ETC ENVIRONMENTAL TESTING and CERTIFICATION

Technical Report

for

NJDEP-DIVISION OF WASTE MGMT.

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	0001

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 16, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED SSOIL5		850501	1054	1

NPDES Number	Compound (Acrolein and Acrylonitrile values are screen only.)	Results: Sample Concen. ug/kg	Results: MDL ug/kg[A]	QC Replicate: First ug/kg	QC Replicate: Second ug/kg	QC Blank and Spiked Blank: Blank Data ug/kg	QC Blank and Spiked Blank: Concen. Added ug/kg	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/kg	QC Matrix Spike: Concen Added ug/kg	QC Matrix Spike: % Recov
1V	Acrolein	ND	5000.0	ND	ND	ND	800	82	ND	800	163[B]
2V	Acrylonitrile	ND	5000.0	ND	ND	ND	80	98	ND	80	184[B]
3V	Benzene	252.7	220.0	ND	ND	ND	18	99	46	18	21[C]
4V	bis(Chloromethyl)ether	ND	500.0	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	235.0	ND	ND	ND	18	94	ND	18	69
6V	Carbon tetrachloride	ND	140.0	ND	ND	ND	18	100	ND	18	94
7V	Chlorobenzene	ND	300.0	ND	ND	ND	18	101	ND	18	109
8V	Chlorodibromomethane	ND	155.0	ND	ND	ND	18	95	ND	18	87
9V	Chloroethane	ND	500.0	ND	ND	ND	18	100	ND	18	154[B]
10V	2-Chloroethylvinyl ether	ND	500.0	ND	ND	ND	18	119	ND	18	102
11V	Chloroform	ND	80.0	ND	ND	ND	18	104	ND	18	132
12V	Dichlorobromomethane	ND	110.0	ND	ND	ND	18	101	ND	18	101
13V	Dichlorodifluoromethane	ND	500.0	ND	ND	ND	18	106	ND	18	145
14V	1,1-Dichloroethane	335.9	235.0	ND	ND	ND	18	101	21	18	92
15V	1,2-Dichloroethane	ND	140.0	ND	ND	ND	18	103	ND	18	137
16V	1,1-Dichloroethylene	BMDL	140.0	ND	ND	ND	18	100	ND	18	129
17V	1,2-Dichloropropane	ND	300.0	ND	ND	ND	18	95	ND	18	125
18V	cis-1,3-Dichloropropylene	ND	250.0	ND	ND	ND	18	94	ND	18	95
19V	Ethylbenzene	BMDL	360.0	ND	ND	BMDL	18	99	14	18	37[B]
20V	Methyl bromide	ND	500.0	ND	ND	ND	18	101	ND	18	118
21V	Methyl chloride	ND	500.0	ND	ND	ND	18	102	ND	18	156[B]
22V	Methylene chloride	BMDL	140.0	24	1	9	18	76	18	18	98
23V	1,1,2,2-Tetrachloroethane	ND	345.0	ND	ND	ND	18	99	ND	18	125
24V	Tetrachloroethylene	2715.6	205.0	ND	ND	ND	18	100	19	18	43
25V	Toluene	2355.7	300.0	ND	ND	ND	18	102	95	18	0[C]
26V	1,2-Trans-dichloroethylene	483.6	80.0	ND	ND	ND	18	100	87	18	0[C]
27V	1,1,1-Trichloroethane	400.0	190.0	ND	ND	ND	18	111	13	18	83
28V	1,1,2-Trichloroethane	ND	250.0	ND	ND	ND	18	98	ND	18	109
29V	Trichloroethylene	2235.2	95.0	ND	ND	3	18	85	13	18	51
30V	Trichlorofluoromethane	ND	500.0	5	3	ND	18	102	ND	18	124
31V	Vinyl chloride	ND	500.0	ND	ND	ND	18	103	3	18	149[B]
18V	trans-1,3-Dichloropropylene	ND	500.0	ND	ND	ND	18	94	ND	18	97

A ETC established Method Detection Limit for this particular sample.

B Recovery variable due to sample matrix interference.

C Spiked samples that contain compounds present at high levels do not provide valid spike recovery data.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 30, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Acid Compounds - GC/MS Analysis Data (QR02)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg[A]	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov [B]	Unspiked Sample ug/kg	Concen Added ug/kg	% Recov
1A	2-Chlorophenol	ND	10890.0	ND	ND	ND	0	-	ND	33333	74
2A	2,4-Dichlorophenol	ND	8910.0	ND	ND	ND	0	-	ND	33333	96
3A	2,4-Dimethylphenol	ND	8910.0	ND	ND	ND	0	-	ND	33333	82
4A	4,6-Dinitro-o-cresol	ND	79200.0	ND	ND	ND	0	-	ND	33333	34
5A	2,4-Dinitrophenol	ND	138600	ND	ND	ND	0	-	ND	33333	21
6A	2-Nitrophenol	ND	11880.0	ND	ND	ND	0	-	ND	33333	99
7A	4-Nitrophenol	ND	7920.0	ND	ND	ND	0	-	ND	33333	99
8A	p-Chloro-m-cresol	ND	9900.0	ND	ND	ND	0	-	ND	33333	90
9A	Pentachlorophenol	ND	11880.0	ND	ND	ND	0	-	ND	33333	91
10A	Phenol	ND	4950.0	ND	ND	ND	0	-	ND	33333	83
11A	2,4,6-Trichlorophenol	ND	8910.0	ND	ND	ND	0	-	ND	33333	108

A ETC established Method Detection Limit for this particular sample.

B Reagent Blank. Spiked Blank cannot be performed for this sample matrix.

003

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 30, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

BASE/NEUTRAL COMPOUNDS - GC/MS ANALYSIS DATA (QR03)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1B	Acenaphthene	ND	6270	ND	ND	ND	0	-	ND	33333	110
2B	Acenaphthylene	BMDL	11550	ND	ND	ND	0	-	ND	33333	114
3B	Anthracene	ND	6270	ND	ND	ND	0	-	ND	33333	112
4B	Benzidine	ND	145200	ND	ND	ND	0	-	ND	33333	0
5B	Benzo(a)anthracene	ND	25740	ND	ND	ND	0	-	ND	33333	118
6B	Benzo(a)pyrene	ND	8250	ND	ND	ND	0	-	ND	33333	99
7B	Benzo(b)fluoroanthene	ND	15840	ND	ND	ND	0	-	ND	33333	107
8B	Benzo(ghi)perylene	ND	13530	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	8250	ND	ND	ND	0	-	ND	33333	77
10B	bis(2-Chloroethoxy)methane	ND	17490	ND	ND	ND	0	-	ND	33333	101
11B	bis(2-Chloroethyl) ether	ND	18810	ND	ND	ND	0	-	ND	33333	97
12B	bis(2-Chloroisopropyl)ether	ND	18810	ND	ND	ND	0	-	ND	33333	96
13B	bis(2-Ethylhexyl)phthalate	49500	33000	ND	ND	ND	0	-	ND	33333	98
14B	4-Bromophenyl phenyl ether	ND	6270	ND	ND	ND	0	-	ND	33333	108
15B	Butyl benzyl phthalate	ND	33000	ND	ND	ND	0	-	ND	33333	107
16B	2-Chloronaphthalene	ND	6270	ND	ND	ND	0	-	ND	33333	114
17B	4-Chlorophenyl phenyl ether	ND	13860	ND	ND	ND	0	-	ND	33333	109
18B	Chrysene	ND	8250	ND	ND	ND	0	-	ND	33333	92
19B	Dibenzo(a,h)anthracene	ND	8250	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	6270	ND	ND	ND	0	-	ND	33333	91
21B	1,3-Dichlorobenzene	8580	6270	ND	ND	ND	0	-	ND	33333	89
22B	1,4-Dichlorobenzene	ND	14520	ND	ND	ND	0	-	ND	33333	87
23B	3,3'-Dichlorobenzidine	ND	54450	ND	ND	ND	0	-	ND	33333	0
24B	Diethyl phthalate	ND	33000	ND	ND	ND	0	-	ND	33333	113
25B	Dimethyl phthalate	ND	33000	ND	ND	ND	0	-	ND	33333	110
26B	Di-n-butyl phthalate	ND	33000	ND	ND	ND	0	-	ND	33333	114
27B	2,4-Dinitrotoluene	ND	18810	ND	ND	ND	0	-	ND	33333	111
28B	2,6-Dinitrotoluene	ND	6270	ND	ND	ND	0	-	ND	33333	109
29B	Di-n-octyl phthalate	ND	33000	ND	ND	ND	0	-	ND	33333	105
30B	1,2-Diphenylhydrazine	ND	33000	ND	ND	ND	0	-	ND	33333	114
31B	Fluoranthene	13800	7260	ND	ND	ND	0	-	ND	33333	128
32B	Fluorene	14200	6270	ND	ND	ND	0	-	ND	33333	113

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 30, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

BASE/NEUTRAL COMPOUNDS - GC/MS ANALYSIS DATA (QR03)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg[A]	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov[B]	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
33B	Hexachlorobenzene	ND	6270	ND	ND	ND	0	-	ND	33333	80
34B	Hexachlorobutadiene	ND	2970	ND	ND	ND	0	-	ND	33333	96
35B	Hexachlorocyclopentadiene	ND	33000	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	5280	ND	ND	ND	0	-	ND	33333	93
37B	Indeno(1,2,3-c,d)pyrene	ND	12210	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	7260	ND	ND	ND	0	-	ND	33333	102
39B	Naphthalene	20500	5280	ND	ND	ND	0	-	ND	33333	105
40B	Nitrobenzene	ND	6270	ND	ND	ND	0	-	ND	33333	92
41B	N-Nitrosodimethylamine	ND	33000	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	33000	ND	ND	ND	0	-	ND	33333	100
43B	N-Nitrosodiphenylamine	ND	6270	ND	ND	ND	0	-	ND	33333	116
44B	Phenanthrene	36200	17820	ND	ND	ND	0	-	ND	33333	115
45B	Pyrene	39100	6270	ND	ND	ND	0	-	ND	33333	131
46B	1,2,4-Trichlorobenzene	ND	6270	ND	ND	ND	0	-	ND	33333	99

A ETC established Method Detection Limit for this particular sample.

B Reagent Blank. Spiked Blank cannot be performed for this sample matrix.

005

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 21, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Pesticide Compounds - GC Analysis Data (QR32)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED SSOIL5		850501	1054	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg[A]	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov [B]	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1P	Aldrin	ND	50000	ND	ND	ND	0	-	ND	460	93
2P	Alpha-BHC	ND	50000	150	ND	ND	0	-	ND	460	84
3P	Beta-BHC	ND	50000	ND	ND	ND	0	-	ND	460	84
4P	Gamma-BHC	ND	50000	ND	ND	ND	0	-	ND	460	84
5P	Delta-BHC	ND	50000	ND	ND	ND	0	-	ND	460	100
6P	Chlordane	ND	500000	ND	ND	ND	0	-	ND	5000	81
7P	4,4'-DDT	ND	50000	ND	ND	ND	0	-	ND	460	190[C]
8P	4,4'-DDE	ND	50000	ND	ND	ND	0	-	ND	460	110
9P	4,4'-DDD	ND	50000	2400	ND	ND	0	-	ND	460	130
10P	Dieldrin	ND	50000	ND	ND	ND	0	-	ND	460	110
11P	Endosulfan I	ND	50000	ND	ND	ND	0	-	ND	460	100
12P	Endosulfan II	ND	50000	ND	ND	ND	0	-	ND	460	110
13P	Endosulfan sulfate	ND	50000	ND	180	ND	0	-	ND	460	110
14P	Endrin	ND	50000	ND	ND	ND	0	-	ND	460	140
15P	Endrin aldehyde	ND	50000	600	ND	ND	0	-	ND	460	73
16P	Heptachlor	ND	50000	ND	ND	ND	0	-	ND	460	83
17P	Heptachlor epoxide	ND	50000	ND	ND	ND	0	-	ND	460	100
25P	Toxaphene	ND	500000	ND	ND	ND	0	-	ND	5000	-[D]

A ETC established Method Detection Limit for this particular sample.

B Reagent Blank. Spiked Blank cannot be performed for this sample matrix.

C Recovery variable due to sample matrix interference.

D Due to dilution of matrix spike toxaphene recovery could not be calculated.

006

ETC ENVIRONMENTAL TESTING and CERTIFICATION

JUN 6, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols – Analysis Data (QR05)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

NPDES Number	Compound		Results: Sample Concen.	Results: MDL
1M	Antimony	ug/kg	20000	9000
2M	Arsenic	mg/kg	4.8	1
3M	Beryllium	ug/kg	690	50
4M	Cadmium	ug/kg	13000	300
5M	Chromium	mg/kg	370	2
6M	Copper	mg/kg	340	.8
7M	Lead	mg/kg	40000	5
8M	Mercury	mg/kg	.7	.1
9M	Nickel	mg/kg	56	.1
10M	Selenium	mg/kg	ND	3
11M	Silver	ug/kg	2000	500
12M	Thallium	mg/kg	BMDL	.5
13M	Zinc	mg/kg	7600	.6
14M	Cyanide, Total	mg/kg	<.5	.5
15M	Phenolics, Total	mg/kg	2.3	.1

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

June 6, 1985

TABLE 1: QUALITATIVE RESULTS

Tentatively Identified Organic Compounds – GC/MS Analysis Data – Volatile Fraction (QR06)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

	Compound Name	Data			Identifiers				
		Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1	Cyclopentane, methyl	351	14.4	84	96377	C_6H_{12}	763		
2	Unknown	472	19.1	-	-	-	786		
3	Cyclohexane, methyl	479	19.4	98	108872	C_7H_{14}	1400		
4	Unknown	532	21.5	-	-	-	2200		
5	Unknown	563	22.7	-	-	-	4020		
6	Unknown	601	24.1	-	-	-	908		
7	Unknown	649	26	-	-	-	1600		
8	Benzene, dimethyl	749	29.9	106	-	C_8H_{10}	10400		
9	Unknown	660	26.4	-	-	-	704		
10	Unknown	732	29.2	-	-	-	3700		
11	Benzene, dimethyl	749	29.9	106	-	C_8H_{10}	12000		

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

May 31, 1985

TABLE 1: QUALITATIVE RESULTS

Tentatively Identified Organic Compounds – GC/MS Analysis Data – B/N/Acid Fraction (QR08)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

	Compound Name	Data: Scan Number	Data: Retention Time (Min)	Data: M.W.	Identifiers: CAS Number	Identifiers: Empirical Formula	Estimated Concen. ug/kg		
1	Unknown	15	3.06	-	-	-	228000		
2	Alkane	353	9.07	-	-	C_nH_{2n+2}	254000		
3	Alkane	550	12.57	-	-	C_nH_{2n+2}	211000		
4	Naphthalene, 1,8-dimethyl	574	13.00	156	569415	$C_{12}H_{12}$	257000		
5	Alkane	609	13.62	-	-	C_nH_{2n+2}	248000		
6	Alkane	644	14.25	-	-	C_nH_{2n+2}	320000		
7	Naphthalene, 1,6,7-trimethyl	690	15.07	170	2245387	$C_{13}H_{14}$	307000		
8	Alkane	730	15.78	-	-	C_nH_{2n+2}	277000		
9	Alkane	770	16.49	-	-	C_nH_{2n+2}	234000		
10	Alkane	811	17.22	-	-	C_nH_{2n+2}	182000		

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 19, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Aroclors - GC Analysis Data (QR14)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. mg/kg	MDL mg/kg[A]	First mg/kg	Second mg/kg	Blank Data mg/kg	Concen. Added mg/kg	% Recov[B]	Unspiked Sample mg/kg	Concen. Added mg/kg	% Recov
Aroclor 1242	ND	5.0	ND	ND	ND	0	-	ND	0	-
Aroclor 1254	ND	5.0	ND	ND	ND	0	-	ND	0	-
Aroclor 1260	8.0 [C]	5.0	4.5	3.6	ND	0	-	ND	9.0	93
Aroclor 1248	ND	5.0	ND	ND	ND	0	-	ND	0	-
Aroclor 1232	ND	5.0	ND	ND	ND	0	-	ND	0	-
Aroclor 1221	ND	5.0	ND	ND	ND	0	-	ND	0	-
Aroclor 1016	ND	5.0	ND	ND	ND	0	-	ND	0	-

A MDL calculated for each sample matrix.

B Reagent Blank. Spiked Blank cannot be performed for this sample matrix.

C Confirmed on second column.

010

ETC ENVIRONMENTAL TESTING and CERTIFICATION

September 6, 1984

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Aroclors – GC Analysis Data (QR14)

QC 2994P

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No. H5675 Company Facility Sample Point Date Time Elapsed Hours

Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
	Sample Concen. mg/kg	MDL mg/kg*	First mg/kg	Second mg/kg	Blank Data mg/kg	Amount Added mg/kg	% Recov	Unspiked Sample mg/kg	Amount Added mg/kg	% Recov
Aroclor 1242	ND	5.0								
Aroclor 1254	ND	↓								
Aroclor 1260	**8.0									
Aroclor 1248	ND									
Aroclor 1232	ND									
Aroclor 1221	ND									
Aroclor 1016	ND									

*MDL calculated for each sample matrix

** CONFIRMED ON SECOND COLUMN

011

June 6, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Soil- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H5675

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Compound	Amount Added ug	% Recovery	Control Limits *	
			Lower	Upper
VOLATILE FRACTION				
Toluene-D8	.250	100	50	160
Bromofluorobenzene	.250	106	50	160
1,2-Dichloroethane-D4	.250	89	50	160
ACID FRACTION				
Phenol-D5	100	106	20	140
2-Fluorophenol	100	107	20	140
2,4,6-Tribromophenol	100	47	10	140
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	160 **	20	140
2-Fluorobiphenyl	50	116	20	140
k Terphenyl-D14	50	84	20	150

* IFB EPA Control Limits
** See Comments

H5675

COMMENTS

Base/Neutrals: This sample was initially extracted at low level IFB Protocol . No extract could be achieved due to sample matrix. By reprepping at medium level protocol, a final volume of only 10 ml. was achieved. Considering this an d the high levels of compounds present, the recovery of surrogate. Nitrobenzene -D5 would most likely not improve upon re-extraction.

Methodology Summary
Based on October, 1984 version of ETC Standard Operating Procedures

NJDEP Contract 029

Aqueous Sample Preparation

Flame, ICP Sample Preparation	AA-001-1
Furnace Sample Preparation	AA-001-2
Mercury Sample Preparation	AA-001-3
Hexavalent Chromium Sample Preparation	AA-005-1

Non-Aqueous Extractions

Soil and Sediment Samples

Flame, ICP Sample Preparation	AA-002-1
Furnace Sample Preparation	AA-002-2
Mercury Sample Preparation	AA-002-3
Hexavalent Chromium Sample Preparation	AA-005-2

Sludge/Petroleum Based Samples

Flame, ICP Sample Preparation	AA-003-1 & 1A
Furnace Sample Preparation	AA-003-2 & 2A
Mercury Sample Preparation	AA-003-3
Hexavalent Chromium Sample Preparation	See AA-005-2

Flame AA or ICP

Aluminum	IM-1-001
Antimony	IM-1-002
Barium	IM-1-003
Beryllium	IM-1-004
Cadmium	IM-1-005
Chromium	IM-1-006
Cobalt	IM-1-007
Copper	IM-1-008
Iron	IM-1-009
Lead	IM-1-010
Manganese	IM-1-011
Molybdenum	IM-1-012
Nickel	IM-1-013
Potassium	IM-1-014
Silver	IM-1-015
Sodium	IM-1-016
Tin	IM-1-017
Vanadium	IM-1-018
Zinc	IM-1-019
Flame Operating Parameters	Table 1
ICP Operating Parameters	Table 2
ICP Interferents	Table 3

Furnace AA

Arsenic	IM-2-001
Selenium	IM-2-002
Thallium	IM-2-003
Furnace Operating Parameters	Table 1

Aqueous Methodologies

Organochlorine Pesticides and PCB's by Gas Chromatography	GC-1-001
Herbicides by Gas Chromatography	GC-1-002
Purgeable Organics by GC/MS	GC/MS-1-001
Base/Neutral, Acids and Pesticides by GC/MS	GC/MS-1-002
2,3,7,8-TCDD by GC/MS	GC/MS-1-003

Non-Aqueous Methodologies

Gas Chromatography/Mass Spectrometry for:

Purgeable Organics	GC/MS-2-001
Base/Neutral and Acid Extractables	GC/MS-2-002

Includes:
- Benzidines
- Chlorinated Hydrocarbons
- Haloethers
- Nitroaromatic and Cyclic Ketones
- Organochlorine Pesticides
- Polychlorinated Biphenyls
- Phthalate Esters
- Polynuclear Aromatic Hydrocarbons
- Nitrosamines
- Phenols

2,3,7,8-TCDD Screen	GC/MS-2-003
2,3,7,8-TCDD	GC/MS-2-004
PCB's	GC/MS-2-005

Non-Aqueous

pH measurement	C-2-001
Reactivity	C-2-002
Corrosivity	C-2-003
Ignitability	C-2-004
EP Toxicity Extraction	C-2-005

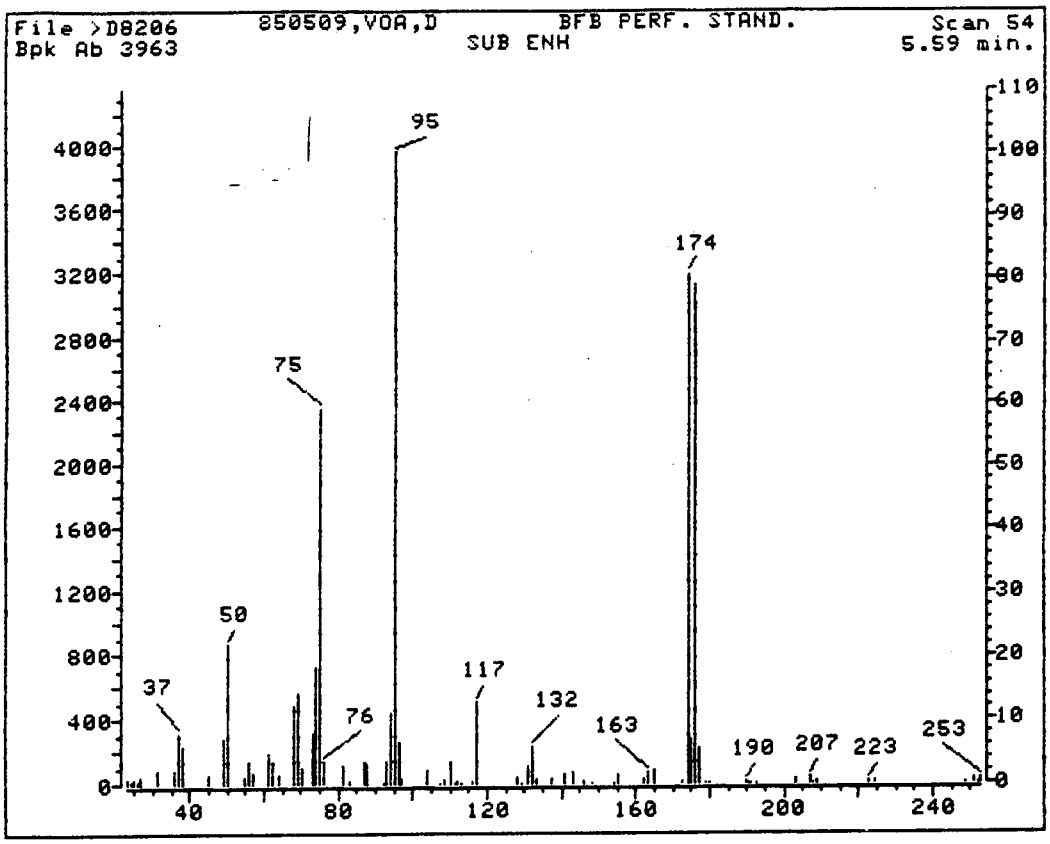


TABLE 2: METHOD PERFORMANCE DATA (QR21)

GC/MS Tuning Data - Bromofluorobenzene (BFB) for Volatiles Analysis

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	21.86	21.86	Ok
75	30-60% of mass 95	59.14	59.14	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.55	6.55	Ok
173	Less then 1% of mass 95	.46	.46	Ok
174	Greater then 50% of mass 95	80.65	80.65	Ok
175	5-9% of mass 174	6.72	8.34	Ok
176	95-101% of mass 174	78.90	97.83	Ok
177	5-9% of mass 176	5.43	6.88	Ok

Injection Date: 05/09/85 Analyst: [illegible]
Injection Time: 01:20 Processor: Pearl Trask
Run No: >D8206 QC Batch: QV 3241
Spectrun No: 54 Samples: H5671 - H5678 6

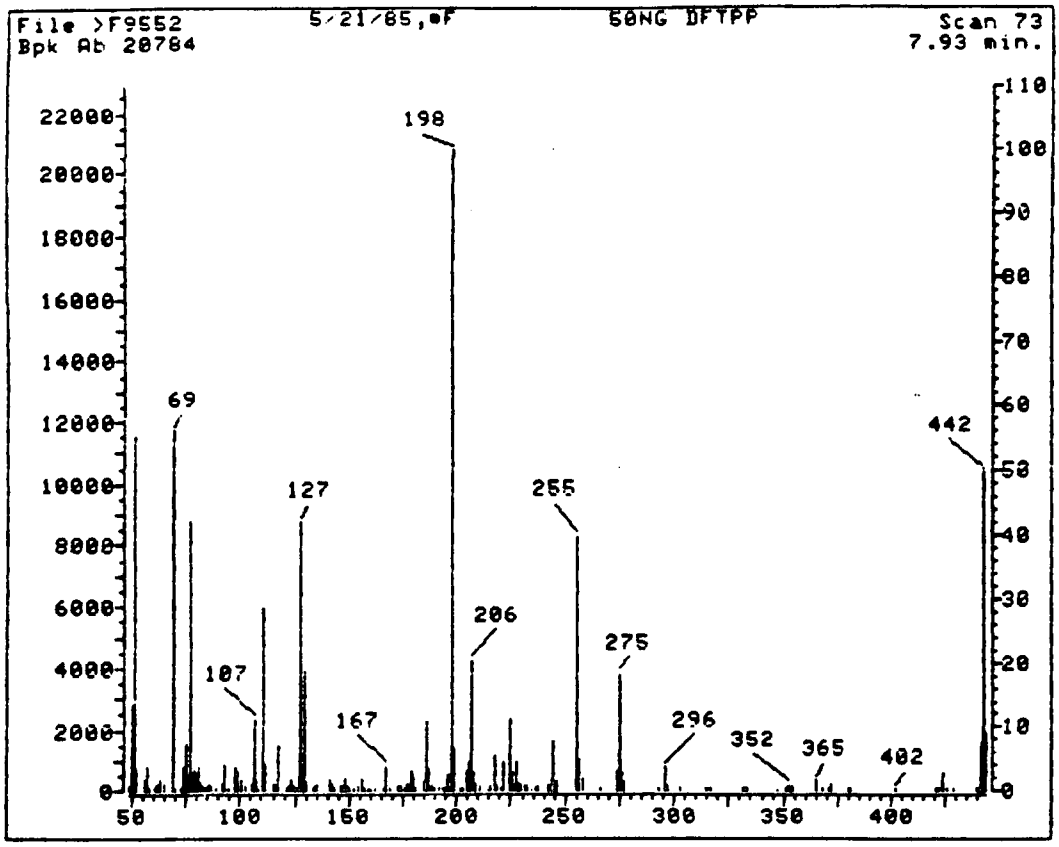


TABLE 2: METHOD PERFORMANCE DATA (QR23)

GC/MS Tuning Data - Decafluorotriphenylphospine (DFTPP) for ~~Base/Neutral~~ Acid Fraction Analysis

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	55.31	55.31	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.39	56.39	Ok
70	Less then 2% of mass 69	.35	.62	Ok
127	40-60% of mass 198	42.26	42.26	Ok
197	Less then 1% of mass 198	.44	.44	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.46	6.46	Ok
275	10-30% of mass 198	18.22	18.22	Ok
365	Greater then 1% of mass 198	1.67	1.67	Ok
441	Less then mass 443	7.40	81.81	Ok
442	Greater then 40% of mass 198	49.65	49.65	Ok
443	17-23% of mass 442	9.05	18.22	Ok

Injection Date: 05/21/85 Analyst: [illegible]
Injection Time: 22:21 Processor: [illegible]
Run No: >F9552 QC Batch: QA 3025
Spectrun No: 73 Samples: H5671, H5675, H5676, H4572, H4574, H4686, H4687, H5674

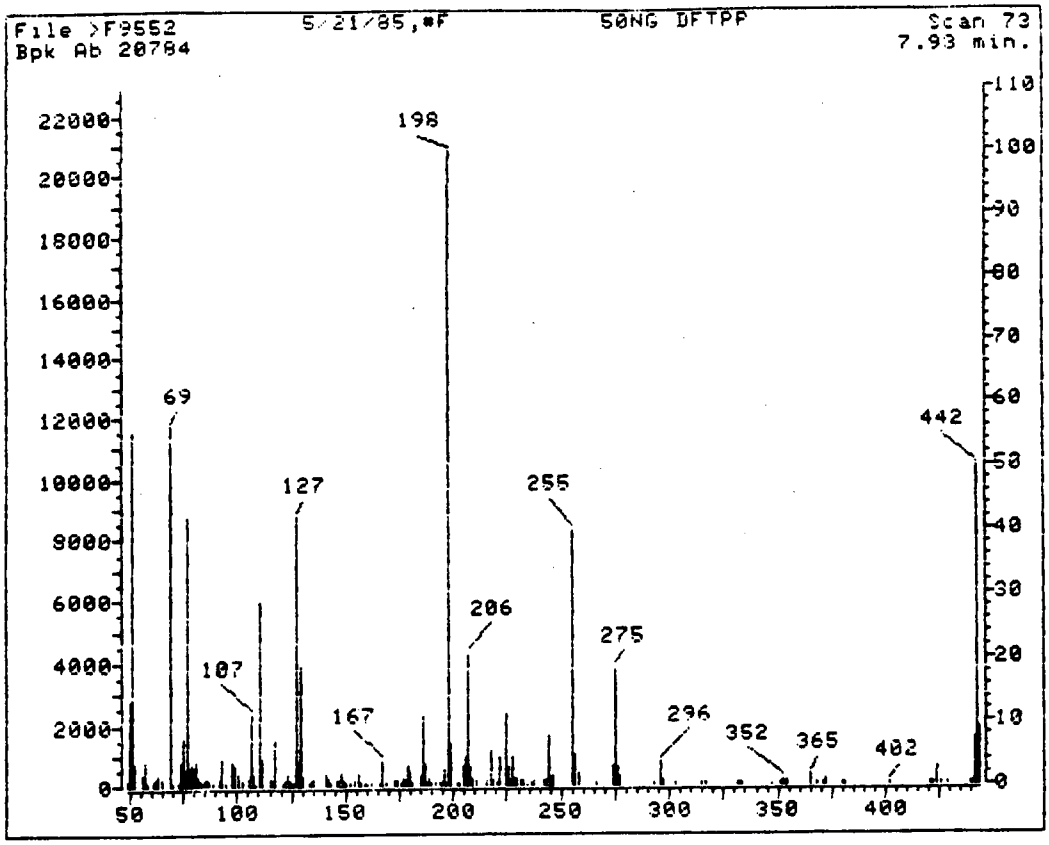


TABLE 2: METHOD PERFORMANCE DATA (QR23)

GC/MS Tuning Data - Decafluorotriphenylphospine (DFTPP) for Base/Neutral Analysis

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.31	55.31	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	56.39	56.39	Ok
70	Less then 2% of mass 69	.35	.62	Ok
127	40-60% of mass 198	42.26	42.26	Ok
197	Less then 1% of mass 198	.44	.44	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.46	6.46	Ok
275	10-30% of mass 198	18.22	18.22	Ok
365	Greater then 1% of mass 198	1.67	1.67	Ok
441	Less then mass 443	7.40	81.81	Ok
442	Greater then 40% of mass 198	49.65	49.65	Ok
443	17-23% of mass 442	9.05	18.22	Ok

Injection Date: 05/21/85 Analyst: [illegible]
Injection Time: 22:21 Processor: [illegible]
Run No: >F9552 QC Batch: QB 3025
Spectrun No: 73 Samples: H5671, H5675, H5676, H4572, H4686, H4687, H5674

Relative Percent Difference (RPD) for VOA

Job Number	Account Name	Facility	Source	Date	Time	
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

RPD Equation : RPD = {|(REP1 - REP2)| *2 / (REP1 + REP2)) * 100

Parameter	REP 1 ug/kg	REP 2 ug/kg	RPD
Acrolein	ND	ND	0
Acrylonitrile	ND	ND	0
Benzene	ND	ND	0
bis(Chloromethyl)ether	ND	ND	0
Bromoform	ND	ND	0
Carbon tetrachloride	ND	ND	0
Chlorobenzene	ND	ND	0
Chlorodibromomethane	ND	ND	0
Chloroethane	ND	ND	0
2-Chloroethylvinyl ether	ND	ND	0
Chloroform	ND	ND	0
Dichlorobromomethane	ND	ND	0
Dichlorodifluoromethane	ND	ND	0
1,1-Dichloroethane	ND	ND	0
1,2-Dichloroethane	ND	ND	0
1,1-Dichloroethylene	ND	ND	0
1,2-Dichloropropane	ND	ND	0
cis-1,3-Dichloropropylene	ND	ND	0
Ethylbenzene	ND	ND	0
Methyl bromide	ND	ND	0
Methyl chloride	ND	ND	0
Methylene chloride	24	1	184
1,1,2,2-Tetrachloroethane	ND	ND	0
Tetrachloroethylene	ND	ND	0
Toluene	ND	ND	0
1,2-Trans-dichloroethylene	ND	ND	0
1,1,1-Trichloroethane	ND	ND	0
1,1,2-Trichloroethane	ND	ND	0
Trichloroethylene	ND	ND	0
Trichlorofluoromethane	5	3	50
Vinyl chloride	ND	ND	0
meta-Xylene	ND	ND	0
ortho- and para-Xylenes	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

Relative Percent Difference (RPD) for ACID

Job Number	Account Name	Facility	Source	Date	Time	
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

RPD Equation : RPD = (|(REP1 - REP2)| *2 / (REP1 + REP2)) * 100

Parameter	REP 1 ug/kg	REP 2 ug/kg	RPD
2-Chlorophenol	ND	ND	0
2,4-Dichlorophenol	ND	ND	0
2,4-Dimethylphenol	ND	ND	0
4,6-Dinitro-o-cresol	ND	ND	0
2,4-Dinitrophenol	ND	ND	0
2-Nitrophenol	ND	ND	0
4-Nitrophenol	ND	ND	0
p-Chloro-m-cresol	ND	ND	0
Pentachlorophenol	ND	ND	0
Phenol	ND	ND	0
2,4,6-Trichlorophenol	ND	ND	0

020

Relative Percent Difference (RPD) for B/N

Job Number	Account Name	Facility	Source	Date	Time	
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

RPD Equation : RPD = (|(REP1 - REP2)| *2 / (REP1 + REP2)) * 100

Parameter	REP 1 ug/kg	REP 2 ug/kg	RPD
Acenaphthene	ND	ND	0
Acenaphthylene	ND	ND	0
Anthracene	ND	ND	0
Benzidine	ND	ND	0
Benzo(a)anthracene	ND	ND	0
Benzo(a)pyrene	ND	ND	0
Benzo(b)fluoroanthene	ND	ND	0
Benzo(ghi)perylene	ND	ND	0
Benzo(k)fluoranthene	ND	ND	0
bis(2-Chloroethoxy)methane	ND	ND	0
bis(2-Chloroethyl) ether	ND	ND	0
bis(2-Chloroisopropyl)ether	ND	ND	0
bis(2-Ethylhexyl)phthalate	ND	ND	0
4-Bromophenyl phenyl ether	ND	ND	0
Butyl benzyl phthalate	ND	ND	0
2-Chloronaphthalene	ND	ND	0
4-Chlorophenyl phenyl ether	ND	ND	0
Chrysene	ND	ND	0
Dibenzo(a,h)anthracene	ND	ND	0
1,2-Dichlorobenzene	ND	ND	0
1,3-Dichlorobenzene	ND	ND	0
1,4-Dichlorobenzene	ND	ND	0
3,3'-Dichlorobenzidine	ND	ND	0
Diethyl phthalate	ND	ND	0
Dimethyl phthalate	ND	ND	0
Di-n-butyl phthalate	ND	ND	0
2,4-Dinitrotoluene	ND	ND	0
2,6-Dinitrotoluene	ND	ND	0
Di-n-octyl phthalate	ND	ND	0
1,2-Diphenylhydrazine	ND	ND	0
Fluoranthene	ND	ND	0
Fluorene	ND	ND	0
Hexachlorobenzene	ND	ND	0
Hexachlorobutadiene	ND	ND	0
Hexachlorocyclopentadiene	ND	ND	0
Hexachloroethane	ND	ND	0
Indeno(1,2,3-c,d)pyrene	ND	ND	0
Isophorone	ND	ND	0
Naphthalene	ND	ND	0
Nitrobenzene	ND	ND	0
N-Nitrosodimethylamine	ND	ND	0
N-Nitrosodi-n-propylamine	ND	ND	0

N-Nitrosodiphenylamine	ND	ND	0
Phenanthrene	ND	ND	0
Pyrene	ND	ND	0
1,2,4-Trichlorobenzene	ND	ND	0

Relative Percent Difference (RPD) for PEST

Job Number	Account Name	Facility	Source	Date	Time	
H5675	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL5	850501	1054	1

RPD Equation : RPD = (|(REP1 - REP2)| *2 / (REP1 + REP2)) * 100

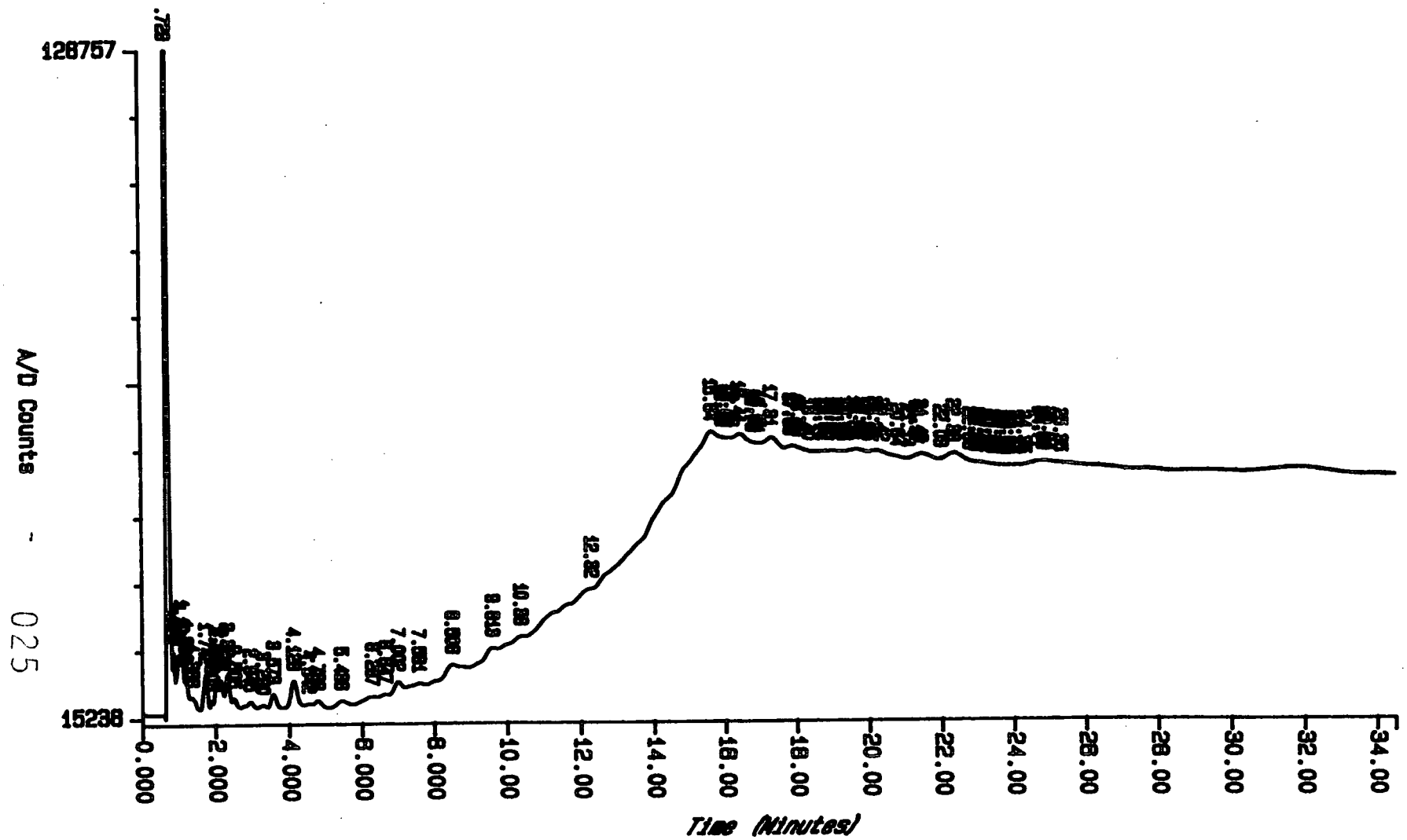
Parameter	REP 1	REP 2	RPD
Aldrin	ND	ND	0
Alpha-BHC	ND	ND	0
Beta-BHC	ND	ND	0
Gamma-BHC	ND	ND	0
Delta-BHC	ND	ND	0
Chlordane	ND	ND	0
4,4'-DDT	ND	ND	0
4,4'-DDE	ND	ND	0
4,4'-DDD	ND	ND	0
Dieldrin	ND	ND	0
Endosulfan I	ND	ND	0
Endosulfan II	ND	ND	0
Endosulfan sulfate	ND	ND	0
Endrin	ND	ND	0
Endrin aldehyde	ND	ND	0
Heptachlor	ND	ND	0
Heptachlor epoxide	ND	ND	0
PCB-1242	ND	ND	0
PCB-1254	ND	ND	0
PCB-1221	ND	ND	0
PCB-1232	ND	ND	0
PCB-1248	ND	ND	0
PCB-1260	ND	ND	0
PCB-1016	ND	ND	0
Toxaphene	ND	ND	0

Appendix A1

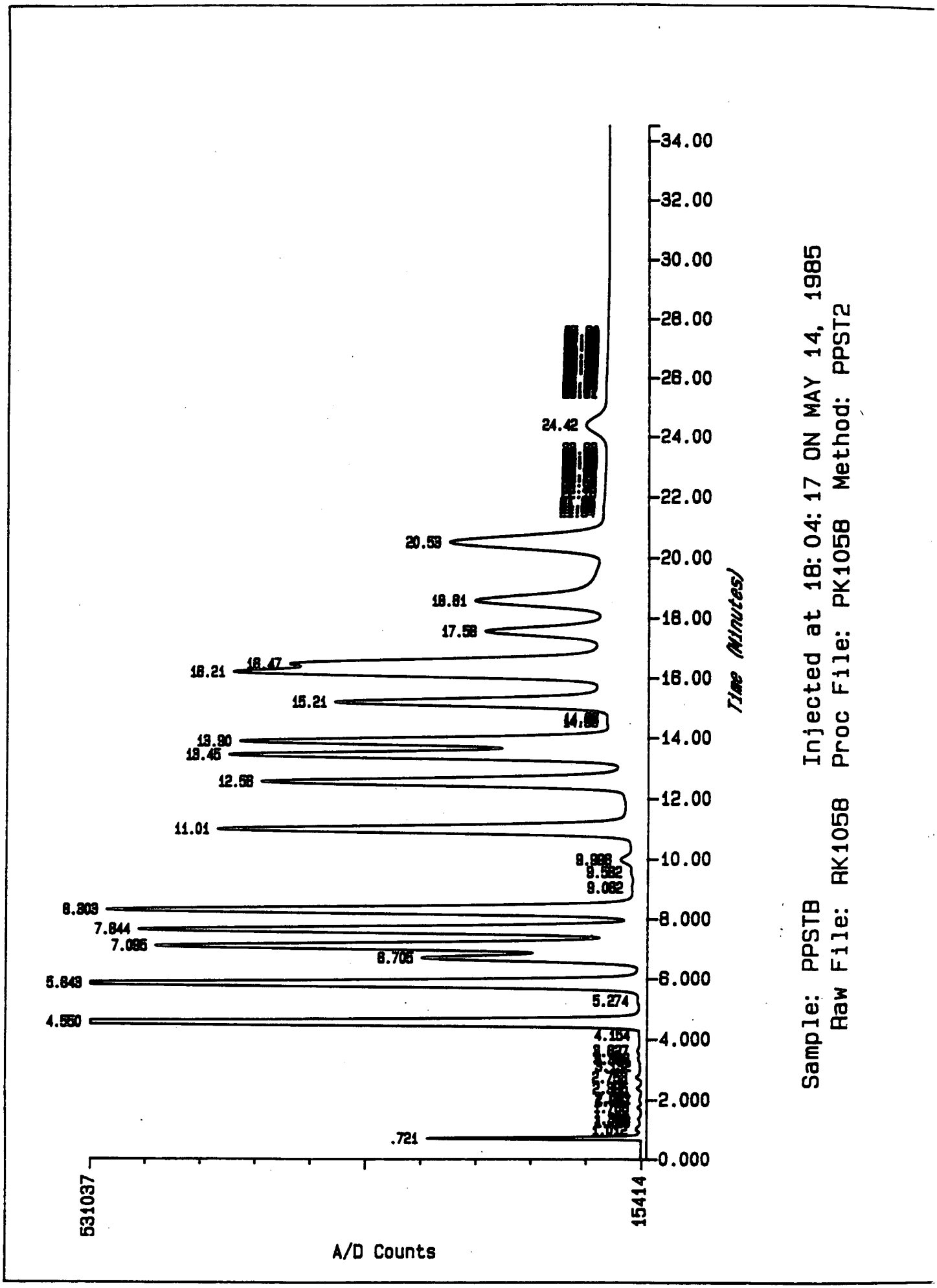
Gas Chromatographic Spectral Data for Quantitated Compounds

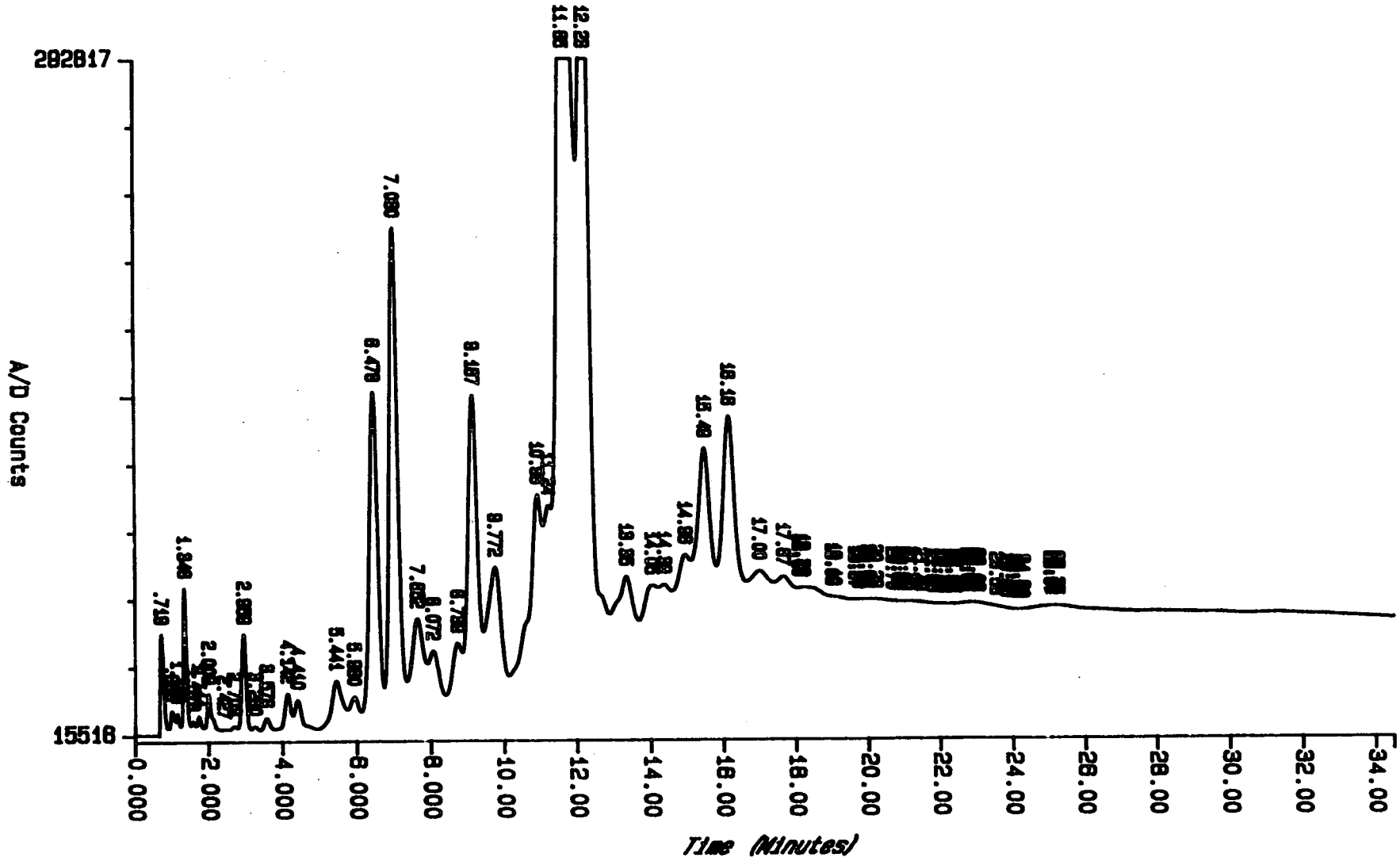
1) A reconstructed gas chromatogram for each sample analyzed by a GC instrument.

2) A reconstructed gas chromatogram for the appropriate standard compounds analyzed with the same GC under the same operating conditions.



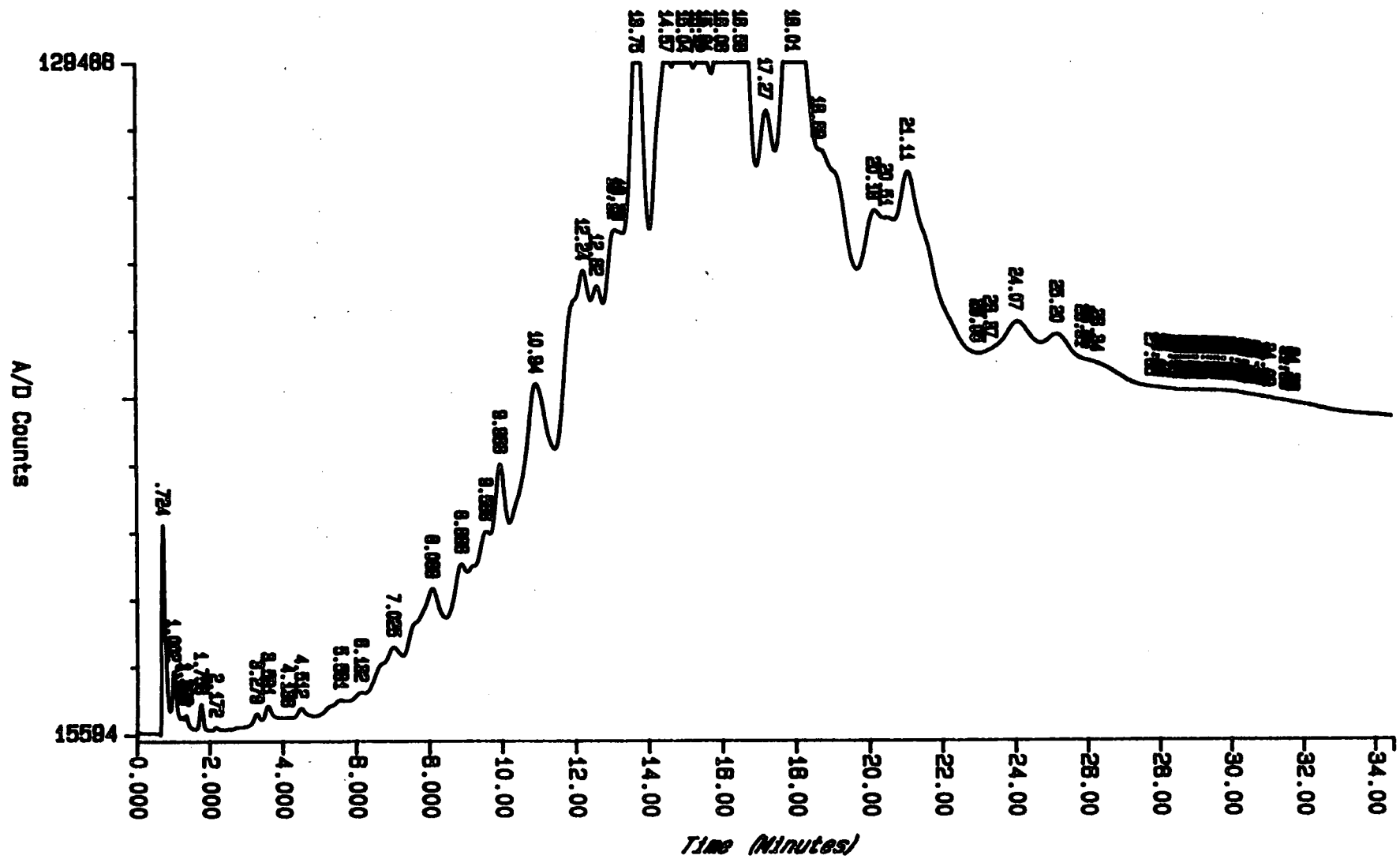
Sample: H5875 Injected at 13:09:30 ON MAY 15, 1985
Raw File: RK1086 Proc File: PK1086 Method: PPST2


Sample: PPSTB
Raw File: RK1058
Injected at 18:04:17 ON MAY 14, 1985
Proc File: PK1058 Method: PPST2
Time (Minutes)
34.00
32.00
30.00
28.00
26.00
24.00
22.00
20.00
18.00
16.00
14.00
12.00
10.00
8.000
6.000
4.000
2.000
0.000
24.42
20.53
19.81
17.58
18.47
18.21
15.21
14.88
13.90
13.45
12.58
11.01
9.998
9.582
9.082
8.303
7.844
7.095
6.705
5.849
5.274
4.550
4.154
.721
531037
15414
A/D Counts

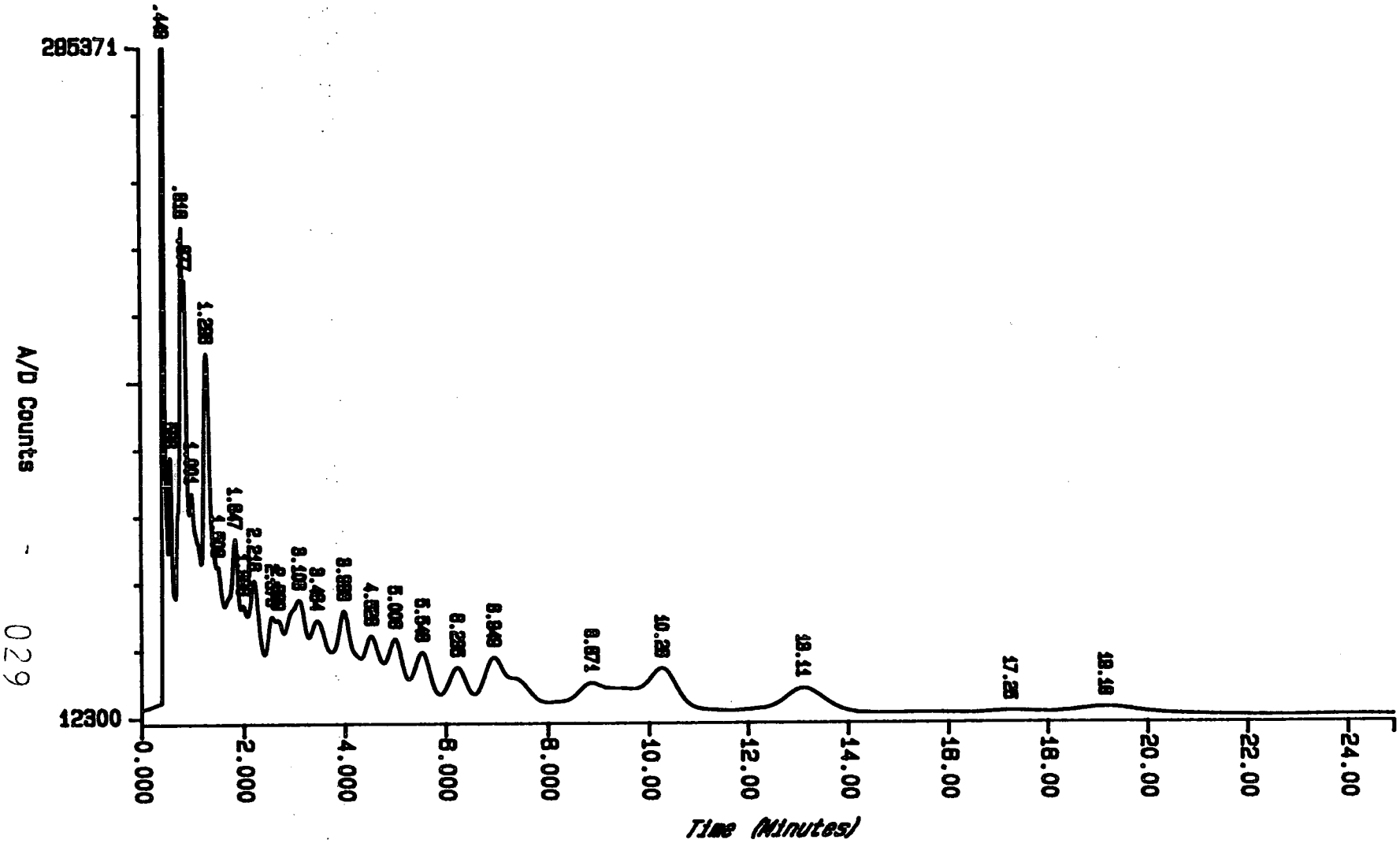


Sample: CHLORB Injected at 22:48:09 ON MAY 14, 1985
Raw File: RK1065 Proc File: PK1065 Method: PPST2

027

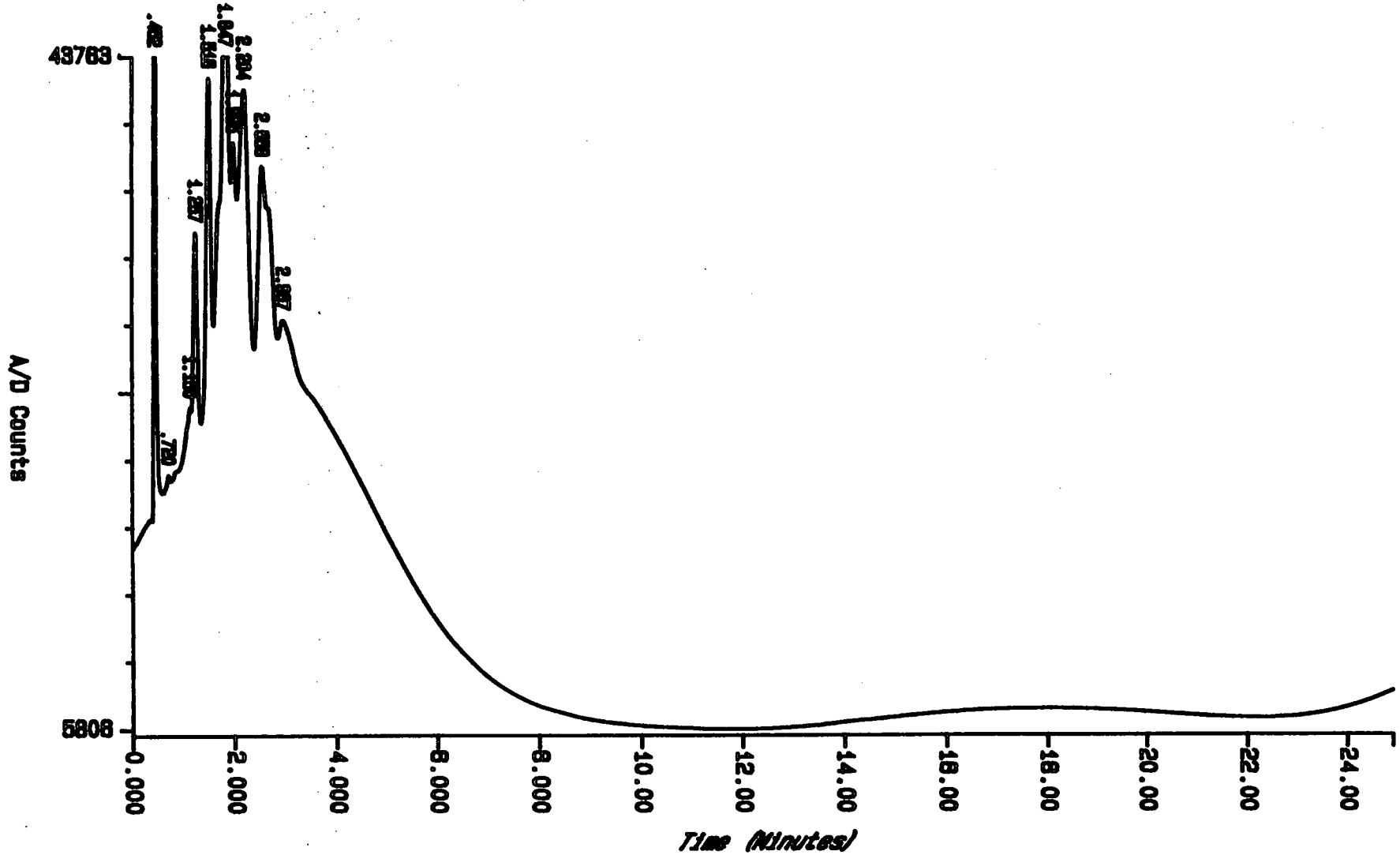


Sample: TOXB Injected at 22:07:30 ON MAY 14, 1985
Raw File: RK1064 Proc File: PK1064 Method: PPST2

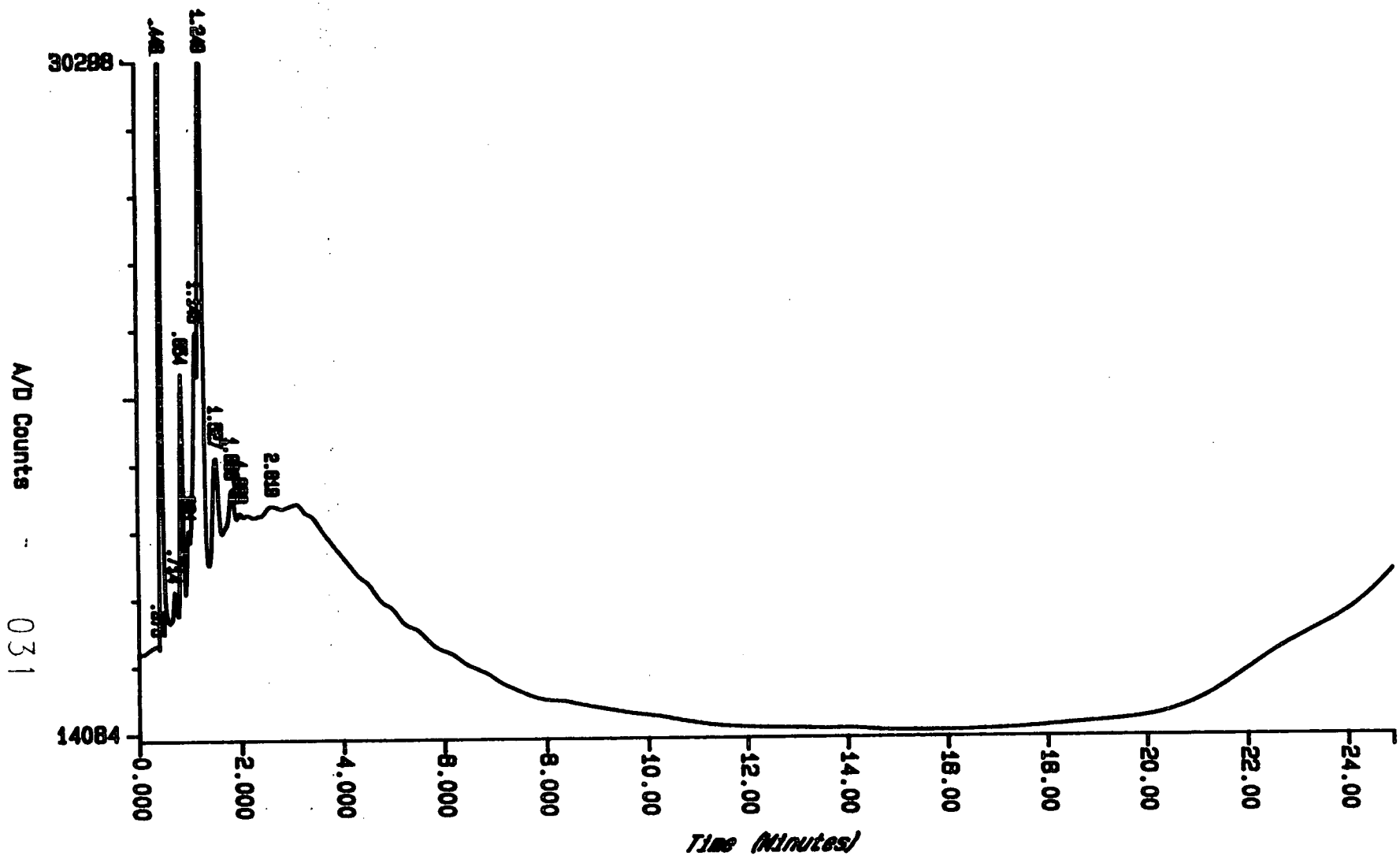


Sample: H5675 Injected at 22:51:18 ON MAY 7, 1985
Raw File: H5675H Proc File: H5675G Method: PCBB8

029

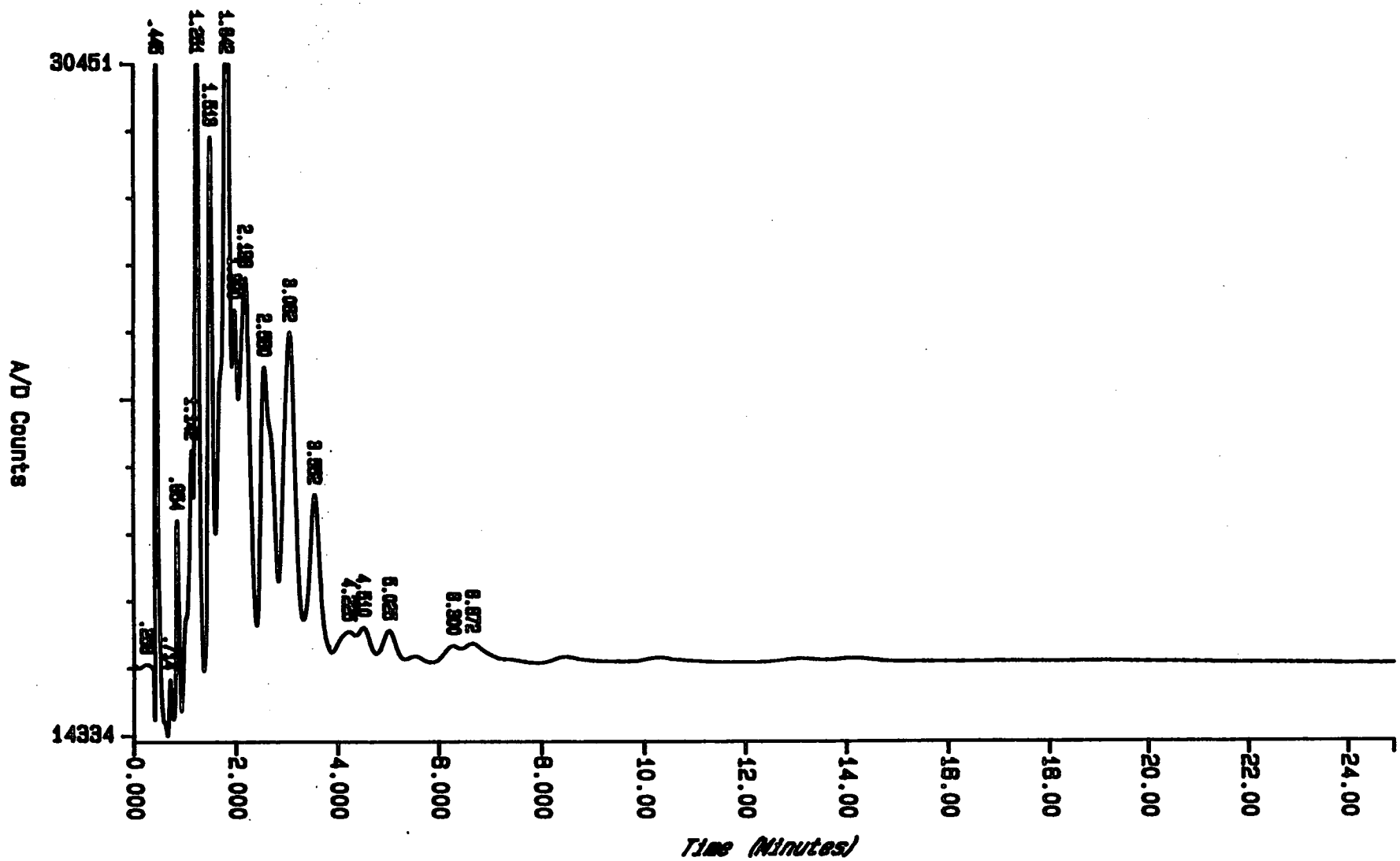


Sample: AR1018-1.0 Injected at 23:46:30 ON MAY 7, 1985
Raw File: RJ0484 Proc File: PJ0484 Method: PCBB8



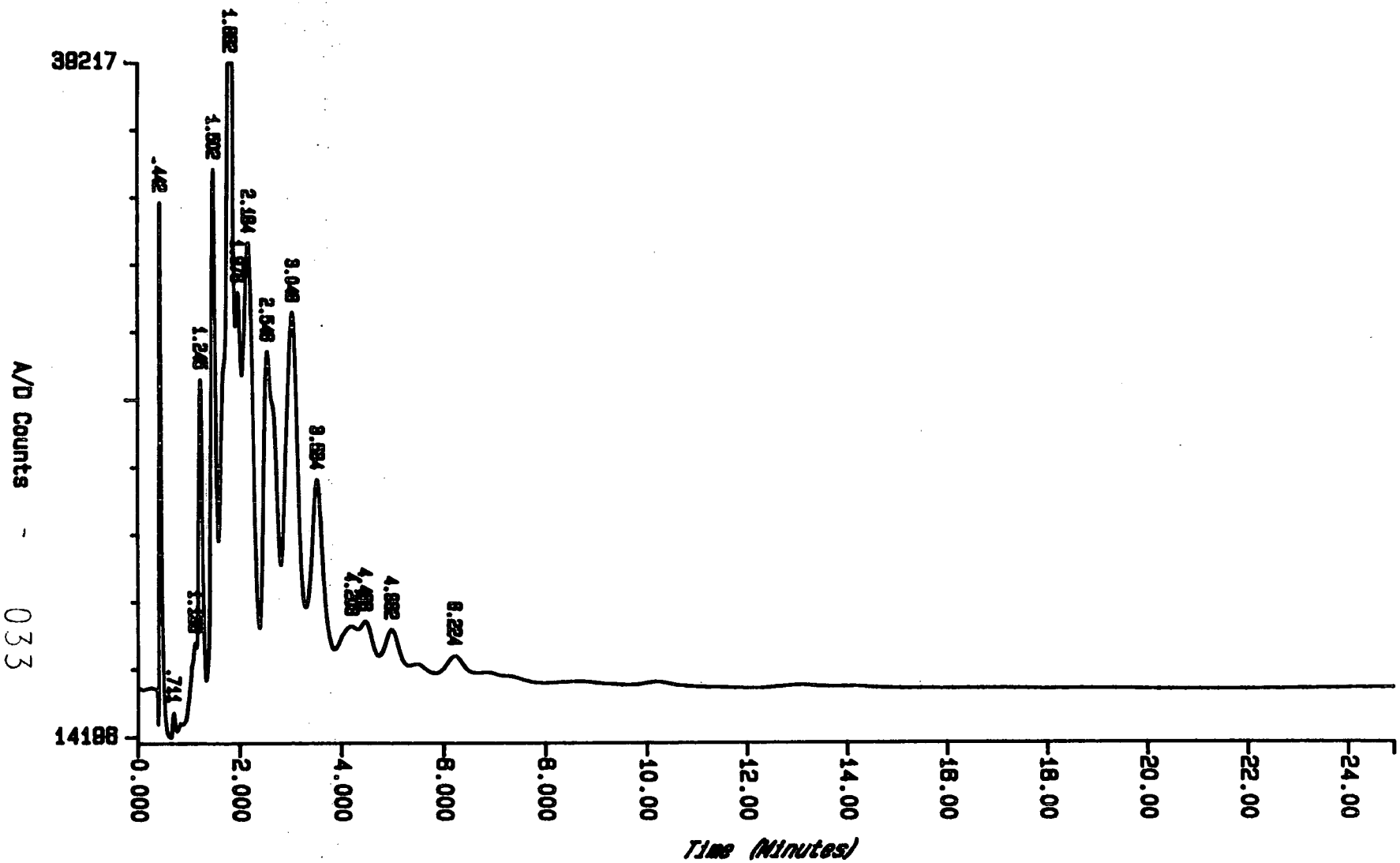
Sample: AR1221-1.0 Injected at 23:18:53 ON MAY 7, 1985
Raw File: RJ0483 Proc File: PJ0483 Method: PCBB8

031



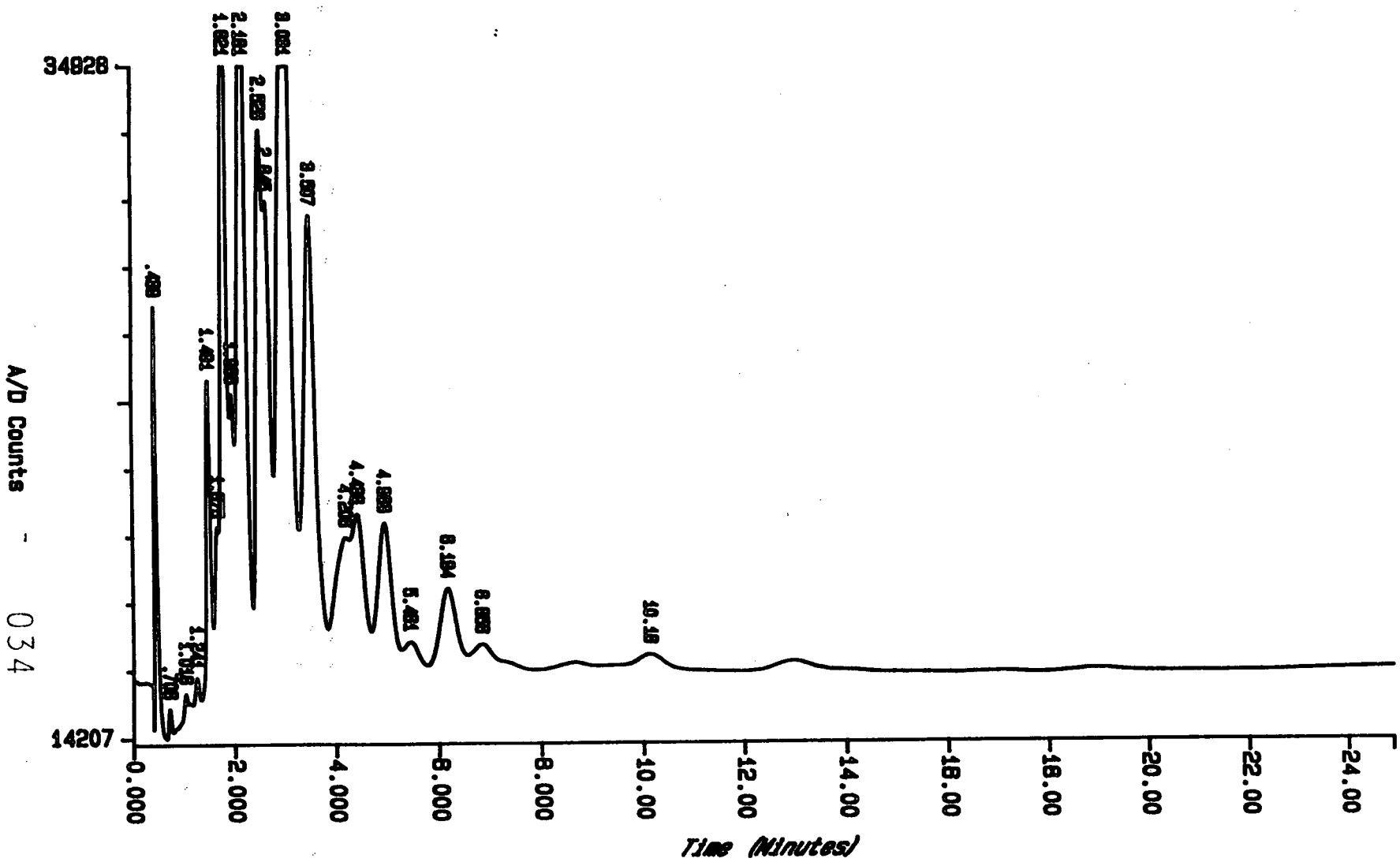
Sample: AR1232-1.0 Injected at 21:01:19 ON MAY 7, 1985
Raw File: RJ0482 Proc File: PJ0482 Method: PCBB8

032

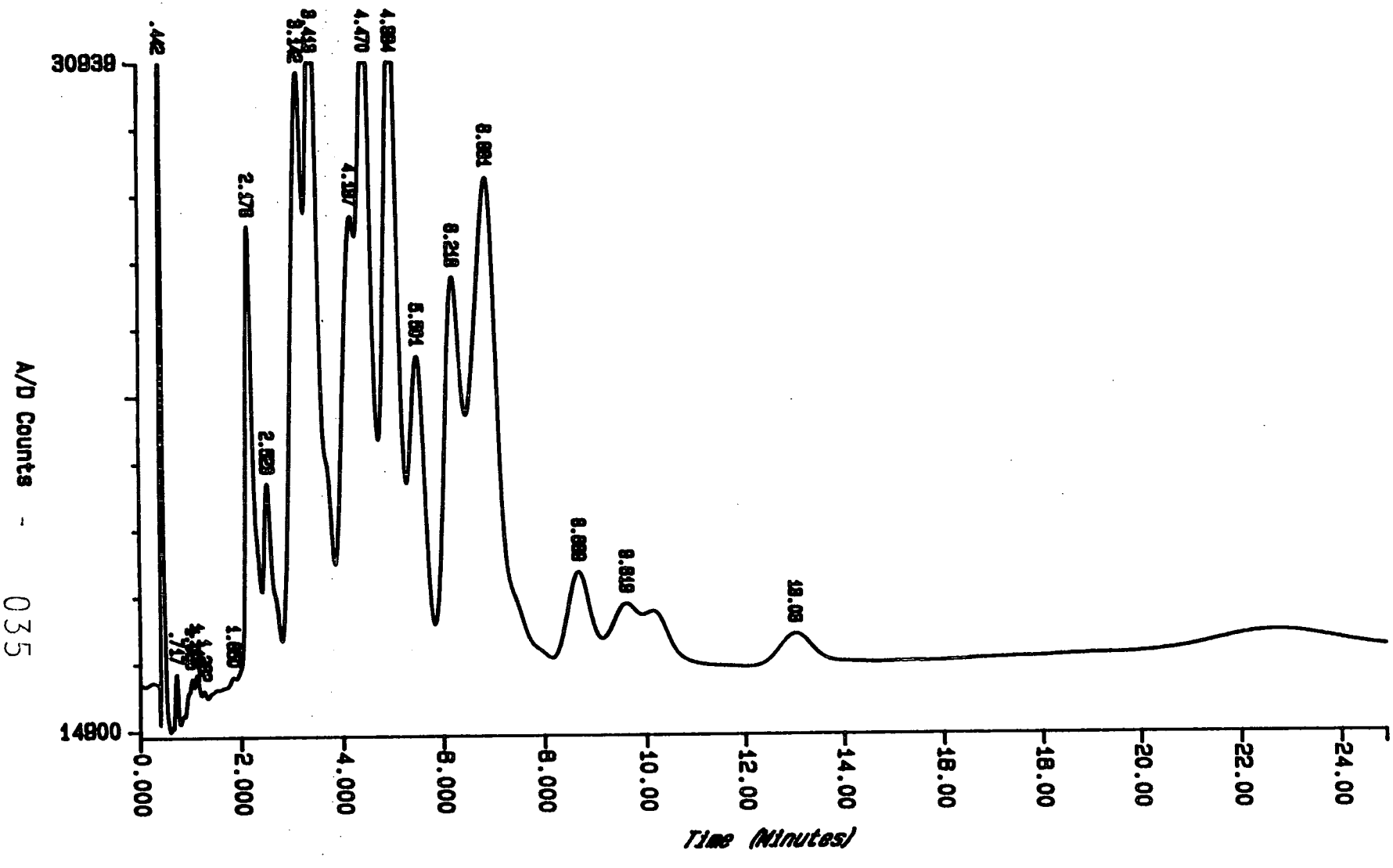


Sample: AR1242-1.0 Injected at 20:33:54 ON MAY 7, 1985
Raw File: RJ0481 Proc File: PJ0481 Method: PCBB8

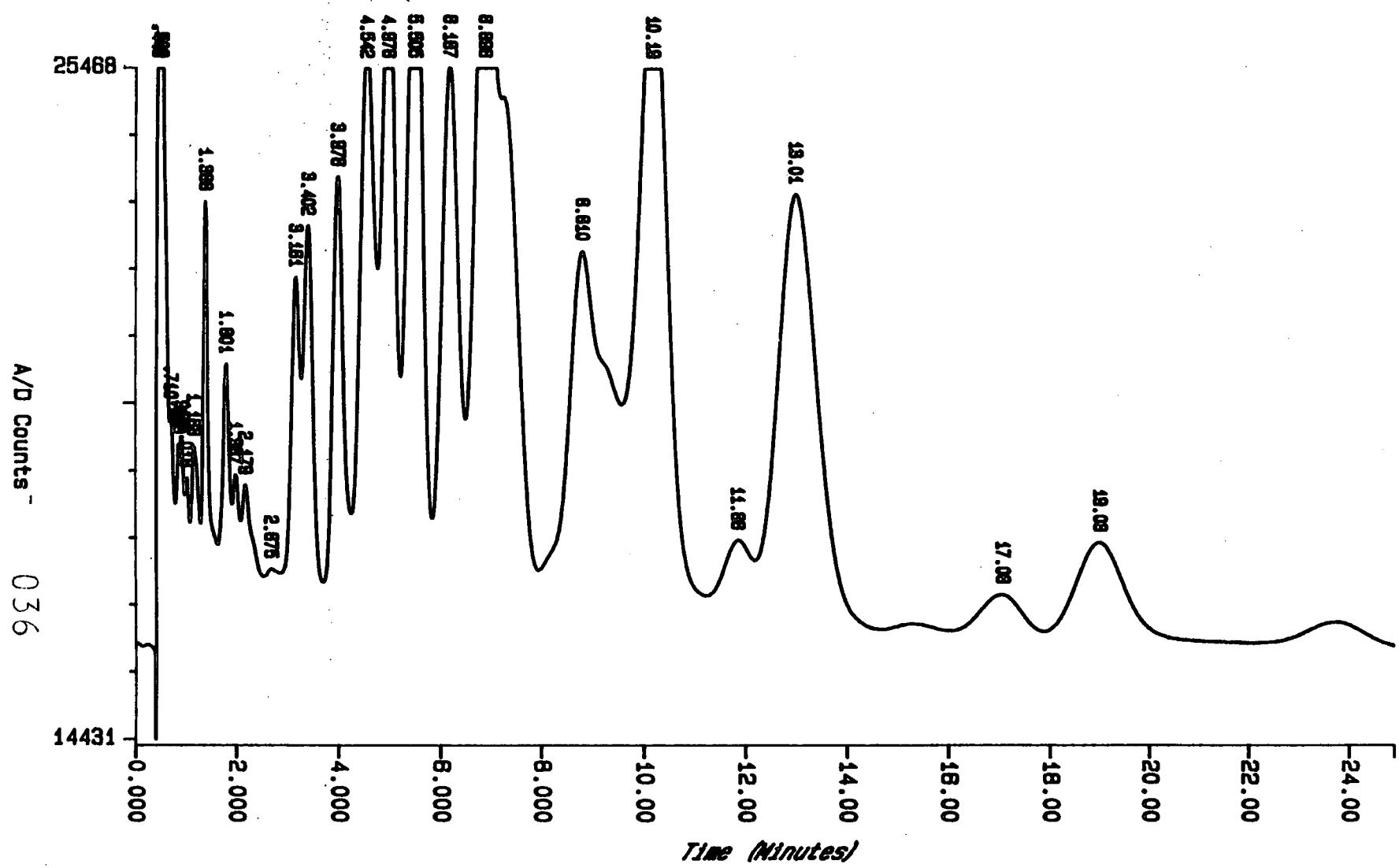
033



Sample: AR1248-1.0 Injected at 20:06:32 ON MAY 7, 1985
Raw File: RJ0480 Proc File: PJ0480 Method: PCBB8



Sample: AR1254-1.0 Injected at 19:39:13 ON MAY 7, 1985
Raw File: RJ0479 Proc File: PJ0479 Method: PCBB8



Sample: AR1260-1.0 Injected at 17:19:36 ON MAY 7, 1985
Raw File: RJ0476 Proc File: PJ0476 Method: PCBB8

036

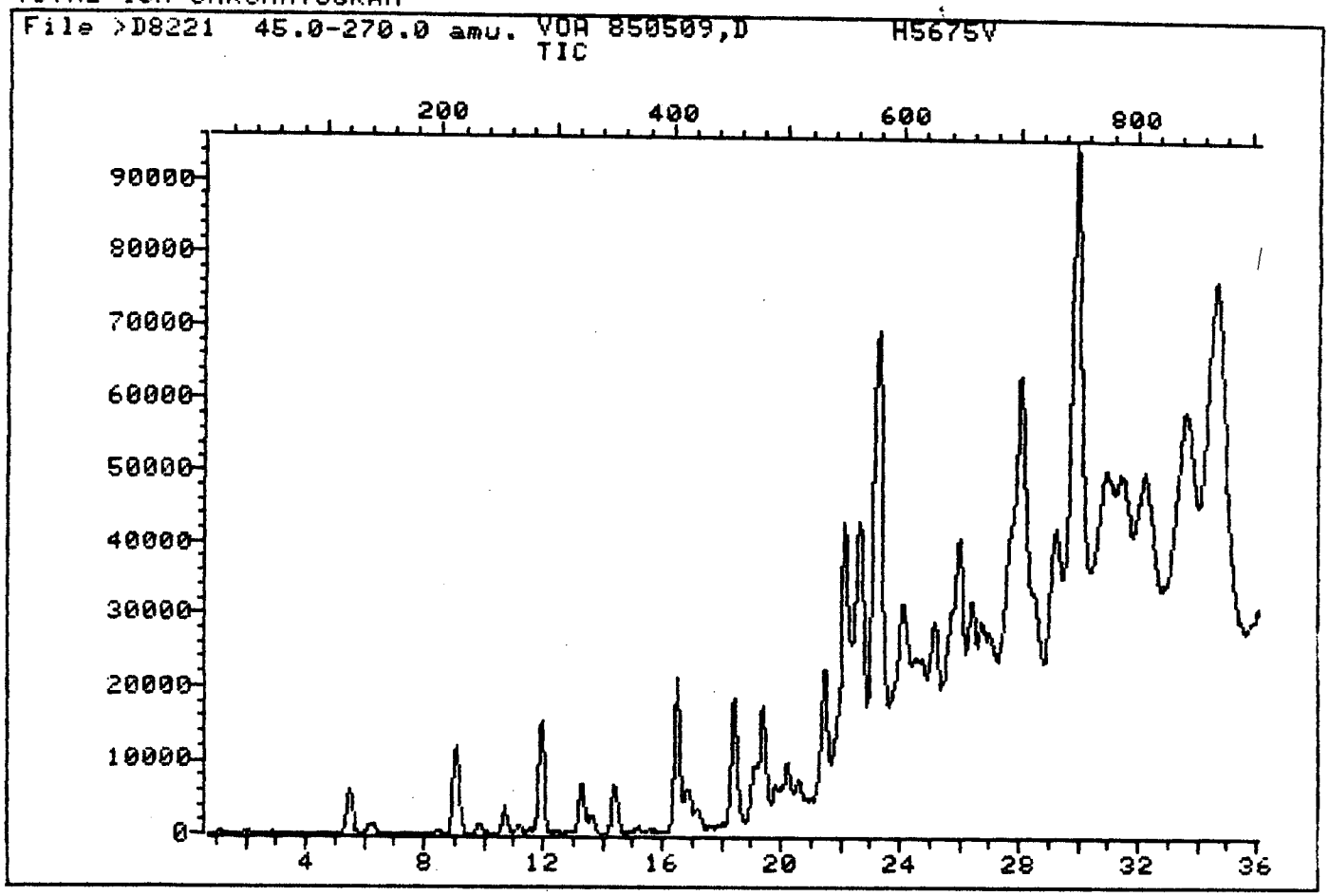
Appendix A

Mass Spectral Data for Quantitated Compounds

1) A total ion chromatogram for each sample analyzed by a GC/MS instrument.

2) A mass spectrum and a reference spectrum for each priority pollutant compound detected in the sample.

TOTAL ION CHROMATOGRAM



Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V

Id File: DVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, D, 831107, RL
Last Calibration: 850509 09:02

Operator ID: SJ3562
Quant Time: 850509 16:25
Injected at: 850509 15:49

QUANT REPORT

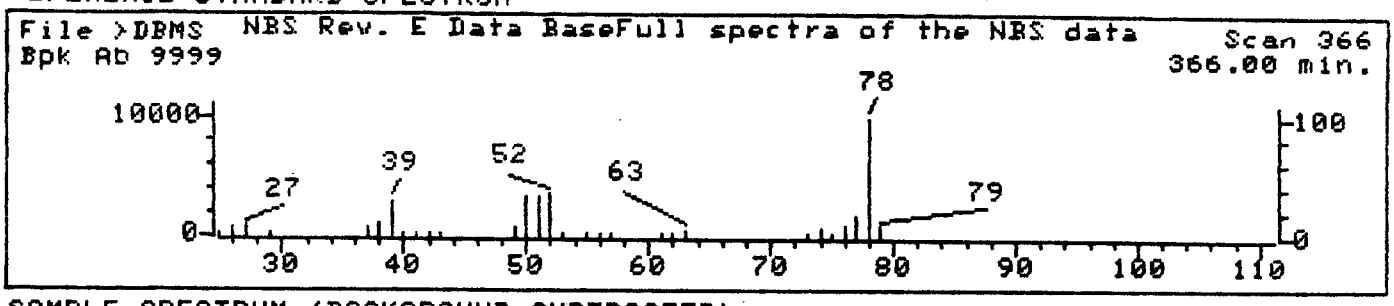
Operator ID: SJ3562 Quant Rev: 4 Quant Time: 850509 16:25
Injected at: 850509 15:49
Data File: >D8221::U4 Dilution Factor: 1.00
Name: VOA 850509 D
Misc: H5675V

ID File: DVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, D, 831107, RL
Last Calibration: 850509 09:02

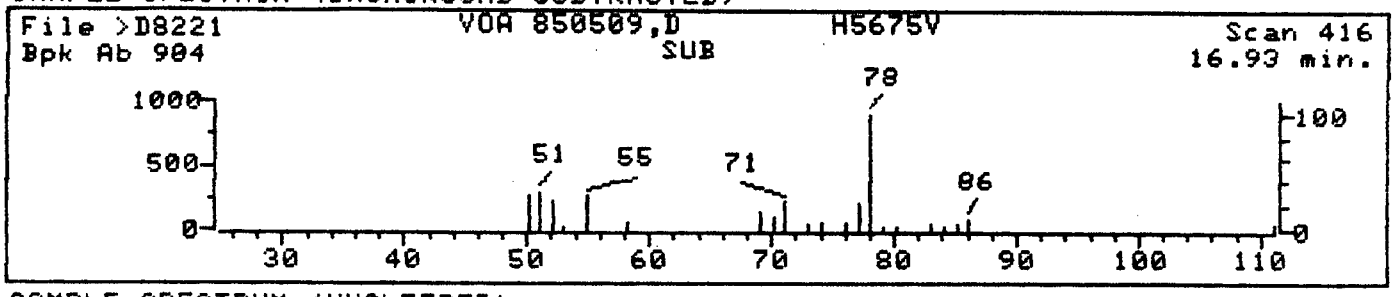
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*2-Bromo-1-chloropropane	18.41	454	52901	200.00	NG	98
2)	Acrolein	6.32	143	6318	~~253.28~~	NG	100
4)	Benzene	16.93	416	12393	25.27	NG	90
5)	bis(Chloromethyl)ether	18.41	454	~~20311~~	~~167.40~~	NG	70
7)	Carbon tetrachloride	13.32	323	~~3196~~	~~8.26~~	NG	97
11)	2-Chloroethylvinyl ether	17.17	422	~~2742~~	~~49.32~~	NG	100
15)	1,1-Dichloroethane	9.86	234	11230	33.59	NG	95
17)	1,1-Dichloroethylene	8.50	199	2618	6.41	NG	77
21)	Ethylbenzene	25.54	~~637~~	~~2370~~	~~2.47~~	NG	89
21)	Ethylbenzene	26.16	653	33545	34.97	NG	99
21)	Ethylbenzene	26.78	~~669~~	~~841~~	~~.88~~	NG	81
24)	Methylene chloride	5.54	123	20106	57.42	NG-47=10	79
25)	1,1,2,2-Tetrachloroethane	21.45	~~532~~	~~7739~~	~~32.24~~	~~NG~~	89
26)	Tetrachloroethylene	22.15	550	69066	271.56	NG	95
27)	Toluene	23.32	580	151813	235.57	NG	99
28)	1,2-Trans-dichloroethylene	10.71	256	17015	48.36	NG	95
29)	1,1,1-Trichloroethane	13.28	322	28142	58.10	NG-18=40	97
31)	Trichloroethylene	16.51	405	33787	223.52	NG	98
32)	Trichlorofluoromethane	7.72	179	1319	2~~.06~~	~~NG~~	95
35)	1,2-Dichloroethane-D4	11.96	288	79054	223.08	NG	89
36)	Toluene-D8	23.12	575	157240	248.55	NG	97
37)	p-Bromofluorobenzene	28.07	702	103371	264.66	NG	85
38)	*1,4-Dichlorobutane	22.38	556	97394	200.00	NG	88

* Compound is ISTD

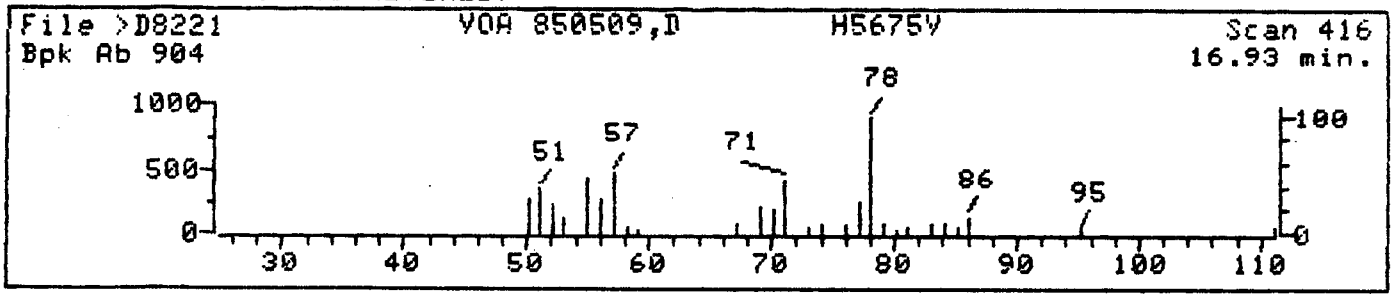
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



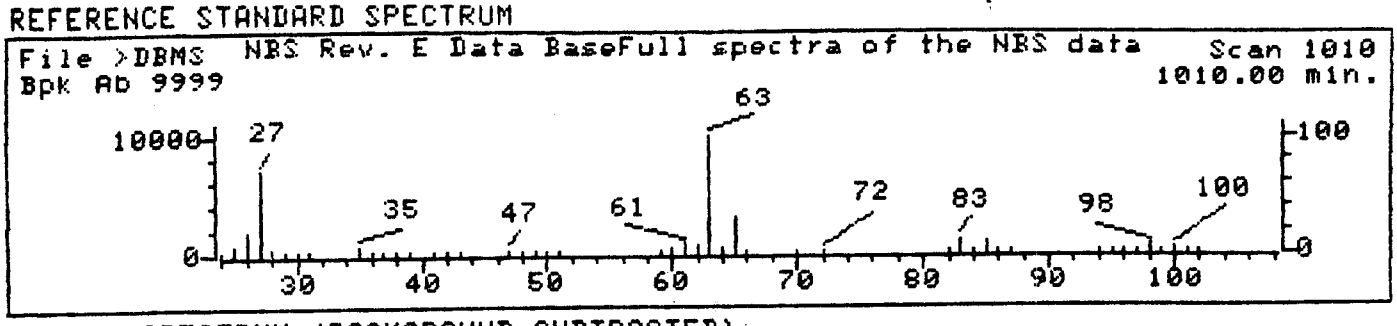
SAMPLE SPECTRUM (UNALTERED)



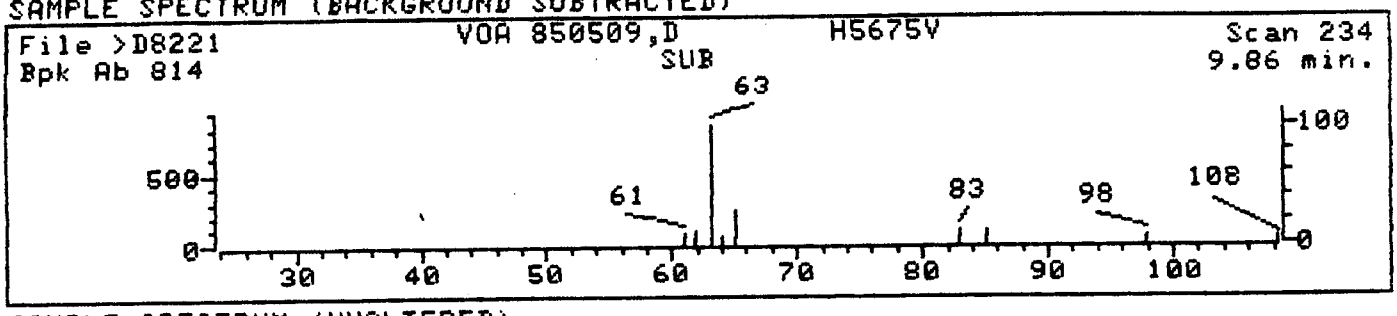
Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 4
Compound Name: Benzene
Scan Number: 416
Retention Time: 16.93 min.
Area: 12393
Concentration: 25.27 NG
q-value: 90

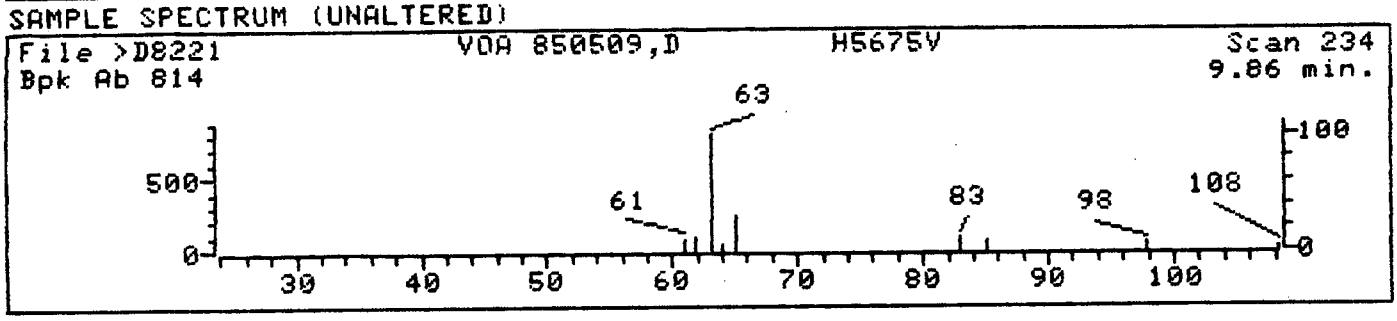
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



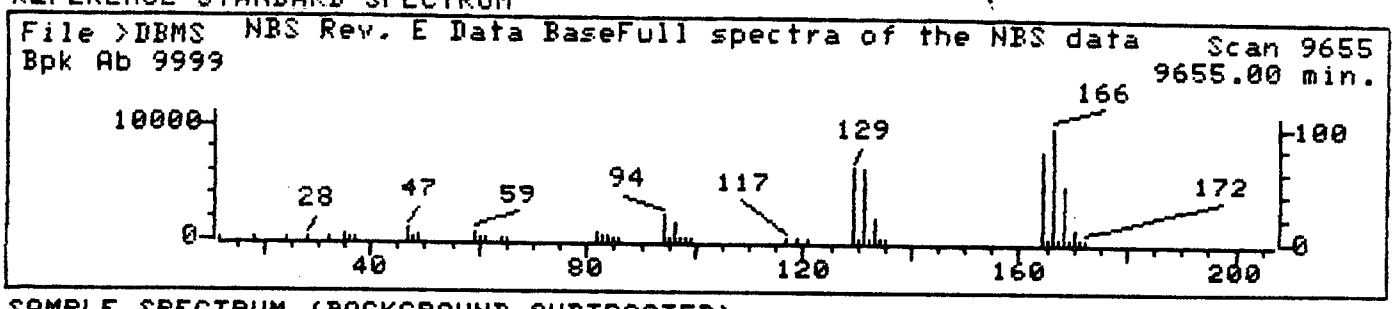
SAMPLE SPECTRUM (UNALTERED)



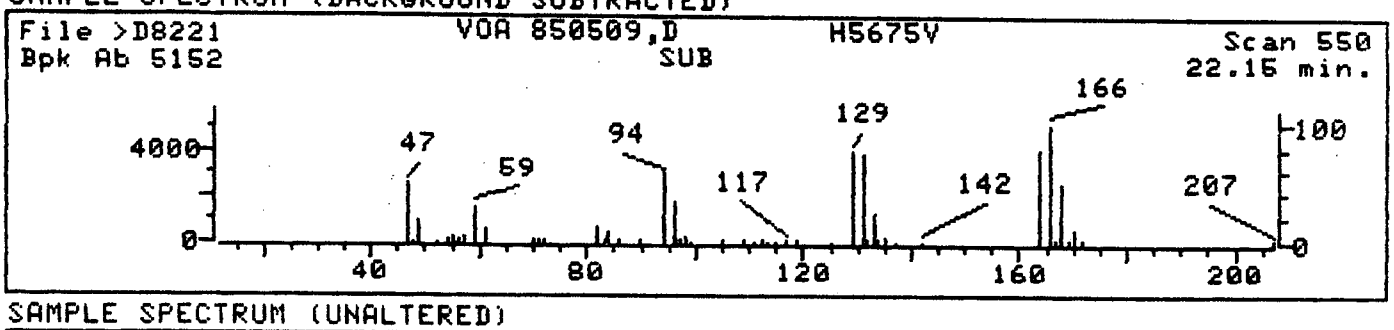
Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 15
Compound Name: 1,1-Dichloroethane
Scan Number: 234
Retention Time: 9.86 min.
Area: 11230
Concentration: 33.59 NG
q-value: 95

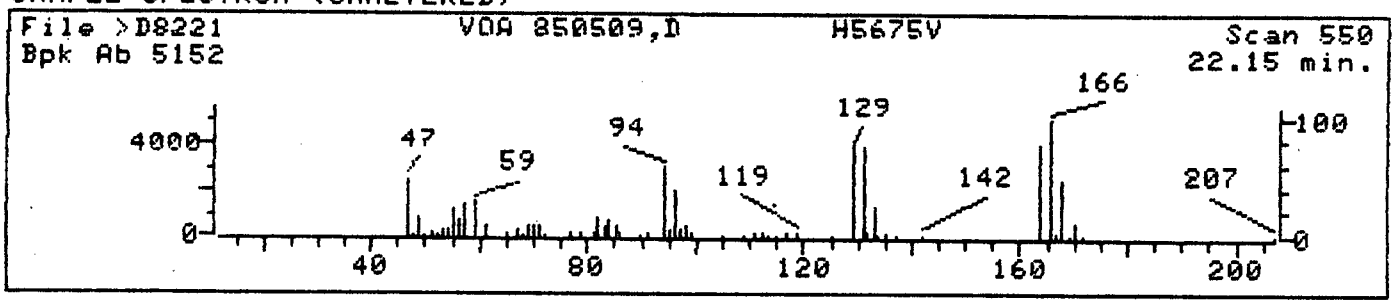
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



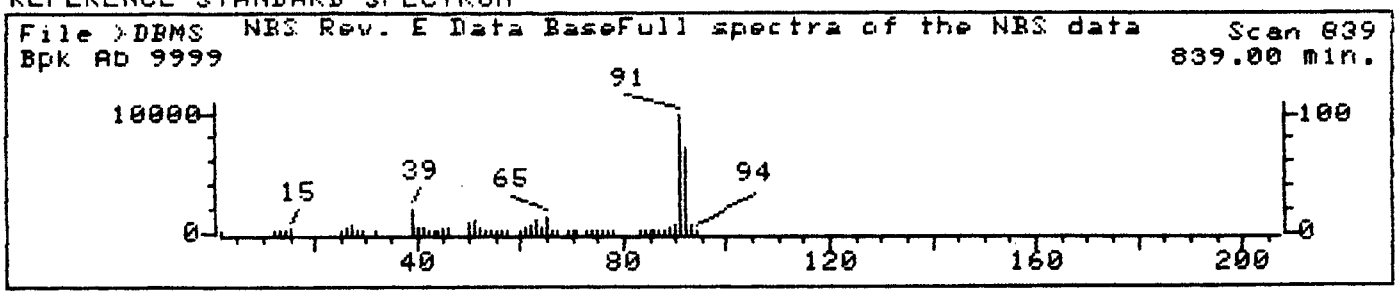
SAMPLE SPECTRUM (UNALTERED)



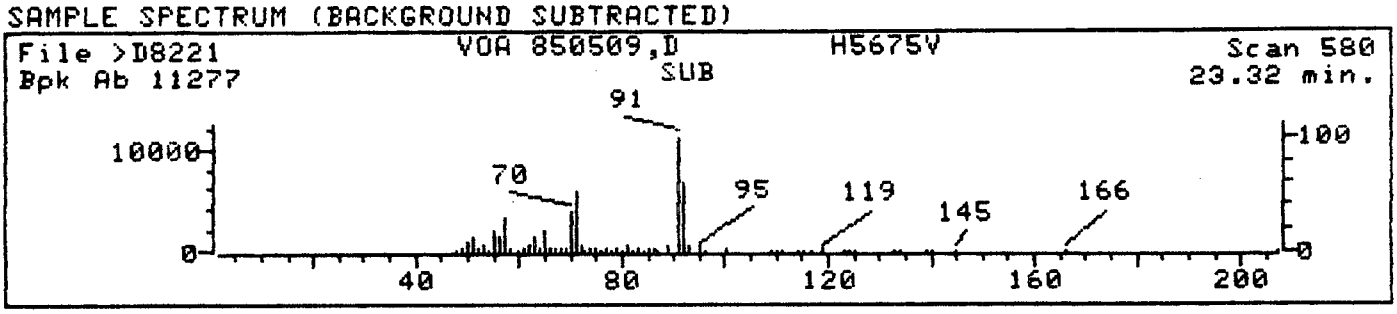
Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 26
Compound Name: Tetrachloroethylene
Scan Number: 550
Retention Time: 22.15 min.
Area: 69066
Concentration: 271.56 NG
q-value: 95

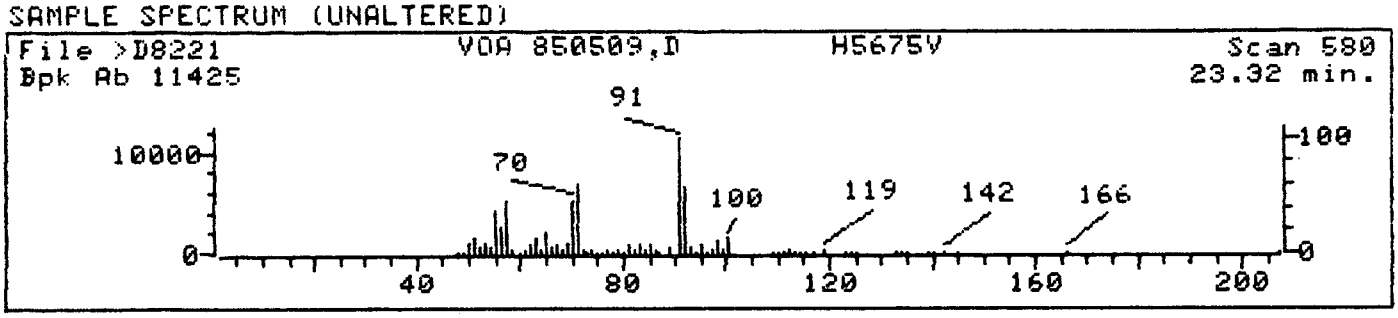
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



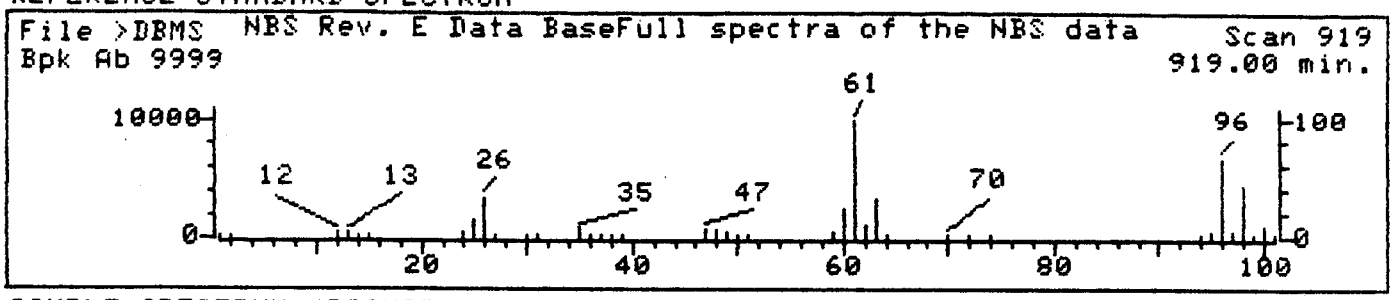
SAMPLE SPECTRUM (UNALTERED)



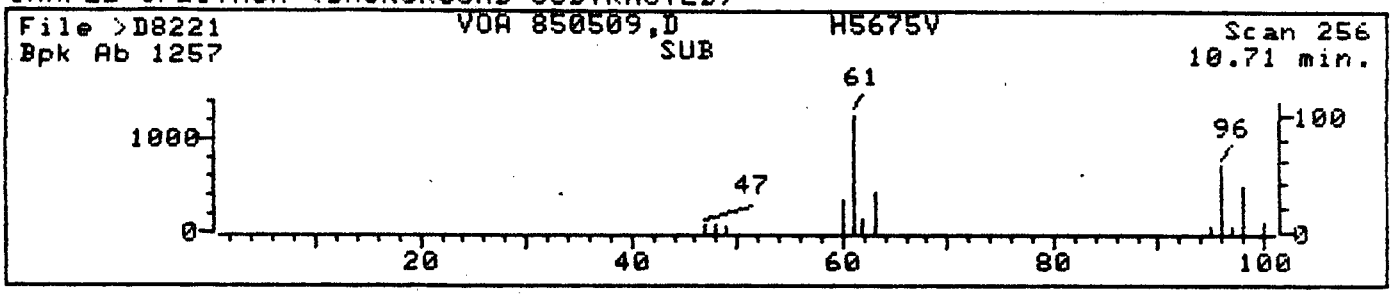
Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 27
Compound Name: Toluene
Scan Number: 580
Retention Time: 23.32 min.
Area: 151813
Concentration: 235.57 NG
q-value: 99

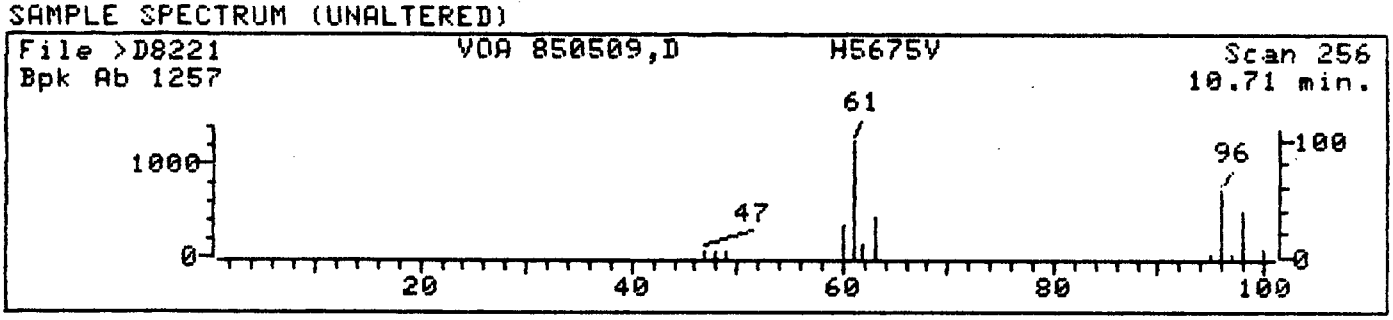
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



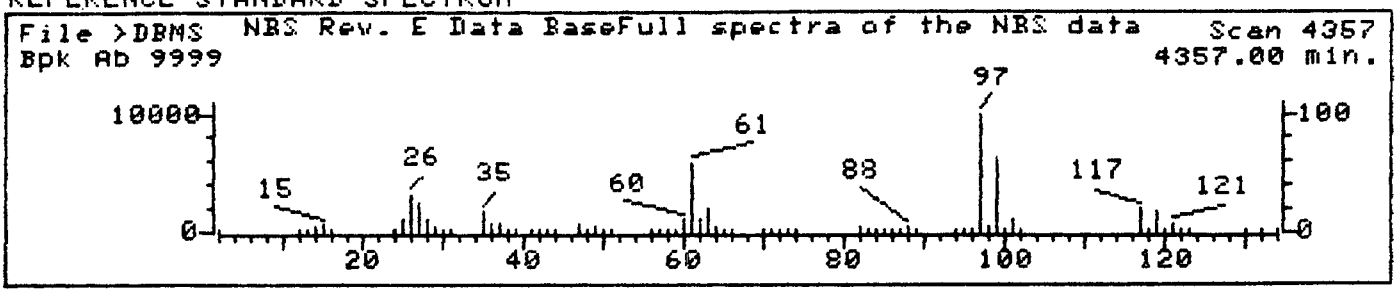
SAMPLE SPECTRUM (UNALTERED)



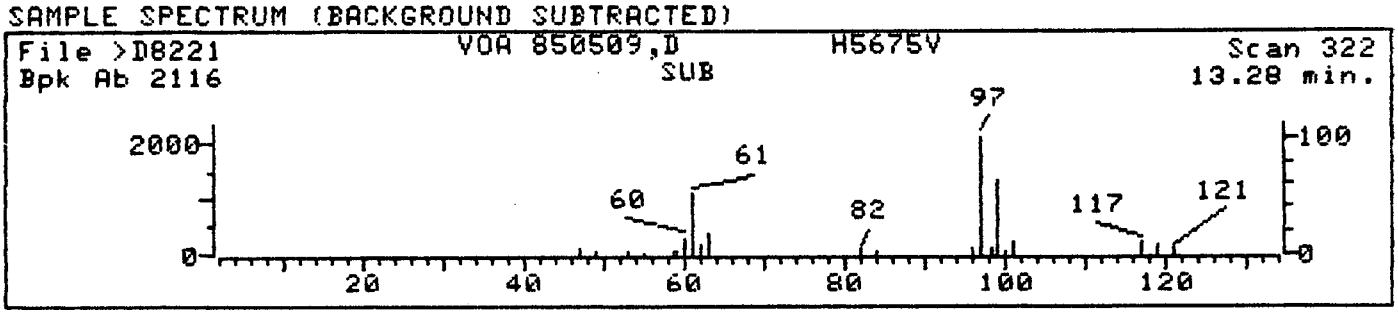
Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 28
Compound Name: 1,2-Trans-dichloroethylene
Scan Number: 256
Retention Time: 10.71 min.
Area: 17015
Concentration: 48.36 NG
q-value: 95

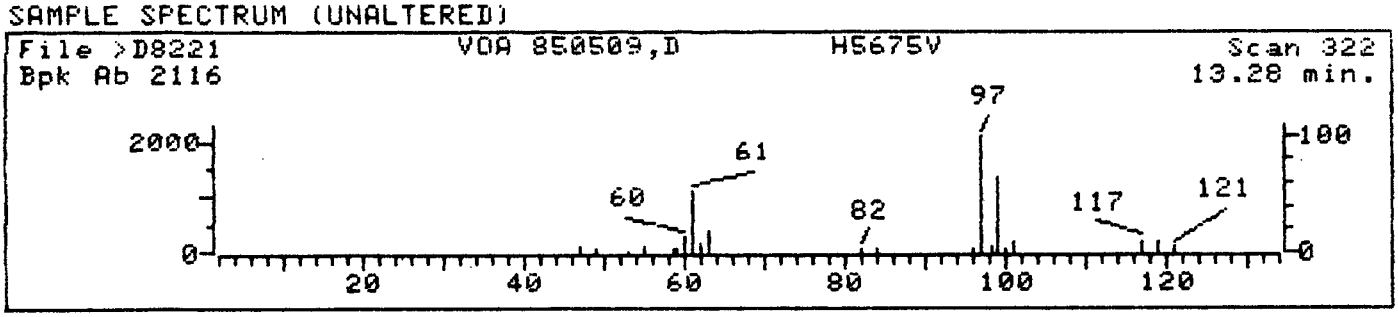
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



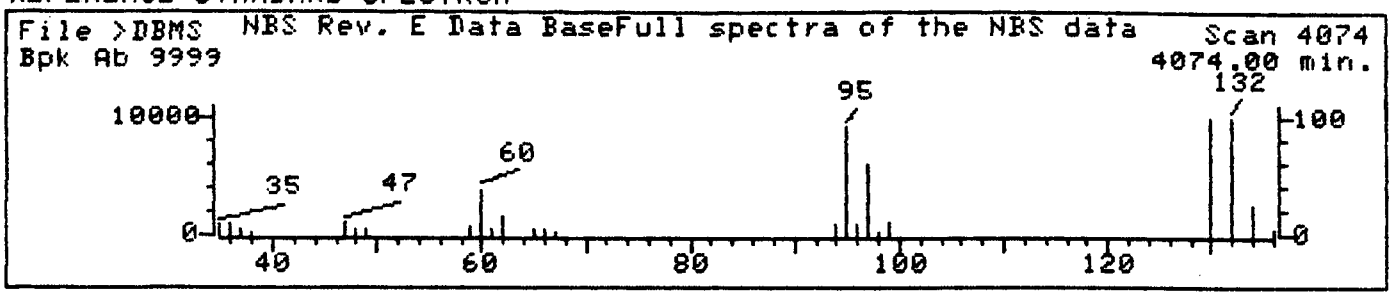
SAMPLE SPECTRUM (UNALTERED)



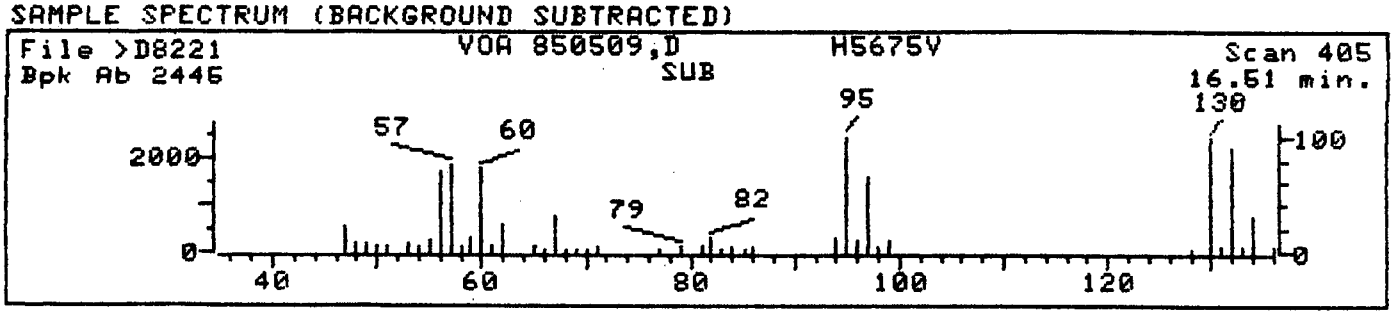
Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 29
Compound Name: 1,1,1-Trichloroethane
Scan Number: 322
Retention Time: 13.28 min.
Area: 28142
Concentration: 58.10 NG
q-value: 97

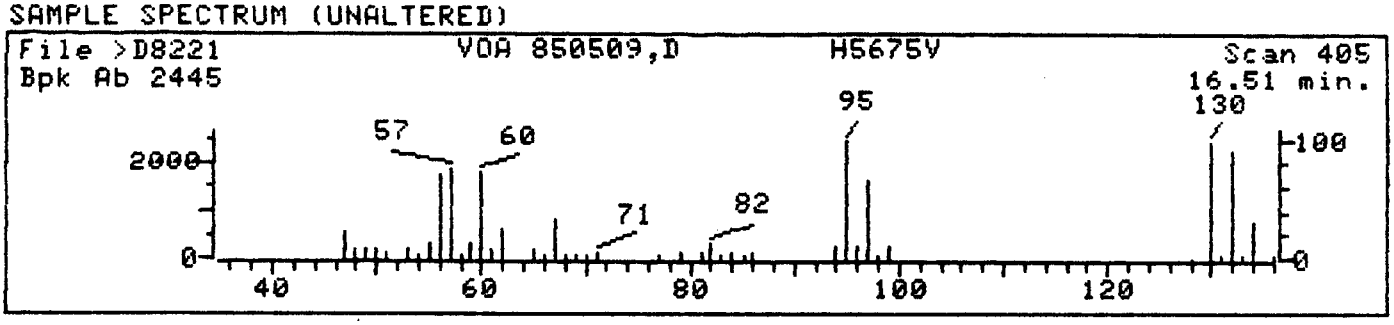
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



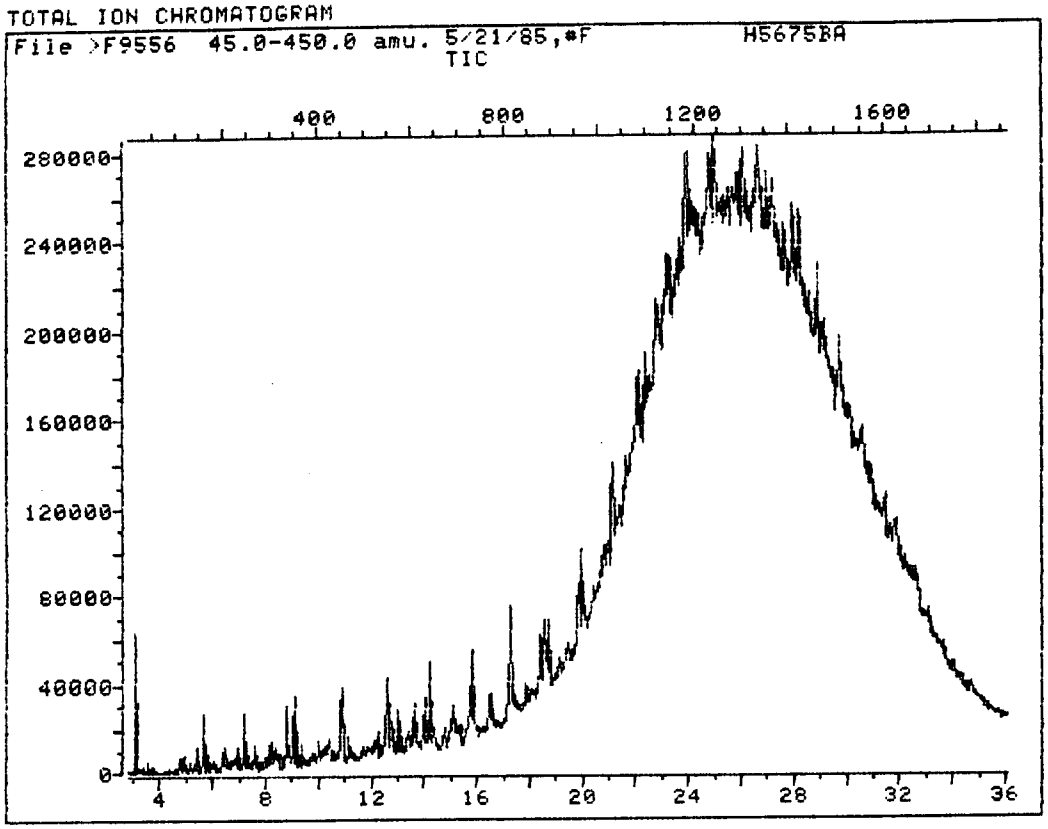
SAMPLE SPECTRUM (UNALTERED)



Data File: >D8221::U4
Name: VOA 850509,D
Misc: H5675V
Quant Time: 850509 16:25
Injected at: 850509 15:49

Compound No: 31
Compound Name: Trichloroethylene
Scan Number: 405
Retention Time: 16.51 min.
Area: 33787
Concentration: 223.52 NG
q-value: 98

TOTAL ION CHROMATOGRAM



Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA

BTL#15

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850521 10:24

Operator ID: WW9928
Quant Time: 850522 01:28
Injected at: 850522 00:50

QUANT REPORT

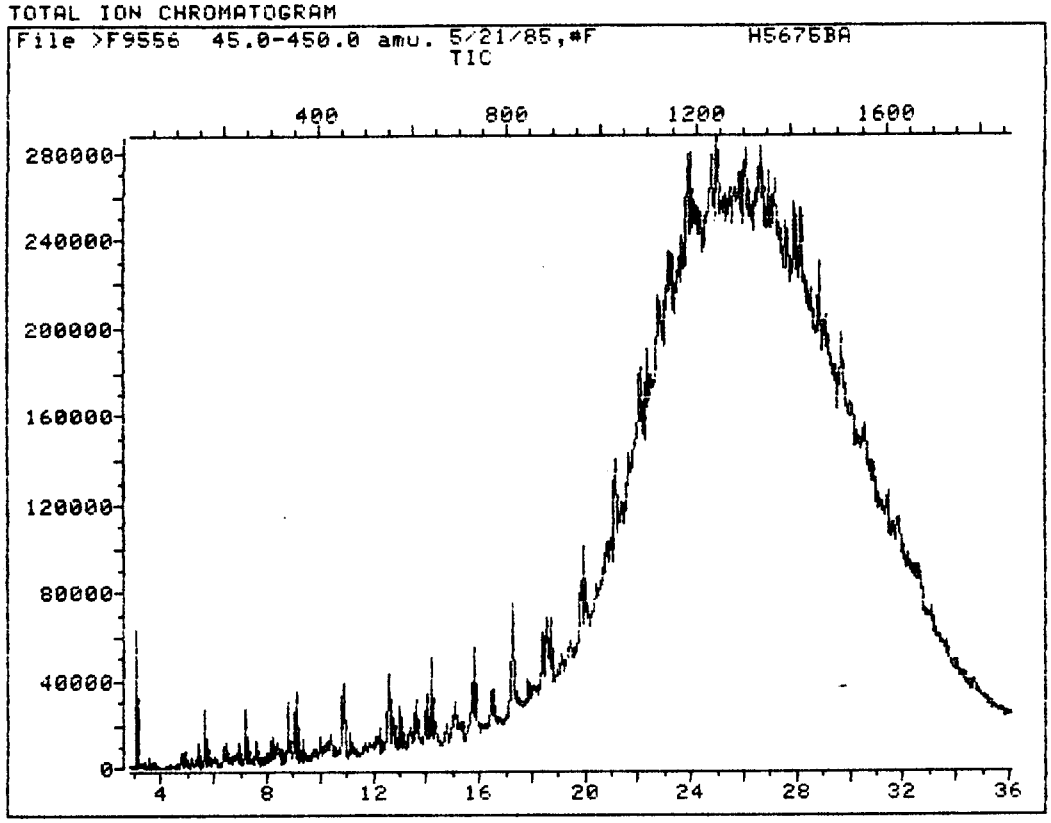
Operator ID: WW9928 Quant Rev: 4 Quant Time: 850522 01:28
Output File: ^F9556::AQ Injected at: 850522 00:50
Data File: >F9556::U2 Dilution Factor: 1.00
Name: 5/21/85,#F
Misc: H5675BA BTL#15

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850521 10:24

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.60	158	17239	40.00	UG/ML	89
3)	2-Fluorophenol	3.54	42	3077	10.72	UG/ML	97
5)	Phenol-D5	5.19	135	3485	10.64	UG/ML	97
9)	*d8-Naphthalene	8.76	336	42680	40.00	UG/ML	96
14)	*d10-Acenaphthalene	13.98	629	23446	40.00	UG/ML	98
15)	4,6-Dinitro-o-cresol	17.65	835	1498	8.68	UG/ML	55
15)	4,6-Dinitro-o-cresol	18.14	862	800	~~4.63~~	~~UG/ML~~	72
16)	2,4-Dinitrophenol	15.60	720	353	~~4.80~~	~~UG/ML~~	47
16)	2,4-Dinitrophenol	16.12	749	1979	~~26.88~~	~~UG/ML~~	67
16)	2,4-Dinitrophenol	16.30	759	1246	~~16.93~~	~~UG/ML~~	57
20)	*d10-Phenanthrene	18.39	876	51518	40.00	UG/ML	97
21)	2,4,6-Tribromophenol	16.44	767	443	4.70	UG/ML	95

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA

BTL#15

Id File: FBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850522 08:39

Operator ID: WW9928
Quant Time: 850522 09:22
Injected at: 850522 00:50

D

QUANT REPORT

Operator ID: WW9928 Quant Rev: 4 Quant Time: 850522 09:22
Output File: BF9556::AQ Injected at: 850522 00:50
Data File: >F9556::U2 Dilution Factor: 1.00
Name: 5/21/85,#F
Misc: H5675BA BTL#15

ID File: FBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850522 08:39

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.60	158	10804	40.00	UG/ML	96
4)	1,3-Dichlorobenzene	6.04	183	820	2.60	UG/ML	87
5)	1,4-Dichlorobenzene	6.04	183	820	~~2.39~~	~~UG/ML~~	86
6)	1,2-Dichlorobenzene	6.04	183	820	~~2.49~~	~~UG/ML~~	84
7)	Nitrobenzene-d5	6.99	236	2395	8.06	UG/ML	84
8)	bis(2-Chloroisopropyl)ether	5.81	170	1074	~~22.03~~	~~UG/ML~~	95
8)	bis(2-Chloroisopropyl)ether	6.35	200	1391	~~28.53~~	~~UG/ML~~	59
8)	bis(2-Chloroisopropyl)ether	6.47	207	851	~~17.45~~	~~UG/ML~~	80
8)	bis(2-Chloroisopropyl)ether	6.95	234	1369	~~28.08~~	~~UG/ML~~	78
9)	*d8-Naphthalene	8.76	336	42680	40.00	UG/ML	93
17)	Naphthalene	8.82	339	5523	6.22	UG/ML	80
19)	*d10-Acenaphthalene	13.98	629	23446	40.00	UG/ML	98
22)	Dimethyl phthalate	13.98	629	4518	~~6.38~~	~~UG/ML~~	83
23)	Acenaphthylene	13.68	612	663	~~.72~~	~~UG/ML~~	29
25)	Acenaphthene	13.34	593	1254	~~1.98~~	~~UG/ML~~	70
25)	Acenaphthene	14.09	635	1149	1.74	UG/ML	53
26)	2,4-Dinitrotoluene	14.09	635	837	~~4.29~~	~~UG/ML~~	71
26)	2,4-Dinitrotoluene	14.75	672	724	~~3.21~~	~~UG/ML~~	88
28)	Fluorene	15.62	721	3016	4.32	UG/ML	78
30)	N-Nitrosodiphenylamine	16.60	776	3554	~~7.88~~	~~UG/ML~~	46
32)	*d10-Phenanthrene	18.39	876	51518	40.00	UG/ML	96
35)	Phenanthrene	18.46	880	11306	10.97	UG/ML	91
36)	Anthracene	18.46	880	11306	~~9.58~~	~~UG/ML~~	88
38)	Fluoranthene	21.75	1064	2785	~~2.49~~	~~UG/ML~~	46
38)	Fluoranthene	22.09	1083	4680	4.18	UG/ML	92
38)	Fluoranthene	22.72	1118	13570	~~12.13~~	~~UG/ML~~	93
39)	Benzidine	22.92	1129	590	~~57.43~~	UG/ML	100
39)	Benzidine	23.46	1159	564	~~54.90~~	~~UG/ML~~	100
39)	Benzidine	23.64	1169	671	~~65.31~~	~~UG/ML~~	100
39)	Benzidine	23.96	1187	581	~~56.55~~	~~UG/ML~~	100
40)	Pyrene	22.09	1083	4680	4.09	UG/ML	92
40)	Pyrene	22.72	1118	13570	11.86	UG/ML	93
41)	Alpha-BHC	17.81	~~844~~	~~784~~	~~5.33~~	~~UG/ML~~	53
42)	Beta-BHC	17.81	844	784	~~8.03~~	~~UG/ML~~	53
43)	Gamma-BHC	17.81	844	784	~~6.15~~	~~UG/ML~~	53
44)	Delta-BHC	18.15	863	723	~~2.22~~	~~UG/ML~~	51
44)	Delta-BHC	19.58	~~943~~	1828	~~18.26~~	~~UG/ML~~	45
47)	*d12-Chrysene	26.26	1315	616	40.00	UG/ML	100
53)	Endrin	23.20	1145	4899	~~2122.94~~	~~UG/ML~~	42
56)	Endrin aldehyde	23.28	1149	2518	~~552.29~~	~~UG/ML~~	57
56)	Endrin aldehyde	24.03	1191	1840	~~403.58~~	~~UG/ML~~	56
56)	Endrin aldehyde	24.10	1195	2398	~~525.97~~	UG/ML	57
56)	Endrin aldehyde	24.37	1210	5198	~~1140.11~~	UG/ML	46
59)	Terphenyl-D14	23.47	1160	2845	~~183.84~~	~~UG/ML~~ 42	34
61)	Benzo(a)anthracene	26.46	1326	2937	~~240.14~~	~~UG/ML~~	~~79~~
62)	Chrysene	26.46	1326	2937	~~185.02~~	~~UG/ML~~	~~79~~

616 / Actual 26868 = .023

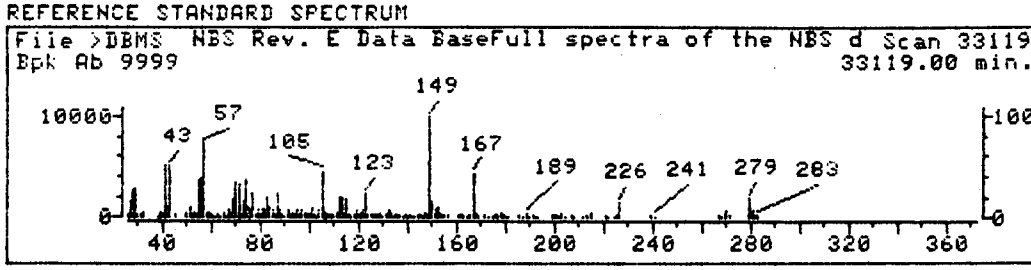
050

	Compound	R.T.	Scan#	Area	Conc	Units	q
3)	3,3'-Dichlorobenzidine	26.03	1302	728	~~603.35~~	~~UG/ML~~	88
3)	3,3'-Dichlorobenzidine	27.00	1356	655	~~542.85~~	~~UG/ML~~	85
4)	bis(2-Ethylhexyl)phthalate	27.18	1366	11007	667.98	UG/ML x.023	96 15
4)	bis(2-Ethylhexyl)phthalate	27.34	1375	933	~~56.62~~	UG/ML	93
5)	Di-n-octyl phthalate	28.26	1426	1211	~~64.13~~	~~UG~~/ML	89
6)	Benzo(b)fluoroanthene	30.23	1536	1742	~~247.17~~	UG/ML	43
6)	Benzo(k)fluoranthene	30.23	1536	1742	~~294.12~~	UG/ML	42
8)	Benzo(a)pyrene	30.23	1536	1742	~~342.53~~	UG/ML	44
8)	Benzo(a)pyrene	30.56	1554	759	~~149.24~~	~~UG~~/ML	37

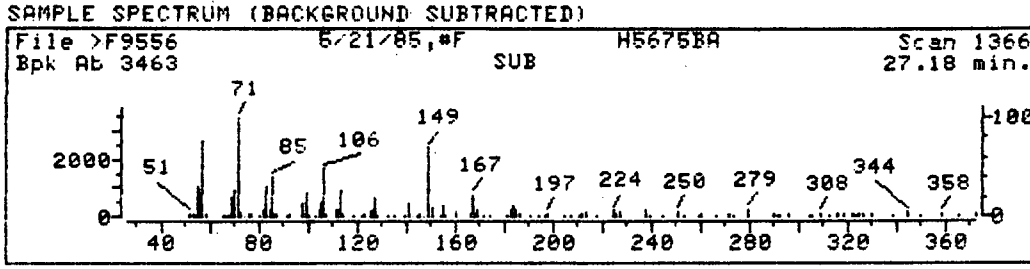
* Compound is ISTD

$\frac{2034 \times 40}{42680 \times .331}$

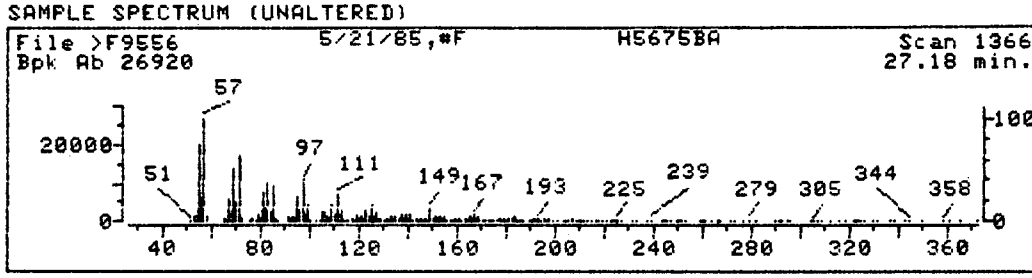
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

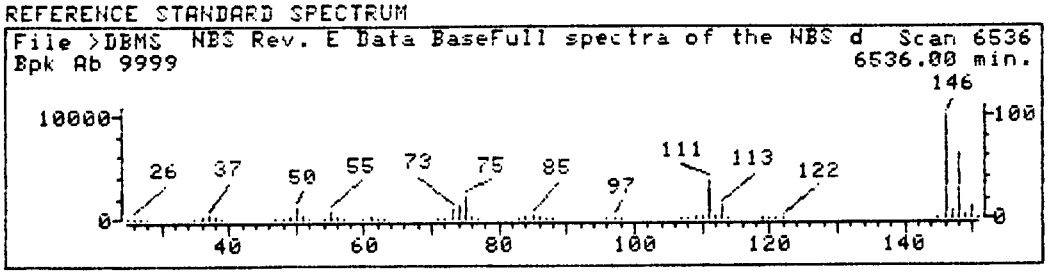


Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

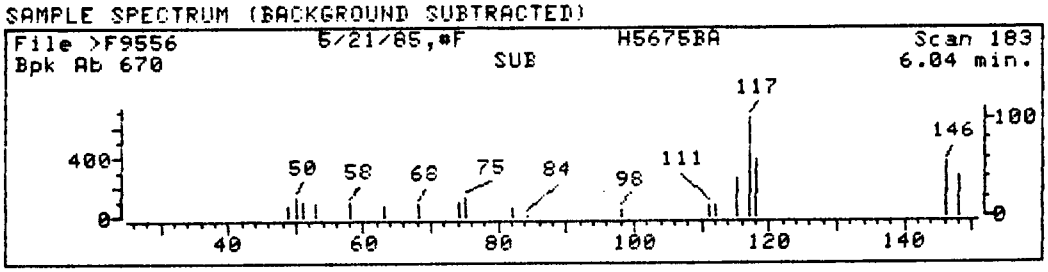
BTL#15

Compound No: 64
Compound Name: bis(2-Ethylhexyl)phthalate
Scan Number: 1366
Retention Time: 27.18 min.
Area: 11007
Concentration: 667.98 UG/ML
q-value: 96

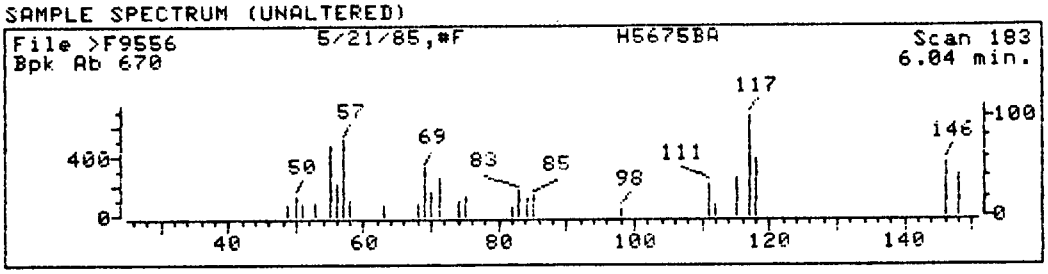
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

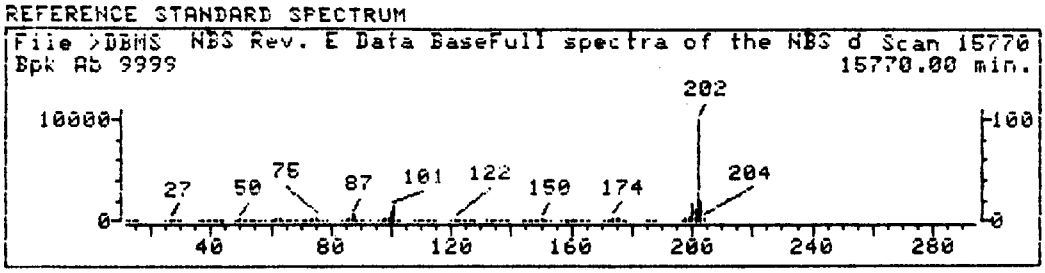


Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

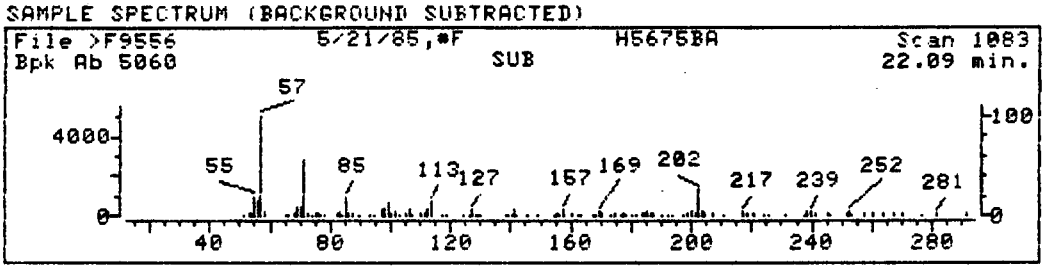
BTL#15

Compound No: 4
Compound Name: 1,3-Dichlorobenzene
Scan Number: 183
Retention Time: 6.04 min.
Area: 820
Concentration: 2.60 UG/ML
q-value: 87

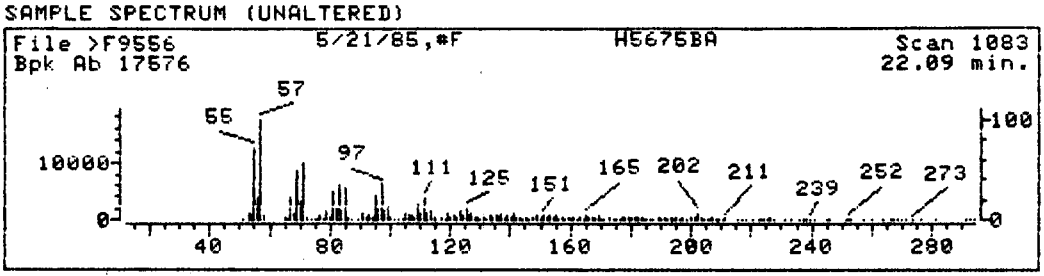
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

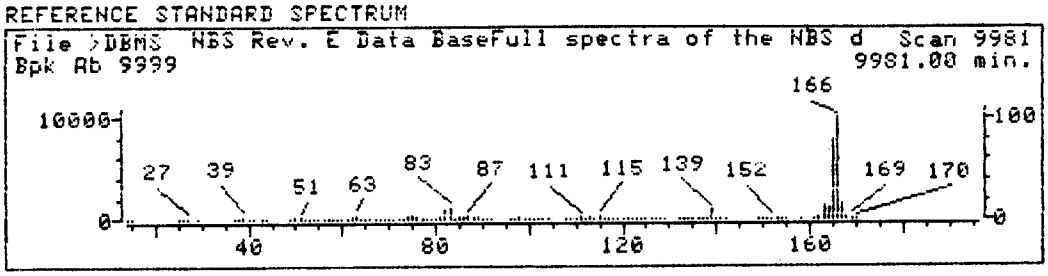


Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

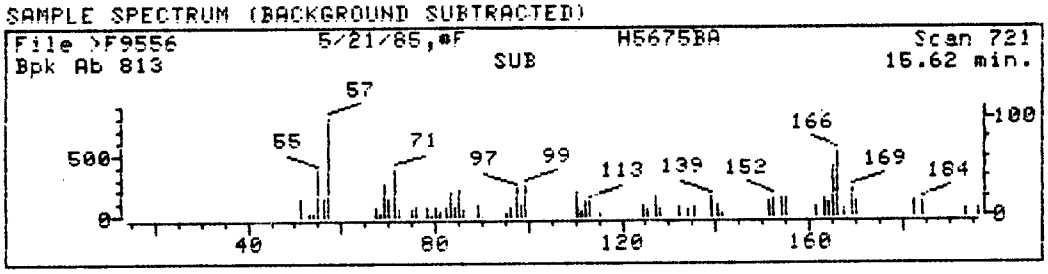
BTL#15

Compound No: 38
Compound Name: Fluoranthene
Scan Number: 1083
Retention Time: 22.09 min.
Area: 4680
Concentration: 4.18 UG/ML
q-value: 92

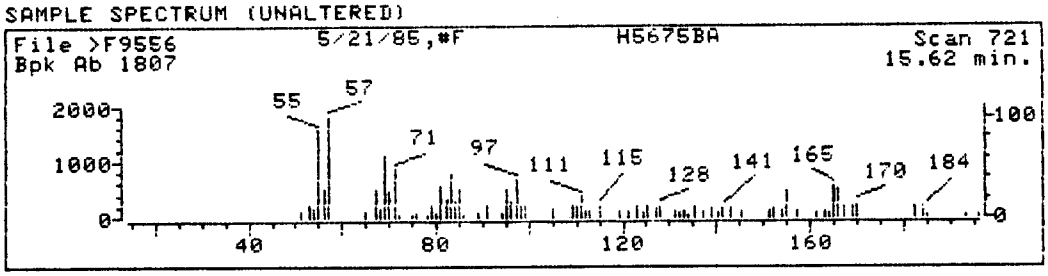
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

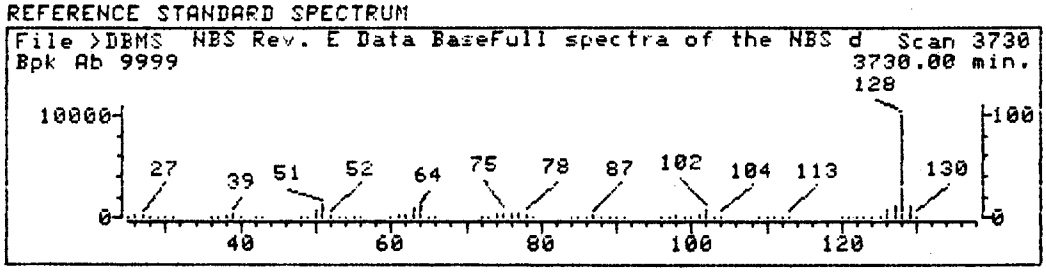


Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

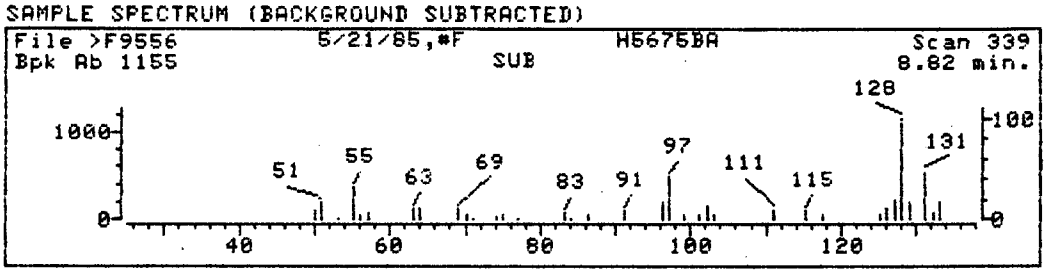
BTL#15

Compound No: 28
Compound Name: Fluorene
Scan Number: 721
Retention Time: 15.62 min.
Area: 3016
Concentration: 4.32 UG/ML
q-value: 78

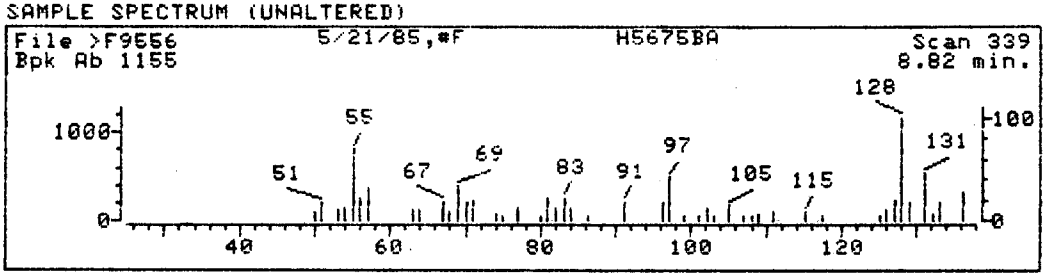
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

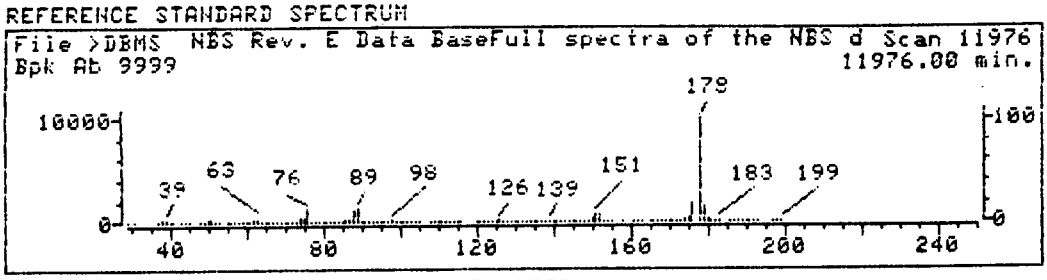


Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

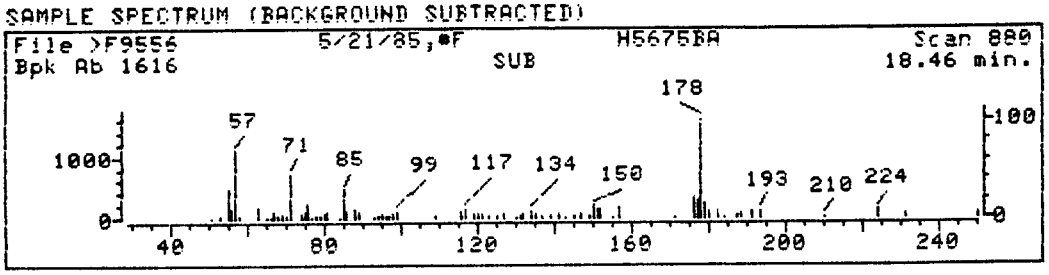
BTL#15

Compound No: 17
Compound Name: Naphthalene
Scan Number: 339
Retention Time: 8.82 min.
Area: 5523
Concentration: 6.22 UG/ML
q-value: 80

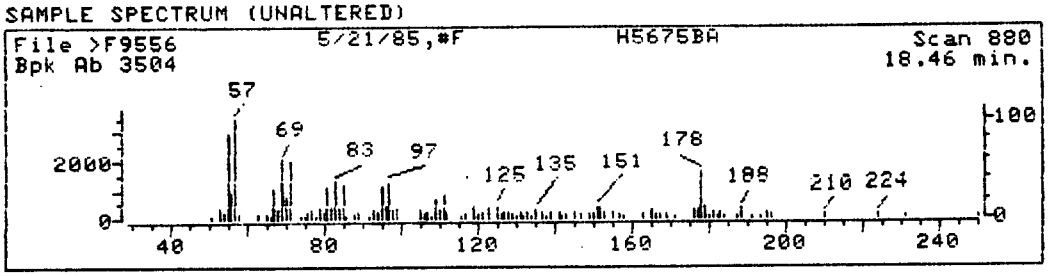
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

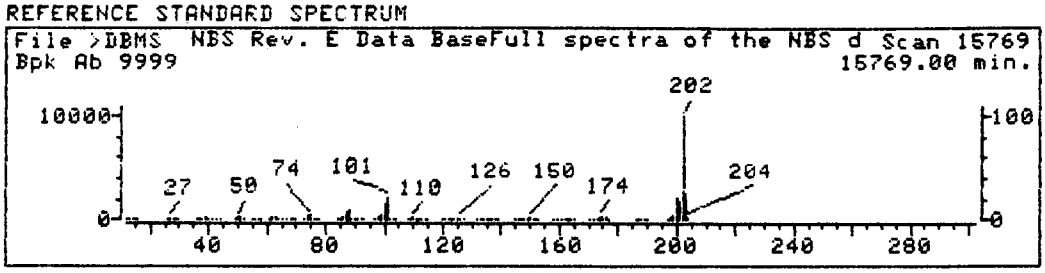


Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

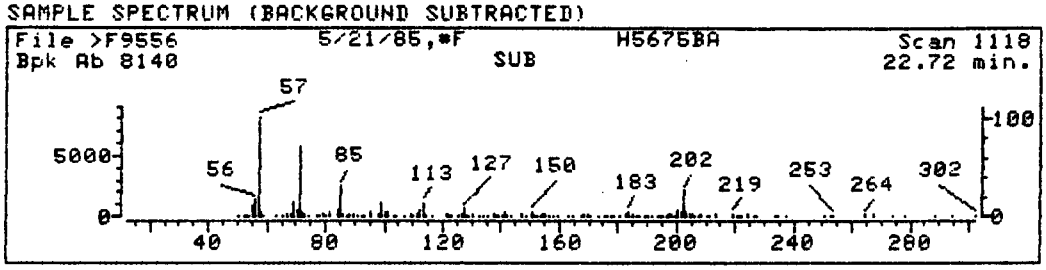
BTL#15

Compound No: 35
Compound Name: Phenanthrene
Scan Number: 880
Retention Time: 18.46 min.
Area: 11306
Concentration: 10.97 UG/ML
q-value: 91

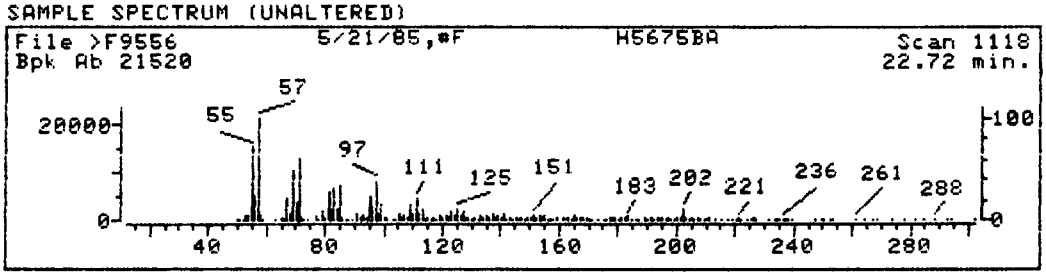
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >F9556::U2
Name: 5/21/85,#F
Misc: H5675BA
Quant Time: 850522 09:22
Injected at: 850522 00:50

BTL#15

Compound No: 40
Compound Name: Pyrene
Scan Number: 1118
Retention Time: 22.72 min.
Area: 13570
Concentration: 11.86 UG/ML
q-value: 93

Appendix B

GC/MS Calibration Data

Calibration Report

Title: INSTRUMENT D PP IDFILE
Calibrated: 850509 07:15

Compound	Files: >D8209 RF 90.00	>D8210 RF 180.00	>D8211 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Acrolein	.07706	.08623	.11963	.334	.09431	23.760	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.24086	.23378	.26527	.377	.24664	6.698	(Conc=400.0,800.0,2400.0)
Benzene	1.83731	1.89138	1.83382	.920	1.85417	1.740	
bis(Chloromethyl)ether	.82559	.40714	.14340	1.000	.45871	74.994	
Bromoform	.66768	.68375	.77896	1.079	.71013	8.470	
Carbon tetrachloride	1.46330	1.53486	1.39235	.744	1.46350	4.869	
Chlorobenzene	1.56327	1.55249	1.52292	1.327	1.54623	1.351	
Chlorodibromomethane	.96377	1.04029	1.04997	.933	1.01801	4.639	
Chloroethane	.80980	.86413	.75817	.192	.81070	6.536	
2-Chloroethylvinyl ether	.25112	.20533	.17408	.936	.21018	18.437	
Chloroform	2.00557	1.99953	1.79746	.615	1.93419	6.124	
Dichlorobromomethane	1.52618	1.53695	1.49243	.780	1.51852	1.530	
Dichlorodifluoromethane	1.29383	1.30226	1.05271	.149	1.21626	11.651	
1,1-Dichloroethane	1.27975	1.30834	1.20415	.536	1.26408	4.259	
1,2-Dichloroethane	1.52749	1.51192	1.42712	.655	1.48884	3.628	
1,1-Dichloroethylene	1.53875	1.62248	1.46817	.460	1.54313	5.006	
1,2-Dichloropropane	.65244	.72724	.69141	.850	.69037	5.419	
trans-1,3-Dichloropropylene	.97609	1.07906	1.07159	.867	1.04225	5.509	
cis-1,3-Dichloropropylene	.89630	.99280	.96985	.936	.95298	5.290	
Ethylbenzene	3.70384	3.65647	3.51959	1.422	3.62663	2.638	
Methyl bromide	.88050	.87157	-	.124	.87604	.721	
Methyl chloride	.92476	.97483	.81941	.088	.90634	8.753	
Methylene chloride	1.69746	1.31346	.96086	.298	1.32393	27.827	
1,1,2,2-Tetrachloroethane	.89599	.85550	.97123	1.202	.90758	6.471	
Tetrachloroethylene	.96579	.99978	.91899	1.203	.96152	4.218	
Toluene	2.47723	2.46673	2.36524	1.267	2.43640	2.539	
1,2-Trans-dichloroethylene	1.32966	1.38447	1.27680	.579	1.33031	4.047	
1,1,1-Trichloroethane	2.03146	1.89022	1.57185	.722	1.83117	12.856	
1,1,2-Trichloroethane	.46026	.46016	.49013	.937	.47019	3.674	
Trichloroethylene	.58870	.57654	.54917	.897	.57147	3.543	
Trichlorofluoromethane	2.46053	2.55178	2.23747	.417	2.41659	6.691	
Vinyl chloride	1.26890	1.30837	1.10464	.151	1.22730	8.804	
meta-Xylene	-	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho-and-para-Xylene	-	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Acetaldehyde	-	-	-	-	-	-	(Conc=90.0,180.0,540.0)
Butyl Acetate	-	-	-	-	-	-	(Conc=90.0,180.0,540.0)
Ethyl acetate	-	-	-	-	-	-	(Conc=90.0,180.0,540.0)
Vinyl acetate	-	-	-	-	-	-	(Conc=90.0,180.0,540.0)
1,2-Dichloroethane-D4	1.46923	1.48379	1.41241	.649	1.45514	2.592	(Conc=250.0,250.0,250.0)
Toluene-D8	2.54756	2.69965	2.42291	1.257	2.55671	5.421	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	1.68316	1.62559	1.59777	1.525	1.63550	2.663	(Conc=250.0,250.0,250.0)
Methyl methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,500.0)

RF - Response Factor (Subscript is amount in NG)

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

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: ACID ID FILE.....3/15/85,$F,WWC
Calibrated: 850521 10:23

Files: >F9523 >F9522 >F9521

Compound	RF 60.00	RF 100.00	RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.69003	.83360	.61837	.941	.71400	15.350	
2-Fluorophenol	.59328	.73761	.66756	.637	.66615	10.834	(Conc=100.0,100.0,100.0)
Phenol	.84410	1.03644	.79137	.920	.89064	14.483	
Phenol-D5	.64297	.91921	.71764	.915	.75994	18.804	(Conc=100.0,100.0,100.0)
2-Methylphenol	.99010	.94714	.82311	1.145	.92011	9.424	
4-Methylphenol	1.13980	1.04320	.89806	1.214	1.02702	11.848	
Benzoic acid	.70189	.71563	.73560	1.583	.71771	2.362	
2,4-Dichlorophenol	.21429	.29543	.22565	.973	.24512	17.923	
2,4-Dimethylphenol	.30775	.37533	.28516	.931	.32275	14.538	
2-Nitrophenol	.14488	.19457	.14669	.894	.16204	17.390	
p-Chloro-m-cresol	.28219	.33450	.27022	1.241	.29564	11.564	
4,6-Dinitro-o-cresol	.25683	.32439	.30240	1.159	.29454	11.699	
2,4-Dinitrophenol	.08579	.11770	.17328	1.036	.12559	35.252	
4-Nitrophenol	.15285	.23706	.24720	1.079	.21237	24.388	
2,4,5-Trichlorophenol	.57494	.57129	.58110	.854	.57578	.861	
2,4,6-Trichlorophenol	.30346	.38929	.32529	.843	.33935	13.145	
2,4,6-Tribromophenol	.06569	.08305	.07086	.889	.07320	12.174	(Conc=100.0,100.0,100.0)
Pentachlorophenol	.07801	.10175	.09449	.986	.09142	13.308	

RF - Response Factor (Subscript is amount in UG/ML)

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

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Check Report

Title: ACID ID FILE.....3/15/85,#F,WWC
Calibrated: 850521 10:23

Check Standard Data File: >F9551
Injection Time: 850521 21:47

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
2-Chlorophenol	.71400	.78259	9.61	Average
2-Fluorophenol	.66615	.76010	14.10	Average
Phenol	.89064	.97433	9.40	Average
Phenol-D5	.75994	.87390	15.00	Average
2-Methylphenol	.92011	-	-	Average
4-Methylphenol	1.02702	-	-	Average
Benzoic acid	.71771	-	-	Average
2,4-Dichlorophenol	.24512	.30031	22.52	Average
2,4-Dimethylphenol	.32275	.35445	9.82	Average
2-Nitrophenol	.16204	.19503	20.36	Average
p-Chloro-m-cresol	.29564	.32529	10.03	Average
4,6-Dinitro-o-cresol	.29454	.30650	4.06	Average
2,4-Dinitrophenol	.12559	.08748	30.35	Average
4-Nitrophenol	.21237	.17615	17.05	Average
2,4,5-Trichlorophenol	.57578	.43117	25.12	Average
2,4,6-Trichlorophenol	.33935	.43117	27.06	Average
2,4,6-Tribromophenol	.07320	.08553	16.84	Average
Pentachlorophenol	.09142	.08953	2.07	Average

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850522 08:36

Compound	>F9550 RF 60.00	>F9549 RF 100.00	>F9548 RF 200.00	>F9426 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	.98210	.87320	.83245	-	.469	.89592	8.636	
bis(2-Chloroethyl) ether	1.15691	1.10985	1.13897	-	.932	1.13524	2.092	
1,3-Dichlorobenzene	1.20578	1.14451	1.15930	-	.983	1.16986	2.733	
1,4-Dichlorobenzene	1.30915	1.26893	1.23094	-	1.006	1.26967	3.080	
1,2-Dichlorobenzene	1.22315	1.23051	1.20239	-	1.077	1.21868	1.196	
Nitrobenzene-d5	.99570	1.10155	1.20128	-	1.248	1.09951	9.350	(Conc=50.0,50.0,50.0,50.0)
bis(2-Chloroisopropyl)ether	.19961	.16833	.17358	-	1.145	.18051	9.278	
2-Fluorobiphenyl	.30804	.34607	.33944	-	1.396	.33118	6.134	(Conc=50.0,50.0,50.0,)
N-Nitrosodi-n-propylamine	.22921	.22947	.24060	-	.767	.23310	2.790	
Hexachloroethane	.12621	.12626	.12687	-	.762	.12644	.291	
Nitrobenzene	.39034	.41346	.40184	-	.800	.40188	2.876	
Isophorone	.46853	.47681	.47391	-	.870	.47308	.888	
bis(2-Chloroethoxy)methane	.32121	.32380	.34661	-	.957	.33054	4.228	
1,2,4-Trichlorobenzene	.26747	.26636	.25737	-	.991	.26374	2.102	
Naphthalene	.84218	.84143	.81123	-	1.006	.83161	2.123	
Hexachlorobutadiene	.16402	.16510	.15593	-	1.076	.16168	3.102	
Hexachlorocyclopentadiene	.13464	.14362	.20362	-	.819	.16063	23.349	
2-Chloronaphthalene	.98998	.92713	.93983	-	.872	.95232	3.490	
Dimethyl phthalate	1.17600	1.21165	1.23838	-	.973	1.20868	2.589	
Acenaphthylene	1.57957	1.56715	1.57506	-	.964	1.57393	.399	
2,6-Dinitrotoluene	.22246	.26123	.28549	-	.985	.25639	12.398	
Acenaphthene	1.17525	1.09039	1.11050	-	1.008	1.12538	3.940	
2,4-Dinitrotoluene	.27354	.33785	.38636	-	1.071	.33258	17.017	
Diethyl phthalate	1.15636	1.17039	1.23194	-	1.137	1.18623	3.389	
Fluorene	1.18898	1.20354	1.17890	-	1.122	1.19047	1.041	
4-Chlorophenyl phenyl ether	.55040	.55875	.56695	-	1.133	.55870	1.482	
N-Nitrosodiphenylamine	.78339	.78273	.74196	-	1.166	.76936	3.085	
1,2-Diphenylhydrazine	1.37017	1.37787	1.40690	-	1.168	1.38498	1.399	
4-Bromophenyl phenyl ether	.13088	.13346	.12609	-	.933	.13014	2.876	
Hexachlorobenzene	.13290	.13025	.13210	-	.950	.13175	1.032	
Phenanthrene	.81770	.79973	.78352	-	1.004	.80032	2.137	
Anthracene	.92771	.90722	.91263	-	1.011	.91585	1.159	
Di-n-butyl phthalate	1.03806	.94092	1.02074	-	1.133	.99991	5.182	
Fluoranthene	.90497	.87456	.82548	-	1.205	.86834	4.619	
Benzidine	.04320	.08210	.07350	-	1.235	.06627	30.836	
Pyrene	.92212	.88049	.86200	-	1.240	.88820	3.467	
Alpha-BHC	.09941	.10816	-	.13488	.940	.11415	16.186	
Beta-BHC	.06481	.07685	-	.08579	.986	.07582	13.886	
Gamma-BHC	.09732	.09012	-	.10953	.990	.09899	9.913	
Delta-BHC	.07551	.07777	-	.07990	1.030	.07772	2.822	
Heptachlor	.11153	.12263	-	.15842	1.092	.13086	18.724	
Aldrin	.13286	.13094	-	.13751	1.140	.13377	2.525	
Heptachlor epoxide	.56352	.08807	-	.48838	.826	.37999	67.262	

RF - Response Factor (Subscript is amount in UG/ML)

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

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850522 08:36

Compound	Files: >F9550 RF 60.00	>F9549 RF 100.00	>F9548 RF 200.00	>F9426 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.04484	.05531	-	.07341	.848	.05785	24.976	(Conc=100.0,200.0,,500.0)
Endosulfan I	.29496	.14545	-	.30140	.860	.24727	35.686	
4,4'-DDE	.98516	.49533	-	.96982	.884	.81677	34.095	
Dieldrin	1.52523	.78511	-	1.35076	.884	1.22037	31.704	
Endrin	.15357	.14613	-	.14985	.905	.14985	2.483	
Endosulfan II	.12047	.13751	-	.14396	.913	.13398	9.057	
4,4'-DDD	1.34078	1.02176	-	1.79412	.922	1.38555	28.012	
Endrin aldehyde	-	-	-	.29605	.919	.29605	-	
4,4'-DDT	.55223	.40132	-	.63945	.955	.53100	22.688	
Endosulfan sulfate	.06154	.06740	-	.09787	.952	.07560	25.802	
Terphenyl-D14	.91266	1.00786	1.10740	-	.884	1.00931	9.648	(Conc=50.0,50.0,50.0,50.0)
Butyl benzyl phthalate	.75625	.82471	.85815	-	.954	.81304	6.398	
Benzo(a)anthracene	.74361	.75844	.88051	-	.998	.79419	9.459	
Chrysene	1.02713	.96974	1.09545	-	1.003	1.03077	6.105	
3,3'-Dichlorobenzidine	.04784	.05630	.08730	-	1.005	.06381	32.555	
bis(2-Ethylhexyl)phthalate	1.01105	1.06339	1.13555	-	1.029	1.07000	5.843	
Di-n-octyl phthalate	1.18710	1.20991	1.28187	-	1.097	1.22629	4.034	
Benzo(b)fluoroanthene	.43780	.41201	.52314	-	1.118	.45765	12.710	
Benzo(k)fluoranthene	.33454	.39806	.42120	-	1.121	.38460	11.666	
Benzo(a)pyrene	.26511	.32172	.40390	-	1.151	.33024	21.133	
Indeno(1,2,3-c,d)pyrene	.25503	.33609	.40755	-	1.258	.33289	22.923	
Dibenzo(a,h)anthracene	.18939	.22611	.30402	-	1.260	.23984	24.405	
Benzo(ghi)perylene	.20775	.28162	.30042	-	1.282	.26326	18.608	

RF - Response Factor (Subscript is amount in UG/ML)

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

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Check Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850522 08:36

Check Standard Data File: >F9565
Injection Time: 850522 07:12

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
N-Nitrosodimethylamine	.89592	.7111	19	Average	
bis(2-Chloroethyl) ether	1.13524	1.36617	20.34	Average	
1,3-Dichlorobenzene	1.16986	1.35318	15.67	Average	
1,4-Dichlorobenzene	1.26967	1.56167	23.00	Average	
1,2-Dichlorobenzene	1.21868	1.47979	21.43	Average	
Nitrobenzene-d5	~~1.09951~~	~~1.75810~~	~~59.98~~	~~Average~~	~~(Conc=50.00)~~
bis(2-Chloroisopropyl)ether	.18051	.24438	35.39	Average	
2-Fluorobiphenyl	~~.33118~~	~~.64507~~	~~94.78~~	~~Average~~	~~(Conc=50.00)~~
N-Nitrosodi-n-propylamine	.23310	.24459	4.93	Average	
Hexachloroethane	.12644	.09915	21.59	Average	
Nitrobenzene	.40188	.43024	7.06	Average	
Isophorone	.47308	.57318	21.16	Average	
bis(2-Chloroethoxy)methane	.33054	.39589	19.77	Average	
1,2,4-Trichlorobenzene	.26374	.28311	7.35	Average	
Naphthalene	.83161	.93987	13.02	Average	
Hexachlorobutadiene	.16168	.16019	.92	Average	
Hexachlorocyclopentadiene	.16063	~~.05996~~ .0623	~~62.67~~	Average	29
2-Chloronaphthalene	.95232	.87422	8.20	Average	
Dimethyl phthalate	1.20868	1.48202	22.61	Average	
Acenaphthylene	1.57393	1.63070	3.61	Average	
2,6-Dinitrotoluene	.25639	.37941	47.98	Average	
Acenaphthene	1.12538	1.11228	1.16	Average	
2,4-Dinitrotoluene	.33258	.53579	61.10	Average	
Diethyl phthalate	1.18623	1.65252	39.31	Average	
Fluorene	1.19047	1.45430	22.16	Average	
4-Chlorophenyl phenyl ether	.55870	.67008	19.94	Average	
N-Nitrosodiphenylamine	.76936	.77501	.73	Average	
1,2-Diphenylhydrazine	1.38498	1.59142	14.91	Average	
4-Bromophenyl phenyl ether	.13014	.14930	14.72	Average	
Hexachlorobenzene	.13175	.15056	14.28	Average	
Phenanthrene	.80032	.82261	2.79	Average	
Anthracene	.91585	.91609	.03	Average	
Di-n-butyl phthalate	.99991	1.06160	6.17	Average	
Fluoranthene	.86834	.64890	25.27	Average	
Benzidine	.06627	~~.00941~~ .0031	~~91.03~~	Average	53
Pyrene	.88820	.56908	35.93	Average	
Alpha-BHC	~~.11415~~	~~.11003~~	~~3.61~~	~~Average~~	
Beta-BHC	~~.07582~~	~~.17163~~	~~126.38~~	~~Average~~	
Gamma-BHC	~~.09899~~	~~.17163~~	~~73.38~~	~~Average~~	
Delta-BHC	~~.07772~~	~~.08250~~	~~6.14~~	~~Average~~	
Heptachlor	~~.13086~~	~~.11984~~	~~8.42~~	~~Average~~	
Aldrin	~~.13372~~	~~.13473~~	~~.72~~	~~Average~~	
Heptachlor epoxide	.37999	~~.49168~~	~~29.39~~	Average	
Chlordane	.05785	~~.07068~~	~~22.17~~	Average	(Conc=200.00)

RF - Response Factor from daily standard file at 100.00 UG/ML

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

%Diff - % Difference from original average or curve

065

Calibration Check Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850522 08:36

Check Standard Data File: >F9565
Injection Time: 850522 07:12

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Endosulfan I	.24727	.31734	28.34	Average	
4,4'-DDE	.81677	1.13082	38.45	Average	
Dieldrin	1.22037	1.34637	10.33	Average	
Endrin	.14985	-	-	Average	
Endosulfan II	.13398	.20543	53.32	Average	
4,4'-DDD	1.38955	2.20813	59.37	Average	
Endrin aldehyde	.29605	-	-	Average	
4,4'-DDT	.53100	.53750	1.22	Average	
Endosulfan sulfate	.07560	.12117	60.27	Average	
Terphenyl-D14	1.00931	2.86911	184.27	Average	(Conc=50.00)
Butyl benzyl phthalate	.81304	1.06518	31.01	Average	
Benzo(a)anthracene	.79419	.90764	14.29	Average	
Chrysene	1.03077	1.18408	14.87	Average	
3,3'-Dichlorobenzidine	.06381	.02722	57.34	Average	40
bis(2-Ethylhexyl)phthalate	1.07000	1.18505	10.75	Average	
Di-n-octyl phthalate	1.22629	1.85722	51.45	Average	24
Benzo(b)fluoroanthene	.45765	.70683	54.41	Average	26
Benzo(k)fluoranthene	.38460	.80945	110.47	Average	33
Benzo(a)pyrene	.33024	.68539	107.54	Average	30
Indeno(1,2,3-c,d)pyrene	.33289	.76976	131.24	Average	75
Dibenzo(a,h)anthracene	.23984	.63038	162.83	Average	105
Benzo(ghi)perylene	.26326	.66045	150.87	Average	102

RF - Response Factor from daily standard file at 100.00 UG/ML

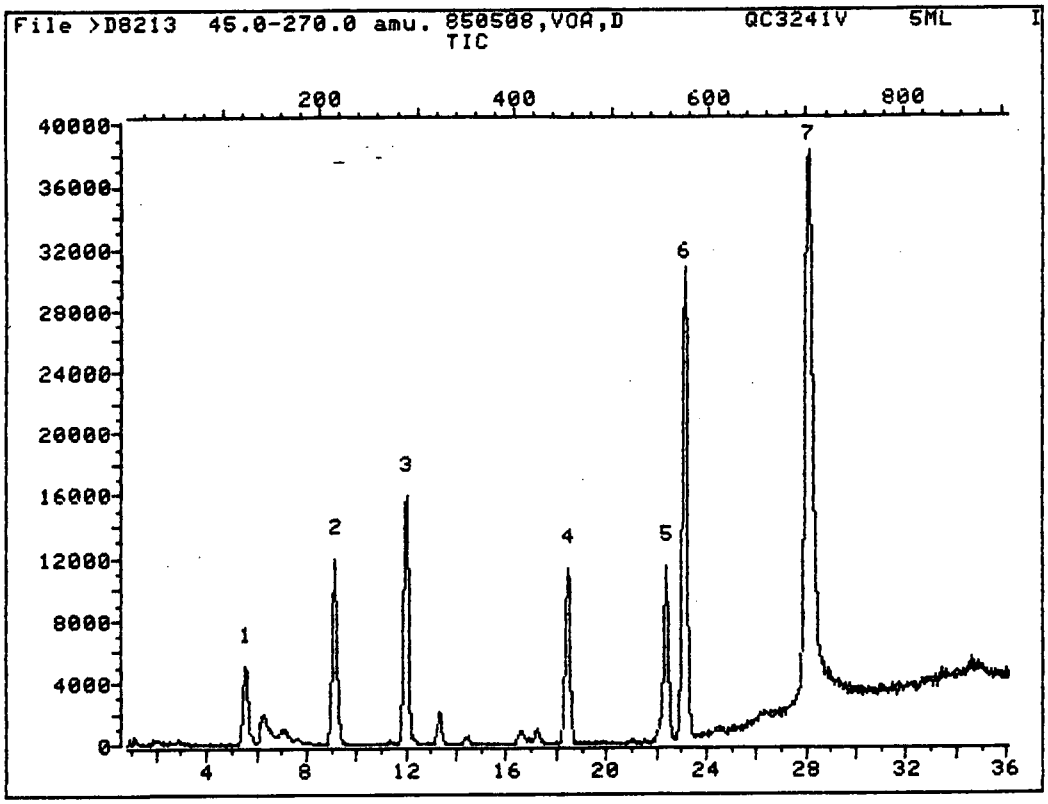
$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >D8213::U4
Name: 850508,VOA,D
Misc Data: QC3241V 5ML IFBPREP SOIL

QUANT REPORT

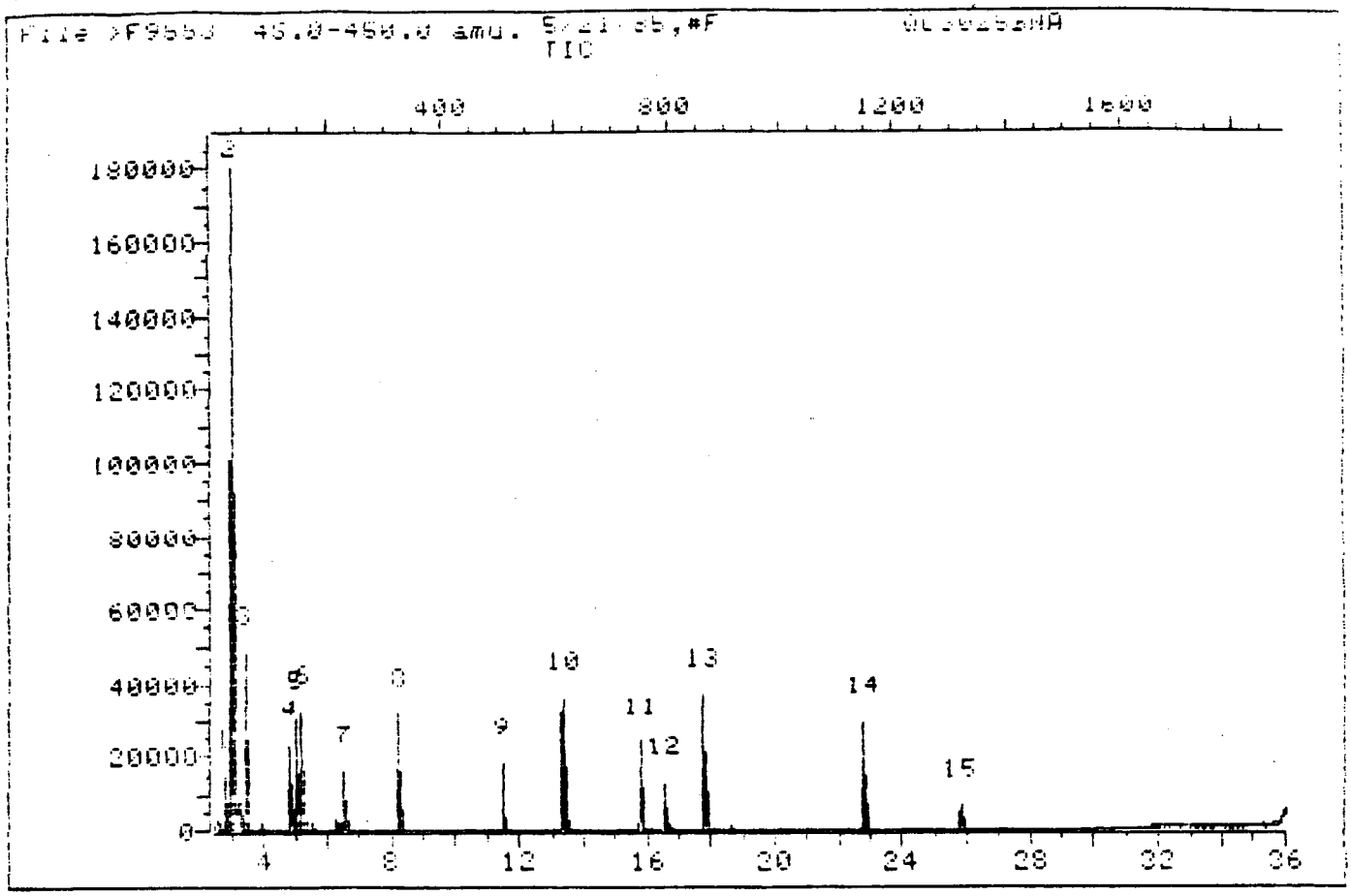
Operator ID: SJ3562 Quant Rev: 4 Quant Time: 850509 09:03
Injected at: 850509 07:57
Data File:)D8213::U4 Dilution Factor: 1.00
Name: 850508,VOA,D
Misc: QC3241V 5ML IFBPREP SOIL

ID File: DVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, D, 831107, RL
Last Calibration: 850509 09:02

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*2-Bromo-1-chloropropane	18.45	455	51504	200.00	NG	99
2)	Acrolein	6.29	142	22012	~~906.37~~	NG	100
3)	Acrylonitrile	7.06	162	7729	~~121.69~~	NG	76
5)	bis(Chloromethyl)ether	18.41	454	18898	~~159.98~~	NG	66
11)	2-Chloroethylvinyl ether	17.21	423	2101	~~38.82~~	NG	100
12)	Chloroform	11.38	273	1767	~~3.55~~	NG	95
14)	Dichlorodifluoromethane	2.55	46	606	~~1.93~~	NG	100
21)	Ethylbenzene	26.15	653	2721	2.91	NG	92
24)	Methylene chloride	5.55	123	15881	46.58	NG	78
25)	1,1,2,2-Tetrachloroethane	22.11	549	3667	~~15.69~~	NG	96
27)	Toluene	23.35	581	3077	~~4.90~~	NG	95
29)	1,1,1-Trichloroethane	13.32	323	8713	~~18.48~~	NG	91
31)	Trichloroethylene	16.63	408	2404	16.34	NG	89
32)	Trichlorofluoromethane	7.65	177	1263	~~2.03~~	NG	91
35)	1,2-Dichloroethane-D4	12.00	289	86254	250.00	NG	91
36)	Toluene-D8	23.12	575	153982	250.00	NG	98
37)	p-Bromofluorobenzene	28.06	702	95068	250.00	NG	75
38)	*1,4-Dichlorobutane	22.38	556	58368	200.00	NG	91

* Compound is ISTD

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F9553.MS
Name: 5/21/85,#F
Misc Data: QC3025BNA

DTL#12

QUANT REPORT

.perator ID: WW9928
utput File: ^F9553::AQ
ata File: >F9553::U2
ame: 5/21/85,#F
isc: QC3025BNA

Quant Rev: 4
Quant Time: 850521 23:17
Injected at: 850521 22:38
Dilution Factor: 1.00

BTL#12

D File: FACID
itle: ACID ID FILE.....3/15/85,#F,WWC
.ast Calibration: 850521 10:24

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.22	156	14834	40.00	UG/ML	93
3)	2-Fluorophenol	3.36	51	22880	92.62	UG/ML	94
5)	Phenol-D5	4.80	132	25921	91.98	UG/ML	98
9)	*d8-Naphthalene	8.20	324	36620	40.00	UG/ML	96
14)	*d10-Acenaphthalene	13.32	612	22206	40.00	UG/ML	95
20)	*d10-Phenanthrene	17.72	860	43052	40.00	UG/ML	99
21)	2,4,6-Tribromophenol	15.77	750	7251	92.04	UG/ML	99

* Compound is ISTD

QUANT REPORT

Operator ID: WW9928
Output File: BF9553::AQ
Data File: >F9553::U2
Name: 5/21/85,#F
Misc: QC3025BNA

Quant Rev: 4
Quant Time: 850522 09:09
Injected at: 850521 22:38
Dilution Factor: 1.00

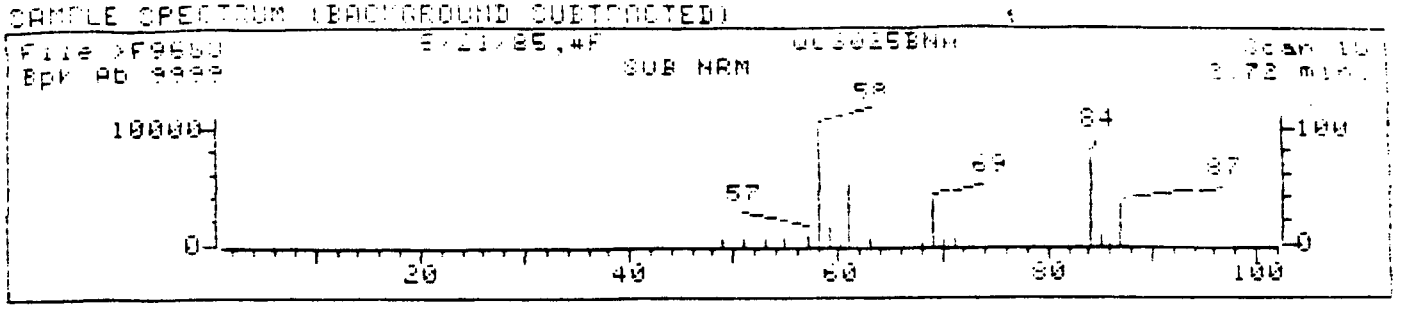
BTL#12

ID File: FBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850522 08:39

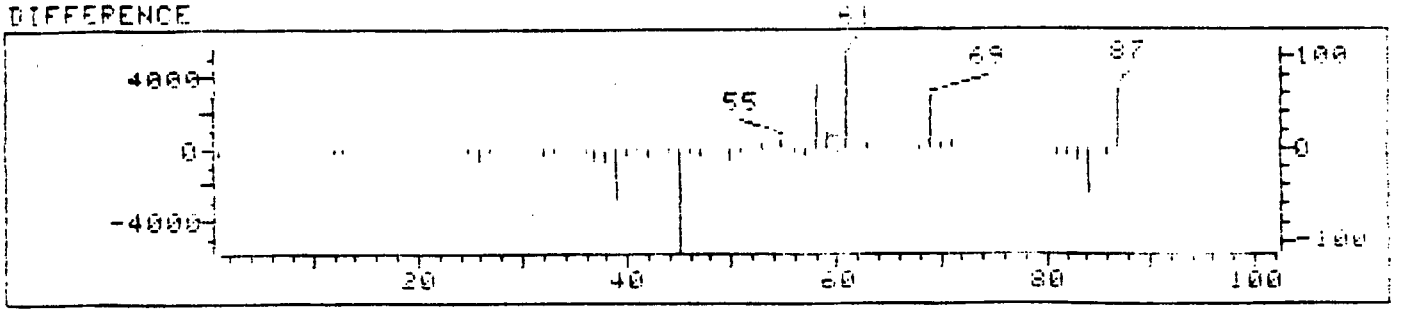
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.22	156	9613	40.00	UG/ML	98
7)	Nitrobenzene-d5	6.50	228	11452	43.34	UG/ML	86
9)	*d8-Naphthalene	8.20	324	36620	40.00	UG/ML	93
10)	2-Fluorobiphenyl	11.47	508	15705	51.80	UG/ML	97
19)	*d10-Acenaphthalene	13.32	612	22206	40.00	UG/ML	95
32)	*d10-Phenanthrene	17.72	860	43052	40.00	UG/ML	97
47)	*d12-Chrysene	25.76	1313	11105	40.00	UG/ML	100
59)	Terphenyl-D14	22.76	1144	25702	91.72	UG/ML	93

* Compound is ISTD

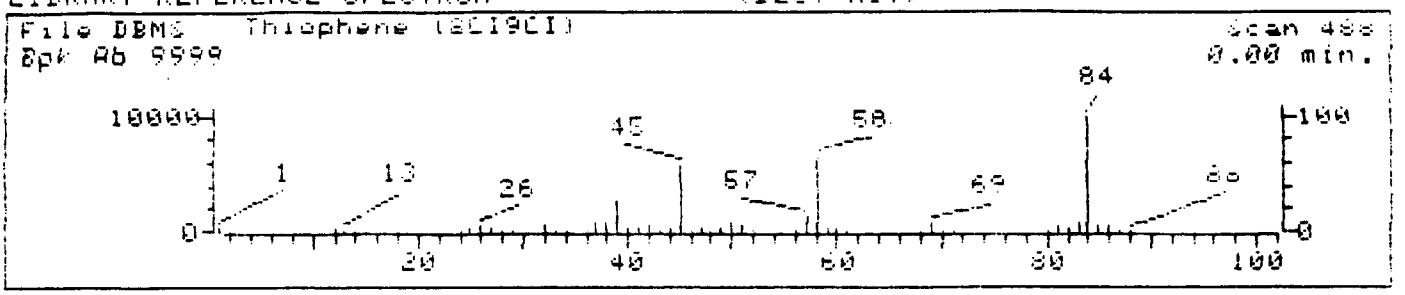
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



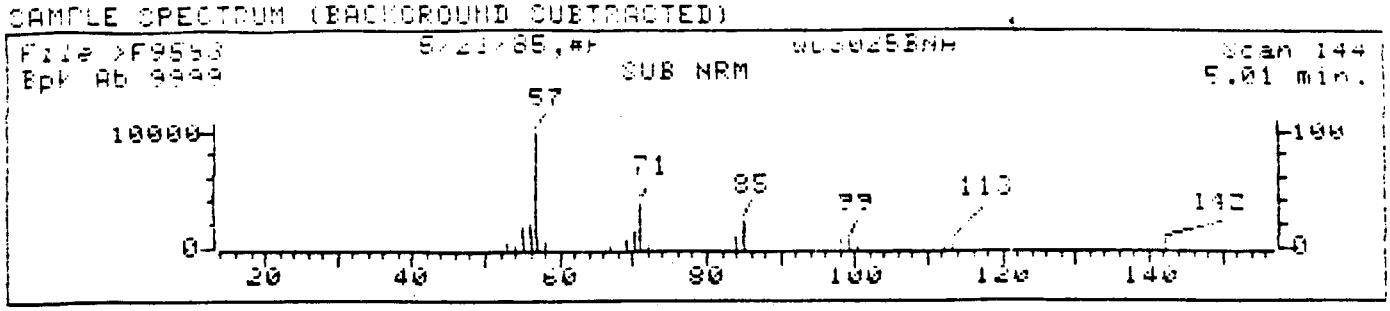
Data File: >F9553.UC
Name: 5/21/85,#F
Misc Data: OCS025BNA BTL#12
RT (min): 3.72
Scan: 15
Area: 20112
Semiquantitative Conc: 20.00 UG/ML

Data File: >F9553 Scan Number: 15
Search Speed: 2 Titling option: S Number of ion ranges searched: 57

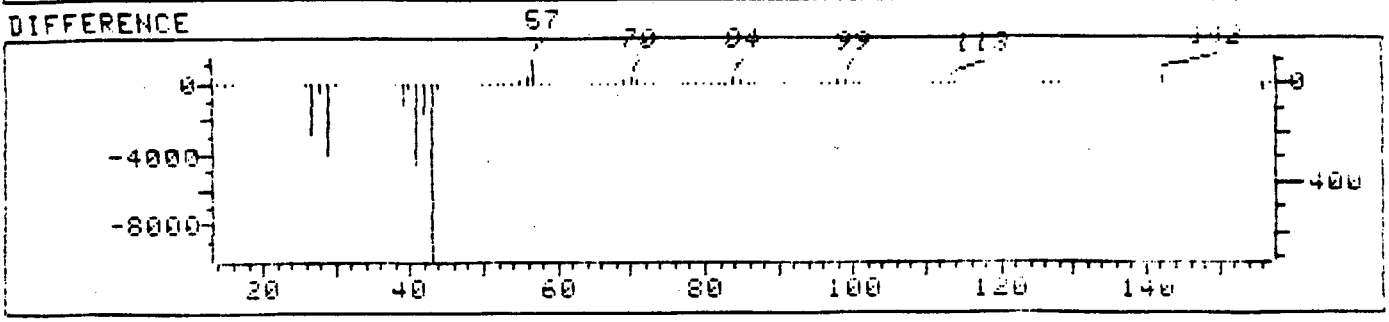
1. Thiophene (SCI?CI) C4 C4H4S
2. Cyclohexane(DOT (SCI?CI) C6 C6H12

	Prob.	Cas#	K	GK	#File	Tilt
1.	26	110021	27	71	2	0
2.	11	110827	25	68	3	0

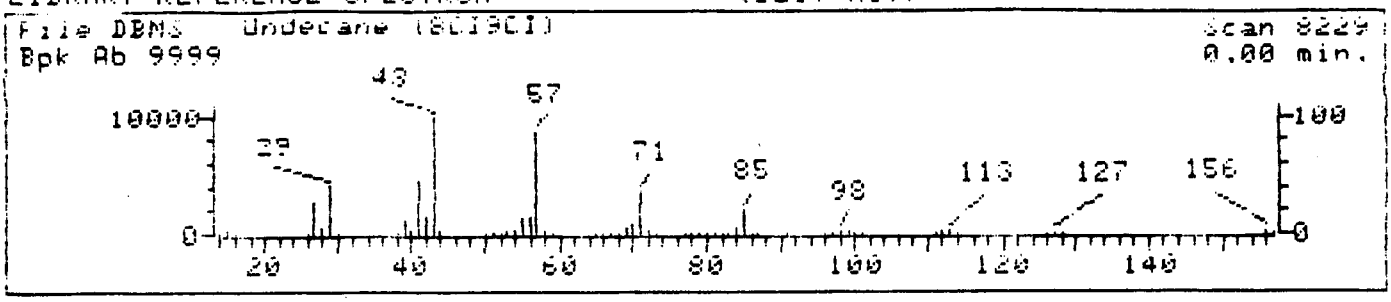
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



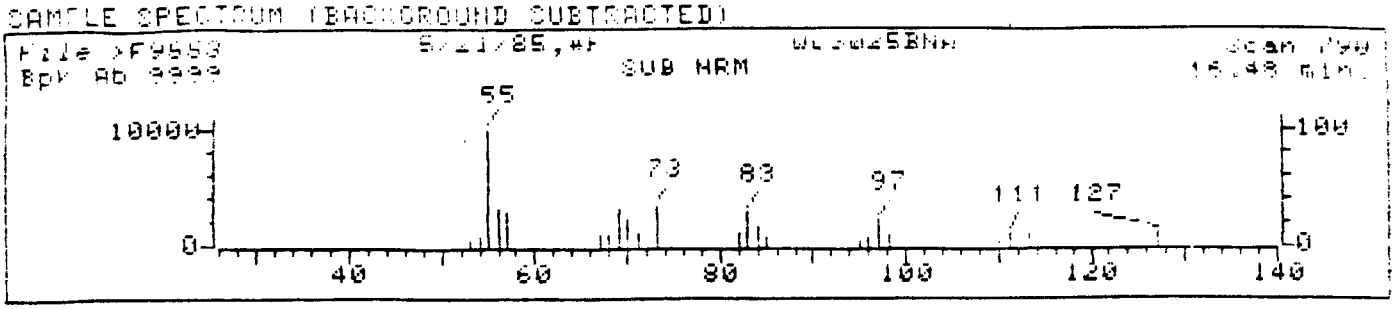
Data File: >F9553..U2
Name: 5/21/85,#F
Misc Data: QC3025DNA DTL#12
RT (min): 5.01
Scan: 144
Area: 43487
Semi-quantitative Conc. 31.83 UG/ML

Data File: >F9553 Scan Number: 144
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

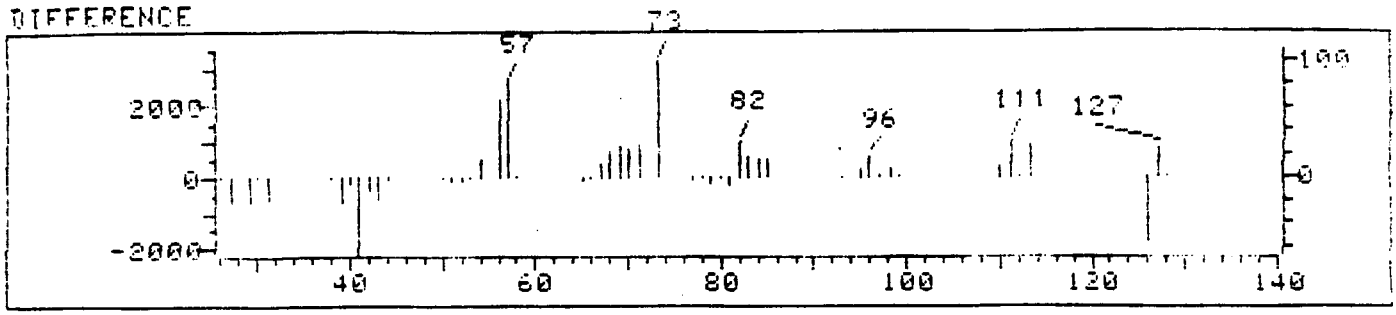
1. Undecane (8CI9CI) 156 C11H24
2. Nonane, 2-methyl- (8CI9CI) 142 C10H22
3. Octane, 2,7-dimethyl- (8CI9CI) 142 C10H22

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	1120214	63	34	2	0
2.	78	871830	38	58	2	0
3.	70	1072168	34	61	2	0

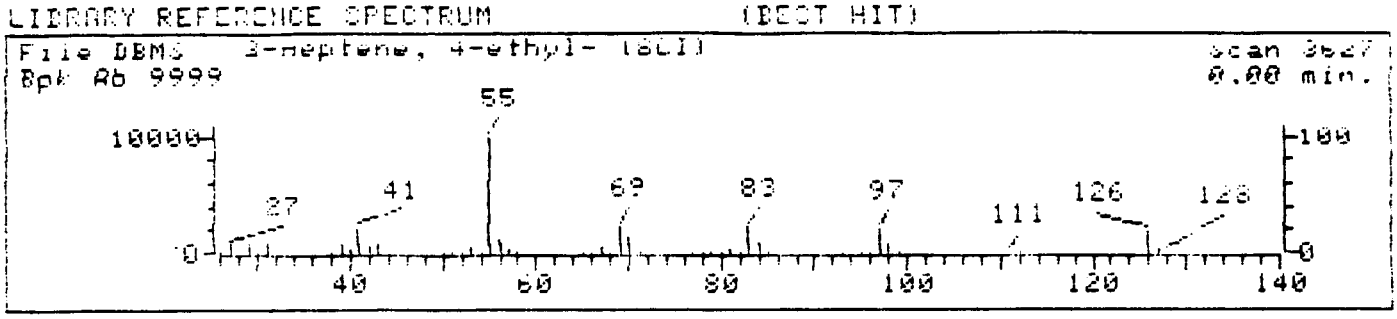
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F9553..U2
Name: 5/21/85,#F
Misc Data: QC3025DNA DTL#12
RT (min): 15.48
Scan: 790
Area: 20790
Semi quantitative Conc. 21.07 UG/ML

Data File: >F9553 Scan Number: 790
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

1. 3 Heptene, 4-ethyl- (SCI) 126 C9H18
2. 7-Hexadecene, (Z)- (SCI) 224 C16H32
3. Cyclopentane, 2-isopropyl-1,3 dimethyl (SCI) 140 C10H20

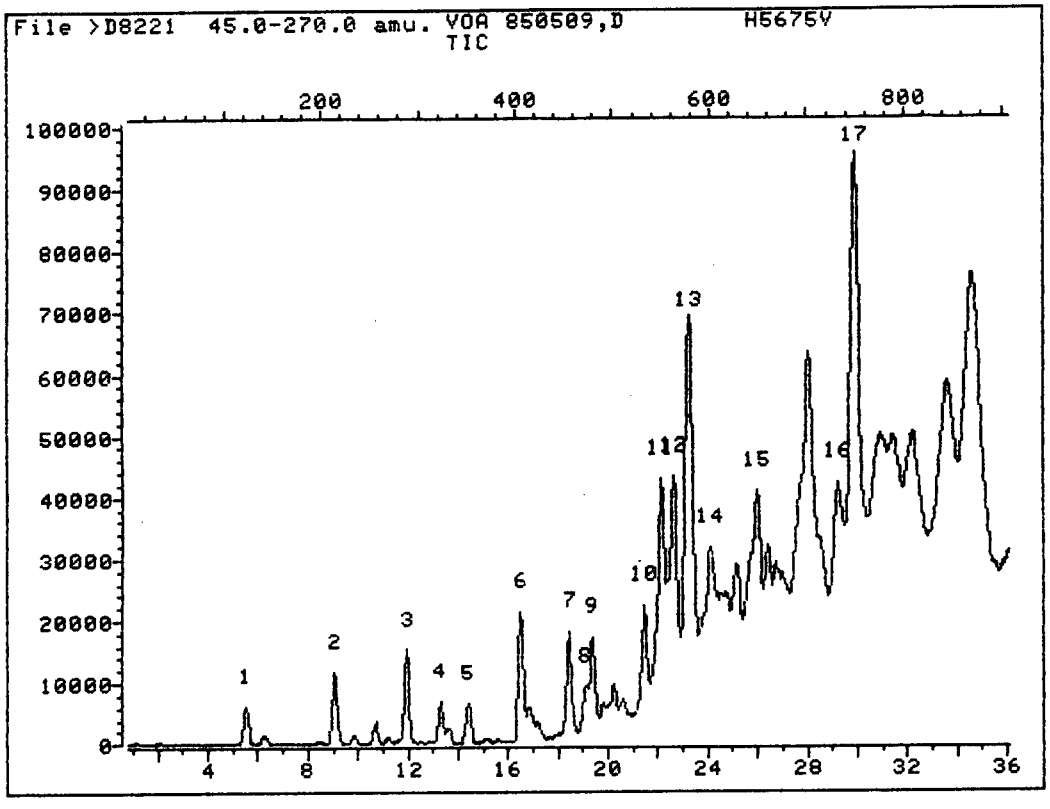
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	38	33933743	44	48	1	0
2.	31	35307096	78	50	2	0
3.	30	32281059	31	79	3	0

Appendix C

Mass Spectral Data for Tentatively Identified Compounds

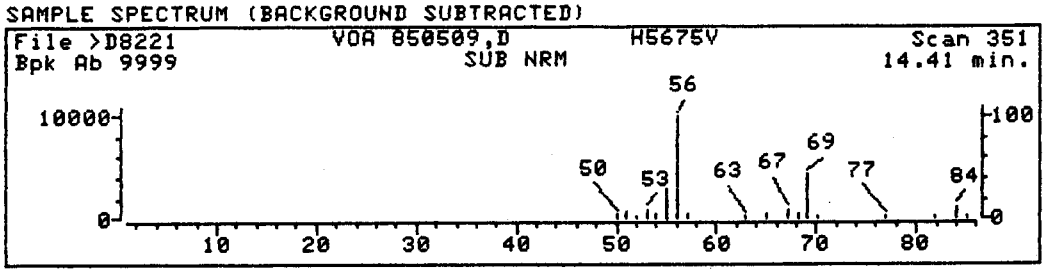
1) For each tentatively identified compound a mass spectrum of the detected compound, a reference mass spectrum for that compound and a plot of the spectral differences are provided.

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

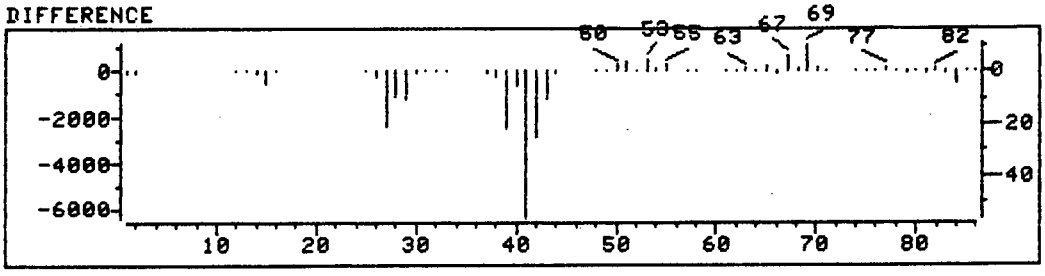


Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V

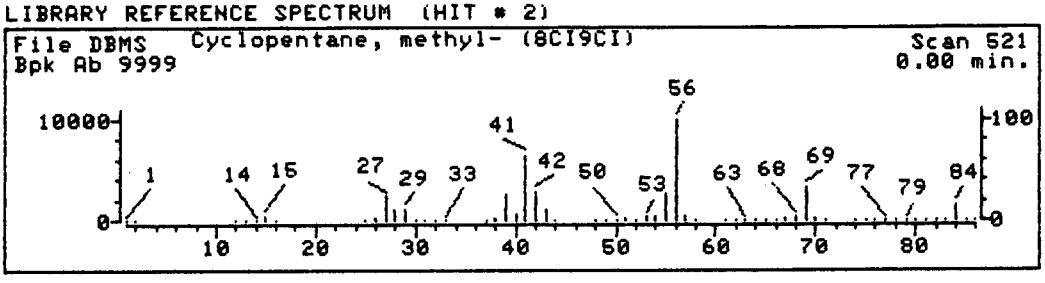
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



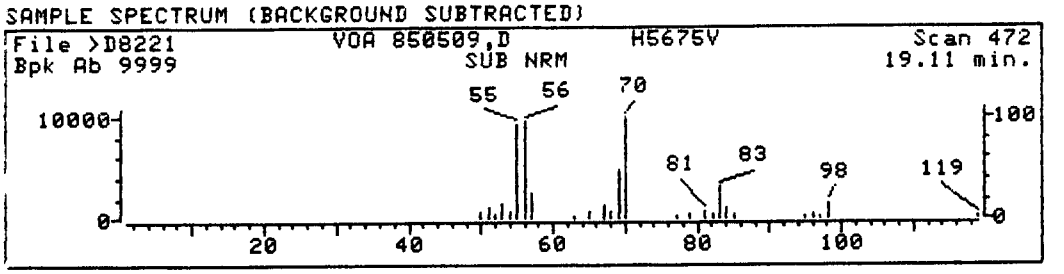
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 14.41
Scan: 351
Area: 96531
Semi-quantitative Conc: 76.32 NG

Data File: >D8221 Scan Number: 351
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

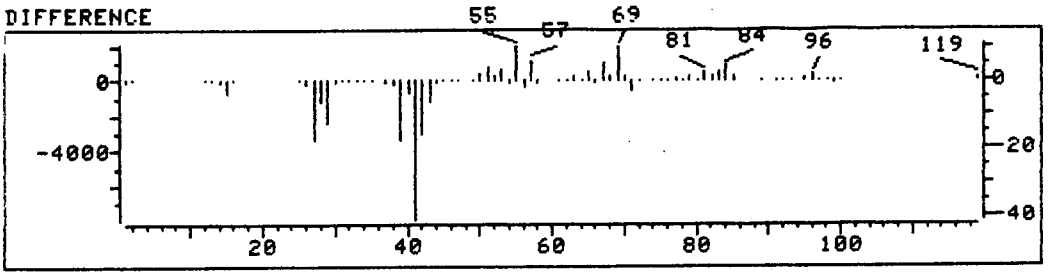
1. 1-Pentene, 4-methyl- (8CI9CI)	84	C6H12
2. Cyclopentane, methyl- (8CI9CI)	84	C6H12
3. Cyclobutane (8CI9CI)	56	C4H8

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	691372	34	51	1	0
2.	50	96377	30	57	0	0
3.	41	287230	33	46	0	0

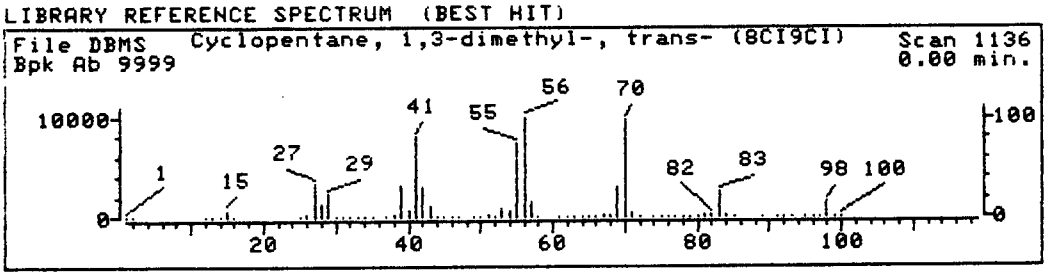
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



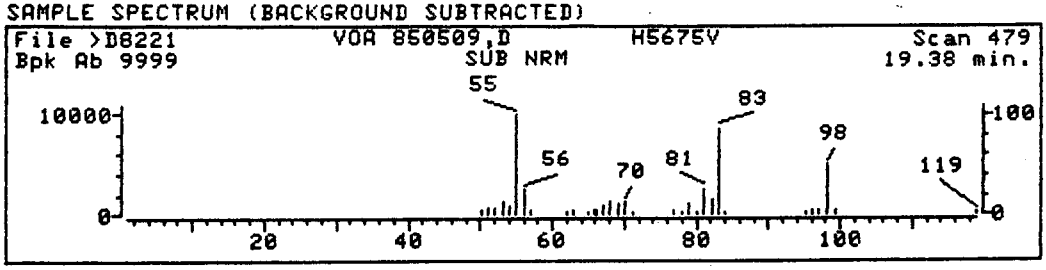
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 19.11
Scan: 472
Area: 99470
Semi-quantitative Conc: 78.64 NG

Data File: >D8221 Scan Number: 472
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

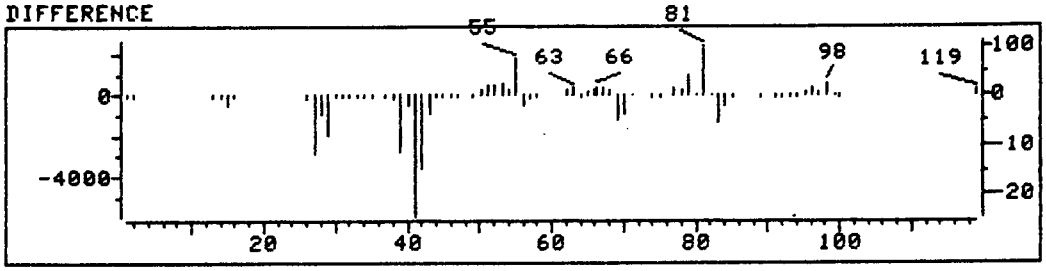
1. Cyclopentane, 1,3-dimethyl-, trans- (8CI9CI) 98 C7H14
2. Cyclopentane, 1,3-dimethyl-, cis- (8CI9CI) 98 C7H14
3. Cyclopropane, butyl- (9CI) 98 C7H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	60	1759586	46	56	2	0
2.	36	2532583	37	69	1	0
3.	32	930574	28	80	1	0

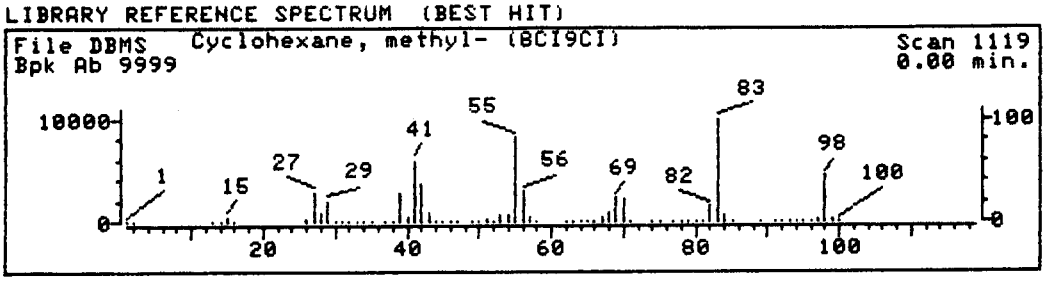
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



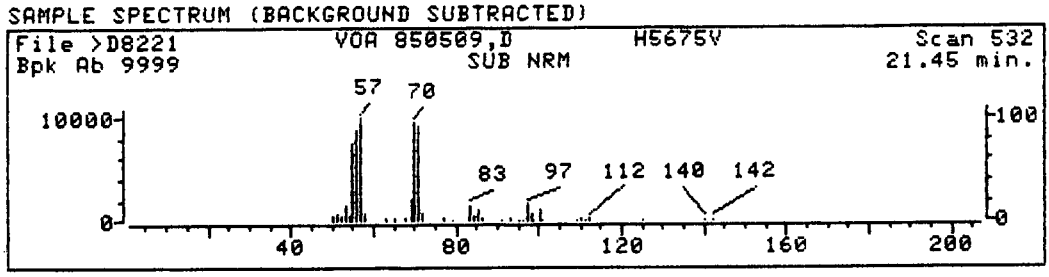
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 19.38
Scan: 479
Area: 176434
Semi-quantitative Conc: 139.50 NG

Data File: >D8221 Scan Number: 479
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

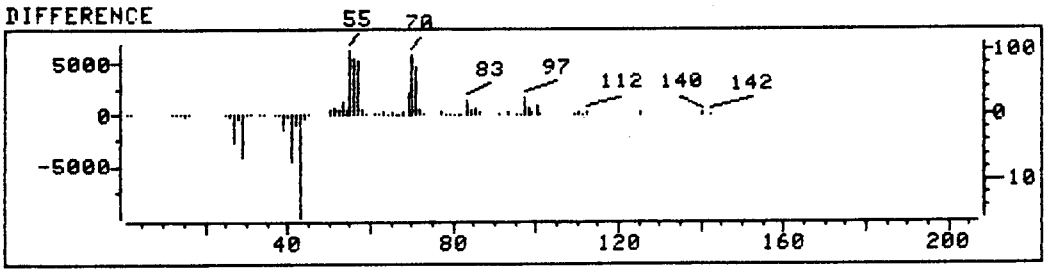
1. Cyclohexane, methyl- (8CI9CI) 98 C7H14
2. 3-Penten-2-one, 4-methyl- (8CI9CI) 98 C6H10O
3. 2-Pentene, 2,3-dimethyl- (8CI9CI) 98 C7H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	108872	53	50	3	0
2.	52	141797	42	56	2	0
3.	52	10574375	37	64	2	0

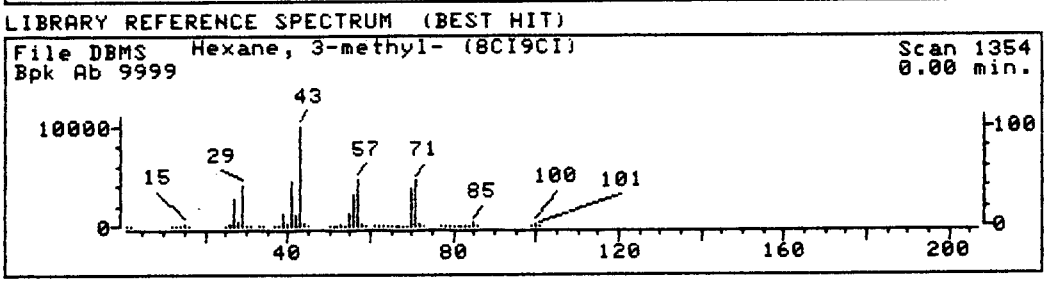
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



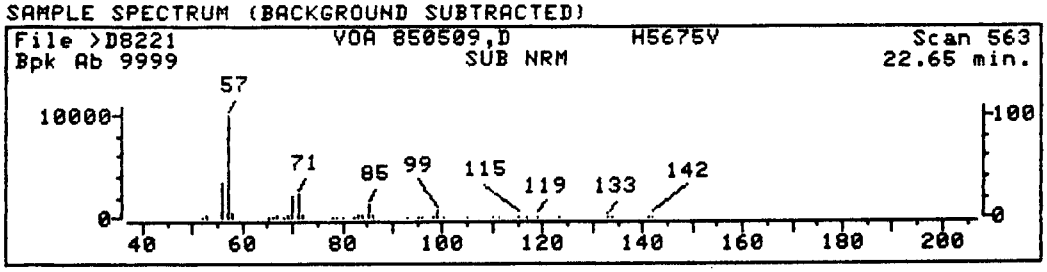
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 21.45
Scan: 532
Area: 279489
Semi-quantitative Conc: 220.97 NG

Data File: >D8221 Scan Number: 532
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

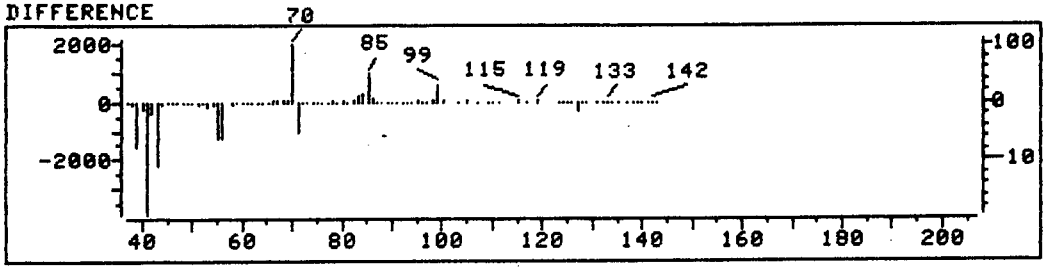
1. Hexane, 3-methyl- (8CI9CI) 100 C7H16
2. 1-Octene, 3,4-dimethyl- (9CI) 140 C10H20
3. Cyclopropane, 1-methyl-2-(3-methylpentyl)- (9CI) 140 C10H20

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	75	589344	50	43	0	0
2.	25	56728111	32	64	3	0
3.	25	62238077	28	83	2	0

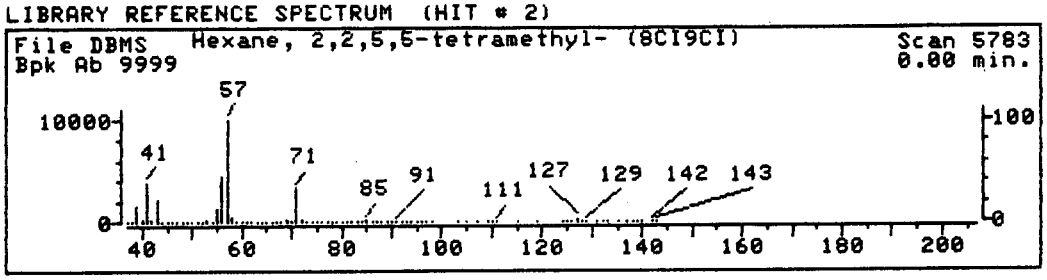
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



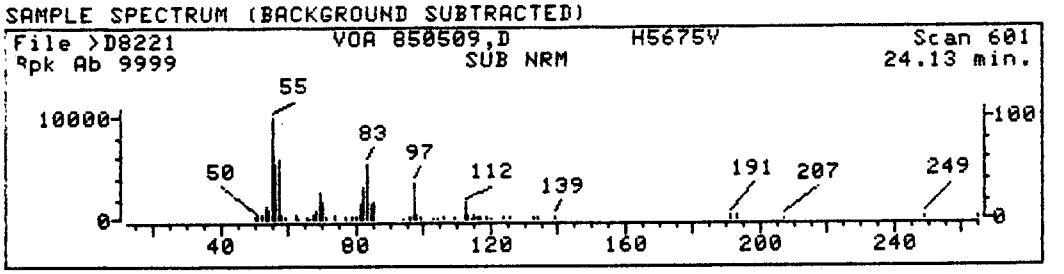
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 22.65
Scan: 563
Area: 508550
Semi-quantitative Conc: 402.08 NG

Data File: >D8221 Scan Number: 563
Search Speed: 2 Titling option: S Number of ion ranges searched: 62

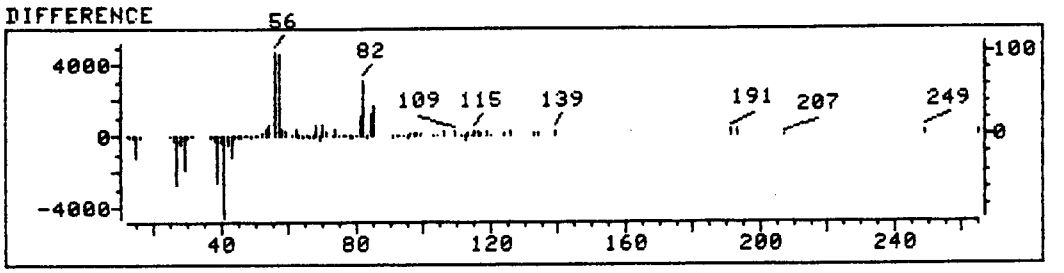
1.	Decane, 2,5,6-trimethyl- (9CI)	184	C13H28
2.	Hexane, 2,2,5,5-tetramethyl- (8CI9CI)	142	C10H22
3.	Methanamine, N-pentylidene- (9CI)	99	C6H13N

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	62108230	56	45	2	0
2.	52	1071814	36	43	2	0
3.	36	10599754	22	53	2	0

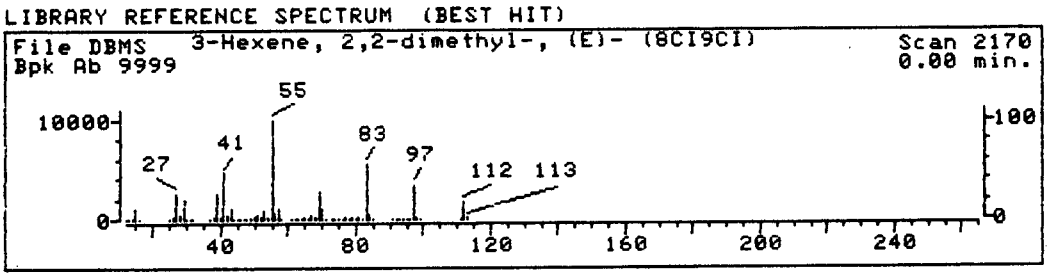
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



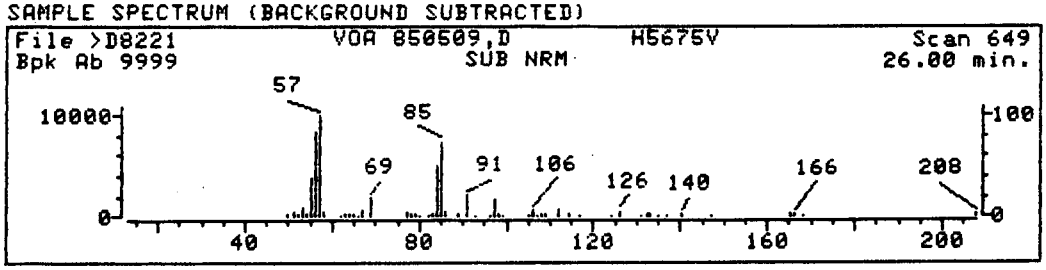
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 24.13
Scan: 601
Area: 114810
Semi-quantitative Conc: 90.77 NG

Data File: >D8221 Scan Number: 601
Search Speed: 2 Titling option: S Number of ion ranges searched: 68

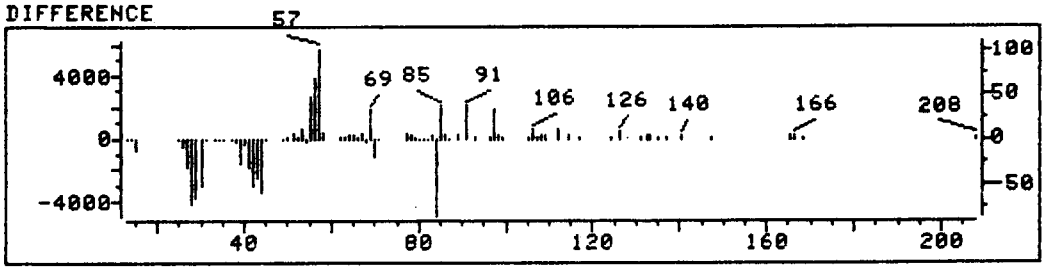
1. 3-Hexene, 2,2-dimethyl-, (E)- (8CI9CI) 112 C8H16
2. Cyclopentane, 1,1,3-trimethyl- (8CI9CI) 112 C8H16
3. 3-Hexene, 2,2-dimethyl-, (Z)- (8CI9CI) 112 C8H16

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	69	690937	54	45	0	0
2.	45	4516692	57	53	2	0
3.	44	690926	37	62	0	0

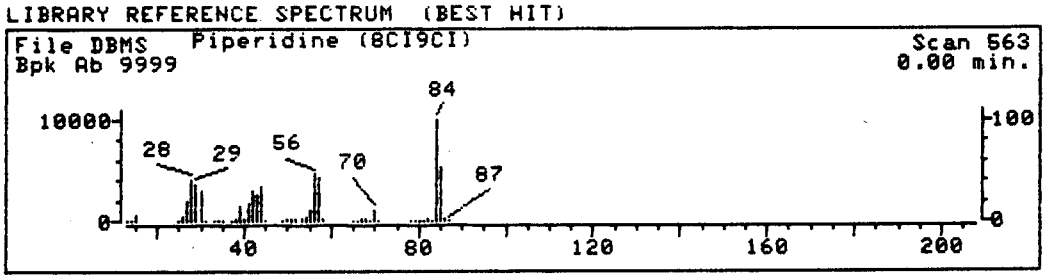
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



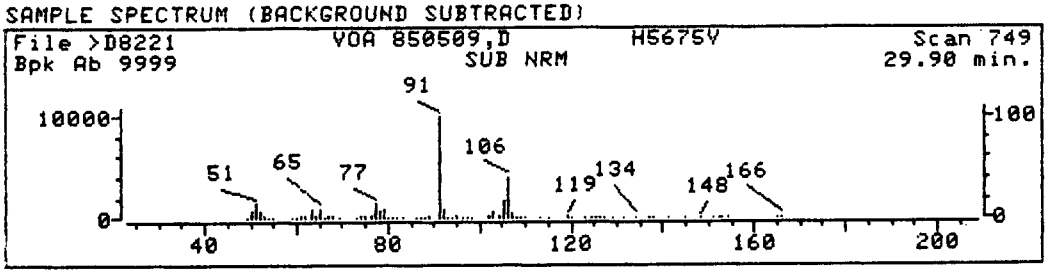
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 26.00
Scan: 649
Area: 206424
Semi-quantitative Conc: 163.21 NG

Data File: >D8221 Scan Number: 649
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

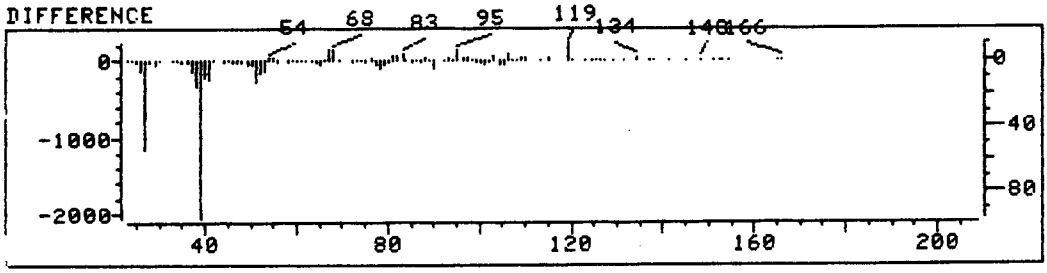
1.	Piperidine (8CI9CI)	85	C5H11N
2.	Cyclobutanone, oxime (8CI9CI)	85	C4H7NO
3.	Pyrrolidine, 1-methyl- (8CI9CI)	85	C5H11N

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	30	110894	21	83	2	0
2.	27	2972056	36	60	2	0
3.	25	120945	20	78	2	0

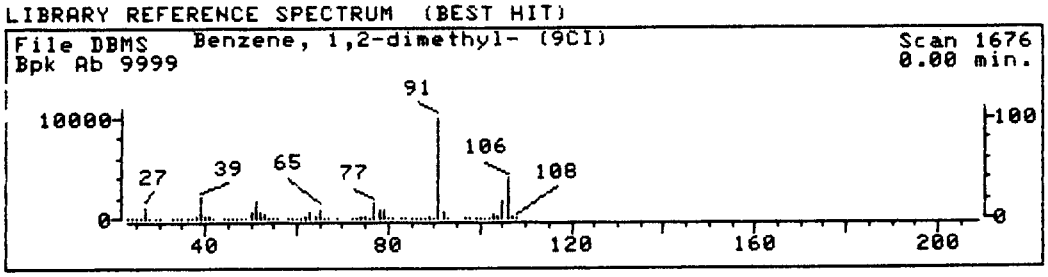
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



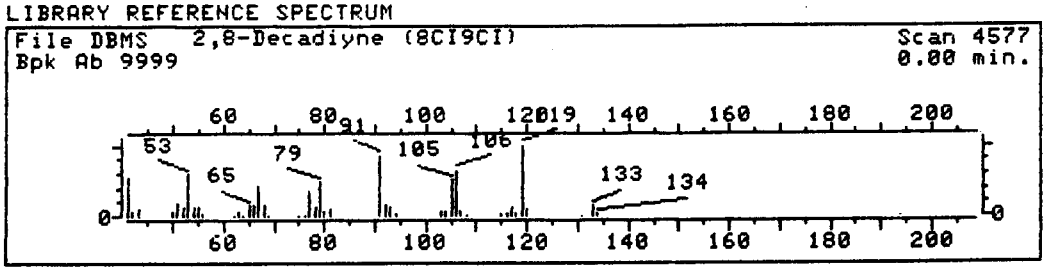
Data File: >D8221::U4
Name: VOA 850509,D
Misc Data: H5675V
RT (min): 29.90
Scan: 749
Area: 1313235
Semi-quantitative Conc: 1038.29 NG

Data File: >D8221 Scan Number: 749
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

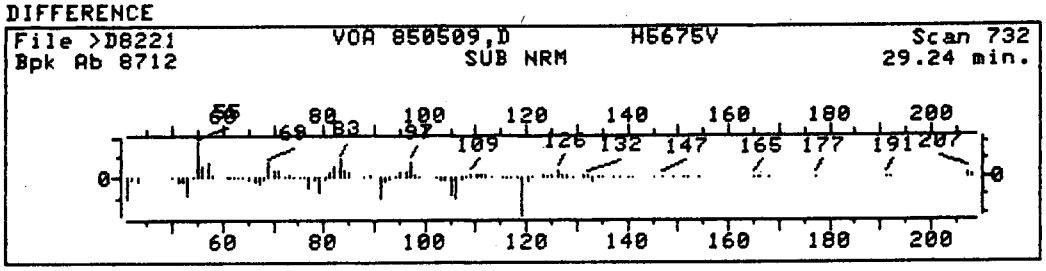
1.	Benzene, 1,2-dimethyl- (9CI)	106 C8H10
2.	Benzene, 1,3-dimethyl- (9CI)	106 C8H10
3.	Benzene, ethyl- (8CI9CI)	106 C8H10

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	95	95476	79	13	1	0
2.	88	108383	70	22	0	0
3.	84	100414	58	26	1	0

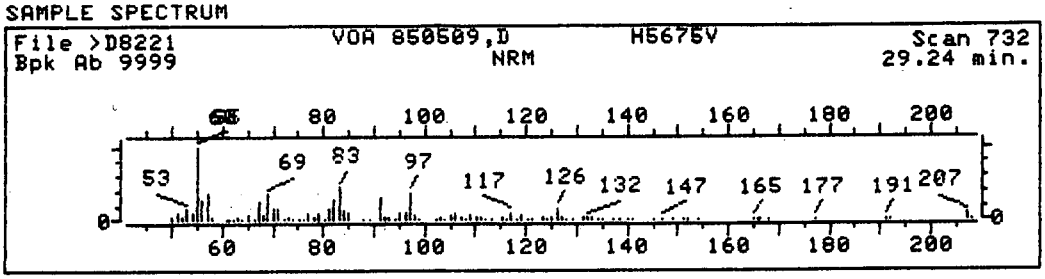
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



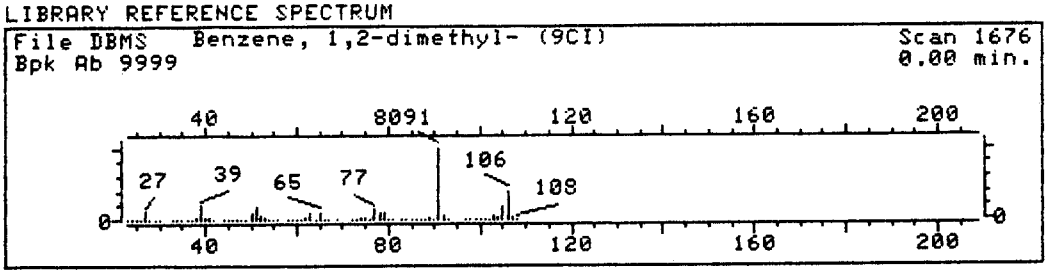
Data File: >D8221
Scan Number: 732
Hit number : 1 of 1

Rec.#: 4577 Reg.#: 4116932 Xref.#: 46528 Base : DBMS:D
Name: 2,8-Decadiyne (8CI9CI)
MW : 134.109 QI: 608 MF: C10H14

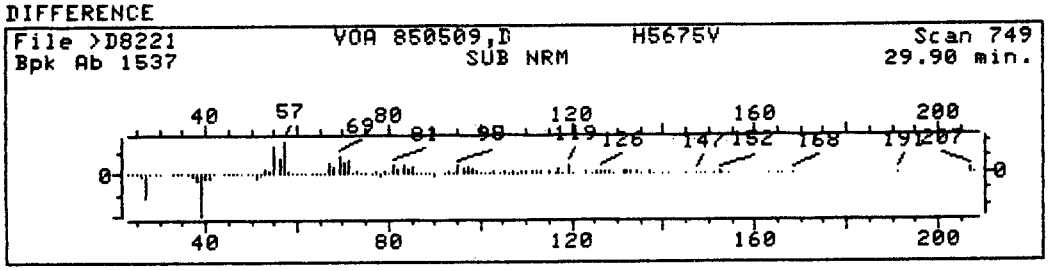
PBM Values:

Class IV Reliability value: 78
K-value: 47
dK-value: 74
Flagged Ions: 1
Tilt factor: *

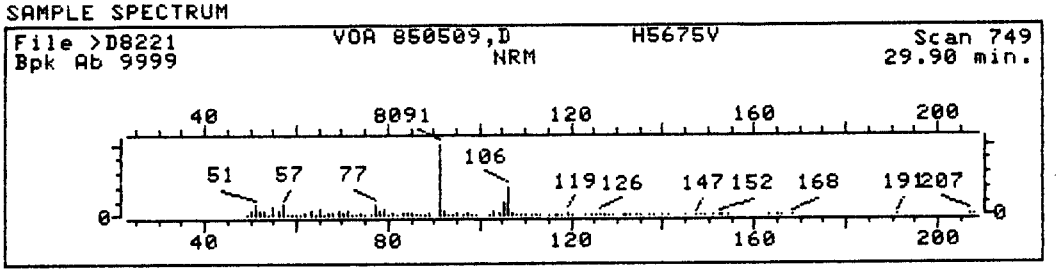
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



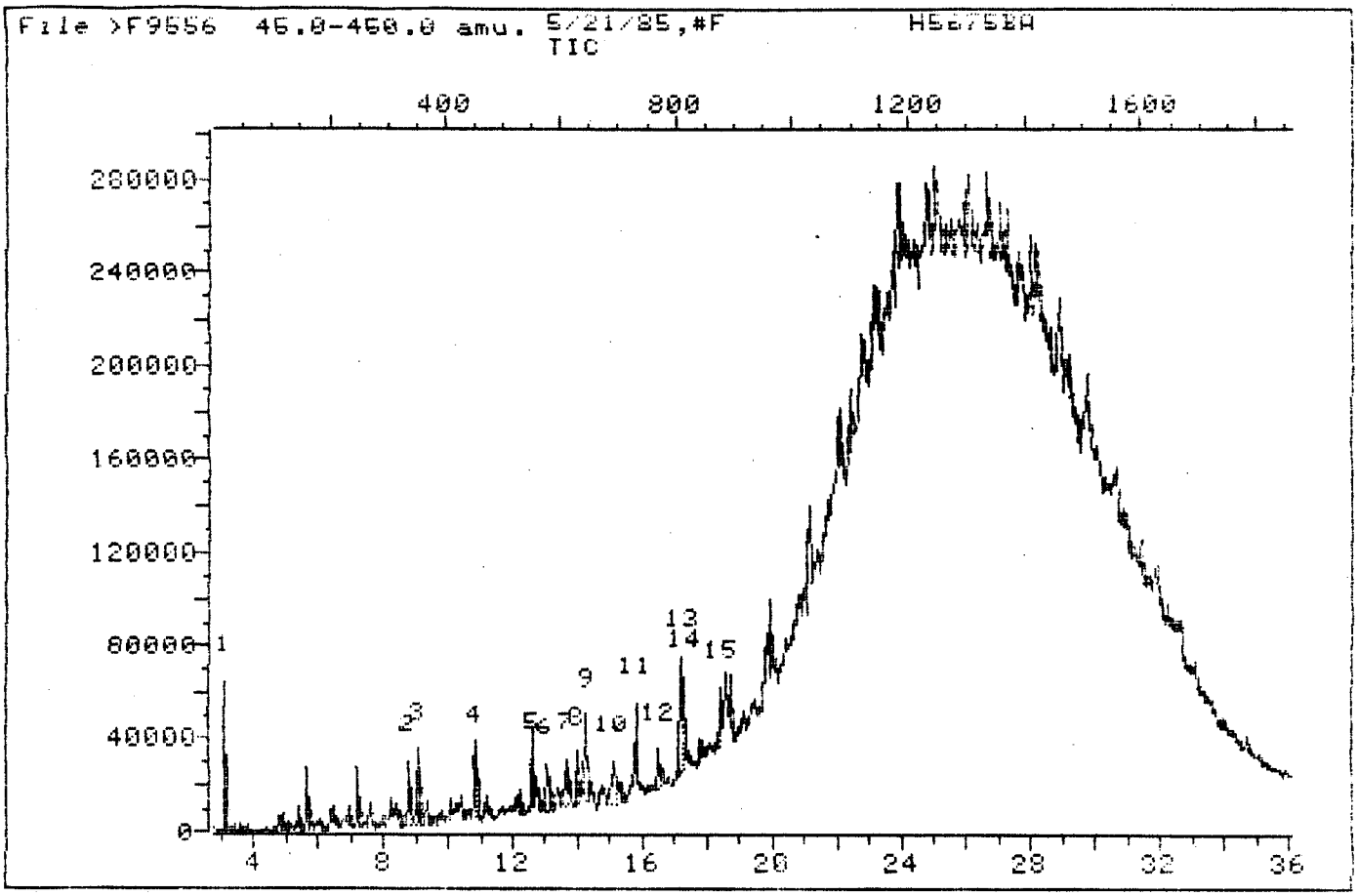
Data File: >D8221
Scan Number: 749
Hit number : 1 of 1

Rec.#: 1676 Reg.#: 95476 Xref.#: 63387 Base : DBMS:D
Name: Benzene, 1,2-dimethyl- (9CI)
MW : 106.078 QI: 798 MF: C8H10

PBM Values:

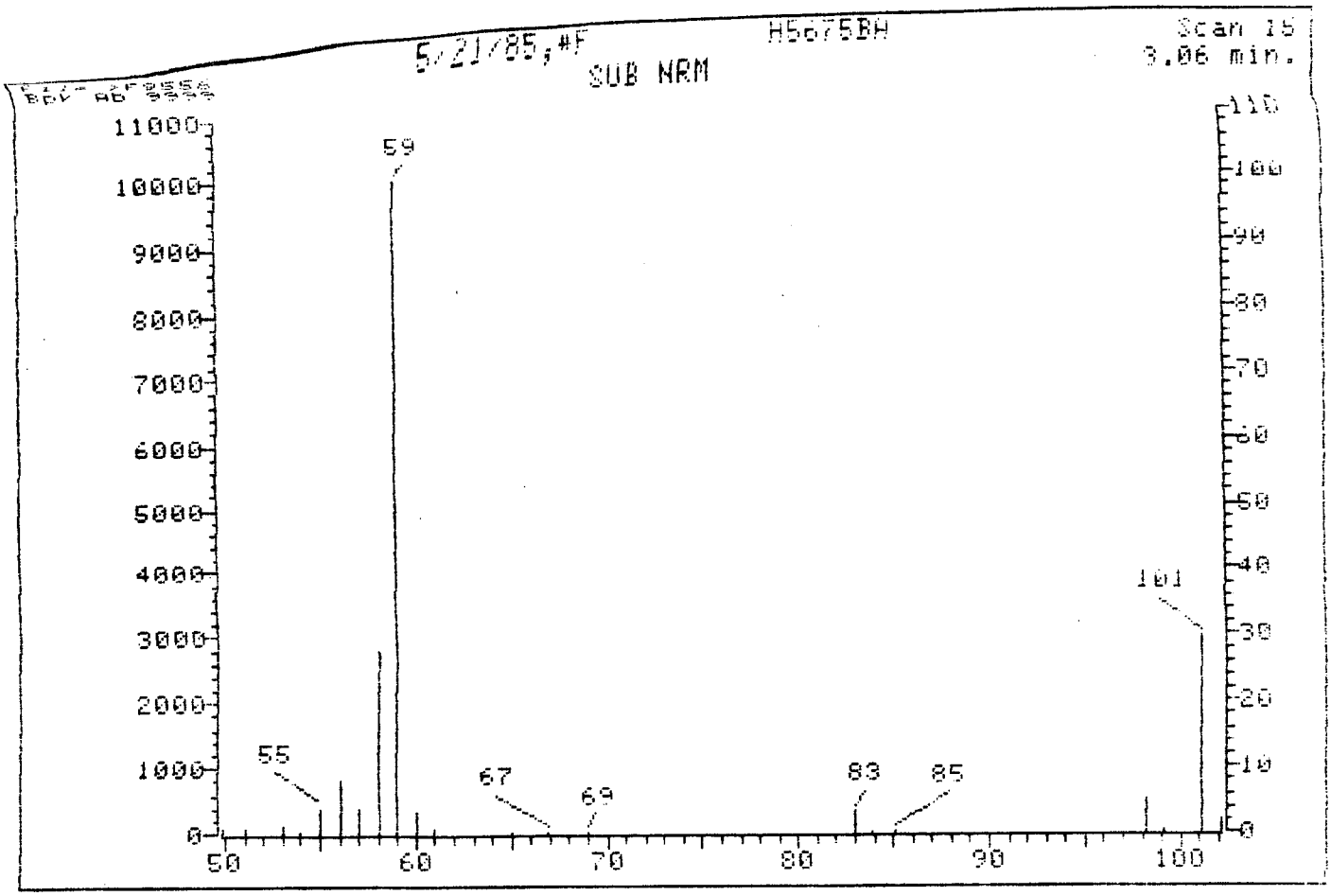
Class IV Reliability value: 95
K-value: 79
dK-value: 13
Flagged Ions: 0
Tilt factor: 0

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA

BTL#15

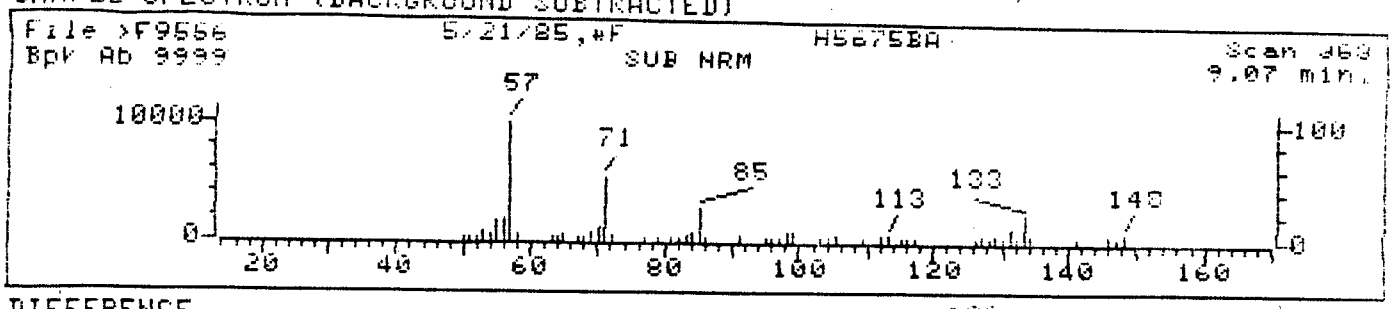


Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA
RT (min): 3.06
Scan: 15
Area: 111405
Semi-quantitative Conc. 69.25 UG/ML

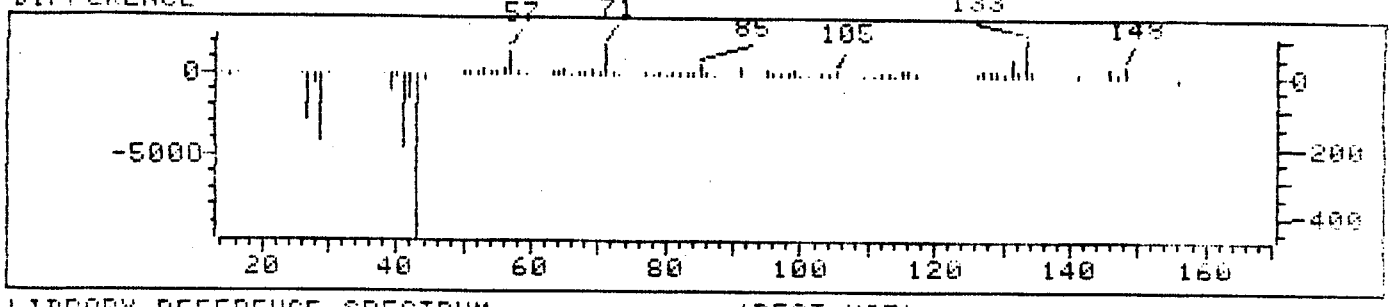
BTL#15

No PBM hits for this scan.

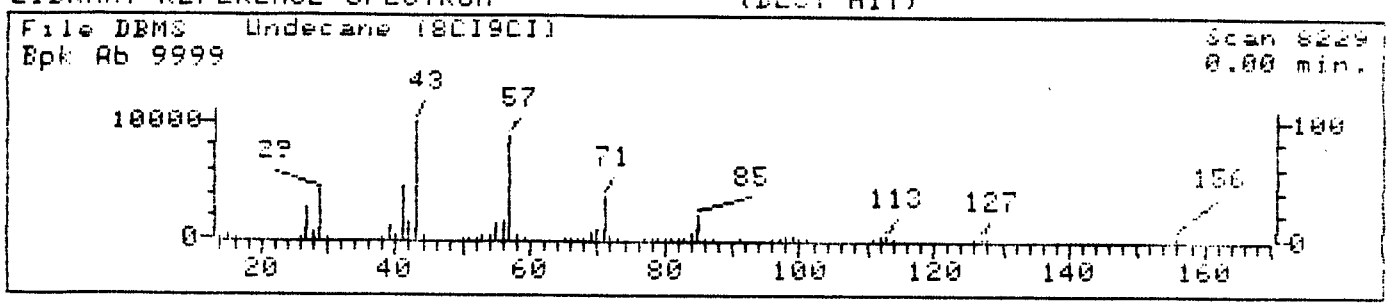
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA
RT (min): 9.07
Scan: 353
Area: 123737
Semi-quantitative Conc: 76.87 UG/ML

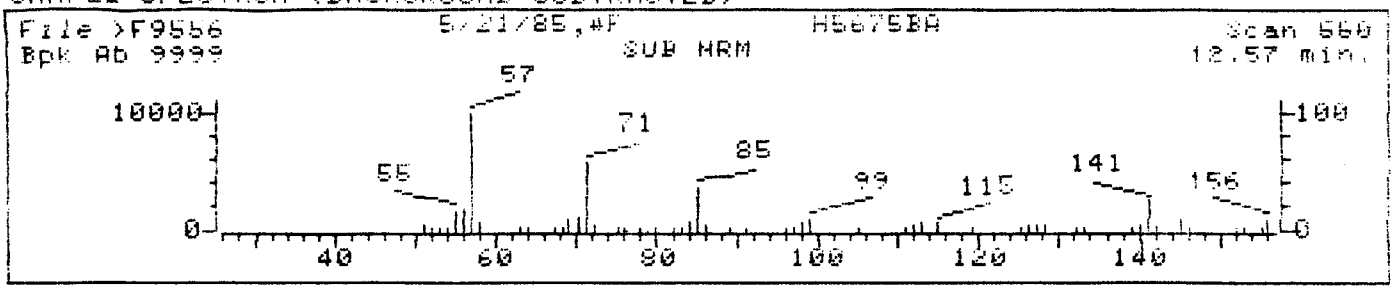
DTL#15

Data File: >F9556 Scan Number: 353
Search Speed: 2 Titling option: S Number of ion ranges searched: 65

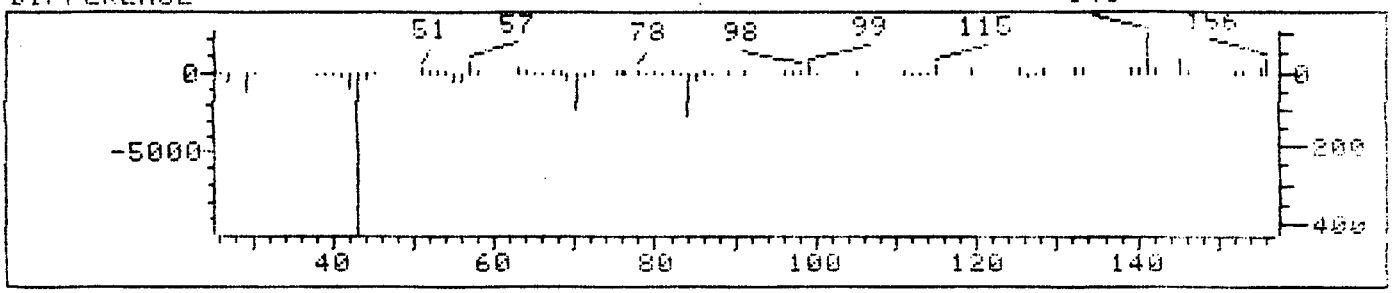
1. Undecane (8CI9CI) 156 C11H24
2. Octane, 2,4,6-trimethyl- (9CI) 156 C11H24
3. Tridecane (8CI9CI) 184 C13H28

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	55	1120214	63	34	1	0
2.	49	62016379	68	17	1	0
3.	47	629505	73	40	2	0

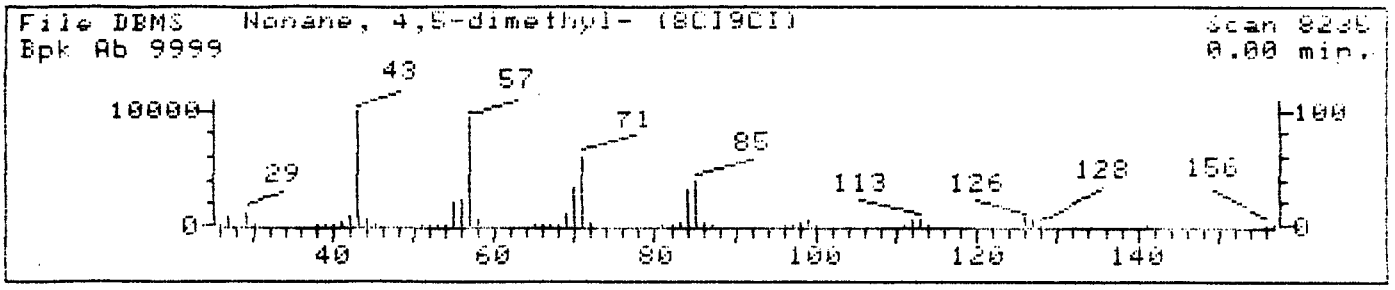
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



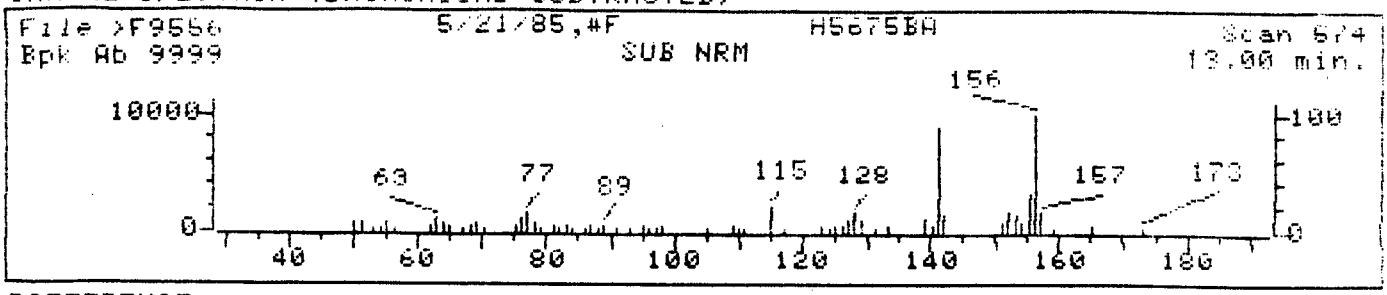
Data File: >F9556::UC
Name: 5/21/85,#F
Misc Data: H5675BA BTL#15
RT (min): 12.57
Scan: 550
Area: 103476
Semi-quantitative Conc: 64.28 UG/ML

Data File: >F9556 Scan Number: 550
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 66

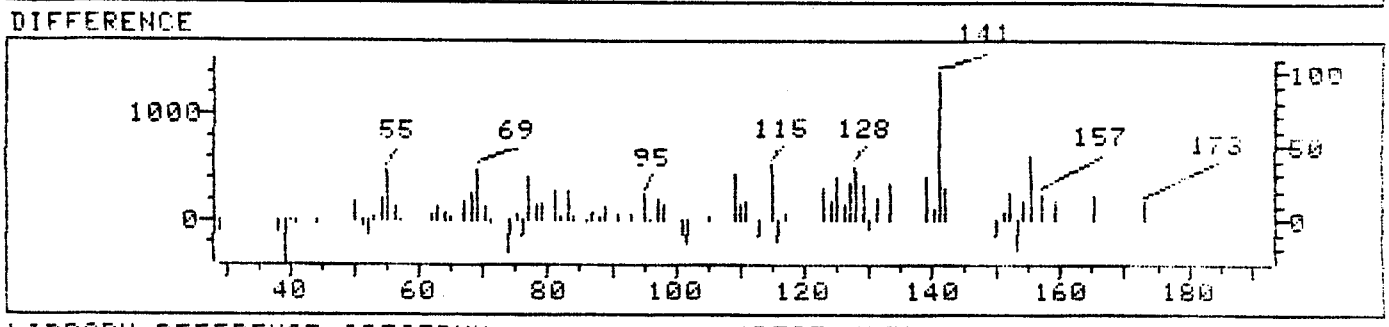
1. Nonane, 4,5-dimethyl- (8CI9CI) 156 C11H24
2. Pentadecane (8CI9CI) 212 C15H32
3. Eicosane (8CI9CI) 282 C20H42

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	71	17302237	56	49	2	0
2.	67	629629	80	40	2	0
3.	67	112958	80	59	2	0

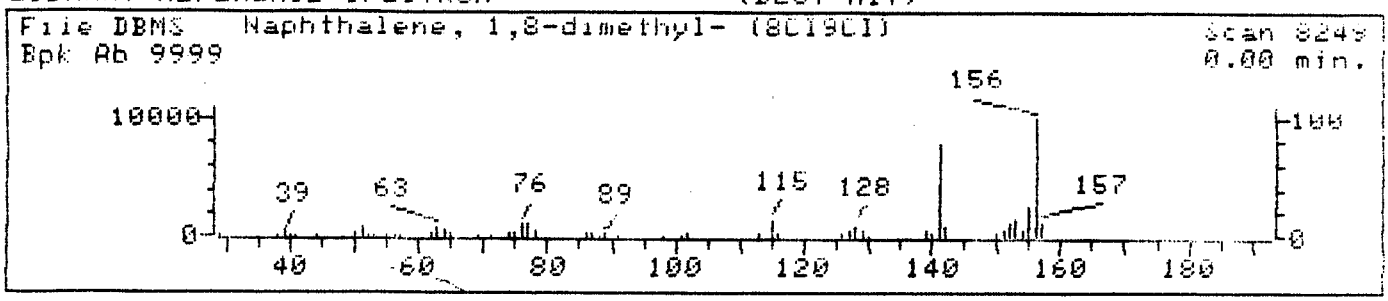
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



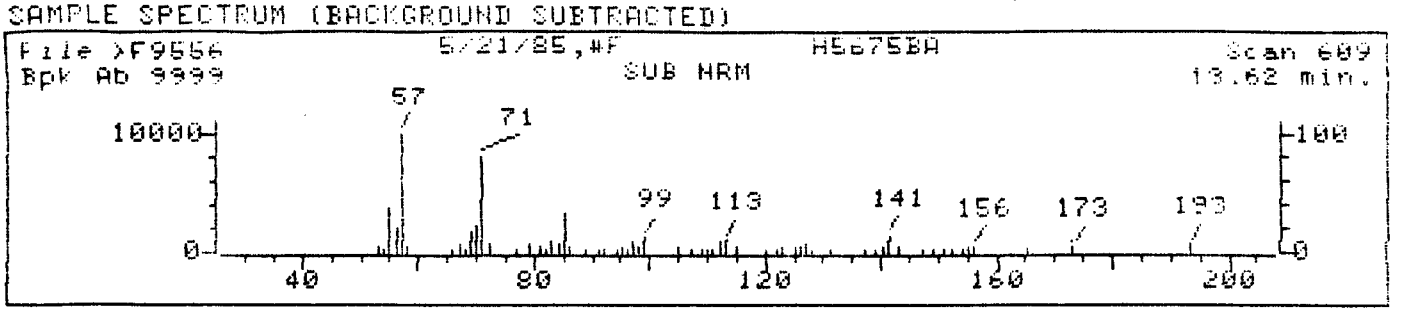
Data File: >F9556::UC
Name: 5/21/85,#F
Misc Data: H5675BA DTL#15
RT (min): 13.00
Scan: 574
Area: 125260
Semi-quantitative Conc: 77.81 UG/ML

Data File: >F9556 Scan Number: 574
Search Speed: 2 Titling option: 8 Number of ion ranges searched: 60

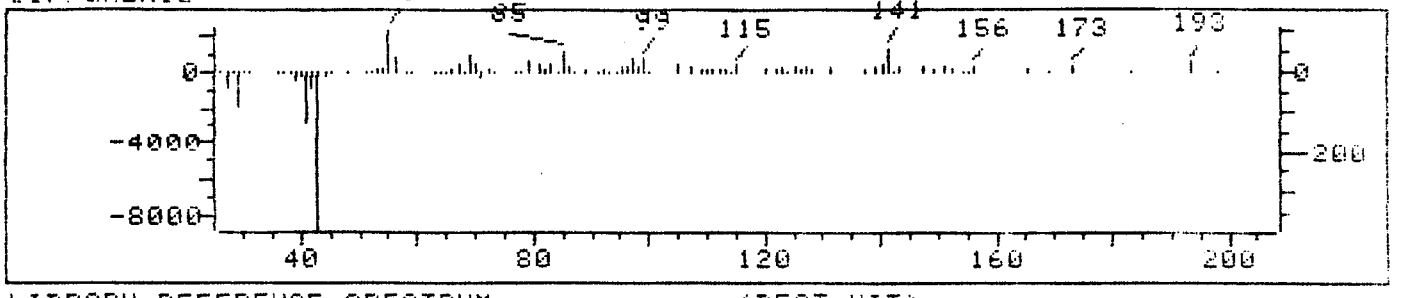
1. Naphthalene, 1,8-dimethyl- (8CI9CI) 156 C12H12
2. Naphthalene, 1,4-dimethyl- (8CI9CI) 156 C12H12
3. Naphthalene, 1,2-dimethyl- (8CI9CI) 156 C12H12

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	97	569415	96	14	0	0
2.	96	571584	101	7	0	1
3.	96	573988	90	23	0	0

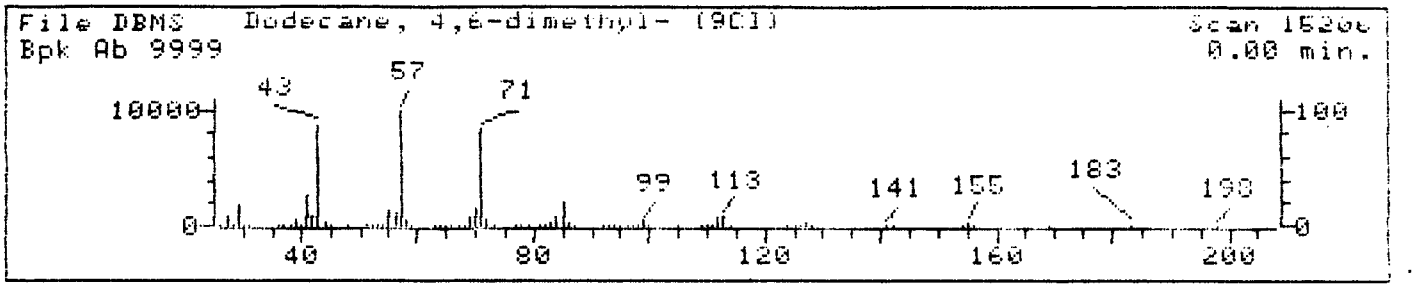
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



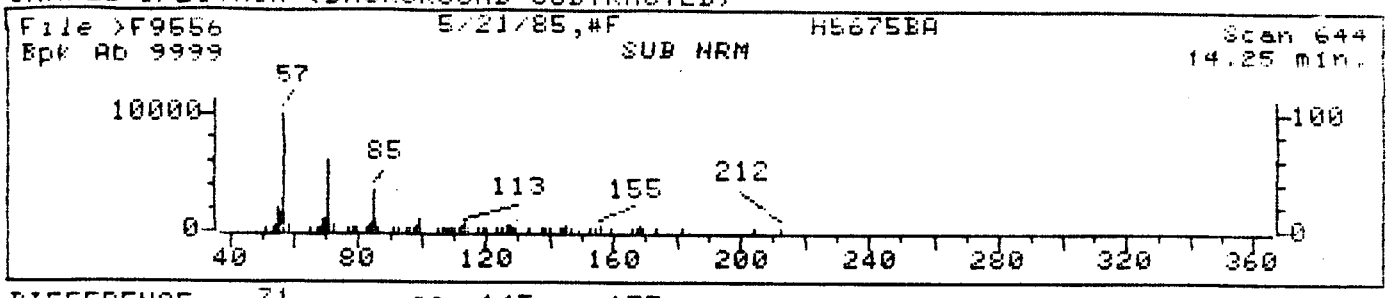
Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA DTL#15
RT (min): 13.62
Scan: 609
Area: 120550
Semi-quantitative Conc. 74.89 UG/ML

Data File: >F9556 Scan Number: 609
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

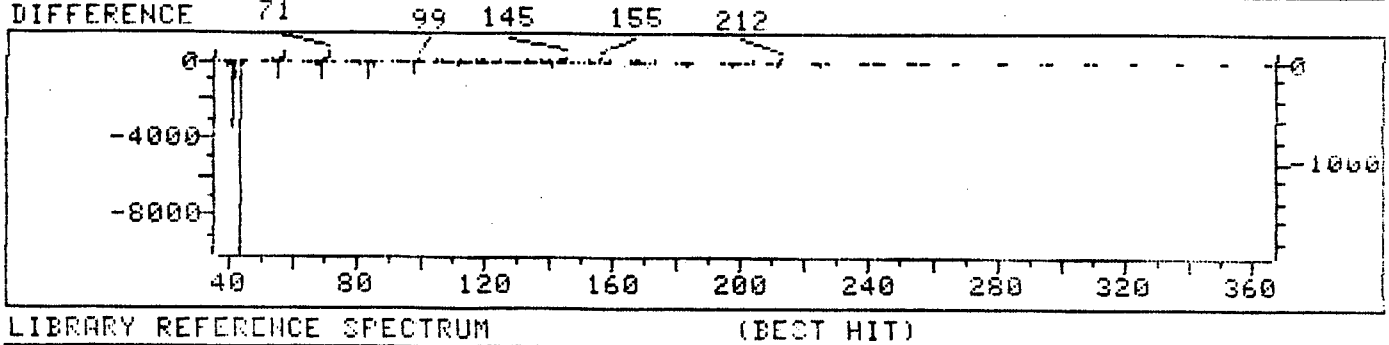
1. Dodecane, 4,6-dimethyl- (9CI) 198 C14H30
2. Heptadecane, 2,6,10,15-tetramethyl- (9CI) 296 C21H44
3. Decane, 2-methyl- (8CI9CI) 156 C11H24

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	61141728	61	49	1	0
2.	60	54833486	66	67	2	0
3.	60	6975980	38	62	3	0

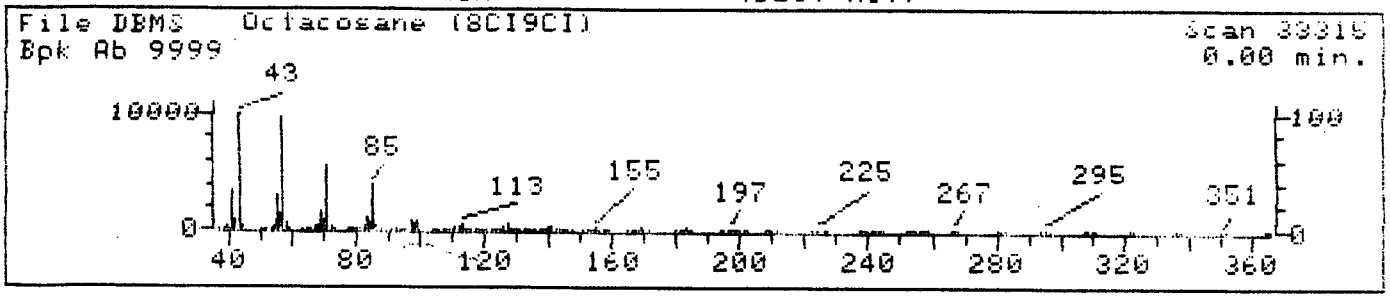
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



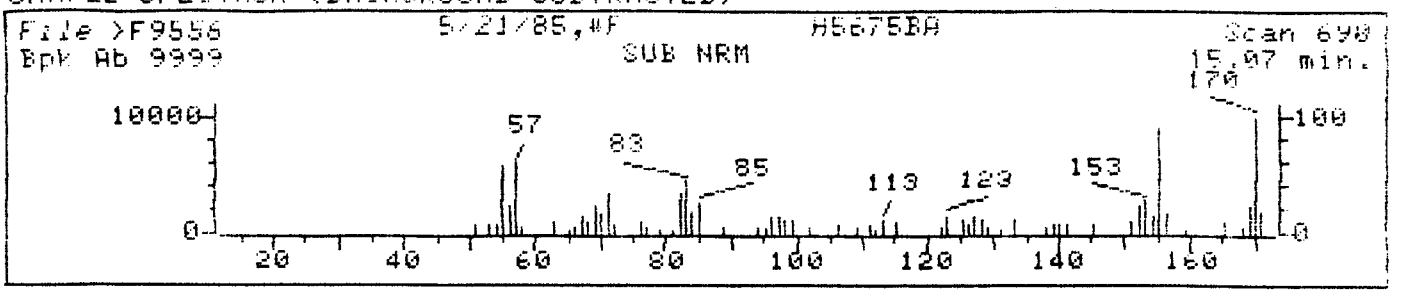
Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA BTL#15
RT (min): 14.25
Scan: 644
Area: 155425
Semi-quantitative Conc: 96.55 UG/ML

Data File: >F9556 Scan Number: 644
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

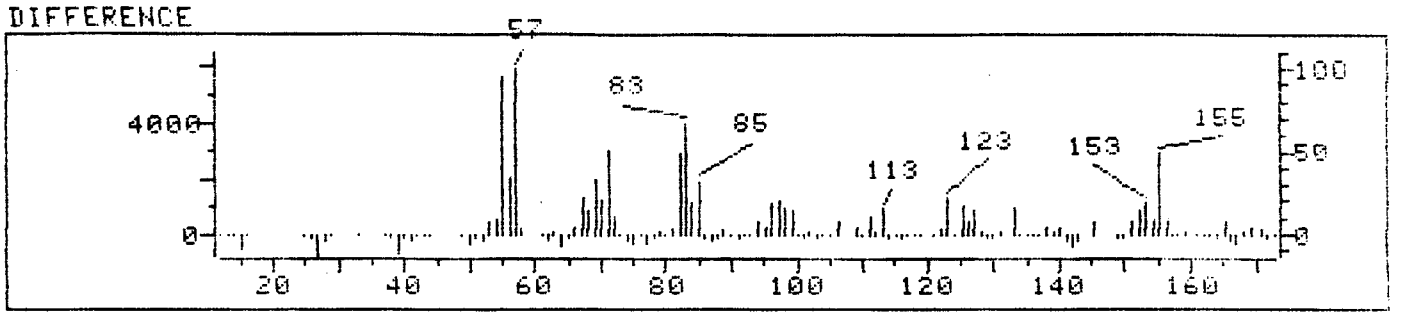
1. Octacosane (8CI9CI) 394 C28H58
2. Iron, tricarbonyl[N-(phenyl-2-pyridinylmethylene)benzenamine-N,N'1- (9CI) 398 C21H14FeN2O3
3. Eicosane (8CI9CI) 282 C20H42

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	630024	66	71	2	0
2.	78	74764117	66	71	2	0
3.	78	112958	62	77	2	0

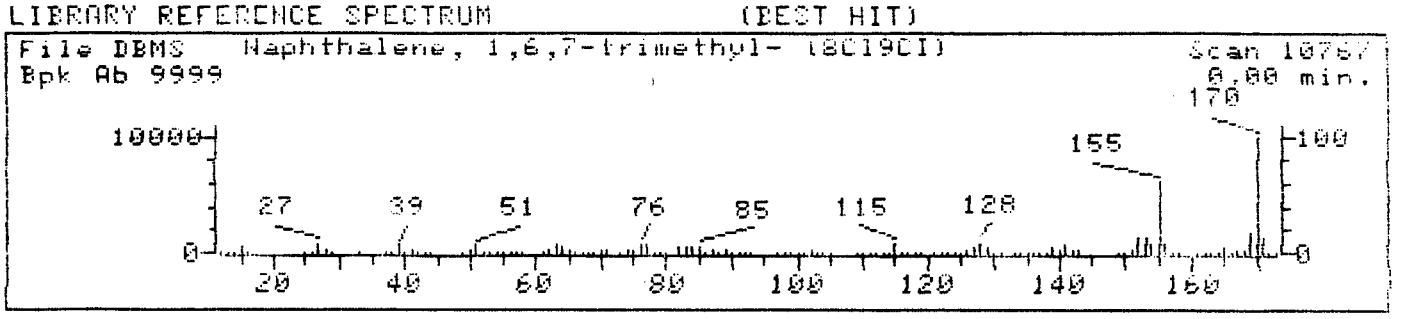
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



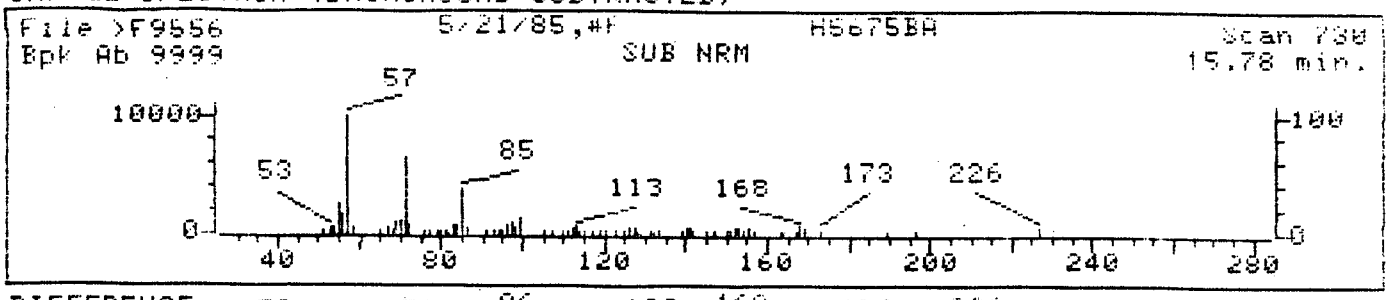
Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA BTL#15
RT (min): 15.07
Scan: 690
Area: 150752
Semi-quantitative Conc: 93.64 UG/ML

Data File: >F9556 Scan Number: 690
Search Speed: 2 Titling option: 3 Number of ion ranges searched: 61

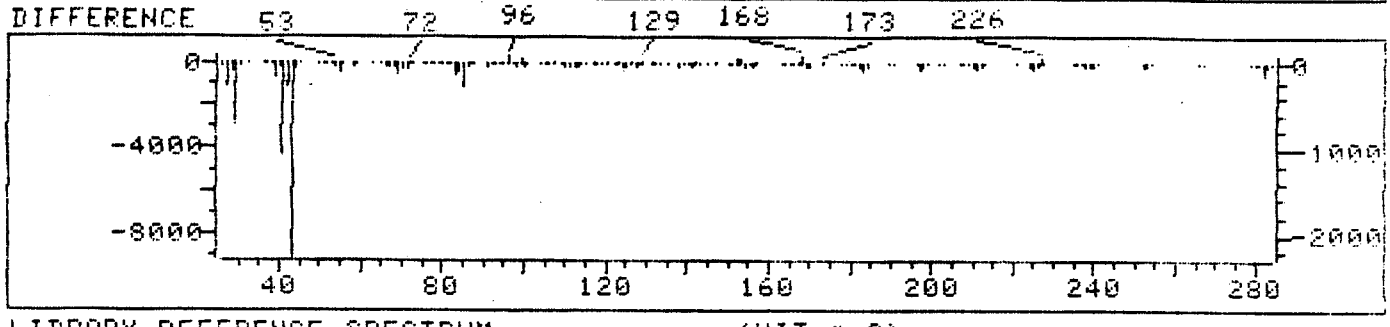
1. Naphthalene, 1,6,7-trimethyl- (8CI9CI) 170 C13H14
2. Naphthalene, 1,4,5-trimethyl- (8CI9CI) 170 C13H14
3. Naphthalene, 2,3,6-trimethyl- (8CI9CI) 170 C13H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	64	2245387	68	40	2	1
2.	49	2131411	62	56	2	0
3.	47	829265	43	66	0	0

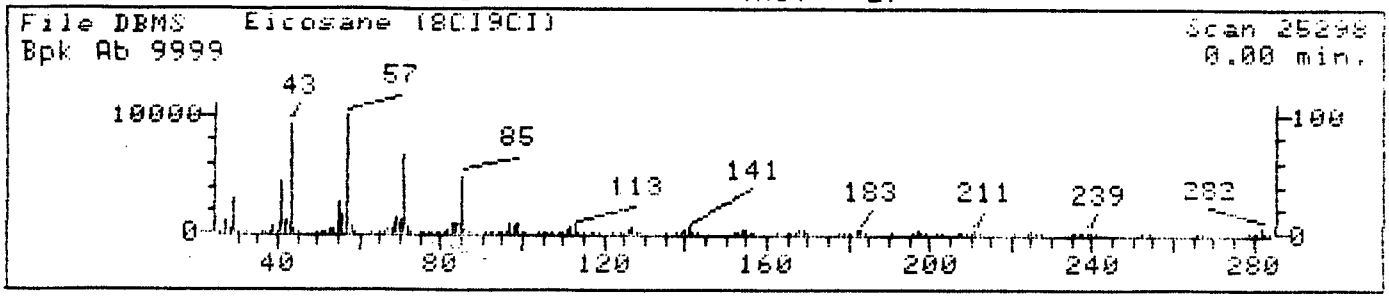
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



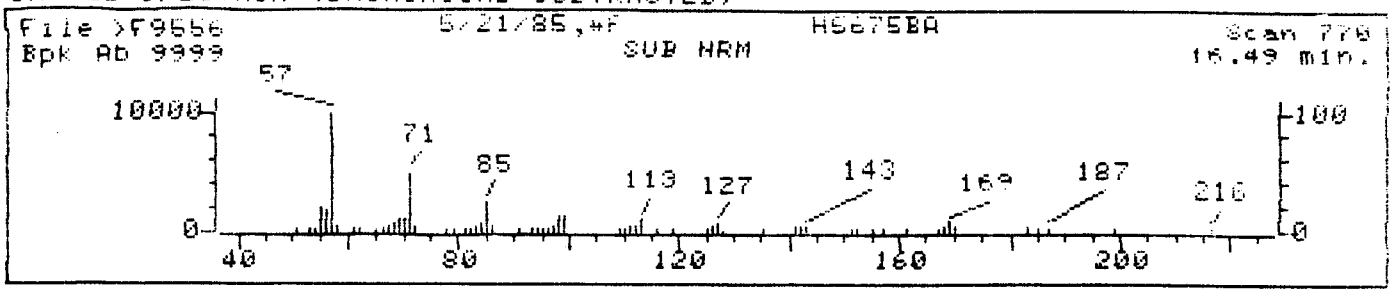
Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA DTL#15
RT (min): 15.78
Scan: 730
Area: 135791
Semi-quantitative Conc: 84.35 UG/ML

Data File: >F9556 Scan Number: 730
Search Speed: 2 Titling option: 9 Number of ion ranges searched: 69

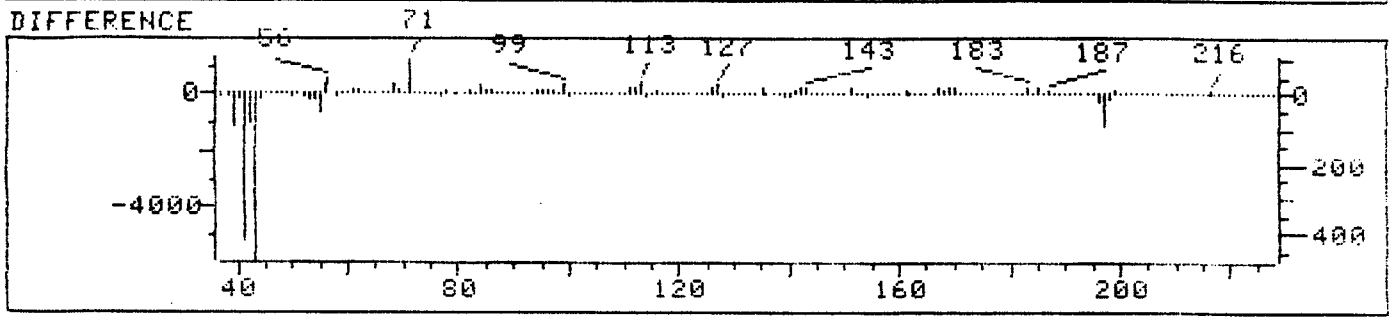
1. 2-Pyrrolidinone, 1-(9-octadecenyl)- (9CI) 335 C22H41NO
2. Eicosane (8CI9CI) 282 C20H42
3. Hexadecane (8CI9CI) 226 C16H34

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	86	69494151	43	106	0	-2
2.	86	112958	98	41	2	0
3.	86	544763	75	45	1	0

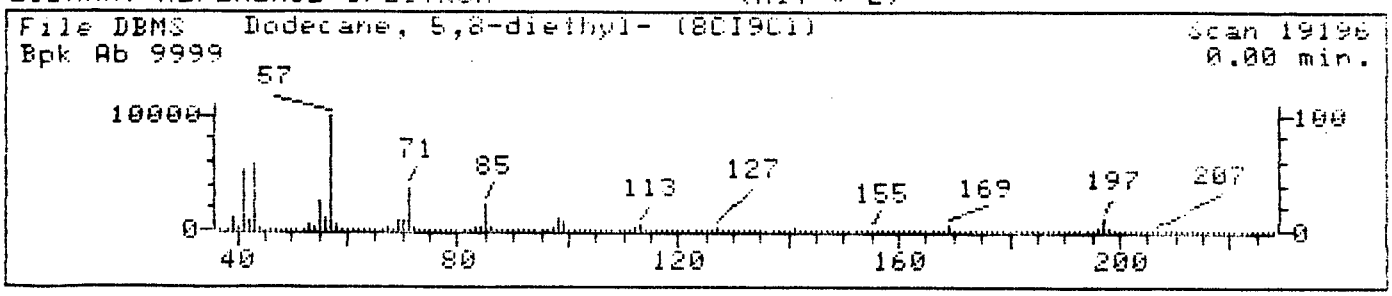
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



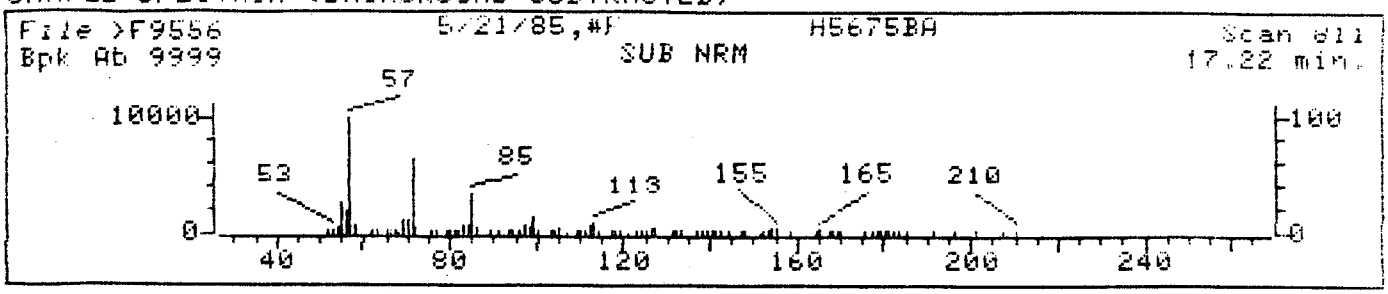
Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA BTL#15
RT (min): 16.49
Scan: 770
Area: 114341
Semi-quantitative Conc: 71.03 UG/ML

Data File: >F9556 Scan Number: 770
Search Speed: 2 Titling option: S Number of ion ranges searched: 66

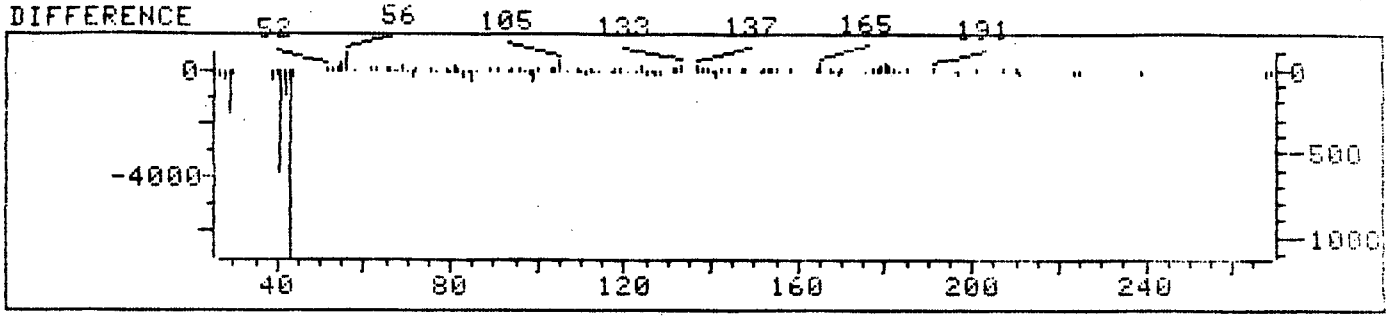
1. 2-Pyrrolidinone, 1-(9-octadecenyl)- (9CI) 335 C22H41NO
2. Dodecane, 5,8-diethyl- (8CI9CI) 226 C16H34
3. 2-Piperidineacetic acid, .alpha.-phenyl-, methyl est er, hydrochloride (8CI9CI) 269 C14H20ClNO2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	69494151	42	85	0	-2
2.	83	24251863	89	30	3	0
3.	70	298599	53	54	0	-2

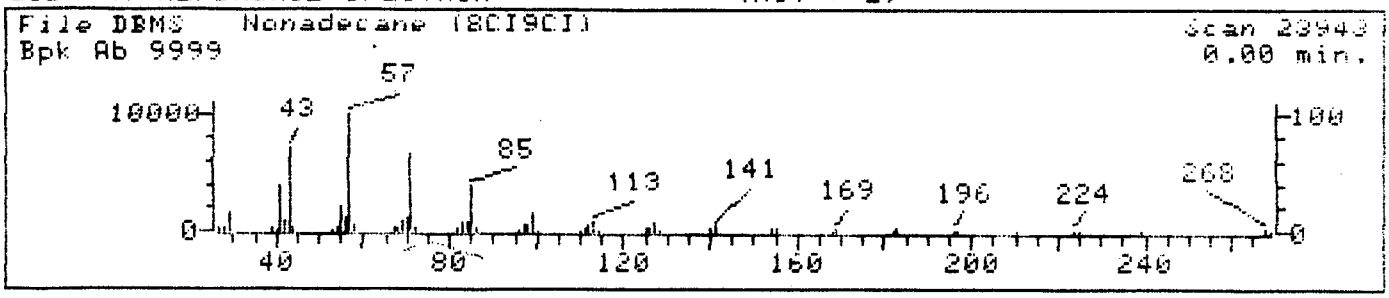
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



Data File: >F9556::U2
Name: 5/21/85,#F
Misc Data: H5675BA BTL#15
RT (min): 17.22
Scan: 811
Area: 240929
Semi-quantitative Conc: 154.63 UG/ML

Data File: >F9556 Scan Number: 811
Search Speed: 2 Titling option: S Number of ion ranges searched: 70

1. 5-Tetradecene, (E)- (9CI) 196 C14H28
2. Nonadecane (8CI9CI) 268 C19H40
3. Heptadecane (8CI9CI) 240 C17H36

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	86	41446666	45	85	0	-1
2.	83	629925	93	38	2	0
3.	83	629787	86	35	2	0

Appendix D
Subcontractor's Data

1) A copy of the originating subcontractor's report is included for all data not generated within ETC's laboratory.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV.

ETC Job # 1415617151

Lab ID: L85392-A5

Submitted by: MW (HWW)

Date: 5/31/85

Facility: Facility Code

Sample Point: Source Code — Sample Point ID

Date Sampled: Y Y M M D D

Time Sampled: H H : M M

RECEIVED JUN 0 4 1985

Line No.	Parameter	Table	Units Of Measure	Value	MDL	Comments
CONVENTIONALS						
1	Chloride	QR 10	mg/l			
2	Fluoride	QR 10	mg/l			
3	Nitrate as N	QR 10	mg/l			
4	Sulfate as SO4	QR 10	mg/l			
5	Phenolics, Total	QR 10	mg/Kg	2.3	0.1	
6	Total Organic Halides (TOX)	QR 10	ug/l			
	Total Organic Halides (TOX)	QR 10	ug/l			
	Total Organic Halides (TOX)	QR 10	ug/l			
	Total Organic Halides (TOX)	QR 10	ug/l			
7	Total Organic Carbon	QR 10	mg/l			
	Total Organic Carbon	QR 10	mg/l			
	Total Organic Carbon	QR 10	mg/l			
	Total Organic Carbon	QR 10	mg/l			
8	Specific Conductance (Lab)	QR 10	um/cm			
	Specific Conductance (Lab)	QR 10	um/cm			
	Specific Conductance (Lab)	QR 10	um/cm			
	Specific Conductance (Lab)	QR 10	um/cm			
9	pH (Lab)	QR 10	std			
	pH (Lab)	QR 10	std			
	pH (Lab)	QR 10	std			
	pH (Lab)	QR 10	std			
10	Coliform, Total	QR 10	C/100			
11	Coliform, Fecal	QR 10	C/100			
12	Gross Alpha	QR 10	PCi/l			
13	Gross Beta	QR 10	pCi/l			
14	Acidity as CaCO3		mg/l			
15	Alkalinity as CaCO3		mg/l			
16	Ammonia as N		mg/l			
17	Bicarbonate as CaCO3		mg/l			
18	Biochemical Oxygen Demand		mg/l			
19	Carbonate as CaCO3		mg/l			
20	Chemical Oxygen Demand		mg/l			
21	Color, Apparent (Lab)		Pt/Co			
22	Cyanide, Total		mg/Kg	<0.5	0.5	
23	Hardness as CaCO3		mg/l			
24	Nitrite as N		mg/l			
25	Nitrogen Total Kjeldahl (TKN)		mg/l			
26	Nitrogen, Total Organic		mg/l			
27	Odor (Lab)		TON			
28	Oil and Grease (grav, IR)		mg/l			
29	Phosphate, ortho		mg/l			
30	Phosphate, Total		mg/l			
31	Solids, Total		mg/l			
32	Solids, Total Dissolved (ROE) 180°		mg/l			
33	Solids, Total Suspended		mg/l			
34	Sulfide as S		mg/l			
35	Surfactants (MBAS/LAS)		mg/l			
36	Turbidity (Lab)		NTU			

Appendix E

Chain-of Custody Forms

1) A field Chain-of-Custody form (CC1) is included for all samples shipped by ETC shuttle.

2) An in-house sample Chain-of Custody form is included for the period the sample was in ETC's possession.

3) A subcontractor's Chain-of-Custody form is included for any analytical work not performed within ETC's laboratory.

4) Any additional Chain-of-Custody material provided by a client or by a client's sampling agent is also included.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 34533 ETC Job # H5675

Date Sealed 4/30/85 By: Weber

Company: NJ DEP

Attn.: Al Pleva

Facility/Site: Diamond Head

Phone: (609) 984-3015

Address: Trenton NJ 08625

SAMPLE IDENTIFICATION

Facility: [illegible]

Sample Point: [illegible] (Facility/Site Code) — Source Code (from below) — Your Sample Point ID (left justify) — 850501 Start Date (YY/MM/DD) — 1015TY Start Time (2400 hr. clock) — 0121 Elapsed Hours (composite)

Source Codes:
Well ..(W) Outfall.....(O) Bottom Sediment....(B) Surface Impoundment....(I) Leachate Collection Sys.....(C) Other .....(X
Soil ...(S) River/Stream..(R) Generation Point ....(G) Treatment Facility .....(T) Lake/Ocean .....(L) Specify _____

531
5

SHUTTLE CONTENTS

BOTTLE No	Type	Size	Preserv.	ANALYSIS	SAMPLER Fill. (Y/N)	SAMPLER Observations	LAB Observations
1	E	1L	Baked	Extb			
2	V	40ml	Baked	VOA			

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) D Mazur Date: 5-1-85 Time: 1012
   Signature: Deborah Mazur Seal #: 0034533 Intact: yes

2. I have received these materials in good condition from the above person.
   Name: _____ Signature: _____
   Date: _____ Time: _____ Remarks: _____

3. I have received these materials in good condition from the above person.
   Name: _____ Signature: _____
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) Neil Stark Date: 5-1-85 Time: 1300
   Signature: [illegible] Seal #: 0034534 Intact: yes

ETC USE ONLY Opened By: Khanna Date: 5/2/85 Time: 11:00

Seal #: 34534 Condition: OK

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H5675

Sample Point [S] [S01.1.4.5] (Source Code / Sample Point I.D)

FIELD PROCEDURES

PURGE DATE (YY MM DD)	START PURGE (2400 Hr Clock)	ELAPSED HRS	WATER VOL IN CASING (Gallons)	VOLUME PURGED (Gallons)

SAMPLING METHOD: Grab

Sampler Type [F] A-Submersible Pump, B-ISCO, C-Bladder Pump, D-Dipper/Bottle, E-Bailer, F-Scoop/Shovel, X-Other _____ (SPECIFY OTHER)

Sampler Material [B] A-Teflon, B-Metal, C-PVC, D-Plastic, X-Other _____ (SPECIFY OTHER)

Tubing Material [ ] A-Teflon, B-Tygon, C-Polyethylene, D-Silicon, X-Other _____ (SPECIFY OTHER)

Sample Composited [Y/N] [N] _____ Procedure/Proportions

FIELD MEASUREMENTS

Well Elevation (ft/msl) [ ]

Depth to Ground water (ft) [ ]

Groundwater Elevation (ft msl) [ ]

Well Depth (ft) [ ]

Sample Depth (non-well) (ft) [0.5]

	ph	(STD)		spec. cond.	um/cm at 25°C	(other parameter)	value	units
1st			1st					
2nd			2nd					
3rd			3rd					
4th			4th					

Sample Temp [ ] (°C)

Turbidity [ ] NTU

FIELD COMMENTS

Sample Appearance: Blk Silty Clay Soil

Weather Conditions: 75°F Sunny

Other:

FILTERING: Use Chain of Custody (CC1) to indicate which bottles were filtered

Sampler: Neil Stienk (Print) Employer: NJDEP

I certify that sampling procedures were in accordance with applicable EPA state and corporate protocols.

5/1/95 [signature] (Date) (Signature)

Form DWM-026
6/84

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAIN OF CUSTODY RECORD

Use One Form for Each Sample — *Shaded Areas for DEP Field Use Only*

NAME OF UNIT AND ADDRESS: Diamond Head Site / NJDEP HSMA / 65 Prospect ST / Trenton / NJ

Name of Person(s) Preparing Container(s) for Sample Shuttle

Name	Title	Agency
Name	Title	Agency

Date above-mentioned Person(s) Placed Container(s) in Sample Shuttle ___/___/___	Military Time	Laboratory Affixed Sample Shuttle Seal No.

Name of Person(s) Breaking Laboratory Seal on Sample Shuttle and Taking Field Sample
Name: Deborah Mazur Title: Env Specialist
Name: Neil Jiorle Title: Sr Env Specialist
Name: Title:

Date Laboratory Sample Shuttle Seal No. 5/1/85 0034533 Broken 5/1/85 — Time (Mil) Seal Broken and Sampling Begun 1012

FIELD SAMPLE NUMBER	CONTAINER NUMBER(S)	VOLUME OF CONTAINERS	DESCRIPTION OF SAMPLE
LAB CONTROL NO.			SOIL #5 black clayey soil

Date Sampling Completed & Field Seal Affixed to Sample Shuttle 5/1/85	Military Time 1300	Field Affixed Sample Shuttle Seal No. 0034534

Laboratory Person Breaking Field Seal on Sample Shuttle & Accepting Responsibility for Sample
Name: Shyama Khanna Title:

Field Sample Seal No. 0034534	Date Broken 5/2/85	Military Time Seal Broken

SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
Neil Jiorle	Neil Jiorle	5/1/85		Del to Lab

COPIES: *Gold - Container/Shuttle Preparation Receipt* *Yellow - Analyst Chain of Custody* *Pink - Field Sampler Receipt* *White - Sample Custodians Chain of Custody*

Form DWM-025
6/84

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

SAMPLE ANALYSIS REQUEST FORM

NJDEP File # _____

SAMPLE LOCATION

NJDEP HSMA

NAME OF FACILITY/ COMPANY/PERSON	Diamond Head Site	CODE	MAILING ADDRESS 65 Prospect ST Trenton NJ
SAMPLE LOCATION	Kearny Soil # 5		

SAMPLE COLLECTOR

SAMPLER(S) Name	Neil Jiorle	Agency	NJDEP HSMA	Sampler ID #	H591
Name		Agency		Sampler ID #	

SAMPLE IDENTIFICATION

NJDEP SAMPLE NO.	Soil # 5	SAMPLING DATE	5/1/85	ABSCISSA (Longitude)	
SAMPLE POINT ID	H 5675	TIME (MIL) SAMPLING BEGAN	1054	ORDINATE (Latitude)	
SAMPLE SOURCE CODE		TIME (MIL) SAMPLING FINISHED	1100	ELEVATION	
REFERENCE POINT					

SAMPLING PROCESS

COLLECTION METHOD	Code Grab	Other	SAMPLE TYPE	Code Soil	Other
TYPE OF SAMPLER	Code trowel	Other	SAMPLE MATRIX	Code	Other
DESCRIPTION	black clayey soil				

FIELD MEASUREMENTS

SAMPLE TEMP.	°C	PARAMETER	PARAMETER	PARAMETER
AIR TEMP.	75 °F	VALUE	VALUE	VALUE
WEATHER	sunny			

CHAIN-OF-CUSTODY IMPLEMENTED ☒ YES ☐ NO

PRESERVATION CODE(S) ___ ___ ___ ___ ___

REQUESTED ANALYSIS(ES)

PARAMETERS (by Compound or Group of Compounds)	CONTAINER NUMBER	DETECTION LIMIT (digits/units)	PRECISION & ACCURACY LIMITS	REQUESTED TURNOVER (days)
PP+40				

ANALYSIS(ES) AUTHORIZED BY Al Plevia

TITLE Supr. Tech.

ANALYZING LABORATORY

CONTRACT LAB NAME	ETC	PERSON ACCEPTING SAMPLE	Khanna	TITLE	
LAB ID #		LAB CONTROL #		DATE 5/2/85	TIME (MIL) 1100

EXTRACTION LOG

QC Batch # 2995

Analysis: PP/PST (GC)

Matrix: SOIL

Turnaround: NORM

Date: 5/4/85

Extraction Method:

sep funnel

continuous

soxhlet ✓

other

Sample Number	Log Book	Sample weight (g.)	Extract Vol. (ml)		Comments
H5671	9303	2.14	5.0ml		
H5672		2.09	5.0ml		
H5673		2.23	10.0ml		
H5674		2.11	10.0ml		
H5675		2.00	10.0ml		
H5676	↓	2.04	1.0ml		
QC 2995		—	1.0ml		
H5676 S1		2.17	1.0ml		
* H5674 R		-2.05-	10.0ml		
H5676 S2		2.00	1.0ml		

COMMENTS FOR EXTRACT.:
N.J. DEP

SAMPLES ON @ 1:00 pm 5/4/85
Concentrate to 1.0 ml FINAL VOL IN HEXANE & package

* Final vols are high because, at lower vol, precipitation occurs occuring.
There might be little more precipitation while sitting in the Freez
1.0 ml aliq taken

COMMENTS FOR GC/MS:

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
PP PEST (GC)	1.0	1.0 ug/ml	10,404
METHOXYCHLOR	1.0	25.0 ug/ml	10,406
TOXAPHENE	1.0	10.0 ug/ml	10,414
CHLORDANE	1.0	10.0 ug/ml	10,410

SURROGATE	Amt. (ml)	Conc.	Lot #

106

Set-up: [signature] 5/4/85
Conc.: [signature] 5/10/85
UPD/Supervisor: [signature] 5/10/85
Spike/surr. verified: [signature] 5/4/85

EXTRACTION LOG

Sample Number	Log Entry	Sample weight (g.)	Extract Vol. (ml) BNA		Comments pH
H5671	9303	30.25	*		5.2
H5672	↓	30.29	*		6.8
H5673		30.66	*		6.6
H5674		30.16	*		6.8
H5675		30.12	*		8.8
H5676	↓	30.36	10.0ml		6.2
H4071	8986	30.23	4.0ml		5.4
H4512	9114	30.93	*		5.0
H4683	9127	30.12	1.0ml		4.6
H4686	↓	30.27	*		2.8
H4687	↓	30.60	*		3.0
H4513	9114	30.12	4.0ml		5.8
H4514	↓	30.47	*		6.0
H4515	↓	30.53	*		4.4
H4516	↓	30.26	1.0ml		4.6
H4071-R	—	30.06	4.0		
QC 2997		30.02	1.0ml		
H5676 S		30.16	10.0ml		
* H4683 R		30.14	—		
* Concentrating tube broken on water bath					

QC Batch # 2997

Analysis: PP/ORG

Note: PP/ACID ONLY: H4071, H4653, H4656, H4657

Matrix: SOIL

Turnaround:

Date: 5/4/85

Extraction Method:

sep funnel

continuous

soxhlet ✓

other sonicator

Repeats in green

COMMENTS FOR EXTRACT.:

NJDep: Holding Times critical

check pH: a few grams in H_2O 1:1. take pH w/ electrode. Advise if not neutral

These are to be run neutral pH only. Samples should be dried before weighing. Only 1 fraction. Final volume = 1ml

COMMENTS FOR GC/MS:

Samples with pH outside the range of 5-9 were adjusted to a neutral pH.

* these sample to be reextracted at medium level

FRACTION	SPIKE Amt. (ml)	Conc.	Lot #
B/N	1.0	100 ug/ml	10,499
ACID	1.0	100 ug/ml	10,523
SEMI-VOA			107

SURROGATE	Amt. (ml)	Conc.	Lot #
	1.0	B/N @ 50 ug/ml	10,531
		ACID @ 100 ug/ml	

Set-up: [signature] 5/4/85 Supervisor: S McArthur 5/12/85

Conc.: [signature] Spike/surr. verified: [signature] 5/4/85

GC-MS ANALYSIS CUSTODY LOG

DATE 5/8/85 SHIFT ___
FRACTION VOA
INSTRUMENT D
TUNE FILE APEI02
SEQUENCE FILE
METHOD FILE VOAD
IDFILE DVOA
ANALYST(S) S. Johnston
SUPERVISOR [signature]
BATCH #'s QV3241

(PLEASE INITIAL)

CURRENT CS05 STATUS		STANDARDS UPDATED	
ACQ		DATE	5/9
WIP		BY	SJ

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	10275	1
ISTD	40	10332	5
SUR	25	8793	10
ABC	18	10538	5

IFB Prep 50:1 110+15

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	708206	1			E0198	Arcu 0120	
QC3241v	708207	5ml		NG	700 NG	meth. Cl (mistyped as 708241)	
QC3241v	708208			NG		57% methcl	
QC3241vS	708209					5uL ABC	
QC3241vS	708210					10uL ABC	
QC3241vS	708211					30uL	
P-BFB	708212	1		OK		0731	
QC3241v	708213	5ml					
H5672VS ✓	708214	5g/5ml				5pl ABC	
H5672V ✓	708215	5g/5ml					
H5674V ✓	708216	5g/5ml					
H5674VR ✓	708217	5g/5ml					
H5676V	708218	5g/5ml					
H5673V ✓	708219	0.1g/5ml				4000 NG 7 Wpm	
H5671V ✓	708220	0.1g/5ml					
H5675V ✓	708221	0.1g/5ml					
H5671V ✓	708222	1.0g/5ml					
H5671V ✓	708223	5g/5ml				Low TSTD	
H5671V ✓	708224	5g/5ml					
					108		

TSR 8-84

EXTRACTION LOG

QC Batch # 2994

Analysis: PP/PCB (GC)

Matrix: SOIL

Turnaround: NORM

Date: 5/4/85

Extraction Method:

- sep funnel
- continuous
- soxhlet ✓
- other

Sample Number	Log Line	Sample weight (g.)	Extract Vol. (ml) PCB		Comments
H5671	9303	2.12	=10.0		
H5672		2.01	=10.0		
H5673		2.35	=10.0		
H5674		2.01	=10.0		
H5675		2.20	=10.0		
H5676	✓	2.19	=10.0		
QC 2994		—	10.0		
H5676 S		2.21	=10.0		
H5674 R		2.18	10.0		

COMMENTS FOR EXTRACT.:
N.J. D.E.P.: HOLDING TIME CRITICAL
SAMPLES ON @ 1:00 pm 5/4/85

QC2994 and H5674 1.0ml whole volume cleaned & brought up to 10.ml, final volume 1 aliquot packaged
All others after cleanup brought up to 10.0 & 1.0ml of this total volume
H5674 sample strange

COMMENTS FOR GC/MS:
was cleaned & brought down to 1.0ml final volume which is equivalent to 10.0ML.

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
AROCHLOR 1260	2.0	10 ug/ml	10,529

SURROGATE Amt. (ml)	Conc.	LOT #

Set-up: [illegible] 5/4/85
Conc.: LOUISE ANNUNZIATO 5/6/85
UPD/Supervisor: [illegible] 5/4/85
Spike/surr. verified: [illegible] 5/6/85

EXTRACTION LOG

Sample Number	Log Lot	Sample weight (g.)	Extract Vol. (ml) BNA		Comments pH
H5671	9303	3.00	5.0		7.6
H5672	↓	3.05	10.0		6.8
H5673	↓	3.15	10.0		7.0
H5674	↓	3.02	1.0		7.1
H5675	↓	3.06	10.0		8.7
H5676	↓	3.04	1.0		7.6
H4512	9114	3.04	10.0		6.5
H4686	9127	3.02	10.0		2.6
H4687	↓	3.01	10.0		2.2
H4514	9114	3.05	10.0		5.1
H4515	↓	3.03	1.0		4.5
QC 3025		3.04	1.0		
H4515 S		3.02	1.0		
H5674 R		3.01	~~10.0~~	1.0 (7m)	

QC Batch # 3025

Analysis: PP/ORG

PP/ACID (REPEATS)

Matrix: SOIL

Turnaround: NORM

Date: 5/12/85

Extraction Method:

sep funnel

continuous

soxhlet

other sonicator

COMMENTS FOR EXTRACT.:
NJ DEP: Holding Times Critical

Samples were too concentrated at low level, all sample to be reextracted at medium level.
Dry sample
Use 3 g sample weight
Adjust to neutral pH (5–9) if necessary
Extract x3 w/ DCM/ACETONE
F.V. = 1.0 ml.

COMMENTS FOR GC/MS:
Samples with a pH outside of the range 5.0 to 9.0 were adjusted to a neutral pH

FRACTION	SPIKE Amt. (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	10,499
ACID	1.0	100 ug/ml	10,523
Semi-Voa			110

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN @ 50 ug/ml ACID @ 100 ug/ml	10,531-

Set-up: [signature] 5/12/85 UPD/Supervisor: Karen Allerton 5/13/85

Spike/surr verified: [signature] 5/13/85

EXTRACTION LOG

QC Batch # 2997

REVISED 5/13/85

Analysis: PP/ORG

Note: PP/ACID ONLY: H4071, H4683, H4656, H4687

Matrix: SOIL

Turnaround:

Date: 5/4/85

Extraction Method:

Sep funnel

continuous

soxhlet ✓

other sonicator

Repeats in green

Sample No.	Log Book	Sample weight (g.)	Extract Vol. (ml) BNA		Comments pH
H5671	9303	30.25	*		5.2
H5672	↓	30.29	*		6.8
H5673	↓	30.66	*		6.6
H5674	↓	30.16	*		6.8
H5675	↓	30.12	*		8.8
H5676	↓	30.36	10.0ml		6.2
H4071	8986	30.23	4.0ml		5.4
H4512	9114	30.93	*		5.0
H4683	9127	30.12	1.0ml		4.6
H4686	↓	30.27	*		2.8
H4687	↓	30.60	*		3.0
H4513	9114	30.12	4.0ml		5.8
H4514	↓	30.47	*		6.0
4515	↓	30.53	*		4.4
H4516	↓	30.26	1.0ml		4.6
H4071-R	—	30.06	4.0		
QC 2997		30.02	1.0ml		
H5676 S		30.16	10.0ml		
* H4683 R		30.14	—		
* Concentrating tube broken on water bath					

COMMENTS FOR EXTRACT.:

NJDep: Holding Times critical!

check pH: a few grams in H_2O 1:1. take pH w/ electrode. Advise if not neutral

These are to be run neutral pH only. Samples should be dried before weighing. Only 1 fraction. Final volume = 1ml

COMMENTS FOR GC/MS:

Samples with pH out side the range of 5-9 were adjusted to a neutral pH. Final extracts ranged from 10-20ml and were heavily blackened and would need to be diluted at least x10 by GC/MS.

* These sample to be reextracted at medium level

FRACTION	SPIKE Amt. (ml)	Conc.	Lot #
B/N	1.0	100 ug/ml	10,499
ACID	1.0	100 ug/ml	10,523
SEMI-VOA			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	B/N @ 200 ug/ml	10,551
	ACID @ 100 ug/ml	

Set-up: [signature] 5/4/85 Frank Wagner

Conc.: [signature]

Supervisor: S McArthur 5/12/85

Spike/surr. verified: [signature] 5/4/85

MAY 10, 1985 13:26
SEQUENCE: SCOND ON JAN 15
CHANNEL 2

SUBSEQUENCE 1

METHOD
PCBB2

DIALO-PRO PARAM-FILE
/N

WSHS AMPS STOP
5, 5. 1

ISO POST-BTL# PRE-WSHS
NO , 0, 1

John Strain 5/10/85
John Strain 5/15/85

SAMPLES

	SAMPLE-NAME	BTL#	PROC-FILE	RAW-FILE	%DIL-F	STD-AMT	SMP-AMT
1	AR1260-5.0 ,	1,	RJ0522:YI,	RJ0522:YI,	100.00,	1.0000,	1.0000
2	AR1260-1.0 ,	2,	RJ0523:YI,	RJ0523:YI,	100.00,	1.0000,	1.0000
3	AR1221-5.0 ,	3,	RJ0524:YI,	RJ0524:YI,	100.00,	1.0000,	1.0000
4	H5674 ,	4,	H5674K:YI,	H5674L:YI,	100.00,	1.0000,	1.0000
5	H5674R ,	5,	RJ0525:YI,	RJ0525:YI,	100.00,	1.0000,	1.0000
6	AR1221-1.0 ,	6,	RJ0526:YI,	RJ0526:YI,	100.00,	1.0000,	1.0000
7	AR1232-1.0 ,	7,	RJ0527:YI,	RJ0527:YI,	100.00,	1.0000,	1.0000
8	H5671 ,	8,	H5671K:YI,	H5671L:YI,	100.00,	1.0000,	1.0000
9	AR1232-5.0 ,	9,	RJ0528:YI,	RJ0528:YI,	100.00,	1.0000,	1.0000
10	H5672 1:25 ,	10,	H5672K:YI,	H5672L:YI,	100.00,	1.0000,	1.0000
11	AR1254-1.0 ,	11,	RJ0529:YI,	RJ0529 YI,	100.00,	1.0000,	1.0000
12	H5673 1:10 ,	12,	H5673K:YI,	H5673L:YI,	100.00,	1.0000,	1.0000
13	H5675 1:11 ,	13,	H5675K:YI,	H5675L YI,	100.00,	1.0000,	1.0000
14	AR1248-1.0 ,	14,	RJ0530:YI,	RJ0530:YI,	100.00,	1.0000,	1.0000
15	AR1242-1.0 ,	15,	RJ0531:YI,	RJ0531:YI,	100.00,	1.0000,	1.0000
16	AR1016-1.0 ,	16,	RJ0532:YI,	RJ0532 YI,	100.00,	1.0000,	1.0000
17	AR1260-10.0 ,	17,	RJ0533:YI,	RJ0533:YI,	100.00,	1.0000,	1.0000
18	/E						

KB

[illegible] 5/14/85

John Strain 5/16/85

QC 3003

QC 2995

1:10

1:10

1:50

1:10

1:10

1:100

1:100

1:100

1:100

ETC TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s) H5671 to H5676

Send bill to: John Hamilton
Send report to: John Hamilton

ETC Corporation
284 Raritan Center Pkw.
Edison, NJ 08837
(201) 225-5600

Date Data Required: 5/16/85
If deadline cannot be met, contact John Hamilton immediately.

Please perform the analyses requested below:

____ Color
____ Conductance, Specific
____ Odor
____ pH
____ Turbidity
____ Total Solids
____ Total Suspended Solids
____ Total Dissolved Solids
____ Total Volatile Solids
____ Gross Alpha and Gross Beta*
____ Radium 226 if Gross Alpha exceeds 5 pCi/l
____ Radium 228 if Radium 226 exceeds 3 pCi/l

____ Coliform, Total
____ Coliform, Fecal
____ Biological Oxygen Demand (5 day, 20 degree C)
____ Chemical Oxygen Demand (COD)
____ Oil & Grease (Gravimetric)
____ Petroleum Hydrocarbons (Infrared)
____ Organic Carbon, Total (TOC)
X Phenols, Total (as Phenolics)
____ Methylene Blue Active Substances (MBAS) (Foaming Agents, Surfactants)

* If Gross Alpha exceeds 5 pCi/l, John Hamitlon must be notified immediately.

____ Acidity
____ Alkalinity
____ Bromide
____ Chloride
____ Chlorine, Total Residual
X Cyanide, Total
____ Ammonia (as N)
____ Total Kjeldahl Nitrogen (TKN)
____ Nitrate

____ Nitrate-Nitrite
____ Nitrite
____ Oxygen, Dissolved
____ Phosphorous, Ortho Phosphate
____ Silica, Dissolved
____ Sulfate (as SO_4)
____ Sulfide (as S)
____ Sulfite (as SO_3)
____ Fluoride

OTHERS

Soil Contract X-029

Sample(s) Relinquished by: Tracy Duval

Date 5/6/85 Time 3:45

Sample(s) Received by: Susan J. Lobe

Date 5/6/85 Time 3:45

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT Reg V2
FRACTION Acid
INSTRUMENT F
TUNE FILE HTF001
SEQUENCE FILE WNCH
METHOD FILE AcidF
IDFILE FACID
ANALYST(S) Wen-Wen Chi
SUPERVISOR [illegible]
BATCH #'s 6A3017

STANDARD	CONC PPM	LOT NO.	LOT VOL
Calib III (Acid)	200	10526	
II	100	10527	
I	60	10528	
HSLPP/Acid	200	9603	
"	100	9604	
"	60	9605	
Calib III (BN)	200		
II "	100		
I "	60		

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ		DATE	5/21/85
WIP		BY	W.W. Acid

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
STNG DFTPP ✓	>F9520 X		21			5=00.	
Calib III	>F9521 X		22				
II	>F9522 X		23				
I	>F9523 X		24				
HSLPP / Acid 200	>F9524		25				
HSLPP / Acid 100	>F9525		26				
" 60	>F9526		27				
STNG DFTPP ✓	>F9527 X		28			8:41	
H2986AS	>F9528		29				
GC3017AS	>F9529		30				
GC3017A	>F9530		31				
~~H6352A~~	~~>F9531~~		Cancel				Y
~~H6354A~~	~~>F9532~~						
H3877A	>F9533		34				
H2981A	>F9534		35				✓
H2982A	>F9535		4				
H2984A	>F9536		5				
H2985A	>F9537		6				
H2986A	>F9538		7				
H2987A	>F9539		8				
H1642A	>F9540		9				
H2236A	>F9541		10				
H5476A	>F9542		11				
H1647A	>F9543		12				
H1648A	>F9544		13		115		

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT 1/2

FRACTION Acid BN

INSTRUMENT

TUNE FILE

SEQUENCE FILE

METHOD FILE

IDFILE

ANALYST(S)

SUPERVISOR

BATCH #'s

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
H1649A	7F9554		04				
H2983A	7F9556		05				
H2983AR	7F9567		06				
Calib III (B/N)	7F9548		7				
Calib II (B/N)	7F9549		8				
Calib I (B/N)	7F9550		9				
Calib II (Acid)	7F9551	A	10	X			
SONG DFTPP	7F9552	A	11				
GC3825 BNA	7F9553	A	12	X		✓	✓
H6515 BNAS	7F9554	A	130			–	
H5671 BNA	7F9555	A	14			✓	✓
H5675BNA	7F9556	A	15			✓	✓
H5676BNA	7F9557	A	16			✓	✓
H6514BNA	7F9558	A	17			✓	✓
H6512BNA	7F9559	A	18			✓	✓
H6686BNA	7F9560	A	19			✓	✓
H6687BNA	7F9561	A	20			✓	✓
~~H BNA~~ H5673 BNA	7F9562	A	21	1:2		✓	✓
H5674 BNAR	7F9563	A	22	1:2			
~~Calib~~ SONG DFTPP	7F9564		23				
Calib II (BN)	7F9565		24				
~~Calib~~	~~7F9566~~		~~25~~				
SONG DFTPP	7F9567		26				
GC2997 BNA	7F9568		27				X
H5676 BNAS	7F9569		28		116		

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT ___
FRACTION BNA
INSTRUMENT ~~[illegible]~~ F004
TUNE FILE MTF001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) ___
SUPERVISOR [illegible]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
RCO		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
H U683 BNA ✓	7F9570 ✓		29				Y
H U516 BNA	7F9571 ✓		30				
H U513 BNA ✓	7F9572 ✓		31				
~~H 5676 BNA~~ ✓	7F9573 ✓		32			✓	✓
~~H U071 BNA~~	~~[illegible]~~		~~[illegible]~~				
~~H U071 BNA B~~			~~[illegible]~~				
H 5672 BNA ✓	7F9574 ✓		33	1:2		✓	✓
H 5673 BNA ✓	7F9575 ✓		34	1:2			
H U515 BNA ✓	7F9576		35	1:2			✓
H U071 BNA	7F9577		36				✓
H U071 BNA 2	7F9578		37				

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT 1/2

FRACTION Acid/BN

INSTRUMENT

TUNE FILE

SEQUENCE FILE

METHOD FILE

IDFILE

ANALYST(S)

SUPERVISOR

BATCH #'s

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
H1649A	7F9546		04				
H2983A	7F9546		05				
H2983AR	7F9546		06				
Calib III (B/N)	7F9548		7				
Calib II (B/N)	7F9549		8				
Calib I (B/N)	7F9550		9				
Calib II (Acid)	7F9551		10	X			
50NG DFTPP	7F9552		11				
QC3825 BNA	7F9553		12	X		✓	✓
H6515 BNAS	7F9554		130			–	
H5671 BNA	7F9555		14			✓	✓
H5675BNA	7F9556		15			✓	✓
H5676BNA	7F9557		16			✓	✓
H5514BNA	7F9558		17			✓	✓
H6512BNA	7F9559		18			✓	✓
H6686BNA	7F9560		19			✓	✓
H6687BNA	7F9561		20			✓	✓
H5674BNA	7F9562		21	1:2		✓	✓
H5674 BNAR	7F9563		22	1:2			
~~Calib~~ 50NG DFTPP	7F9564		23				
Calib II (BN)	7F9565		24				
~~Calib I (BN)~~	~~7F9566~~		~~25~~				
50NG DFTPP	7F9567		26				
QC2997 BNA	7F9568		27				✓
H5676 BNAS	7F9569		28		118		

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT ___
FRACTION BNA
INSTRUMENT ~~[illegible]~~ F001
TUNE FILE NTF001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) ___
SUPERVISOR [illegible]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CS#S STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
H U683 BNA ✓	7F9570 ✓		29				Y
H U516 BNA	7F9571 ✓		30				
H U513 BNA ✓	7F9572 ✓		31				
~~H 5676 BNA~~ ✓	7F9573 ✓		32			✓	✓
~~H U071 BNA~~	~~[illegible]~~		~~[illegible]~~				
~~H U071 BNA B~~			~~[illegible]~~				
H 5672 BNA ✓	7F9574 ✓		33	1:2		✓	✓
H 5673 BNA ✓	7F9575 ✓		34	1:2			
H U515 BNA ✓	7F9576		35	1:2			✓
H U071 BNA	7F9577		36				✓
H U071 BNA	7F9578		37				

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

LOG LINK 9303

Metals Analysis Custody Log

Samples H5671-H5676

	Chemist	Date
Hg Prep	R Walla	6/3/85
AA/ICAP Prep	Matt Cordova	5/23/85

Lab Supervisor Lidya Wikanov date 6/5/85