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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	100.0	ND	ND	ND	800	82	ND	800	163[B]
2V	Acrylonitrile	ND	100.0	ND	ND	ND	80	98	ND	80	184[B]
3V	Benzene	45.8	4.4	ND	ND	ND	18	99	46	18	21[C]
4V	bis(Chloromethyl)ether	ND	10.0	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.7	ND	ND	ND	18	94	ND	18	69
6V	Carbon tetrachloride	ND	2.8	ND	ND	ND	18	100	ND	18	94
7V	Chlorobenzene	ND	6.0	ND	ND	ND	18	101	ND	18	109
8V	Chlorodibromomethane	ND	3.1	ND	ND	ND	18	95	ND	18	87
9V	Chloroethane	ND	10.0	ND	ND	ND	18	100	ND	18	154[B]
10V	2-Chloroethylvinyl ether	ND	10.0	ND	ND	ND	18	119	ND	18	102
11V	Chloroform	ND	1.6	ND	ND	ND	18	104	ND	18	132
12V	Dichlorobromomethane	ND	2.2	ND	ND	ND	18	101	ND	18	101
13V	Dichlorodifluoromethane	ND	10.0	ND	ND	ND	18	106	ND	18	145
14V	1,1-Dichloroethane	20.6	4.7	ND	ND	ND	18	101	21	18	92
15V	1,2-Dichloroethane	ND	2.8	ND	ND	ND	18	103	ND	18	137
16V	1,1-Dichloroethylene	ND	2.8	ND	ND	ND	18	100	ND	18	129
17V	1,2-Dichloropropane	ND	6.0	ND	ND	ND	18	95	ND	18	125
18V	cis-1,3-Dichloropropylene	ND	5.0	ND	ND	ND	18	94	ND	18	95
19V	Ethylbenzene	14.2	7.2	ND	ND	BMDL	18	99	14	18	37[B]
20V	Methyl bromide	ND	10.0	ND	ND	ND	18	101	ND	18	118
21V	Methyl chloride	ND	10.0	ND	ND	ND	18	102	ND	18	156[B]
22V	Methylene chloride	17.8	2.8	24	1	9	18	76	18	18	98
23V	1,1,2,2-Tetrachloroethane	ND	6.9	ND	ND	ND	18	99	ND	18	125
24V	Tetrachloroethylene	18.8	4.1	ND	ND	ND	18	100	19	18	43
25V	Toluene	94.9	6.0	ND	ND	ND	18	102	95	18	0[C]
26V	1,2-Trans-dichloroethylene	87.0	1.6	ND	ND	ND	18	100	87	18	0[C]
27V	1,1,1-Trichloroethane	13.4	3.8	ND	ND	ND	18	111	13	18	83
28V	1,1,2-Trichloroethane	ND	5.0	ND	ND	ND	18	98	ND	18	109
29V	Trichloroethylene	13.3	1.9	ND	ND	3	18	85	13	18	51
30V	Trichlorofluoromethane	ND	10.0	5	3	ND	18	102	ND	18	124
31V	Vinyl chloride	BMDL	10.0	ND	ND	ND	18	103	3	18	149[B]
18V	trans-1,3-Dichloropropylene	ND	10.0	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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	21780.0	ND	ND	ND	0	-	ND	33333	74
2A	2,4-Dichlorophenol	ND	17820.0	ND	ND	ND	0	-	ND	33333	96
3A	2,4-Dimethylphenol	ND	17820.0	ND	ND	ND	0	-	ND	33333	82
4A	4,6-Dinitro-o-cresol	ND	158400	ND	ND	ND	0	-	ND	33333	34
5A	2,4-Dinitrophenol	ND	277200	ND	ND	ND	0	-	ND	33333	21
6A	2-Nitrophenol	ND	23760.0	ND	ND	ND	0	-	ND	33333	99
7A	4-Nitrophenol	ND	15840.0	ND	ND	ND	0	-	ND	33333	99
8A	p-Chloro-m-cresol	ND	19800.0	ND	ND	ND	0	-	ND	33333	90
9A	Pentachlorophenol	ND	23760.0	ND	ND	ND	0	-	ND	33333	91
10A	Phenol	ND	9900.0	ND	ND	ND	0	-	ND	33333	83
11A	2,4,6-Trichlorophenol	ND	17820.0	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.

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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	BMDL	12540	ND	ND	ND	0	-	ND	33333	110
2B	Acenaphthylene	62500	23100	ND	ND	ND	0	-	ND	33333	114
3B	Anthracene	22500	12540	ND	ND	ND	0	-	ND	33333	112
4B	Benzidine	ND	290400	ND	ND	ND	0	-	ND	33333	0
5B	Benzo(a)anthracene	BMDL	51480	ND	ND	ND	0	-	ND	33333	118
6B	Benzo(a)pyrene	ND	16500	ND	ND	ND	0	-	ND	33333	99
7B	Benzo(b)fluoroanthene	ND	31680	ND	ND	ND	0	-	ND	33333	107
8B	Benzo(ghi)perylene	ND	27060	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	16500	ND	ND	ND	0	-	ND	33333	77
10B	bis(2-Chloroethoxy)methane	ND	34980	ND	ND	ND	0	-	ND	33333	101
11B	bis(2-Chloroethyl) ether	ND	37620	ND	ND	ND	0	-	ND	33333	97
12B	bis(2-Chloroisopropyl)ether	ND	37620	ND	ND	ND	0	-	ND	33333	96
13B	bis(2-Ethylhexyl)phthalate	BMDL	66000	ND	ND	ND	0	-	ND	33333	98
14B	4-Bromophenyl phenyl ether	ND	12540	ND	ND	ND	0	-	ND	33333	108
15B	Butyl benzyl phthalate	ND	66000	ND	ND	ND	0	-	ND	33333	107
16B	2-Chloronaphthalene	ND	12540	ND	ND	ND	0	-	ND	33333	114
17B	4-Chlorophenyl phenyl ether	ND	27720	ND	ND	ND	0	-	ND	33333	109
18B	Chrysene	ND	16500	ND	ND	ND	0	-	ND	33333	92
19B	Dibenzo(a,h)anthracene	ND	16500	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	12540	ND	ND	ND	0	-	ND	33333	91
21B	1,3-Dichlorobenzene	ND	12540	ND	ND	ND	0	-	ND	33333	89
22B	1,4-Dichlorobenzene	ND	29040	ND	ND	ND	0	-	ND	33333	87
23B	3,3'-Dichlorobenzidine	ND	108900	ND	ND	ND	0	-	ND	33333	0
24B	Diethyl phthalate	ND	66000	ND	ND	ND	0	-	ND	33333	113
25B	Dimethyl phthalate	ND	66000	ND	ND	ND	0	-	ND	33333	110
26B	Di-n-butyl phthalate	ND	66000	ND	ND	ND	0	-	ND	33333	114
27B	2,4-Dinitrotoluene	ND	37620	ND	ND	ND	0	-	ND	33333	111
28B	2,6-Dinitrotoluene	ND	12540	ND	ND	ND	0	-	ND	33333	109
29B	Di-n-octyl phthalate	ND	66000	ND	ND	ND	0	-	ND	33333	105
30B	1,2-Diphenylhydrazine	ND	66000	ND	ND	ND	0	-	ND	33333	114
31B	Fluoranthene	55100	14520	ND	ND	ND	0	-	ND	33333	128
32B	Fluorene	ND	12540	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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	12540	ND	ND	ND	0	-	ND	33333	80
34B	Hexachlorobutadiene	ND	5940	ND	ND	ND	0	-	ND	33333	96
35B	Hexachlorocyclopentadiene	ND	10.0	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	10560	ND	ND	ND	0	-	ND	33333	93
37B	Indeno(1,2,3-c,d)pyrene	ND	24420	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	14520	ND	ND	ND	0	-	ND	33333	102
39B	Naphthalene	ND	10560	ND	ND	ND	0	-	ND	33333	105
40B	Nitrobenzene	ND	12540	ND	ND	ND	0	-	ND	33333	92
41B	N-Nitrosodimethylamine	ND	66000	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	66000	ND	ND	ND	0	-	ND	33333	100
43B	N-Nitrosodiphenylamine	ND	12540	ND	ND	ND	0	-	ND	33333	116
44B	Phenanthrene	BMDL	35640	ND	ND	ND	0	-	ND	33333	115
45B	Pyrene	178000	12540	ND	ND	ND	0	-	ND	33333	131
46B	1,2,4-Trichlorobenzene	122034	12540	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.

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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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	23000	ND	ND	ND	0	-	ND	460	93
2P	Alpha-BHC	ND	23000	150	ND	ND	0	-	ND	460	84
3P	Beta-BHC	ND	23000	ND	ND	ND	0	-	ND	460	84
4P	Gamma-BHC	ND	23000	ND	ND	ND	0	-	ND	460	84
5P	Delta-BHC	ND	23000	ND	ND	ND	0	-	ND	460	100
6P	Chlordane	ND	230000	ND	ND	ND	0	-	ND	5000	81
7P	4,4'-DDT	ND	23000	ND	ND	ND	0	-	ND	460	190[C]
8P	4,4'-DDE	ND	23000	ND	ND	ND	0	-	ND	460	110
9P	4,4'-DDD	ND	23000	2400	ND	ND	0	-	ND	460	130
10P	Dieldrin	ND	23000	ND	ND	ND	0	-	ND	460	110
11P	Endosulfan I	ND	23000	ND	ND	ND	0	-	ND	460	100
12P	Endosulfan II	ND	23000	ND	ND	ND	0	-	ND	460	110
13P	Endosulfan sulfate	ND	23000	ND	180	ND	0	-	ND	460	110
14P	Endrin	ND	23000	ND	ND	ND	0	-	ND	460	140
15P	Endrin aldehyde	ND	23000	600	ND	ND	0	-	ND	460	73
16P	Heptachlor	ND	23000	ND	ND	ND	0	-	ND	460	83
17P	Heptachlor epoxide	ND	23000	ND	ND	ND	0	-	ND	460	100
25P	Toxaphene	ND	230000	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.

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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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	1

NPDES Number	Compound		Results: Sample Concen.	Results: MDL
1M	Antimony	ug/kg	30000	9000
2M	Arsenic	mg/kg	7.2	1
3M	Beryllium	ug/kg	830	50
4M	Cadmium	ug/kg	11000	300
5M	Chromium	mg/kg	1900	2
6M	Copper	mg/kg	520	.8
7M	Lead	mg/kg	30000	5
8M	Mercury	mg/kg	7.5	.1
9M	Nickel	ug/kg	254000	1000
10M	Selenium	mg/kg	ND	1
11M	Silver	ug/kg	32000	500
12M	Thallium	mg/kg	ND	.5
13M	Zinc	mg/kg	4000	.6
14M	Cyanide, Total	ug/kg	1200	500
15M	Phenolics, Total	ug/kg	7200	100

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

June 7, 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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	1

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 Cyclohexane	330	13.6	84	110827	C_6H_{12}	13		
2 Cyclopentane, methyl	350	14.4	84	96377	C_6H_{12}	18		
3 Unknown	472	19.11	-	-	-	16		
4 Cyclohexane, methyl	479	19.4	98	108872	C_7H_{14}	4		
5 Unknown	532	21.5	-	-	-	63		
6 Unknown	562	22.6	-	-	-	85		
7 Unknown	600	24.1	-	-	-	194		
8 Unknown	627	25.2	-	-	-	29		
9 Unknown	641	25.7	-	-	-	91		
10 Unknown	659	26.4	-	-	-	170		
11 Unknown	673	26.9	-	-	-	133		
12 Unknown	690	27.6	-	-	-	96		
13 Unknown	703	28.1	-	-	-	114		
14 Unknown	731	29.2	-	-	-	173		
15 Unknown	771	30.8	-	-	-	247		

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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	1

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen ug/kg		
1 Unknown	23	3.06	-	-	-	231000		
2 Alkane	440	10.47	-	-	C_nH_{2n+2}	172000		
3 Alkane	515	11.81	-	-	C_nH_{2n+2}	139000		
4 Alkane	537	12.20	-	-	C_nH_{2n+2}	145000		
5 Alkane	594	13.21	-	-	C_nH_{2n+2}	191000		
6 Alkane	628	13.82	-	-	C_nH_{2n+2}	125000		
7 Alkane	753	16.04	-	-	C_nH_{2n+2}	204000		
8 Alkane	798	16.84	-	-	C_nH_{2n+2}	330000		
9 Alkane	878	18.27	-	-	C_nH_{2n+2}	277000		
10 Alkane	1082	21.91	-	-	C_nH_{2n+2}	125000		

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
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	770 [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.

June 7, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Soil- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H5672

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	117	50	160
Bromofluorobenzene	.250	111	50	160
1,2-Dichloroethane-D4	.250	140	50	160
ACID FRACTION				
Phenol-D5	100	56	20	140
2-Fluorophenol	100	80	20	140
2,4,6-Tribromophenol	100	58	10	140
BASE/NEUTRAL FRACTION **				
Nitrobenzene-D5	50	0	20	140
2-Fluorobiphenyl	50	0	20	140
Terphenyl-D14	50	0	20	150

* IFB EPA Control Limits.
** See Comments

H5672

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, the final volume of 1 ml. could not be achieved. In addition to achieving only a 10 ml. final volume. This sample was additionally diluted 1:2 . Due to these facts and the high levels of compounds present, surrogates had l ow and variable recoveries, and would most likely not improve upon re-extraction . Ms. Nancy Fox of NJDEP QA department was informed of these recoveries.

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

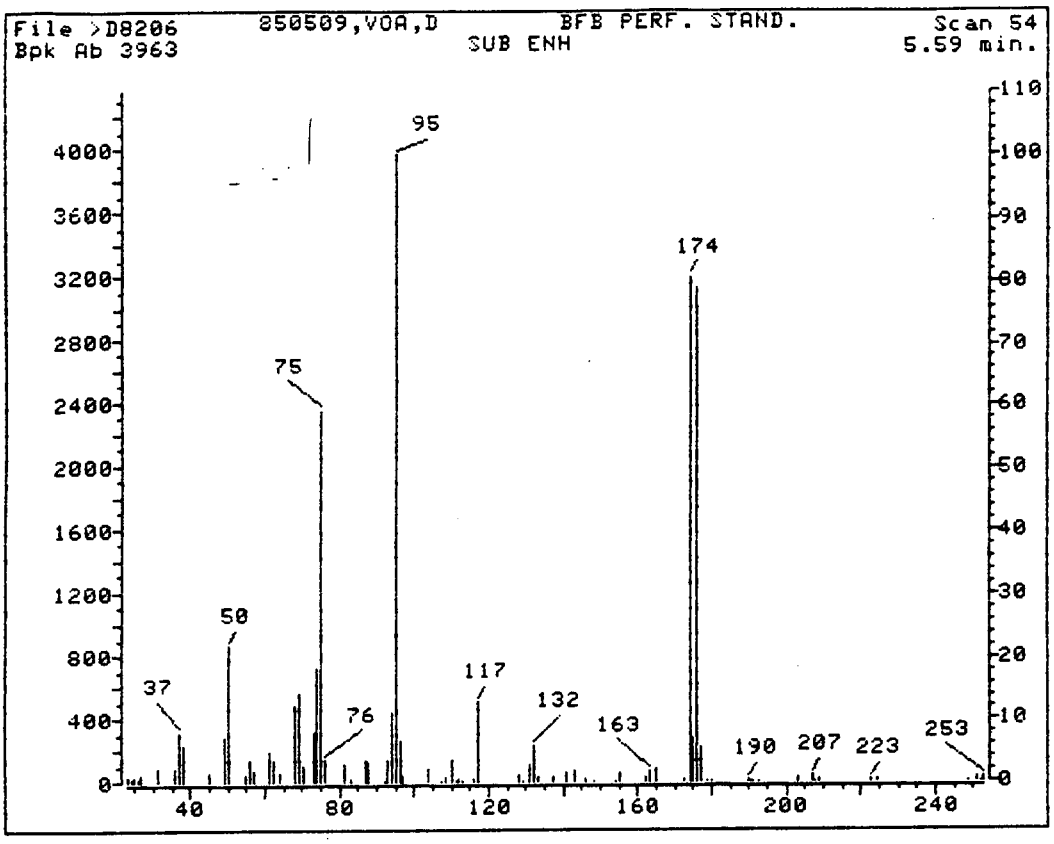


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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 Trant
Run No: >D8206 QC Batch: QV 3241
Spectrun No: 54 Samples: H5671 - H5678 6

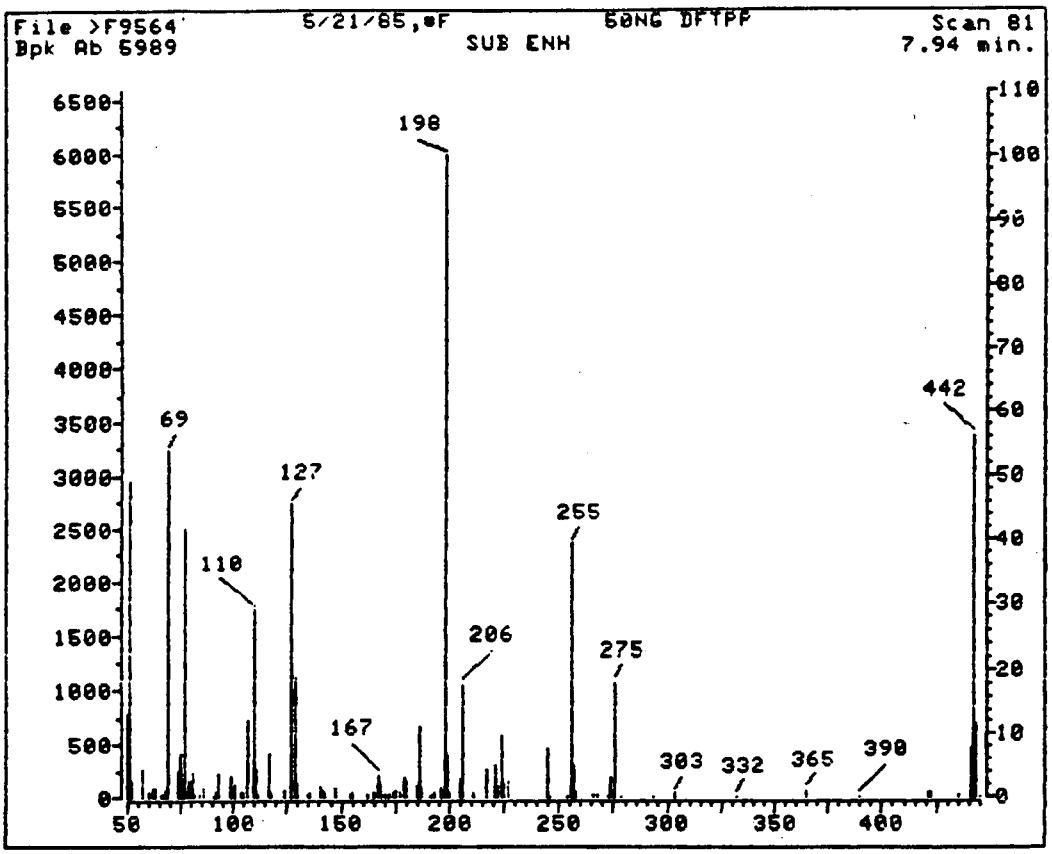


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.30	49.30	Ok
68	Less then 2% of mass 69	1.02	1.89	Ok
69	(reference only)	54.03	54.03	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	45.57	45.57	Ok
197	Less then 1% of mass 198	.86	.86	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.37	6.37	Ok
275	10-30% of mass 198	18.03	18.03	Ok
365	Greater then 1% of mass 198	1.16	1.16	Ok
441	Less then mass 443	7.91	69.71	Ok
442	Greater then 40% of mass 198	56.11	56.11	Ok
443	17-23% of mass 442	11.35	20.23	Ok

Injection Date: 05/22/85 Analyst: [illegible]
Injection Time: 06:47 Processor: [illegible]
Run No: >F9564 QC Batch: QA302S
Spectrun No: 81 Samples: H5672, H5673, H4515

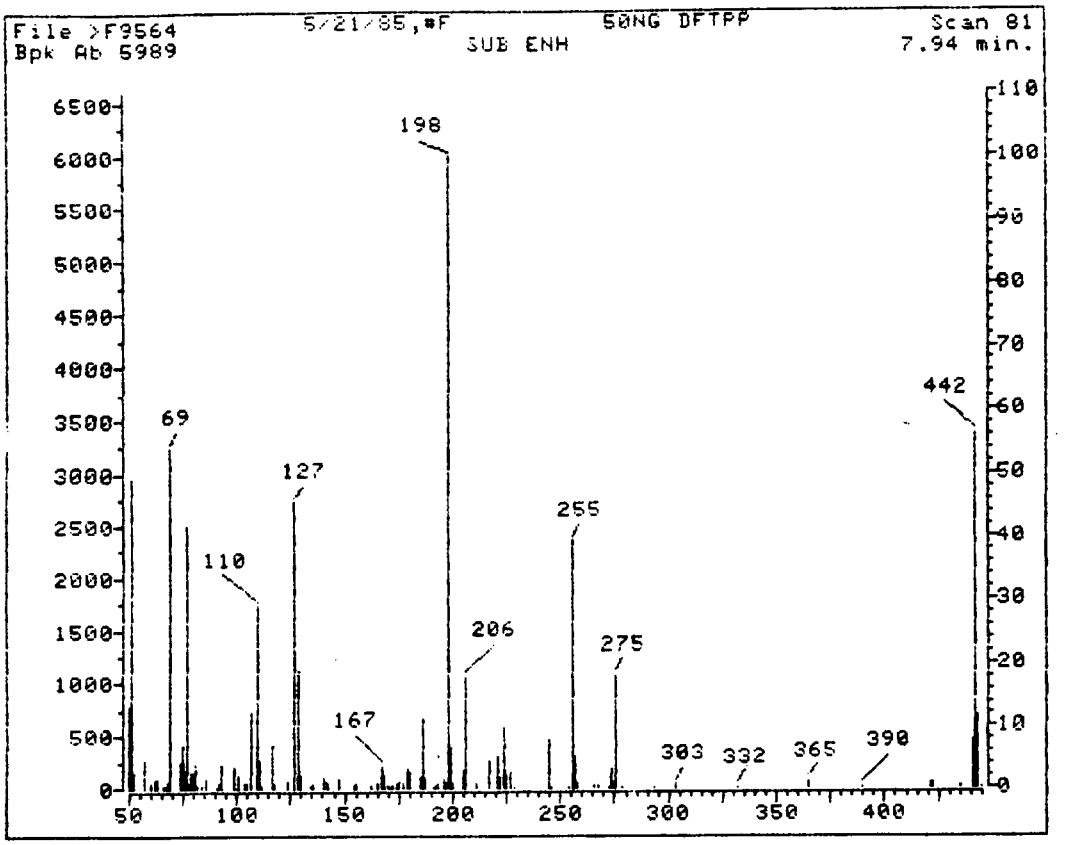


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.30	49.30	Ok
68	Less then 2% of mass 69	1.02	1.89	Ok
69	(reference only)	54.03	54.03	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	45.57	45.57	Ok
197	Less then 1% of mass 198	.86	.86	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	6.37	6.37	Ok
275	10-30% of mass 198	18.03	18.03	Ok
365	Greater then 1% of mass 198	1.16	1.16	Ok
441	Less then mass 443	7.91	69.71	Ok
442	Greater then 40% of mass 198	56.11	56.11	Ok
443	17-23% of mass 442	11.35	20.23	Ok

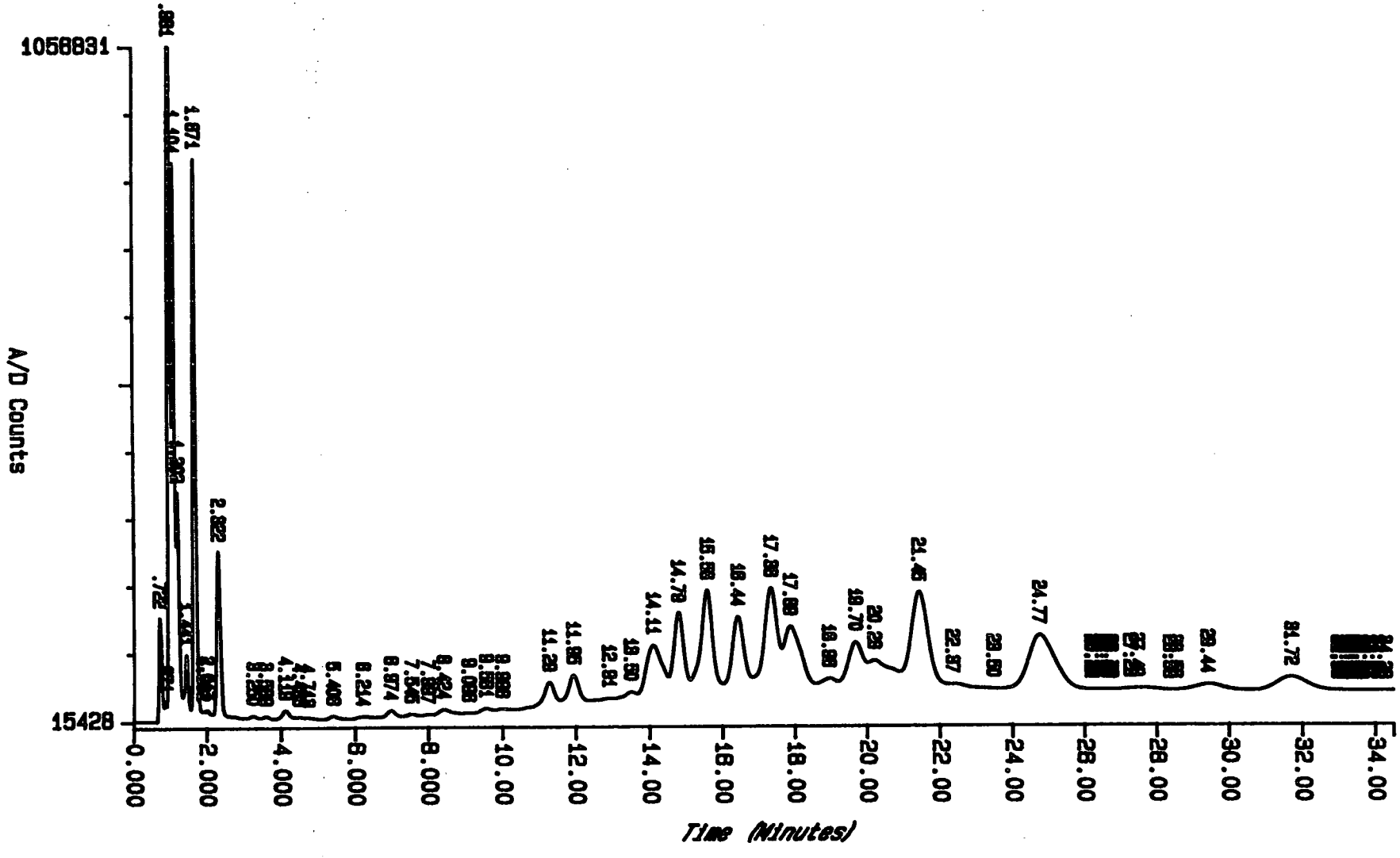
Injection Date: 05/22/85 Analyst: [illegible]
Injection Time: 06:47 Processor: [illegible]
Run No: >F9564 QC Batch: QB 3025
Spectrun No: 81 Samples: H5672, H5673, ~~H4515~~ H4515

Appendix A1

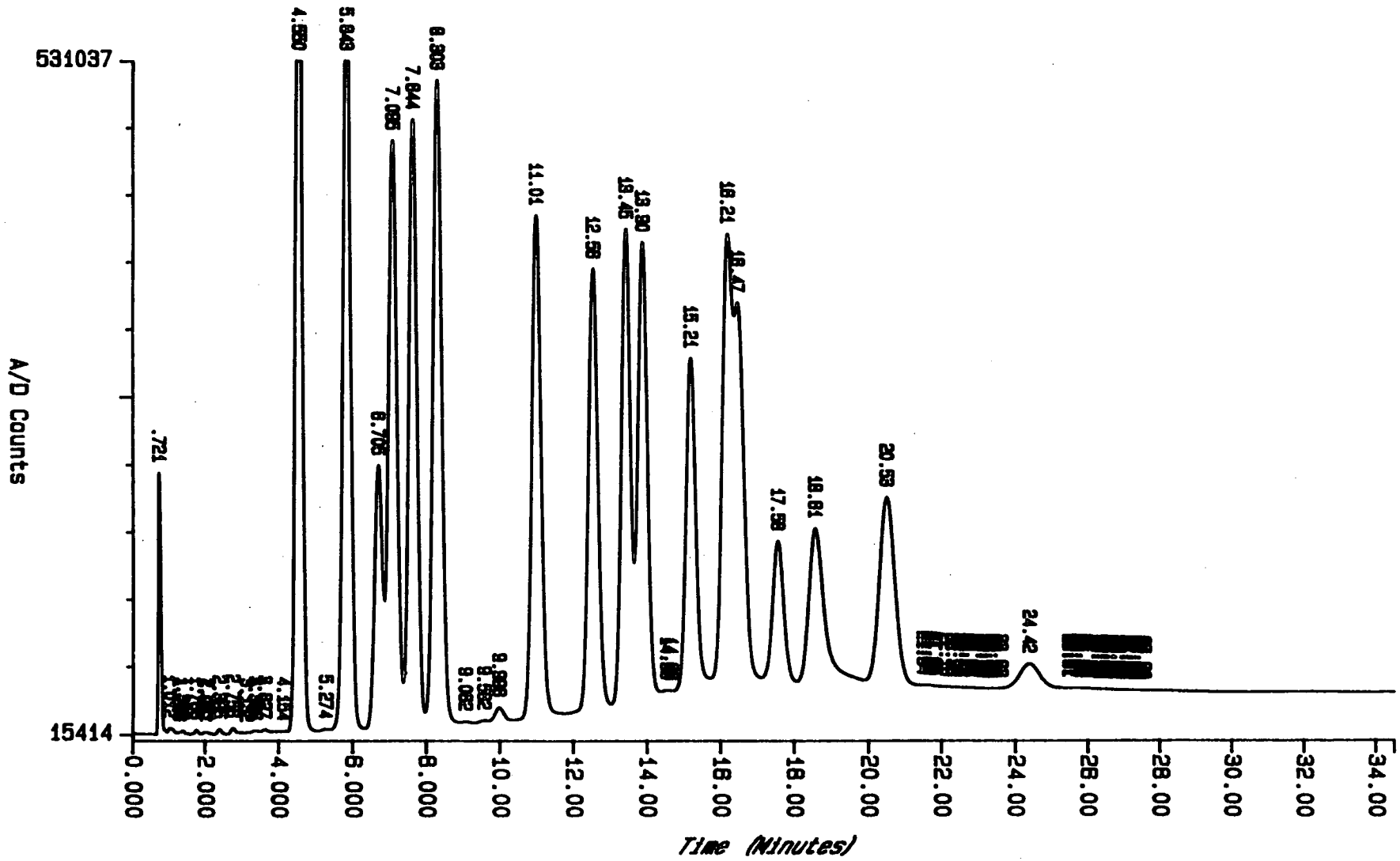
Gas Chromatographic Spectral Data for Quantitated Compounds

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

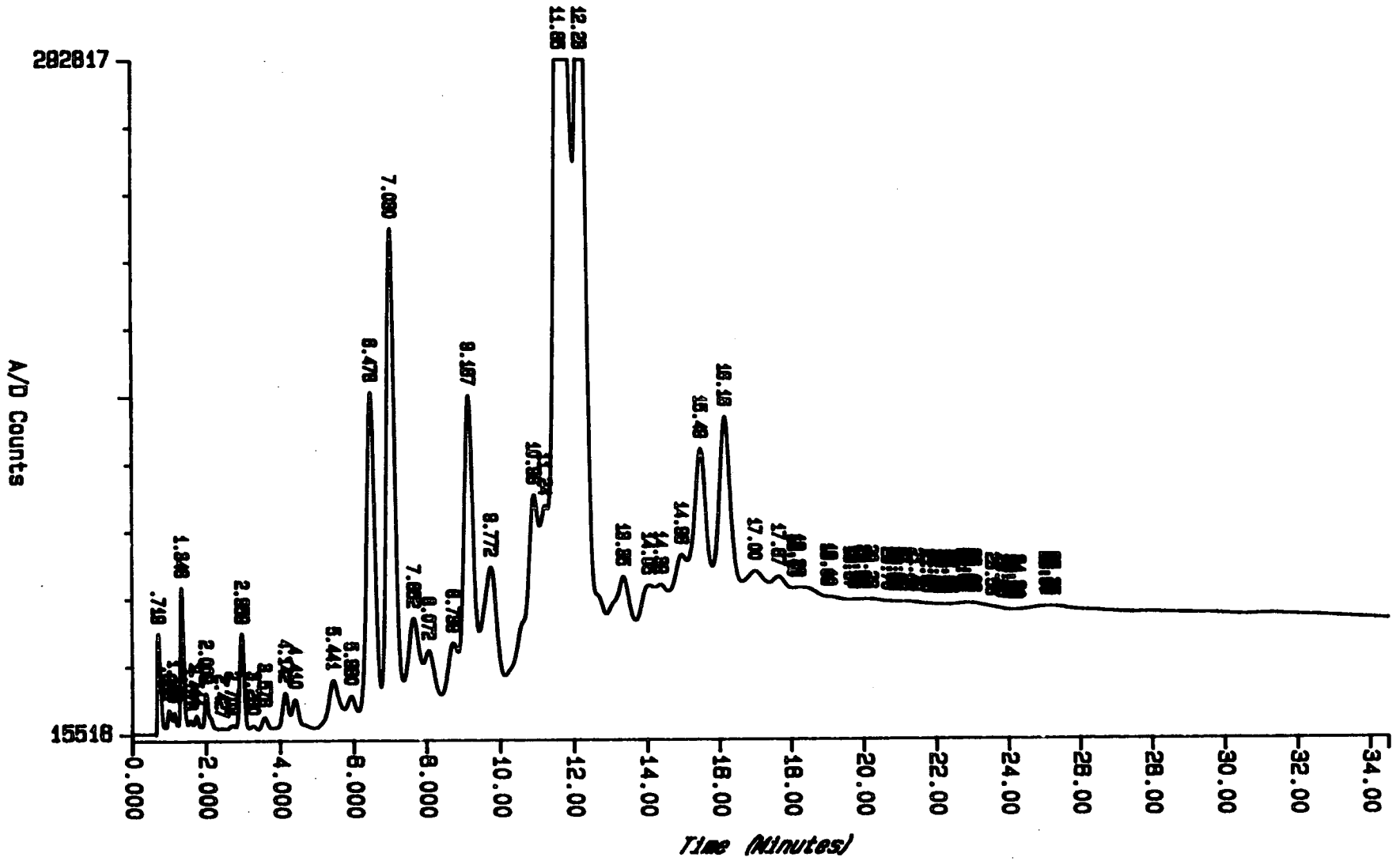
2) A reconstructed gas chromatogram for the appropriate standard compounds analyzed with the same GC under the same operating conditions.



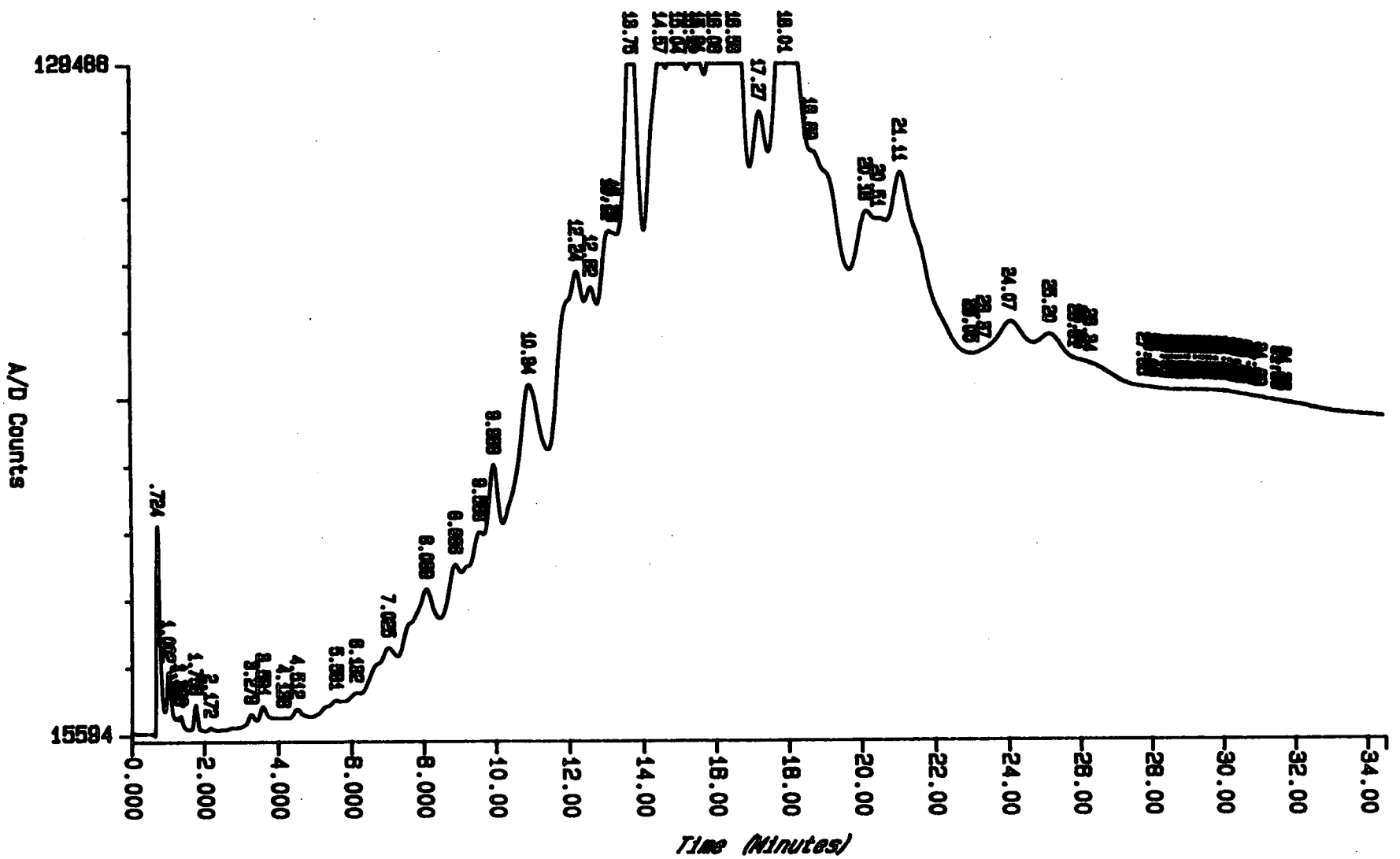
Sample: H5672 Injected at 11:46:50 ON MAY 15, 1985
Raw File: RK1084 Proc File: PK1084 Method: PPST2



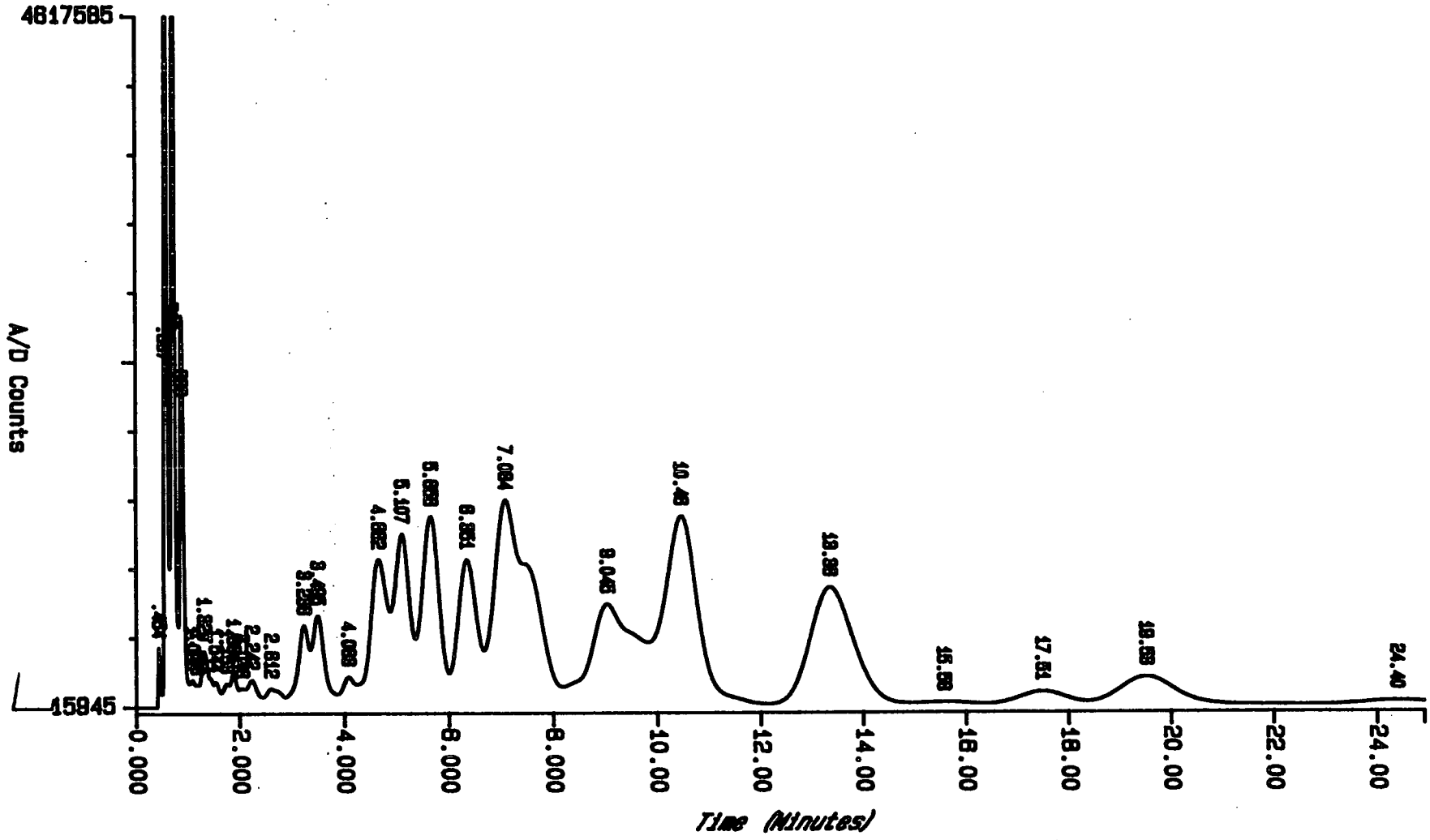
Sample: PPSTB Injected at 18:04:17 ON MAY 14, 1985
Raw File: RK1058 Proc File: PK1058 Method: PPST2



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

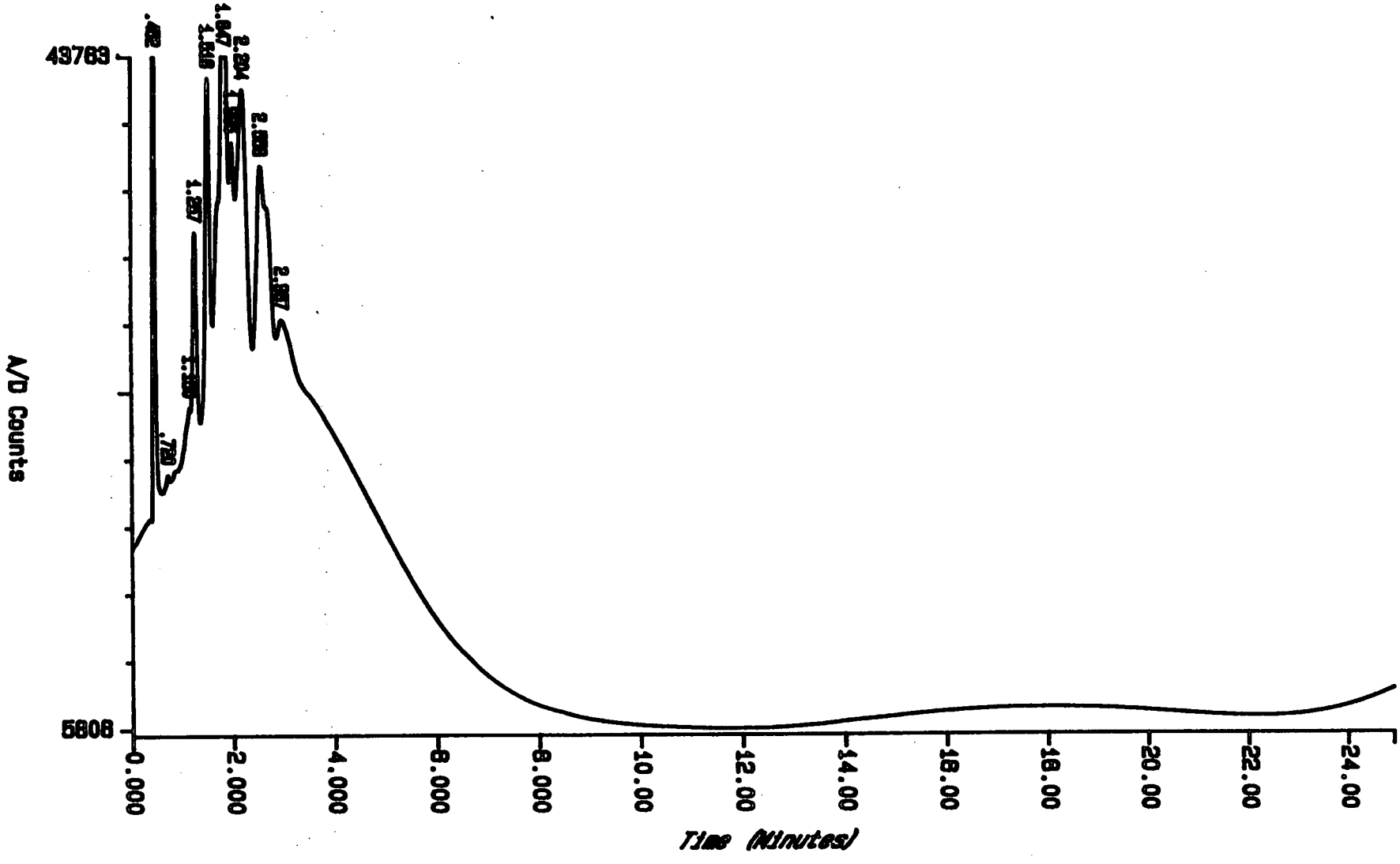


Sample: TOXB Injected at 22:07:30 ON MAY 14, 1985
Raw File: RK1064 Proc File: PK1064 Method: PPST2

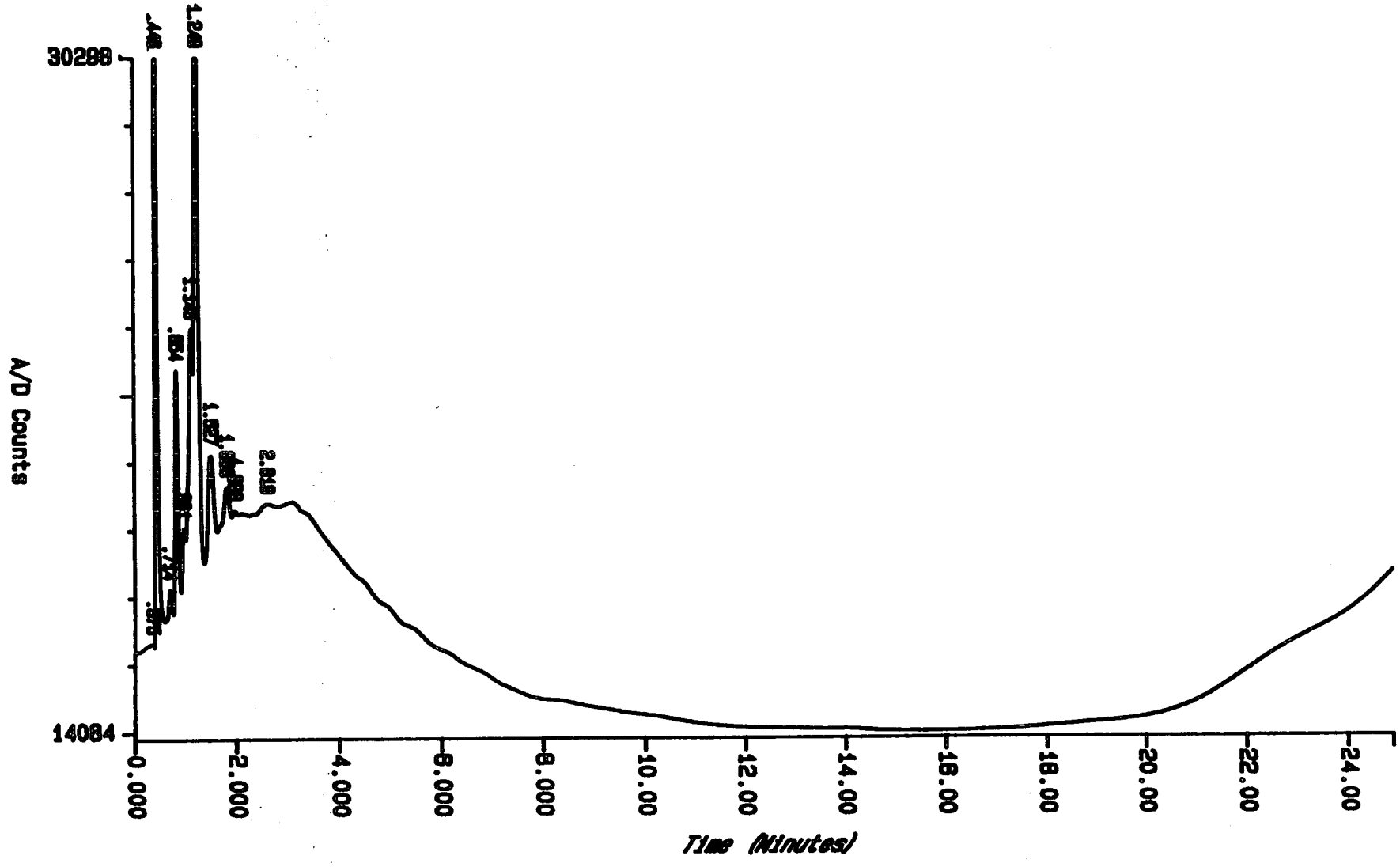


Sample: H5672 Injected at 21:56:16 ON MAY 7, 1985
Raw File: H5672H Proc File: H5672G Method: PCBB8

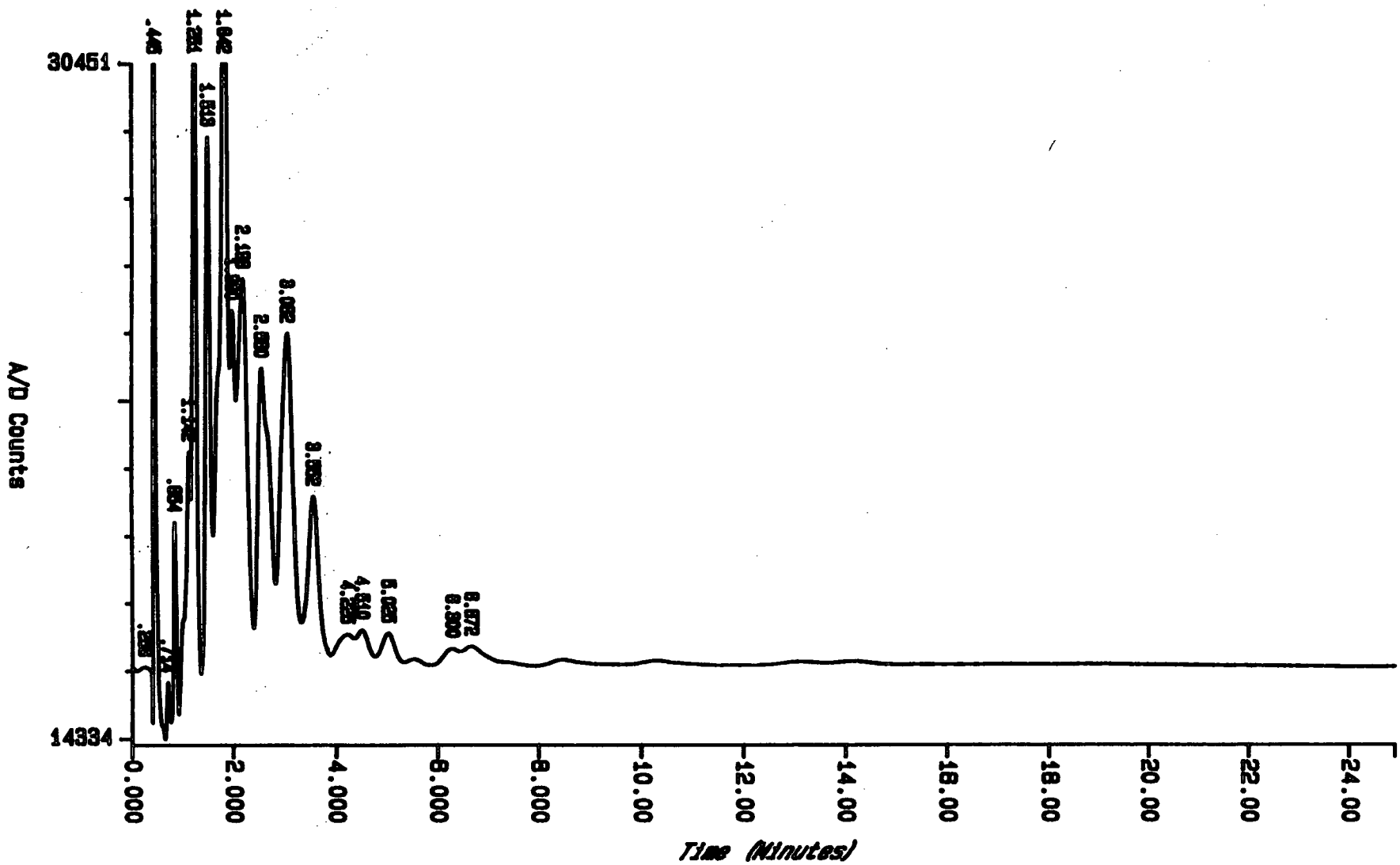
023



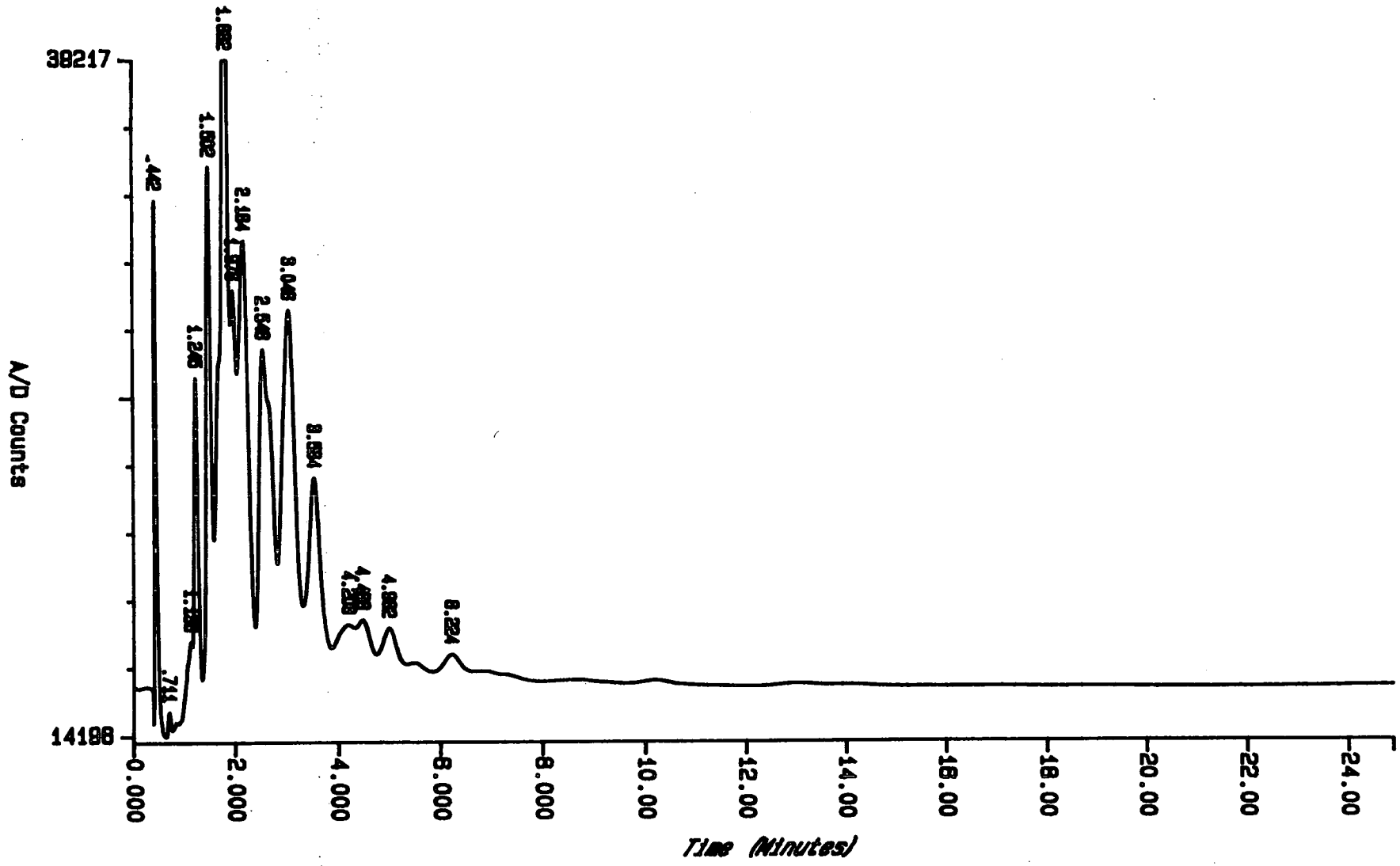
Sample: AR1016-1.0 Injected at 23:46:30 ON MAY 7, 1985
Raw File: RJ0484 Proc File: PJ0484 Method: PCBB8



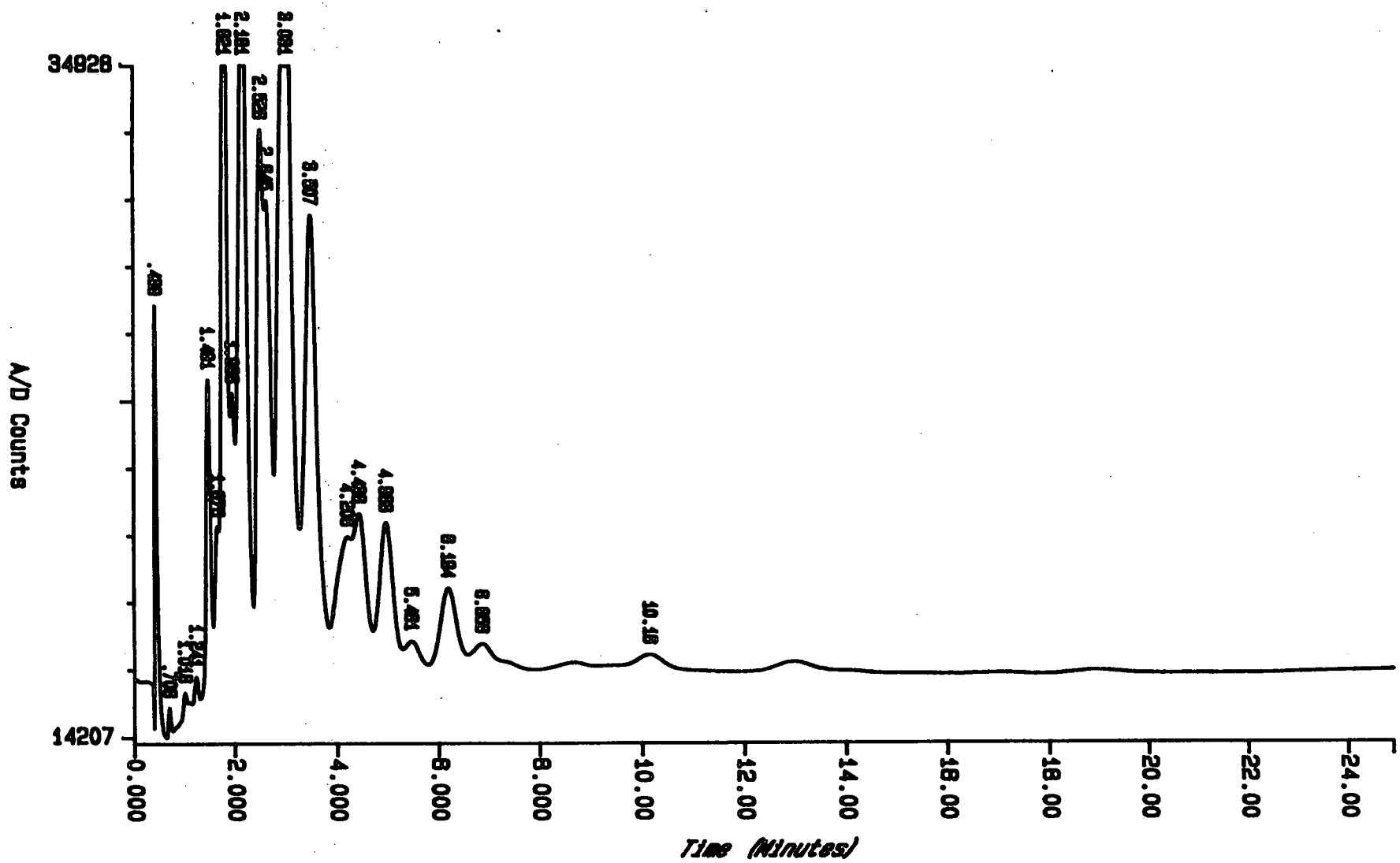
Sample: AR1221-1.0 Injected at 23:18:53 ON MAY 7, 1985
Raw File: RJ0483 Proc File: PJ0483 Method: PCBB8



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

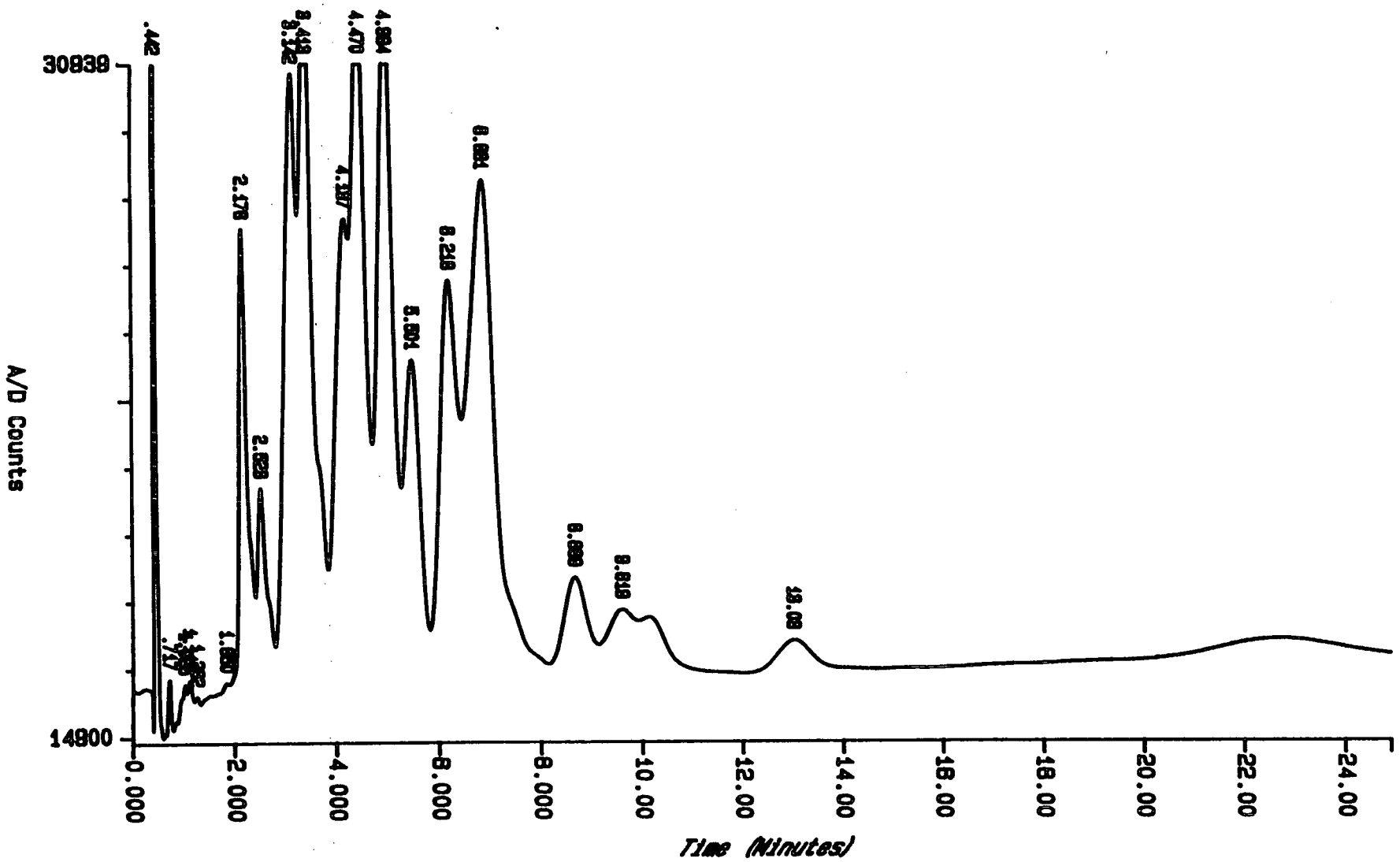


Sample: AR1242-1.0 Injected at 20:33:54 ON MAY 7, 1985
Raw File: RJ0481 Proc File: PJ0481 Method: PCBB8



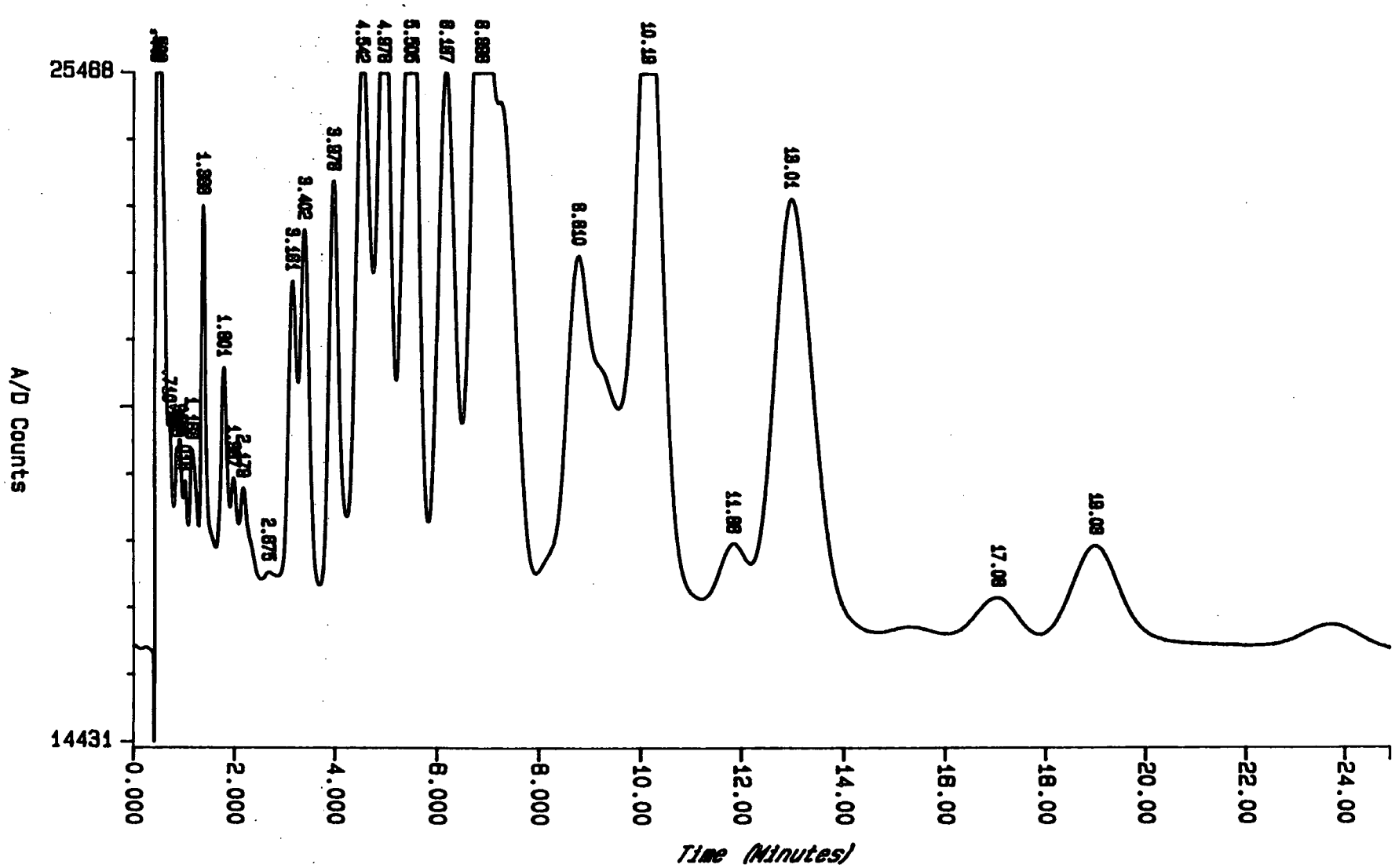
Sample: AR1248-1.0 Injected at 20:06:32 ON MAY 7, 1985
Raw File: RJ0480 Proc File: PJ0480 Method: PCBB8

028



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

029



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

030

Relative Percent Difference (RPD) for VOA

Job Number	Account Name	Facility	Source	Date	Time	
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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

Relative Percent Difference (RPD) for B/N

Job Number	Account Name	Facility	Source	Date	Time	
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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	
H5672	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	SSOIL2	850501	1037	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

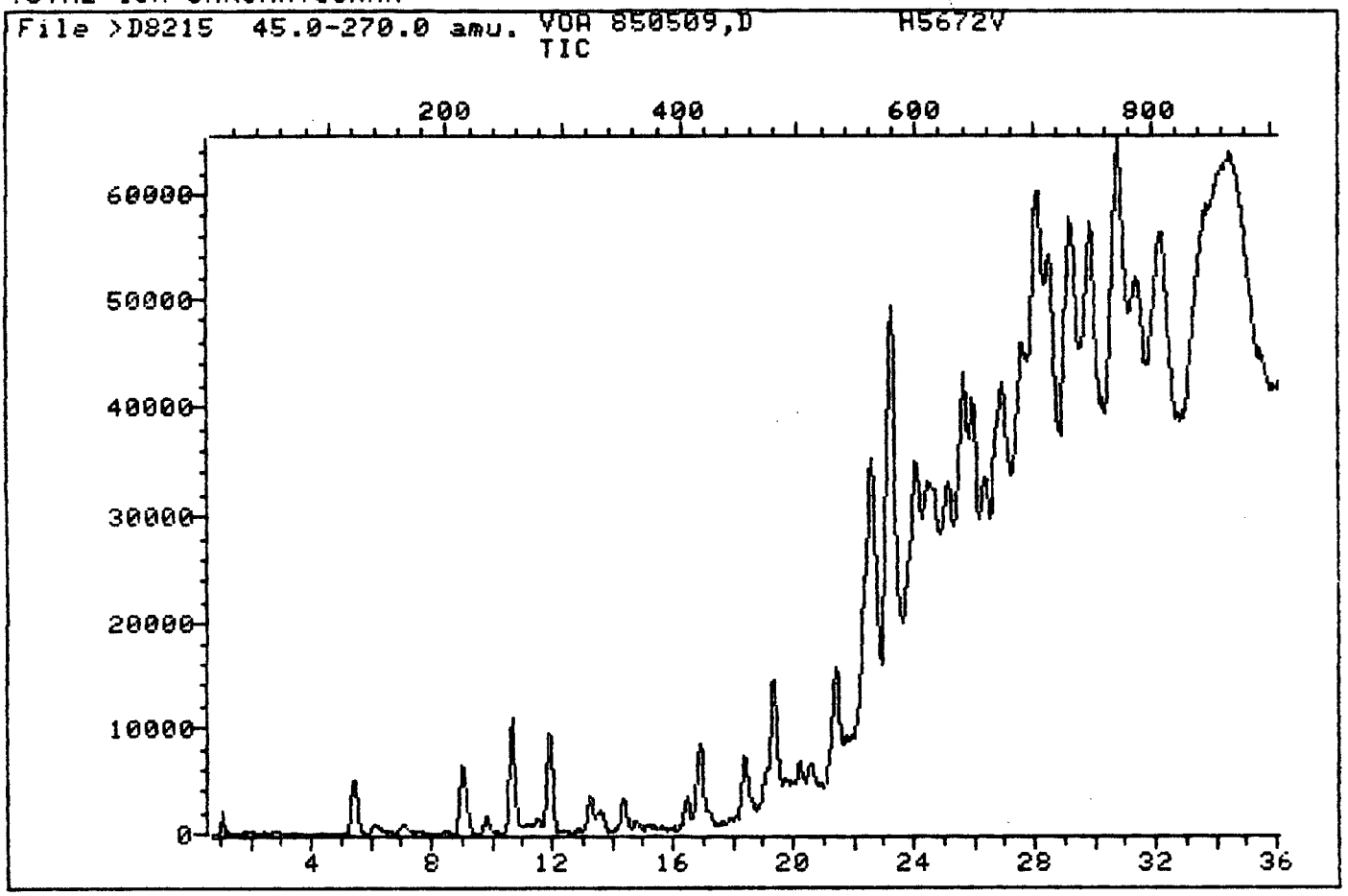
Appendix A

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: >D8215::U4
Name: VOA 850509,D
Misc: H5672V

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

Operator ID: SJ3562
Quant Time: 850509 10:56
Injected at: 850509 10:19

QUANT REPORT

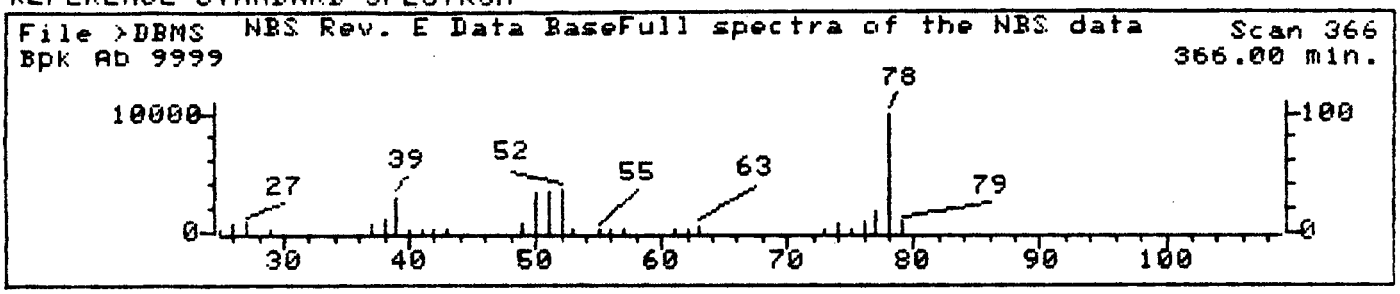
Operator ID: SJ3562 Quant Rev: 4 Quant Time: 850509 10:56
Injected at: 850509 10:19
Data File: >D8215::U4 Dilution Factor: 1.00
Name: VOA 850509,D
Misc: H5672V

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

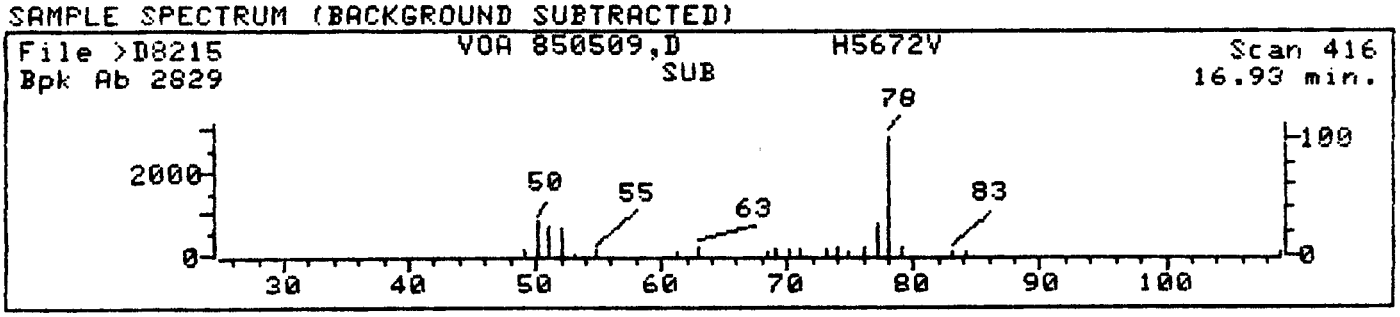
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*2-Bromo-1-chloropropane	18.37	453	18030	200.00	NG	96
2)	Acrolein	6.28	142	3983	~~468.49~~	~~NG~~	100
4)	Benzene	16.93	416	38284	229.04	NG	93
5)	bis(Chloromethyl)ether	18.41	~~454~~	~~6860~~	~~165.89~~	~~NG~~	74
7)	Carbon tetrachloride	13.24	321	~~4397~~	~~10.59~~	~~NG~~	89
11)	2-Chloroethylvinyl ether	16.90	415	~~2746~~	~~144.93~~	~~NG~~	100
15)	1,1-Dichloroethane	9.82	233	11743	103.05	NG	98
16)	1,2-Dichloroethane	12.07	291	2530	~~18.85~~	NG	94
20)	cis-1,3-Dichloropropylene	16.97	~~417~~	~~898~~	~~10.45~~	~~NG~~	100
21)	Ethylbenzene	26.16	653	23273	71.18	NG	96
21)	Ethylbenzene	26.82	~~670~~	~~1002~~	~~3.06~~	~~NG~~	65
24)	Methylene chloride	5.47	121	16190	135.65	NG	75
26)	Tetrachloroethylene	22.11	549	8169	94.24	NG	96
27)	Toluene	23.32	580	104265	474.71	NG	97
27)	Toluene	23.90	~~595~~	~~1184~~	~~5.39~~	~~NG~~	66
28)	1,2-Trans-dichloroethylene	10.67	255	52192	435.20	NG	98
29)	1,1,1-Trichloroethane	13.24	321	13993	84.76	NG	93
31)	Trichloroethylene	16.51	405	3425	66.48	NG	90
33)	Vinyl chloride	2.78	52	1438	13.00	NG	100
35)	1,2-Dichloroethane-D4	11.92	287	49237	~~407.66~~	~~NG~~	94
36)	Toluene-D8	23.12	575	62901	291.72	NG	98
37)	p-Bromofluorobenzene	28.07	702	37016	278.06	NG	90
38)	*1,4-Dichlorobutane	22.38	556	132942	200.00	NG	72

* Compound is ISTD

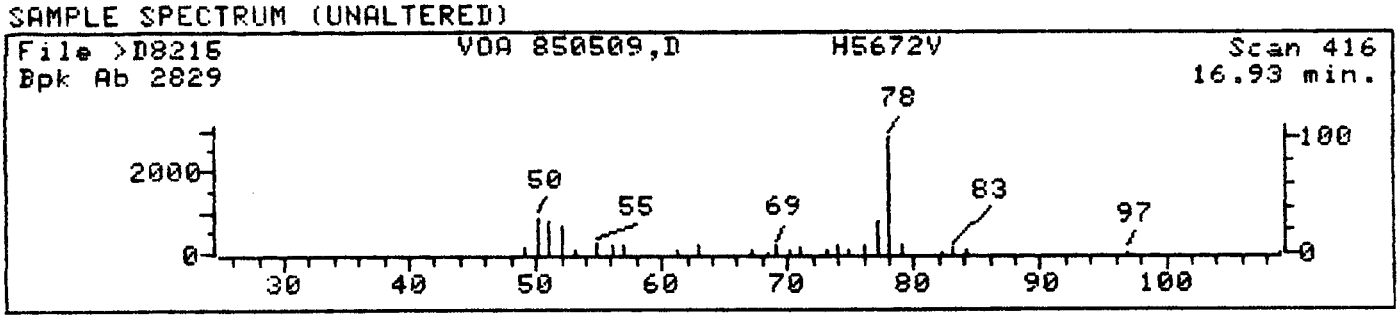
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



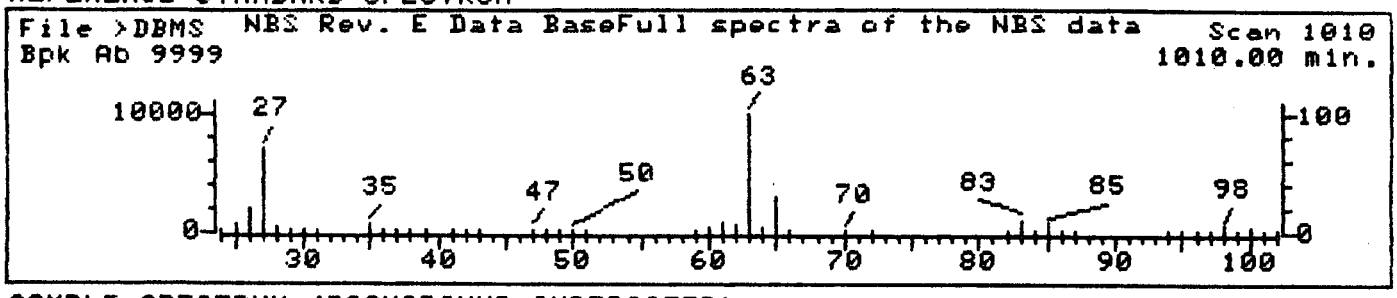
SAMPLE SPECTRUM (UNALTERED)



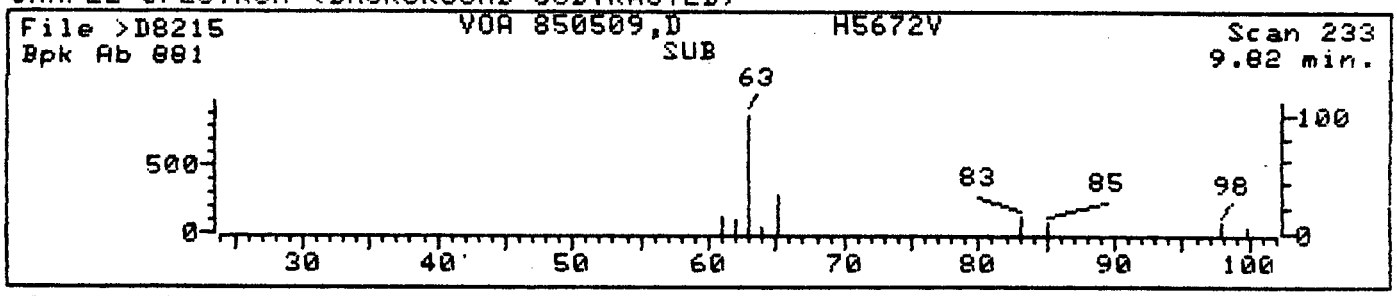
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 4
Compound Name: Benzene
Scan Number: 416
Retention Time: 16.93 min.
Area: 38284
Concentration: 229.04 NG
q-value: 93

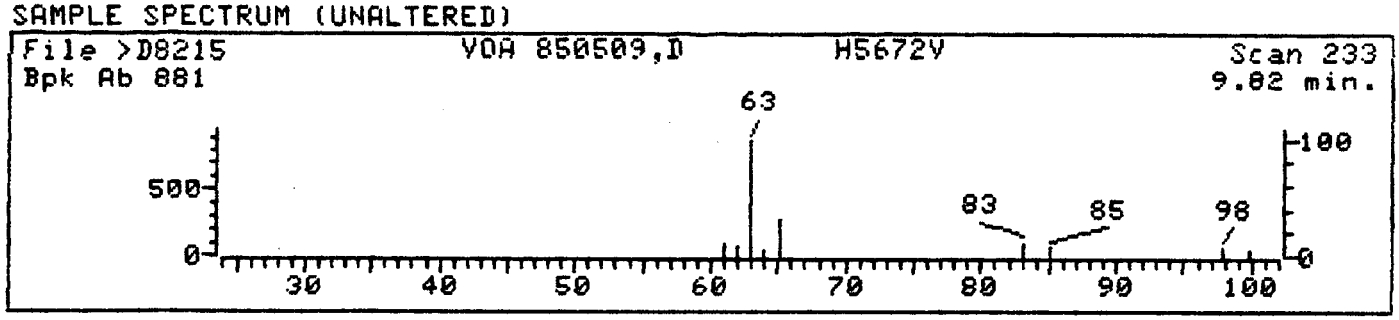
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



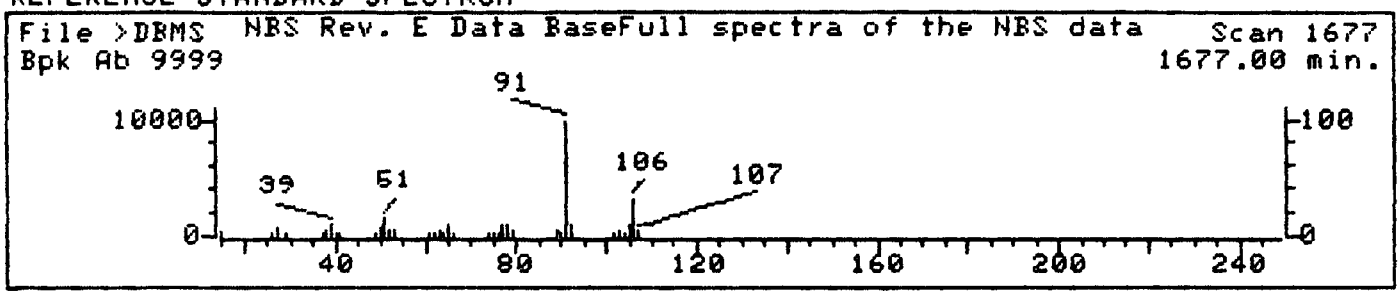
SAMPLE SPECTRUM (UNALTERED)



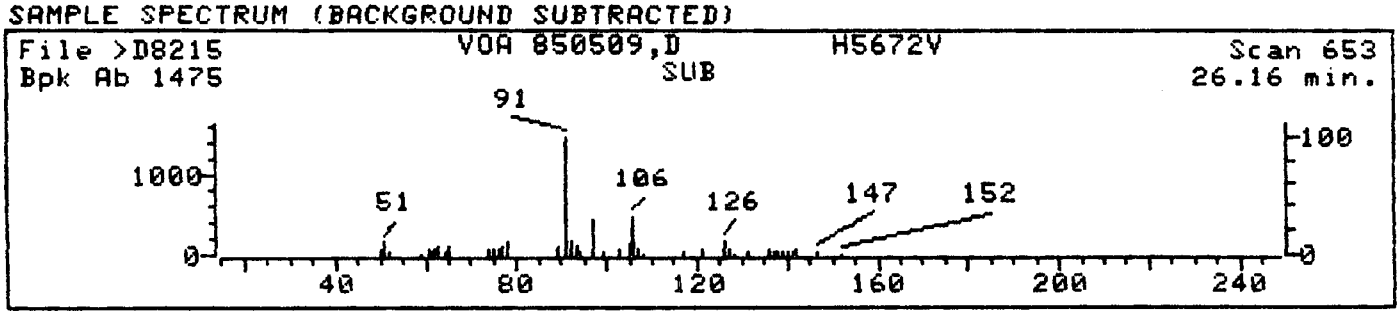
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 15
Compound Name: 1,1-Dichloroethane
Scan Number: 233
Retention Time: 9.82 min.
Area: 11743
Concentration: 103.05 NG
q-value: 98

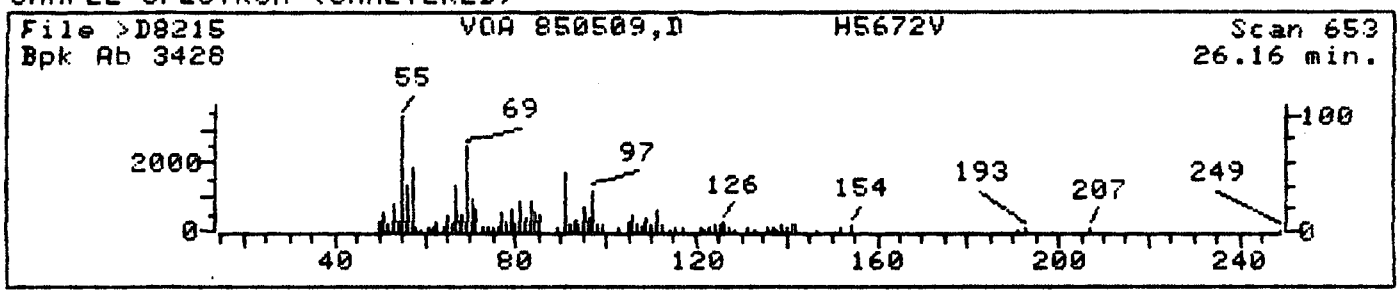
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



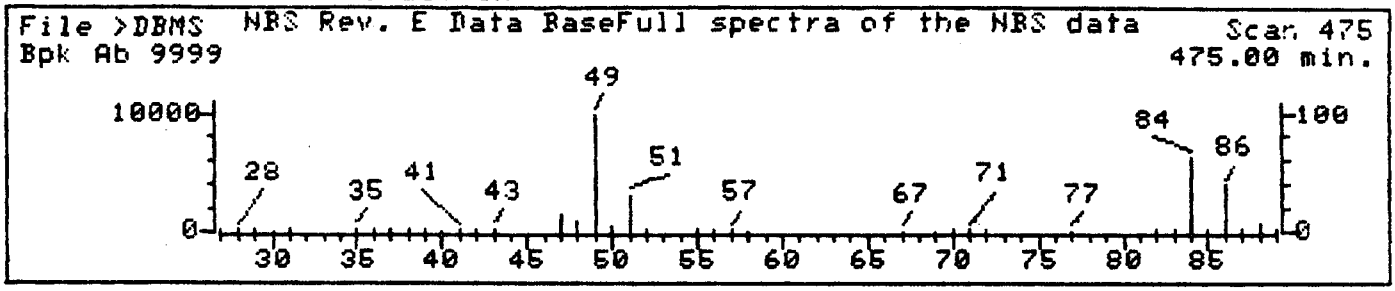
SAMPLE SPECTRUM (UNALTERED)



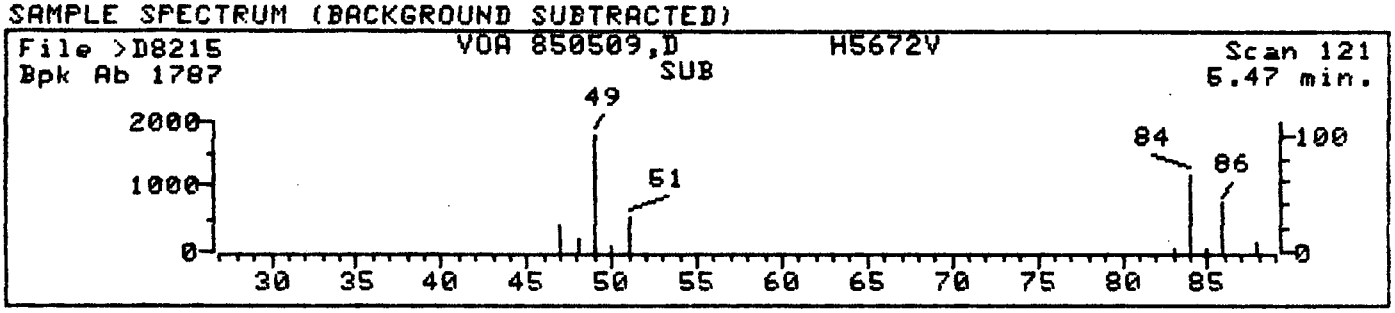
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 21
Compound Name: Ethylbenzene
Scan Number: 653
Retention Time: 26.16 min.
Area: 23273
Concentration: 71.18 NG
q-value: 96

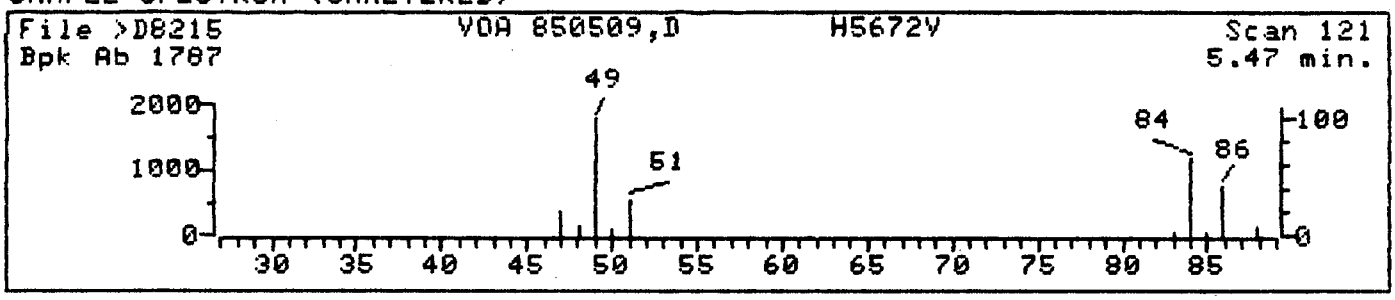
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



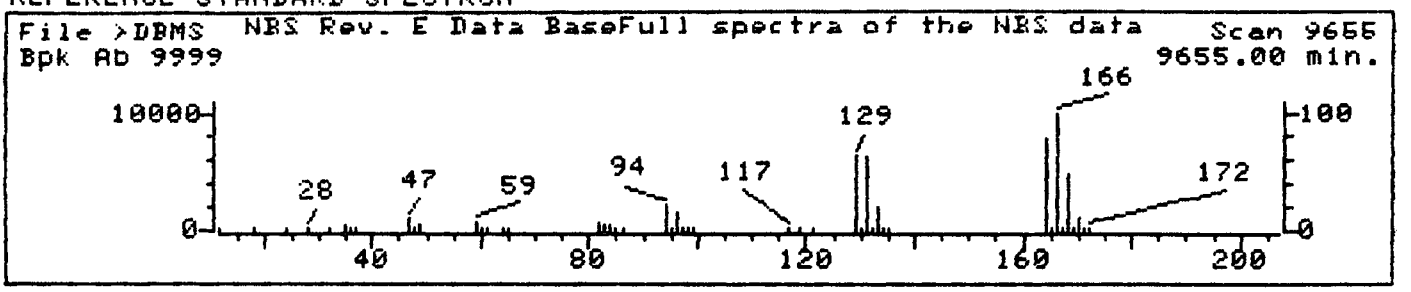
SAMPLE SPECTRUM (UNALTERED)



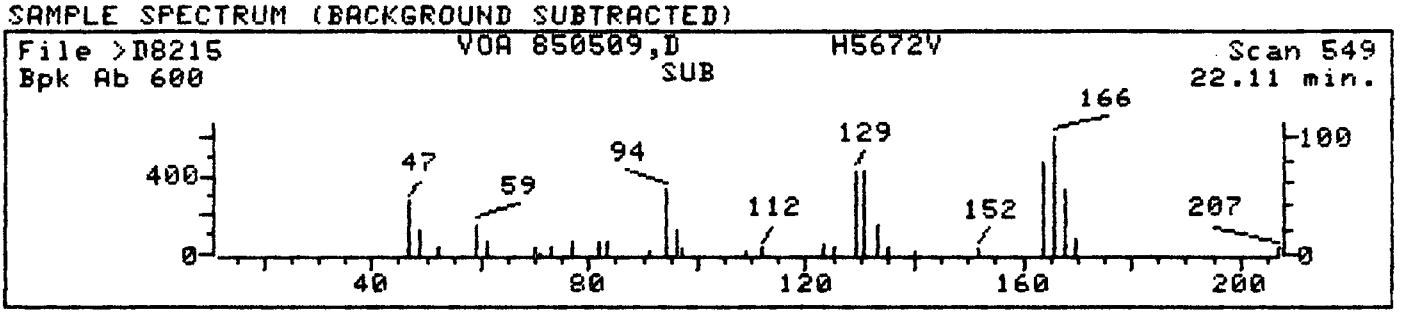
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 121
Retention Time: 5.47 min.
Area: 16190
Concentration: 135.65 NG
q-value: 75

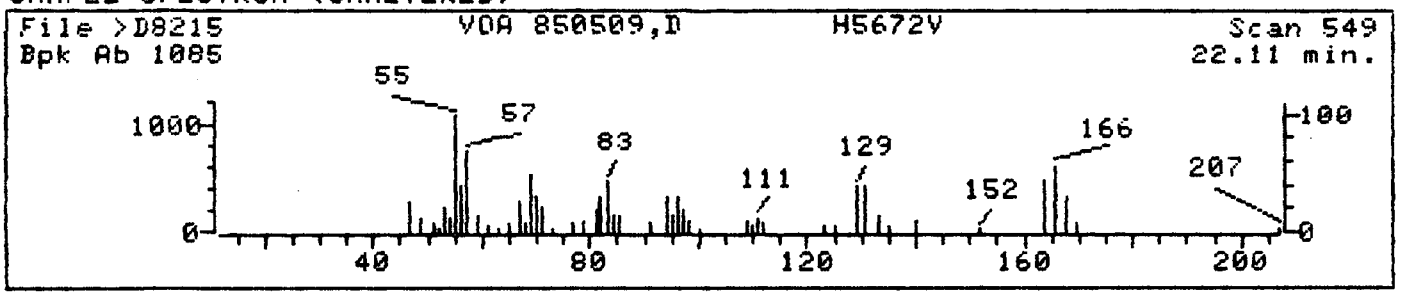
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



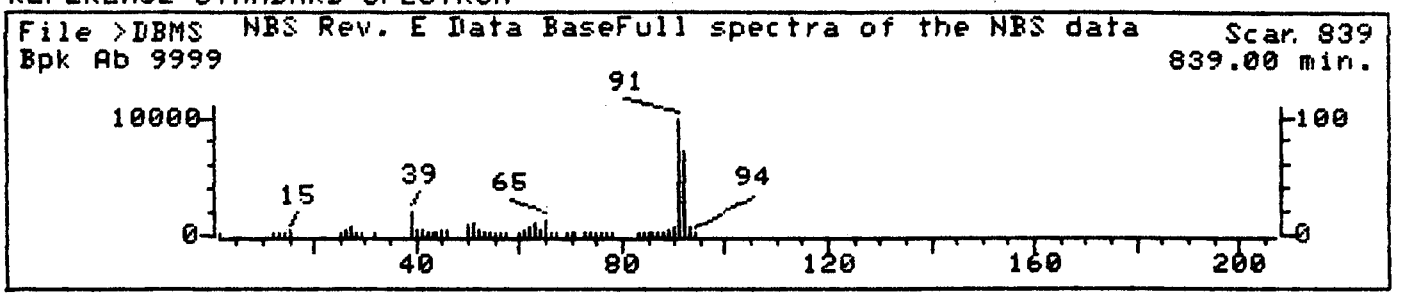
SAMPLE SPECTRUM (UNALTERED)



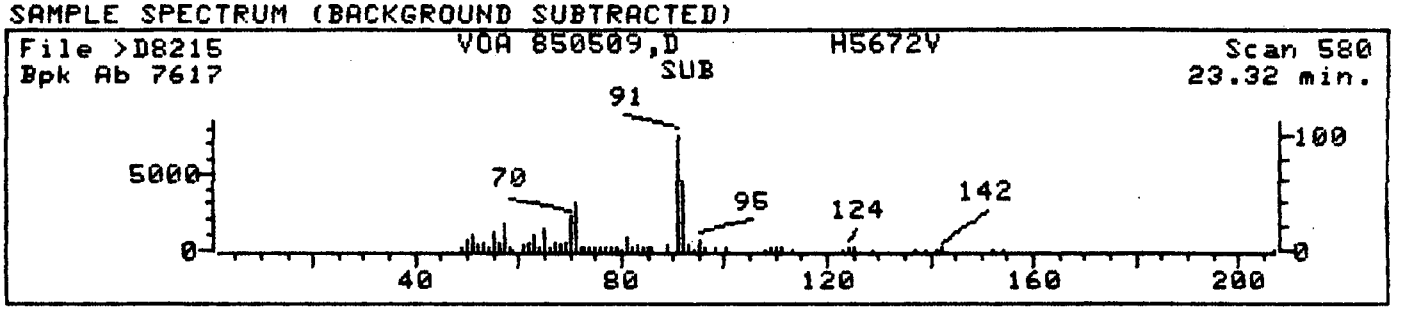
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 26
Compound Name: Tetrachloroethylene
Scan Number: 549
Retention Time: 22.11 min.
Area: 8169
Concentration: 94.24 NG
q-value: 96

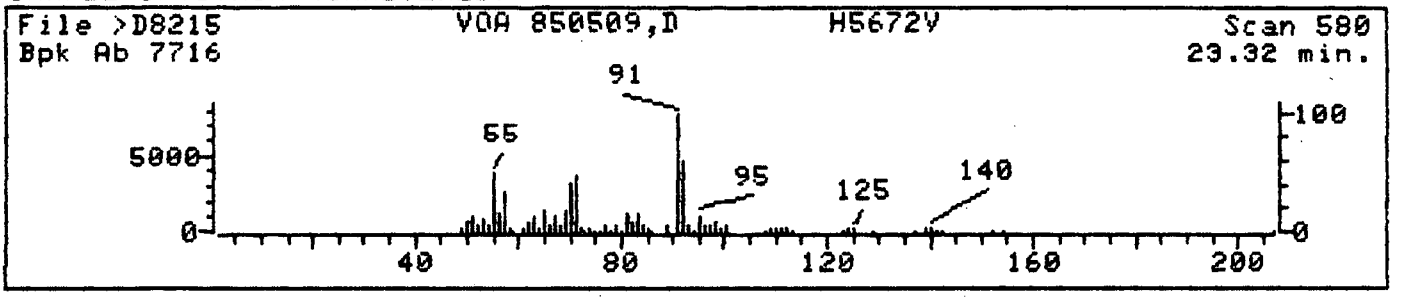
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



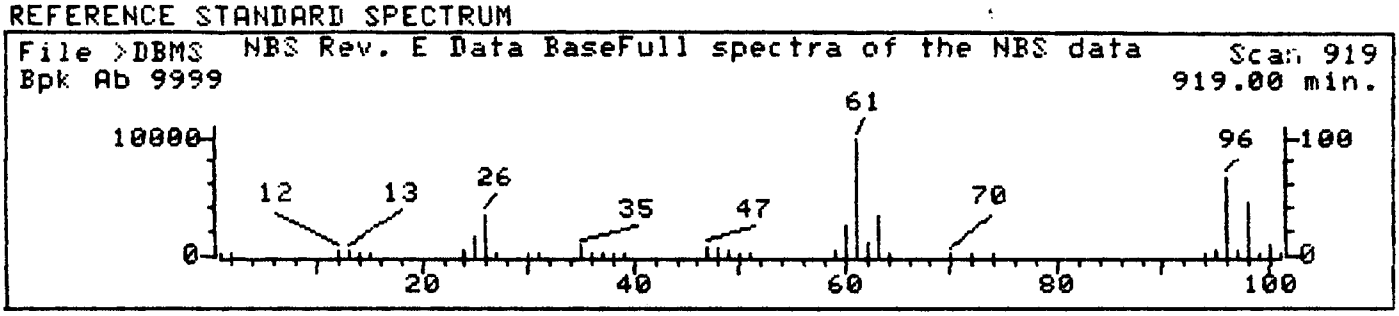
SAMPLE SPECTRUM (UNALTERED)



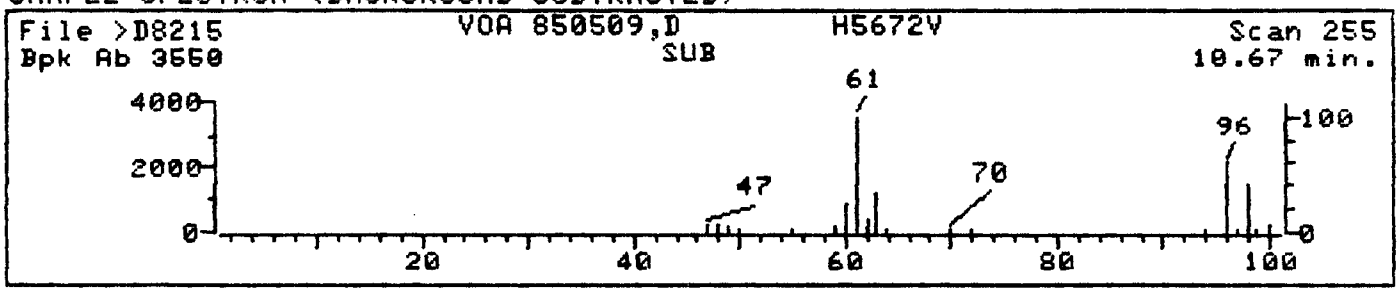
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 27
Compound Name: Toluene
Scan Number: 580
Retention Time: 23.32 min.
Area: 104265
Concentration: 474.71 NG
q-value: 97

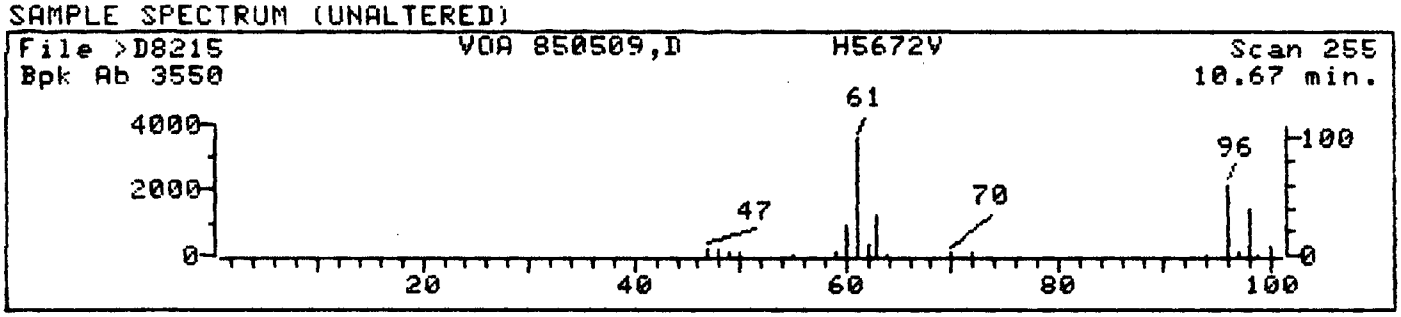
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



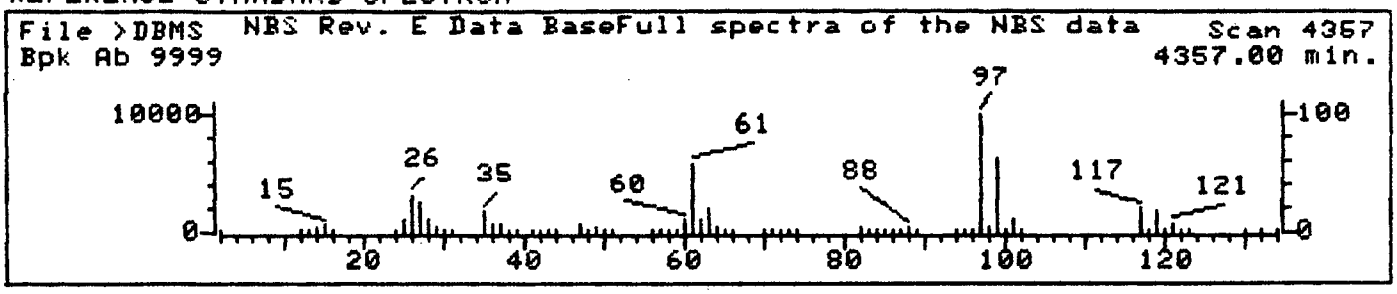
SAMPLE SPECTRUM (UNALTERED)



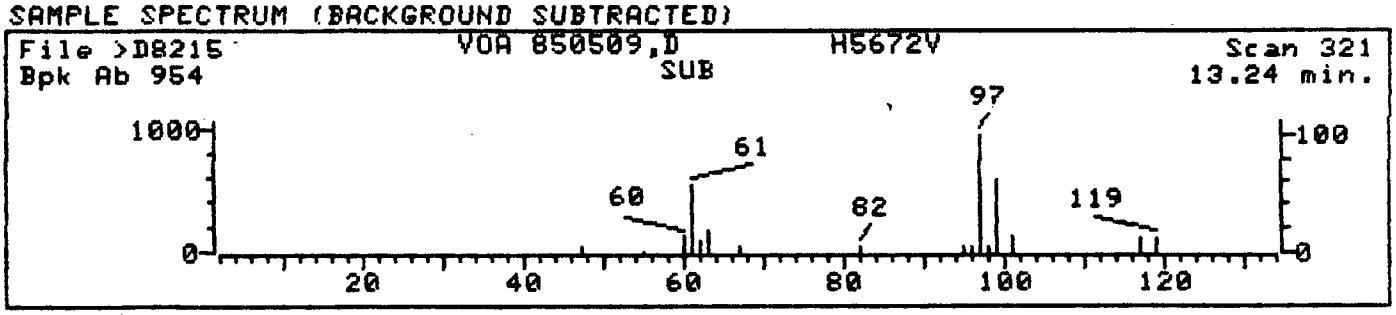
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 28
Compound Name: 1,2-Trans-dichloroethylene
Scan Number: 255
Retention Time: 10.67 min.
Area: 52192
Concentration: 435.20 NG
q-value: 98

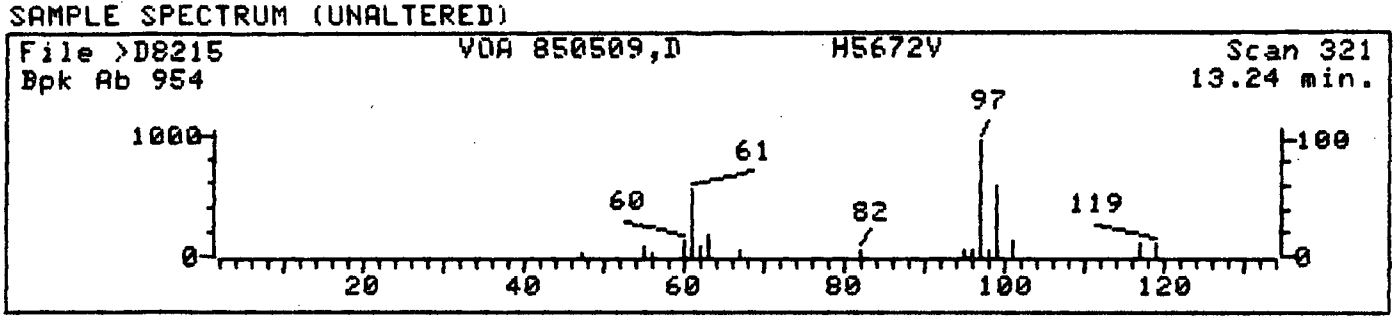
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



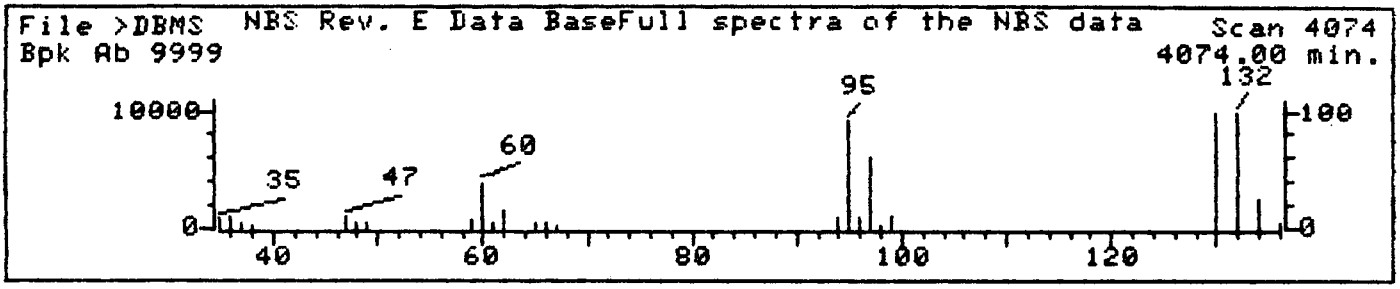
SAMPLE SPECTRUM (UNALTERED)



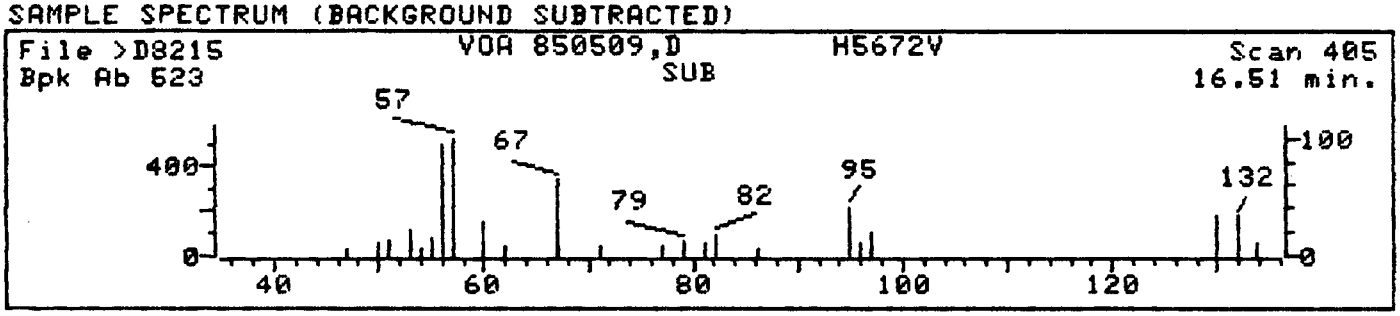
Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 29
Compound Name: 1,1,1-Trichloroethane
Scan Number: 321
Retention Time: 13.24 min.
Area: 13993
Concentration: 84.76 NG
q-value: 93

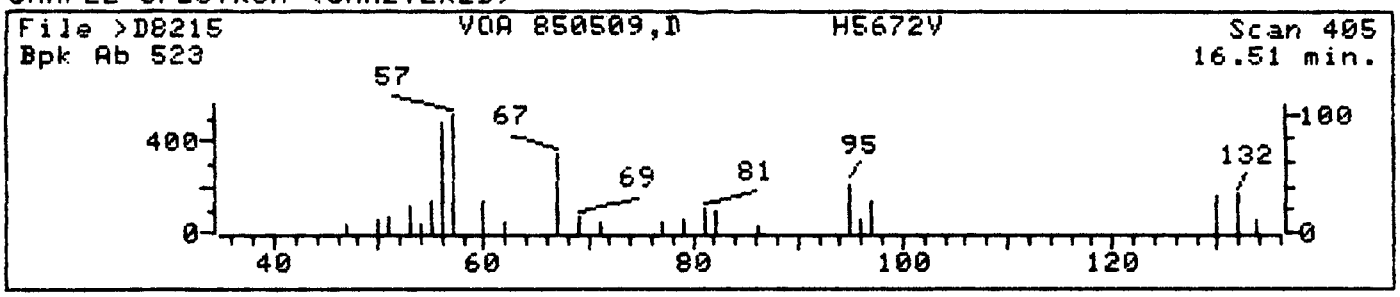
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



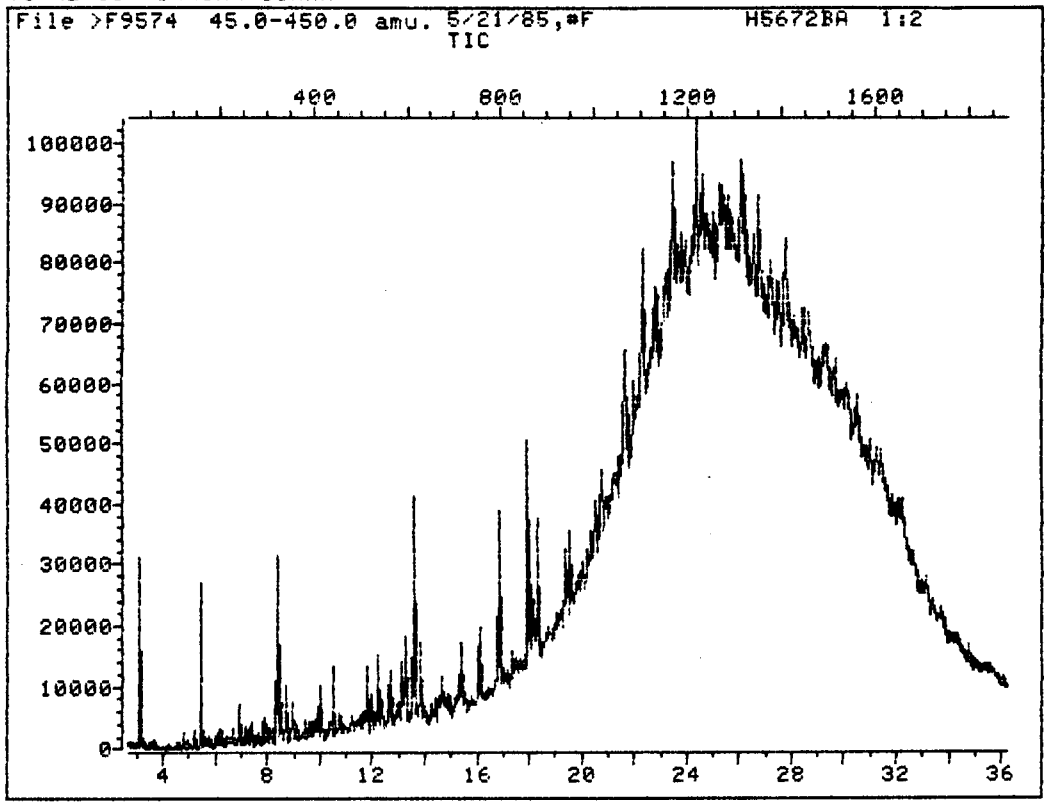
SAMPLE SPECTRUM (UNALTERED)



Data File: >D8215::U4
Name: VOA 850509,D
Misc: H5672V
Quant Time: 850509 10:56
Injected at: 850509 10:19

Compound No: 31
Compound Name: Trichloroethylene
Scan Number: 405
Retention Time: 16.51 min.
Area: 3425
Concentration: 66.48 NG
q-value: 90

TOTAL ION CHROMATOGRAM



Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2

BTL#33

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

Operator ID: WW9928
Quant Time: 850522 13:22
Injected at: 850522 12:43

QUANT REPORT

perator ID: WW9928 Quant Rev: 4 Quant Time: 850522 13:22
utput File: ^F9574::AQ Injected at: 850522 12:43
ata File: >F9574::U2 Dilution Factor: 1.00
ime: 5/21/85,#F
sc: H5672BA 1:2 BTL#33

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	5.39	154	16580	40.00	UG/ML	89
3)	2-Fluorophenol	3.51	48	1213	4.39	UG/ML	85
5)	Phenol-D5	5.03	134	896	2.84	UG/ML	85
9)	*d8-Naphthalene	8.39	323	43269	40.00	UG/ML	97
14)	*d10-Acenaphthalene	13.57	614	25062	40.00	UG/ML	96
20)	*d10-Phenanthrene	17.95	860	47926	40.00	UG/ML	99

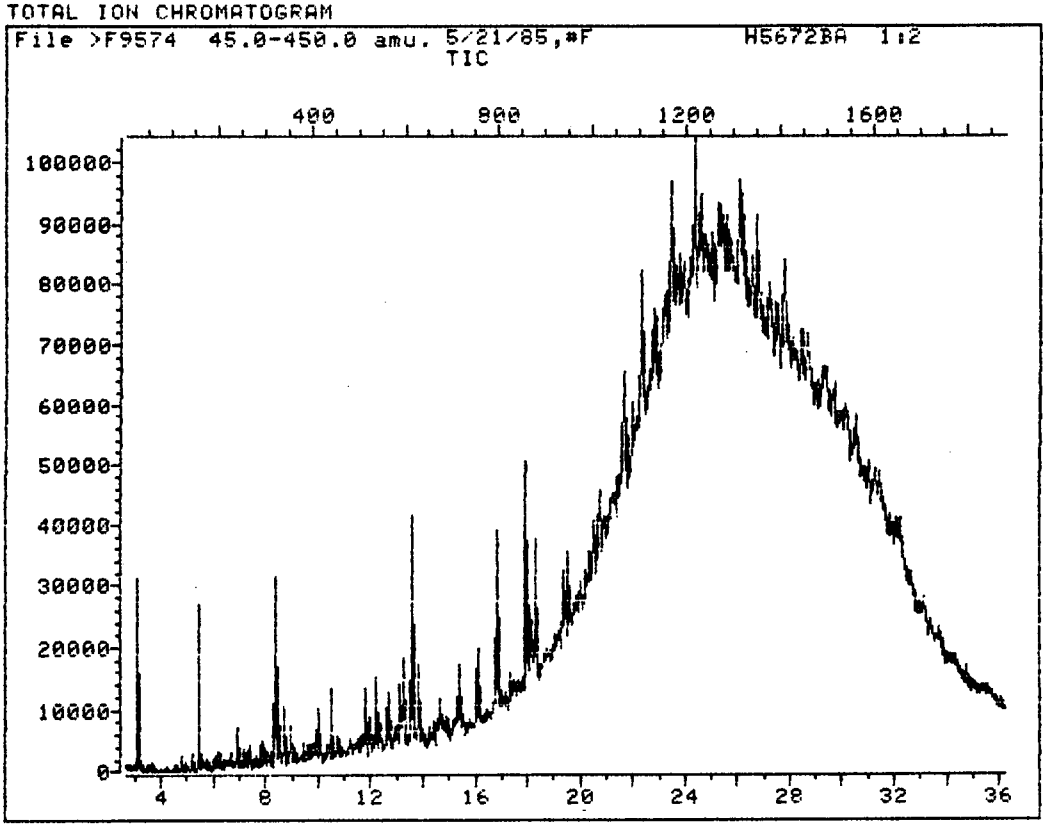
* Compound is ISTD

check 2,4,6-Tribromophenol.

250+40 / 47926+073 = 2.9

3499

TOTAL ION CHROMATOGRAM



Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2

BTL#33

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

Operator ID: WW9928
Quant Time: 850522 16:28
Injected at: 850522 12:43

QAB3025

QUANT REPORT

Operator ID: WW9928 Quant Rev: 4 Quant Time: 850522 16:28
Output File: BF9574::AQ Injected at: 850522 12:43
Data File: >F9574::U2 Dilution Factor: 1.00
Name: 5/21/85,#F
Misc: H5672BA 1:2 BTL#33

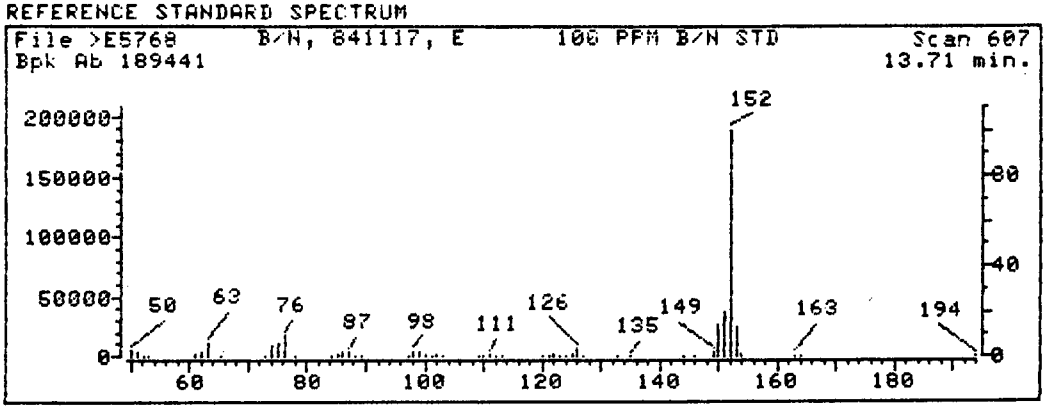
ID File: FBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850522 08:39

A600

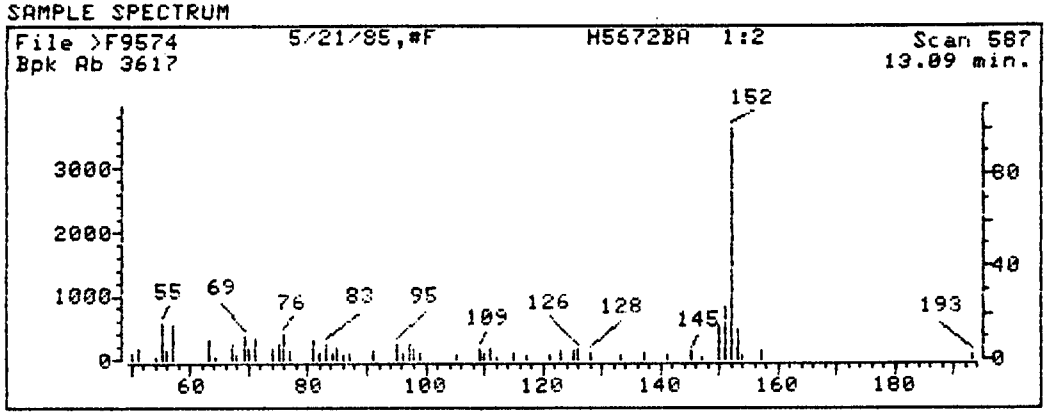
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.39	154	10452	40.00	UG/ML	96
9)	*d8-Naphthalene	8.39	323	43269	40.00	UG/ML	94
16)	1,2,4-Trichlorobenzene	8.32	319	5275	18.49	UG/ML	96
16)	1,2,4-Trichlorobenzene	8.98	356	1289	~~4.52~~	~~UG/ML~~	89
19)	*d10-Acenaphthalene	13.57	614	25062	40.00	UG/ML	96
23)	Acenaphthylene	13.09	587	9340	9.47	UG/ML	92
25)	Acenaphthene	13.66	619	779	1.10	UG/ML	84
26)	2,4-Dinitrotoluene	14.90	689	1504	~~7.22~~	~~UG/ML~~	88
26)	2,4-Dinitrotoluene	15.22	707	623	~~2.99~~	~~UG/ML~~	74
26)	2,4-Dinitrotoluene	15.36	715	737	~~3.54~~	~~UG/ML~~	76
28)	Fluorene	15.49	722	605	~~.81~~	~~UG/ML~~	83
32)	*d10-Phenanthrene	17.95	860	47926	40.00	UG/ML	96
35)	Phenanthrene	18.02	864	1875	1.96	UG/ML	89
35)	Phenanthrene	18.16	872	3741	~~3.90~~	~~UG/ML~~	89
36)	Anthracene	18.02	864	1875	~~1.71~~	~~UG/ML~~	92
36)	Anthracene	18.16	872	3741	3.41	UG/ML	91
37)	Di-n-butyl phthalate	20.36	995	1321	1.10	UG/ML	71
38)	Fluoranthene	21.45	1056	919	~~.88~~	~~UG/ML~~	65
38)	Fluoranthene	21.64	1067	8691	8.35	UG/ML	95
38)	Fluoranthene	21.95	1084	2169	~~2.08~~	~~UG/ML~~	91
38)	Fluoranthene	22.27	1102	28659	~~27.55~~	~~UG/ML~~	96
40)	Pyrene	21.45	1056	919	~~.86~~	~~UG/ML~~	65
40)	Pyrene	21.64	1067	8691	~~8.17~~	~~UG/ML~~	95
40)	Pyrene	21.95	1084	2169	~~2.04~~	~~UG/ML~~	91
40)	Pyrene	22.27	1102	28659	26.93	UG/ML	96
47)	*d12-Chrysene	25.99	1310	20504	40.00	UG/ML	100
50)	Endosulfan I	21.93	1083	547	~~4.32~~	~~UG/ML~~	63
50)	Endosulfan I	22.38	1108	583	~~4.60~~	~~UG/ML~~	40
53)	Endrin	24.29	1215	544	~~7.08~~	~~UG/ML~~	68
54)	Endosulfan II	23.88	1192	1321	~~19.23~~	~~UG/ML~~	80
55)	4,4'-DDD	23.81	1188	585	~~.82~~	~~UG/ML~~	87
56)	Endrin aldehyde	23.63	1178	1095	~~7.22~~	~~UG/ML~~	74
56)	Endrin aldehyde	24.29	1215	544	~~3.58~~	~~UG/ML~~	54
56)	Endrin aldehyde	24.74	1240	1901	~~12.53~~	~~UG/ML~~	55
61)	Benzo(a)anthracene	26.06	1314	2308	5.67	UG/ML	61
62)	Chrysene	26.06	1314	2308	~~4.37~~	~~UG/ML~~	61
64)	bis(2-Ethylhexyl)phthalate	26.74	1352	4659	8.49	UG/ML	88
65)	Di-n-octyl phthalate	27.92	1418	2099	3.34	UG/ML	84

* Compound is ISTD

REFERENCE STANDARD SPECTRUM



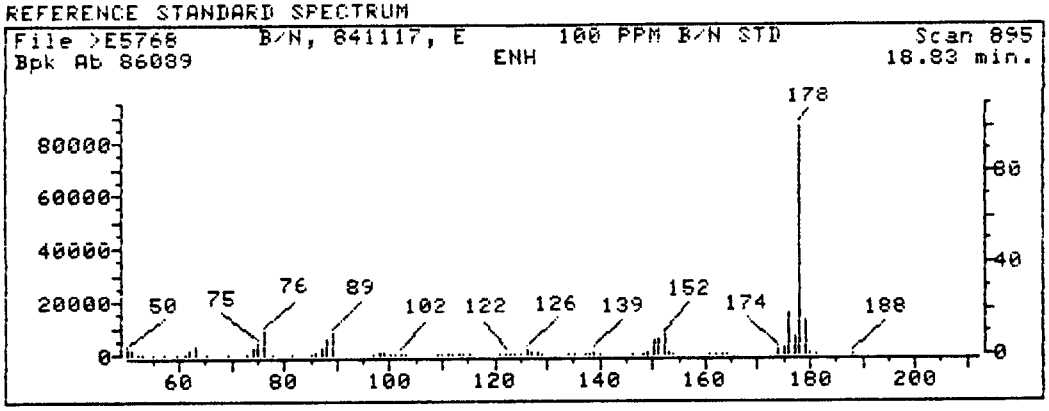
SAMPLE SPECTRUM



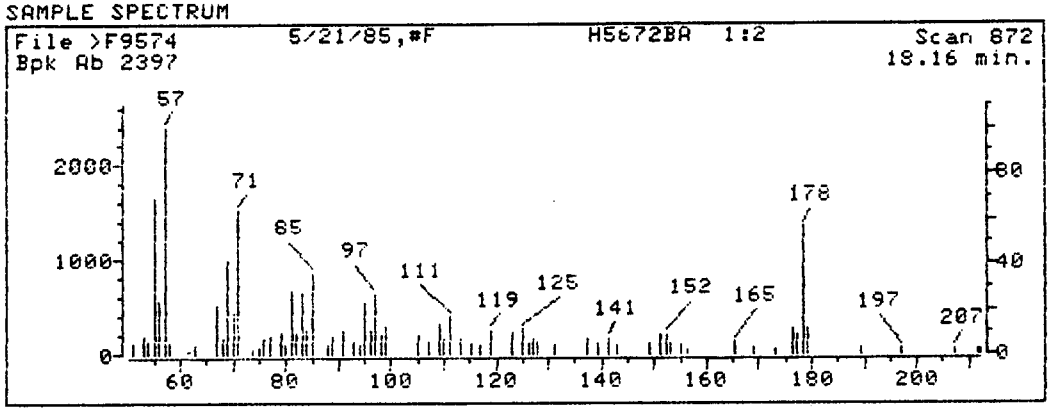
Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2 BTL#33
Quant Time: 850522 16:28
Injected at: 850522 12:43

Compound No: 23
Compound Name: Acenaphthylene
Scan Number: 587
Retention Time: 13.09 min.
Area: 9340
Concentration: 9.47 UG/ML
q-value: 92

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM

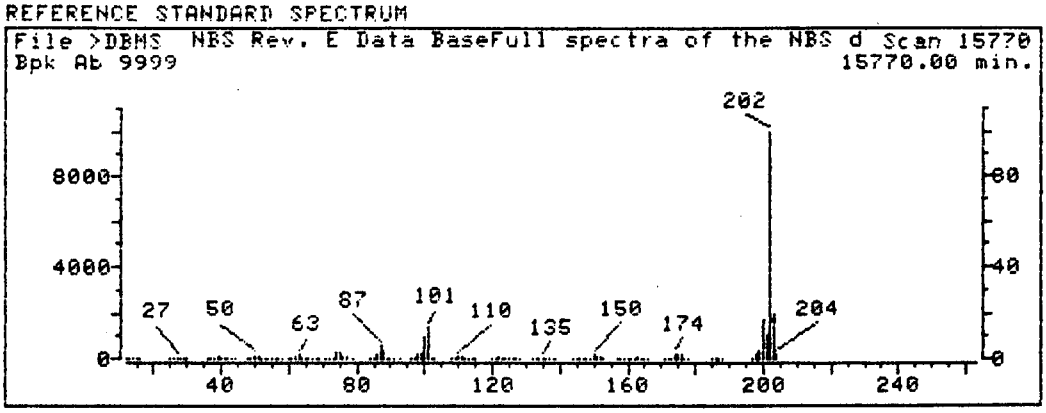


Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2
Quant Time: 850522 16:28
Injected at: 850522 12:43

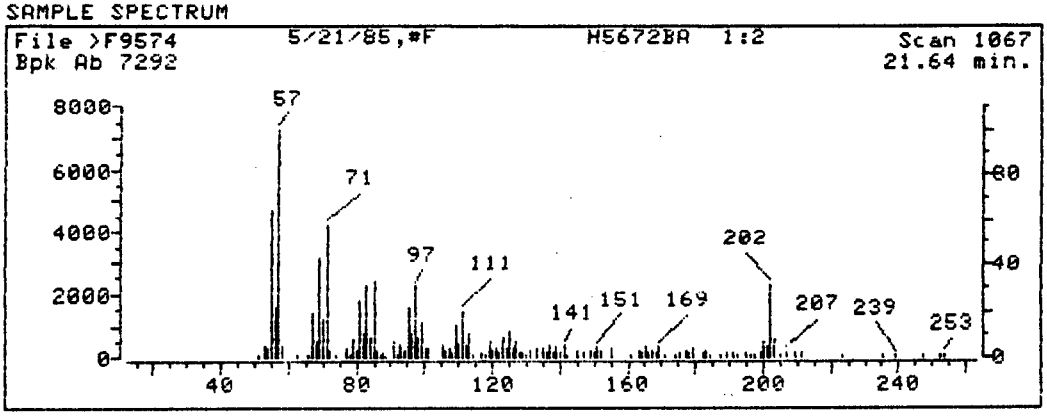
BTL#33

Compound No: 36
Compound Name: Anthracene
Scan Number: 872
Retention Time: 18.16 min.
Area: 3741
Concentration: 3.41 UG/ML
q-value: 91

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM

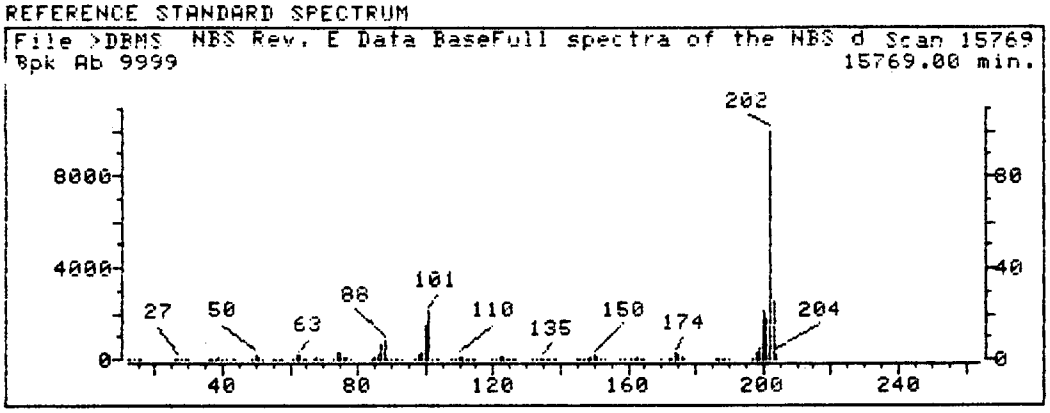


Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2
Quant Time: 850522 16:28
Injected at: 850522 12:43

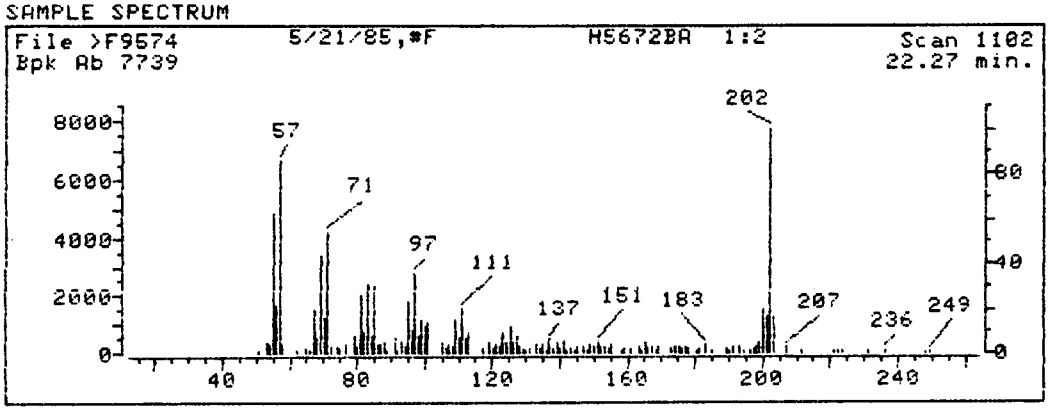
BTL#33

Compound No: 38
Compound Name: Fluoranthene
Scan Number: 1067
Retention Time: 21.64 min.
Area: 8691
Concentration: 8.35 UG/ML
q-value: 95

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM

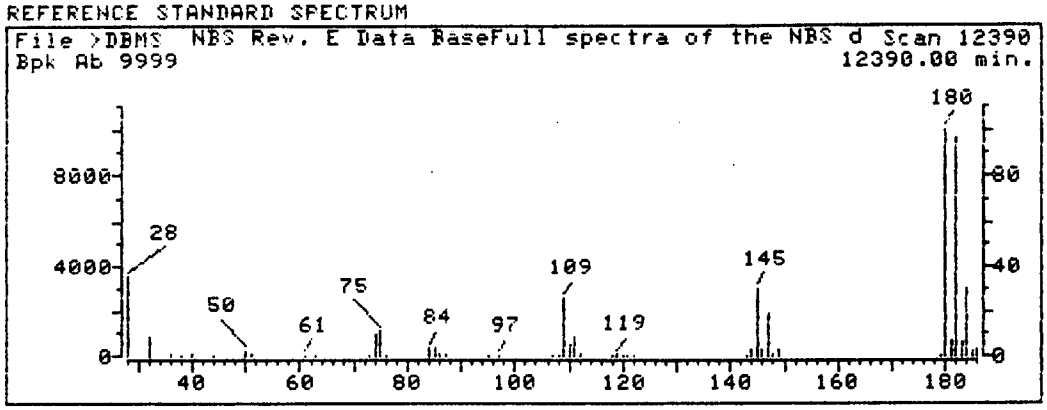


Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2
Quant Time: 850522 16:28
Injected at: 850522 12:43

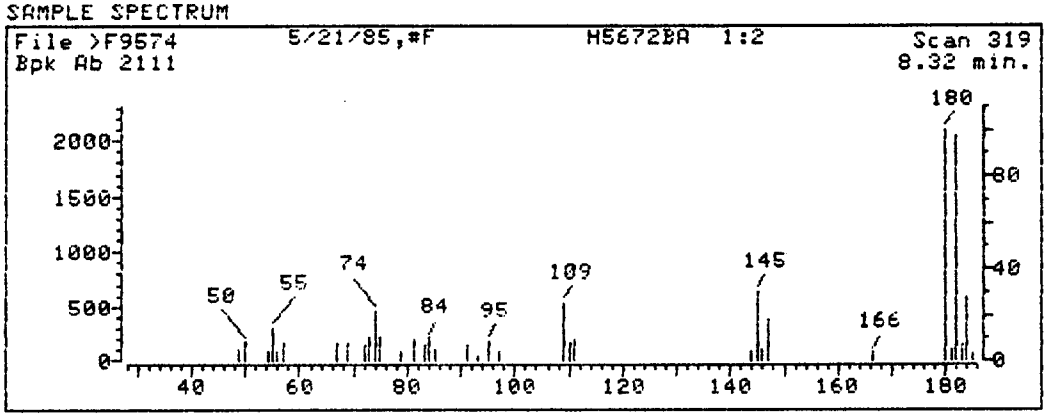
BTL#33

Compound No: 40
Compound Name: Pyrene
Scan Number: 1102
Retention Time: 22.27 min.
Area: 28659
Concentration: 26.93 UG/ML
q-value: 96

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM



Data File: >F9574::U2
Name: 5/21/85,#F
Misc: H5672BA 1:2 BTL#33
Quant Time: 850522 16:28
Injected at: 850522 12:43

Compound No: 16
Compound Name: 1,2,4-Trichlorobenzene
Scan Number: 319
Retention Time: 8.32 min.
Area: 5275
Concentration: 18.49 UG/ML
q-value: 96

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

Compound	Files: >F9523 RF 60.00	>F9522 RF 100.00	>F9521 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	Files: >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	.18091	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	6.388	
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	.7411	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~~ .1663	~~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	~~.00541~~ .0831	~~91.83~~	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

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	1.22837	1.34637	10.33	Average	
Endrin	.14985	-	-	Average	
Endosulfan II	.13398	.20543	53.32	Average	
4,4'-DDD	1.38555	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	1.85777	51.45	Average	24
Benzo(b)fluoroanthene	.45765	.70883	54.41	Average	24
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	25
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

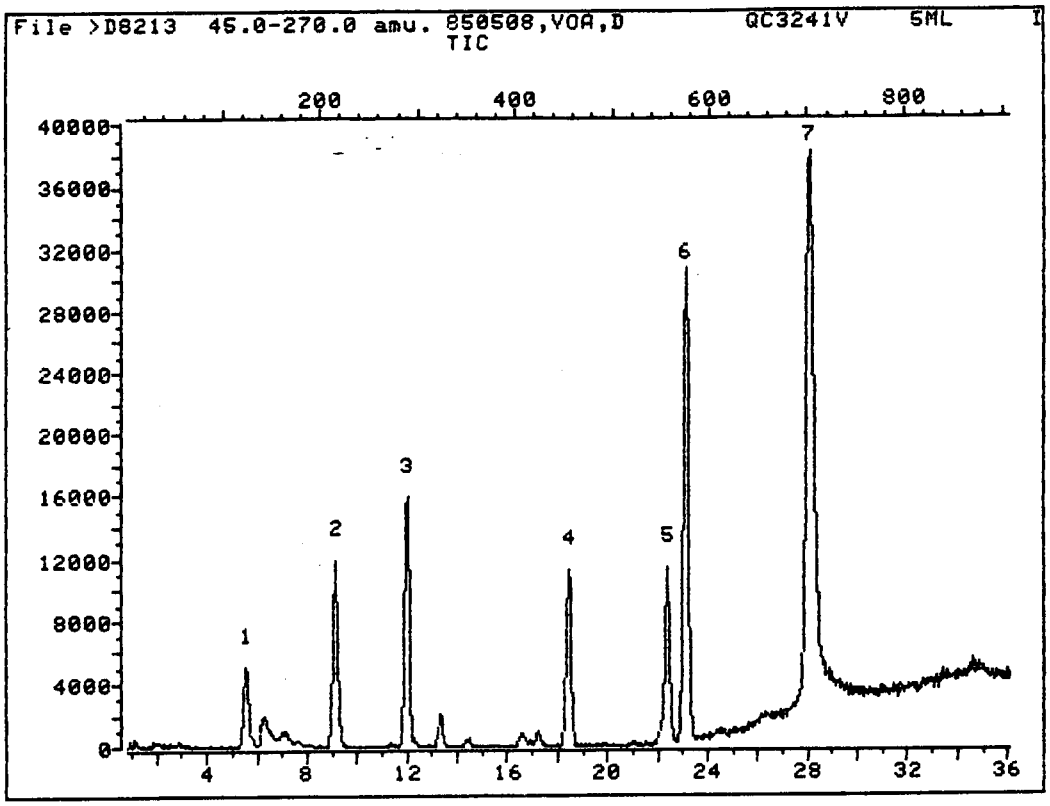
$\overline{RF}$ - Average Response Factor from Initial Calibration

%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

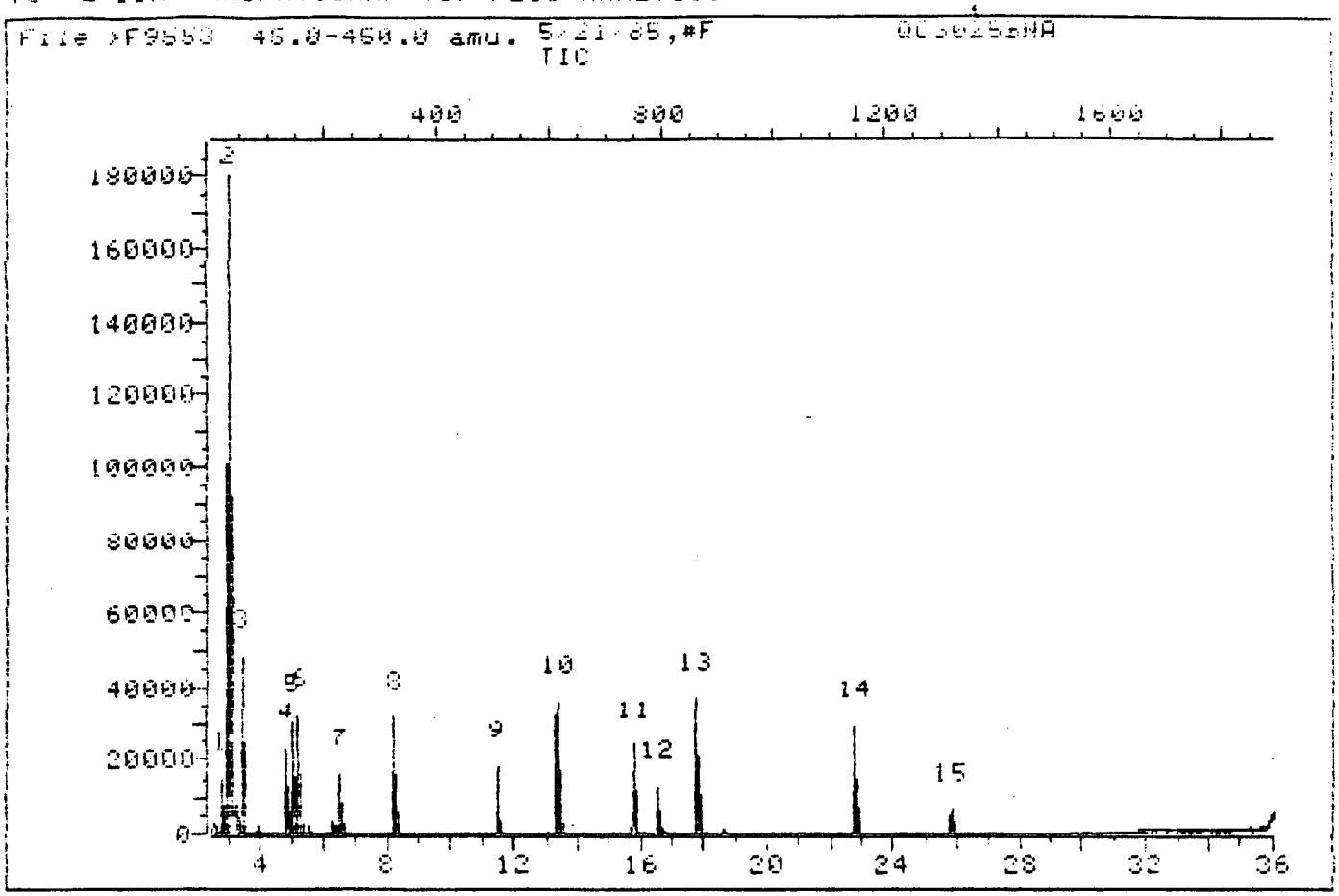
Operator ID: SJ3562 Quant Rev: 4 Quant Time: 850509 09:03
Injected at: 850509 07:57
Data File: >D8213::U4 Dilution Factor: 1.00
Name: 850508,VOA,D
Misc: QC3241V 5ML IFBPREP SOIL

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..UC
Name: 5/21/85,#F
Misc Data: QC3025BNA

DTL#12

QUANT REPORT

perator ID: WW9928 Quant Rev: 4 Quant Time: 850521 23:17
utput File: ^F9553::AQ Injected at: 850521 22:38
ata File: >F9553::U2 Dilution Factor: 1.00
ame: 5/21/85,#F
isc: QC3025BNA BTL#12

) 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
4)	*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

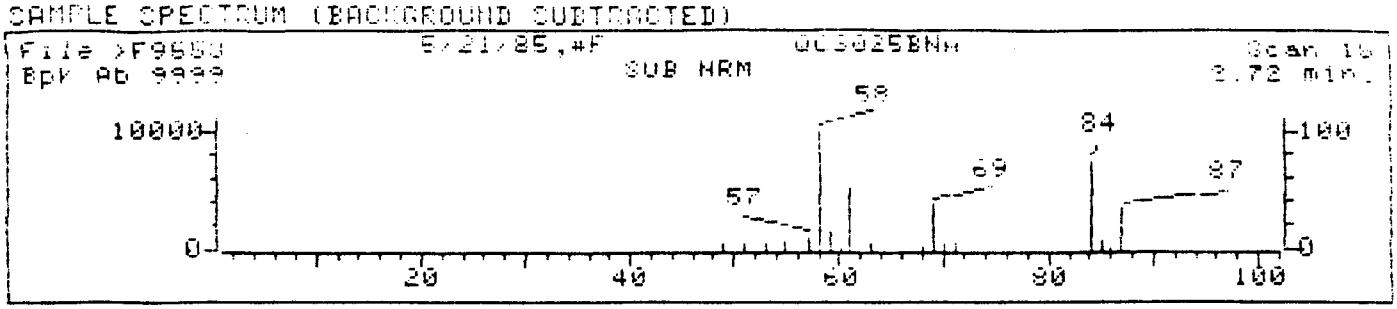
Operator ID: WW9928 Quant Rev: 4 Quant Time: 850522 09:09
Output File: BF9553::AQ Injected at: 850521 22:38
Data File: >F9553::U2 Dilution Factor: 1.00
Name: 5/21/85,#F
Misc: QC3025BNA BTL#12

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

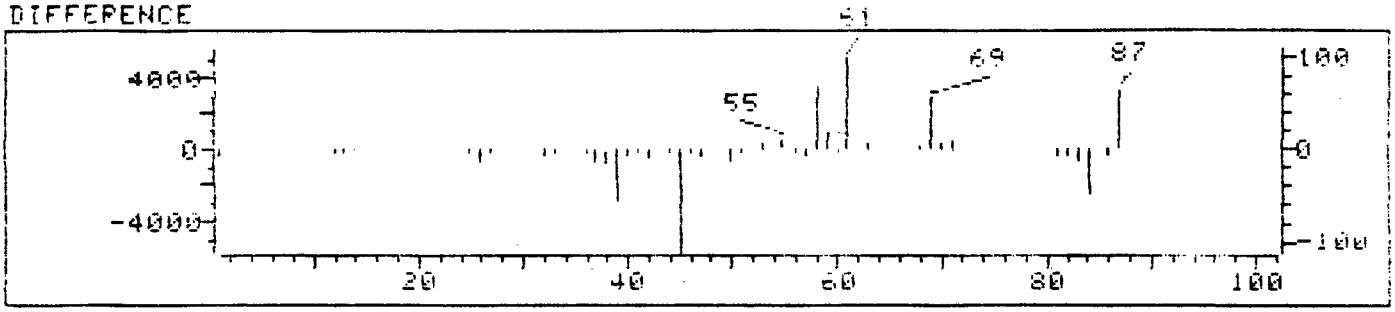
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.22	156	9613	40.00	UG/ML	98
7)	Nitrobenzene-d5	6.50	228	11452	43.34	UG/ML	86
9)	*d8-Naphthalene	8.20	324	36620	40.00	UG/ML	93
10)	2-Fluorobiphenyl	11.47	508	15705	51.80	UG/ML	97
19)	*d10-Acenaphthalene	13.32	612	22206	40.00	UG/ML	95
32)	*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

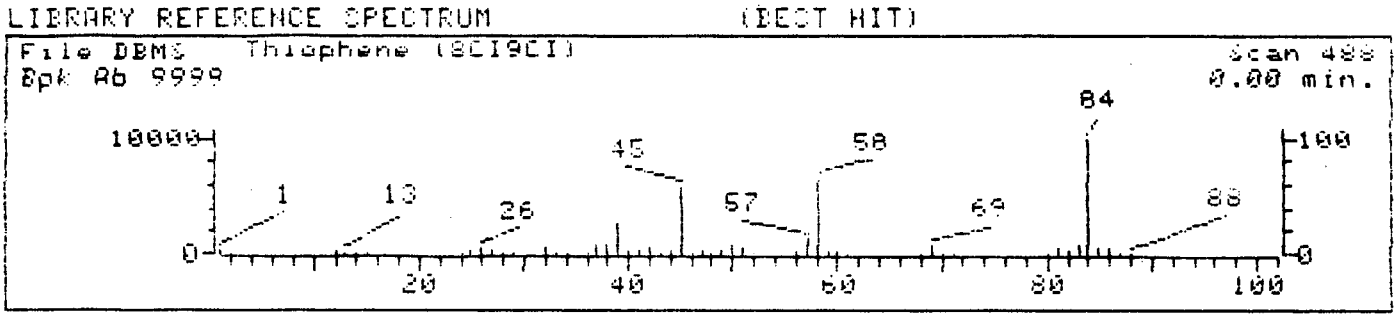
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



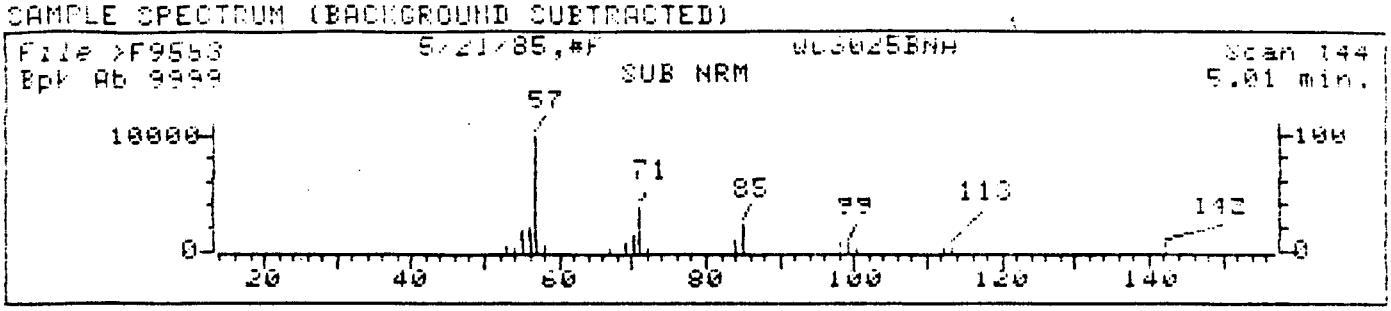
Data File >F9553..UG
Name. 5/21/85,#F
Misc Data. QC3025BNA DTL#12
RT (min). 2.72
Scan. 15
Area. 20416
Semi-quantitative Conc. 20.00 UG/ML

Data File: >F9553 Scan Number: 15
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

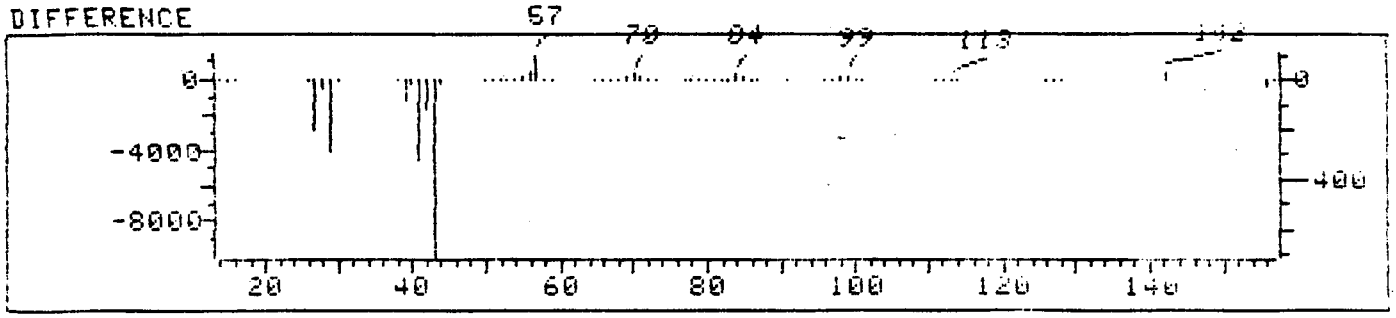
1. Thiophene (SCI9CI) 84 C4H4S
2. Cyclohexane(DOT (SCI9CI) 84 C6H12

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

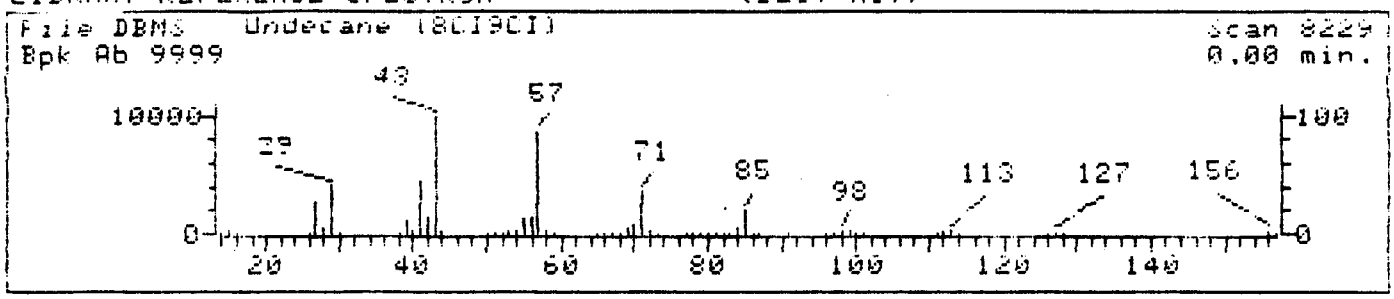
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



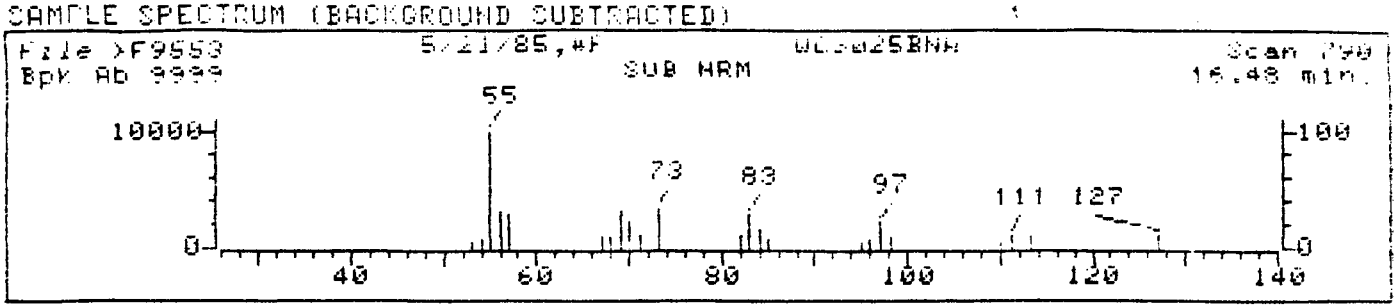
Data File: >F9553.:U2
Name: 5/21/85,#F
Misc Data: OC3025BNA DTL#12
RT (min): 5.01
Scan: 144
Area: 43487
Semi-quantitative Conc: 31.83 UG/ML

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

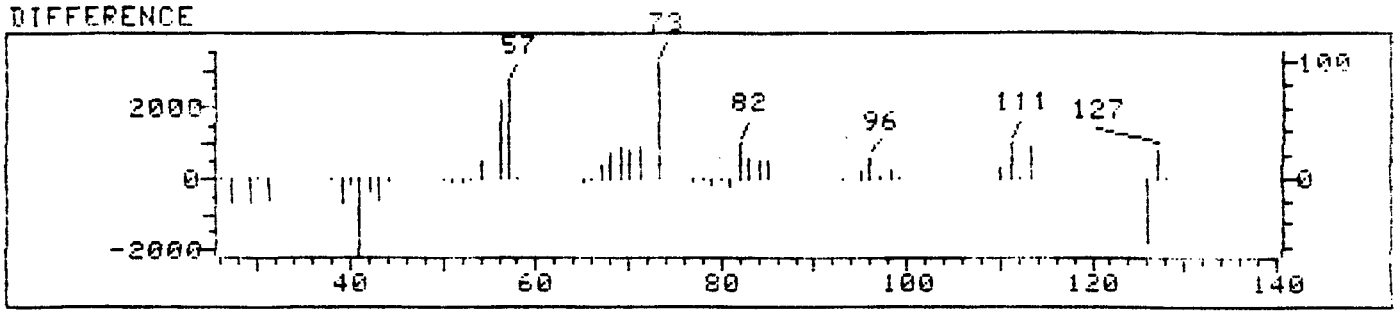
1. Undecane (8CI9CI) 156 C11H24
2. Nonane, 2-methyl- (8CI9CI) 142 C10H22
3. Octane, 2,7-dimethyl- (8CI9CI) 142 C10H22

	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

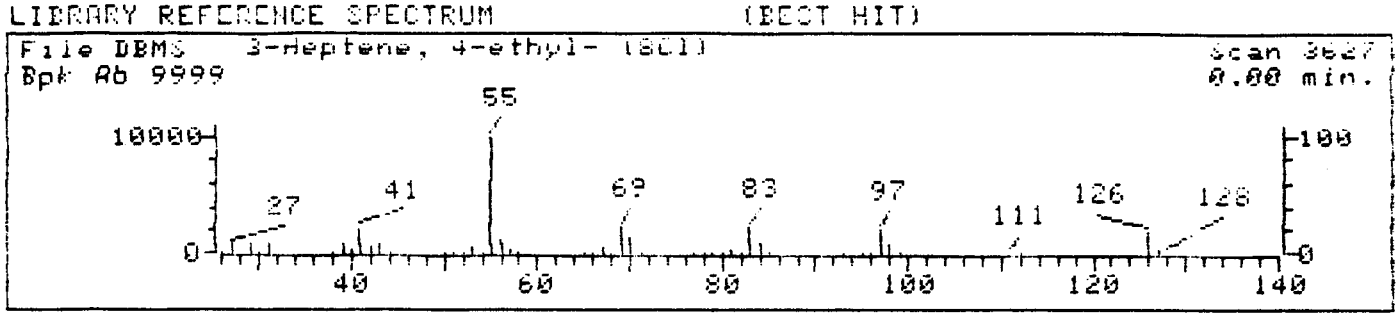
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F9553..U2
Name: 5/21/85,#F
Misc Data: QC3025BNA BTL#12
RT (min): 16.48
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: 69

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

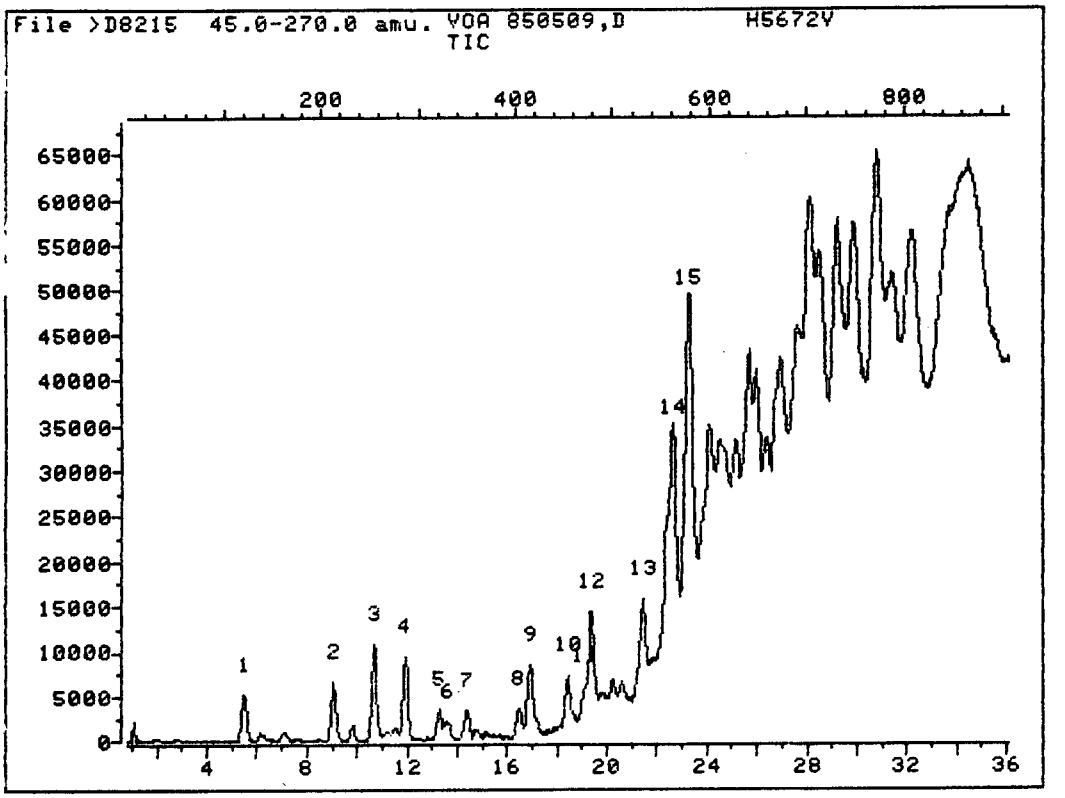
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	38	33933743	44	48	1	0
2.	31	35507096	78	50	2	0
3.	30	32281859	31	79	3	0

Appendix C

Mass Spectral Data for Tentatively Identified Compounds

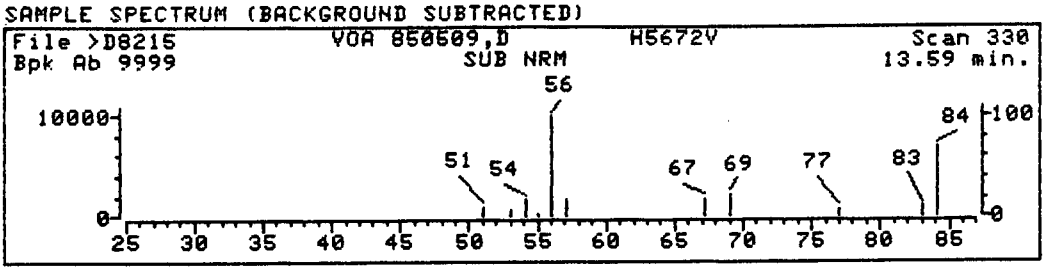
1) For each tentatively identified compound a mass spectrum of the detected compound, a reference mass spectrum for that compound and a plot of the spectral differences are provided.

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

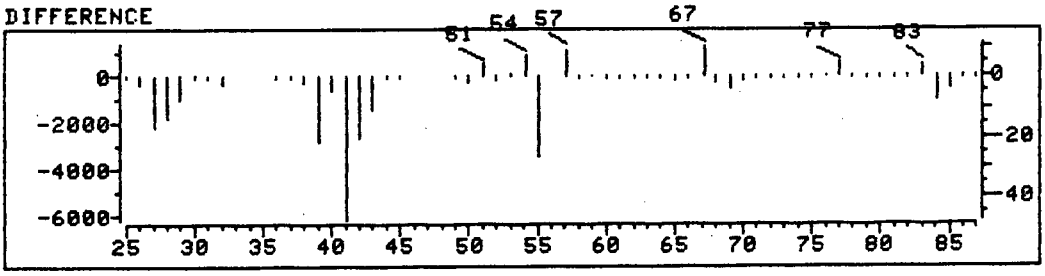


Data File: >D8215::U4
Name: VOA 850509,D
Misc Data: H5672V

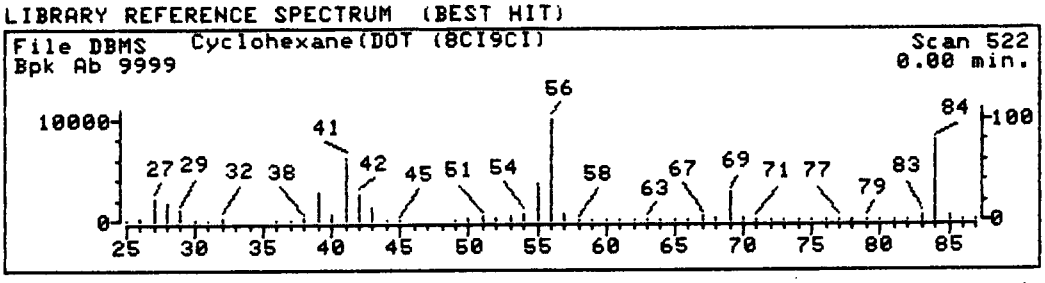
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



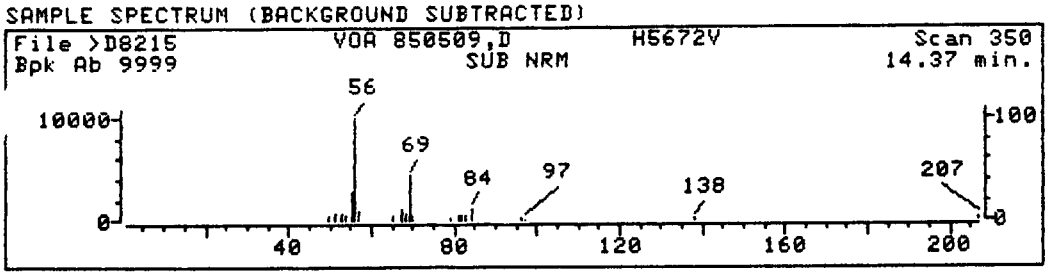
Data File: >D8215::U4
Name: VOA 850509,D
Misc Data: H5672V
RT (min): 13.59
Scan: 330
Area: 31572
Semi-quantitative Conc: 64.31 NG

Data File: >D8215 Scan Number: 330
Search Speed: 2 Titling option: S Number of ion ranges searched: 61

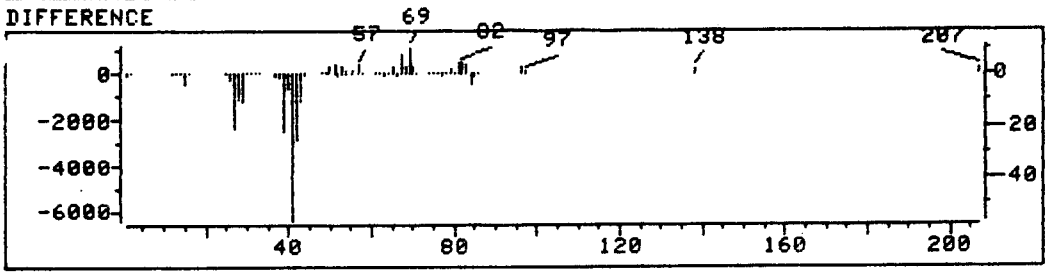
1.	Cyclohexane(DOT (8CI9CI)	84 C6H12
2.	Cyclobutanone, 2-methyl- (8CI9CI)	84 C5H8O
3.	3-Hexene, (E)- (8CI9CI)	84 C6H12

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	52	110827	29	64	2	0
2.	37	1517153	24	38	2	0
3.	29	13269528	22	75	3	0

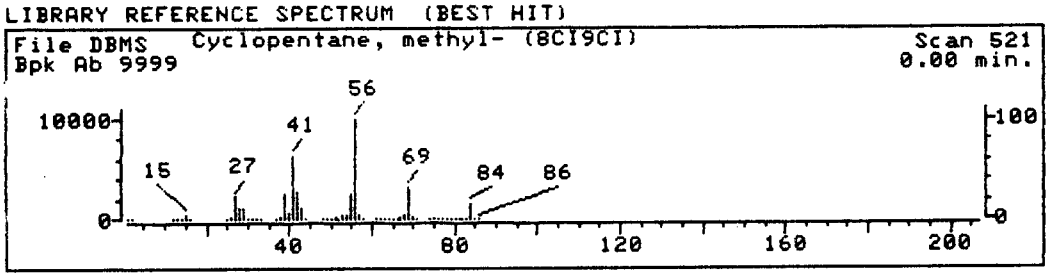
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



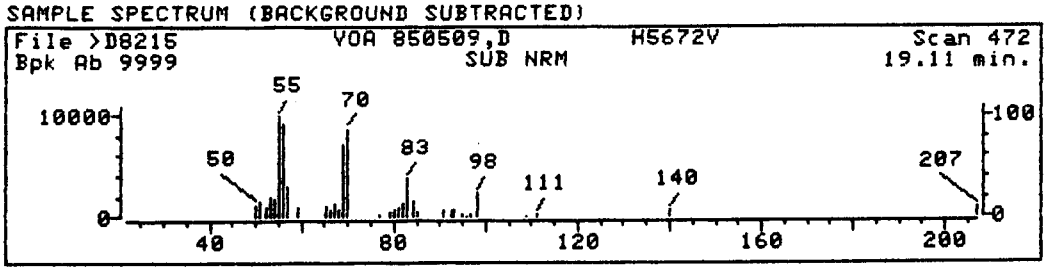
Data File: >D8215::U4
Name: VOA 850509,D
Misc Data: H5672V
RT (min): 14.37
Scan: 350
Area: 43421
Semi-quantitative Conc: 88.44 NG

Data File: >D8215 Scan Number: 350
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

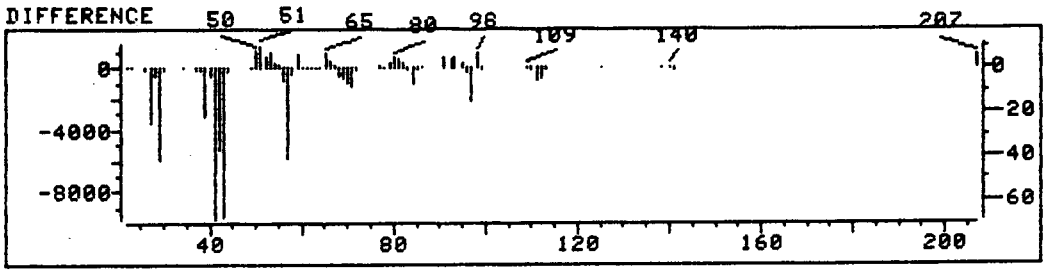
1.	Cyclopentane, methyl- (8CI9CI)	84 C6H12
2.	Cyclobutane, ethyl- (8CI9CI)	84 C6H12
3.	1H-Tetrazole, 5-methyl- (8CI9CI)	84 C2H4N4

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	37	96377	26	61	1	0
2.	31	4806615	28	55	0	0
3.	29	4076362	31	53	1	0

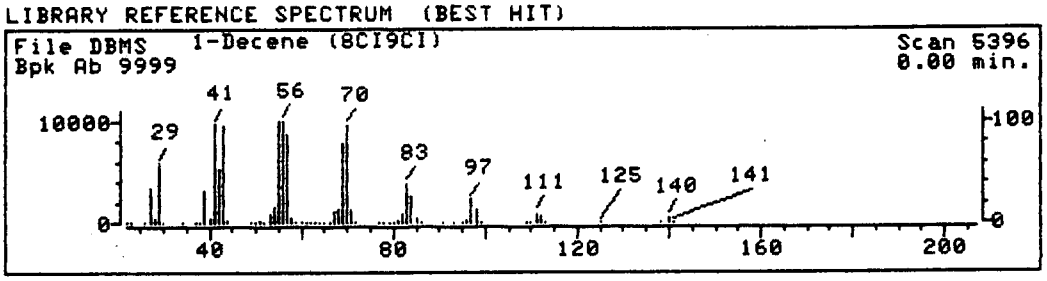
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



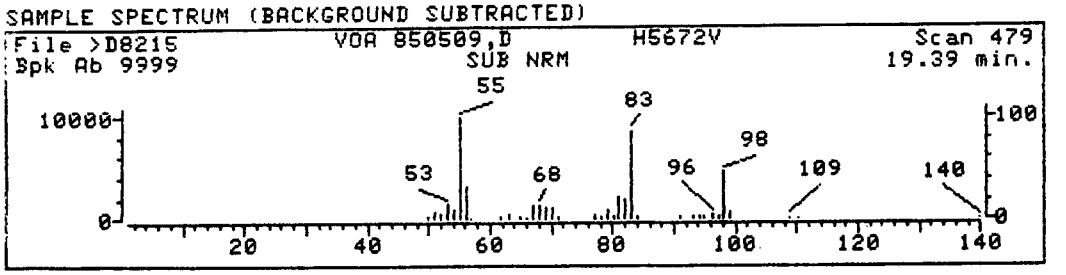
Data File: >D8215::U4
Name: VOA 850509,D
Misc Data: H5672V
RT (min): 19.11
Scan: 472
Area: 38933
Semi-quantitative Conc: 79.30 NG

Data File: >D8215 Scan Number: 472
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

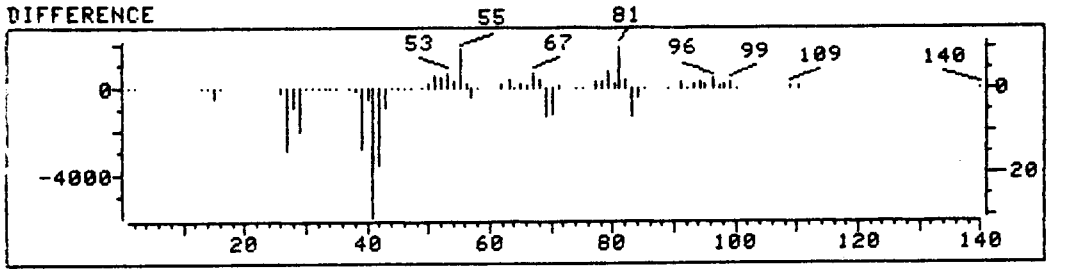
1.	1-Decene (8CI9CI)	140	C10H20
2.	1-Octene, 3,7-dimethyl- (8CI9CI)	140	C10H20
3.	Cyclopentane, 1,2-dimethyl-, cis- (8CI9CI)	98	C7H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	872059	50	71	3	0
2.	60	4984014	40	68	2	0
3.	60	1192183	34	68	2	0

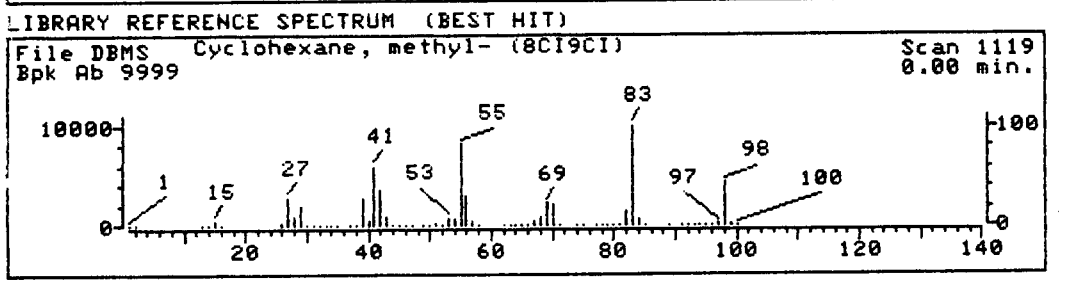
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



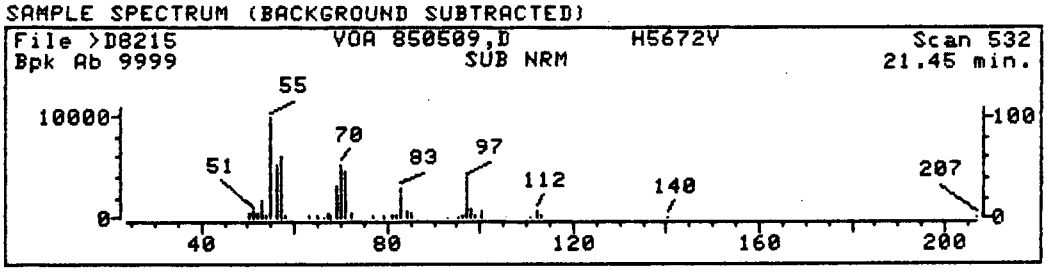
Data File: >D8215::U4
Name: VOA 850509,D
Misc Data: H5672V
RT (min): 19.39
Scan: 479
Area: 155472
Semi-quantitative Conc: 316.68 NG

Data File: >D8215 Scan Number: 479
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

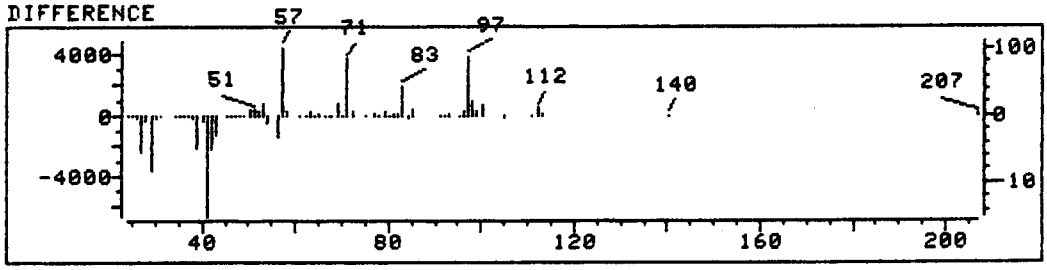
1. Cyclohexane, methyl- (8CI9CI) 98 C7H14
2. 2-Pentene, 3,4-dimethyl-, (E)- (8CI9CI) 98 C7H14
3. 2-Pentene, 4,4-dimethyl- (8CI9CI) 98 C7H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	108872	51	52	3	0
2.	59	4914925	47	49	1	0
3.	56	26232984	48	42	2	0

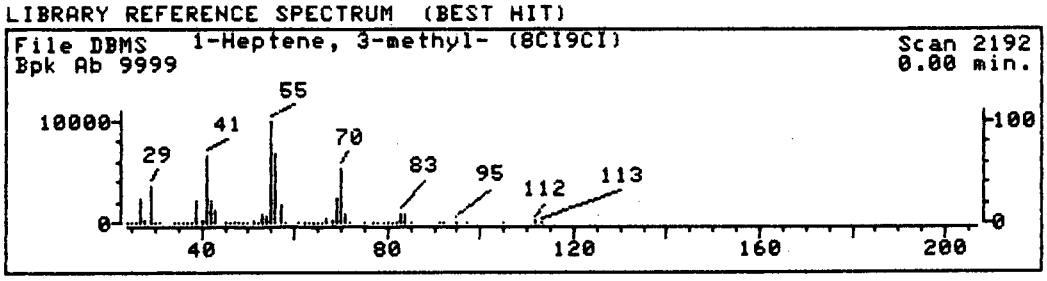
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



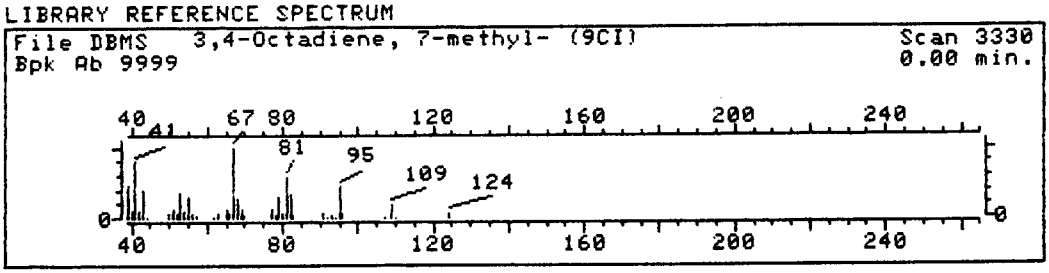
Data File: >D8215::U4
Name: VOA 850509,D
Misc Data: H5672V
RT (min): 21.45
Scan: 532
Area: 208614
Semi-quantitative Conc: 424.92 NG

Data File: >D8215 Scan Number: 532
Search Speed: 2 Titling option: S Number of ion ranges searched: 60

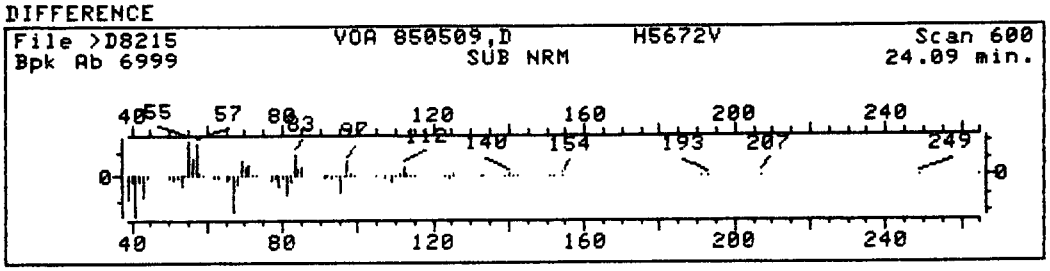
1. 1-Heptene, 3-methyl- (8CI9CI) 112 C8H16
2. Cyclopropane, butyl- (9CI) 98 C7H14
3. Cyclopentane, 1,1,3-trimethyl- (8CI9CI) 112 C8H16

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	32	4810097	34	62	1	0
2.	31	930574	35	73	1	0
3.	30	4516692	34	61	1	0

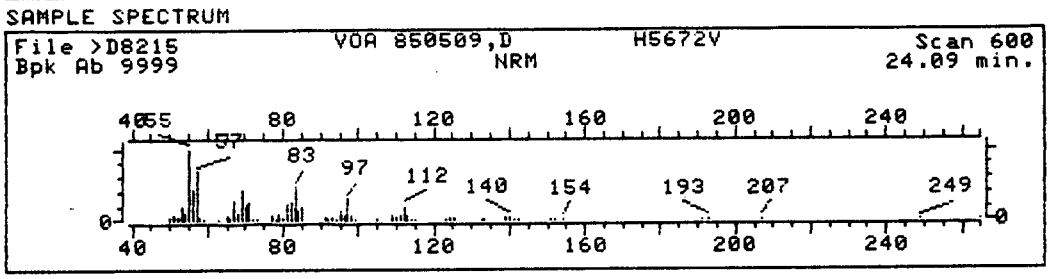
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



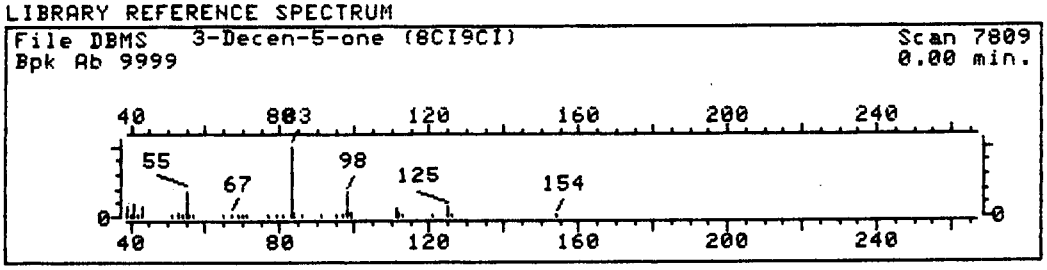
Data File: >D8215
Scan Number: 600
Hit number : 1 of 1

Rec.#: 3330 Reg.#: 37050058 Xref.#: 54090 Base : DBMS:D
Name: 3,4-Octadiene, 7-methyl- (9CI)
MW : 124.125 QI: 600 MF: C9H16

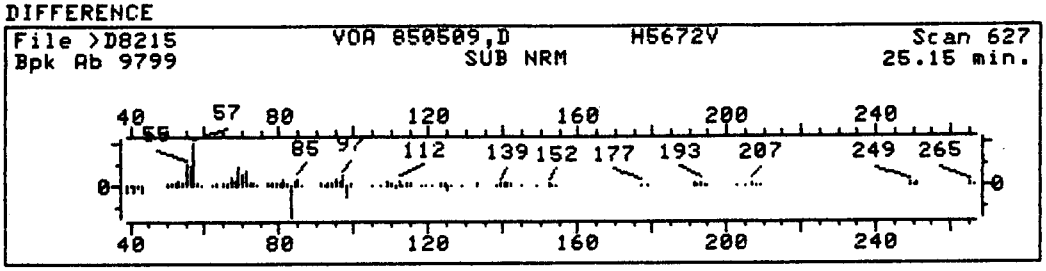
PBM Values:

Class IV Reliability value: 81
K-value: 70
dK-value: 41
Flagged Ions: 1
Tilt factor: *

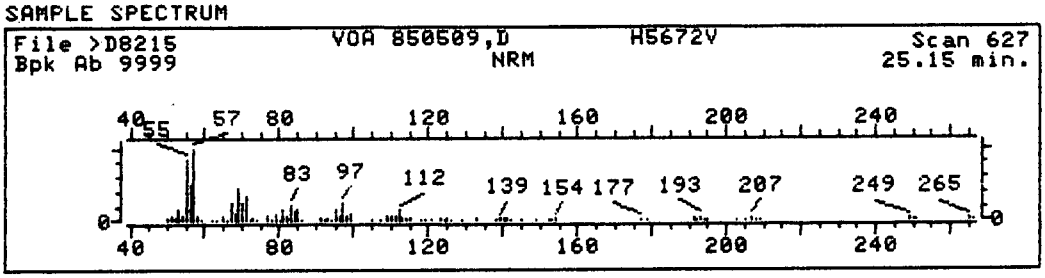
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



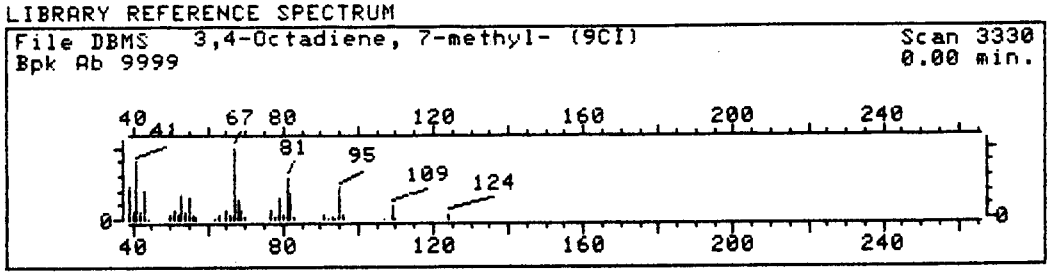
Data File: >D8215
Scan Number: 627
Hit number : 1 of 1

Rec.#: 7809 Reg.#: 32064736 Xref.#: 5114 Base : DBMS:D
Name: 3-Decen-5-one (8CI9CI)
MW : 154.135 QI: 502 MF: C10H18O

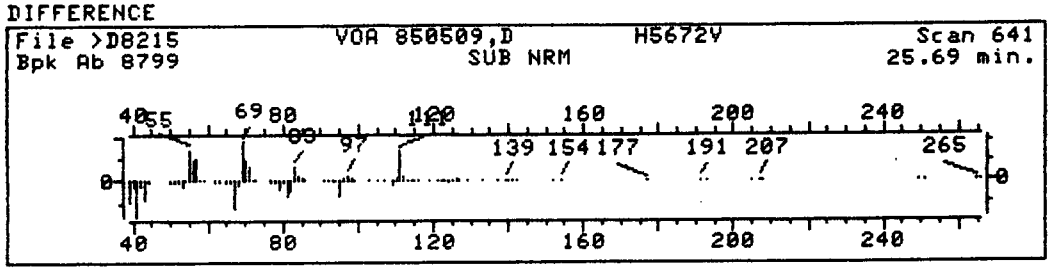
PBM Values:

Class IV Reliability value: 83
K-value: 38
dK-value: 56
Flagged Ions: 0
Tilt factor: *

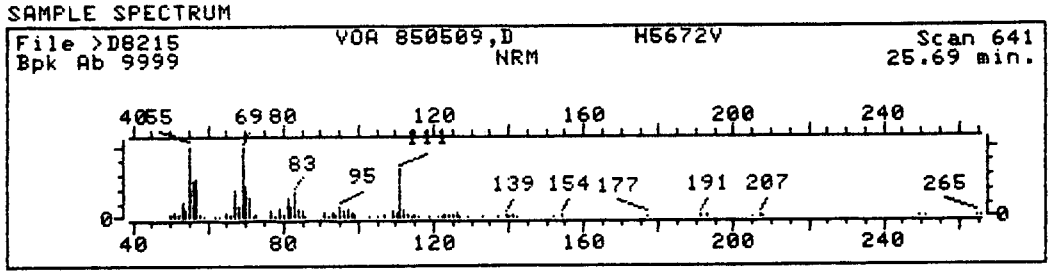
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



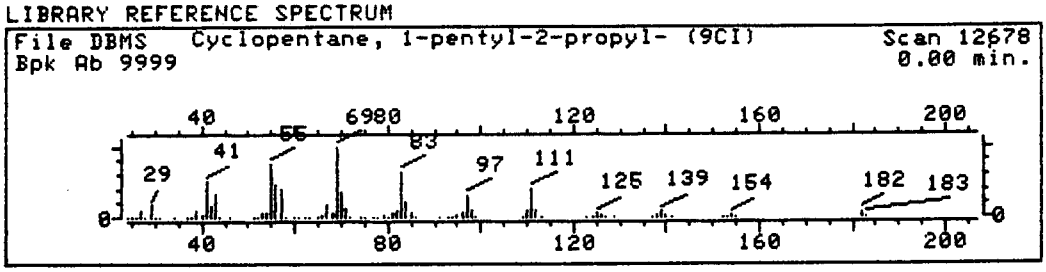
Data File: >D8215
Scan Number: 641
Hit number : 1 of 1

Rec.#: 3330 Reg.#: 37050058 Xref.#: 54090 Base : DBMS:D
Name: 3,4-Octadiene, 7-methyl- (9CI)
MW : 124.125 QI: 600 MF: C9H16

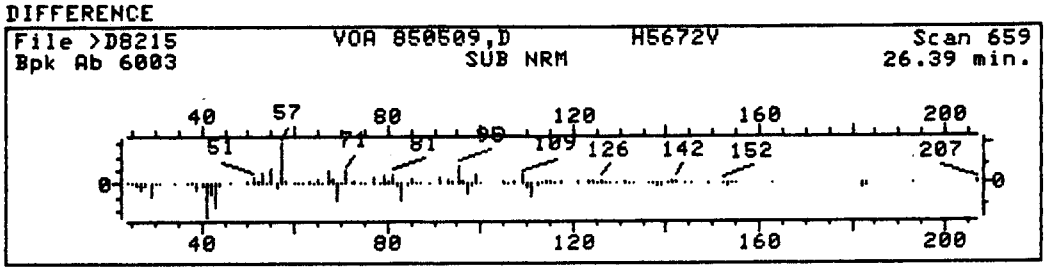
PBM Values:

Class IV Reliability value: 78
K-value: 47
dK-value: 64
Flagged Ions: 1
Tilt factor: *

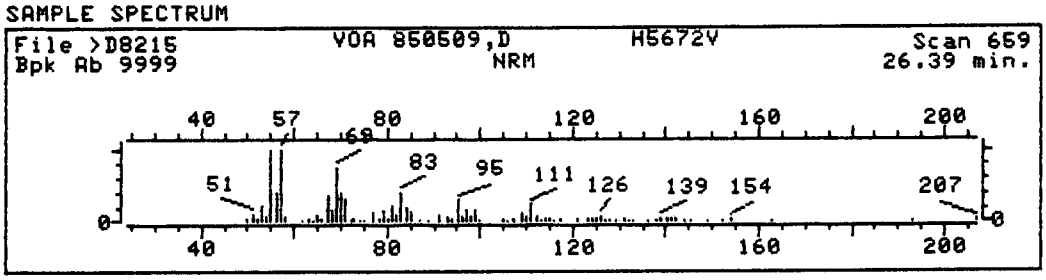
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



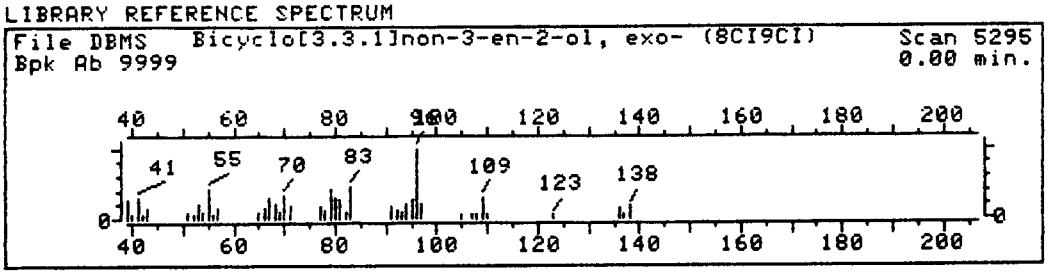
Data File: >D8215
Scan Number: 659
Hit number : 1 of 1

Rec.#: 12678 Reg.#: 62199513 Xref.#: 61268 Base : DBMS:D
Name: Cyclopentane, 1-pentyl-2-propyl- (9CI)
MW : 182.203 QI: 614 MF: C13H26

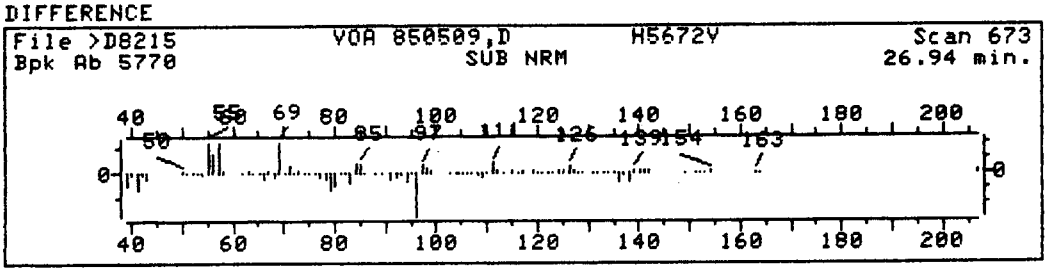
PBM Values:

Class IV Reliability value: 58
K-value: 67
dK-value: 59
Flagged Ions: 0
Tilt factor: 0

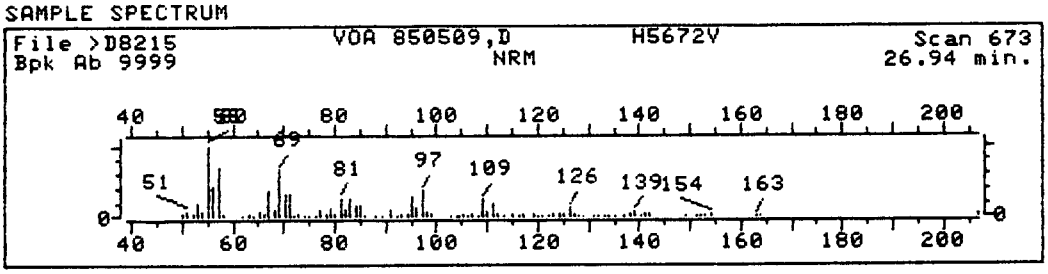
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



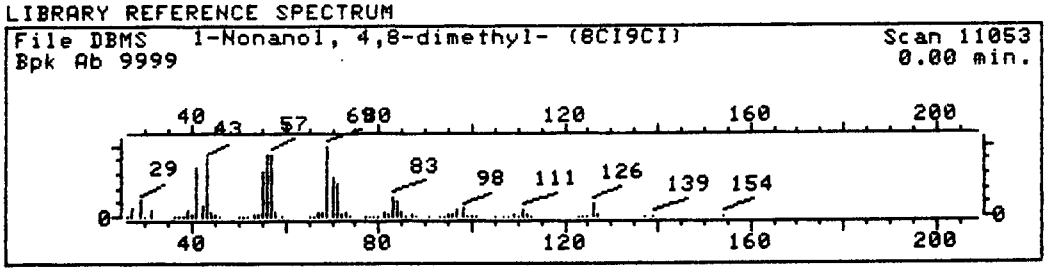
Data File: >D8215
Scan Number: 673
Hit number : 1 of 1

Rec.#: 5295 Reg.#: 10060216 Xref.#: 68966 Base : DBMS:D
Name: Bicyclo[3.3.1]non-3-en-2-ol, exo- (8CI9CI)
MW : 138.104 QI: 448 MF: C9H14O

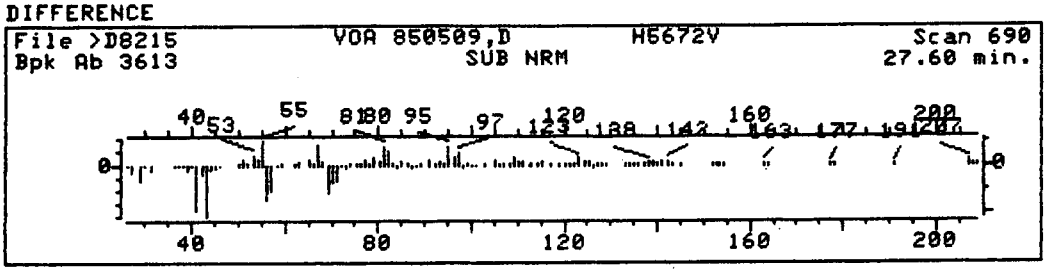
PBM Values:

Class IV Reliability value: 83
K-value: 42
dK-value: 85
Flagged Ions: 0
Tilt factor: *

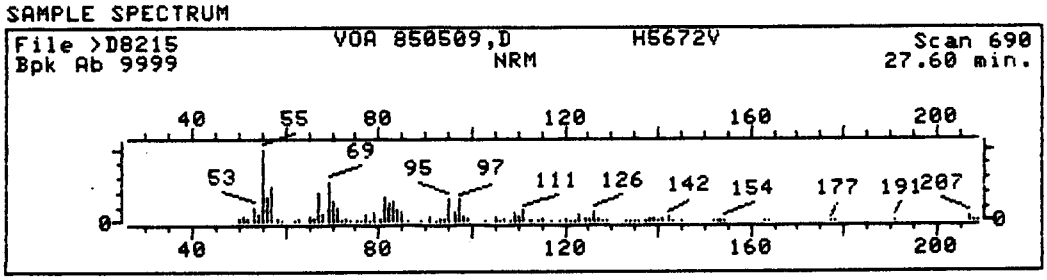
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



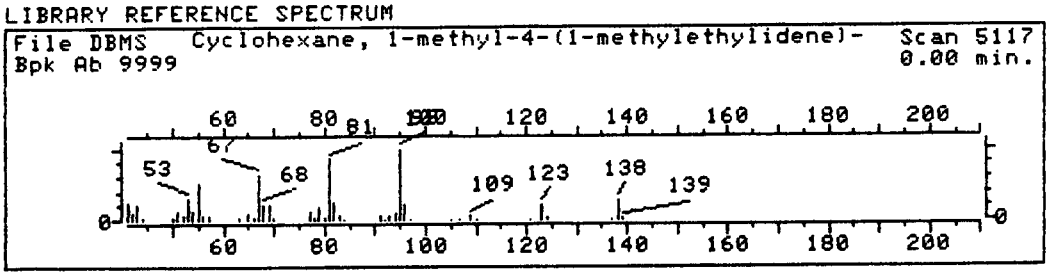
Data File: >D8215
Scan Number: 690
Hit number : 1 of 1

Rec.#: 11053 Reg.#: 33933801 Xref.#: 6772 Base : DBMS:D
Name: 1-Nonanol, 4,8-dimethyl- (8CI9CI)
MW : 172.182 QI: 599 MF: C11H24O

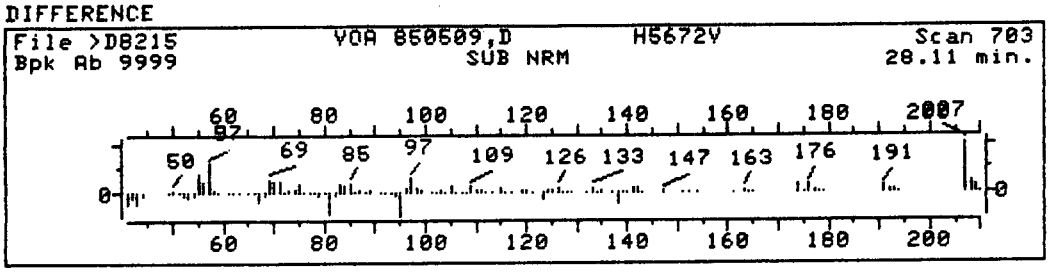
PBM Values:

Class IV Reliability value: 86
K-value: 74
dK-value: 50
Flagged Ions: 0
Tilt factor: *

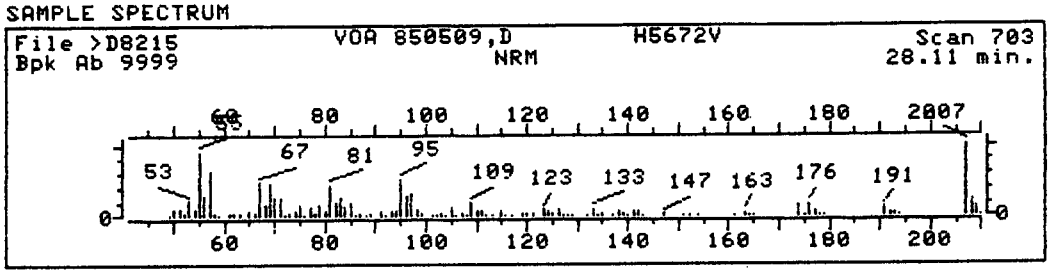
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



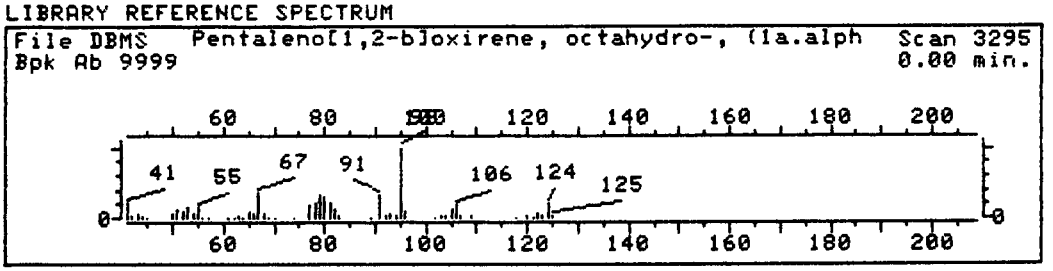
Data File: >D8215
Scan Number: 703
Hit number : 1 of 1

Rec.#: 5117 Reg.#: 1124272 Xref.#: 46551 Base : DBMS:D
Name: Cyclohexane, 1-methyl-4-(1-methylethylidene)- (9CI)
MW : 138.140 QI: 630 MF: C10H18

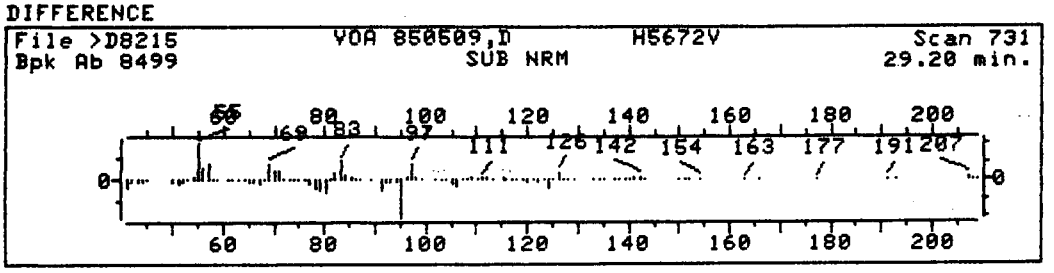
PBM Values:

Class IV Reliability value: 75
K-value: 49
dK-value: 23
Flagged Ions: 0
Tilt factor: 3

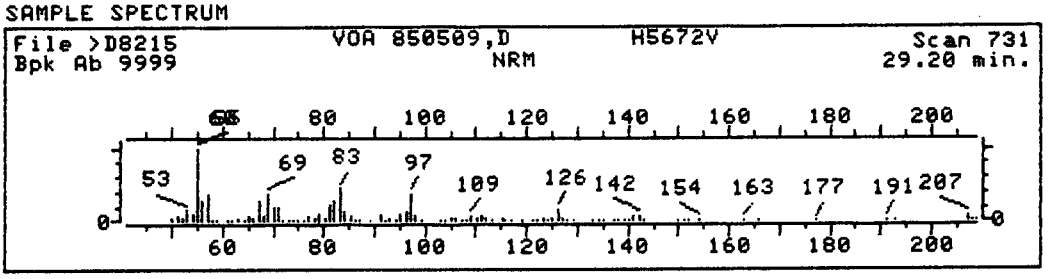
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



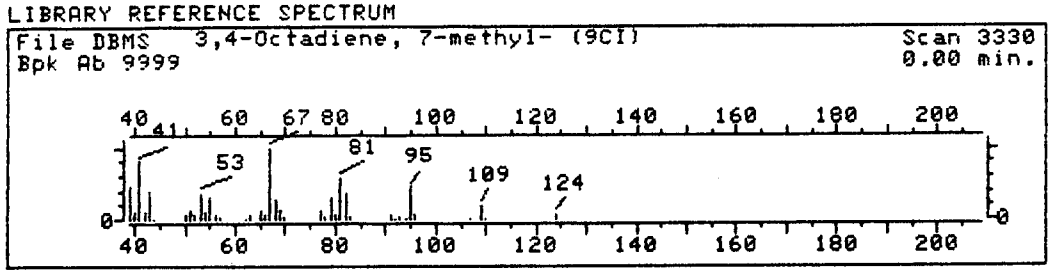
Data File: >D8215
Scan Number: 731
Hit number : 1 of 1

Rec.#: 3295 Reg.#: 55449713 Xref.#: 46419 Base : DBMS:D
Name: Pentaleno[1,2-b]oxirene, octahydro-, (1a.alpha.,1b.alpha.,4a.beta.,5a alpha.)- (9CI)
MW : 124.089 QI: 584 MF: C8H12O

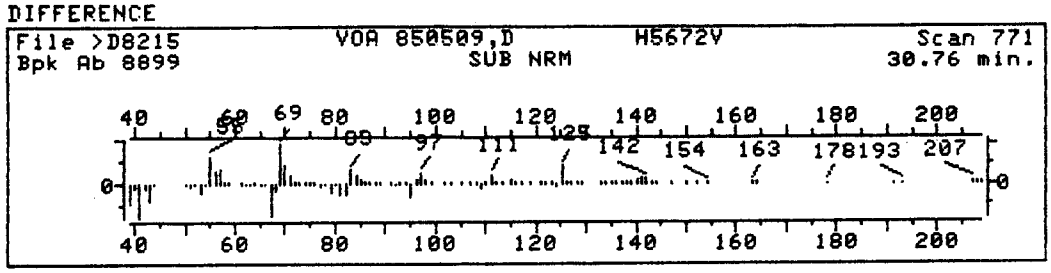
PBM Values:

Class IV Reliability value: 83
K-value: 41
dK-value: 68
Flagged Ions: 0
Tilt factor: *

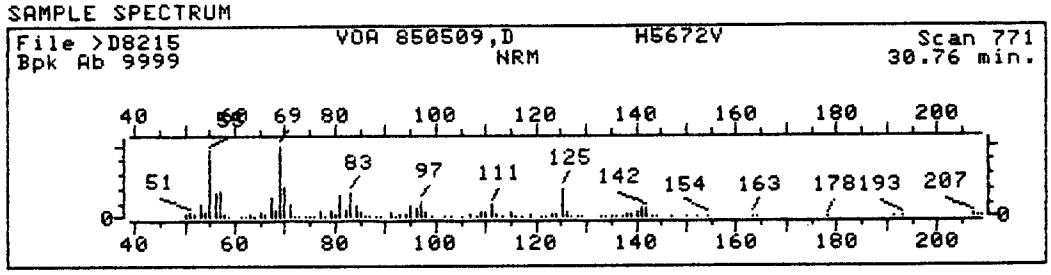
LIBRARY REFERENCE SPECTRUM



DIFFERENCE



SAMPLE SPECTRUM



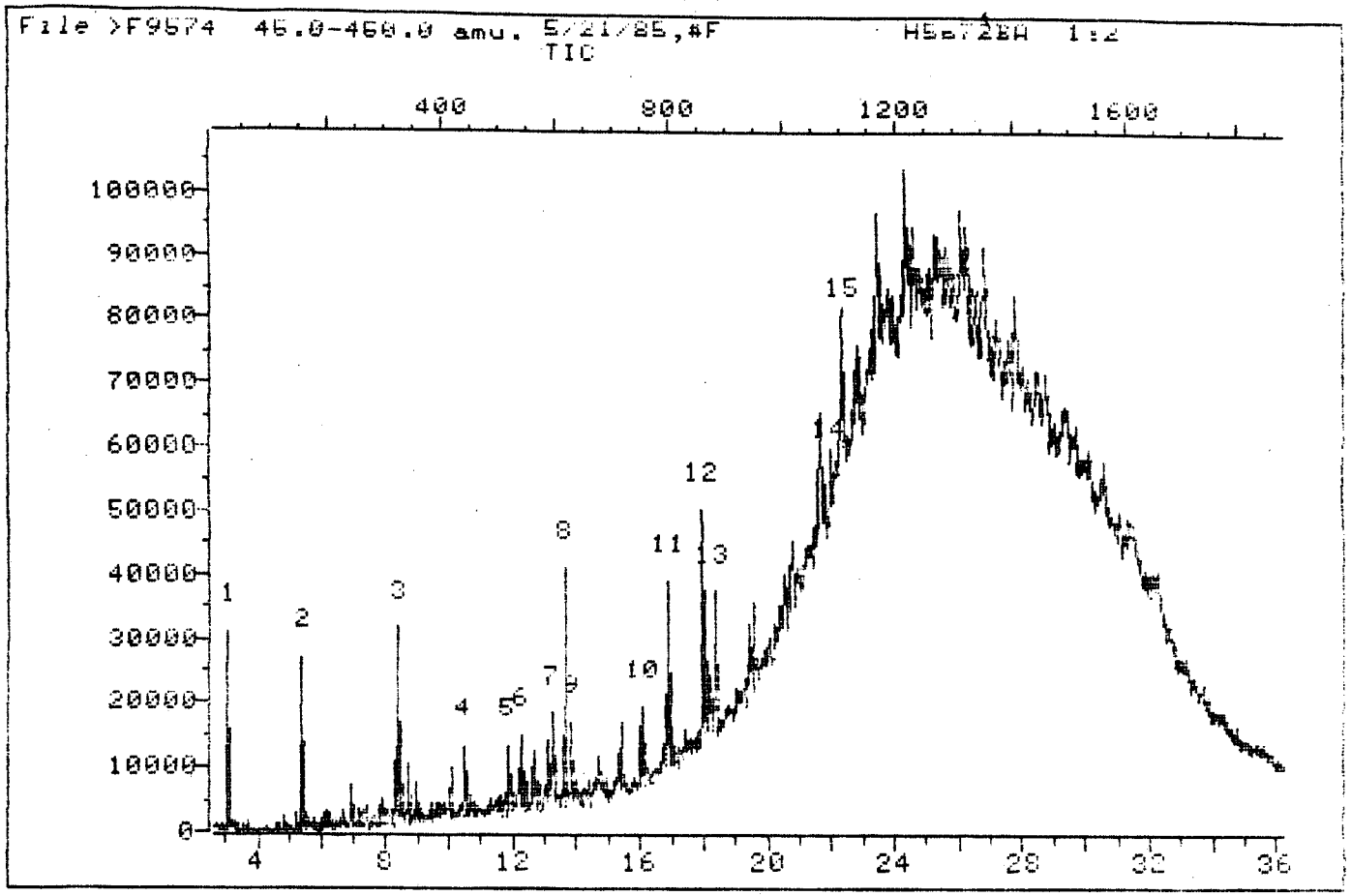
Data File: >D8215
Scan Number: 771
Hit number : 1 of 1

Rec.#: 3330 Reg.#: 37050058 Xref.#: 54090 Base : DBMS:D
Name: 3,4-Octadiene, 7-methyl- (9CI)
MW : 124.125 QI: 600 MF: C9H16

PBM Values:

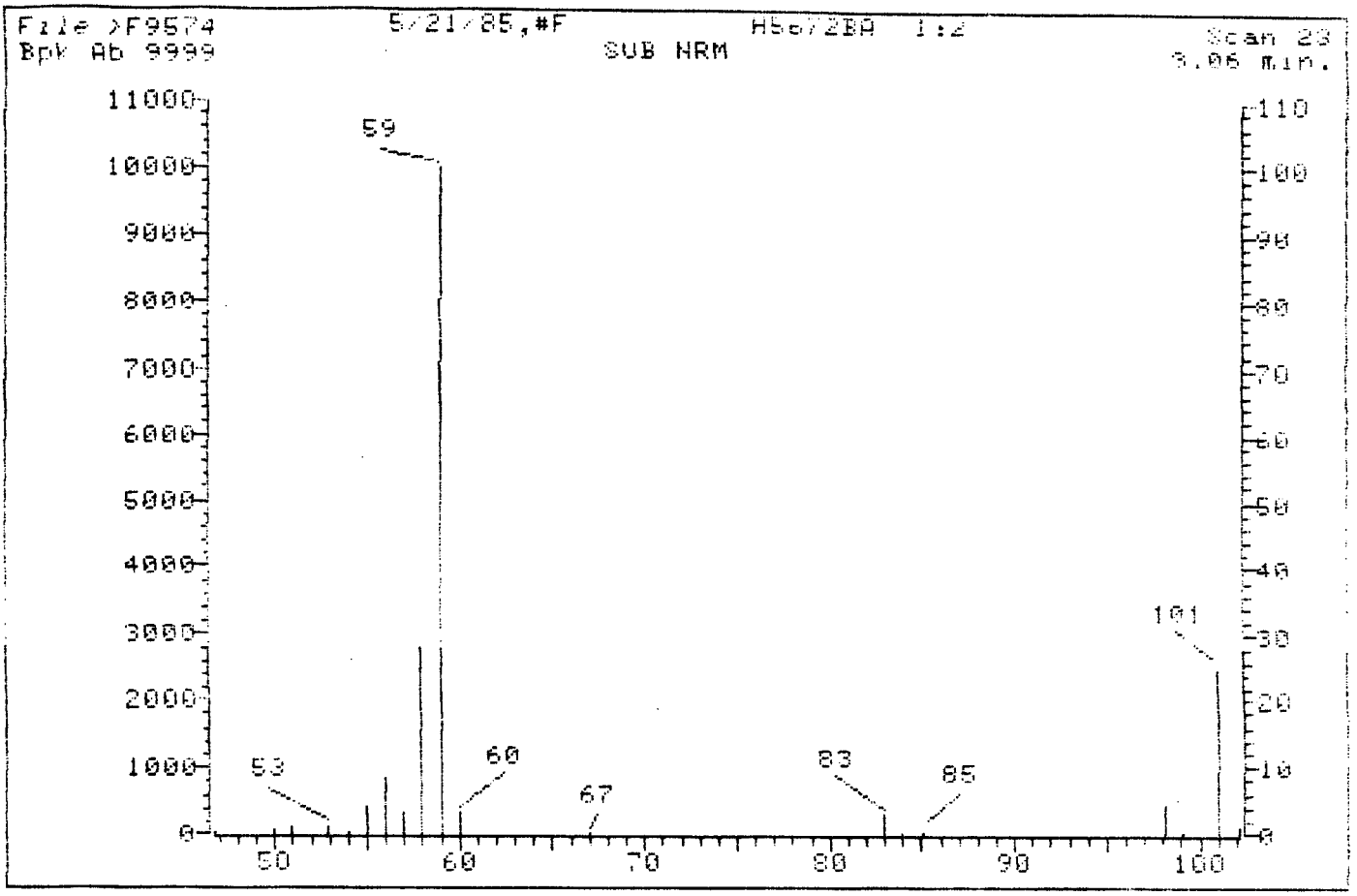
Class IV Reliability value: 87
K-value: 64
dK-value: 47
Flagged Ions: 1
Tilt factor: *

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2

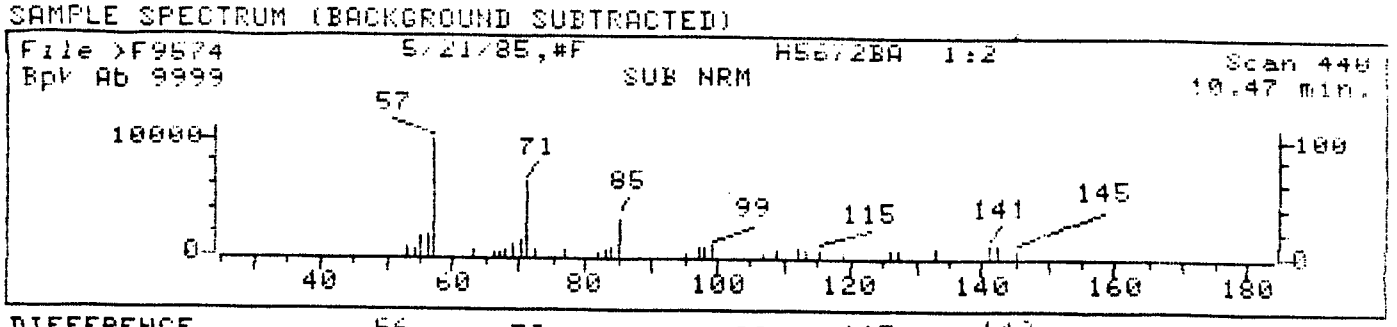
BTL#33



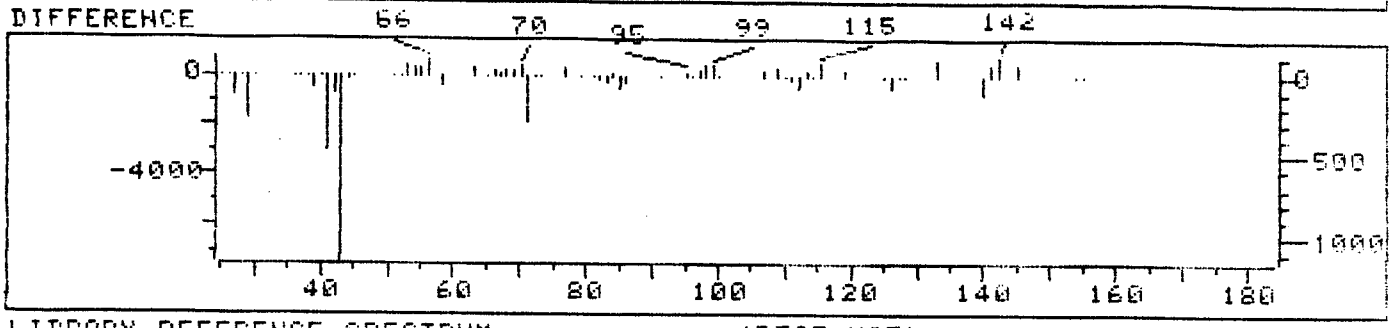
Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 3.06
Scan: 23
Area: 51984
Semi-quantitative Conc: 34.72 UG/ML

No PBM hits for this scan.

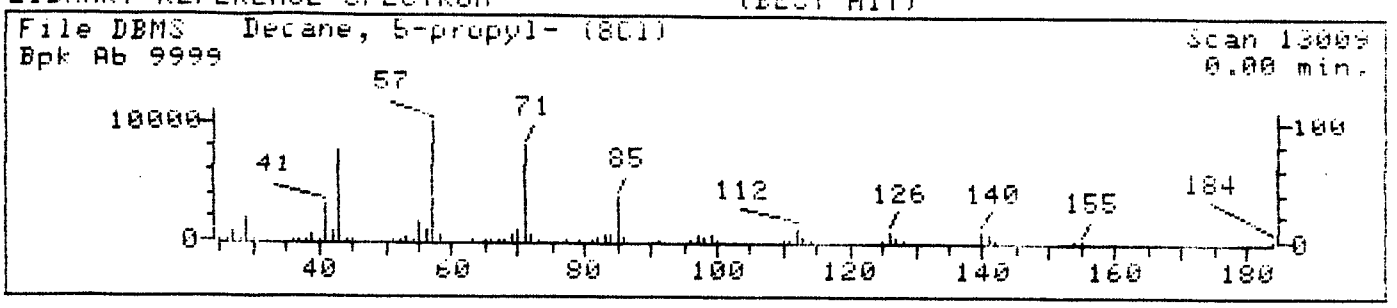
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



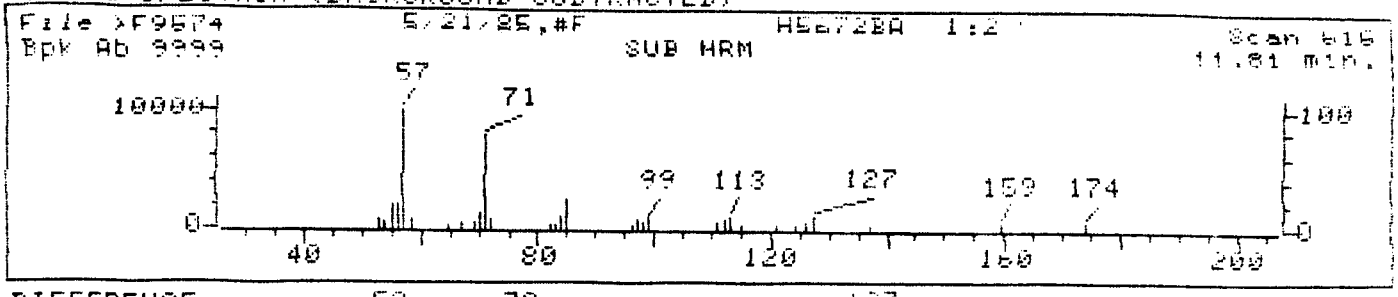
Data File: >F9574.:U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 10.47
Scan: 440
Area: 38815
Semi-quantitative Conc: 25.90 UG/ML

Data File: >F9574 Scan Number: 440
Search Speed: 2 Titling option: S Number of ion ranges searched: 71

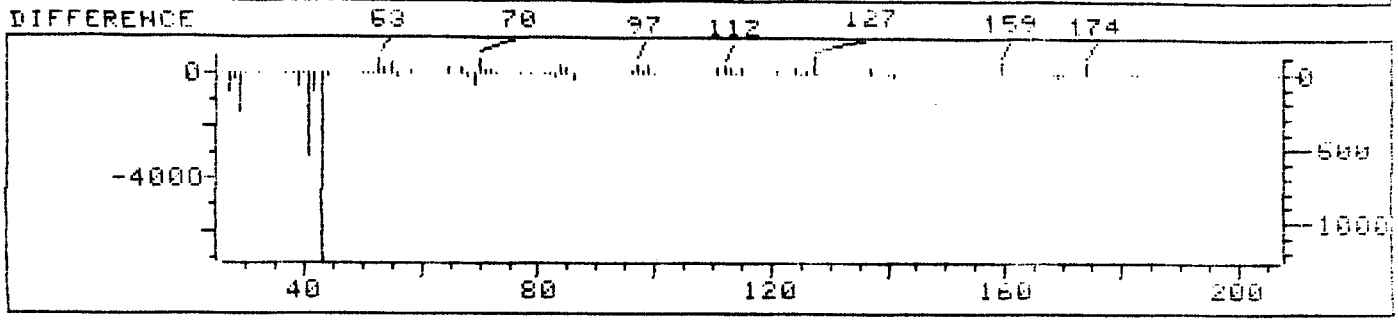
1. Decane, 5-propyl- (8CI) 184 C13H28
2. Nonane, 2-methyl-5-propyl- (8CI) 184 C13H28
3. Pentadecane (8CI9CI) 212 C15H32

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	79	17312628	60	51	2	0
2.	70	31081171	54	49	2	0
3.	67	629629	79	41	2	0

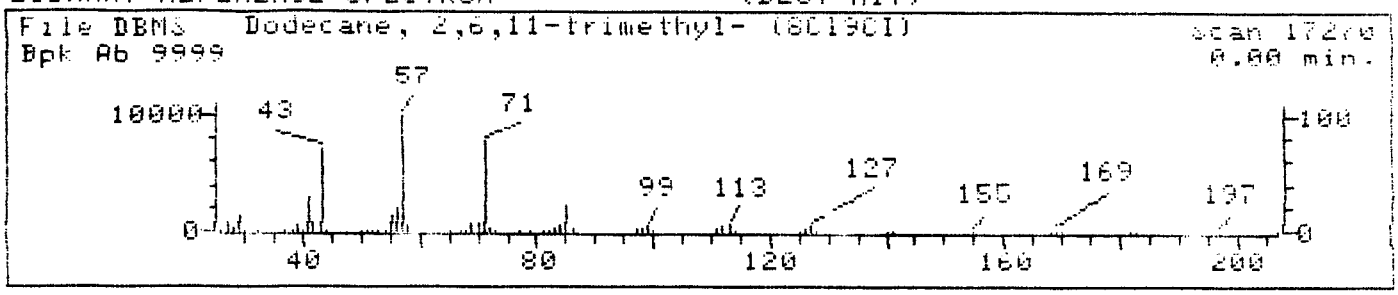
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



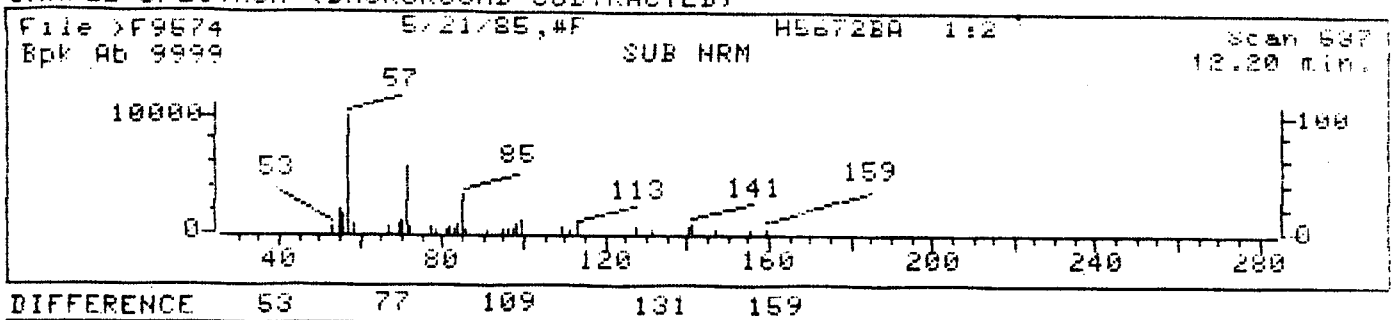
Data File: >F9574..U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 11.81
Scan: 515
Area: 31623
Semi-quantitative Conc. 21.16 UG/ML

Data File: >F9574 Scan Number: 515
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

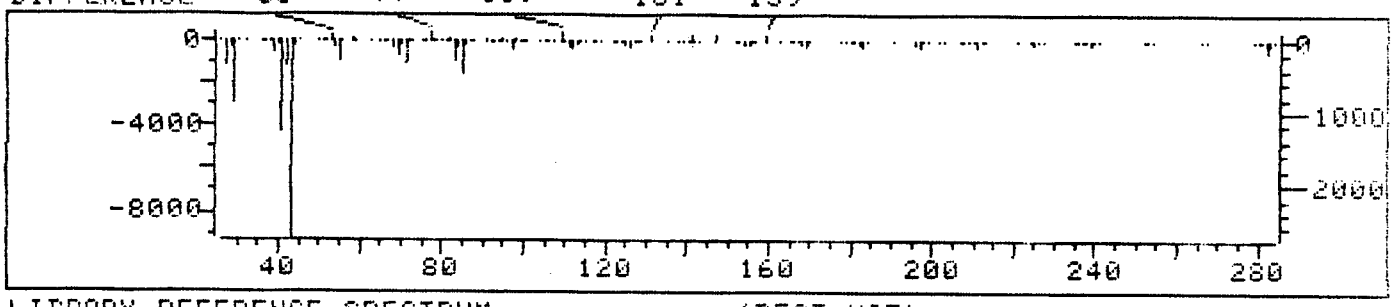
1. Dodecane, 2,6,11-trimethyl- (8CI9CI) 212 C15H32
2. Dodecane, 2,6,10-trimethyl- (8CI9CI) 212 C15H32
3. Dodecane, 2,7,10-trimethyl- (9CI) 212 C15H32

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	79	31295564	82	24	2	0
2.	78	3891983	78	46	2	2
3.	76	74645980	78	31	2	0

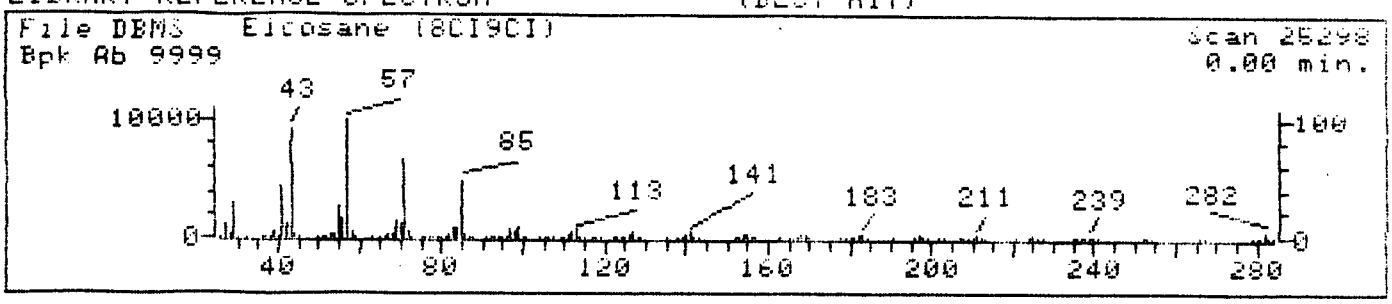
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



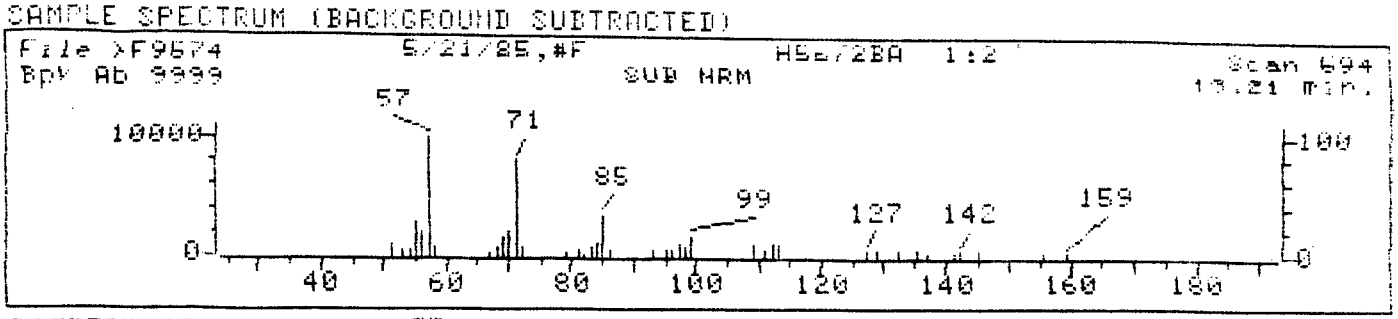
Data File: >F9574.:U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 12.20
Scan: 537
Area: 33587
Semi-quantitative Conc: 22.48 UG/ML

Data File: >F9574 Scan Number: 537
Search Speed: 2 Titling option: S Number of ion ranges searched: 66

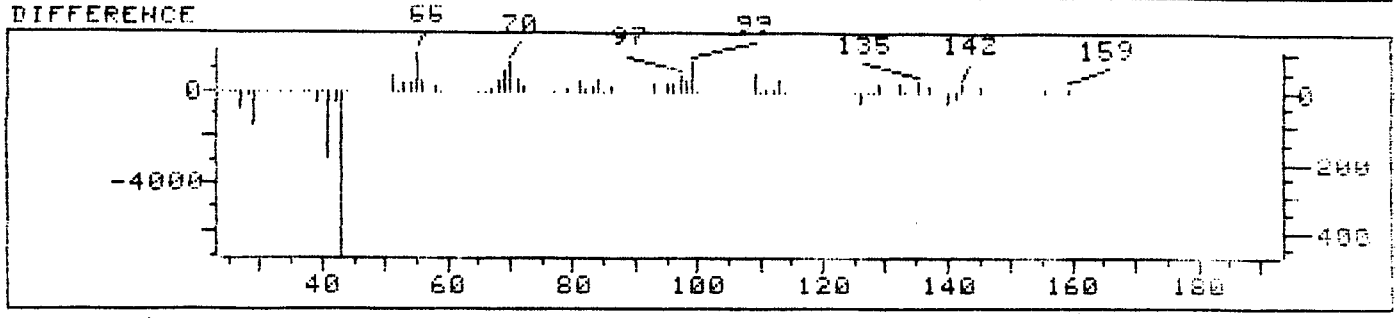
1.	Eicosane (8CI9CI)	282 C20H42
2.	Octacosane (8CI9CI)	394 C28H58
3.	Nonacosane (8CI9CI)	408 C29H60

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	112958	80	59	2	0
2.	78	630024	66	71	2	0
3.	78	630035	67	78	2	0

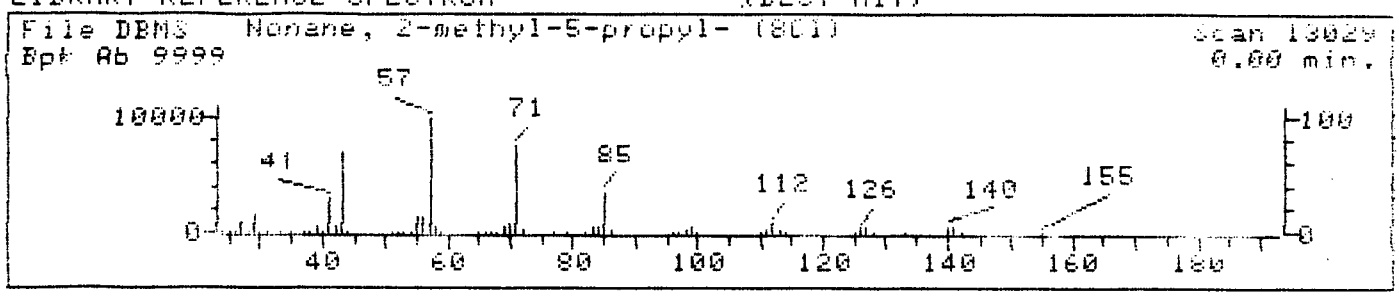
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



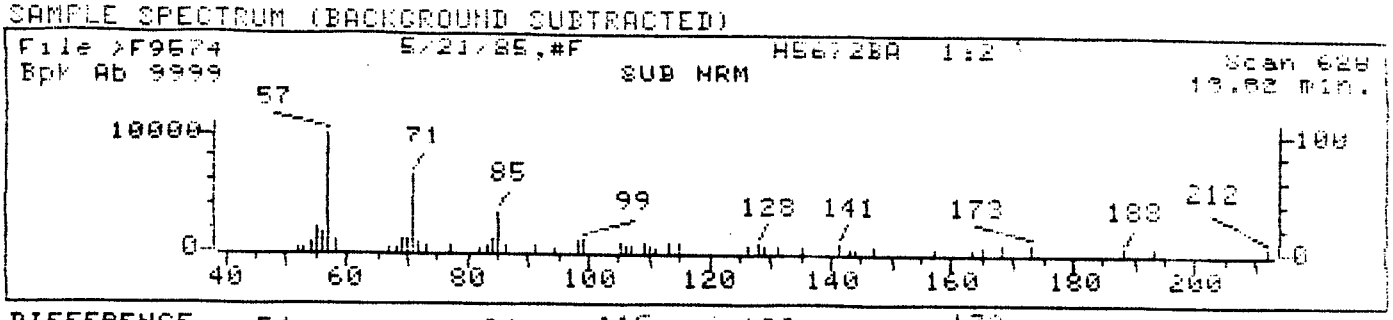
Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 13.21
Scan: 594
Area: 43405
Semi-quantitative Conc: 29.05 UG/ML

Data File: >F9574 Scan Number: 594
Search Speed: 2 Titling option: S Number of ion ranges searched: 61

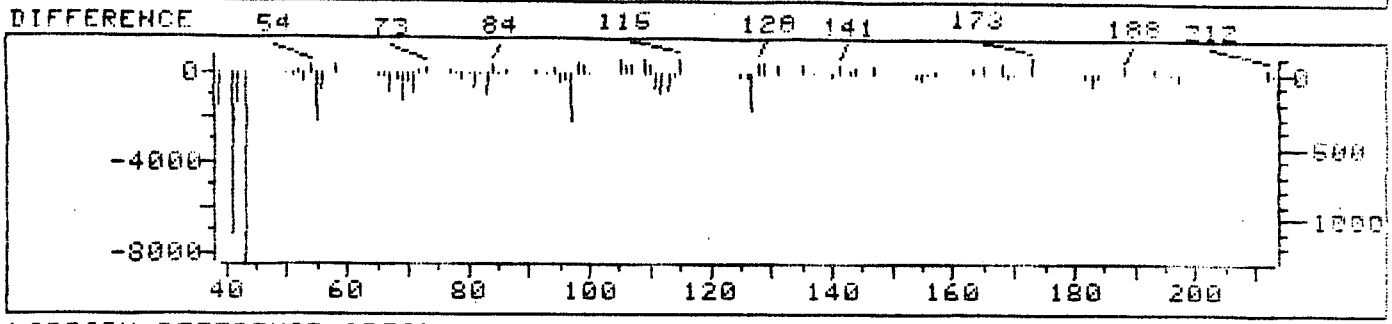
1. Nonane, 2-methyl-5-propyl- (8CI) 184 C13H28
2. Heptadecane, 2,6,10,15-tetramethyl- (9CI) 296 C21H44
3. Octane, 2,3,7-trimethyl- (9CI) 156 C11H24

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	31081171	65	38	2	0
2.	60	54033486	72	61	2	0
3.	58	62016346	56	37	1	0

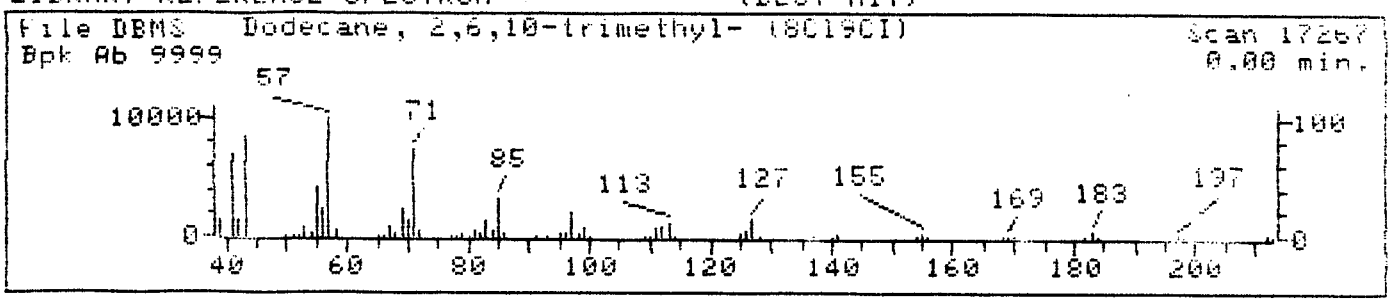
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



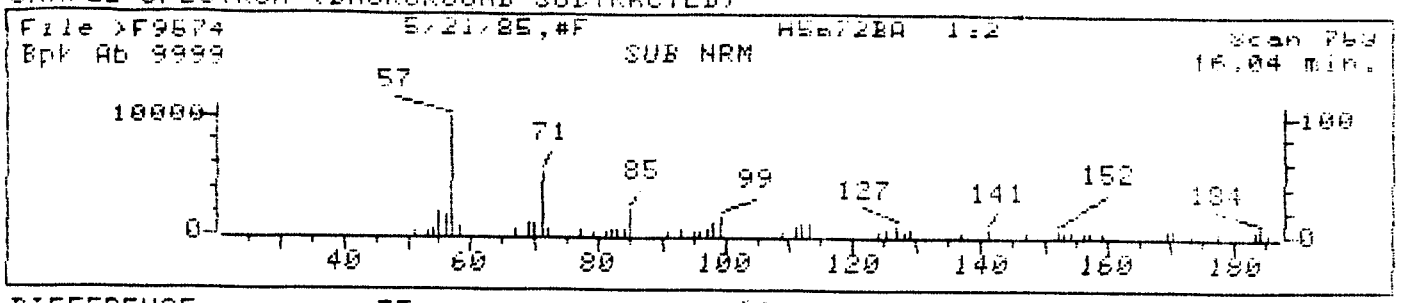
Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 13.02
Scan: 628
Area: 20512
Semi-quantitative Conc. 19.00 UG/ML

Data File: >F9574 Scan Number: 628
Search Speed: 2 Titling option: S Number of ion ranges searched: 77

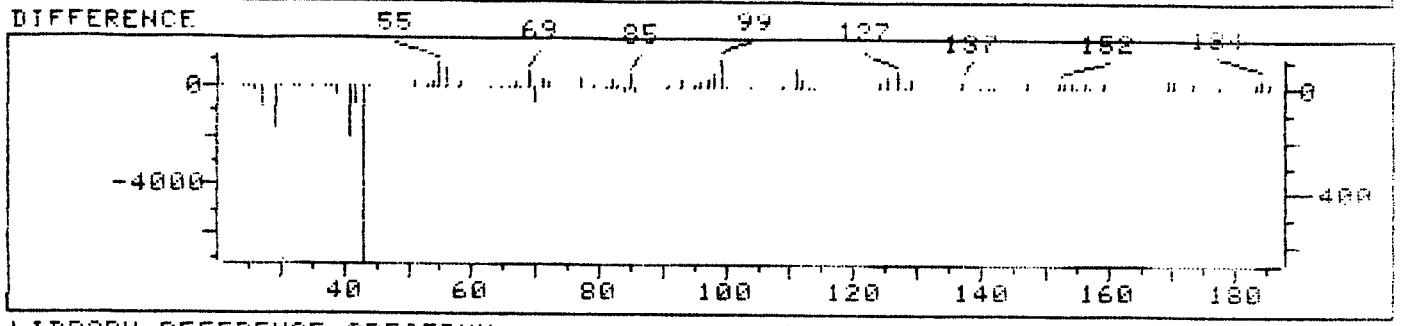
1. Dodecane, 2,6,10-trimethyl- (8CI9CI) 212 C15H32
2. Tridecane, 4,8-dimethyl- (9CI) 212 C15H32
3. Tetradecane, 2-methyl- (8CI9CI) 212 C15H32

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	3891983	42	82	3	0
2.	70	55030621	35	88	3	0
3.	70	1560958	27	97	3	0

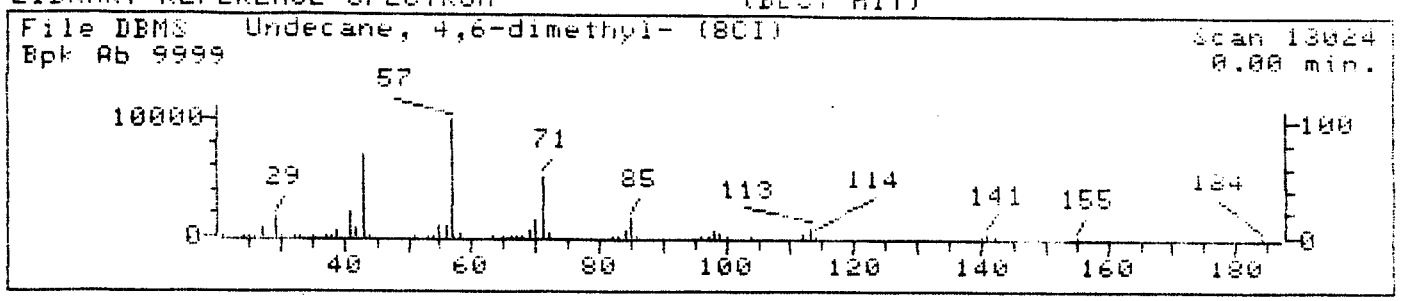
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



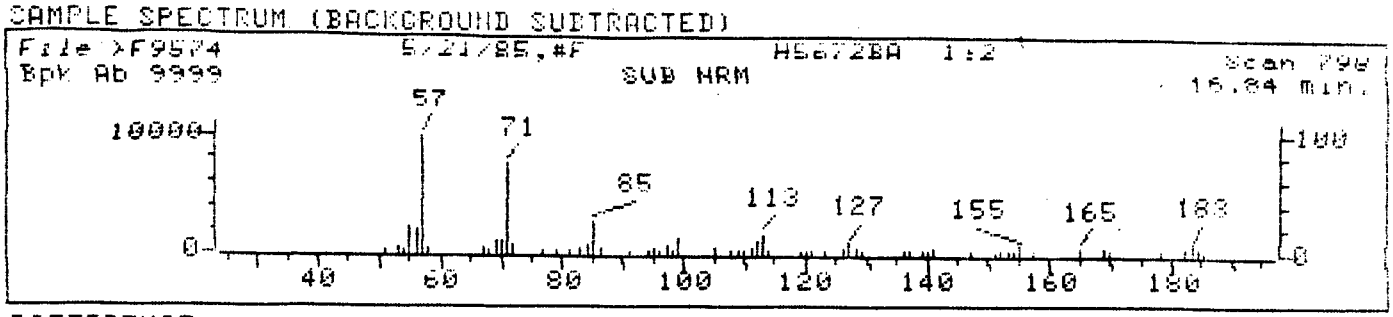
Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 DTL#33
RT (min): 16.04
Scan: 753
Area: 46022
Semi-quantitative Conc: 30.00 UG/ML

Data File: >F9574 Scan Number: 753
Search Speed: 2 Titling option: S Number of ion ranges searched: 70

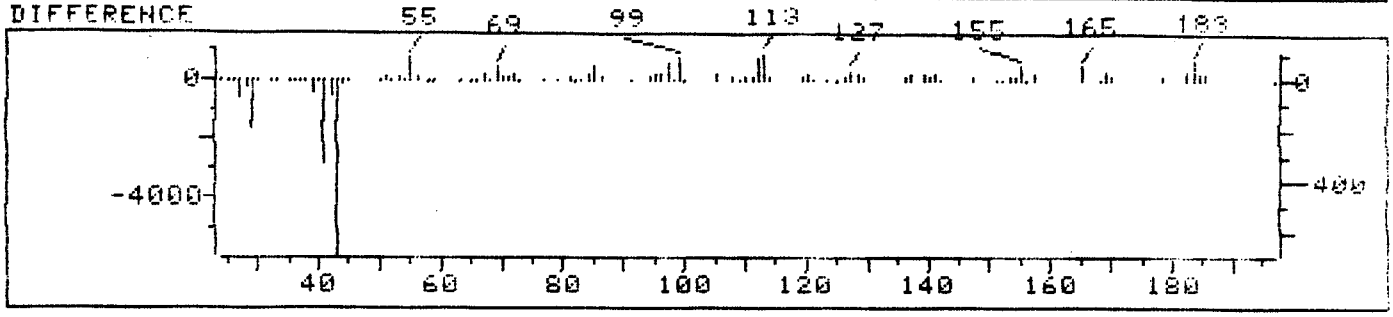
1. Undecane, 4,6-dimethyl- (8CI) 184 C13H28
2. Undecane, 3,6-dimethyl- (8CI) 184 C13H28
3. Undecane, 3,5-dimethyl- (8CI) 184 C13H28

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	71	17312022	56	42	2	0
2.	70	17301289	59	38	1	0
3.	67	17312011	49	49	2	0

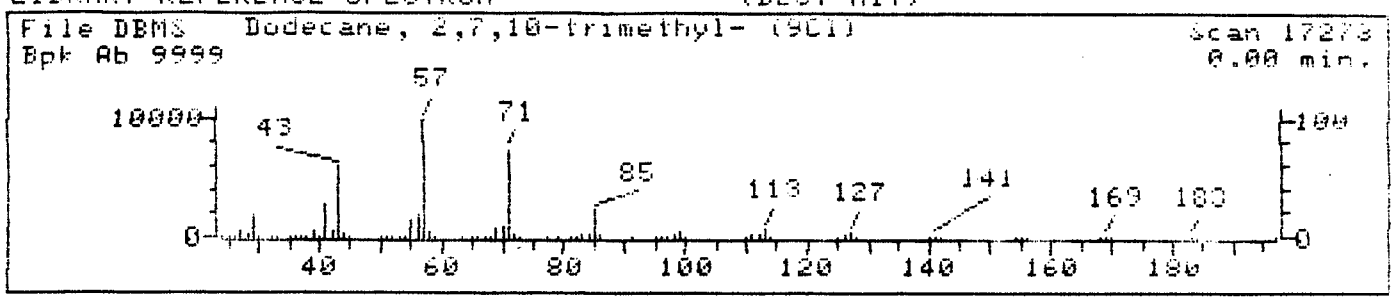
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



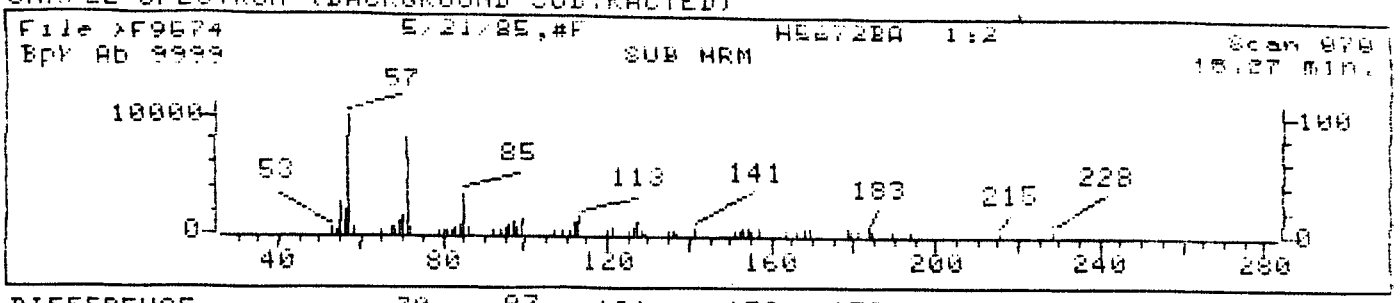
Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 16.84
Scan: 798
Area: 75415
Semi-quantitative Conc: 50.47 UG/ML

Data File: >F9574 Scan Number: 798
Search Speed: 2 Titling option: S Number of ion ranges searched: 61

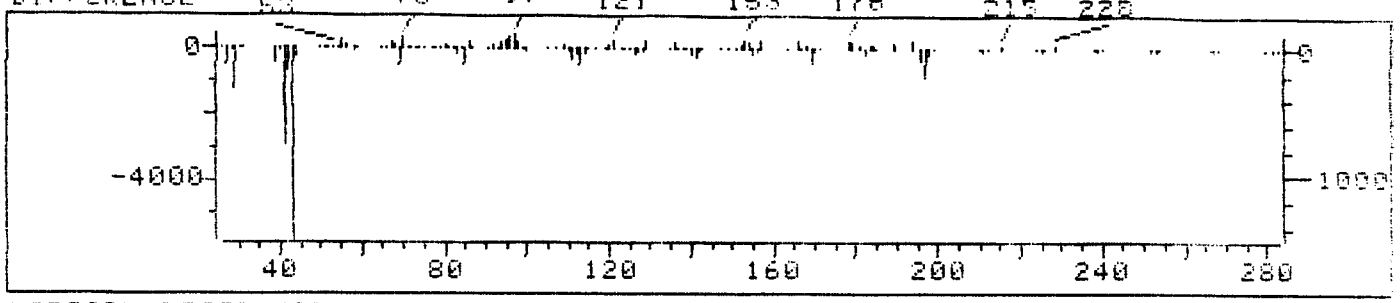
1. Dodecane, 2,7,10-trimethyl- (9CI) 212 C15H32
2. Pentadecane, 2,6,10,14-tetramethyl- (8CI9CI) 268 C19H40
3. Dodecane, 2,6,11-trimethyl- (8CI9CI) 212 C15H32

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	84	74645980	86	23	0	0
2.	81	1921706	111	24	0	0
3.	81	31295564	70	36	0	0

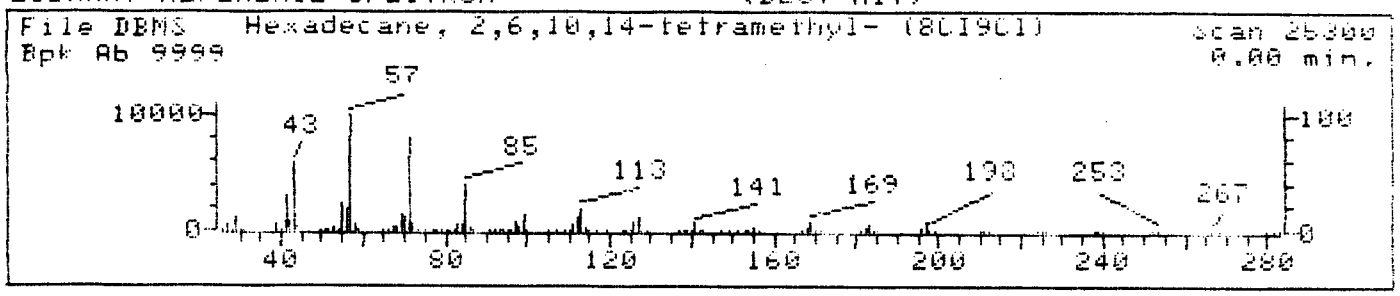
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



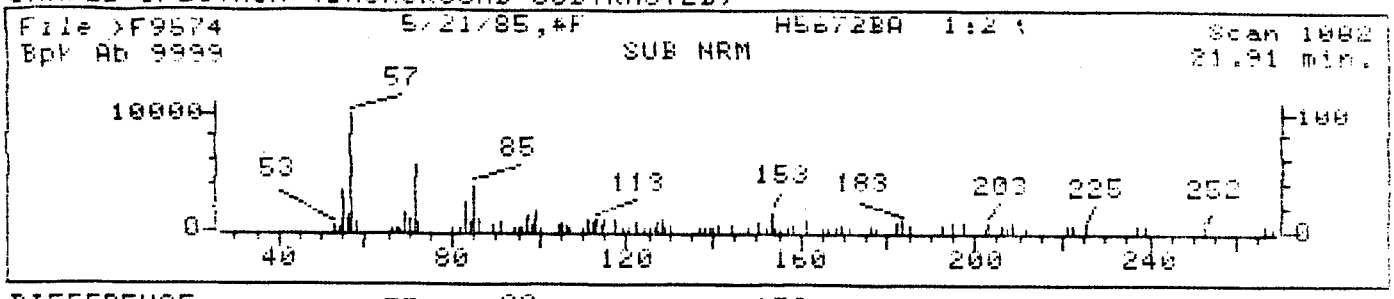
Data File: >F9574.:U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 18.27
Scan: 878
Area: 62670
Semi-quantitative Conc. 41.94 UG/ML

Data File: >F9574 Scan Number: 878
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

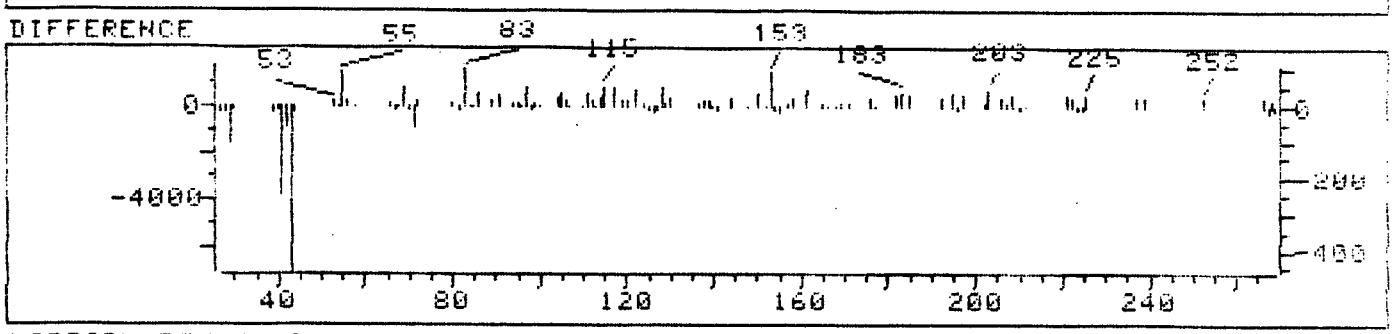
1. Hexadecane, 2,6,10,14-tetramethyl- (8CI9CI) 282 C20H42
2. Hexadecane, 7,9-dimethyl- (8CI9CI) 254 C18H38
3. Decane, 5-ethyl-5-methyl- (8CI) 184 C13H28

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	638368	71	71	2	0
2.	70	21164954	63	72	2	0
3.	70	17312742	72	44	2	2

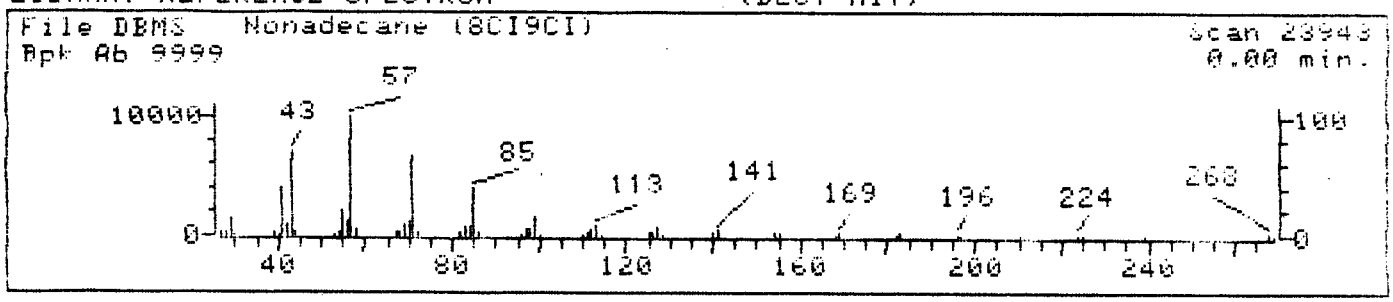
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F9574::U2
Name: 5/21/85,#F
Misc Data: H5672BA 1:2 BTL#33
RT (min): 21.91
Scan: 1082
Area: 20369
Semi-quantitative Conc: 18.90 UG/ML

Data File: >F9574 Scan Number: 1082
Search Speed: 2 Titling option: S Number of ion ranges searched: 64

1. Nonadecane (8CI9CI) 268 C19H40
2. Pentatriacontane (8CI9CI) 492 C35H72
3. Tetratetracontane (8CI9CI) 618 C44H90

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	85	629925	87	44	1	0
2.	73	630079	104	47	1	0
3.	73	7098228	103	53	1	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

REV. 1

Subcontracted Analytical Results

ETC Job # H15V617121

Lab ID: 185392-A2

Submitted by: MW CHUN

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	7.2	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	1.2	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 # H5672

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: Diamond Head

Sample Point: S - Soil pt 8 (Facility/Site Code; Source Code (from below); Your Sample Point ID (left justify))

(Optional Sample Point Descriptions): Start Date (YY/MM/DD) 850501; Start Time (2400 hr. clock) 1937; Elapsed Hours (composite) 1215

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: 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 Tiark Date: 5-1-85 Time:
Signature: 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 # H5672

Sample Point LS (Source Code) SOIL H42 (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:

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 [D] 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] ____ 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: Dark Brn Rocky Soil

Weather Conditions: 75°F Sunny

Other:

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

Sampler: D. Mazur (Print) Employer: NJ DEP

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

5/1/95 (Date) Deborah Mazur (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 NJDEP - SEU 65 Prospect 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	Title
N Tiorle	HSMS III
D Mazur	HSMS IV

Date Laboratory Sample Shuttle Seal No. 0034533 **Broken** 5/1/85 **Time (Mil) Seal Broken and Sampling Begun** 1037

FIELD SAMPLE NUMBER	CONTAINER NUMBER(S)	VOLUME OF CONTAINERS	DESCRIPTION OF SAMPLE
			H5672

LAB CONTROL NO. ___

Date Sampling Completed & Field Seal Affixed to Sample Shuttle 5/1/85	Military Time 1052	Field Affixed 1300 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 Tiorle				

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

DEP-SEU

NAME OF FACILITY/ COMPANY/PERSON	Diamond Head	CODE	MAILING ADDRESS 65 Prospect Ave. Trenton
SAMPLE LOCATION	Soil #2		

SAMPLE COLLECTOR

SAMPLER(S) Name	N. Tiorle	Agency	DEP	Sampler ID #	HS91
Name	D. Mazur	Agency	DEP	Sampler ID #	

SAMPLE IDENTIFICATION

NJDEP SAMPLE NO.	Soil #2	SAMPLING DATE	5/1/85	ABSCISSA (Longitude)	
SAMPLE POINT ID	H5672	TIME (MIL) SAMPLING BEGAN	1037	ORDINATE (Latitude)	
SAMPLE SOURCE CODE		TIME (MIL) SAMPLING FINISHED	1052	ELEVATION	
REFERENCE POINT					

SAMPLING PROCESS

COLLECTION METHOD	Code Grab	Other	SAMPLE TYPE	Code	Other
TYPE OF SAMPLER	Code Metal Trowel	Other	SAMPLE MATRIX	Code	Other
DESCRIPTION	Dark Brown Rocky Soil				

FIELD MEASUREMENTS

SAMPLE TEMP. °C	PARAMETER	PARAMETER	PARAMETER
AIR TEMP. °C	VALUE	VALUE	VALUE
WEATHER			

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 plus 40				
GC-ECD				

ANALYSIS(ES) AUTHORIZED BY	A. Nova	TITLE	HSMS-II

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 was occuring. There might be little more precipitation while sitting in the Freezer
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 #

Set-up: [illegible] 5/4/85 — 10 GPD/Supervisor: [illegible] 5/10/85

Conc.: [illegible] 5/10/85 Spike/surr. verified: [illegible] 5/4/85

EXTRACTION LOG

Sample Number	Log Time	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	8956	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
PP/ACID ONLY:

Note: H4071, H4683, 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			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	B/N @ 50 ug/ml	10,551
	ACID @ 100 ug/ml	

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

Conc.: [signature]

Reviewed/Supervisor: S McArthur 5/12/85

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
Surr	25	8793	18
ABC	18	10530	5 1/2 30

IFB Prep Soil 110+15

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	>D8206	1			E0198	Acu 0120	
QC3241v	>D8207	5ml		NG	700 NG	meth. Cl (mistyped as >D8241)	
QC3241v	>D8208	↓		NG		570 methyl	
QC3241vS	>D8209					5uL ABC	
QC3241vS	>D8210					10uL ABC	
QC3241vS	>D8211	↓				30uL	
P-BFB	>D8212	1		OK		0731	
QC3241v	>D8213	5ml			(a)		
H5672VS ✓	>D8214	5g/5ml				spl ABC	
H5672V ✓	>D8215	5g/5ml					
H5674V ✓	>D8216	5g/5ml					
H5674VR ✓	>D8217	5g/5ml					
H5676V	>D8218	5g/5ml					
H5673V ✓	>D8219	0.1g/5ml				4000 NG 7.1 WPM	
H5671V ✓	>D8220	0.1g/5ml					
H5675V ✓	>D8221	0.1g/5ml					
H5671V ✓	>D8222	1.0g/5ml					
H5671V ✓	>D8223	5g/5ml				Low TSTD	
H5671V ✓	>D8224	5g/5ml					
					110		

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 Date	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 10.0ml, final volume 1 aliquot packaged
All others after clean up brought up to 10.0 & 1 ml of this total volume
H5674 sample strength

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 µg/ml	10,529

SURROGATE Amt. (ml)	Conc.	LOT #

Set-up: [illegible] 5/4/85 UPD/Supervisor: [illegible] 5/4/85

Conc.: LOUISE ANARINZINTO 5/6/85 Spike/surr. verified: [illegible] 5/6/85

EXTRACTION LOG

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

Sample Number	Log Line	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)	

COMMENTS FOR EXTRACT.:
NJ DEP: Holding Times Critical

Samples were too concentrated at low level, all samples 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 & 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			112

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

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

Spike/surr. verified: [illegible] 5/13/85

EXTRACTION LOG

QC Batch # 2997

REVISED 5/13/85

Analysis: PP/ORG

Note: PP/ACID ONLY: H4071, H4653, H4656, H46[illegible]

Matrix: SOIL

Turnaround:

Date: 5/4/85

Extraction Method:

sep funnel

continuous

soxhlet ✓

other sonicator

Repeats in green

Sample No.	Log Line	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					

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. 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 µg/ml	10,499
ACID	1.0	100 µg/ml	10,523
SEMI-VOA			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	B/N @ 50 µg/ml	10,551
	ACID @ 100 µg/ml	

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

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

MAY 10, 1985 13:26
SEQUENCE: SCONZ ON CAN 15
CHANNEL 2

SUBSEQUENCE 1

METHOD
PCBB2

DIALG-PRG PARAM-FILE
/N

#WSHS PPMPS STOP
5, 5, 1

ISO POST-BTL# POS:-#WSHS
NO , 0, 1

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

SAMPLES

	SAMPLE-NAME	B/L#	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 1:10	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

Transcribed 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 ENVIRONMENTAL 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 Durand

Date 5/6/85 Time 3:45

Sample(s) Received by: Gregory J. Lobe

Date 5/6/85 Time 3:45

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT Day 1/2
FRACTION Acid
INSTRUMENT F
TUNE FILE HTF001
SEQUENCE FILE WWCH
METHOD FILE Acid F
IDFILE FACID
ANALYST(S) Wen-Wen Chi
SUPERVISOR [illegible]
BATCH #'s 6A3017

STANDARD	CONC PPM	LOT NO.	LOT VOL
Calib III (Acid)	300	10528	
II	100	10527	
I	60	10526	
HSLPP/Acid	300	9603	
"	100	9604	
"	60	9605	
Calib III (BN)	300		
II "	100		
I "	60		

(PLEASE INITIAL)

CURRENT CSWS 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
50NG DFTPP	>F9520		21			5=00.	
Calib III	>F9521		22				
II	>F9522		23				
I	>F9523		24				
HSLPP / Acid 300	>F9524		25				
HSLPP / Acid 100	>F9525		26				
" 60	>F9526		27				
50NG DFTPP	>F9527		28			8=41	
H2986AS	>F9528		29				
6C3017AS	>F9529		30				
6C3017A	>F9530		31				
~~H3352A~~	~~>F9531~~		Cancel				Y
~~H3354A~~	~~>F9532~~						
H3877A	>F9533		34				
H2980A	>F9534		35				
H2982A	>F9535		4				
H2984A	>F9536		5				
H2985A	>F9537		6				
H2986A	>F9538		7				
H2987A	>F9539		8				
H1642A	>F9540		9				
H2236A	>F9541		10				
H5474A	>F9542		11				
H1647A	>F9543		12				
H1648A	>F9544		13		117		

TSR 8-84

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	7F9557		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			
50NG DFTPP	7F9552	A	11				
GC3825 BNA	7F9553	A	12	X		✓	✓
H6515 BNAS	7F9554	A	13			–	
H5671 BNA	7F9555	A	14			✓	✓
H5675BNA	7F9556	A	15			✓	✓
H5676BNA	7F9557	A	16			✓	✓
H5514BNA	7F9558	A	17			✓	✓
H6512BNA	7F9559	A	18			✓	✓
H6686BNA	7F9560	A	19			✓	✓
H6687BNA	7F9561	A	20			✓	✓
H5671BNA	7F9562	A	21	1:2		✓	✓
H5674 BNAR	7F9563	A	22	1:2			
~~Calib~~ 50NG DFTPP	7F9564		23				
Calib II (BN)	7F9565		24				
~~Calib I (BN)~~	~~7F9566~~		25				
50NG DFTPP	7F9567		26				
GC2997BNA	7F9568		27				✓
H5676 BNAS	7F9569		28		118		

TSR 8-84

GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT ___
FRACTION BNA
INSTRUMENT ~~[illegible]~~ F001
TUNE FILE MTF001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) ___
SUPERVISOR [illegible]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
VIP		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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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			
50NG DFTPP	7F9552	A	11				
GC3625 BNA	7F9553	A	12	X		✓	✓
H6515 BNAS	7F9554	A	13			–	
H5671 BNA	7F9555	A	14			✓	✓
H5675BNA	7F9556	A	15			✓	✓
H5676BNA	7F9557	A	16			✓	✓
H5514BNA	7F9558	A	17			✓	✓
H6512BNA	7F9559	A	18			✓	✓
H4686BNA	7F9560	A	19			✓	✓
H4687BNA	7F9561	A	20			✓	✓
H ~~6515 BNA~~ H5674BNA	7F9562	A	21	1:2		✓	✓
H5674 BNAR	7F9563	A	22	1:2			
~~50NG Calib~~ 50NG DFTPP	7F9564		23				
Calib II (BN)	7F9565	A	24				
~~Calib I (BN)~~	~~7F9566~~		~~25~~				
50NG DFTPP	7F9567		26				
GC2997 BNA	7F9568		27				✓
H5676 BNAS	7F9569		28		120		

TSR 8-84

GC-MS ANALYSIS CUSTODY LOG

DATE 5/21/85 SHIFT ___
FRACTION BNA
INSTRUMENT ~~[illegible]~~ F001
TUNE FILE MTF001
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 ~~5~~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 ✓		~~[illegible]~~ 33	1:2		✓	✓
H 5673 BNA ✓	7F9575 ✓		~~[illegible]~~ 34	1:2			
H U515 BNA ✓	7F9576		~~[illegible]~~ 35	1:2			✓
H U071 BNA	7F9577		~~[illegible]~~ 36				✓
H U071 BNA	7F9578		~~[illegible]~~ 37				

TSR 8-84

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 Wkiawor date 6/5/85