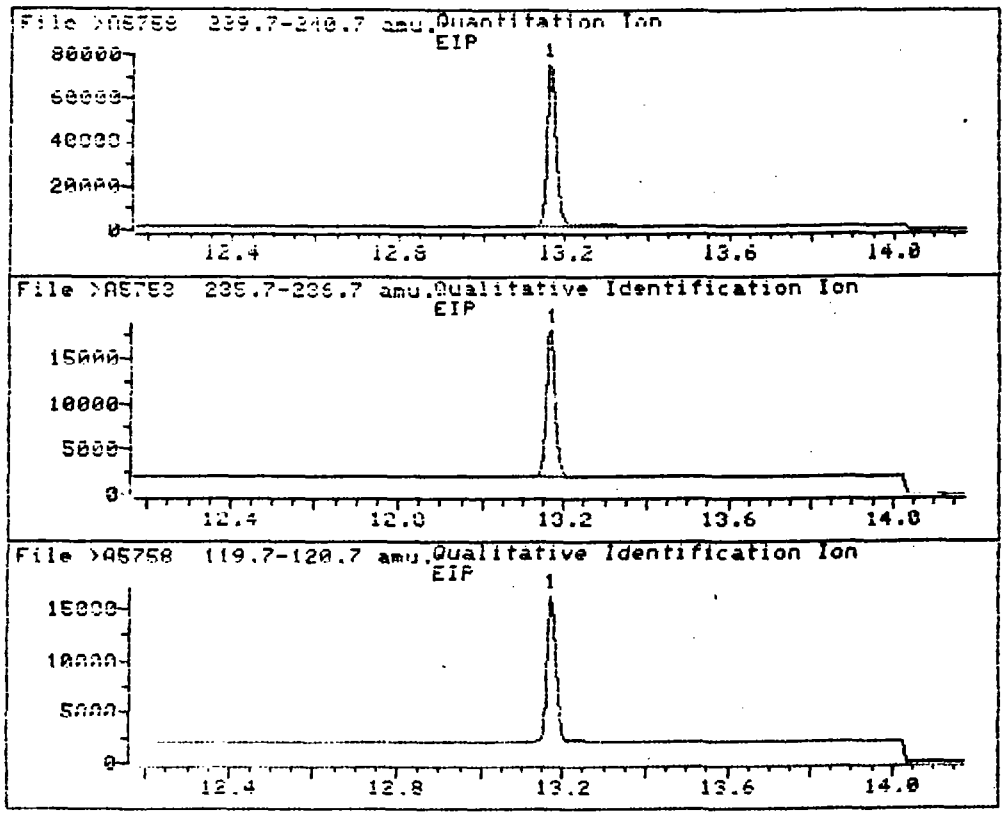
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.72	364.68	ppb	98	113017	20492	17515		
	723	113017			1.000	.181	.155		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

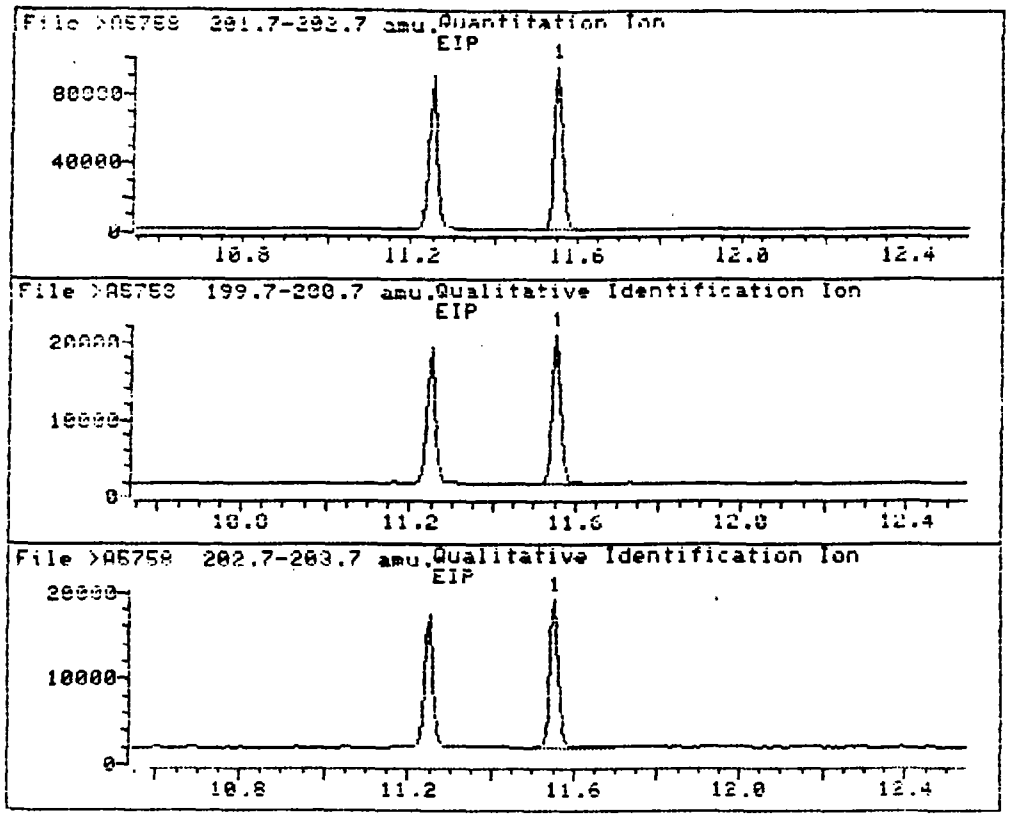
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.25	344.14	ppb	98	125068	24844	22599		
	894	125068			1.000	.199	.181		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.16	5.00	ppb	84	118853	25455	21259		
	1108	118853			1.000	.216	.179		

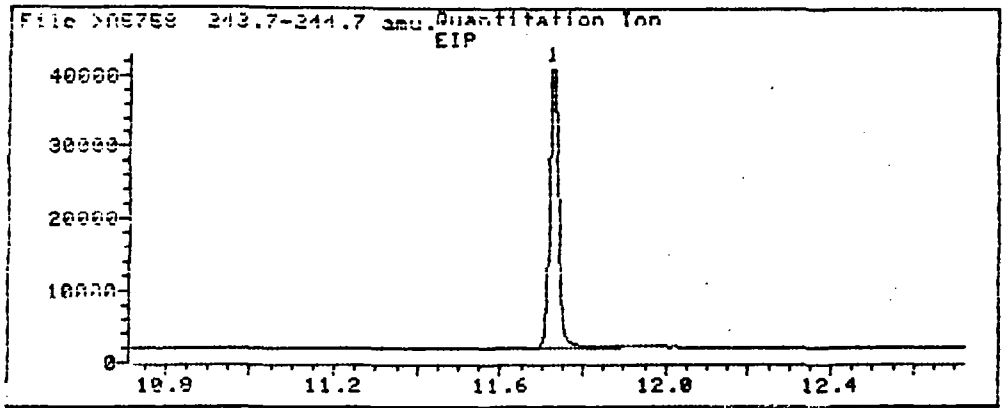


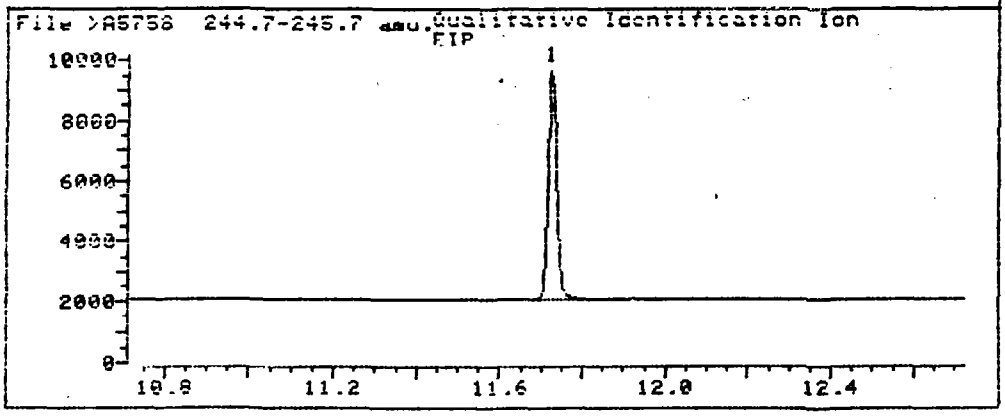
Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.55	406.19	ppb	98	132112	27079	24979
	928	132112			1.000	.205	.189

000157

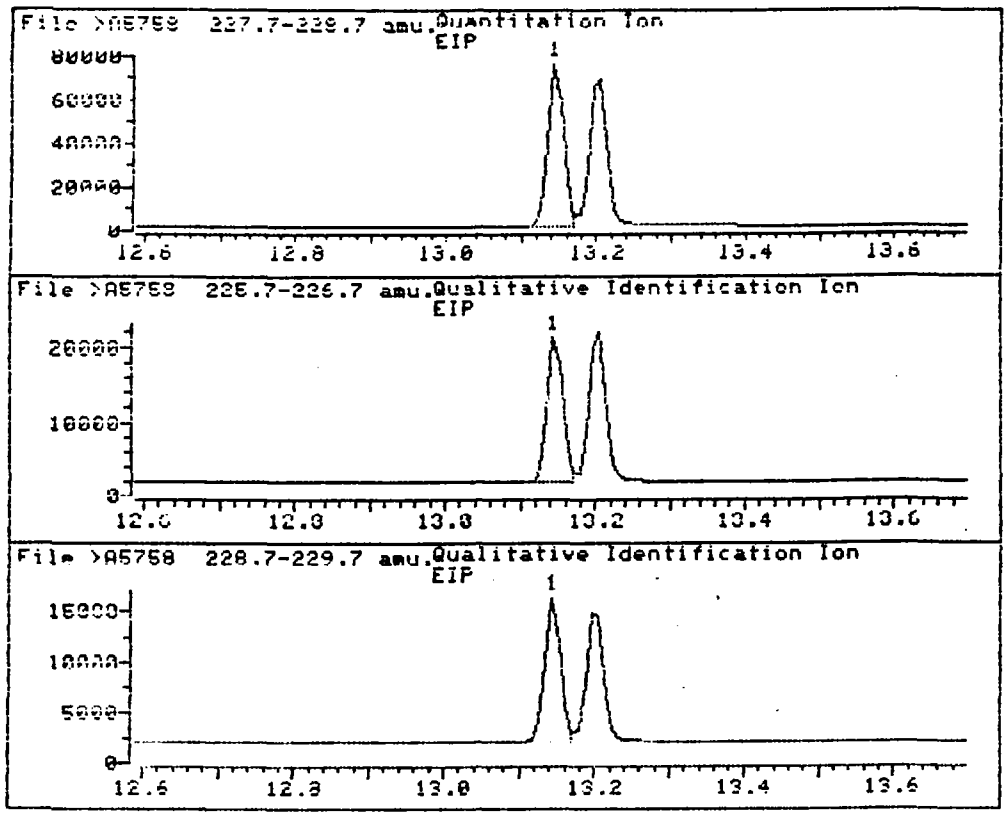




Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931 02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

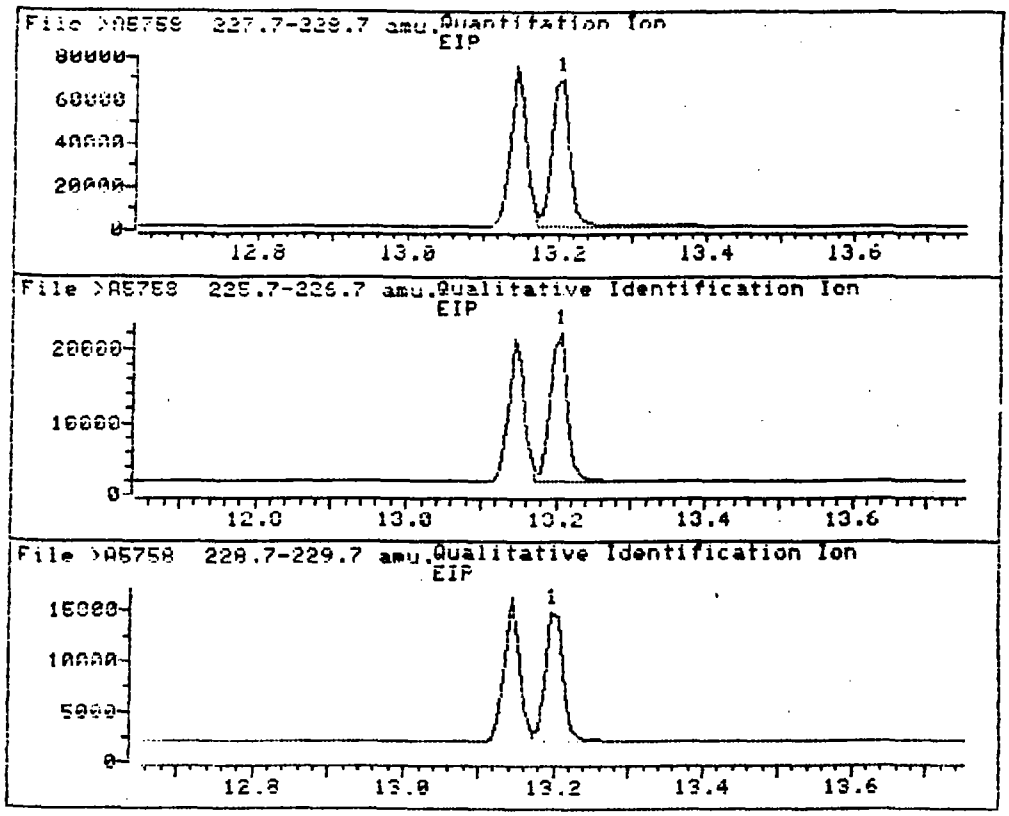
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.72	259.70	ppb	99	62035	11827
	947	62035			1.000	.191



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931 02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 16
Compound Name: Benzo(a)Anthracene
Quant Ion: 228.0

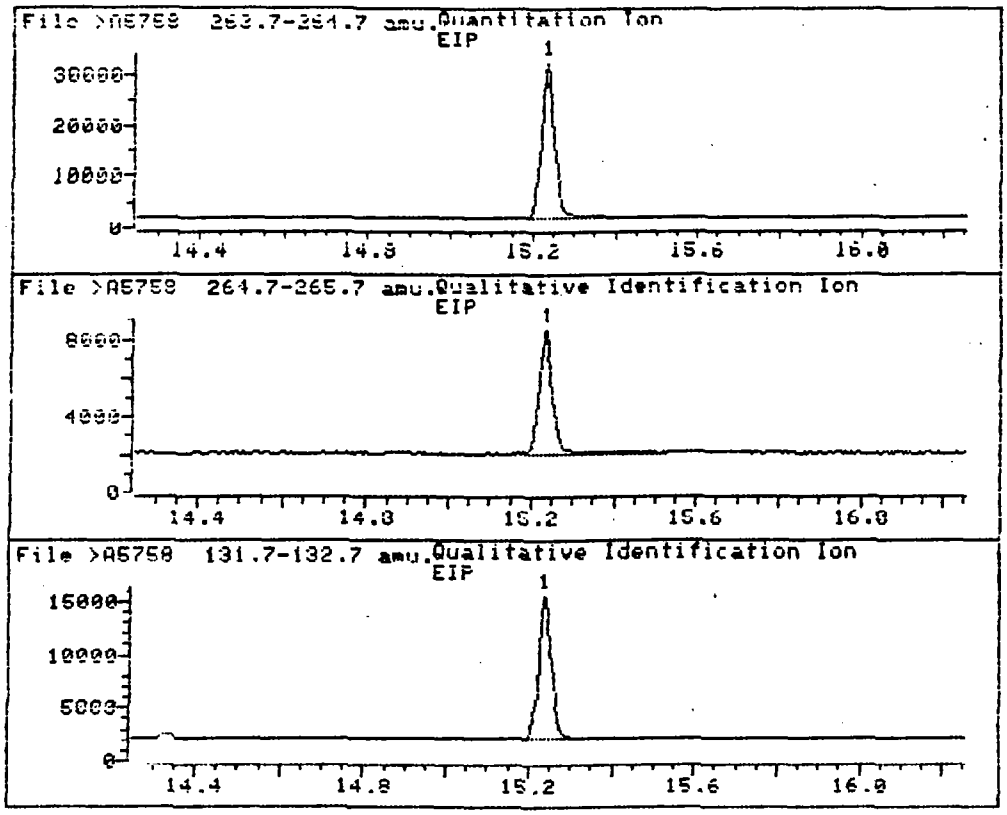
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0
1	13.14	394.22	ppb	98	108432	28744	20757
	1106	108432			1.000	.265	.191



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 17
Compound Name: Chrysene
Quant Ion: 228.0

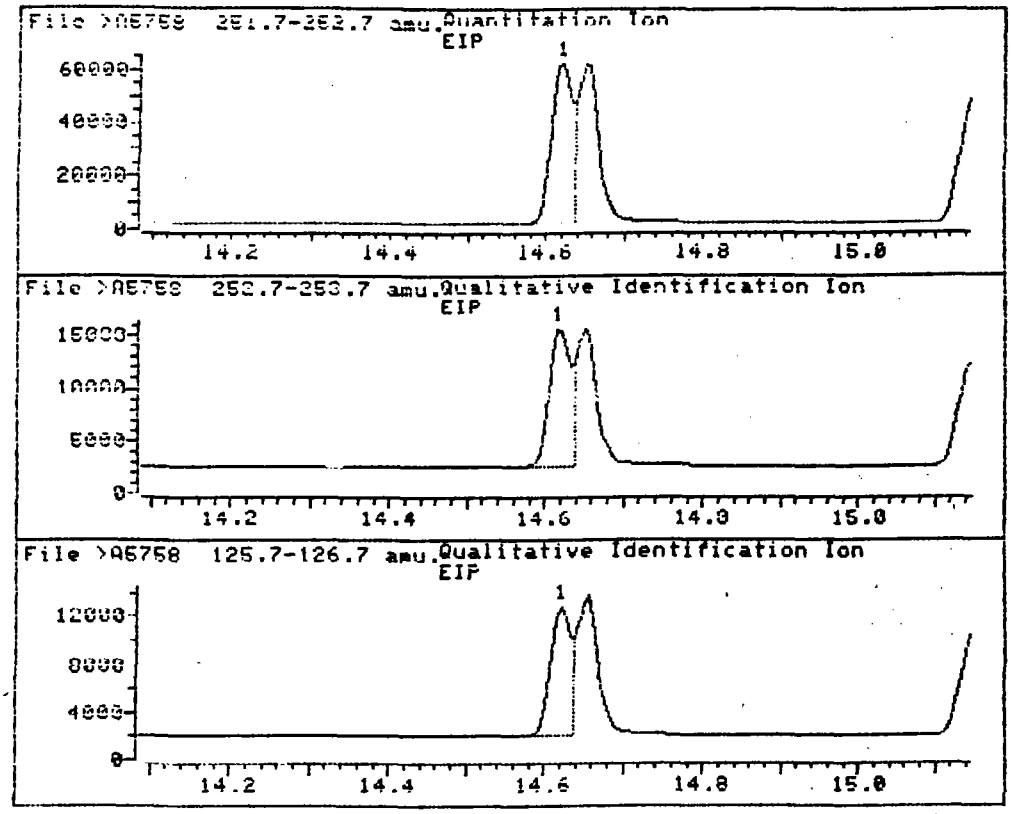
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 228.0	226.0	229.0
1	13.21	369.00	ppb	99	111498	32416	21629
	1113	111498			1.000	.291	.194



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0424931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.24	5.00	ppb	69	68706	14521	30667		
	1417	68706			1.000	.211	.446		

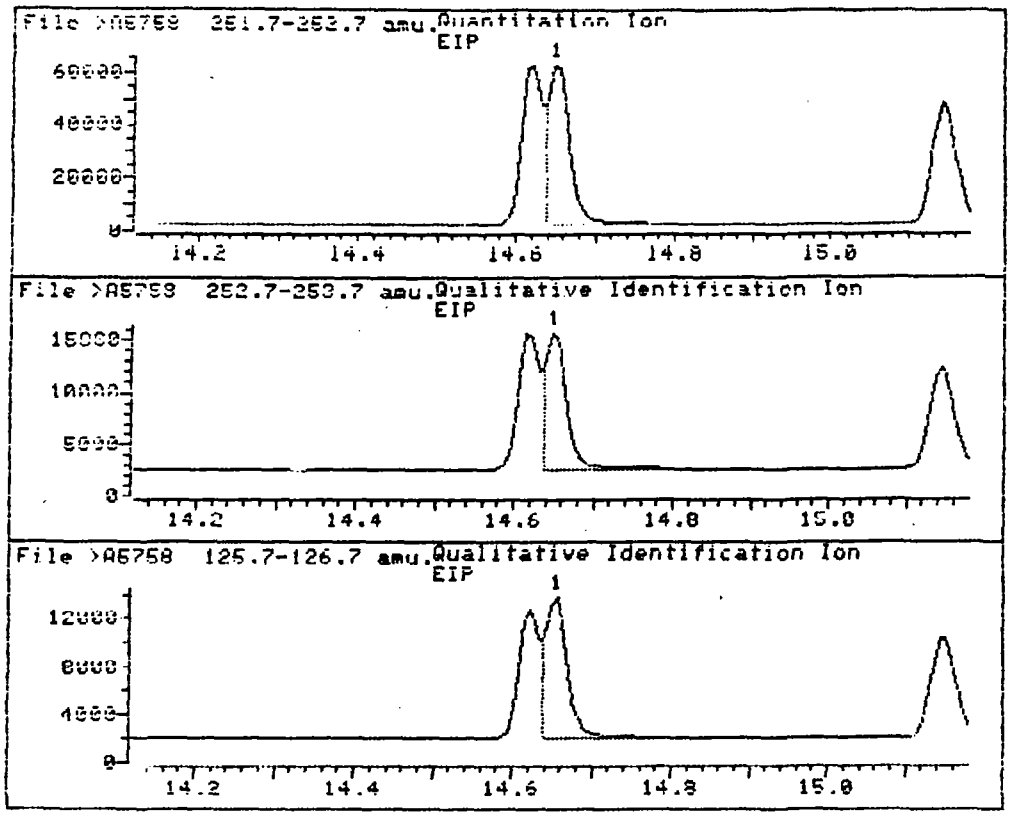


Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 19
Compound Name: Benzo(b)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.62	650.11	ppb	93	121146	26841	20462		
	1309	121146			1.000	.222	.169		

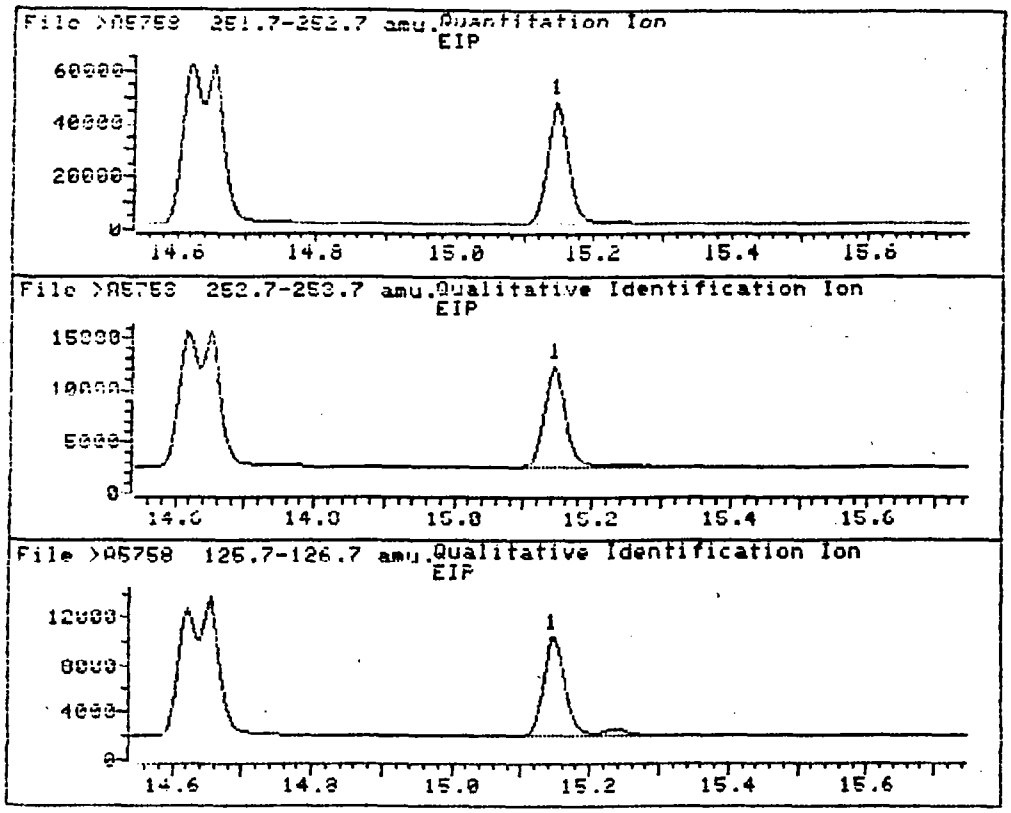
000162



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 20
Compound Name: Benzo(k)Fluoranthene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 252.0	253.0	126.0		
1	14.65	510.59	ppb	88	103477	21543	20780		
	1314	103477			1.000	.208	.201		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 21
Compound Name: Benzo(a)Pyrene
Quant Ion: 252.0

Hit #	R.T. Scan#	Conc Area	Units	q	252.0	253.0	126.0
1	15.14	577.32	ppb	87	103180	22162	20315
	1401	103180			1.000	.215	.197

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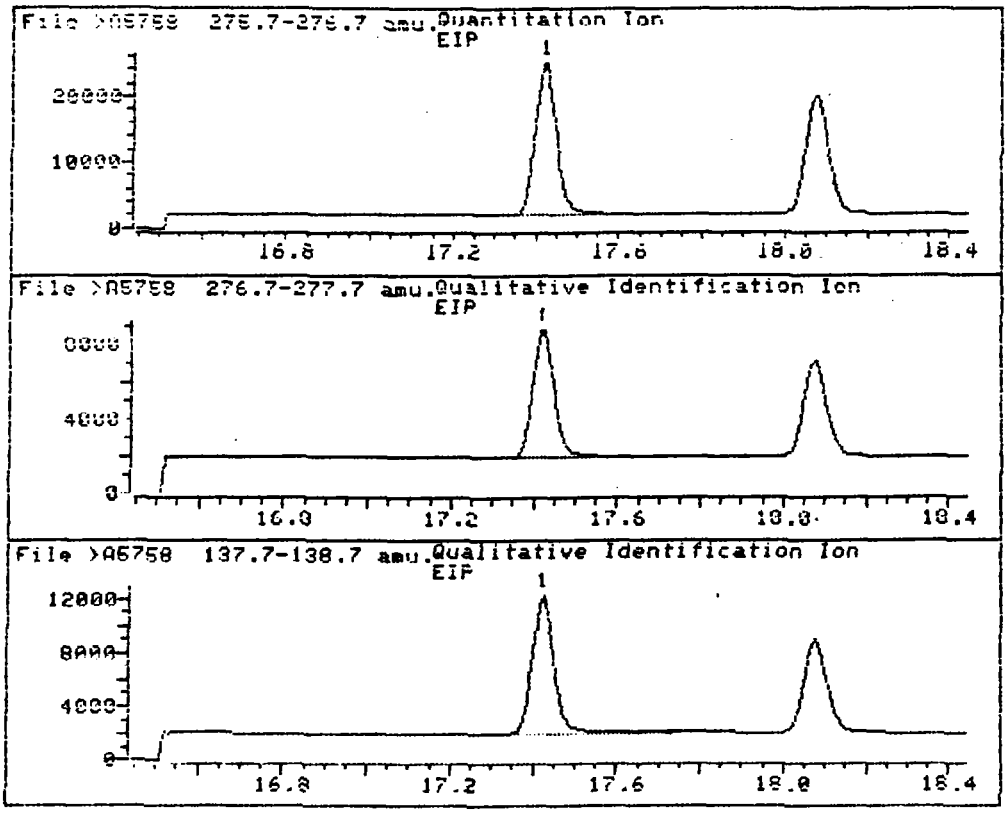
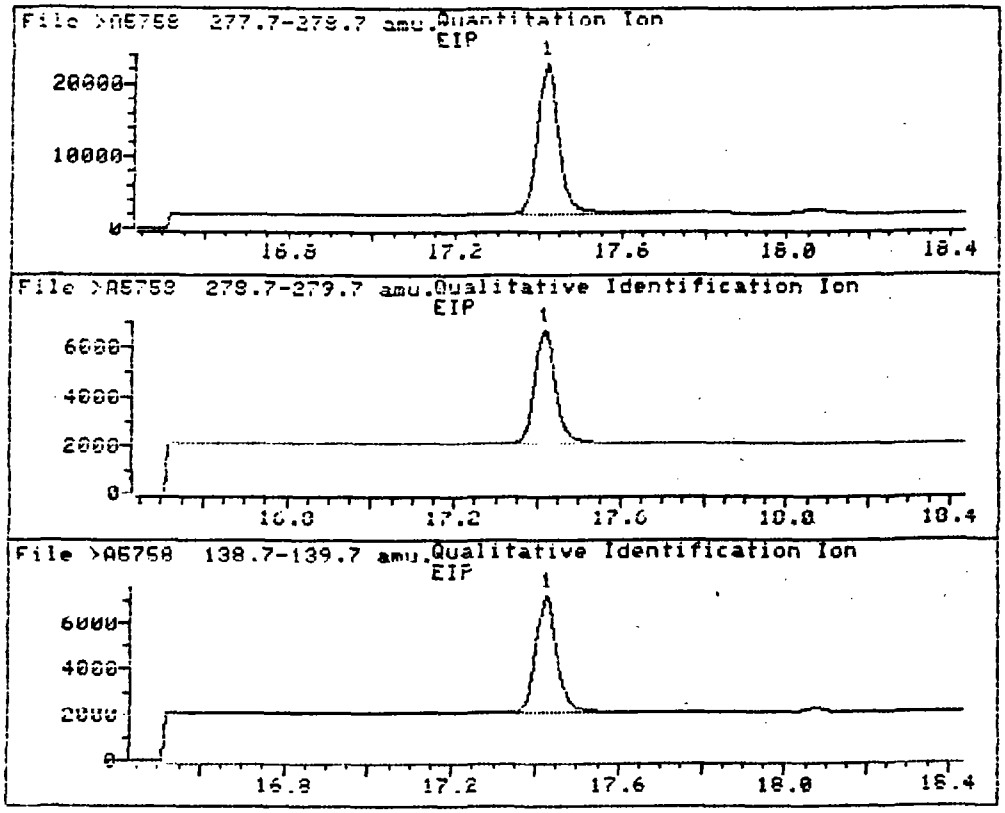


Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 22
Compound Name: Indeno(1,2,3-cd)Pyrene
Quant Ion: 276.0

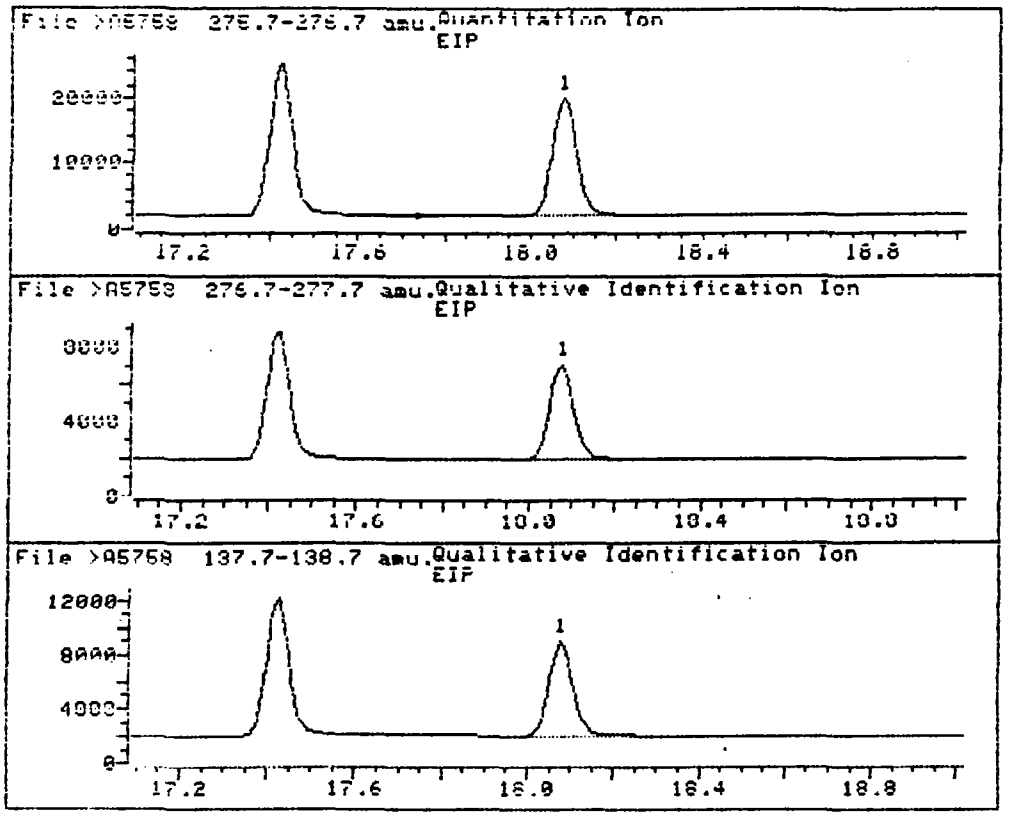
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0		
1	17.43	503.01	ppb	66	83511	24944	37232		
	1759	83511			1.000	.299	.446		



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 23
Compound Name: Dibenzo(a,h)Anthracene
Quant Ion: 278.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 278.0	279.0	139.0
1	17.42	539.78	ppb	85	74669	16891	18764
	1758	74669			1.000	.226	.251



Data File: >A5758::L1 Quant Output File: ^A5758::D2
Name: 0626931-02 SPK
Misc: IN#MSA;RGW BTL# 6
Quant Time: 930702 09:26 Quant ID File: I_A120::QT
Injected at: 930702 09:04 Last Calibration: 930702 06:59

Compound No: 24
Compound Name: Benzo(g,h,i)Perylene
Quant Ion: 276.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 276.0	277.0	138.0
1	18.08	499.71	ppb	71	71396	20283	27445
	1843	71396			1.000	.284	.384

SAMPLE MASS CHROMATOGRAMS

QUANT REPORT

Operator ID: RDB
Output File: ^A5770::D2
Data File: >A5770::!1
Name: 6983.01
Misc: IN#MSA;RGW

Quant Rev: 6
Quant Time: 930706 09:49
Injected at: 930706 09:27
Dilution Factor: 100.0000

BTL# 1

ID File: I_0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.38	136.0	132135	5.00	ppb	97
4)	*Acenaphthene-d10	7.67	164.0	95539	5.00	ppb	86
5)	2-Fluorobiphenyl (surr.)	6.77	172.0	85910	306.00	ppb 61	97
7)	~~Acenaphthene~~	~~7.71~~	~~153.0~~	~~1151~~	~~4.86~~	~~ppb~~	84
8)	~~Fluorene~~	~~8.38~~	~~166.0~~	~~1149~~	~~4.14~~	~~ppb~~	84
9)	*Phenanthrene-d10	9.61	188.0	202475	5.00	ppb	97
10)	Phenanthrene	9.64	178.0	5053	11.54	ppb	98
12)	~~Fluoranthene~~	~~11.93~~	~~202.0~~	~~1066~~	~~1.93~~	~~ppb~~	93
13)	*Chrysene-d12	13.14	240.0	178040	5.00	ppb	91
14)	~~Pyrene~~	~~11.93~~	~~202.0~~	~~1066~~	~~2.05~~	~~ppb~~	94
15)	Terphenyl-d14 (surr.)	11.71	244.0	104254	293.13	ppb 59	99
18)	*Perylene-d12	15.21	264.0	154818	5.00	ppb	86

* Compound is ISTD

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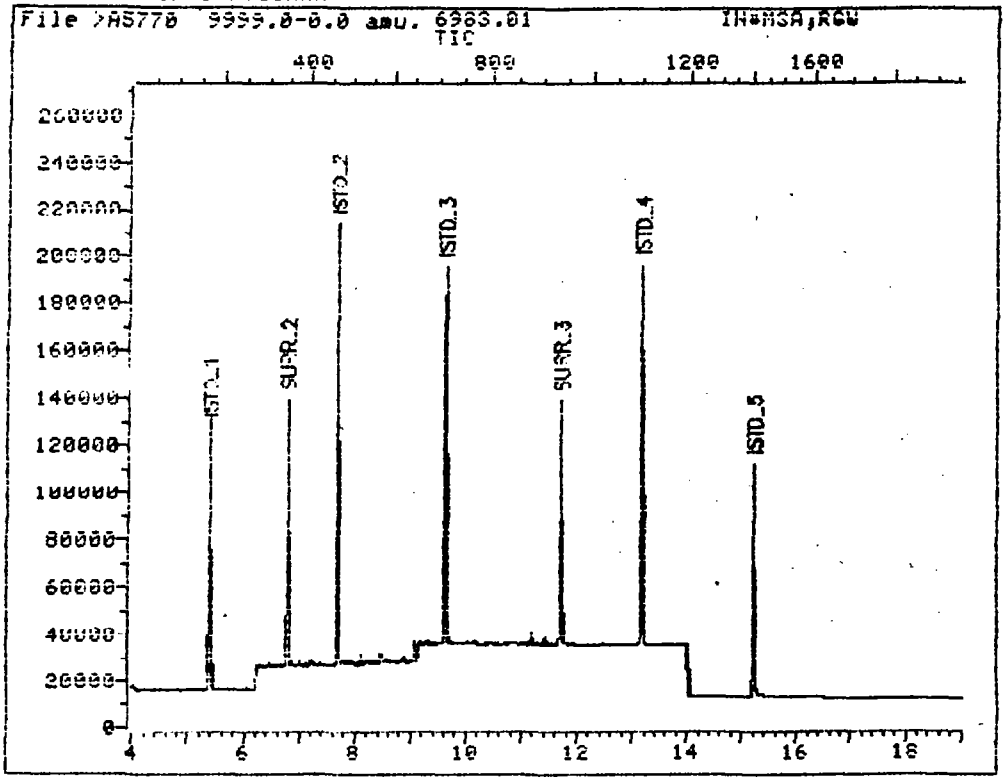
TOTAL ION CHROMATOGRAM



Data File: >A5770::!1 Quant Output File: ^A5770::D0

Name: 6983.01

Misc: IN#MSA;RGW BTL# 1

Id File: !_A120::QT

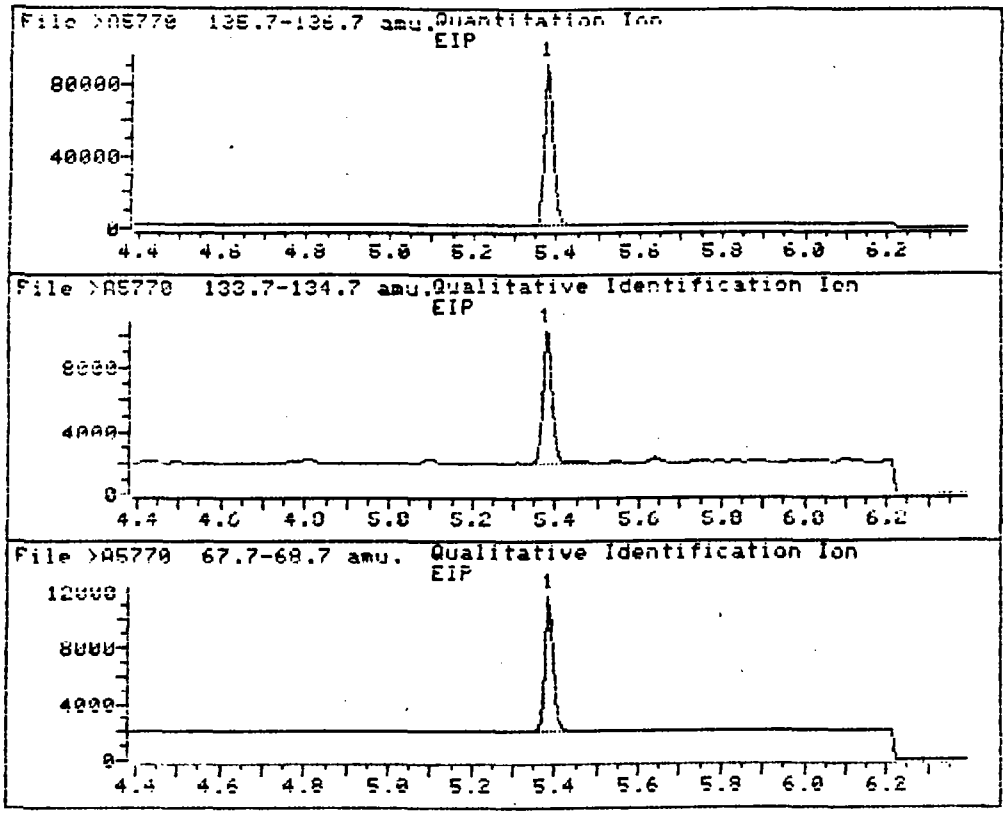
Title: PAH SIM ANALYSIS

Last Calibration: 930706 09:34

Operator ID: RDB

Quant Time: 930706 09:49

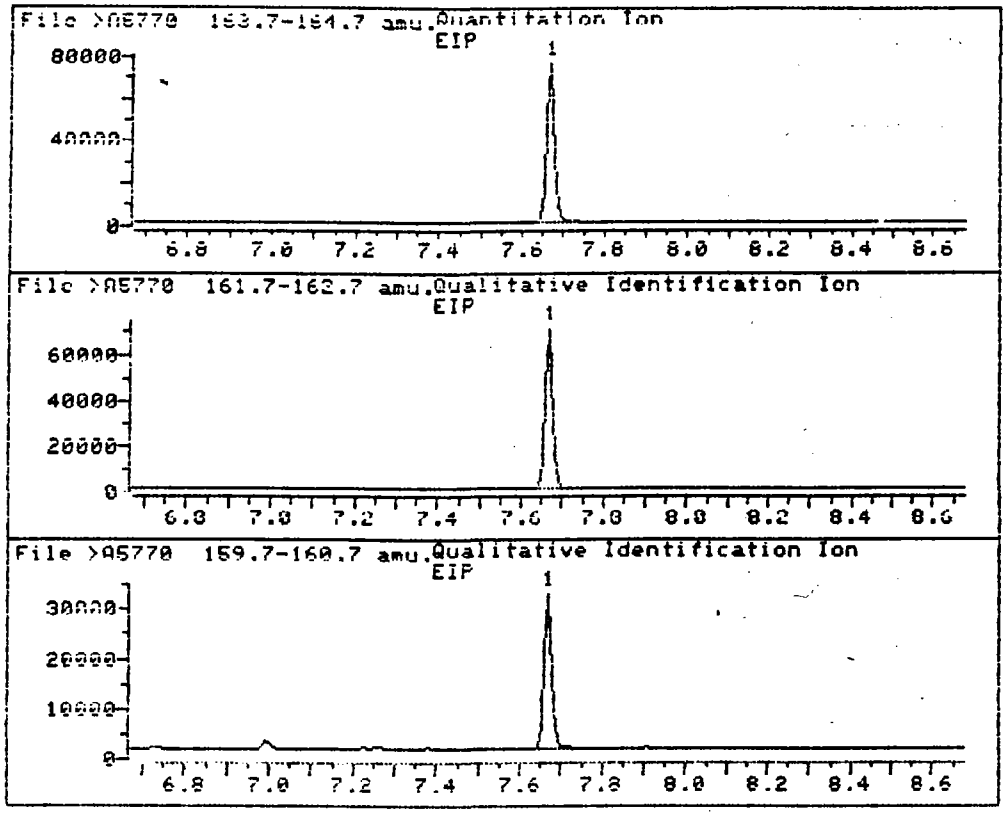
Injected at: 930706 09:27



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

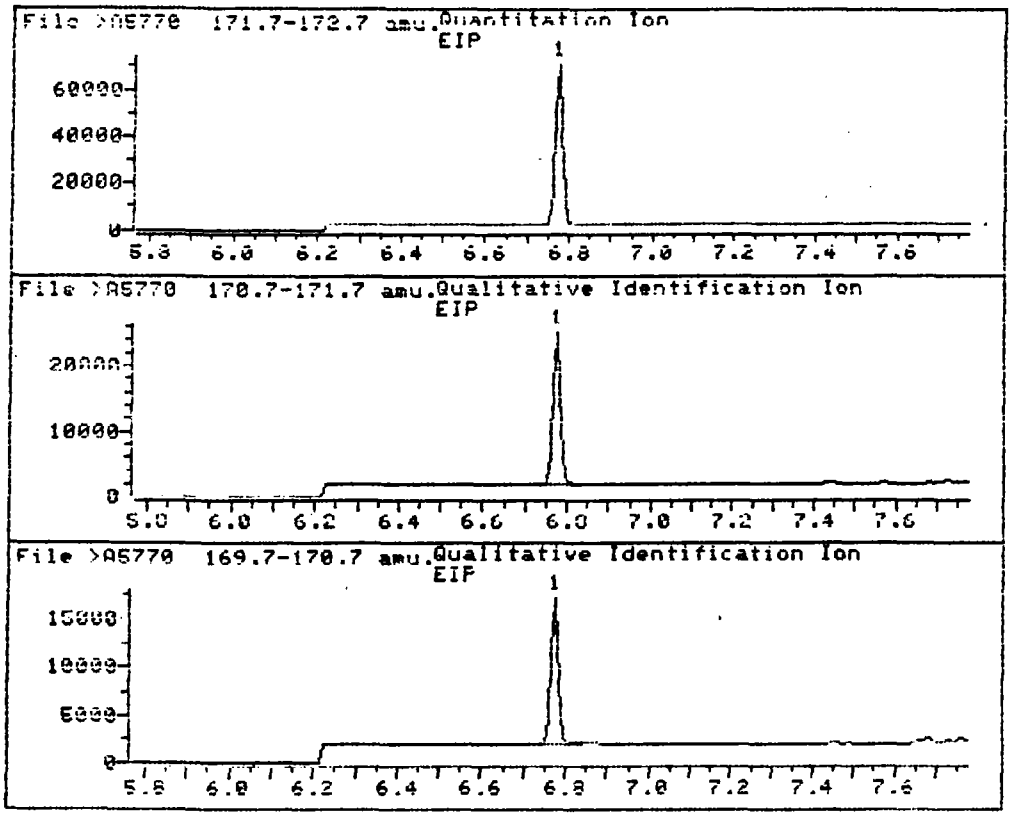
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.38	5.00	ppb	97	132135	13190	13605		
	120	132135			1.000	.100	.103		



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

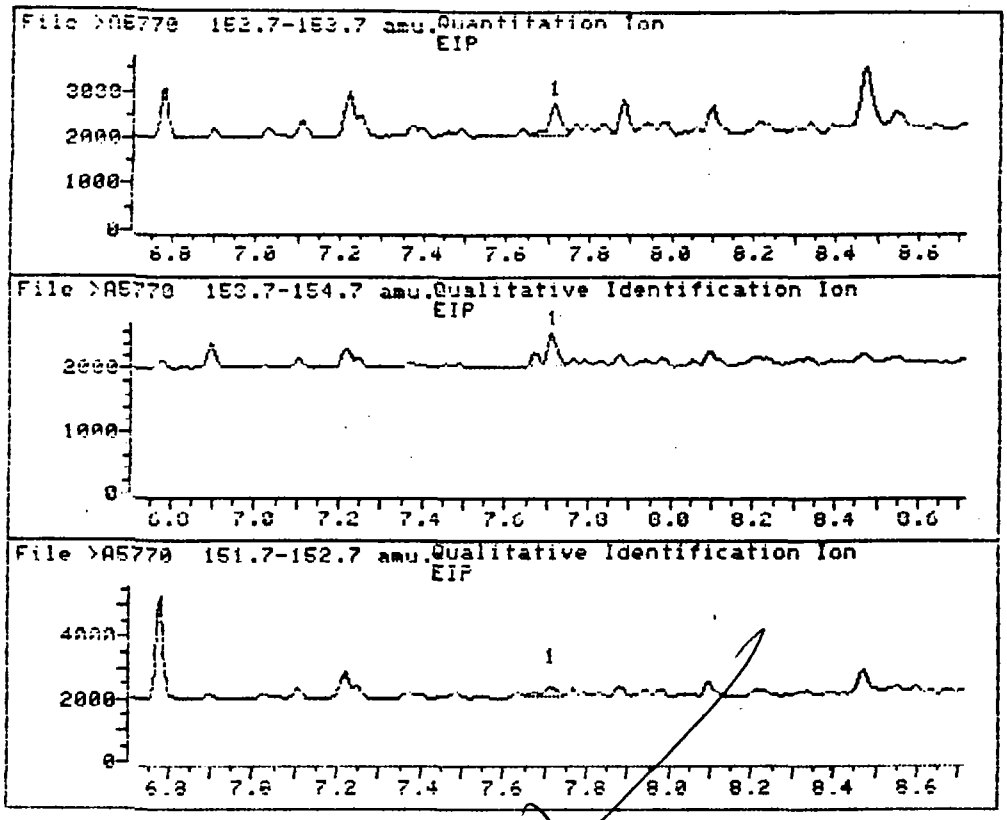
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.67	5.00	ppb	86	95539	88940	40256		
	465	95539			1.000	.931	.421		



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.77	306.00	ppb	97	85910	28929	18932		
	346	85910			1.000	.337	.220		



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:22 Last Calibration: 930706 09:34

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 153.0	154.0	152.0		
1	7.71	4.86	ppb	84	1151	1016	833		
	471	1151			1.000	.883	.724		

7/6/93

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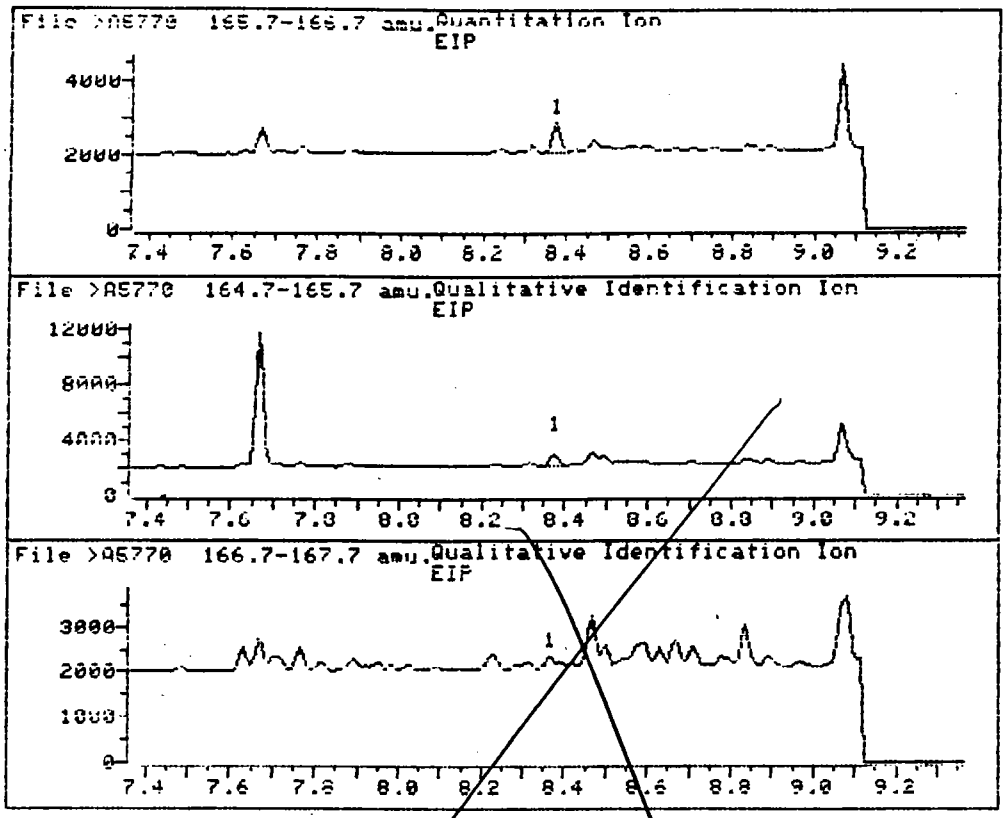


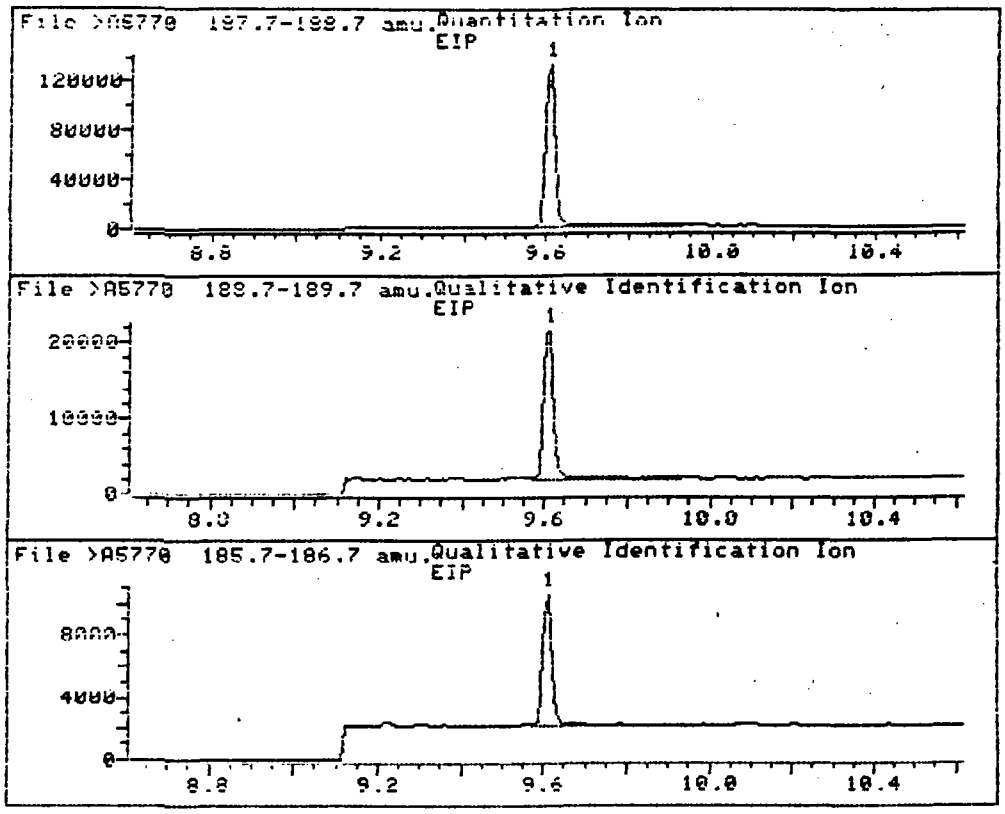
Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0		
1	8.38	4.14	ppb	84	1149	1250	463		
	559	1149			1.000	1.088	.403		

n/6/93

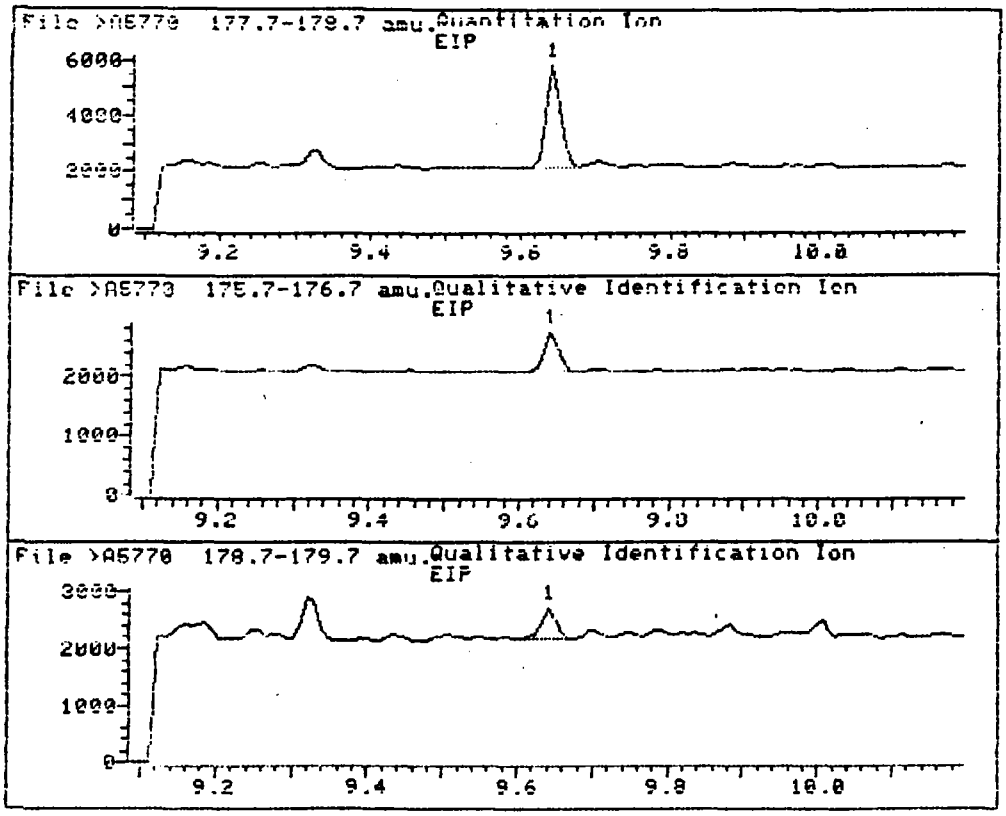
000175



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.61	5.00	ppb	97	202475	31004	12803		
	713	202475			1.000	.153	.063		



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.64	11.54	ppb	98	5053	982	800		
	716	5053			1.000	.194	.158		

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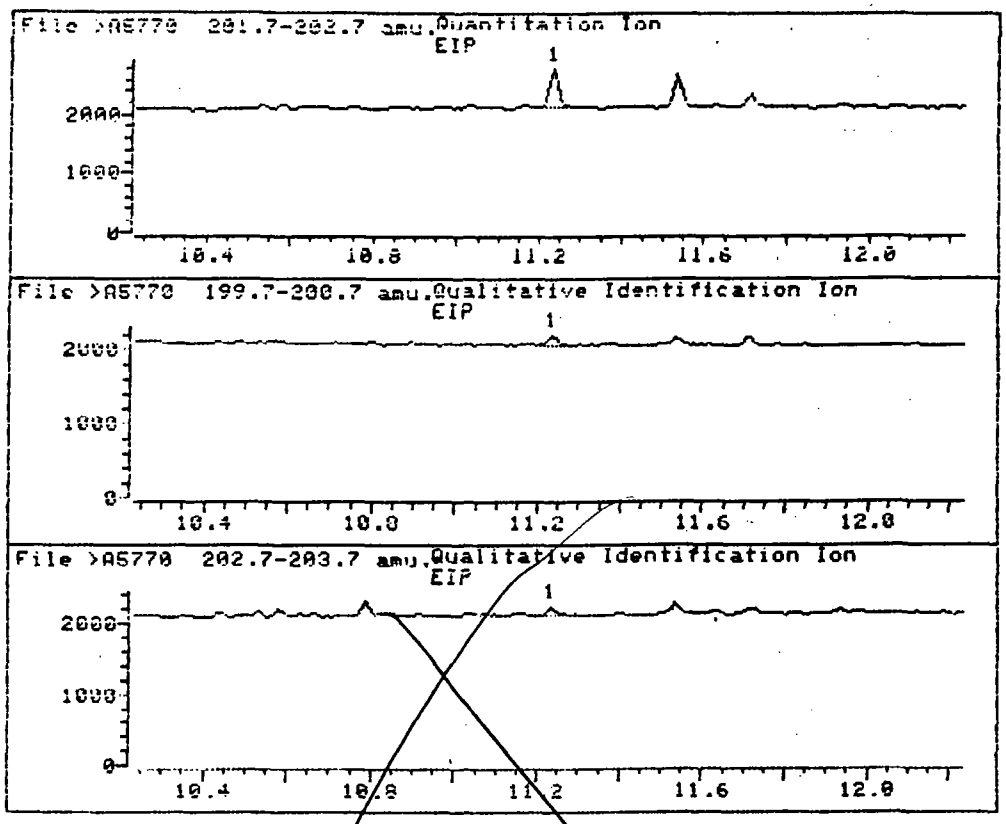
000177

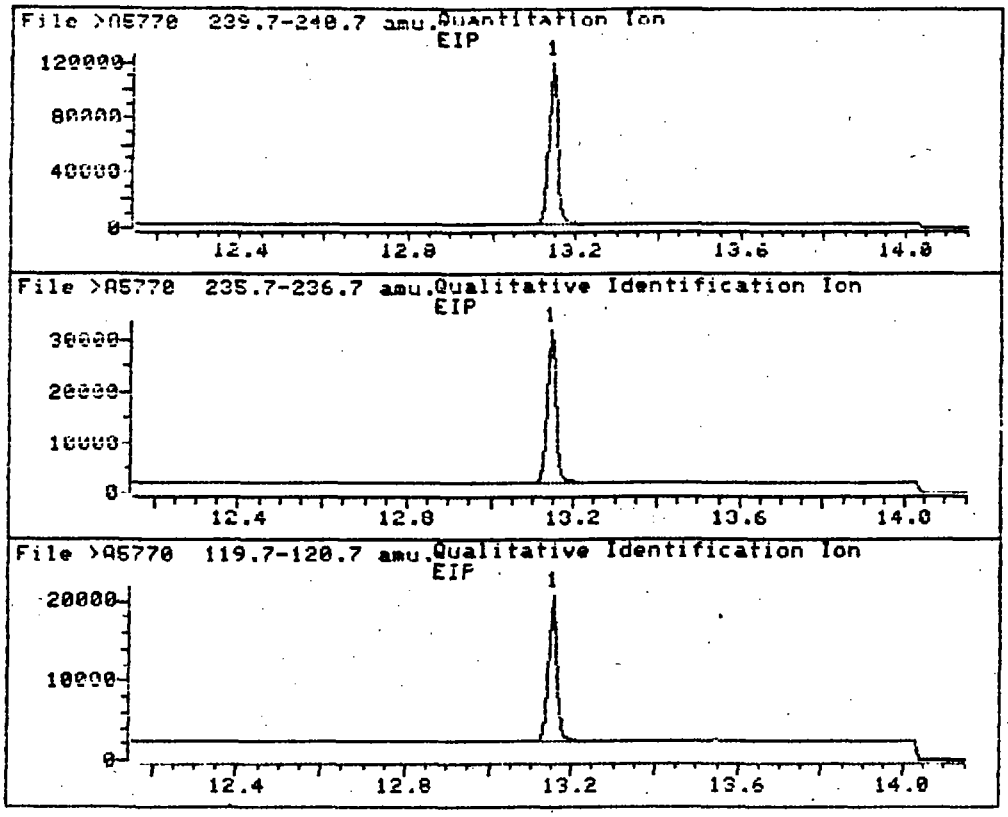


Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.23	1.93	ppb	93	1066	241	218		
	886	1066			1.000	.226	.205		

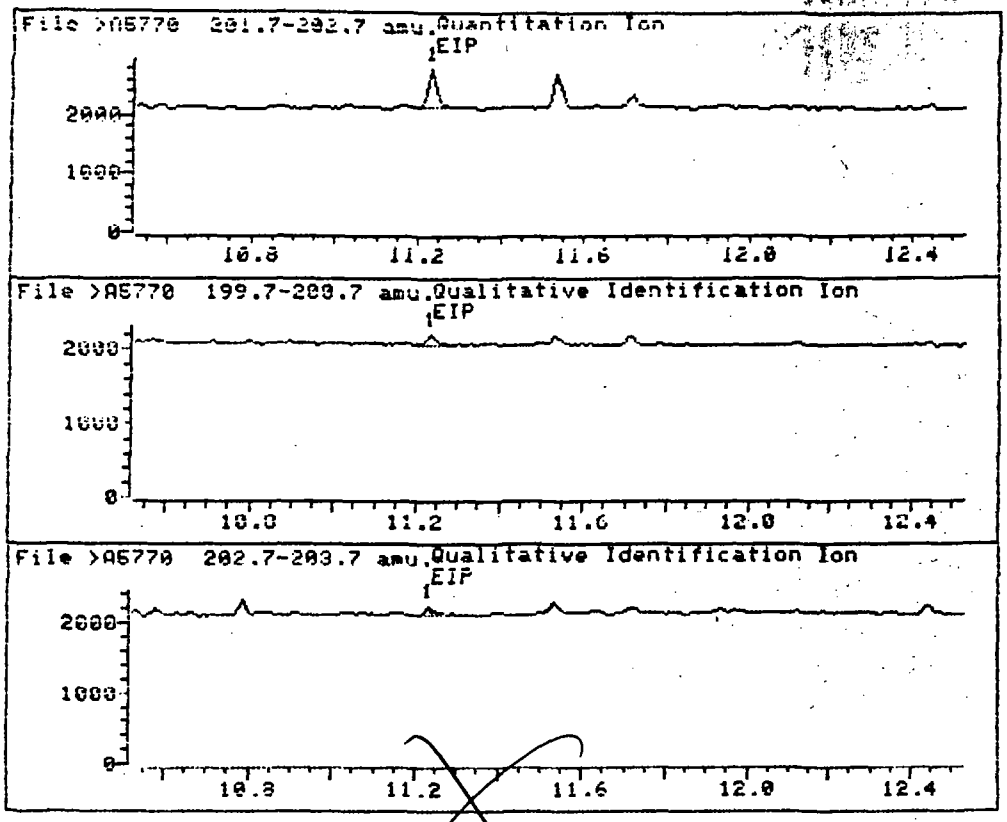
Klolm



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

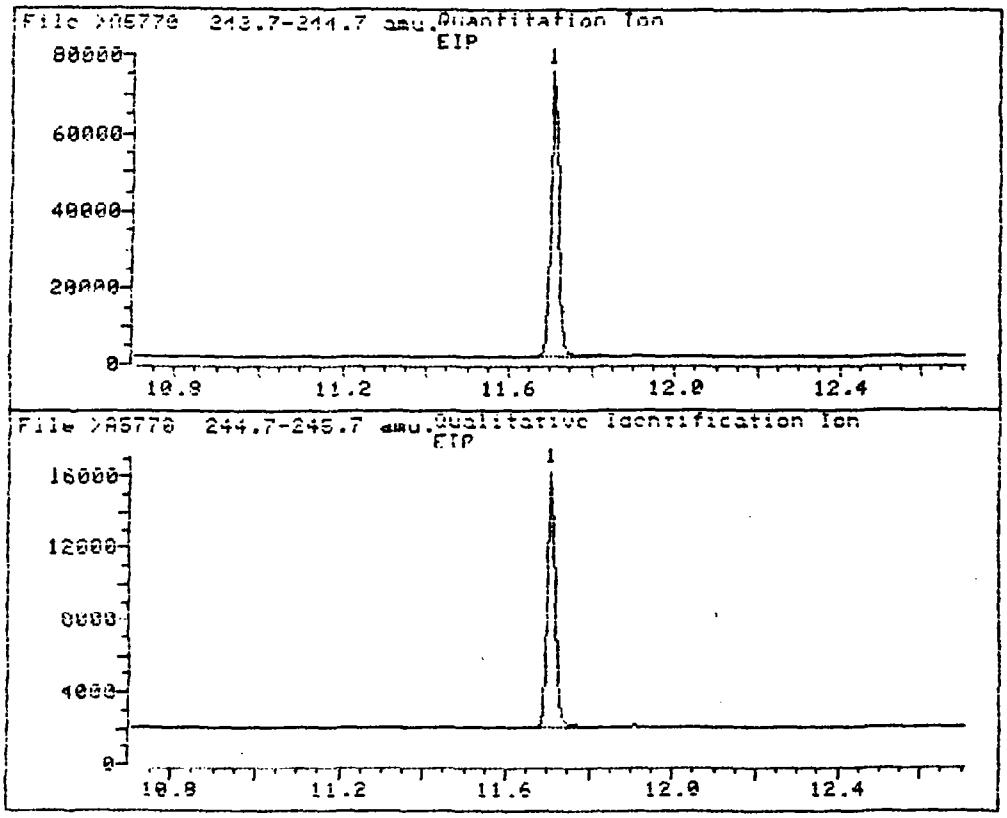
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.14	5.00	ppb	91	178040	46122	28676		
	1100	178040			1.000	.259	.161		



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

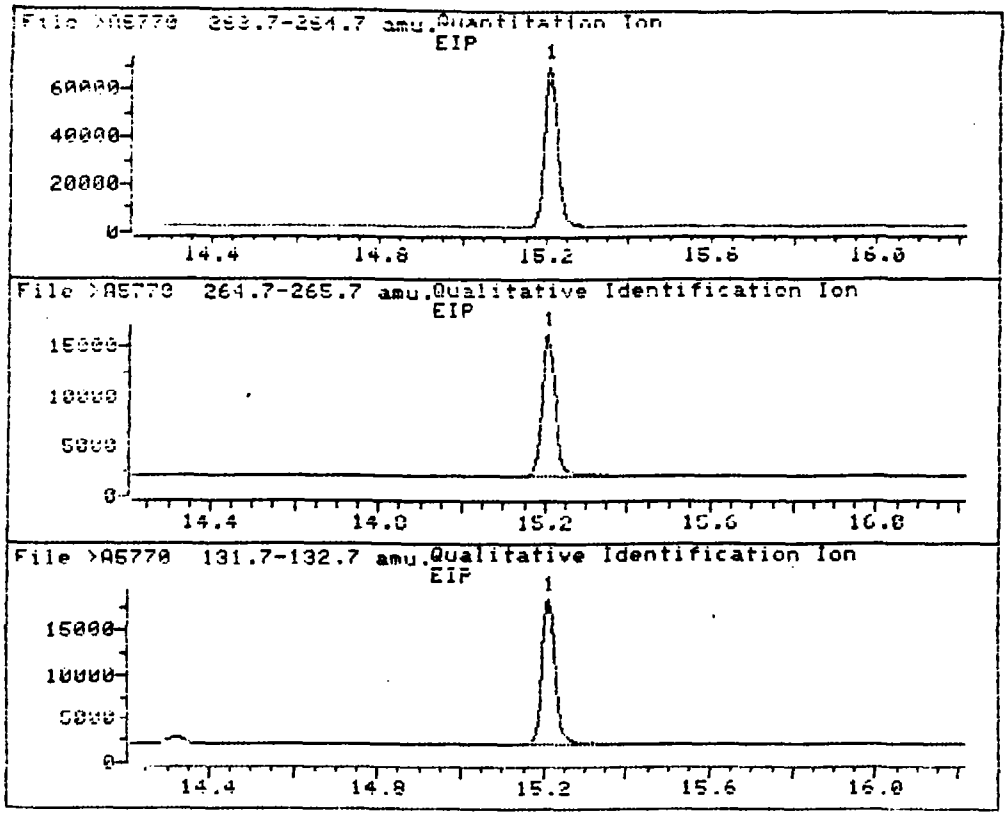
Hit #	R.T. Scan#	Conc Acqm	Units	q	Areas and Ratios 202.0	200.0	203.0
1	11.23	2.05	ppb	94	1066	241	218
	886	1066			1.000	.226	.205



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.71	293.13	ppb	99	104254	19941
	939	104254			1.000	.191



Data File: >A5770::L1 Quant Output File: ^A5770::D2
Name: 6983.01
Misc: IN#MSA;RGW BTL# 1
Quant Time: 930706 09:49 Quant ID File: I_A120::QT
Injected at: 930706 09:27 Last Calibration: 930706 09:34

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0
1	15.21	5.00	ppb	86	154818	32969	38446
	1406	154818			1.000	.213	.248

QUANT REPORT

Operator ID: RDB
Output File: ^A6771::D2
Data File: >A6771::L1
Name: 6983.02
Misc: IN#MSA;RGW

Quant Rev: 6
Quant Time: 930706 10:14
Injected at: 930706 09:52
Dilution Factor: 100.0000

BTL# 2

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.38	136.0	136197	5.00	ppb	97
2)	Nitrobenzene-d5 (surr.)	4.52	82.0	8996	74.33	ppb 15	85
3)	Naphthalene	5.41	128.0	1734	5.62	ppb	89
4)	*Acenaphthene-d10	7.67	164.0	97160	5.00	ppb	87
5)	2-Fluorobiphenyl (surr.)	6.77	172.0	96728	338.79	ppb 68	98
7)	Acenaphthene	7.71	153.0	1226	5.09	ppb	96
8)	~~Fluorene~~	~~8.37~~	~~166.0~~	~~2030~~	~~7.19~~	~~ppb~~	84
9)	*Phenanthrene-d10	9.61	188.0	208000	5.00	ppb	98
10)	Phenanthrene	9.64	178.0	9163	20.38	ppb	94
12)	~~Fluoranthene~~	~~11.93~~	~~202.0~~	~~1784~~	~~3.01~~	~~ppb~~	99
13)	*Chrysene-d12	13.14	240.0	133060	5.00	ppb	93
14)	~~Pyrene~~	~~11.54~~	~~202.0~~	~~1974~~	~~3.08~~	~~ppb~~	80
15)	Terphenyl-d14 (surr.)	11.71	244.0	111082	417.91	ppb 84	99
18)	*Perylene-d12	15.20	264.0	116272	5.00	ppb	87

* Compound is ISTD

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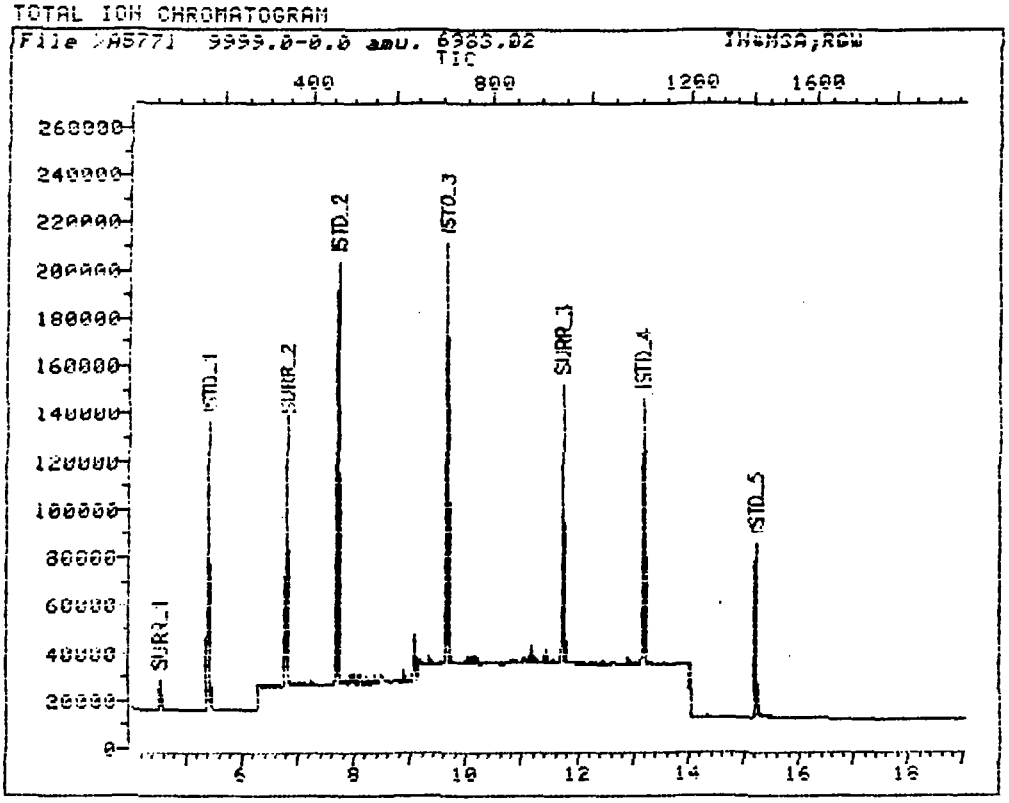
RG 7-6-93

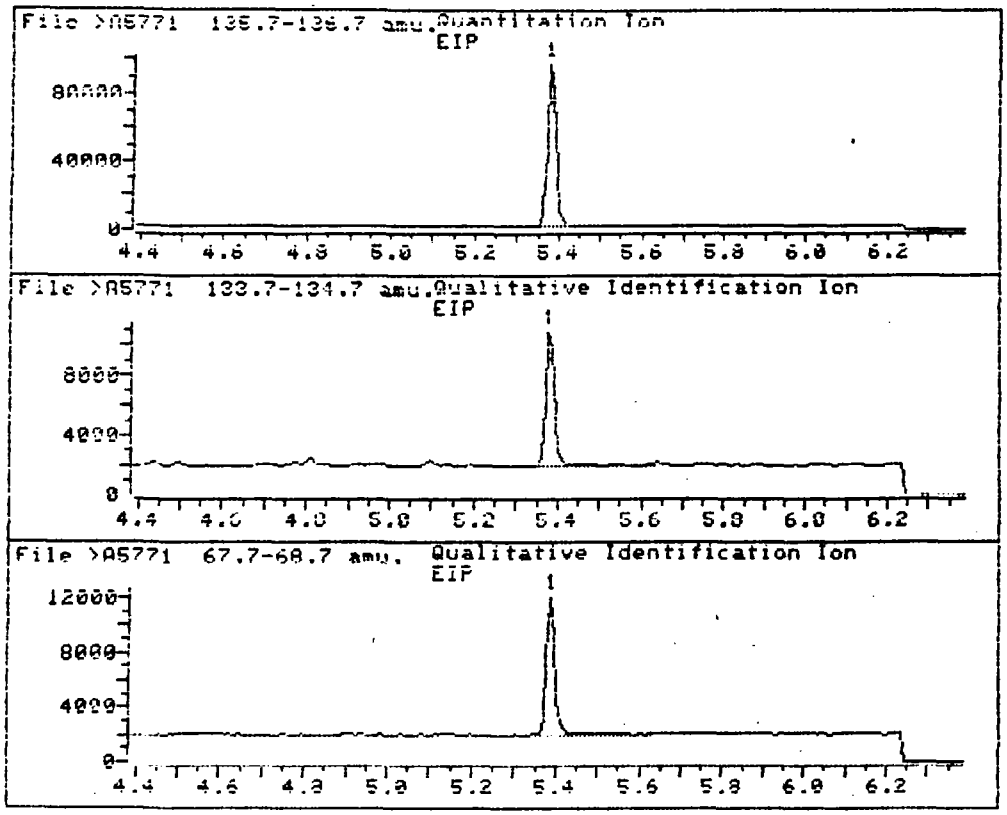
TOTAL ION CHROMATOGRAM



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: INAMSA;RGW BTL# 2

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

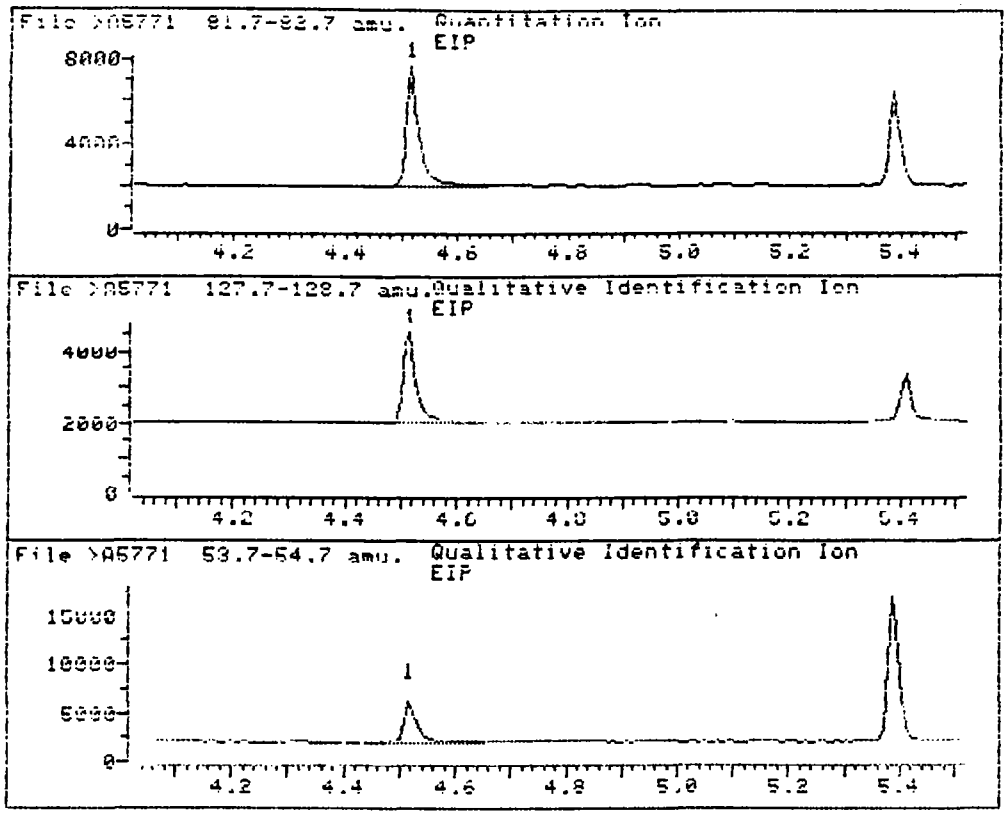
Operator ID: RGB
Quant Time: 930706 10:14
Injected at: 930706 09:52



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

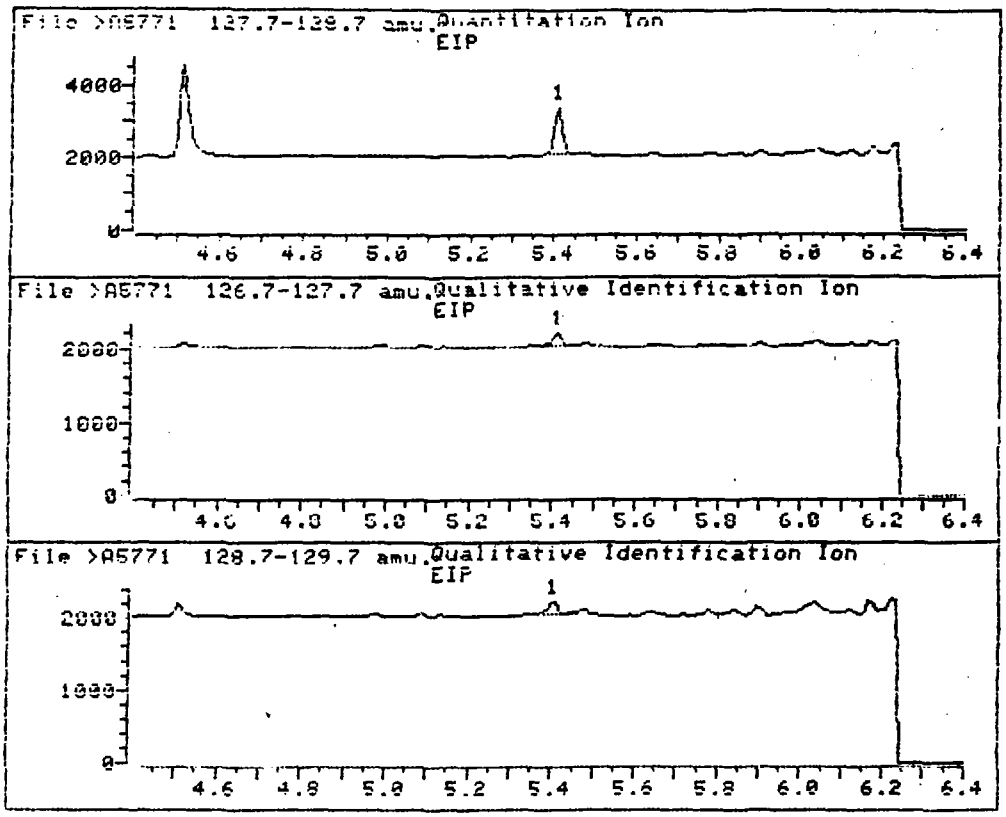
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.38	5.00	ppb	97	136197	13421	13853		
	166	136197			1.000	.099	.102		



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW RTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 2
Compound Name: Nitrobenzene-d5 (surr.)
Quant Ion: 82.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 82.0	128.0	54.0		
1	4.52	74.33	ppb	85	8996	4409	6831		
	61	8996			1.000	.490	.759		



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.41	5.62	ppb	89	1734	245	~~318~~		
	170	1734			1.000	.141	.183		

baseline integration

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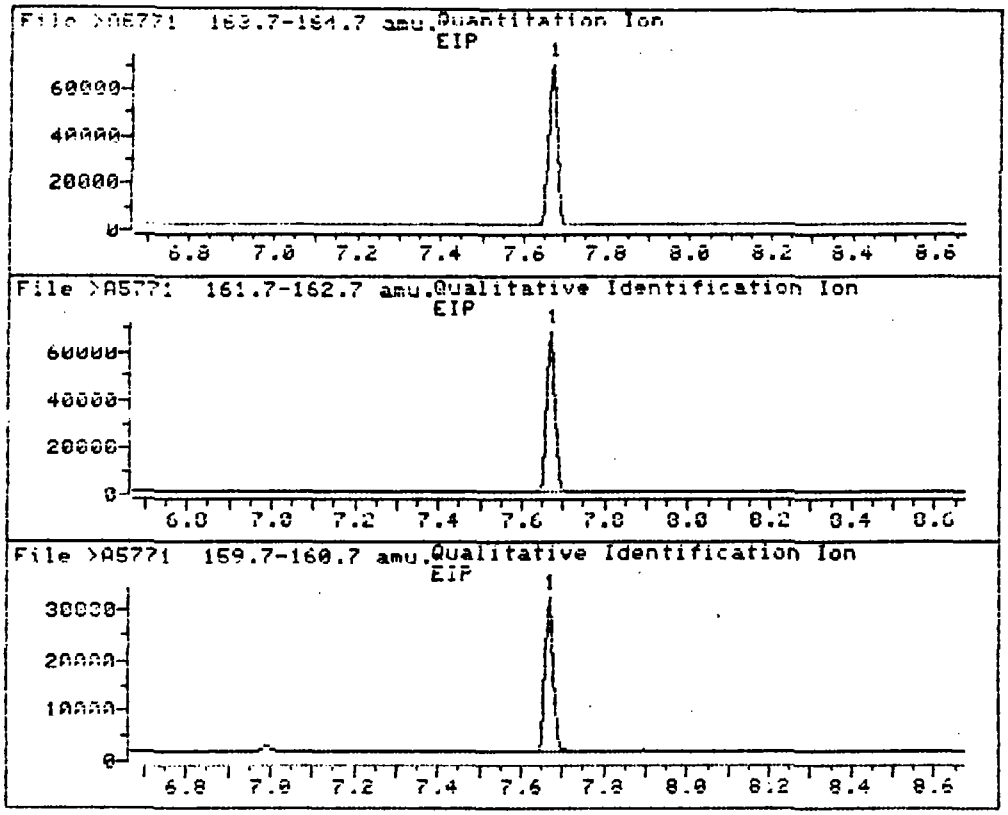
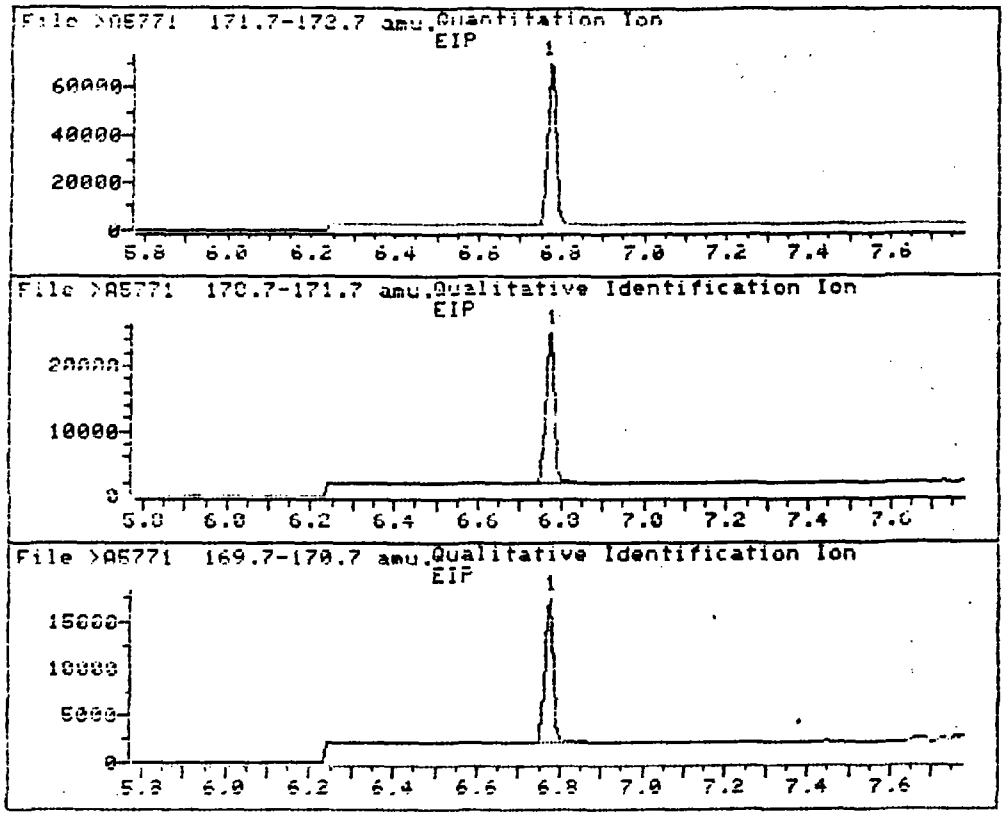


Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

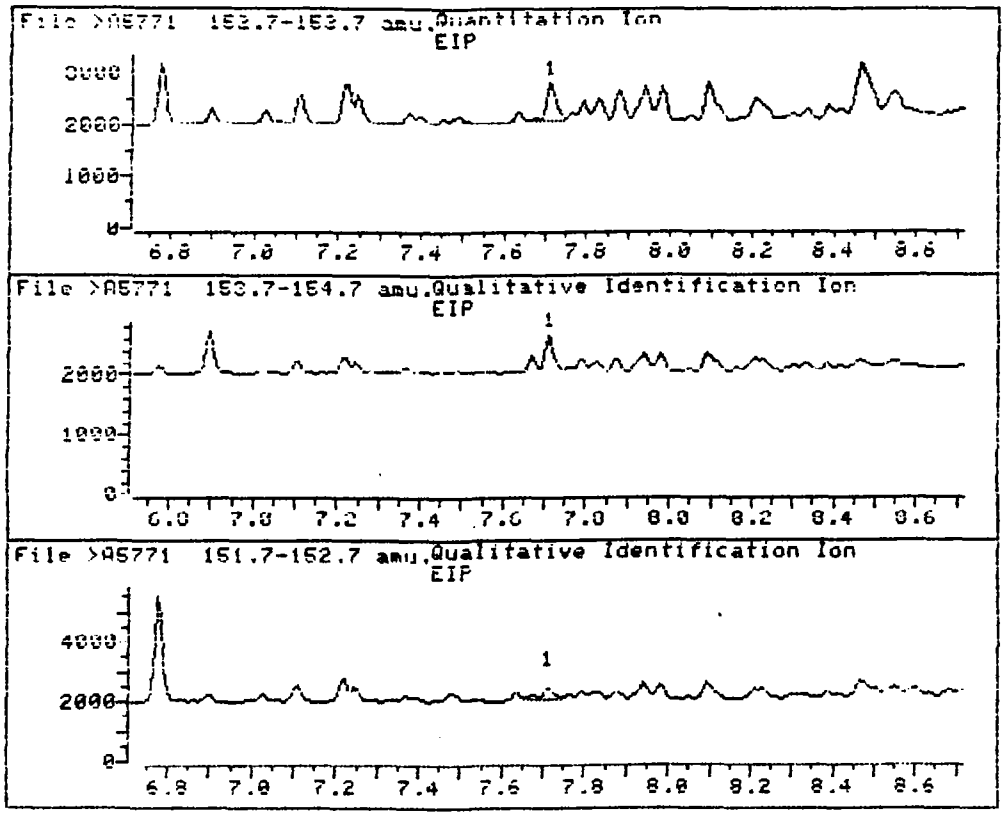
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.67	5.00	ppb	87	97160	91702	41374		
	461	97160			1.000	.944	.426		



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.77	338.79	ppb	98	96728	32991	21484		
	341	96728			1.000	.341	.222		



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 7
Compound Name: Acenaphthene
Quant Ion: 153.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 153.0	154.0	152.0		
1	7.71	5.09	ppb	96	1226	1057	655		
	466	1226			1.000	.862	.534		

integration

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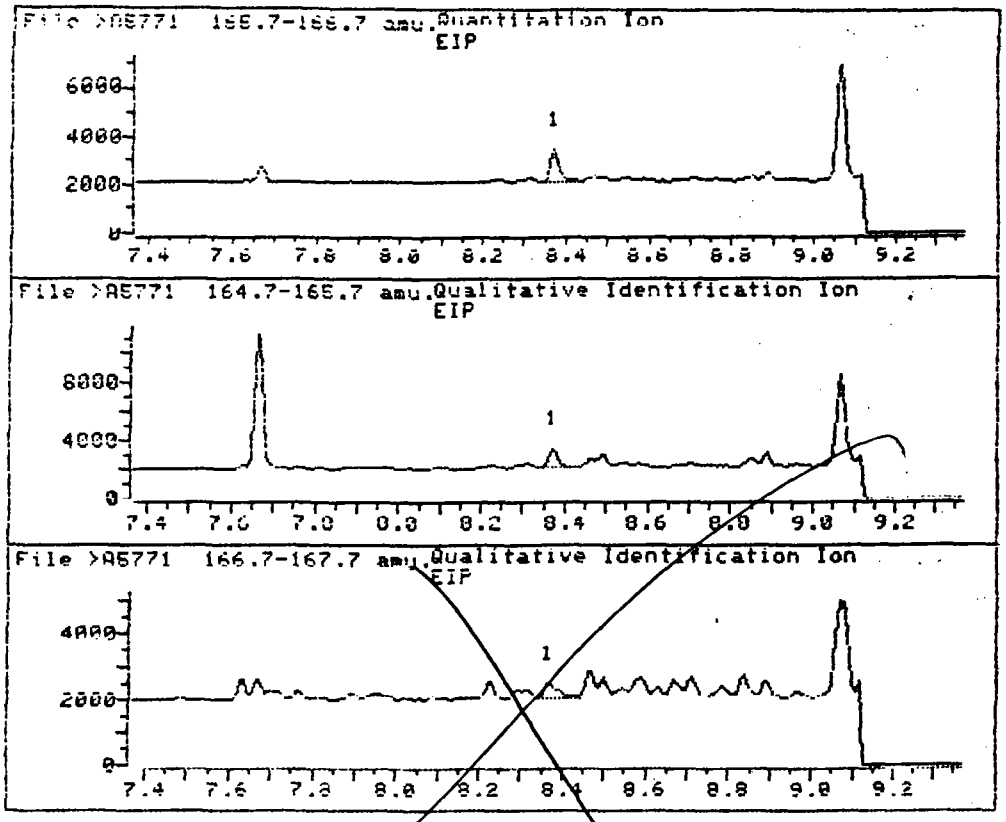

Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RCW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 8
Compound Name: Fluorene
Quant Ion: 166.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 166.0	165.0	167.0
1	8.37	7.19	ppb	84	2030	2114	1092
	554	2030			1.000	1.041	.538

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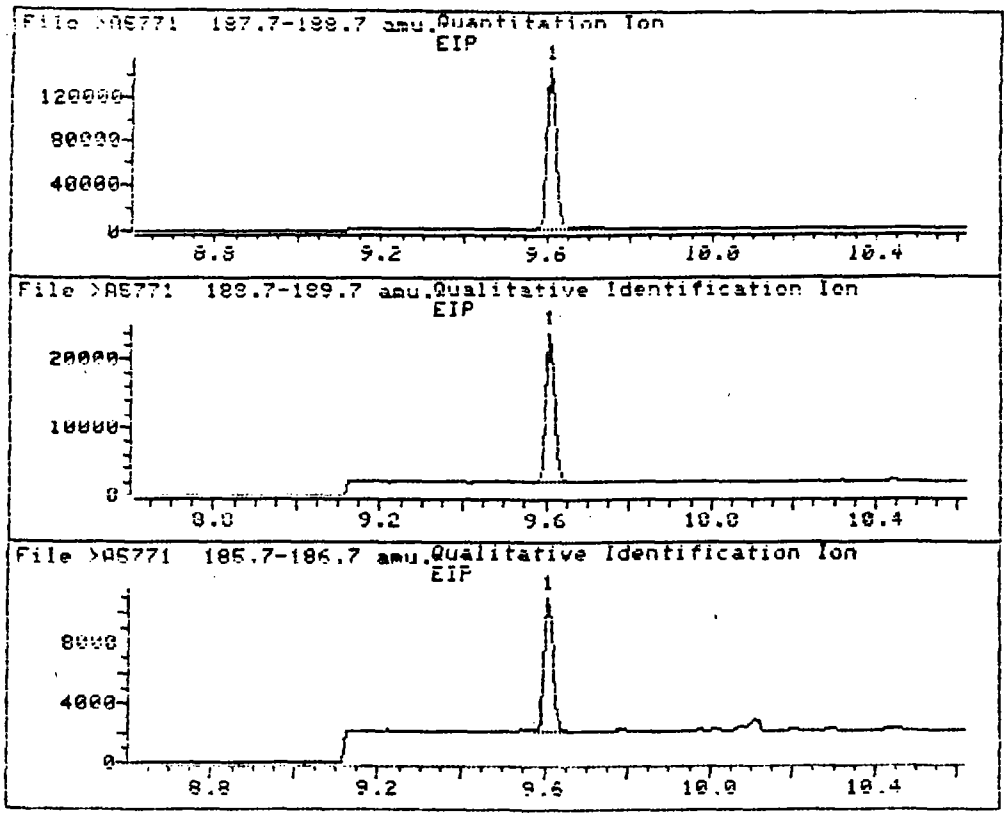
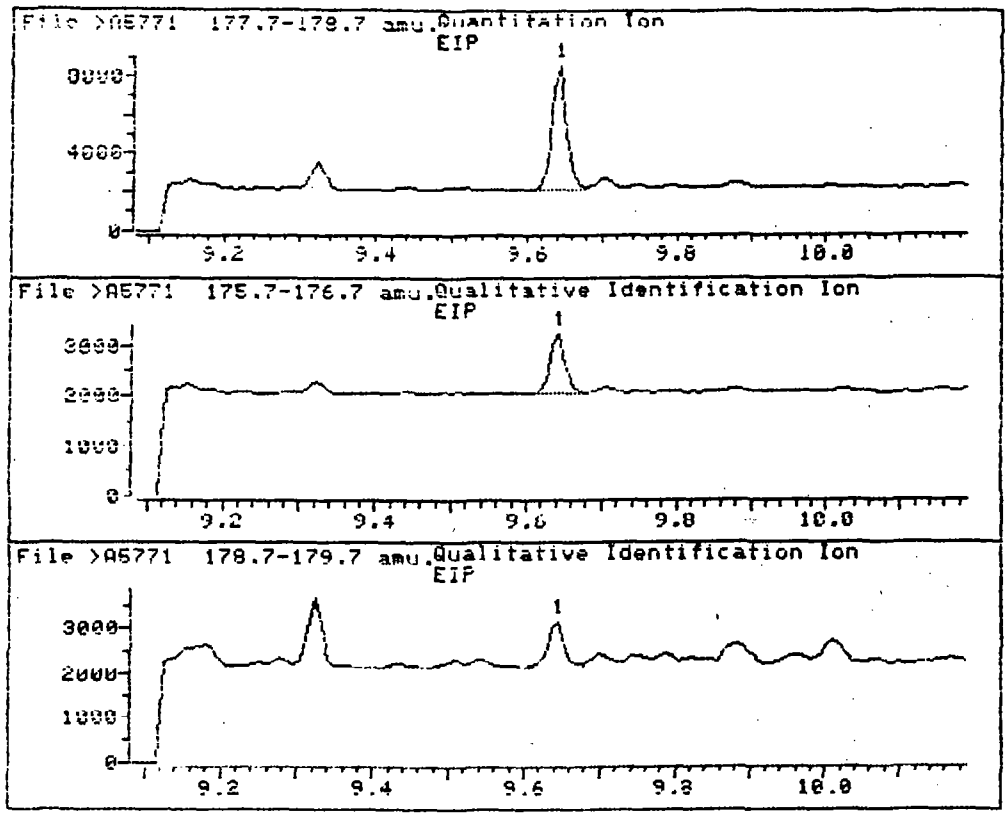
000191



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 4983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.61	5.00	ppb	98	208000	31113	12982		
	708	208000			1.000	.150	.062		



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.64	20.38	ppb	94	9163	1664	1618		
	712	9163			1.000	.182	.177		

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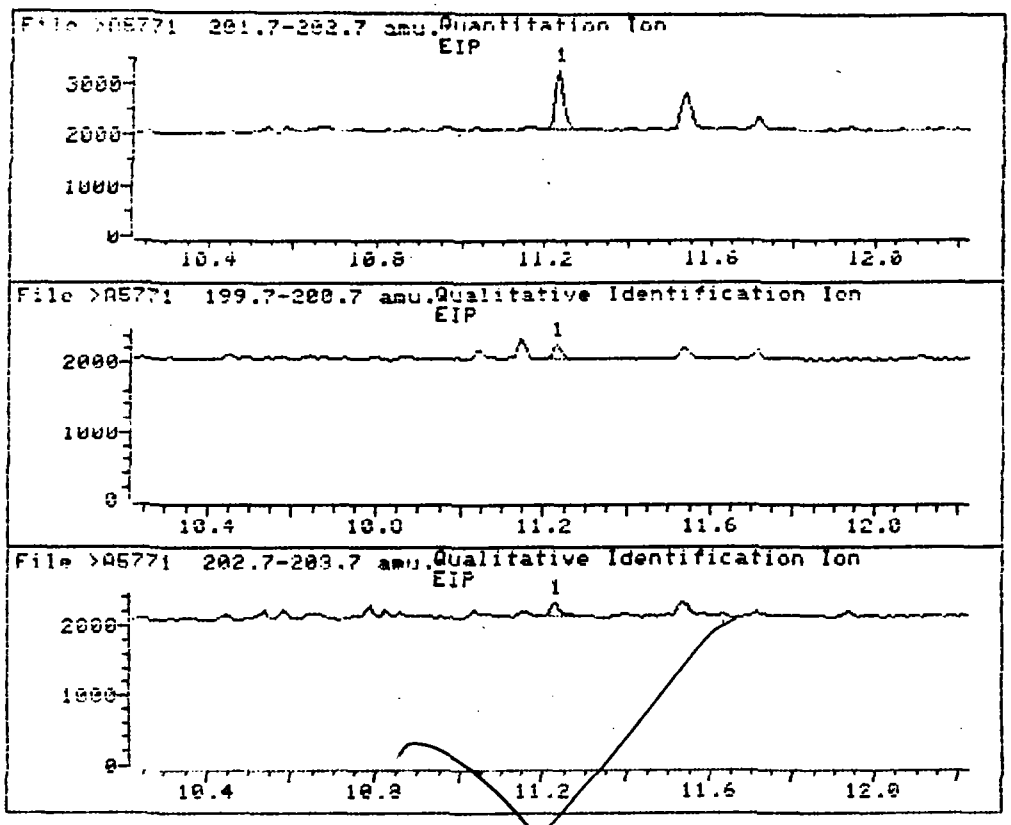

Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.23	3.01	ppb	99	1704	340	290		
	890	1704			1.000	.200	.170		

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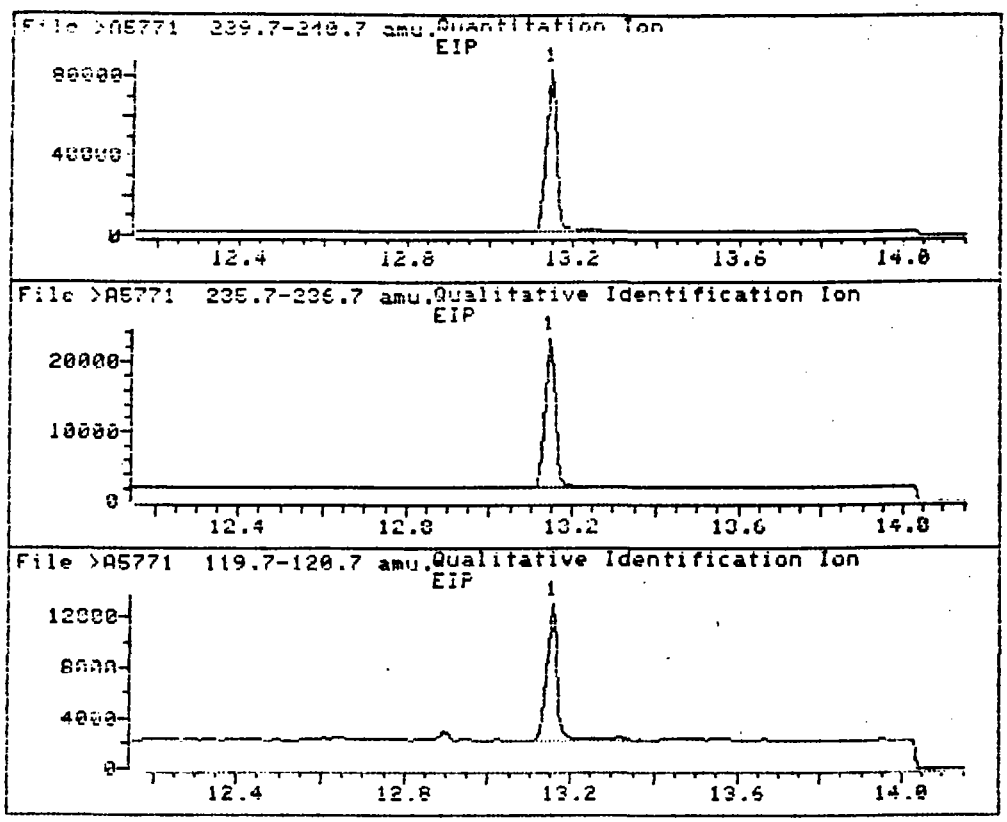
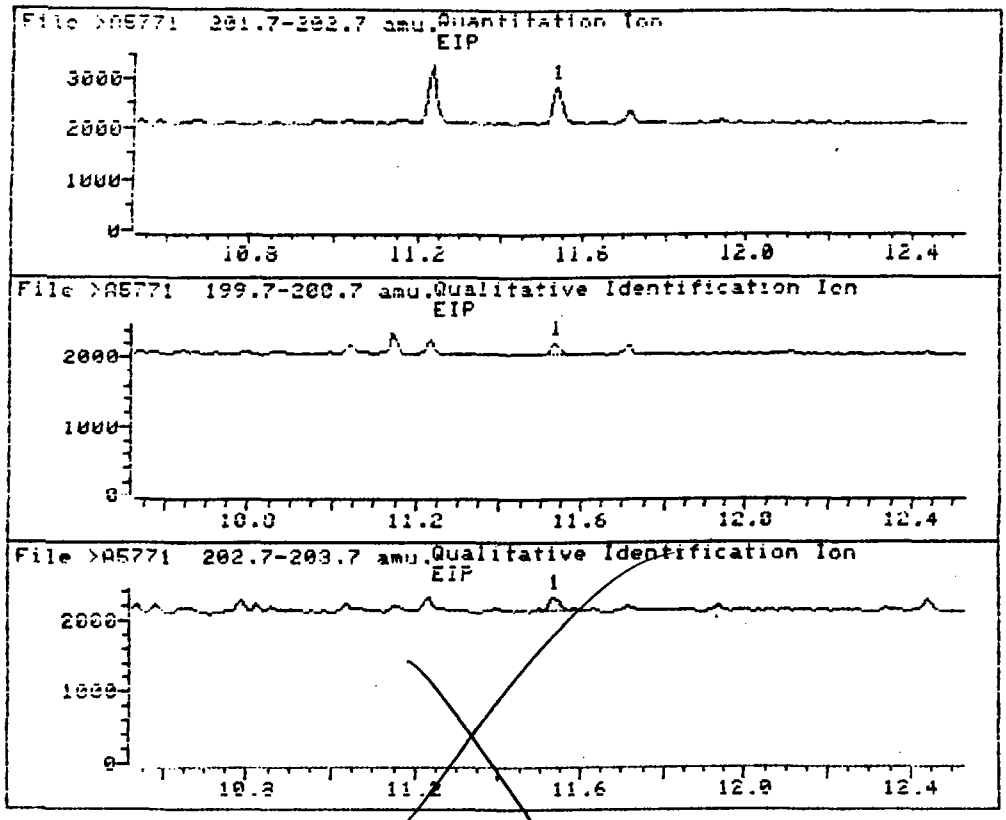


Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0
1	13.14	5.00	ppb	93	133060	34862	18914
	1104	133060			1.000	.262	.142



Data File: >A5771::!4 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;ROW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.54	3.28	ppb	80	1274	283	433		
	924	1274			1.000	.222	.340		

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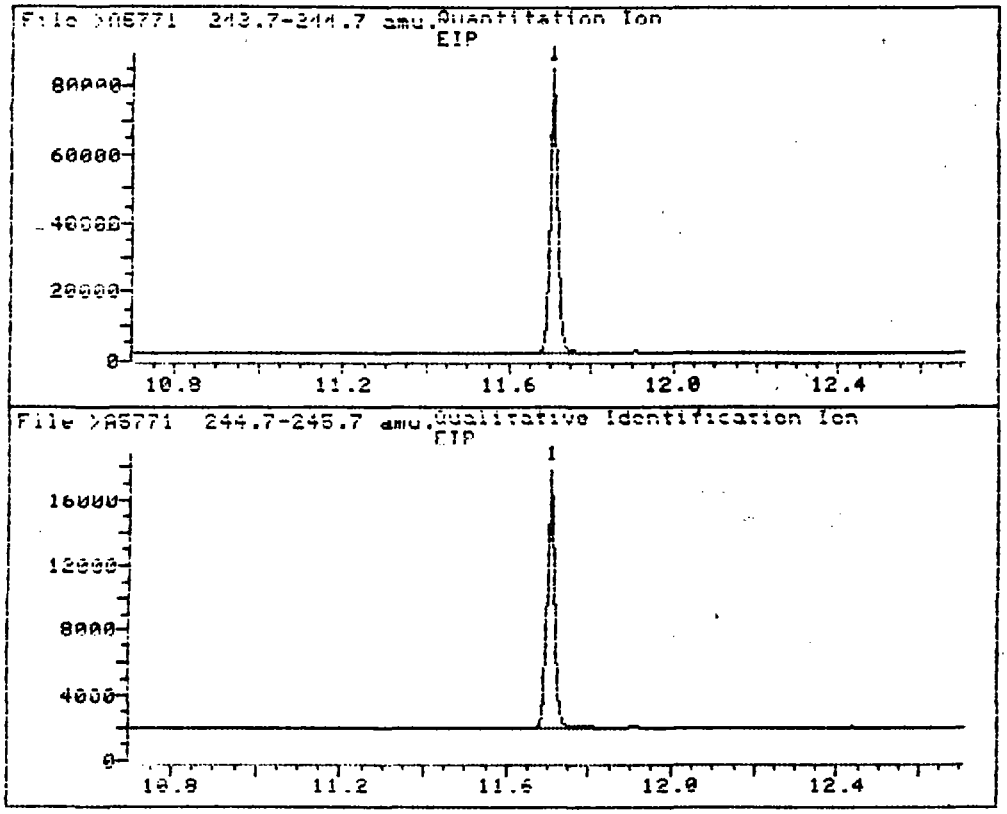
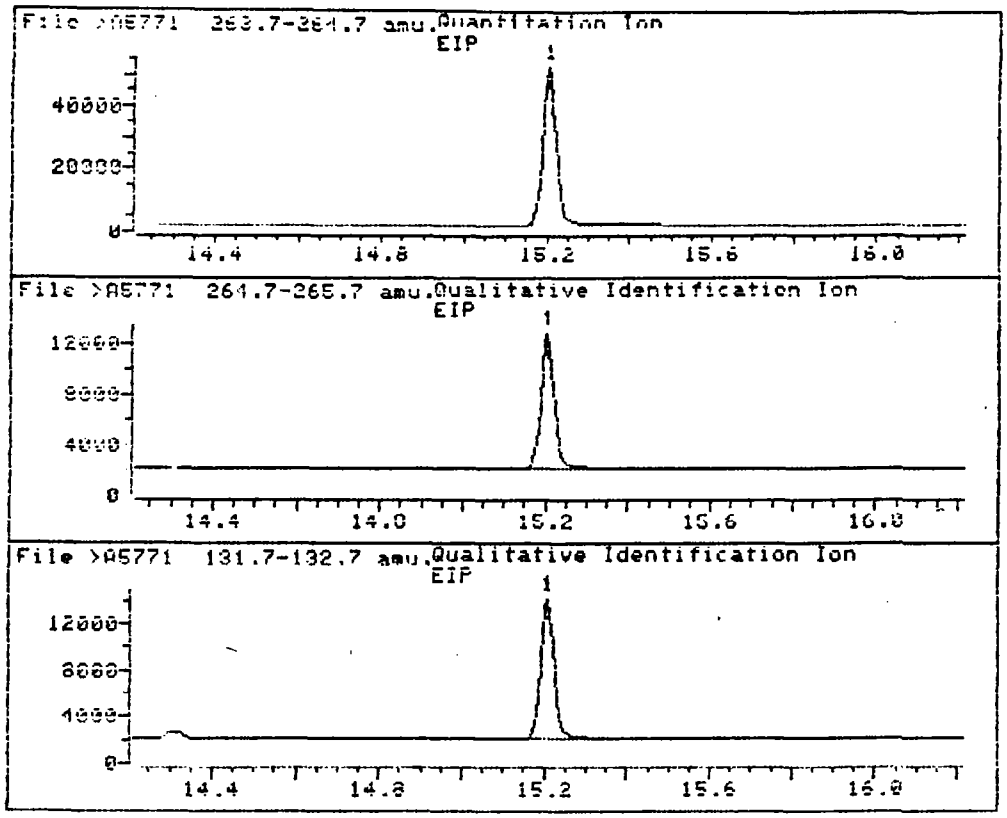


Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0			
1	11.71	417.91	ppb	99	111082	21377			
	943	111082			1.000	.192			



Data File: >A5771::L1 Quant Output File: ^A5771::D2
Name: 6983.02
Misc: IN#MSA;RGW BTL# 2
Quant Time: 930706 10:14 Quant ID File: I_A120::QT
Injected at: 930706 09:52 Last Calibration: 930706 09:34

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.20	5.00	ppb	87	116272	24480	28149		
	1409	116272			1.000	.211	.242		

QUANT REPORT

Operator ID: RDR
Output File: ^A5772::D2
Data File: >A5772::!1
Name: 6983.03
Misc: IN#MSA;RGW

Quant Rev: 6
Quant Time: 930706 10:39
Injected at: 930706 10:18
Dilution Factor: 100.0000
BTL# 3

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*Naphthalene-d8	5.40	136.0	129834	5.00	ppb		96
3)	~~Naphthalene~~	~~5.42~~	~~128.0~~	~~1203~~	~~4.76~~	~~ppb~~		98
4)	*Acenaphthene-d10	7.68	164.0	89761	5.00	ppb		88
5)	2-Fluorobiphenyl (surr.)	6.79	172.0	76750	290.97	ppb	58	98
9)	*Phenanthrene-d10	9.63	188.0	192047	5.00	ppb		98
10)	Phenanthrene	9.65	178.0	5272	12.70	ppb		97
12)	~~Fluoranthene~~	~~11.24~~	~~202.0~~	~~1715~~	~~3.28~~	~~ppb~~		93
13)	*Chrysene-d12	13.16	240.0	117365	5.00	ppb		93
14)	~~Pyrene~~	~~11.55~~	~~202.0~~	~~1153~~	~~3.37~~	~~ppb~~		94
15)	Terphenyl-d14 (surr.)	11.73	244.0	91016	388.21	ppb	78	99
18)	*Perylene-d12	15.22	264.0	106325	5.00	ppb		84

* Compound is ISTD

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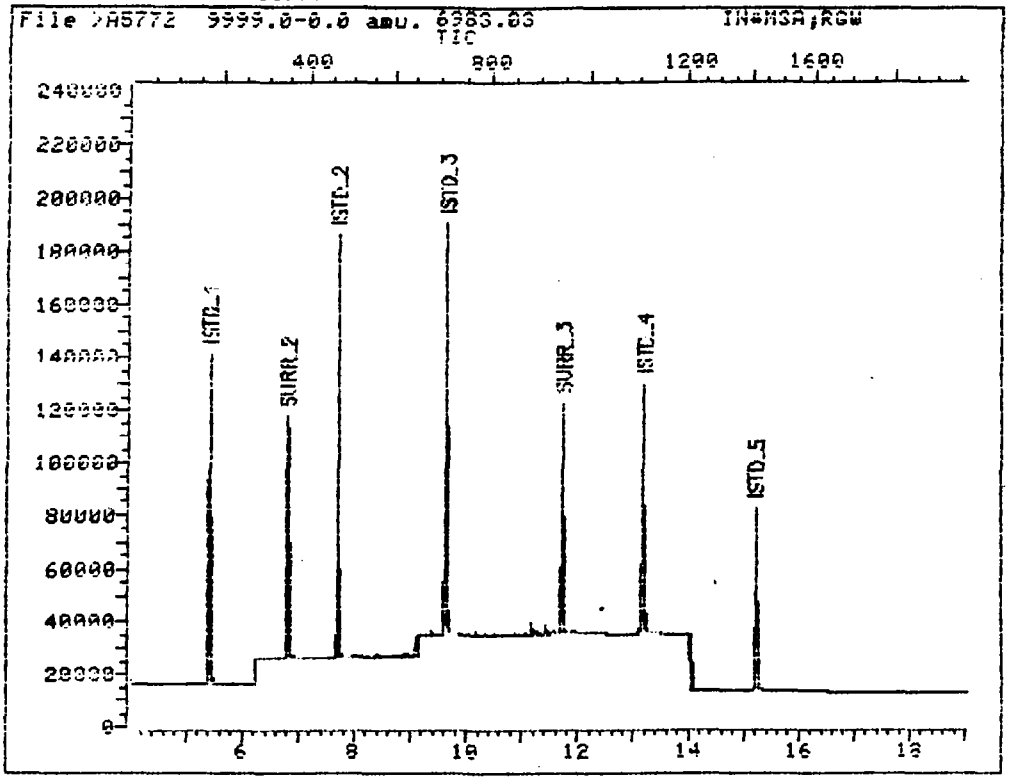
000199

TOTAL ION CHROMATOGRAM



Data File: >A5772::L1 Quant Output File: ^A5772::D

Name: 6983.03

Misc: IN#MSA;RGW BTL# 3

Id File: I_A120::QT

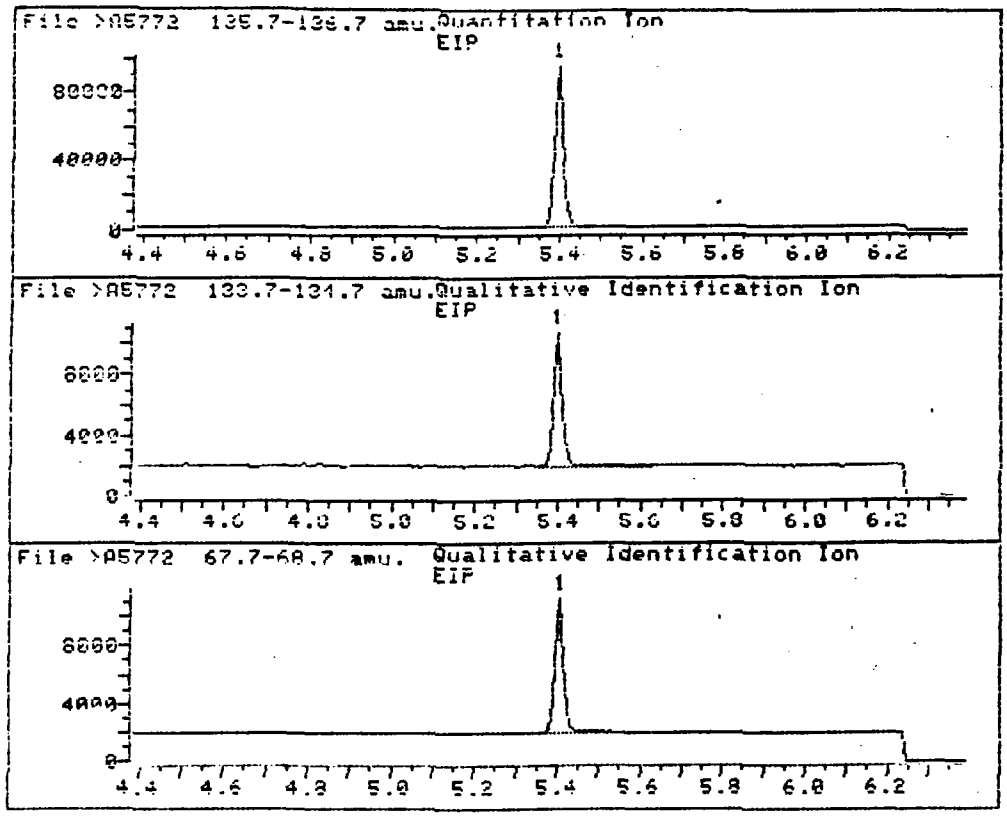
Title: PAH SIM ANALYSIS

Last Calibration: 930706 09:34

Operator ID: RGB

Quant Time: 930706 10:39

Injected at: 930706 10:18

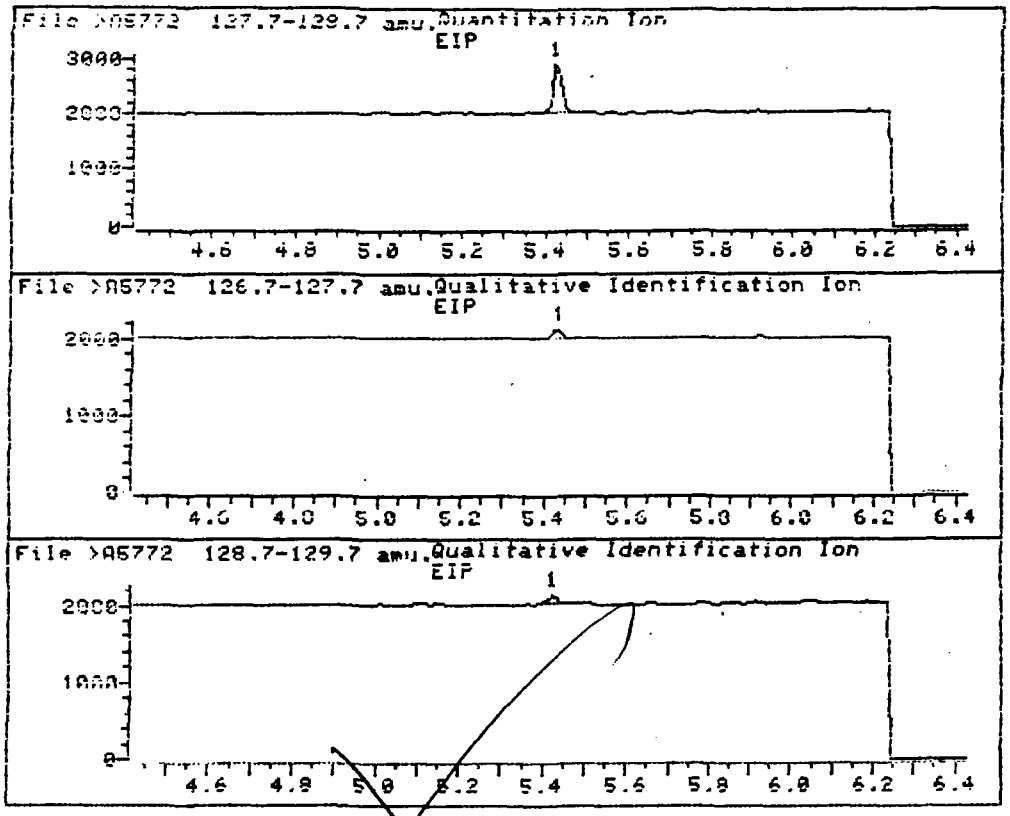


Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.40	5.00	ppb	96	129834	12347	13443		
	169	129834			1.000	.095	.104		

060201



Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.42	4.36	ppb	98	1283	168	156		
	172	1283			1.000	.131	.122		

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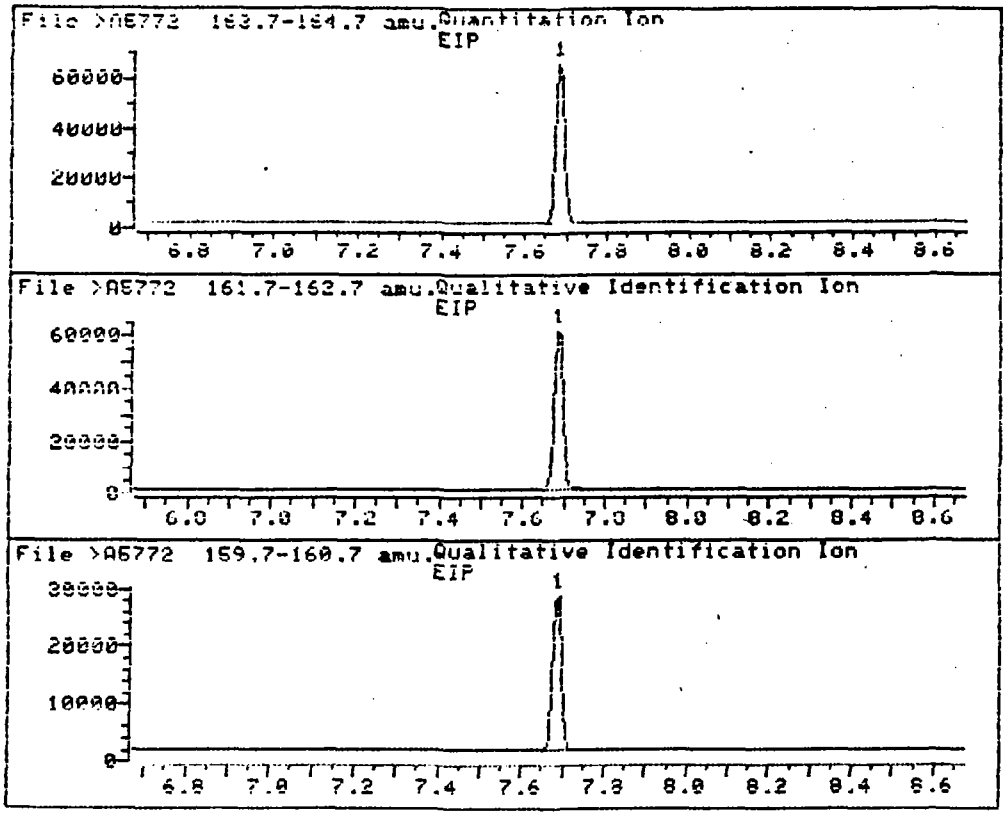
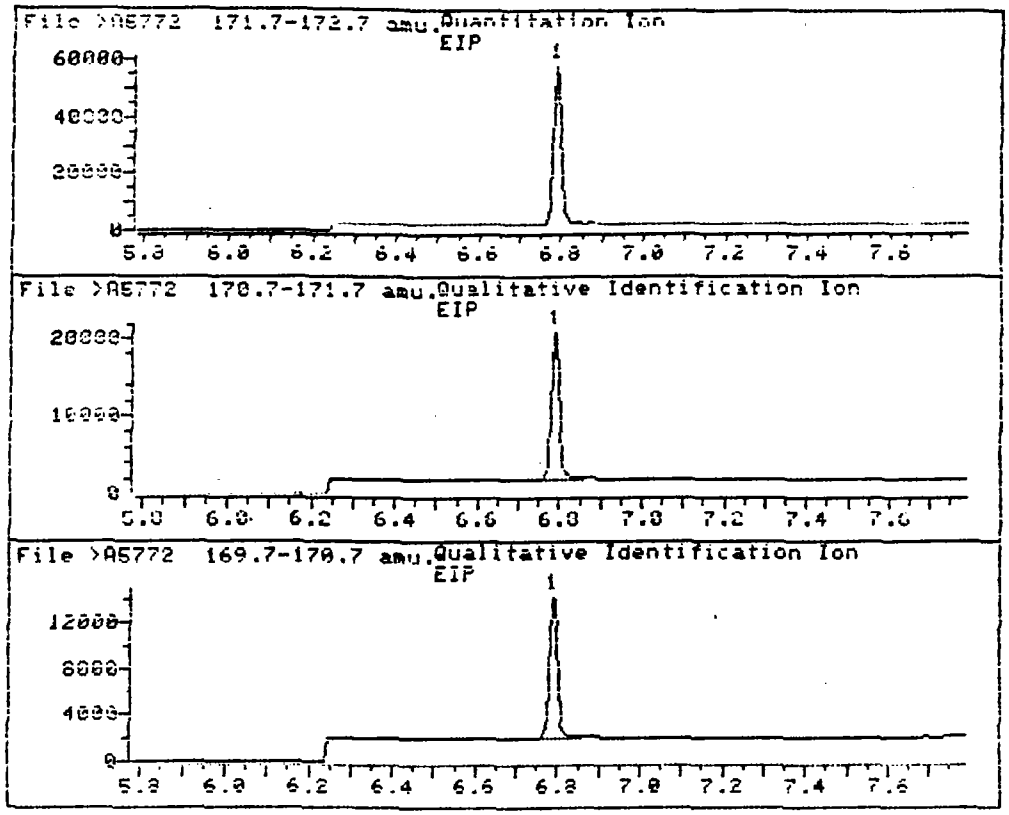


Data File: >A5772::1.1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

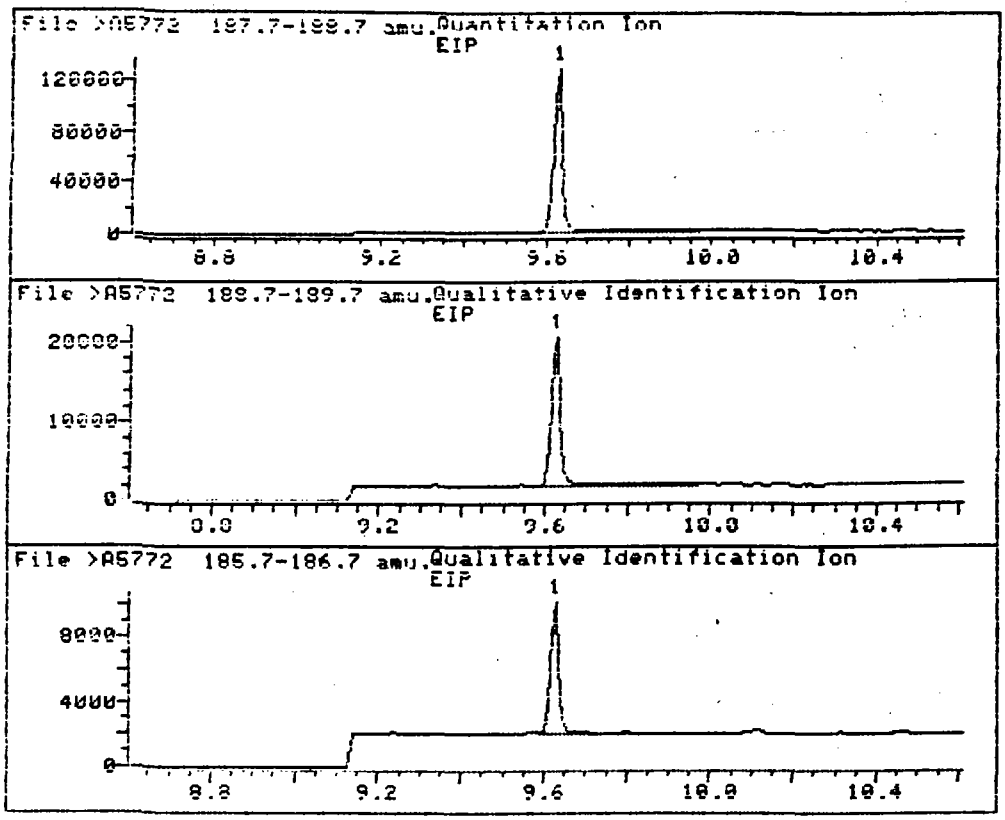
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.68	5.00	ppb	88	89761	85745	38459		
	463	89761			1.000	.955	.428		



Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

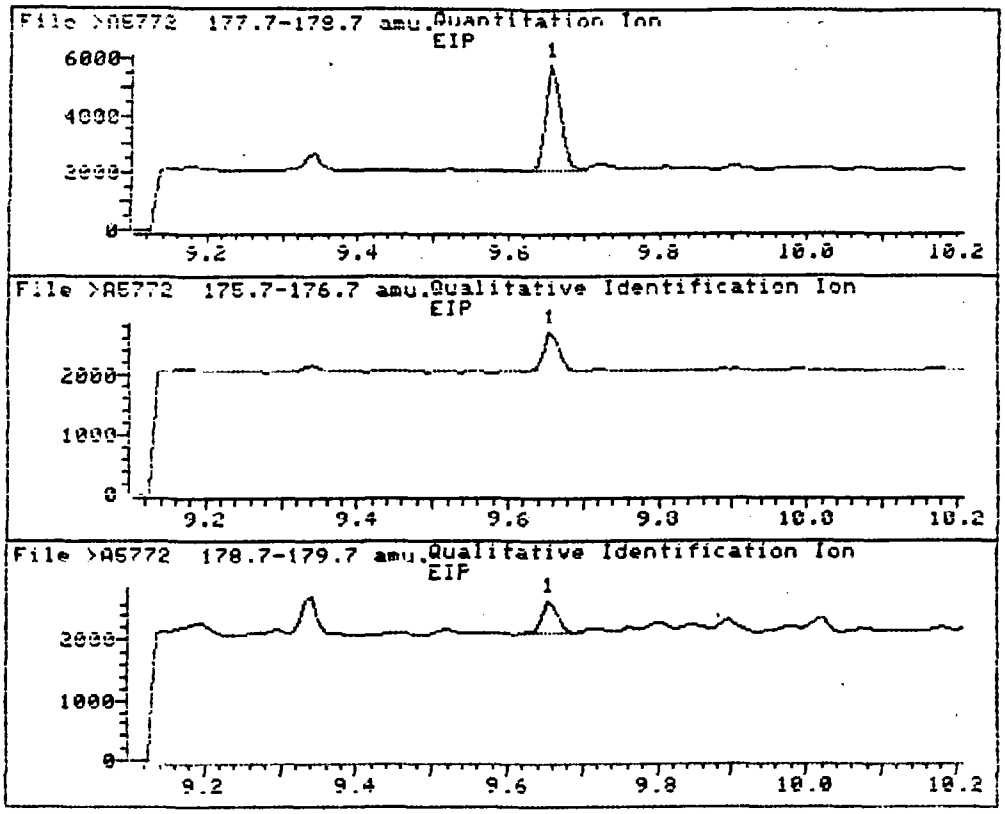
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0
1	6.79	290.97	ppb	98	76750	26181	17189
	344	76750			1.000	.341	.224



Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.63	5.00	ppb	98	192047	28677	12080		
	711	192047			1.000	.149	.063		



Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.65	12.70	ppb	97	5972	962	776		
	714	5972			1.000	.182	.147		

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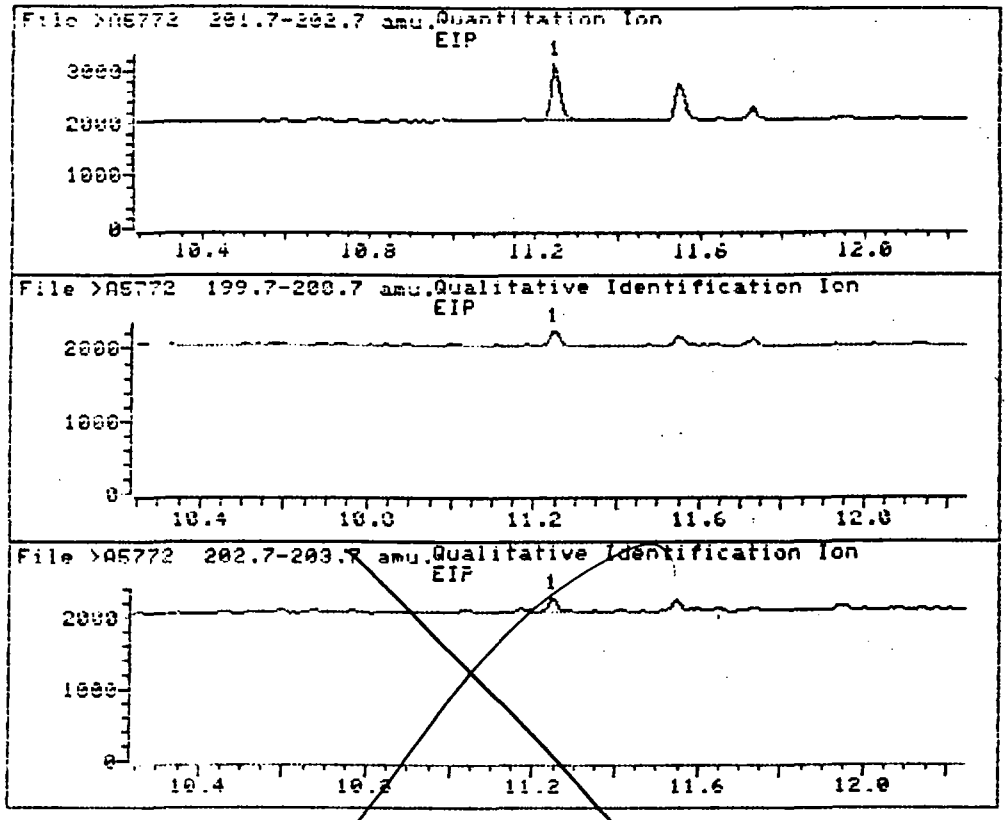

Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 12
Compound Name: Fluoranthene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.24	3.28	ppb	93	1715	370	364		
	892	1715			1.000	.216	.212		

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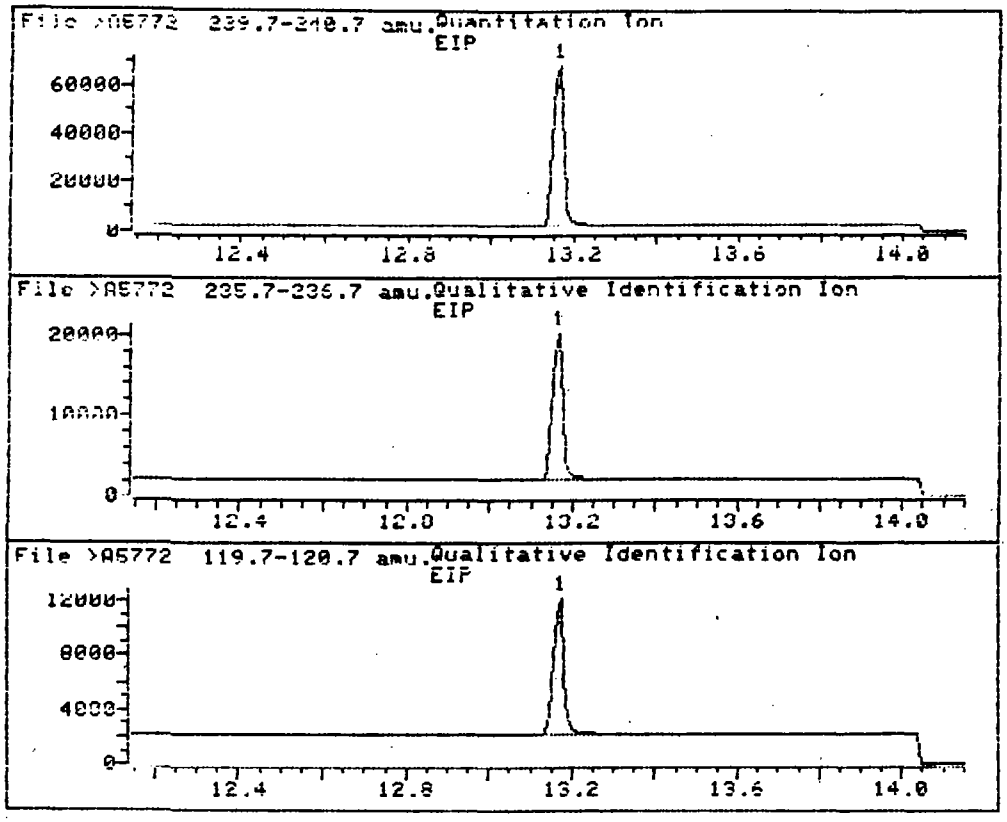
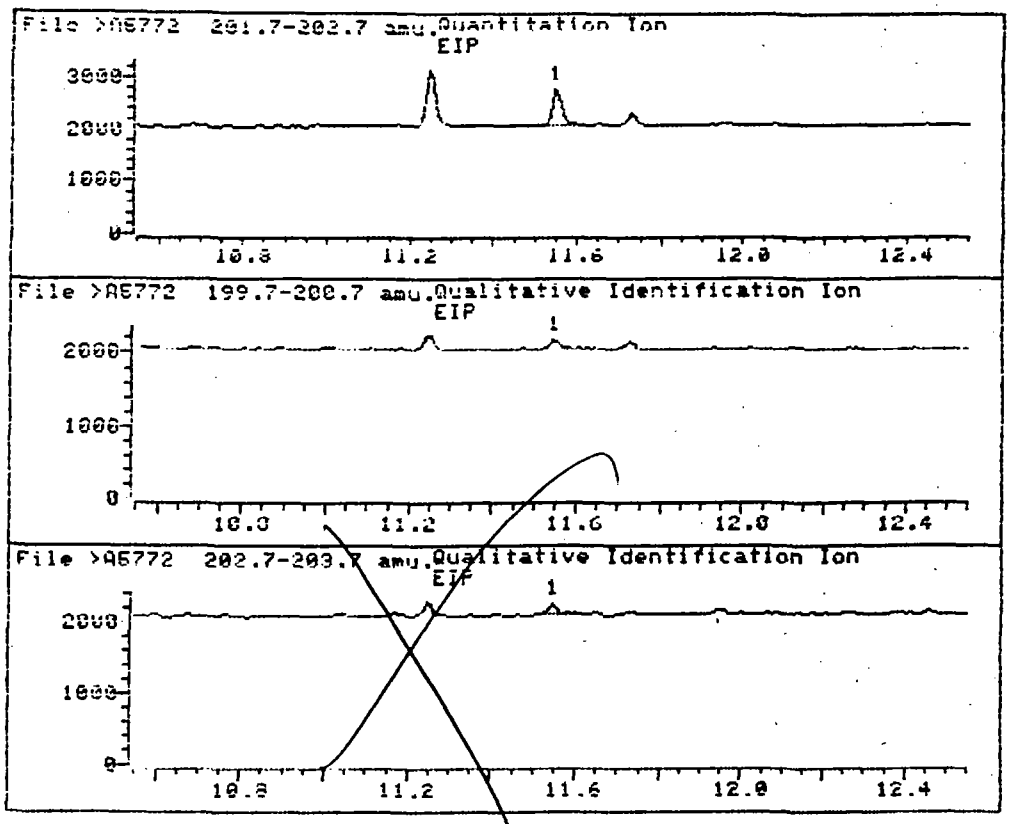


Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.16	5.00	ppb	93	117365	31755	18147		
	1107	117365			1.000	.271	.155		



Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN$MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 14
Compound Name: Pyrene
Quant Ion: 202.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 202.0	200.0	203.0		
1	11.55	3.37	ppb	94	1153	238	256		
	926	1153			1.000	.206	.222		

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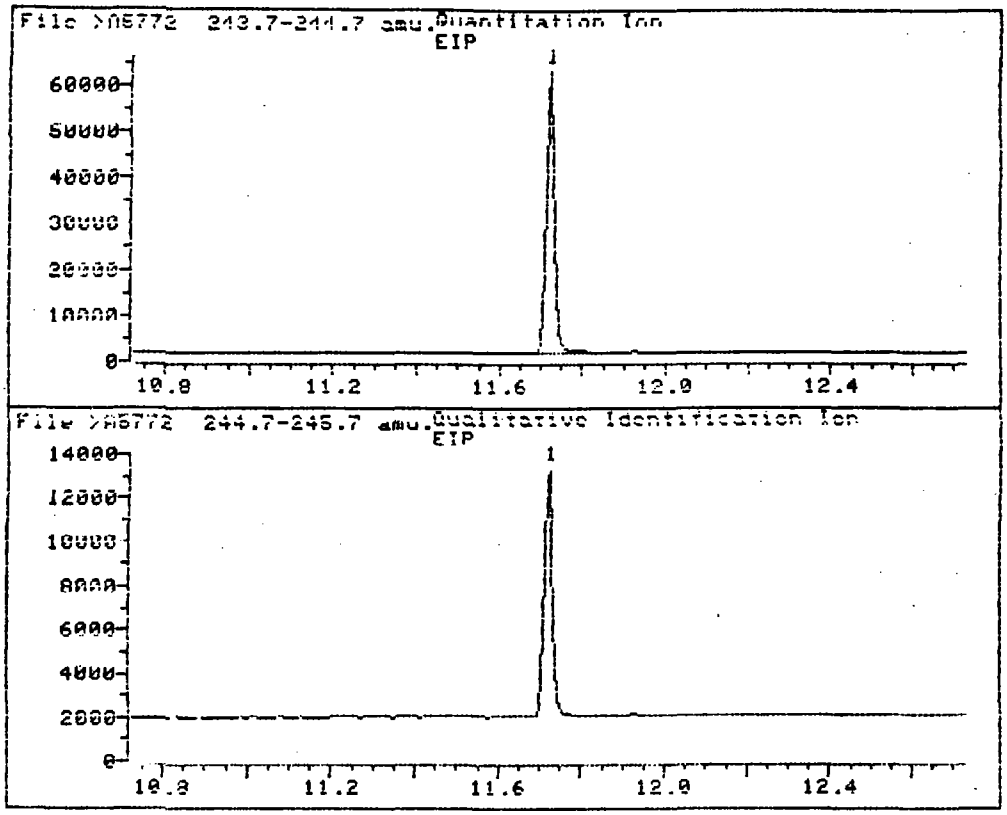
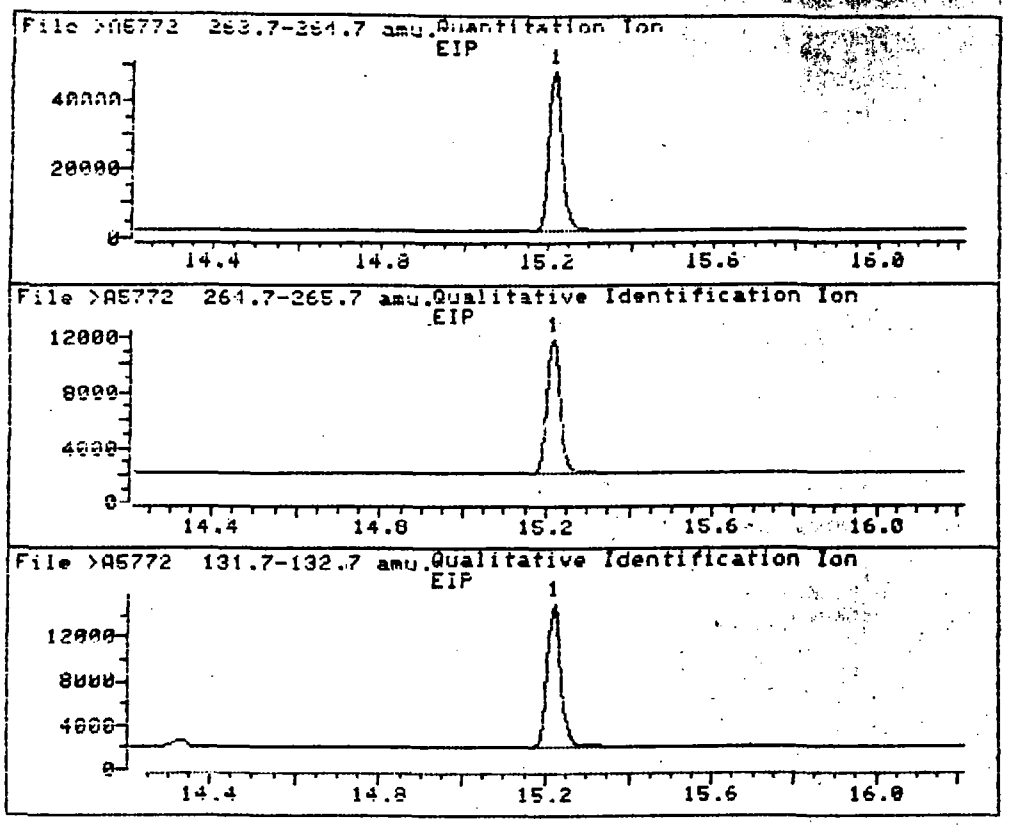


Data File: >A5772::1.1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RGW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0			
1	11.73	388.21	ppb	99	91016	17396			
	946	91016			1.000	.191			



Data File: >A5772::L1 Quant Output File: ^A5772::D2
Name: 6983.03
Misc: IN#MSA;RAW BTL# 3
Quant Time: 930706 10:39 Quant ID File: I_A120::QT
Injected at: 930706 10:18 Last Calibration: 930706 09:34

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0
1	15.22	5.00	ppb	84	106325	22360	29921
	1412	106325			1.000	.210	.281

QUANT REPORT

Operator ID: RGR
Output File: ^A5773::D2
Data File: >A5773::!1
Name: 6983.04
Misc: IN#MSA;RGW

Quant Rev: 6
Quant Time: 930706 11:08
Injected at: 930706 10:43
Dilution Factor: 100.0000

BTL# 4

ID File: I_0120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

	Compound	R.T.	Q ion	Area	Conc	Units		q
1)	*Naphthalene-d8	5.38	136.0	91018	5.00	ppb		96
2)	Nitrobenzene-d5 (surr.)	4.52	82.0	10233	126.53	ppb		85
3)	Naphthalene	5.41	128.0	1807	8.77	ppb		98
4)	*Acenaphthene-d10	7.66	164.0	53796	5.00	ppb		89
5)	2-Fluorobiphenyl (surr.)	6.77	172.0	63194	399.75	ppb	80	99
9)	*Phenanthrene-d10	9.61	188.0	81122	5.00	ppb		98
10)	Phenanthrene	9.64	178.0	2056	11.72	ppb		98
* 13)	*Chrysene-d12	13.14	240.0	16657	5.00	ppb		92
15)	Terphenyl-d14 (surr.)	11.70	244.0	18099	543.94	ppb		98
* 18)	*Perylene-d12	15.20	264.0	7337	5.00	ppb		81

* Compound is ISTD

*All compounds quanted against these internals to be reported from 1:10 dilution.

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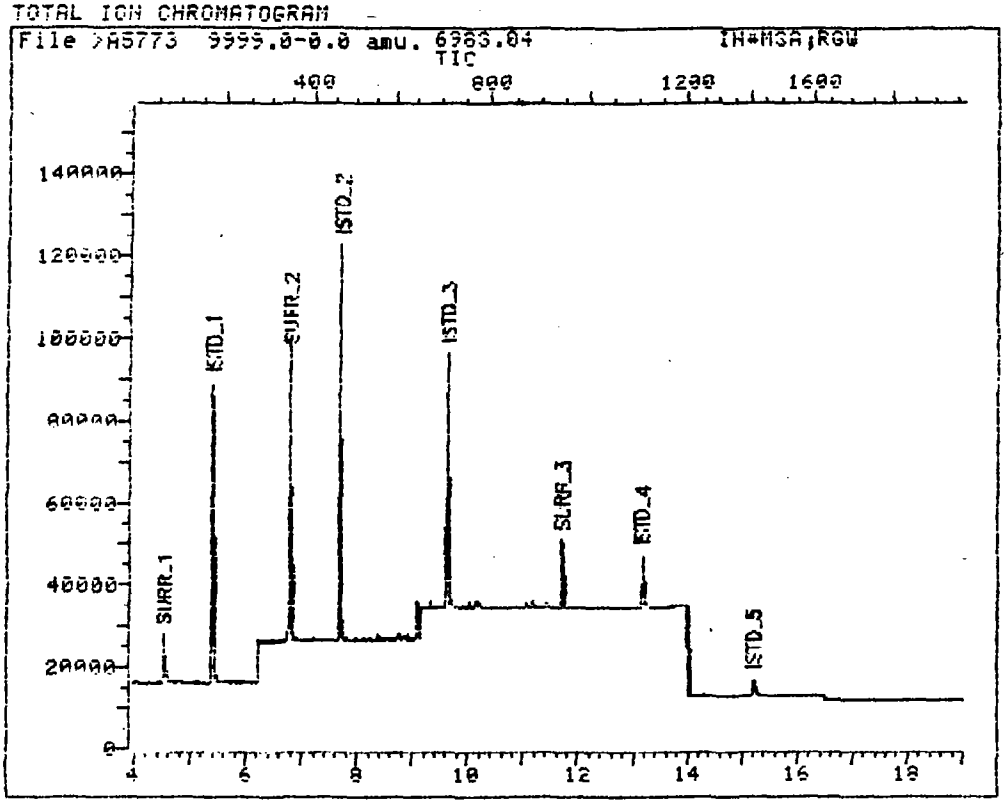
000212

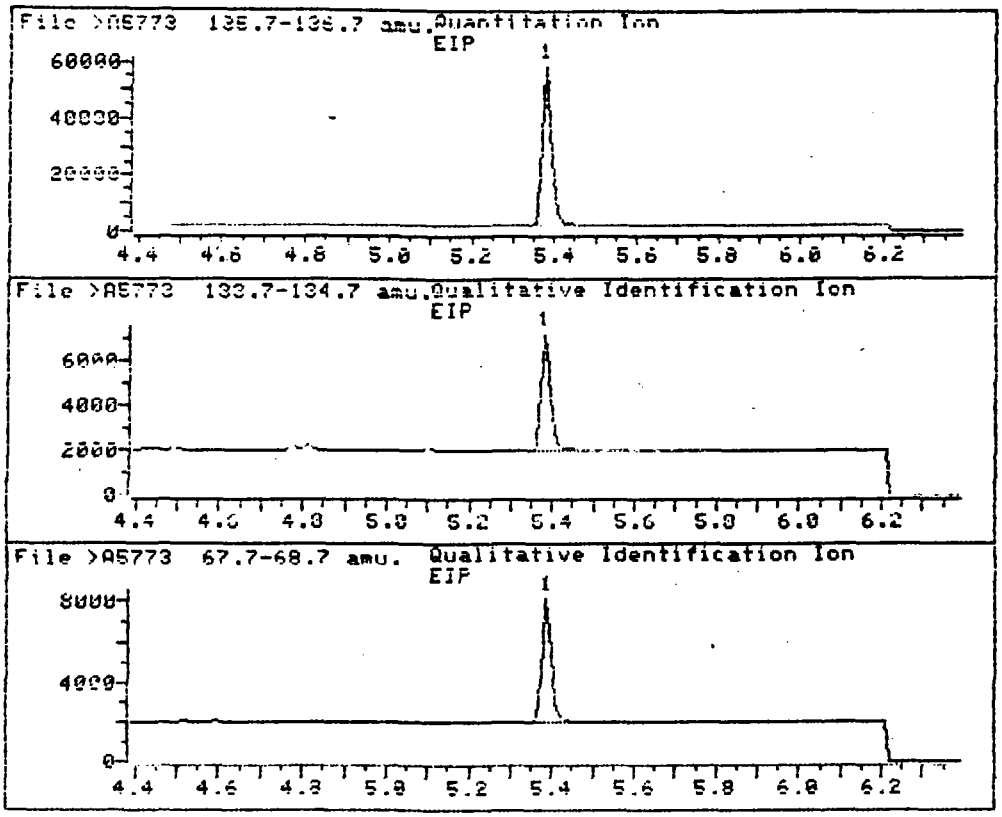
TOTAL ION CHROMATOGRAM



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4

LI File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 09:34

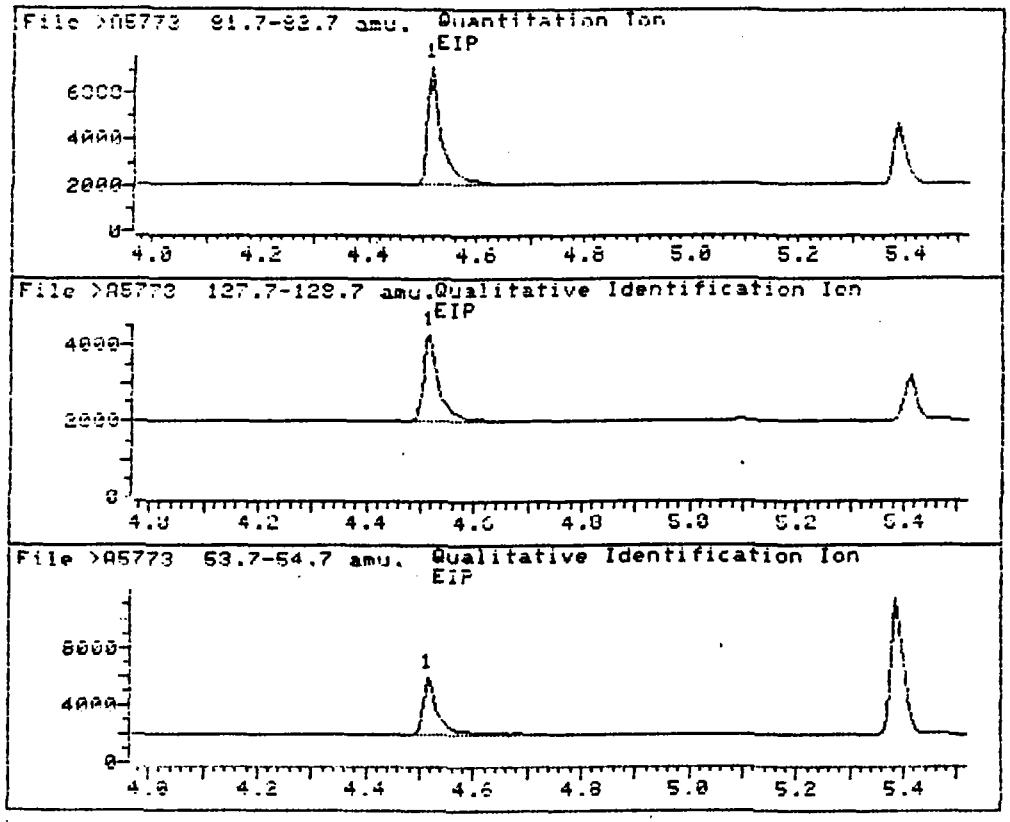
Operator ID: ROR
Quant Time: 930706 11:00
Injected at: 930706 10:43



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.38	5.00	ppb	96	91018	8835	9704		
	172	91018			1.000	.097	.107		



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 2
Compound Name: Nitrobenzene-d5 (surr.)
Quant Ion: 82.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 82.0	128.0	54.0		
1	4.52	126.53	ppb	85	10233	4880	7870		
	67	10233			1.000	.477	.769		

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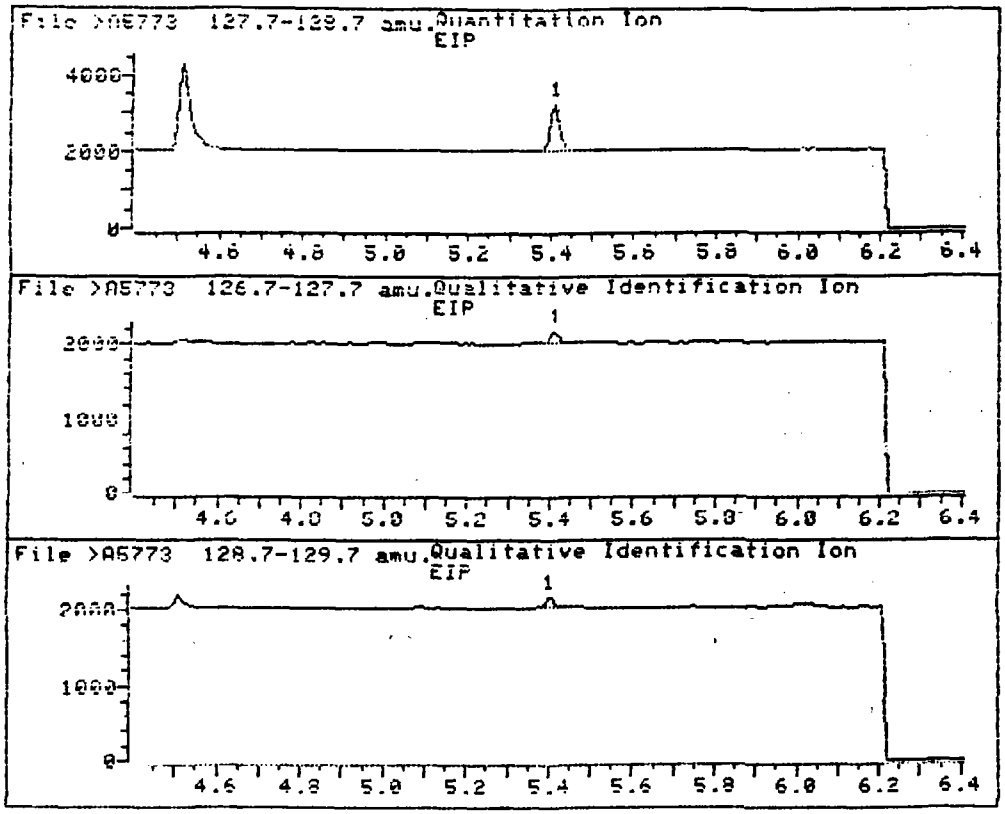

Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 3
Compound Name: Naphthalene
Quant Ion: 128.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 128.0	127.0	129.0		
1	5.41	8.77	ppb	98	1807	224	185		
	176	1807			1.000	.124	.102		

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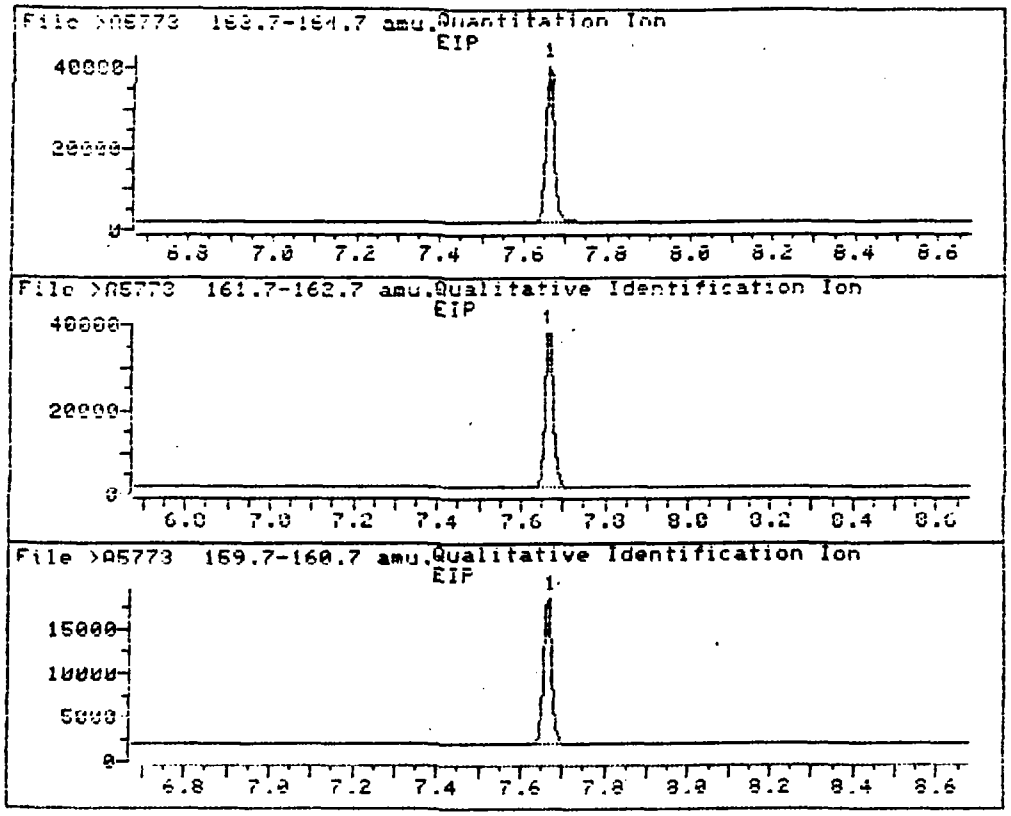
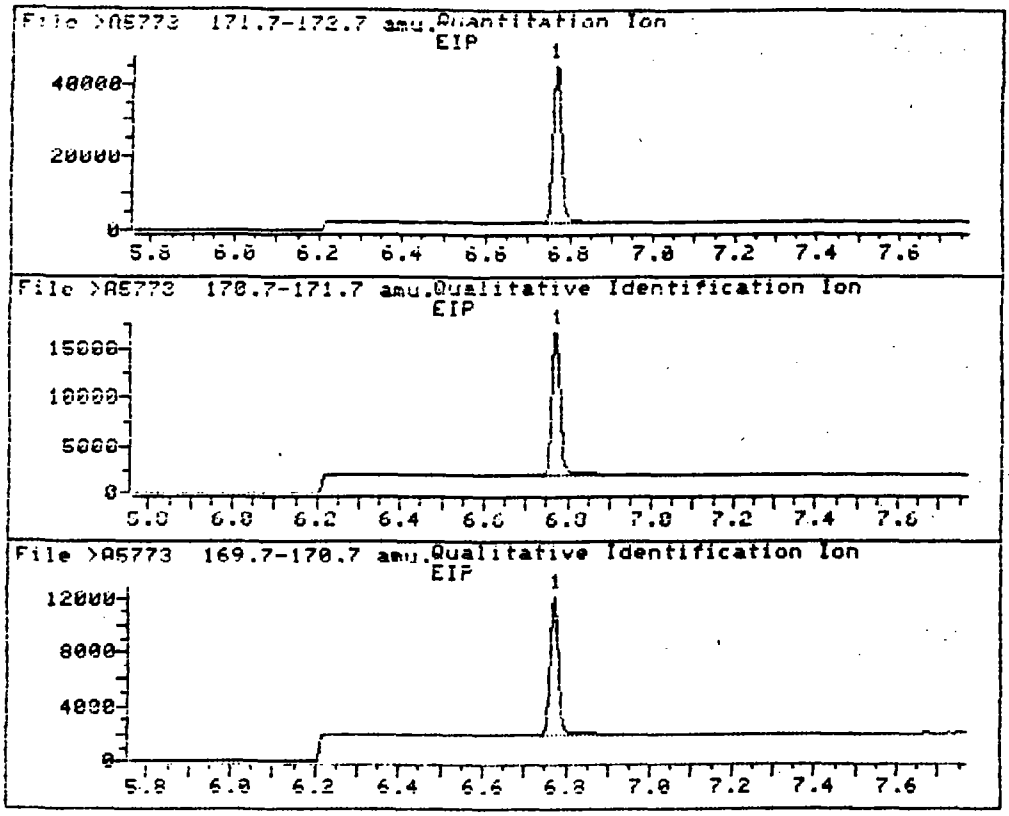


Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

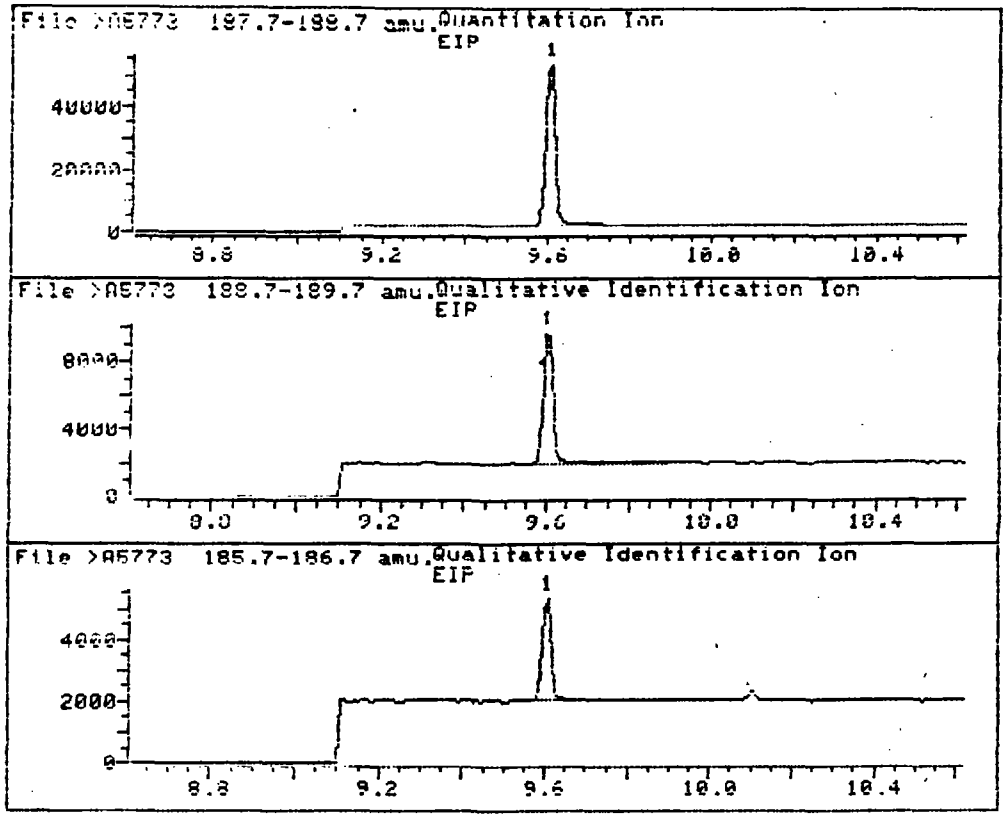
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.66	5.00	ppb	89	53796	52177	23367		
	466	53796			1.000	.970	.434		



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

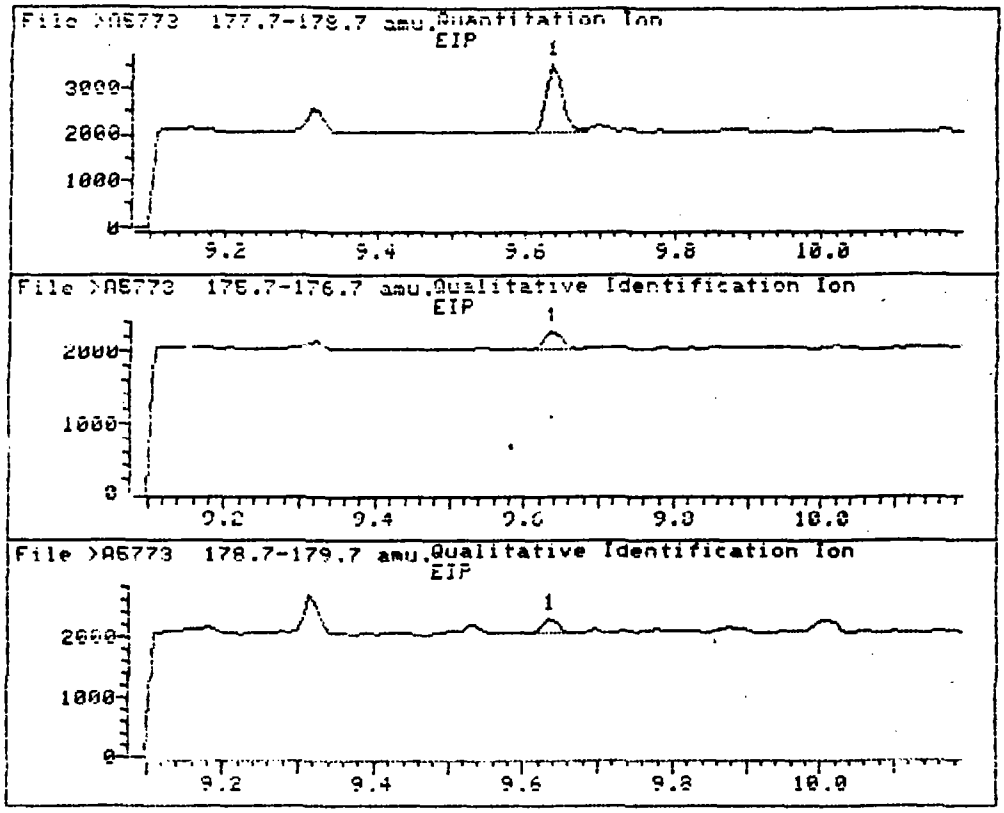
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.77	399.75	ppb	99	63194	21889	14453		
	347	63194			1.000	.346	.229		



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.61	5.00	ppb	98	81122	12320	5122		
	714	81122			1.000	.152	.063		



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 10
Compound Name: Phenanthrene
Quant Ion: 178.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 178.0	176.0	179.0		
1	9.64	11.72	ppb	98	2056	396	311		
	717	2056			1.000	.193	.151		

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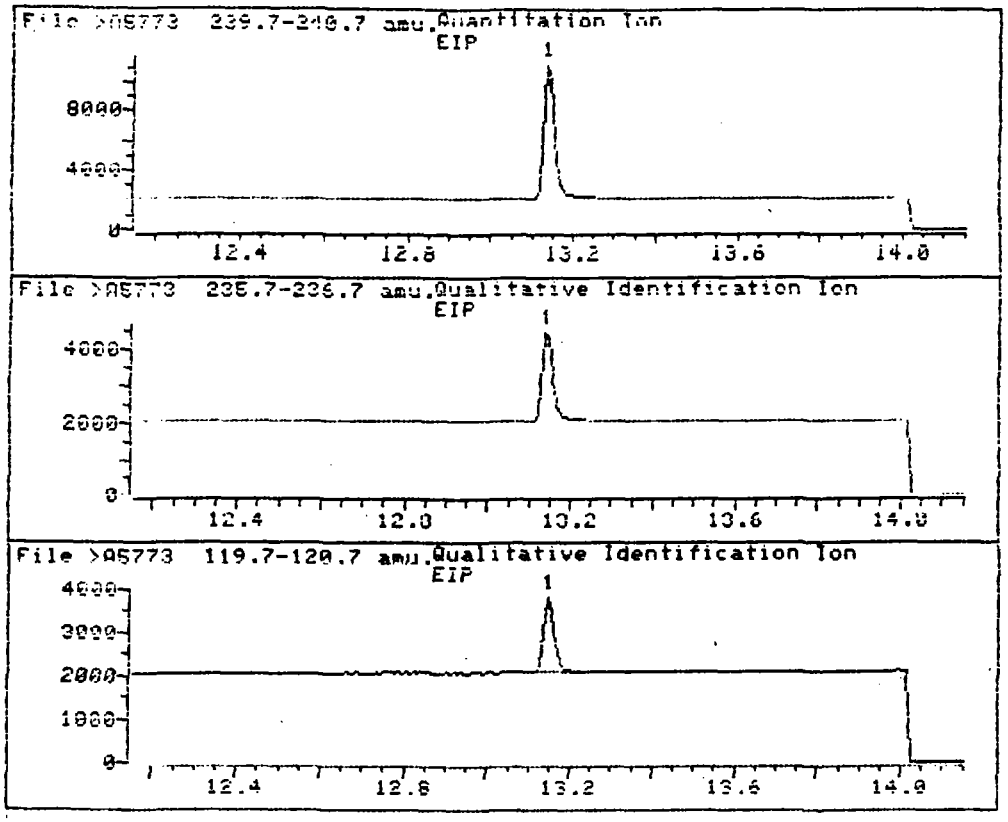
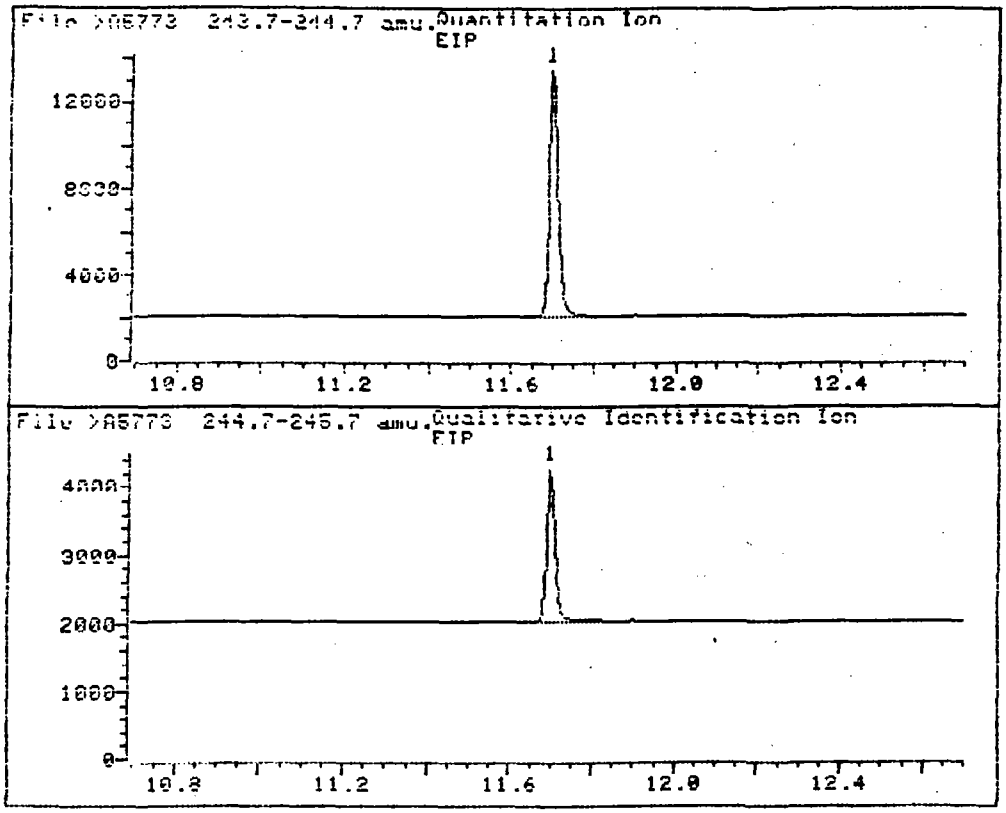


Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

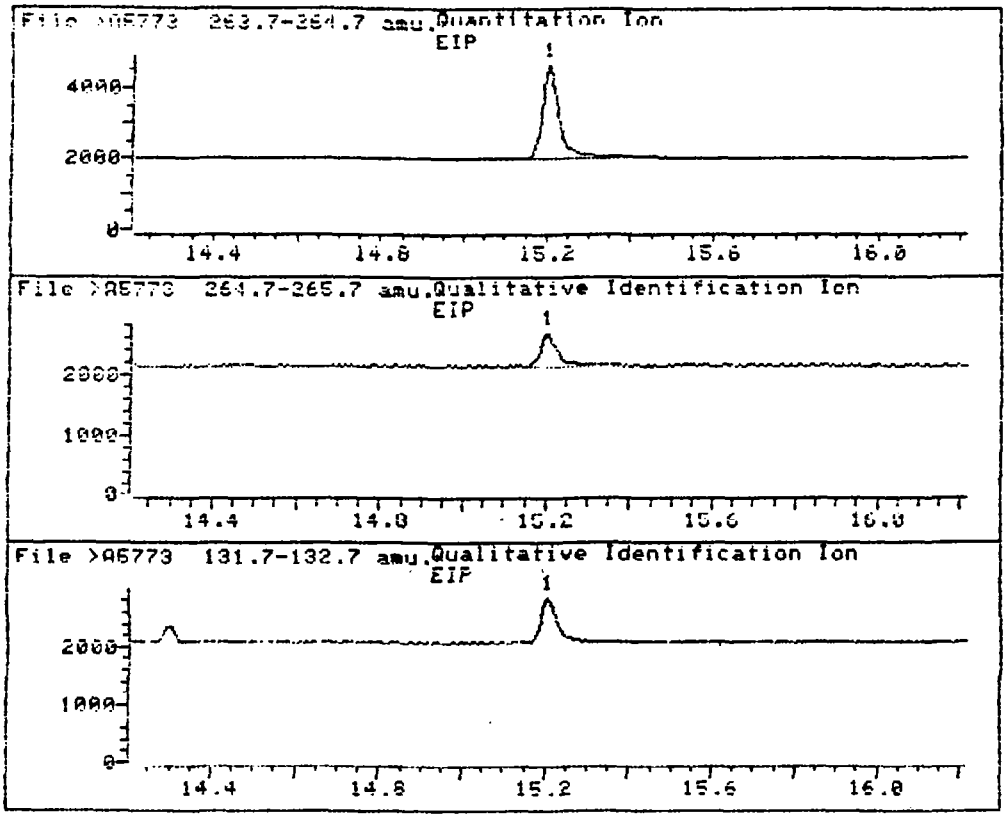
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.14	5.00	ppb	99	16657	4597	3091		
	1109	16657			1.000	.276	.186		



Data File: >A5773::L1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN#MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_A120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0
1	11.70	543.94	ppb	98	18099	3569
	948	18099			1.000	.197



Data File: >A5773::1.1 Quant Output File: ^A5773::D2
Name: 6983.04
Misc: IN&MSA;RGW BTL# 4
Quant Time: 930706 11:08 Quant ID File: I_0120::QT
Injected at: 930706 10:43 Last Calibration: 930706 09:34

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.20	5.00	ppb	81	7332	1613	2143		
	1415	7332			1.000	.220	.292		

000223

QUANT REPORT

Operator ID: RDR
Output File: ^A5775::D2
Data File: >A5775::11
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION

Quant Rev: 6
Quant Time: 930706 13:09
Injected at: 930706 12:48
Dilution Factor: 1000.000
BTL# 1

ID File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 12:58

	Compound	R.T.	Q ion	Area	Conc	Units	q
1)	*Naphthalene-d8	5.36	136.0	90511	5.00	ppb	97
2)	Nitrobenzene d5 (surr.)	4.51	82.0	939	121.27	ppb	84
4)	*Acenaphthene-d10	7.64	164.0	55845	5.00	ppb	89
5)	2 Fluorobiphenyl (surr.)	6.76	172.0	6387	356.76	ppb	98
9)	*Phenanthrene-d10	9.59	188.0	117995	5.00	ppb	98
13)	*Chrysene-d12	13.12	240.0	80969	5.00	ppb	87
15)	Terphenyl-d14 (surr.)	11.68	244.0	6313	406.02	ppb 81	99
18)	*Perylene-d12	15.17	264.0	30591	5.00	ppb	81

* Compound is ISTD

7/6/93

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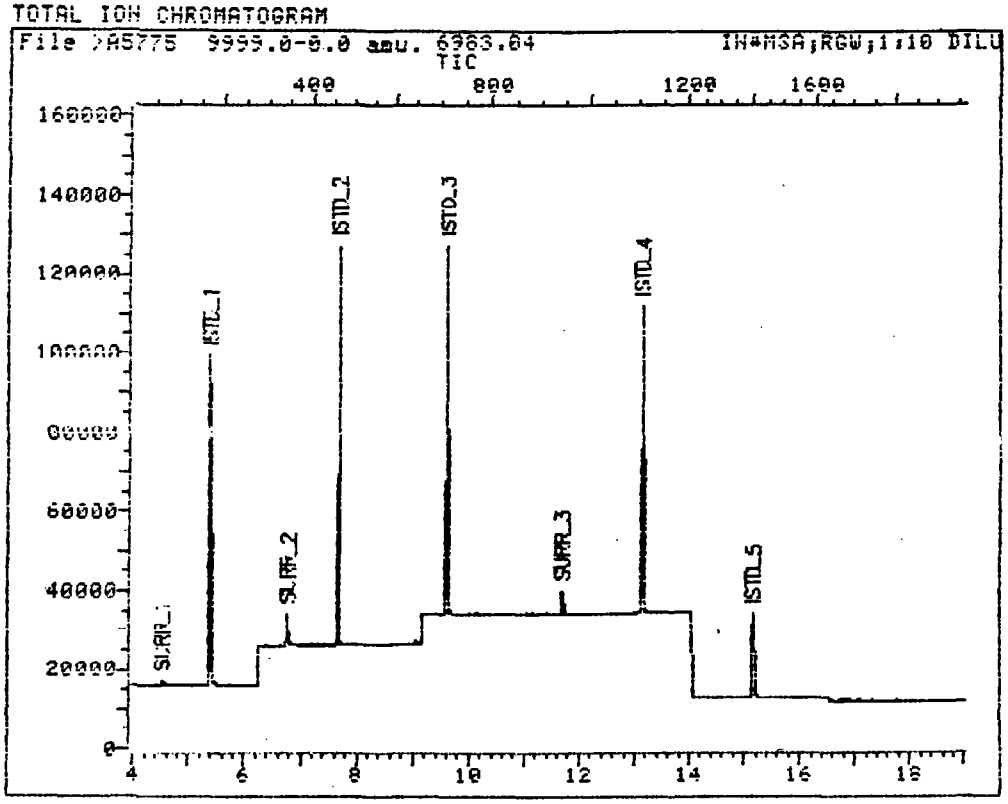
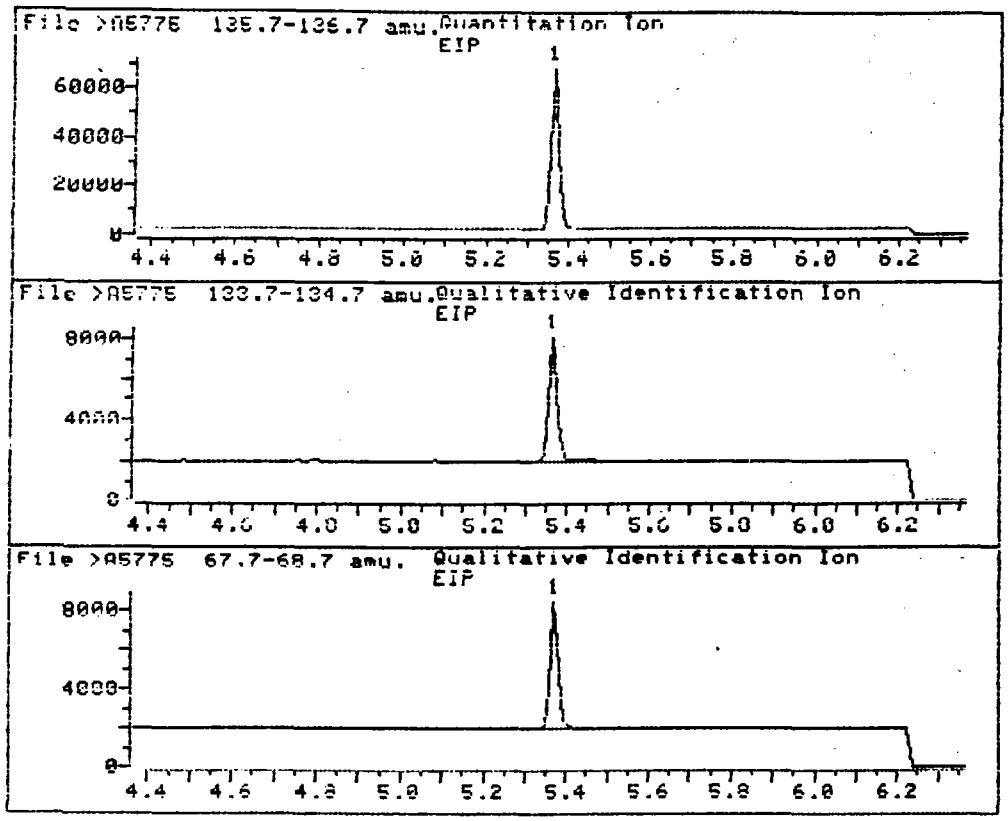
TOTAL ION CHROMATOGRAM



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1

Id File: I_A120::QT
Title: PAH SIM ANALYSIS
Last Calibration: 930706 12:50

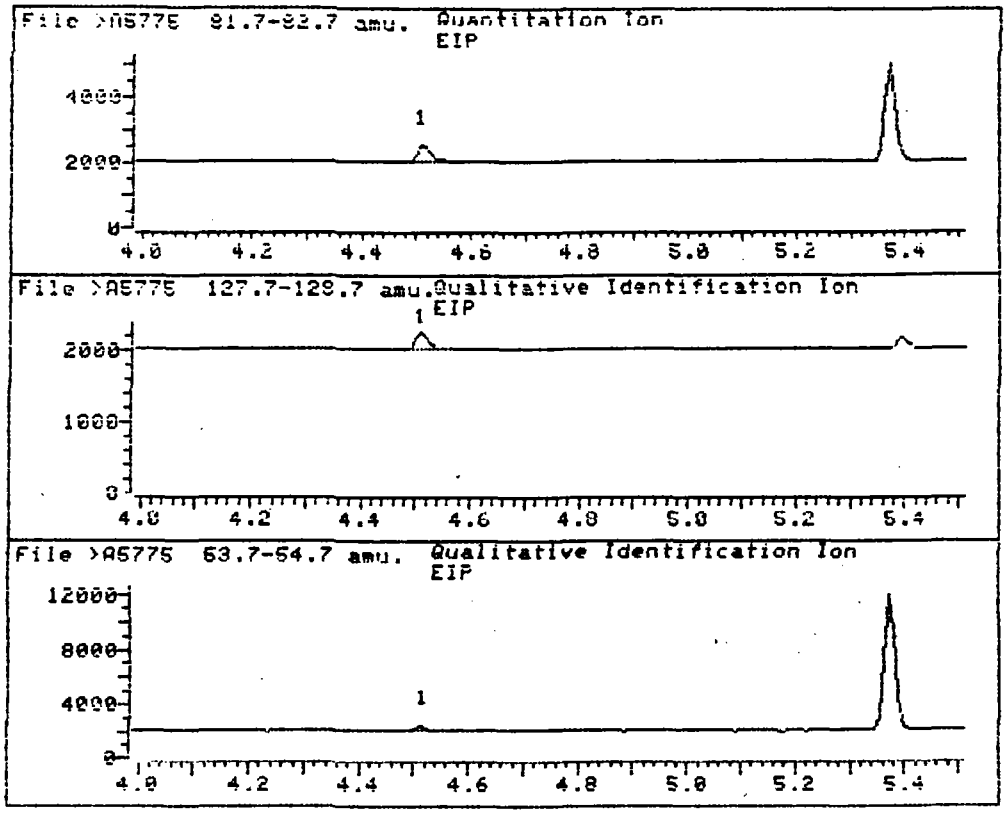
Operator ID: RGR
Quant Time: 930706 13:09
Injected at: 930706 12:49



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL # 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 1 (ISTD)
Compound Name: Naphthalene-d8
Quant Ion: 136.0

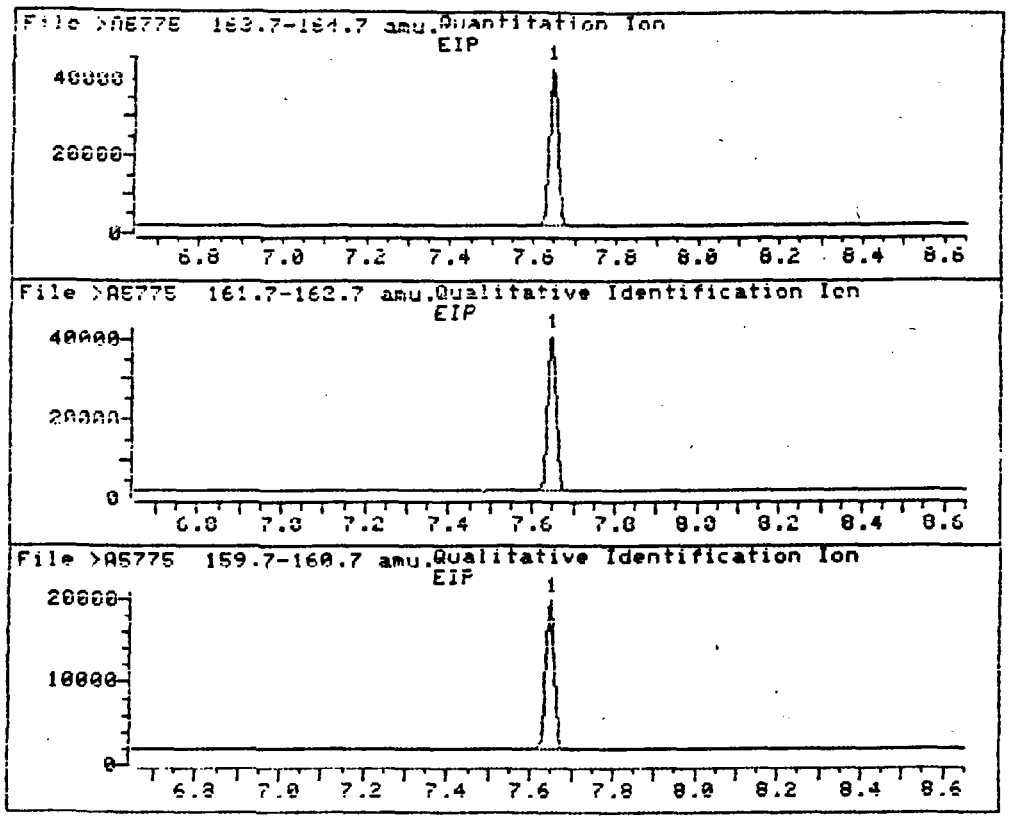
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 136.0	134.0	68.0		
1	5.36	5.00	ppb	97	90511	8634	8775		
	168	90511			1.000	.095	.097		



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 2
Compound Name: Nitrobenzene-d5 (surr.)
Quant Ion: 82.0

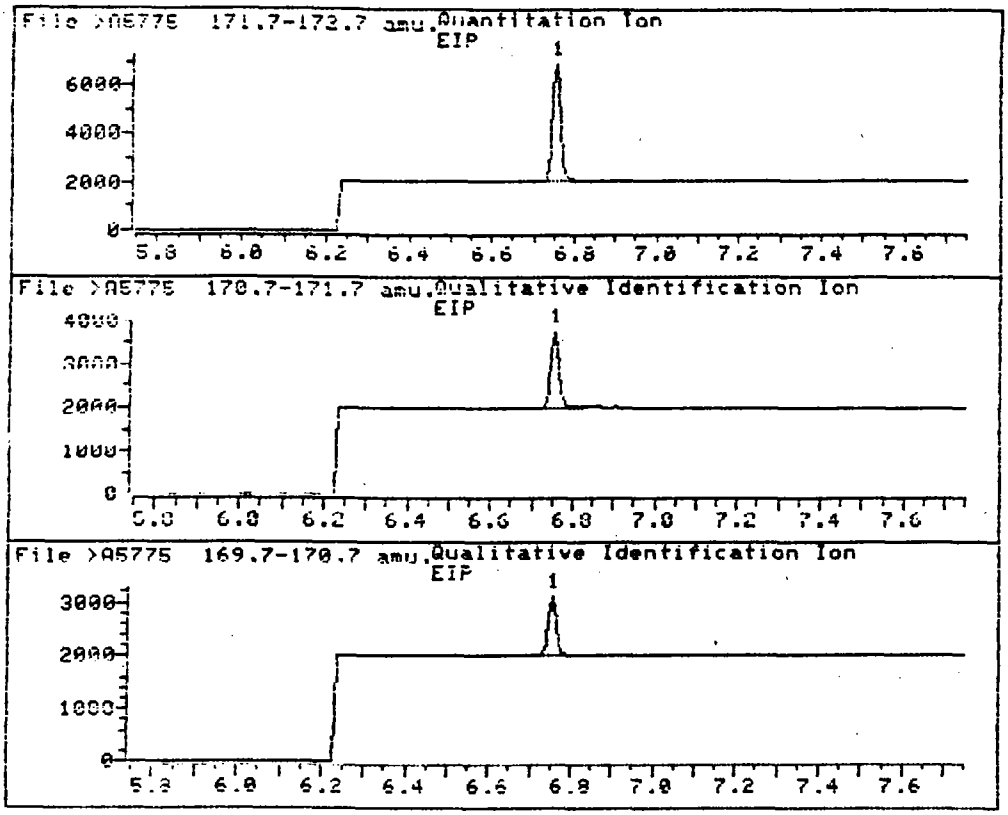
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 82.0	128.0	54.0		
1	4.51	121.27	ppb	84	939	448	738		
	64	939			1.000	.477	.786		



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 4 (ISTD)
Compound Name: Acenaphthene-d10
Quant Ion: 164.0

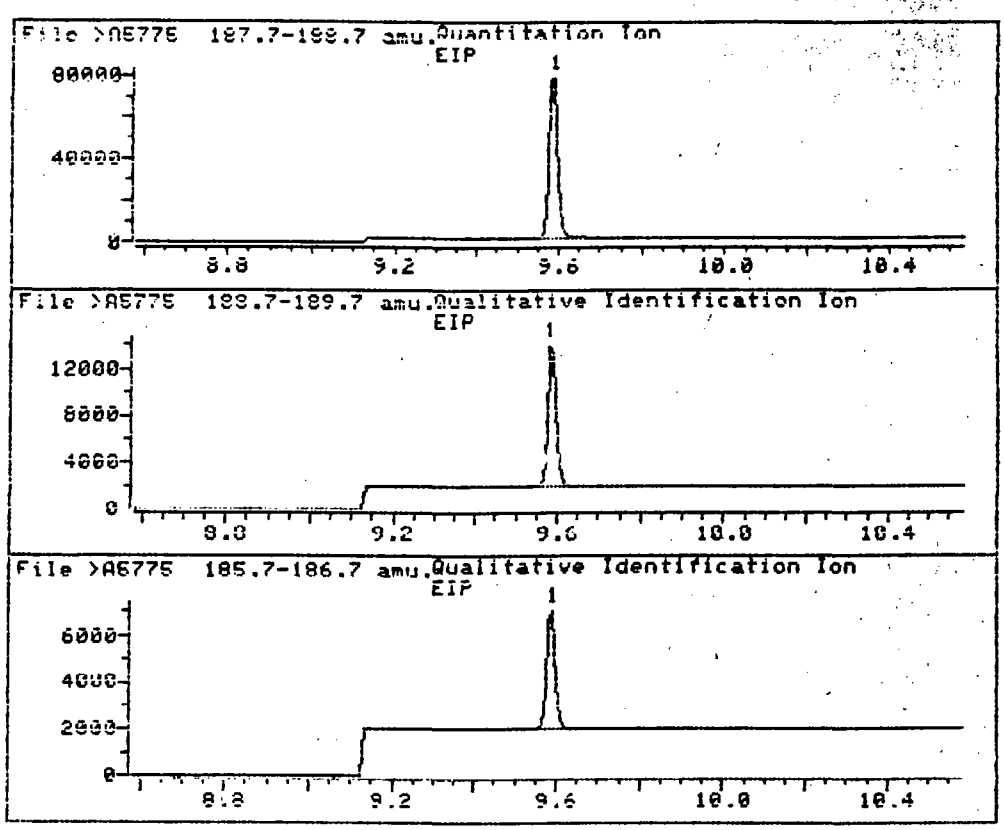
Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 164.0	162.0	160.0		
1	7.64	5.00	ppb	89	55845	53970	24482		
	461	55845			1.000	.966	.438		



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 5
Compound Name: 2-Fluorobiphenyl (surr.)
Quant Ion: 172.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 172.0	171.0	170.0		
1	6.76	356.76	ppb	98	6387	2199	1397		
	343	6387			1.000	.344	.219		

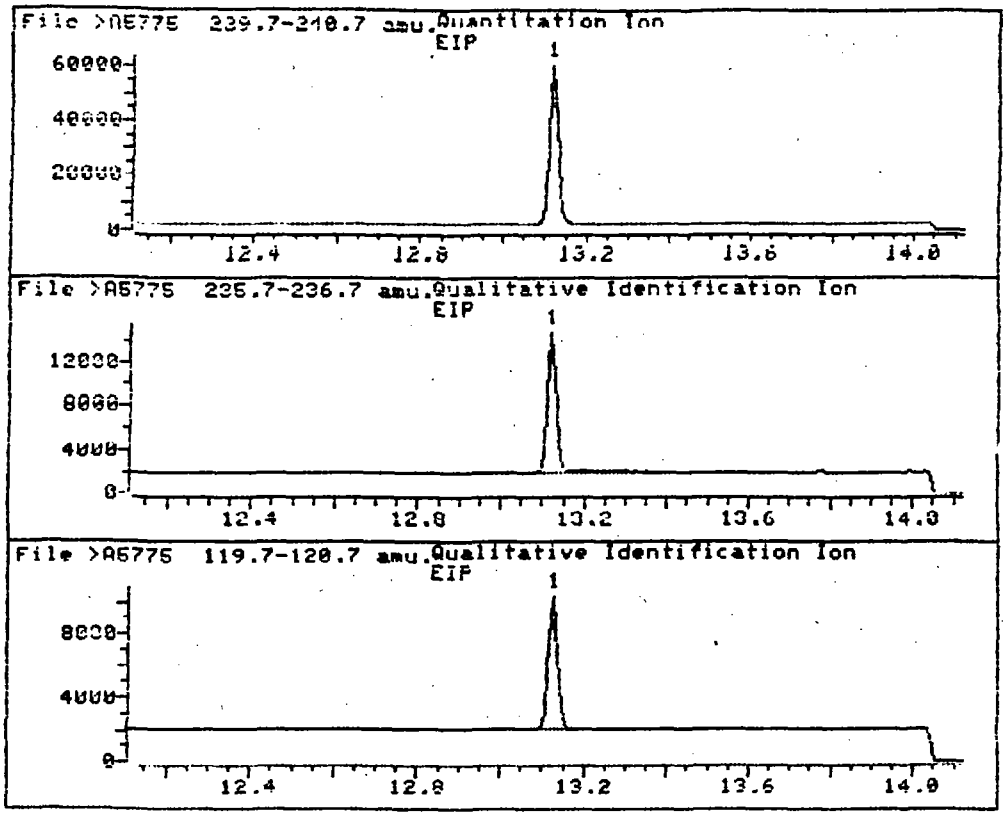


Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 9 (ISTD)
Compound Name: Phenanthrene-d10
Quant Ion: 188.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 188.0	189.0	186.0		
1	9.59	5.00	ppb	98	117995	17637	7478		
	710	117995			1.000	.149	.063		

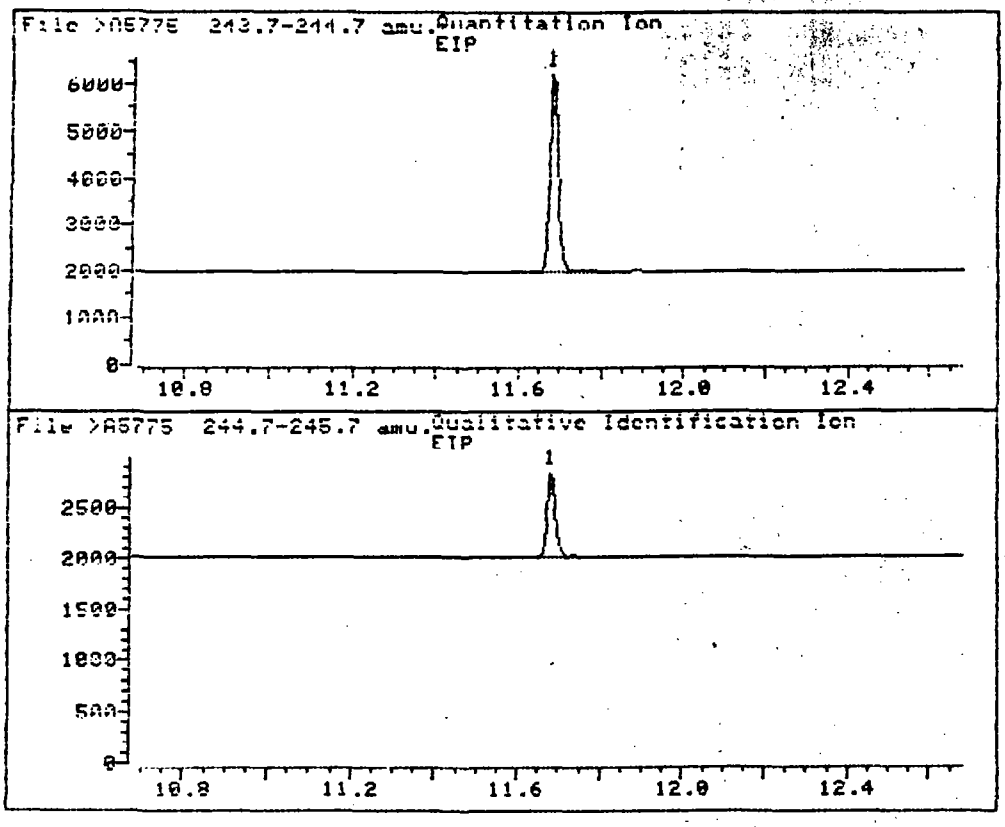
000230



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 13 (ISTD)
Compound Name: Chrysene-d12
Quant Ion: 240.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 240.0	236.0	120.0		
1	13.12	5.00	ppb	87	80969	17984	11866		
	1105	80969			1.000	.222	.147		

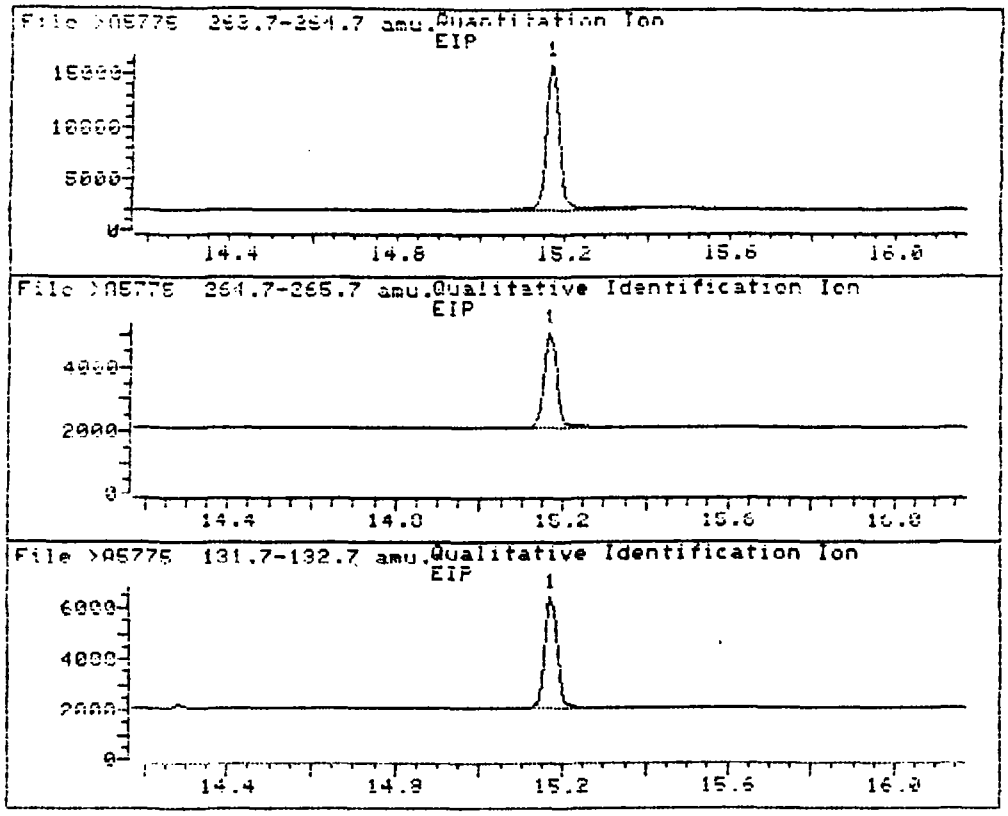


Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 15
Compound Name: Terphenyl-d14 (surr.)
Quant Ion: 244.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 244.0	245.0			
1	11.68	406.02	ppb	99	6313	1227			
	944	6313			1.000	.194			

000232



Data File: >A5775::L1 Quant Output File: ^A5775::D2
Name: 6983.04
Misc: IN#MSA;RGW;1:10 DILUTION BTL# 1
Quant Time: 930706 13:09 Quant ID File: I_A120::QT
Injected at: 930706 12:48 Last Calibration: 930706 12:50

Compound No: 18 (ISTD)
Compound Name: Perylene-d12
Quant Ion: 264.0

Hit #	R.T. Scan#	Conc Area	Units	q	Areas and Ratios 264.0	265.0	132.0		
1	15.17	5.00	ppb	81	30591	6524	9544		
	1405	30591			1.000	.213	.312		

000233

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MEMORANDUM

DATE: August 23, 1993

TO: Mary Jane Ripp, Project Manager, E & E, Chicago, IL

FROM: Yvette Anderson, TAT-Chemist, E & E, Chicago, IL

THRU: Patrick Zwilling, TAT-Chemist, E & E, Chicago, IL

SUBJ: **Polychlorinated Biphenyl Quality Assurance Review**, Sylvan Slough, Rock Island, IL.

REF: Analytical TDD: T059306804 Project TDD: T059306008
Analytical PAN: EIL0787ABA Project PAN: EIL0787VAA

The data quality assurance review of 4 tissue samples of fish collected from the Sylvan Slough site in Rock Island, Illinois has been completed. Analysis for **Polychlorinated Biphenyls (PCBs)** was performed by American Technical & Analytical Services of Maryland Heights, Missouri, in accordance with USEPA Method 8080.

The samples were numbered 35271 and 35341-35343. The laboratory identification of the samples were numbered 6983.01-6983.04.

Data Qualifications:

I **Holding Time: Qualified.**

Samples Collected: 5/27/93; #35271 collected 5/12/93
Samples Extracted: 6/28/93
Samples Analyzed: 7/6/93

The holding time requirements for PCBs of 14 days for soil/sediment/sludges were exceeded. All associated data above the instrument detection limit (IDL) are flagged as estimated (J). The analysis of the samples was completed within the 40 day holding time requirement after extraction.

II **Instrument Performance: Acceptable.**

The quality control criteria established for retention time were less than 25%. All quantitation peak resolution times were met as retention time was greater than 25%.

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III Calibration: Qualified.

A. Initial Calibration:

A 3-point initial calibration check was performed prior to sample analysis. All relative Standard Deviations (RSDs) were less than or equal to 10%.

B. Continuing Calibration:

The percent difference (%D) requirements of less than 15% were acceptable for all data, except Aroclor 1221 (18), Aroclor 1260 (32), and surrogate DCB (19) which have been previously qualified.

IV Method Blank: Acceptable.

Contaminants were not detected above the instrument detection limit in the blanks.

V Matrix/Matrix Spike Sample Analysis:

The advisory limits for percent recoveries (%R) of 23-139% and the relative percent differences (RPD) of less than 43% were satisfied.

VI Surrogate Recovery: Acceptable.

All results were within the DCB recovery limits of 20-150%. Reported quantitation limit (50ug/kg) were satisfied, except Aroclor 1260 (126). No action is required due to contaminant interference.

VII Compound Identification: Acceptable.

Dual column confirmation of positive results identify the same Aroclor.

VIII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in "Quality Assurance/Quality Control Guidance for Removal Activities" (OSWER 9360.4-01 April, 1990). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

<u>Data Qualifiers and Definitions</u>

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or quality control criteria were not met.

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CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: BK0622PC(172)

DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : METHOD BLANK
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

PCB'S	REPORTING LIMIT	RESULTS
AROCHLOR 1016	50	ND
AROCHLOR 1221	50	ND J
AROCHLOR 1232	50	ND
AROCHLOR 1242	50	ND
AROCHLOR 1248	50	ND
AROCHLOR 1254	50	ND
AROCHLOR 1260	50	ND J
TOTAL PCBs		ND

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	32 %
TETRACHLORO-M-XYLENE	42 %

ND = NOT DETECTED ABOVE REPORTING LIMIT
B = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

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CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698301PC(172)
DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : 6983.01
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35271 - CARP

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

PCB'S	REPORTING LIMIT	RESULTS
AROCHLOR 1016	50	ND
AROCHLOR 1221	50	ND J
AROCHLOR 1232	50	ND
AROCHLOR 1242	50	ND
AROCHLOR 1248	50	ND
AROCHLOR 1254	50	ND
AROCHLOR 1260	50	103 J
TOTAL PCBs		103

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	71 %
TETRACHLORO-M-XYLENE	70 %

NOTE: POSSIBLE PRESENCE OF AR1254; CANNOT BE CONFIRMED DUE TO PRESENCE OF AR1260, CO-ELUTING AND MATRIX INTERFERENCE PEAKS.
ND = NOT DETECTED ABOVE REPORTING LIMIT
B = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

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CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698302PC(172)
DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : 6983.02
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35341 - RIVER CARPSUCKER

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

PCB'S	REPORTING LIMIT	RESULTS
AROCHLOR 1016	50	ND
AROCHLOR 1221	50	ND J
AROCHLOR 1232	50	ND
AROCHLOR 1242	50	ND
AROCHLOR 1248	50	ND
AROCHLOR 1254	50	ND
AROCHLOR 1260	50	108 J
TOTAL PCBs		108

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	64 %
TETRACHLORO-M-XYLENE	71 %

NOTE: POSSIBLE PRESENCE OF AR1254; CANNOT BE CONFIRMED DUE TO PRESENCE OF AR1260, CO-ELUTING AND MATRIX INTERFERENCE PEAKS.
ND = NOT DETECTED ABOVE REPORTING LIMIT
B = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698303PC(172)
DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : 6983.03
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35342 - CHANNEL CATFISH

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

PCB'S	REPORTING LIMIT	RESULTS
AROCHLOR 1016	50	ND
AROCHLOR 1221	50	ND J
AROCHLOR 1232	50	ND
AROCHLOR 1242	50	ND
AROCHLOR 1248	50	ND
AROCHLOR 1254	50	ND
AROCHLOR 1260	50	159 J
TOTAL PCBs		159

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	55 %
TETRACHLORO-M-XYLENE	70 %

NOTE: POSSIBLE PRESENCE OF AR1254; CANNOT BE CONFIRMED DUE TO PRESENCE OF AR1260, CO-ELUTING AND MATRIX INTERFERENCE PEAKS.
ND = NOT DETECTED ABOVE REPORTING LIMIT
B = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698304PC(172)

DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : 6983.04
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35343 - FRESH WATER DRUM

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

PCB'S	REPORTING LIMIT	RESULTS
AROCHLOR 1016	50	ND
AROCHLOR 1221	50	ND J
AROCHLOR 1232	50	ND
AROCHLOR 1242	50	ND
AROCHLOR 1248	50	ND
AROCHLOR 1254	50	ND
AROCHLOR 1260	50	135 J
TOTAL PCBs		135

QA/QC SURROGATE RECOVERY

DECACHLOROBIPHENYL	46 %
TETRACHLORO-M-XYLENE	75 %

NOTE: POSSIBLE PRESENCE OF AR1254; CANNOT BE CONFIRMED DUE TO PRESENCE OF AR1260, CO-ELUTING AND MATRIX INTERFERENCE PEAKS.
ND = NOT DETECTED ABOVE REPORTING LIMIT
B = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

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MEMORANDUM

DATE: July 30, 1993

TO: Mary Jane Ripp, Project Manager, E & E, Chicago, IL

FROM: Yvette Anderson, TAT-Chemist, E & E, Chicago, IL

THRU: Patrick Zwilling, TAT-Chemist, E & E, Chicago, IL

SUBJ: **Semivolatile Organic Data Quality Assurance Review**, Sylvan Slough site, Rock Island, Illinois.

REF: Analytical TDD: T059306804 Project TDD: T059306008
Analytical PAN: EIL0787ABA Project PAN: EIL0787VAA

The data quality assurance review of 4 tissue samples of fish collected from the Sylvan Slough site in Rock Island, IL has been completed. Analysis for **Semivolatile Organics (SVOA)** was performed by American Technical & Analytical Services (ATAS) of Maryland Heights, Missouri, in accordance with USEPA Method 8270, Selective Ion Monitoring.

The samples were numbered 35271 and 35341-35343. The laboratory identification of the samples were numbered 6983.01-6983.04.

Data Qualifications:

I **Holding Time: Qualified.**

Samples Collected: 5/27/93; #35271 collected 5/12/93
Samples Extracted: 6/28/93
Samples Analyzed: 7/6/93

The holding time requirements for SVOA of 14 days from collection to extraction were exceeded. All results above the instrument detection limit (IDL) are flagged (J). The analysis of the samples was completed within the 40 day holding time requirement after extraction.

II **GC/MS Tuning: Acceptable.**

GC/MS tuning using decafluorotriphenylphosphine (DFTPP) was not utilized in this procedure. The lab used a Selective Ion Monitoring modification which is not in accordance with Method 8270.

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III Calibration: Acceptable.

A. Initial Calibration:

A 5-point calibration was performed prior to analysis. All relative response factors (RRF) were greater than 0.05 for SVOA. The percent relative standard deviation (%RSD) between response factors were less than 30% for SVOA.

B. Continuing Calibration:

All relative response factors (RRF) were greater than 0.05 and the percent differences (%D) from initial calibration for SVOA were less than 25%.

IV Method Blank: Qualified.

A method blank was extracted with the samples in accordance with the "Selective Ion Monitoring" modification. Phenanthrene (9) was found in the blank and all samples with 5 times less than the blank concentration have been qualified as undetected (U).

V Matrix/Matrix Spike Sample Analysis: Acceptable.

The matrix spike recoveries were all within the control limits given by the lab. The Relative Percent Difference (RPD) for the matrix spike duplicates were not within the laboratory provided limits for the following:

Compound	RPD	QC Limit
Phenanthrene	14	13
Benzo(A)Antrhacene	20	13
Chrysene	17	11
Benzo(B)Fluoranthene	32	23
Benzo(A)Pyrene	21	15
Dibenzo(A,H)Anthracene	22	16

No actions are required as results have been previously qualified.

VI Surrogate Recovery: Acceptable.

The percent recoveries were all within the control limits of (30-115) for 2-Fluorobiphenyl and (18-137) for Terphenyl-d14.

VII Internal Standard: Acceptable.

The quality control criteria established for the internal standard (IS) area counts is in the range of -50% to +100% from the associated calibration standard. Retention time for IS is within the ±30 second control limit.

VIII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria

outlined in "Quality Assurance/Quality Control Guidance for Removal Activities" (OSWER 9360.4-01 April, 1990). Based upon the information provided, the data are acceptable for use.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or criteria were not met.

U - The material was analyzed for, but was not detected. The associated value is the sample detection limit or adjusted sample detection limit.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

July 29, 1993

Mary Jane Ripp
Ecology & Environment, Inc.
111 West Jackson Blvd., 12th Floor
Chicago, IL 60604

RE: ATAS #6983.01-#6983.04
Sylvan Slough, Mississippi River

Dear Ms. Ripp:

Enclosed is the revised report for the above captioned project received in our laboratory on June 16, 1993. I apologize for any inconvenience this may have caused.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Jeff Carr
FOR
Richard H. Mannz
Vice President

Enclosures

RHM/mg

NON-CLP SUPERFUND ANALYTICAL SERVICES TRACKING FORM

Reference ____ ____
(Assigned by Region)

Region V CERCLIS No. ____

Sampling Period 6-11-93 to 7-30-93 / 8-23-93
SVOA / PCB

A separate form should be completed for each sample group, which is defined as a group of samples that are associated with a unique site, field team, sampling period, and laboratory (if applicable). The number of samples contained in each sample group is determined by the EPA site manager.

1. Site name, city, state: Sylvan Slough, Rock Island, IL (T059306804)

2. Type of activity (check all that apply): [ ] Preliminary Assessment [ ] SSI [ ] LSI
[ ] RI/FS [ ] Remedial Design [ ] Remedial Action [ ] Operation/Maintenance [ ] NPL Delisting
[ ] Removal Site Eval. [✓] Removal Action [ ] Oil Response [ ] UST Response
[ ] PRP Oversight [ ] Other, specify ____

3a. Analytical facility/equipment used (check all that apply): () = Facility Code included for use in question 5b.
[✓] Fixed laboratory (L) [ ] Fieldable equipment (F) [ ] Temporary on-site laboratory (T)
[ ] Mobile laboratory (M) [ ] Portable equipment (P) [ ] Other (O), specify ____

3b. Laboratory name (if applicable) American Technical + Analytical Services City, state Maryland Heights Missouri
Subcontractor laboratory (if applicable) ____

4a. Funding lead: [✓] Superfund [ ] Other Federal Agency, specify ____
[ ] PRP [ ] State, specify ____ [ ] Other, specify affiliation ____

4b. Field Contract (Superfund lead only): [✓] TAT [ ] ERCS [ ] FIT [ ] ARCS [ ] TES
[ ] ESAT [ ] Other, specify ____
Contractor Company Ecology + Environment - Chicago

5a. Total number of samples* analyzed 4

5b. Specific Analysis Information (use additional pages if necessary to identify all analyses):

Analysis Type (e.g., VOAs, Metals, PCBs)	Facility Code (see 3a)	Matrix	#Samples*	Sample Preparation Source & Method # (if none, answer 5c.)		Analysis Source & Method # (if none, answer 5c.)	
PCB	L	tissue	4	USEPA	8080	USEPA	8080
SVOA	L	tissue	4	USEPA	8270	USEPA	8270

* #Samples = #Sampling Points + #Field QC Samples

5c. If non-standard methods were used, list below and specify if performance data are available for the matrices, analytes, and detection limits used. (Y = yes, N = No, D = Don't Know)

Non-standard sample preparation/cleanup techniques:	Matrices	Analytes	Detection Limits
____	____	____	
____	____	____	

Non-standard analytical methods:

____	____	____	____
____	____	____	____

Reference No. _____

NON-CLP SUPERFUND ANALYTICAL SERVICES TRACKING FORM

6. Reasons for selecting non-CLP analytical services for these samples (check all that apply):
[ ] Proximity to site [ ] Direct interaction with lab [ ] Unique parameter analysis [ ] Cost savings
[ ] Product control [ ] Ease of acquiring services [ ] Less paperwork [ ] Method flexibility
[ ] Quick turnaround [ ] Select locations for further analysis
[ ] Other, specify Sample Analysis Not Available Under TAT contract

7. Are the environmental data from this sampling event stored electronically and available to EPA personnel?
[✓] No [ ] Don't Know [ ] Yes, contained on: [ ] PC [ ] Mainframe (including minicomputers)

8. For laboratory analyses, what was the turnaround time? 21 days Was it met? [✓] Yes [ ] No [ ] Don't Know

9a. Document(s) where sampling, analytical, and QC requirements are defined (check all that apply):
[ ] QAPjP [ ] SAP [✓] FOP/TDD/TID [✓] Other, specify OSWER Directive 9360.4-01

9b. Document(s) approved by: [ ] ESD [✓] WMD [ ] Other, specify affiliation _____

9c. For each analytical facility/equipment used, please indicate whether the QA/QC requirements were defined in the above documents (Def) and whether compliance was adequate to meet the intended purpose (Met).

	Fixed lab		Mobile lab		On-Site lab		Fieldable		Portable		Other	
	Def	Met	Def	Met	Def	Met	Def	Met	Def	Met	Def	Met
Analytical Method(s)	Y	Y										
Sample preservation & handling	↓	↓										
Sample chain-of-custody	↓	↓										
Sample holding times	↓	N					XX	XX	XX	XX		
Detection/quantification limits	↓	Y										
Equipment maintenance/calibration	↓	↓										
Documentation	↓	↓										
Frequency & type of QC samples	↓	↓										

Y = yes N = no R = data not reviewed for this criterion (only applicable for Met column)

10. Was the laboratory audited as part of the Superfund program by:
[ ] EPA or EPA Contractor [ ] PRP [ ] Not Audited [✓] Don't Know
Comments: _____

11a. Were data reviewed for technical limitations? [✓] Yes [ ] No (go to 12.)

11b. Reviewed by: [ ] ESD/ESAT [✓] User [ ] Other, specify affiliation _____

11c. Extent of data review: [✓] Full review of 100 % of the data
[ ] Partial review of _____ % of the data

11d. Review criteria used: [ ] CLP National Functional Guidelines
[✓] QA/QC Guidance for Removal Activities (ERT Guidance)
[ ] Other, specify _____

12. Were the quality and quantity of data sufficient to meet the intended purpose?
[✓] Yes [ ] No (explain below) [ ] Don't Know (explain below)
Reason: _____

Completed by: Yvette Anderson Ecology & Environment 8/24/93
Name and Affiliation Date:

CASE NARRATIVE

List of Sample Numbers:

ATAS ID	SAMPLE ID	MATRIX
6983.01	35271	FISH
6983.02	35341	FISH
6983.03	35342	FISH
6983.04	35343	FISH

The samples were received on June 16, 1993. All samples were received intact and in good condition. The Samples were extracted using widely accepted techniques and were analyzed by GC/ECD (SW 846-8080). Identification of AR1254 could not be confirmed due to the presence of AR1260 and matrix interference peaks. No problems were encountered during analysis.

I Certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard H. Mannz
Vice President

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 6983.01

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16C00982.5.1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	FISH TISSUE ug/kg ~~Quantitation~~ Report Limits	
AROCLOR-1016	ND	100	50
AROCLOR-1221		100	
AROCLOR-1232		100	
AROCLOR-1242		100	
AROCLOR-1248		100	
AROCLOR-1254		100	
AROCLOR-1260	103 ug/kg	100	
Total PCB's		--- --- --- --- ---	

Possible presence of AR 1254; cannot be confirmed due to presence of AR 1260, co-eluting matrix interference peaks.

%Surrogate Recovery TCX 70 DCB 71

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference

* QL's based on wet weight for soils/sediments

J=estimated value;below QL

ND=None detected

000002

INITIALS Km DATE 6/24/93 INITIALS JL DATE 6-25-93

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 6983.02

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16C00982.6,1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	Report ~~Quantitation~~ Limits FISH TISSUE ug/kg	
AROCLOR-1016	ND	~~100~~	50
AROCLOR-1221		~~100~~	
AROCLOR-1232		~~100~~	
AROCLOR-1242		~~100~~	
AROCLOR-1248		~~100~~	
AROCLOR-1254		~~100~~	
AROCLOR-1260	108 ug/kg	~~100~~	
Total PCB's		---	---

Possible presence of AR 1254; cannot be confirmed due to presence of AR 1260, co-eluting + matrix interference peaks.

%Surrogate Recovery TCX 71 DCB 64

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference

* QL's based on wet weight for soils/sediments

J=estimated value;below QL

ND=None detected

000003

INITIALS ~~KM~~ 6/24/93 KM DATE 6/24/93 INITIALS JR DATE 6-25-93

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 6983.03

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16C00982.7.1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	FISH TISSUE ug/kg ~~Quantitation~~ Report Limits	
AROCLOR-1016	ND	~~100~~	50
AROCLOR-1221		~~100~~	
AROCLOR-1232		~~100~~	
AROCLOR-1242		~~100~~	
AROCLOR-1248		~~100~~	
AROCLOR-1254		~~100~~	
AROCLOR-1260	159 ug/kg	~~100~~	
Total PCB's		---	---

Possible presence of AR1254; cannot be confirmed due to presence of AR 1260, co-eluting + matrix interference peaks.

%Surrogate Recovery TCX 70 DCB 55

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference

* QL's based on wet weight for soils/sediments

J=estimated value;below QL

ND=None detected

000004

INITIALS [illegible] DATE 6/24/93 INITIALS [illegible] DATE 6-25-93

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 6983.04

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16L00982.8.1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	FISH TISSUE ug/kg	Report ~~Quantitation~~ Limits
AROCLOR-1016	ND	~~100~~	50
AROCLOR-1221		~~100~~	
AROCLOR-1232		~~100~~	
AROCLOR-1242		~~100~~	
AROCLOR-1248		~~100~~	
AROCLOR-1254		~~100~~	
AROCLOR-1260	135 ug/kg	~~100~~	
Total PCB's		--- --- --- --- ---	

Possible presence of AR1254; cannot be confirmed due to presence of AR1260, co-eluting + matrix interference peaks.

%Surrogate Recovery TCX 75 DCB 46

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference

* QL's based on wet weight for soils/sediments

J=estimated value;below QL

ND=None detected

000005

INITIALS KM DATE 6/24/93 INITIALS JL DATE 6-25-93

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 062293-01B/K

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16600982.1,1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	Report ~~Quantitation~~ Limits FISH TISSUE ug/kg				
AROCLOR-1016	ND	100	50			
AROCLOR-1221		100				
AROCLOR-1232		100				
AROCLOR-1242		100				
AROCLOR-1248		100				
AROCLOR-1254		100				
AROCLOR-1260		100				
Total PCB's	---	---	---	---	---	---

%Surrogate Recovery TCX 42 DCB 32

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference

* QL's based on wet weight for soils/sediments

J=estimated value;below QL

ND=None detected

000006

INITIALS K DATE 6/24/93 INITIALS JR DATE 6-25-93

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 062293-015PK

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16C00982.3,1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	Report ~~Quantitation~~ Limits FISH TISSUE ug/kg	
AROCLOR-1016	ND	~~100~~	50
AROCLOR-1221		~~100~~	
AROCLOR-1232		~~100~~	
AROCLOR-1242		~~100~~	
AROCLOR-1248		~~100~~	
AROCLOR-1254		~~100~~	
AROCLOR-1260 Spk T.U. = 200	J 91.5 ug/kg	~~100~~	
Total PCB's		---	---

%Surrogate Recovery TCX 44 DCB 25

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference
46	54	16

* QL's based on wet weight for soils/sediments

J=estimated value;below QL, but > 50

ND=None detected

000007

INITIALS [illegible] DATE 6/24/93 INITIALS [illegible] DATE 6-25-93

POLYCHLORINATED BIPHENYLS (PCBS)

Sample Name 062293-02 SpK

Analysis Date 6/23/93

Extraction Date 6/22/93

Cleanup Used/Date Florisil - 6/23/93

Datafile Name 16C00982.4.1

Sample Matrix: Fish Tissue

COMPOUND	QUANTITY ug/kg	Report ~~Quantitation~~ Limits FISH TISSUE ug/kg	
AROCLOR-1016	ND	~~100~~	50
AROCLOR-1221		~~100~~	
AROCLOR-1232		~~100~~	
AROCLOR-1242		~~100~~	
AROCLOR-1248		~~100~~	
AROCLOR-1254		~~100~~	
AROCLOR-1260 SpK T.V. = 200	108 ug/kg	~~100~~	
Total PCB's	---	--- ---	--- ---

%Surrogate Recovery TCX 56 DCB 41

Spike Blank (% Rec.)	Spike Blank Dup. (% Rec.)	Relative Percent Difference
46	54	16

* QL's based on wet weight for soils/sediments

J=estimated value;below QL

ND=None detected

000008

INITIALS [illegible] DATE 6/24/93 INITIALS JR DATE 6-25-93

INITIAL CALIBRATION

PCB1260.CAL
DB1701

PCB 1260 CALIBRATION

Initial Calibration:

STD A DATAFILE NAME: 18C00979,4,1
STD B DATAFILE NAME: 18C00979,3,1
STD C DATAFILE NAME: 18C00978,1,1
STD D DATAFILE NAME: 18C00979,2,1
STD E DATAFILE NAME: 18C00979,1,1

Peak #	Standard Concentrations (ng/mL) STD A	STD B	STD C	STD D	STD E	Component Peak Height STD A	STD B	STD C	STD D	STD E
TCX SURR	5	20	50	80	120	5035	23264	58351	101886	154384
1	100	250	500	750	1000	2009	4921	8566	13365	17578
2	100	250	500	750	1000	3790	9424	16469	26341	34722
3	100	250	500	750	1000	6182	15431	26341	40576	53328
4	100	250	500	750	1000	7119	17401	30892	47447	62408
5	100	250	500	750	1000	5065	10806	20986	31777	42783
6	100	250	500	750	1000	7836	20286	37931	60153	82431
7	100	250	500	750	1000	1634	4048	7238	11287	15107
8	100	250	500	750	1000	3857	9811	18225	28191	38814
DCB SURR	5	20	50	80	120	1900	7076	15433	24652	37772

Peak #	Calibration Factors (height/amount) STD A	STD B	STD C	STD D	STD E	Average Factor	Dev.	%RSD
TCX SURR	1.007	1.163	1.167	1.274	1.287	1.179	112.34	10
1	20.09	19.68	17.13	17.82	17.58	18.46	1.33	7
2	37.90	37.70	32.94	35.12	34.72	35.68	2.11	6
3	61.82	61.72	52.68	54.10	53.33	56.73	4.63	8
4	71.19	69.60	61.78	63.26	62.41	65.65	4.40	7
5	50.65	43.22	41.97	42.37	42.78	44.20	3.64	8
6	78.36	81.14	75.86	80.20	82.43	79.60	2.56	3
7	16.34	16.19	14.48	15.05	15.11	15.43	.80	5
8	38.57	39.24	36.45	37.59	38.81	38.13	1.12	3
DCB SURR	380	354	309	308	315	333	32.34	10

INITIALS Km DATE 6/23/93 INITIALS JR DATE 6-25-93

Continuing Calibration:
500STD DATAFILE NAME: 18C00981,1,1

Peak #	Average Calib. Factor	Peak Height	Std. Level (ng/mL)	Calib. Factor	Percent Difference
TCX SURR	1.179	65350	50	1.307	11
1	18.46	8936	500	17.87	3
2	35.68	17894	500	35.79	0
3	56.73	28088	500	56.19	1
4	65.65	33450	500	66.90	2
5	44.20	21260	500	42.52	4
6	79.60	39738	500	79.48	0
7	15.43	7479	500	14.96	3
8	38.13	18997	500	37.99	0
DCB SURR	333	15901	50	318	5

INITIALS Km DATE 6/23/93 INITIALS JR DATE 6-25-93

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00981,1,1

Acquired on 23-Jun-93 at 07:27:00
Modified on 23-Jun-93 at 08:00:14
Reported on 23-Jun-93 at 08:17:43

ANALYSIS INFORMATION

Analysis ID.....: PCB'S
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 1
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: AR1260 500NG/ML-SURR 50NG/ML-CONT CAL
Sample ID.....: 041293-0028
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 1

User factors:
MULT.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	NG/ML	Peak name
1	7.685	5801	22520	0.000000	
2	7.803	65350	275736	55.428703	TCX(SURR.)
3	9.317	599	2532	0.000000	
4	11.184	325	1666	0.000000	
5	11.915	361	1693	0.000000	
6	12.757	380	1878	0.000000	
7	13.856	916	5471	0.000000	
8	14.672	716	4141	0.000000	
9	16.000	8936	42127	484.080627	1260 PEAK-1
10	16.411	1432	6713	0.000000	
11	16.603	11413	53415	0.000000	
12	16.875	530	2819	0.000000	

Km
6/23/93

000011

Peak	RT mins	Hght uV	Area uVs	NG/ML	Peak name
13	17.456	384	1832	0.000000	
14	17.739	1969	8620	0.000000	
15	17.851	4920	23268	0.000000	
16	18.075	17894	81411	501.515961	1260 PEAK-2
17	18.277	4747	33758	0.000000	
18	18.544	28088	130110	495.109680	1260 PEAK-3
19	18.885	2104	16106	0.000000	
20	19.067	4855	21985	0.000000	
21	19.280	33450	152106	509.519470	1260 PEAK-4
22	19.696	10408	75453	0.000000	
23	19.845	14350	62482	0.000000	
24	20.213	4592	19171	0.000000	
25	20.405	30176	190065	0.000000	
26	20.507	20496	90797	0.000000	
27	20.656	10513	51365	0.000000	
28	20.992	882	5055	0.000000	
29	21.152	2545	14412	0.000000	
30	21.344	595	2057	0.000000	
31	21.520	21260	102738	480.986938	1260 PEAK-5
32	21.691	9978	48894	0.000000	
33	21.851	4668	22394	0.000000	
34	22.096	364	1522	0.000000	
35	22.272	3917	23612	0.000000	
36	22.533	39738	214191	499.218353	1260 PEAK-6
37	23.499	450	2401	0.000000	
38	23.707	7479	42683	484.690094	1260 PEAK-7
39	23.973	18997	157924	498.224609	1260 PEAK-8
40	24.624	533	3219	0.000000	
41	25.659	2944	23099	0.000000	
42	27.003	6401	50135	0.000000	
43	28.603	1821	15644	0.000000	
44	29.573	15901	145171	47.750160	DCB(SURR.)
Total		424181	2254390	4056.524902	
Residual		0	0	0.000000	

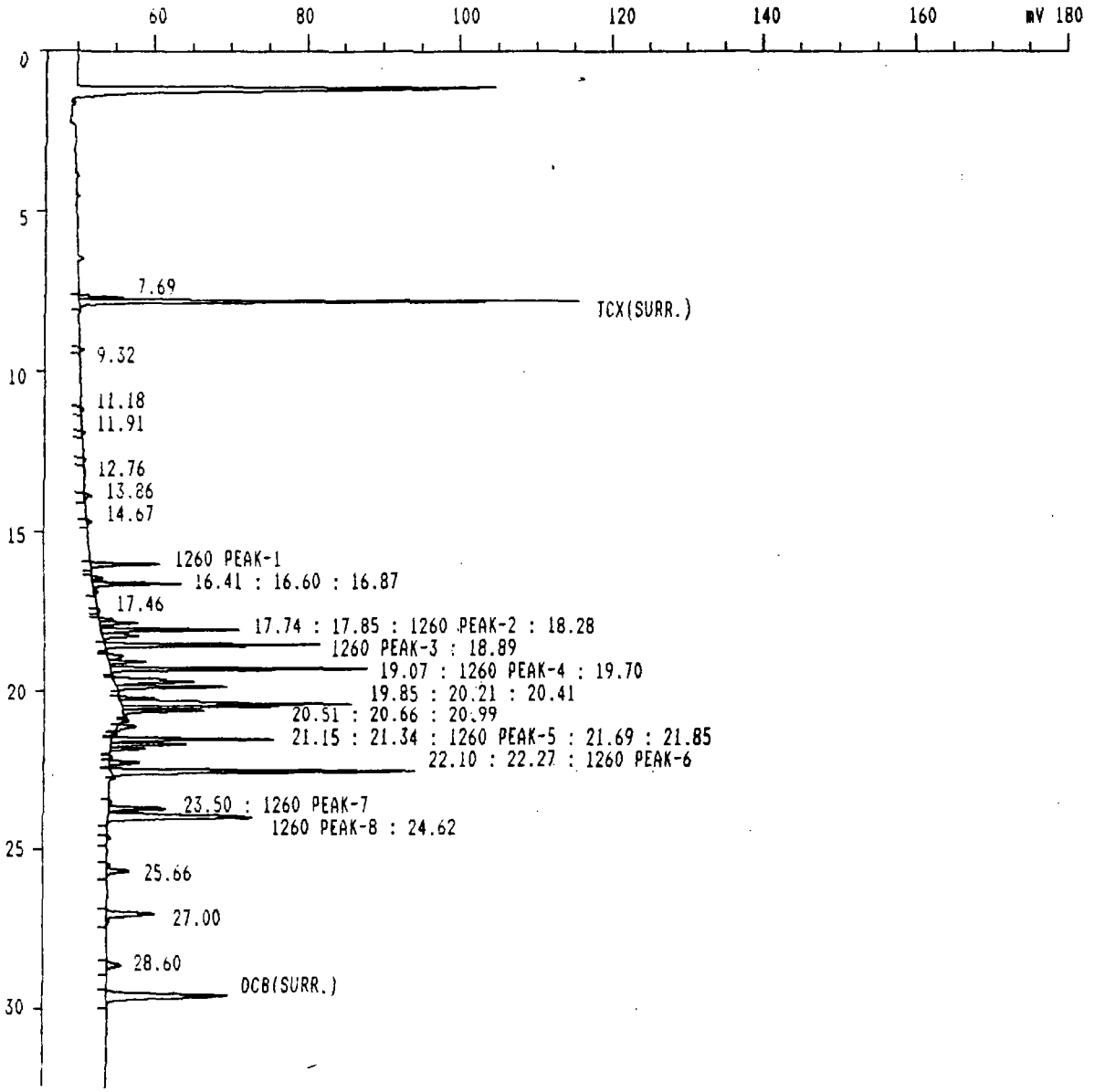
6/23/93

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00981,1,1

Acquired on 23-Jun-93 at 07:27:00
Reported on 23-Jun-93 at 08:17:54



K
6/23/93

000013

PCB1260.CAL
DB1701

PCB 1260 CALIBRATION

Initial Calibration:

STD A DATAFILE NAME: 16C00979.4,1
STD B DATAFILE NAME: 16C00979,3,1
STD C DATAFILE NAME: 16C00978,1,1
STD D DATAFILE NAME: 16C00979,2,1
STD E DATAFILE NAME: 16C00979,1,1

Peak #	Standard Concentrations (ng/mL) STD A	STD B	STD C	STD D	STD E	Component Peak Height STD A	STD B	STD C	STD D	STD E
TCX SURR	5	20	50	80	120	5035	23264	58351	101886	154384
1	100	250	500	750	1000	2009	4921	8566	13365	17578
2	100	250	500	750	1000	3790	9424	16469	26341	34722
3	100	250	500	750	1000	6182	15431	26341	40576	53328
4	100	250	500	750	1000	7119	17401	30892	47447	62408
5	100	250	500	750	1000	5065	10806	20986	31777	42783
6	100	250	500	750	1000	7836	20286	37931	60153	82431
7	100	250	500	750	1000	1634	4048	7238	11287	15107
8	100	250	500	750	1000	3857	9811	18225	28191	38814
DCB SURR	5	20	50	80	120	1900	7076	15433	24652	37772

Peak #	Calibration Factors (height/amount) STD A	STD B	STD C	STD D	STD E	Average Factor	Dev.	%RSD
TCX SURR	1,007	1,163	1,167	1,274	1,287	1,179	112.34	10
1	20.09	19.68	17.13	17.82	17.58	18.46	1.33	7
2	37.90	37.70	32.94	35.12	34.72	35.68	2.11	6
3	61.82	61.72	52.68	54.10	53.33	56.73	4.63	8
4	71.19	69.60	61.78	63.26	62.41	65.65	4.40	7
5	50.65	43.22	41.97	42.37	42.78	44.20	3.64	8
6	78.36	81.14	75.86	80.20	82.43	79.60	2.56	3
7	16.34	16.19	14.48	15.05	15.11	15.43	.80	5
8	38.57	39.24	36.45	37.59	38.81	38.13	1.12	3
DCB SURR	380	354	309	308	315	333	32.34	10

INITIALS Kn DATE 6/24/93 INITIALS JC DATE 6-25-93

Continuing Calibration: MIDLEVEL
500STD DATAFILE NAME: 16C00982,9,1

Peak #	Average Calib. Factor	Peak Height	Std. Level (ng/mL)	Calib. Factor	Percent Difference
TCX SURR	1,179	65424	50	1,308	11
1	18.46	10461	500	20.92	13
2	35.68	21007	500	42.01	18 *
3	56.73	32082	500	64.16	13
4	65.65	37522	500	75.04	14
5	44.20	23674	500	47.35	7
6	79.60	42424	500	84.85	7
7	15.43	5232	500	10.46	32 *
8	38.13	17244	500	34.49	10
DCB SURR	333	13436	50	269	19 *

* out of control

INITIALS Kn DATE 6/24/93 INITIALS JC DATE 6-25-93

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982.9.1

Acquired on 23-Jun-93 at 20:57:22
Modified on 24-Jun-93 at 08:09:12
Reported on 24-Jun-93 at 08:09:16

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: AR1260 500NG/ML-SURR 50NG/ML-MIDLEVEL
Sample ID.....: 041293-0028
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 9

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	NG/ML	Peak name
1	7.675	6172	24096	0.000000	
2	7.792	65424	318936	55.491020	TCX(SURR.)
3	9.307	544	2508	0.000000	
4	11.168	288	1414	0.000000	
5	11.899	381	2134	0.000000	
6	12.741	457	2603	0.000000	
7	13.845	1013	5594	0.000000	
8	14.661	821	4802	0.000000	
9	15.989	10461	50977	566.711426	1260 PEAK-1
10	16.400	1633	7574	0.000000	
11	16.597	13146	63811	0.000000	
12	16.864	644	3376	0.000000	

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Peak	RT mins	Hght uV	Area uVs	NG/ML	Peak name
13	17.445	463	2158	0.000000	
14	17.728	2234	9683	0.000000	
15	17.840	5678	27400	0.000000	
16	18.064	21007	97262	588.757629	1260 PEAK-2
17	18.267	5746	42402	0.000000	
18	18.533	32082	153103	565.514832	1260 PEAK-3
19	18.875	2379	18541	0.000000	
20	19.056	5441	25055	0.000000	
21	19.275	37522	174631	571.542664	1260 PEAK-4
22	19.685	12161	87313	0.000000	
23	19.835	15932	73437	0.000000	
24	20.203	5165	21557	0.000000	
25	20.395	33482	213966	0.000000	
26	20.496	22794	100997	0.000000	
27	20.651	11338	53934	0.000000	
28	20.987	6213	49285	0.000000	
29	21.141	5985	49173	0.000000	
30	21.328	2134	12529	0.000000	
31	21.509	23674	126075	535.610352	1260 PEAK-5
32	21.685	11584	61550	0.000000	
33	21.835	5745	31852	0.000000	
34	22.080	873	7178	0.000000	
35	22.261	4720	31962	0.000000	
36	22.523	42424	246100	532.965332	1260 PEAK-6
37	23.696	5232	27133	339.073334	1260 PEAK-7
38	23.957	17244	157799	452.234680	1260 PEAK-8
39	24.608	384	2140	0.000000	
40	25.632	2542	16312	0.000000	
41	26.976	5463	43792	0.000000	
42	28.576	1480	12588	0.000000	
43	29.541	13436	125904	40.349091	DCB(SURR.)
Total		463543	2590638	4248.250488	
Residual		0	0	0.000000	

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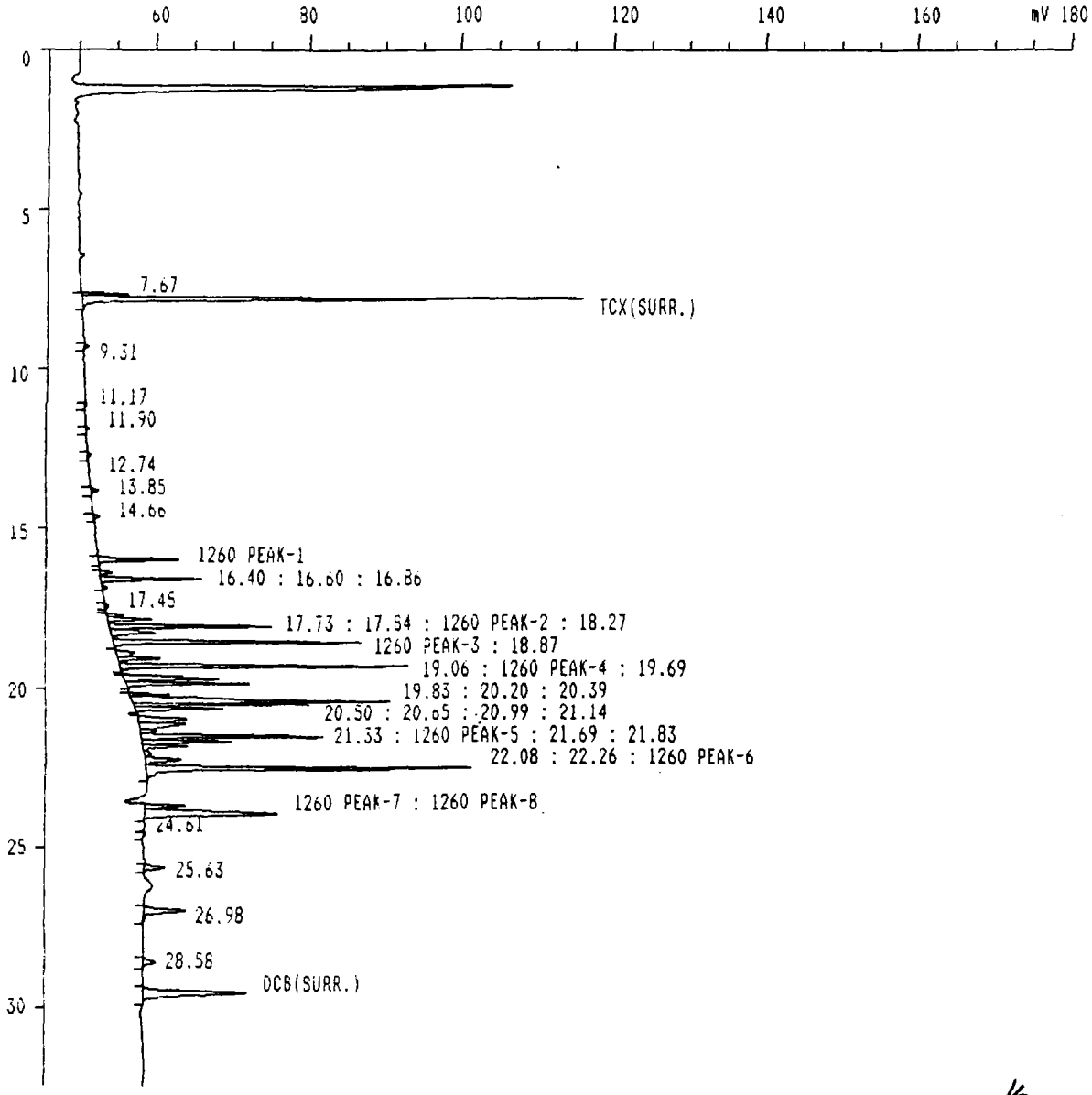
000016

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982.9.1

Acquired on 23-Jun-93 at 20:57:22
Reported on 24-Jun-93 at 08:09:25



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000017

BLANK CHROMATOGRAMS

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,1,1

Acquired on 23-Jun-93 at 15:59:23
Modified on 24-Jun-93 at 07:18:40
Reported on 24-Jun-93 at 07:29:44

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 062293-01BLK
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 1

Surr T.V. = 20 ug/kg

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	7.328	381	1820	0.000000	
2	7.467	965	3719	0.000000	
3	7.680	14273	60842	0.000000	
4	7.797	9987	46546	8.470649	TCX(SURR.) 42% rec.
5	8.389	585	2728	0.000000	
6	8.709	1785	15834	0.000000	
7	8.981	856	4474	0.000000	
8	9.275	958	5228	0.000000	
9	9.611	657	4748	0.000000	
10	9.845	653	4456	0.000000	
11	10.384	2156	14503	0.000000	
12	10.629	668	2186	0.000000	

JL 6-25-93

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000019

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	10.805	330	1077	0.000000	
14	11.141	747	6766	0.000000	
15	11.413	466	2061	0.000000	
16	11.835	3304	21108	0.000000	
17	12.752	894	5856	0.000000	
18	13.029	14162	84754	0.000000	
19	13.365	985	6989	0.000000	
20	13.600	895	8000	0.000000	
21	13.851	4109	21004	0.000000	
22	14.027	3915	24922	0.000000	
23	14.389	4380	30638	0.000000	
24	14.677	73347	679528	0.000000	
25	15.765	4513	31096	0.000000	
26	16.661	5365	23825	0.000000	
27	17.627	345	2023	0.000000	
28	18.096	2091	9168	58.617672	1260 PEAK-2
29	20.981	3012	17896	0.000000	
30	21.168	2442	9773	0.000000	
31	21.355	1143	5575	0.000000	
32	22.837	1215	6910	0.000000	
33	23.653	1173	7476	76.035088	1260 PEAK-7
34	23.872	504	3592	0.000000	
35	29.541	2128	19266	6.389598	DCB(SURR.) 329, rec.
Total		165388	1196384	149.513016	
Residual		0	0	0.000000	

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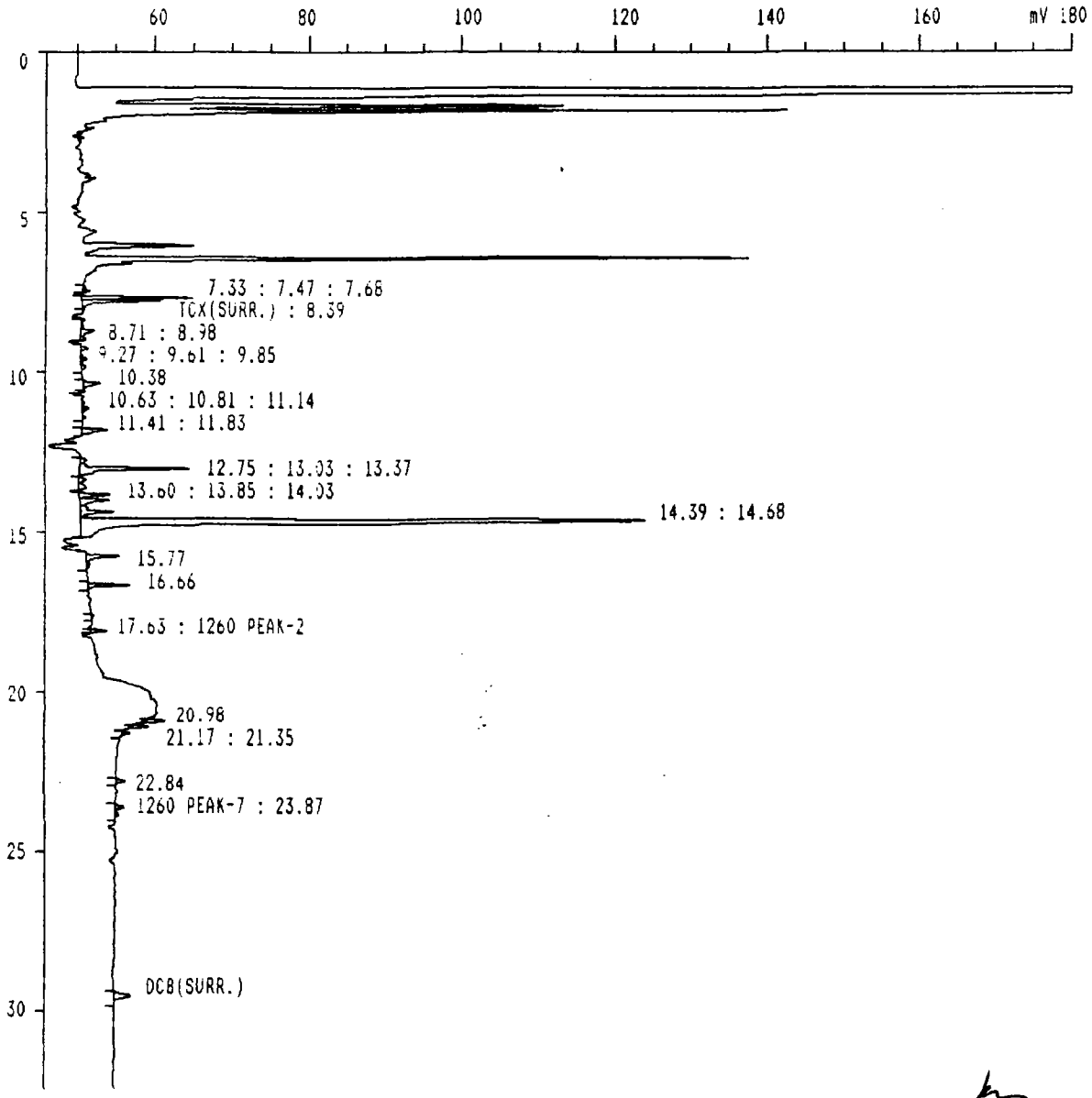
VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982,1,1

Acquired on 23-Jun-93 at 15:59:23
Reported on 24-Jun-93 at 07:29:53



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000021

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,3,1

Acquired on 23-Jun-93 at 17:13:54
Modified on 24-Jun-93 at 07:25:50
Reported on 24-Jun-93 at 07:30:51

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 062293-01SPK
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 3

Surr T.V. = 20ug/kg
AR1260 SpKT.V. = 200ug/kg

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	6.603	2551	8475	0.000000	
2	7.307	442	2322	0.000000	
3	7.456	942	4035	0.000000	
4	7.664	8289	36444	0.000000	
5	7.776	10382	50731	8.805367	TCX(SURR.) 44% rec.
6	8.048	163	617	0.000000	
7	8.379	438	1741	0.000000	
8	8.523	105	610	0.000000	
9	8.693	996	6051	0.000000	
10	8.949	206	211	0.000000	
11	9.269	808	4747	0.000000	
12	9.461	391	2588	0.000000	

Conc. AR1260 = (J) 91.5 ug/kg

$\frac{91.5}{200} \times 100 =$ 46% rec.

KM
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(J) = estimated value; below Q.L. but > 50 ug/kg

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	9.835	605	4562	0.000000	
14	10.368	2485	17918	0.000000	
15	10.613	944	2377	0.000000	
16	10.784	293	1202	0.000000	
17	11.131	509	3588	0.000000	
18	11.397	249	1113	0.000000	
19	11.819	2321	15862	0.000000	
20	12.731	778	3882	0.000000	
21	13.013	6823	42036	0.000000	
22	13.349	918	6012	0.000000	
23	13.595	598	6148	0.000000	
24	13.829	810	4688	0.000000	
25	14.005	2653	15726	0.000000	
26	14.235	668	3891	0.000000	
27	14.368	2495	12409	0.000000	
28	14.656	20716	105139	0.000000	
29	15.744	4620	23333	0.000000	
30	15.973	2112	11689	114.428772	1260 PEAK-1
31	16.384	479	2806	0.000000	
32	16.581	2437	18003	0.000000	
33	17.707	495	2377	0.000000	
34	17.824	1300	7430	0.000000	
35	18.048	3985	19865	111.674553	1260 PEAK-2
36	18.277	444	1723	0.000000	
37	18.517	5683	28038	100.169991	1260 PEAK-3
38	19.040	728	2871	0.000000	
39	19.253	5865	26204	89.335754	1260 PEAK-4
40	19.419	542	2855	0.000000	
41	19.669	1957	13402	0.000000	
42	19.819	2372	10336	0.000000	
43	20.181	826	3619	0.000000	
44	20.379	5440	34894	0.000000	
45	20.480	3406	14814	0.000000	
46	20.629	1545	7289	0.000000	
47	20.981	7237	55986	0.000000	
48	21.136	3158	18364	0.000000	
49	21.493	3478	16819	78.679817	1260 PEAK-5
50	21.664	1468	6490	0.000000	
51	21.819	698	3075	0.000000	
52	22.245	621	3796	0.000000	
53	22.501	5777	31221	72.575752	1260 PEAK-6
54	22.816	1331	7240	0.000000	
55	23.680	1065	5675	69.047760	1260 PEAK-7
56	23.936	3669	43132	96.216438	1260 PEAK-8
57	25.621	480	3534	0.000000	
58	26.955	844	6289	0.000000	
59	29.515	1680	15033	5.045436	DCB(SURR.) 259.Rec.
Total		145318	813329	745.979614	

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000023

Peak RT mins	Hght uV	Area uVs	UG/KG	Peak name
Residual	0	0	0.000000	

114
112
100
89.3
78.7
72.6
69.0
96.2
8) 731.8 ($\bar{x}$ = 91.5

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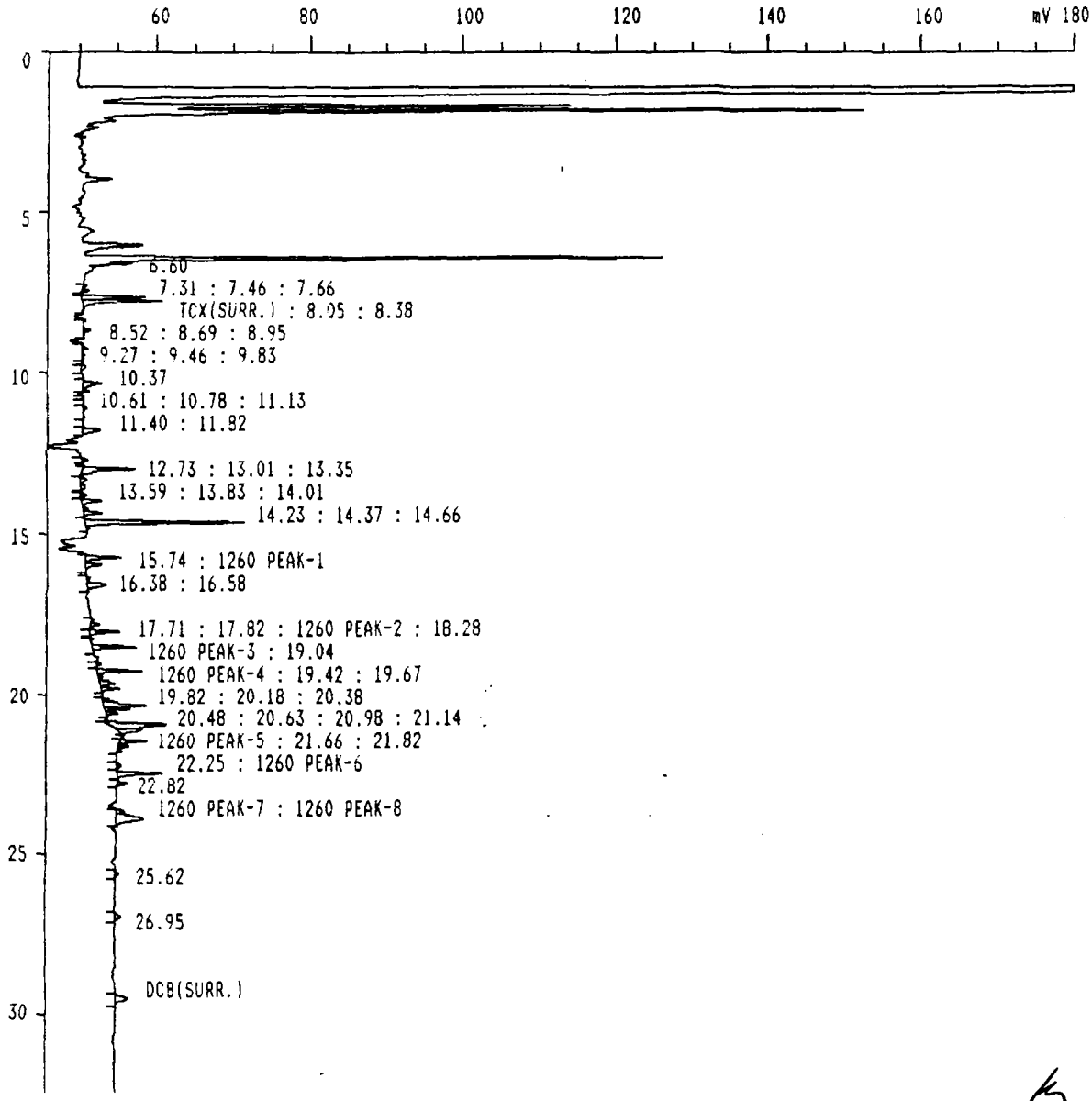
000024

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982,3,1

Acquired on 23-Jun-93 at 17:13:54
Reported on 24-Jun-93 at 07:31:03



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VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,4,1

Acquired on 23-Jun-93 at 17:51:08
Modified on 24-Jun-93 at 07:29:34
Reported on 24-Jun-93 at 07:31:24

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 062293-02SPK
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 4

Surr T.V. = 20 ug/kg

User factors:
MULTIPLIER.....: 1.000000

AR1260 Spk TV. = 200 ug/kg

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	6.613	2854	9370	0.000000	
2	7.317	425	2010	0.000000	
3	7.461	1163	4818	0.000000	
4	7.669	12891	55114	0.000000	
5	7.787	13152	65326	11.155017	TCX(SURR.) 56% rec.
6	8.389	787	3945	0.000000	
7	8.533	387	2781	0.000000	
8	8.704	1462	13314	0.000000	
9	8.971	547	2107	0.000000	
10	9.131	361	1770	0.000000	
11	9.275	1256	7081	0.000000	
12	9.472	571	3086	0.000000	

Conc. AR1260 = 108 ug/kg

$\frac{108}{200} \times 100 = 54\%$ rec.

$RPD = \frac{54-46}{50} \times 100 = 16\%$

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Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	9.595	539	3773	0.000000	
14	9.845	646	4381	0.000000	
15	10.373	2863	21214	0.000000	
16	10.624	2502	9893	0.000000	
17	10.789	456	2616	0.000000	
18	10.949	462	2957	0.000000	
19	11.131	886	7677	0.000000	
20	11.403	318	1387	0.000000	
21	11.824	2778	17447	0.000000	
22	12.736	848	4039	0.000000	
23	13.024	12363	69626	0.000000	
24	13.349	1082	6481	0.000000	
25	13.605	530	4436	0.000000	
26	13.845	2913	13664	0.000000	
27	14.016	2805	16013	0.000000	
28	14.245	596	2426	0.000000	
29	14.379	2633	13988	0.000000	
30	14.667	77298	638217	0.000000	
31	15.755	5647	30222	0.000000	
32	15.984	2432	14112	131.738266	1260 PEAK-1
33	16.389	391	2020	0.000000	
34	16.651	3803	28274	0.000000	
35	17.717	405	1726	0.000000	
36	17.835	1284	6365	0.000000	
37	18.059	4647	22573	130.252258	1260 PEAK-2
38	18.288	341	911	0.000000	
39	18.528	6511	31214	114.763298	1260 PEAK-3
40	18.869	594	3182	0.000000	
41	19.045	1020	5182	0.000000	
42	19.264	7148	32282	108.886810	1260 PEAK-4
43	19.429	713	3748	0.000000	
44	19.680	2313	15847	0.000000	
45	19.829	2903	12670	0.000000	
46	20.389	6628	46666	0.000000	
47	20.491	4311	19161	0.000000	
48	20.640	2160	13025	0.000000	
49	20.992	8956	70172	0.000000	
50	21.147	4750	35702	0.000000	
51	21.333	2205	15883	0.000000	
52	21.504	5185	30758	117.303566	1260 PEAK-5
53	21.675	2356	13076	0.000000	
54	21.829	1038	5253	0.000000	
55	22.251	739	4450	0.000000	
56	22.512	7528	40396	94.573814	1260 PEAK-6
57	22.827	4179	23986	0.000000	
58	23.680	958	4245	62.076900	1260 PEAK-7
59	23.947	3944	36572	103.424141	1260 PEAK-8
60	25.632	607	4683	0.000000	
61	26.965	1184	8735	0.000000	

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000027

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
62	29.525	2701	24794	8.111783	DCB(SURR.) 41% rec.
Total		247957	1618845	882.285828	
Residual		0	0	0.000000	

132
130
115
109
117
94.6
62.1
103
8) 862.7 ($\bar{x}$ = 108

K
6/24/93

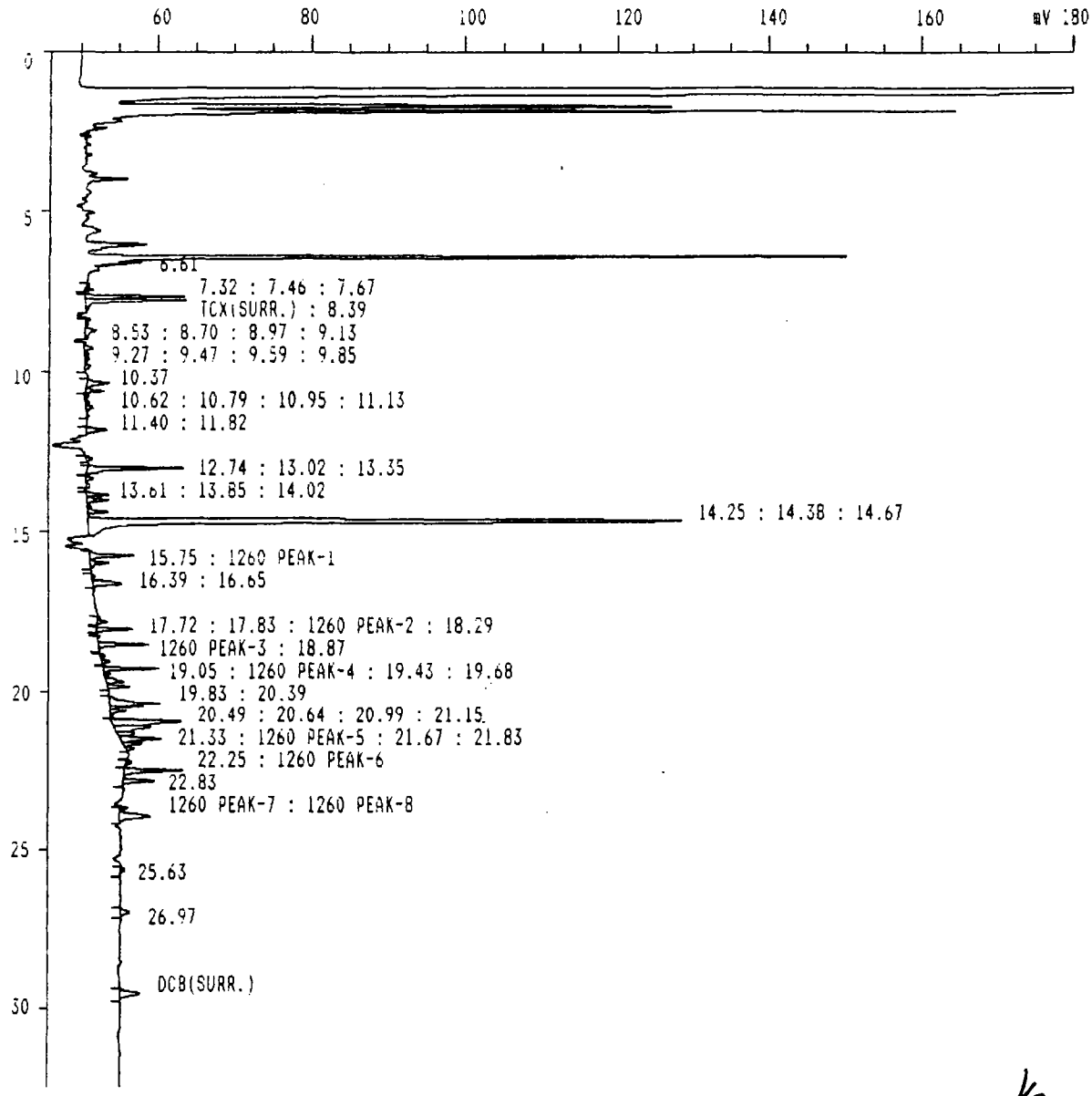
000028

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982.4,1

Acquired on 23-Jun-93 at 17:51:08
Reported on 24-Jun-93 at 07:31:35



KM
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000029

SAMPLE CHROMATOGRAMS

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,5,1

Acquired on 23-Jun-93 at 18:28:24
Modified on 24-Jun-93 at 07:44:56
Reported on 24-Jun-93 at 07:45:00

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 6983.01
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 5

Surr T.V. = 20 ug/kg

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	7.125	397	1813	0.000000	
2	7.669	25807	113145	0.000000	
3	7.787	16541	89901	14.029819	TCX(SURR.) 70% rec.
4	8.139	2435	21393	0.000000	
5	8.373	7025	41856	0.000000	
6	8.565	3092	21719	0.000000	
7	8.699	9642	74615	0.000000	
8	8.933	1889	19992	0.000000	
9	9.275	2955	31676	0.000000	
10	9.477	2036	17957	0.000000	
11	9.621	2341	22927	0.000000	
12	9.856	3423	39353	0.000000	

~~178~~ 113
~~113~~ 191
~~191~~ 91.7
~~91.7~~ 61.5
~~61.5~~ 87.4
~~87.4~~ 73.1
~~73.1~~
7 ~~895.7~~ ($\bar{x}$ = 128 6 617.7 ($\bar{x}$ = 103

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Conc. AR1260 = 103 ug/kg

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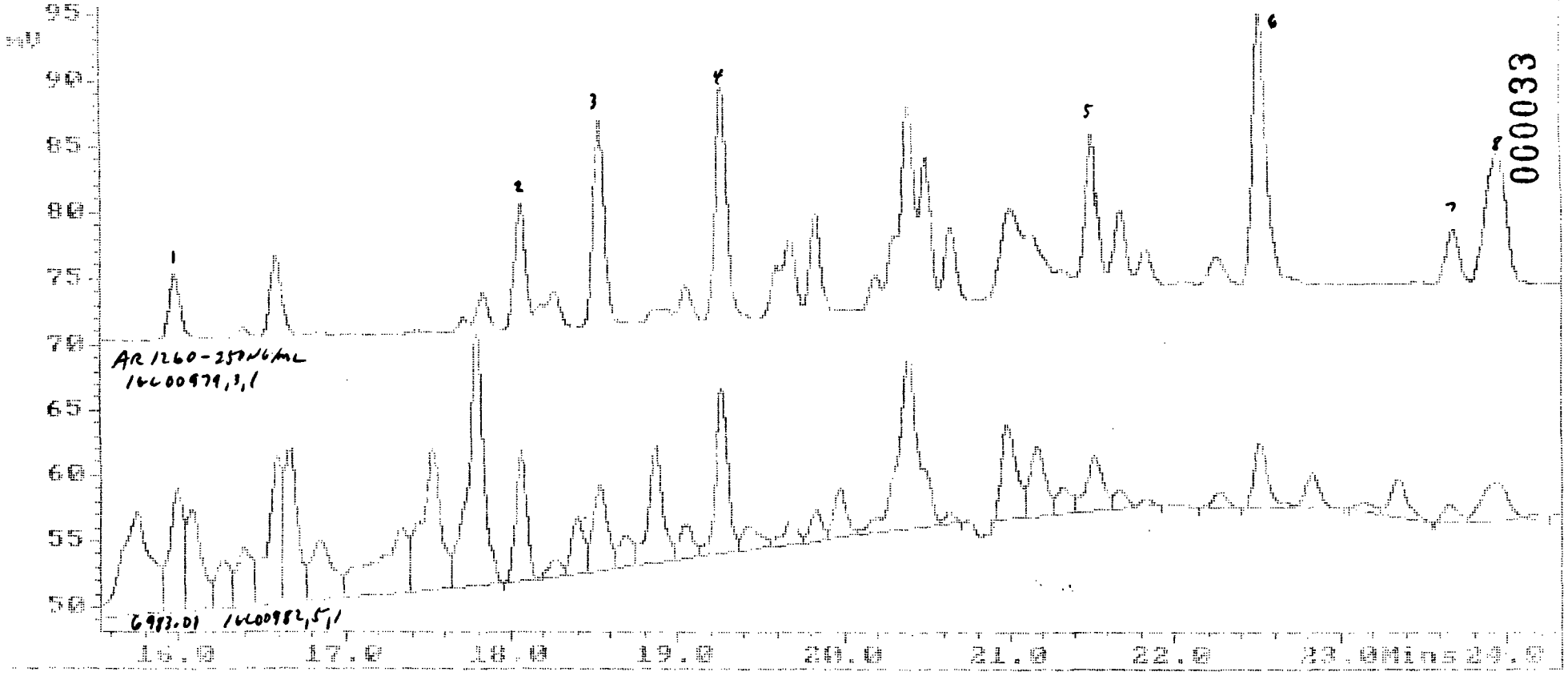
000031

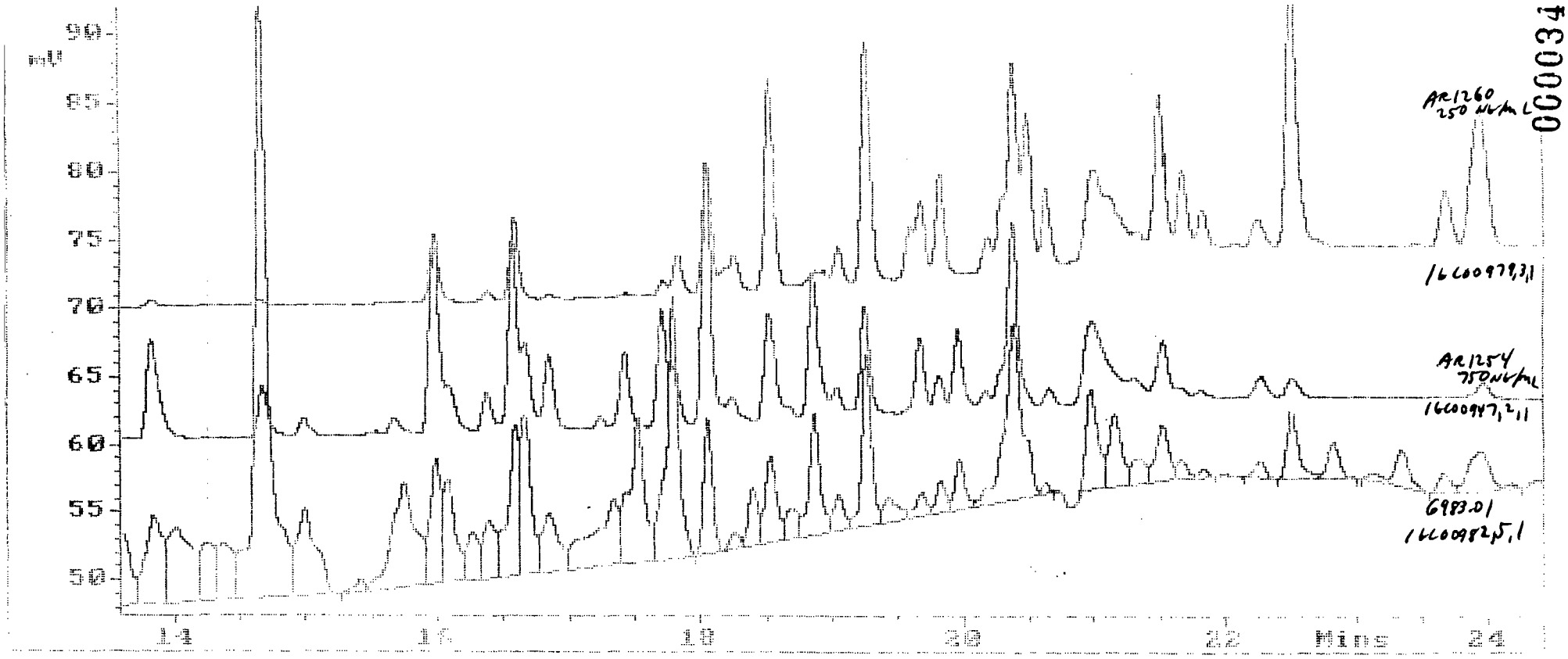
Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	10.149	1680	10449	0.000000	
14	10.379	3634	47366	0.000000	
15	10.613	3304	15859	0.000000	
16	10.816	2298	17811	0.000000	
17	10.976	2926	24264	0.000000	
18	11.147	3822	59306	0.000000	
19	11.403	3438	63803	0.000000	
20	11.824	5837	78624	0.000000	
21	12.229	944	3738	0.000000	
22	12.741	5888	101510	0.000000	
23	13.019	27905	216431	0.000000	
24	13.392	3438	26266	0.000000	
25	13.611	5214	52472	0.000000	
26	13.845	6413	58188	0.000000	
27	14.016	5474	70487	0.000000	
28	14.256	4186	29116	0.000000	
29	14.379	4144	34532	0.000000	
30	14.667	43422	324377	0.000000	
31	14.997	6336	64072	0.000000	
32	15.419	914	4523	0.000000	
33	15.749	7730	94501	0.000000	
34	15.995	9235	55031	~~500.292786~~	~~1260 PEAK-1~~ Matrix Int.
35	16.080	7525	44935	0.000000	
36	16.267	3565	22147	0.000000	
37	16.395	4275	26879	0.000000	
38	16.592	11043	65403	0.000000	
39	16.667	11655	63798	0.000000	
40	16.853	4311	38352	0.000000	
41	17.339	4867	66883	0.000000	
42	17.525	10620	88073	0.000000	
43	17.797	19151	124353	0.000000	
44	18.059	9933	45139	~~278.392883~~	~~1260 PEAK-2~~ Co-eluting peak
45	18.267	1175	6311	0.000000	
46	18.400	4284	21866	0.000000	
47	18.528	6409	38462	112.976639	1260 PEAK-3
48	18.683	2304	13115	0.000000	
49	18.864	8822	53813	0.000000	
50	19.051	2698	15314	0.000000	
51	19.264	12530	63723	190.867477	1260 PEAK-4
52	19.424	1792	14253	0.000000	
53	19.685	1714	11068	0.000000	
54	19.835	2299	11631	0.000000	
55	19.973	3734	19704	0.000000	
56	20.389	12882	115944	0.000000	
57	20.635	813	3091	0.000000	
58	20.981	7126	43194	0.000000	
59	21.163	5285	35936	0.000000	
60	21.328	1856	12746	0.000000	
61	21.525	4053	28632	91.700462	1260 PEAK-5

6/24/93



000033

6/24/93



Possible presence of AR1254; cannot be confirmed due to presence of AR1260. Too many co-eluting + matrix interference peaks.

6/24/93

000034

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
62	21.669	1455	7729	0.000000	
63	21.829	550	2689	0.000000	
64	22.272	1200	6887	0.000000	
65	22.512	4893	29254	61.472309	1260 PEAK-6
66	22.832	2540	15027	0.000000	
67	23.157	577	4578	0.000000	
68	23.355	2786	20441	0.000000	
69	23.664	1348	8599	87.361092	1260 PEAK-7
70	23.941	2787	30778	73.085121	1260 PEAK-8
71	24.171	328	1757	0.000000	
72	25.675	832	6799	0.000000	
73	26.965	630	5094	0.000000	
74	29.525	4711	42802	14.147257	DCB(SURR.) 71% rec.
Total		427128	3226266	1424.325684	
Residual		0	0	0.000000	

6/24/93

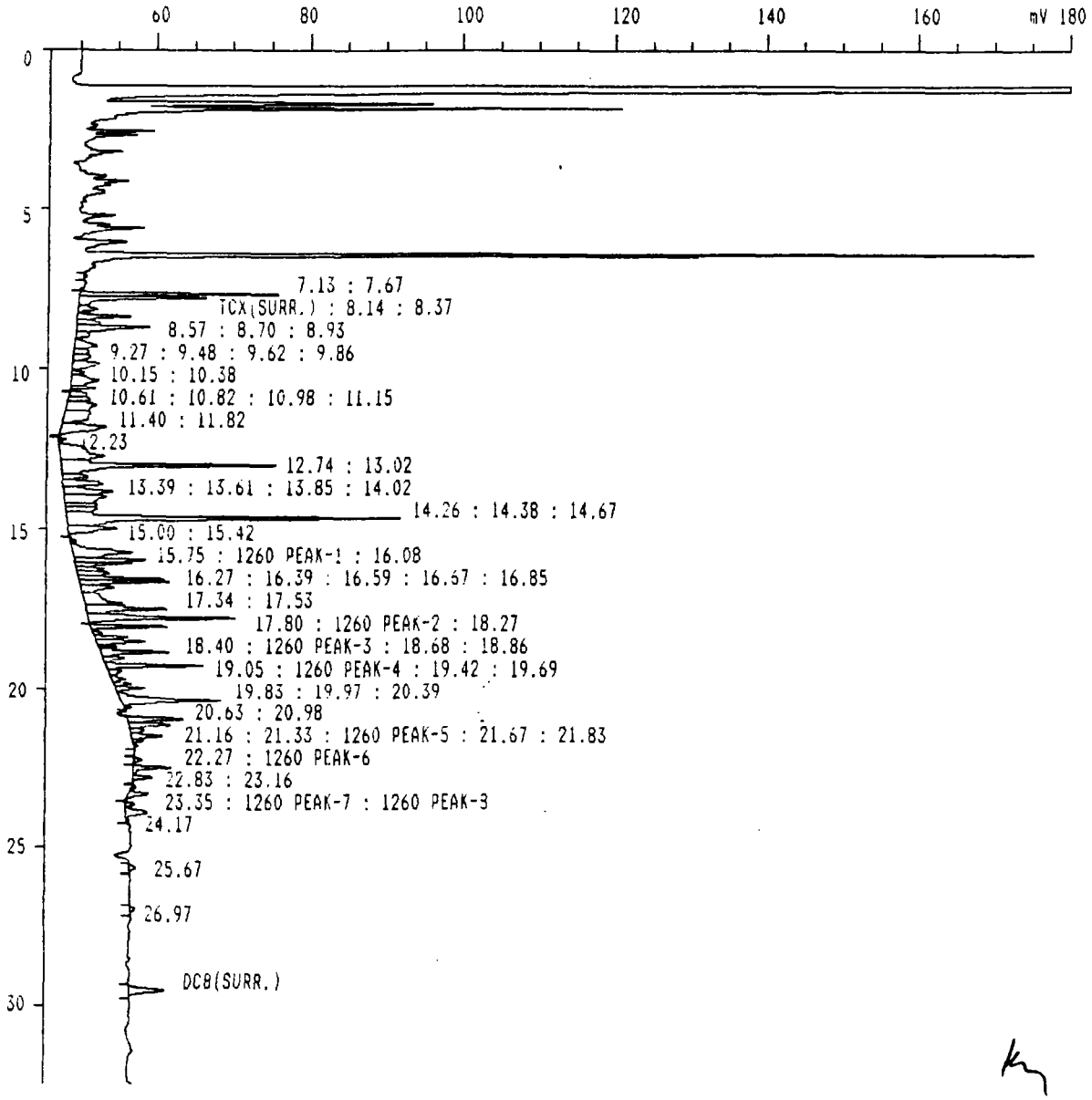
000035

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982,5,1

Acquired on 23-Jun-93 at 18:28:24
Reported on 24-Jun-93 at 07:45:13



6/24/93

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,6,1

Acquired on 23-Jun-93 at 19:05:42
Modified on 24-Jun-93 at 07:56:14
Reported on 24-Jun-93 at 07:56:19

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 6983.02
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 6

Surr Tiv. = 20 ug/kg

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	6.928	6919	47619	0.000000	
2	7.365	1032	6049	0.000000	
3	7.669	8705	37994	0.000000	
4	7.787	16750	103732	14.207146	TCX(SURR.) 71% rec.
5	8.133	6206	56610	0.000000	
6	8.363	39062	235466	0.000000	
7	8.555	18279	121515	0.000000	153
8	9.013	16304	288116	0.000000	157
9	9.227	10947	101931	0.000000	69.1
10	9.867	8231	151734	0.000000	54.3
11	9.995	11566	92011	0.000000	4 ∫ 433.4 ∑ = 108
12	10.485	9660	204123	0.000000	

Conc. AR 1260 = 108 ug/kg

KM
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000037

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	11.120	7734	200207	0.000000	
14	11.931	9893	224188	0.000000	
15	12.235	1407	7314	0.000000	
16	12.523	4227	47784	0.000000	
17	12.736	10013	92188	0.000000	
18	13.019	16092	156546	0.000000	
19	13.291	15013	126863	0.000000	
20	13.611	20696	200556	0.000000	
21	13.840	13593	144025	0.000000	
22	14.021	18331	190631	0.000000	
23	14.261	5864	67417	0.000000	
24	14.672	71327	564781	0.000000	
25	14.997	15882	133336	0.000000	
26	15.419	2934	16722	0.000000	
27	15.680	8906	114689	0.000000	
28	15.995	14790	79567	801.183899	1260 PEAK-1
29	16.080	13591	72151	0.000000	
30	16.267	6389	36138	0.000000	
31	16.395	4866	26667	0.000000	
32	16.485	4343	19703	0.000000	
33	16.587	11530	60029	0.000000	Matrix Int.
34	16.672	10356	73331	0.000000	
35	16.837	6219	42873	0.000000	
36	17.237	3008	37245	0.000000	
37	17.339	6483	34505	0.000000	
38	17.525	12457	90719	0.000000	
39	17.797	16340	115059	0.000000	
40	18.059	13381	65055	375.033569	1260 PEAK-2
41	18.267	2783	17905	0.000000	
42	18.395	18051	101858	0.000000	
43	18.523	8659	49289	152.628677	1260 PEAK-3
44	18.672	3212	25761	0.000000	
45	18.864	9813	57819	0.000000	
46	19.045	2727	17808	0.000000	
47	19.264	10328	56053	157.315063	1260 PEAK-4
48	19.424	2104	16695	0.000000	
49	19.675	3701	31061	0.000000	
50	19.824	3973	23834	0.000000	
51	19.973	5289	31005	0.000000	
52	20.192	2281	14062	0.000000	
53	20.389	12232	112910	0.000000	
54	20.619	1432	6732	0.000000	
55	20.752	941	4275	0.000000	
56	20.981	7301	45805	0.000000	
57	21.157	3455	23473	0.000000	
58	21.520	3054	17360	69.090233	1260 PEAK-5
59	21.669	1134	5220	0.000000	
60	21.829	446	1783	0.000000	
61	22.267	881	4750	0.000000	

Km
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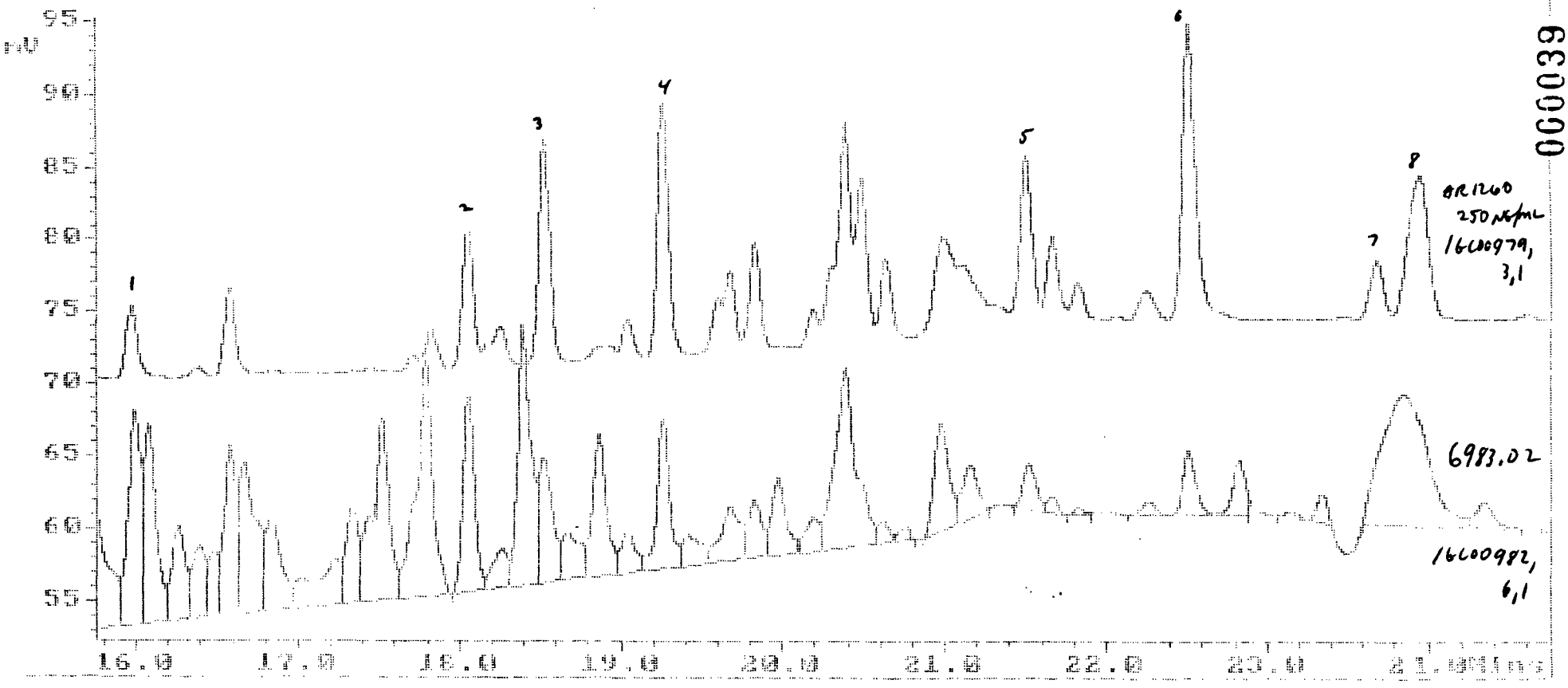

000039

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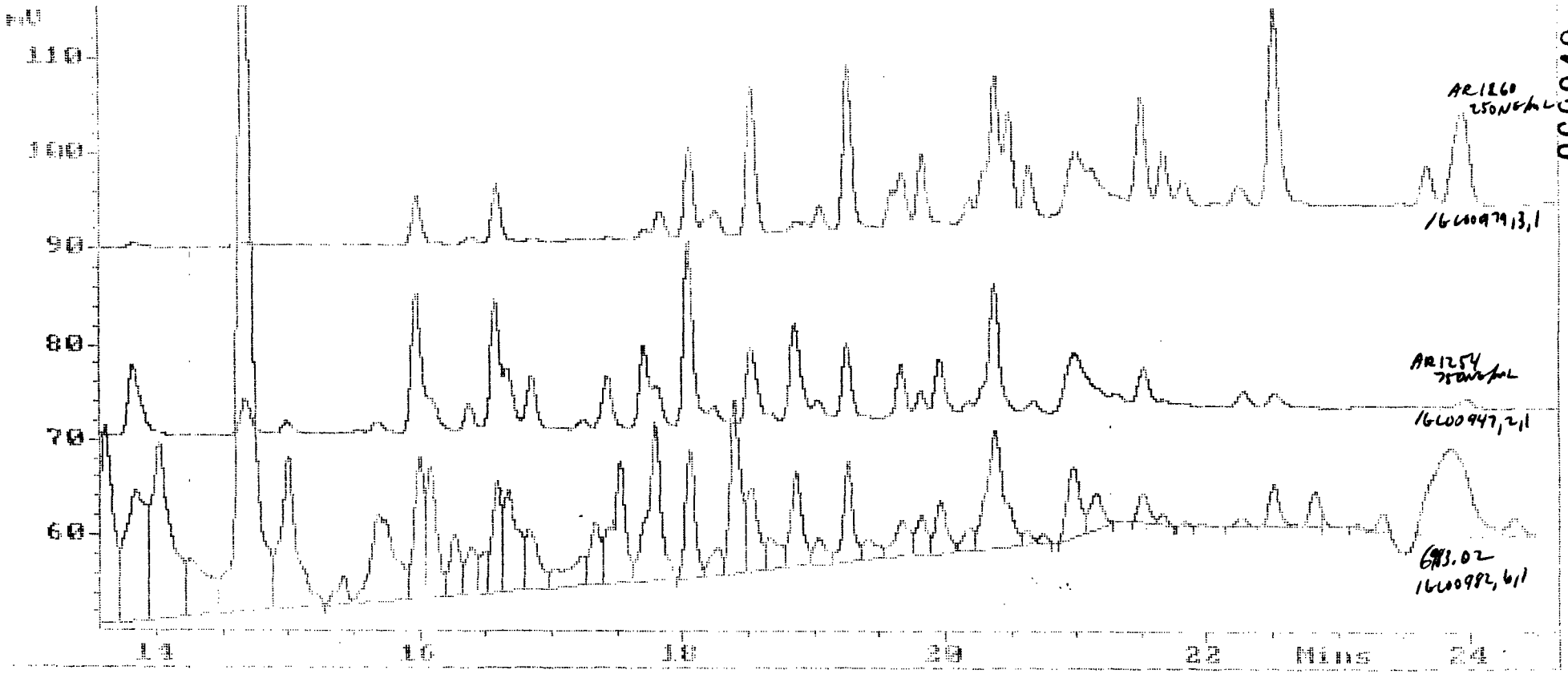

Possible presence of AR 1254; cannot be confirmed due to presence of AR 1260. Too many co-eluting + matrix interference peaks.

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000040

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
62	22.512	4324	24831	54.323395	1260 PEAK-6
63	22.827	3704	18838	0.000000	
64	23.152	380	2047	0.000000	
65	23.344	1871	8369	0.000000	
66	23.856	8949	176495	0.000000	
67	24.347	1711	13385	0.000000	
68	29.531	4258	38676	12.785910	DCB(SURR.) 64%, Rel.
69	32.544	2440	45676	0.000000	
Total		630758	5480962	1636.567749	
Residual		0	0	0.000000	

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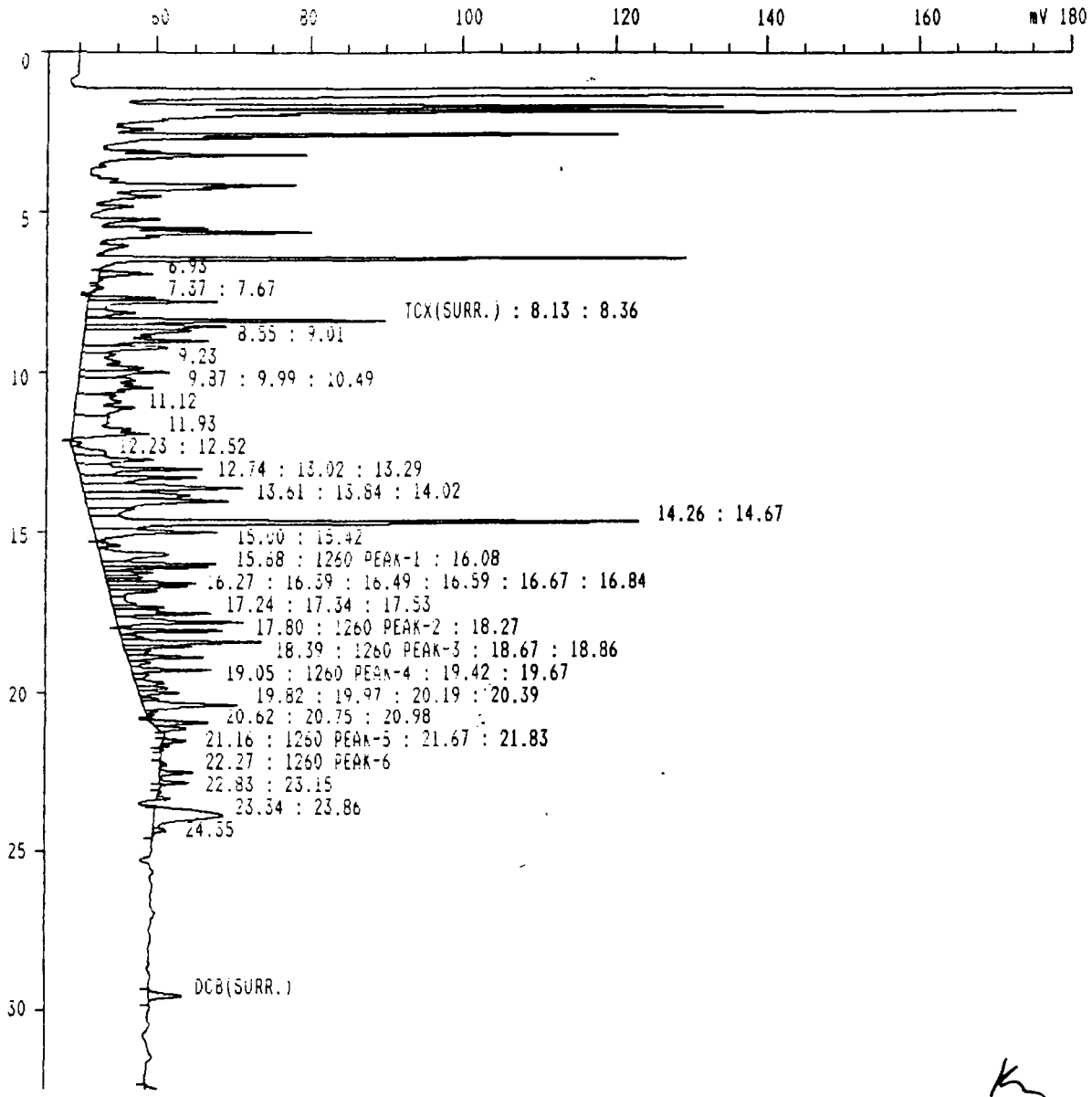
VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982,6,1

Acquired on 23-Jun-93 at 19:05:42
Reported on 24-Jun-93 at 07:56:31



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000042

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,7,1

Acquired on 23-Jun-93 at 19:42:56
Modified on 24-Jun-93 at 08:00:56
Reported on 24-Jun-93 at 08:01:37

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 6983.03
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 7

Surr T.V. = 20 ug/kg

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	6.960	337	1311	0.000000	
2	7.125	527	4871	0.000000	
3	7.669	16338	70187	0.000000	
4	7.787	16361	77939	13.876618	TCX(SURR.) 70 % Rec.
5	8.160	502	2357	0.000000	
6	8.368	4047	22074	0.000000	
7	8.555	3412	23343	0.000000	148
8	8.693	5156	44037	0.000000	289
9	8.939	1671	10460	0.000000	136
10	9.275	3670	31454	0.000000	92.1
11	9.349	2294	23521	0.000000	131
12	9.616	2522	27732	0.000000	

5) 796.1 $\bar{x}$ = 159

Conc. AR1260 = 159 ug/kg

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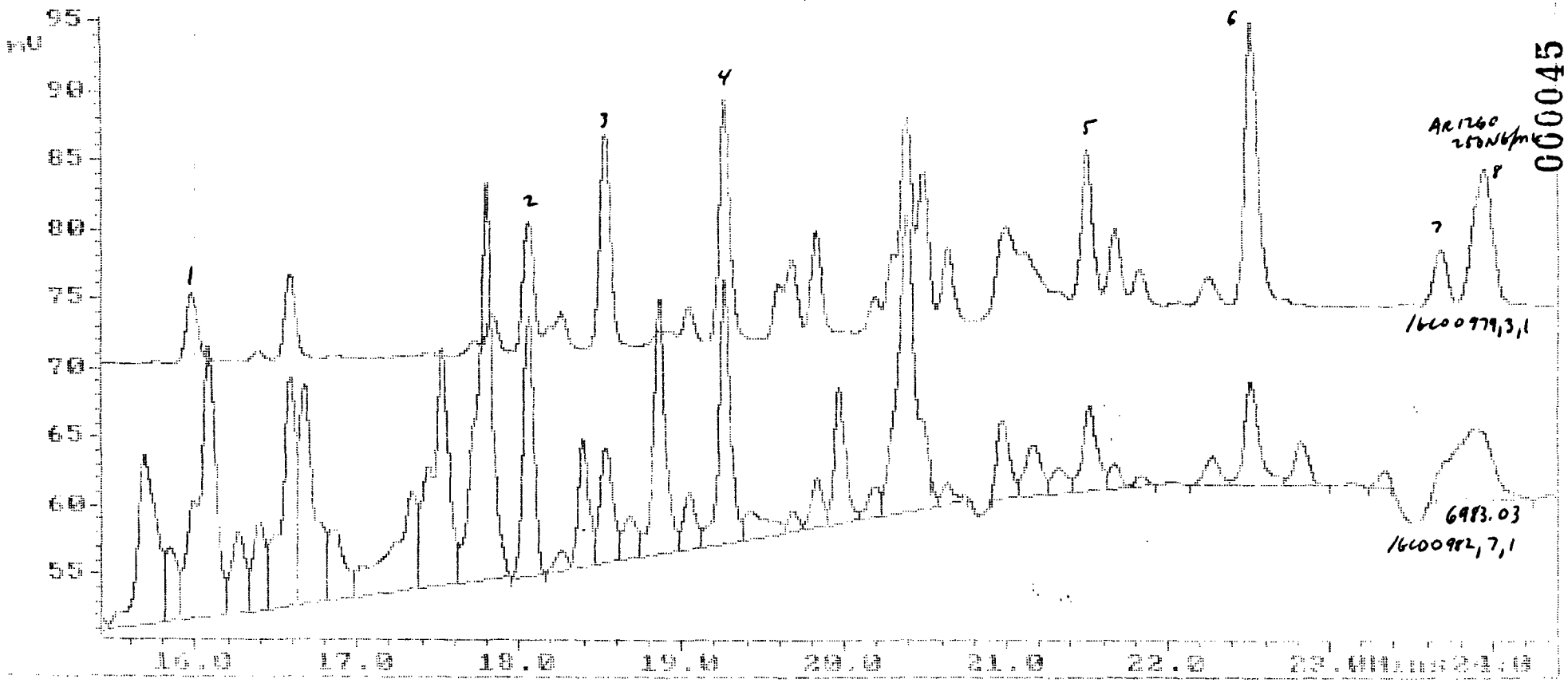
000043

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	9.867	7244	56279	0.000000	
14	10.112	2387	15841	0.000000	
15	10.384	2753	53705	0.000000	
16	10.928	3123	46851	0.000000	
17	11.152	3518	44423	0.000000	
18	11.397	2172	34389	0.000000	
19	11.824	3675	35110	0.000000	
20	12.619	1475	9797	0.000000	
21	12.741	6585	53896	0.000000	
22	13.013	16636	105476	0.000000	
23	13.392	1976	11069	0.000000	
24	13.600	4626	38132	0.000000	
25	13.909	10819	149021	0.000000	
26	14.251	3860	56565	0.000000	
27	14.672	45101	364740	0.000000	
28	14.997	11772	88605	0.000000	
29	15.419	844	3399	0.000000	
30	15.680	12301	106094	0.000000	
31	15.845	5316	28247	0.000000	
32	16.080	19602	154440	0.000000	
33	16.267	5833	33355	0.000000	
34	16.395	6383	35272	0.000000	
35	16.587	16591	106054	0.000000	
36	16.677	15781	100288	0.000000	
37	16.853	5165	35311	0.000000	
38	17.339	7214	83216	0.000000	
39	17.525	17242	130976	0.000000	
40	17.792	28747	190836	0.000000	
41	18.053	18697	83981	~~524.017578~~	~~1260 PEAK-2~~ Co-eluting peak
42	18.261	1461	7324	0.000000	
43	18.395	9238	43236	0.000000	
44	18.533	8375	48524	147.633652	1260 PEAK-3
45	18.677	3065	17461	0.000000	
46	18.864	18398	97435	0.000000	
47	19.045	4102	21981	0.000000	
48	19.264	18966	97167	288.902344	1260 PEAK-4
49	19.424	1958	19541	0.000000	
50	19.685	1467	6514	0.000000	
51	19.829	3530	17238	0.000000	
52	19.968	9704	47123	0.000000	
53	20.192	2192	11921	0.000000	
54	20.389	21152	169243	0.000000	
55	20.635	1485	8633	0.000000	
56	20.976	5663	31552	0.000000	
57	21.163	3689	26049	0.000000	
58	21.328	1898	12892	0.000000	
59	21.520	6000	38986	135.736435	1260 PEAK-5
60	21.669	1776	8465	0.000000	
61	21.829	719	3542	0.000000	

6/24/03



000045

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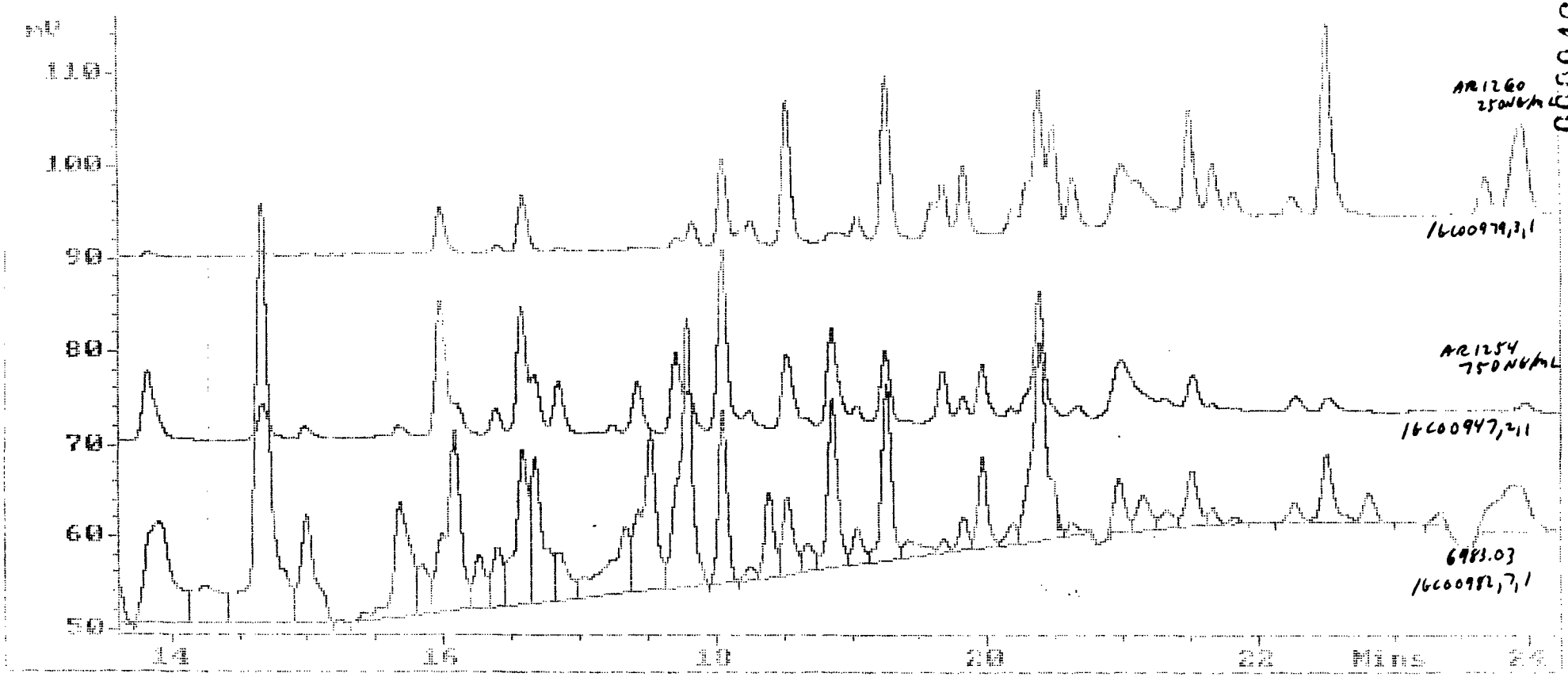


Possible presence of AR1254; cannot be confirmed due to presence of AR1260. Too many co-eluting & matrix interference peaks.

6/24/93

000046

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
62	22.277	1984	12277	0.000000	
63	22.512	7335	47008	92.145020	1260 PEAK-6
64	22.827	3057	18605	0.000000	
65	23.344	1279	5365	0.000000	
66	23.893	4996	87928	131.034378	1260 PEAK-8
67	25.669	577	4425	0.000000	
68	26.971	679	5570	0.000000	
69	29.531	3624	30426	10.884295	DCB(SURR.) 55 % Rec.
Total		492647	3541085	1344.230347	
Residual		0	0	0.000000	

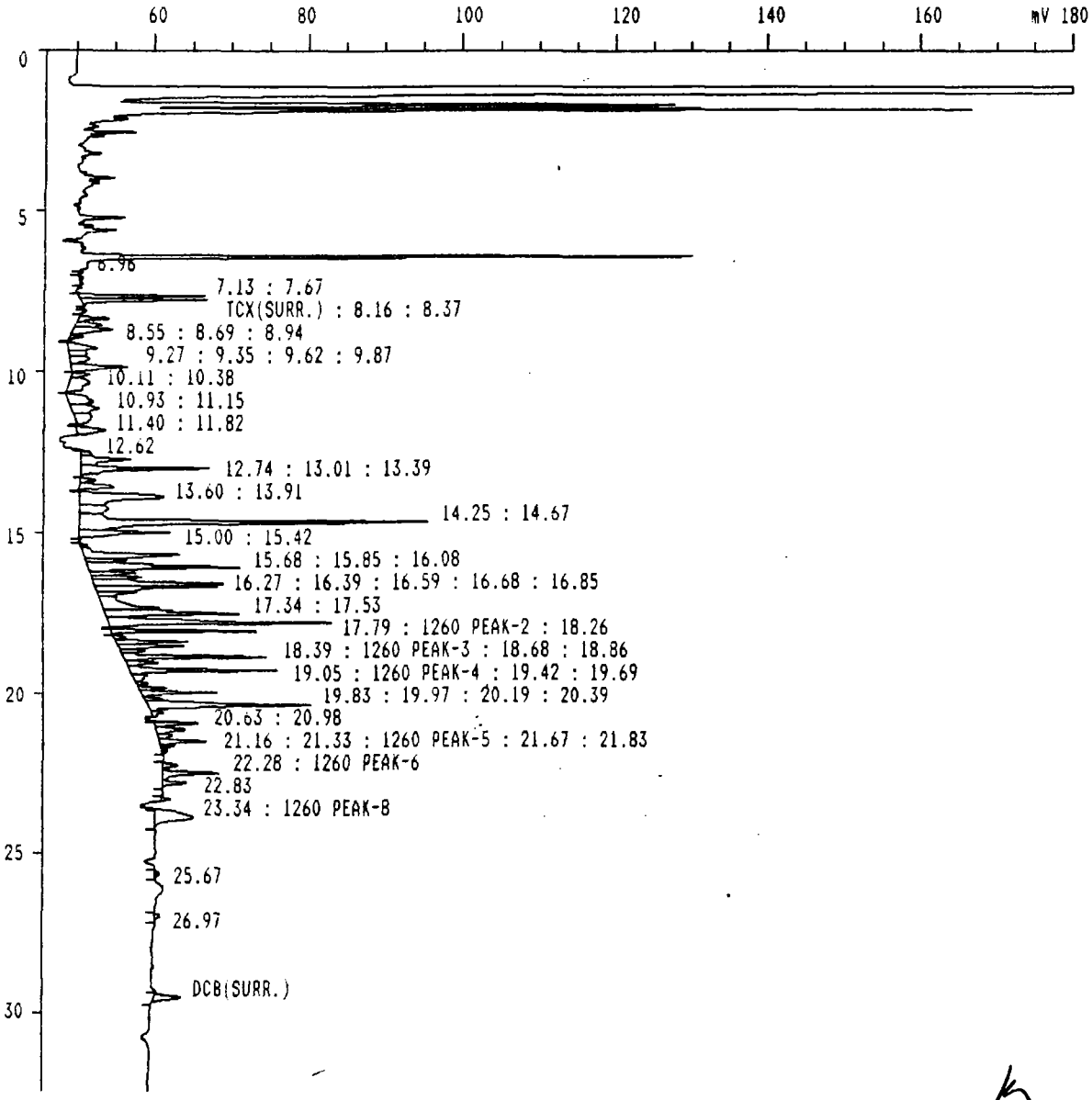
6/24/93

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982,7,1

Acquired on 23-Jun-93 at 19:42:56
Reported on 24-Jun-93 at 08:02:20



6/24/93

VG Data Systems - Minichrom v1.64

INJECTION REPORT

Injection C: <defproj> 1 1GC00982,8,1

Acquired on 23-Jun-93 at 20:20:09
Modified on 24-Jun-93 at 08:06:16
Reported on 24-Jun-93 at 08:06:20

ANALYSIS INFORMATION

Analysis ID.....: SAMPLES
Analyst name.....: KMM
Comment.....: 8080 PCB'S
Number of samples.: 9
Calibration file..: CLP1260 Last modified on 22-Jun-93 at 12:50:20
Method file.....: PCBS Last modified on 15-Jun-93 at 08:56:36
Method title.....: PCBS
Control file.....: PCBS Last modified on 14-Jun-93 at 15:17:24

SAMPLE INFORMATION

Sample name.....: GC600-PCB/FISH TISSUE
Sample ID.....: 6983.04
Sample type.....: Sample
Sample amount.....: 1.0000
Number of injections.....: 1
Bottle Number.....: 8

Surr T.U. = 20 ug/kg

User factors:
MULTIPLIER.....: 1.000000

PEAK INFORMATION

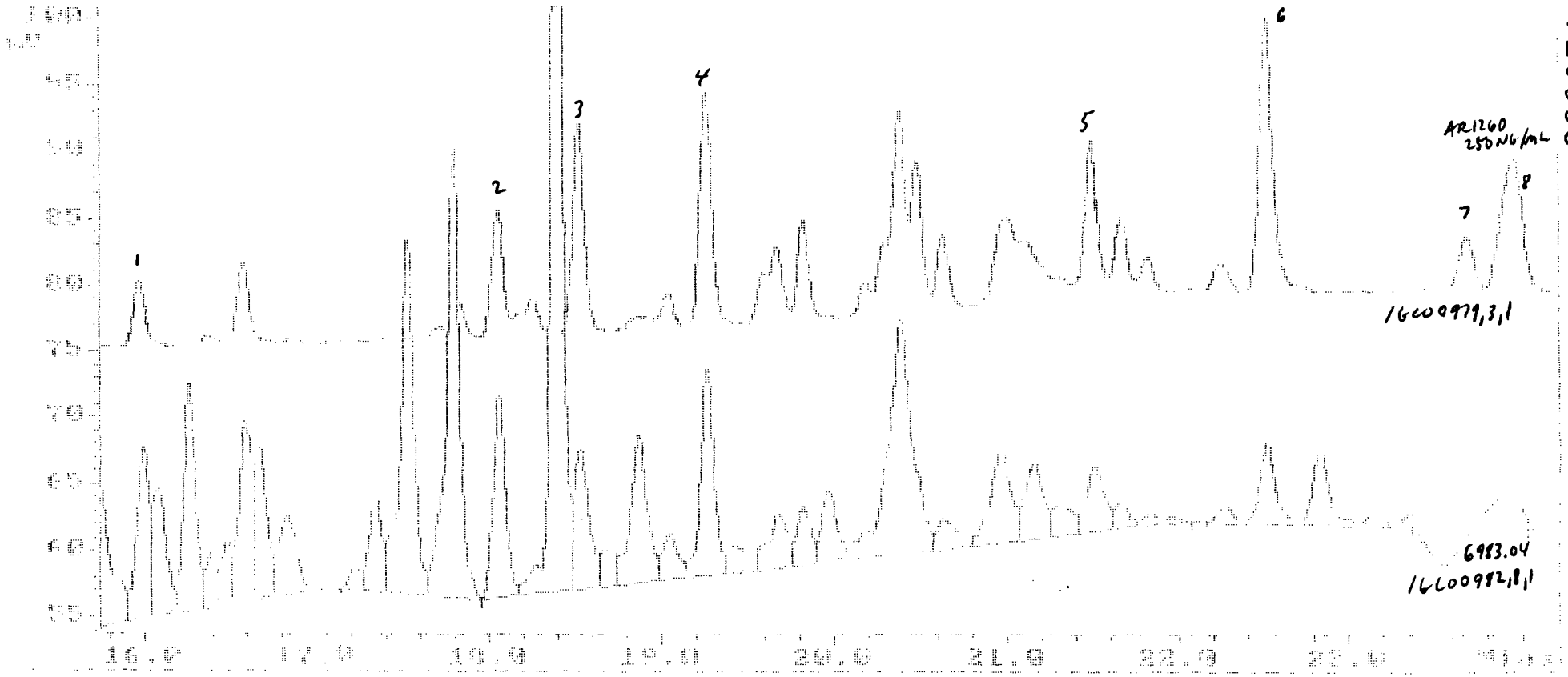
Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
1	6.933	8004	50193	0.000000	
2	7.125	634	2803	0.000000	
3	7.675	20491	93586	0.000000	
4	7.792	17714	100273	15.024348	TCX(SURR.) 75% rec.
5	8.149	5271	46612	0.000000	
6	8.384	25919	172905	0.000000	
7	8.560	12174	85981	0.000000	184
8	8.715	9497	92999	0.000000	234
9	8.880	7275	42292	0.000000	110
10	9.024	10831	78632	0.000000	74.9
11	9.253	5258	48620	0.000000	71.2
12	9.451	2019	14590	0.000000	5 674.1 (x̄ = 135

Conc. AR1260 = 135 ug/kg

6/24/93

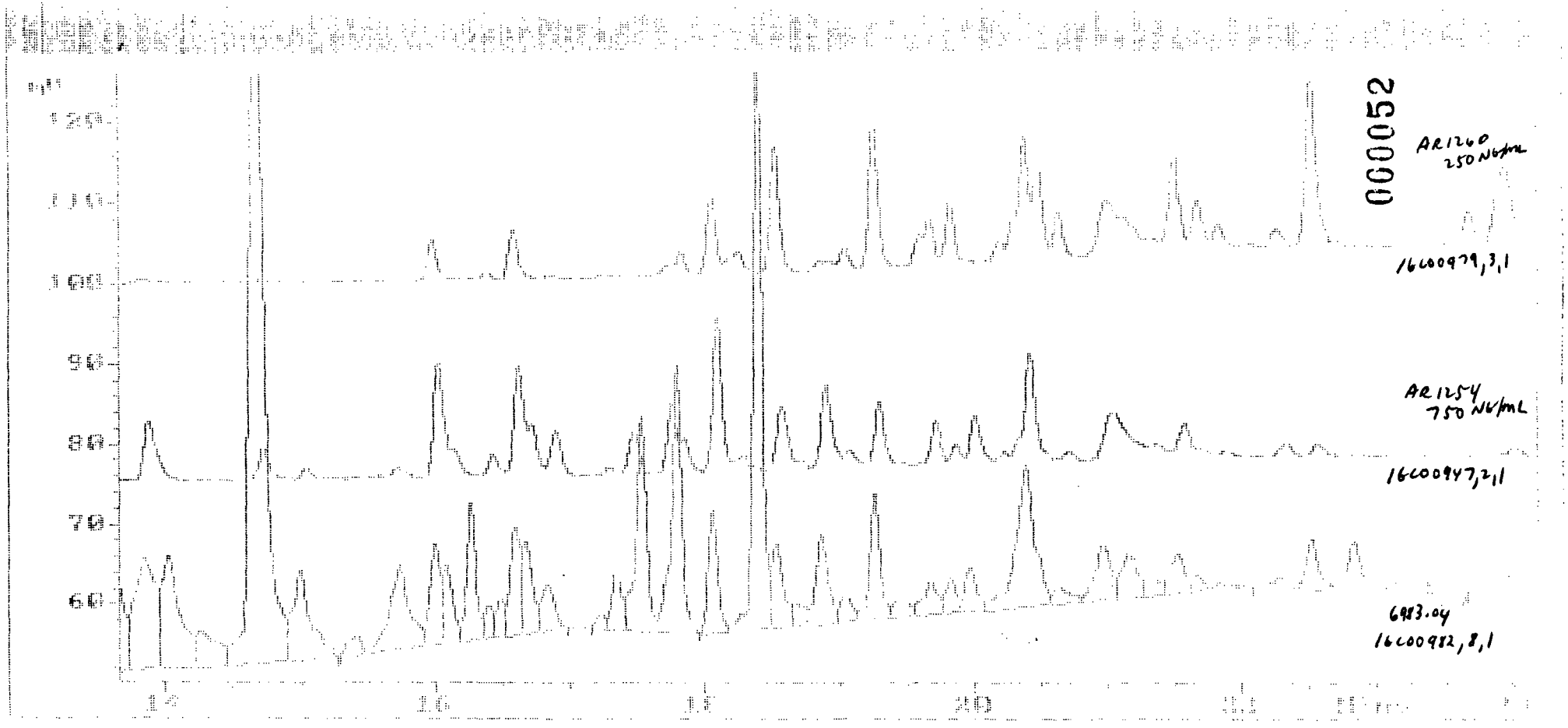
Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
13	9.680	1870	16680	0.000000	
14	9.861	9537	73866	0.000000	
15	10.000	5634	28068	0.000000	
16	10.096	4948	23221	0.000000	
17	10.245	4494	37476	0.000000	
18	10.368	4036	22838	0.000000	
19	10.491	6742	39727	0.000000	
20	10.629	3526	16935	0.000000	
21	10.736	2530	11949	0.000000	
22	10.848	1276	6591	0.000000	
23	10.955	1719	11950	0.000000	
24	11.125	3105	18633	0.000000	
25	11.221	2156	13251	0.000000	
26	11.579	2226	34075	0.000000	
27	11.824	5468	56960	0.000000	
28	11.936	7604	53935	0.000000	
29	12.235	0	-28	0.000000	
30	12.528	3267	35217	0.000000	
31	12.747	6844	66513	0.000000	
32	13.024	28240	214669	0.000000	
33	13.301	9252	88504	0.000000	
34	13.621	15182	160175	0.000000	
35	13.845	13957	154415	0.000000	
36	14.027	14031	124944	0.000000	
37	14.267	4201	46951	0.000000	
38	14.677	80661	663293	0.000000	
39	15.003	11027	102163	0.000000	
40	15.419	2321	16475	0.000000	
41	15.744	10315	107578	0.000000	
42	16.000	12696	69435	687.738098	1260 PEAK-1
43	16.085	9596	48259	0.000000	
44	16.267	16919	81633	0.000000	
45	16.400	4018	16887	0.000000	
46	16.496	4640	21115	0.000000	
47	16.597	13407	67011	0.000000	Matrix Int:
48	16.672	11279	59710	0.000000	Co-eluting peaks
49	16.837	5827	39138	0.000000	
50	17.232	1659	7165	0.000000	
51	17.344	7063	35878	0.000000	
52	17.531	26583	147133	0.000000	
53	17.803	33535	184177	0.000000	
54	18.064	15103	77334	423.276917	1260 PEAK-2
55	18.400	73042	334634	0.000000	
56	18.539	10444	60058	184.099075	1260 PEAK-3
57	18.677	2710	15965	0.000000	
58	18.875	11038	73305	0.000000	
59	19.056	3347	20075	0.000000	
60	19.269	15378	81989	234.246750	1260 PEAK-4
61	19.435	1870	17083	0.000000	

6/24/93



6/24/93

C00051



Possible presence of AR1254; cannot be confirmed due to presence of AR1260. Too many co-eluting + matrix interference peaks.

KM
6/24/93

Peak	RT mins	Hght uV	Area uVs	UG/KG	Peak name
62	19.691	3941	30392	0.000000	
63	19.835	4239	23725	0.000000	
64	19.979	5358	31079	0.000000	
65	20.400	17324	173456	0.000000	
66	20.645	2145	18750	0.000000	
67	20.976	6656	54789	0.000000	
68	21.163	5504	42633	0.000000	
69	21.333	2412	17670	0.000000	
70	21.525	4856	36299	109.865135	1260 PEAK-5
71	21.669	1909	10803	0.000000	
72	21.840	847	7640	0.000000	
73	22.277	1201	7397	0.000000	
74	22.523	5959	38196	74.855591	1260 PEAK-6
75	22.832	5687	37303	0.000000	
76	23.157	878	5692	0.000000	
77	23.349	919	3793	0.000000	
78	23.893	2716	35610	71.236671	1260 PEAK-8
79	29.541	3070	26097	9.218945	DCB(SURR.) 46% Rec
Total		747031	5135817	1809.561523	
Residual		0	0	0.000000	

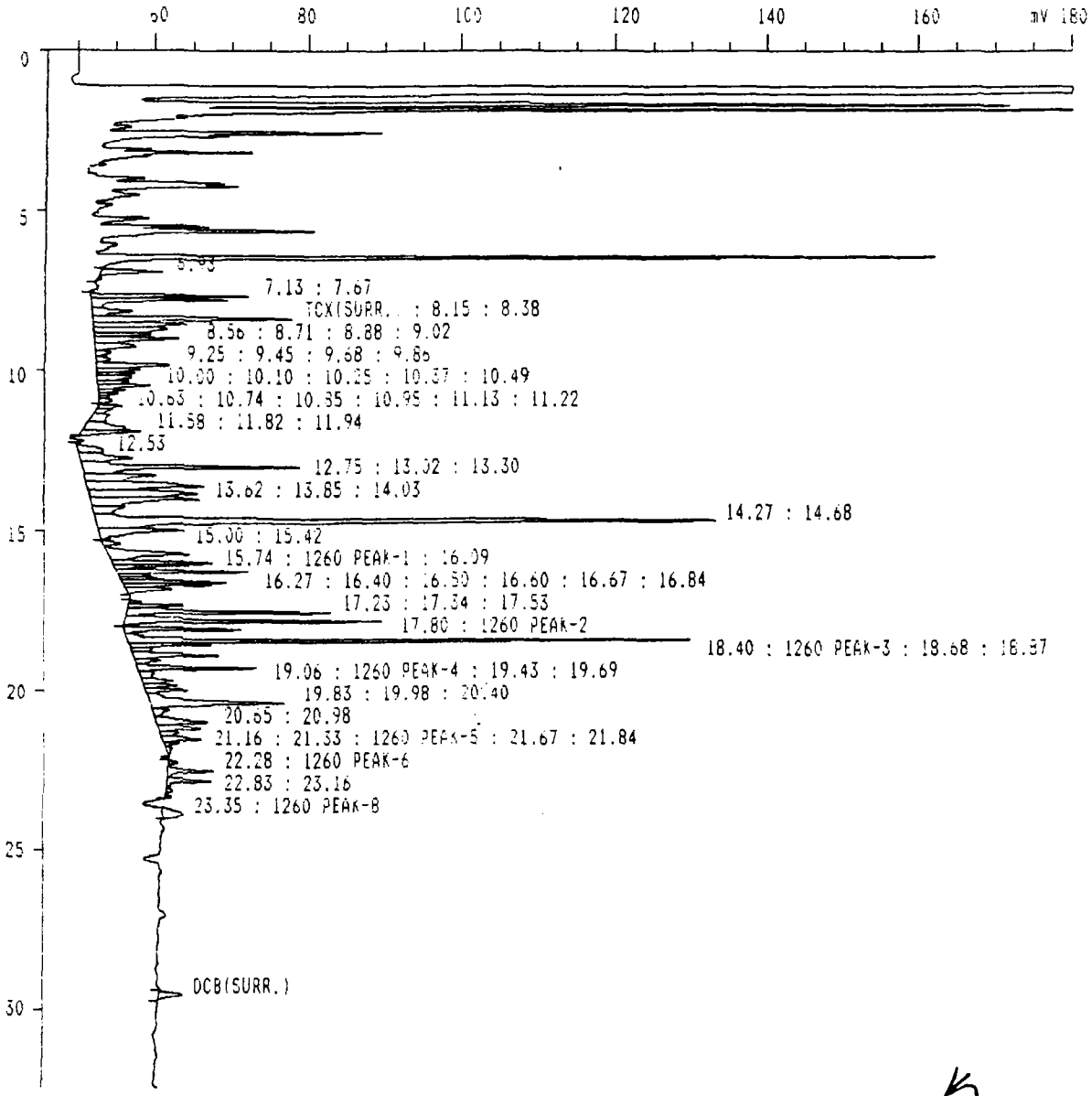
6/24/93

VG Data Systems - Minichrom v1.64

LONG PLOT

Injection C: <defproj> 1 1GC00982.8,1

Acquired on 23-Jun-93 at 20:20:09
Reported on 24-Jun-93 at 08:06:33



K
6/24/93

000054

OTHER SUPPORTING DOCUMENTATION

LOGBOOK RECORDS
EXTRACTION CHAIN-OF-CUSTODIES
RUN LOGS
STANDARD LOGS
etc....

	ATAS	ESE		Weston
PAH (8270)	395 x 4 = 1580	PAH (8310)	387.50 x 4 = 1550	NO BID
PCBs	165 x 4 = 660	PCBs	225 x 4 = 900	cannot meet TAT
	2240		2450	
			sample disposal: 5 x 4 = + 20	
			QC 122.5 x 4 = + 490	
			2960	
			Cannot meet terms	

ecology and environment, inc.

Analytical Bid Request/Analysis

From: Ecology & Environment, Inc.
111 West Jackson Blvd., 12th floor
Chicago, IL 60604
Attn: Mary Jane Zipp
Phone #: 314/ 434-4570
FAX #: 314/ 434-0080

Please respond to this request by faxing the completed form to Ecology and Environment, Inc.
Phone #: 312-663-9413
FAX #: 312-663-1090

To: ATAS
Maryland Heights MO
Attn: Jeff Carr
Analytical TDD/PAN: TDS-9306-804
Project TDD/PAN: TDS-9306-001
Bid Deadline: 3:00 pm CST 6/4/92
Estimated Sample Receipt Date: 6/15/93

Number of Samples	Matrix	Parameter/Method	Turnaround Time Verbal/FAX	Turnaround Time Hard Copy	MS/MSD	Detection Limits
4	Soil	PAH - 13 Priority Pollutants	14 calendar days	21 calendar days	NO	5-10 ppb
4	Soil	PCBs			NO	100 ppb
		QA Level II				

See Attachments for Deliverable Requirements
This Section to be Completed by Laboratory

Unit Price Breakdown

	Parameter/ Method	Matrix	Base Analysis Cost	Surcharges: Rush Turnaround	Surcharges: MS/MSD	Surcharges: Other	Total Unit Cost
8270 SIM	PAH	Soil	$ 295.00	—	—	—	$ 345.00
8080	PCBs	Soil	$ 165.00	—	—	—	$ 165.00

QA/QC Costs
Blank:
Sample Disposal:
QC Data Package:
Other:
Other Costs Not Listed Above (attach additional sheet if necessary)

Is Your Company Classified as
Small Business: ☐ Y ☐ N ID#:
Small Disadvantaged Business ☐ Y ☐ N ID#:
Woman-owned Business ☐ Y ☐ N
What Country Is Your Business Located In?

Total: 40.00

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 FEE FEE ROAD
MARYLAND HEIGHTS, MO 63043

Phone Number (314) 434-4570
Fax Number (314) 434-0080

FAX COVER

Date: 6-14-93

TO:

NAME: Ecology & Environment
CLIENT: Mary Jane Ripp
SUBJECT: PAH & PCB Analysis of Fish
FAX # 312-663-1090

FROM: Jeff Carr

NUMBER OF PAGES: 2 (Including this cover page)

ecology and environment, inc.

111 W. JACKSON BLVD., SUITE 1200, CHICAGO, ILLINOIS 60604

INTERNATIONAL SPECIALISTS in the ENVIRONMENT

PHONE: (312) 663-9415

TELECOPIER: (312) 663-1090

TELECOPIER TRANSMISSION FORM

DATE: 6/14/93 TIME: 2:30 pm. TOTAL NO. OF PAGES: 5
(including this form)

TO: Jeff Carr

COMPANY: ATAS

TELECOPIER PHONE NO.:

FROM: Mary Jane Ripp

SPECIAL INSTRUCTIONS: Please complete the bottom half of the analytical bid request. Also include costs for QA/QC packages and sample disposal costs, if any.

For Operator's Use Only

JOB CHARGE:

SENT BY:

ecology and environment, inc.

Analytical Bid Request/Analysis

From: Ecology & Environment, Inc.
111 West Jackson Blvd., 12th floor
Chicago, IL 60604
Attn: Mary Jane Ripp

Phone #: 314/ 434-4570
FAX #: 314/ 434-0080

Please respond to this request by faxing the completed form to Ecology and Environment, Inc.

To: ATAS
Maryland Heights, MO
Attn: Jeff Carr

Phone #: 312-663-9415
FAX #: 312-663-1090

Analytical TDD/PAN: T05-9306-804

Project TDD/PAN: T05-9306-008

Bid Deadline: 3:00 pm. CST 6/14/93

Estimated Sample Receipt Date: 6/15/93

Number of Samples	Matrix	Parameter/Method	Turnaround Time		MS/MSD	Detection Limits
			Verbal/FAX	Hard Copy		
4	fish	PAH - 13 Priority Pollutants	14 calendar days	21 calendar days	NO	5-10 ppb
4	fish	PCBs			NO	100 ppb
		QA Level II				

See Attachments for Deliverable Requirements

This Section to be Completed by Laboratory

Unit Price Breakdown

Parameter/ Method	Matrix	Base Analysis Cost	Surcharges			Total Unit Cost
			Rush Turnaround	MS/MSD	Other	

QA/QC Costs

Blank: _____ Sample Disposal: _____

QC Data Package: _____ Other: _____

Other Cost Not Listed Above: *(explain on separate form if necessary)* _____

Is Your Company Classified as:

Small Business: ☐ Y ☐ N ID#: _____

Small Disadvantaged Business: ☐ Y ☐ N ID#: _____

Woman-owned Business: ☐ Y ☐ N

What County Is Your Business Located in? _____

_____
Laboratory Signature

Bid Total

00400.PM3

ecology and environment, inc.

Analytical Bid Request/Analysis

From: Ecology & Environment, Inc.
111 West Jackson Blvd., 12th floor
Chicago, IL 60604
Attn: MARY JANE RIDD
To: E&S - E
Peoria, IL
Attn: John McQuellon
Analytical TDD/PAN: TOS- 9306-804

Phone #: 309/692-4422
FAX #: 309/692-5232
Please respond to this request by faxing the completed form to Ecology and Environment, Inc.
Phone #: 312-663-9415
FAX #: 312-663-1090
Project TDD/PAN: TOS- 9306-008

Bid Deadline: 3:00 pm CST 6/14/93
Estimated Sample Receipt Date: 6/15/93

Number of Samples	Matrix	Parameter/Method	Turnaround Time Verbal/FAX	Turnaround Time Hard Copy	MS/MSD	Detection Limits
4	fish	PAH - 16 Priority Pollutants	14 calendar days	21 calendar days	NO	5-10 ppb
4	fish	PCBs			NO	100 ppb
		Qst Level				

1 APP -10p OK

See Attachments for Deliverable Requirements
This Section to be Completed by Laboratory

Unit Price Breakdown

Parameter/Method	Matrix	Base Analysis Cost	Surcharges: Rush Turnaround	Surcharges: MS/MSD	Surcharges: Other	Total Unit Cost
8310	Fish	310	77.50			387.50
8080/PCB	Fish	185	40			225

QA/QC Costs
Blank:
QC Data Package: 225 x 4
Sample Disposal: 5.00 x 4
Other:
Other Cost Not Listed Above: (explain on separate form if necessary)

Is Your Company Classified as:
Small Business: ☐ Y ☒ N ID#:
Small Disadvantaged Business: ☐ Y ☒ N ID#:
Women-owned Business: ☐ Y ☒ N
What County Is Your Business Located In?

[redacted]
Laboratory Signature

Bid Total 2960

Environmental Science & Engineering, Inc.

FACSIMILE

DATE: _____ TIME: _____

TO: Mary Jane Ripp

FROM: J. McBellen

FAX #: (312) 663-1090

FAX #: (309) 692-5232

SUBJECT: _____

Number of Pages

(Including this Cover Sheet)

3

ADDITIONAL MESSAGE:

Please note change to delinquency terms and quant limits.

If you have any questions, please call us immediately at (309) 693-5648.

ECOLOGY & ENVIRONMENT, INC.

**ADDITIONAL TERMS AND CONDITIONS
APPLICABLE TO
SUBCONTRACTOR ANALYTICAL SERVICES
UNDER GOVERNMENT CONTRACTS**

A. **DISPOSAL** - Unless otherwise directed by E & E, the seller shall be responsible for disposition or ultimate disposal of any remaining sample materials in compliance with all applicable Federal, State, and Local laws and regulations. Also, upon E & E's request, the seller shall promptly provide at its' own expense all pertinent information and records to document that such disposition or ultimate disposal has been performed in compliance with governing regulations.

B. **NOTIFICATION** - The seller shall notify E & E immediately of any circumstances encountered which may impair the satisfactory performance of services in accordance with project specifications (including but not limited to holding time requirements, satisfactory QC spike recoveries and analysis of specified QA samples). Failure to notify E & E in a timely manner and to implement corrective actions as mutually agreed to shall warrant contract termination.

C. **DELINQUENCY** - It is understood that upon failure by the seller to perform any element of this Order, as outlined in the scope of work, design, specifications, methods of analysis, documentation, and timely delivery of articles or services hereunder, E & E shall make an equitable adjustment to the amount due according to the following schedule:

1. Failure to meet non-standard delivery date shall result in forfeiture of all surcharge or premium price differentials;

2. ~~Failure to meet standard delivery date shall result in a penalty, applied to the total order cost, of 1% for each 24-hour period up to 10 calendar days, and 5% for each 24-hour period thereafter, up to a maximum of 75% total cost reduction. Further failure to meet the requirements of this order shall constitute Breach of Contract.~~

ecology and environment, inc.

111 W. JACKSON BLVD., SUITE 1200, CHICAGO, ILLINOIS 60604

INTERNATIONAL SPECIALISTS in the ENVIRONMENT

PHONE: (312) 663-9415

TELECOPIER: (312) 663-1090

TELECOPIER TRANSMISSION FORM

DATE: 6/14/93 TIME: _____ TOTAL NO. OF PAGES: 5
(including this form)

TO: Jim McQuellin

COMPANY: ES+E

TELECOPIER PHONE NO.: _____

FROM: Mary Jane Ripp

SPECIAL INSTRUCTIONS: Please complete the bottom half of the analytical bid request. Also include costs for QA/QC packages and sample disposal costs, if any.

For Operator's Use Only

JOB CHARGE: _____

SENT BY: _____

ecology and environment, inc.

Analytical Bid Request/Analysis

From: Ecology & Environment, Inc.
111 West Jackson Blvd., 12th floor
Chicago, IL 60604
Attn: Mary Jane Ripp
To: ES + E
Peoria, IL
Attn: Jim McQuellon

Phone #: 309/692-4422
FAX #: 309/692-5232

Please respond to this request by faxing the completed form to Ecology and Environment, Inc.

Phone #: 312-663-9415
FAX #: 312-663-1090

Analytical TDD/PAN: T05-9306-804

Project TDD/PAN: T05-9306-008

Bid Deadline: 3:00 pm. CST 6/14/93

Estimated Sample Receipt Date: 6/15/93

Number of Samples	Matrix	Parameter/Method	Turnaround Time		MS/MSD	Detection Limits
			Verbal/FAX	Hard Copy		
4	fish	PAH - 13 Priority Pollutants	14 calendar days	21 calendar days	NO	5-10 ppb
4	fish	PCBs			NO	100 ppb
		QA Level				

See Attachments for Deliverable Requirements

This Section to be Completed by Laboratory

Unit Price Breakdown

Parameter/ Method	Matrix	Base Analysis Cost	Surcharges			Total Unit Cost
			Rush Turnaround	MS/MSD	Other	

QA/QC Costs

Blank: _____ Sample Disposal: _____

QC Data Package: _____ Other: _____

Other Cost Not Listed Above: *(explain on separate form if necessary)* _____

Is Your Company Classified as:

Small Business: ☐ Y ☐ N ID#: _____

Small Disadvantaged Business: ☐ Y ☐ N ID#: _____

Woman-owned Business: ☐ Y ☐ N

What County Is Your Business Located in? _____

_____
Laboratory Signature

Bid Total

00400.PM3

ecology and environment, inc.

Analytical Bid Request/Analysis

From: Ecology & Environment, Inc.
111 West Jackson Blvd., 12th floor
Chicago, IL 60604
Attn: Mary Jane Zipp
To: Weston Gulf Coast
University Park, IL
Attn: Eric Lena
Analytical TDD/PAN: 105-9306-804

Phone #: 708/534-5200
FAX #: 708/534-5211
Please respond to this request by faxing the completed form to Ecology and Environment, Inc.
Phone #: 312-663-9455
FAX #: 312-663-1090

Project TDD/PAN: 005-9306-008

Bid Deadline: 3:00 pm CST 6/14/93
Estimated Sample Receipt Date: 6/15/93

Number of Samples	Matrix	Parameter/Method	Turnaround Time Verbal/FAX	Turnaround Time Hard Copy	MS/MSD	Detection Limits
4	fish	PAH - Priority Pollutants	21 days	21 days	NO	3-5 ppb
4	fish	PCBs	21 days	21 days	NO	100 ppb

See Attachments for Deliverable Requirements
This Section to be Completed by Laboratory

Unit Price Breakdown

Parameter/ Method	Matrix	Base Analysis Cost	Surcharges: Rush Turnaround	Surcharges: MS/MSD	Surcharges: Other	Total Unit Cost

QA/QC Costs
Blank:
QC Data Package:
Other Cost Not Listed Above (explain on separate sheet if necessary)
Sample Discard:
Other:

Is Your Company Classified as:
Small Business: ☐ Y ☐ N ID#
Small Disadvantaged Business: ☐ Y ☐ N ID#
Women-owned Business: ☐ Y ☐ N
What County is Your Business Located in?

Donald Kupski
Laboratory Signature

Bid Total: NO BID

our current TAT is ~60 days.

WESTON-GULF COAST INC.
2417 BOND STREET
JUNIPER PARK, ILLINOIS 60466-3162
708 534-52 • 219-985 • 815 723-
FAX 708-5 211

FACSIMILE TRANSMITTAL

WESTON-Gulf Coast, Inc.
FAX # (708) 534-5211

TO: Mary Jane Rier

Recipient's Telecopy Telephone # [illegible]
Recipient's Confirmation Telephone # [illegible]

FROM: Eric Lewis

(708) 534-5200
Originator's Telephone #

TOTAL PAGES: 2 (including cover sheet)

ORIGINAL WILL:

___ Follow via mail
___ Follow via messenger
___ Follow via overnight service
✓ Not be sent

Eric Lewis
(Sent By)
(708) 534-5200
(Sender's Telephone #)
[illegible] 1 [illegible]
(Date) (Time)

COMMENTS:

The documents accompanying this telecopy transmission contain confidential, privileged or proprietary information that either constitutes the property of Roy F. Weston, Inc. (WESTON) or, if the property of another, represents information that is within WESTON's care, custody and control. The information is intended to be for the use of the individual or entity named on this transmission sheet. If you are not the intended recipient, be aware that any disclosure, copying or use of the contents of this telecopied information is prohibited. If you have received this telecopy in error, please notify us by telephone immediately so that we can arrange for the retrieval of the original documents at no cost to you. Thank you for your assistance.

ecology and environment, inc.

111 W. JACKSON BLVD., SUITE 1200, CHICAGO, ILLINOIS 60604

INTERNATIONAL SPECIALISTS in the ENVIRONMENT

PHONE: (312) 663-9415

TELECOPIER: (312) 663-1090

TELECOPIER TRANSMISSION FORM

DATE: 6/14/93 TIME: 2:15 TOTAL NO. OF PAGES: 5
(Including this form)

TO: ERIC Lang

COMPANY: Weston Gulf Coast

TELECOPIER PHONE NO.:

FROM: Mary Jane Rupp

SPECIAL INSTRUCTIONS: Please complete the bottom half of the analytical bid request. Also include costs for QA/QC packages and sample disposal costs, if any.

For Operator's Use Only

JOB CHARGE:

SENT BY:

ecology and environment, inc.

Analytical Bid Request/Analysis

From: Ecology & Environment, Inc.
111 West Jackson Blvd., 12th floor
Chicago, IL 60604
Attn: MARY JANE RIPP
To: Weston Gulf Coast
University Park, IL
Attn: Eric Chang

Phone #: 708/534-5200
FAX #: 708/534-5211

Please respond to this request by faxing the completed form to Ecology and Environment, Inc.
Phone #: 312-663-9415
FAX #: 312-663-1090

Analytical TDD/PAN: T05-9306-804
Project TDD/PAN: T05-9306-008

Bid Deadline: 3:00 pm. CST 6/14/93
Estimated Sample Receipt Date: 6/15/93

Number of Samples	Matrix	Parameter/Method	Turnaround Time		MS/MSD	Detection Limits
			Verbal/FAX	Hard Copy		
4	fish	PAH - 13 Priority Pollutants	14 calendar days	21 calendar days	NO	5-10 ppb
4	fish	PCBs			NO	100 ppb
		QA Level II				

See Attachments for Deliverable Requirements

This Section to be Completed by Laboratory

Unit Price Breakdown

Parameter/ Method	Matrix	Base Analysis Cost	Surcharges			Total Unit Cost
			Rush Turnaround	MS/MSD	Other	

QA/QC Costs

Blank: _____ Sample Disposal: _____
QC Data Package: _____ Other: _____
Other Cost Not Listed Above: *(explain on separate form if necessary)* _____

Is Your Company Classified as:

Small Business: ☐ Y ☐ N ID#: _____
Small Disadvantaged Business: ☐ Y ☐ N ID#: _____
Woman-owned Business: ☐ Y ☐ N
What County is Your Business Located in? _____

_____
Laboratory Signature

Bid Total

00400.PMS

ECOLOGY & ENVIRONMENT, INC.

ADDITIONAL TERMS AND CONDITIONS
APPLICABLE TO
SUBCONTRACTOR ANALYTICAL SERVICES
UNDER GOVERNMENT CONTRACTS

A. DISPOSAL - Unless otherwise directed by E & E, the seller shall be responsible for disposition or ultimate disposal of any remaining sample materials in compliance with all applicable Federal, State, and Local laws and regulations. Also, upon E & E's request, the seller shall promptly provide at its' own expense all pertinent information and records to document that such disposition or ultimate disposal has been performed in compliance with governing regulations.

B. NOTIFICATION - The seller shall notify E & E immediately of any circumstances encountered which may impair the satisfactory performance of services in accordance with project specifications (including but not limited to holding time requirements, satisfactory QC spike recoveries and analysis of specified QA samples). Failure to notify E & E in a timely manner and to implement corrective actions as mutually agreed to shall warrant contract termination.

C. DELINQUENCY - It is understood that upon failure by the seller to perform any element of this Order, as outlined in the scope of work, design, specifications, methods of analysis, documentation, and timely delivery of articles or services hereunder, E & E shall make an equitable adjustment to the amount due according to the following schedule:

1. Failure to meet non-standard delivery date shall result in forfeiture of all surcharge or premium price differentials;

2. Failure to meet standard delivery date shall result in a penalty, applied to the total order cost, of 2% for each 24-hour period up to 10 calendar days, and 5% for each 24-hour period thereafter, up to a maximum of 75% total cost reduction. Further failure to meet the requirements of this Order shall constitute Breach of Contract.

ECOLOGY & ENVIRONMENT, INC.
LABORATORY DATA PACKAGE DELIVERABLE REQUIREMENTS

*** **Note:** E & E, Inc. requires the following information in order to perform data validation. The data validation is based on limits and guidelines specified in the U.S. EPA 1990 OSWER Directive 9360.4-01.

ORGANICS BY GC/MS
QA LEVEL II

1. **Case Narrative:** -Observations and/or Problems.
   -Methods used.

2. **Sample Holding Times:** -Extraction dates.
   -Analysis dates.

3. **Analytical Results for:**

   - **Samples:** -Relative retention times.
     -Mass spectra.
     -Ion chromatograms.

   - **GC/MS Tuning:** BFB/DFTPP ion abundances.

   - **Initial Calibration:** -Retention times (RT).
     -Response factors (RF and RRF).
     -% relative standard deviation (%RSD).

   - **Continuing Calibrations:** % difference from initial standard.

   - **Internal Standards:** -Retention times.
     -Peak areas.

   - **Method Blank(s):** -Detection limits.
     -Amount detected in blank.

   - **Surrogate Recoveries:** % recoveries.

   - **Tentatively Identified Compounds, if applicable:** Ion relative intensities.

4. **Copies of Raw Data for all Analytical Results:**
   -Sample spectra.
   -Enhanced or background subtracted spectra.
   -Standard spectra. (For tentative identified compounds, provide a reference mass spectrum from the spectral library.)

5. **Compound Quantitation Calculations:** -Dilutions.
   -Concentrations.
   -Dry weights.
   -Etc.

6. **Chain-of-Custody:** Photocopy of COC form.

ECOLOGY & ENVIRONMENT, INC.
LABORATORY DATA PACKAGE DELIVERABLE REQUIREMENTS

*** **Note:** E & E, Inc. requires the following information in order to perform data validation. The data validation is based on limits and guidelines specified in the U.S. EPA 1990 OSWER Directive 9360.4-01.

PCBs BY GC
QA LEVEL II

1. **Case Narrative:** -Observations and/or Problems.
   -Methods used.

2. **Sample Holding Times:** -Extraction dates.
   -Analysis dates.

3. **Analytical Results for:**

   - **Samples:** Retention time windows.

   - **Initial Calibration:** -3-point calibration for each Aroclor of interest.
     -Response factors (RF).
     -% relative standard deviations (%RSD).

   - **Continuing Calibrations:** % difference from initial standard.

   - **Method Blank(s):** -Detection limits.
     -Amount detected in blank.

   - **Matrix Spike/Matrix Spike Duplicate, if applicable:** % recovery.

   - **Surrogate Recoveries:** -% recovery
     -Control limits
     -List compound(s) used as surrogate.

4. **Copies of Raw Data for all Analytical Results:**

   -Sample chromatograms.
   -Enhanced or background subtracted chromatograms.
   -Standard chromatograms.

5. **Compound Quantitation Calculations:** -Dilutions.
   -Concentrations.
   -Dry weights.
   -Etc.

6. **Chain-of-Custody:** Photocopy of COC form.

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 • FAX (314) 434-0080

July 6, 1993

Mary Jane Ripp
Ecology & Environment, Inc.
111 West Jackson Blvd., 12th Floor
Chicago, IL 60604

RE: ATAS #6983.01-#6983.04
Sylvan Slough, Mississippi River

Dear Ms. Ripp:

Enclosed are the analytical reports for the samples received in our laboratory on June 16, 1993.

If, in your review, you should have any questions or require additional information, please call.

Thank you for choosing ATAS for your analytical needs.

Sincerely,

Richard H. Mannz
Vice President

Enclosures

RHM/mg

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698301PA(172)
DATE : 07-06-93
REVISED DATE : 07-29-93

SAMPLE MATRIX : FISH
ATAS # : 6983.01
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-06-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35271 - CARP

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

POLYNUCLEAR AROMATIC HYDROCARBONS	REPORTING LIMIT	RESULTS
NAPHTHALENE	5	ND U
ACENAPHTHYLENE	5	ND U
ACENAPHTHENE	5	ND U
FLUORENE	5	ND U
PHENANTHRENE	5	12 BJ
ANTHRACENE	5	ND U
FLUORANTHENE	5	ND U
PYRENE	5	ND U
BENZO(A)ANTHRACENE	5	ND U
CHRYSENE	5	ND U
BENZO(B)FLUORANTHENE	5	ND U
BENZO(K)FLUORANTHENE	5	ND U
BENZO(A)PYRENE	5	ND U
DIBENZO(A,H)ANTHRACENE	5	ND U
BENZO(G,H,I)PERYLENE	5	ND U
INDENO(1,2,3-CD)PYRENE	5	ND U

QA/QC SUROGATE RECOVERIES

2-FLUOROBIPHENYL (30-115) <1%
TERPHENYL-d14 (18-137) 59%

ND = NONE DETECTED ABOVE REPORTING LIMIT
B = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

:IENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698302PA(172)
DATE : 07-06-93
REVISED DATE : 07-29-93

SAMPLE MATRIX : FISH
ATAS # : 6983.02
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-06-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35341 - RIVER CARPSUCKER

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

:LYNUCLEAR AROMATIC HYDROCARBONS	REPORTING LIMIT	RESULTS
.PHTHALENE	5	5.6 J
:ENAPHTHYLENE	5	ND U
:ENAPHTHENE	5	5.1 J
.UORENE	5	ND
:ENANTHRENE	5	20 BJ
ITHRACENE	5	ND U
.UORANTHENE	5	ND U
:RENE	5	ND U
:NZO(A)ANTHRACENE	5	ND U
IRYSENE	5	ND U
:NZO(B)FLUORANTHENE	5	ND U
:NZO(K)FLUORANTHENE	5	ND U
:NZO(A)PYRENE	5	ND U
:BENZO(A,H)ANTHRACENE	5	ND U
:NZO(G,H,I)PERYLENE	5	ND U
IDENO(1,2,3-CD)PYRENE	5	ND U

QA/QC SURROGATE RECOVERIES

2-FLUOROBIPHENYL (30-115) 68%
TERPHENYL-d14 (18-137) 84%

) = NONE DETECTED ABOVE REPORTING LIMIT
= ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

LIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698303PA(172)
DATE : 07-06-93
REVISED DATE : 07-29-93

SAMPLE MATRIX : FISH
ATAS # : 6983.03
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-06-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35342 - CHANNEL CATFISH

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

OLYNUCLEAR AROMATIC HYDROCARBONS	REPORTING LIMIT	RESULTS
APHTHALENE	5	ND U
CENAPHTHYLENE	5	ND U
CENAPHTHENE	5	ND U
LUORENE	5	ND U
HENANTHRENE	5	13 B J
NTHRACENE	5	ND U
LUORANTHENE	5	ND U
YRENE	5	ND U
ENZO(A)ANTHRACENE	5	ND U
HRYSENE	5	ND U
ENZO(B)FLUORANTHENE	5	ND U
ENZO(K)FLUORANTHENE	5	ND U
ENZO(A)PYRENE	5	ND U
IBENZO(A,H)ANTHRACENE	5	ND U
ENZO(G,H,I)PERYLENE	5	ND U
NDENO(1,2,3-CD)PYRENE	5	ND U

QA/QC SURROGATE RECOVERIES

2-FLUOROBIPHENYL (30-115) 58%
TERPHENYL-d14 (18-137) 78%

D = NONE DETECTED ABOVE REPORTING LIMIT
= ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 · FAX (314) 434-0080

LIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: 698304PA(172)

DATE : 07-06-93
REVISED DATE : 07-29-93

SAMPLE MATRIX : FISH
ATAS # : 6983.04
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-06-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : 35343 - FRESH WATER DRUM

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

OLYNUCLEAR AROMATIC HYDROCARBONS	REPORTING LIMIT	RESULTS
APHTHALENE	5	8.8 J
CENAPHTHYLENE	5	ND U
CENAPHTHENE	5	ND U
LUORENE	5	ND U
HENANTHRENE	5	12 B J
NTHRACENE	5	ND U
LUORANTHENE	5	ND U
YRENE	50	ND U
ENZO(A)ANTHRACENE	50	ND U
HRYSENE	50	ND U
ENZO(B)FLUORANTHENE	50	ND U
ENZO(K)FLUORANTHENE	50	ND U
ENZO(A)PYRENE	50	ND U
IBENZO(A,H)ANTHRACENE	50	ND U
ENZO(G,H,I)PERYLENE	50	ND U
NDENO(1,2,3-CD)PYRENE	50	ND U

QA/QC SURROGATE RECOVERIES

2-FLUOROBIPHENYL (30-115) 80%
TERPHENYL-d14 (18-137) 81%

D = NONE DETECTED ABOVE REPORTING LIMIT
= ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

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LIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: BK0628PA(172)
DATE : 07-06-93
REVISED DATE : 07-29-93

SAMPLE MATRIX : FISH
ATAS # : METHOD BLANK
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-02-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : METHOD BLANK

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

OLYNUCLEAR AROMATIC HYDROCARBONS	REPORTING LIMIT	RESULTS
APHTHALENE	5	ND U
CENAPHTHYLENE	5	ND U
CENAPHTHENE	5	ND U
LUORENE	5	ND U
HENANTHRENE	5	9 J
NTHRACENE	5	ND U
LUORANTHENE	5	ND U
YRENE	5	ND U
ENZO(A)ANTHRACENE	5	ND U
HRYSENE	5	ND U
ENZO(B)FLUORANTHENE	5	ND U
ENZO(K)FLUORANTHENE	5	ND U
ENZO(A)PYRENE	5	ND U
IBENZO(A,H)ANTHRACENE	5	ND U
ENZO(G,H,I)PERYLENE	5	ND U
NDENO(1,2,3-CD)PYRENE	5	ND U

QA/QC SURROGATE RECOVERIES

2-FLUOROBIPHENYL (30-115) 41%
TERPHENYL-d14 (18-137) 43%

ND = NONE DETECTED ABOVE REPORTING LIMIT
J = ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

IENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: BA0628PA(172)
DATE : 07-06-93
REVISED DATE : 07-29-93

SAMPLE MATRIX : REAGENT BLANK
ATAS # : REAGENT BLANK
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-02-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : REAGENT BLANK

RESULTS REPORTED IN ug/Kg OR Parts Per Billion (PPB)

LYNUCLEAR AROMATIC HYDROCARBONS	REPORTING LIMIT	RESULTS
PHTHALENE	5	ND U
ENAPHTHYLENE	5	ND U
ENAPHTHENE	5	ND U
UORENE	5	ND U
ENANTHRENE	5	**
THRACENE	5	ND U
UORANTHENE	5	ND U
RENE	5	ND U
NZO(A)ANTHRACENE	5	ND U
RYSENE	5	ND U
NZO(B)FLUORANTHENE	5	ND U
NZO(K)FLUORANTHENE	5	ND U
NZO(A)PYRENE	5	ND U
BENZO(A,H)ANTHRACENE	5	ND U
NZO(G,H,I)PERYLENE	5	ND U
DENO(1,2,3-CD)PYRENE	5	ND U

QA/QC SURROGATE RECOVERIES

2-FLUOROBIPHENYL (30-115) 12%
TERPHENYL-d14 (18-137) 44%

D = NONE DETECTED ABOVE REPORTING LIMIT
= ANALYTE DETECTED IN METHOD BLANK POSSIBLY BELOW THE REPORTING LIMIT.
* = PRESENT, BUT BELOW THE REPORTING LIMIT

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: QC0622PC(172)
DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : SPIKE BLANK/SPIKE BLANK DUPLICATE
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : SPIKE BLANK/SPIKE BLANK DUPLICATE

PCB SPIKE BLANK/SPIKE BLANK DUPLICATE RESULTS

	SPIKE ADDED (ug/Kg)	AMT. FOUND BLK (ug/Kg)	AMT. FOUND SB (ug/Kg)	SB PERCENT RECOVERY
AR1260	200	ND	91.5	46 %

	AMT. FOUND SBD (ug/Kg)	PERCENT RECOVERY	PERCENT DIFFERENCE
AR1260	108	54 %	16 %

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: QC0628PA(172)

DATE : 07-06-93

SAMPLE MATRIX : FISH
DATE EXTRACTED: 06-28-93
DATE ANALYZED : 07-02-93
METHOD REF. : SW846-8270, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER

PAH SPIKE BLANK/SPIKE BLANK DUPLICATE RECOVERY

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	SPIKE BLANK A CONCENTRATION (ug/Kg)	SPIKE A PERCENT RECOVERY
NAPHTHALENE	500	ND	265	53
ACENAPHTHYLENE	500	ND	318	64
ACENAPHTHENE	500	ND	317	63
FLUORENE	500	ND	292	58
PHENANTHRENE	500	9	324	63
ANTHRACENE	500	ND	322	64
FLUORANTHENE	500	ND	286	57
PYRENE	500	ND	361	72
BENZO(A)ANTHRACENE	500	ND	323	65
CHRYSENE	500	ND	311	62
BENZO(B)FLUORANTHENE	500	ND	470	94
BENZO(K)FLUORANTHENE	500	ND	448	92
BENZO(A)PYRENE	500	ND	469	94
DIBENZO(A,H)ANTHRACENE	500	ND	405	81
BENZO(G,H,I)PERYLENE	500	ND	432	86
INDENO(1,2,3-CD)PYRENE	500	ND	404	81

COMPOUND	SPIKE ADDED (ug/Kg)	SPIKE BLANK B CONCENTRATION (ug/Kg)	SPIKE B PERCENT RECOVERY	PERCENT RPD
NAPHTHALENE	500	269	54	2
ACENAPHTHYLENE	500	342	68	8
ACENAPHTHENE	500	342	68	8
FLUORENE	500	339	68	15
PHENANTHRENE	500	373	73	14
ANTHRACENE	500	365	73	12
FLUORANTHENE	500	344	69	19
PYRENE	500	406	81	12
BENZO(A)ANTHRACENE	500	394	79	20
CHRYSENE	500	369	74	17
BENZO(B)FLUORANTHENE	500	650	130	32
BENZO(K)FLUORANTHENE	500	511	102	11
BENZO(A)PYRENE	500	577	115	21
DIBENZO(A,H)ANTHRACENE	500	503	101	21
BENZO(G,H,I)PERYLENE	500	540	108	22
INDENO(1,2,3-CD)PYRENE	500	500	100	21

ATAS 875 Fee Fee Road • Maryland Heights, MO 63043 • (314) 434-4570 - FAX (314) 434-0080

CLIENT: ECOLOGY & ENVIRONMENT, INC.
111 WEST JACKSON BLVD., 12TH FLOOR
CHICAGO, IL 60604
ATTN: MARY JANE RIPP

REPORT: QC0622PC(172)

DATE : 07-06-93

SAMPLE MATRIX : FISH
ATAS # : SPIKE BLANK/SPIKE BLANK DUPLICATE
DATE SUBMITTED: 06-16-93
DATE EXTRACTED: 06-22-93
DATE ANALYZED : 06-23-93
METHOD REF. : SW846-8080, EPA METHODOLOGY
PROJECT : SYLVAN SLOUGH, MISSISSIPPI RIVER
SAMPLE ID : SPIKE BLANK/SPIKE BLANK DUPLICATE

PCB SPIKE BLANK/SPIKE BLANK DUPLICATE RESULTS

	SPIKE ADDED (ug/Kg)	AMT. FOUND BLK (ug/Kg)	AMT. FOUND SB (ug/Kg)	SB PERCENT RECOVERY
AR1260	200	ND	91.5	46 %

	AMT. FOUND SBD (ug/Kg)	PERCENT RECOVERY	PERCENT DIFFERENCE
AR1260	108	54 %	16 %

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

Extract Chain of Custody

PREP: 013
DATE: 11/13/92
PAGE: 2 OF 2
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Book: 189
Page: 35

Project No. EE

Analysis: GC 600

Sample No.	Client ID	Date Extracted	Wt./vol. Sample	Conc. Volume	Cleanup	Final Volume	Additional Cleanup	Final Volume	Date	Comments: Hexane Lot # 922091 # 32342 Florisil Cartridge Lot # 940646
062293-01BLK	N/A	6/22/93	10 gm	10ml	Florisil Cartridge H_2SO_4	N/A	N/A	1ml.	6/23/93	BLK's & SPK's used
062293-02BLK	↓	↓	↓	↓	↓	↓	↓	↓	↓	Sample # 0618931
062293 01SPK *	↓	↓	↓	↓	↓	↓	↓	↓	↓	* see spike compounds
062293-02SPK *	↓	↓	↓	↓	↓	↓	↓	↓	↓	
6983.01	EE	↓	↓	↓	↓	↓	↓	↓	↓	3 mls of sample used for acid clean up
.02	↓	↓	↓	↓	↓	↓	↓	↓	↓	
.03	↓	↓	↓	↓	↓	↓	↓	↓	↓	
.04	↓	↓	↓	↓	↓	↓	↓	↓	↓	
										Note: Samples were clean up with H_2SO_4 (3mls) were used it did not work very well then we used Florisil clean up. (1ml) of sample were used. HE 6/23/93

HEspudale 6/23/93

C00056

Spike Compounds — Amount Spiked

DCB/TCX Surr *061493-0003 — 0.2 ug/ml — 1ml

* PCB 1260 MS mix #051293-00006 — 2 ug/ml — 1ml

From: HEspudale 6/23/93 To: [illegible] 6/23/93

From: To:

JEC

GC RUN LOG

INSTRUMENT: #1 GC FAST LAB

METHOD FILENAME: 8080PCBT, PCB5
Ch.1+2 Ch.1

DATE	TIME	SAMPLE I.D.	CLIENT	FILE NAME	INJ/VOL	COMMENTS	INT.
6/18/93	16:25	2,4,2,6 DNT 20 M.L. 051893- +Surr 50 0007	N/A	16L00975,1,1	1ul	Ch.2-Good GC Ch.1-2,4DNT out 220	Km
6/21/93	12:48	AR1260 Cont Cal 041293- +Surr 500/50 0028	N/A	16L00976,1,1	1ul	Good GC 600	Km
	13:38	061893-01B1K		16L00977,1,1		Good	
	14:16	-02B1K		,2,1		Not Reported	
	14:53	-01SPK		,3,1			
	15:31	-02SPK		,4,1			
	16:08	6997.04	Amoco	,5,1		Need Dil; Matrix Int	
	16:45	6998.04		,6,1			
	17:22	AR1260 Mid level 041293- +Surr 500/50 0028	N/A	,7,1		Low; No Good	
6/22/93	09:29	AR1260 Cont Cal 041293- +Surr 500/50 0028	N/A	16L00978,1,1	1ul	No Good; use in initial Cal GC 600	Km
	10:11	1000 041293- 120 Method 0026		16L00979,1,1		Good	
	10:49	750 041293- 80 0027		,2,1			
	11:26	250 041293- 20 0029		,3,1			
	12:03	100 041293- 5 0030		,4,1			
	12:45	6997.04 1:5 Dil	Amoco	16L00980,1,1		OK	
	13:24	6998.04 1:5 Dil		,2,1		OK	
	14:01	AR1260 M.L. 041293- +Surr 500/50 0028	N/A	,3,1		Good	
6/23/93	07:27	AR1260 Cont Cal 041293- +Surr 500/50 0028	N/A	16L00981,1,1	1ul	Good GC 600	Km
	15:59	062293-01B1K Fish Tissue		16L00982,1,1		Good	
	16:36	-02B1K		,2,1		Not Reported	
	17:13	-01SPK		,3,1			
	17:51	-02SPK		,4,1			
	18:28	6983.01	EE	,5,1		OK	
	19:05	6983.02		,6,1		OK	
	19:42	6983.03		,7,1		OK	

Analyst Signature 6/24/93
Date:

Verification Signature
Date: 6-24-93

000057

CASE NARRATIVE

List of Sample Numbers:

ATAS ID	SAMPLE ID	MATRIX
6983.01	35271	FISH
6983.02	35341	FISH
6983.03	35342	FISH
6983.04	35343	FISH

The samples were received on June 16, 1993. All samples were received intact and in good condition. The Samples were extracted using widely accepted techniques and were analyzed by GC/MS (SIM)(SW 846-8270). Phenanthrene was detected at low levels in both blanks. Samples containing phenanthrene were flagged with a "B". No problems were encountered during analysis.

I Certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Richard H. Mannz
Vice President

OTHER SUPPORTING DOCUMENTATION

LOGBOOK RECORDS
EXTRACTION CHAIN-OF-CUSTODIES
RUN LOGS
STANDARD LOGS
etc....

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

Extract Chain of Custody

PREP: 013
DATE: 11/13/92
PAGE: 2 OF 2
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Page: 20

000235

Project No. EE.

Analysis: MS-120

Sample No.	Client ID	Date Extracted	Wt./vol. Sample	Conc. Volume	Cleanup	Final Volume	Additional Cleanup	Final Volume	Date	Comments
										Check Lot # 33029
062893-01BLK	N/A	6/28/93	N/A	2mls	SILICA Gel	1ml.	N/A	N/A	7/01/93	CYCLOHEXANE Lot # 910166 PENTANE Lot # 921698
062893-02BLK										
062693-01BLK										
062693-02BLK										
062693-01SPK*										*See Spike Mix Below
062693-02SPK*										
6983.01	EE		10gm							
.02										Note: All samples (Fish) were
.03										Homogeneous on color Dark yellow,
.04										Extremely slow process the last
										Part of the collection process. (step 12 SOP)
										Also the waste was very dirty.

Spike Compounds

		Amount Spiked	
BNA SURR Mix	062593-~~0013~~ 0012 JT 6/28/93	100 ug/ml + 200 ug/ml	50 uls
* PAH MS Mix	052793-0001	5 ug/ml	1 ml.

From: [signature] 7/01/93 To: Richard Evans 7/01/93

From: To:

Notebook No. 200

PROJECT NA

Continued From Page NA

Data File	Client ID	Sample ID	Matrix	Date	Time
245752	NA	25 µl TANSH (04193-0004)	NA	7/2/93	0628
245753		062893-01 Blank	Fish		NA
245754		062893-02 Blank			
245755		062693-01 Blank			
245756		062693-02 Blank			
245757		062693-01 Spike			
245758		062693-02 Spike			
245759	EE	6983.01			
245760		6983.02			
245761		6983.03			
245762		6983.04			1046
245763	NA	CC1 (04.505-0006)	NA	7/2/93	NA
245764	EE	6983.04	Fish	7/2/93	1402
245765	NA	CC1 (04.593-0006)	NA	7/2/93	1426
245766		070193-01 Blank	Air		NA
245767		070193-01 Spike			
245768	USEPA	7114.01 (TANXT:62.132)			1517
245769	NA	25 µl TANSH (04193-0004)	NA	7/2/93	0856
245770	EE	6983.01	Fish		NA
245771		6983.02			
245772		6983.03			
245773		6983.04			1043
245774	NA	25 µl TANSH (04193-0004)	NA	7/2/93	1220
245775	EE	6983.04	Fish		1248

7/6/93

Continued on Page

Read and Understood By

R. W. Ilk — Signed — 7/6/93 — Date

M. Towe — Signed — 7-6-93 — Date

Notebook No. 200

PROJECT NA

Continued From Page NA

Other	Pipette ID	Aliquot	Comments
TC	NA		
			Interferent degradation — Re-analyze
TC	NA		
TC	1:100		
TC	NA		
			SMD 061526-7 MS7180-DK
TC	NA		
			MS120-DK
			Alter 1:10 for matrix
TC	NA		
	1:10		MS120-DK

Continued on Page

Read and Understood By

R. W. Ilk — Signed — 7/6/93 — Date

M. Towe — Signed — 7-6-93 — Date

0000236

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

OPERATION'S DATA TRANSMITTAL FORM

ADMN: 005
DATE: 7/23/91
PAGE: 2 OF 3
REV: 1.3

SAMPLE ID	DATA FILE	CLIENT
MS120 Cont. Cal	>A5752	NA
062893-02 Blank	>A5754	↓
0626931-01 Blank	>A5755	↓
0626931-01 Spike	>A5757	↓
0626931-02 Spike	>A5758	↓

COMMENTS: Fish QC

RELINQUISHED BY:

A. Zome 7-6-93

NAME DATE

RECEIVED BY:

[illegible] 7/6/93

NAME DATE

QC

	SPIKE BLANK		SPIKE BLANK (DUP)	
MATRIX	ID	% REC	ID	% REC

000237

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

OPERATION'S DATA TRANSMITTAL FORM

ADMN: 005
DATE: 7/23/91
PAGE: 2 OF 3
REV: 1.3

SAMPLE ID	DATA FILE	CLIENT
MS120 Cont. Cal	>A5774	NA
6983.04	>A5773.5	EE

COMMENTS:

RELINQUISHED BY:

R. Yowe 7-6-93

NAME DATE

RECEIVED BY:

[illegible] 7/6/93

NAME DATE

QC

	SPIKE BLANK		SPIKE BLANK (DUP)	
MATRIX	ID	% REC	ID	% REC

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

OPERATION'S DATA TRANSMITTAL FORM

ADMN: 005
DATE: 7/23/91
PAGE: 2 OF 3
REV: 1.3

SAMPLE ID	DATA FILE	CLIENT
MS120 Cont. Cal.	XA5769	NA
6983.01-3	XA5770-5772	EE

COMMENTS:

RELINQUISHED BY: A. Towe 7-6-93
NAME DATE

RECEIVED BY: [illegible] 7/6/93
NAME DATE

QC

	SPIKE BLANK		SPIKE BLANK (DUP)	
MATRIX	ID	% REC	ID	% REC

AMERICAN TECHNICAL ANALYTICAL SERVICES. INC.
875 FEE FEE ROAD
MARYLAND HEIGHTS. MO 63043

Episode: 6983
Client: E&E INC

SID #	DATE	DESCRIPTION	MA	NC	TEST	PRI	DUE	DESCRIPTION	RESULTS	ANALYSTS	DATE/TIME
6983.01	06/16/93	35271	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			
6983.02	06/16/93	35341	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			
6983.03	06/16/93	35342	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			
6983.04	06/16/93	35343	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			

Total samples = 4

PJT 6/17/93

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO.

ATAS CLIENT NAME:

FORM COMPLETED BY: WALTER DUTSON

LOCATION: SYLVAN SLOUGH, MISS. RIVER

ANALYSIS: WD 6/16/93 3F 3F2

SAMPLE ID	DATE	TIME	MATRIX	GRAB	COMP	PRES	NO. OF CONTAINERS	REMARKS	LAB NO.
35271	5/27/93		FISH			FROZEN	PLASTIC BAG	CARP	6983.01
35341	5/12/93		FISH			↓	↓	RIVER CARPSUCKER	02
35342	5/12/93		FISH			↓	↓	CHANNEL CATFISH	03
35343	5/12/93		FISH			↓	↓	FRESH WATER DRUM	04

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
		Walter Dutson	6/16/93 10:00				

000241

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

GEN : 001
DATE: 3-30-92
PAGE: 7 OF 8
REV : 1.5

ANALYTICAL REQUEST FORM

CLIENT: ECOLOGY & ENVIRONMENT, INC. CODE: E&E INC

CLIENT CONTACT : MARY JANE RIPP P.O. #

PHONE NUMBER : (312)663-9415

PROJECT NUMBER :

PROJECT NAME :

PROJECT LOCATION: SYLVAN SLOUGH, MISSISSIPPI RIVER

RECEIPT DATE : 06/16/93

ANALYTICAL REQUESTS

QUANTITY	MATRIX	CODE	CODE	CODE	CODE	CODE	DUE DATE
4	OTHER	MS120	GC600				06/29/93

SHIPPING INSTRUCTIONS:

SPECIAL PROVISIONS:

ORIGINATOR: JEFF

000242

Field ID Num

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: B

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description: Sylvan Slough adjacent to Quad Cities Industrial Center

19 Date: 9 3 0 5 1 2 (Y Y M M D D) 20 Time: 1 2 0 0 (H H M M) 21 Collected by: RDS 22 Delivered by: IDC 6/15/93

23 Comments: Special SAMPLE FOR USEPA

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: Grams / Lbs

1940, 1420, 1400, 1900, 2140

Fish Species: CARP

Length: Circle One: CM / IN

521, [illegible], 477, 515, 550

Program: FISH CONTAMINANT MONITORING

Sample Collected By: DAN Sellee 5-27-93 Date

Transported By: _____ Date

Sampling Location: Sylvan Slough

Stream Name: Mississippi River

Sampling Techniques: E.F.

Weather Conditions: Cloudy / high wind

Comments and Unusual Conditions: Oil Slicks

Indicate severity: heavy, slight.

FOR LABORATORY USE ONLY

LAB ID NO 6983.01

Sample Received By: [illegible]

Date Received: 6/16/93

Time Received: 10:00 AM / PM

Date Analyses Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

I-55a

060243

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Sample No. 35271 DATE 05-27, 1993

CARP Fillet

Inspector DAN Sellee / IDOC

Firm

Representative

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

Field ID Num

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: B

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 (YY) 0 5 (MM) 1 2 (DD) 20 Time: 1 2 0 0 (HHMM) 21 Collected by: R P S 22 Delivered by: TA - 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: Grms / Lbs
1420, 820, 910, 760, 860

Fish Species: RIVER CARPSUCKER

Length: Circle One: CM / IN
43.2, 41.6, 37.1, 38.2, 38.5

1-55a

Program: FISH CONTAMINANT MONITORING
Sample Collected By: IDOC 5/12/93 (Date)
Transported By: RDS 5/12/93 (Date)
Sampling Location: SYLVAN SL.
Stream Name: MISS
Sampling Technique: HOOP NET
Weather Conditions: CLR
Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY
LAB ID NO
6983.02
Sample Received By: [illegible]
Date Received: 6/14/93
Time Received: 10:00 AM PM
Date Analysis Completed:
Date Results Forwarded:
Lab Section:
Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

Sample No. 35341 DATE 12 MAY, 1993
RIVER CARPSUCKER
Inspector SALLEE
Firm Representative IDOC

000244

Field ID Nu[redacted]

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: B

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 0 5 1 2 (YYMMDD) 20 Time: 1 2 0 0 (HHMM) 21 Collected by: B D S 22 Delivered by: JH 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: (Grms) Lbs
2500, 1620, 1570, 1540, 2260,

Fish Species: CHANNEL CATFISH

Length: Circle One: (CM) IN
580, 50.3, 51.0, 51.5, 56.3

Program: FISH CONTAMINANT MONITORING
Sample Collected By: IDOC 5/12/93 Date
Transported By: RDS 5/12/93 Date
Sampling Location: SYLVAN SL.
Stream Name: MISS
Sampling Techniques: HOOP NETS
Weather Conditions: CLR
Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY
LAB ID NO
6983.03
Sample Received By: [illegible]
Date Received: 6/15/93
Time Received: 10:00 (AM/PM)
Date Analysis Completed:
Date Results Forwarded:
Lab Section:
Supervisor:

1-55a

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

Sample No. 35342 DATE 12 MAY, 19 93 Inspector SALLEE
Firm
Sample of CHANNEL CATFISH Representative IDOC

000245

Field ID Num

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: A

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 0 5 1 2 (Y Y M M D D) 20 Time: 1 2 0 0 (H H M M) 21 Collected by: R P S 22 Delivered by: TA 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE FILLET

Fish Species: FRESHWATER DRUM

Weights: Circle One: Grms Lbs

2120, 2400, 3500, 1900, 3240

Length: Circle One: CM IN

51.0, 54.5, 61.7, 50.3, 58.6

Program: FISH CONTAMINANT MONITORING

Sample Collected By: IDOC 5/12/93 Date

Transported By: RPS 5/12/93 Date

Sampling Location: SYLVAN SL.

Sweem Name: MISS R

Sampling Techniques: HOOP NETS

Weather Conditions: CLR.

Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY

LAB ID NO: 6983.0A

Sample Received By: [illegible]

Date Received: 6/16/93

Time Received: 10:00 AM PM

Date Analysis Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

1-55a

0002246

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

A replicate sample was submitted for laboratory evaluation.

Sample No. 35343 DATE 12 MAY, 19 93 Inspector SALLEE

Firm

FRESHWATER DRUM

Return to: Planning Section:
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

GEN : 001
DATE: 3-30-92
PAGE: 7 OF 8
REV : 1.5

ANALYTICAL REQUEST FORM

CLIENT: ECOLOGY & ENVIRONMENT, INC. CODE: E&E INC

CLIENT CONTACT : MARY JANE RIPP P.O. #

PHONE NUMBER : (312)663-9415

PROJECT NUMBER :

PROJECT NAME :

PROJECT LOCATION: SYLVAN SLOUGH, MISSISSIPPI RIVER

RECEIPT DATE : 06/16/93

ANALYTICAL REQUESTS

QUANTITY	MATRIX	CODE	CODE	CODE	CODE	CODE	DUE DATE
4	OTHER	MS120	GC600				06/29/93

SHIPPING INSTRUCTIONS:

SPECIAL PROVISIONS:

ORIGINATOR: JEFF

Field ID Num

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: 9

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:
Sylvan Slough adjacent to Quad Cities Industrial Center

19 Date: 9 3 0 5 1 2 (YYMMDD) 20 Time: 1200 (HHMM) 21 Collected by: RDS 22 Delivered by: IDC 6/15/93

23 Comments: Special SAMPLE FOR USEPA.

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: Grms / Lbs
1000, 1200, 1400, 1900, 2140

Fish Species: CARP

Length: Circle One: CM / IN
530, [illegible], 477, 515, 550

1-55a

Program: FISH CONTAMINANT MONITORING
Sample Collected By: DAN Sellee 5-27-93 Date
Transported By: _____ Date
Sampling Location: Sylvan Slough
Stream Name: Mississippi River
Sampling Techniques: E.F.
Weather Conditions: Cloudy / high winds
Comments and Unusual Conditions: Oil Sheen
(Indicate severity) Light, Slight.

FOR LABORATORY USE ONLY
LAB ID NO
6983.01
Sample Received By: [illegible]
Date Received: 6/16/93
Time Received: 10:00 AM PM
Date Analyses Completed:
Date Results Forwarded:
Lab Section:
Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Sample No. 35271 DATE 05-27, 1993
carp fillet

Inspector DAN Sellee / IDOC
Firm
Representative

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

000063

Field ID Num

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S II 13 Sample Type: 1 15 Reporting Indicator: B

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 0 5 1 2 (Y Y M M D D) 20 Time: 1 2 0 0 (H H M M) 21 Collected by: R P S 22 Delivered by: TH - 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S II 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: Grms / Lbs
1420, 820, 910, 760, 860

Fish Species: RIVER CARPSUCKER

Length: Circle One: CM / III
43.2, 41.6, 37.1, 38.2, 38.5

I-55a

Program: FISH CONTAMINANT MONITORING
Sample Collected By: IDOC Date 5/12/93
Transported By: RDS Date 5/12/93
Sampling Location: SYLVAN SL.
Stream Name: MISS
Sampling Technique: HOOP NET
Weather Conditions: CLR
Comments and Unusual Conditions:
Indicate severity!

FOR LABORATORY USE ONLY
LAB ID NO
6983.02
Sample Received By: [illegible]
Date Received: 6/15/93
Time Received: 10:00 AM PM
Date Analysis Completed:
Date Results Forwarded:
Lab Section:
Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Sample No. 35341 DATE 12 MAY, 1993 Inspector SALEE
RIVER CARPSUCKER Firm Representative IDOC

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

F00009

Field ID Num

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: R

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 0 5 1 2 (YY MM DD) 20 Time: 1 2 0 0 (HH MM) 21 Collected by: B D S 22 Delivered by: JH 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE FILLET

Weights: Circle One: Grms Lbs

2500, 1620, 1570, 1540, 2260,

Fish Species: CHANNEL CATFISH

Length: Circle One: CM IN

580, 50.3, 51.0, 51.5, 56.3

Program: FISH CONTAMINANT MONITORING

Sample Collected By: IDOC Date 5/12/93

Transported By: BDS Date 5/12/93

Sampling Location: SYLVAN SL.

Stream Name: MISS

Sampling Technique: HOOP NETS

Weather Conditions: CLR

Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY

LAB ID NO 6983.03

Sample Received By: Lebette Nelson

Date Received: 6/16/93

Time Received: 10:00 AM PM

Date Analysis Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

I-55a

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Return to: Planning Section; DWPC #15; IEPA; 2200 Churchill Road; P.O. Box 19276; Springfield, IL 62794-9276

Sample No. 35342 DATE 12 MAY, 19 93

Inspector SALLEE

Firm Representative IDOC

CHANNEL CATFISH

00 0 0 5 9

Field ID Num[redacted]

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator: R

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description: _____

19 Date: 9 3 0 5 1 2 (YYMMDD) 20 Time: 1 2 0 0 (HHMM) 21 Collected by: R P S 22 Delivered by: TH 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Fish Species: FRESHWATER DRUM

Weights: Circle One: Grms / Lbs
2120, 2400, 3500, 1900, 3240

Length: Circle One: CM / In
51.0, 54.5, 61.7, 50.3, 58.6

1-55a

Program: FISH CONTAMINANT MONITORING

Sample Collected By: IDOC 5/12/93 (Date)

Transported By: RPS 5/12/93 (Date)

Sampling Location: SYLVAN SL.

Stream Name: MISS R

Sampling Techniques: HOOP NETS

Weather Conditions: CLR.

Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY

LAB ID NO: 6983.04

Sample Received By: [illegible]

Date Received: 6/15/93

Time Received: 10:00 AM / PM

Date Analysis Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

990000

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

A replicate sample was submitted for laboratory evaluation.

Sample No. 35343 DATE 12 MAY, 19 93

Inspector SALLEE

Firm IDOC

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

AMERICAN TECHNICAL & ANALYTICAL SERVICES, Inc.

PROJE

GC RUN LOG

INSTRUMENT: #16L INST LAB METHOD FILENAME: PCB5 Ch.1

DATE	TIME	SAMPLE I.D.	CLIENT	FILE NAME	INJ/VOL	COMMENTS	INT.
6/23/93	20:20	6983.04 Fish Tissue	EE	16L0982.8.1	1ul	OK GC 600	
↓	20:57	AR1260 +Surr M.L. 500/50 041293-0028	N/A	↓ .9.1	↓	DCB + 2 peaks - out ↓	↓
6/24/93	13:05	AR1260 +Surr Control 500/50 041293-0028	N/A	16L0983.4.1	1ul	GC 600	

Page not complete at time of copying.

6/24/93

Analyst Signature Date: 6/24/93

Verification Signature Date:

000058

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

OPERATION'S DATA TRANSMITTAL FORM

ADMN: 005
DATE: 6/6/91
PAGE: 2 OF 2
REV: 1.2

SAMPLE ID	DATA FILE	CLIENT
AR1260 +Surr Cont Cal	16C00981,1,1	N/A
↓ Midlevel	16C00982,9,1	↓
062293-01BLK	16C00982,1,1	↓
062293-01+02 SPKS	16C00982,3,1→4,1	↓
6983.01 → .04	16C00982,5,1→8,1	EE

COMMENTS: CC 600 -
PCB's - Fish Tissue

RELINQUISHED BY:
John Collins 6-25-93
NAME DATE

RECEIVED BY:
Paul C Kempsen 6/25/93
NAME DATE

QC

SPIKE BLANK

MATRIX	ID	% REC AR1260	% REC TCX	% REC DCB
Tissue	062293-01SPK	46	44	25

SPIKE BLANK (DUP)

ID	% REC AR1260	% REC TCX	% REC DCB	RPD
062293-02SPK	54	56	41	16

AMERICAN TECHNICAL ANALYTICAL SERVICES, INC.
875 FEE FEE ROAD
MARYLAND HEIGHTS, MO 63043

Episode: 6983
Client: E&E INC

SID #	DATE	DESCRIPTION	MA	NC	TEST	PRI	DUE	DESCRIPTION	RESULTS	ANALYSTS	DATE/TIME
6983.01	06/16/93	35271	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			
6983.02	06/16/93	35341	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			
6983.03	06/16/93	35342	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			
6983.04	06/16/93	35343	0	1	GC600	5	06/29/93	PCBs			
								EXTRACTION			
					MS120	5	06/29/93	PAH-8270-SIM			
								EXTRACTION			

Total samples = 4

PJT 6/17/93

ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO.

ATAS CLIENT NAME:

FORM COMPLETED BY: WALTER DOTSON

LOCATION: SYLVAN SLOUGH, MISS. RIVER

ANALYSIS: WD 6/16/93 3F 3F2

SAMPLE ID	DATE	TIME	MATRIX	GRAB	COMP	PRES	NO. OF CONTAINERS	REMARKS	LAB NO.
35271	5/27/93		FISH			FROZEN	PLASTIC BAG	CARP	6983.01
35341	5/12/93		FISH			↓	↓	RIVER CARPSUCKER	02
35342	5/12/93		FISH			↓	↓	CHANNEL CATFISH	03
35343	5/12/93		FISH			↓	↓	FRESH WATER DRUM	04

000061

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
		Walter Dotson	6/16/93 10:00				

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.
875 FEE FEE ROAD
MARYLAND HEIGHTS, MO 63043

Phone Number (314) 434-4570
Fax Number (314) 434-0080

FAX COVER

Date: 6-23-93

TO:

NAME: Mary Jane Ripp
CLIENT: E & E, Inc
SUBJECT: Chain of Custody Documents
FAX # 312-663-0791

FROM: Jeffrey A. Carr

NUMBER OF PAGES: 6 **(Including this cover page)**

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator:

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 (YY) 0 5 (MM) 1 2 (DD) 20 Time: 1 2 0 0 (HHMM) 21 Collected by: B D S 22 Delivered by: TH - 6/15/93

23 Comments: SPECIAL CONTAMINANT

JUN 23 '93 14:20 314 434 4570 PAGE 02

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: Grms / LDS
2500, 1620, 1570, 1540, 2260,

Fish Species: CHANNEL CATFISH

Length: Circle One: CM / IN
58.0, 50.3, 51.0, 51.5, 56.3

Program: FISH CONTAMINANT MONITORING

Sample Collected By: IDOC Date: 5/12/93

Transported By: RDS Date: 5/12/93

Sampling Location: SYLVAN SL.

Stream Name: MISS

Sampling Technique: HOOP NETS

Weather Conditions: CLR

Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY

LAB ID NO: 6983.03

Sample Received By: Celeste Peterson

Date Received: 6/16/93

Time Received: 10:00

Date Analyses Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Sample No. 35342 DATE 12 MAY, 19 93 Inspector SALLEE

Sample of CHANNEL CATFISH Firm Representative IDOC

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator:

16 Station Code: 17 Sampling Program: 1 1 18 Station Description:
Sylvan Slough adjacent to Quad Cities Industrial Center

19 Date: 9 3 0 5 1 2 (Y Y M M D D) 20 Time: 1 2 0 0 (H H M M) 21 Collected by: RDS 22 Delivered by: IDC 6/15/93

23 Comments: Special sample for USEPA

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE FILLET

Weights: Circle One: Grms Lbs
1095, 1430, 1400, 1900, 2140

Fish Species: CARP

Length: Circle One: CM IN
530, [illegible], 402, 515, 550

Program: FISH CONTAMINANT MONITORING
Sample Collected By: DAN Sellee IDPH Date
Transported By: Date
Sampling Location: Sylvan Slough
Stream Name: Mississippi River
Sampling Technique: E.F.
Weather Condition: Cloudy/high winds
Comments and Unusual Conditions: Oil Sheen
Indicate severity: Water, Slight.

FOR LABORATORY USE ONLY
LAB ID NO
6983.01
Sample Received By: [illegible]
Date Received: 6/16/93
Time Received: 13:00
Date Analyses Completed:
Date Results Forwarded:
Lab Section:
Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Sample No. 35271 DATE 05-27, 19 93 Inspector DAN Sellee / IDOC
Firm

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

JUN 23 '93 14:21 314 434 4570 PAGE 03

IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator:

16 Station Code: _____ 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 0 5 1 2 (Y Y M M D D) 20 Time: 1 2 0 0 (H H M M) 21 Collected by: R P S 22 Delivered by: TH - 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE / FILLET

Weights: Circle One: Grms / Lbs

1420, 820, 910, 760, 860

Fish Species: RIVER CARPSUCKER

Length: Circle One: CM / IN

43.2, 41.6, 39.1, 38.2, 38.5

Program: FISH CONTAMINANT MONITORING

Sample Collected By: IDOC Date: 5/12/93

Transported By: RDS Date: 5/12/93

Sampling Location: SYLVAN SL.

Stream Name: MISS

Sampling Techniques: HOOP NET

Weather Conditions: CLR

Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY

LAB ID NO: 6983.02

Sample Received By: [illegible]

Date Received: 6/14/93

Time Received: 10:00 AM PM

Date Analyses Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

Sample No. 35341 DATE 12 MAY, 1993 Inspector SALEE

DIED CARPSUCKER Firm TDAC

Return to: Planning Section; DWPC #15; IEPA; 2200 Churchill Road; P.O. Box 19276; Springfield, IL 62794-9276

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IEPA - DWPC - MONITORING UNIT LAB SHEET

09 Funding Code: W P F 6 10 Agency Routing: 0 1 12 File Code: F I S H 13 Sample Type: 1 15 Reporting Indicator:

16 Station Code: 17 Sampling Program: 1 1 18 Station Description:

19 Date: 9 3 0 5 1 2 (Y Y M M D D) 20 Time: 1 2 0 0 (H H M M) 21 Collected by: R P S 22 Delivered by: TH 6/15/93

23 Comments: SPECIAL CONTAMINANT

03 Parameter Group: F I S H 1

Field Parameters	Test	Results
Depth	5 1 1 F 0	
Number of Indiv.	5 1 7 F 0	
Sample weight lbs.	5 1 8 F 0	
Sample length in.	5 2 5 F 0	
Species numeric	5 1 9 F 0	
Species alpha	5 2 0 F 0	
Anatomy Code numeric	5 2 1 F 0	
Analyzing Agency	5 2 2 F 0	

Additional Tests:

Parameter	Test

COMPLETED BY IDOC

Circle One: WHOLE FILLET

Weights: Circle One: Grms Lbs

2120, 2400, 3500, 1900, 3240

Fish Species: FRESHWATER DRUM

Length: Circle One: CM IN

51.0, 54.5, 61.7, 50.3, 58.6

Program: FISH CONTAMINANT MONITORING

Sample Collected By: IDOC Date: 5/12/93

Transported By: RPS Date: 5/12/93

Sampling Location: SYLVAN SL.

Stream Name: MISS R

Sampling Techniques: HOOP NETS

Weather Conditions: CLR.

Comments and Unusual Conditions (indicate severity):

FOR LABORATORY USE ONLY

LAB ID NO: 6983.0A

Sample Received By: [illegible]

Date Received: 6/15/93

Time Received: 10:00

Date Analyses Completed:

Date Results Forwarded:

Lab Section:

Supervisor:

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
OFFICE OF HEALTH REGULATION
DIVISION OF FOOD, DRUGS AND DAIRIES

A replicate sample was submitted for laboratory evaluation.

Sample No. 35343 DATE 12 MAY, 19 93 Inspector SALLEE

Firm

Return to: Planning Section;
DWPC #15; IEPA;
2200 Churchill Road;
P.O. Box 19276;
Springfield, IL 62794-9276

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ATAS

AMERICAN TECHNICAL & ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

PROJ. NO.

ATAS CLIENT NAME:

FORM COMPLETED BY: WALTER DOTSON

LOCATION: SYLVAN SLOUGH, MISS. RIVER

ANALYSIS: WD 6/16/93 3F 3F2

SAMPLE ID	DATE	TIME	MATRIX	GRAB	COMP	PRES	NO. OF CONTAINERS	REMARKS	LAB NO
35271	5/27/93		FISH			FROZEN	PLASTIC BAG	CARP	6983.
35341	5/12/93		FISH			↓	↓	RIVER CARPSUCKER	↓
35342	5/12/93		FISH			↓	↓	CHANNEL CATFISH	↓
35343	5/12/93		FISH			↓	↓	FRESH WATER DRUM	↓

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/T
		Walter Dotson	6/16/93 10:00				

JUN 23 '93 14:23 314 434 4570 PAGE.06