ETC ENVIRONMENTAL TESTING and CERTIFICATION

Diamond Head II

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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	0001

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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

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 10, 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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

NPDES Number	Compound (Acrolein and Acrylonitrile values are screen only.)	Results: Sample Concen. ug/l	Results: MDL ug/l [a]	QC Replicate: First ug/l	QC Replicate: Second ug/l	QC Blank and Spiked Blank: Blank Data ug/l	QC Blank and Spiked Blank: Concen. Added ug/l	QC Blank and Spiked Blank: % Recov	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov
1V	Acrolein	ND	100.0	ND	ND	ND	800	98	ND	800	99
2V	Acrylonitrile	ND	100.0	ND	ND	ND	80	99	ND	80	109
3V	Benzene	ND	4.4	ND	ND	ND	18	104	ND	18	101
4V	bis(Chloromethyl)ether	ND	10.0	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.7	ND	ND	ND	18	85	ND	18	93
6V	Carbon tetrachloride	ND	2.8	ND	ND	ND	18	99	ND	18	107
7V	Chlorobenzene	ND	6.0	1	ND	ND	18	105	ND	18	104
8V	Chlorodibromomethane	ND	3.1	ND	ND	ND	18	99	ND	18	103
9V	Chloroethane	ND	10.0	ND	ND	ND	18	106	ND	18	83
10V	2-Chloroethylvinyl ether	ND	10.0	ND	ND	ND	18	70	ND	18	70
11V	Chloroform	ND	1.6	ND	ND	ND	18	103	ND	18	104
12V	Dichlorobromomethane	ND	2.2	ND	ND	ND	18	99	ND	18	100
13V	Dichlorodifluoromethane	ND	10.0	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.7	ND	ND	ND	18	100	ND	18	101
15V	1,2-Dichloroethane	ND	2.8	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.8	ND	ND	ND	18	100	ND	18	101
17V	1,2-Dichloropropane	ND	6.0	ND	ND	ND	18	100	ND	18	99
18V	cis-1,3-Dichloropropylene	ND	5.0	ND	ND	ND	18	101	ND	18	102
19V	Ethylbenzene	ND	7.2	1	2	ND	18	107	1	18	98
20V	Methyl bromide	ND	10.0	ND	ND	ND	18	138	ND	18	117
21V	Methyl chloride	ND	10.0	ND	ND	ND	18	98	ND	18	95
22V	Methylene chloride	ND	2.8	ND	ND	8	18	71	ND	18	61
23V	1,1,2,2-Tetrachloroethane	ND	6.9	ND	ND	ND	18	96	ND	18	108
24V	Tetrachloroethylene	ND	4.1	ND	ND	ND	18	104	ND	18	107
25V	Toluene	ND	6.0	ND	ND	BMDL	18	101	ND	18	100
26V	1,2-Trans-dichloroethylene	ND	1.6	ND	ND	ND	18	100	ND	18	102
27V	1,1,1-Trichloroethane	ND	3.8	ND	ND	4	18	88	ND	18	90
28V	1,1,2-Trichloroethane	ND	5.0	ND	ND	ND	18	101	ND	18	84
29V	Trichloroethylene	ND	1.9	ND	ND	ND	18	103	ND	18	100
30V	Trichlorofluoromethane	ND	10.0	ND	3	ND	18	103	ND	18	103
31V	Vinyl chloride	ND	10.0	ND	ND	ND	18	109	ND	18	96
18V	trans-1,3-Dichloropropylene	ND	10.0	ND	ND	ND	18	101	ND	18	92

[a] EPA published Method Detection Limit.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 22, 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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l [A]	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen Added ug/l	% Recov
1A	2-Chlorophenol	ND	3.3	ND	ND	ND	100	85	ND	111	86
2A	2,4-Dichlorophenol	ND	2.7	ND	ND	ND	100	83	ND	111	91
3A	2,4-Dimethylphenol	ND	2.7	ND	ND	ND	100	6[B]	ND	111	2[B]
4A	4,6-Dinitro-o-cresol	ND	24.0	ND	ND	ND	100	74	ND	111	73
5A	2,4-Dinitrophenol	ND	42.0	ND	ND	ND	100	68	ND	111	68
6A	2-Nitrophenol	ND	3.6	ND	ND	ND	100	85	ND	111	86
7A	4-Nitrophenol	ND	2.4	ND	ND	ND	100	70	ND	111	69
8A	p-Chloro-m-cresol	ND	3.0	ND	ND	ND	100	43	ND	111	41
9A	Pentachlorophenol	ND	3.6	ND	ND	ND	100	87	ND	111	80
10A	Phenol	ND	1.5	ND	ND	ND	100	90	ND	111	87
11A	2,4,6-Trichlorophenol	ND	2.7	ND	ND	ND	100	90	ND	111	85

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 22, 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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l [a]	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
1B	Acenaphthene	ND	1.9	ND	ND	ND	100	82	ND	100	82
2B	Acenaphthylene	ND	3.5	ND	ND	ND	100	89	ND	100	86
3B	Anthracene	ND	1.9	ND	ND	ND	100	82	ND	100	83
4B	Benzidine	ND	44.0	ND	ND	ND	100	37[c]	ND	100	38[c]
5B	Benzo(a)anthracene	ND	7.8	ND	ND	ND	100	85	ND	100	88
6B	Benzo(a)pyrene	ND	2.5	ND	ND	ND	100	79	ND	100	85
7B	Benzo(b)fluoroanthene	ND	4.8	ND	ND	ND	100	45	ND	100	59
8B	Benzo(ghi)perylene	ND	4.1	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.5	ND	ND	ND	100	87	ND	100	67
10B	bis(2-Chloroethoxy)methane	ND	5.3	ND	ND	ND	100	98	ND	100	93
11B	bis(2-Chloroethyl) ether	ND	5.7	ND	ND	ND	100	89	ND	100	86
12B	bis(2-Chloroisopropyl)ether	ND	5.7	ND	ND	ND	100	66	ND	100	71
13B	bis(2-Ethylhexyl)phthalate	ND	10.0 [b]	ND	ND	ND	100	81	ND	100	84
14B	4-Bromophenyl phenyl ether	ND	1.9	ND	ND	ND	100	82	ND	100	83
15B	Butyl benzyl phthalate	ND	10.0 [b]	ND	ND	ND	100	77	ND	100	81
16B	2-Chloronaphthalene	ND	1.9	ND	ND	ND	100	91	ND	100	91
17B	4-Chlorophenyl phenyl ether	ND	4.2	ND	ND	ND	100	87	ND	100	87
18B	Chrysene	ND	2.5	ND	ND	ND	100	85	ND	100	92
19B	Dibenzo(a,h)anthracene	ND	2.5	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.9	ND	ND	ND	100	50	ND	100	46
21B	1,3-Dichlorobenzene	ND	1.9	ND	ND	ND	100	42	ND	100	44
22B	1,4-Dichlorobenzene	ND	4.4	ND	ND	ND	100	45	ND	100	42
23B	3,3'-Dichlorobenzidine	ND	16.5	ND	ND	ND	100	80	ND	100	79
24B	Diethyl phthalate	ND	10.0 [b]	ND	ND	ND	100	31	ND	100	34
25B	Dimethyl phthalate	ND	10.0 [b]	ND	ND	ND	100	3[c]	ND	100	0[c]
26B	Di-n-butyl phthalate	BMDL	10.0 [b]	ND	ND	BMDL	100	79	2	100	87
27B	2,4-Dinitrotoluene	ND	5.7	ND	ND	ND	100	95	ND	100	94
28B	2,6-Dinitrotoluene	ND	1.9	ND	ND	ND	100	91	ND	100	88
29B	Di-n-octyl phthalate	ND	10.0 [b]	ND	ND	ND	100	82	ND	100	89
30B	1,2-Diphenylhydrazine	ND	10.0	ND	ND	ND	100	86	ND	100	85
31B	Fluoranthene	ND	2.2	ND	ND	ND	100	91	ND	100	94
32B	Fluorene	ND	1.9	ND	ND	ND	100	88	ND	100	87

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAY 22, 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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l A	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
33B	Hexachlorobenzene	ND	1.9	ND	ND	ND	100	63	ND	100	64
34B	Hexachlorobutadiene	ND	.9	ND	ND	ND	100	62	ND	100	62
35B	Hexachlorocyclopentadiene	ND	10.0	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.6	ND	ND	ND	100	36	ND	100	38
37B	Indeno(1,2,3-c,d)pyrene	ND	3.7	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.2	ND	ND	ND	100	86	ND	100	84
39B	Naphthalene	ND	1.6	ND	ND	ND	100	71	ND	100	70
40B	Nitrobenzene	ND	1.9	ND	ND	ND	100	86	ND	100	87
41B	N-Nitrosodimethylamine	ND	10.0	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10.0	ND	ND	ND	100	73	ND	100	78
43B	N-Nitrosodiphenylamine	ND	1.9	ND	ND	ND	100	93	ND	100	95
44B	Phenanthrene	ND	5.4	ND	ND	ND	100	84	ND	100	86
45B	Pyrene	ND	1.9	ND	ND	ND	100	84	ND	100	92
46B	1,2,4-Trichlorobenzene	ND	1.9	ND	ND	ND	100	144	ND	100	134

A EPA published Method Detection Limit.

B ETC established Method Detection Limit for this particular sample.

C Recovery normally low using EPA Protocol Method 625.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

JUN 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Pesticide/PCB Compounds - GC/MS Analysis Data (QR04)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l a	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
1P	Aldrin	ND	1.9	ND	ND	ND	100	79	ND	100	84
2P	Alpha-BHC	ND	10.0	ND	ND	ND	100	31	ND	100	37
3P	Beta-BHC	ND	4.2	ND	ND	ND	100	74	ND	100	79
4P	Gamma-BHC	ND	10.0	ND	ND	ND	100	32	ND	100	38
5P	Delta-BHC	ND	3.1	ND	ND	ND	100	29	ND	100	29
6P	Chlordane	ND	10.0	ND	ND	ND	200	21	ND	200	24
7P	4,4'-DDT	ND	4.7	ND	ND	ND	100	56	ND	100	62
8P	4,4'-DDE	ND	5.6	ND	ND	ND	100	63	ND	100	66
9P	4,4'-DDD	ND	2.8	ND	ND	ND	100	56	ND	100	62
10P	Dieldrin	ND	2.5	ND	ND	ND	100	52	ND	100	60
11P	Endosulfan I	ND	10.0	ND	ND	ND	100	24	ND	100	23
12P	Endosulfan II	ND	10.0	ND	ND	ND	100	21	ND	100	22
13P	Endosulfan sulfate	ND	5.6	ND	ND	ND	100	35	ND	100	43
14P	Endrin	ND	10.0	ND	ND	ND	100	52	ND	100	60
15P	Endrin aldehyde	ND	10.0	ND	ND	ND	100	25	ND	100	30
16P	Heptachlor	ND	1.9	ND	ND	ND	100	76	ND	100	80
17P	Heptachlor epoxide	ND	2.2	ND	ND	ND	100	58	ND	100	61
18P	PCB-1242	ND	36.0	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36.0	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30.0	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36.0	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36.0	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36.0	ND	ND	ND	100	21	ND	100	16
24P	PCB-1016	ND	36.0	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10.0	ND	ND	ND	0	-	ND	0	-

a EPA published Method Detection Limit.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

JUN 11, 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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

NPDES Number	Compound		Results Sample Concen.	Results MDL
1M	Antimony	ug/l	BMDL	80
2M	Arsenic	ug/l	ND	10
3M	Beryllium	ug/l	ND	1
4M	Cadmium	ug/l	ND	3
5M	Chromium	ug/l	ND	20
6M	Copper	ug/l	ND	10
7M	Lead	ug/l	BMDL	50
8M	Mercury	ug/l	ND	.3
9M	Nickel	ug/l	ND	20
10M	Selenium	ug/l	ND	5
11M	Silver	ug/l	ND	10
12M	Thallium	ug/l	ND	5
13M	Zinc	ug/l	ND	4
14M	Cyanide, Total	mg/l	<.025	.025
15M	Phenolics, Total	mg/l	<.01	.01

ETC ENVIRONMENTAL TESTING and CERTIFICATION

May 12, 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
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula			
1 None Found								

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

June 11, 1985

TABLE 1: QUALITATIVE RESULTS

Tentatively Identified Organic Compounds - GC/MS Analysis Data - Acid Fraction (QR07)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	930	1

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estim. Concen. ug/l		
1 unknown	43	3.69	-	-	-	34		

ETC ENVIRONMENTAL TESTING and CERTIFICATION

May 21, 1985

TABLE 1: QUALITATIVE RESULTS

Tentatively Identified Organic Compounds - GC/MS Analysis Data - Base Neutral (QR08)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	825	15.04	-	-	-	6.9		
2 Unknown	853	15.44	-	-	-	6.1		

May 21, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H5680

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	91	86	119
Bromofluorobenzene	.250	92	85	121
1,2-Dichloroethane-D4	.250	96	77	120
ACID FRACTION				
Phenol-D5	100	92	15	103
2-Fluorophenol	100	90	23	121
2,4,6-Tribromophenol	100	80	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	62	41	120
2-Fluorobiphenyl	50	86	44	119
Terphenyl-D14	50	51	33	128

* IFB EPA Control Limits.

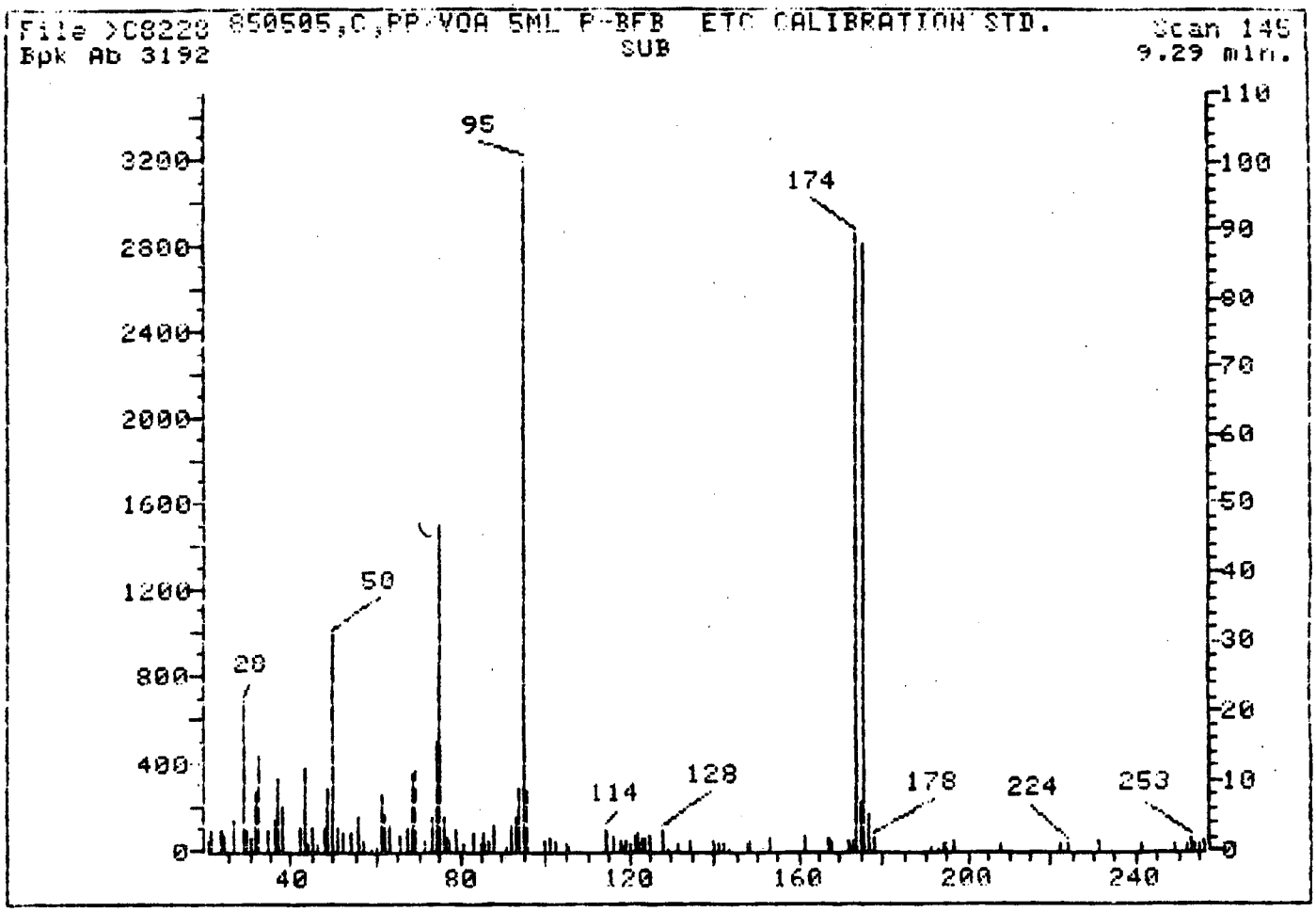


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	30.80	30.80	Ok
75	30-60% of mass 95	46.93	46.93	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.30	8.30	Ok
173	Less then 1% of mass 95	.50	.50	Ok
174	Greater then 50% of mass 95	89.35	89.35	Ok
175	5-9% of mass 174	7.11	7.96	Ok
176	95-101% of mass 174	88.06	98.56	Ok
177	5-9% of mass 176	5.01	5.69	Ok

Injection Date: 05/05/85 Analyst: [signature]
Injection Time: 21:46 Processor: [signature]
Run No: >C8228 QC Batch: QV3226
Spectrun No: 145 Samples: H5679, H5680, H5677
H5678, H5567, H3269
H0261, H5657, H6217

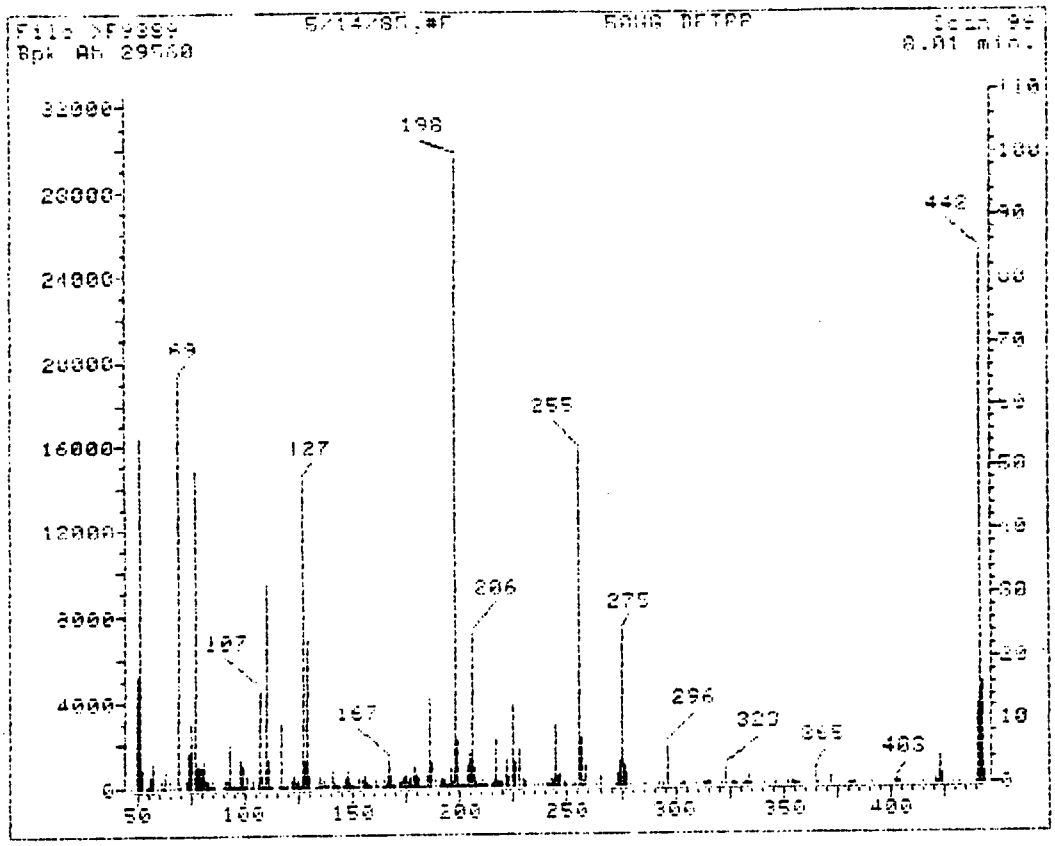


TABLE 2: METHOD PERFORMANCE DATA (DB22)

DFTPP Tuning Data - Decafluorotriphenylphosphine (DFTPP) For Acids Analysis

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	55.51	55.51	Ok
68	Less than 2% of mass 69	0.00	0.00	Ok
69	(reference only)	64.71	64.71	Ok
70	Less than 2% of mass 69	.17	.17	Ok
127	40-60% of mass 198	48.60	48.60	Ok
197	Less than 1% of mass 198	.61	.61	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	7.13	7.13	Ok
275	10-30% of mass 198	24.07	24.07	Ok
365	Greater than 1% of mass 198	2.66	2.66	Ok
441	Less then mass 443	12.65	24.31	Ok
442	Greater than 40% of mass 198	84.14	84.14	Ok
443	17-23% of mass 442	15.94	18.95	Ok

Injection Date: 05/14/85 Analyst: Wen Wen Chi
Injection Time: 09:56 Processor: Mita Mukherjee
Run No: 59499 QC Match: QA 2996
Spectrum No: 99 Samples: ~~H45~~ QC 2996A, QC 2996 AS, ~~Q~~ H5680 AS, H4520, H5648-H5624, H5653-H5656, H5658, H5677-H5680, H5650

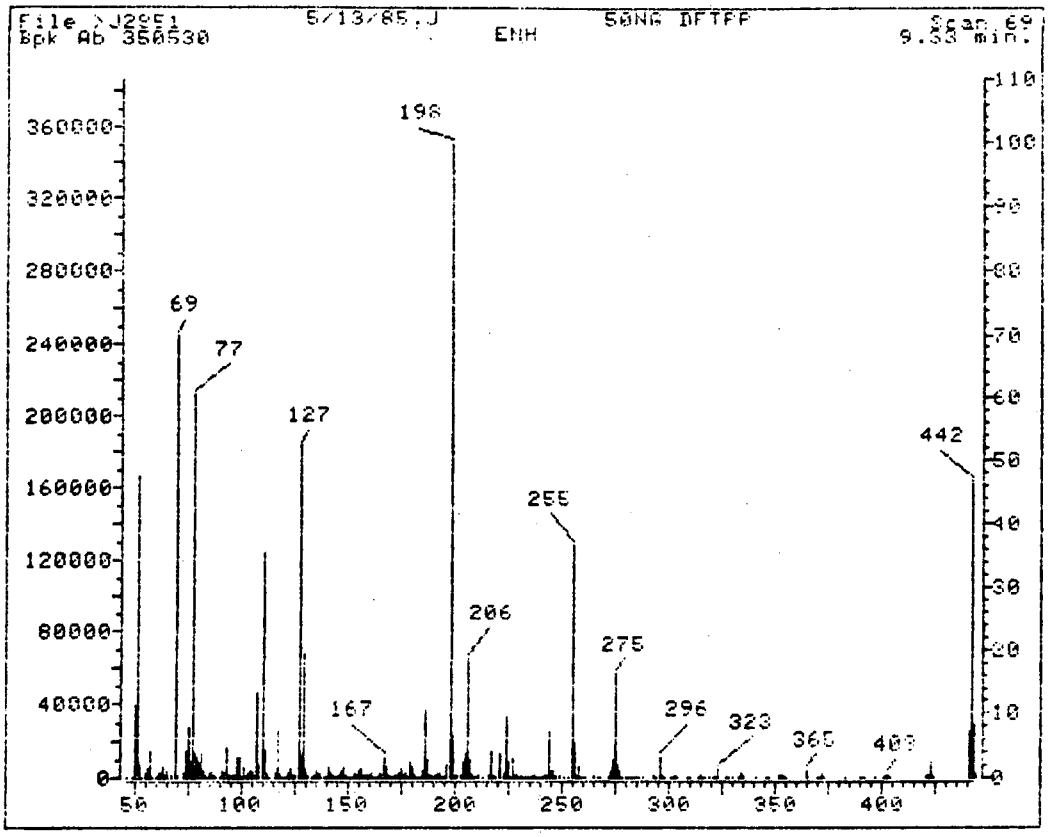


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	47.40	47.40	OK
68	Less then 2% of mass 69	0.00	0.00	OK
69	(reference only)	69.72	69.72	OK
70	Less then 2% of mass 69	.39	.56	OK
127	40-60% of mass 198	52.40	52.40	OK
197	Less then 1% of mass 198	0.00	0.00	OK
198	Base peak, 100% relative abundance	100.00	100.00	OK
199	5-9% of mass 198	6.46	6.46	OK
275	10-30% of mass 198	16.02	16.02	OK
365	Greater then 1% of mass 198	1.13	1.13	OK
441	Less then mass 443	7.12	86.40	OK
442	Greater then 40% of mass 198	46.55	46.55	OK
443	17-23% of mass 442	8.24	17.70	OK

Injection Date: 05/13/85 Analyst: [illegible]
Injection Time: 11:43 Processor: [illegible]
Run No: >J2851 QC Batch: QC2996B
Spectrun No: 69 Samples: H5648-H5650, H5653-H5656, H5677-H5680, H5658

B

Relative Percent Difference (RPD) for VOA

Job Number	Account Name	Facility	Source	Date	Time	
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

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

Parameter	REP 1 ug/l	REP 2 ug/l	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	1	ND	200
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	1	2	67
Methyl bromide	ND	ND	0
Methyl chloride	ND	ND	0
Methylene chloride	ND	ND	0
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	ND	3	200
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

Relative Percent Difference (RPD) for ACID

Job Number	Account Name	Facility	Source	Date	Time	
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

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

Parameter	REP 1 ug/l	REP 2 ug/l	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	
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

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

Parameter	REP 1 ug/l	REP 2 ug/l	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	
H5680	NJDEP-DIVISION OF WASTE MGMT.	NJDDAIMHED	FIELDBLANK	850501	0930	1

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

Parameter	REP 1 ug/l	REP 2 ug/l	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

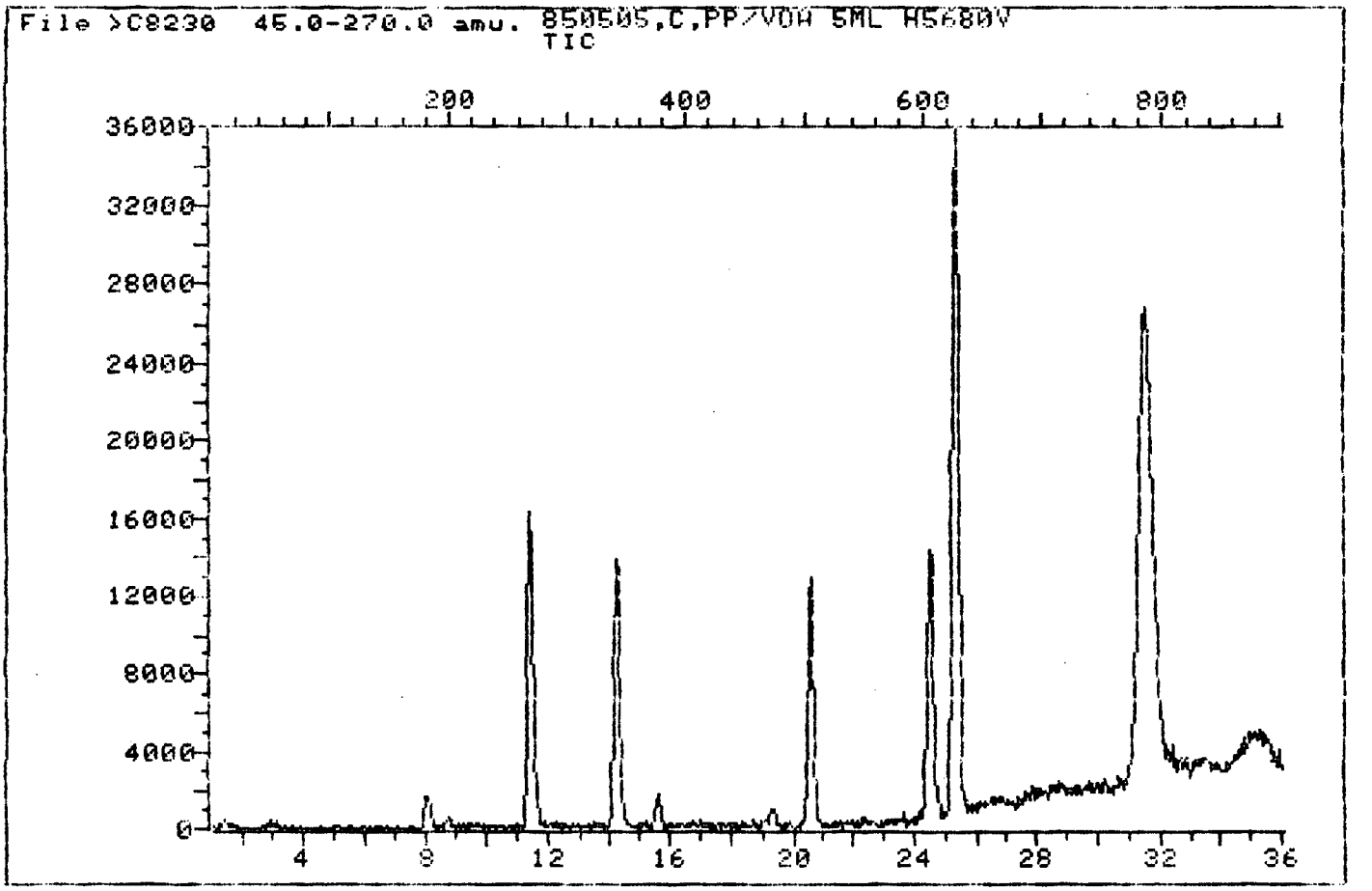
Appendix A

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: >C8230::U1
Name: 850505,C,PP/VOA 5ML
Misc: H5680V

Id File: CVOA
Title: PURGEABLE PRIORITY POLLUTANTS,C
Last Calibration: 850505 13:03

Operator ID: J06275
Quant Time: 850505 23:36
Injected at: 850505 23:00

QUANT REPORT

Operator ID: JQ6275 Quant Rev: 4 Quant Time: 850505 23:36
Injected at: 850505 23:00
Data File: >C8230::U1 Dilution Factor: 1.00
Name: 850505,C,PP/VOA 5ML
Misc: HS680V

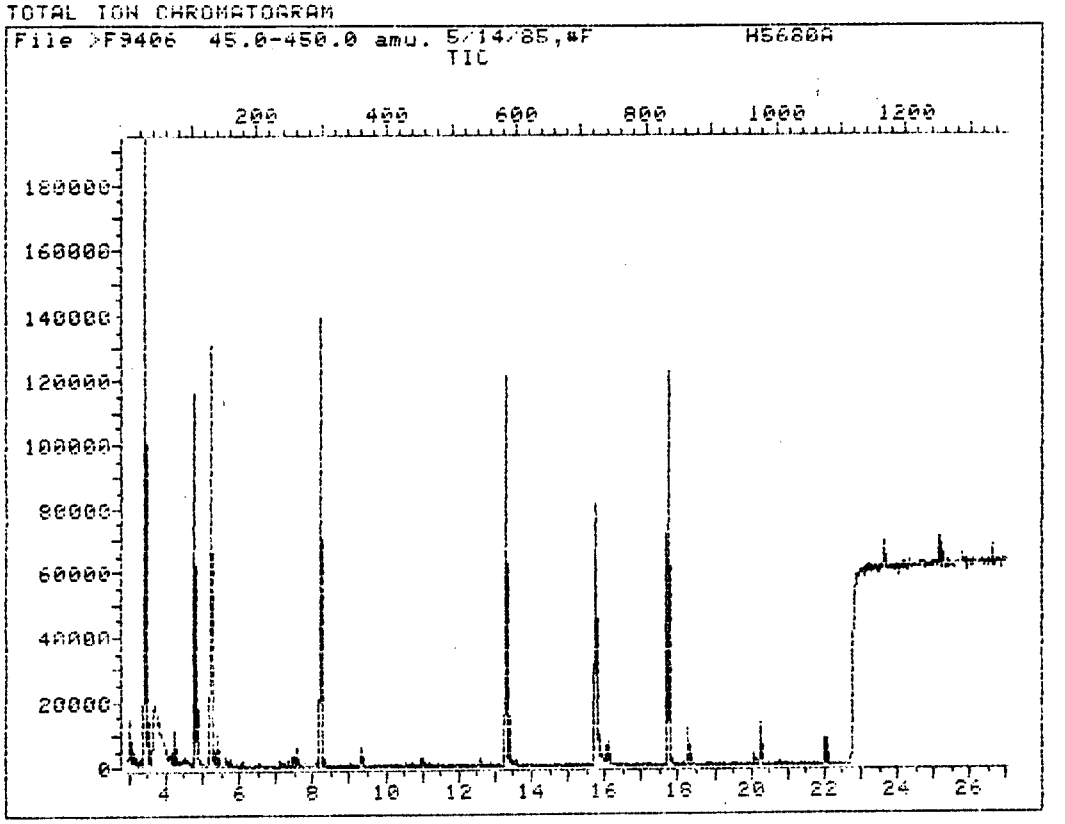
~~C1258F~~

ID File: CVOA
Title: PURGEABLE PRIORITY POLLUTANTS,C
Last Calibration: 850505 13:03

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*2-Bromo-1-chloropropane	20.59	503	76235	200.00	NG	94
~~7)~~	~~Carbon tetrachloride~~	~~15.62~~	~~375~~	~~867~~	~~3.00~~	~~NG~~	50
24)	Methylene chloride	8.05	180	5312	19.37	~~NG~~ 41	82
27)	~~Toluene~~	~~25.49~~	~~629~~	~~2767~~	~~3.10~~	~~NG~~ 3.4	84
29)	~~1,1,1-Trichloroethane~~	~~15.62~~	~~375~~	~~6465~~	~~18.21~~	~~NG~~ 14	86
34)	1,2-Dichloroethane-D4	14.22	339	34598	265.88	NG	83
35)	Toluene-D8	25.33	625	180822	256.73	NG	99
36)	p-Bromofluorobenzene	31.43	782	92045	259.58	NG	81
39)	*1,4-Dichlorobutane	24.52	604	88561	200.00	NG	94

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >F9406::U6
Name: 5/14/85,#F
Misc: H5680A

BTL#47

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850514 11:47

Operator ID: WW9928
Start Time: 850514 21:05
Injected at: 850514 20:34

QUANT REPORT

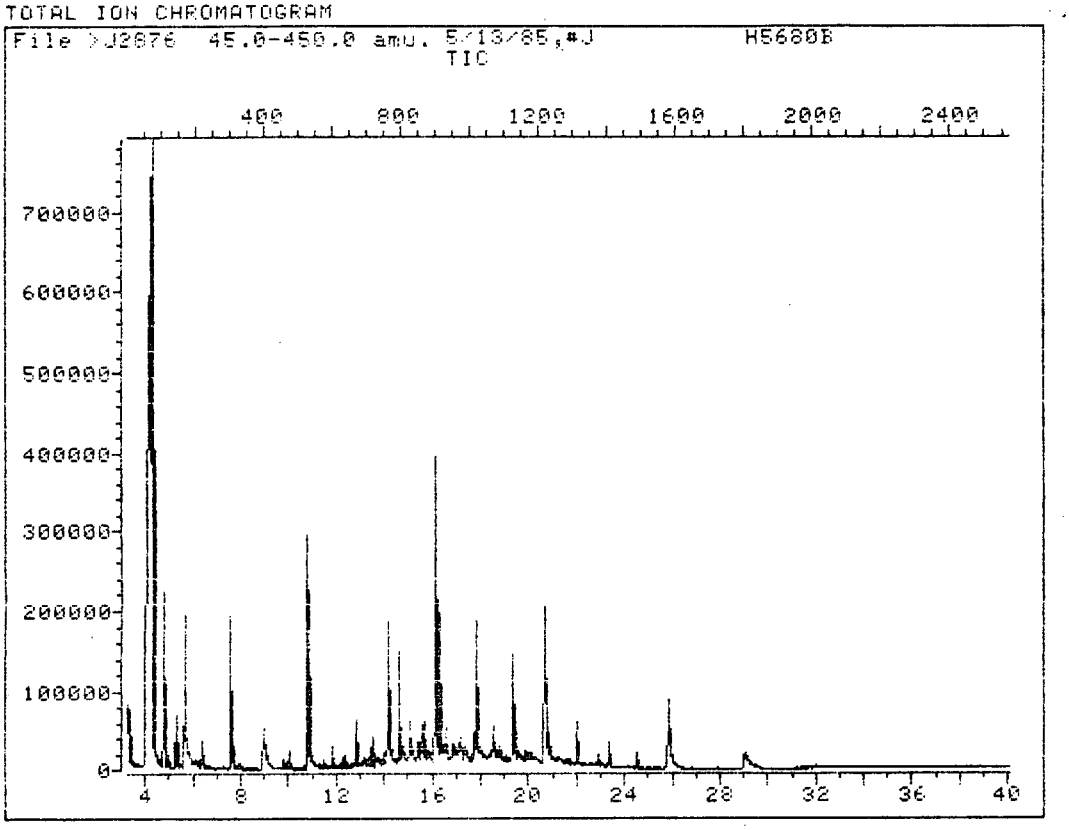
Operator ID: WW9928 Quant Rev: 4 Quant Time: 850514 21:03
Output File: ^F9406::AQ Injected at: 850514 20:34
Data File: >F9406::UA Dilution Factor: 1.00
Name: 5/14/85,#F
Misc: H5680A BTL#37

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWD
Last Calibration: 850514 11:47

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	5.20	128	60438	40.00	UG/ML	94
3)	2-Fluorophenol	3.37	95	95393	89.62	UG/ML	93
5)	Phenol-D5	4.78	104	119218	91.76	UG/ML	96
5)	Phenol-D5	5.06	110	553	~~.43~~	~~UG/ML~~	52
5)	Phenol-D5	5.20	128	814	~~.63~~	~~UG/ML~~	44
9)	*d8-Naphthalene	8.12	295	144699	40.00	UG/ML	98
14)	*d10-Acenaphthalene	13.30	584	68297	40.00	UG/ML	92
20)	*d10-Phenanthrene	17.71	832	115275	40.00	UG/ML	92
21)	2,4,6-Tribromophenol	15.74	721	28307	79.58	UG/ML	92

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >J2876::U5
Name: 5/13/85,#J
Misc: H5680B

BTL#19

Id File: JBNF
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850513 21:05

Operator ID: WW9928
Quant Time: 850514 14:22
Injected at: 850514 13:33

QUANT REPORT

Operator ID: WW9928 Quant Rev: 4 Quant Time: 850514 14:22
Output File: ^J2876::AQ Injected at: 850514 13:33
Data File: >J2876::U5 Dilution Factor: 1.00
Name: 5/13/85,#J
Misc: H5680B BTL#19

J 137 B

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850513 21:05

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	7.50	299	113373	40.00	UG/ML	98
8)	Nitrobenzene-d5	8.94	399	138426	31.01	UG/ML	96
9)	bis(2-Chloroisopropyl)ether	7.50	299	4593	~~4.38~~	~~UG/ML~~	94
10)	*d8-Naphthalene	10.78	528	485380	40.00	UG/ML	97
11)	2-Fluorobiphenyl	14.10	760	178490	42.93	UG/ML	96
12)	N-Nitrosodi-n-propylamine	8.94	399	17663	~~4.19~~	~~UG/ML~~	63
20)	*d10-Acenaphthalene	16.09	898	279582	40.00	UG/ML	94
23)	Dimethyl phthalate	16.10	899	48030	~~4.62~~	~~UG/ML~~	68
43)	*d10-Phenanthrene	20.64	1215	339218	40.00	UG/ML	96
48)	Di-n-butyl phthalate	22.91	1373	32161	2.95	UG/ML -1.5=1.5	96
70)	Terphenyl-D14	25.81	1575	176512	176512.0	COUNTS	92
75)	bis(2-Ethylhexyl)phthalate	29.53	1835	2616	~~2616.00~~	~~COUNTS~~	98

RF=1.13

* Compound is ISTD

d10 Chrysene Area 125935 25.26

Appendix B

GC/MS Calibration Data

Calibration Report

Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, C
Calibrated: 850505 11:33

Compound	Files: >C8213 RF 90.00	>C8214 RF 180.00	>C8215 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Acrolein	.05970	.07154	.05178	.424	.06101	16.302	(Conc=4000.0,8000.0,32000.)
Acrylonitrile	.14274	.15670	.13188	.463	.14378	8.657	(Conc=400.0,800.0,3200.0)
Benzene	2.10816	2.05435	1.93188	.930	2.03146	4.447	
bis(Chloromethyl)ether	.08581	.10964	-	.803	.09773	17.247	
Bromoform	.34697	.40638	.47264	1.066	.40866	15.384	
Carbon tetrachloride	.75163	.75471	.76486	.778	.75706	.915	
Chlorobenzene	1.56588	1.51084	1.40788	1.294	1.49487	5.365	
Chlorodibromomethane	.66710	.69892	.65590	.937	.67398	3.311	
Chloroethane	.16185	.15000	.14579	.213	.15255	5.461	
2-Chloroethylvinyl ether	.14992	.12000	.11181	.940	.12725	15.764	
Chloroform	1.20815	1.16968	1.13374	.660	1.17052	3.179	
Dichlorobromomethane	.91045	.91854	.92521	.803	.91807	.805	
Dichlorodifluoromethane	.42113	.39939	.38992	.213	.40348	3.966	
1,1-Dichloroethane	.84317	.84802	.83669	.597	.84263	.674	
1,2-Dichloroethane	.83703	.81800	.81565	.697	.82356	1.424	
1,1-Dichloroethylene	.98787	.98633	.98021	.532	.98480	.411	
1,2-Dichloropropane	.75919	.76674	.74589	.868	.75727	1.394	
trans-1,3-Dichloropropylene	.92641	.91579	.91947	.881	.92056	.586	
cis-1,3-Dichloropropylene	.74620	.73917	.73831	.943	.74123	.584	
Ethylbenzene	2.99920	2.72547	2.71526	1.396	2.81331	5.725	
Methyl bromide	.30909	.24765	.11420	.170	.22365	44.552	
Methyl chloride	.72448	.73651	.75476	.112	.73858	2.064	
Methylene chloride	.84543	.70759	.60566	.391	.71956	16.723	
1,1,2,2-Tetrachloroethane	.63248	.69230	.65010	1.175	.65829	4.669	
Tetrachloroethylene	1.01150	.99390	.92137	1.176	.97559	4.897	
Toluene	2.45313	2.35598	2.21233	1.239	2.34048	5.176	
1,2-Trans-dichloroethylene	1.01008	.99845	1.01261	.632	1.00704	.750	
1,1,1-Trichloroethane	1.01892	.92290	.85204	.759	.93129	8.993	
1,1,2-Trichloroethane	.41294	.42223	.39510	.942	.41009	3.361	
Trichloroethylene	.53180	.51682	.49549	.906	.51470	3.545	
Trichlorofluoromethane	1.18249	1.15151	1.09921	.498	1.14440	3.678	
Vinyl chloride	.51647	.45777	.45078	.213	.47500	7.596	
meta-Xylene	2.86454	2.18708	2.02774	1.622	2.35979	18.829	(Conc=75.0,150.0,450.0)
ortho-and-para-Xylenes	1.43227	1.71333	1.68095	1.658	1.60885	9.558	(Conc=150.0,300.0,900.0)
Styrene	-	-	-	-	-	-	
Carbon disulfide	-	-	-	-	-	-	
Methyl ethyl ketone	-	-	-	-	-	-	(Conc=450.0,900.0,2700.0)
Acetone	-	-	-	-	-	-	
Vinyl acetate	-	-	-	-	-	-	
Methtyl butyl ketone	-	-	-	-	-	-	
Methyl-i-butyl ketone	-	-	-	-	-	-	
1,2-Dichloroethane-D4	.34968	.33905	.33542	.692	.34138	2.171	(Conc=250.0,250.0,250.0)
Toluene-D8	1.95089	1.81957	1.77279	1.230	1.84775	4.997	(Conc=250.0,250.0,250.0)

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: IDFILE, PURGEABLE PRIORITY POLLUTANTS, C
Calibrated: 850505 11:33

Compound	Files:)C8213 RF 90.00	)C8214 RF 180.00	)C8215 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
p-Bromofluorobenzene	.98204	.88531	.92344	1.527	.93027	5.238	(Conc=250.0,250.0,250.0)

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 Check Report

Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, C
Calibrated: 850505 11:33

Check Standard Data File:)C8227
Injection Time: 850505 20:51

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.06101	.06866	12.55	Average	(Conc=4000.00)
Acrylonitrile	.14378	.16632	15.68	Average	(Conc=400.00)
Benzene	2.03146	2.09208	2.98	Average	
bis(Chloromethyl)ether	.09773	.11861	21.37	Average	
Bromoform	.40866	.41062	.48	Average	
Carbon tetrachloride	.75706	.87508	15.59	Average	
Chlorobenzene	1.49487	1.63114	9.12	Average	
Chlorodibromomethane	.67398	.75508	12.03	Average	
Chloroethane	.15255	.15022	1.53	Average	
2-Chloroethylvinyl ether	.12725	.16228	27.54	Average	
Chloroform	1.17052	1.31195	12.08	Average	
Dichlorobromomethane	.91807	1.00729	9.72	Average	
Dichlorodifluoromethane	.40348	.44382	10.00	Average	
1,1-Dichloroethane	.84263	.88918	5.53	Average	
1,2-Dichloroethane	.82356	.95054	15.42	Average	
1,1-Dichloroethylene	.98480	1.04848	6.47	Average	
1,2-Dichloropropane	.75727	.74905	1.09	Average	
trans-1,3-Dichloropropylene	.92056	.91056	1.09	Average	
cis-1,3-Dichloropropylene	.74123	.78380	5.74	Average	
Ethylbenzene	2.81331	3.06817	9.06	Average	
Methyl bromide	.22365	.31398	40.39	Average	
Methyl chloride	.73858	.81047	9.74	Average	
Methylene chloride	.71956	.88513	23.01	Average	
1,1,2,2-Tetrachloroethane	.65829	.80991	23.03	Average	
Tetrachloroethylene	.97559	1.13140	15.97	Average	
Toluene	2.34048	2.49217	6.48	Average	
1,2-Trans-dichloroethylene	1.00704	1.05235	4.50	Average	
1,1,1-Trichloroethane	.93129	1.15490	24.01	Average	
1,1,2-Trichloroethane	.41009	.37637	8.22	Average	
Trichloroethylene	.51470	.57163	11.06	Average	
Trichlorofluoromethane	1.14440	1.33851	16.96	Average	
Vinyl chloride	.47500	.50669	6.67	Average	
meta-Xylene	2.35979	.32298	86.31	Average	(Conc=75.00)
ortho-and-para-Xylenes	1.60885	.16149	89.96	Average	(Conc=150.00)
Styrene	-	-	-	Average	
Carbon disulfide	-	-	-	Average	
Methyl ethyl ketone	-	-	-	Average	(Conc=450.00)
Acetone	-	-	-	Average	
Vinyl acetate	-	-	-	Average	
Methtyl butyl ketone	-	-	-	Average	
Methyl-i-butyl ketone	-	-	-	Average	
1,2-Dichloroethane-D4	.34138	.36723	7.57	Average	(Conc=250.00)
Toluene-D8	1.84775	1.86222	.78	Average	(Conc=250.00)
p-Bromofluorobenzene	.93027	.98271	5.64	Average	(Conc=250.00)

RF - Response Factor from daily standard file at 90.00 NG

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

%Diff - % Difference from original average or curve

Calibration Check Report

Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, C
Calibrated: 850505 11:33

Check Standard Data File: >C8213
Injection Time: 850505 09:14

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.06101	.05970	2.14	Average	(Conc=4000.00)
Acrylonitrile	.14378	.14274	.72	Average	(Conc=400.00)
Benzene	2.03146	2.10816	3.78	Average	
bis(Chloromethyl)ether	.09773	.08581	12.20	Average	
Bromoform	.40866	.34697	15.10	Average	
Carbon tetrachloride	.75706	.75163	.72	Average	
Chlorobenzene	1.49487	1.56588	4.75	Average	
Chlorodibromomethane	.67398	.66710	1.02	Average	
Chloroethane	.15255	.16185	6.10	Average	
2-Chloroethylvinyl ether	.12725	.14992	17.82	Average	
Chloroform	1.17052	1.20815	3.21	Average	
Dichlorobromomethane	.91807	.91045	.83	Average	
Dichlorodifluoromethane	.40348	.42113	4.37	Average	
1,1-Dichloroethane	.84263	.84317	.06	Average	
1,2-Dichloroethane	.82356	.83703	1.64	Average	
1,1-Dichloroethylene	.98480	.98787	.31	Average	
1,2-Dichloropropane	.75727	.75919	.25	Average	
trans-1,3-Dichloropropylene	.92056	.92641	.64	Average	
cis-1,3-Dichloropropylene	.74123	.74620	.67	Average	
Ethylbenzene	2.81331	2.99920	6.61	Average	
Methyl bromide	.22365	.30909	38.20	Average	
Methyl chloride	.73858	.72448	1.91	Average	
Methylene chloride	.71956	.84543	17.49	Average	
1,1,2,2-Tetrachloroethane	.65829	.63248	3.92	Average	
Tetrachloroethylene	.97559	1.01150	3.68	Average	
Toluene	2.34048	2.45313	4.81	Average	
1,2-Trans-dichloroethylene	1.00704	1.01008	.30	Average	
1,1,1-Trichloroethane	.93129	1.01892	9.41	Average	
1,1,2-Trichloroethane	.41009	.41294	.69	Average	
Trichloroethylene	.51470	.53180	3.32	Average	
Trichlorofluoromethane	1.14440	1.18249	3.33	Average	
Vinyl chloride	.47500	.51647	8.73	Average	
meta-Xylene	2.35979	.52580	77.72	Average	(Conc=75.00)
ortho-and-para-Xylenes	1.60885	-	-	Average	(Conc=150.00)
Styrene	-	-	-	Average	
Carbon disulfide	-	-	-	Average	
Methyl ethyl ketone	-	-	-	Average	(Conc=450.00)
Acetone	-	-	-	Average	
Vinyl acetate	-	-	-	Average	
Methtyl butyl ketone	-	-	-	Average	
Methyl-i-butyl ketone	-	-	-	Average	
1,2-Dichloroethane-D4	.34138	.34968	2.43	Average	(Conc=250.00)
Toluene-D8	1.84775	1.95089	5.58	Average	(Conc=250.00)
p-Bromofluorobenzene	.93027	.98204	5.57	Average	(Conc=250.00)

RF - Response Factor from daily standard file at 90.00 NG

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

%Diff - % Difference from original average or curve

Calibration Report

Title: ACID ID FILE.....3/15/85,#F,WWC
Calibrated: 850514 11:46

Compound	Files: >F9392 RF 60.00	>F9391 RF 100.00	>F9390 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.81091	.85161	.69129	.944	.78460	10.621	
2-Fluorophenol	.64677	.72167	.74492	.644	.70445	7.281	(Conc=100.0,100.0,100.0)
Phenol	1.01583	.96909	.90390	.925	.96294	5.838	
Phenol-D5	.80346	.90184	.87435	.918	.85989	5.903	(Conc=100.0,100.0,100.0)
2-Methylphenol	~~.90846~~	~~.83876~~	~~.67115~~	~~1.152~~	~~.80613~~	~~15.131~~	
4-Methylphenol	~~1.12496~~	~~.89120~~	~~.82201~~	~~1.224~~	~~.94609~~	~~16.780~~	
Benzoic acid	~~.91507~~	~~.07350~~	~~.27444~~	~~1.617~~	~~.42100~~	~~104.398~~	
2,4-Dichlorophenol	.27539	.26938	.23701	.973	.26059	7.922	
2,4-Dimethylphenol	.36473	.39160	.34293	.932	.36642	6.652	
2-Nitrophenol	.19268	.19498	.18642	.896	.19136	2.315	
p-Chloro-m-cresol	.33333	.34654	.30912	1.241	.32966	5.756	
4,6-Dinitro-o-cresol	.24392	.29675	.30324	1.159	.28131	11.566	
2,4-Dinitrophenol	.14805	.17983	.20770	1.035	.17853	16.718	
4-Nitrophenol	.17428	.24943	.28901	1.075	.23757	24.528	
2,4,5-Trichlorophenol	.40063	.37916	.32663	.844	.36880	10.324	
2,4,6-Trichlorophenol	.40063	.37916	.32663	.844	.36880	10.324	
2,4,6-Tribromophenol	.11816	.12152	.13062	.889	.12344	5.222	(Conc=100.0,100.0,100.0)
Pentachlorophenol	.11664	.12794	.14410	.986	.12956	10.654	

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: 850513 21:01

Compound	Files:)J2856 RF 60.00	)J2855 RF 100.00	)J2854 RF 200.00	)J2857 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
-Nitrosodimethylamine	1.52892	1.37311	1.38256	-	.456	1.42820	6.117	
bis(2-Chloroethyl) ether	1.86184	1.90394	2.13811	-	.937	1.96796	7.564	
,3-Dichlorobenzene	1.35926	1.39315	1.43991	-	.990	1.39744	2.898	
1,4-Dichlorobenzene	1.98122	1.81445	1.76630	-	1.006	1.85399	6.083	
,2-Dichlorobenzene	1.65238	1.62326	1.65385	-	1.063	1.64317	1.850	
Nitrobenzene-d5	1.47523	1.45753	1.79204	-	1.190	1.57494	11.952	(Conc=50.0,50.0,50.0,50.0)
is(2-Chloroisopropyl)ether	.33387	.34511	.43044	-	1.108	.36981	14.281	
2-Fluorobiphenyl	.32927	.35428	.34441	-	1.307	.34265	3.676	(Conc=50.0,50.0,50.0,50.0)
-Nitrosodi-n-propylamine	.35199	.34081	.34948	-	.801	.34743	1.688	
Hexachloroethane	.13989	.13947	.12358	-	.806	.13432	6.923	
itrobenzene	.51145	.54641	.54765	-	.831	.53517	3.841	
Isophorone	.86764	.85697	.87773	-	.889	.86744	1.197	
is(2-Chloroethoxy)methane	.43872	.52411	.58996	-	.953	.51760	14.651	
1,2,4-Trichlorobenzene	.30655	.30338	.30563	-	.991	.30519	.535	
aphthalene	1.15379	1.16906	1.17127	-	1.005	1.16471	.817	
Hexachlorobutadiene	.19227	.18541	.17295	-	1.059	.18354	5.336	
exachlorocyclopentadiene	.20636	.22818	.27340	-	.845	.23598	14.490	
2-Chloronaphthalene	.99777	1.06479	1.07792	-	.891	1.04682	4.107	
imethyl phthalate	1.52465	1.46763	1.46962	-	.969	1.48730	2.176	
Acenaphthylene	1.96401	1.88543	1.93165	-	.970	1.92703	2.050	
,6-Dinitrotoluene	.27769	.30175	.31025	-	.979	.29656	5.696	
Acenaphthene	1.40596	1.35273	1.36747	-	1.007	1.37539	1.998	
,4-Dinitrotoluene	.21189	.26340	.28758	-	1.052	.25429	15.203	
Diethyl phthalate	1.44293	1.37586	1.44353	-	1.107	1.42077	2.738	
luorene	1.10221	1.11901	1.13408	-	1.105	1.11843	1.426	
4-Chlorophenyl phenyl ether	.53321	.54466	.54909	-	1.110	.54232	1.510	
-Nitrosodiphenylamine	.59677	.61330	.68568	-	1.136	.63192	7.483	
1,2-Diphenylhydrazine	1.80049	1.89582	2.05571	-	1.140	1.91734	6.726	
4-Bromophenyl phenyl ether	.25265	.25646	.26590	-	.938	.25834	2.641	
Hexachlorobenzene	.36314	.34500	.30594	-	.956	.33803	8.648	
henanthrene	.82198	.84701	.89820	-	1.004	.85573	4.540	
Anthracene	1.06938	1.08508	1.06460	-	1.011	1.07302	.998	
i-n-butyl phthalate	1.25931	1.27143	1.32218	-	1.111	1.28431	2.597	
Fluoranthene	.65137	.69882	.76396	-	1.184	.70471	8.021	
enzidine	-	-	.00948	-	1.222	.00948	-	
Pyrene	.64266	.68354	.74368	-	1.217	.68996	7.365	
lpha-BHC	.19038	.18203	-	.19462	.944	.18901	3.389	
Beta-BHC	.08269	.08592	-	.10659	.982	.09173	14.136	
amma-BHC	.15853	.14887	-	.16736	.989	.15825	5.843	
Delta-BHC	.08389	.08258	-	.10375	1.021	.09008	13.170	
Heptachlor	.26329	.25382	-	.30685	1.084	.27465	10.297	
Aldrin	.24215	.22865	-	.25902	1.128	.24328	6.255	
Heptachlor epoxide	.25456	.18130	-	.39681	.838	.27756	39.481	

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: 850513 21:01

Compound	Files: >J2856 RF 60.00	>J2855 RF 100.00	>J2854 RF 200.00	>J2857 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.04763	.04666	-	.18971	.859	.09467	86.949	
Endosulfan I	.08455	.06190	-	.14020	.870	.09555	42.167	
4,4'-DDE	.53404	.40628	-	.91131	.889	.61721	42.544	
Dieldrin	.69251	.47743	-	1.15821	.893	.77605	44.841	
Endrin	.06324	.05464	-	.13690	.912	.08493	53.241	
Endosulfan II	.05785	.05904	-	.11380	.919	.07690	41.567	
4,4'-DDD	.64855	.58205	-	1.19789	.924	.80950	41.754	
Endrin aldehyde	.06324	.05464	-	.40242	.920	.17343	114.371	
4,4'-DDT	.34275	.36152	-	.81315	.956	.50581	52.654	
Endosulfan sulfate	.11615	.10361	-	.22466	.955	.14814	44.933	
Terphenyl-D14	.99584	1.13988	1.24470	-	.891	1.12681	11.088	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	.82497	.78490	.82928	-	.951	.81305	3.010	
Benzo(a)anthracene	.64333	.74559	.88917	-	.998	.75936	16.263	
Chrysene	1.43189	1.26222	1.27706	-	1.003	1.32372	7.099	
3,3'-Dichlorobenzidine	.16740	.09248	.28620	-	1.004	.18203	53.665	
bis(2-Ethylhexyl)phthalate	1.13330	1.05374	1.13979	-	1.019	1.10894	4.321	
Di-n-octyl phthalate	1.73847	1.65242	1.71498	-	1.082	1.70196	2.613	
Benzo(b)fluoroanthene	2.09630	.66157	.72219	-	1.109	1.16002	69.948	
Benzo(k)fluoranthene	.82695	1.08759	.93937	-	1.121	.95131	13.742	
Benzo(a)pyrene	.82695	.73546	.68635	-	1.141	.74959	9.519	
Indeno(1,2,3-c,d)pyrene	.82721	.64560	.73846	-	1.275	.73709	12.320	
Dibenzo(a,h)anthracene	-	.48227	.59719	-	1.279	.53973	15.056	
Benzo(ghi)perylene	.60865	.55143	.63287	-	1.311	.59765	6.997	

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: 850513 21:01

Compound	Files:)J2856 RF 60.00	)J2855 RF 100.00	)J2854 RF 200.00	)J2857 RF 150.00	
N-Nitrosodimethylamine	1.52892	1.37311	1.38256	-	
bis(2-Chloroethyl) ether	1.86184	1.90394	2.13811	-	
1,3-Dichlorobenzene	1.35926	1.39315	1.43991	-	
1,4-Dichlorobenzene	1.98122	1.81445	1.76630	-	
1,2-Dichlorobenzene	1.65238	1.62326	1.65385	-	
Nitrobenzene-d5	1.47523	1.45753	1.79204	-	(Conc=50.0,50.0,50.0,50.0)
bis(2-Chloroisopropyl)ether	.33387	.34511	.43044	-	
2-Fluorobiphenyl	.32927	.35428	.34441	-	(Conc=50.0,50.0,50.0,50.0)
N-Nitrosodi-n-propylamine	.35199	.34081	.34948	-	
Hexachloroethane	.13989	.13947	.12358	-	
Nitrobenzene	.51145	.54641	.54765	-	
Isophorone	.86764	.85697	.87773	-	
bis(2-Chloroethoxy)methane	.43872	.52411	.58996	-	
1,2,4-Trichlorobenzene	.30655	.30338	.30563	-	
Naphthalene	1.15379	1.16906	1.17127	-	
Hexachlorobutadiene	.19227	.18541	.17295	-	
Hexachlorocyclopentadiene	.20636	.22818	.27340	-	
2-Chloronaphthalene	.99777	1.06479	1.07792	-	
Dimethyl phthalate	1.52465	1.46763	1.46962	-	
Acenaphthylene	1.96401	1.88543	1.93165	-	
2,6-Dinitrotoluene	.27769	.30175	.31025	-	
Acenaphthene	1.40596	1.35273	1.36747	-	
2,4-Dinitrotoluene	.21189	.26340	.28758	-	
Diethyl phthalate	1.44293	1.37586	1.44353	-	
Fluorene	1.10221	1.11901	1.13408	-	
4-Chlorophenyl phenyl ether	.53321	.54466	.54909	-	
N-Nitrosodiphenylamine	.59677	.61330	.68568	-	
1,2-Diphenylhydrazine	1.80049	1.89582	2.05571	-	
4-Bromophenyl phenyl ether	.25265	.25646	.26590	-	
Hexachlorobenzene	.36314	.34500	.30594	-	
Phenanthrene	.82198	.84701	.89820	-	
Anthracene	1.06938	1.08508	1.06460	-	
Di-n-butyl phthalate	1.25931	1.27143	1.32218	-	
Fluoranthene	.65137	.69882	.76396	-	
Benzidine	-	-	.00948	-	
Pyrene	.64266	.68354	.74368	-	
Alpha-BHC	.19038	.18203	-	.19462	
Beta-BHC	.08269	.08592	-	.10659	
Gamma-BHC	.15853	.14887	-	.16736	
Delta-BHC	.08389	.08258	-	.10375	
Heptachlor	.26329	.25382	-	.30685	
Aldrin	.24215	.22865	-	.25902	
Heptachlor epoxide	.25456	.18130	-	.39681	
Chlordane	.04763	.04666	-	.18971	
Endosulfan I	.08455	.06190	-	.14020	
4,4'-DDE	.53404	.40628	-	.91131	
Dieldrin	.69251	.47743	-	1.15821	
Endrin	.06324	.05464	-	.13690	
Endosulfan II	.05785	.05904	-	.11380	

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

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850513 21:01

Compound	Files:)J2856 RF 60.00	)J2855 RF 100.00	)J2854 RF 200.00	)J2857 RF 150.00	
4,4'-DDD	.64855	.58205	-	1.19789	
Endrin aldehyde	.06324	.05464	-	.40242	
4,4'-DDT	.34275	.36152	-	.81315	
Endosulfan sulfate	.11615	.10361	-	.22466	
Terphenyl-D14	.99584	1.13988	1.24470	-	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	.82497	.78490	.82928	-	
Benzo(a)anthracene	.64333	.74559	.88917	-	
Chrysene	1.43189	1.26222	1.27706	-	
3,3'-Dichlorobenzidine	.16740	.09248	.28620	-	
bis(2-Ethylhexyl)phthalate	1.13330	1.05374	1.13979	-	
Di-n-octyl phthalate	1.73847	1.65242	1.71498	-	
Benzo(b)fluoroanthene	2.09630	.66157	.72219	-	
Benzo(k)fluoranthene	.82695	1.08759	.93937	-	
Benzo(a)pyrene	.82695	.73546	.68635	-	
Indeno(1,2,3-c,d)pyrene	.82721	.64560	.73846	-	
Dibenzo(a,h)anthracene	-	.48227	.59719	-	
Benzo(ghi)perylene	.60865	.55143	.63287	-	

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

Calibration Check Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850513 21:01

Check Standard Data File: >J2871
Injection Time: 850514 08:57

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
N-Nitrosodimethylamine	1.42820	1.01969	28.60	Average	
bis(2-Chloroethyl) ether	1.96796	2.28769	16.25	Average	
1,3-Dichlorobenzene	1.39744	1.44364	3.31	Average	
1,4-Dichlorobenzene	1.85399	1.74871	5.68	Average	
1,2-Dichlorobenzene	1.64317	1.74228	6.03	Average	
Nitrobenzene-d5	1.57494	2.09497	33.02	Average	(Conc=50.00)
bis(2-Chloroisopropyl)ether	.36981	.39215	6.04	Average	
2-Fluorobiphenyl	.34265	.37320	8.92	Average	(Conc=50.00)
N-Nitrosodi-n-propylamine	.34743	.33648	3.15	Average	
Hexachloroethane	.13432	.10299	23.32	Average	
Nitrobenzene	.53517	.56800	6.13	Average	
Isophorone	.86744	.88037	1.49	Average	
bis(2-Chloroethoxy)methane	.51760	.53365	3.10	Average	
1,2,4-Trichlorobenzene	.30519	.30197	1.05	Average	
Naphthalene	1.16471	1.16637	.14	Average	
Hexachlorobutadiene	.18354	.16376	10.78	Average	
Hexachlorocyclopentadiene	.23598	.26235	11.17	Average	
2-Chloronaphthalene	1.04682	1.16020	10.83	Average	
Dimethyl phthalate	1.48730	1.48993	.18	Average	
Acenaphthylene	1.92703	1.93503	.42	Average	
2,6-Dinitrotoluene	.29656	.30446	2.66	Average	
Acenaphthene	1.37539	1.38410	.63	Average	
2,4-Dinitrotoluene	.25429	.24827	2.37	Average	
Diethyl phthalate	1.42077	1.24571	12.32	Average	
Fluorene	1.11843	1.04413	6.64	Average	
4-Chlorophenyl phenyl ether	.54232	.51642	4.78	Average	
N-Nitrosodiphenylamine	.63192	.56526	10.55	Average	
1,2-Diphenylhydrazine	1.91734	1.66008	13.41	Average	
4-Bromophenyl phenyl ether	.25834	.28453	10.14	Average	
Hexachlorobenzene	.33803	.35306	4.45	Average	
Phenanthrene	.85573	.85185	.45	Average	
Anthracene	1.07302	1.05393	1.78	Average	
Di-n-butyl phthalate	1.28431	1.08954	15.17	Average	
Fluoranthene	.70471	.61442	12.81	Average	
Benzidine	.00948	.00420	55.67	Average	
Pyrene	.68996	.56463	18.16	Average	
Alpha-BHC	.18901	.19937	5.48	Average	
Beta-BHC	.09173	.08092	11.79	Average	
Gamma-BHC	.15825	.16006	1.14	Average	
Delta-BHC	.09008	.08108	9.99	Average	
Heptachlor	.27465	.23931	12.87	Average	
Aldrin	.24328	.19511	19.80	Average	
Heptachlor epoxide	.27756	.24712	10.96	Average	
Chlordane	.09467	.06601	30.28	Average	

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: 850513 21:01

Check Standard Data File: >J2871
Injection Time: 850514 08:57

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Endosulfan I	.09555	.08329	12.84	Average	
4,4'-DDE	.61721	.54820	11.18	Average	
Dieldrin	.77605	.60591	22.01	Average	
Endrin	.08493	.05626	33.75	Average	
Endosulfan II	.07690	.06176	19.69	Average	
4,4'-DDD	.80950	.70386	13.05	Average	
Endrin aldehyde	.17343	.05626	67.56	Average	
4,4'-DDT	.50581	.47973	5.16	Average	
Endosulfan sulfate	.14814	.11417	22.93	Average	
Terphenyl-D14	1.12681	1.44747	28.46	Average	(Conc=50.00)
Butyl benzyl phthalate	.81305	.85153	4.73	Average	
Benzo(a)anthracene	.75936	.72391	4.67	Average	
Chrysene	1.32372	1.38374	4.53	Average	
3,3'-Dichlorobenzidine	.18203	.10151	44.24	Average	
bis(2-Ethylhexyl)phthalate	1.10894	1.05382	4.97	Average	
Di-n-octyl phthalate	1.70196	1.27929	24.83	Average	
Benzo(b)fluoroanthene	1.16002	.33512	71.11	Average	
Benzo(k)fluoranthene	.95131	.44576	53.14	Average	
Benzo(a)pyrene	.74959	.44576	40.53	Average	
Indeno(1,2,3-c,d)pyrene	.73709	.32893	55.37	Average	
Dibenzo(a,h)anthracene	.53973	.08053	85.08	Average	
Benzo(ghi)perylene	.59765	.28307	52.64	Average	

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

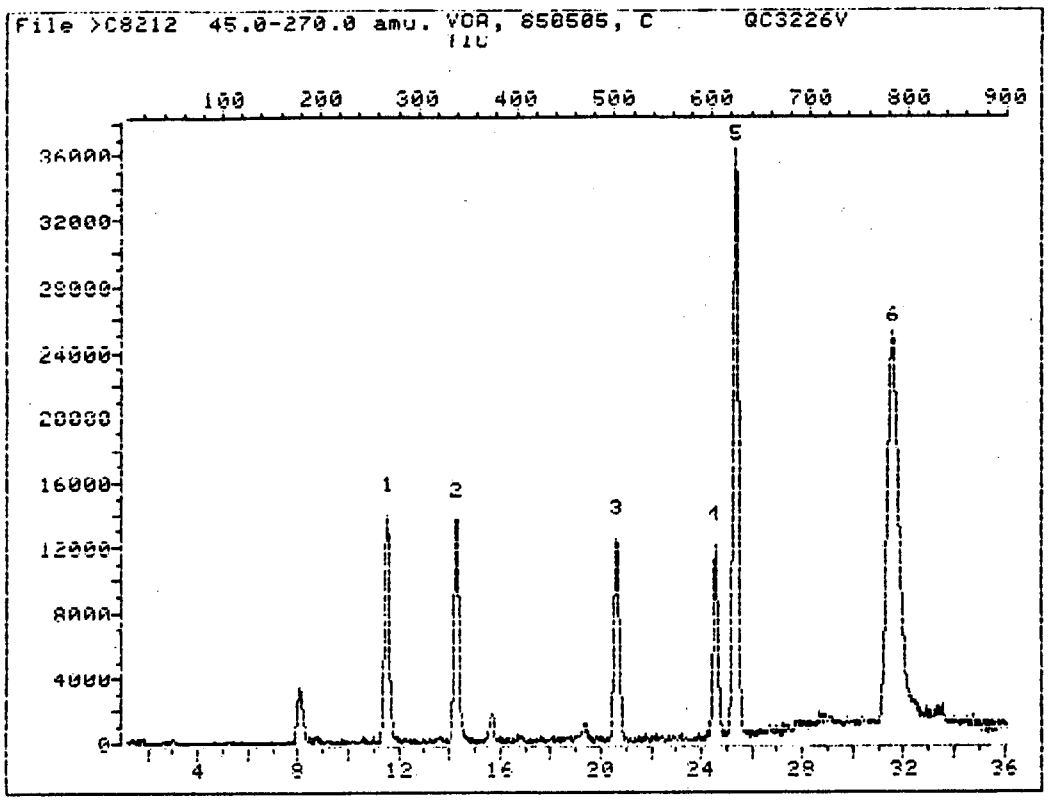
$\overline{RF}$ - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >C8212::U2
Name: VOA, 850505, C
Misc Data: QC3226V

perator ID: DS3476 Quant Rev: 4 Quant Time: 850505 13:04
Injected at: 850505 08:05
ata File: >C8212::U2 Dilution Factor: 1.00
ame: VOA, 850505, C
isc: QC3226V

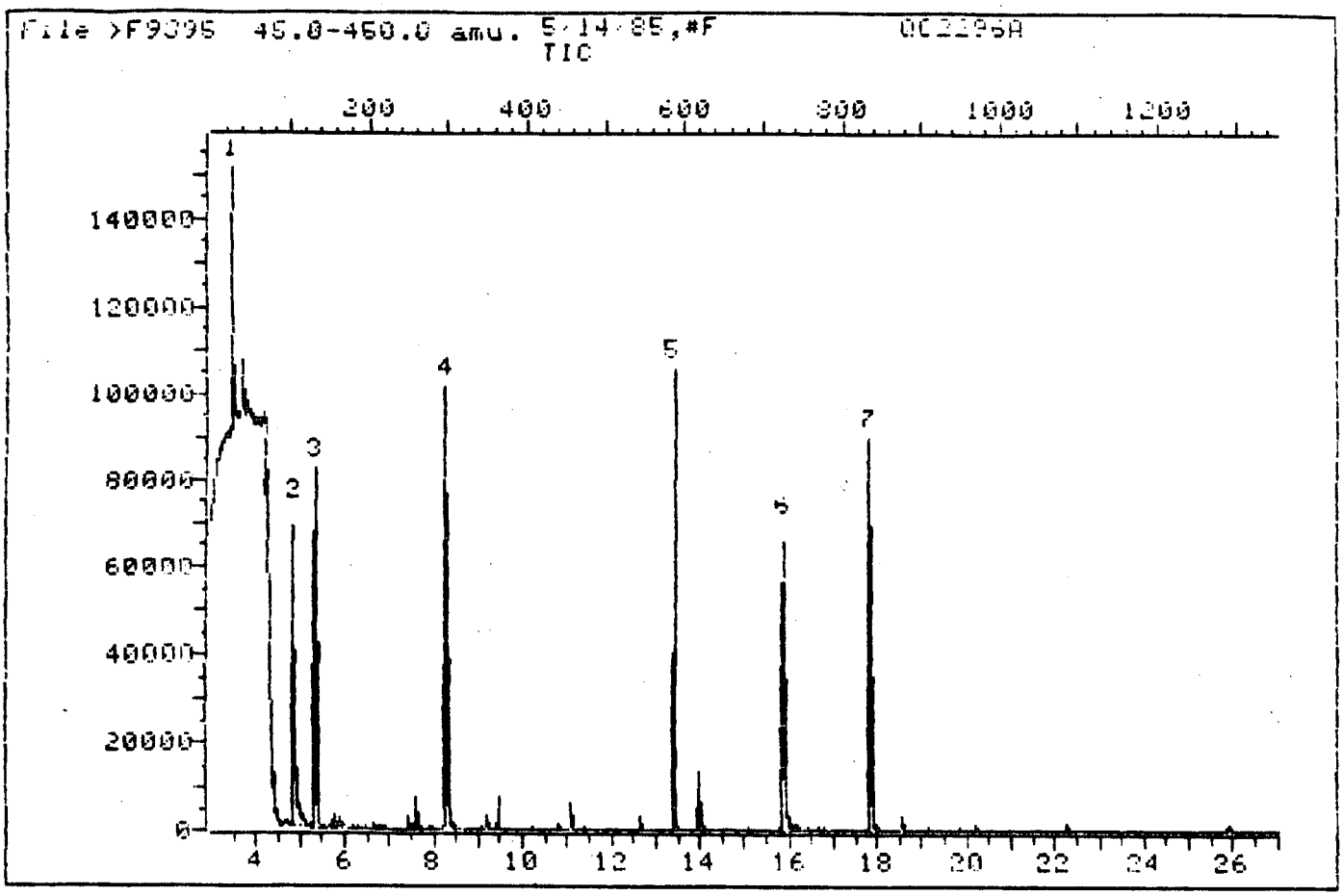
D File: CVOA
itle: PURGEABLE PRIORITY POLLUTANTS,C
ast Calibration: 850505 13:03

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*2-Bromo-1-chloropropane	20.63	502	72057	200.00	NG	93
7)	~~Carbon tetrachloride~~	~~15.62~~	~~373~~	~~911~~	~~3.34~~	~~NG~~	52
4)	Methylene chloride	8.08	179	10747	41.45	NG	91
27)	Toluene	25.56	629	2900	3.44	NG	76
9)	1,1,1-Trichloroethane	15.65	374	6508	19.40	NG	91
34)	1,2-Dichloroethane-D4	14.29	339	34036	276.73	NG	80
35)	Toluene-D8	25.36	624	187748	282.02	NG	99
36)	p-Bromofluorobenzene	31.50	782	94856	283.02	NG	83
39)	*1,4-Dichlorobutane	24.55	603	78372	200.00	NG	94

* Compound is ISTD

CT5547

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F9395::U6
Name: 5/14/85,#F
Misc Data: QC2296A

BTL#26

QUANT REPORT

Operator ID: WWW[illegible]
Output File: ^F9395::AD[illegible]
Data File: [illegible]
Name: 5/14/85,#[illegible]
Misc: QC2296A

Quant Rev: 4
Quant Time: 850514 [illegible]
Injected at: 850514 12:21
Dilution Factor: 1.00

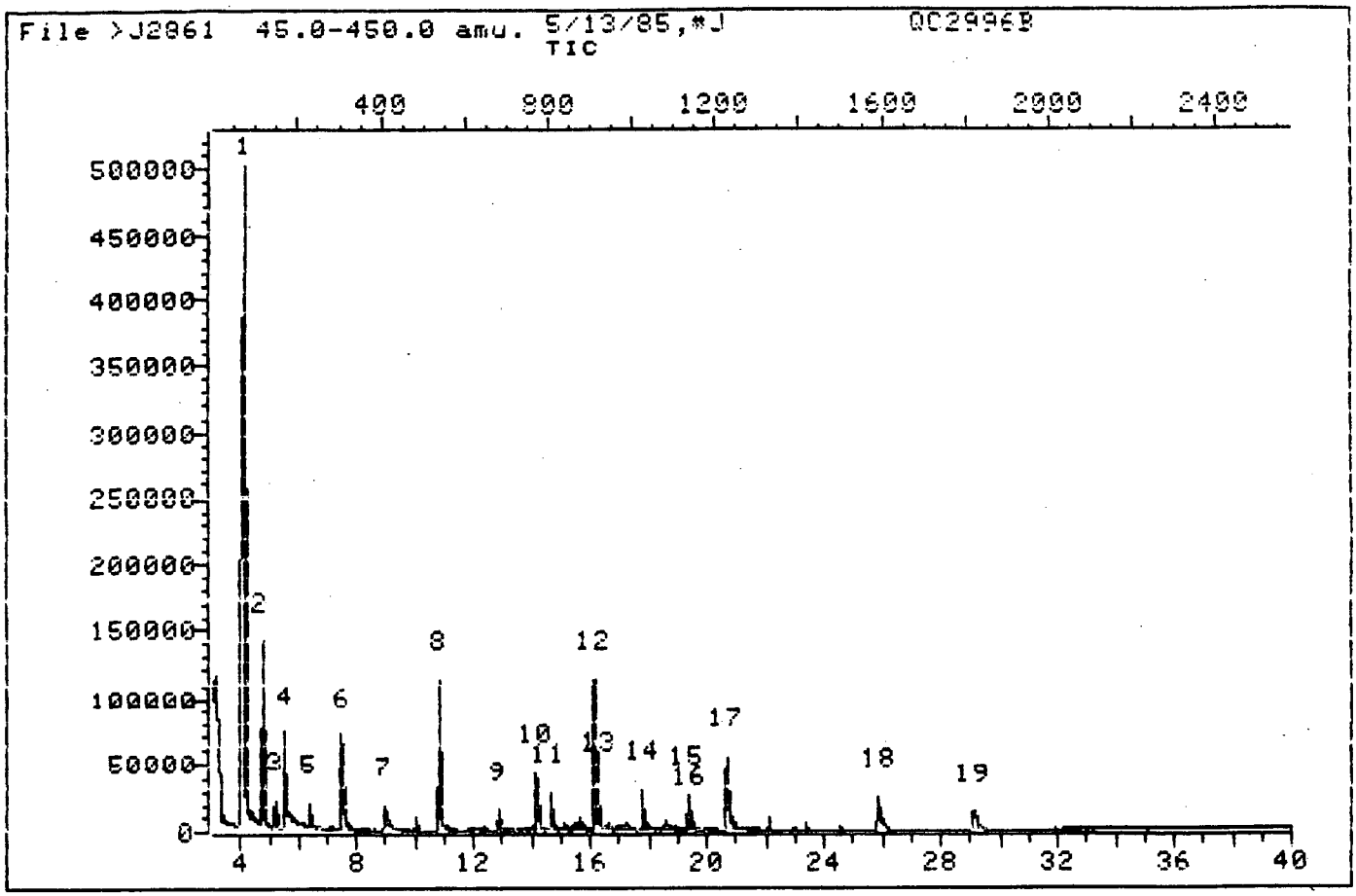
RU #2A

ID File: [illegible]
Title: ACID ID FILE.....3/15/85,#F,WW[illegible]
Last Calibration: 850514 11:47

Compound	R.T.	Scan#	Area	Conc	Units	Q
1) *d4-1,4-Dichlorobenzene	5.29	129	43468	40.00	UG/ML	89
3) 2-Chlorophenol	3.49	[illegible]	[illegible]	44.36	UG/ML	[illegible]
5) Phenol-D5	4.85	114	29412	84.98	UG/ML	95
9) *d8 Naphthalene	8.00	[illegible]	[illegible]	40.00	UG/ML	[illegible]
14) *d10-Acenaphthalene	13.41	586	50299	40.00	UG/ML	99
20) *d10 Phenanthrene	17.91	[illegible]	[illegible]	40.00	UG/ML	[illegible]
21) 2,4,6-Tribromophenol	15.84	723	20948	72.35	UG/ML	98

* Compound is [illegible]

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B

BTL# 4

QUANT REPORT

Operator ID: WW9928 Quant Rev: 4 Quant Time: 850513 22:36
Injected at: 850513 21:47
Data File: >J2861::U5 Dilution Factor: 1.00
Name: 5/13/85,#J
Misc: QC2996B BTL# 4

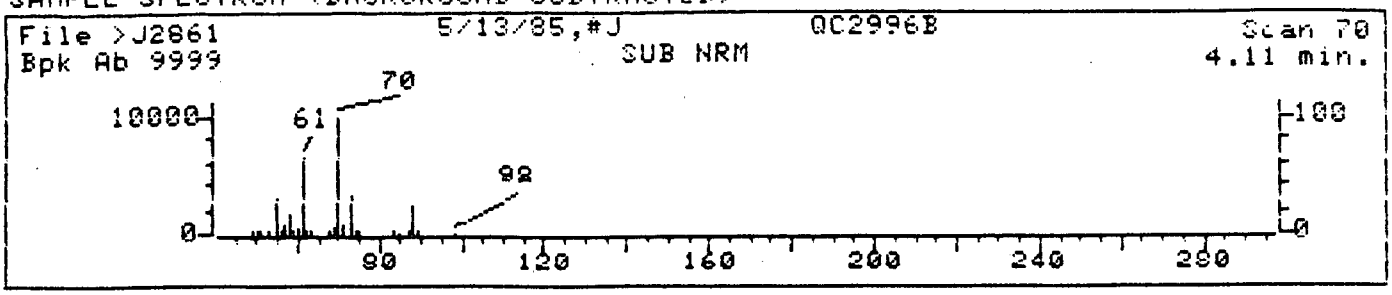
J137A0

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850513 21:05

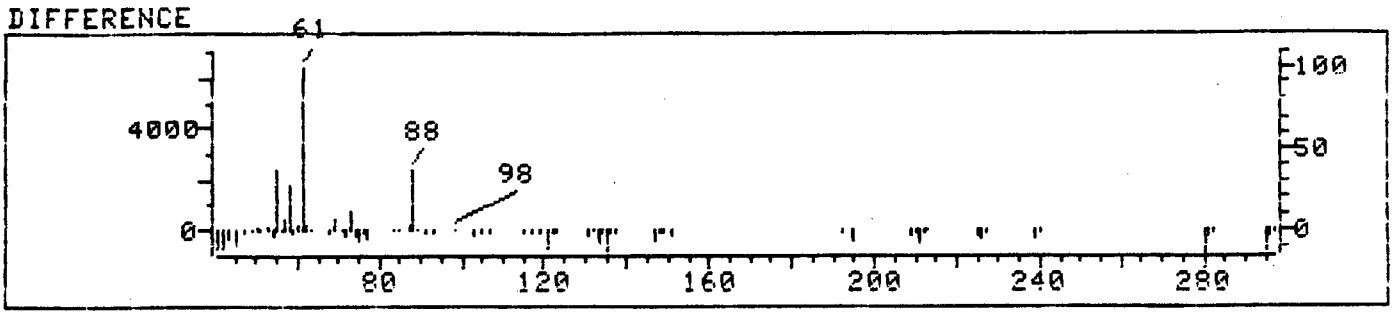
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*d4-1,4-Dichlorobenzene	7.49	306	47700	40.00	UG/ML	94
2)	N-Nitrosodimethylamine	4.03	64	7238	~~4.25~~	~~UG/ML~~	100
2)	N-Nitrosodimethylamine	4.11	70	5620	~~3.30~~	~~UG/ML~~	100
8)	Nitrobenzene-d5	8.90	405	51252	~~27.29~~	~~UG/ML~~	96
8)	Nitrobenzene-d5	9.55	450	2377	~~1.27~~	~~UG/ML~~	54
8)	Nitrobenzene-d5	9.72	462	445	~~.24~~	~~UG/ML~~	64
9)	bis(2-Chloroisopropyl)ether	7.50	307	1499	~~3.40~~	~~UG/ML~~	72
10)	*d8-Naphthalene	10.77	536	170051	40.00	UG/ML	95
11)	2-Fluorobiphenyl	14.09	768	45111	~~30.97~~	~~UG/ML~~	94
20)	*d10-Acenaphthalene	16.06	906	79514	40.00	UG/ML	96
23)	Dimethyl phthalate	16.08	907	13582	~~4.59~~	~~UG/ML~~	73
28)	Diethyl phthalate	17.77	1025	1167	~~.41~~	~~UG/ML~~	99
43)	*d10-Phenanthrene	20.63	1225	104035	40.00	UG/ML	96
48)	Di-n-butyl phthalate	22.90	1384	5256	~~1.57~~	~~UG/ML~~	96
58)	*d12-Chrysene	29.03	1813	44337	40.00	UG/ML	91
70)	Terphenyl-D14	25.80	1587	79429	63.59	UG/ML	99

* Compound is ISTD

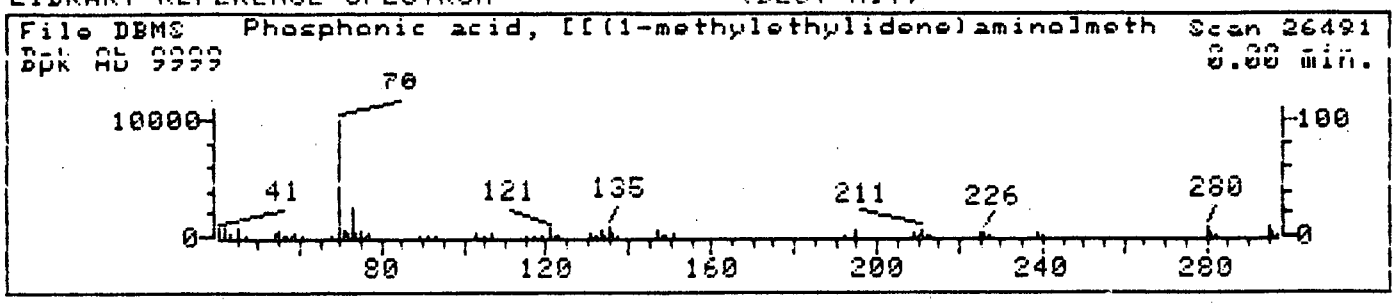
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)

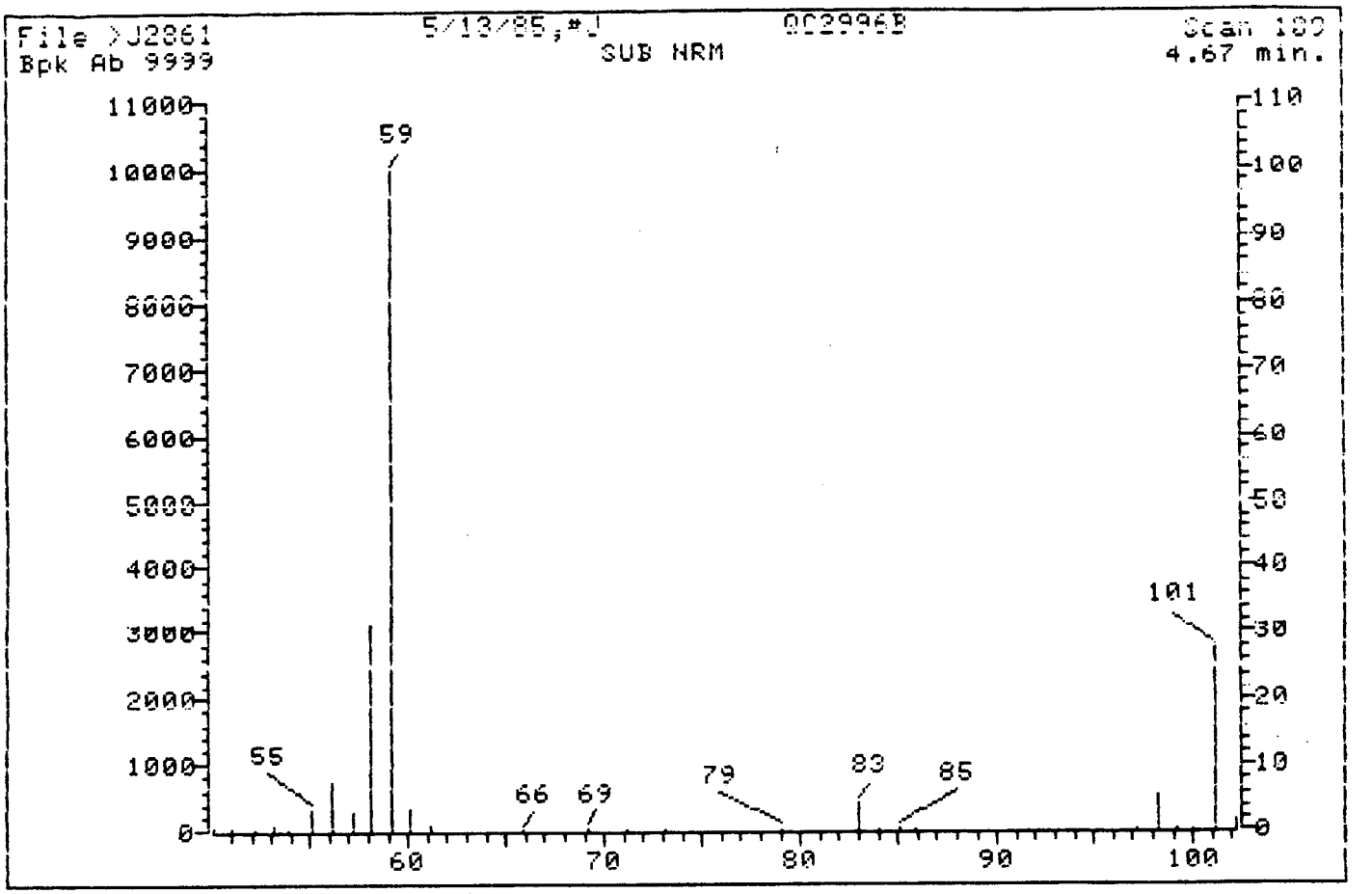


Data File: >J2861::US
Name: 5/13/85,#J
Misc Data: QC2996B BTL# 4
RT (min): 4.11
Scan: 70
Area: 3720082
Semi-quantitative Conc: 421.41 UG/ML

Data File: >J2861 Scan Number: 70
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

1. Phosphonic acid, [[(1-methylethylidene)aminolmethyl] -, bis(trimethylsilyl) ester (9CI) 295 C10H26NO3PSi2
2. Acetic acid, ethyl ester 88 C4H8O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	55108639	36	94	0	-2
2.	25	141786	22	70	1	0

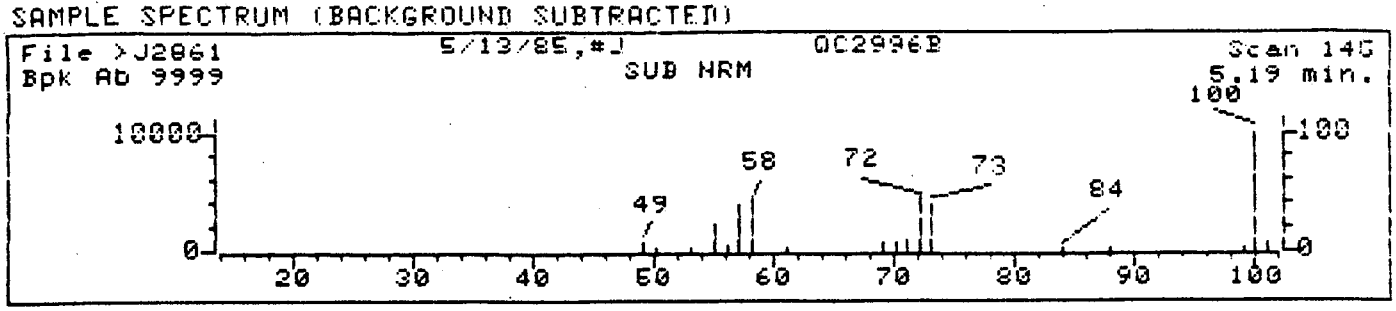


Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B
RT (min): 4.67
Scan: 109
Area: 273075
Semi-quantitative Conc: 30.93 UG/ML

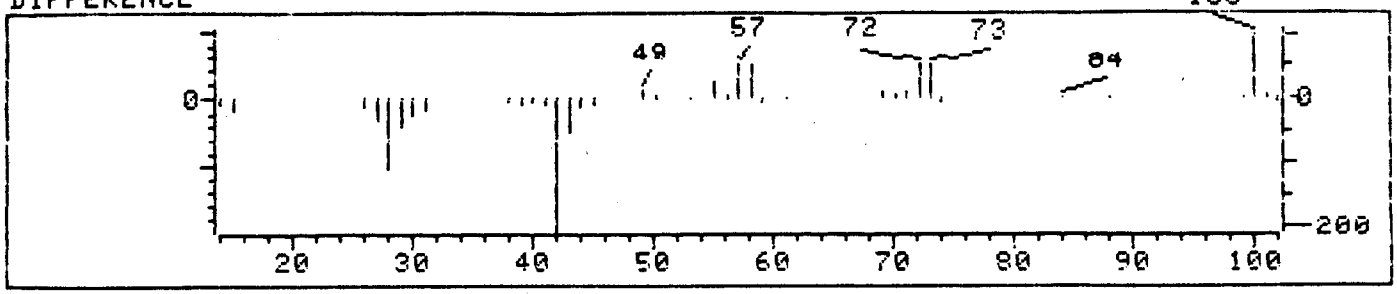
BTL# 4

No PBM hits for this scan.

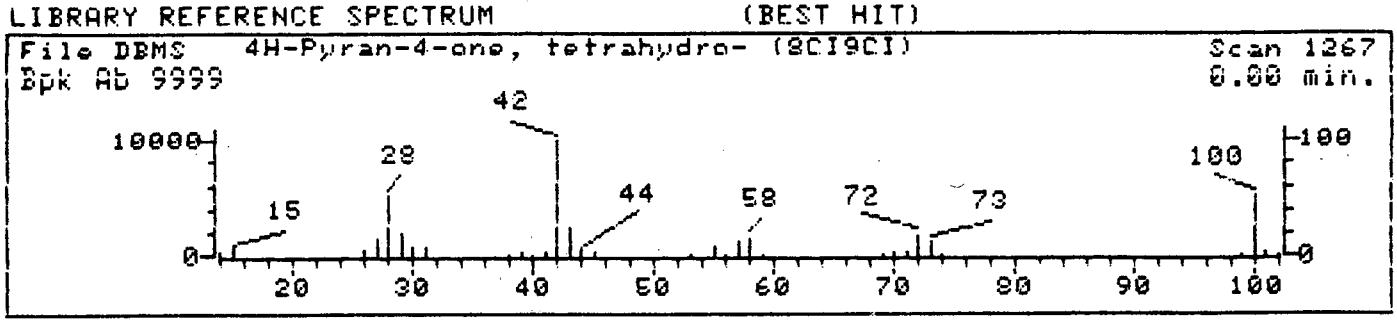
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)

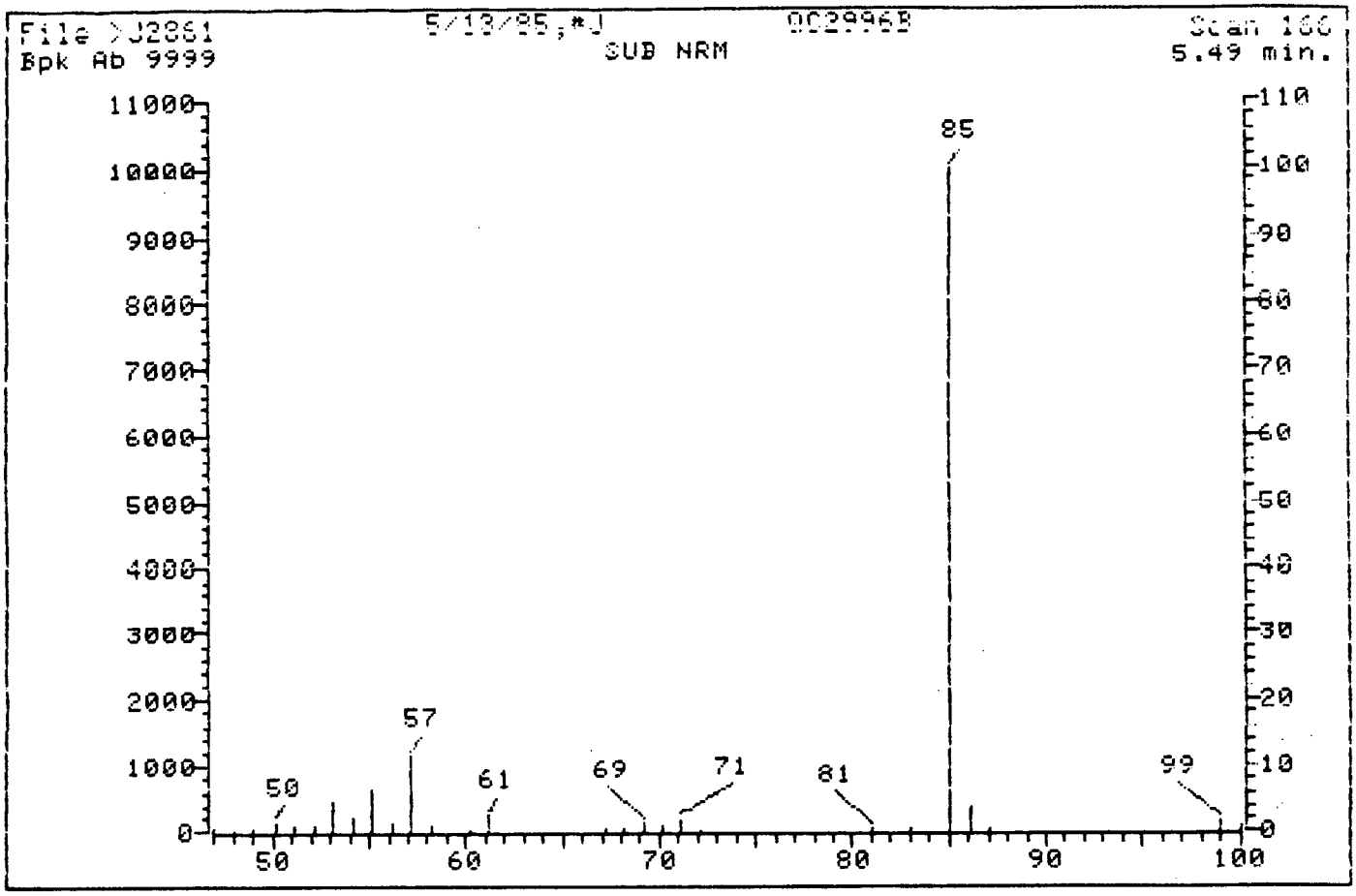


Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B BTL# 4
RT (min): 5.19
Scan: 145
Area: 70557
Semi-quantitative Conc: 7.99 UG/ML

Data File: >J2861 Scan Number: 145
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

1. 4H-Pyran-4-one, tetrahydro- (8CI9CI) 100 C5H8O2
2. 2,4-Imidazolidinedione (9CI) 100 C3H4N2O2
3. p-Dioxane, methylene- (8CI) 100 C5H8O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	74	29943428	44	52	0	0
2.	31	461723	31	86	1	0
3.	15	3984198	21	91	1	0

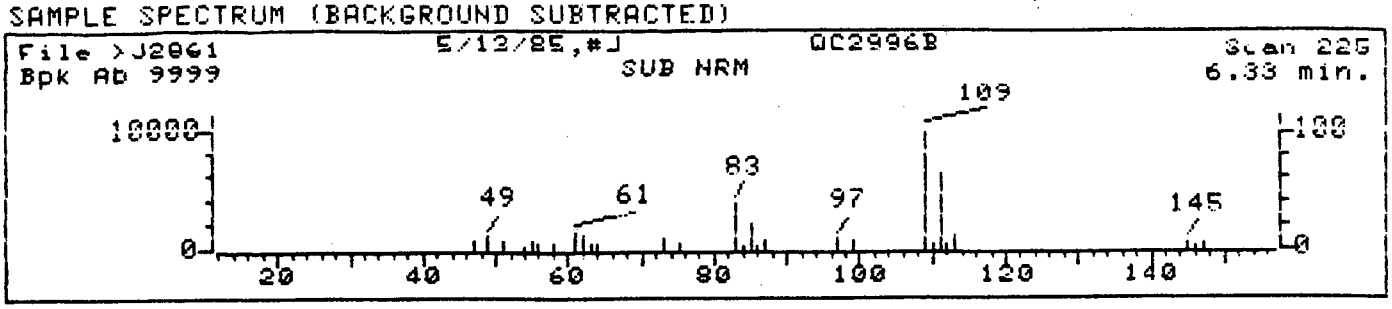


Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B
RT (min): 5.49
Scan: 166
Area: 222156
Semi-quantitative Conc: 25.17 UG/ML

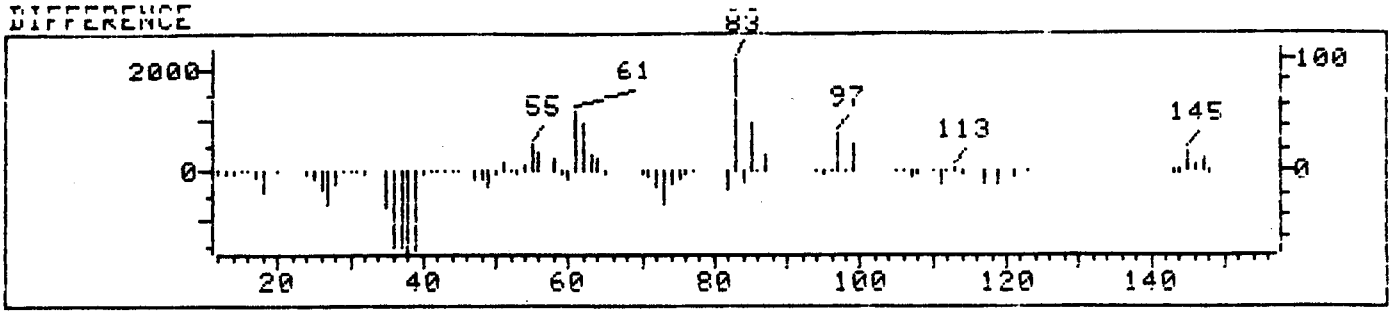
BTL# 4

No PBM hits for this scan.

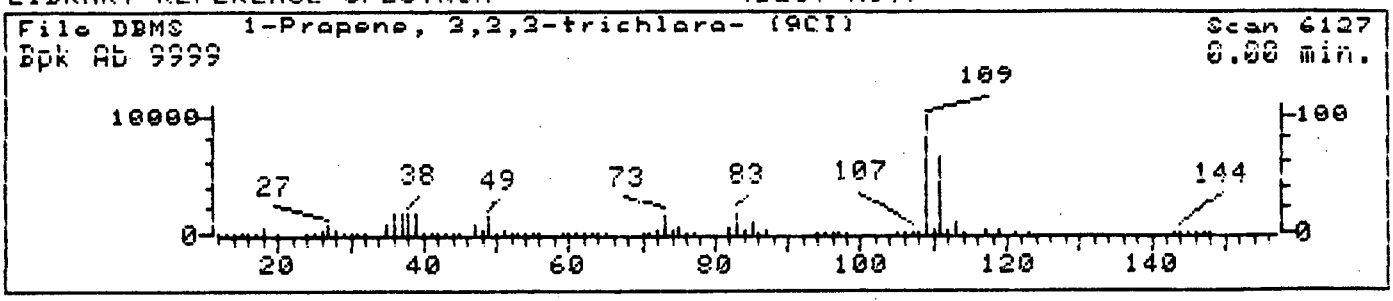
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



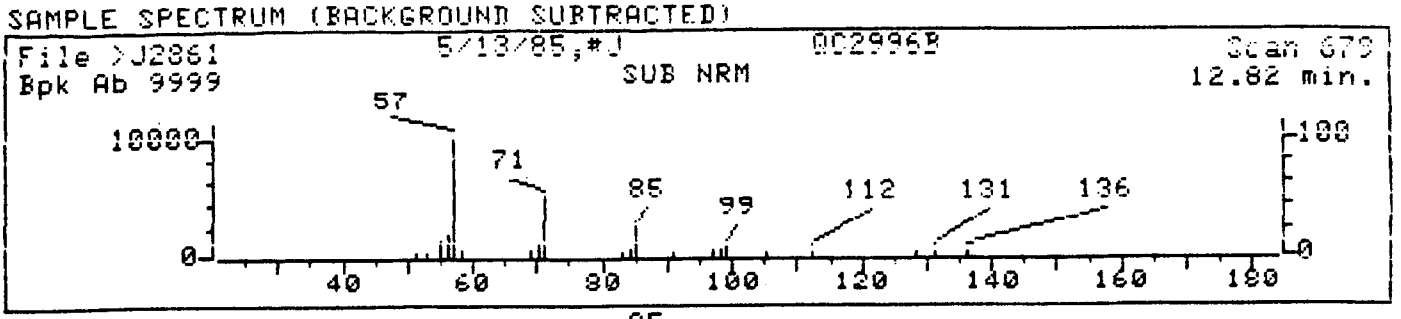
Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B BTL# 4
RT (min): 6.33
Scan: 225
Area: 53183
Semi-quantitative Conc: 6.02 UG/ML

Data File: >J2861 Scan Number: 225
Search Speed: 2 Titling option: S Number of ion ranges searched: 57

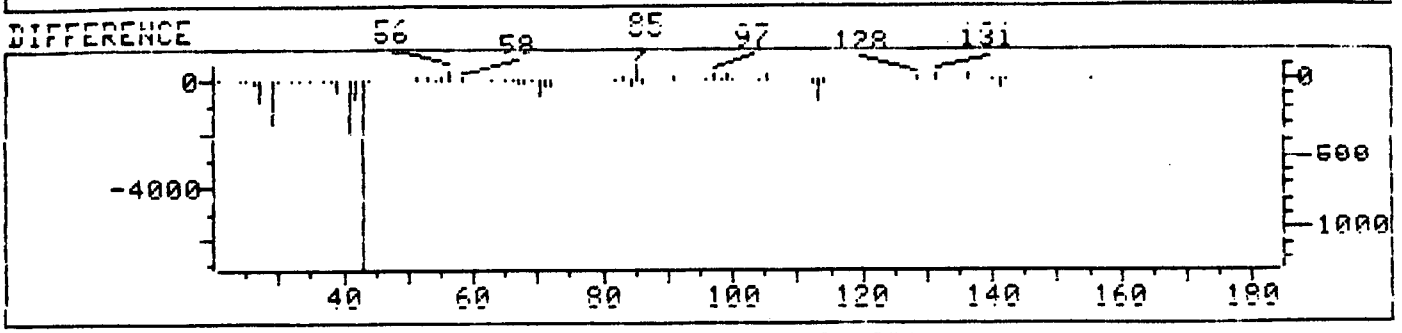
1. 1-Propene, 3,3,3-trichloro- (9CI) 144 C3H3Cl3

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	37	2233003	34	79	2	0

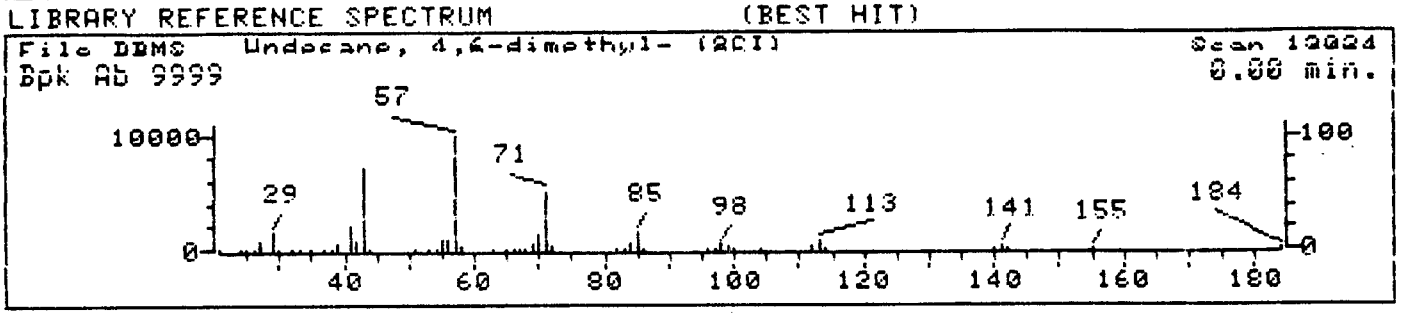
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B
RT (min): 12.82
Scan: 679
Area: 30540
Semi-quantitative Conc: 3.46 UG/ML

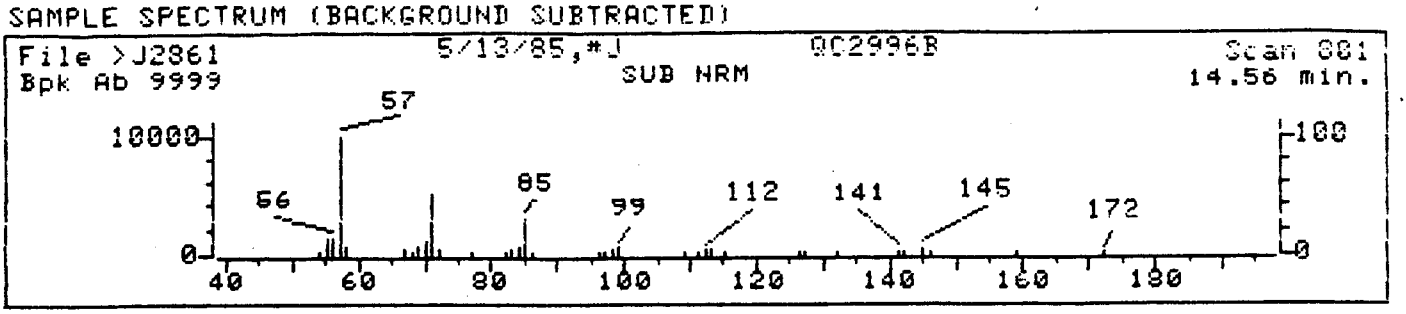
BTL# 4

Data File: >J2861 Scan Number: 679
Search Speed: 2 Titling option: S Number of ion ranges searched: 61

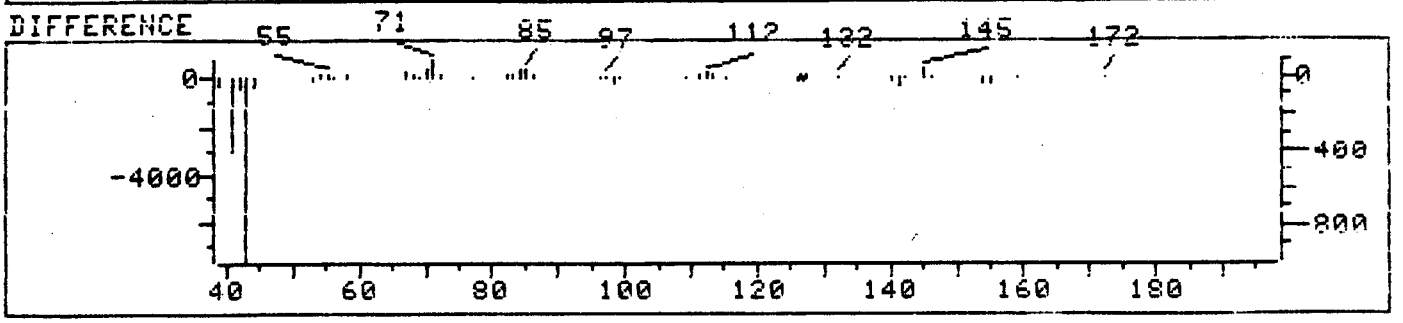
1. Undecane, 4,6-dimethyl- (8CI) 184 C13H28
2. Decane, 6-ethyl-2-methyl- (9CI) 184 C13H28
3. Undecane, 3,6-dimethyl- (8CI) 184 C13H28

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	17312822	45	53	2	1
2.	78	62108218	51	48	2	0
3.	70	17301289	47	50	2	2

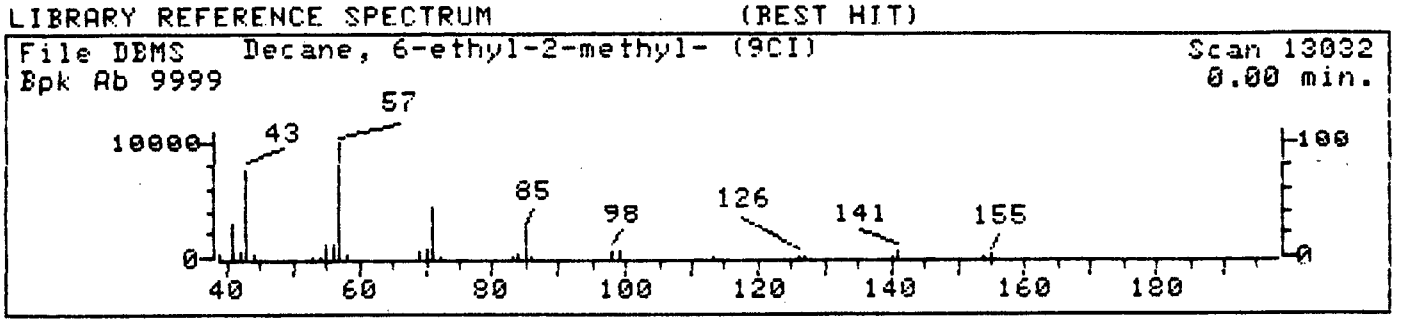
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



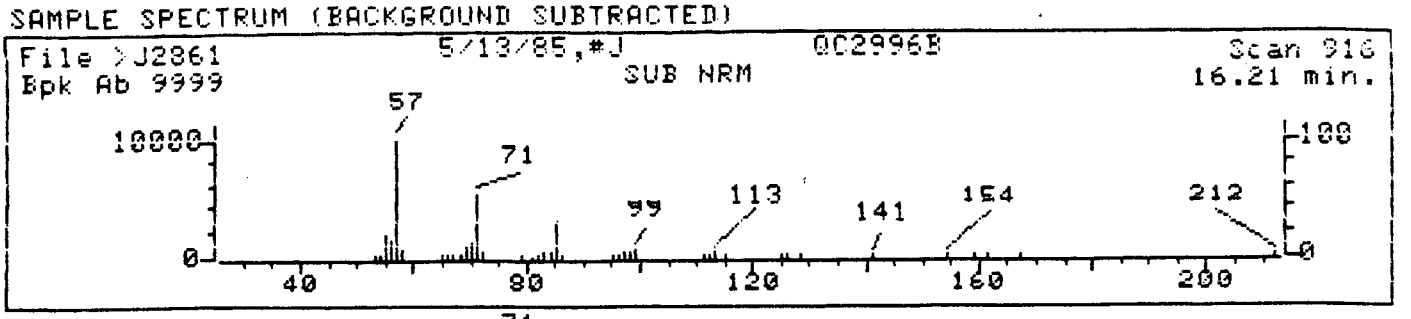
Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B RTL# 4
RT (min): 14.56
Scan: 801
Area: 69047
Semi-quantitative Conc: 7.82 UG/ML

Data File: >J2861 Scan Number: 801
Search Speed: 2 Titling option: S Number of ion ranges searched: 64

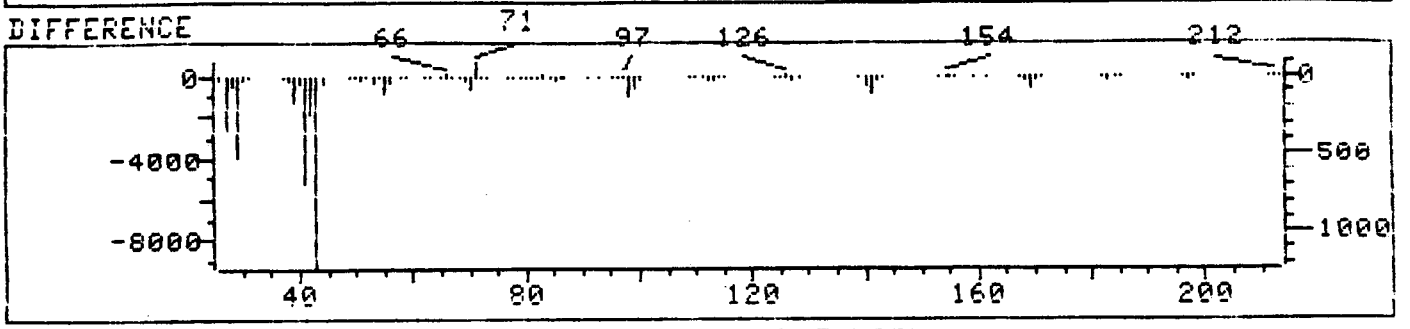
1. Decane, 6-ethyl-2-methyl- (9CI) 184 C13H28
2. Nonane, 2-methyl-5-propyl- (8CI) 184 C13H28
3. Tridecane, 7-methyl- (8CI9CI) 198 C14H30

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	62108218	56	43	2	0
2.	67	31081171	68	35	2	0
3.	60	26730143	50	61	3	0

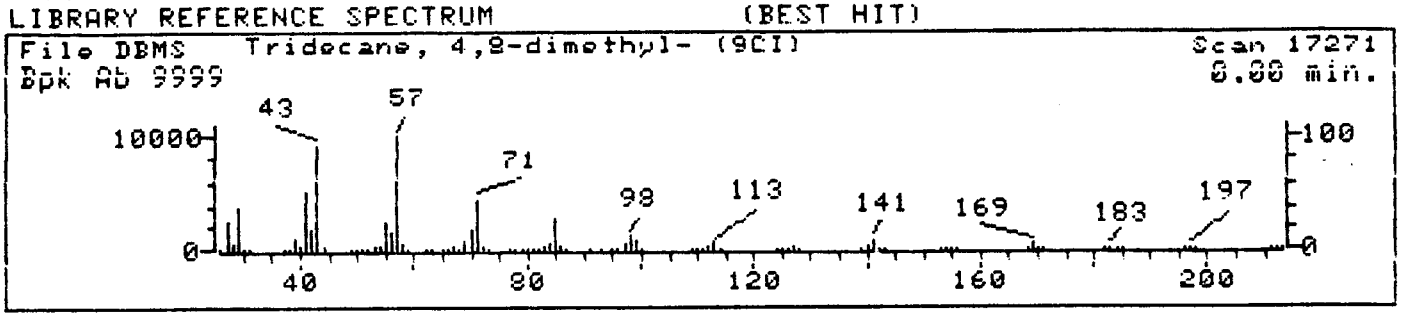
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: 0C2996B
RT (min): 16.21
Scan: 916
Area: 83667
Semi-quantitative Conc: 9.48 UG/ML

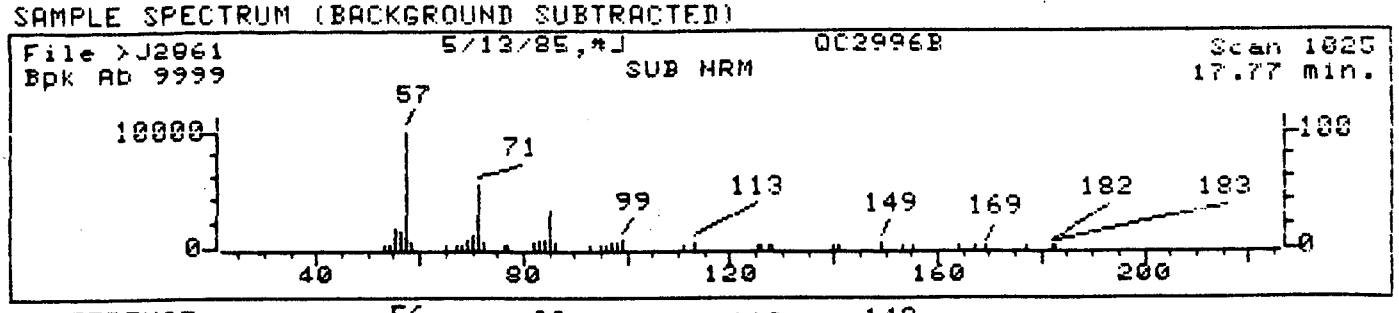
RTL# 4

Data File: >J2861 Scan Number: 916
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

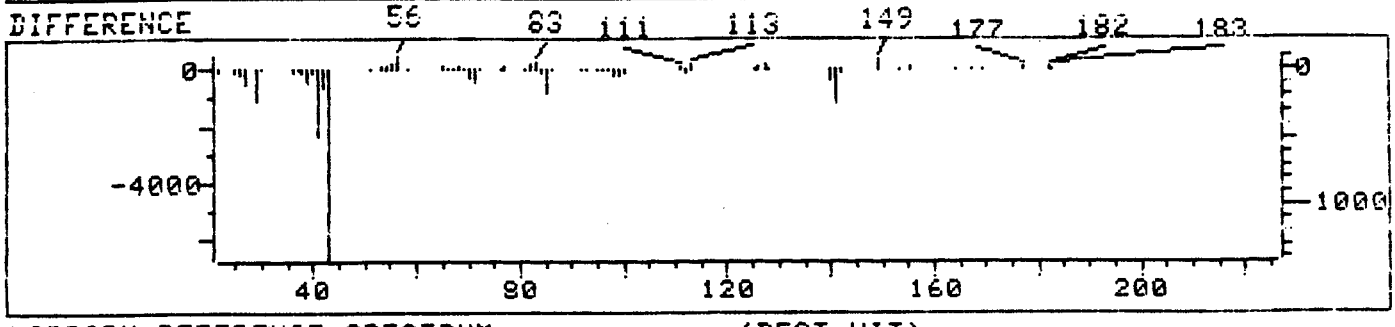
1. Tridecane, 4,8-dimethyl- (9CI) 212 C15H32
2. Decane, 5-propyl- (8CI) 184 C13H28
3. Nonane, 3-methyl-5-propyl- (8CI) 184 C13H28

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	55030621	25	98	3	0
2.	78	17312628	65	46	2	0
3.	78	31081182	60	45	2	0

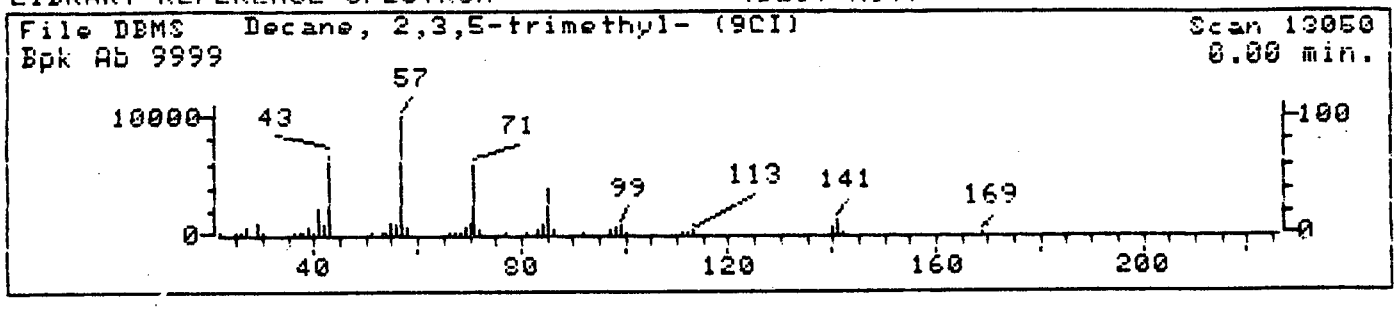
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B
RT (min): 17.77
Scan: 1025
Area: 77849
Semi-quantitative Conc: 8.82 UG/ML

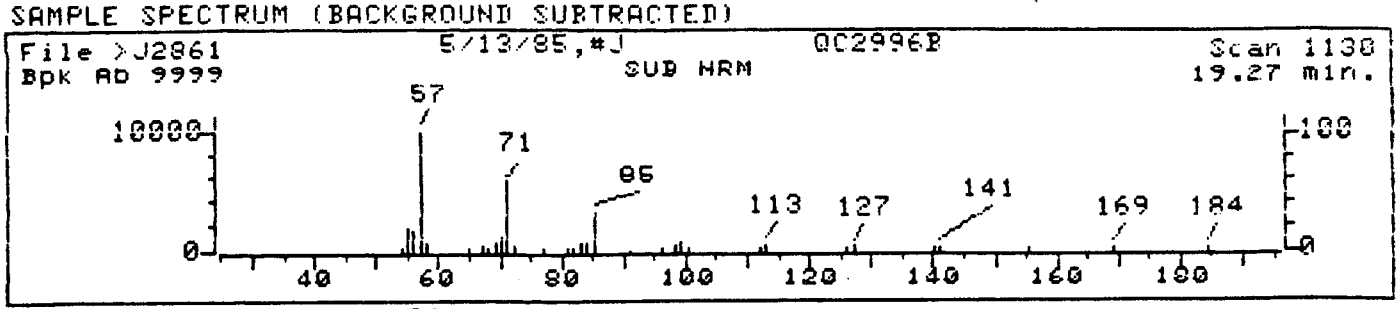
BTL# 4

Data File: >J2861 Scan Number: 1025
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

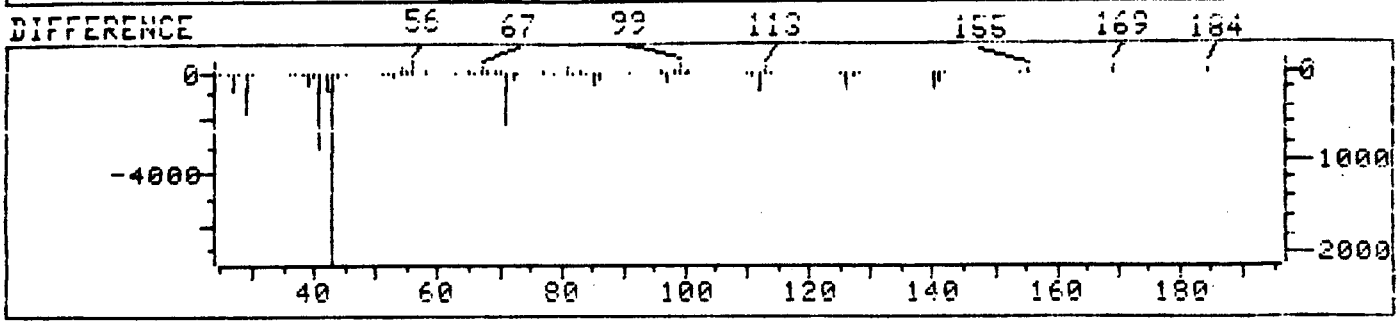
1. Decane, 2,3,5-trimethyl- (9CI) 184 C13H28
2. Dodecane, 5,8-diethyl- (8CI9CI) 226 C16H34
3. Dodecane, 2-methyl-8-propyl- (9CI) 226 C16H34

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	62238113	73	30	2	0
2.	78	24251863	36	83	3	0
3.	78	55045073	35	93	3	0

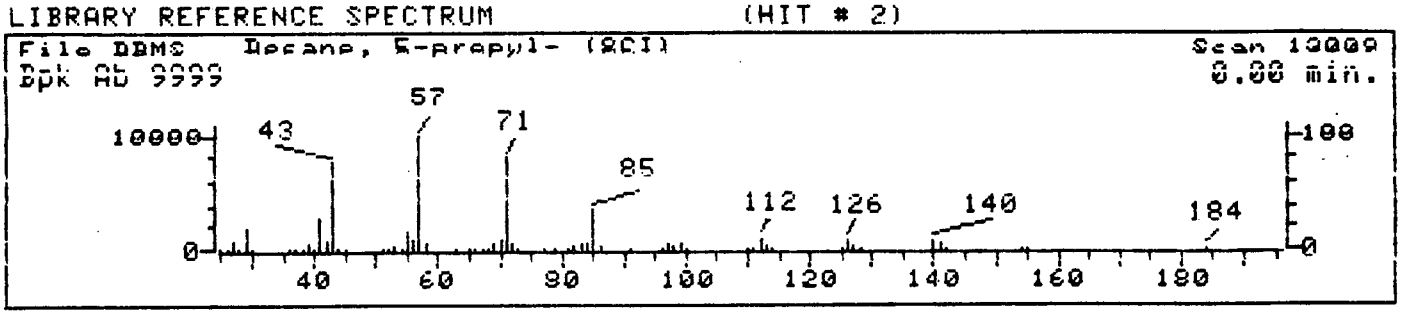
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



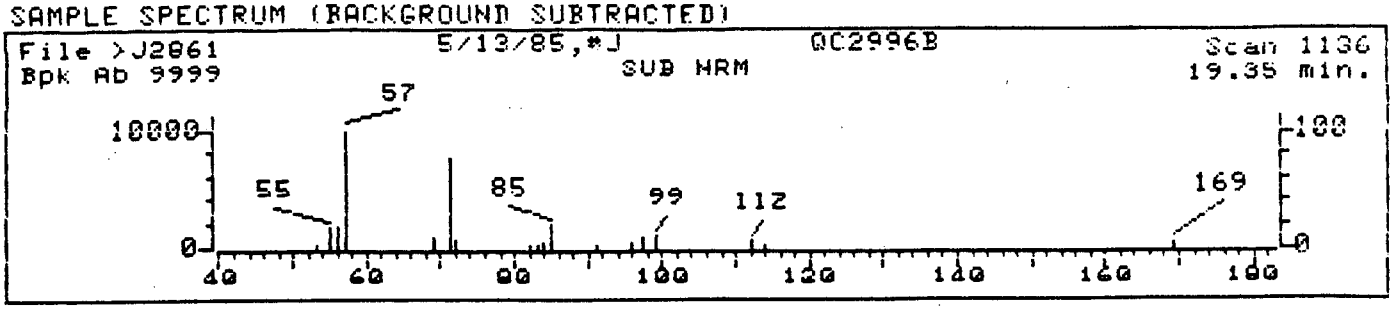
Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B BTL# 4
RT (min): 19.27
Scan: 1130
Area: 64359
Semi-quantitative Conc: 7.29 UG/ML

Data File: >J2861 Scan Number: 1130
Search Speed: 2 Titling option: S Number of ion ranges searched: 64

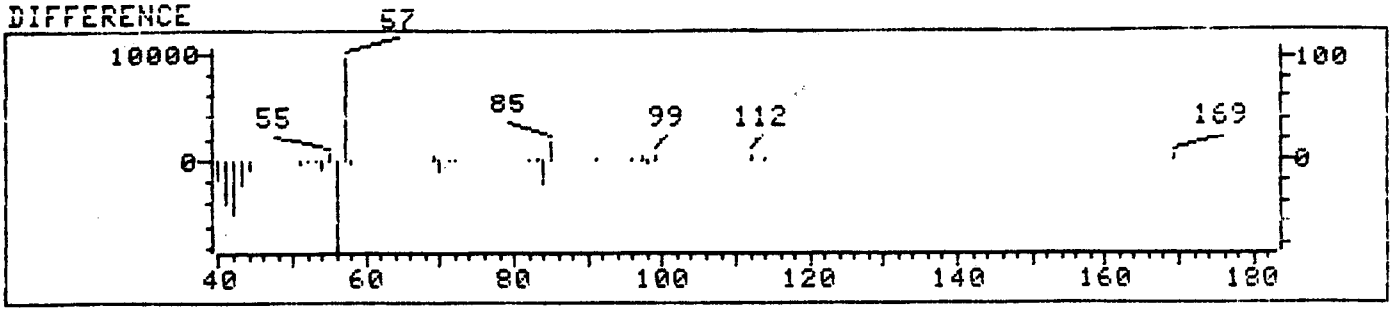
1. Cyclopropane, pentyl- (9CI) 112 C8H16
2. Decane, 5-propyl- (8CI) 184 C13H28
3. Decane, 6-ethyl-2-methyl- (9CI) 184 C13H28

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	2511913	53	49	1	-2
2.	78	17312628	42	69	2	0
3.	78	62108218	56	43	2	0

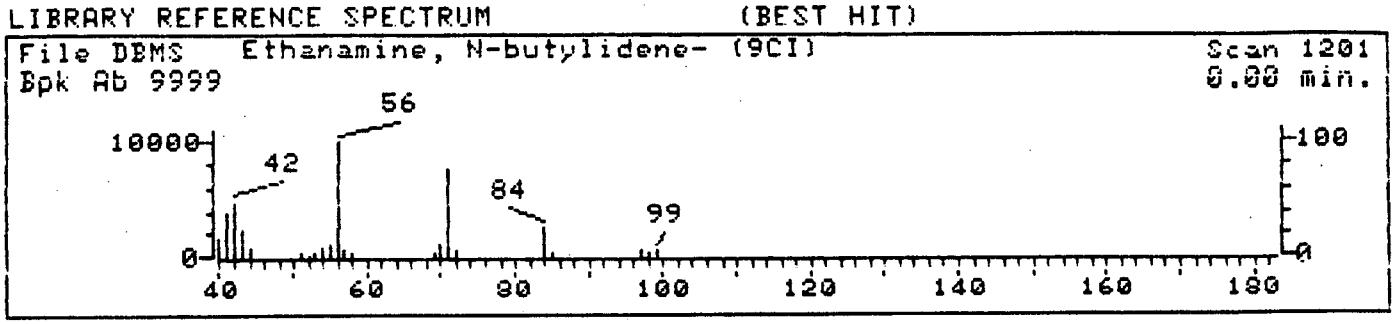
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >J2861::U5
Name: 5/13/85,#J
Misc Data: QC2996B RTL# 4
RT (min): 19.35
Scan: 1136
Area: 31543
Semi-quantitative Conc: 3.57 UG/ML

Data File: >J2861 Scan Number: 1136
Search Speed: 2 Titling option: S Number of ion ranges searched: 63

1. Ethanamine, N-butylidene- (9CI) 99 C6H13N
2. 2-Hexene, 1-methoxy-, (E)- (9CI) 114 C7H14O

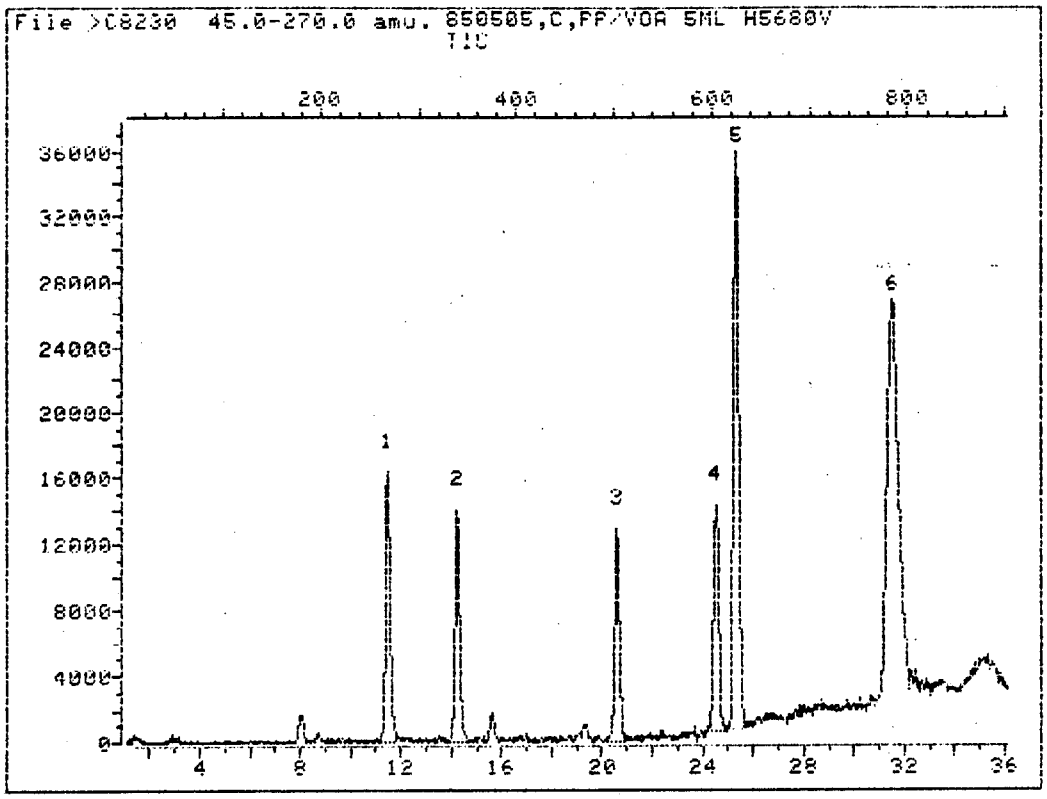
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	25	1611127	25	70	3	0
2.	20	56052836	23	67	3	0

Appendix C

Mass Spectral Data for Tentatively Identified Compounds

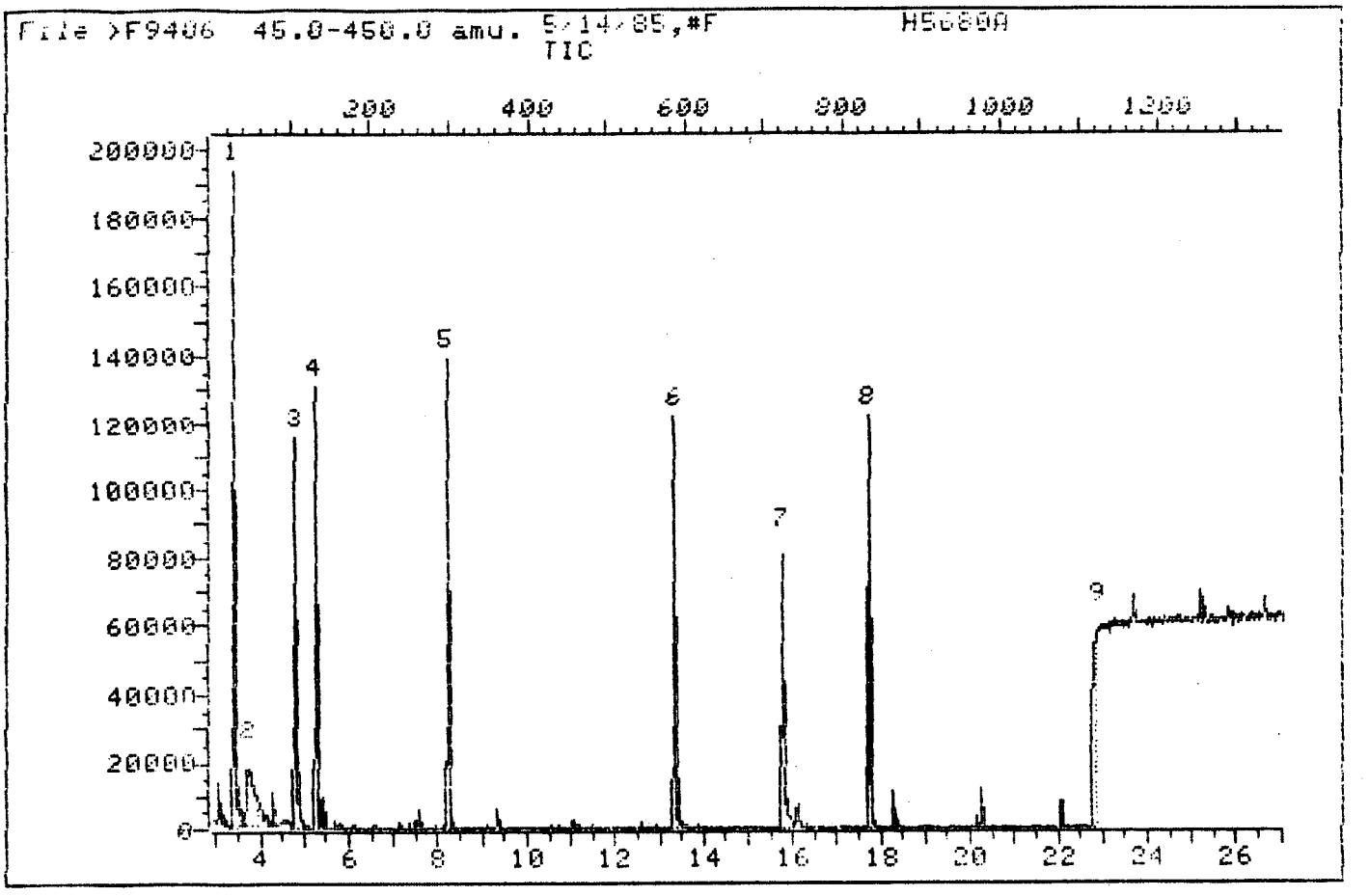
1) For each tentatively identified compound a mass spectrum of the detected compound, a reference mass spectrum for that compound and a plot of the spectral differences are provided.

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >C8230::U1
Name: 850505,C,PP/VOA 5ML
Misc Data: H5680V

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F9406::U6
Name: 5/14/85,#F
Misc Data: H5680A

BTL#37

INT Report for PLUS Analysis

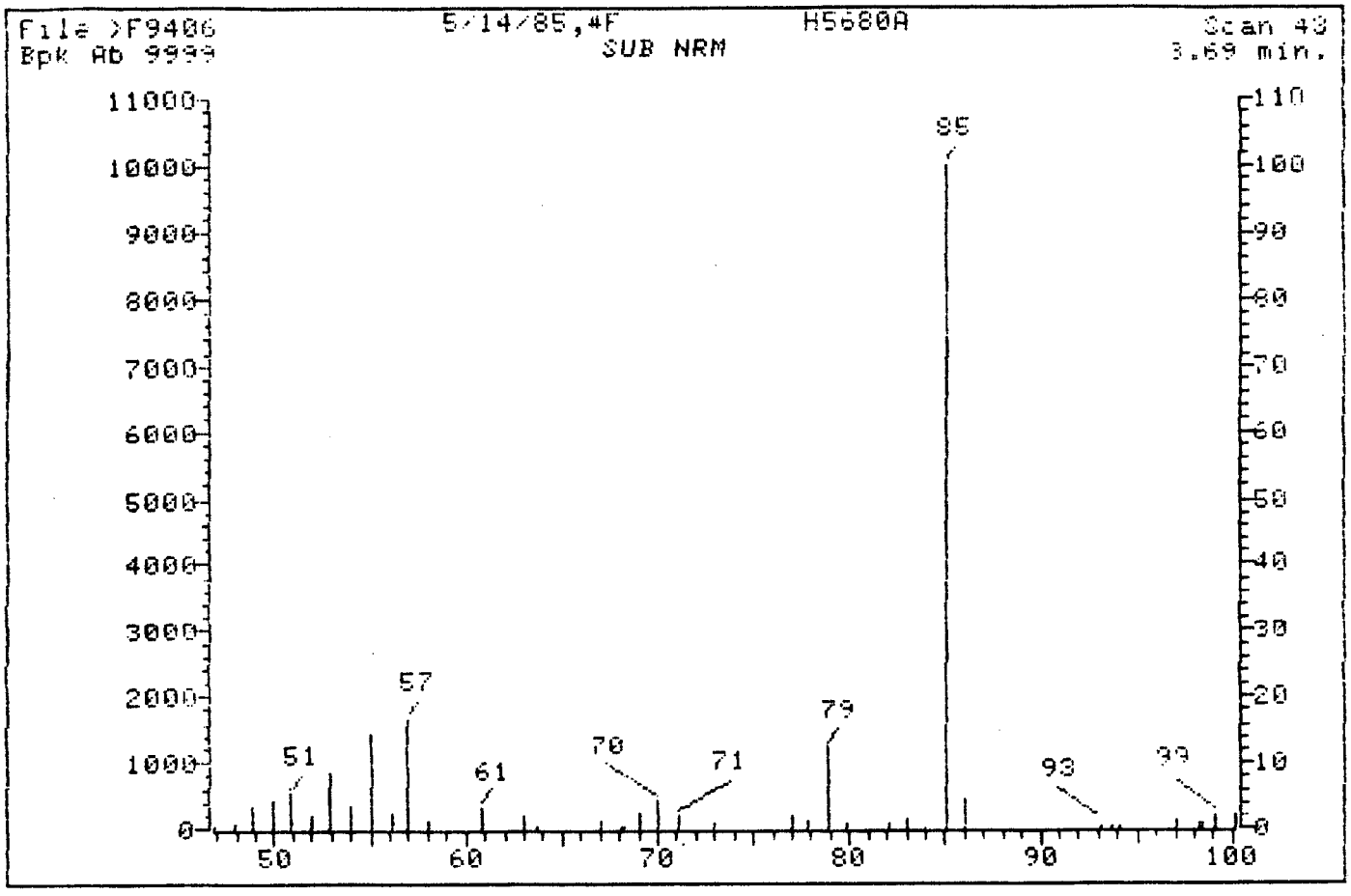
Quant Output File: ^F9406::AQ

Data File: >F9406::U6
Name: 5/14/85,JF
Misc Data: H5680A

BTL#37

PLUS Method File: PLFACD

#	R.T. (min.)	First Scan	Max Scan	Last Scan	Raw Area	Corrected Area	
1	3.371	24	25	32	405150	397606	
2	3.691	37	43	56	240142	210605	
3	4.776	101	104	117	316196	304811	
4	5.202	126	128	135	256209	248833	ISTD
5	8.169	293	295	301	322798	319639	
6	13.321	581	585	589	330153	325405	
7	15.736	718	721	734	283970	277339	
8	17.708	829	832	841	305375	301264	
9	22.841	1113	1121	1122	414024	410019	

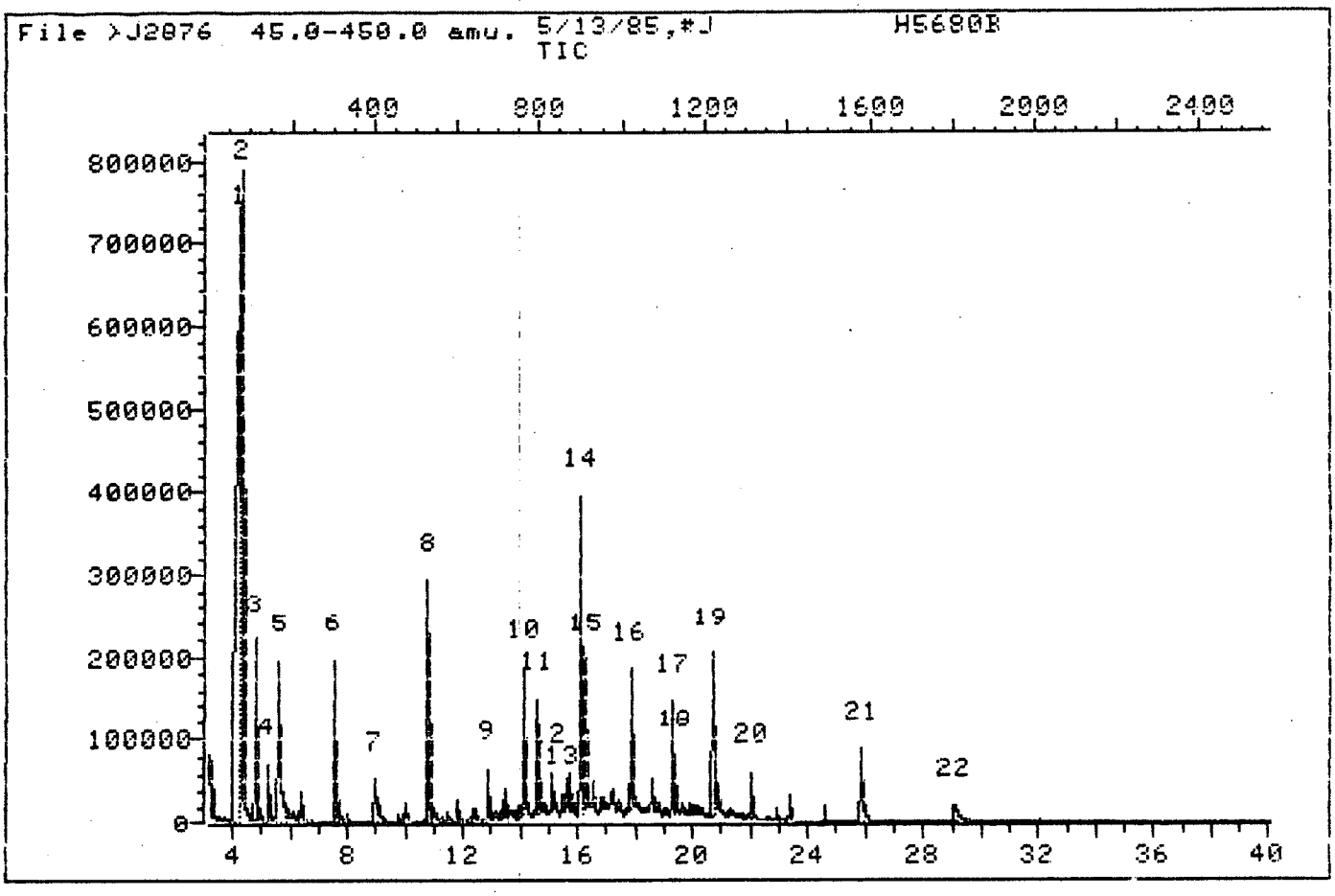


Data File: >F9406::U6
Name: 5/14/85,#F
Misc Data: H5680A
RT (min): 3.69
Scan: 43
Area: 210605
Semi-quantitative Conc: 33.85 UG/ML

BTL#37

No PBM hits for this scan.

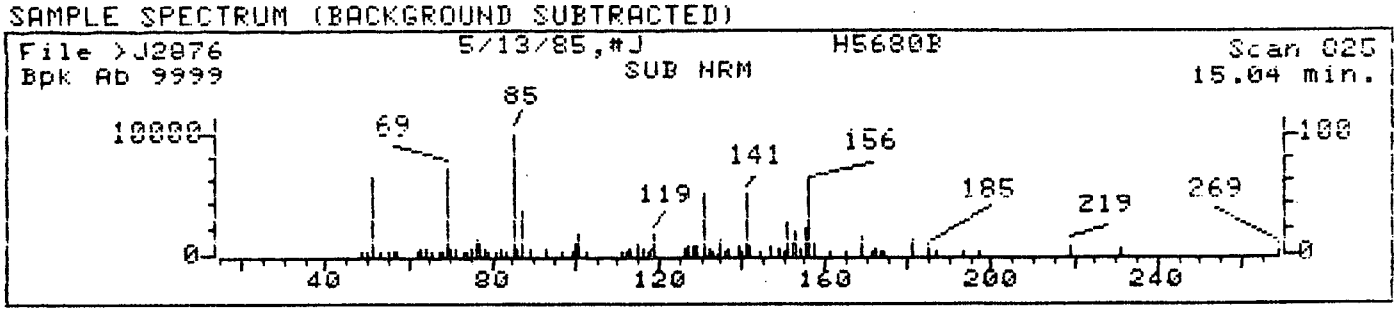
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



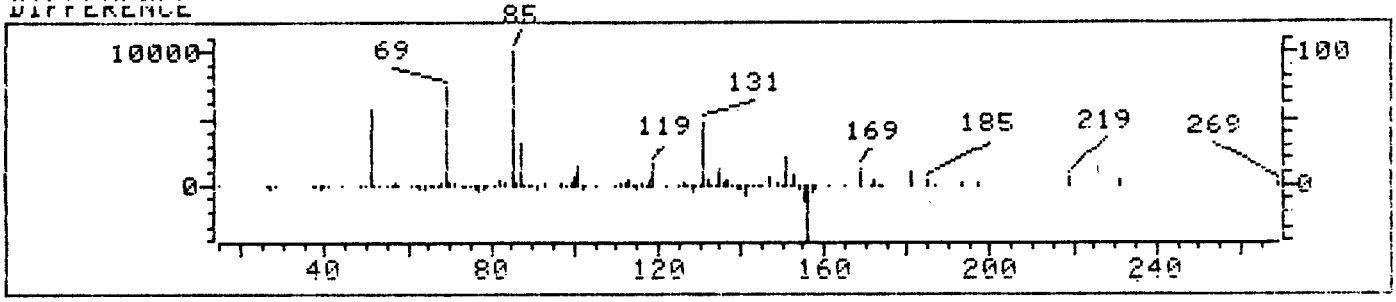
Data File: >J2876::U5
Name: 5/13/85,#J
Misc Data: H5680B

BTL#19

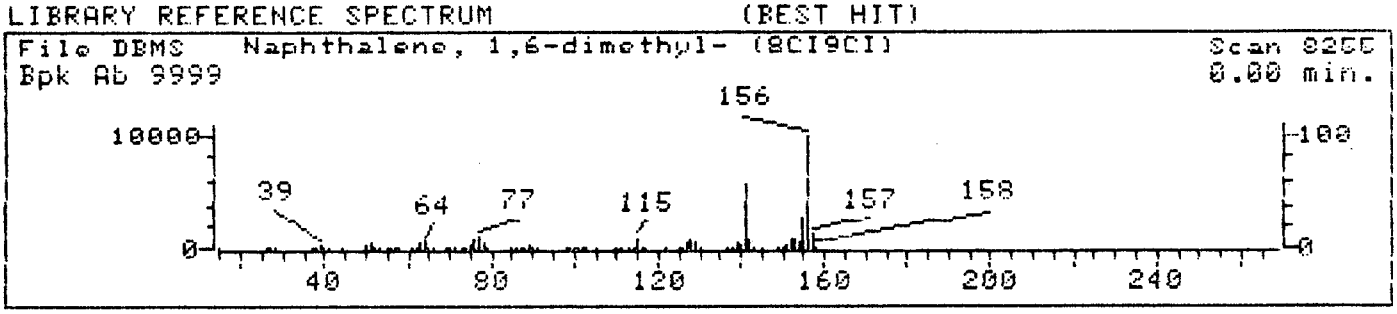
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



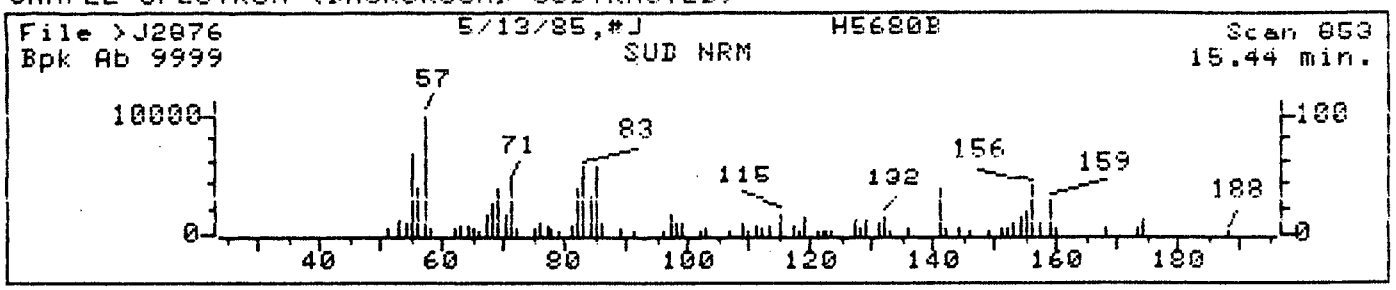
Data File: >J2876::U5
Name: 5/13/85,#J
Misc Data: H5680B BTL#19
RT (min): 15.04
Scan: 825
Area: 161078
Semi-quantitative Conc: 6.89 UG/ML

Data File: >J2876 Scan Number: 825
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

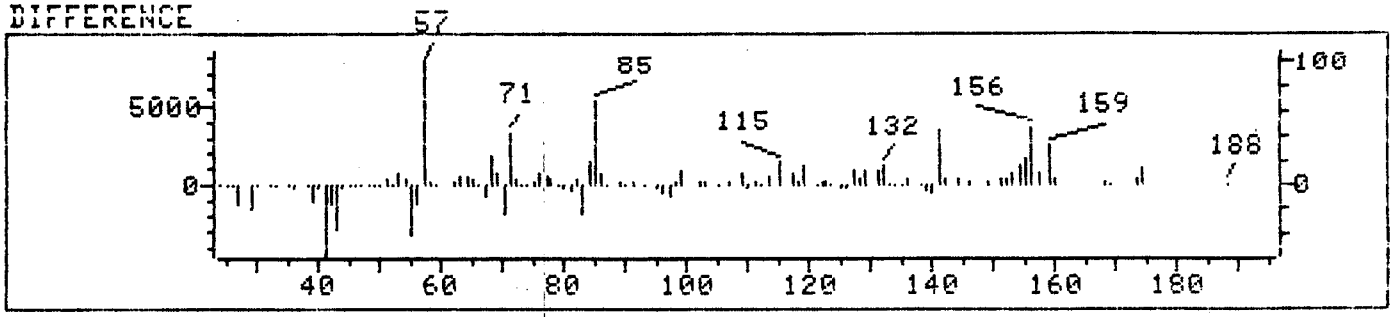
1. Naphthalene, 1,6-dimethyl- (8CI9CI) 156 C12H12
2. Naphthalene, 2,6-dimethyl- (8CI9CI) 156 C12H12
3. Naphthalene, 1,5-dimethyl- (8CI9CI) 156 C12H12

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	49	575439	74	34	0	1
2.	43	581420	62	43	0	1
3.	40	571619	69	40	1	1

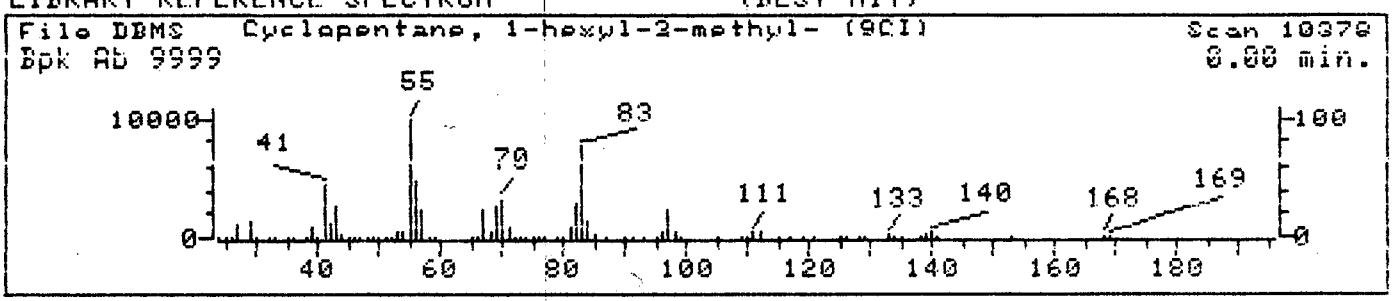
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >J2876::U5
Name: 5/13/85,#J
Misc Data: H5680B
RT (min): 15.44
Scan: 853
Area: 142445
Semi-quantitative Conc: 6.09 UG/ML

RTL#19

Data File: >J2876 Scan Number: 853
Search Speed: 2 Titling option: S Number of ion ranges searched: 70

1. Cyclopentane, 1-hexyl-3-methyl- (9CI) 168 C12H24
2. Tridecane, 5-methyl- (8CI9CI) 198 C14H30
3. Octane, 4-methyl- (8CI9CI) 128 C9H20

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	61142685	55	51	2	-2
2.	20	25117311	54	53	1	0
3.	15	2216344	37	54	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

Subcontracted Analytical Results

REV.

ETC Job # H15K61810

Lab ID: 185387-B4

Submitted by: MW CHYUN

Date: 5/31/85

Facility: (Facility Code)

Sample Point: (Source Code) — (Sample Point ID)

Date Sampled: (Y Y M M D D)

Time Sampled:

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/l	<0.01	0.01	
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/l	<0.025	0.025	
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.

Shuttle A

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 34537 ETC Job # H5680

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: U - FLELDBLANK (Facility/Site Code; Source Code (from below); Your Sample Point ID (left justify))

(Optional Sample Point Descriptions): Start Date (YY/MM/DD) 85 05 01; Start Time (2400 hr. clock) 0930; Elapsed Hours (composite) 02

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 _____

SHUTTLE CONTENTS

BOTTLE No	Type	Size	Preserv.	ANALYSIS	SAMPLER Fil. (Y/N)	SAMPLER Observations	LAB Observations
3	E	1L	Millipore H2O	Exth			Bottles Rec'd Empty
1	M	1L	Millipore H2O	Metals			
1	PN	1L	Millipore H2O	Phenols			
1	CN	500ml	Millipore H2O	CYIT			
3	V	40ml	GC/MS H2O	VOA			

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) R Gesvasio — Date: 5-1-85 — Time: 0930
   Signature: R Gesvasio — Seal #: 0034537 — 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 Trask — Date: 5-1-85 — Time: _____
   Signature: _____ Seal #: 0034538 — Intact: _____

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

Seal #: 34538 Condition: ok

ETC ENVIRONMENTAL TESTING and CERTIFICATION Shuttle A

FIELD PARAMETER FORM (CC2)

ETC JOB # H5680

Sample Point [ ] Source Code [Field Blank] 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 [B] A-Teflon, B-Metal, C-PVC, D-Plastic, X-Other _____ (SPECIFY OTHER)

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

Sample Composited [Y/N] _____ 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) _____

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

Sample Temp _____ (°C) Turbidity _____ NTU

FIELD COMMENTS

Sample Appearance: Field Blank Millipore water

Weather Conditions: 75°F Sunny

Other: _____

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

Sampler: Neil Trink (Print) Employer: NJDEP

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

(Date) _____ (Signature) _____

Shuttle B

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 34535 ETC Job # H5680

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: DIAMONDHEAD

Sample Point: [ ] - [FIELD BLANK] [85 05 01] [0930] [0125]

Source Code (from below) | Facility/Site Code | Your Sample Point ID (left justify) | (Optional Sample Point Descriptions) Start Date (YY/MM/DD) | Start Time (2400 hr. clock) | Elapsed Hours (composite)

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

763
5

SHUTTLE CONTENTS

BOTTLE No	Type	Size	Preserv.	ANALYSIS	SAMPLER Fill. (Y/N)	SAMPLER Observations	LAB Observations
3	E	1L	Buffered	Extb			Extbl 3/4 Full
1	M	1L	HNO_3	metals			—
1	PN	1L	H_2SO_4	phenols			—
1	CN	500ml	NaOH	CY/T			—
2	V	40ml	Sod Thio	VOA			~~ONY~~ VOA Recd
1	TB	40ml	G/DISTH2O	TB			—
				Field Blank			—

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) R Gervasio Date: 5-1-85 Time: 0930
   Signature: R Gervasio Seal #: 034535 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 Frank Date: 5-1-85 Time: 1300
   Signature: [signature] Seal #: 034536 Intact: Yes

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

Seal #: 34536 Condition: ok

ETC ENVIRONMENTAL TESTING and CERTIFICATION Shuttle B

FIELD PARAMETER FORM (CC2)

ETC JOB # H5680

Sample Point [ ] Source Code [Field Blank] 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 [ ] A-Submersible Pump, B-ISCO, C-Bladder Pump, D-Dipper/Bottle, E-Bailer, F-Scoop/Shovel, X-Other ____ (SPECIFY OTHER)

Sampler Material [ ] 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)

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

Sample Temp (°C) | Turbidity NTU

FIELD COMMENTS

Sample Appearance: Field Blank filled with millipore H2O

Weather Conditions: 75°F Sunny

Other:

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

Sampler: Neil Tinka (Print) Employer: NJ DEP

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

5/1/95 (Date) (Signature)

Form DWM-026
6/84

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHAIN OF CUSTODY RECORD

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

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

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

Name | Title | Agency

Name | Title | Agency

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

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

Date Laboratory Sample Shuttle Seal No. 5/1/85 0034535 Broken 5/1/85 | Time (Mil) Seal Broken and Sampling Begun 0930

FIELD SAMPLE NUMBER	CONTAINER NUMBER(S)	VOLUME OF CONTAINERS	DESCRIPTION OF SAMPLE
			Field Blank

LAB CONTROL NO. ___

Date Sampling Completed & Field Seal Affixed to Sample Shuttle 5/1/85 | Military Time 1300 | Field Affixed Sample Shuttle Seal No. 0034536

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

Field Sample Seal No. 0034536 | Date Broken 5/2/85 | Military Time Seal Broken

SAMPLE RELINQUISHED BY	SAMPLE RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
Neil Jiorle	same	5-1-85		delivery to lab

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

Form DWM-025
6/84

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

SAMPLE ANALYSIS REQUEST FORM

NJDEP File # _____

SAMPLE LOCATION

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

SAMPLE COLLECTOR

SAMPLER(S) Name	Deborah Mazur	Agency	NJDEP/HSMA	Sampler ID #	
Name	Neil Jiorle	Agency	"	Sampler ID #	HS91

SAMPLE IDENTIFICATION

NJDEP SAMPLE NO.	H5680	SAMPLING DATE	5/1/85	ABSCISSA (Longitude)	
SAMPLE POINT ID		TIME (MIL) SAMPLING BEGAN	0930	ORDINATE (Latitude)	
SAMPLE SOURCE CODE		TIME (MIL) SAMPLING FINISHED	0940	ELEVATION	
REFERENCE POINT					

SAMPLING PROCESS

COLLECTION METHOD	Code	Other	SAMPLE TYPE	Code	Other
TYPE OF SAMPLER	Code • Travel	Other	SAMPLE MATRIX	Code	Other
DESCRIPTION	Field Blank				

FIELD MEASUREMENTS

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

CHAIN-OF-CUSTODY IMPLEMENTED ☐ YES ☐ NO

PRESERVATION CODE(S) ___ ___ ___ ___ ___

REQUESTED ANALYSIS(ES)

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

ANALYSIS(ES) AUTHORIZED BY Al Plera TITLE Supr Tech.

ANALYZING LABORATORY

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

GC-MS ANALYSIS CUSTODY LOG

DATE 850505 SHIFT ___
FRACTION VOA
INSTRUMENT C
TUNE FILE APEI01
SEQUENCE FILE ___
METHOD FILE VOAC
IDFILE CVOA
ANALYST(S) B/ad
SUPERVISOR [illegible]
BATCH #'s QV3226

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	10275	1
Istd.	40	10332	5
Surr.	25	9793	10
ABC	18	10530	5

V1, V2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
p-BFB	>C8211				C00154	OK 0723 HRS	
QC3226 V	>C8212				0800 OK	5/5/85 OK 08:05	Y
QC3226VS	>C8213	5uL	1			5uL ABC	
QC3226VS	>C8214		2			10uL ABC	
QC3226VS	>C8215		3		1043	30uL ABC	
p BFB	>C8216				ARCV 1159	85/05/05 1130	
H5962VS	>C8217		1			5uL ABC	
H5962V	>C8218		2			OK	
G H5043V	>C8219		3			OK	
G H5043VR	>C8220		4			OK	
H4220V	>C8221		5			OK	
H5695V	>C8222		6			OK	
H5390V	>C8223		7			OK	
H0261V	>C8224		8	1:10		slightly high surr - OK? Rerun	
H6217V	>C8225		9	1:10		OK Dont run reduce conc/much foam	Rerun
H5657V	>C8226		10	1:10		zero extra 5%	Rerun "
QC3226VS	>C8227		1				
H5679 p BFB	>C8228 >C8229		1				
H5680	>C8230		2				
H5677	>C8231		3				
H6678	>C8232		4				
H5567	>C8233		5			10+15	Y
H3269	>C8234		6				
(8) H0264	>C8235		7				
(8) H6217	>C8236		8			V6 Foamer Rakeover / Rr.	
(8) ~~H5657~~							

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GC-MS ANALYSIS CUSTODY LOG

DATE 850506 SHIFT ___
FRACTION VOA
INSTRUMENT C
TUNE FILE APFJ01
SEQUENCE FILE VQC
METHOD FILE VOAC
IDFILE CVCA
ANALYST(S) [illegible]
SUPERVISOR [illegible]
BATCH #'s QV3226

(PLEASE INITIAL)

CURRENT CS05 STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
p-BFB	50	18775	1
ISTD	40	18352	5
SURR	25	9783	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
H5657V	>C8[illegible]		1	[illegible]	C-154	½ ml Antifoamer	
p-BFB	>C8278		[illegible]			2146	
H6217V	>C8288		2			½ ml Antifoamer	
QC3225V	>C8285						
QC3235V	>C8290					1½ ml antifoaming	

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EXTRACTION LOG

QC Batch # 2996

Analysis: PP/T

Matrix: H_2O

Turnaround: NORM

Date: 5/7/85

Extraction Method:

- sep funnel ~~w/A~~
- continuous ✓
- soxhlet
- other

Sample Number	Log Book	Sample Vol. (ml)	Extract Vol. (ml) BN	Extract Vol. (ml) ACID	Comments
H5677	9303	920	1.0	1.0	
H5678		800	1.0	1.0	
H5679		1000	1.0	1.0	
H5680		930	1.0	1.0	
H5648	9321	950	1.0	1.0	
H5649		930	1.0	1.0	
H5650		950	1.0	1.0	
~~H5651~~		~~Sm~~			CANCELLED
~~H5652~~		~~Sm~~			CANCELLED
H5653		880	1.0	1.0	
H5654		890	1.0	1.0	
H5655		940	1.0	1.0	
H5656		1000	1.0	1.0	
H5658		930	1.0	1.0	
← HY520	9114	1000		1.0	
QC 2996		1000	1.0	1.0	
QC 2996 S		1000	1.0	1.0	
H5680 S		900	1.0	1.0	
H5649 R		900	1.0	1.0	

COMMENTS FOR EXTRACT.:
N.J. D.E.P.

* Repeat. Don't use for QC PP/ACID

START 12:00 5/8/85

COMMENTS FOR GC/MS:
* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	10,499
ACID	1.0	100 ug/ml	10,523
Pesticide	1.0	*	10,389
Aroclor 1260	1.0	100 ug/ml	9713

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

078

Set-up: [illegible] 5/7/85

UPD/Supervisor: [illegible] 5/13/85

BN Conc.: [illegible] 850513

spike/surr. verified: [illegible] 5/8/85

ACID Conc.: [illegible]

GC-MS ANALYSIS CUSTODY LOG

DATE 5/14/85 SHIFT ___
FRACTION Acid
INSTRUMENT #F
TUNE FILE UTR001
SEQUENCE FILE ___
METHOD FILE ACIDF
IDFILE FACID
ANALYST(S) Wan-Wan-CL
SUPERVISOR [illegible]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSUS 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
LONG DFTPP	>F9389		20	20		10=20	
Calib III	>F9390		21				
II	>F9391		22				
I	>F9392		23				
H5680 AS	>F9393		24				
QC>996AS	>F9394		25			Probe wrong.	
QC>996A	>F9395		26				Y
H4520A	>F9396		27	←			
H5648A	>F9397		28				
H5650A	>F9398		29				
H5653A	>F9399		30				
H5654A	>F9400		31				
H5655A	>F9401		32				
H5656A	>F9402		33				
H5658A	>F9403		34	←			
H5678A	>F9404		35				
H5679A	>F9405		36				
H5680A	>F9406		37				
H5677A	>F9407		38	1:2			
H5649A	>F9408		39				
H5649AR	>F9409		40				
H4069A	>F9410		41	1:5		QC>987	
H5671	>F9411		42			for GC by SIM	
H5672	>F9412		43			SIMF	
			44				

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GC-MS ANALYSIS CUSTODY LOG

Page 4/

DATE 5/13/85 SHIFT

FRACTION B/N

INSTRUMENT J

TUNE FILE UTJ001

SEQUENCE FILE NWCJ

METHOD FILE BNPJ

IDFILE JBNP

ANALYST(S)

SUPERVISOR

BATCH #'s QB2996

(PLEASE INITIAL)

CURRENT CS65 STATUS		STANDARDS UPDATED	
ACQ		DATE	850515
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
50NG DFTPP	>J2851				H00069	11=43	
H5671	>J2852					for GC	
H5672	>J2853						
Calib III	>J2854						
II	>J2855						
I	>J2856						
IV	>J2857						
50NG DFTPP	>J2858		1			17=34	
H5680BS	>J2859		2				
QC2996BS	>J2860		3				
QC2996B	>J2861		4				Y
H5648B	>J2862		5				
H5650B	>J2863		6				
H5653B	>J2864		7				
H5654B	>J2865		8				
H5655B	>J2866		9				
H5656B	>J2867		10				
H5649B	>J2868		11				
H5649BR	>J2869		12				
50NG DFTPP	>J2870		13				
Calib II	>J2871		14				
H5658B	>J2872		15				Y
H5677B	>J2873		16				
H5678B	>J2874		17				
H5679B	>J2875		18				

080

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GC-MS ANALYSIS CUSTODY LOG

DATE 5/13/85 SHIFT Day

FRACTION

INSTRUMENT 5

TUNE FILE

SEQUENCE FILE

METHOD FILE

IDFILE

ANALYST(S) Wen Wen Chi

SUPERVISOR Charles Christian

BATCH #'s

(PLEASE INITIAL)

CURRENT CS05 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
H5680B	>J>876		19				Y
H3462B	>J>877		>0	1:2		JQC>897	
H3466B	>J>878		>1	1:5			
			>2				

TSR A-A4

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LOG LINK 9303

Metals Analysis Custody Log

Samples 145677-145680

	Chemist	Date
Hg Prep	R Walla	5/28/05
AA/ICAP Prep	Douglas G. Lehfeld	5/28/05

Lab Supervisor Lidya Wikiewicz date 5/30/05

ETC TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: CHYUN

ETC Sample Number(s) H5677 to H5680

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: 5-13
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

H20
X.029

Sample(s) Relinquished by: [signature]

Date 5-3-85 Time 4.30

Sample(s) Received by: [signature]

Date 5/3/85 Time 4.30