ETC ENVIRONMENTAL
TESTING and CERTIFICATION

39862

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Denis C. K. Lin, Ph.D
Vice President
Research and Operations

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Based on October, 1984 version of
ETC Standard Operating Procedures

NJDEP Contract 029

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Non-Aqueous Methodologies

Gas Chromatography/Mass Spectrometry for:

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Includes:
- Benzidines
- Chlorinated Hydrocarbons
- Haloethers
- Nitroaromatic and Cyclic Ketones
- Organochlorine Pesticides
- Polychlorinated Biphenyls
- Phthalate Esters
- Polynuclear Aromatic Hydrocarbons
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H2205

COMMENTS

Acids: Original analysis resulted in low surrogate recoveries. This repeat analysis confirms low recoveries due to sample matrix interference.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 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
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	

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	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND.	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	5.00	2.80	5	7	BMDL	18	172b	5	18	53b
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 624.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	

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	3.30	ND	ND	ND	100	91	ND	105	92
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	101	ND	105	118
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	72	ND	105	82
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	3[b]	ND	105	26[b]
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	0[b]	ND	105	2[b]
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	90	ND	105	104
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	22	ND	105	43
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	85	ND	105	105
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	5[b]	ND	105	43[b]
10A	Phenol	ND	1.50	ND	ND	ND	100	40	ND	105	42
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	101	ND	105	109

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 2, 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
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	

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	1.90	ND	ND	ND	100	92	ND	100	85
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	92	ND	100	86
3B	Anthracene	ND	1.90	ND	ND	ND	100	91	ND	100	82
4B	Benzidine	ND	44	ND	ND	ND	100	3[e]	ND	100	7[e]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	93	ND	100	90
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	91	ND	100	107
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	86	ND	100	93
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	85	ND	100	104
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	89	ND	100	92
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	85	ND	100	96
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	78	ND	100	142
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	93	9	100	112
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	91	ND	100	99
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	85	ND	100	99
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	83	ND	100	79
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	88	ND	100	78
18B	Chrysene	ND	2.50	ND	ND	ND	100	93	ND	100	86
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	77
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	64	ND	100	73
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	68	ND	100	77
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	59	ND	100	64
24B	Diethyl phthalate	ND	10	1	ND	ND	100	49	ND	100	66
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	13	ND	100	45
26B	Di-n-butyl phthalate	ND	10	1	1	ND	100	90	1	100	84
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	103	ND	100	98
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	98	ND	100	110
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	92	ND	100	123
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	93	ND	100	79
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	91	ND	100	69
32B	Fluorene	ND	1.90	ND	ND	ND	100	91	ND	100	82

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 2, 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
H2205	NJ DEP	NJDCOMBES0	XREYES RES	850321	1018	

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	1.90	ND	ND	ND	100	92	ND	100	94
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	55	ND	100	67
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	52	ND	100	62
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	91	ND	100	90
39B	Naphthalene	ND	1.60	ND	ND	ND	100	86	ND	100	76
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	90	ND	100	90
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	86	ND	100	88
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	94	ND	100	76
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	94	ND	100	86
45B	Pyrene	ND	1.90	ND	ND	ND	100	85	ND	100	66
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	101	ND	100	81

A EPA published Method Detection Limit.

B Recovery low due to sample matrix interference.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 2, 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
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	

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	2	ND	ND	ND	100	92	ND	100	57
2P	Alpha-BHC	ND	10	ND	ND	ND	100	63	ND	100	84
3P	Beta-BHC	ND	4	ND	ND	ND	100	85	ND	100	63
4P	Gamma-BHC	ND	10	ND	ND	ND	100	61	ND	100	73
5P	Delta-BHC	ND	3	ND	ND	ND	100	27	ND	100	48
6P	Chlordane	ND	10	ND	ND	ND	200	53	ND	200	24
7P	4,4'-DDT	ND	5	ND	ND	ND	100	100	ND	100	53
8P	4,4'-DDE	ND	6	ND	ND	ND	100	122	ND	100	45
9P	4,4'-DDD	ND	3	ND	ND	ND	100	97	ND	100	53
10P	Dieldrin	ND	3	ND	ND	ND	100	126	ND	100	63
11P	Endosulfan I	ND	10	ND	ND	ND	100	33B	ND	100	25B
12P	Endosulfan II	ND	10	ND	ND	ND	100	23B	ND	100	19B
13P	Endosulfan sulfate	ND	6	ND	ND	ND	100	79	ND	100	66
14P	Endrin	ND	10	ND	ND	ND	100	127	ND	100	57
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	25B	ND	100	1B
16P	Heptachlor	ND	2	ND	ND	ND	100	105	ND	100	84
17P	Heptachlor epoxide	ND	2	ND	ND	ND	100	127	ND	100	67
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	69	ND	100	59
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery low due to sample matrix interference.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l								
1M	Antimony	ND	80								
2M	Arsenic	BMDL	5								
3M	Beryllium	ND	.60								
4M	Cadmium	ND	3								
5M	Chromium	ND	20								
6M	Copper	210	10								
7M	Lead	ND	5								
8M	Mercury	ND	.30								
9M	Nickel	ND	10								
10M	Selenium	BMDL	5								
11M	Silver	ND	8								
12M	Thallium	ND	5								
13M	Zinc	ND	30								
14M	Cyanide, Total	<25	25								
15M	Phenolics, Total	<10	10								

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2205	NJ DEP	NJDCOMBESO	XREYESRES	850321	1018	

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 13, 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
H2205	NJ DEP	NJDCOMBESQ	XREYES RES	850321	1018	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	152	5.70	-	-	-	19		
2 Unknown	217	6.90	-	-	-	13		
3 Unknown	249	7.50	-	-	-	33		

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 2, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018	

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

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Relative Percent Difference (RPD) for VOA

H2205 NJ DEP — NJDCOMBESO XREYES RES 850321 1018
Job Number Account Name — Facility Source Date Time

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	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	5	7	33
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

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Relative Percent Difference (RPD) for ACID

Job Number	Account Name	Facility	Source	Date	Time
H2205	NJ DEP	NJDCOMBESO	XREYES RES	850321	1018

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

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Relative Percent Difference (RPD) for B/N

H2205 NJ DEP — Job Number / Account Name

NJDCOMBESO XREYES RES 850321 1018 — Facility Source / Date Time

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	1	ND	200
Dimethyl phthalate	ND	ND	0
Di-n-butyl phthalate	1	1	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

300359

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

300338

Relative Percent Difference (RPD) for PEST

H2205 NJ DEP — NJDCOMBESO XREYES RES 850321 1018
Job Number Account Name — Facility Source Date Time

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

013

300361

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 13, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2205

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	113	86	119
Bromofluorobenzene	.250	112	85	121
1,2-Dichloroethane-D4	.250	102	77	120
ACID FRACTION				
Phenol-D5	100	13**	15	103
2-Fluorophenol	100	22**	23	121
2,4,6-Tribromophenol	100	67	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	105	41	120
2-Fluorobiphenyl	50	107	44	119
Terphenyl-D14	50	60	33	128

* IFB EPA Control Limits.
** See comments.

300352

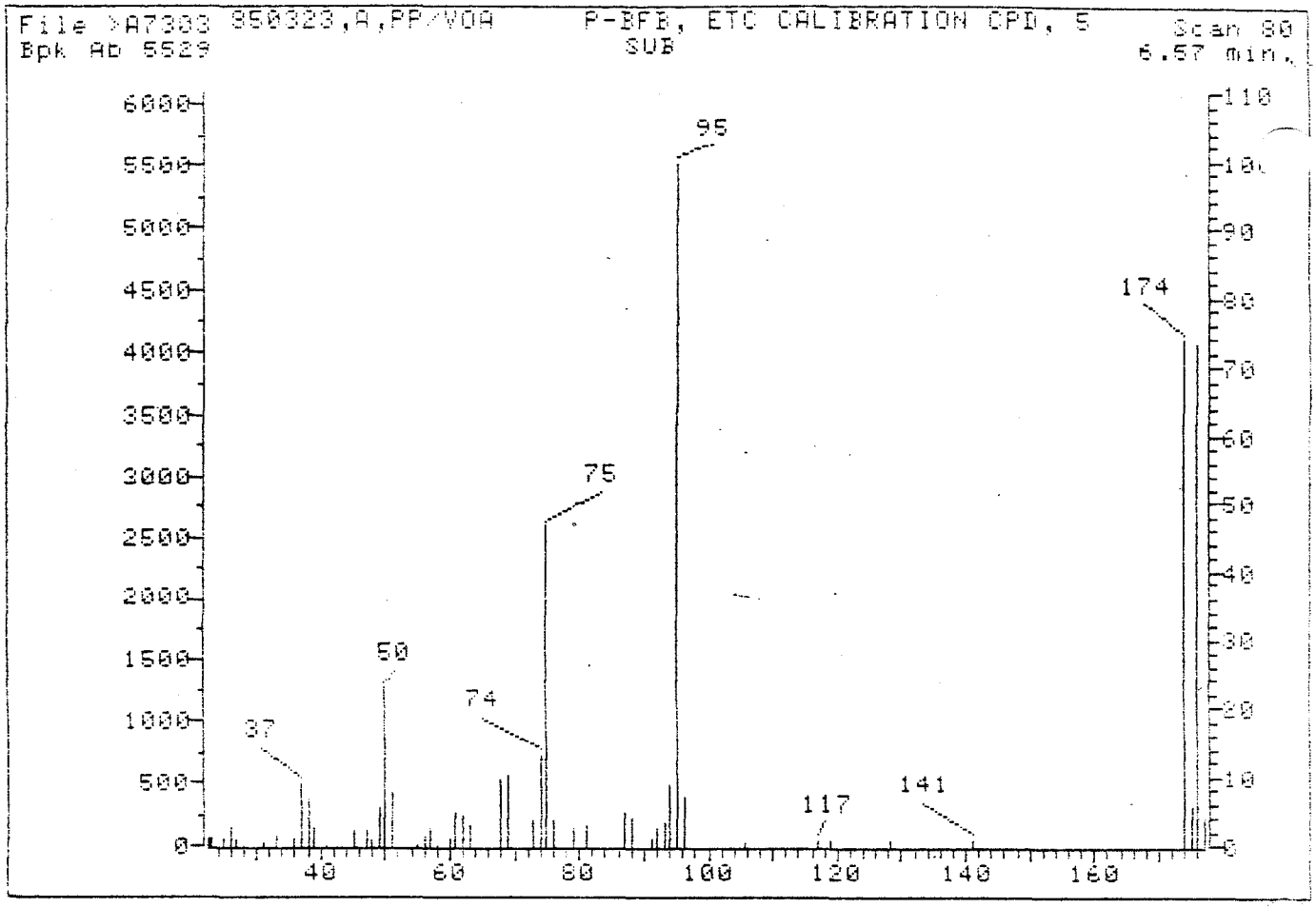


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
173	Less then 1% of mass 95	0.00	0.00	Ok
174	Greater then 50% of mass 95	74.14	74.14	Ok
175	5-9% of mass 174	5.46	7.37	Ok
176	95-101% of mass 174	73.36	98.95	Ok
177	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85 Analyst: Thomas Mancuso
Injection Time: 08:09 Processor: Pearl Trent
Run No: >A7303 QC Batch: QV 3033
Spectrun No: 80 Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0887, H0888.

300363

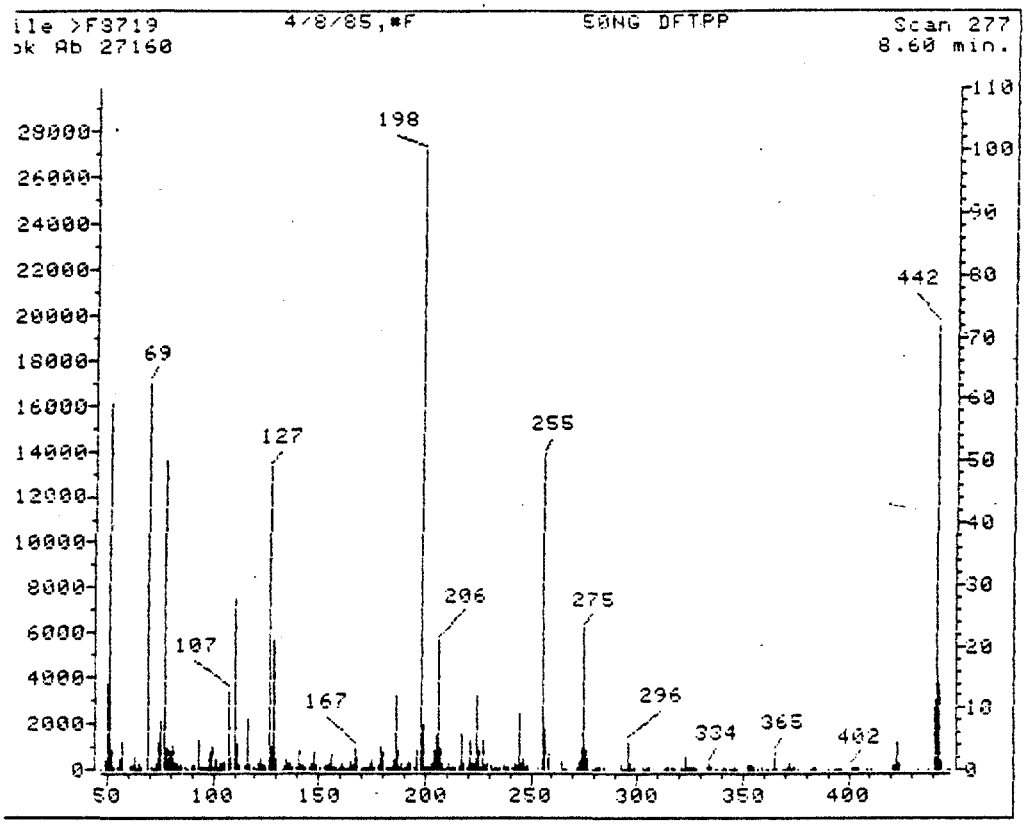


TABLE 2: METHOD PERFORMANCE DATA (QP22)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	59.00	59.00	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.59	62.59	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	48.97	48.97	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	7.08	7.08	Ok
75	10-30% of mass 198	22.72	22.72	Ok
65	Greater then 1% of mass 198	2.78	2.78	Ok
41	Less then mass 443	11.12	78.64	Ok
42	Greater then 40% of mass 198	71.93	71.93	Ok
43	17-23% of mass 442	14.13	19.65	Ok

Injection Date: 04/08/85 Analyst: Wai-Wan Chi
Injection Time: 16:30 Processor: Patricia Chang
Run No: >F8719 QC Batch: QA2879
Spectrun No: 277 Samples: G5282 H0303, G5222 G5225, H2205, H2206, G9732

300364

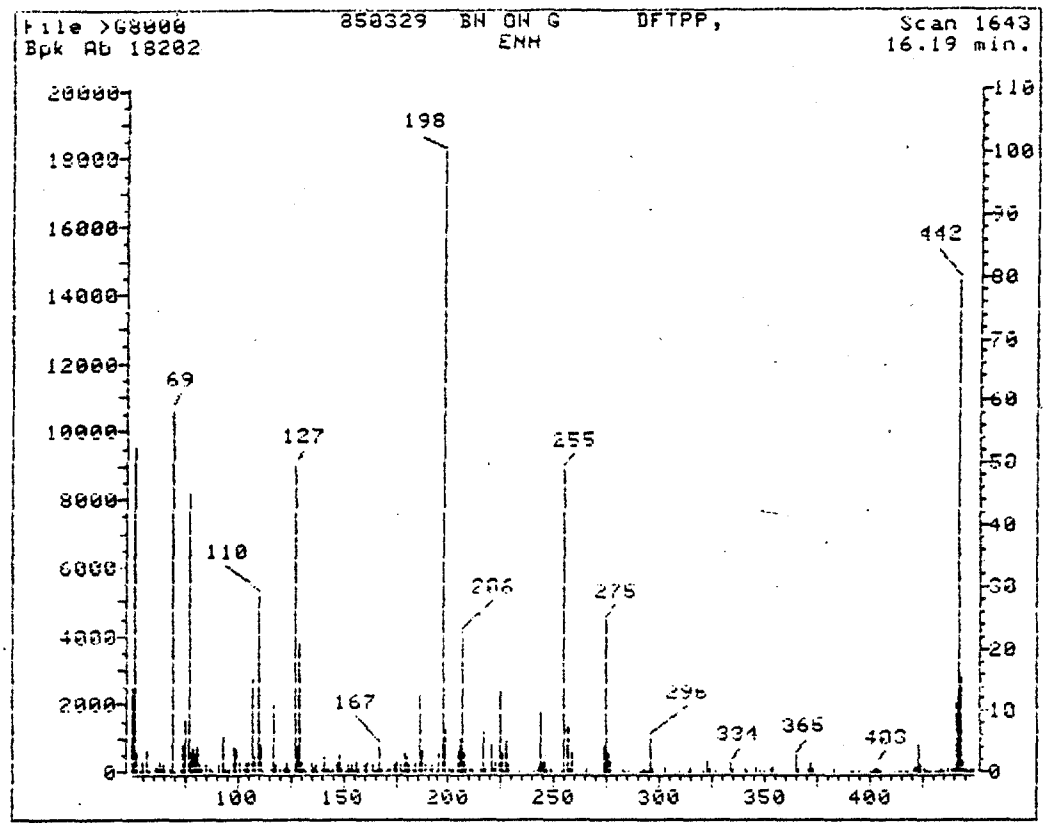


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	52.33	52.33	Ok
68	Less then 2% of mass 69	.98	.99	Ok
69	(reference only)	58.58	58.58	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.31	49.31	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	6.91	6.91	Ok
275	10-30% of mass 198	24.41	24.41	Ok
365	Greater then 1% of mass 198	2.65	2.65	Ok
441	Less then mass 443	11.16	74.05	Ok
442	Greater then 40% of mass 198	79.37	79.37	Ok
443	17-23% of mass 442	15.08	19.00	Ok

Injection Date: 03/29/85 Analyst: J. Madia
Injection Time: 09:15 Processor: K Trautlein
Run No: >G8000 QC Batch: QB283
Spectrum No: 1643 Samples: H03037 - H03058
G9861B, G9862B, H1F10B-H
G5222B-to-G5225B, H2272B
H2120B, H2205B, H2206B

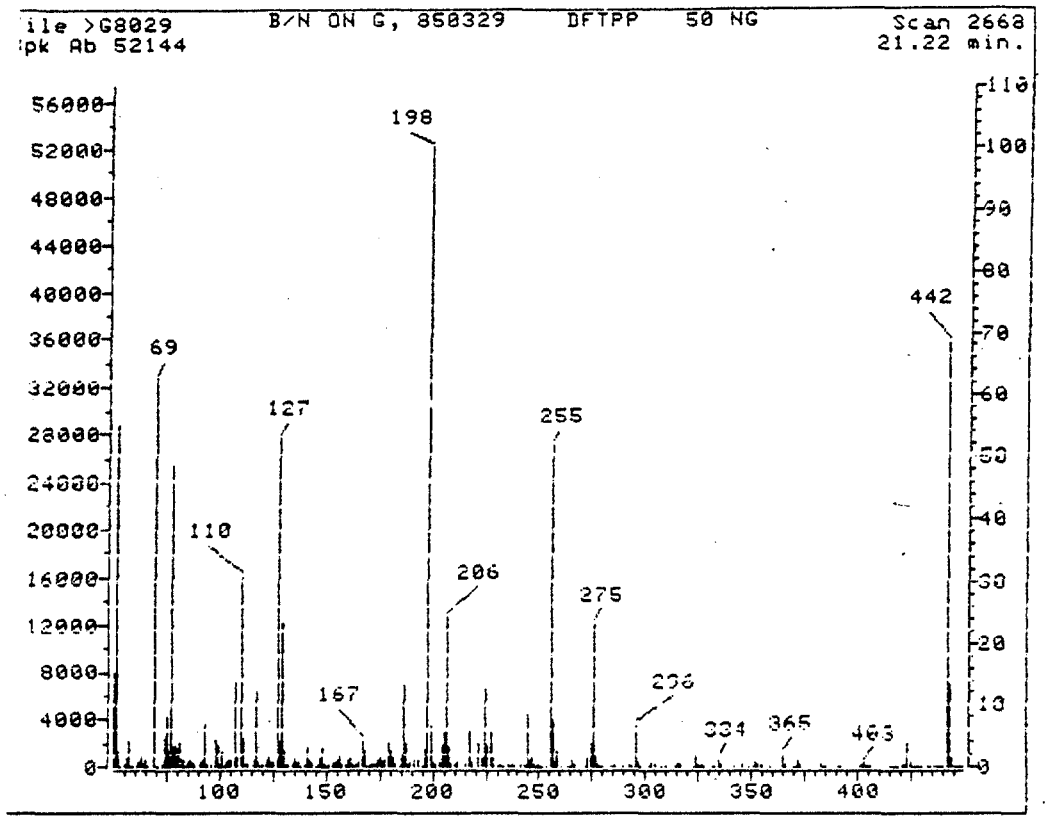


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

M/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.14	55.14	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.70	62.70	Ok
70	Less then 2% of mass 69	.21	.33	Ok
127	40-60% of mass 198	52.95	52.95	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	6.50	6.50	Ok
275	10-30% of mass 198	23.00	23.00	Ok
365	Greater then 1% of mass 198	2.19	2.19	Ok
441	Less then mass 443	9.28	70.91	Ok
442	Greater then 40% of mass 198	68.26	68.26	Ok
443	17-23% of mass 442	13.09	19.17	Ok

Injection Date: 03/30/85 Analyst: J Martin
Injection Time: 09:39 Processor: K Yalamanchi
Run No: >G8029 QC Batch: QR2853
Spectrum No: 2668 Samples: H0302B to H0305B
G9861B, G9862B, H1810B to H1812B
G5222B to G5225B, H2272B
H2120B, H2205B, H2206B

300366

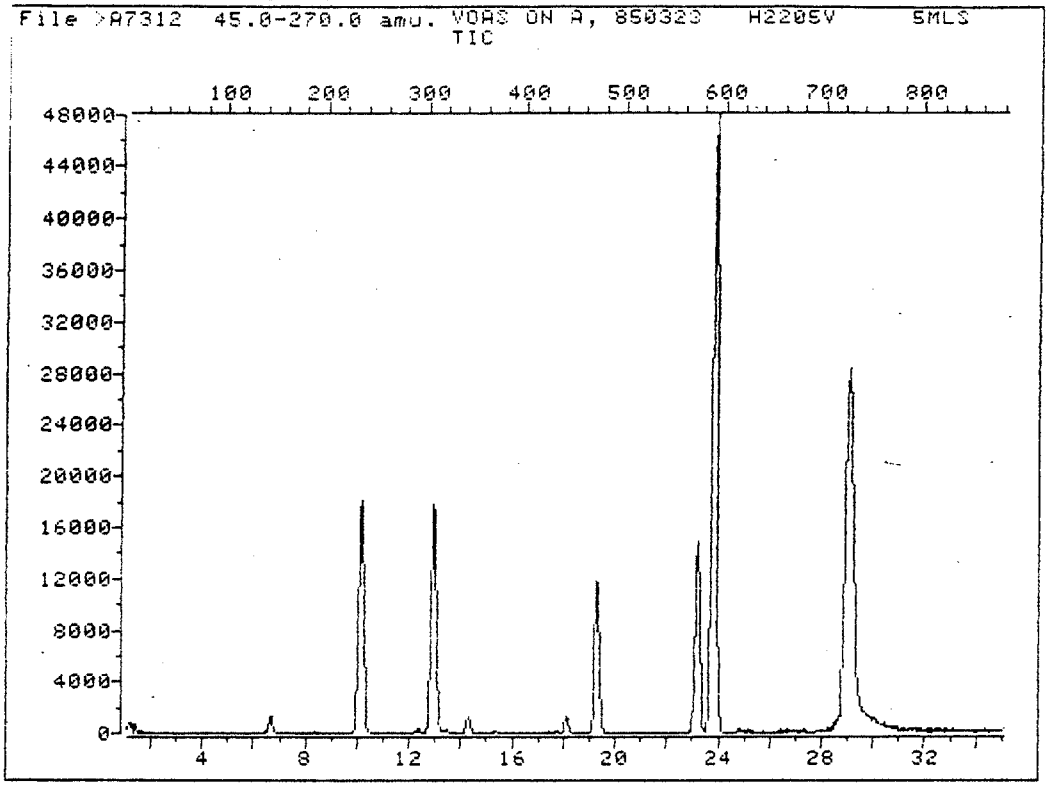
Appendix A

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: >A7312::U2
Name: VOAS ON A, 850323
Misc: H2205V 5MLS

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM5066
Quant Time: 850323 18:30

300368

QUANT REPORT

Operator ID: MM5066 Quant Rev: 3 Quant Time: 850325 08:32
Injected at: 850323 17:54
Data File: >A7312::U2 Dilution Factor: 1.01
Name: VOAS ON A, 850323
Misc: H2205V SMLS

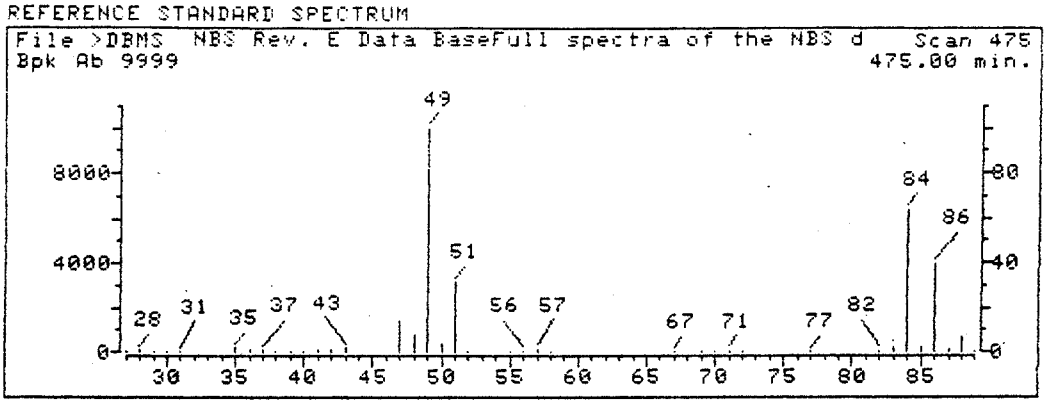
ID File: PK
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08:20

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.33	474	69953	200.00	NG
9)	Chlorodibromomethane	18.13	443	963	~~3.66~~	~~NG~~
24)	Methylene chloride	6.63	145	2970	34.18	~~NG~~ 25
27)	Toluene	23.99	595	2293	~~2.20~~	~~NG~~
29)	1,1,1-Trichloroethane	14.27	343	5029	14.59	~~NG~~
35)	1,2-Dichloroethane-D4	12.92	308	42547	256.33	NG
36)	Toluene-D8	23.84	591	254934	281.71	NG
37)	p-Bromofluorobenzene	29.05	726	94209	281.39	NG
38)	*1,4-Dichlorobutane	23.18	574	91776	200.00	NG

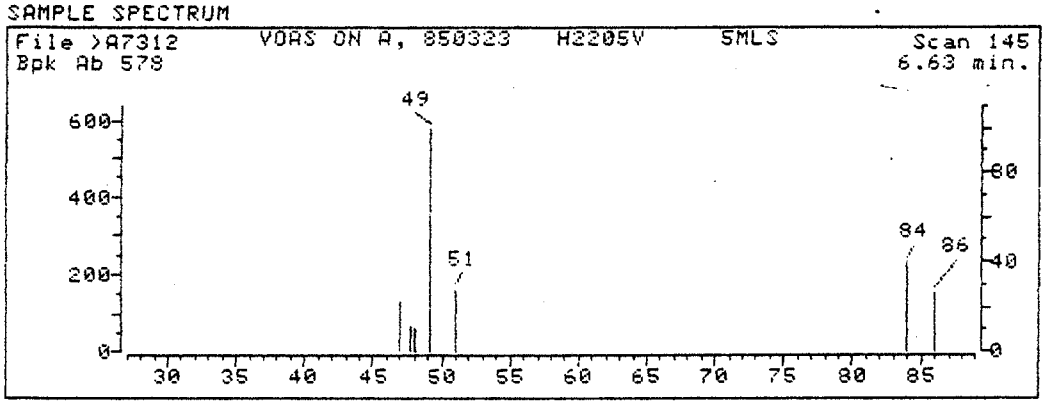
* Compound is ISTD

300369

REFERENCE STANDARD SPECTRUM



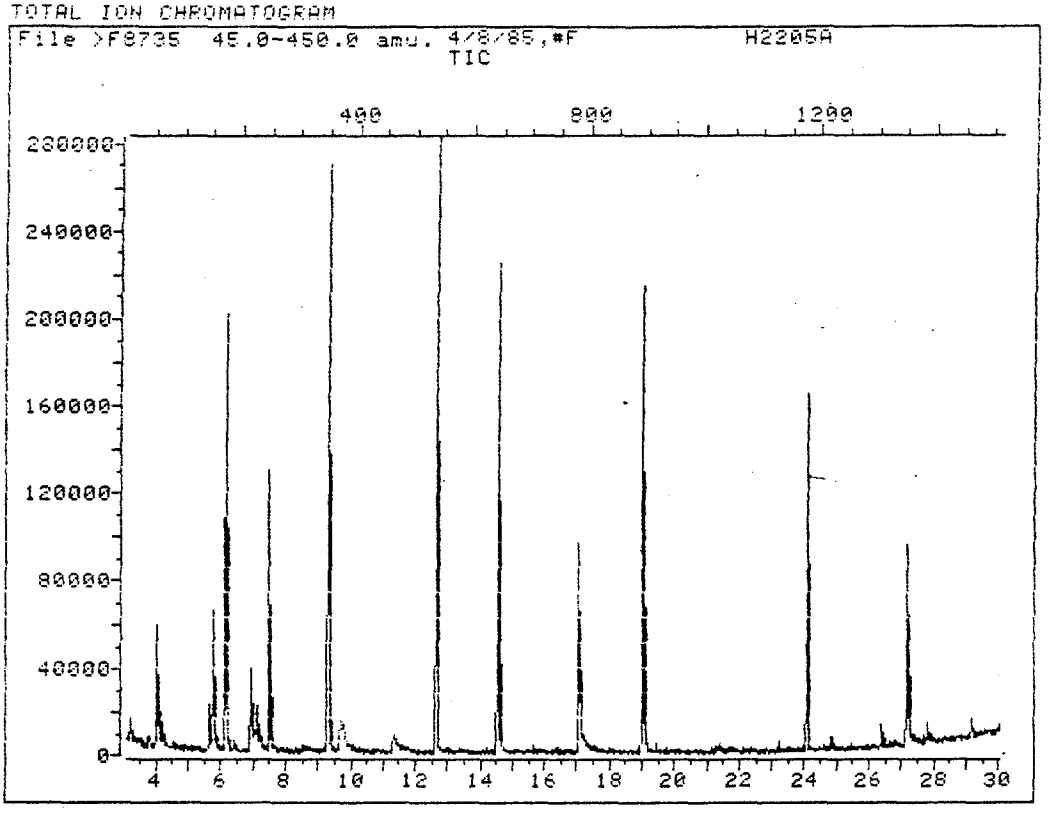
SAMPLE SPECTRUM



Data File: >A7312::U2
Name: VOAS ON A, 850323
Misc: H2205V 5MLS

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 145
Retention Time: 6.63 min.
Area: 2970
Concentration: 58.81 NG

TOTAL ION CHROMATOGRAM



Data File: >F8735::U6
Name: 4/8/85,#F
Misc: H2205A

BTL#16

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850408 17:17

Operator ID: WW9928
Quant Time: 850409 03:53

F8008

300371

QUANT REPORT

rator ID: WW9928 Quant Rev: 3 Quant Time: 850409 03:53
Injected at: 850409 03:21
a File: >F8735::U6 Dilution Factor: 1.00
e: 4/8/85,#F
c: H2205A BTL#16

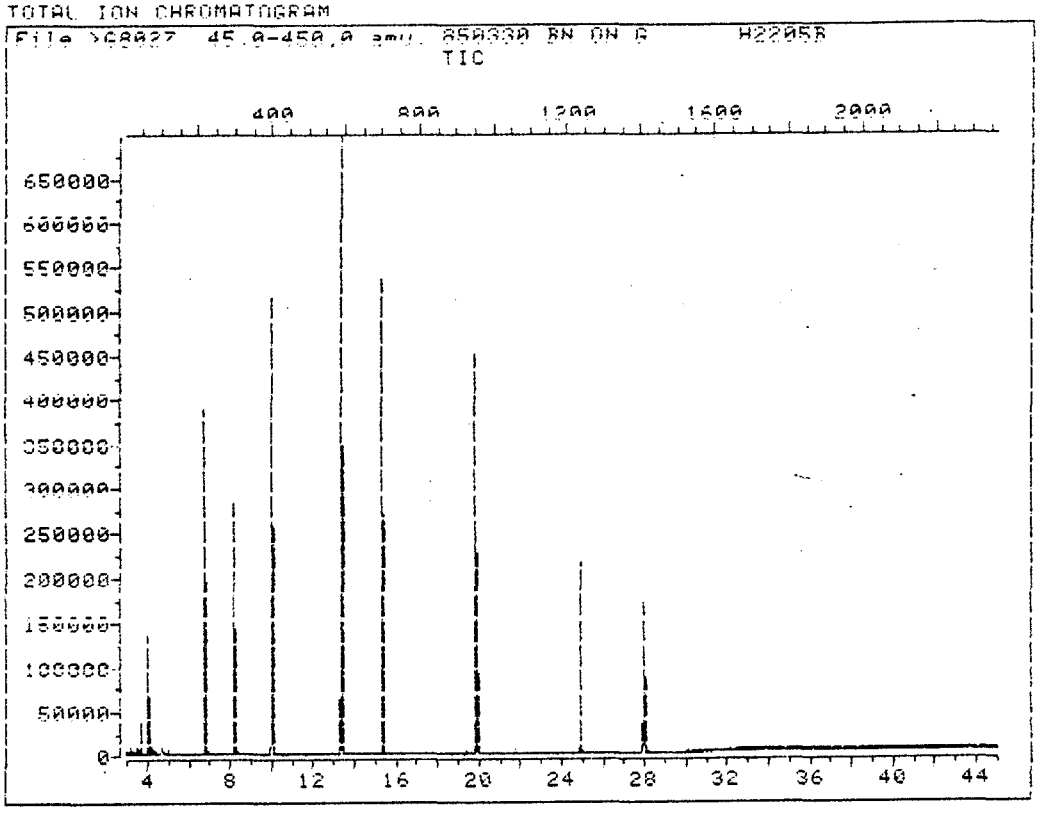
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850408 17:17

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.13	172	124929	40.00	UG/ML
2-Fluorophenol	4.03	54	52795	22.35	UG/ML
2-Fluorophenol	4.33	71	665	.28	UG/ML
Phenol-D5	5.61	143	32202	12.60	UG/ML
Phenol-D5	6.13	172	868	.34	UG/ML
*d8-Naphthalene	9.30	350	304837	40.00	UG/ML
*d10-Acenaphthalene	14.57	645	147953	40.00	UG/ML
*d10-Phenanthrene	19.00	894	243921	40.00	UG/ML
2,4,6-Tribromophenol	17.03	783	35983	66.84	UG/ML

Compound is ISTD

300372

TOTAL ION CHROMATOGRAM



Data File: >G8027::D5
Name: 850330 BN ON G
Misc: H2205B

Id File: GBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850329 17:20

Operator ID: TMU5/6
Quant Time: 850331 05:14

300373

QUANT REPORT

rator ID: TMU5/6 Quant Rev: 4 Quant Time: 850331 05:14
Injected at: 850331 04:27
a File: >G802/::05 Dilution Factor: 1.00
e: 850330 BN ON G
c: H2205B BTL#27

File: GBNP
le: B/N+PEST ID FILE .....MASTER, 850119
t Calibration: 850329 17:20

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.74	214	136387	40.00	UG/ML
Nitrobenzene-d5	8.16	294	197953	52.46	UG/ML
*d8-Naphthalene	10.01	398	542259	40.00	UG/ML
2-Fluorobiphenyl	13.37	587	565269	53.69	UG/ML
N-Nitrosodi-n-propylamine	8.16	294	29900	7.82	UG/ML
*d10-Acenaphthalene	15.34	698	325446	40.00	UG/ML
Dimethyl phthalate	15.34	698	60741	4.78	UG/ML
Diethyl phthalate	17.04	794	671	.09	UG/ML
*d10-Phenanthrene	19.81	960	543867	40.00	UG/ML
Di-n-butyl phthalate	22.05	1076	2256	- .16	UG/ML
*d12-Chrysene	27.93	1407	183354	40.00	UG/ML
Terphenyl-D14	24.84	1233	214483	29.97	UG/ML

Compound is ISTD

300374

300374

031

Appendix B

GC/MS Calibration Data

300375

300375

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

* Original update Form missing from QC Batch. Between time of Batch review and time this data was generated, R.F.'s had been updated. Thus the new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.603	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
Bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.388	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19899	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16917	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10369	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81778	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.59946	.50822	.56035	8.075	
Trichloroethylene	.67795	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1.2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62582	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

300376

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
Isopropylbenzene	-	-	-	-	-	
m-Dichlorobenzene	-	-	-	-	-	
o&p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

300377

034

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
:rolein	.01533	.01577	2.87	Average	(Conc=4000.00)
:rylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
:nzene	2.80658	3.08857	10.05	Average	
:s(Chloromethyl)ether	-	-	-	Average	
'omoform	.46582	.45820	1.64	Average	
:rbon tetrachloride	.84777	.90423	6.66	Average	
:lorobenzene	1.68410	1.84648	9.64	Average	
:lorodibromomethane	.75280	.79924	6.17	Average	
:loroethane	.21329	.15739	26.21	Average	
-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
:loroform	1.67484	1.89299	13.02	Average	
ichlorobromomethane	1.14979	1.22293	6.36	Average	
ichlorodifluoromethane	.43848	.48366	10.30	Average	
,1-Dichloroethane	1.17938	1.28676	9.10	Average	
,2-Dichloroethane	1.07848	1.18416	9.80	Average	
,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
,2-Dichloropropane	.99831	1.06739	6.92	Average	
'ans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
is-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
thylbenzene	3.39051	3.69108	8.86	Average	
ethyl bromide	.19390	.24156	21.45	Average	
ethyl chloride	.99538	1.08607	9.11	Average	
ethylene chloride	.24840	.20530	17.35	Average	
,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
etrachloroethylene	1.01130	1.16432	15.13	Average	
oluene	2.98290	3.34990	12.30	Average	
,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
,1,2-Trichloroethane	.56035	.63100	12.61	Average	
richloroethylene	.67765	.70670	4.29	Average	
richlorofluoromethane	1.34416	1.58651	18.03	Average	
inyl chloride	.43792	.48682	11.16	Average	
,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
oluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
,1,1,2-Tetrachloroethane	-	-	-	Average	
tyrene	-	-	-	Average	
,2-Dibromo-3-Chloropropane	-	-	-	Average	
romobenzene	-	-	-	Average	
-Chlorotoluene	-	-	-	Average	
-Chlorotoluene	-	-	-	Average	
eta-Xylene	-	-	-	Average	(Conc=75.00)
rtho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
ropylbenzene	-	-	-	Average	

F - Response Factor from daily standard file at 90.00 NG

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

%Diff - % Difference from original average or curve

300378

035

Calibration Check Report

Title: IDFILE FOR PP VOA5
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Isopropylbenzene	-	-	-	Average	
m-Dichlorobenzene	-	-	-	Average	
o&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

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

300379

036

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850408 17:15

Compound	Files: >F8718 RF 60.00	>F8717 RF 100.00	>F8716 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
lorophenol	.84603	.76758	.83617	.945	.81659	5.233	
ol	1.01787	.93881	.98073	.917	.97914	4.040	
Dichlorophenol	.23877	.21515	.23257	.972	.22883	5.352	
Dimethylphenol	.32718	.30236	.33378	.928	.32111	5.160	
trophenol	.16955	.14799	.18640	.901	.16798	11.462	
loro-m-cresol	.26083	.28939	.26187	1.210	.27070	5.984	
Dinitro-o-cresol	.16522	.23615	.27601	1.145	.22579	24.855	
Dinitrophenol	.01730	.10566	.14844	1.030	.09047	73.924	
trophenol	.10793	.23150	.30134	1.063	.21359	45.854	
6-Trichlorophenol	.37757	.29753	.36702	.851	.34737	12.519	
achlorophenol	.09176	.07288	.13031	.995	.09832	29.771	
uorophenol	.75743	.62000	.89139	.654	.75627	17.943	(Conc=100.0,100.0,100.0)
ol-D5	.80893	.75519	.89168	.912	.81860	8.400	(Conc=100.0,100.0,100.0)
6-Tribromophenol	.09869	.05876	.10739	.894	.08828	29.375	(Conc=100.0,100.0,100.0)
esol	.00242	-	-	1.067	.00242	-	
Cresols	.00242	-	-	1.067	.00242	-	

- Response Factor (Subscript is amount in UG/ML)
- Average Relative Retention Time (RT Std/RT Istd)
- Average Response Factor
- Percent Relative Standard Deviation

300380

077

E&K25

Calibration Check Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850408 17:15

Check Standard Data File: >F8739
Injection Time: 850409 05:31

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
2-Chlorophenol	.81659	.83200	1.89	Average
Phenol	.97914	.89225	8.87	Average
2,4-Dichlorophenol	.22883	.27350	19.52	Average
2,4-Dimethylphenol	.32111	.32660	1.71	Average
2-Nitrophenol	.16798	.19036	13.32	Average
p-Chloro-m-cresol	.27070	.27569	1.84	Average
4,6-Dinitro-o-cresol	.22579	.20752	8.09	Average
2,4-Dinitrophenol	.09047	.08245	8.86	Average
4-Nitrophenol	.21359	.27263	27.64	Average
2,4,6-Trichlorophenol	.34737	.37853	8.97	Average
Pentachlorophenol	.09832	.10272	4.48	Average
2-Fluorophenol	.75627	0.20393	~~6.9~~	Average
Phenol-D5	.81860	0.781142	~~4.3~~	Average
2,4,6-Tribromophenol	.08828	0.08129	~~8.67~~	Average
o-Cresol	.00242	- pc	-	Average
m+p-Cresols	.00242	-	-	Average

300381

- 038

300381

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850329 16:57

Compound	Files: >G8003 RF 60.00	>G8002 RF 100.00	>G8001 RF 200.00	>G8004 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
trosodimethylamine	.70553	.58393	1.18830	-	.462	.82592	38.704	
(2-Chloroethyl) ether	1.29807	1.40565	1.42161	-	.934	1.37511	4.887	
-Dichlorobenzene	1.49688	1.46592	1.49610	-	.987	1.48630	1.188	
-Dichlorobenzene	1.55957	1.58863	1.53919	-	1.005	1.56246	1.590	
-Dichlorobenzene	1.43232	1.49787	1.47631	-	1.068	1.46883	2.274	
obenzene-d5	1.11698	1.17620	1.02668	-	1.210	1.10662	6.804	(Conc=50.0,50.0,50.0,50.0)
(2-Chloroisopropyl)ether	.21114	.22546	.23505	-	1.118	.22388	5.373	
luorobiphenyl	.87183	.70865	.74938	-	1.332	.77662	10.936	(Conc=50.0,50.0,50.0,)
itrosodi-n-propylamine	.27277	.29160	.28202	-	.791	.28213	3.337	
ichloroethane	.15327	.15106	.15828	-	.792	.15421	2.400	
obenzene	.45760	.45788	.44857	-	.822	.45468	1.165	
horone	.57149	.56148	.56363	-	.883	.56553	.931	
(2-Chloroethoxy)methane	.39836	.41461	.40597	-	.953	.40632	2.002	
,4-Trichlorobenzene	.34279	.36282	.36510	-	.991	.35690	3.440	
ithalene	1.06101	1.08675	1.03664	-	1.006	1.06146	2.361	
achlorobutadiene	.22695	.24650	.24077	-	1.062	.23807	4.221	
achlorocyclopentadiene	.27835	.39126	.39661	-	.838	.35541	18.792	
loronaphthalene	1.31032	1.37586	1.29613	-	.886	1.32744	3.204	
thyl phthalate	1.47562	1.55970	1.65189	-	.969	1.56240	5.643	
aphthylene	2.00048	2.13881	2.21376	-	.969	2.11768	5.109	
-Dinitrotoluene	.22029	.23440	.28368	-	.981	.24612	13.522	
aphthene	1.33465	1.37427	1.41447	-	1.007	1.37446	2.904	
-Dinitrotoluene	.26763	.29886	.34967	-	1.057	.30539	13.559	
thyl phthalate	1.51424	1.58620	1.70217	-	1.113	1.60087	5.923	
orene	1.38358	1.45207	1.60252	-	1.108	1.47939	7.570	
lorophenyl phenyl ether	.63082	.67361	.72194	-	1.115	.67546	6.750	
itrosodiphenylamine	.77391	.91691	.89707	-	1.142	.86263	8.981	
-Diphenylhydrazine	1.44097	1.53282	1.67003	-	1.145	1.54794	7.447	
romophenyl phenyl ether	.22778	.23740	.25154	-	.937	.23891	5.003	
achlorobenzene	.27059	.28214	.27181	-	.954	.27485	2.309	
nanthrene	.96533	1.04010	1.00943	-	1.004	1.00495	3.740	
hracene	1.17350	1.20645	1.19044	-	1.011	1.19013	1.385	
n-butyl phthalate	1.01681	1.02359	1.01645	-	1.113	1.01895	.395	
oranthene	.91244	.94372	.84588	-	1.187	.90068	5.548	
zidine	.02517	.02936	~~.12859~~ .12859		1.216	.06104	95.895	
ene	.91800	.92692	.81103	-	1.220	.88532	7.284	
ha-BHC	.14449	.15168	-	.16396	.945	.15338	6.417	
a-BHC	.09214	.09588	-	.11212	.984	.10005	10.620	
ma-BHC	.13469	.13444	-	.15361	.990	.14091	7.802	
ta-BHC	.10781	.10725	-	.12975	1.024	.11494	11.163	
tachlor	.10707	.11078	-	.14445	1.084	.12077	17.050	
rin	.16026	.16340	-	.17777	1.129	.16714	5.586	
tachlor epoxide	.07279	.08105	-	.08963	.837	.08116	10.377	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

D - Percent Relative Standard Deviation

300382

039

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850329 16:57

Compound	Files: >G8003 RF 60.00	>G8002 RF 100.00	>G8001 RF 200.00	>G8004 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.02601	.05060	-	.09609	.863	.05757	61.768	
Endosulfan I	.08031	.09369	-	.10426	.870	.09275	12.939	
4,4'-DDE	.53885	.61477	-	.62731	.889	.59364	8.063	
Dieldrin	.46356	.47485	-	.55732	.893	.49858	10.266	
Endrin	.07994	.08608	-	.09439	.912	.08680	8.352	
Endosulfan II	.06338	.08244	-	.08337	.920	.07639	14.767	
4,4'-DDD	.56161	.72059	-	.74453	.925	.67958	14.717	
Endrin aldehyde	-	-	-	.22141	.937	.22141	-	
4,4'-DDT	.38187	.50207	-	.48523	.956	.45639	14.260	
Endosulfan sulfate	.09974	.11623	-	.13108	.956	.11568	13.549	
Terphenyl-D14	1.44983	1.62213	1.61247	-	.889	1.56148	6.200	(Conc=50.0,50.0,50.0,50.0)
Butyl benzyl phthalate	.59033	.65781	.67735	-	.951	.64183	7.114	
Benzo(a)anthracene	1.25456	1.28120	1.33371	-	.999	1.28983	3.122	
Chrysene	1.20519	1.23629	1.23898	-	1.003	1.22682	1.531	
3,3'-Dichlorobenzidine	.22498	.21170	.28714	-	1.001	.24127	16.693	
bis(2-Ethylhexyl)phthalate	.67632	.74136	.86058	-	1.019	.75942	12.306	
Di-n-octyl phthalate	.84892	1.01884	1.23796	-	1.083	1.03524	18.840	
Benzo(b)fluoroanthene	.95366	1.02622	1.11060	-	1.110	1.03016	7.625	
Benzo(k)fluoranthene	.75543	.82782	.98314	-	1.113	.85547	13.600	
Benzo(a)pyrene	.73774	.79627	.95528	-	1.140	.82976	13.567	
Indeno(1,2,3-c,d)pyrene	.90945	1.04433	1.19824	-	1.264	1.05067	13.753	
Dibenzo(a,h)anthracene	.68276	.76684	.86101	-	1.268	.77020	11.578	
Benzo(ghi)perylene	.68036	.77454	.90026	-	1.298	.78505	14.053	

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

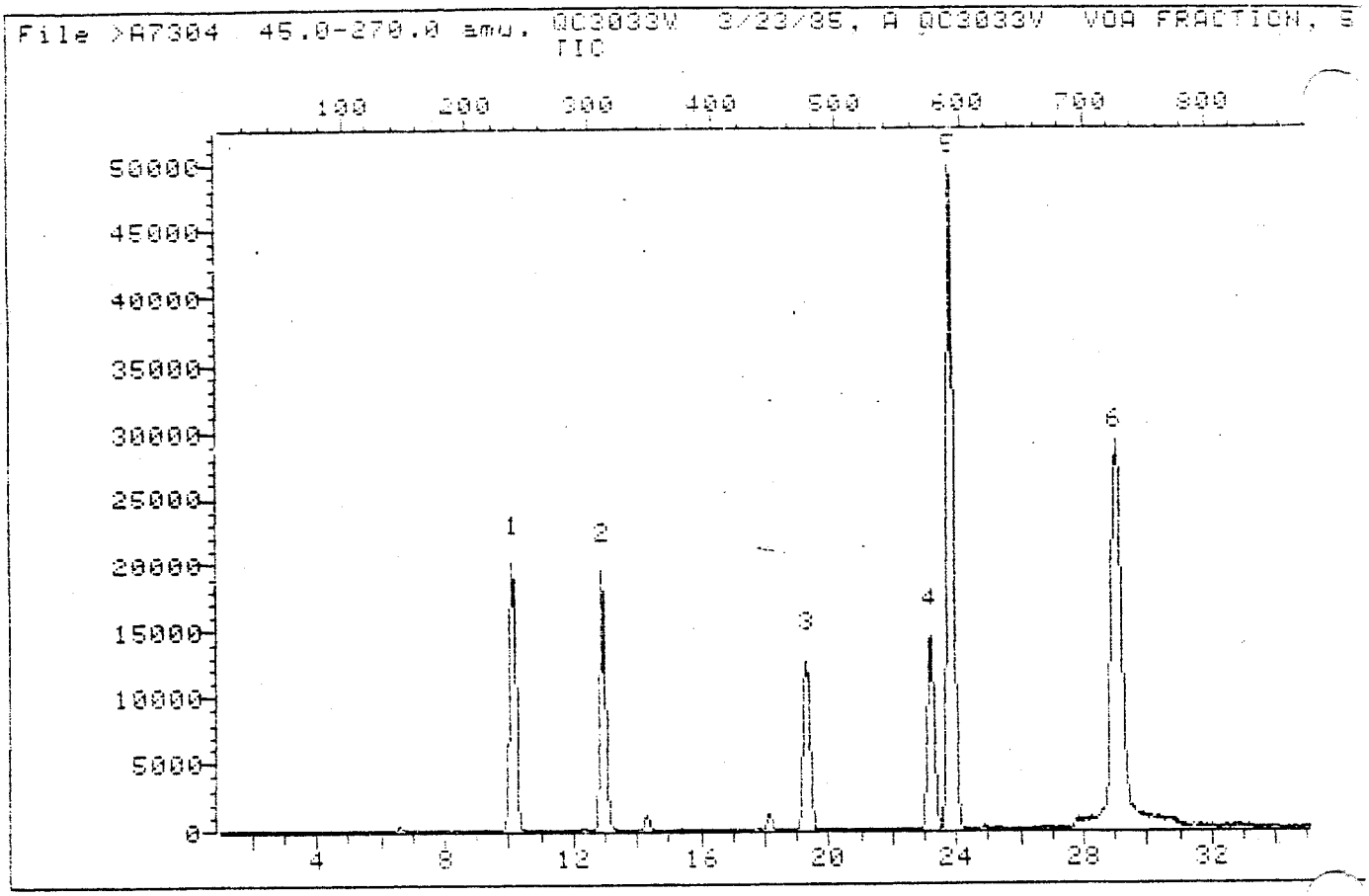
300383

040

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, SML WATER, BLANK

300385

QUANT REPORT

rator ID: LA2639 Quant Rev: 3 Quant Time: 850325 08:23
Injected at: 850323 09:04
a File: >A7304::U2 Dilution Factor: 1.00
e: QC3033V 3/23/85, A
c: QC3033V VOA FRACTION, SML WATER, BLANK

File: PK
le: IDFILE FOR PP VOAS
t Calibration: 850325 08:20

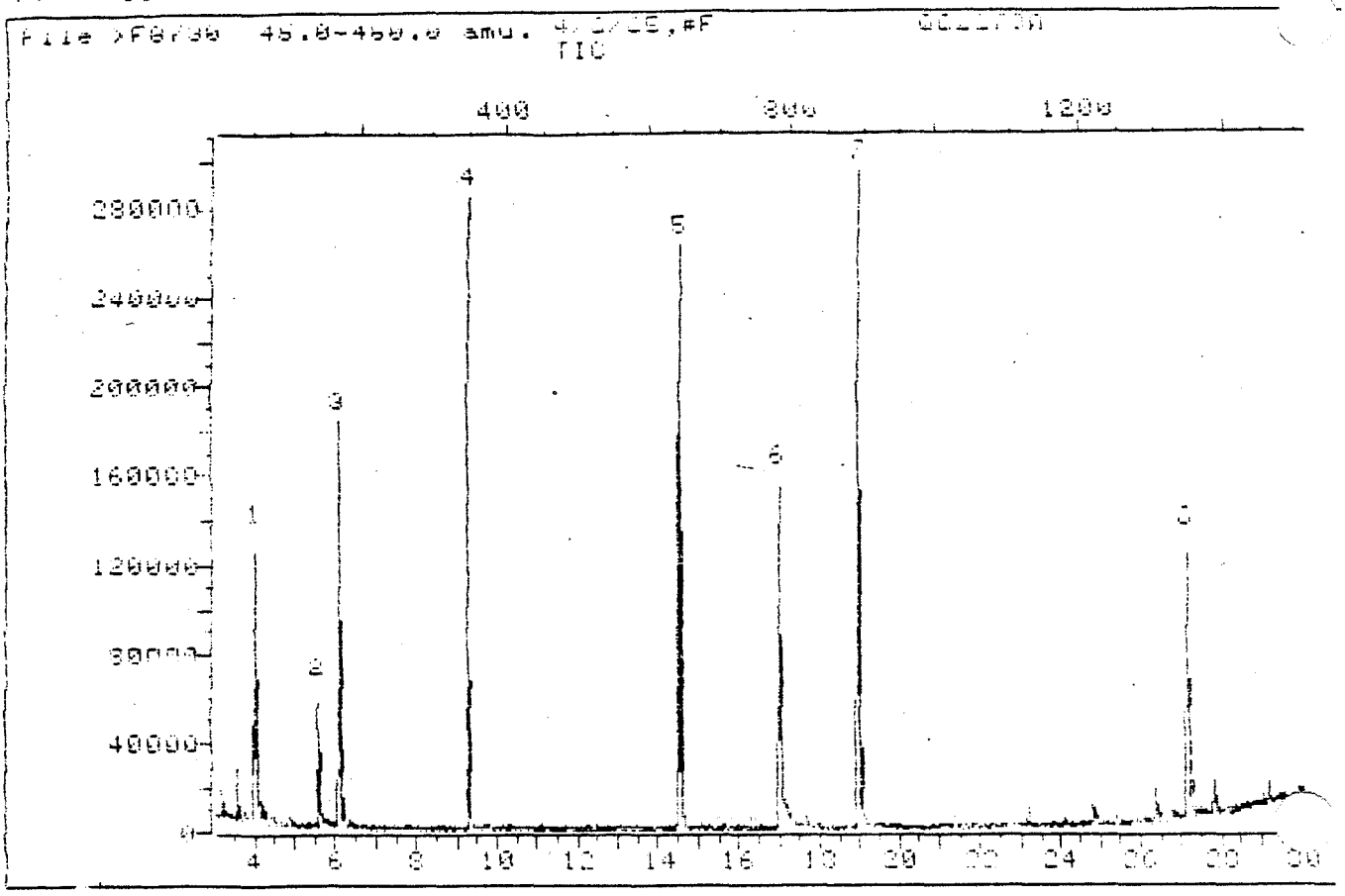
Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

Compound is ISTD

300386

300386

TOTAL ION CHROMATOGRAM for PLUC ANALYSIS



Data File: >F8730::U6
Name: 4/8/85,#F
Misc Data: QC2879A

BTL#1

300387

QUANT REPORT

rator ID: WW9928 Quant Rev: 3 Quant Time: 850409 00:46
Injected at: 850409 00:14
a File: >F8730::U6 Dilution Factor: 1.00
e: 4/8/85,#F
c: QC2879A BTL#11

File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850408 17:17

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.09	170	106350	40.00	UG/ML
2-Fluorophenol	3.98	52	103559	51.50	UG/ML
Phenol-D5	5.55	140	82403	37.86	UG/ML
Phenol-D5	6.09	170	1171	.54	UG/ML
Phenol-D5	6.39	187	297	.14	UG/ML
*d8-Naphthalene	9.26	348	305056	40.00	UG/ML
*d10-Acenaphthalene	14.52	643	154388	40.00	UG/ML
*d10-Phenanthrene	18.97	893	347556	40.00	UG/ML
2,4,6-Tribromophenol	17.00	782	59659	77.78	UG/ML

Compound is ISTD

F-09-AB

300388

300388

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas L Ledford	4/8/85
AA/ICAP Prep	Melissa Jane McElveen	4/8/85

Lab Supervisor Lidya Wikiarek date 4/12/85

300399

300399

8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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

X-029

Sample(s) Relinquished by: M. Jaeobs

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 315

300390

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2206	NJ DEP	NJDCOMBESO	XONG RESID	850321	0957	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

300391

TABLE OF CONTENTS

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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

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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

300394

H2206

COMMENTS

Acids: Original analysis resulted in low surrogate recoveries. This repeat analysis confirms low recoveries due to sample matrix interference.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

300396

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2206	NJ DEP		NJDCOMBESO XONG RESID	850321	0957	
ETC Sample No.	Company		Facility	Sample Point	Date	Time	Elapsed Hours

NPDES Number	Compound (Acrolein and Acrylonitrile values are screen only.)	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
1V	Acrolein	ND	100	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	6.60	2.80	5	7	BMDL	18	172[B]	5	18	53[B]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

300396

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 624.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2206	NJ DEP	NJDCOMBESD	XONG RESID	850321	0957	

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	3.30	ND	ND	ND	100	91	ND	105	92
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	101	ND	105	118
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	72	ND	105	82
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	3B	ND	105	26B
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	0B	ND	105	2B
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	90	ND	105	104
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	22	ND	105	43
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	85	ND	105	105
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	5B	ND	105	43B
10A	Phenol	ND	1.50	ND	ND	ND	100	40	ND	105	42
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	101	ND	105	109

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

300397

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 2, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

300398

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2206	NJ DEP	NJDCOMBESO	XONG RESID	850321	0957	

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	1.90	ND	ND	ND	100	92	ND	100	85
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	92	ND	100	86
3B	Anthracene	ND	1.90	ND	ND	ND	100	91	ND	100	82
4B	Benzidine	ND	44	ND	ND	ND	100	3[a]	ND	100	7[a]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	93	ND	100	90
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	91	ND	100	107
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	86	ND	100	93
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	85	ND	100	104
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	89	ND	100	92
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	85	ND	100	96
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	78	ND	100	142
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	93	9	100	112
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	91	ND	100	99
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	85	ND	100	99
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	83	ND	100	79
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	88	ND	100	78
18B	Chrysene	ND	2.50	ND	ND	ND	100	93	ND	100	86
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	77
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	64	ND	100	73
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	68	ND	100	77
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	59	ND	100	64
24B	Diethyl phthalate	ND	10	1	ND	ND	100	49	ND	100	66
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	13	ND	100	45
26B	Di-n-butyl phthalate	BMDL	10	1	1	ND	100	90	1	100	84
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	103	ND	100	98
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	98	ND	100	110
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	92	ND	100	123
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	93	ND	100	79
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	91	ND	100	69
32B	Fluorene	ND	1.90	ND	ND	ND	100	91	ND	100	82

300398

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 2, 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
H2206	NJ DEP	NJDCOMBESO	XONG RESID	850321	0957	

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	1.90	ND	ND	ND	100	92	ND	100	94
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	55	ND	100	67
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	52	ND	100	62
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	91	ND	100	90
39B	Naphthalene	ND	1.60	ND	ND	ND	100	86	ND	100	76
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	90	ND	100	90
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	86	ND	100	88
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	94	ND	100	76
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	94	ND	100	86
45B	Pyrene	ND	1.90	ND	ND	ND	100	85	ND	100	66
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	101	ND	100	81

[a] EPA published Method Detection Limit.

[B] Recovery low due to sample matrix interference.

300399

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 2, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

300400

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2206	NJ DEP	NJDCOMBESO	XONG RESID	850321	0957	

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	2	ND	ND	ND	100	92	ND	100	57
2P	Alpha-BHC	ND	10	ND	ND	ND	100	63	ND	100	84
3P	Beta-BHC	ND	4	ND	ND	ND	100	85	ND	100	63
4P	Gamma-BHC	ND	10	ND	ND	ND	100	61	ND	100	73
5P	Delta-BHC	ND	3	ND	ND	ND	100	27	ND	100	48
6P	Chlordane	ND	10	ND	ND	ND	200	53	ND	200	24
7P	4,4'-DDT	ND	5	ND	ND	ND	100	100	ND	100	53
8P	4,4'-DDE	ND	6	ND	ND	ND	100	122	ND	100	45
9P	4,4'-DDD	ND	3	ND	ND	ND	100	97	ND	100	53
10P	Dieldrin	ND	3	ND	ND	ND	100	126	ND	100	63
11P	Endosulfan I	ND	10	ND	ND	ND	100	33B	ND	100	25B
12P	Endosulfan II	ND	10	ND	ND	ND	100	23B	ND	100	19B
13P	Endosulfan sulfate	ND	6	ND	ND	ND	100	79	ND	100	66
14P	Endrin	ND	10	ND	ND	ND	100	127	ND	100	57
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	25B	ND	100	1B
16P	Heptachlor	ND	2	ND	ND	ND	100	105	ND	100	84
17P	Heptachlor epoxide	ND	2	ND	ND	ND	100	127	ND	100	67
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	69	ND	100	59
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery low due to sample matrix interference.

300400

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 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
H2206	NJ DEP	NJDCOMBESQ	XONG RESID	850321	0957	

NPDES Number	Compound		Results: Sample Concen.	Results: MDL
1M	Antimony	ug/l	ND	80
2M	Arsenic	ug/l	BMDL	5
3M	Beryllium	ug/l	ND	.60
4M	Cadmium	ug/l	ND	3
5M	Chromium	ug/l	ND	20
6M	Copper	ug/l	510	10
7M	Lead	ug/l	14	5
8M	Mercury	ug/l	ND	.30
9M	Nickel	ug/l	ND	10
10M	Selenium	ug/l	BMDL	5
11M	Silver	ug/l	ND	8
12M	Thallium	ug/l	ND	5
13M	Zinc	ug/l	ND	30
14M	Cyanide, Total	mg/l	<.02	.02
15M	Phenolics, Total	mg/l	<1.00E-02	1.00E-02

300401

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2206	NJ DEP	NJDCOMBESO	XONGRESID	850321	0957	

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

300402

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 13, 1985

3003

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
H2206	NJ DEP	NJDCOMBESO	XONG RESID	850321	0957	

Compound Name	Data			Identifiers		
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc ug/l
1 Unknown	248	7.40	-	-	-	29
2 Unknown	1307	26.30	-	-	-	47
3 Unknown	1377	27.60	-	-	-	36
4 Unknown	1386	27.70	-	-	-	40
5 Unknown	1395	27.90	-	-	-	38

2.0

3004.03

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 2, 1985

TABLE 1: QUALITATIVE RESULTS

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

300404

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2206	NJ DEP	NJDCOMBESO	XONG RESID	850321	0957	

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

300404

300405

Relative Percent Difference (RPD) for VOA

H2206 NJ DEP — Job Number / Account Name

NJDCOMBESO XONG RESID — Facility Source

850321 0957 — Date Time

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	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	5	7	33
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

300405

Relative Percent Difference (RPD) for ACID

H2206 NJ DEP — NJDCOMBESO XONG RESID 850321 0957
Job Number Account Name — Facility Source Date Time

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

300406

300407

Relative Percent Difference (RPD) for B/N

H2206 NJ DEP — Job Number / Account Name

NJDCOMBESO XONG RESID 850321 0957 — Facility Source / Date Time

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	1	ND	200
Dimethyl phthalate	ND	ND	0
Di-n-butyl phthalate	1	1	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

300407

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

300408

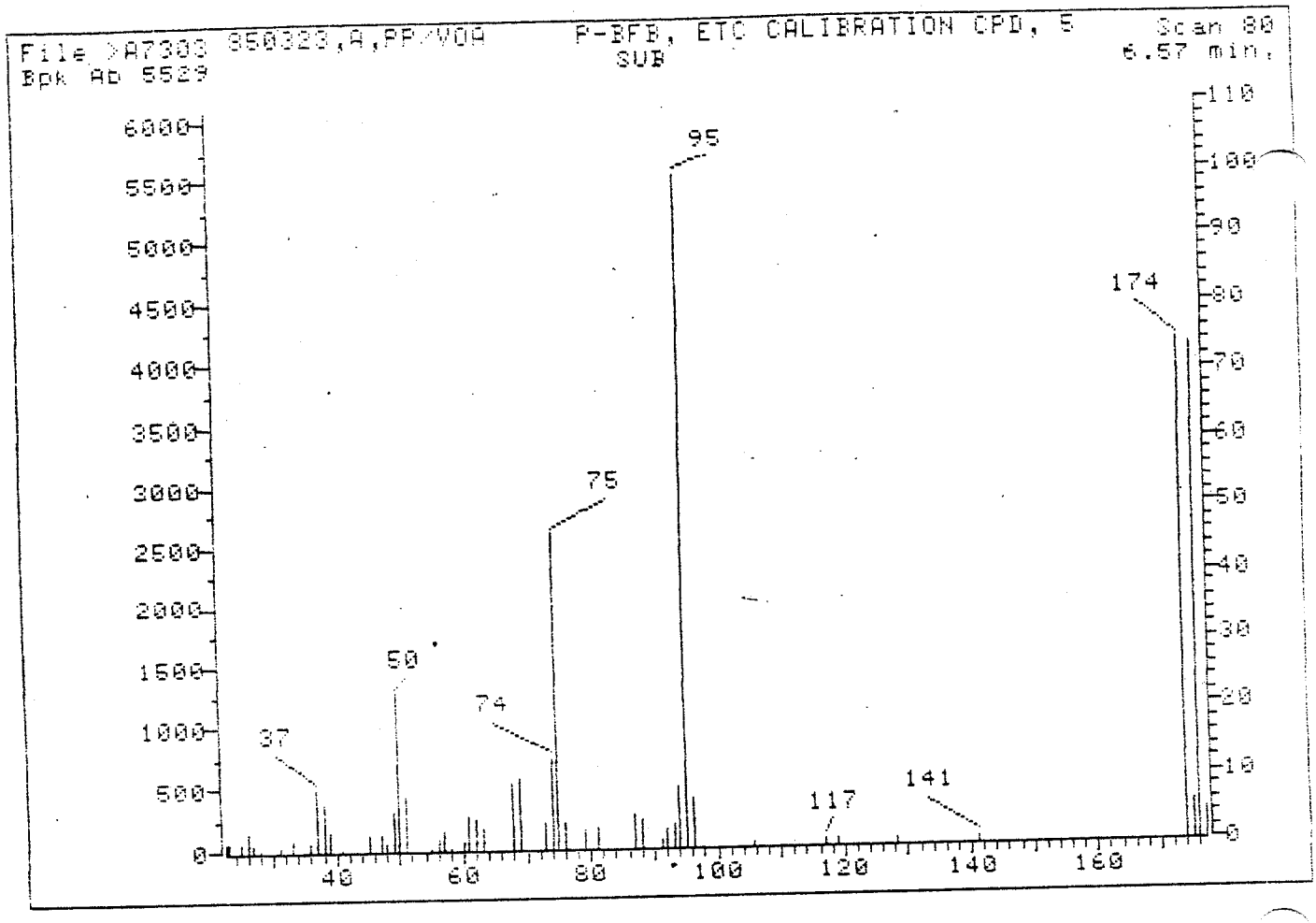


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
173	Less then 1% of mass 95	0.00	0.00	Ok
174	Greater then 50% of mass 95	74.14	74.14	Ok
175	5-9% of mass 174	5.46	7.37	Ok
176	95-101% of mass 174	73.36	98.95	Ok
177	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85
Injection Time: 08:09
Run No: >A7303
Spectrun No: 80

Analyst: Thomas M Mancuso
Processor: Pearl Trent
QC Batch: QV 3033
Samples: H2205, H2206, H2213 – H2216, H2219, H2220, G9862, H0875 – H0887, H0888.

300409

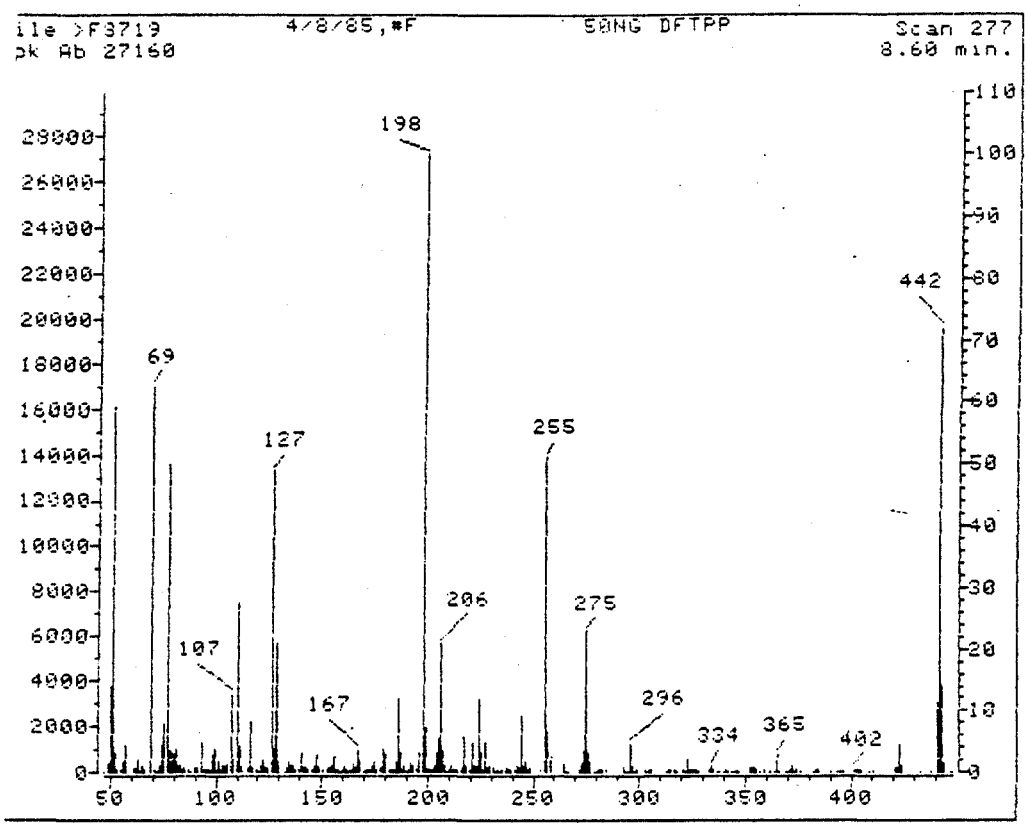


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	59.00	59.00	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.59	62.59	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	48.97	48.97	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	7.08	7.08	Ok
75	10-30% of mass 198	22.72	22.72	Ok
65	Greater then 1% of mass 198	2.78	2.78	Ok
41	Less then mass 443	11.12	78.64	Ok
42	Greater then 40% of mass 198	71.93	71.93	Ok
43	17-23% of mass 442	14.13	19.65	Ok

Injection Date: 04/08/85 Analyst: Wen-Wen Chi
Injection Time: 16:30 Processor: Patricia Chang
Run No: >F8719 QC Batch: QA2879
Spectrun No: 277 Samples: 65282, H0303, G5222, 65225, H2205, H2206, G9732

300410

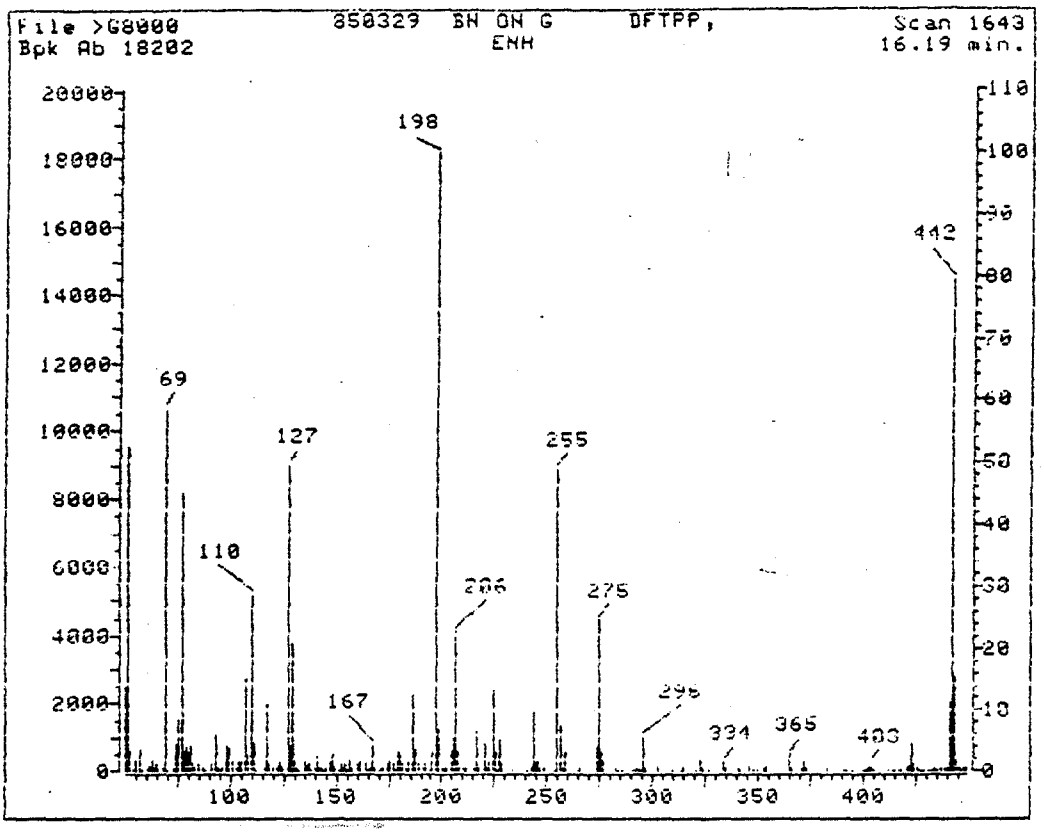


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	52.33	52.33	Ok
68	Less then 2% of mass 69	.58	.99	Ok
69	(reference only)	58.58	58.58	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.31	49.31	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	6.91	6.91	Ok
275	10-30% of mass 198	24.41	24.41	Ok
365	Greater then 1% of mass 198	2.65	2.65	Ok
441	Less then mass 443	11.16	24.05	Ok
442	Greater then 40% of mass 198	79.37	79.37	Ok
443	17-23% of mass 442	15.08	19.00	Ok

Injection Date: 03/29/85 Analyst: J. Mallin
Injection Time: 09:19 Processor: K Tabellin
Run No: G8000 QC Batch: QB2853
Spectrum No: 1643 Samples: H03037B - H03058B
G9861B, G9862B, H1910R-H-1
G5222B-H-G5225B, H22
H2120B; H22058; H2206B

300411

022

300411

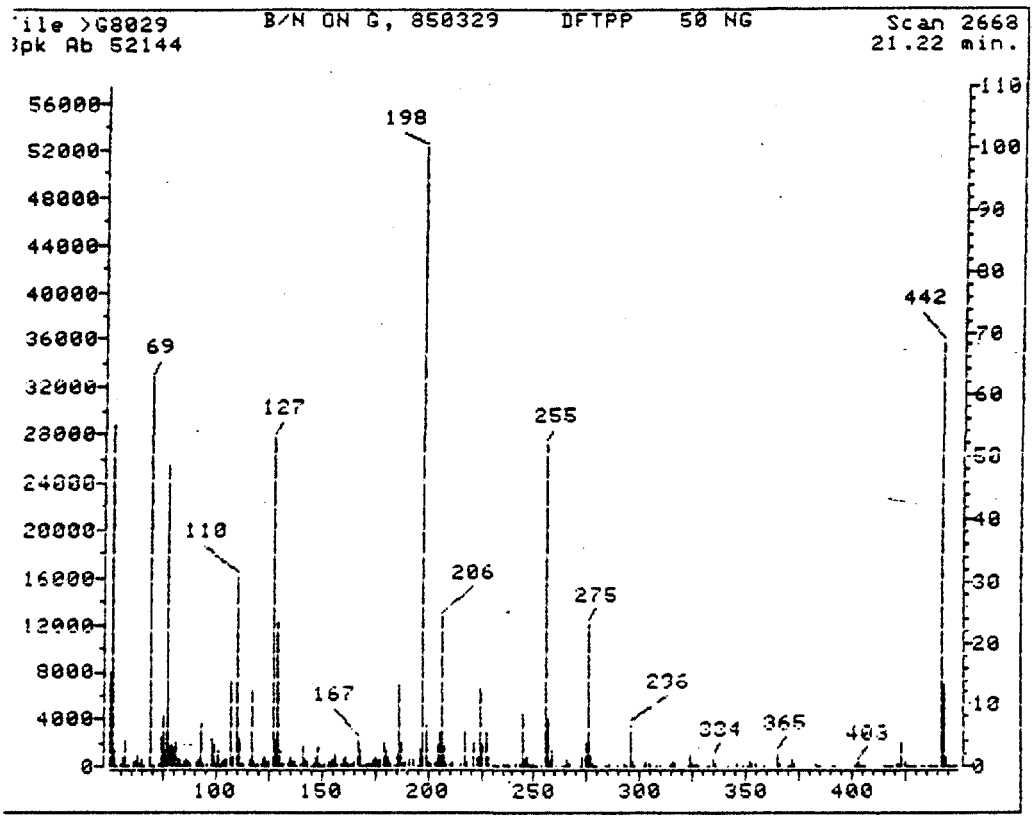


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

M/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	55.14	55.14	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.70	62.70	Ok
70	Less then 2% of mass 69	.21	.33	Ok
127	40-60% of mass 198	52.95	52.95	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	6.50	6.50	Ok
275	10-30% of mass 198	23.00	23.00	Ok
365	Greater then 1% of mass 198	2.19	2.19	Ok
441	Less then mass 443	9.28	70.91	Ok
442	Greater then 40% of mass 198	68.26	68.26	Ok
443	17-23% of mass 442	13.09	19.17	Ok

Injection Date: 05/30/85 Analyst: J Martin
Injection Time: 09:39 Processor: K Takuchi
Run No: >G8029 QC Batch: QR2853
Spectrum No: 2668 Samples: H03023 to H03053
G9861B, G9862B, H1810B to H1812B
G5222B to G5225B; H2272B
H2120B; H2205B; H2206B

300412

Appendix A

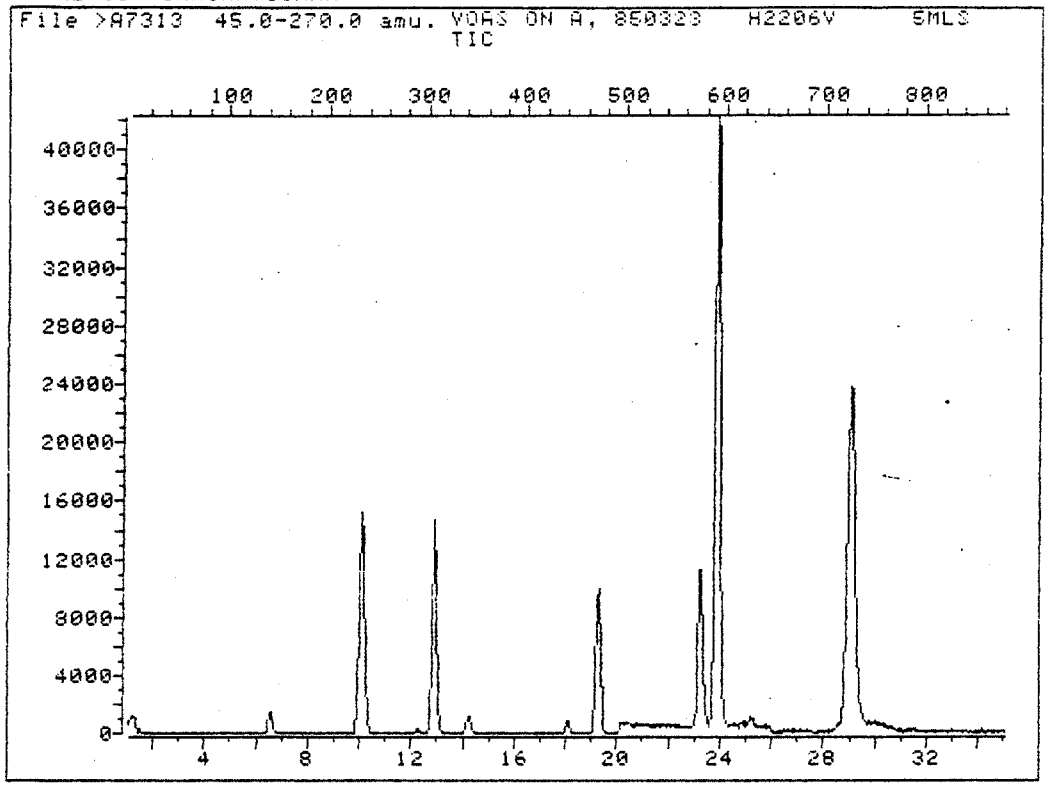
Mass Spectral Data for Quantitated Compounds

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.

300413

TOTAL ION CHROMATOGRAM



Data File: >A7313::U2
Name: VOAS ON A, 850323
Misc: H2206V 5MLS

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM5066
Quant Time: 850323 19:15

300414

QUANT REPORT

Operator ID: MMS066 Quant Rev: 3 Quant Time: 850325 08:33
Injected at: 850323 18:39
Data File: >A7313:.U2 Dilution Factor: 1.00
Name: VOAS ON A, 850323
Misc: H2206V 5MLS

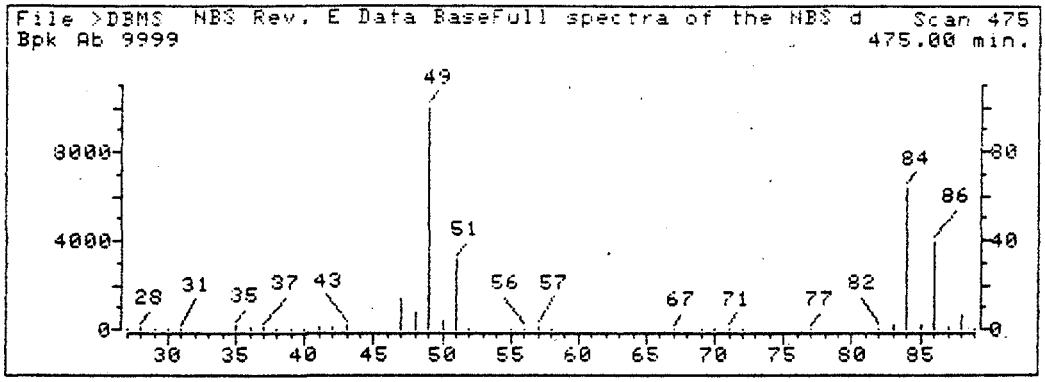
ID File: PK
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08:20

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.29	473	59498	200.00	NG
24)	Methylene chloride	6.55	143	3130	~~42.36~~	NG 33
27)	Toluene	24.03	596	2140	2~~.44~~	NG
29)	1,1,1-Trichloroethane	14.23	342	5249	1~~9.07~~	NG
35)	1,2-Dichloroethane-D4	12.88	307	35373	250.56	NG
36)	Toluene-D8	23.88	592	226073	293.71	NG
37)	p-Bromofluorobenzene	29.05	726	80261	281.86	NG
38)	*1,4-Dichlorobutane	23.26	576	67954	200.00	NG

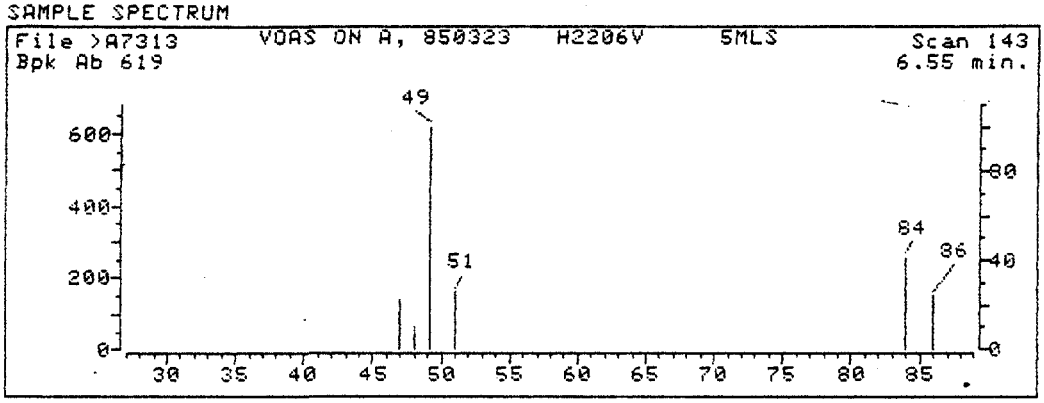
* Compound is ISTD

300415

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM

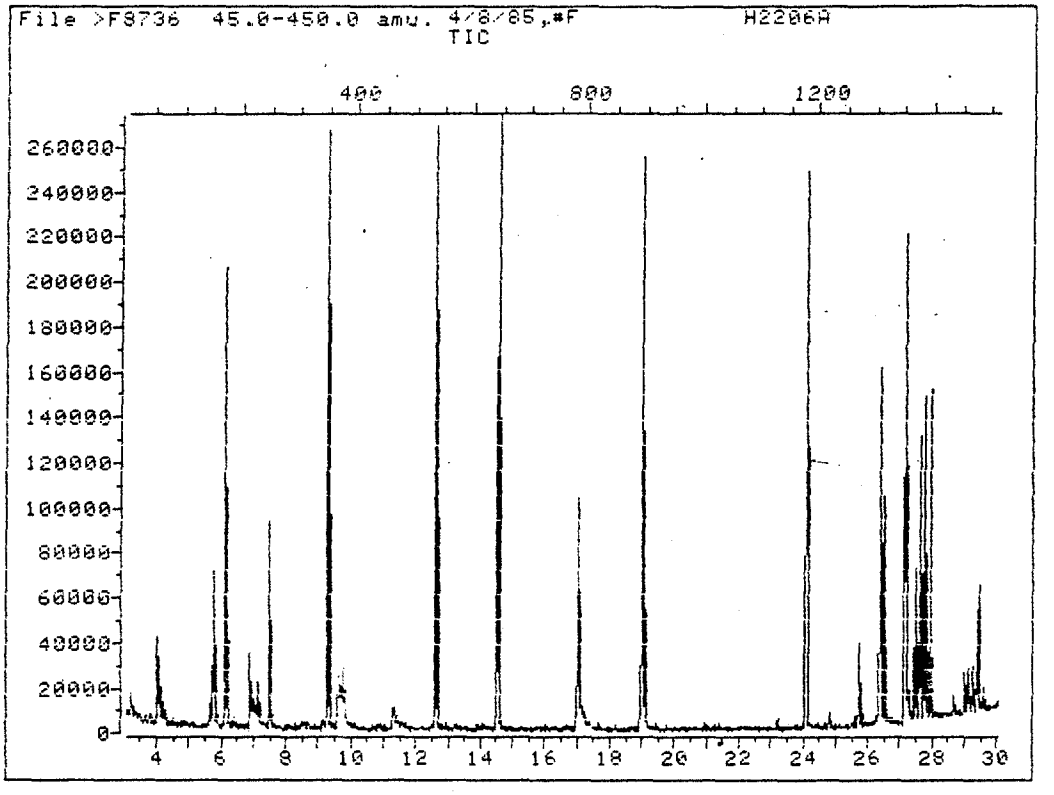


Data File: >A7313::U2
Name: VOAS ON A, 850323
Misc: H2206V 5MLS

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 143
Retention Time: 6.55 min.
Area: 3130
Concentration: 72.87 NG

300416

TOTAL ION CHROMATOGRAM



Data File: >F8736::U6
Name: 4/8/85,#F
Misc: H2206A

BTL#17

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850408 17:17

Operator ID: WW9928
Quant Time: 850409 04:30

300417

QUANT REPORT

rator ID: WW9928 Quant Rev: 3 Quant Time: 850409 04:30
Injected at: 850409 03:58
a File: >F8736::U6 Dilution Factor: 1.00
e: 4/8/85,#F
c: H2206A BTL#17

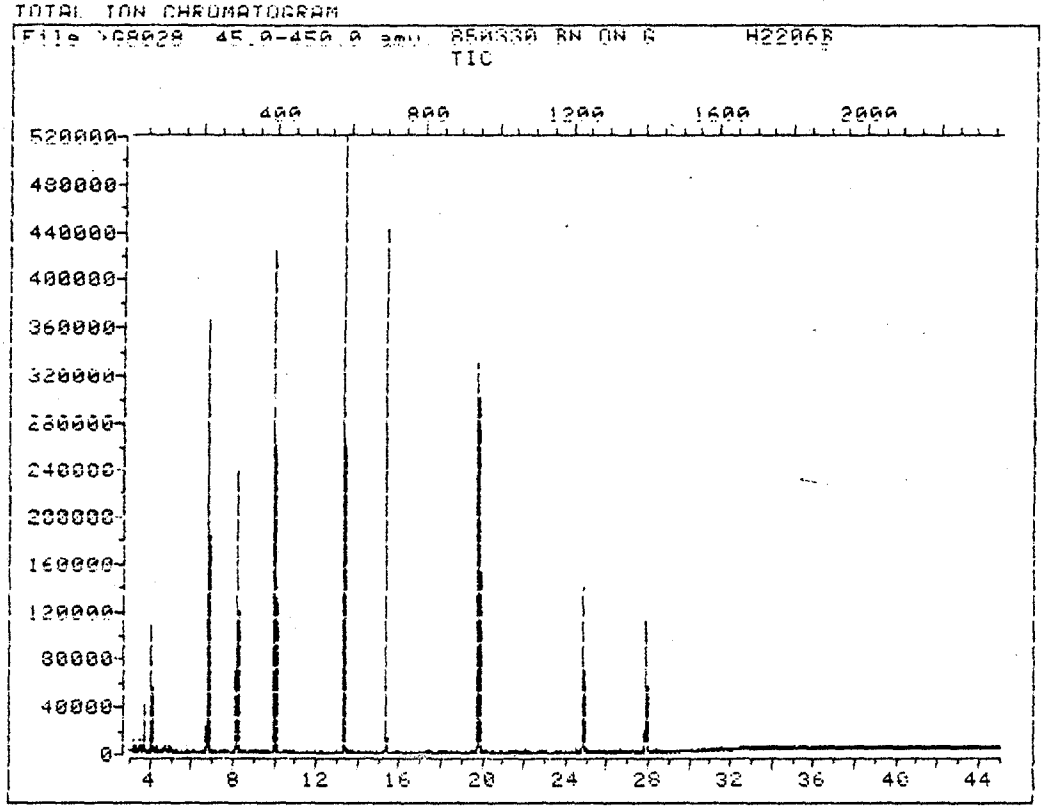
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850408 17:17

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.10	171	130218	40.00	UG/ML
o-Cresol	6.10	171	216	27.37	UG/ML
m+p-Cresols	6.10	171	216	27.37	UG/ML
2-Fluorophenol	4.01	54	38861	15.78	UG/ML
Phenol-D5	5.60	143	15107	5.67	UG/ML
Phenol-D5	5.87	158	219	.08	UG/ML
Phenol-D5	6.10	171	775	.29	UG/ML
*d8-Naphthalene	9.25	348	306248	40.00	UG/ML
*d10-Acenaphthalene	14.52	643	156570	40.00	UG/ML
*d10-Phenanthrene	18.99	894	319108	40.00	UG/ML
2,4,6-Tribromophenol	16.99	782	40215	57.10	UG/ML
2,4,6-Tribromophenol	17.56	814	357	.51	UG/ML
2,4,6-Tribromophenol	17.62	817	407	.58	UG/ML

Compound is ISTD

300418

TOTAL ION CHROMATOGRAM



Data File: >G8028::U4
Name: 850330 BN UN 6
Misc: H2206B

BTL#28

Id File: GBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850329 17:20

Operator ID: TM0576
Quant Time: 850331 06:09

300419

300419

QUANT REPORT

erator ID: TM0576 Quant Rev: 4 Quant Time: 850331 06:09
Injected at: 850331 05:21
ta File: >G8028::U4 Dilution Factor: 1.00
ne: 850330 BN ON G
sc: H2206B BTL#28

File: GBNP
:le: B/N+PEST ID FILE .....MASTER, 850119
st Calibration: 850329 17:20

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.73	212	126647	40.00	UG/ML
Nitrobenzene-d5	8.13	291	173319	49.47	UG/ML
*d8-Naphthalene	9.98	395	465808	40.00	UG/ML
2-Fluorobiphenyl	13.32	583	470902	52.07	UG/ML
N-Nitrosodi-n-propylamine	8.13	291	26452	-8.05	UG/ML
*d10-Acenaphthalene	15.29	694	254577	40.00	UG/ML
Dimethyl phthalate	15.29	694	47399	4.77	UG/ML
*d10-Phenanthrene	19.75	945	409488	40.00	UG/ML
Di-n-butyl phthalate	21.99	1071	2792	.27	UG/ML
*d12-Chrysene	27.87	1402	123887	40.00	UG/ML
Terphenyl-D14	24.78	1228	145258	30.04	UG/ML

Compound is ISTD

300420

Appendix B

GC/MS Calibration Data

300421

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850329 08:17

* Original Update Form missing from QC Batch. Between time of Batch review and time this data was generated, R.F.'s had been updated. Therefore new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
Bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.388	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19899	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34039	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81779	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1,2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62592	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

300422

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850329 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
Isopropylbenzene	-	-	-	-	-	
m-Dichlorobenzene	-	-	-	-	-	
o&p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
crolein	.01533	.01577	2.87	Average	(Conc=4000.00)
crylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
enzene	2.80658	3.08857	10.05	Average	
is(Chloromethyl)ether	-	-	-	Average	
romoform	.46582	.45820	1.64	Average	
arbon tetrachloride	.84777	.90423	6.66	Average	
hlorobenzene	1.68410	1.84648	9.64	Average	
hlorodibromomethane	.75280	.79924	6.17	Average	
hloroethane	.21329	.15739	26.21	Average	
-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
hloroform	1.67484	1.89299	13.02	Average	
ichlorobromomethane	1.14979	1.22293	6.36	Average	
ichlorodifluoromethane	.43848	.48366	10.30	Average	
,1-Dichloroethane	1.17938	1.28676	9.10	Average	
,2-Dichloroethane	1.07848	1.18416	9.80	Average	
,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
,2-Dichloropropane	.99831	1.06739	6.92	Average	
rans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
is-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
thylbenzene	3.39051	3.69108	8.86	Average	
lethyl bromide	.19890	.24156	21.45	Average	
lethyl chloride	.99538	1.08607	9.11	Average	
lethylene chloride	.24840	.20530	17.35	Average	
,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
etrachloroethylene	1.01130	1.16432	15.13	Average	
oluene	2.98290	3.34990	12.30	Average	
,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
,1,2-Trichloroethane	.56035	.63100	12.61	Average	
richloroethylene	.67765	.70670	4.29	Average	
richlorofluoromethane	1.34416	1.58651	18.03	Average	
inyl chloride	.43792	.48682	11.16	Average	
,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
oluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
,1,1,2-Tetrachloroethane	-	-	-	Average	
tyrene	-	-	-	Average	
,2-Dibromo-3-Chloropropane	-	-	-	Average	
romobenzene	-	-	-	Average	
-Chlorotoluene	-	-	-	Average	
-Chlorotoluene	-	-	-	Average	
eta-Xylene	-	-	-	Average	(Conc=75.00)
rtho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
ropylbenzene	-	-	-	Average	

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

300424

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Isopropylbenzene	-	-	-	Average	
m-Dichlorobenzene	-	-	-	Average	
o&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

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

300425

036

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850408 17:15

Compound	Files: >F8718 RF 60.00	>F8717 RF 100.00	>F8716 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
ılorophenol	.84603	.76758	.83617	.945	.81659	5.233	
ıol	1.01787	.93881	.98073	.917	.97914	4.040	
-Dichlorophenol	.23877	.21515	.23257	.972	.22883	5.352	
-Dimethylphenol	.32718	.30236	.33378	.928	.32111	5.160	
ıtrophenol	.16955	.14799	.18640	.901	.16798	11.462	
ılоro-m-cresol	.26083	.28939	.26187	1.210	.27070	5.984	
-Dinitro-o-cresol	.16522	.23615	.27601	1.145	.22579	24.855	
-Dinitrophenol	.01730	.10566	.14844	1.030	.09047	73.924	
itrophenol	.10793	.23150	.30134	1.063	.21359	46.854	
,6-Trichlorophenol	.37757	.29753	.36702	.851	.34737	12.519	
tachlorophenol	.09176	.07288	.13031	.985	.09832	29.771	
luorophenol	.75743	.62000	.89139	.654	.75627	17.943	(Conc=100.0,100.0,100.0)
ıol-D5	.80893	.75519	.89168	.912	.81860	8.400	(Conc=100.0,100.0,100.0)
,6-Tribromophenol	.09869	.05876	.10739	.894	.08828	29.375	(Conc=100.0,100.0,100.0)
resol	.00242	-	-	1.067	.00242	-	
-Cresols	.00242	-	-	1.067	.00242	-	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

- Percent Relative Standard Deviation

300426

E&K25

Calibration Check Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850408 17:15

Check Standard Data File: >F8739
Injection Time: 850409 05:31

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
2-Chlorophenol	.81659	.83200	1.89	Average
Phenol	.97914	.89225	8.87	Average
2,4-Dichlorophenol	.22983	.27350	19.52	Average
2,4-Dimethylphenol	.32111	.32660	1.71	Average
2-Nitrophenol	.16798	.19036	13.32	Average
p-Chloro-m-cresol	.27070	.27569	1.84	Average
4,6-Dinitro-o-cresol	.22579	.20752	8.09	Average
2,4-Dinitrophenol	.09047	.08245	8.86	Average
4-Nitrophenol	.21359	.27263	27.64	Average
2,4,6-Trichlorophenol	.34737	.37853	8.97	Average
Pentachlorophenol	.09832	.10272	4.48	Average
2-Fluorophenol	.75627	0.72039	~~6.9~~	Average
Phenol-D5	.81860	0.78442	~~4.2~~	Average
2,4,6-Tribromophenol	.08828	0.08369	~~5.2~~	Average
o-Cresol	.00242	- pc	-	Average
m+p-Cresols	.00242	-	-	Average

300427

- 053

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850329 16:57

Compound	Files: >G8003 RF 60.00	>G8002 RF 100.00	>G8001 RF 200.00	>G8004 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
itrosodimethylamine	.70553	.58393	1.18830	-	.462	.82592	38.704	
(2-Chloroethyl) ether	1.29807	1.40565	1.42161	-	.934	1.37511	4.887	
-Dichlorobenzene	1.49688	1.46592	1.49610	-	.987	1.48630	1.188	
-Dichlorobenzene	1.55957	1.58863	1.53919	-	1.005	1.56246	1.590	
-Dichlorobenzene	1.43232	1.49787	1.47631	-	1.068	1.46883	2.274	
robenzene-d5	1.11698	1.17620	1.02668	-	1.210	1.10662	6.804	(Conc=50.0,50.0,50.0,50.0)
(2-Chloroisopropyl)ether	.21114	.22546	.23505	-	1.118	.22388	5.373	
luorobiphenyl	.87183	.70865	.74938	-	1.332	.77662	10.936	(Conc=50.0,50.0,50.0,)
itrosodi-n-propylamine	.27277	.29160	.28202	-	.791	.28213	3.337	
achloroethane	.15327	.15106	.15828	-	.792	.15421	2.400	
robenzene	.45760	.45788	.44857	-	.822	.45468	1.165	
phorone	.57149	.56148	.56363	-	.883	.56553	.931	
(2-Chloroethoxy)methane	.39836	.41461	.40597	-	.953	.40632	2.002	
,4-Trichlorobenzene	.34279	.36282	.36510	-	.991	.35690	3.440	
hthalene	1.06101	1.08675	1.03664	-	1.006	1.06146	2.361	
achlorobutadiene	.22695	.24650	.24077	-	1.062	.23807	4.221	
achlorocyclopentadiene	.27835	.39126	.39661	-	.838	.35541	18.792	
hloronaphthalene	1.31032	1.37586	1.29613	-	.886	1.32744	3.204	
ethyl phthalate	1.47562	1.55970	1.65189	-	.969	1.56240	5.643	
naphthylene	2.00048	2.13881	2.21376	-	.969	2.11768	5.109	
-Dinitrotoluene	.22029	.23440	.28368	-	.981	.24612	13.522	
naphthene	1.33465	1.37427	1.41447	-	1.007	1.37446	2.904	
-Dinitrotoluene	.26763	.29886	.34967	-	1.057	.30539	13.559	
thyl phthalate	1.51424	1.58620	1.70217	-	1.113	1.60087	5.923	
orene	1.38358	1.45207	1.60252	-	1.108	1.47939	7.570	
hlorophenyl phenyl ether	.63082	.67361	.72194	-	1.115	.67546	6.750	
itrosodiphenylamine	.77391	.91691	.89707	-	1.142	.86263	8.981	
-Diphenylhydrazine	1.44097	1.53282	1.67003	-	1.145	1.54794	7.447	
romophenyl phenyl ether	.22778	.23740	.25154	-	.937	.23891	5.003	
achlorobenzene	.27059	.28214	.27181	-	.954	.27485	2.309	
nanthrene	.96533	1.04010	1.00943	-	1.004	1.00495	3.740	
hracene	1.17350	1.20645	1.19044	-	1.011	1.19013	1.385	
n-butyl phthalate	1.01681	1.02359	1.01645	-	1.113	1.01895	.395	
oranthene	.91244	.94372	.84588	-	1.187	.90068	5.548	
zidine	.02517	.02936	~~.12859~~ .12857		1.216	.06104	95.895	
ene	.91800	.92692	.81103	-	1.220	.88532	7.284	
ha-BHC	.14449	.15168	-	.16396	.945	.15338	6.417	
a-BHC	.09214	.09588	-	.11212	.984	.10005	10.620	
ma-BHC	.13469	.13444	-	.15361	.990	.14091	7.802	
ta-BHC	.10781	.10725	-	.12975	1.024	.11494	11.163	
tachlor	.10707	.11078	-	.14445	1.084	.12077	17.050	
rin	.16026	.16340	-	.17777	1.129	.16714	5.586	
tachlor epoxide	.07279	.08105	-	.08963	.837	.08116	10.377	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

D - Percent Relative Standard Deviation

300428

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850329 16:57

Compound	Files: >G8003 RF 60.00	>G8002 RF 100.00	>G8001 RF 200.00	>G8004 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.02601	.05060	-	.09609	.863	.05757	61.768	
Endosulfan I	.08031	.09369	-	.10426	.870	.09275	12.939	
4,4'-DDE	.53885	.61477	-	.62731	.889	.59364	8.063	
Dieldrin	.46356	.47485	-	.55732	.893	.49858	10.266	
Endrin	.07994	.08608	-	.09439	.912	.08680	8.352	
Endosulfan II	.06338	.08244	-	.08337	.920	.07639	14.767	
4,4'-DDD	.56161	.72059	-	.74453	.925	.67558	14.717	
Endrin aldehyde	-	-	-	.22141	.937	.22141	-	
4,4'-DDT	.38187	.50207	-	.48523	.956	.45639	14.260	
Endosulfan sulfate	.09974	.11623	-	.13108	.956	.11568	13.549	
Terphenyl-D14	1.44983	1.62213	1.61247	-	.889	1.56148	6.200	(Conc=50.0,50.0,50.0,50.0)
Butyl benzyl phthalate	.59033	.65781	.67735	-	.951	.64183	7.114	
Benzo(a)anthracene	1.25456	1.28120	1.33371	-	.999	1.28983	3.122	
Chrysene	1.20519	1.23629	1.23898	-	1.003	1.22682	1.531	
3,3'-Dichlorobenzidine	.22498	.21170	.28714	-	1.001	.24127	16.693	
bis(2-Ethylhexyl)phthalate	.67632	.74136	.86058	-	1.019	.75942	12.306	
Di-n-octyl phthalate	.84892	1.01884	1.23796	-	1.083	1.03524	18.840	
Benzo(b)fluoroanthene	.95366	1.02622	1.11060	-	1.110	1.03016	7.625	
Benzo(k)fluoranthene	.75543	.82782	.98314	-	1.113	.85547	13.600	
Benzo(a)pyrene	.73774	.79627	.95528	-	1.140	.82976	13.567	
Indeno(1,2,3-c,d)pyrene	.90945	1.04433	1.19824	-	1.264	1.05067	13.753	
Dibenzo(a,h)anthracene	.68276	.76684	.86101	-	1.268	.77020	11.578	
Benzo(ghi)perylene	.68036	.77454	.90026	-	1.298	.78505	14.053	

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

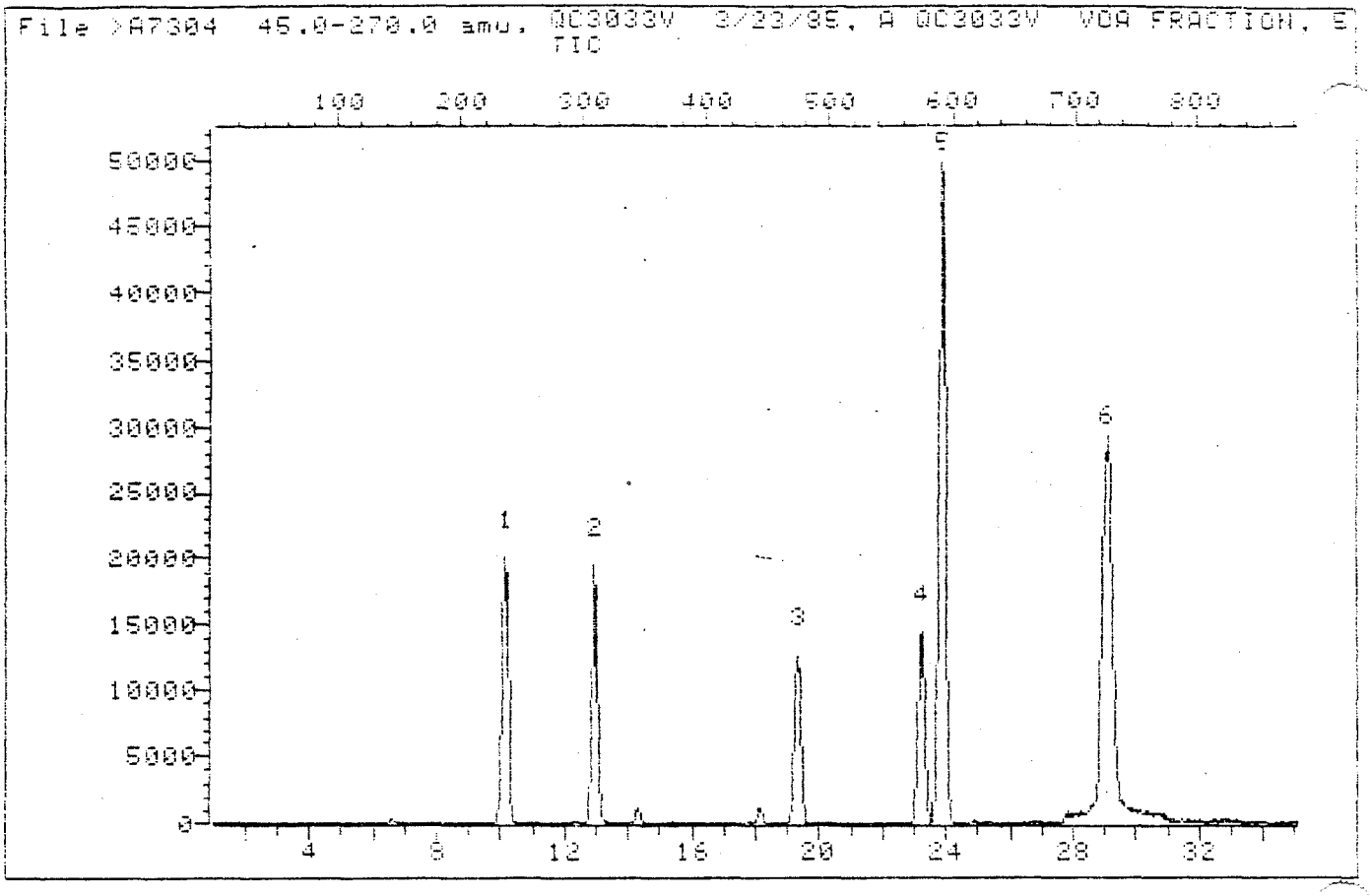
300429

Appendix C1

GC/MS Subsidiary Data

300430

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, 5ML WATER, BLANK

300431

300431

QUANT REPORT

rator ID: LA263Y Quant Rev: 3 Quant Time: 850325 08:25
Injected at: 850323 09:04
a File: >A7304::U2 Dilution Factor: 1.00
e: QC3033V 3/23/85, A
c: QC3033V VOA FRACTION, SML WATER, BLANK

File: PK
le: IDFILE FOR PP VOAS
t Calibration: 850325 08:20

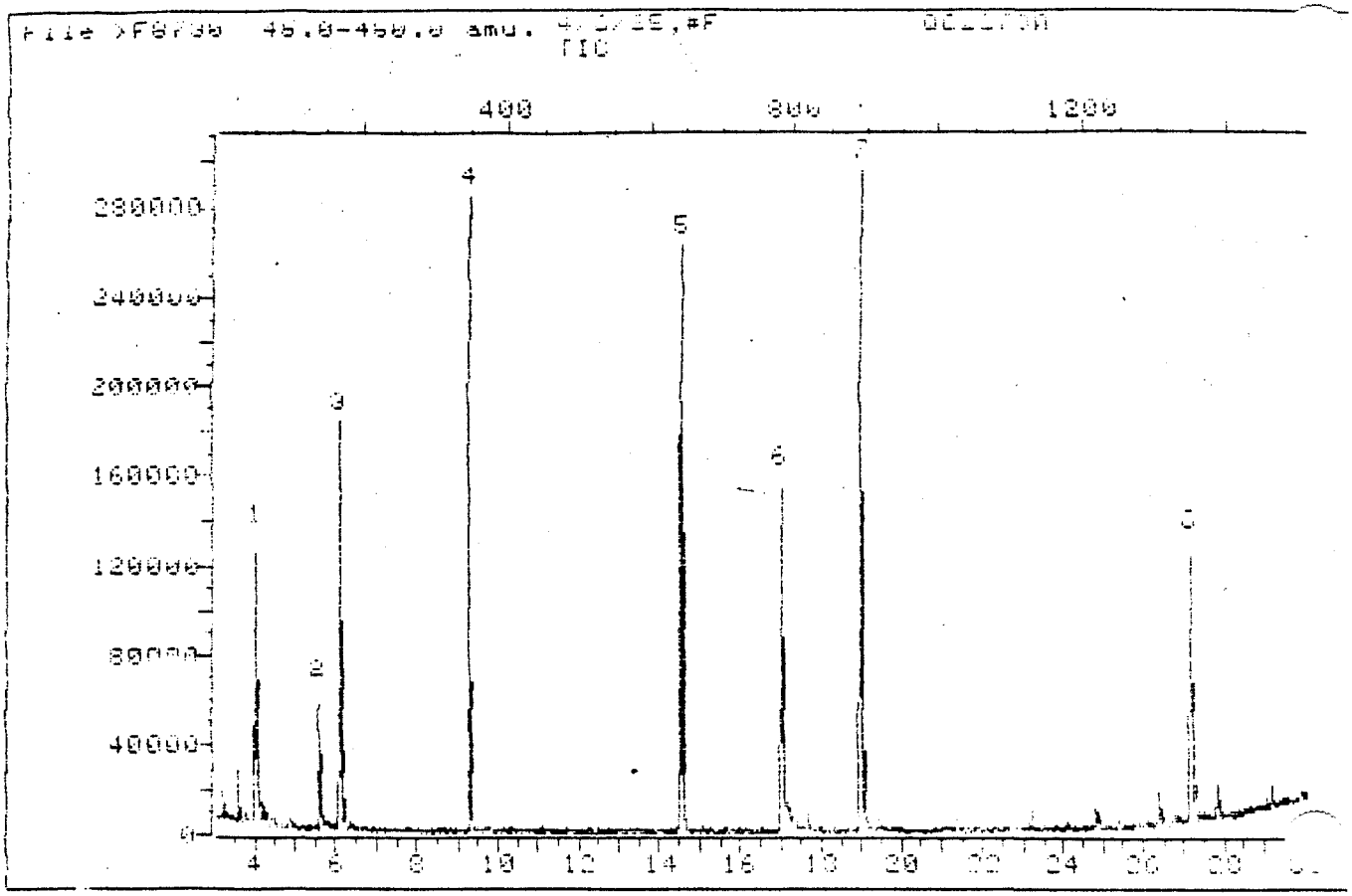
Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

Compound is ISTD

300432

300432

TOTAL ION CHROMATOGRAM for PLUG ANALYSIS



Data File: >F8730 :UK
Name: 1/0/95,*F
Misc Data: 0CC779A

BTL#11

300433

300433

QUANT REPORT

ator ID: WW9928 Quant Rev: 3 Quant Time: 850409 00:46
Injected at: 850409 00:14
a File: >F8730::U6 Dilution Factor: 1.00
e: 4/8/85,#F
c: QC2879A BTL#11

File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850408 17:17

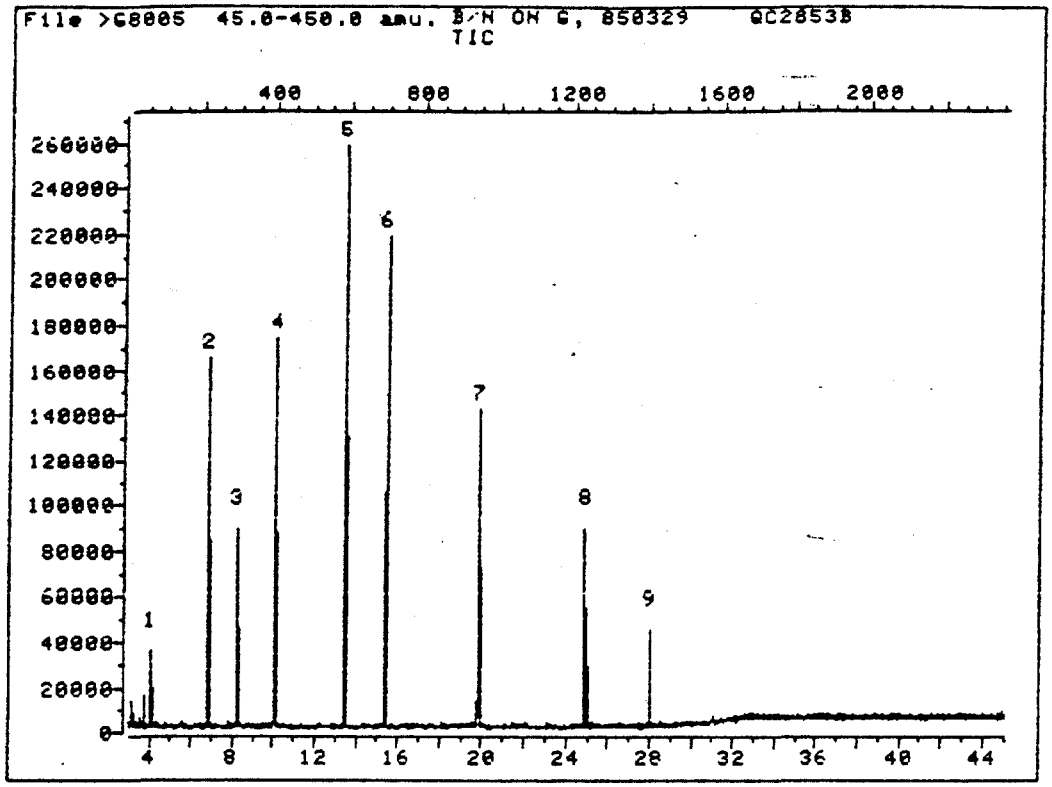
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.09	170	106350	40.00	UG/ML
2-Fluorophenol	3.98	52	103559	51.50	UG/ML
Phenol-D5	5.55	140	82403	37.86	UG/ML
Phenol-D5	6.09	170	1171	.54	UG/ML
Phenol-D5	6.39	187	297	.14	UG/ML
*d8-Naphthalene	9.26	348	305056	40.00	UG/ML
*d10-Acenaphthalene	14.52	643	154388	40.00	UG/ML
*d10-Phenanthrene	18.97	893	347556	40.00	UG/ML
2,4,6-Tribromophenol	17.00	782	59659	77.78	UG/ML

Compound is ISTD

F-094AB

300434

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >G8005::U3
Name: B/N ON G, 850329
Misc Data: QC28538

BTL

300435

QUANT REPORT

Operator ID: JM8824 Quant Rev: 4 Quant Time: 850329 18:46
Injected at: 850329 17:59
Data File: >G8005::U3 Dilution Factor: 1.00
Name: B/N ON G, 850329
Misc: QC28538 BTL# 5

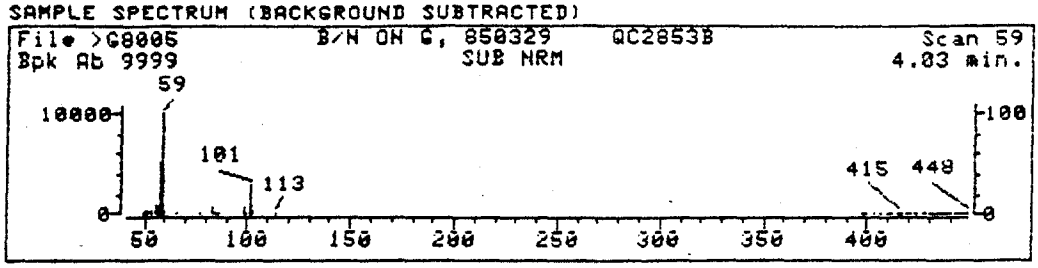
ID File: GBNP
Title: B/N+PEST ID FILE .....MASTER, 850119
Last Calibration: 850329 17:20

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.79	214	56560	40.00	UG/ML
8)	Nitrobenzene-d5	8.21	294	67701	43.27	UG/ML
10)	*d8-Naphthalene	10.06	398	197014	40.00	UG/ML
11)	2-Fluorobiphenyl	13.40	586	208084	54.40	UG/ML
12)	N-Nitrosodi-n-propylamine	8.21	294	9879	7.11	UG/ML
20)	*d10-Acenaphthalene	15.35	696	122194	40.00	UG/ML
23)	Dimethyl phthalate	15.35	696	23234	4.87	UG/ML
33)	*d10-Phenanthrene	19.82	947	178406	40.00	UG/ML
38)	Di-n-butyl phthalate	22.06	1073	547	.12	UG/ML
48)	*d12-Chrysene	27.92	1403	49815	40.00	UG/ML
60)	Terphenyl-D14	24.85	1230	82171	42.26	UG/ML

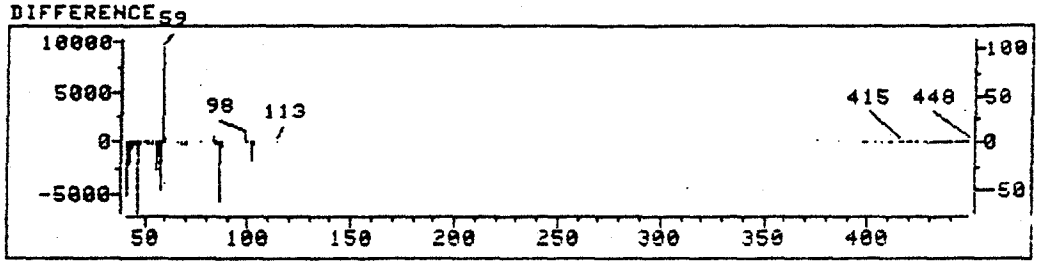
* Compound is ISTD

300436

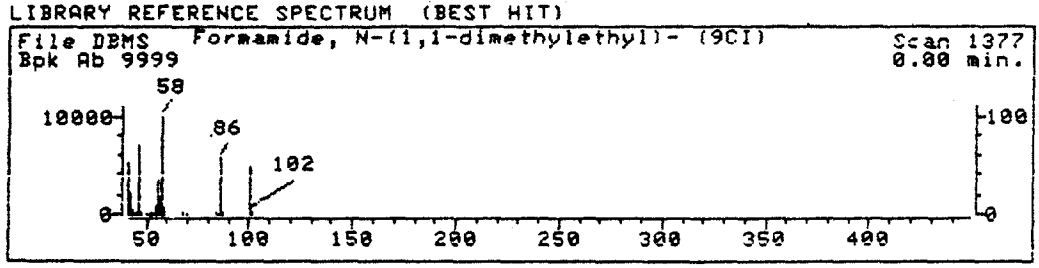
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >G8005::U3
Name: B/N ON G, 850329
Misc Data: QC2853B BTL
RT (min): 4.03
Scan: 59
Area: 57121
Semi-quantitative Conc: 5.67 UG/ML

Data File: >G8005 Scan Number: 59
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

1. Formamide, N-(1,1-dimethylethyl)- (9CI) 101 C5H11NO
2. Formamide, N-butyl- (8CI9CI) 101 C5H11NO

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	15	2425743	27	76	3	0
2.	15	871716	23	82	3	0

300437

300437

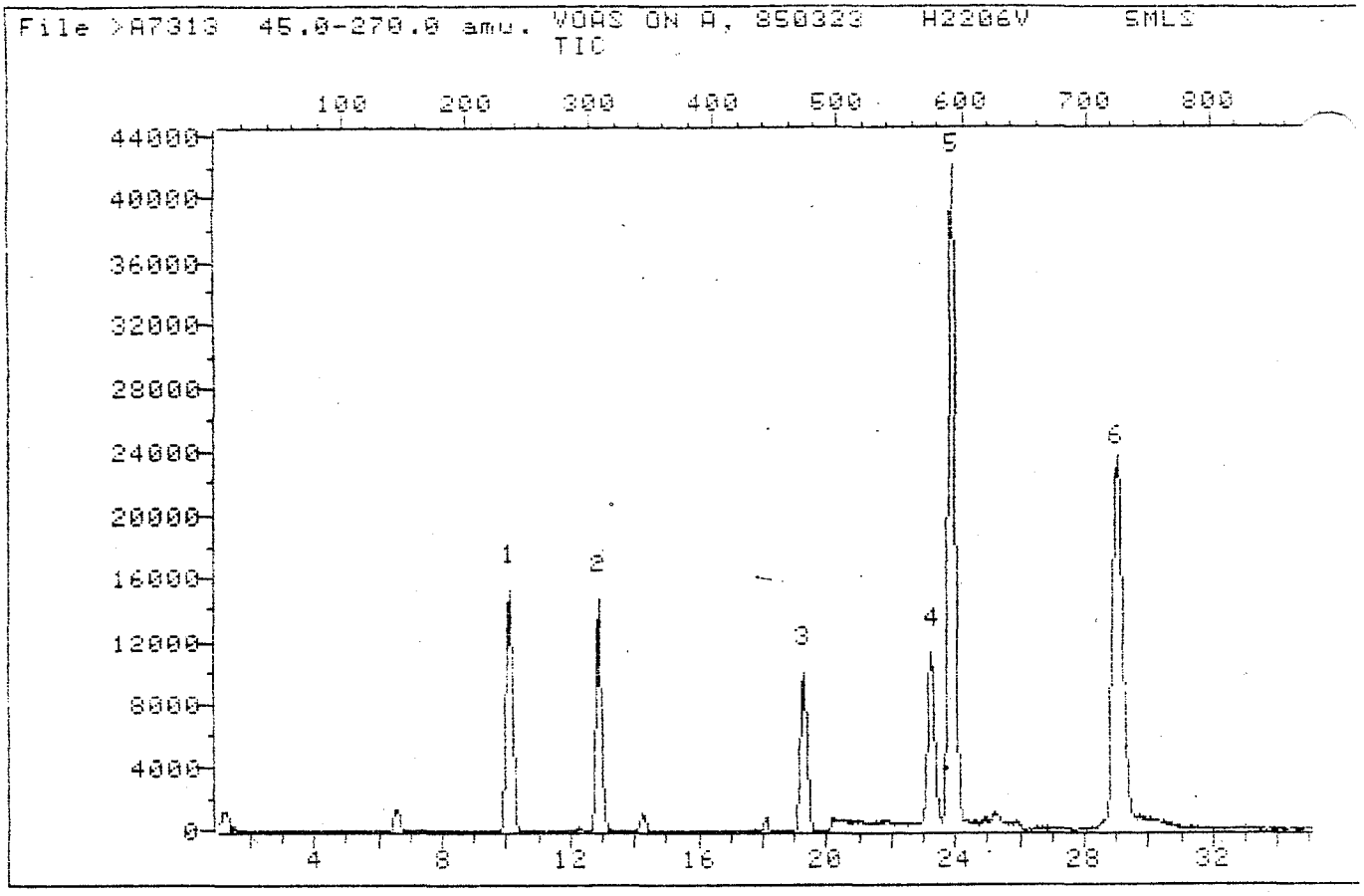
Appendix C

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.

300438

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

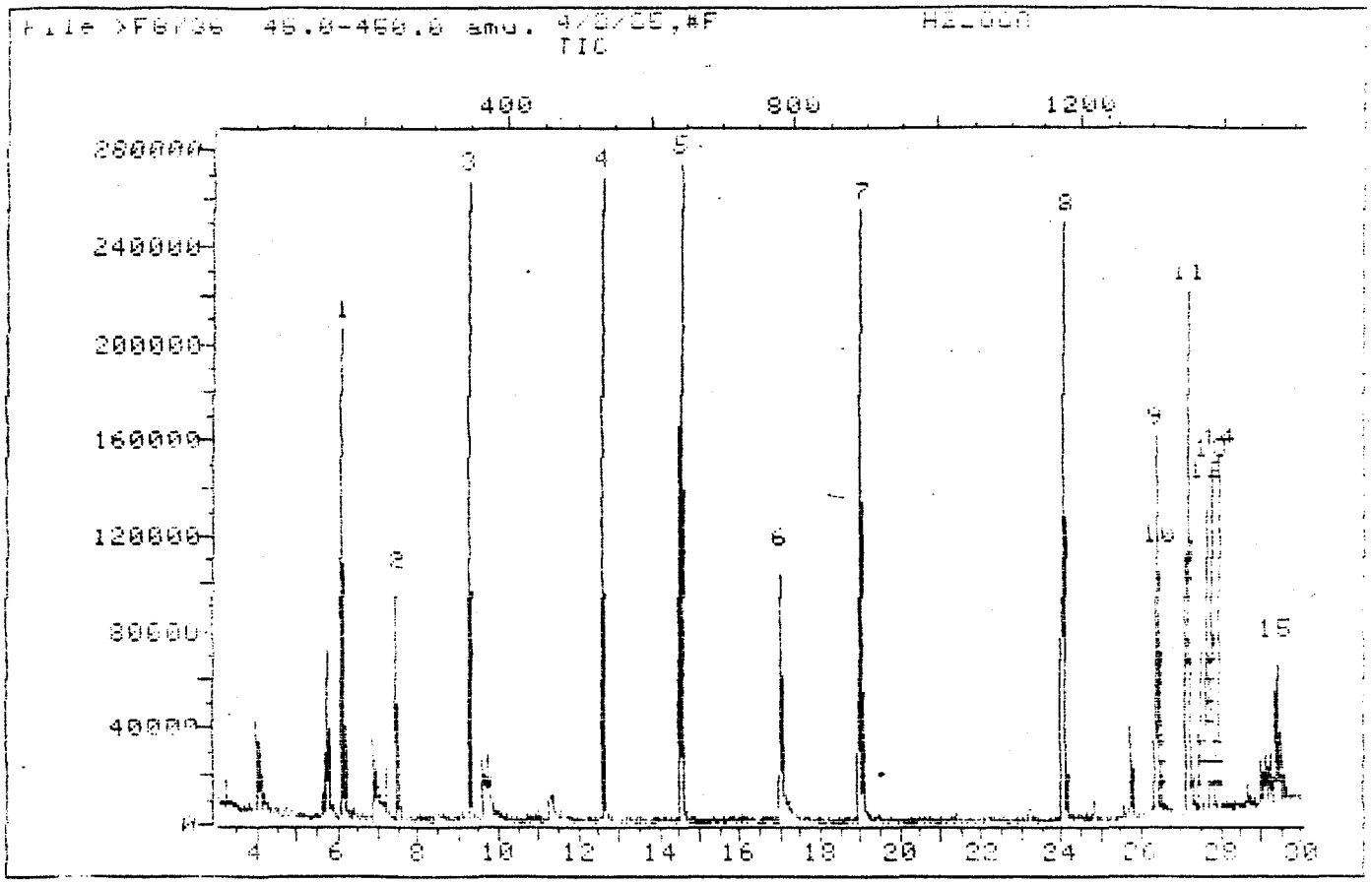


Data File: >A7313::U2
Name: VOAS ON A, 850323
Misc Data: H2206V SMLS

300439

300439

TOTAL ION CHROMATOGRAM for PLUF ANALYSIS



Data File: >F0736...UC
Name: 4/3/85,#F
Misc Data: M2206A

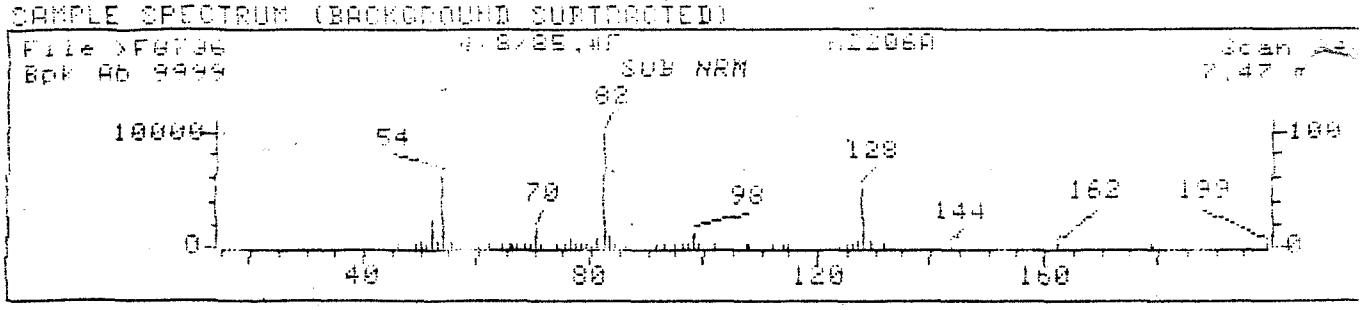
BTL#17

300440

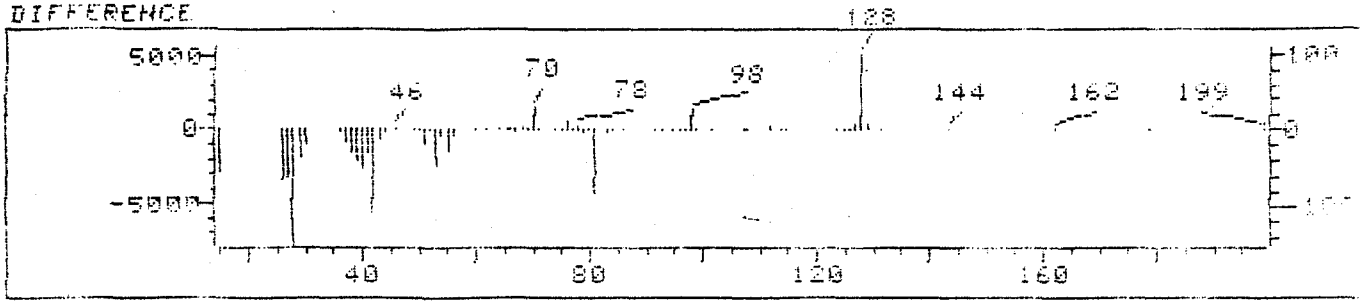
300440

051

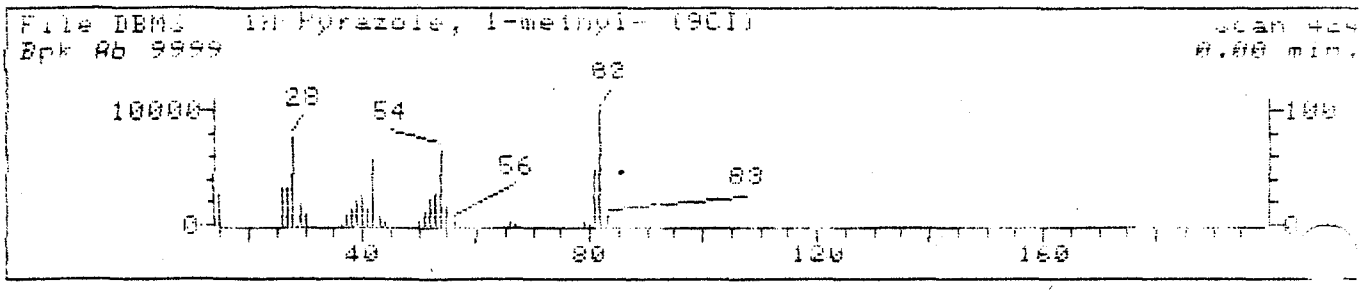
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8736..UG
Name: 4/8/85,#F
Misc Data: M2206A BTL#17
RT (min): 7.47
Scan: 240
Area: 253516
Semi-quantitative Conc: 21.61 UG/ML

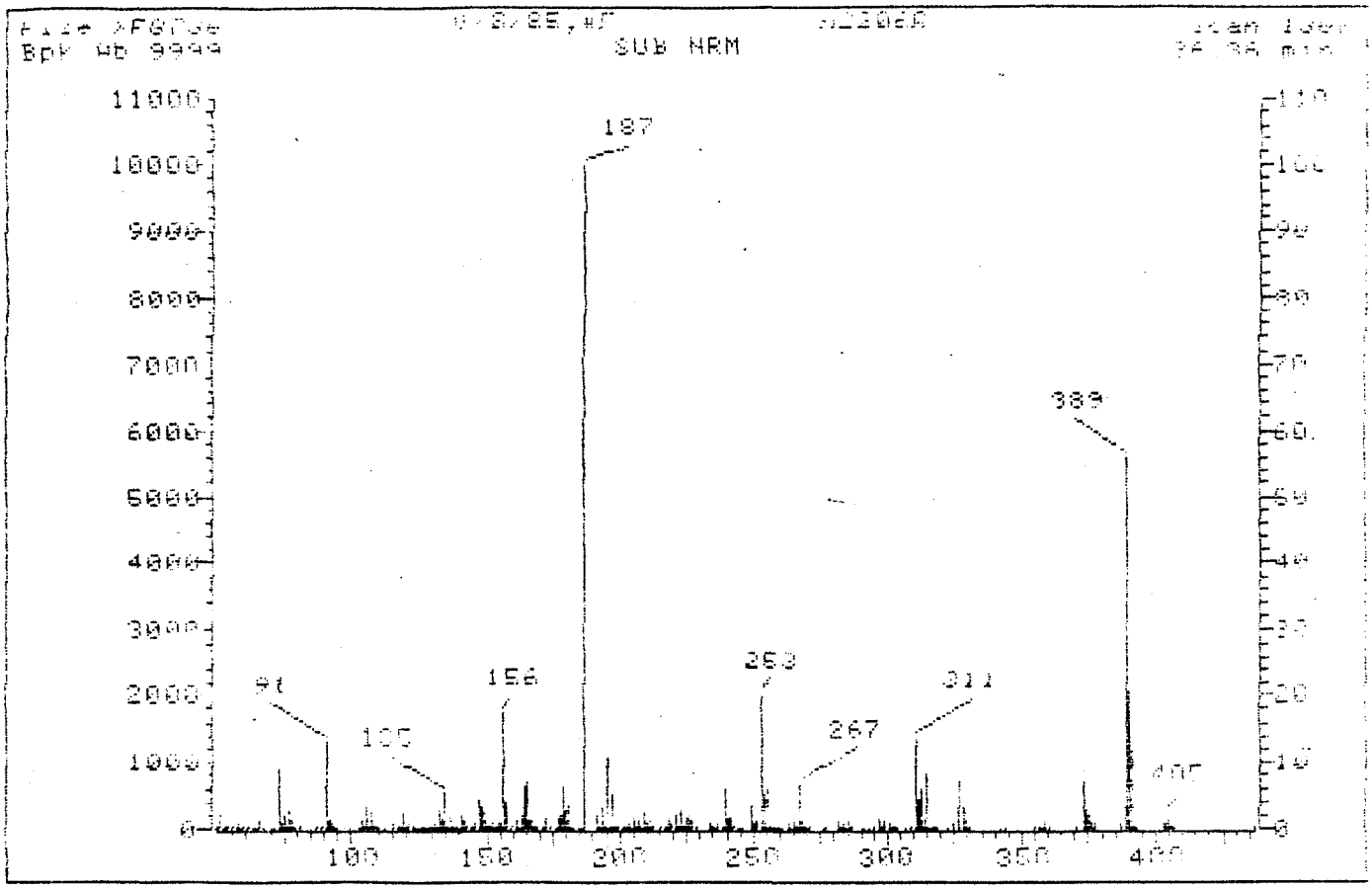
Data File: >F8736 Scan Number: 240
Search Speed: 2 Tilting option: S Number of ion ranges searched: 5

1.	1H-Pyrazole, 1-methyl- (9CI)	82 C4H6N2
2.	1H-Pyrazole, 4-methyl- (9CI)	82 C4H6N2
3.	1H-Imidazole, 4-methyl- (9CI)	82 C4H6N2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	31	930369	26	95	2	0
2.	29	7554656	30	61	2	0
3.	27	822366	21	75	2	0

300441

300441

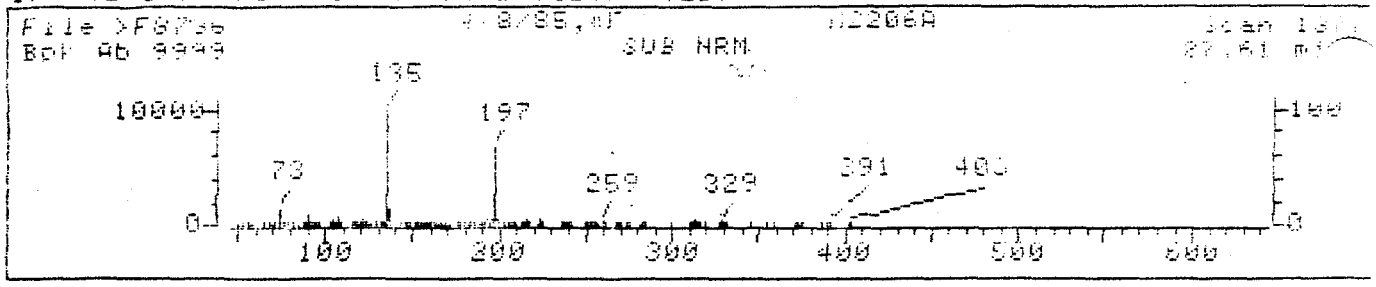


Data File:)F8736::UA
Name: 4/0'05,#F
Misc Data: H2206A
RT (min): 26.3[illegible]
Scan: 1307
Area: 40[illegible]
Semi-quantitative Conc. 34.53 UG/ML

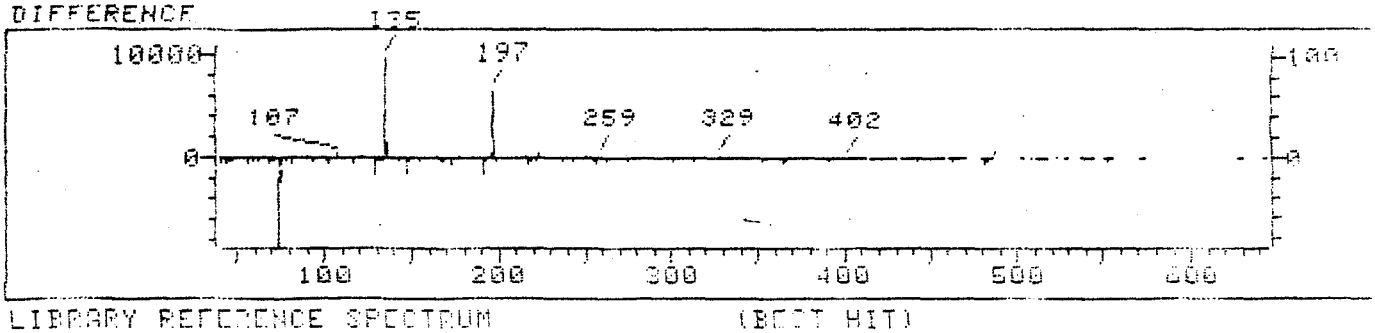
No PBM hits for this scan.

300442

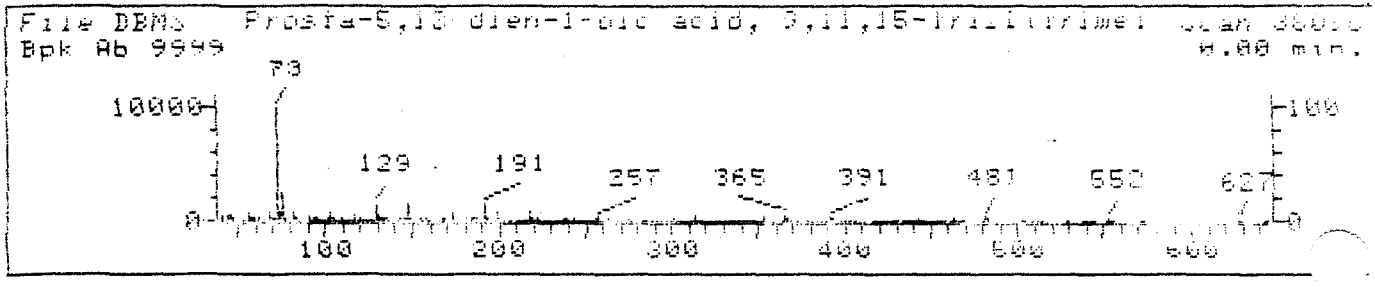
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F0736:U6
Name: 4/8/85,#F
Misc Data: H2206A PTL#17
RT (min): 27.61
Scan: 1377
Area 315272
Semi-quantitative Conc: 26.07 UG/ML

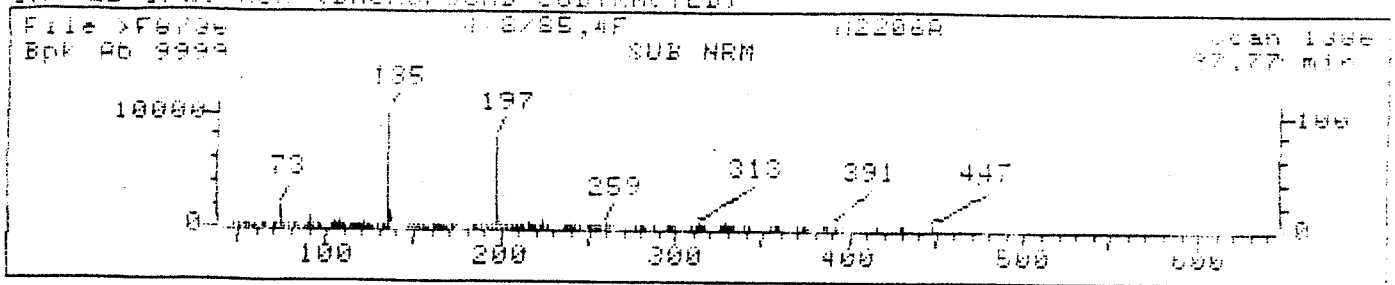
Data File: >F0736 Scan Number: 1377
Search Speed: 2 Titling option: 3 Number of ion ranges searched: 60

1.	Prosta-5,13-dien-1-oic acid, 9,11,15-tris[(trimethyl silyl)oxy]-, trimethylsilyl ester, (5Z,9.beta.,11.alpha.,13E,15S)- (9CI)	642	C32H66O5Si4
2.	Thieno[3,2-c]pyridine (8CI,9CI)	135	C7H5NS
3.	1H-Purin-6-amine (9CI)	135	C5H5N5

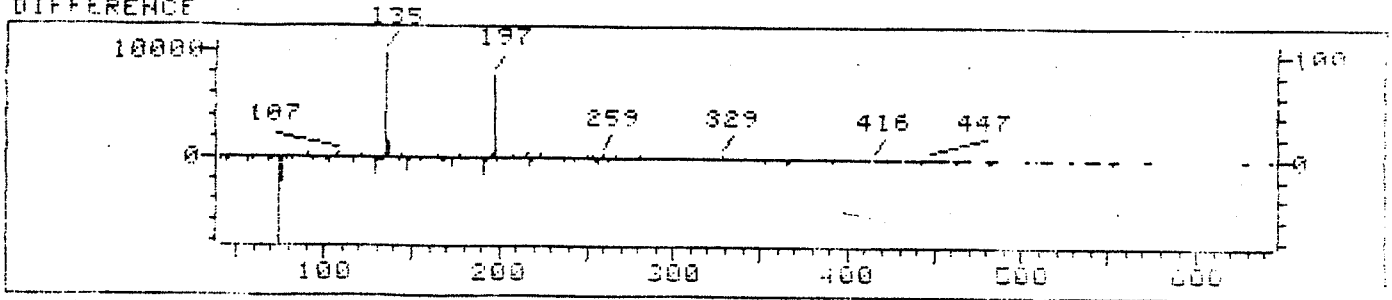
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	58	50662960	43	153	0	-2
2.	25	272140	26	73	3	0
3.	24	73345	22	81	3	0

300443

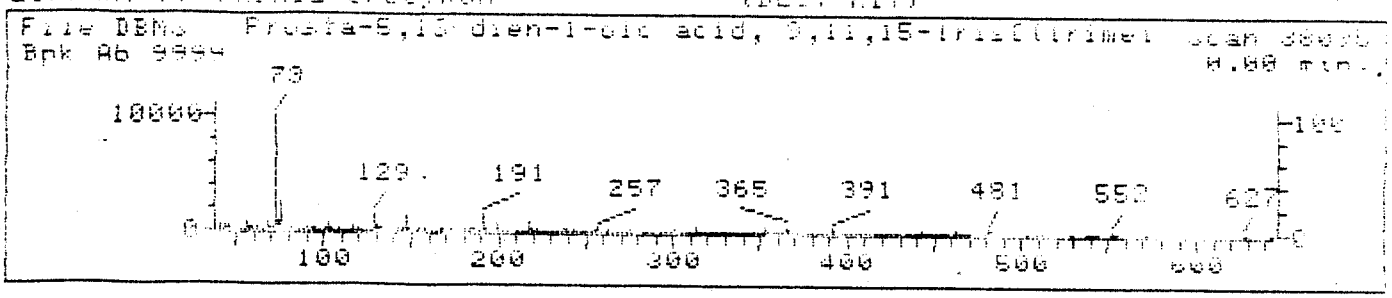
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File >F6736..06
Name: 4/8/85,#F
Misc Data: H2206A
RT (min): 27.77
Scan 1386
Area 344245
Semi-quantitative Conc: 29.31 UG/ML

PTL#17

Data File: >F6736 Scan Number: 1386
Search Speed: 2 Titling option 0 Number of ion ranges searched: 57

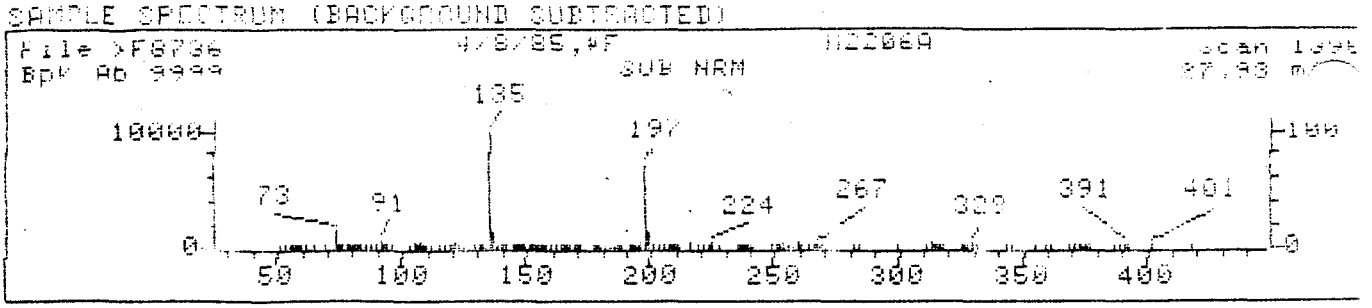
1. Prosta-5,13 dien-1-oic acid, 9,11,15-tris[(trimethyl -silyl)oxy]-, trimethylsilyl ester, (5Z,9.beta.,11.al pha.,13E,15S)- (9CI) 642 C32H66O3Si4
2. Benzene, (1-methoxy-1-methylethyl)- (9CI) 150 C10H14O
3. Thieno[3,2-c]pyridine (8CI9CI) 175 C7H5NS

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	24	5066[illegible]60	41	155	0	2
2.	08	[illegible]3671	27	77	3	0
3.	07	[illegible]3140	26	73	3	0

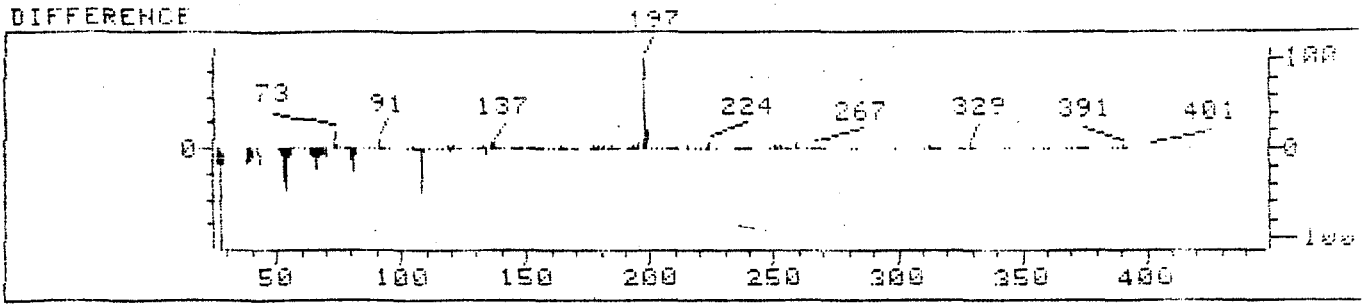
300444

300444

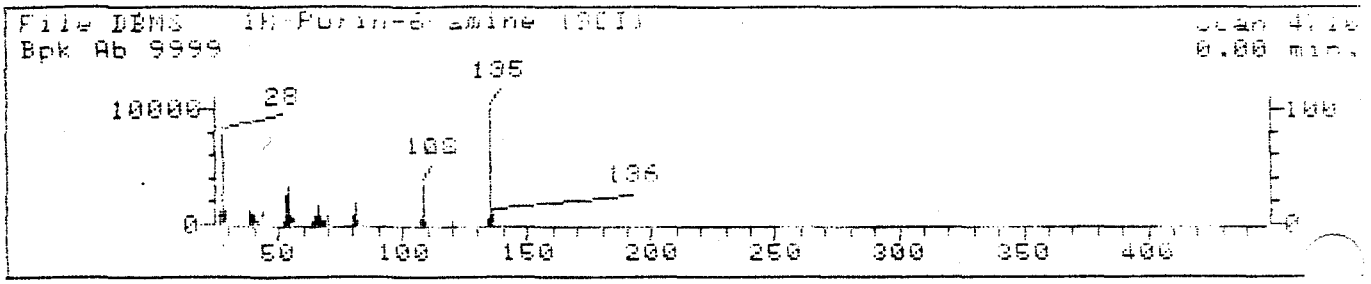
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8736...U6
Name: 4/8/85,#F
Misc Data: H2206A BTL#17
RT (min): 27.93
Scan: 1395
Area: 339877
Semi-quantitative Conc: 28.96 UG/ML

Data File: >F8736 Scan Number: 1395
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 6

1. 1H-Purin-6-amine (9CI) 135 C5H5N5

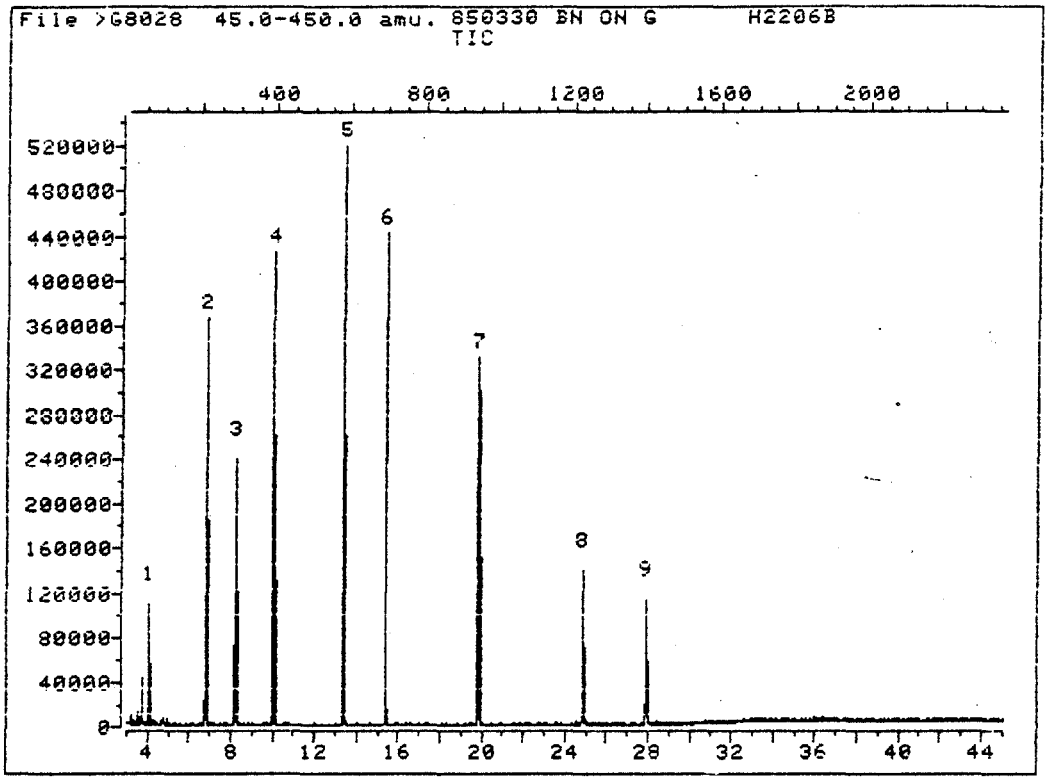
	Prob.	Conf	K	dK	#Flg	Tilt
1.	25	73245	22	81	3	0

300A

056

300445

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >G8028::U4
Name: 850330 BN ON G
Misc Data: H2206B

BTL#28

300446

057

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.

300447

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV.

ETC Job # 4121016

ID: L85253-B2

Submitted by: MW CHYUN

Date: 4/9/85

Facility: ____ (Facility Code) Sample Point: ____ – ____ (Source Code / Sample Point ID)

Date Sampled: ____ (Y Y M M D D) Time Sampled: ____ (H H : M M)

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			

300448

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.

300449

300449

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28505 ETC Job # H2206

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, N.J

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBIE SCHOOL (Facility/Site Code) Kitchen Sink Faucet (Optional Sample Point Descriptions)

Sample Point: X (Source Code from below) - ONG RESID (Your Sample Point ID left justify) 032185 (Start Date YY/MM/DD) 0957 (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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N	OK	
1	M	1L	HNO3	Metals	N	OK	
1	CN	500ml	NaOH	Cyanides	N	OK	
1	PN	1L	H2SO4	Phenols	N	OK	
2	V	40ml	Sod. Thio.	VOA	N	OK	
1	TB	40ml	SC/MS H2O	→ Trip blank	N	OK	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) S. BERGIALINI Date: 3/21/85 Time: 0956
   Signature: [signature] Seal #: CC-28505 Intact: Yes

2. I have received these materials in good condition from the above person. 300450
   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) Date: Time:
   Signature: Seal #: Intact:

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 800

Seal #: 28506 Condition: Intact

008

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # 4200

Sample Point [ ] Source Code [ ] Sample Point ID

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

Sampler Type [ ] 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.	umhos/cm at 25° C	[ ] (other parameter)	[ ] value		
2nd	[ ] ph	(STD)	2nd	[ ] spec. cond.	umhos/cm at 25°C	[ ] (other parameter)	[ ] value		
3rd	[ ] ph	(STD)	3rd	[ ] spec. cond.	umhos/cm at 25°C	[ ] (other parameter)	[ ] value		
4th	[ ] ph	(STD)	4th	[ ] spec. cond.	umhos/cm at 25°C	[ ] (other parameter)	[ ] value		

[ ] Sample Temp (°C) [ ] Turbidity NTU

FIELD COMMENTS

Sample Appearance: Potable Water / Municipal Supply

Weather Conditions: _____

Other: _____

300452

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

Sampler: _____ (Print) Employer: _____

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

3/21/85 _____ (Date) (Signature)

062

300451

MS ANALYSIS CUSTODY LOG

E 850323 SHIFT ___
CTION VOA
TRUMENT A
E FILE APEIO1
JENCE FILE TM
HOD FILE VOA
ILE AVOA
LYST(S) TMancuso

ERVISOR MDunlay
CH #'s QV3033

(PLEASE INITIAL)

CURRENT IS STATUS	STANDARDS UPDATED	
	DATE	
	BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	4609	1
ISTD	40	9,10	5
surr	25	9377	10
ABC	18	10,221	5

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	>A7303	1			A00106	0810hrs 3/23	
3033V	>A7304	5ml	1				Y
3033VS	>A7305		2			5ul ABC Something ABC (over 20)	
3033VS	>A7306		4			10	
3033VS	>A7307		5			30 Blew out Tube	
C3033VS	>A7308		3			5	
3033VS	>A7309		6			30	
3033VS	>A7310		1			5 1544 hrs	
2205VS	>A7311		1				
2206V	>A7312		2				Y
2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000 hrs 3/27	
C3033VS	>A7316					5ul ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220V	>A7322						
G9862V	>A7323					composite Keno 1:10	
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326						
H0887V	>A7327				043		

300452

GC-MS ANALYSIS CUSTODY LOG

DATE 850324 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE APEI01
SEQUENCE FILE JOA
METHOD FILE VOAA
IDFILE AVOA
ANALYST(S) Paul Bue
SUPERVISOR Christine Ann Roth
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
ESTD	40	9140	5
SURR	25	8977	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PI Y.
H0888V	>A7328	5			A-106		
G9862V	>A7329	1		1:10		Composite	

300453 TSR 8-84

EXTRACTION LOG

Sample Number	Log Number	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
0303	8670	990	1.0	1.0	
0304	↓	990	1.0	1.0	
0305	↓	1000	1.0	1.0	
9861	8655	1000	1.0	1.0	
1810	8653	1000	1.0	1.0	
1811	↓	1000	1.0	1.0	
1812	↓	1000	1.0	1.0	
5222	8656	1000	1.0	1.0	
5223	↓	1000	1.0	1.0	
5224	↓	960	1.0	1.0	
5225	↓	1000	1.0	1.0	
9862	8661	1000	1.0	1.0	
2272	8679	1000	1.0	1.0	
2120	8665	970	1.0	1.0	
2205	8683	1000	1.0	1.0	
2206	↓	1000	1.0	1.0	
QC 2853		1000	1.0	1.0	
QC 2853 S		1000	1.0	1.0	
~~H0303~~ OA S		1000	1.0	1.0	
~~H0303~~ OA R		1000	1.0	1.0	

QC Batch # 2853

Analysis: *

Matrix: H_2O

Turnaround: Norm.

Date: 3/28/85

Extraction Method:

- sep funnel ✓
- continuous
- soxhlet
- other

COMMENTS FOR EXTRACT.:

* PP/org/Pst/PCB:
H0303, -05, G9861, 62

PP/T: H1810-12
G5222-25, H2205, 06

PP/org/pst: H2272
H2120

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

300454

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Aroclor 1260	1.0	100 ug/ml	9713
Semi-Vol			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml ACID: 100 ug/ml	10,195

Set-up: ~~Dennis Lee~~ 3/28/85 Laura Ann IPD/Supervisor: Karen Albertin 3/28/85

Conc.: ~~Dennis Lee~~ 3/26/85 " " Spike/Surr. verified: S McAuliffe 3/27/85

EXTRACTION LOG

QC Batch # 2879

Analysis: ~~A~~

Matrix: H_2O

Turnaround: NORM.

Date: 4/8/85

Extraction Method:
- Sep funnel ✓
- cont. nuevs
- soxhlet
- other

BG 4/4/85

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
G5232	8700	770	✓	1.0	
H0293	8670	—	✓	—	SAMPLE DEPLETED
H0303	↓	980	✓	1.0	
G5222	8656	620	✓	1.0	
G5225	↓	690	✓	1.0	
H2205	8683	740	✓	1.0	
H2206	↓	740	✓	1.0	
G9732	8604	990	✓	1.0	
~~H2064~~	~~8626~~		✓		
G5282	8700	940	1.0	1.0	
H1851	8703	790	1.0	2.0	
~~H~~1276	8709	1000	1.0	1.0	
H1489	8699	970	1.0	1.0	
H1490	↓	970	1.0	1.0	
G9864	8711	820	1.0	1.0	
H0700	↓	980	1.0	1.0	
G9865	8738	840	1.0	1.0	
QC 2879		1000	1.0	1.0	
QC 2879 S		1000	1.0	1.0	
G5282 S		950	1.0	1.0	
~~H1851~~ 1276 R		1000	1.0	1.0	

DA

COMMENTS FOR EXTRACT.:

* PP/Acid (Repeats):
G5232, H0293, H0303
G5222, 25, H2205, 0
G9732, ~~H2064~~

PP/T: G5282, H1851

PP/org/pst/PCB: H1276
H1489, 90, G9864, H0700
G9865

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

300455

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9709
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10,19
	ACID: 100 ug/ml	

Set-up: Dan Watson 4/8/85 UPD/Supervisor: Karen Allerton 4/8/85

BN Conc.: [illegible] 4/8/85 spike/surr. verified: [illegible] 4/9/85

ACID Conc.: [illegible] 4/8/85

P4008

300456

-MS ANALYSIS CUSTODY LOG

ITE 4/8/85 SHIFT day 1/2
ACTION ACID
ISTRUMENT F
INE FILE NTF001
QUENCE FILE WGSCF
THOD FILE ACIDF
FILE FACID
ALYST(S) Wen-Wen Chi
PERVISOR Dick Allen
ITCH #'s 002879

STANDARD	CONC PPM	LOT NO.	LOT VOL

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
Q		DATE	4/8/85
P		BY	WC

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DNG DFTPP	>F8715	2			I00168		
Calib III	>F8716						
" II	>F8717						
" I	>F8718						
DNG DFTPP	>F8719						
QC287AS	>F8720		1				
H1156AS	>F8721		2				Y
QC2872A	>F8722		3				
H1156A	>F8723		4				
H1157A	>F8724		5				
H1158A	>F8725		6				
H1159A	>F8726		7				↓
H1159AR	>F8727		8				
G5282AS	>F8728		9				
QC2879AS	>F8729		10				
QC2879A	>F8730		11				Y
G5282A	>F8731		12				+
H0303A	>F8732		13				
G5222A	>F8733		14				+
G5225A	>F8734		15				+
H2205A	>F8735		16				Y
H2206A	>F8736		17				Y
G9732A	>F8737		18		↓		
50 NG DFTPP	>F8738		19				
Calib III	>F8739		20				

TSR 8-84

300457

GC-MS ANALYSIS CUSTODY LOG

Page 1 of 2

DATE 41885 SHIFT 1
FRACTION Acid
INSTRUMENT F
TUNE FILE HTF001
SEQUENCE FILE
METHOD FILE
IOFILE
ANALYST(S) Wen-Wen Chi
SUPERVISOR Keith Albert
BATCH #'s 882899

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
G5x32A	>F8760		x1		L00168	
H185A	>F8741		x2			
H1276A	>F8742		x3			
H1489A	>F8743		x4			
H1490A	>F8744		x5			
G9864A	>F8745		x6			
H0700A	>F8746		x7			
G9865A	>F8747		28			
H1276AR	>F8749		29			
					058	

TSR 8-84

300458

GC-MS ANALYSIS CUSTODY LOG

DATE 850329 SHIFT ___
FRACTION B/N
INSTRUMENT G
TUNE FILE MTG001
SEQUENCE FILE JMG
METHOD FILE BNPG
IDFILE GBNP
ANALYST(S) Martin
SUPERVISOR Charles Anderson
BATCH #'s 082853

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ	JM	DATE	3/29/85
WIP		BY	JMm

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9534	2 ml
B/N CALIB I	60	10192	1 ml
B/N CALIB II	100	10193	1 ml
B/N CALIB III	200	9964	1 ml
B/N CALIB IV	150	10194	1 ml
ISTD	400	9653	100 ml

Page 1 of 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DFTPP	G7999	2ul			C00140		
DFTPP	G8000	2ul				3/29 0915hr.	
CalibIII	G8001	1ul	1				
CALIB II	G8002		2				
CALIB I	G8003		3				
CALIB IV	G8004		4				
GC2853B	G8005		5			PLUS 15	Y
GC2853BS	G8006		6				
G9862B	G8007		7				
DFTPP	G8008	2ul	8			NO GOOD	
B/N CHK STD II	G8009	1ul	9				
9862BS	G8010		10				
9861B	G8011		11				
9861BR	G8012		12				
H0303B	G8013		13				
H0304BR	G8014		14				
H0305B	G8015		15				
H1810B	G8016		16				
H1811B	G8017		17				
H1812B	G8018		18				
G5222B	G8019		19			SRCHms +40	
G5223B	G8020		20				
G5224B	G8021		21				
DFTPP	G8022	2ul	22				
B/N CALIB STD II	G8023	1ul	23				

300459

GC-MS ANALYSIS CUSTODY LOG

DATE _____ SHIFT ___
FRACTION _____
INSTRUMENT _____
TUNE FILE _____
SEQUENCE FILE KEBG
METHOD FILE _____
IDFILE _____
ANALYST(S) Mark
KSB
SUPERVISOR
BATCH #'s 2853

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	

Page 2 of 2

NAME	DATA FILE >	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
G5225B	G8024	1ul	24			
H2272B	G8025		25			
H2120B	G8026		26			
H2205B	G8027		27			BN+IS
H2206B	G8028	↓	28			↓
DFTPP	G8029					Ok
DFTPP	G8030					NG
BN CAL II	68031		9			
G9862BS	68032		10			
G9861B	68033		11			
G9861BR	68034		12			
H0303B	G8035		13			
H0304B	G8036		14			
H0305B	G8037		15			
H1810B	G8038		16			
H1811B	G8039		17			
H1812B	G8040		18			
G5222B	G8041		19			DRCHBN+IS
G5223B	G8042		20			
G5824B	G8043		21			
DFTPP	G8044		22			
BN CAL II	G8045		23			go to Top of Page

ETC / CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mun Jaeho

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H22
H221

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

3004E Verified By: _____ 300460

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	Time/Date	Time/Date

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas Gilfield	4/8/85
AA/ICAP Prep	Maria Ann McClean	4/8/85

Lab Supervisor Lidya Wikiarow date 4/12/85

300461

300461

8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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

X-029

Sample(s) Relinquished by: M. Jaudon

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 315

300462

073

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2207	NJ DEP	NJDCOMBES0	WHEMMINGS	850321	1055	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*	*Time*	*Elapsed Hours*

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

300463

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Based on October, 1984 version of
ETC Standard Operating Procedures

NJDEP Contract 029

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Flame AA or ICP

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Barium	IM-1-003
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- Haloethers
- Nitroaromatic and Cyclic Ketones
- Organochlorine Pesticides
- Polychlorinated Biphenyls
- Phthalate Esters
- Polynuclear Aromatic Hydrocarbons
- Nitrosamines
- Phenols

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300466

300466

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 27, 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
H2207	NJ DEP	NJDCOMBES0	WHEMMINGS	850321	1055	

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	ND	ND	ND	800	120	ND	800	98
2V	Acrylonitrile	ND	100	ND	ND	ND	80	83	ND	80	73
3V	Benzene	ND	4.40	ND	ND	ND	18	110	ND	18	93
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	75
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	105	ND	18	76
7V	Chlorobenzene	ND	6	3	6	ND	18	108	ND	18	81
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	108	ND	18	80
9V	Chloroethane	ND	10	ND	ND	ND	18	121	ND	18	75
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	116	ND	18	64
11V	Chloroform	ND	1.60	ND	ND	ND	18	113	ND	18	85
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	110	ND	18	81
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	91	ND	20	90
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	109	ND	18	84
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	116	ND	18	88
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	102	16	18	75
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	110	ND	18	83
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	100	ND	18	64
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	108	ND	18	82
20V	Methyl bromide	ND	10	ND	ND	ND	18	82	ND	18	38
21V	Methyl chloride	ND	10	ND	ND	ND	18	120	ND	18	86
22V	Methylene chloride	ND	2.80	1	6	ND	18	129	ND	18	80
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	120	ND	18	93
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	101	ND	18	77
25V	Toluene	ND	6	ND	ND	ND	18	109	ND	18	81
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	103	209	18	63B
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	96	ND	18	90
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	113	ND	18	98
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	102	652	18	78B
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	107	ND	18	84
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	84
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	107	ND	18	56

A EPA published Method Detection Limit.

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

004

3004967

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2207	NJ DEP	NJDCOMBES0	WHEMMINGS	850321	1055	

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	3.30	ND	ND	ND	100	104	ND	100	97
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	108	ND	100	72
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	103	ND	100	97
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	105	ND	100	105
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	87	ND	100	77
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	102	ND	100	100
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	62	ND	100	62
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	106	ND	100	106
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	108	ND	100	103
10A	Phenol	ND	1.50	ND	ND	ND	100	59	ND	100	52
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	100	ND	100	104

a EPA published Method Detection Limit.

005

300468

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2207	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1055	

NPDES Number	Compound	Results: Sample Concen, ug/l	Results: MDL ug/l	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
1B	Acenaphthene	ND	1.90	ND	ND	ND	100	79	ND	100	78
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	80	ND	100	76
3B	Anthracene	ND	1.90	ND	ND	ND	100	82	ND	100	78
4B	Benzidine	ND	44	ND	ND	ND	100	3[8]	ND	100	8[8]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	90	ND	100	87
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	92	ND	100	86
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	95	ND	100	82
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	87	ND	100	90
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	98	ND	100	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	83	ND	100	81
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	87	ND	100	93
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	73	ND	100	71
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	105	ND	100	106
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	33	ND	100	35
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	77	ND	100	76
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	100	89
18B	Chrysene	ND	2.50	ND	ND	ND	100	90	ND	100	90
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	74	ND	100	69
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	64
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	71	ND	100	64
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	58	ND	100	51
24B	Diethyl phthalate	ND	10	ND	ND	ND	100	14[8]	ND	100	10[8]
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	0[8]	ND	100	0[8]
26B	Di-n-butyl phthalate	ND	10	ND	ND	BMDL	100	50	ND	100	45
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	104	ND	100	88
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	94	ND	100	91
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	71	ND	100	62
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	86	ND	100	75
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	94	ND	100	85
32B	Fluorene	ND	1.90	ND	ND	ND	100	83	ND	100	75

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2207	NJ DEP	NJDCOMBES0	WHEMMINGS	850321	1055	

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	1.90	ND	ND	ND	100	117	ND	100	124
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	83	ND	100	82
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	79	ND	100	74
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	94	ND	100	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	97	ND	100	92
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	89	ND	100	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	100	ND	100	97
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	93	ND	100	82
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	86	ND	100	82
45B	Pyrene	ND	1.90	ND	ND	ND	100	96	ND	100	86
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	165[c]	ND	100	179[c]

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C Recovery normally variable using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

300471

MAR 29, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

800

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2207	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1055	

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	76	ND	100	76
2P	Alpha-BHC	ND	10	ND	ND	ND	100	20	ND	100	19
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	56	ND	100	59
4P	Gamma-BHC	ND	10	ND	ND	ND	100	23	ND	100	21
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	3	ND	100	3
6P	Chlordane	ND	10	ND	ND	ND	200	27	ND	200	35
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	71	ND	100	76
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	71	ND	100	85
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	71	ND	100	76
10P	Dieldrin	ND	2.50	ND	ND	ND	100	57	ND	100	68
11P	Endosulfan I	ND	10	ND	ND	ND	100	8	ND	100	14
12P	Endosulfan II	ND	10	ND	ND	ND	100	6	ND	100	11
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	53	ND	100	59
14P	Endrin	ND	10	ND	ND	ND	100	64	ND	100	70
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	10	ND	100	17
16P	Heptachlor	ND	1.90	ND	ND	ND	100	70	ND	100	69
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	68	ND	100	89
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	78	ND	100	55
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols - Analysis Data (QR05)

600 3004?

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2207	NJ DEP	NJDCOMBESO	WHEMMINGS		850321	1055
ETC Sample No.	Company	Facility	Sample Point		Date	Time	Elapsed Hours

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l
1M	Antimony	ND	60
2M	Arsenic	ND	10
3M	Beryllium	ND	1
4M	Cadmium	ND	3
5M	Chromium	ND	10
[redacted]		[redacted]	4
7M	Lead	ND	40
8M	Mercury	ND	.30
[redacted]		[redacted]	7
10M	Selenium	ND	5
11M	Silver	ND	8
12M	Thallium	ND	5
[redacted]		[redacted]	3
14M	Cyanide, Total	<25	25
15M	Phenolics, Total	<10	10

300472

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

1400

010

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2207	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1055	

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

300473

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2207	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1055	

	Compound Name	Data: Scan Number	Data: Retention Time (Min)	Data: M.W.	Identifiers: CAS Number	Identifiers: Empirical Formula	Estimated Concen. ug/l		
1	Unknown	55	4.05	-	-	-	6		

300474

011

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2207	NJ DEP	NJDCOMBES0	WHEMMINGS	850321	1055	

	Compound Name	Data: Scan Number	Data: Retention Time (Min)	Data: M.W.	Identifiers: CAS Number	Identifiers: Empirical Formula	Estimated Concen. ug/L		
1	Unknown	106	4.66	-		-	10		

300475

300475

Relative Percent Difference (RPD) for VOA

H2207 NJ DEP — Job Number / Account Name
NJDCOMBESO WHEMMINGS — Facility Source
850321 1055 — Date Time

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	3	6	67
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	1	6	143
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

300477

Relative Percent Difference (RPD) for ACID

H2207 NJ DEP — Job Number / Account Name
NJDCOMBESO WHEMMINGS — Facility / Source
850321 1055 — Date / Time

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

014

300477

Relative Percent Difference (RPD) for B/N

H2207 NJ DEP — Job Number / Account Name
NJDCOMBESO WHEMMINGS — Facility Source
850321 1055 — Date Time

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
H2207	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1055

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

March 28, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2207

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	90	86	119
Bromofluorobenzene	.250	86	85	121
1,2-Dichloroethane-D4	.250	82	77	120
ACID FRACTION				
Phenol-D5	100	46	15	103
2-Fluorophenol	100	68	23	121
2,4,6-Tribromophenol	100	100	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	57	41	120
2-Fluorobiphenyl	50	61	44	119
Terphenyl-D14	50	68	33	128

* IFB EPA Control Limits

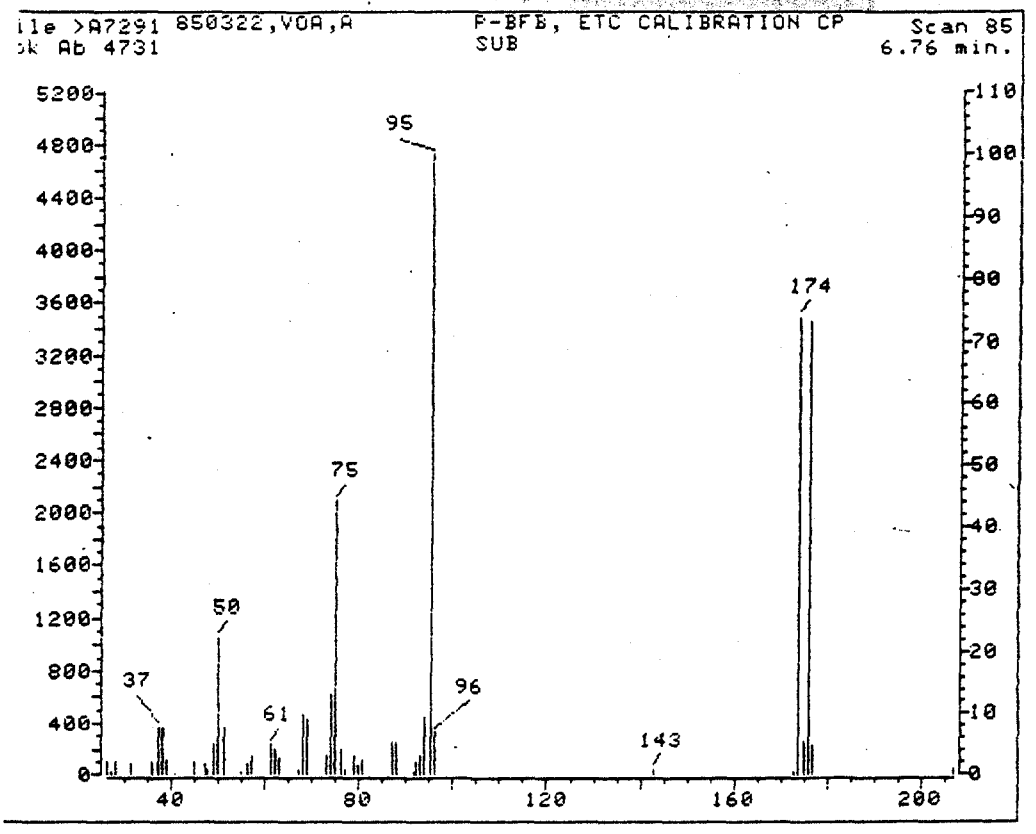


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.26	22.26	Ok
75	30-60% of mass 95	44.35	44.35	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.00	7.00	Ok
173	Less then 1% of mass 95	.55	.55	Ok
174	Greater then 50% of mass 95	73.98	73.98	Ok
175	5-9% of mass 174	5.33	7.20	Ok
176	95-101% of mass 174	73.13	98.86	Ok
177	5-9% of mass 176	4.92	6.73	Ok

Injection Date: 03/22/85
Injection Time: 18:31
Run No: >A7291
Spectrun No: 85

Analyst: Thomas P. Mowrer
Processor: ~~Wayne Dunn~~ QV3026 W.W.C
QC Batch: ~~QV3026~~ QV3026
Samples: H2207-H2212, H2139, H2140, H0297, H0298

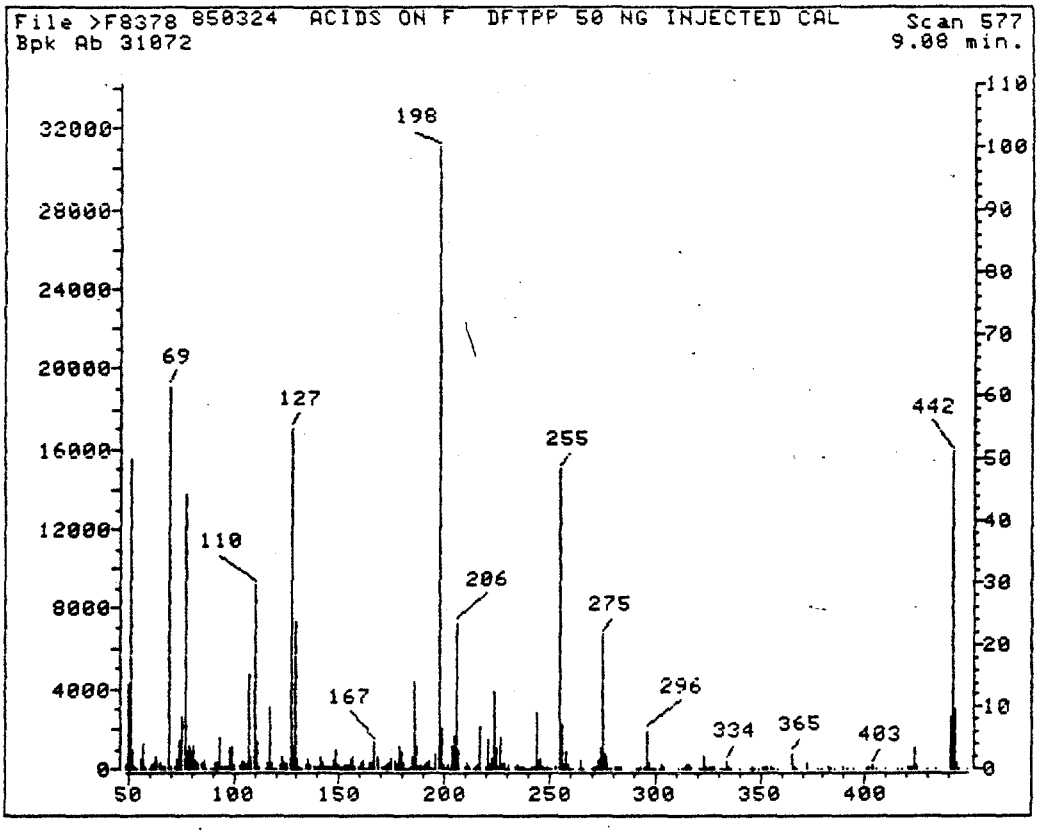


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	49.99	49.99	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less then 2% of mass 69	.44	.72	Ok
127	40-60% of mass 198	54.81	54.81	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	6.62	6.62	Ok
275	10-30% of mass 198	21.41	21.41	Ok
365	Greater then 1% of mass 198	2.45	2.45	Ok
441	Less then mass 443	8.47	85.21	Ok
442	Greater then 40% of mass 198	50.97	50.97	Ok
443	17-23% of mass 442	9.94	19.51	Ok

Injection Date: 03/24/85 Analyst: K.E. Bonanta
Injection Time: 23:17 Processor: Mita Mukherji
Run No: >F8378 QC Batch: QA 2834
Spectrun No: 577 Samples: G3877, H2207-H2212, G997C 68833

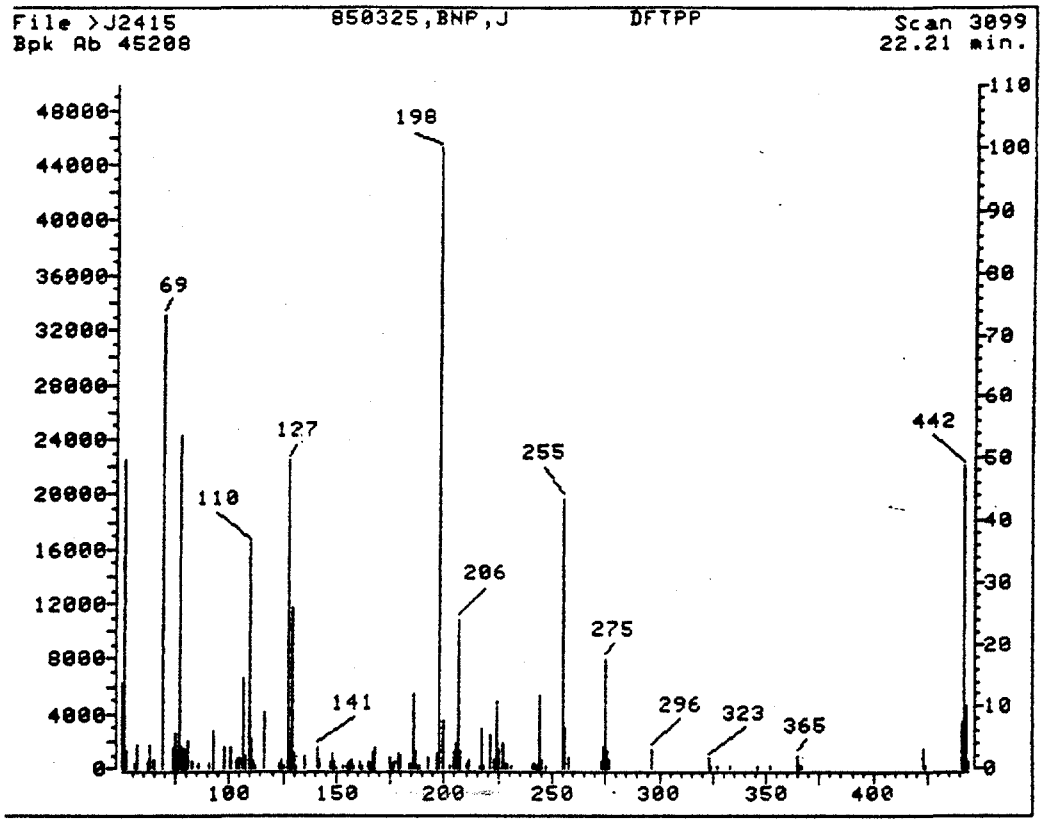


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.57	49.57	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	73.28	73.28	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.67	49.67	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	7.82	7.82	Ok
275	10-30% of mass 198	17.57	17.57	Ok
365	Greater then 1% of mass 198	2.21	2.21	Ok
441	Less then mass 443	7.49	73.87	Ok
442	Greater then 40% of mass 198	48.68	48.68	Ok
443	17-23% of mass 442	10.13	20.82	Ok

Injection Date: 03/26/85
Injection Time: 15:03
Run No: >J2415
Spectrun No: 3099

Analyst: Tom Lesowicz
Processor: Mike Mustello
QC Batch: DB2834
Samples: H2207-H2212, G9144, G9146-G9148, G9150, G9153, G9970

300484

021

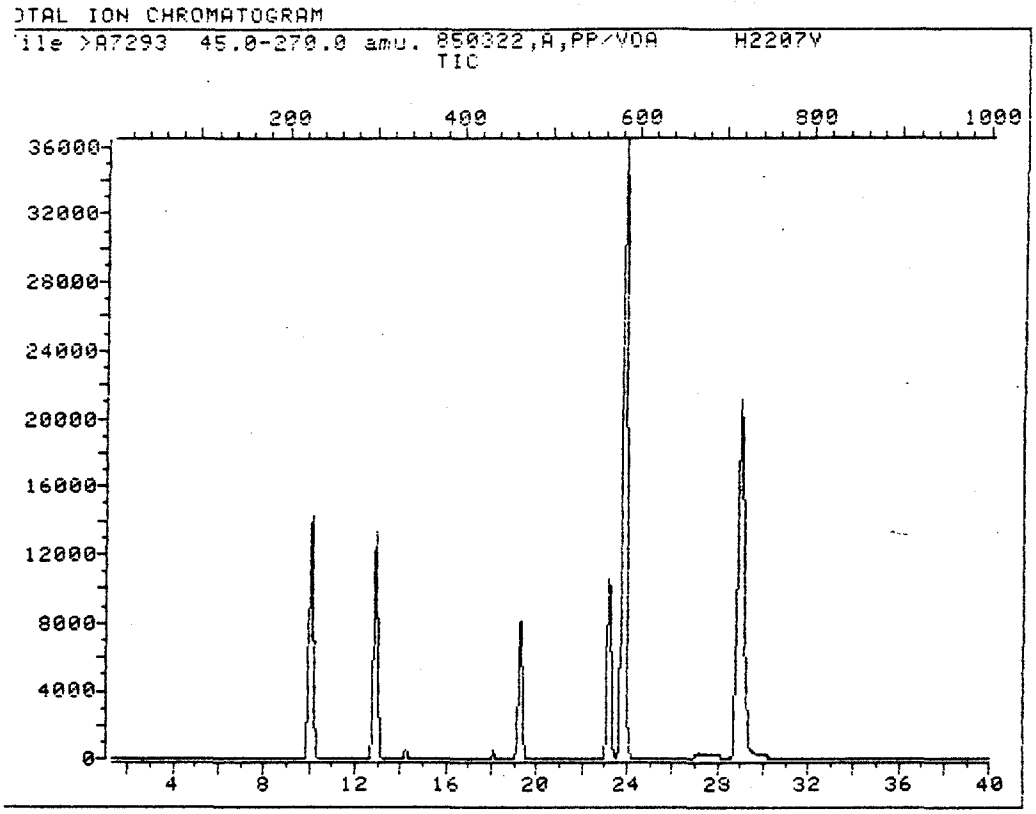
Appendix A

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.

300485



Data File: >A7293::U2
Name: 850322,A,PP/VOA
Misc: H2207V

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: TM0576
Quant Time: 850323 07:30

300486

QUANT REPORT

Operator ID: TM0576

Quant Rev: 3 Quant Time: 850323 07:30
Injected at: 850322 20:51
Dilution Factor: 1.00

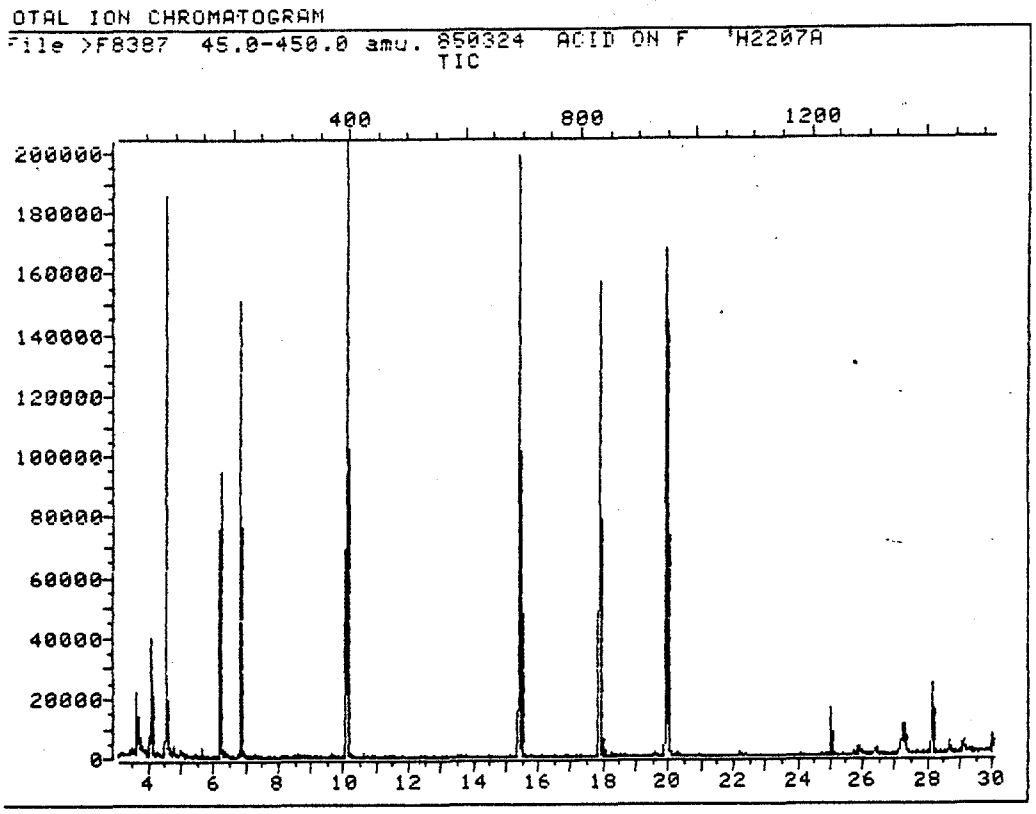
Data File: >A7293::U2
Name: 850322,A,PP/VOA
Misc: H2207V

ID File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.29	468	56361	200.00	NG
29)	1,1,1-Trichloroethane	14.24	337	2400	~~10.03~~	~~NG~~
34)	1,2-Dichloroethane-D4	12.89	302	33451	205.19	NG
35)	Toluene-D8	23.85	586	206144	224.97	NG
36)	p-Bromofluorobenzene	28.98	719	74997	216.26	NG
37)	*1,4-Dichlorobutane	23.19	569	68705	200.00	NG

* Compound is ISTD

300487



Data File: >F8387::U6
Name: 850324 ACID ON F
Misc: H2207A

BTL# 8

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

Operator ID: KB5414
Quant Time: 850325 08:39

300488

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:39
Injected at: 850325 05:18
Data File: >F8387::U6 Dilution Factor: 1.00
Name: 850324 ACID ON F
Misc: H2207A BTL# 8

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

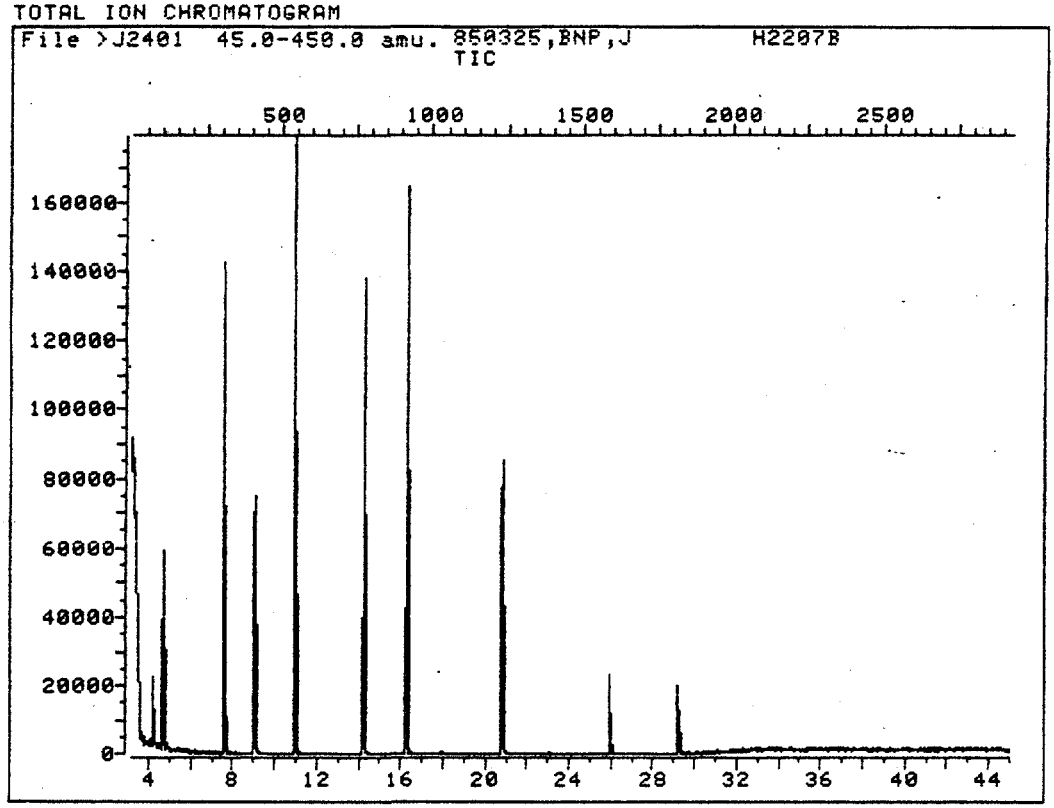
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.80	210	107178	40.00	UG/ML
3)	2-Fluorophenol	4.49	80	115454	67.98	UG/ML
5)	Phenol-D5	6.18	175	84221	46.31	UG/ML
5)	Phenol-D5	6.39	187	326	.18	~~UG/ML~~
5)	Phenol-D5	6.80	210	701	.39	~~UG/ML~~
6)	*d8-Naphthalene	10.08	394	224312	40.00	UG/ML
11)	*d10-Acenaphthalene	15.39	693	121169	40.00	UG/ML
16)	*d10-Phenanthrene	19.92	948	207189	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.86	832	48711	99.79	UG/ML

* Compound is ISTD

300489

300489

TOTAL ION CHROMATOGRAM



Data File: >J2401::U2
Name: 850325,BNP,J
Misc: H2207B

BTL# 8

Id File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

Operator ID: TR9113
Quant Time: 850326 22:01

300490

300490

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 22:01
Injected at: 850326 21:13
Data File: >J2401::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: H2207B BTL# 8

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

J086 AD

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	64247	40.00	UG/ML
2)	N-Nitrosodimethylamine	3.33	13	1373	~~2.40~~	~~UG/ML~~
8)	Nitrobenzene-d5	8.97	407	78757	28.56	UG/ML
10)	*d8-Naphthalene	10.85	539	234672	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	122735	30.26	UG/ML
20)	*d10-Acenaphthalene	16.19	912	112112	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	19769	~~4.06~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.77	1233	115345	40.00	UG/ML
48)	Di-n-butyl phthalate	23.02	1390	1918	~~.47~~ .79	UG/ML
58)	*d12-Chrysene	29.16	1820	29851	40.00	UG/ML
70)	Terphenyl-D14	25.93	1594	32931	34.13	UG/ML

* Compound is ISTD

300491

028

300491

Appendix B

GC/MS Calibration Data

300492

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00759	2.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.01130	21.52	Average	(Conc=400.00)
Benzene	2.26343	2.36695	4.57	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.40933	3.91	Average	
Carbon tetrachloride	.70237	.66949	4.68	Average	
Chlorobenzene	1.52935	1.57670	3.10	Average	
Chlorodibromomethane	.69374	.70172	1.15	Average	
Chloroethane	.13254	.14557	9.83	Average	
2-Chloroethylvinyl ether	.29315	.31732	8.25	Average	
Chloroform	1.49245	1.60717	7.69	Average	
Dichlorobromomethane	1.00980	1.05578	4.55	Average	
Dichlorodifluoromethane	.16533	.15146	8.39	Average	
1,1-Dichloroethane	.97647	1.00277	2.69	Average	
1,2-Dichloroethane	.85557	.94816	10.82	Average	
1,1-Dichloroethylene	1.00001	.94938	5.06	Average	
1,2-Dichloropropane	.83951	.90397	7.68	Average	
trans-1,3-Dichloropropylene	.68624	.66508	3.08	Average	
cis-1,3-Dichloropropylene	-	-	-	Average	
Ethylbenzene	2.92450	3.04036	3.96	Average	
Methyl bromide	.14225	.13208	7.15	Average	
Methyl chloride	.44723	.43620	2.47	Average	
Methylene chloride	.14438	.18028	24.86	Average	
1,1,2,2-Tetrachloroethane	.83452	.93597	12.16	Average	
Tetrachloroethylene	.88116	.84556	4.04	Average	
Toluene	2.58175	2.63445	2.04	Average	
1,2-Trans-dichloroethylene	1.01197	.98718	2.45	Average	
1,1,1-Trichloroethane	.84920	.95146	12.04	Average	
1,1,2-Trichloroethane	.51355	.56918	10.83	Average	
Trichloroethylene	.56000	.55064	1.67	Average	
Trichlorofluoromethane	1.05182	1.04730	.43	Average	
Vinyl chloride	.23812	.23732	.33	Average	
1,2-Dichloroethane-D4	.46030	.48311	4.96	Average	(Conc=250.00)
Toluene-D8	2.83719	2.74046	3.41	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.01404	5.00	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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 FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
ropylbenzene	-	-	-	Average	
chlorobenzene	-	-	-	Average	
Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

.ff - % Difference from original average or curve

031

300494

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File:)A7277
Injection Time: 850322 08:17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00884	19.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.13271	821.63	Average	(Conc=400.00)
Benzene	2.26343	2.49908	10.41	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.44373	4.17	Average	
Carbon tetrachloride	.70237	.73549	4.72	Average	
Chlorobenzene	1.52935	1.65404	8.15	Average	
Chlorodibromomethane	.69374	.74853	7.90	Average	
Chloroethane	.13254	.16074	21.27	Average	
2-Chloroethylvinyl ether	.29315	.34050	16.15	Average	
Chloroform	1.49245	1.68143	12.66	Average	
Dichlorobromomethane	1.00980	1.11452	10.37	Average	
Dichlorodifluoromethane	.16533	.17440	5.49	Average	
1,1-Dichloroethane	.97647	1.06009	8.56	Average	
1,2-Dichloroethane	.85557	.99072	15.80	Average	
1,1-Dichloroethylene	1.00001	1.02252	2.25	Average	
1,2-Dichloropropane	.83951	.92571	10.27	Average	
trans-1,3-Dichloropropylene	.68624	.73263	6.76	Average	
cis-1,3-Dichloropropylene	.52512	.52617	.20	Average	
Ethylbenzene	2.92450	3.15306	7.82	Average	
Methyl bromide	.14225	.11614	18.35	Average	
Methyl chloride	.44723	.53753	20.19	Average	
Methylene chloride	.14438	.18617	28.94	Average	(1)
1,1,2,2-Tetrachloroethane	.83452	.99819	19.61	Average	
Tetrachloroethylene	.88116	.89390	1.45	Average	
Toluene	2.58175	2.80600	8.69	Average	
1,2-Trans-dichloroethylene	1.01197	1.03942	2.71	Average	
1,1,1-Trichloroethane	.84920	.98838	16.39	Average	
1,1,2-Trichloroethane	.51355	.58132	13.20	Average	
Trichloroethylene	.56000	.57108	1.98	Average	
Trichlorofluoromethane	1.05182	1.12827	7.27	Average	
Vinyl chloride	.23812	.25087	5.35	Average	
1,2-Dichloroethane-D4	.46030	.47036	2.19	Average	(Conc=250.00)
Toluene-D8	2.83719	2.69823	4.90	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.00031	6.29	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

032

300495

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7277
Injection Time: 850322 08:17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
>propylbenzene	-	-	-	Average	
Dichlorobenzene	-	-	-	Average	
>-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

Diff - % Difference from original average or curve

033

300496

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850325 08:25

Compound	Files: >F8381 RF 60.00	>F8382 RF 100.00	>F8380 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.76356	.83867	.74054	.944	.78093	6.571	
Phenol	.75362	.79100	.76738	.913	.77067	2.453	
2,4-Dichlorophenol	.27080	.29320	.24170	.969	.26857	9.615	
2,4-Dimethylphenol	.33404	.37237	.31240	.926	.33960	8.943	
2-Nitrophenol	.17761	.20297	.18032	.904	.18697	7.446	
p-Chloro-m-cresol	.31219	.32754	.28079	1.190	.30684	7.766	
4,6-Dinitro-o-cresol	.22647	.29143	.30170	1.136	.27320	14.933	
2,4-Dinitrophenol	.13182	.16687	.21471	1.025	.17113	24.313	
4-Nitrophenol	.26598	.30397	.30452	1.049	.29149	7.580	
2,4,6-Trichlorophenol	.34641	.38430	.31699	.856	.34923	9.662	
Pentachlorophenol	.11444	.13158	.11626	.984	.12076	7.798	
2-Fluorophenol	.59468	.66553	.64127	.660	.63382	5.681	(Conc=100.0,100.0,100.0)
Phenol-D5	.64038	.68374	.71218	.908	.67876	5.327	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.08766	.10429	.09077	.898	.09424	9.378	(Conc=100.0,100.0,100.0)

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: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	-	-	-	-	-	-	-	
Bis(2-Chloroethyl) ether	2.00571	2.13516	2.14932	-	.938	2.09673	3.775	
1,3-Dichlorobenzene	1.60123	1.75494	1.77725	-	.989	1.71114	5.601	
1,4-Dichlorobenzene	1.75399	1.93459	2.03805	-	1.006	1.90888	7.531	
1,2-Dichlorobenzene	1.73350	1.86518	1.91383	-	1.064	1.83750	5.078	
Nitrobenzene-d5	1.69135	1.72120	1.73779	-	1.197	1.71678	1.371	(Conc=50.0,50.0,50.0,50.0)
Bis(2-Chloroisopropyl)ether	.29921	.32213	.30814	-	1.106	.30983	3.728	
2-Fluorobiphenyl	.66715	.69963	.70722	-	1.304	.69133	3.079	(Conc=50.0,50.0,50.0,50.0)
N-Nitrosodi-n-propylamine	.29042	.31573	.26633	-	.804	.29083	8.493	
Hexachloroethane	.11149	.11314	.11990	-	.804	.11485	3.882	
Nitrobenzene	.48705	.53837	.56214	-	.834	.52918	7.252	
Isophorone	.67764	.67101	.71173	-	.890	.68679	3.181	
Bis(2-Chloroethoxy)methane	.45639	.50623	.48037	-	.954	.48100	5.183	
1,2,4-Trichlorobenzene	.26105	.27492	.30311	-	.990	.27969	7.664	
Naphthalene	1.08256	.90528	1.17031	-	1.007	1.05272	12.825	
Hexachlorobutadiene	.15405	.15124	.16945	-	1.056	.15825	6.196	
Hexachlorocyclopentadiene	.24847	.32158	.36148	-	.843	.31051	18.458	
2-Chloronaphthalene	1.16971	1.38547	1.51546	-	.891	1.35688	12.871	
Dimethyl phthalate	1.58204	1.83228	1.80250	-	.970	1.73894	7.861	
Acenaphthylene	2.31351	2.36939	2.78464	-	.971	2.48918	10.341	
2,6-Dinitrotoluene	.30296	.35086	.35578	-	.982	.33653	8.670	
Acenaphthene	1.50394	1.69463	1.69863	-	1.008	1.63240	6.816	
2,4-Dinitrotoluene	.24610	.30466	.32313	-	1.053	.29130	13.805	
Diethyl phthalate	1.49776	1.63907	1.72022	-	1.107	1.61901	6.953	
Fluorene	1.31068	1.48414	1.51338	-	1.105	1.43606	7.630	
4-Chlorophenyl phenyl ether	.47471	.55595	.59740	-	1.110	.54269	11.501	
N-Nitrosodiphenylamine	.58147	.75207	.84103	-	1.136	.72486	18.197	
1,2-Diphenylhydrazine	1.46457	1.71293	1.97610	-	1.140	1.71787	14.891	
4-Bromophenyl phenyl ether	.21467	.26327	.28297	-	.937	.25363	13.860	
Hexachlorobenzene	.25084	.26391	.26410	-	.956	.25962	2.927	
Phenanthrene	.95335	1.12081	1.16894	-	1.004	1.08103	10.469	
Anthracene	1.08936	1.31865	1.38202	-	1.012	1.26334	12.188	
Di-n-butyl phthalate	1.24755	1.39169	1.57505	-	1.108	1.40476	11.685	
Fluoranthene	.71240	.79531	.92843	-	1.185	.81205	13.421	
Benzidine	.00355	.01784	.15308	-	1.211	.05816	141.884	
Pyrene	.67249	.74158	.85998	-	1.218	.75802	12.509	
Alpha-BHC	.17577	.18898	-	.27508	.944	.21328	25.287	
Beta-BHC	.15025	.14853	-	-	.989	.14939	.814	
Gamma-BHC	.15025	.14853	-	.23212	.989	.17697	26.994	
Delta-BHC	.09342	.09507	-	.16687	1.020	.11845	35.406	
Heptachlor	.25255	.29932	-	.42292	1.082	.32493	27.089	
Aldrin	.18976	.19480	-	.27049	1.127	.21835	20.711	
Heptachlor epoxide	.08211	.06374	-	.14081	.838	.09555	42.131	

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

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

$\overline{RF}$ - Average Response Factor

RRSD - Percent Relative Standard Deviation

300498

035

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.03711	.03503	-	.13780	.859	.06998	83.943	
Endosulfan I	.10145	.07596	-	.12209	.871	.09983	23.145	
4,4'-DDE	.53392	.44356	-	.73316	.889	.57021	25.986	
Dieldrin	.72347	.58904	-	.77568	.893	.69606	13.834	
Endrin	.06811	.06033	-	.07807	.912	.06884	12.914	
Endosulfan II	.07236	.07841	-	.09781	.920	.08286	16.048	
4,4'-DDD	.72215	.67457	-	1.06136	.924	.81936	25.742	
Endrin aldehyde	-	-	-	.27225	.937	.27225	-	
4,4'-DDT	.62198	.60434	-	.95673	.955	.72769	27.285	
Endosulfan sulfate	.11604	.10426	-	.19246	.955	.13759	34.804	
Terphenyl-D14	1.45457	1.33032	1.09364	-	.889	1.29285	14.183	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.01276	1.16971	1.04826	-	.949	1.07691	7.643	
Benzo(a)anthracene	1.20557	1.38543	1.36745	-	.998	1.31948	7.508	
Chrysene	1.24619	1.28462	1.20289	-	1.003	1.24457	3.286	
3,3'-Dichlorobenzidine	.14238	.25873	.37811	-	1.000	.25974	45.379	
bis(2-Ethylhexyl)phthalate	1.28539	1.61735	1.47943	-	1.016	1.46072	11.417	
Di-n-octyl phthalate	1.74922	2.60869	2.56817	-	1.078	2.30869	21.005	
Benzo(b)fluoroanthene	.91095	1.21683	-	-	1.109	1.06389	20.330	
Benzo(k)fluoranthene	1.04272	1.11371	-	-	1.112	1.07822	4.656	
Benzo(a)pyrene	.86854	1.02772	1.08836	-	1.144	.99487	11.412	
Indeno(1,2,3-c,d)pyrene	.93919	1.21051	1.36545	-	1.293	1.17172	18.414	
Dibenzo(a,h)anthracene	.68069	.87789	1.03428	-	1.296	.86429	20.501	
Benzo(ghi)perylene	.73653	.90724	1.01704	-	1.333	.88694	15.937	
1,2,3,4-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
1,2,3,5-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
Pentachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)

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

036

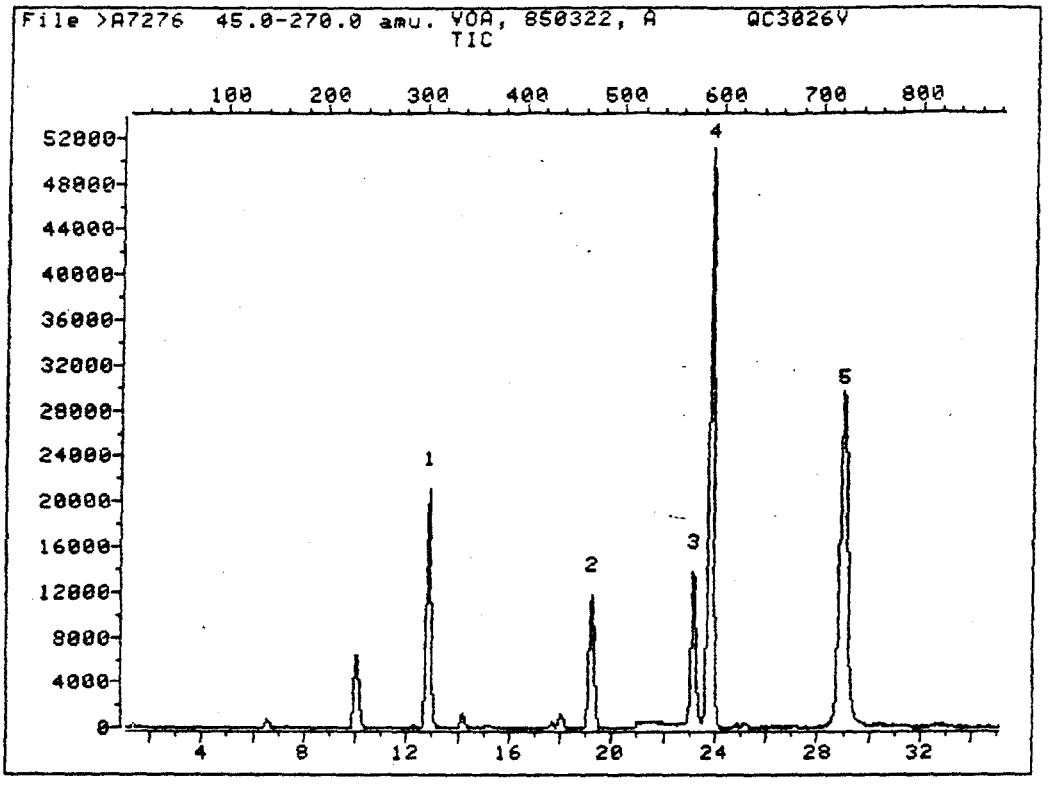
300499

Appendix C1

GC/MS Subsidiary Data

300500

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7276::U2
Name: VOA, 850322, A
Misc Data: QC3026V

300501

QUANT REPORT

ator ID: TM0576 Quant Rev: 3 Quant Time: 850322 09:12
Injected at: 850322 07:30
File: >A7276::U2 Dilution Factor: 1.00
:: VOA, 850322, A
:: QC3026V

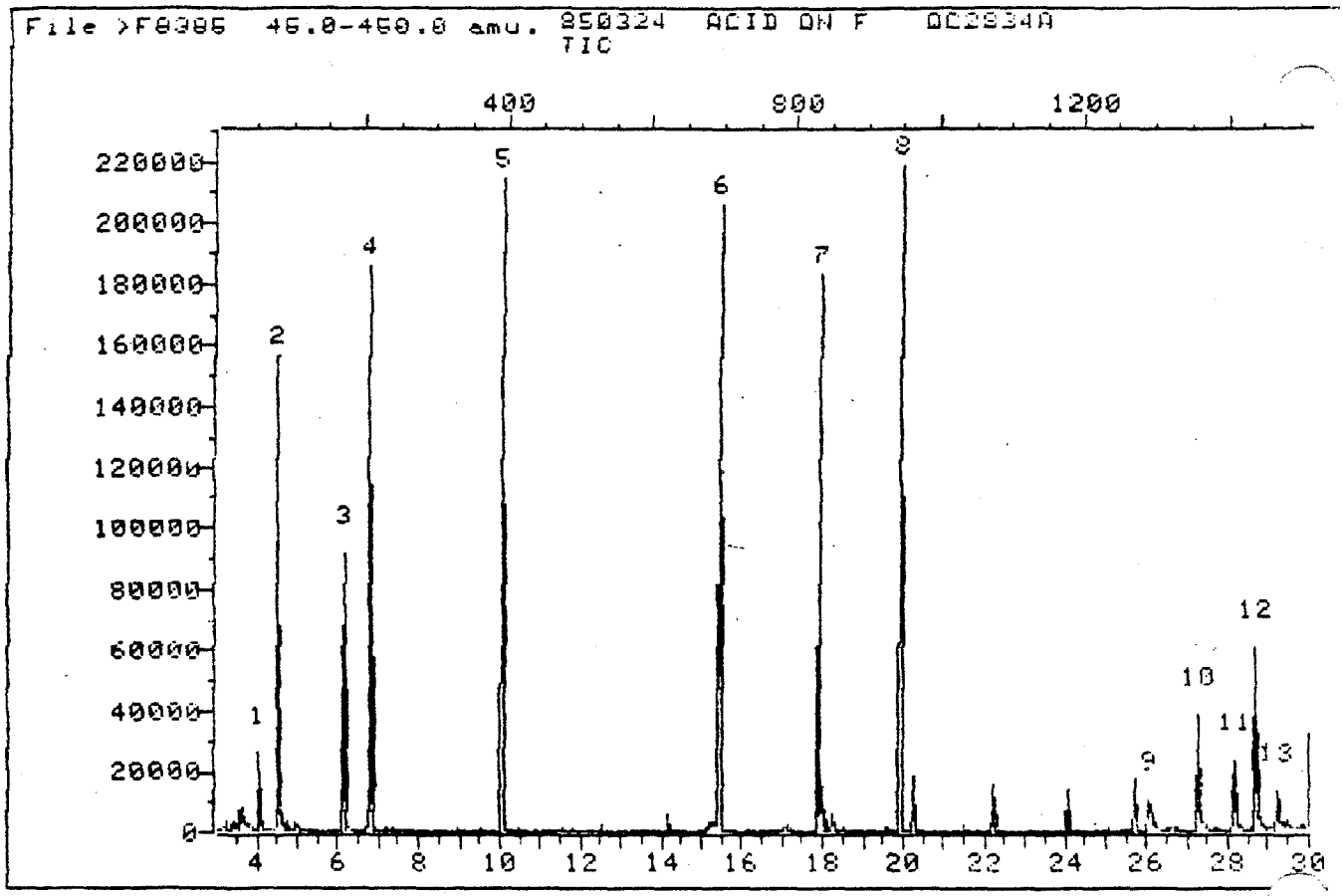
ile: AVOA
e: IDFILE FOR PP VOAS
Calibration: 850322 09:12

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.21	471	67258	200.00	NG
Carbon tetrachloride	14.19	341	495	~~2.10~~	~~NG~~
Toluene	23.95	594	2353	~~2.71~~	~~NG~~
1,1,1-Trichloroethane	14.19	341	5363	18.78	NG ✓
1,2-Dichloroethane-D4	12.84	306	48637	250.00	NG
Toluene-D8	23.80	590	273371	250.00	NG
p-Bromofluorobenzene	28.97	724	103458	250.00	NG
*1,4-Dichlorobutane	23.14	573	85458	200.00	NG

ompound is ISTD

300502

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A

RTL#

300503

QUANT REPORT

rator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:36
Injected at: 850325 04:02
a File: >F8385::U6 Dilution Factor: 1.00
e: 850324 ACID ON F
c: QC2834A BTL# 6

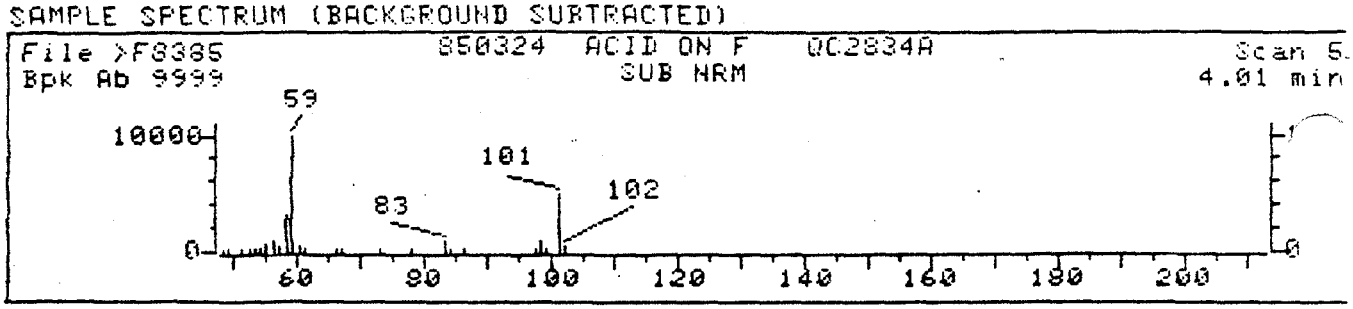
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850325 08:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.75	207	114254	40.00	UG/ML
2-Fluorophenol	4.45	78	113153	62.50	UG/ML
Phenol-D5	6.12	172	81565	42.07	UG/ML
Phenol-D5	6.75	207	819	.42	UG/ML
*d8-Naphthalene	10.04	392	247294	40.00	UG/ML
*d10-Acenaphthalene	15.41	694	136968	40.00	UG/ML
*d10-Phenanthrene	19.91	947	272572	40.00	UG/ML
2,4,6-Tribromophenol	17.88	833	55655	86.67	UG/ML

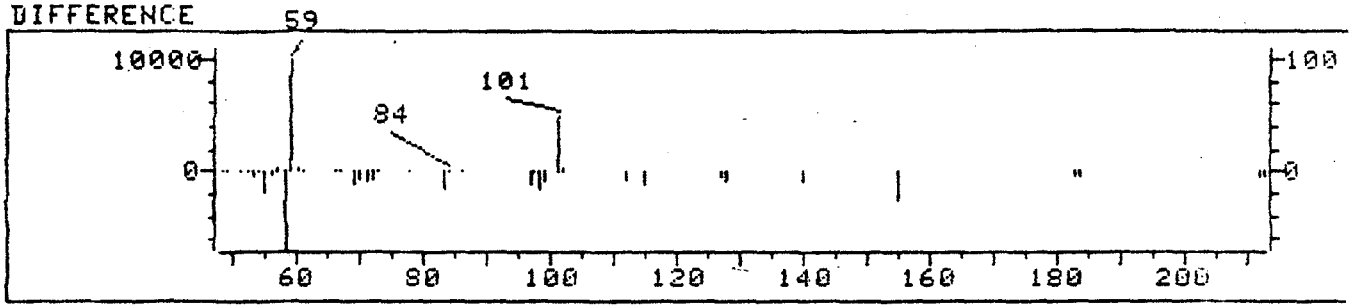
Compound is ISTD

300504

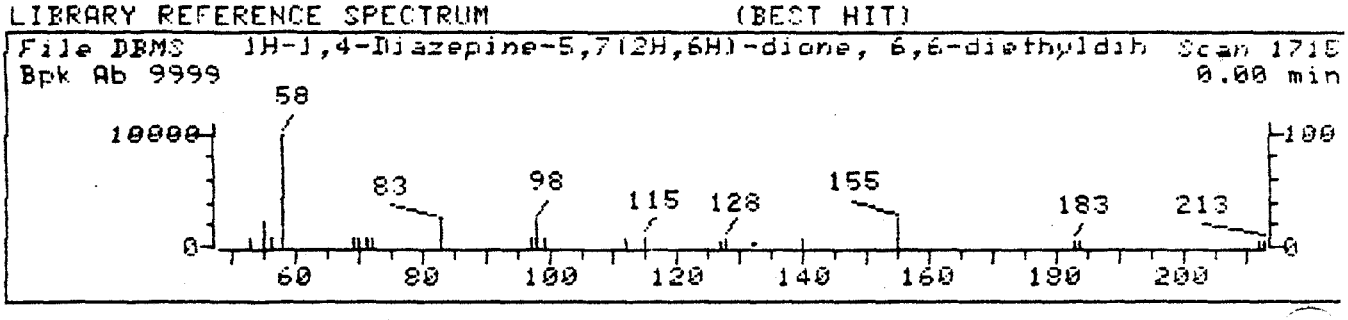
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A BTL#
RT (min): 4.01
Scan: 53
Area: 67198
Semi-quantitative Conc: 5.35 UG/ML

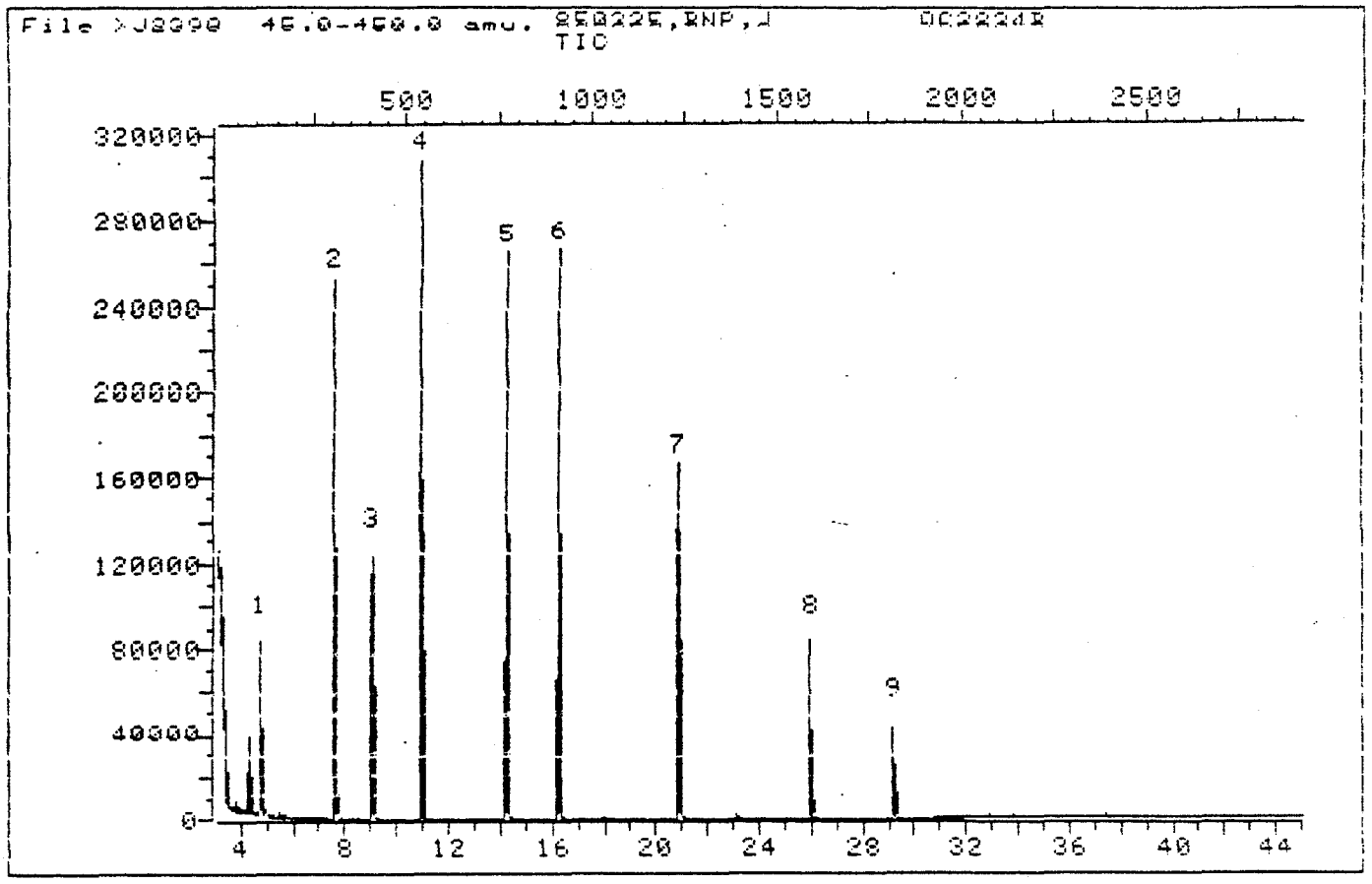
Data File: >F8385 Scan Number: 53
Search Speed: 2 Titling option: S Number of ion ranges searched: 5

1. 1H-1,4-Diazepine-5,7(2H,6H)-dione, 6,6-diethyldihydr 212 C11H20N2O2
o-2,2-dimethyl- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	36	69315931	38	51	0	-2

300505

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B

BTL# 5

300506

300506

QUANT REPORT

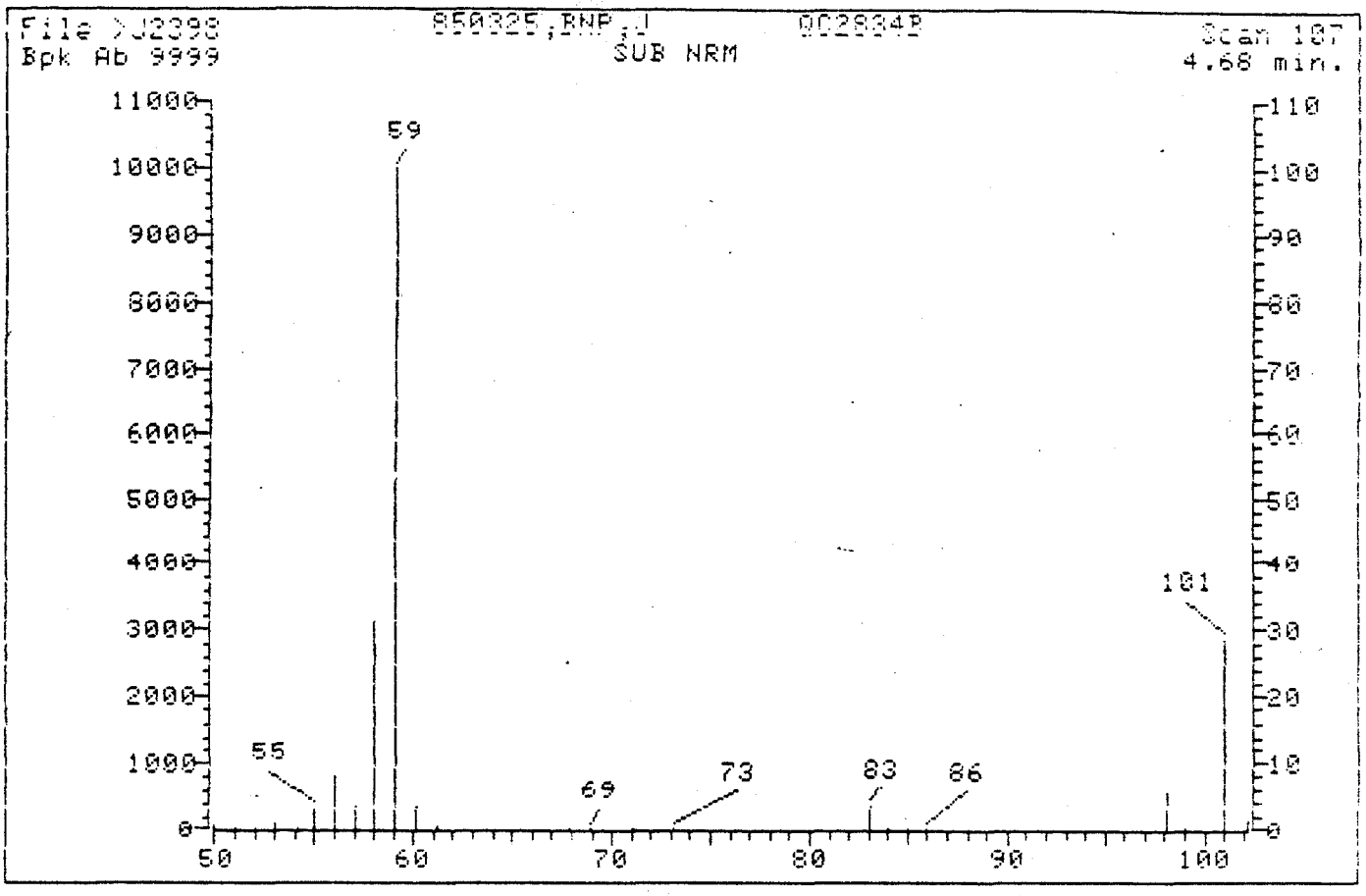
Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 16:45
Injected at: 850326 15:57
Data File: >J2398::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: QC2834B BTL# 5
5086AA

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	104366	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	407	127170	28.39	UG/ML
10)	*d8-Naphthalene	10.85	539	393618	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	234312	34.44	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	407	15690	~~5.48~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	913	183550	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	32456	~~4.87~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	225585	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	6268	.79	UG/ML
58)	*d12-Chrysene	29.15	1819	59669	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	103871	53.86	UG/ML

* Compound is ISTD

300507



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B
RT (min): 4.68
Scan: 107
Area: 155021
Semi-quantitative Conc: 7.73 UG/ML

BTL# 5

No PBM hits for this scan.

300508

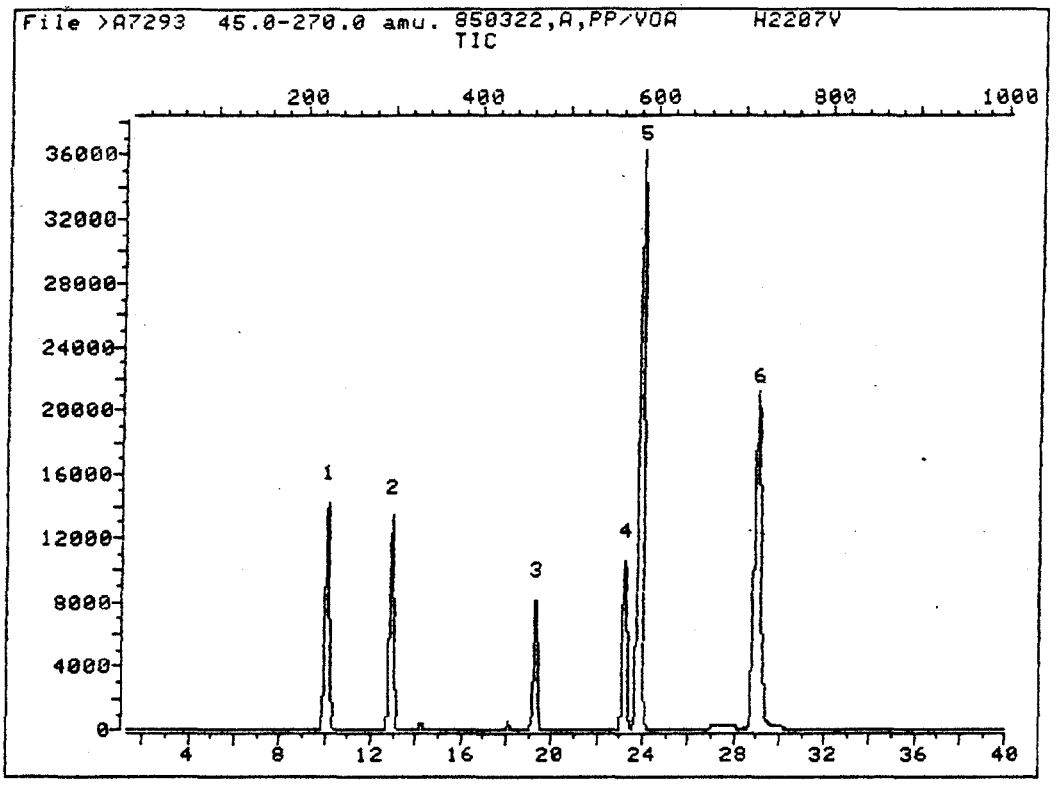
300508

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.

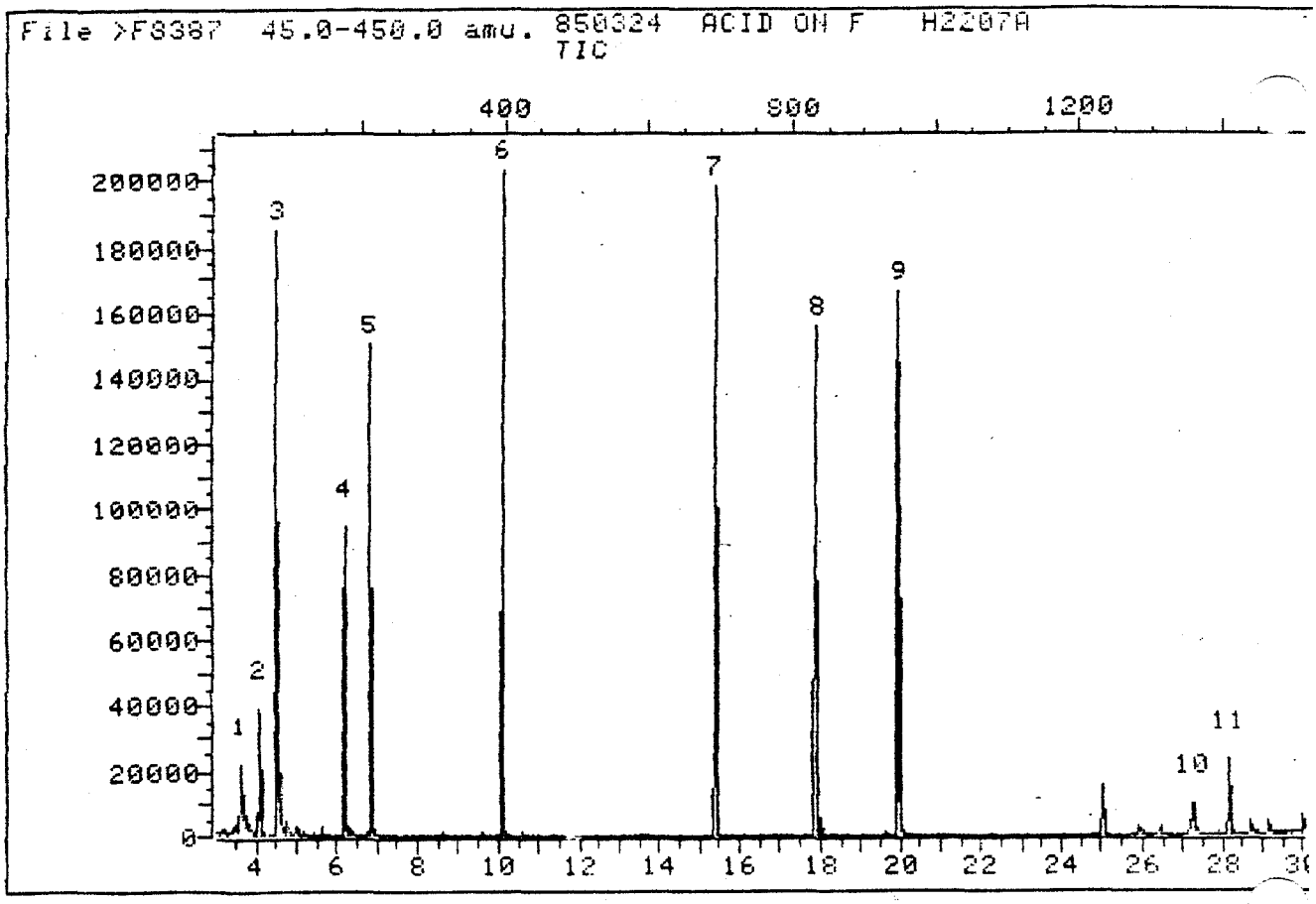
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7293::U2
Name: 850322,A,PP/VOA
Misc Data: H2207V

300510

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

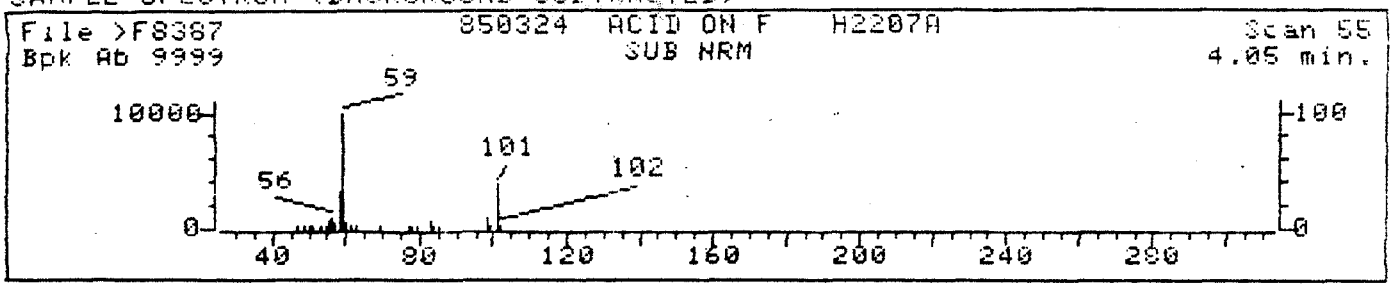


Data File: >F8387::U6
Name: 850324 ACID ON F
Misc Data: H2207A

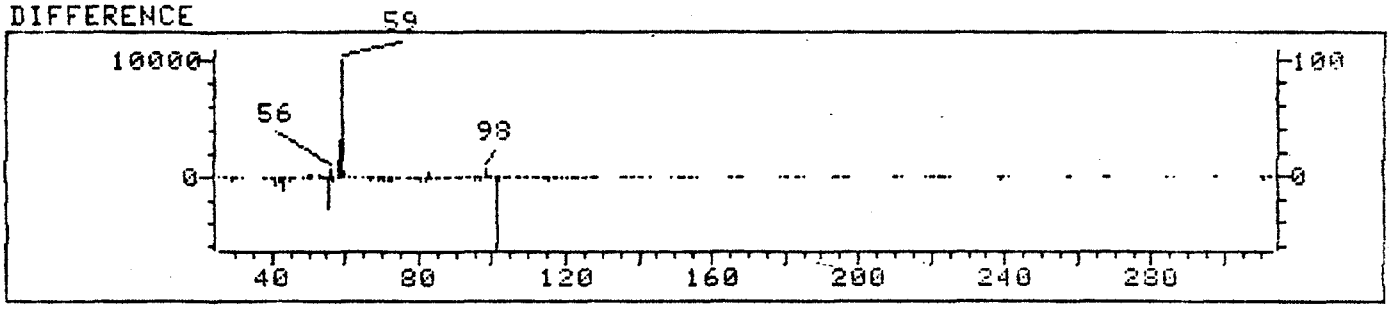
BTL#

300511

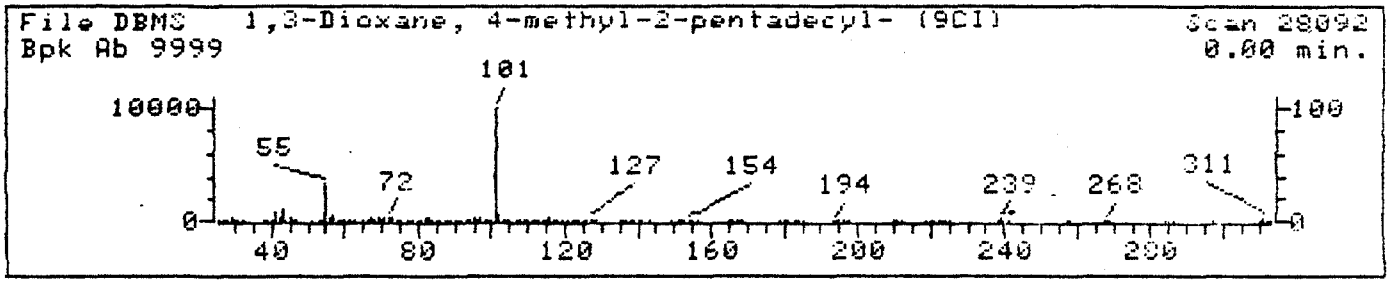
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8387::U6
Name: 850324 ACID ON F
Misc Data: H2207A BTL# 8
RT (min): 4.05
Scan: 55
Area: 74290
Semi-quantitative Conc: 6.49 UG/ML

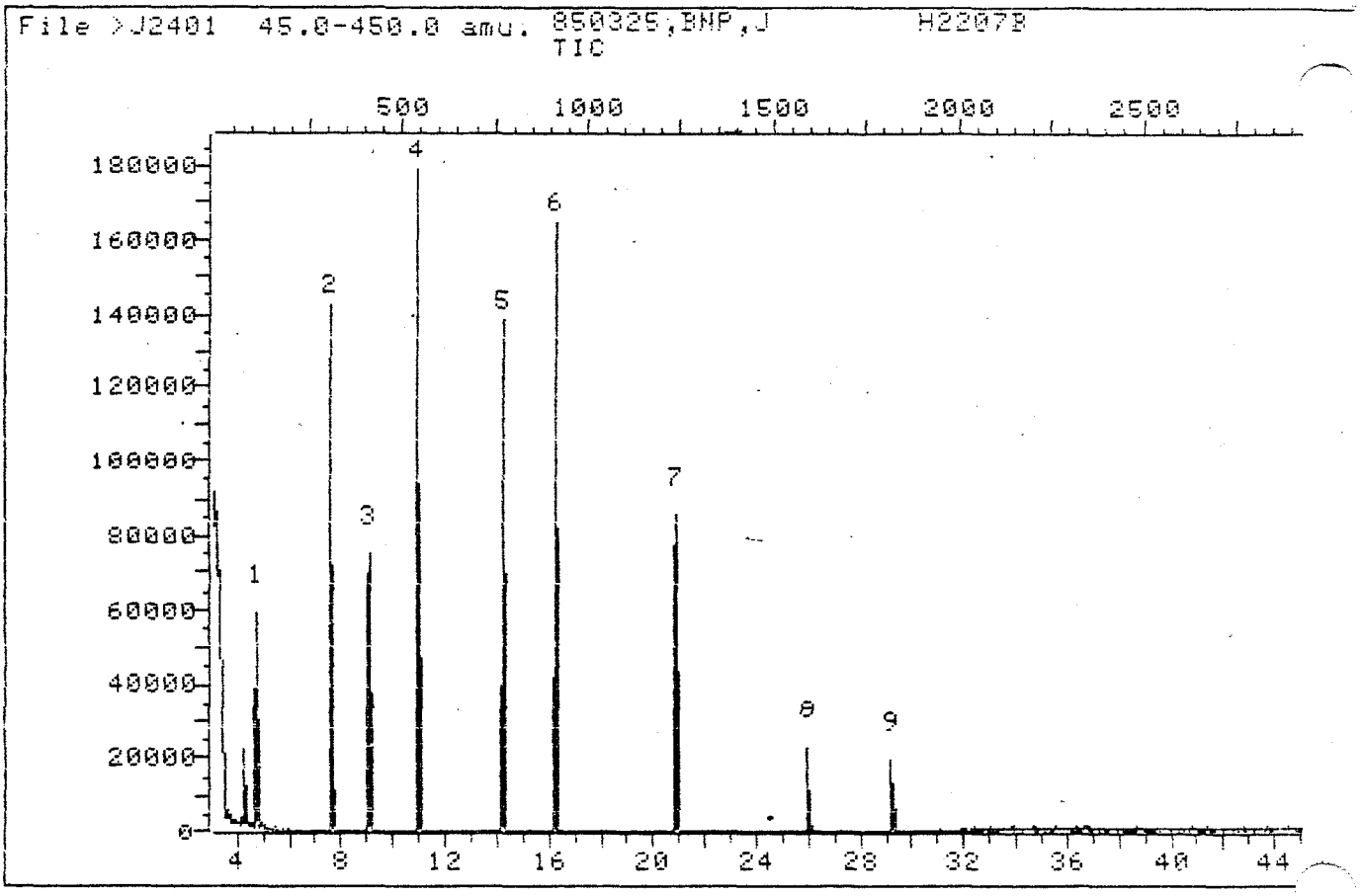
Data File: >F8387 Scan Number: 55
Search Speed: 2 Titling option: S Number of ion ranges searched: 57

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	33	81	0	-2

300512

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2401::U2
Name: 850325,BNP,J
Misc Data: H2207B

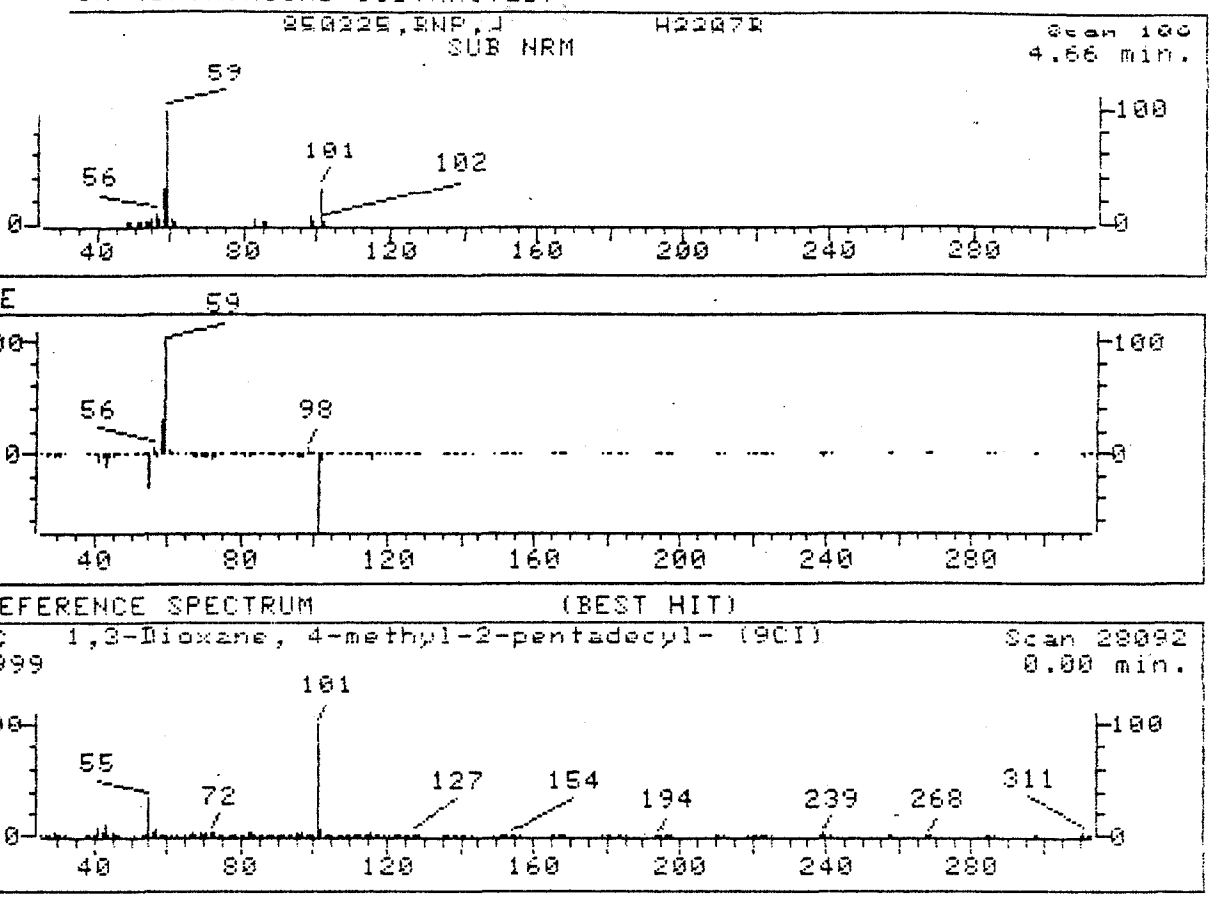
BTL# 8

300513

050

300513

UM (BACKGROUND SUBTRACTED)



RARY REFERENCE SPECTRUM (BEST HIT)

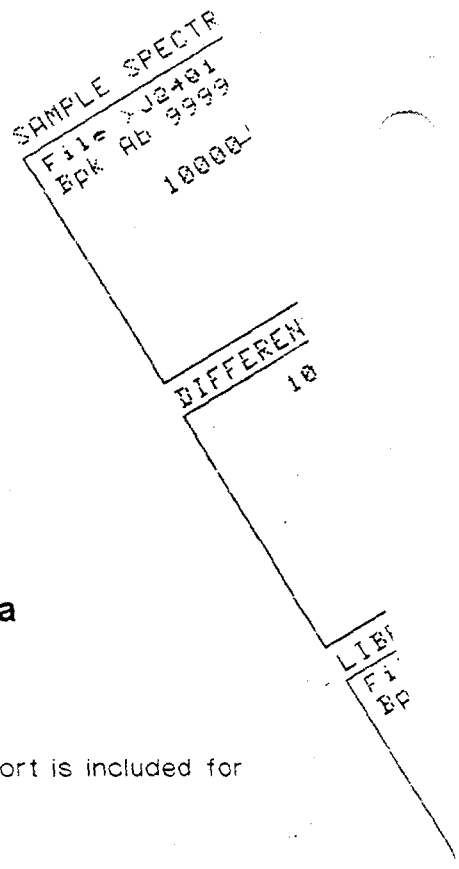
Data File: >J2401::U2
Name: 850325,BNP,J
Misc Data: H2207B BTL# 8
RT (min): 4.66
Scan: 106
Area: 114613
Semi-quantitative Conc: 9.51 UG/ML

Data File: >J2401 Scan Number: 106
earch Speed: 2 Titling option: S Number of ion ranges searched: 58

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	33	81	0	-2

300514



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.

TC ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV.

ETC Job # 4121071

b ID: L85253-A1

ibmitted by: MW CHUN

ite: 3/26/85

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 MAR 27 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	053		
36	Turbidity (Lab)		NTU			

300516

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.

300517

Job No. 300517

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 25507 ETC Job # H2207

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE SLOT (Facility/Site Code)

Sample Point: GW - HEMMINGS (Source Code (from below) / Your Sample Point ID (left justify))

(Optional Sample Point Descriptions)

03/21/85 (Start Date (YY/MM/DD))

1015 ST (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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Fill (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N		
1	M	1L	HNO3	Metals	N		
1	CN	500ml	NaOH	Cyanides	N		
1	PN	1L	H2SO4	Phenols	N		
2	V	40ml	Sod-Thio.	VOA	N		Headsp.
1	TB	40ml	SC/MS H2O	Trip blank	N	OK	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) J. BORGIANNI Date: 3/21/85 Time: 1052
   Signature: _____ Seal #: 0028507 Intact: _____

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: 300518
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) _____ Date: _____ Time: _____
   Signature: _____ 055 Seal #: _____ Intact: _____

ETC USE ONLY Opened By: _____ Date: 3-22-85 Time: 800

Seal #: 28508 Condition: Intact

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # 11207

Sample Point [ ] Source Code [ ] Sample Point ID

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

Sampler Type [ ] 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) [ ]

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

Sample Temp [ ] (°C)

Turbidity [ ] NTU

FIELD COMMENTS

Sample Appearance: Pumped with bailer

Weather Conditions: _____

Other: _____

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

Sampler: S. BERGANTINO (Print) Employer: NJDEP

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

(Date) _____ (Signature) _____

056

300519

300520

-MS ANALYSIS CUSTODY LOG

TE 3/22/85 SHIFT ___
ACTION VOA
STRUMENT 4
NE FILE APE101
QUENCE FILE ___
THOD FILE VOA8
FILE AVOA
ALYST(S) S. Johnston
PERVISOR [illegible]
TCH #'s QV3026

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
Q	SJ	DATE	3/22
P	PC	BY	SJ

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	91609	1µl

H-C PRIOR

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
BFB	>A7275	1.0			A00106	OK 5PPM 3/22	
QC3026V	>A7276	5ml			QC1AB	3/22. GOOD (0758)	
QC3026VS	>A7277	5ml			AC	SUL PBC (0817)	
P-BFB	>A7278	1.0				(09:11)	
HC291	>A7281	5ml	1	OK	AD		
HC291VS	>A7282	"	2	OK	AE	SUL ABC	
HC293	>A7283	"	3	OK	AH		
HC293VA	>A728[illegible]	"	4	OK	AG		
HC295	>A7285	"	5	OK	AH		
HC295	>A7286	"	6	OK	AI		
HC301	>A7287	"	7	OK	AJ		
HC302	>A7288	"	8	OK	AK		
HC304	>A728[illegible]	"	9	OK	A081 AL		
HC305	>A7290	↓	10	OK	AM		
P-BFB	>A7291	1µl			A00106	1830hr	
QC3026VS	>A7292	5ml				SUL 3/22 1926	
H2207	>A7293		1		AH		
H2208	>A7294		2		AI		
H2209	>A7295		3		AJ		
H2210	>A7296		4		AK		
H2211	>A7297		5		A082 AL		
H2212	>A7298		6		AM		
H2213	>A7299		7		AN		
H2142	>A7300		8		AO	057	
H2143	>A7301		9		AP		

GC-MS ANALYSIS CUSTODY LOG

DATE 3/22/85 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE AFE101
SEQUENCE FILE
METHOD FILE VOAA
IDFILE AVOA
ANALYST(S) S. Johnston

SUPERVISOR
BATCH #'s QV30226

(PLEASE INITIAL)

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ	SJ	DATE	3/22
WIP		BY	SJ

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1µL

H2O Primer

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PI Y.
BFB	>A7275	1uL			A00106	OK 5:30 AM 3/22	
QC3026V	>A7276	5ml			QC1	3/22 SJ (0758)	
QC3026VS	>A7277	5ml				SUL ABC (0817)	
P-BFB	>A7278	1uL				(0911)	
HC291	>A7281	5ml	1	OK			
HO291VS	>A7282		2	OK	(TM)	SUL ABC	
HC293	>A7283		3	OK			
HO293VS	>A7284		4	OK			
HO294	>A7285		5	OK			
HO295	>A7286		6	OK			
HO301	>A7287		7	OK			
HO302	>A7288		8	OK			
HO304	>A7289		9	OK			
HO305	>A7290	↓	10	OK			
P-BFB	>A7291	1uL			A00106	1830hr	
QC3026VS	>A7292	5ml				SUL 3/22 1926	
H2207	>A7293		1				
H2208	>A7294		2				
H2209	>A7295		3				
H2210	>A7296		4				
H2211	>A7297		5				
H2212	>A7298		6				
H2213	>A7299		7		1000		
H2142	>A7300		8			0958	
H0295	>A7301		9				
H0296	>A7302		10				

300521

EXTRACTION LOG

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 3/23/85

Extraction Method:
- Sep funnel ✓
- continuous
- soxhlet
- other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H1801	8652	950	—	—	Could not get emulsions to separate
G3877	8492	1000		1.0	
H2207	8682	890	1.0	1.0	
H2208	|	1000	1.0	1.0	
H2209	|	1000	1.0	1.0	
H2210	|	~~850~~ 800	1.0	1.0	
H2211	|	~~950~~ 1000	1.0	1.0	
H2212	↓	~~980~~ 1000	1.0	1.0	
G8833	8354	980		1.0	
G9144		940	1.0		
G9146		870	1.0		
G9147		830	1.0		
G9148		850	1.0		
G9150		950	1.0		
G9153		1000	1.0		
G9970		1000	10.0	1.0	
QC 2834		1000	1.0	1.0	
QC 2834 S		1000	1.0	1.0	
H2211 S		1000	1.0	1.0	
H2211 R		1000	1.0	1.0	

Comments for Extract.:

* PP/T: H1801, H2207-1

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

Comments for GC/MS:

H1801 extracted by continuous: QC2843

300522

FRACTION	SPIKE Amt (ml)	Conc (ng/µl)	Lot #
ACID	1.0	100	9700
Aroclor 1260	1.0	100	9763
BN	1.0	100	9817
PEST	1.0	100/200	10190
			059

SURROGATE	Amt. (ml)	Conc.	Lot #
	1.0	BN: 50 ng/µl	10195
		ACID: 100 ng/µl	

Set-up: [signature] 3/23/85

Conc.: [signature] 3/24/85

Conc.: [signature] 3/24/85

UPD/Supervisor: [signature] 3/24/85

spike/surr. verified: [signature] 3/25/85

300523

GC-MS ANALYSIS CUSTODY LOG

DATE 3/24-25/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT I
TUNE FILE MTF001
SEQUENCE FILE KSBF
METHOD FILE ACIDF
IDFILE FACID / FACHS
ANALYST(S) K.S.Bonanno
SUPERVISOR [signature]
BATCH #'s QA 7834
QA2814

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ	KSB	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LO VC
DFTPP	25	9534	2ul
ACID CAL I	60	5909	1ul
" " II	100	5910	
" " III	300	5911	
HSLPP ACID STD	300	9603	
" " STD	100	9604	
" " STD	60	9605	1ul
INT STD MIX	400	9653	100ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	P Y
DFTPP							
ACID STD III	F8380		1				
" " I	F8381		2				
" " II	F8382		3				
H2211AS	F8383		4				
QC2834AS	F8384		5				
QC2834A	F8385		6				
H2211AR	F8386		7				
H2207A	F8387		8				
H2208A	F8388		9				
H2209A	F8389		10				
H2210A	F8390		11				
H2211A	F8391		12				
H2212A	F8392		13				
63877A	F8393		14				
69918A	F8394		15				
68833A	F8395		16				
69969A	F8396		17	10:1			
DFTPP	F8397		18				
ACID CAL II	F8398		19		060		
HSLPPACID300	F8399		20			FACHS	
HSLPPACID100	F8400		21			↓	

GC/MS ANALYSIS CUSTODY LOG

DATE 3/25/85 SHIFT ____
ACTION Acid
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE KEBF
METHOD FILE AC10F
DATA FILE FACHS
ANALYST(S) KS Bompart
SUPERVISOR [signature]
RUN #'s 02834

(PLEASE INITIAL)

CURRENT GCMS STATUS		STANDARDS UPDATED	
Q		DATE	
P		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
SLPP ACID 60	F8406		22				
5906AS	F8407		23				
2814AS	F8408		24				
SC2814A	F8409		25				Y
G8891AR	F8405		26				
G7232A	F8406		27				Y
65900A	F8407		28				
65901A	F8408		29				
65902A	F8409		30				
65903A	F8410		31				
65904A	F8411		32				
65905A	F8412		33				
65906A	F8413		34				
G8832A	F8414		35				X
G8890A	F8415		36				
DFTPP	F8416		37				
AC10CALSTD	F8417		38				
G7231A	F8418		39				Y
G8914A	F8419		40				
G8891A	F8420		41				
G7230A	F8421		42				Y
					961		

300524 TSR 8-84

300525

GC-MS ANALYSIS CUSTODY LOG

DATE 850325 SHIFT ___
FRACTION BNP
INSTRUMENT J
TUNE FILE MTJ004
SEQUENCE FILE TSR23
METHOD FILE JBNP
IDFILE BNPJ
ANALYST(S) Tom Rusowicz
SUPERVISOR Rusty Arnett
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ	TR	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	VOL

NAME	DATA FILE >J	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	2390	2	—			NG 1605 HRS
↓	2391	↓				NG
	2392					NC
↓	2393	↓			DON'T USE→	OK 1830 HRS
BNP CALIB STD I	2394		1			
BNP CALIB STD II	2395		2			
BN CALIB STD III	2396		3			
PEST CALIB STD IV	2397		4			
QC2834B	2398		5			QC2834B
QC2834BS	2399		6			↓
H2211BS	2400		7			EMERG.
H2207B	2401		8			↓
H2208B	2402		9			
H2209B	2403		10			
H2210B	2404		11			
H2211B	2405		12			
H2211BR	2406		13			
H2212B	2407		14			
69144B	2408		15			
69146B	2409		16			
69147B	2410		17			
69148B	2411		18		062	
69150B	2412		19			
69153B	2413		20			
69970B	2414		21			

A-A

EXTRACTION LOG B-H

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 8/23/85

Extraction Method:
- Sep funnel ✓
- continuous
- soxhlet
- other

Sample Number	Log Number	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
1801	8652	950	—	—	Could not get emulsion to separate*
3877	8492	1000	✓		
2207	8682	890	1.0	1.0	ABN 15
2208	✓	1000	1.0	✓	✓
2209		1000	1.0		
2210		1000	1.0		
2211		1000	1.0		
2212	✓	1000	1.0		
8833	8354	960	✓	✓	ACT 1
9144	8481	960	1.0	✓	
9146	✓	830	1.0	✓	
9147		830	1.0	✓	
9148		850	1.0	✓	
9150		850	1.0	✓	
9153	✓	1000	1.0	✓	
9970	8473	1000	10.0	1.0	
QC 2834		1000	1.0		
QC 2834 S		1000	1.0		
#2211 S		1000	1.0		
#2211 R		1000	1.0		

COMMENTS FOR EXTRACT.:

* PP/T: #1801, #2207-12

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

COMMENTS FOR GC/MS:

300526

FRACTION	SPIKE Amt (ml)	SPIKE Conc	SPIKE Lot #
ACID	1.0	100	9700
Acid/BN 1&2	1.0	100	9763
BN	1.0	100	9617
TEST	1.0	100/200	10,190
			963

SURROGATE Amt. (ml)	SURROGATE Conc.	SURROGATE Lot #
1.0	BN: 50 ug/ml	10195
	ACID: 100 ug/ml	

HPD/Supervisor

Metals Analysis Custody Log

Samples H2207 to H2212

	Chemist	Date
Hg Prep	Dwayne G. Lehfeld	3/22/85
AA/ICAP Prep	Maura Jane McClear	3/21/85

Lab Supervisor Lidya Wrianson date 3/26/85

300527

Technical Report

for

NJ DEP

3.0

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2208	NJ DEP	NJDCOMBES0	WLING WNFN 850321		1135	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

James M. Bowles for

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

300528

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 27, 1985

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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
H2208	NJ DEP	NJDCOMBESO	WLING VNFN	850321	1135	

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	ND	ND	ND	800	120	ND	800	98
2V	Acrylonitrile	ND	100	ND	ND	ND	80	83	ND	80	73
3V	Benzene	ND	4.40	ND	ND	ND	18	110	ND	18	93
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	75
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	105	ND	18	76
7V	Chlorobenzene	ND	6	3	6	ND	18	108	ND	18	81
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	108	ND	18	80
9V	Chloroethane	ND	10	ND	ND	ND	18	121	ND	18	75
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	116	ND	18	64
11V	Chloroform	ND	1.60	ND	ND	ND	18	113	ND	18	85
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	110	ND	18	81
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	91	ND	20	90
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	109	ND	18	84
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	116	ND	18	88
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	102	16	18	75
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	110	ND	18	83
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	100	ND	18	64
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	108	ND	18	82
20V	Methyl bromide	ND	10	ND	ND	ND	18	82	ND	18	38
21V	Methyl chloride	ND	10	ND	ND	ND	18	120	ND	18	86
22V	Methylene chloride	ND	2.80	1	6	ND	18	129	ND	18	80
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	120	ND	18	93
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	101	ND	18	77
25V	Toluene	ND	6	ND	ND	ND	18	109	ND	18	81
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	103	209	18	63B
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	96	ND	18	90
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	113	ND	18	98
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	102	652	18	78B
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	107	ND	18	84
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	84
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	107	ND	18	56

A EPA published Method Detection Limit.

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

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300530

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2208	NJ DEP	NJDCOMBESO	WLING VNFN	850321	1135	

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	3.30	ND	ND	ND	100	104	ND	100	97
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	108	ND	100	72
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	103	ND	100	97
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	105	ND	100	105
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	87	ND	100	77
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	102	ND	100	100
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	62	ND	100	62
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	106	ND	100	106
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	108	ND	100	103
10A	Phenol	ND	1.50	ND	ND	ND	100	59	ND	100	52
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	100	ND	100	104

a EPA published Method Detection Limit.

300531

ETC ENVIRONMENTAL TESTING and CERTIFICATION

3002

MAR 29, 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
H2208	NJ DEP	NJDCOMBESO	WLING VNFN	850321	1135	

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	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	1.90	ND	ND	ND	100	79	ND	100	78
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	80	ND	100	76
3B	Anthracene	ND	1.90	ND	ND	ND	100	82	ND	100	78
4B	Benzidine	ND	44	ND	ND	ND	100	3[b]	ND	100	8[b]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	90	ND	100	87
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	92	ND	100	86
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	95	ND	100	82
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	87	ND	100	90
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	98	ND	100	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	83	ND	100	81
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	87	ND	100	93
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	73	ND	100	71
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	105	ND	100	106
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	33	ND	100	35
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	77	ND	100	76
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	100	89
18B	Chrysene	ND	2.50	ND	ND	ND	100	90	ND	100	90
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	74	ND	100	69
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	64
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	71	ND	100	64
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	58	ND	100	51
24B	Diethyl phthalate	ND	10	ND	ND	ND	100	14[b]	ND	100	10[b]
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	0[b]	ND	100	0[b]
26B	Di-n-butyl phthalate	ND	10	ND	ND	BMDL	100	50	ND	100	45
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	104	ND	100	88
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	94	ND	100	91
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	71	ND	100	62
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	86	ND	100	75
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	94	ND	100	85
32B	Fluorene	ND	1.90	ND	ND	ND	100	83	ND	100	75

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300532

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2206	NJ DEP	NJDCOMBESO	WLING VNFN	8503:1	1135	

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	1.90	ND	ND	ND	100	117	ND	100	124
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	83	ND	100	82
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	79	ND	100	74
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	94	ND	100	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	97	ND	100	92
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	89	ND	100	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	100	ND	100	97
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	93	ND	100	82
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	86	ND	100	82
45B	Pyrene	ND	1.90	ND	ND	ND	100	96	ND	100	86
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	165c	ND	100	179c

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C Recovery normally variable using EPA Protocol Method 625.

3005533

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2208	NJ DEP	NJDCOMBES0	WLING	VNFN	850321	1135

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	76	ND	100	76
2P	Alpha-BHC	ND	10	ND	ND	ND	100	20	ND	100	19
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	56	ND	100	59
4P	Gamma-BHC	ND	10	ND	ND	ND	100	23	ND	100	21
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	3	ND	100	3
6P	Chlordane	ND	10	ND	ND	ND	200	27	ND	200	35
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	71	ND	100	76
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	71	ND	100	85
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	71	ND	100	76
10P	Dieldrin	ND	2.50	ND	ND	ND	100	57	ND	100	68
11P	Endosulfan I	ND	10	ND	ND	ND	100	8	ND	100	14
12P	Endosulfan II	ND	10	ND	ND	ND	100	6	ND	100	11
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	53	ND	100	59
14P	Endrin	ND	10	ND	ND	ND	100	64	ND	100	70
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	10	ND	100	17
16P	Heptachlor	ND	1.90	ND	ND	ND	100	70	ND	100	69
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	68	ND	100	89
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	78	ND	100	55
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

300534

300534

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2208	NJ DEP	NJDCOMBESO	WLING VNFN	850321	1135	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l								
1M	Antimony	ND	60								
2M	Arsenic	BMDL	10								
3M	Beryllium	ND	1								
4M	Cadmium	ND	3								
5M	Chromium	ND	10								
6M	Copper	260	4								
7M	Lead	ND	40								
8M	Mercury	ND	.30								
9M	Nickel	20	7								
10M	Selenium	ND	5								
11M	Silver	ND	8								
12M	Thallium	ND	5								
13M	Zinc	ND	3								
14M	Cyanide, Total	<25	25								
15M	Phenolics, Total	<10	10								

300535

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2208	NJ DEP	NJDCOMBESO	WLING VNFN	850321	1135	

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

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300536

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2208	NJ DEP	NJDCOMBESO	WLING VNFN 850321		1135	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	57	4.10	-	-	-	6		

300537

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2208	NJ DEP	NJDCOMBESO	WLING VNFN	850321	1135	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/L		
1 Unknown	107	4.68	-		-	10		

300538

012

300538

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2208						
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	86	85	121
1,2-Dichloroethane-D4	250	87	77	120
ACID FRACTION				
Phenol-D5	100	44	15	103
2-Fluorophenol	100	67	23	121
2,4,6-Tribromophenol	100	94	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	65	41	120
2-Fluorobiphenyl	50	77	44	119
Terphenyl-D14	50	64	33	128

* IFB EPA Control Limits

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- 013 -

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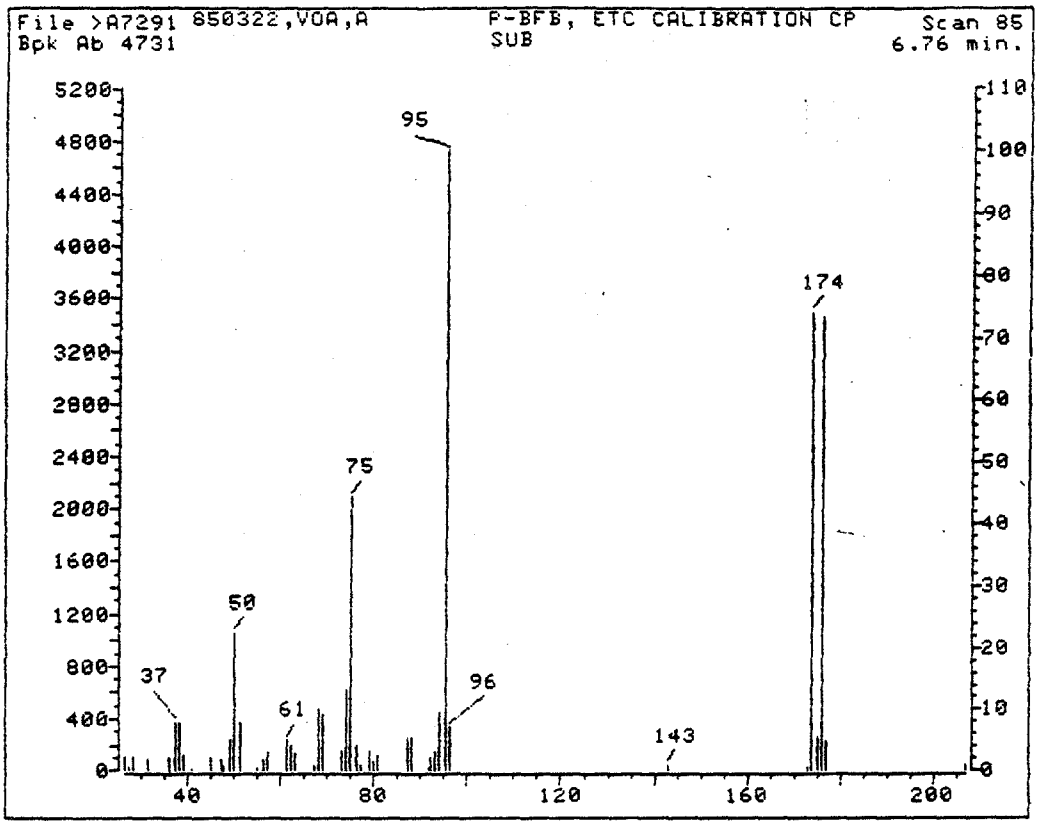


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.26	22.26	Ok
75	30-60% of mass 95	44.35	44.35	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.00	7.00	Ok
173	Less then 1% of mass 95	.55	.55	Ok
174	Greater then 50% of mass 95	73.98	73.98	Ok
175	5-9% of mass 174	5.33	7.20	Ok
176	95-101% of mass 174	73.13	98.86	Ok
177	5-9% of mass 176	4.92	6.73	Ok

Injection Date: 03/22/85
Injection Time: 18:31
Run No: >A7291
Spectrun No: 85

Analyst: Thomas P. Monaco
Processor: ~~[illegible] 8V3026~~
QC Batch: ~~8~~ 8V3026
Samples: H2207-H2212, H2139, H2140, H0297, H0298

300540

014

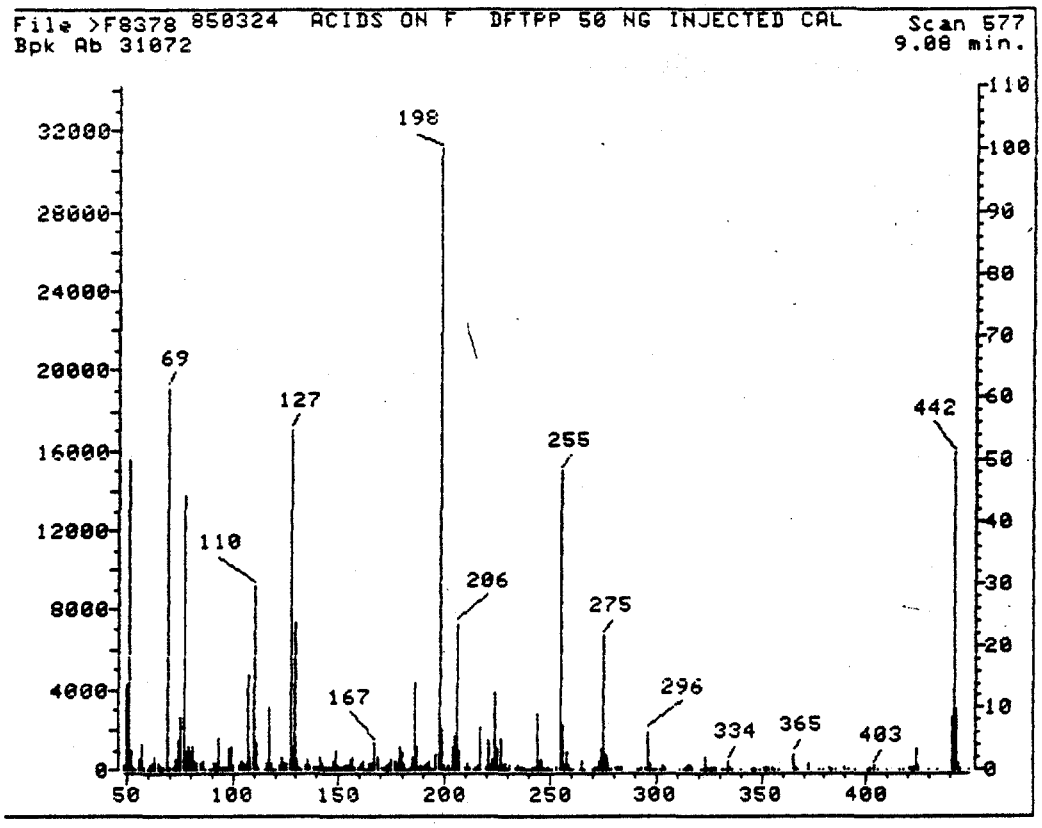


TABLE 2: METHOD PERFORMANCE DATA (QR22)

C/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	49.99	49.99	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less then 2% of mass 69	.44	.72	Ok
127	40-60% of mass 198	54.81	54.81	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	6.62	6.62	Ok
275	10-30% of mass 198	21.41	21.41	Ok
365	Greater then 1% of mass 198	2.45	2.45	Ok
441	Less then mass 443	8.47	85.21	Ok
442	Greater then 40% of mass 198	50.97	50.97	Ok
443	17-23% of mass 442	9.94	19.51	Ok

Injection Date: 03/24/85 Analyst: K.E Bonanta
Injection Time: 23:17 Processor: Nita Mistry
Run No: >F8378 QC Batch: QA 2834
Spectrun No: 577 Samples: 63877, A2207-A2212, 69970 68833

300541

7006

015

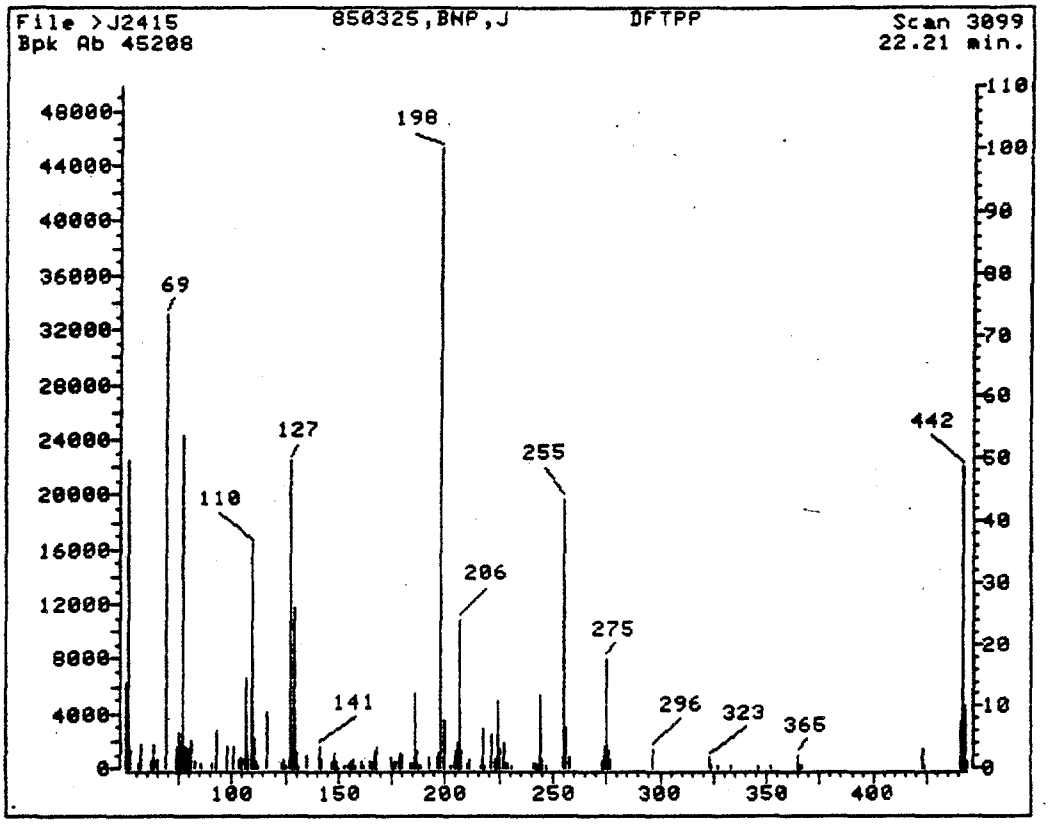


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.57	49.57	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	73.28	73.28	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.67	49.67	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	7.82	7.82	Ok
275	10-30% of mass 198	17.57	17.57	Ok
365	Greater then 1% of mass 198	2.21	2.21	Ok
441	Less then mass 443	7.49	73.87	Ok
442	Greater then 40% of mass 198	48.68	48.68	Ok
443	17-23% of mass 442	10.13	20.82	Ok

Injection Date: 03/26/85 Analyst: Tom Lusowicz
Injection Time: 15:03 Processor: Mita Mukherjee
Run No: >J2415 QC Batch: QB2834
Spectrun No: 3099 Samples: H2207-H2212, G9144, G9146-G9148, G9150, G9153, G9970

300542

Relative Percent Difference (RPD) for VOA

H2208 NJ DEP — Job Number / Account Name
NJDCOMBESO WLING VNFN 850321 1135 — Facility Source / Date Time

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	3	6	67
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	1	6	143
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

Relative Percent Difference (RPD) for ACID

H2208 NJ DEP — Job Number / Account Name

NJDCOMBESO WLING VNFN 850321 1135 — Facility Source / Date Time

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 PEST

H2208 NJ DEP — Job Number / Account Name
NJDCOMBESO WLING VNFN — Facility Source
850321 1135 — Date Time

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

H2208 NJ DEP — Job Number / Account Name
NJDCOMBESO WLING VNFN 850321 1135 — Facility Source / Date Time

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

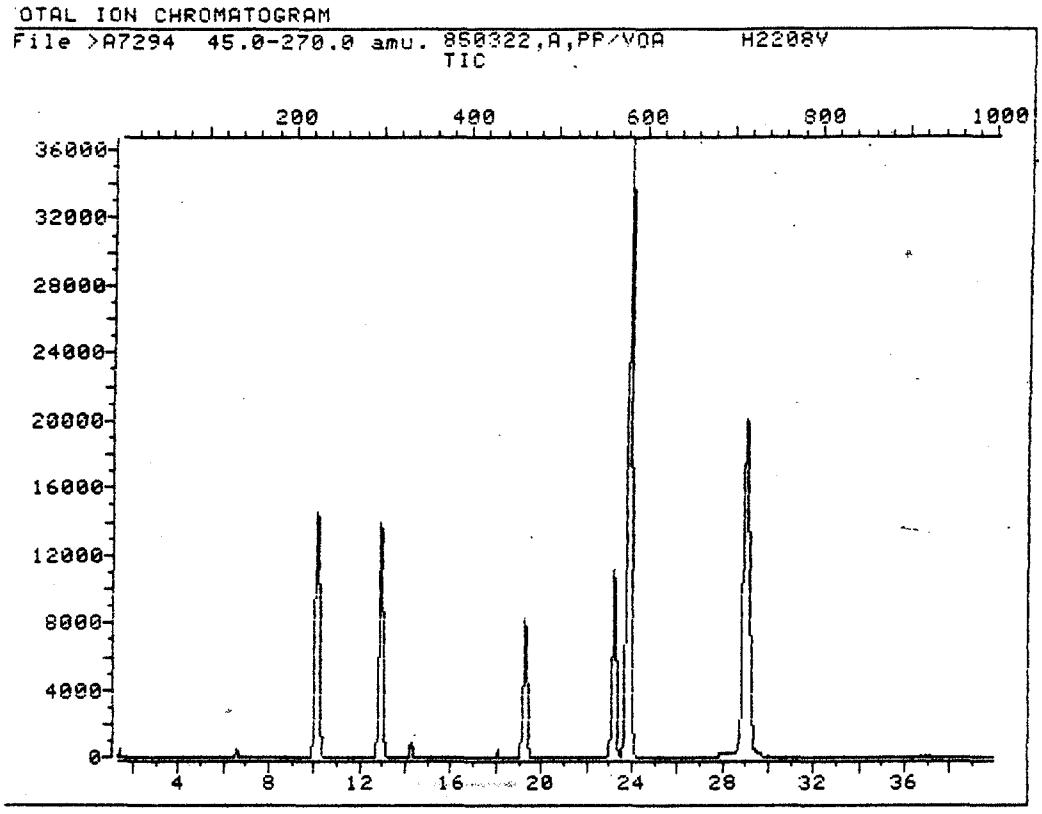
Appendix A

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.

300548



Data File: >A7294::U2
Name: 850322,A,PP/VOA
Misc: H2208V

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: TM0576
Quant Time: 850323 07:31

300549

QUANT REPORT

Operator ID: TM0576
Quant Rev: 3 Quant Time: 850323 07:31
Injected at: 850322 21:40
Data File: >A7294::U2 Dilution Factor: 1.00
Name: 850322,A,PP/VOA
Misc: H2208V

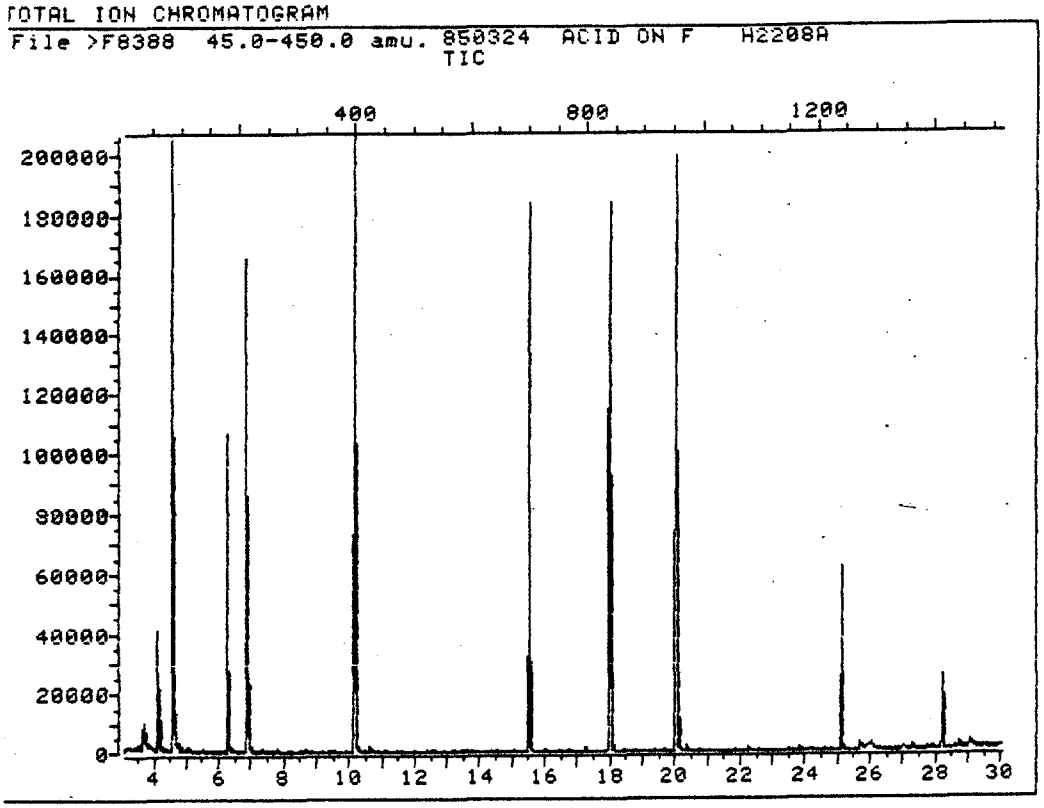
ID File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.26	466	55862	200.00	NG
34)	1,2-Dichloroethane-D4	12.90	301	35175	217.69	NG
35)	Toluene-D8	23.85	585	206815	227.72	NG
36)	p-Bromofluorobenzene	28.99	718	73961	215.18	NG
37)	*1,4-Dichlorobutane	23.20	568	72478	200.00	NG

* Compound is ISTD

300550

TOTAL ION CHROMATOGRAM
File >F8388 45.0-450.0 amu. 850324 ACID ON F H2208A
TIC



Data File: >F8388::U6
Name: 850324 ACID ON F
Misc: H2208A

BTL# 9

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

Operator ID: KB5414
Quant Time: 850325 08:40

300551

F700E

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:40
Injected at: 850325 05:55
Data File: >F8388::U6 Dilution Factor: 1.00
Name: 850324 ACID ON F
Misc: H2208A BTL# 9

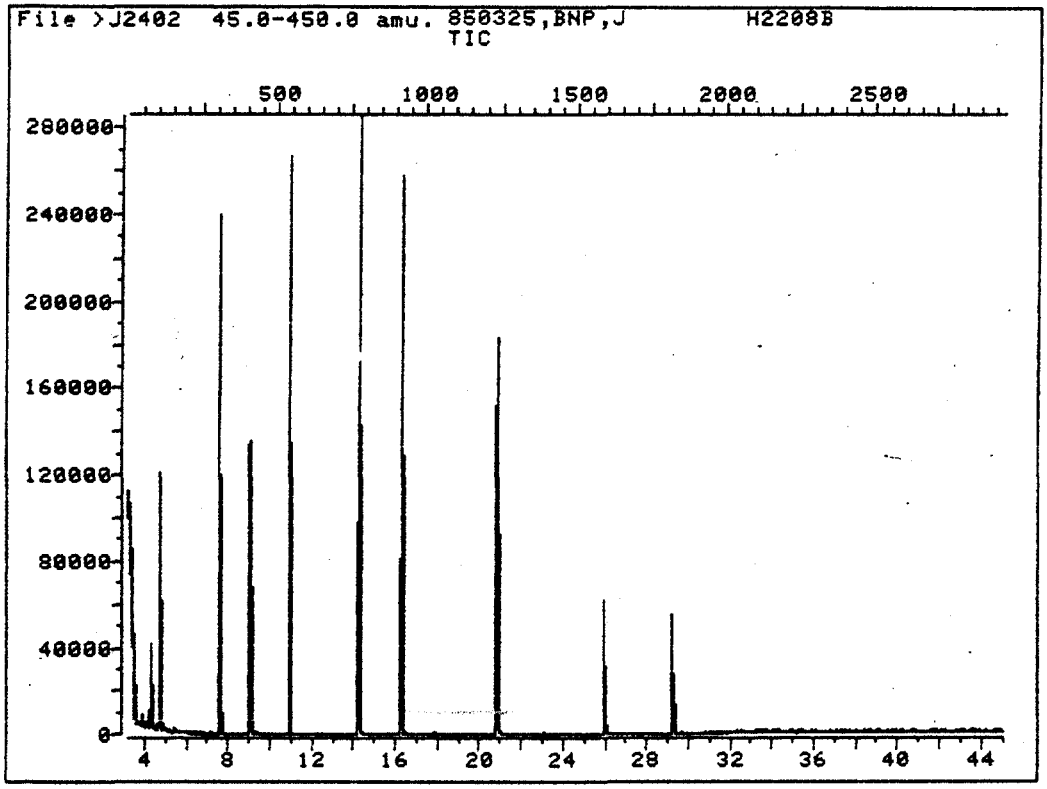
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.86	212	107667	40.00	UG/ML
3)	2-Fluorophenol	4.56	83	113684	66.64	UG/ML
3)	2-Fluorophenol	4.83	98	307	~~.18~~	~~UG/ML~~
5)	Phenol-D5	6.23	177	80144	43.87	UG/ML
5)	Phenol-D5	6.87	213	644	~~.35~~	~~UG/ML~~
6)	*d8-Naphthalene	10.14	397	223676	40.00	UG/ML
11)	*d10-Acenaphthalene	15.50	698	124470	40.00	UG/ML
16)	*d10-Phenanthrene	20.03	953	249941	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.99	838	55295	93.90	UG/ML

* Compound is ISTD

300552

TOTAL ION CHROMATOGRAM



Data File: >J2402::U2
Name: 850325,BNP,J
Misc: H2208B

BTL# 9

Id File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

Operator ID: TR9113
Quant Time: 850326 23:00

300553

QUANT REPORT

Operator ID: TR9113

Quant Rev: 3 Quant Time: 850326 23:00
Injected at: 850326 22:12
Dilution Factor: 1.00

Data File: >J2402::U2
Name: 850325,BNP,J
Misc: H2208B

BTL# 9

J886AE

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.53	306	102816	40.00	UG/ML
2)	N-Nitrosodimethylamine	3.31	11	2466	~~2.69~~	~~UG/ML~~
8)	Nitrobenzene-d5	8.98	407	143244	32.46	UG/ML
10)	*d8-Naphthalene	10.85	538	377269	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	251026	38.50	UG/ML
12)	N-Nitrosodi-n-propylamine	8.98	407	18060	~~6.58~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	912	181497	40.00	UG/ML
23)	Dimethyl phthalate	16.20	912	31024	~~3.93~~	~~UG/ML~~
28)	Diethyl phthalate	17.87	1029	868	~~.12~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	231318	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	3553	~~.44~~	~~UG/ML~~
58)	*d12-Chrysene	29.16	1819	73213	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	75210	31.78	UG/ML

-79

* Compound is ISTD

300554

Appendix B

GC/MS Calibration Data

300555

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00759	2.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.01130	21.52	Average	(Conc=400.00)
Benzene	2.26343	2.36695	4.57	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.40933	3.91	Average	
Carbon tetrachloride	.70237	.66949	4.68	Average	
Chlorobenzene	1.52935	1.57670	3.10	Average	
Chlorodibromomethane	.69374	.70172	1.15	Average	
Chloroethane	.13254	.14557	9.83	Average	
2-Chloroethylvinyl ether	.29315	.31732	8.25	Average	
Chloroform	1.49245	1.60717	7.69	Average	
Dichlorobromomethane	1.00980	1.05578	4.55	Average	
Dichlorodifluoromethane	.16533	.15146	8.39	Average	
1,1-Dichloroethane	.97647	1.00277	2.69	Average	
1,2-Dichloroethane	.85557	.94816	10.82	Average	
1,1-Dichloroethylene	1.00001	.94938	5.06	Average	
1,2-Dichloropropane	.83951	.90397	7.68	Average	
trans-1,3-Dichloropropylene	.68624	.66508	3.08	Average	
cis-1,3-Dichloropropylene	-	-	-	Average	
Ethylbenzene	2.92450	3.04036	3.96	Average	
Methyl bromide	.14225	.13208	7.15	Average	
Methyl chloride	.44723	.43620	2.47	Average	
Methylene chloride	.14438	.18028	24.86	Average	
1,1,2,2-Tetrachloroethane	.83452	.93597	12.16	Average	
Tetrachloroethylene	.88116	.84556	4.04	Average	
Toluene	2.58175	2.63445	2.04	Average	
1,2-Trans-dichloroethylene	1.01197	.98718	2.45	Average	
1,1,1-Trichloroethane	.84920	.95146	12.04	Average	
1,1,2-Trichloroethane	.51355	.56918	10.83	Average	
Trichloroethylene	.56000	.55064	1.67	Average	
Trichlorofluoromethane	1.05182	1.04730	.43	Average	
Vinyl chloride	.23812	.23732	.33	Average	
1,2-Dichloroethane-D4	.46030	.48311	4.96	Average	(Conc=250.00)
Toluene-D8	2.83719	2.74046	3.41	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.01404	5.00	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

300556

030

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File:)A7277
Injection Time: 850322 08:17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
rolein	.00738	.00884	19.87	Average	(Conc=4000.00)
rylonitrile	.01440	.13271	821.63	Average	(Conc=400.00)
nzene	2.26343	2.49908	10.41	Average	
s(Chloromethyl)ether	-	-	-	Average	
omoform	.42598	.44373	4.17	Average	
rbon tetrachloride	.70237	.73549	4.72	Average	
lorobenzene	1.52935	1.65404	8.15	Average	
ılorodibromomethane	.69374	.74853	7.90	Average	
loroethane	.13254	.16074	21.27	Average	
-Chloroethylvinyl ether	.29315	.34050	16.15	Average	
loroform	1.49245	1.68143	12.66	Average	
.chlorobromomethane	1.00980	1.11452	10.37	Average	
chlorodifluoromethane	.16533	.17440	5.49	Average	
.1-Dichloroethane	.97647	1.06009	8.56	Average	
2-Dichloroethane	.85557	.99072	15.80	Average	
,1-Dichloroethylene	1.00001	1.02252	2.25	Average	
2-Dichloropropane	.83951	.92571	10.27	Average	
ans-1,3-Dichloropropylene	.68624	.73263	6.76	Average	
s-1,3-Dichloropropylene	.52512	.52617	.20	Average	
thylbenzene	2.92450	3.15306	7.82	Average	
ethyl bromide	.14225	.11614	18.35	Average	
ethyl chloride	.44723	.53753	20.19	Average	
ethylene chloride	.14438	.18617	28.94	Average	(1)
,1,2,2-Tetrachloroethane	.83452	.99819	19.61	Average	
etrachloroethylene	.88116	.89390	1.45	Average	
oluene	2.58175	2.80600	8.69	Average	
,2-Trans-dichloroethylene	1.01197	1.03942	2.71	Average	
,1,1-Trichloroethane	.84920	.98838	16.39	Average	
,1,2-Trichloroethane	.51355	.58132	13.20	Average	
richloroethylene	.56000	.57108	1.98	Average	
richlorofluoromethane	1.05182	1.12827	7.27	Average	
inyl chloride	.23812	.25087	5.35	Average	
,2-Dichloroethane-D4	.46030	.47036	2.19	Average	(Conc=250.00)
oluene-D8	2.83719	2.69823	4.90	Average	(Conc=250.00)
-Bromofluorobenzene	1.06746	1.00031	6.29	Average	(Conc=250.00)
,1,1,2-Tetrachloroethane	-	-	-	Average	
tyrene	-	-	-	Average	
,2-Dibromo-3-Chloropropane	-	-	-	Average	
romobenzene	-	-	-	Average	
-Chlorotoluene	-	-	-	Average	
-Chlorotoluene	-	-	-	Average	
eta-Xylene	-	-	-	Average	(Conc=75.00)
rtho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
ropylbenzene	-	-	-	Average	

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

300557

300E

031

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850325 08:25

Compound	Files: >F8381 RF 60.00	>F8382 RF 100.00	>F8380 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.76356	.83867	.74054	.944	.78093	6.571	
Phenol	.75362	.79100	.76738	.913	.77067	2.453	
2,4-Dichlorophenol	.27080	.29320	.24170	.969	.26857	9.615	
2,4-Dimethylphenol	.33404	.37237	.31240	.926	.33960	8.943	
2-Nitrophenol	.17761	.20297	.18032	.904	.18697	7.446	
p-Chloro-m-cresol	.31219	.32754	.28079	1.190	.30684	7.766	
4,6-Dinitro-o-cresol	.22647	.29143	.30170	1.136	.27320	14.933	
2,4-Dinitrophenol	.13182	.16687	.21471	1.025	.17113	24.313	
4-Nitrophenol	.26598	.30397	.30452	1.049	.29149	7.580	
2,4,6-Trichlorophenol	.34641	.38430	.31699	.856	.34923	9.662	
Pentachlorophenol	.11444	.13158	.11626	.984	.12076	7.798	
2-Fluorophenol	.59468	.66553	.64127	.660	.63382	5.681	(Conc=100.0,100.0,100.0)
Phenol-D5	.64038	.68374	.71218	.908	.67876	5.327	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.08766	.10429	.09077	.898	.09424	9.378	(Conc=100.0,100.0,100.0)

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

032

300558

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
-Nitrosodimethylamine	-	-	-	-	-	-	-	
s(2-Chloroethyl) ether	2.00571	2.13516	2.14932	-	.938	2.09673	3.775	
3-Dichlorobenzene	1.60123	1.75494	1.77725	-	.989	1.71114	5.601	
,4-Dichlorobenzene	1.75399	1.93459	2.03805	-	1.006	1.90888	7.531	
,2-Dichlorobenzene	1.73350	1.86518	1.91383	-	1.064	1.83750	5.078	
trobenzene-d5	1.69135	1.72120	1.73779	-	1.197	1.71678	1.371	(Conc=50.0,50.0,50.0,50.0)
s(2-Chloroisopropyl)ether	.29921	.32213	.30814	-	1.106	.30983	3.728	
-Fluorobiphenyl	.66715	.69963	.70722	-	1.304	.69133	3.079	(Conc=50.0,50.0,50.0,50.0)
-Nitrosodi-n-propylamine	.29042	.31573	.26633	-	.804	.29083	8.493	
xachloroethane	.11149	.11314	.11990	-	.804	.11485	3.882	
trobenzene	.48705	.53837	.56214	-	.834	.52918	7.252	
ophorone	.67764	.67101	.71173	-	.890	.68679	3.181	
s(2-Chloroethoxy)methane	.45639	.50623	.48037	-	.954	.48100	5.183	
,2,4-Trichlorobenzene	.26105	.27492	.30311	-	.990	.27969	7.664	
phthalene	1.08256	.90528	1.17031	-	1.007	1.05272	12.825	
xachlorobutadiene	.15405	.15124	.16945	-	1.056	.15825	6.196	
xachlorocyclopentadiene	.24847	.32158	.36148	-	.843	.31051	18.458	
-Chloronaphthalene	1.16971	1.38547	1.51546	-	.891	1.35688	12.871	
imethyl phthalate	1.58204	1.83228	1.80250	-	.970	1.73894	7.861	
enaphthylene	2.31351	2.36939	2.78464	-	.971	2.48918	10.341	
,6-Dinitrotoluene	.30296	.35086	.35578	-	.982	.33653	8.670	
enaphthene	1.50394	1.69463	1.69863	-	1.008	1.63240	6.816	
,4-Dinitrotoluene	.24610	.30466	.32313	-	1.053	.29130	13.805	
iethyl phthalate	1.49776	1.63907	1.72022	-	1.107	1.61901	6.953	
luorene	1.31068	1.48414	1.51338	-	1.105	1.43606	7.630	
-Chlorophenyl phenyl ether	.47471	.55595	.59740	-	1.110	.54269	11.501	
-Nitrosodiphenylamine	.58147	.75207	.84103	-	1.136	.72486	18.197	
,2-Diphenylhydrazine	1.46457	1.71293	1.97610	-	1.140	1.71787	14.891	
-Bromophenyl phenyl ether	.21467	.26327	.28297	-	.937	.25363	13.860	
xachlorobenzene	.25084	.26391	.26410	-	.956	.25962	2.927	
enanthrene	.95335	1.12081	1.16894	-	1.004	1.08103	10.469	
nthracene	1.08936	1.31865	1.38202	-	1.012	1.26334	12.188	
i-n-butyl phthalate	1.24755	1.39169	1.57505	-	1.108	1.40476	11.685	
luoranthene	.71240	.79531	.92843	-	1.185	.81205	13.421	
enzidine	.00355	.01784	.15308	-	1.211	.05816	141.884	
yrene	.67249	.74158	.85998	-	1.218	.75802	12.509	
lpha-BHC	.17577	.18898	-	.27508	.944	.21328	25.287	
eta-BHC	.15025	.14853	-	-	.989	.14939	.814	
amma-BHC	.15025	.14853	-	.23212	.989	.17697	26.994	
elta-BHC	.09342	.09507	-	.16687	1.020	.11845	35.406	
eptachlor	.25255	.29932	-	.42292	1.082	.32493	27.089	
ldrin	.18976	.19480	-	.27049	1.127	.21835	20.711	
eptachlor epoxide	.08211	.06374	-	.14081	.838	.09555	42.131	

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

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

$\overline{F}$ - Average Response Factor

300559

033

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.03711	.03503	-	.13780	.859	.06998	83.943	
Endosulfan I	.10145	.07596	-	.12209	.871	.09983	23.145	
4,4'-DDE	.53392	.44356	-	.73316	.889	.57021	25.986	
Dieldrin	.72347	.58904	-	.77568	.893	.69606	13.834	
Endrin	.06811	.06033	-	.07807	.912	.06884	12.914	
Endosulfan II	.07236	.07841	-	.09781	.920	.08286	16.048	
4,4'-DDD	.72215	.67457	-	1.06136	.924	.81936	25.742	
Endrin aldehyde	-	-	-	.27225	.937	.27225	-	
4,4'-DDT	.62198	.60434	-	.95673	.955	.72769	27.285	
Endosulfan sulfate	.11604	.10426	-	.19246	.955	.13759	34.804	
Terphenyl-D14	1.45457	1.33032	1.09364	-	.889	1.29285	14.183	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.01276	1.16971	1.04826	-	.949	1.07691	7.643	
Benzo(a)anthracene	1.20557	1.38543	1.36745	-	.998	1.31948	7.508	
Chrysene	1.24619	1.28462	1.20289	-	1.003	1.24457	3.286	
3,3'-Dichlorobenzidine	.14238	.25873	.37811	-	1.000	.25974	45.379	
bis(2-Ethylhexyl)phthalate	1.28539	1.61735	1.47943	-	1.016	1.46072	11.417	
Di-n-octyl phthalate	1.74922	2.60869	2.56817	-	1.078	2.30869	21.005	
Benzo(b)fluoroanthene	.91095	1.21683	-	-	1.109	1.06389	20.330	
Benzo(k)fluoranthene	1.04272	1.11371	-	-	1.112	1.07822	4.656	
Benzo(a)pyrene	.86854	1.02772	1.08836	-	1.144	.99487	11.412	
Indeno(1,2,3-c,d)pyrene	.93919	1.21051	1.36545	-	1.293	1.17172	18.414	
Dibenzo(a,h)anthracene	.68069	.87789	1.03428	-	1.296	.86429	20.501	
Benzo(ghi)perylene	.73653	.90724	1.01704	-	1.333	.88694	15.937	
1,2,3,4-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
1,2,3,5-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
Pentachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)

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

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

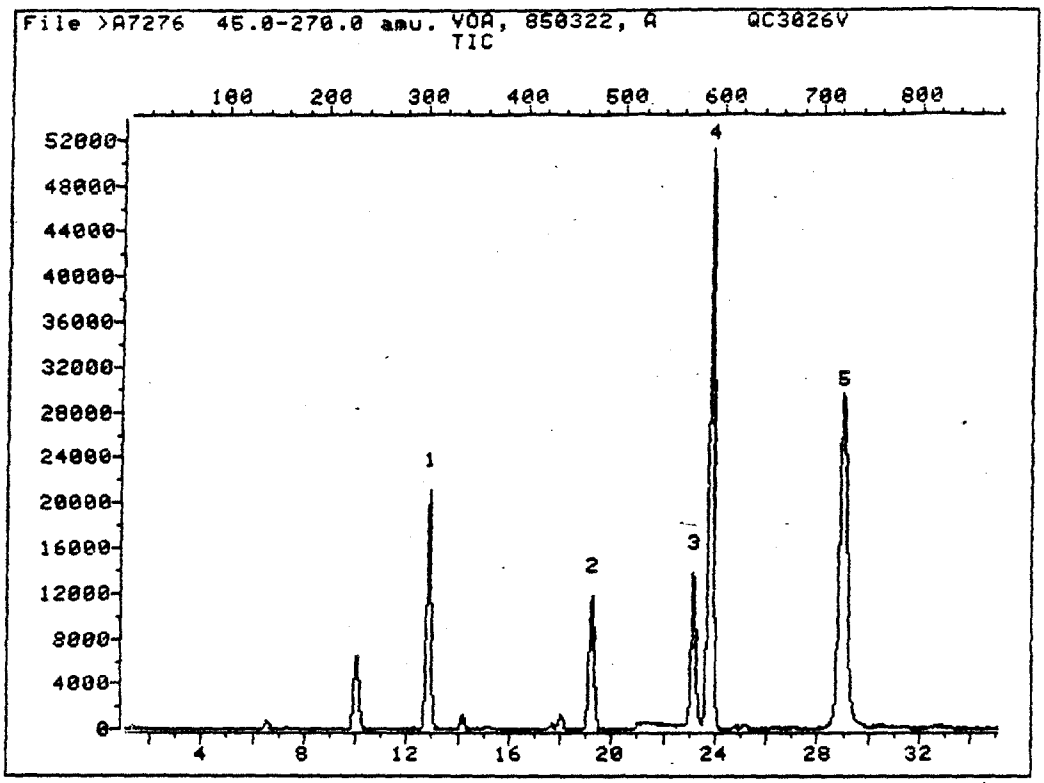
$\overline{RF}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7276::U2
Name: VOA, 850322, A
Misc Data: QC3026V

300562

QUANT REPORT

rator ID: TM0576 Quant Rev: 3 Quant Time: 850322 09:12
Injected at: 850322 07:30
a File: >A7276::U2 Dilution Factor: 1.00
e: VOA, 850322, A
c: QC3026V

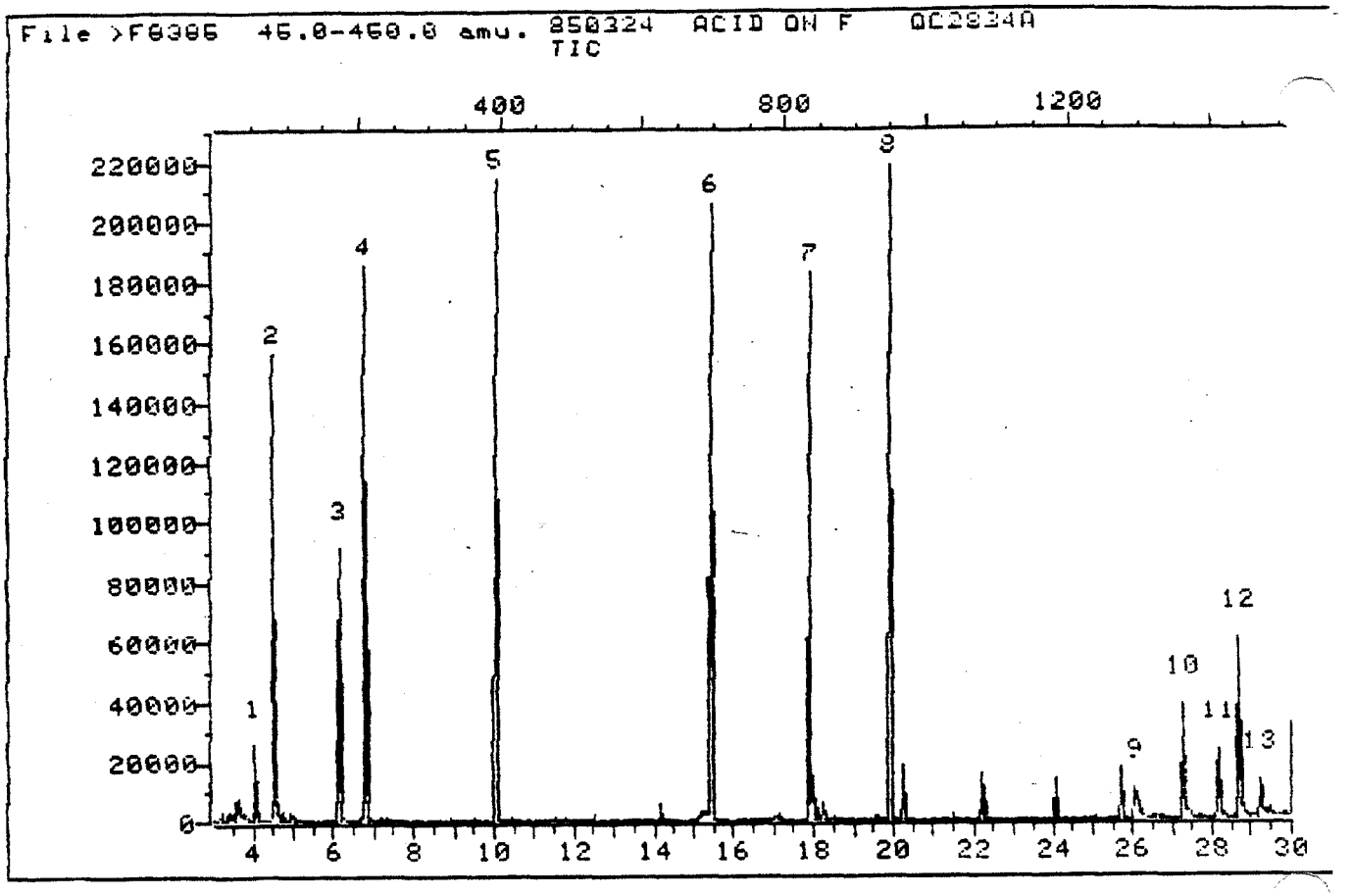
File: AVOA
le: IDFILE FOR PP VOAS
t Calibration: 850322 09:12

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.21	471	67258	200.00	NG
Carbon tetrachloride	14.19	341	495	~~2.10~~	~~NG~~
Toluene	23.95	594	2353	~~2.71~~	~~NG~~
1,1,1-Trichloroethane	14.19	341	5363	18.78	NG ✓
1,2-Dichloroethane-D4	12.84	306	48637	250.00	NG
Toluene-D8	23.80	590	273371	250.00	NG
p-Bromofluorobenzene	28.97	724	103458	250.00	NG
*1,4-Dichlorobutane	23.14	573	85458	200.00	NG

Compound is ISTD

300563

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A

RTL# 6

300564

QUANT REPORT

rator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:36
Injected at: 850325 04:02
a File: >F8385::U6 Dilution Factor: 1.00
e: 850324 ACID ON F
c: QC2834A BTL# 6

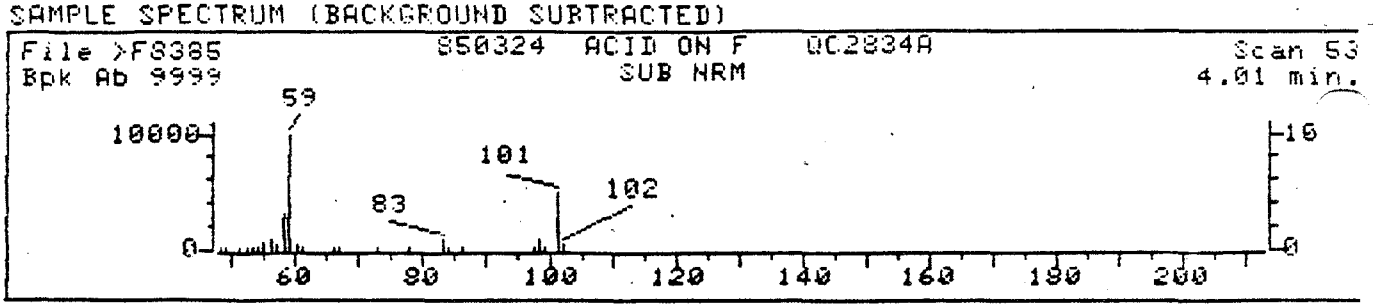
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850325 08:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.75	207	114254	40.00	UG/ML
2-Fluorophenol	4.45	78	113153	62.50	UG/ML
Phenol-D5	6.12	172	81565	42.07	UG/ML
Phenol-D5	6.75	207	819	.42	UG/ML
*d8-Naphthalene	10.04	392	247294	40.00	UG/ML
*d10-Acenaphthalene	15.41	694	136968	40.00	UG/ML
*d10-Phenanthrene	19.91	947	272572	40.00	UG/ML
2,4,6-Tribromophenol	17.88	833	55655	86.67	UG/ML

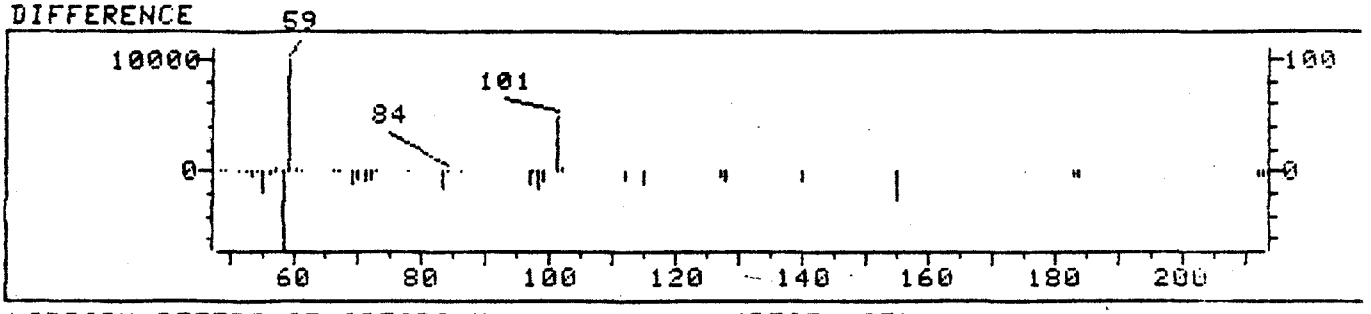
Compound is ISTD

300565

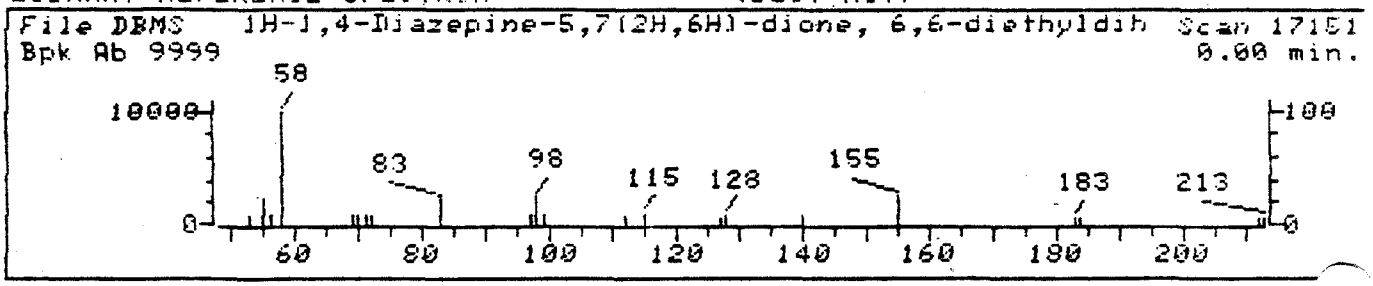
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A BTL# 6
RT (min): 4.01
Scan: 53
Area: 67198
Semi-quantitative Conc: 5.35 UG/ML

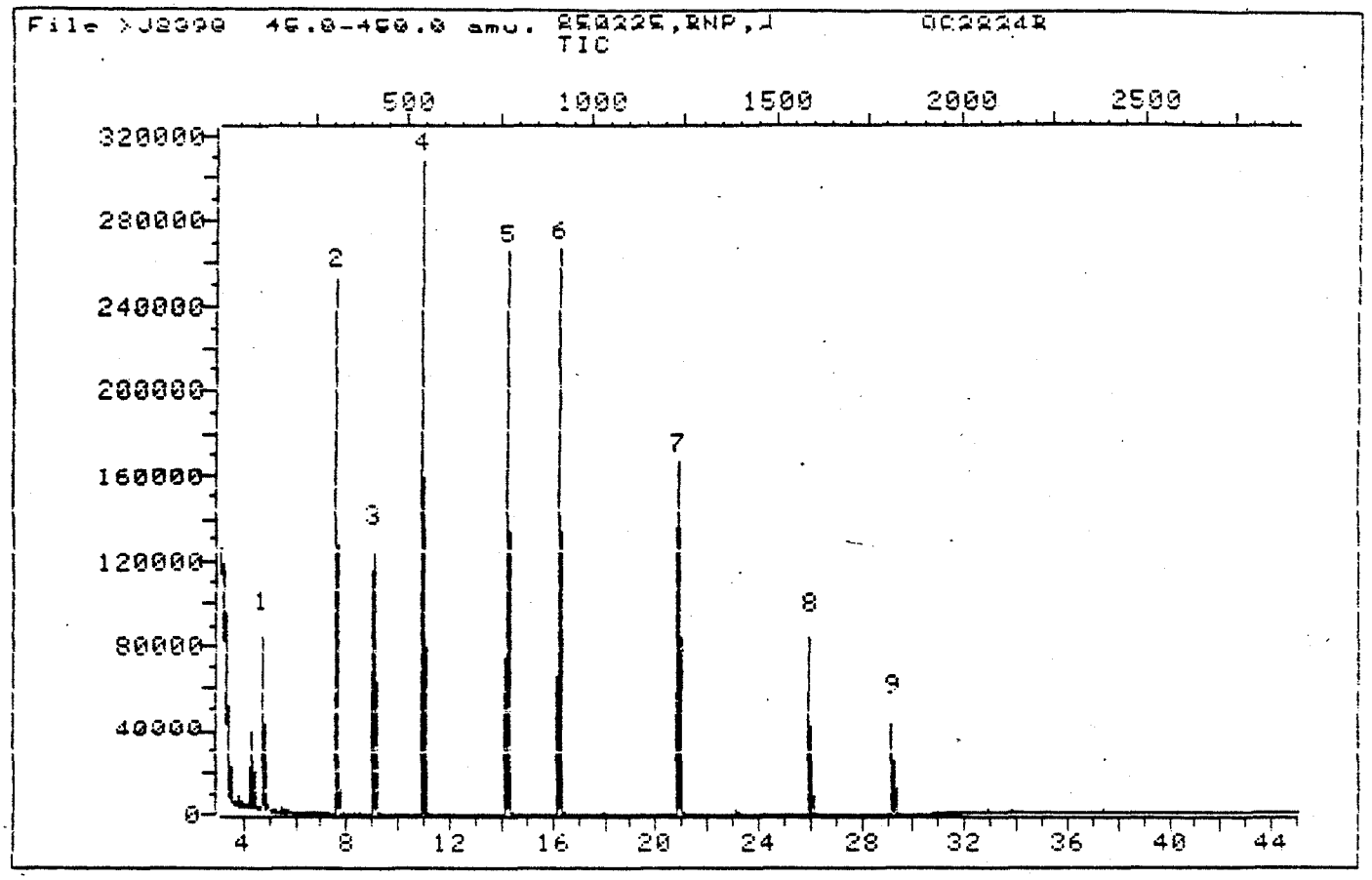
Data File: >F8385 Scan Number: 53
Search Speed: 2 Titling option: S Number of ion ranges searched: 58

1. 1H-1,4-Diazepine-5,7(2H,6H)-dione, 6,6-diethyldihydr 212 C11H20N2O2
o-2,2-dimethyl- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	36	69315931	38	51	0	-2

300566

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: 0C2834B

BTL# 5

300567

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 16:45
Injected at: 850326 15:57
Data File: >J2398::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: QC2834B BTL# 5

J086AA

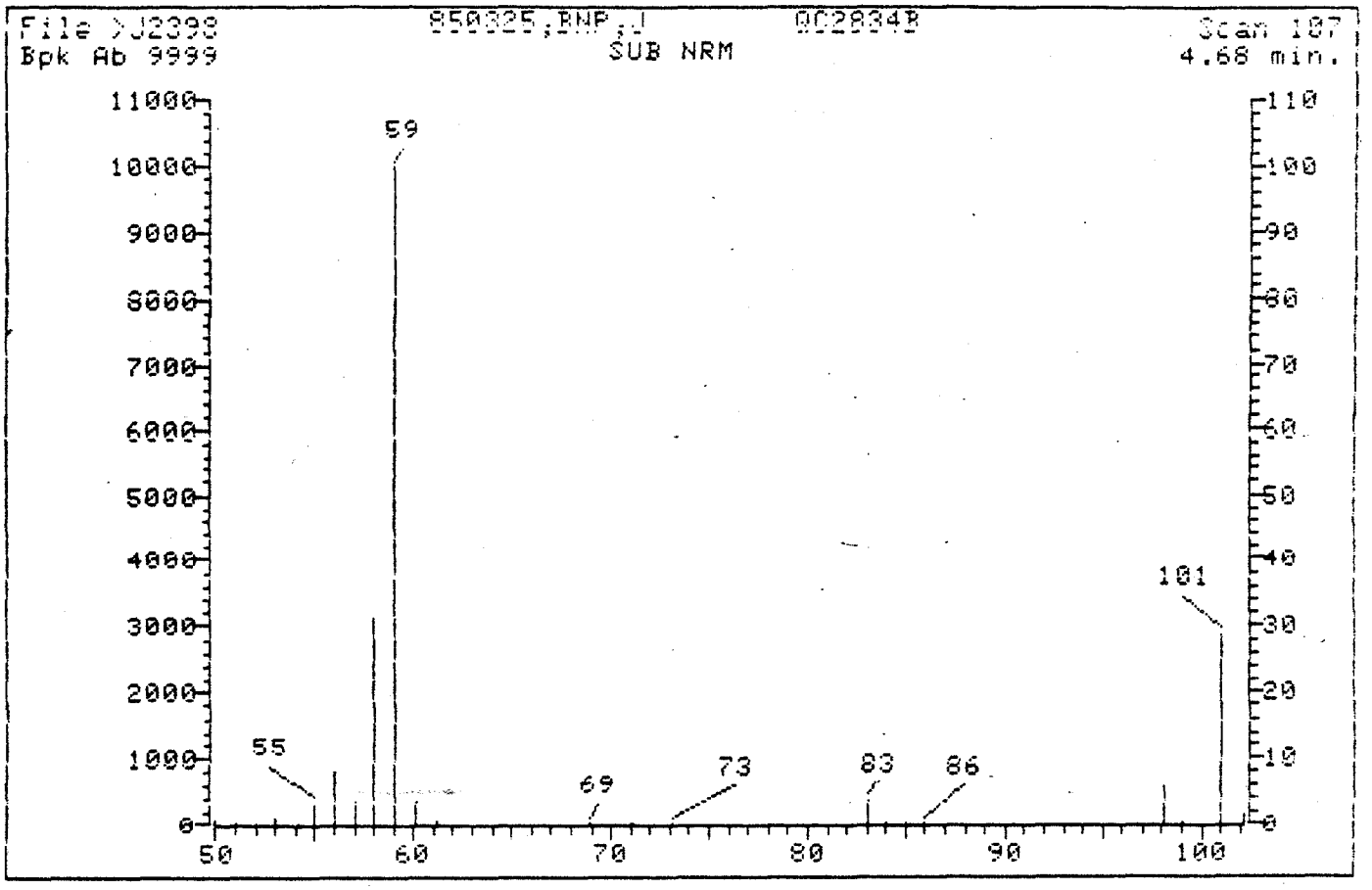
ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	104366	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	407	127170	28.39	UG/ML
10)	*d8-Naphthalene	10.85	539	393618	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	234312	34.44	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	407	15690	~~5.48~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	913	183550	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	32456	~~4.87~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	225585	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	6268	.79	UG/ML
58)	*d12-Chrysene	29.15	1819	59669	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	103871	53.86	UG/ML

* .Compound is ISTD

300568

300568



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B
RT (min): 4.68
Scan: 107
Area: 155021
Semi-quantitative Conc: 7.73 UG/ML

BTL# 5

No PBM hits for this scan.

300569

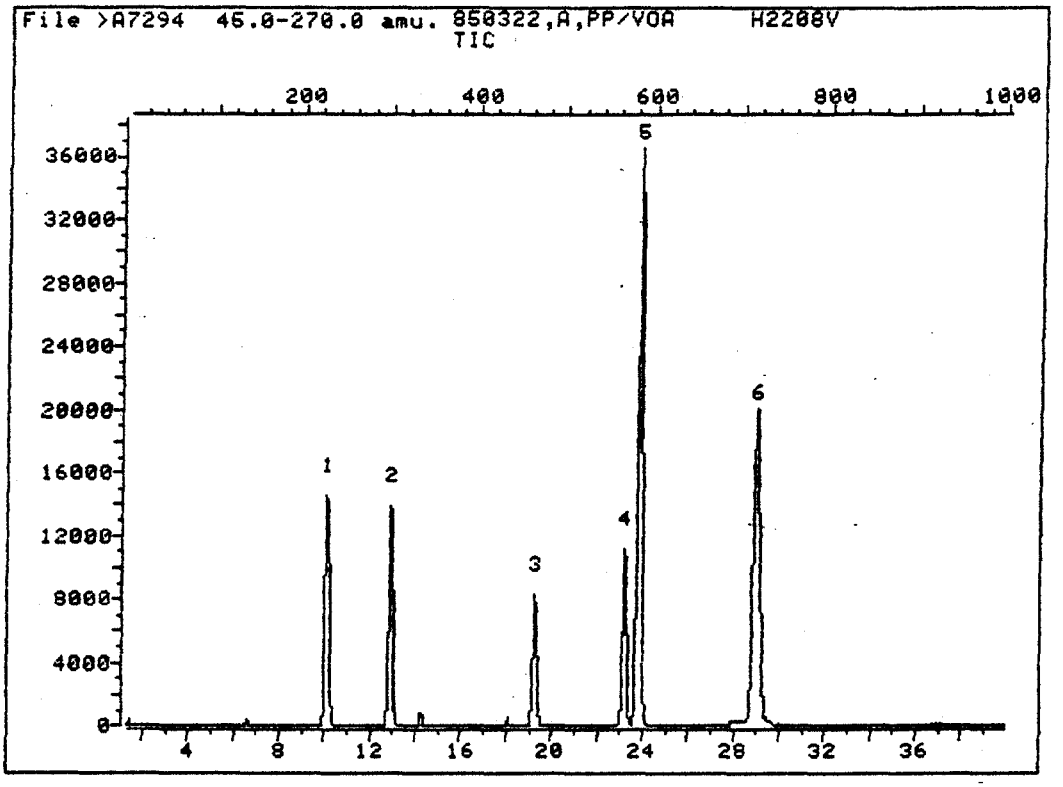
300569

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.

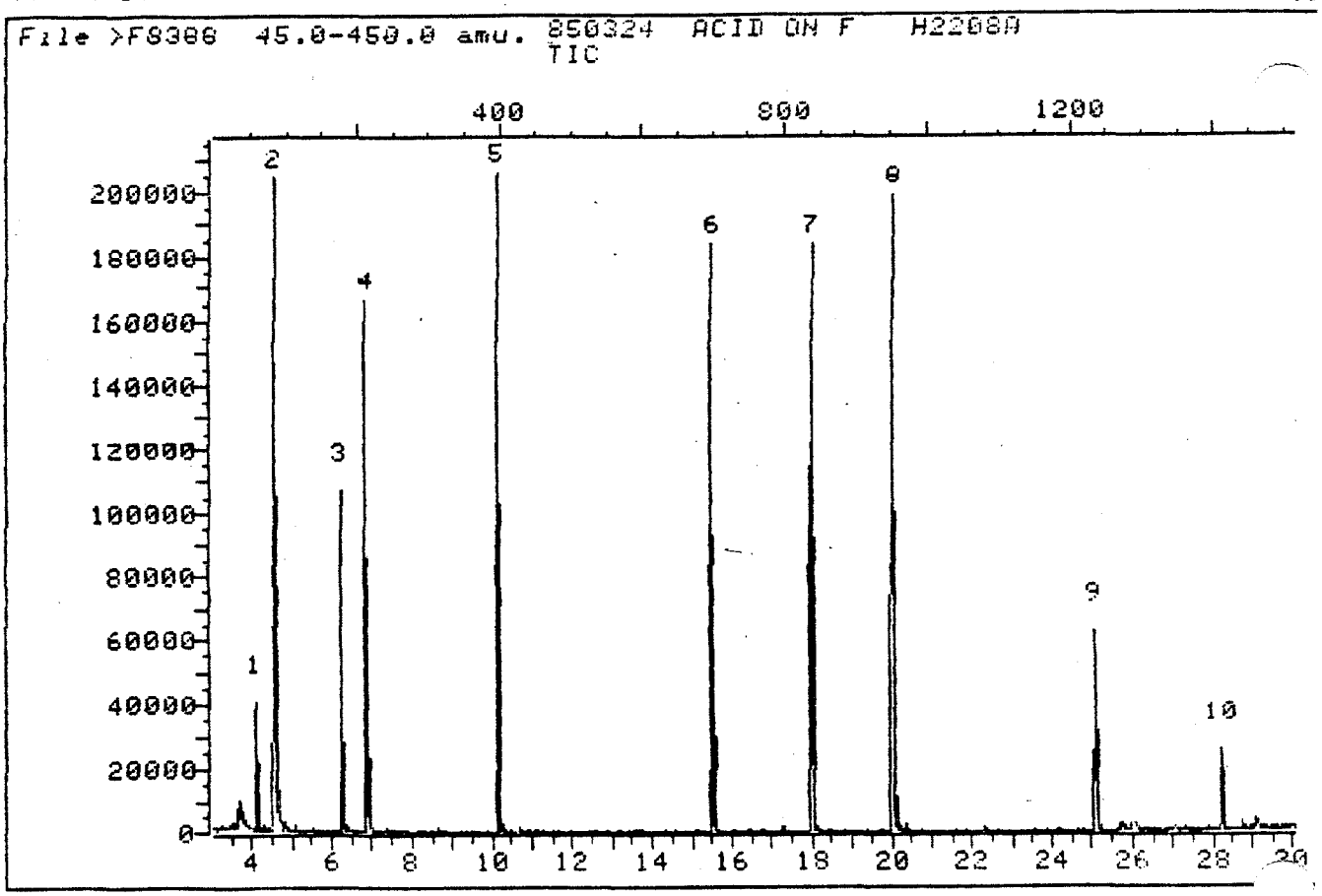
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7294::U2
Name: 850322,A,PP/VOA
Misc Data: H2208V

300571

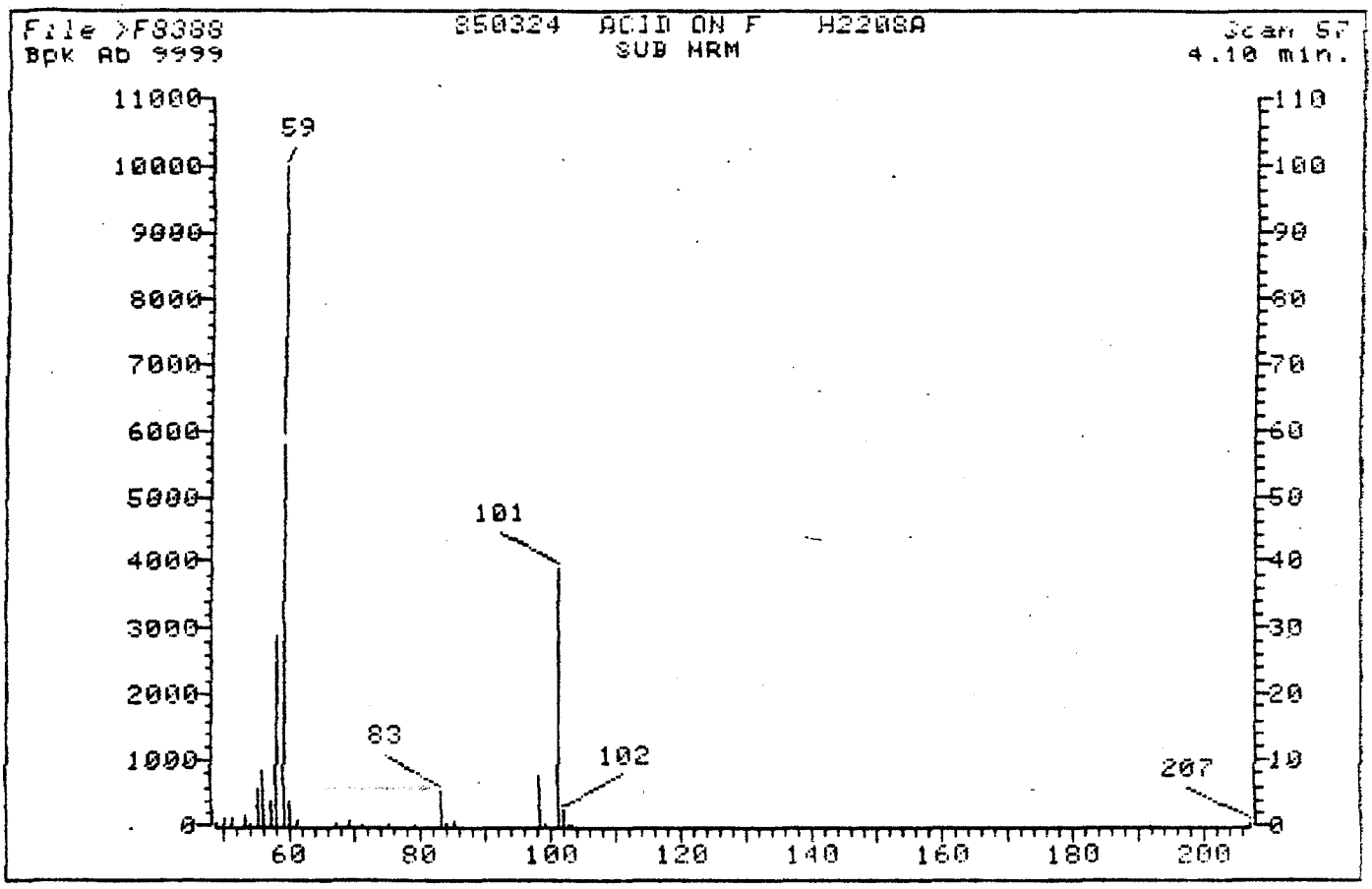
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8388::U6
Name: 850324 ACID ON F
Misc Data: H2208A

BTL#

300572



Data File: >F8388::U6
Name: 850324 ACID ON F
Misc Data: H2208A
RT (min): 4.10
Scan: 57
Area: 76944
Semi-quantitative Conc: 6.74 UG/ML

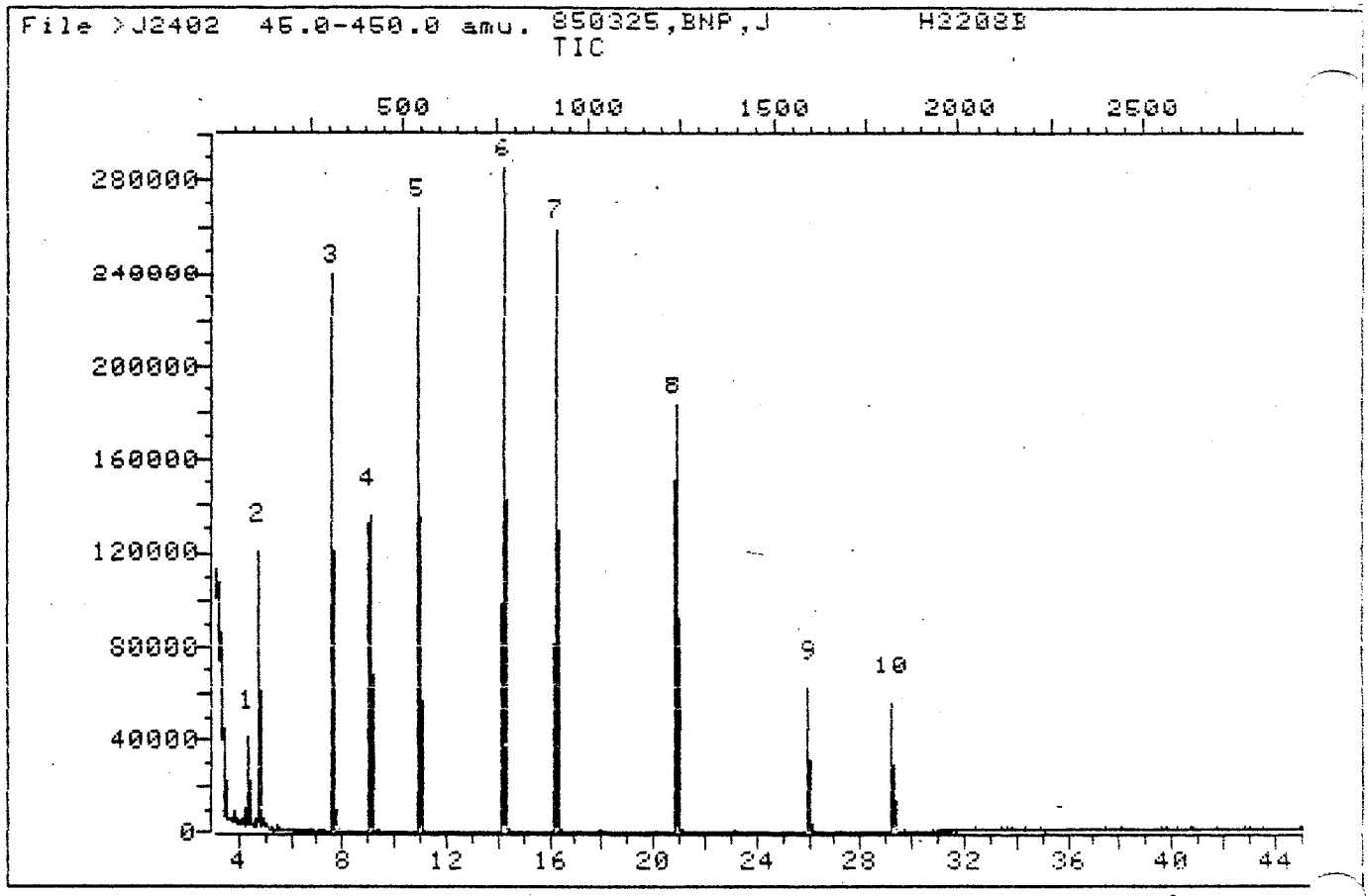
RTL# 9

No PBM hits for this scan.

300573

300573

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

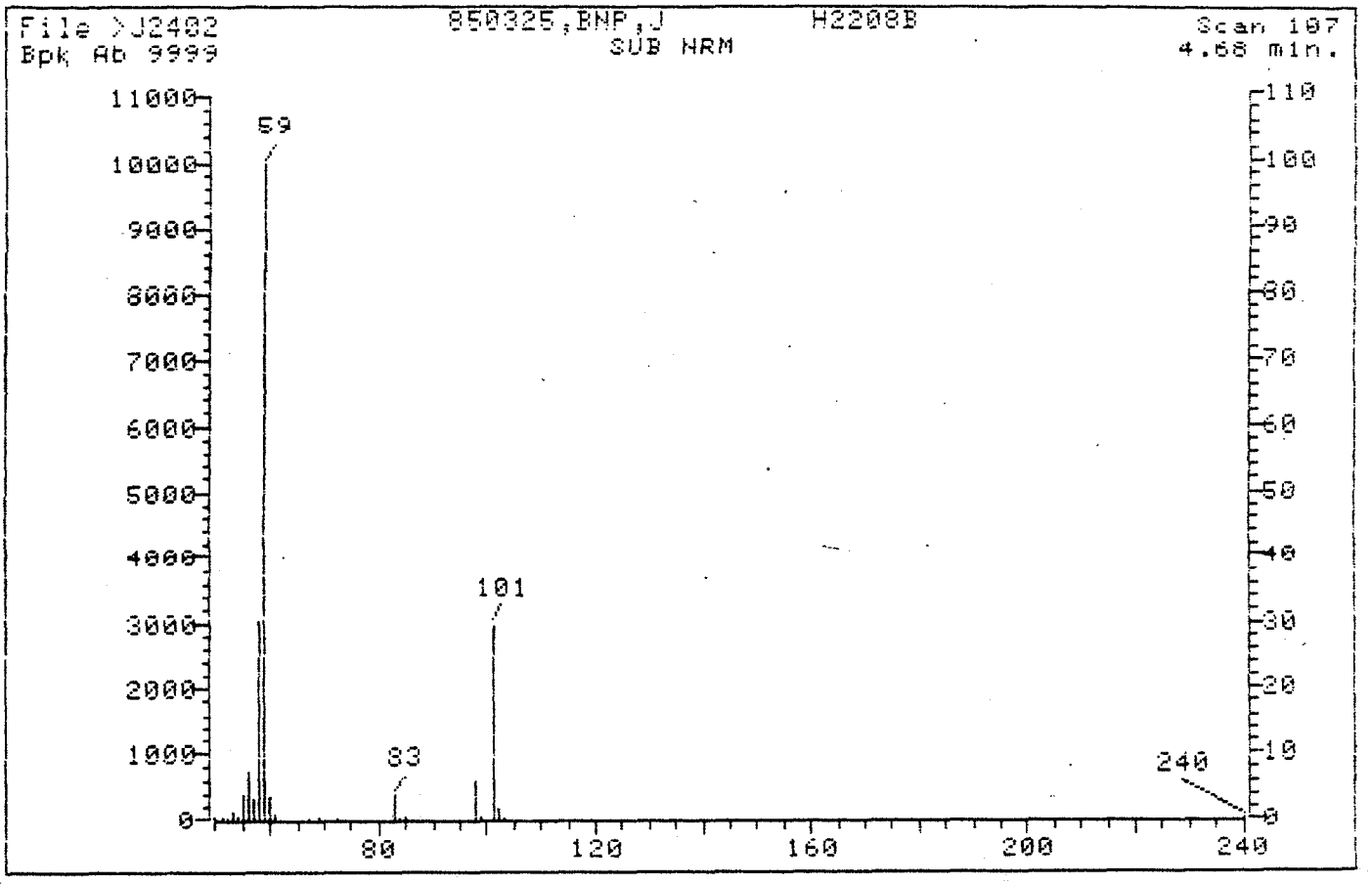


Data File: >J2402::U2
Name: 850325,BNP,J
Misc Data: H2208B

BTL# 9

300574

300574



Data File: >J2402::U2
Name: 850325,BNP,J
Misc Data: H2208B
RT (min): 4.68
Scan: 107
Area: 195364
Semi-quantitative Conc: 10.06 UG/ML

BTL# 9

No PBM hits for this scan.

300575

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.

300576

TC ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV.

ETC Job # 412081

Job ID: 85253-A2

Submitted by: MW CHYUN

Date: 3/26/85

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 MAR 27 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			

300577

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.

300578

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28509 ETC Job # H2206

Date Sealed 3-20-85 By: David

Company: NJDEP

Facility/Site: Trenton, NJ

Address: -- 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: KOMIGE DOCK (Facility/Site Code) NON-FILTERED (Optional Sample Point Descriptions)

Sample Point: W (Source Code) - LIVING INWFIN (Your Sample Point ID) 03/21/85 (Start Date YY/MM/DD) 1135 (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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N	OK	
1	M	1L	HNO3	Metals	N	OK	
1	CN	500ml	NaOH	Cyanides	N	OK	
1	PN	1L	H2SO4	Phenoles	N	OK	
2	V	40ml	Sod-Thio.	VOA	N	OK	
1	TB	40ml	DC/MS H2O	Trip blank	N	OK	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) S. BORGIANINI Date: 3/21/85 Time: 1135
   Signature: [signature] Seal #: 0087 Intact:

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: 300579
   Date: Time: Remarks:

4. Shuttle Sealed By: (print) Date: Time:
   Signature: Seal #: Intact:

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 800

Seal #: 28510 Condition: intact

P2008

053

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # 4A08

Sample Point LW LAING
Source Code Sample Point ID

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

Sampler Type [ ] 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)

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

Sample Temp (°C) Turbidity NTU

FIELD COMMENTS

Sample Appearance: Water Table Until Ind Prior To Purging
Weather Conditions:
Other:

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

Sampler: S. Stephens (Print) Employer: NJDEP

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

(Date) (Signature)

300580

300581

C-MS ANALYSIS CUSTODY LOG

ATE 3/22/85 SHIFT ___
RACTION VOA
NSTRUMENT A
JNE FILE AFE101
EQUENCE FILE SEQ
ETHOD FILE VOAA
DFILE AVOA
NALYST(S) S. Johnston
UPERVISOR [illegible]
ATCH #'s QV3026

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	91609	1µl

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
CQ	SJ	DATE	3/22
IP	PC	BY	SJ

H_2O PP/VOA

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
BFB	>A7275	1µl			A00106	OK 5:30 AM 3/22	
QC3026V	>A7276	5ml			QC1 ABV	3/22 0052 (0758)	
QC3026VS	>A7277	5ml			ACV	SVL ABC (0817)	
P-BFB	>A7278	1µl				(09:11)	
HC291V	>A7281	5ml	1	OK	AD		
HO291VS	>A7282	"	2	OK	AE	SVL ABC	
HC293V	>A7283	"	3	OK	AH		
HO293VR	>A7284	"	4	OK	AG		
HO294V	>A7285	"	5	OK	AH		
HO295V	>A7286	"	6	OK	AI		
HO301V	>A7287	"	7	OK	AJ		
HO303V	>A7288	"	8	OK	AK		
HO304V	>A7289	"	9	OK	A081 AL		
HO305V	>A7290	↓	10	OK	AM		
P-BFB	>A7291	1µl			A00106	1830hr	
QC3026VS	>A7292	FASt				SVL 3/22 19%	
H2207	>A7293		1		AH		
H2208	>A7294		2		AI		
H2209	>A7295		3		AJ		
H2210	>A7296		4		AK		
H2211	>A7297		5		A082 AL		
H2212	>A7298		6		AM		
H2213	>A7299		7		AN		
H2214	>A7300		8		AO		
HC295	>A7301		9		AP		
[illegible]	[illegible]		10		[illegible]		

055

TSO 8-84

EXTRACTION LOG

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg

Date: 3/23/85

Extraction Method:
- Sep funnel ✓
- cont. nuevs
- soxhlet
- other

Sample Number	Log Date	Sample Vol. (ml)	Extract Vol. (ml) BN	Extract Vol. (ml) ACID	Comments
H1801	8652	950	—	—	Could not get emulsion to separate
G3877	8492	1000		1.0	
H2207	8682	890	1.0	1.0	
H2208		1000	1.0	1.0	
H2209		1000	1.0	1.0	
H2210		850 1000	1.0	1.0	
H2211		950 1000	1.0	1.0	
H2212	↓	980 1000	1.0	1.0	
G8833	8354	980		1.0	
G9144		940	1.0		
G9146		830	1.0		
G9147		830	1.0		
G9148		850	1.0		
G9150		950	1.0		
G9153		1000	1.0		
G9970		1000	10.0	1.0	
QC 2834		1000	1.0	1.0	
QC 2834 S		1000	1.0	1.0	
H2211 S		1000	1.0	1.0	
H2211 R		1000	1.0	1.0	

COMMENTS FOR EXTRACT.:

* PP/T: H1801, H2207

PP/Acid (repeat): G3877
G8833

PP/BN: G9144, 46-48, 5
53

PP/org: G9970

COMMENTS FOR GC/MS:

H1801 EXTRACTED BY CONTINUOUS: QC2843

300582

FRACTION	SPIKE Amt: (ml)	Conc. (ng/µl)	Lot #
ACID	1.0	100	9700
Surrogate 1260	1.0	100	9763
B/N	1.0	100	9817
PEST	1.0	100/200	10190

SURROGATE

Amt. (ml)	Conc.	L
1.0	BN: 50 ng/µl	10
	ACID: 100 ng/µl	

Set-up: Jackie Adeka 3/23/85

BN Conc.: [illegible] 3/24/85

ACID Conc.: Dan Wan 3/24/85

UPD/Supervisor: Dan Allen 3/

spike/surr. verified: PH 3/25/85

A-A

EXTRACTION LOG B-H

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 8/23/85

Extraction Method:
- Sep funnel ✓
- continuous
- soxhlet
- other

Sample #	Log #	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
1801	8652	950			Could not get emulsion to separate*
877	8492	1000			
2207	8682	890	1.0	1.0	ABN 15
2208	"	1000	1.0	"	"
2209	"	1000	1.0	"	"
2210	"	~~850~~ 1000	1.0	"	"
2211	"	~~950~~ 1000	1.0	"	"
2212	↓	~~980~~ 1000	1.0	"	↓
8833	8354	960	✓	↓	Act 1
9144	8481	960	1.0	✓	
9146	"	930	1.0	"	
9147	"	930	1.0	"	
9148	"	950	1.0	"	
9150	"	950	1.0	"	
9153	↓	1000	1.0	"	
9970	8473	1000	10.0	1.0	
QC 2834		1000	1.0		
QC 2834 S		1000	1.0		
#2211 S		1000	1.0		
#2211 R		1000	1.0		

COMMENTS FOR EXTRACT.:

* PP/T: #1801, #2207-12

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

COMMENTS FOR GC/MS:

300583

FRACTION	SPIKE Amt (ml)	Conc	Lot #
ACID	1.0	100	9709
Acid/BN 1262	1.0	100	0763
BN	1.0	100	9617
TEST	1.0	100/200	10190

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ~~ug~~/ml	10195
	ACID: 100 ~~ug~~/ml	

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/24-25/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE KSBF
METHOD FILE ACIDF
IDFILE FACID / FACHS
ANALYST(S) KS Bonanno
SUPERVISOR
BATCH #'s QA 2834
QA2814

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ	KSB	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9584	2 ul
ACID CAL I	60	5909	1 ml
" " II	100	5910	
" " III	300	5911	
HSLPP ACID STD	300	9603	
" " STD	100	9604	
" " STD	60	9605	1 ml
INT STD MIX	400	9653	100 ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLU Y/N
DFTPP							
ACID STD III	F8380		1				
" " I	F8381		2				
" " II	F8382		3				
H2211 AS	F8383		4				
QC 2834 AS	F8384		5				
QC2834A	F8385		6				
H2211AR	F8386		7				
H2207A	F8387		8				
H2208A	F8388		9				
H2209A	F8389		10				
H2210A	F8390		11				
H2211A	F8391		12				
H2212A	F8392		13				
G3877A	F8393		14				
G9970A	F8394		15				
G8833A	F8395		16			300584	
G9960A	F8396		17	10:1			
DFTPP	F8397		18				
ACID CAL II	F8398		19				
HSLPPACID300	F8399		20			FACHS	
HSLPPACID100	F8400		21			↓	

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-MS ANALYSIS CUSTODY LOG

TE 3/25/85 SHIFT ___
ACTION ACID
STRUMENT F
NE FILE MTF001
QUENCE FILE KEBE
THOD FILE AC10F
FILE FACHS
ALYST(S) KE Bonner
PERVISOR
TCH #'s
QA2834

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
Q		DATE	
P		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 1

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
SLPPAC10 60	F8401		22				
65906AS	F8402		23				
QC82814AS	F8403		24				
SC2814A	F8404		25				Y
G8891AR	F8405		26				
G7232A	F8406		27				Y
G5900A	F8407		28				
G5901A	F8408		29				
G5902A	F8409		30				
G5903A	F8410		31				
G5904A	F8411		32				
G5905A	F8412		33				
G5906A	F8413		34				
G8832A	F8414		35				X
G8890A	F8415		36				
DFTPP	F8416		37				
AC10CALSTD	F8417		38				
G7231A	F8418		39				Y
G8914A	F8419		40				
G8891A	F8420		41				
G7230A	F8421		42				Y

300585

TSR 8-84

GC-MS ANALYSIS CUSTODY LOG

300586

DATE 850325 SHIFT ___
FRACTION BNP
INSTRUMENT J
TUNE FILE MTJ004
SEQUENCE FILE TSR23
METHOD FILE JBNP
IDFILE BNPJ
ANALYST(S) Tom Kusowicz
SUPERVISOR Keith Aleo
BATCH #'s

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ	R	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	I VOL

NAME	DATA FILE >J	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	2390	2	—			NC 1605 HRS
↓	2391	↓				NC
↓	2392	↓				NC
↓	2393	↓			DON'T USE →	OK 1830 HRS
BNP CALIB STD I	2394		1			
BNP CALIB STD II	2395		2			
BN CALIB STD III	2396		3			
PEST CALIB STD III	2397		4			
QC2834B	2398		5			QC2834B
QC2834BS	2399		6			
H2211BS	2400		7			EMERG.
H2207B	2401		8			
H2208B	2402		9			
H2209B	2403		10			
H2210B	2404		11			
H2211B	2405		12			
H2211BR	2406		13			
H2212B	2407		14			↓
69144B	2408		15			
69146B	2409		16			
69147B	2410		17			
69148B	2411		18			
69150B	2412		19			
69153B	2413		20			
69970B	2414		21		060	↓

LL 8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Metals Analysis Custody Log

Samples H2207 to H2212

	Chemist	Date
Hg Prep	Georgia G. Lehfeld	3/22/85
AA/ICAP Prep	Marie Jean McClain	3/21/85

Lab Supervisor Lidya Wiencek date 3/26/85

300587

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2209	NJ DEP	NJDCOMBES0	WMARSHALL	850321		
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

James N. Bowers for

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

300588

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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
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Furnace AA

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Furnace Operating Parameters	Table 1

300590

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
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300591

300591

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 27, 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
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

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	ND	ND	ND	800	120	ND	800	98
2V	Acrylonitrile	ND	100	ND	ND	ND	80	83	ND	80	73
3V	Benzene	ND	4.40	ND	ND	ND	18	110	ND	18	93
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	75
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	105	ND	18	76
7V	Chlorobenzene	ND	6	3	6	ND	18	108	ND	18	81
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	108	ND	18	80
9V	Chloroethane	ND	10	ND	ND	ND	18	121	ND	18	75
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	116	ND	18	64
11V	Chloroform	ND	1.60	ND	ND	ND	18	113	ND	18	85
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	110	ND	18	81
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	91	ND	20	90
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	109	ND	18	84
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	116	ND	18	88
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	102	16	18	75
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	110	ND	18	83
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	100	ND	18	64
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	108	ND	18	82
20V	Methyl bromide	ND	10	ND	ND	ND	18	82	ND	18	38
21V	Methyl chloride	ND	10	ND	ND	ND	18	120	ND	18	86
22V	Methylene chloride	ND	2.80	1	6	ND	18	129	ND	18	80
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	120	ND	18	93
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	101	ND	18	77
25V	Toluene	ND	6	ND	ND	ND	18	109	ND	18	81
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	103	209	18	63B
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	96	ND	18	90
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	113	ND	18	98
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	102	652	18	78B
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	107	ND	18	84
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	84
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	107	ND	18	56

A EPA [illegible]shed Method Detection Limit.

B Sp[illegible]ples that contain compounds present at high levels do not provide valid spike recovery data.

300592

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Acid Compounds - GC/MS Analysis Data (QR02)

300593

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2209	NJ DEP	NJDCOMBES0	WMARSHALL	850321		

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	3.30	ND	ND	ND	100	104	ND	100	97
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	108	ND	100	72
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	103	ND	100	97
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	105	ND	100	105
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	87	ND	100	77
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	102	ND	100	100
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	62	ND	100	62
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	106	ND	100	106
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	108	ND	100	103
10A	Phenol	ND	1.50	ND	ND	ND	100	59	ND	100	52
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	100	ND	100	104

a EPA published Method Detection Limit.

300593

ETC ENVIRONMENTAL TESTING and CERTIFICATION

300?

MAR 29, 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
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	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	1.90	ND	ND	ND	100	79	ND	100	78
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	80	ND	100	76
3B	Anthracene	ND	1.90	ND	ND	ND	100	82	ND	100	78
4B	Benzidine	ND	44	ND	ND	ND	100	3[B]	ND	100	8[B]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	90	ND	100	87
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	92	ND	100	86
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	95	ND	100	82
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	87	ND	100	90
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	98	ND	100	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	83	ND	100	81
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	87	ND	100	93
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	73	ND	100	71
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	105	ND	100	106
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	33	ND	100	35
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	77	ND	100	76
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	100	89
18B	Chrysene	ND	2.50	ND	ND	ND	100	90	ND	100	90
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	74	ND	100	69
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	64
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	71	ND	100	64
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	58	ND	100	51
24B	Diethyl phthalate	ND	10	ND	ND	ND	100	14[B]	ND	100	10[B]
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	0[B]	ND	100	0[B]
26B	Di-n-butyl phthalate	ND	10	ND	ND	BMDL	100	50	ND	100	45
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	104	ND	100	88
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	94	ND	100	91
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	71	ND	100	62
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	86	ND	100	75
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	94	ND	100	85
32B	Fluorene	ND	1.90	ND	ND	ND	100	83	ND	100	75

300594

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

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	1.90	ND	ND	ND	100	117	ND	100	124
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	83	ND	100	82
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	79	ND	100	74
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	94	ND	100	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	97	ND	100	92
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	89	ND	100	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	100	ND	100	97
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	93	ND	100	82
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	86	ND	100	82
45B	Pyrene	ND	1.90	ND	ND	ND	100	96	ND	100	86
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	165c	ND	100	179c

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C Recovery normally variable using EPA Protocol Method 625.

300595

ETG ENVIRONMENTAL TESTING and CERTIFICATION

3002

MAR 29, 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
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	76	ND	100	76
2P	Alpha-BHC	ND	10	ND	ND	ND	100	20	ND	100	19
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	56	ND	100	59
4P	Gamma-BHC	ND	10	ND	ND	ND	100	23	ND	100	21
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	3	ND	100	3
6P	Chlordane	ND	10	ND	ND	ND	200	27	ND	200	35
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	71	ND	100	76
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	71	ND	100	85
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	71	ND	100	76
10P	Dieldrin	ND	2.50	ND	ND	ND	100	57	ND	100	68
11P	Endosulfan I	ND	10	ND	ND	ND	100	8	ND	100	14
12P	Endosulfan II	ND	10	ND	ND	ND	100	6	ND	100	11
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	53	ND	100	59
14P	Endrin	ND	10	ND	ND	ND	100	64	ND	100	70
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	10	ND	100	17
16P	Heptachlor	ND	1.90	ND	ND	ND	100	70	ND	100	69
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	68	ND	100	89
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	78	ND	100	55
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625

300596

8000

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols - Analysis Data (QR05)

300597

Chain of Custody Data Required for ETC Data Management Summary Reports						
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l
1M	Antimony	ND	60
2M	Arsenic	ND	10
3M	Beryllium	ND	1
4M	Cadmium	ND	3
5M	Chromium	ND	10
6M	Copper	200	4
7M	Lead	11	5
8M	Mercury	ND	.30
9M	Nickel	10	7
10M	Selenium	BMDL	5
11M	Silver	ND	8
12M	Thallium	ND	5
13M	Zinc	86	3
14M	Cyanide, Total	53	25
15M	Phenolics, Total	<10	10

300597

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

300598

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

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

300598

ETC ENVIRONMENTAL TESTING and CERTIFICATION

300599

March 28, 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
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	51	4.35	-	-	-	4		

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300599

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321		

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/L		
1 Unknown	106	4.68	-		-	7		

300600

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2209

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

Compound	Amount Added ug	% Recovery	Control Limits * Lower	Control Limits * Upper
VOLATILE FRACTION				
Toluene-D8	.250	98	86	119
Bromofluorobenzene	.250	86	85	121
1,2-Dichloroethane-D4	.250	78	77	120
ACID FRACTION				
Phenol-D5	100	38	15	103
2-Fluorophenol	100	57	23	121
2,4,6-Tribromophenol	100	92	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	65	41	120
2-Fluorobiphenyl	50	36	44	119
Terphenyl-D14	50	81	33	128

* IFB EPA Control Limits.

300601

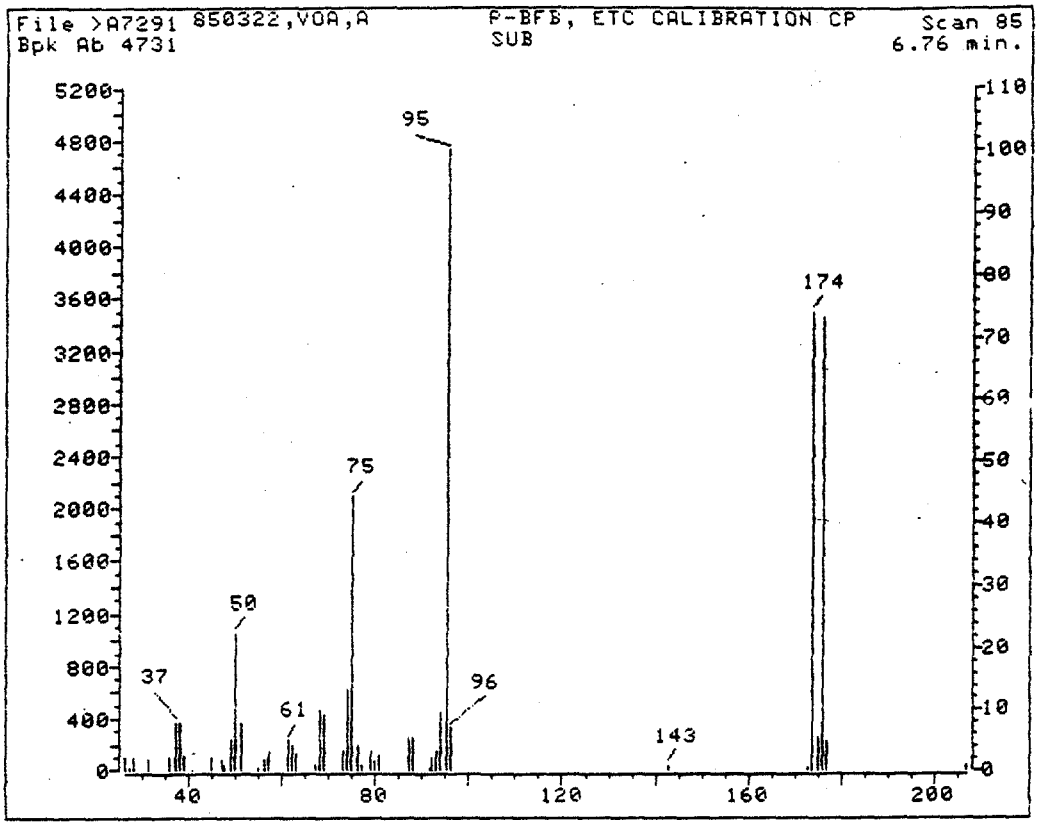


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.26	22.26	Ok
75	30-60% of mass 95	44.35	44.35	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.00	7.00	Ok
173	Less then 1% of mass 95	.55	.55	Ok
174	Greater then 50% of mass 95	73.98	73.98	Ok
175	5-9% of mass 174	5.33	7.20	Ok
176	95-101% of mass 174	73.13	98.86	Ok
177	5-9% of mass 176	4.92	6.73	Ok

Injection Date: 03/22/85
Injection Time: 18:31
Run No: >A7291
Spectrun No: 85

Analyst: Thomas M Monaco
Processor: ~~QV3026~~
QC Batch: ~~&~~ QV3026
Samples: H2207-H2212, H2139, H21
H0297, H0298

300602

300602

014

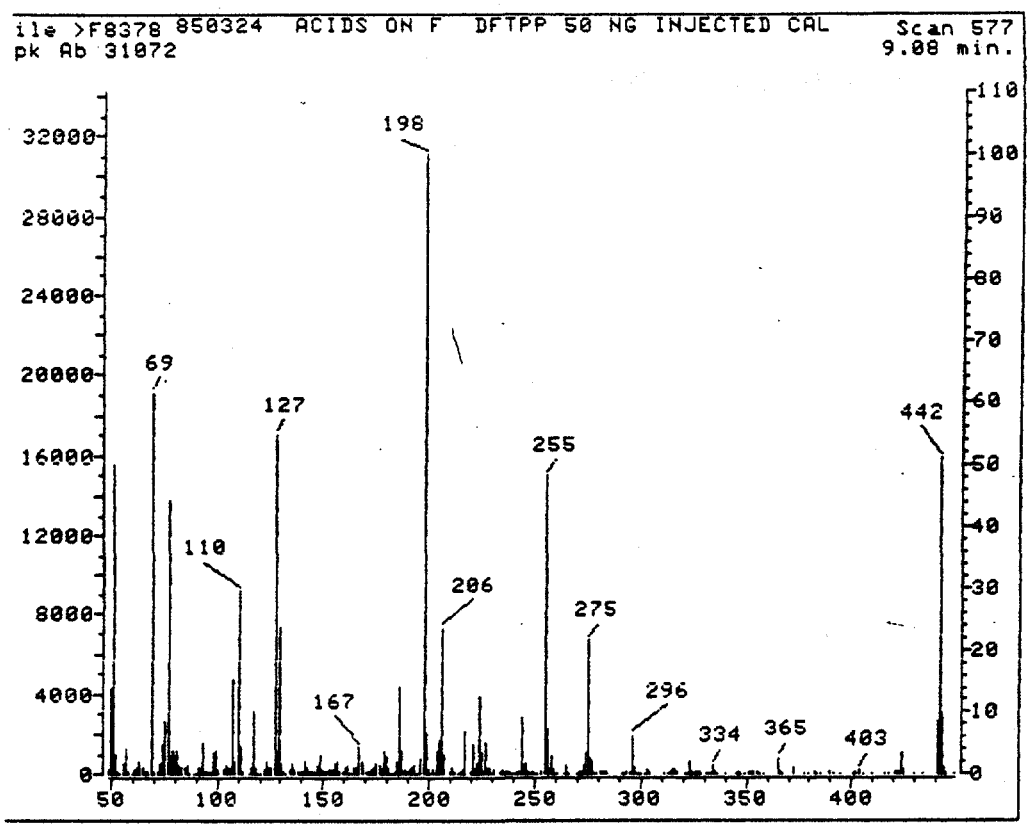


TABLE 2: METHOD PERFORMANCE DATA (QR22)

/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	49.99	49.99	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less then 2% of mass 69	.44	.72	Ok
27	40-60% of mass 198	54.81	54.81	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.62	6.62	Ok
75	10-30% of mass 198	21.41	21.41	Ok
65	Greater then 1% of mass 198	2.45	2.45	Ok
41	Less then mass 443	8.47	85.21	Ok
42	Greater then 40% of mass 198	50.97	50.97	Ok
43	17-23% of mass 442	9.94	19.51	Ok

Injection Date: 03/24/85 Analyst: K.E. Bonanno 300603
Injection Time: 23:17 Processor: Mita Mukherjee
Run No: >F8378 QC Batch: QA 2834
Spectrun No: 577 Samples: G3877, H2207-H2212, 69970, 68833

300E

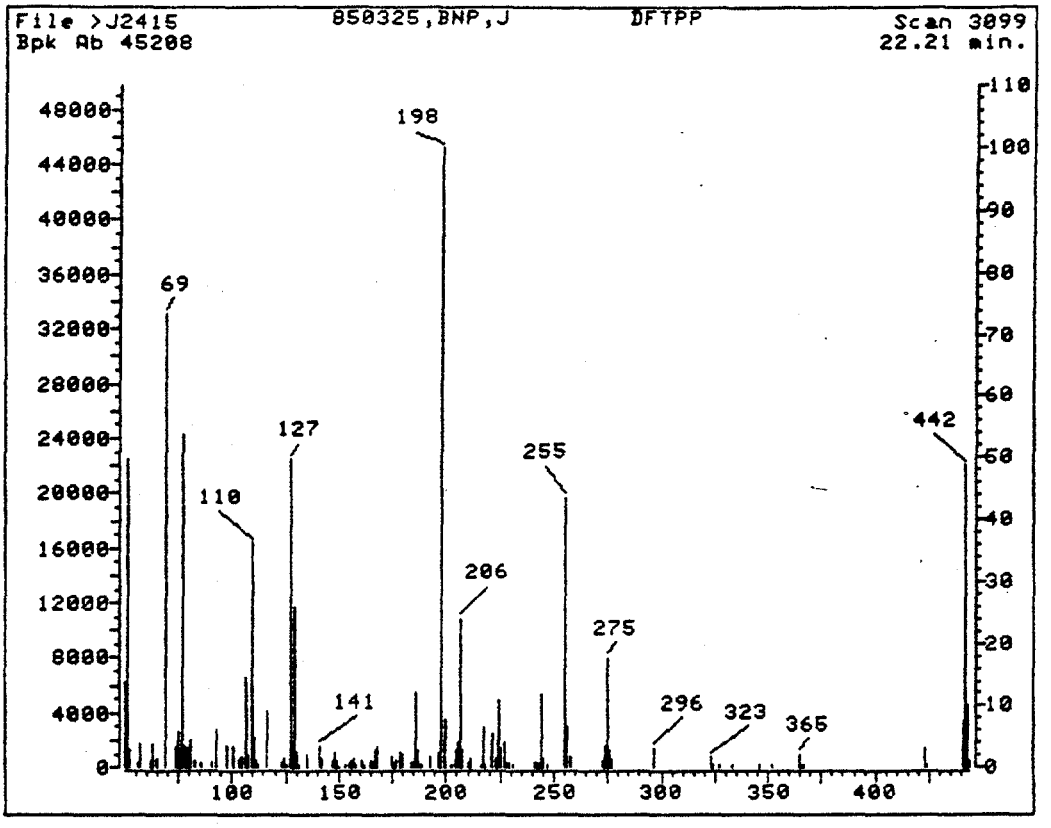


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.57	49.57	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	73.28	73.28	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.67	49.67	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	7.82	7.82	Ok
275	10-30% of mass 198	17.57	17.57	Ok
365	Greater then 1% of mass 198	2.21	2.21	Ok
441	Less then mass 443	7.49	73.87	Ok
442	Greater then 40% of mass 198	48.68	48.68	Ok
443	17-23% of mass 442	10.13	20.82	Ok

Injection Date: 03/26/85 Analyst: Tom Lesowicz
Injection Time: 15:03 Processor: Nita Matthews
Run No: >J2415 QC Batch: QB2834
Spectrun No: 3099 Samples: H2207 - H2212, G9144, G9146 - G9148, G9150, G9153, G9970

016

300604

Relative Percent Difference (RPD) for VOA

H2209 NJ DEP — Job Number / Account Name
NJDCOMBESO WMARSHALL 850321 — Facility / Source / Date / Time

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	3	6	67
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	1	6	143
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

300605

017

300605

Relative Percent Difference (RPD) for ACID

Job Number	Account Name	Facility	Source	Date	Time
H2209	NJ DEP	NJDCOMBESO	WMARSHALL	850321	

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

H2208 NJ DEP — NJDCOMBESO WMARSHALL 850321
Job Number Account Name — Facility Source Date Time

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

H2209 NJ DEP — Job Number / Account Name
NJDCOMBESO WMARSHALL 850321 — Facility Source Date Time

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

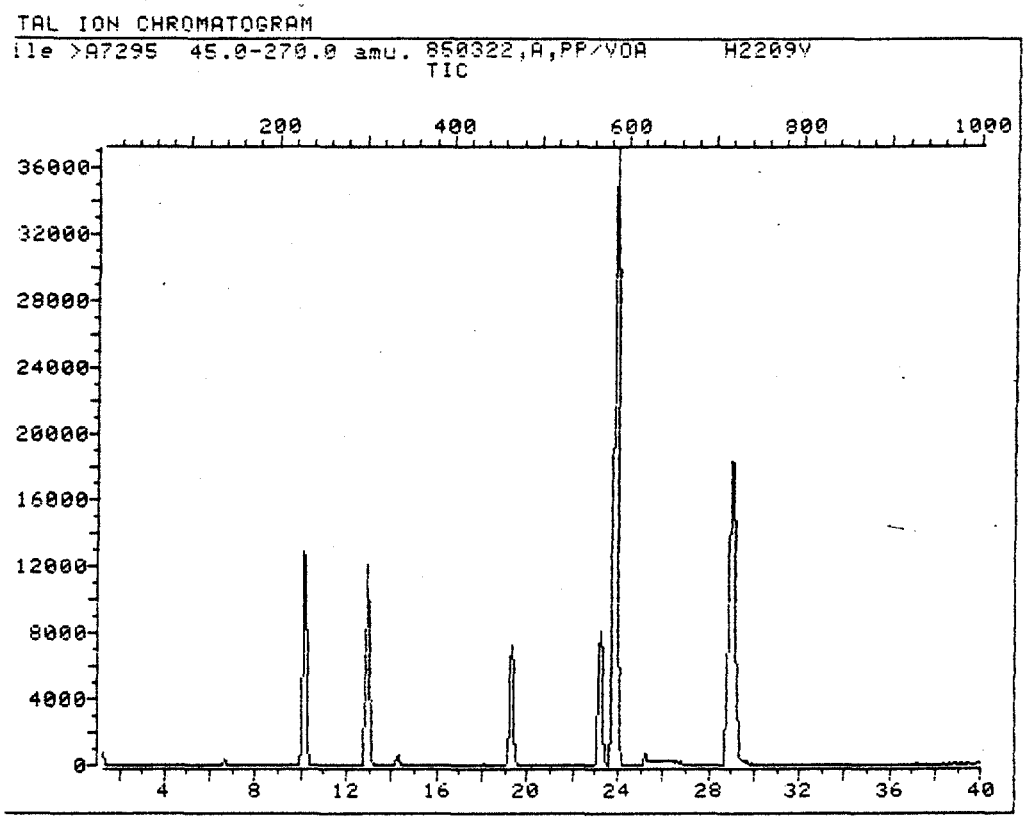
Parameter	REP 1 ug/l	REP 2 ug/l	RPD
Aldrin	ND	ND	0
Alpha-BHC	ND	ND	0
Beta-BHC	ND	ND	0
Gamma-BHC	ND	ND	0
Delta-BHC	ND	ND	0
Chlordane	ND	ND	0
4,4'-DDT	ND	ND	0
4,4'-DDE	ND	ND	0
4,4'-DDD	ND	ND	0
Dieldrin	ND	ND	0
Endosulfan I	ND	ND	0
Endosulfan II	ND	ND	0
Endosulfan sulfate	ND	ND	0
Endrin	ND	ND	0
Endrin aldehyde	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.



Data File: >A7295::U2
Name: 850322,A,PP/VOA
Misc: H2209V

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: TM0576
Quant Time: 850323 07:33

300611

QUANT REPORT

Operator ID: TM0576

Quant Rev: 3 Quant Time: 850323 07:33
Injected at: 850322 22:29
Dilution Factor: 1.00

Data File: >A7295::U2
Name: 850322,A,PP/VOA
Misc: H2209V

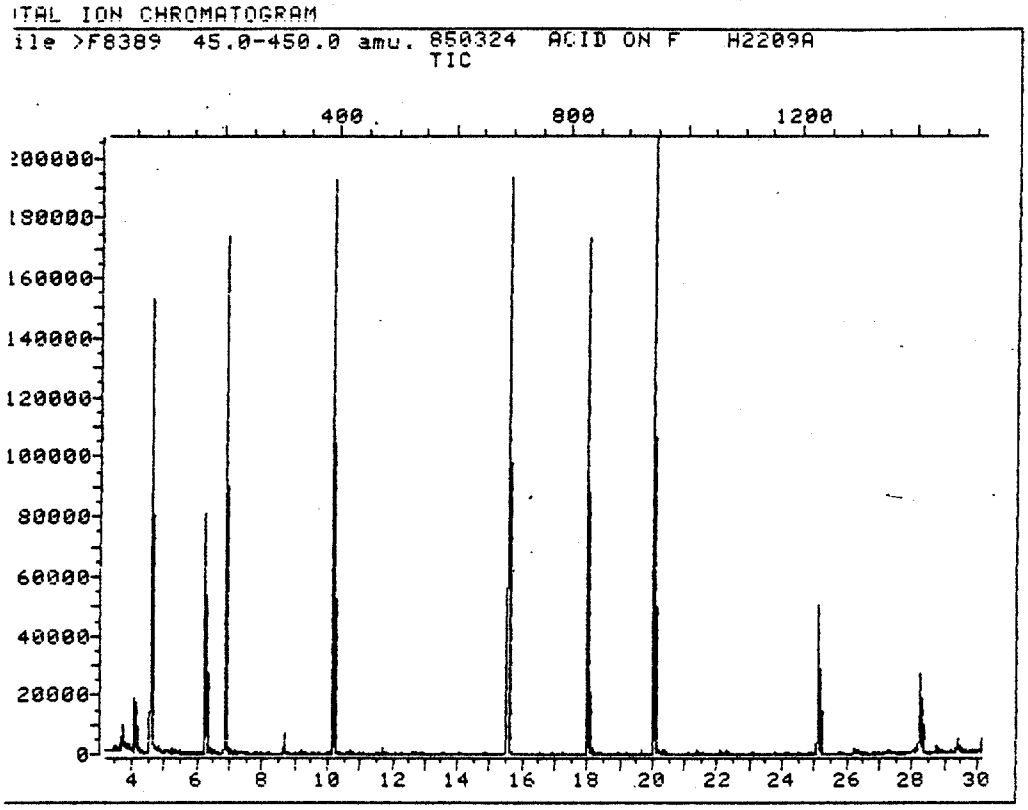
ID File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.33	469	51293	200.00	NG
34)	1,2-Dichloroethane-D4	12.93	303	29025	195.63	NG
35)	Toluene-D8	23.88	587	204476	245.20	NG
36)	p-Bromofluorobenzene	29.02	720	68260	216.29	NG
37)	*1,4-Dichlorobutane	23.23	570	55031	200.00	NG

* Compound is ISTD

300E

300612



Data File: >F8389::U6
Name: 850324 ACID ON F
Misc: H2209A

BTL#10

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

Operator ID: KB5414
Quant Time: 850325 08:41

300613

300E

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:41
Injected at: 850325 06:33
Data File: >F8389::U6 Dilution Factor: 1.00
Name: 850324 ACID ON F
Misc: H2209A BTL#10

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

	Compound	R.T.	Scan#	Area	Conc.	Units
1)	*d4-1,4-Dichlorobenzene	6.86	207	104189	40.00	UG/ML
3)	2-Fluorophenol	4.54	77	93887	56.87	UG/ML
5)	Phenol-D5	6.22	171	67396	38.12	UG/ML
5)	Phenol-D5	6.86	207	612	~~35~~	~~UG/ML~~
6)	*d8-Naphthalene	10.16	393	210476	40.00	UG/ML
11)	*d10-Acenaphthalene	15.53	695	118312	40.00	UG/ML
16)	*d10-Phenanthrene	20.03	948	245767	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.99	833	53315	92.08	UG/ML

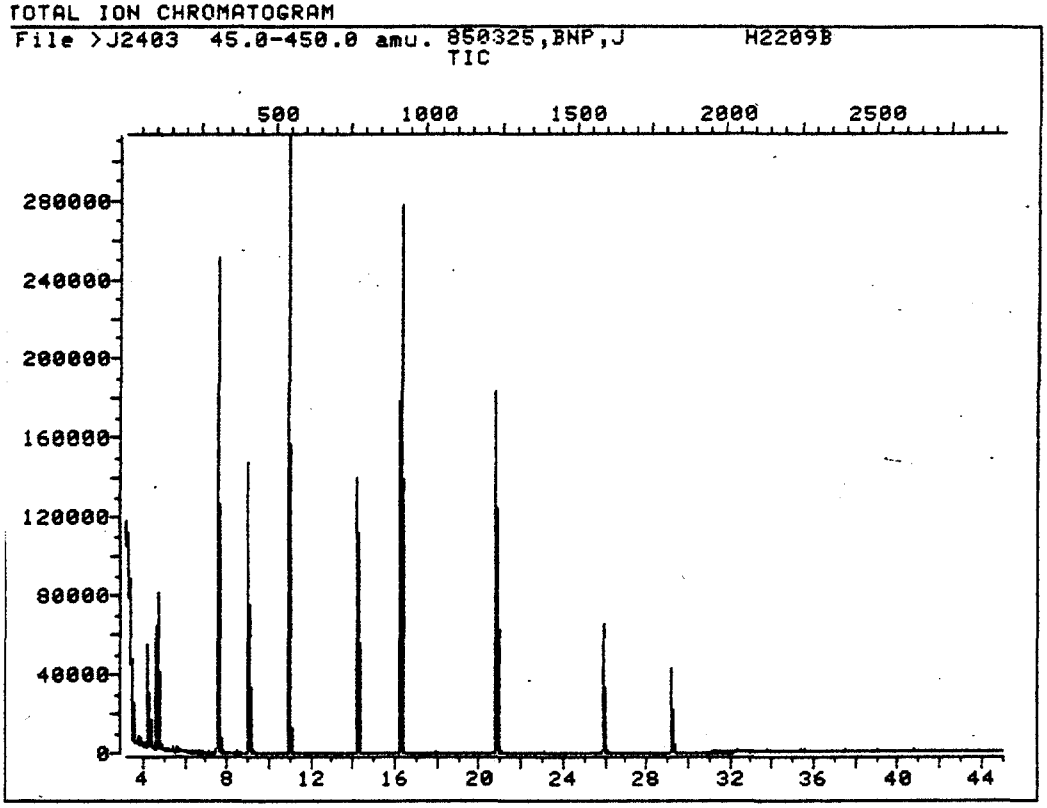
* Compound is ISTD

300E

026

300614

TOTAL ION CHROMATOGRAM



Data File: >J2403::U2
Name: 850325,BNP,J
Misc: H2209B

BTL#10

Id File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

Operator ID: TR9113
Quant Time: 850326 23:59

300615

Check Surr

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 23:59
Injected at: 850326 23:11
Data File: >J2403::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: H2209B BTL#10

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

5 of 6

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.53	305	106888	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	406	147971	32.25	UG/ML
10)	*d8-Naphthalene	10.86	538	409881	40.00	UG/ML
11)	2-Fluorobiphenyl	14.18	770	126664	17.88	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	406	18379	~~6.17~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.19	911	199595	40.00	UG/ML
23)	Dimethyl phthalate	16.21	912	36506	~~4.21~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1232	248207	40.00	UG/ML
58)	*d12-Chrysene	29.16	1818	58289	40.00	UG/ML
70)	Terphenyl-D14	25.94	1593	76469	40.59	UG/ML

* Compound is ISTD

No change in Surr

300616

Appendix B

GC/MS Calibration Data

300617

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00759	2.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.01130	21.52	Average	(Conc=400.00)
Benzene	2.26343	2.36695	4.57	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.40933	3.91	Average	
Carbon tetrachloride	.70237	.66949	4.68	Average	
Chlorobenzene	1.52935	1.57670	3.10	Average	
Chlorodibromomethane	.69374	.70172	1.15	Average	
Chloroethane	.13254	.14557	9.83	Average	
2-Chloroethylvinyl ether	.29315	.31732	8.25	Average	
Chloroform	1.49245	1.60717	7.69	Average	
Dichlorobromomethane	1.00980	1.05578	4.55	Average	
Dichlorodifluoromethane	.16533	.15146	8.39	Average	
1,1-Dichloroethane	.97647	1.00277	2.69	Average	
1,2-Dichloroethane	.85557	.94816	10.82	Average	
1,1-Dichloroethylene	1.00001	.94938	5.06	Average	
1,2-Dichloropropane	.83951	.90397	7.68	Average	
trans-1,3-Dichloropropylene	.68624	.66508	3.08	Average	
cis-1,3-Dichloropropylene	-	-	-	Average	
Ethylbenzene	2.92450	3.04036	3.96	Average	
Methyl bromide	.14225	.13208	7.15	Average	
Methyl chloride	.44723	.43620	2.47	Average	
Methylene chloride	.14438	.18028	24.86	Average	
1,1,2,2-Tetrachloroethane	.83452	.93597	12.16	Average	
Tetrachloroethylene	.88116	.84556	4.04	Average	
Toluene	2.58175	2.63445	2.04	Average	
1,2-Trans-dichloroethylene	1.01197	.98718	2.45	Average	
1,1,1-Trichloroethane	.84920	.95146	12.04	Average	
1,1,2-Trichloroethane	.51355	.56918	10.83	Average	
Trichloroethylene	.56000	.55064	1.67	Average	
Trichlorofluoromethane	1.05182	1.04730	.43	Average	
Vinyl chloride	.23812	.23732	.33	Average	
1,2-Dichloroethane-D4	.46030	.48311	4.96	Average	(Conc=250.00)
Toluene-D8	2.83719	2.74046	3.41	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.01404	5.00	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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 FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File:)A7277
Injection Time: 850322 08:17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
lein	.00738	.00884	19.87	Average	(Conc=4000.00)
lonitrile	.01440	.13271	821.63	Average	(Conc=400.00)
ene	2.26343	2.49908	10.41	Average	
Chloromethyl)ether	-	-	-	Average	
oform	.42598	.44373	4.17	Average	
on tetrachloride	.70237	.73549	4.72	Average	
robenzene	1.52935	1.65404	8.15	Average	
rodibromomethane	.69374	.74853	7.90	Average	
roethane	.13254	.16074	21.27	Average	
loroethylvinyl ether	.29315	.34050	16.15	Average	
roform	1.49245	1.68143	12.66	Average	
lorobromomethane	1.00980	1.11452	10.37	Average	
lorodifluoromethane	.16533	.17440	5.49	Average	
-Dichloroethane	.97647	1.06009	8.56	Average	
Dichloroethane	.85557	.99072	15.80	Average	
-Dichloroethylene	1.00001	1.02252	2.25	Average	
Dichloropropane	.83951	.92571	10.27	Average	
s-1,3-Dichloropropylene	.68624	.73263	6.76	Average	
1,3-Dichloropropylene	.52512	.52617	.20	Average	
lbenzene	2.92450	3.15306	7.82	Average	
yl bromide	.14225	.11614	18.35	Average	
yl chloride	.44723	.53753	20.19	Average	
ylene chloride	.14438	.18617	28.94	Average	(1)
,2,2-Tetrachloroethane	.83452	.99819	19.61	Average	
achloroethylene	.88116	.89390	1.45	Average	
uene	2.58175	2.80600	8.69	Average	
-Trans-dichloroethylene	1.01197	1.03942	2.71	Average	
,1-Trichloroethane	.84920	.98838	16.39	Average	
2-Trichloroethane	.51355	.58132	13.20	Average	
chloroethylene	.56000	.57108	1.98	Average	
chlorofluoromethane	1.05182	1.12827	7.27	Average	
yl chloride	.23812	.25087	5.35	Average	
-Dichloroethane-D4	.46030	.47036	2.19	Average	(Conc=250.00)
uene-D8	2.83719	2.69823	4.90	Average	(Conc=250.00)
omofluorobenzene	1.06746	1.00031	6.29	Average	(Conc=250.00)
,1,2-Tetrachloroethane	-	-	-	Average	
ene	-	-	-	Average	
-Dibromo-3-Chloropropane	-	-	-	Average	
obenzene	-	-	-	Average	
hlorotoluene	-	-	-	Average	
lorotoluene	-	-	-	Average	
a-Xylene	-	-	-	Average	(Conc=75.00)
o- and para-Xylenes	-	-	-	Average	(Conc=150.00)
pylbenzene	-	-	-	Average	

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

ff = % Difference from original average or curve

300619

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850325 08:25

Compound	Files: >F8381 RF 60.00	>F8382 RF 100.00	>F8380 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.76356	.83867	.74054	.944	.78093	6.571	
Phenol	.75362	.79100	.76738	.913	.77067	2.453	
2,4-Dichlorophenol	.27080	.29320	.24170	.969	.26857	9.615	
2,4-Dimethylphenol	.33404	.37237	.31240	.926	.33960	8.943	
2-Nitrophenol	.17761	.20297	.18032	.904	.18697	7.446	
p-Chloro-m-cresol	.31219	.32754	.28079	1.190	.30684	7.766	
4,6-Dinitro-o-cresol	.22647	.29143	.30170	1.136	.27320	14.933	
2,4-Dinitrophenol	.13182	.16687	.21471	1.025	.17113	24.313	
4-Nitrophenol	.26598	.30397	.30452	1.049	.29149	7.580	
2,4,6-Trichlorophenol	.34641	.38430	.31699	.856	.34923	9.662	
Pentachlorophenol	.11444	.13158	.11626	.984	.12076	7.798	
2-Fluorophenol	.59468	.66553	.64127	.660	.63382	5.681	(Conc=100.0,100.0,100.0)
Phenol-D5	.64038	.68374	.71218	.908	.67876	5.327	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.08766	.10429	.09077	.898	.09424	9.378	(Conc=100.0,100.0,100.0)

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

300620

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: ›J2394 RF 60.00	›J2395 RF 100.00	›J2396 RF 200.00	›J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
itrosodimethylamine	-	-	-	-	-	-	-	
(2-Chloroethyl) ether	2.00571	2.13516	2.14932	-	.938	2.09673	3.775	
-Dichlorobenzene	1.60123	1.75494	1.77725	-	.989	1.71114	5.601	
-Dichlorobenzene	1.75399	1.93459	2.03805	-	1.006	1.90888	7.531	
-Dichlorobenzene	1.73350	1.86518	1.91383	-	1.064	1.83750	5.078	
robenzene-d5	1.69135	1.72120	1.73779	-	1.197	1.71678	1.371	(Conc=50.0,50.0,50.0,50.0)
(2-Chloroisopropyl)ether	.29921	.32213	.30814	-	1.106	.30983	3.728	
luorobiphenyl	.66715	.69963	.70722	-	1.304	.69133	3.079	(Conc=50.0,50.0,50.0,50.0)
litrosodi-n-propylamine	.29042	.31573	.26633	-	.804	.29083	8.493	
achloroethane	.11149	.11314	.11990	-	.804	.11485	3.882	
robenzene	.48705	.53837	.56214	-	.834	.52918	7.252	
phorone	.67764	.67101	.71173	-	.890	.68679	3.181	
(2-Chloroethoxy)methane	.45639	.50623	.48037	-	.954	.48100	5.183	
,4-Trichlorobenzene	.26105	.27492	.30311	-	.990	.27969	7.664	
hthalene	1.08256	.90528	1.17031	-	1.007	1.05272	12.825	
achlorobutadiene	.15405	.15124	.16945	-	1.056	.15825	6.196	
achlorocyclopentadiene	.24847	.32158	.36148	-	.843	.31051	18.458	
hloronaphthalene	1.16971	1.38547	1.51546	-	.891	1.35688	12.871	
ethyl phthalate	1.58204	1.83228	1.80250	-	.970	1.73894	7.861	
naphthylene	2.31351	2.36939	2.78464	-	.971	2.48918	10.341	
-Dinitrotoluene	.30296	.35086	.35578	-	.982	.33653	8.670	
naphthene	1.50394	1.69463	1.69863	-	1.008	1.63240	6.816	
-Dinitrotoluene	.24610	.30466	.32313	-	1.053	.29130	13.805	
thyl phthalate	1.49776	1.63907	1.72022	-	1.107	1.61901	6.953	
orene	1.31068	1.48414	1.51338	-	1.105	1.43606	7.630	
hlorophenyl phenyl ether	.47471	.55595	.59740	-	1.110	.54269	11.501	
litrosodiphenylamine	.58147	.75207	.84103	-	1.136	.72486	18.197	
2-Diphenylhydrazine	1.46457	1.71293	1.97610	-	1.140	1.71787	14.891	
Bromophenyl phenyl ether	.21467	.26327	.28297	-	.937	.25363	13.860	
achlorobenzene	.25084	.26391	.26410	-	.956	.25962	2.927	
nanthrene	.95335	1.12081	1.16894	-	1.004	1.08103	10.469	
thracene	1.08936	1.31865	1.38202	-	1.012	1.26334	12.188	
-n-butyl phthalate	1.24755	1.39169	1.57505	-	1.108	1.40476	11.685	
uoranthene	.71240	.79531	.92843	-	1.185	.81205	13.421	
nzidine	.00355	.01784	.15308	-	1.211	.05816	141.884	
rene	.67249	.74158	.85998	-	1.218	.75802	12.509	
pha-BHC	.17577	.18898	-	.27508	.944	.21328	25.287	
ta-BHC	.15025	.14853	-	-	.989	.14939	.814	
mma-BHC	.15025	.14853	-	.23212	.989	.17697	26.994	
lta-BHC	.09342	.09507	-	.16687	1.020	.11845	35.406	
ptachlor	.25255	.29932	-	.42292	1.082	.32493	27.089	
drin	.18976	.19480	-	.27049	1.127	.21835	20.711	
ptachlor epoxide	.08211	.06374	-	.14081	.838	.09555	42.131	

C3008

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

300621

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

- Average Response Factor

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.03711	.03503	-	.13780	.859	.06998	83.943	
Endosulfan I	.10145	.07596	-	.12209	.871	.09983	23.145	
4,4'-DDE	.53392	.44356	-	.73316	.889	.57021	25.986	
Dieldrin	.72347	.58904	-	.77568	.893	.69606	13.834	
Endrin	.06811	.06033	-	.07807	.912	.06884	12.914	
Endosulfan II	.07236	.07841	-	.09781	.920	.08286	16.048	
4,4'-DDD	.72215	.67457	-	1.06136	.924	.81936	25.742	
Endrin aldehyde	-	-	-	.27225	.937	.27225	-	
4,4'-DDT	.62198	.60434	-	.95673	.955	.72769	27.285	
Endosulfan sulfate	.11604	.10426	-	.19246	.955	.13759	34.804	
Terphenyl-D14	1.45457	1.33032	1.09364	-	.889	1.29285	14.183	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.01276	1.16971	1.04826	-	.949	1.07691	7.643	
Benzo(a)anthracene	1.20557	1.38543	1.36745	-	.998	1.31948	7.508	
Chrysene	1.24619	1.28462	1.20289	-	1.003	1.24457	3.286	
3,3'-Dichlorobenzidine	.14238	.25873	.37811	-	1.000	.25974	45.379	
bis(2-Ethylhexyl)phthalate	1.28539	1.61735	1.47943	-	1.016	1.46072	11.417	
Di-n-octyl phthalate	1.74922	2.60869	2.56817	-	1.078	2.30869	21.005	
Benzo(b)fluoroanthene	.91095	1.21683	-	-	1.109	1.06389	20.330	
Benzo(k)fluoranthene	1.04272	1.11371	-	-	1.112	1.07822	4.656	
Benzo(a)pyrene	.86854	1.02772	1.08836	-	1.144	.99487	11.412	
Indeno(1,2,3-c,d)pyrene	.93919	1.21051	1.36545	-	1.293	1.17172	18.414	
Dibenzo(a,h)anthracene	.68069	.87789	1.03428	-	1.296	.86429	20.501	
Benzo(ghi)perylene	.73653	.90724	1.01704	-	1.333	.88694	15.937	
1,2,3,4-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
1,2,3,5-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
Pentachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)

RF_{xxx} - Response Factor (Subscript is amount in UG/ML)

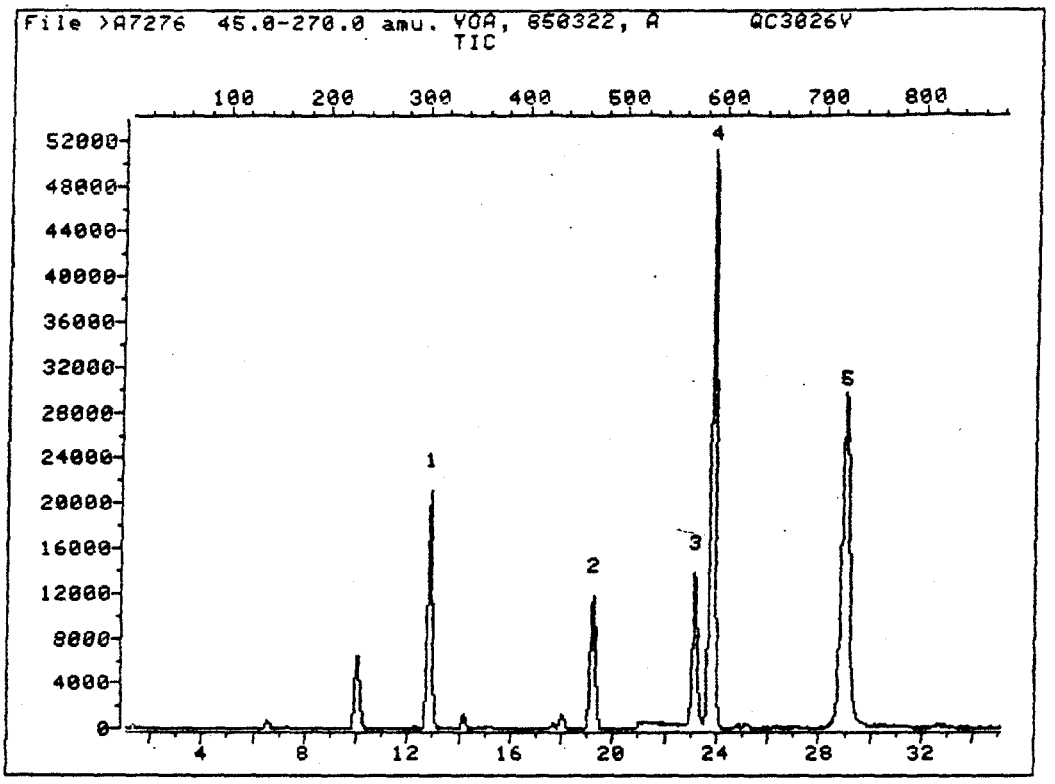
$\overline{RRT}$ - Average Relative Retention Time (RT Std/RT Istd)

$\overline{RF}$ - Average Response Factor

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7276::U2
Name: VOA, 850322, A
Misc Data: QC3026V

300624

QUANT REPORT

ator ID: TM0576 Quant Rev: 3 Quant Time: 850322 09:12
Injected at: 850322 07:30
File: >A7276::U2 Dilution Factor: 1.00
: VOA, 850322, A
: QC3026V

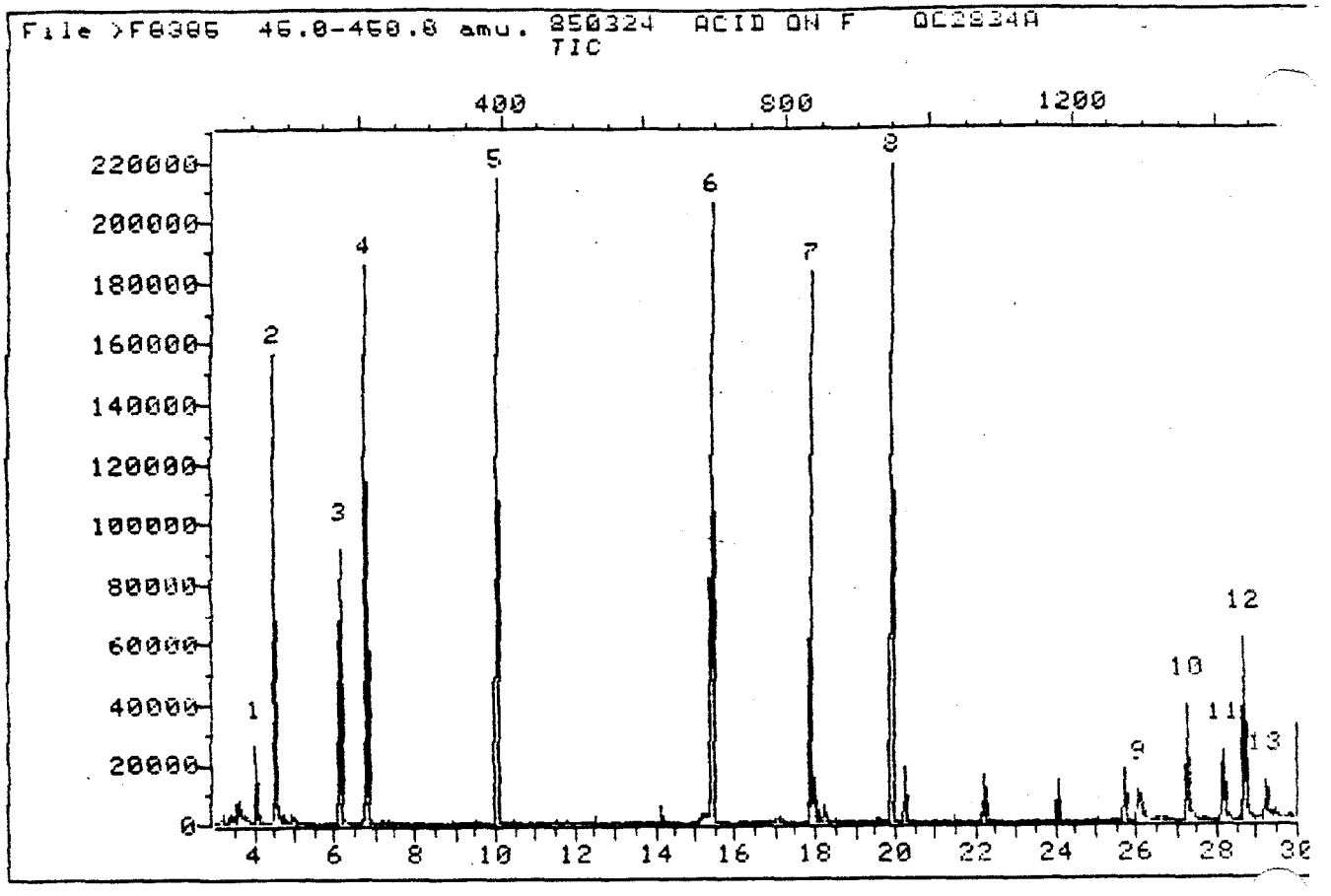
File: AVOA
e: IDFILE FOR PP VOAS
: Calibration: 850322 09:12

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.21	471	67258	200.00	NG
Carbon tetrachloride	14.19	341	495	~~2.10~~	~~NG~~
Toluene	23.95	594	2353	~~2.71~~	~~NG~~
1,1,1-Trichloroethane	14.19	341	5363	18.78	NG ✓
1,2-Dichloroethane-D4	12.84	306	48637	250.00	NG
Toluene-D8	23.80	590	273371	250.00	NG
p-Bromofluorobenzene	28.97	724	103458	250.00	NG
*1,4-Dichlorobutane	23.14	573	85458	200.00	NG

Compound is ISTD

300625

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A

RTL#

300626

QUANT REPORT

ator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:36
Injected at: 850325 04:02
File: >F8385::U6 Dilution Factor: 1.00
: 850324 ACID ON F
: QC2834A BTL# 6

ile: FACID
e: ACID ID FILE.....3/15/85,#F,WWC
Calibration: 850325 08:26

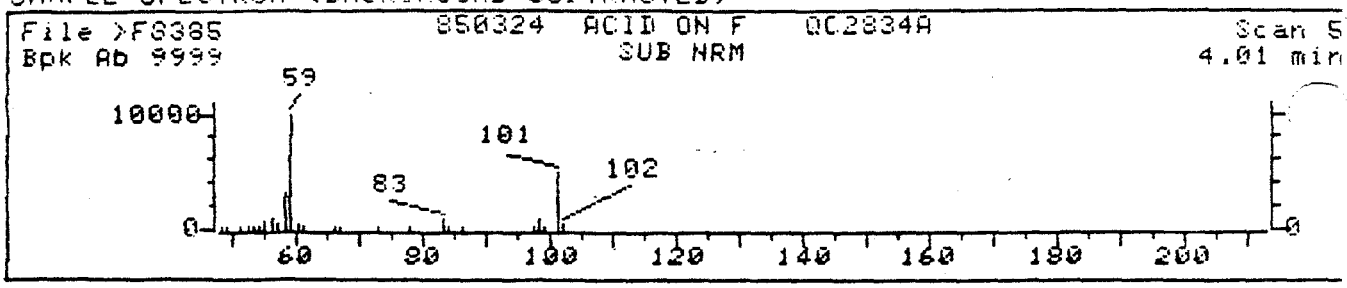
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.75	207	114254	40.00	UG/ML
2-Fluorophenol	4.45	78	113153	62.50	UG/ML
Phenol-D5	6.12	172	81565	42.07	UG/ML
Phenol-D5	6.75	207	819	.42	UG/ML
*d8-Naphthalene	10.04	392	247294	40.00	UG/ML
*d10-Acenaphthalene	15.41	694	136968	40.00	UG/ML
*d10-Phenanthrene	19.91	947	272572	40.00	UG/ML
2,4,6-Tribromophenol	17.88	833	55655	86.67	UG/ML

ompound is ISTD

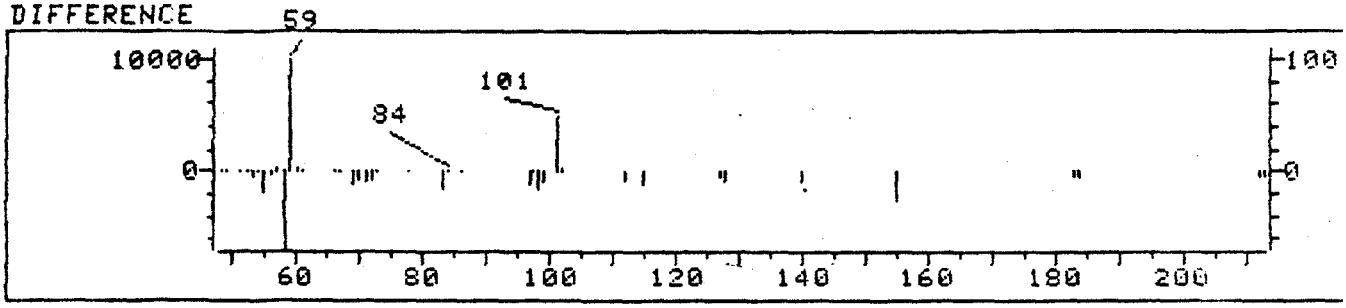
3008

300627

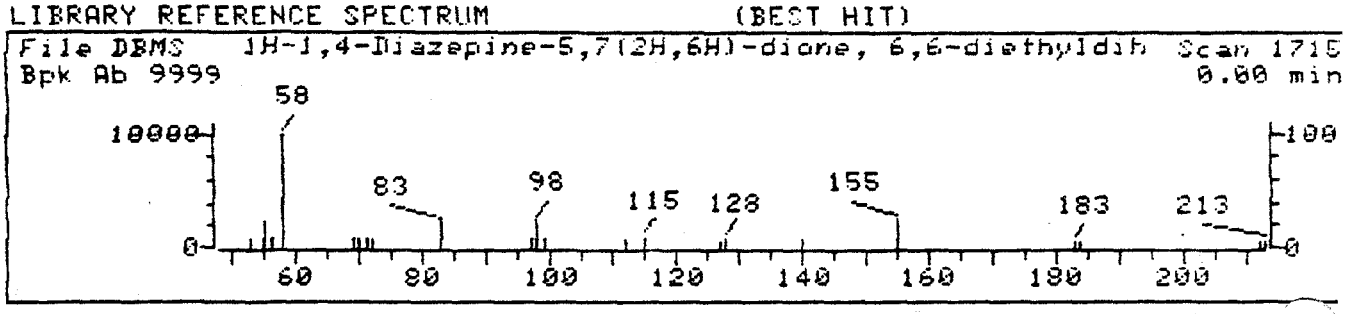
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A BTL#
RT (min): 4.01
Scan: 53
Area: 67199
Semi-quantitative Conc: 5.35 UG/ML

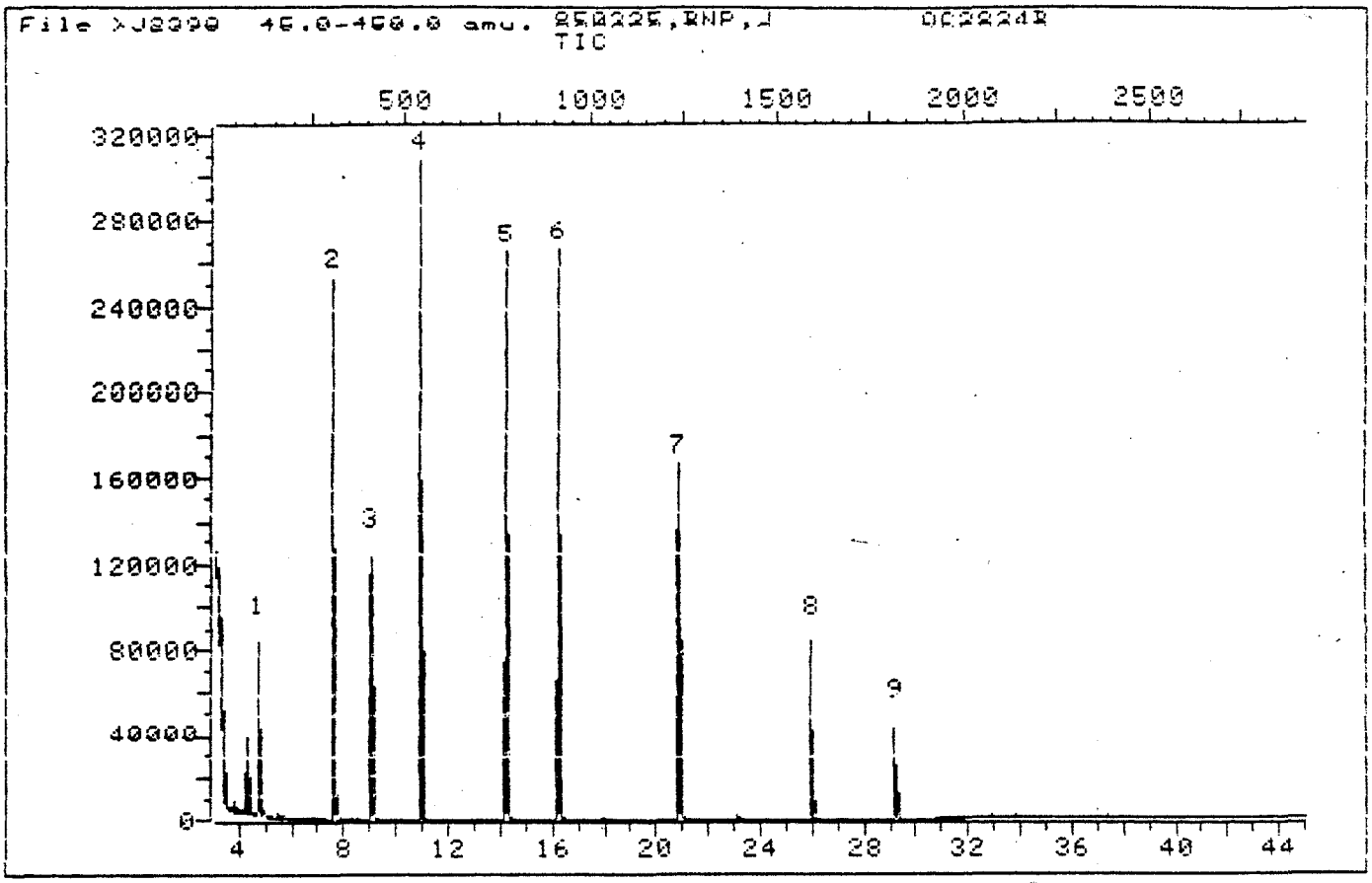
Data File: >F8385 Scan Number: 53
Search Speed: 2 Titling option: S Number of ion ranges searched: 1

1. 1H-1,4-Diazepine-5,7(2H,6H)-dione, 6,6-diethyldihydr 212 C11H20N2O2
o-2,2-dimethyl- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	36	69315931	38	51	0	-2

300628

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: 0C2834B

BTL# 5

300629

J900E

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 16:45
Injected at: 850326 15:57
Data File: >J2398::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: QC2834B BTL# 5

J086AA

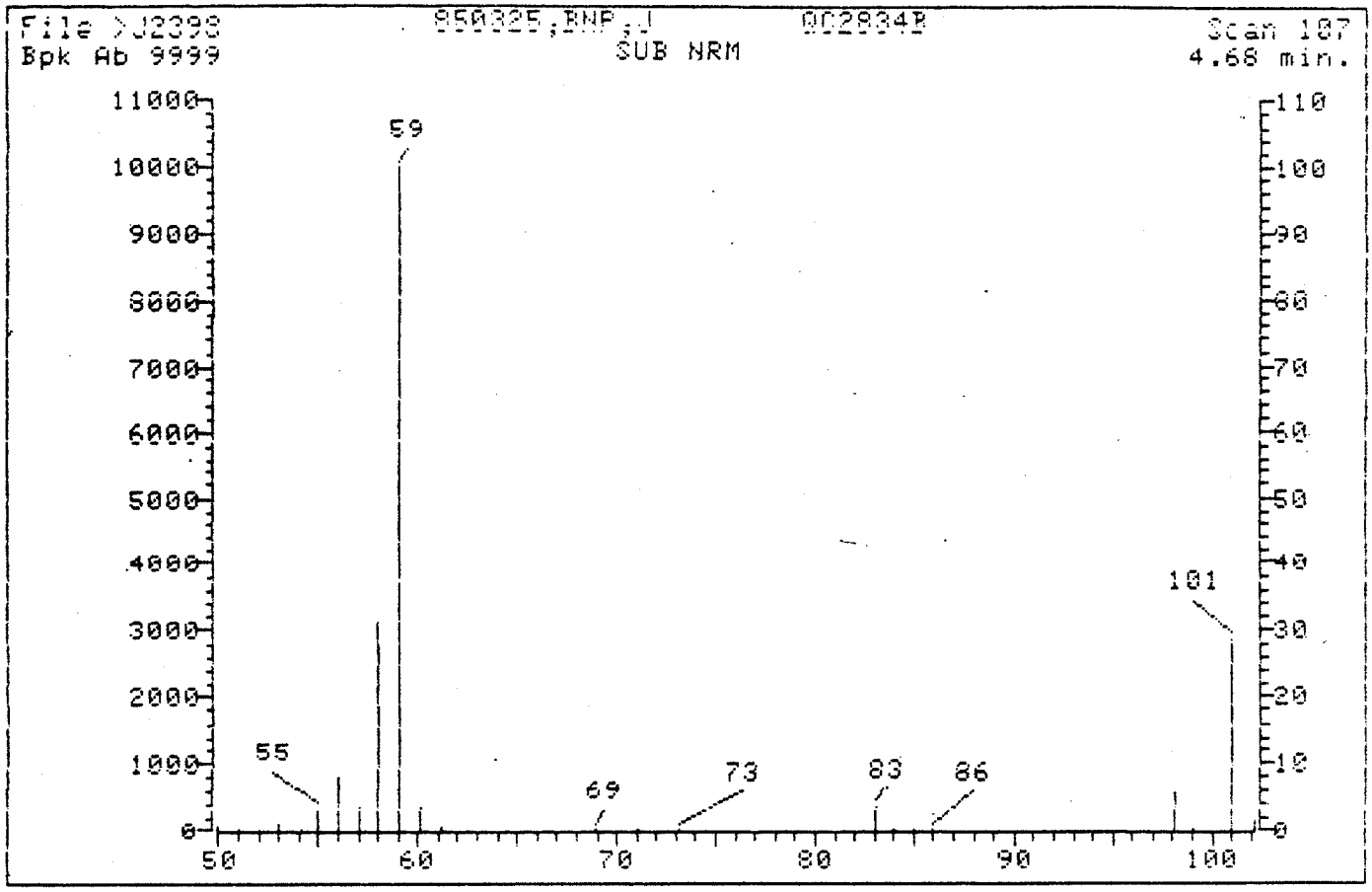
ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	104366	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	407	127170	28.39	UG/ML
10)	*d8-Naphthalene	10.85	539	393618	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	234312	34.44	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	407	15690	~~5.48~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	913	183550	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	32456	~~4.07~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	225585	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	6268	.79	UG/ML
58)	*d12-Chrysene	29.15	1819	59669	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	103871	53.86	UG/ML

* Compound is ISTD

300E

300630



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: 0C2834B
RT (min): 4.68
Scan: 107
Area: 155021
Semi-quantitative Conc: 7.73 UG/ML

RTL# 5

No PBM hits for this scan.

300631

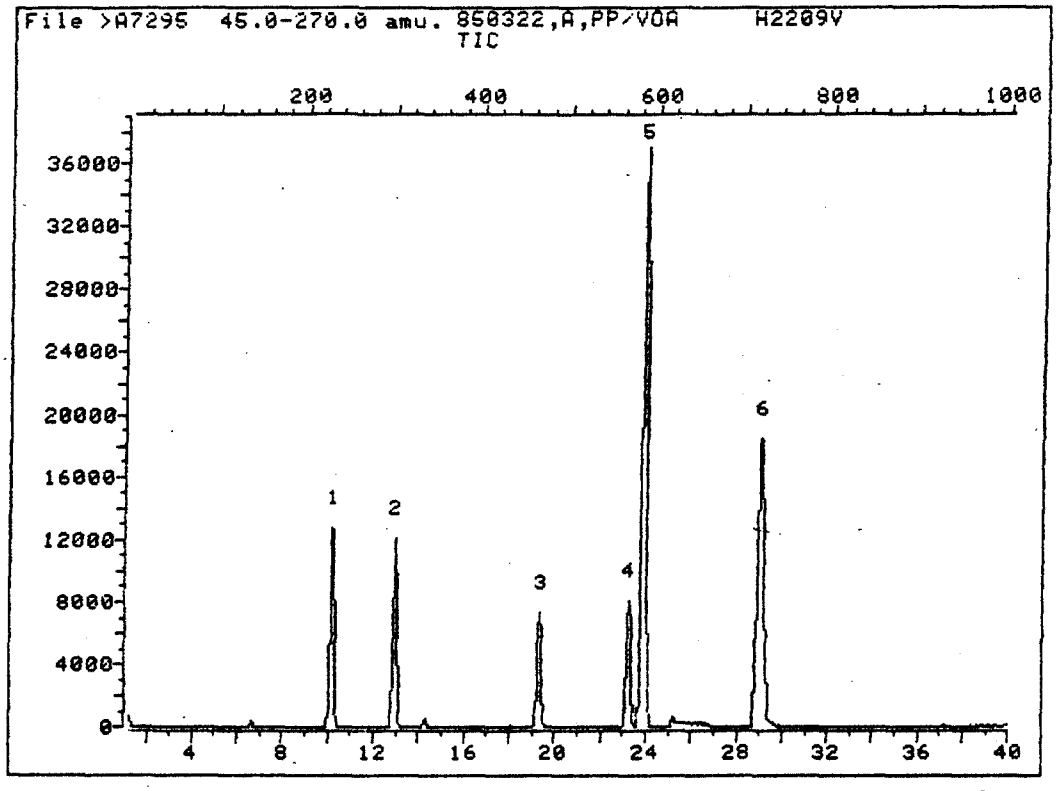
Appendix C

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.

300632

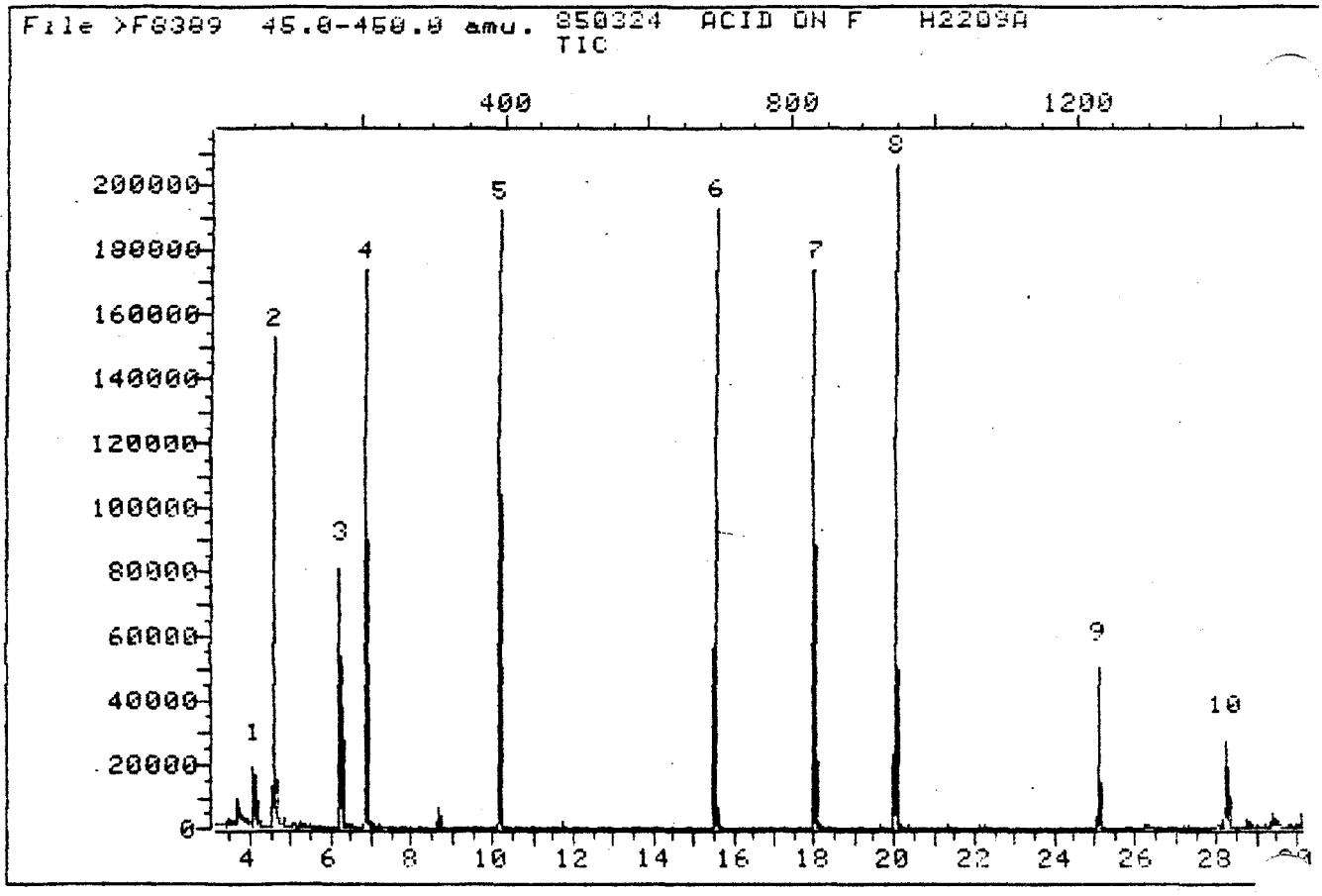
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7295::U2
Name: 850322,A,PP/VOA
Misc Data: H2209V

300633

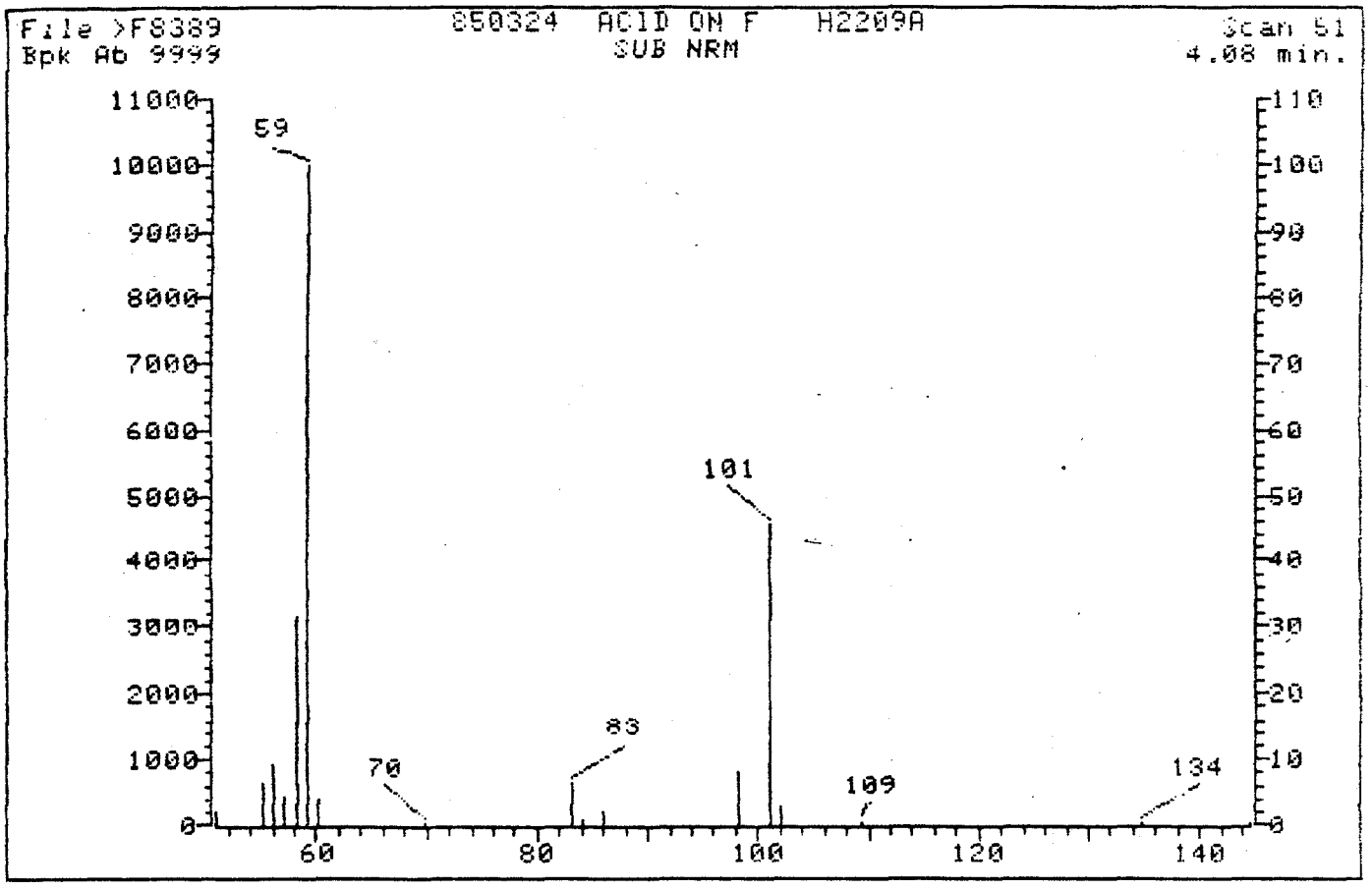
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8389::U6
Name: 850324 ACID ON F
Misc Data: H2209A

BTL#

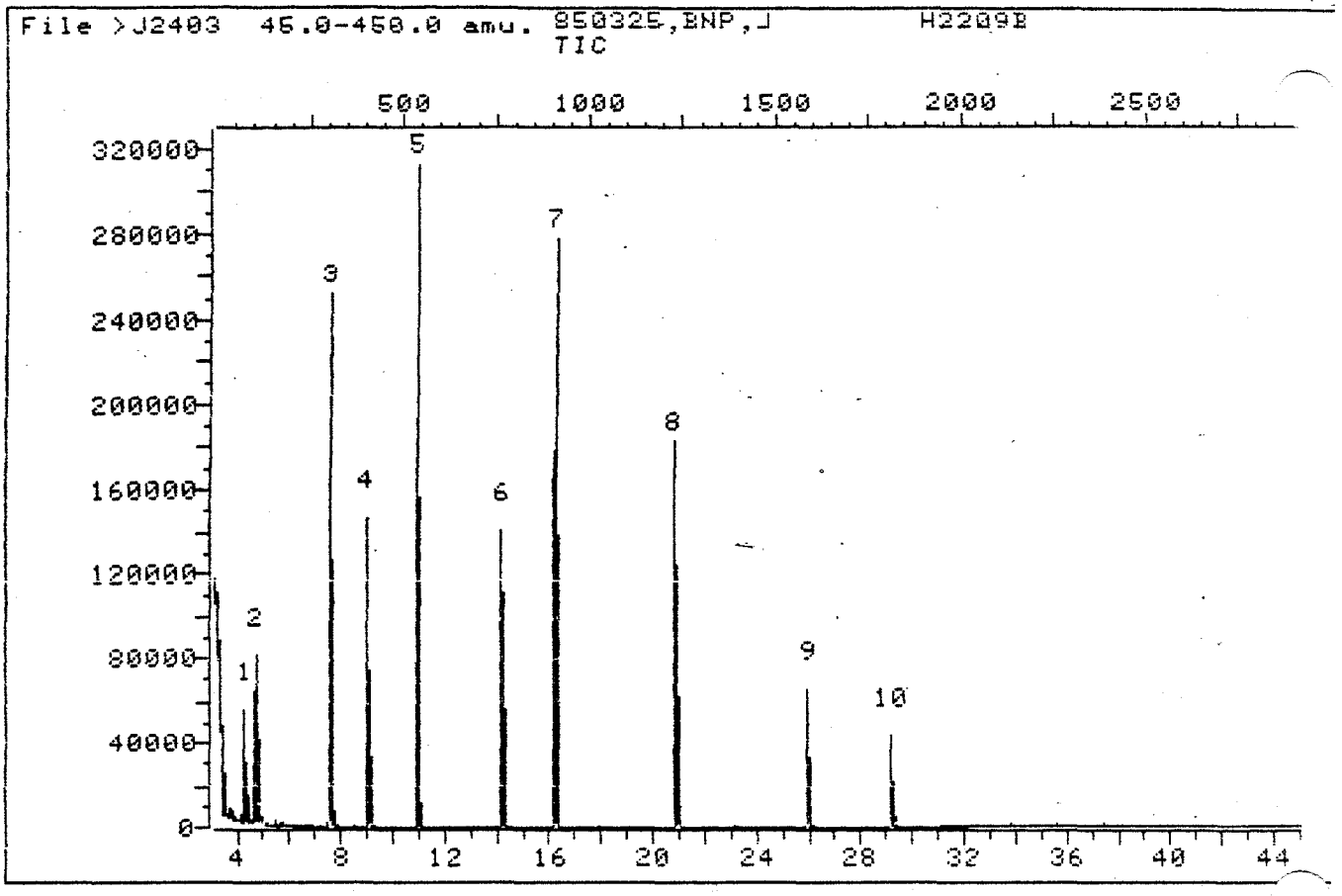
300634



Data File: >F8389::U6
Name: 850324 ACID ON F
Misc Data: H2209A BTL#10
RT (min): 4.08
Scan: 51
Area: 46634
Semi-quantitative Conc: 4.35 UG/ML

No PBM hits for this scan.

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



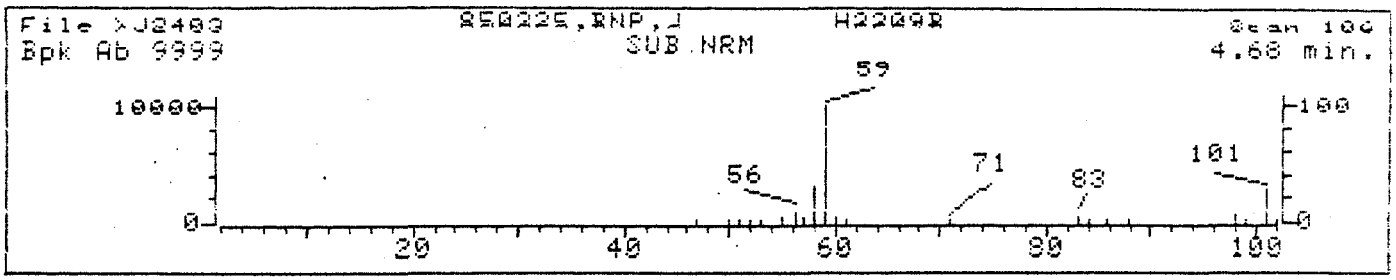
Data File: >J2403::U2
Name: 850325,BNP,J
Misc Data: H2209B

BTL#1

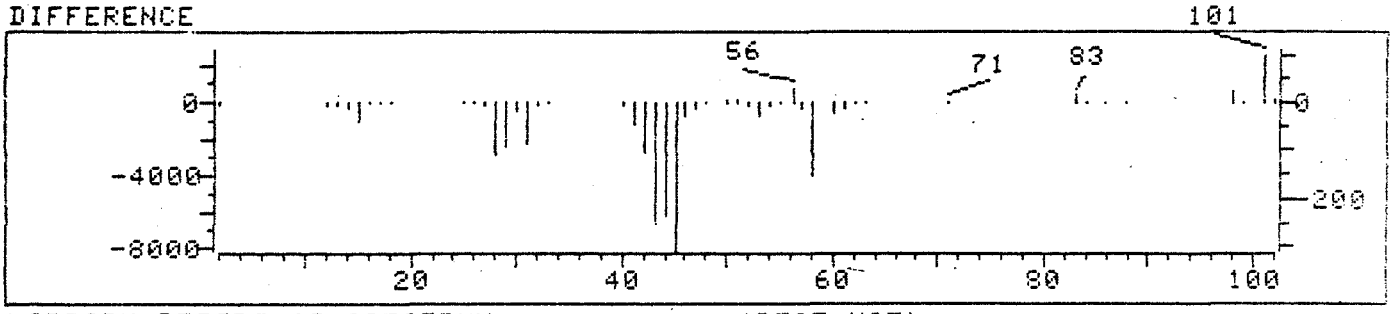
300636

300636

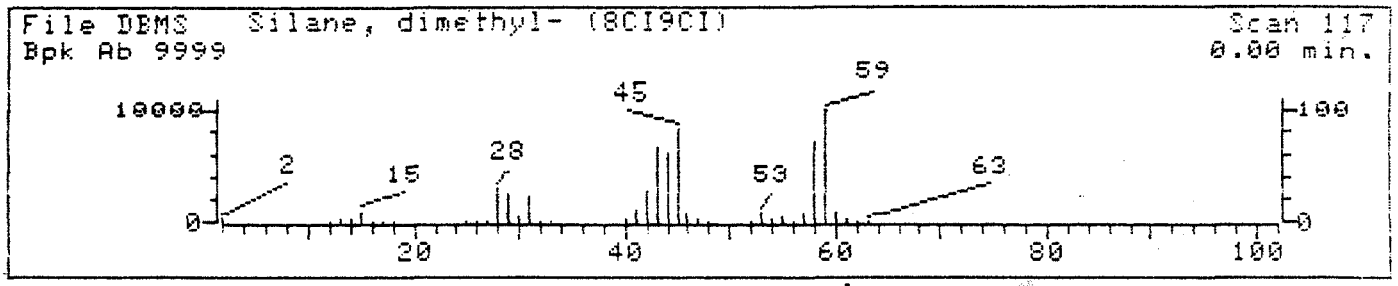
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >J2403::U2
Name: 850325,BNP,J
Misc Data: H2209B BTL#10
RT (min): 4.68
Scan: 106
Area: 150149
Semi-quantitative Conc: 6.91 UG/ML

ata File: >J2403 Scan Number: 106
earch Speed: 2 Titling option: S Number of ion ranges searched: 57

1. Silane, dimethyl- (8CI9CI) 60 C2H8Si

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	11	1111746	20	74	1	0

300637

300637

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.

300638

300E

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV. 1

ETC Job # H121C191

ID: L85263-A3

Facility: ____ (Facility Code) Sample Point: ____ – ____ (Source Code / Sample Point ID)

mitted by: MW CHYUN

e: 3/26/85 Date Sampled: ____ (Y Y M M D D) Time Sampled: ____ (H H : M M)

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	0.053	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			

300639

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.

300640

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28511 ETC Job # H2209

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBENSORTH

Sample Point: W - MAR2HA4

Facility/Site Code | Source Code (from below) | Your Sample Point ID (left justify)

(Optional Sample Point Descriptions)

03/21/85 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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables			
1	M	1L	HNO3	Metals			
1	CN	500ml	NaOH	Cyanides			
1	PN	1L	H2SO4	Phenoles			
2	V	40ml	Sod-Thio.	VOA			
1	TB	40ml	SC/MS H2O	Trip blank			

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) WF Lowry Date: 3/21/85 Time: 1115 Hrs
   Signature: [signature] Seal #: CC1-28511 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: 300641
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) WF Lowry Date: 3/21/85 Time: 1135
   Signature: [signature] Seal #: 28512 Intact: Yes

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 800

Seal #: 28512 Condition: Intact

3008

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # 41209

Sample Point [ ] Source Code [ ] Sample Point ID

FIELD PROCEDURES

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

SAMPLING METHOD: -- GRAB FROM OUTSIDE TAP

Sampler Type [D] 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 GRAB (SPECIFY OTHER)

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

Sample Composited [Y/N] NO
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	(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: Clear
Weather Conditions: Clear & 40°F
Other:

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

Sampler: [illegible] (Print) Employer: NJDEP

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

(Date) (Signature)

300642

300643

·MS ANALYSIS CUSTODY LOG

TE 3/22/85 SHIFT ___
ACTION VOA
STRUMENT A
ME FILE AFE101
QUENCE FILE ___
THOD FILE VOAA
FILE AVOA
ALYST(S) S. Johnston
PERVISOR [illegible]
TCH #'s QV3026

(PLEASE INITIAL)

CURRENT US STATUS		STANDARDS UPDATED	
	SJ	DATE	3/22
	PC	BY	SJ

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	91609	1µl

U.C Prelock

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
BFB	>A7275	1.0			A00106	OK 500 AM 3/22	
C3026V	>A7276	5ml			AG / AB	3/22 GJ 0758	
C3026VS	>A7277	5ml			AC	5uL ABC 0817	
V-BFB	>A7278	1.0				0911	
C291V	>A7281	5ml	1	ok	AD		
0291VS	>A7282		2	ok	AE	5uL ABC	
C293V	>A7283		3	ok	AH		
0293VR	>A7284		4	ok	AG		
0295V	>A7285		5	ok	AH		
0295V	>A7286		6	ok	AI		
0297V	>A7287		7	ok	AJ		
0300V	>A7288		8	ok	AK		
0304V	>A7289		9	ok	A081 AL		
0305V	>A7290	↓	10	ok	AM		
BFB	>A7291	1ul			A00106	1830hr	
C3026VS	>A7292	5ml				5ul 3/22 1920	
2207	>A7293		1		AH		
2208	>A7294		2		AI		
2209 100E	>A7295		3		AJ		
2210	>A7296		4		AK		
2211	>A7297		5		A082 AL		
2212	>A7298		6		AM		
2213	>A7299		7		AO		
2214	>A7300		8		AO		
0304	>A7301		9	05	AP		
			10				

EXTRACTION LOG

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H1801	8652	950	~~~	~~~	Could not get emulsion to separate
G3877	8492	1000	/	1.0	
H2207	8682	890	1.0	1.0	
H2208	|	1000	1.0	1.0	
H2209	|	1000	1.0	1.0	
H2210	|	~~1000~~ 950	1.0	1.0	
H2211	|	~~950~~ 1000	1.0	1.0	
H2212	↓	~~1000~~ 980	1.0	1.0	
G8833	8354	980	/	1.0	
G9144		940	1.0	/	
G9146		830	1.0	/	
G9147		830	1.0	/	
G9148		850	1.0	/	
G9150		850	1.0	/	
G9153		1000	1.0	/	
G9970		1000	10.0	1.0	
QC 2834		1000	1.0	1.0	
QC 2834 S		1000	1.0	1.0	
H2211 S		1000	1.0	1.0	
H2211 R		1000	1.0	1.0	

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg

Date: ~~3/23/85~~

Extraction Method:

- sep funnel ✓
- continuous
- soxhlet
- other

COMMENTS FOR EXTRACT.

* PP/T: H1801, H2207

PP/Acid (repeat): G3877 G8833

PP/BN: G9144, 46-48, 53

PP/org: G9970

COMMENTS FOR GC/MS:

H1801 EXTRACTED BY CONTINUOUS: QC 2843

300644

FRACTION	SPIKE Amt (ml)	Conc	Lot #
ACID	1.0	100	9700
Aroclor 1260	1.0	100	9763
BN PEST	1.0	100	9817
	1.0	100/200	10190

SURROGATE Amt. (ml)	Conc.	L
1.0	BN: 50 ~~ug~~/ml	10
	ACID: 100 ~~ug~~/ml	

Set-up: Linda Ohlsen 3/23/85 UPD/Supervisor: Karen Allen 3/25/85

BN Conc.: [illegible] 3/24/85 spike/Surr. verified: [illegible] 3/25/85

ACID Conc.: Dan Wu 3/24/85

A-3008 EXTRACTION LOG: B-H

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 8/23/85

Extraction Method:
- sep funnel ✓
- cont. nuous
- soxhlet
- other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H1801	8652	950	—	—	Could not get emulsion to separate
G3877	8492	1000	✓		
H2207	8682	890	1.0	1.0	ABN 15
H2208	↓	1000	1.0	↓	↓
H2209		1000	1.0		
H2210		~~850~~	1.0		
H2211		~~950~~ 4000	1.0		
H2212	↓	~~980~~ 2000	1.0	↓	↓
G8833	8354	960	✓	↓	ACID
G9144	8481	940	1.0	✓	
G9146		830	1.0	✓	
G9147		830	1.0	✓	
G9148		850	1.0	✓	
G9150		850	1.0	✓	
G9153	↓	1000	1.0	✓	
G9970	8473	1000	10.0	1.0	
QC 2834		1000	1.0		
QC 2834 S		1000	1.0		
H2211 S		1000	1.0		
H2211 R		1000	1.0		

COMMENTS FOR EXTRACT.:

* PP/T: H1801, H2207-11.

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

COMMENTS FOR GC/MS:

300645

FRACTION	SPIKE Amt (ml)	Conc	Lot #
ACID	1.0	100	9700
Acid/BN 1260	1.0	100	9763
BN	1.0	100	9617
PEST	1.0	100/200	10190

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml ACID: 100 ug/ml	10195

Analyst _____ Supervisor _____

057

300646

GC-MS ANALYSIS CUSTODY LOG

DATE 3/24-25/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE KSBF
METHOD FILE ACIDF
IDFILE FACID / FACHS
ANALYST(S) KSBenard
SUPERVISOR
BATCH #'s QA 2834
QA2814

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ	KSB	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9534	2ul
ACID CAL I	60	5909	1ml
" " II	100	5910	
" " III	300	5911	
HSLPP ACID STD	300	9603	
" " STD	100	9604	
" " STD	60	9605	1ml
INT STD MIX	400	9653	100ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLI Y/N
DFTPP							
ACID STD III	F8380		1				
" " I	F8381		2				
" " II	F8382		3				
H2211AS	F8383		4				
QC2834AS	F8384		5				
QC2834A	F8385		6				
H2211AR	F8386		7				
H2207A	F8387		8				
H2208A	F8388		9				
H2209A	F8389		10				
H2210A	F8390		11				
H2211A	F8391		12				
H2212A	F8392		13				
G3877A	F8393		14				
G9970A	F8394		15				
G8833A	F8395		16				
G9969A	F8396		17	10:1			
DFTPP	F8397		18				
ACIDCALII	F8398		19				
HSLPPACID300	F8399		20			FACHS	
HSLPPACID100	F8400		21			↓	

TSR 8-84

3008

MS ANALYSIS CUSTODY LOG

E 3/25/85 SHIFT ___
CTION ACID
TRUMENT F
E FILE MTF001
UENCE FILE KEBF
HOD FILE AC10F
ILE EACH5
LYST(S) KE Bompart
ERVISOR
CH #'s
OA2834

(PLEASE INITIAL)

CURRENT MS STATUS	STANDARDS UPDATED
	DATE
	BY

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 1

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
LPP AC10 60	F8401		22				
5906AS	F8402		23				
2814AS	F8403		24				
2814A	F8404		25				Y
8891AR	F8405		26				
7232A	F8406		27				Y
5900A	F8407		28				
5901A	F8408		29				
5902A	F8409		30				
5903A	F8410		31				
5904A	F8411		32				
5905A	F8412		33				
5906A	F8413		34				
8832A	F8414		35				X
8890A	F8415		36				
DFTPP	F8416		37				
AC10CALSTD	F8417		38				
7231A	F8418		39				Y
8914A	F8419		40				
8891A	F8420		41				
7230A	F8421		42				Y

300647 TSR 8-84

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GC-MS ANALYSIS CUSTODY LOG

DATE 850325 SHIFT ___
FRACTION BNP
INSTRUMENT J
TUNE FILE MTJ004
SEQUENCE FILE TSR23
METHOD FILE JBNP
IDFILE BNPJ
ANALYST(S) Tom Kuzawicz
SUPERVISOR Kathy Alsup
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ	TK	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	VO

NAME	DATA FILE >J	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	2390	2	—			NC 1605 HRS
↓	2391	↓				NC
	2392					NC
↓	2393	↓			DON'T USE→	OK 1830 HRS
BNP CALIB STD I	2394		1			
BNP CALIB STD II	2395		2			
BN CALIB STD III	2396		3			
PEST CALIB STD IV	2397		4			
QC2834B	2398		5			QC2834B
QC2834BS	2399		6			
H2211BS	2400		7			EMERG.
H2207B	2401		8			
H2208B	2402		9			
H2209B	2403		10			
H2210B	2404		11			
H2211B	2405		12			
H2211BR	2406		13			
H2212B	2407		14			
69144B	2408		15			
69146B	2409		16			
69147B	2410		17			
69148B	2411		18			
69150B	2412		19			
69153B	2413		20			
69970B005	2414		21		060	

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL 8683

Metals Analysis Custody Log

Samples H 2207 to H 2212

	Chemist	Date
Hg Prep	Dwayne D. Lehfeld	3/22/85
AA/ICAP Prep	Maura Jean McClure	3/21/85

Lab Supervisor Lidija Urbanac date 3/26/85

300649

300649

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2210	NJ DEP	NJDCOMBES0 WHEMMINGS S	B50321	1111		
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

300651

James N. Bowen for

Denis C. K. Lin, Ph.D.

Vice President
Research and Operations

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Based on October, 1984 version of
ETC Standard Operating Procedures

NJDEP Contract 029

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Mercury Sample Preparation	AA-001-3
Hexavalent Chromium Sample Preparation	AA-005-1

Non-Aqueous Extractions

Soil and Sediment Samples

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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
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Iron	IM-1-009
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2,3,7,8-TCDD by GC/MS	GC/MS-1-003

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Gas Chromatography/Mass Spectrometry for:

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

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300654

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 27, 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
H2210	NJ DEP	NJDCOMBESO	WHEMMINGS S	850321	1111	

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	ND	ND	ND	800	120	ND	800	98
2V	Acrylonitrile	ND	100	ND	ND	ND	80	83	ND	80	73
3V	Benzene	ND	4.40	ND	ND	ND	18	110	ND	18	93
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	75
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	105	ND	18	76
7V	Chlorobenzene	ND	6	3	6	ND	18	108	ND	18	81
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	108	ND	18	80
9V	Chloroethane	ND	10	ND	ND	ND	18	121	ND	18	75
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	116	ND	18	64
11V	Chloroform	ND	1.60	ND	ND	ND	18	113	ND	18	85
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	110	ND	18	81
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	91	ND	20	90
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	109	ND	18	84
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	116	ND	18	88
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	102	16	18	75
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	110	ND	18	83
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	100	ND	18	64
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	108	ND	18	82
20V	Methyl bromide	ND	10	ND	ND	ND	18	82	ND	18	38
21V	Methyl chloride	ND	10	ND	ND	ND	18	120	ND	18	86
22V	Methylene chloride	ND	2.80	1	6	ND	18	129	ND	18	80
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	120	ND	18	93
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	101	ND	18	77
25V	Toluene	ND	6	ND	ND	ND	18	109	ND	18	81
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	103	209	18	63B
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	96	ND	18	90
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	113	ND	18	98
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	102	652	18	78B
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	107	ND	18	84
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	84
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	107	ND	18	56

A EPA published Method Detection Limit.

B Samples that contain compounds present at high levels do not provide valid spike recovery data.

004

300655

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2210	NJ DEP	NJDCOMBES0	WHEMMINGS S	850321	1111	

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	3.30	ND	ND	ND	100	104	ND	100	97
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	108	ND	100	72
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	103	ND	100	97
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	105	ND	100	105
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	87	ND	100	77
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	102	ND	100	100
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	62	ND	100	62
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	106	ND	100	106
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	108	ND	100	103
10A	Phenol	ND	1.50	ND	ND	ND	100	59	ND	100	52
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	100	ND	100	104

a EPA published Method Detection Limit.

300656

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2210	NJ DEP	NJDCOMBESO	WHEMMINGS S	850321	1111	

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	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	1.90	ND	ND	ND	100	79	ND	100	78
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	80	ND	100	76
3B	Anthracene	ND	1.90	ND	ND	ND	100	82	ND	100	78
4B	Benzidine	ND	44	ND	ND	ND	100	3.	ND	100	8.
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	90	ND	100	87
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	92	ND	100	86
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	95	ND	100	82
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	87	ND	100	90
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	98	ND	100	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	83	ND	100	81
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	87	ND	100	93
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	73	ND	100	71
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	105	ND	100	106
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	33	ND	100	35
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	77	ND	100	76
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	100	89
18B	Chrysene	ND	2.50	ND	ND	ND	100	90	ND	100	90
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	74	ND	100	69
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	64
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	71	ND	100	64
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	58	ND	100	51
24B	Diethyl phthalate	ND	10	ND	ND	ND	100	14.	ND	100	10.
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	0.	ND	100	0.
26B	Di-n-butyl phthalate	ND	10	ND	ND	BMDL	100	50	ND	100	45
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	104	ND	100	88
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	94	ND	100	91
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	71	ND	100	62
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	86	ND	100	75
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	94	ND	100	85
32B	Fluorene	ND	1.90	ND	ND	ND	100	83	ND	100	75

300657

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2210	NJ DEP	NJDCOMBESO	WHEMMINGS S	850321	1111	

NPDES Number	Compound	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
33B	Hexachlorobenzene	ND	1.90	ND	ND	ND	100	117	ND	100	124
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	83	ND	100	82
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	79	ND	100	74
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	94	ND	100	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	97	ND	100	92
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	89	ND	100	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	100	ND	100	97
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	93	ND	100	82
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	86	ND	100	82
45B	Pyrene	ND	1.90	ND	ND	ND	100	96	ND	100	86
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	165[c]	ND	100	179[c]

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C Recovery normally variable using EPA Protocol Method 625.

300658

007

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2210	NJ DEP	NJDCOMBESO WHEMMINGS S		850321	1111	

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	76	ND	100	76
2P	Alpha-BHC	ND	10	ND	ND	ND	100	20	ND	100	19
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	56	ND	100	59
4P	Gamma-BHC	ND	10	ND	ND	ND	100	23	ND	100	21
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	3	ND	100	3
6P	Chlordane	ND	10	ND	ND	ND	200	27	ND	200	35
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	71	ND	100	76
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	71	ND	100	85
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	71	ND	100	76
10P	Dieldrin	ND	2.50	ND	ND	ND	100	57	ND	100	68
11P	Endosulfan I	ND	10	ND	ND	ND	100	8	ND	100	14
12P	Endosulfan II	ND	10	ND	ND	ND	100	6	ND	100	11
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	53	ND	100	59
14P	Endrin	ND	10	ND	ND	ND	100	64	ND	100	70
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	10	ND	100	17
16P	Heptachlor	ND	1.90	ND	ND	ND	100	70	ND	100	69
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	68	ND	100	89
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	78	ND	100	55
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

300659

800

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29 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
H2210	NJ DEP	NJDCOMBES0	WHEMMINGS S	850321	1111	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l
1M	Antimony	ND	60
2M	Arsenic	ND	10
3M	Beryllium	ND	1
4M	Cadmium	ND	3
5M	Chromium	ND	10
6M	[redacted]	<40	4
7M	Lead	<600	5
8M	Mercury	ND	.30
9M	Nickel	[redacted]	7
10M	Selenium	ND	5
11M	Silver	ND	8
12M	Thallium	ND	5
13M	Zinc	40	3
14M	Cyanide, Total	<25	25
15M	Phenolics, Total	<10	10

300660

600

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2210	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1111	

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

300661

300661-010

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2210	NJ DEP	NJDCOMBES0	WHEMMINGS	850321	1111	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	52	4.02	-	-	-	7		

300662

011

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2210	NJ DEP	NJDCOMBESO	WHEMMINGS	850321	1111	

Compound Name	Data			Identifiers		Estimated Concen. ug/L		
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula			
1 Unknown	110	4.69	-		-	13		

210 - 012

300663

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2210

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	89	86	119
Bromofluorobenzene	.250	87	85	121
1,2-Dichloroethane-D4	.250	85	77	120
ACID FRACTION				
Phenol-D5	100	41	15	103
2-Fluorophenol	100	58	23	121
2,4,6-Tribromophenol	100	90	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	76	41	120
2-Fluorobiphenyl	50	84	44	119
Terphenyl-D14	50	54	33	128

* IFB EPA Control Limits.

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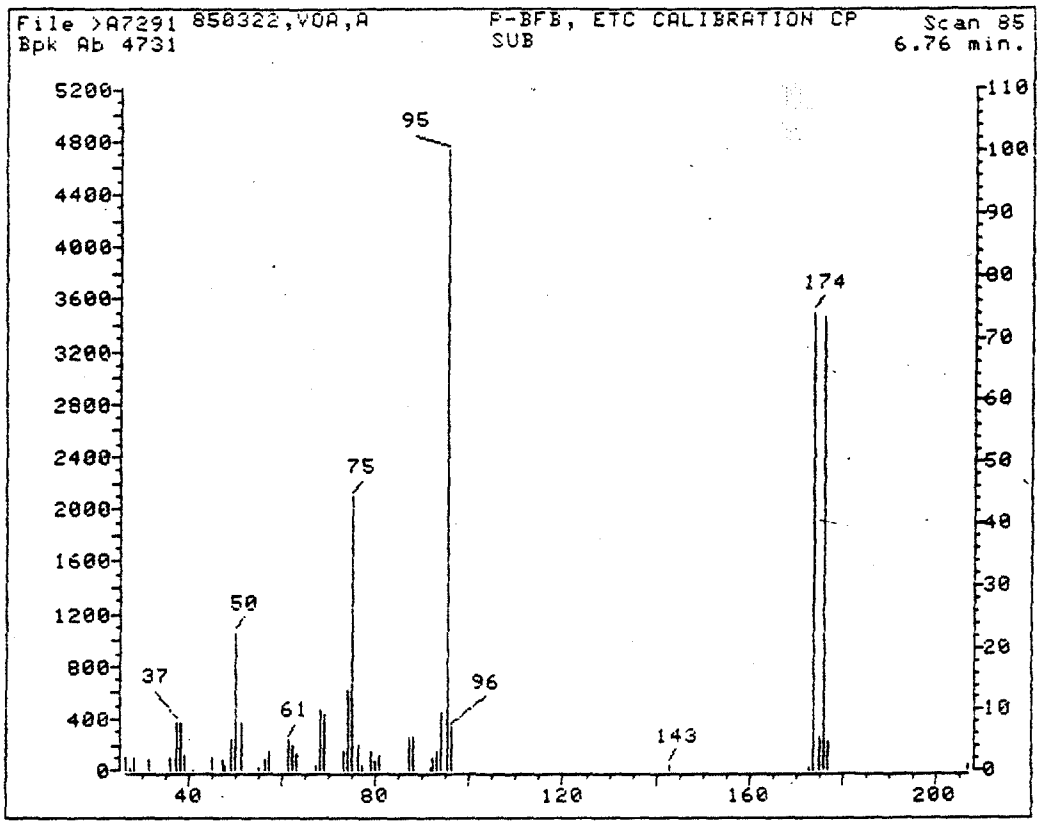

TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.26	22.26	Ok
75	30-60% of mass 95	44.35	44.35	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.00	7.00	Ok
173	Less then 1% of mass 95	.55	.55	Ok
174	Greater then 50% of mass 95	73.98	73.98	Ok
175	5-9% of mass 174	5.33	7.20	Ok
176	95-101% of mass 174	73.13	98.86	Ok
177	5-9% of mass 176	4.92	6.73	Ok

Injection Date: 03/22/85
Injection Time: 18:31
Run No: >A7291
Spectrun No: 85

Analyst: Thomas J. Monaco
Processor: ~~[illegible] QV3026~~
QC Batch: ~~8~~ QV3026
Samples: H2207 - H2212, H2139, H21[illegible]
H0297, H0298

3008

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014

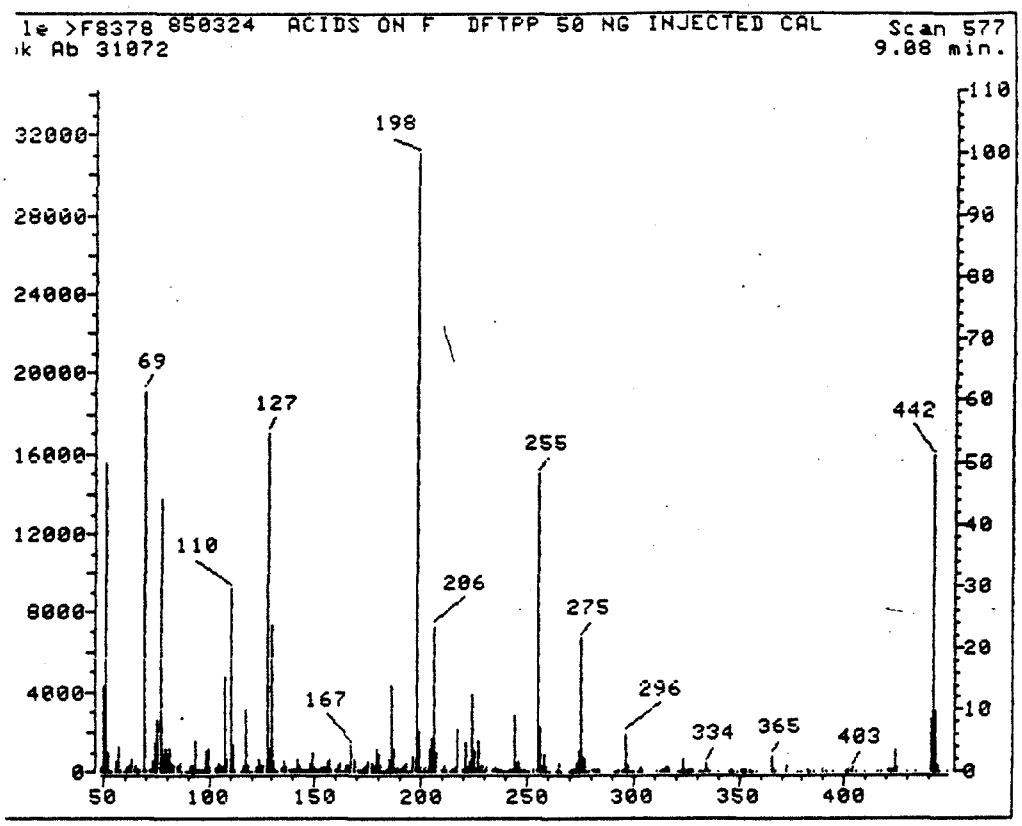

TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	49.99	49.99	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less then 2% of mass 69	.44	.72	Ok
27	40-60% of mass 198	54.81	54.81	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.62	6.62	Ok
75	10-30% of mass 198	21.41	21.41	Ok
65	Greater then 1% of mass 198	2.45	2.45	Ok
41	Less then mass 443	8.47	85.21	Ok
42	Greater then 40% of mass 198	50.97	50.97	Ok
43	17-23% of mass 442	9.94	19.51	Ok

Injection Date: 03/24/85 Analyst: K.E. Bonanno
Injection Time: 23:17 Processor: Mita Mukherjee
Run No: >F8378 QC Batch: QA 2834
Spectrun No: 577 Samples: G3877, H2207-H2212, G9970 68833

300666

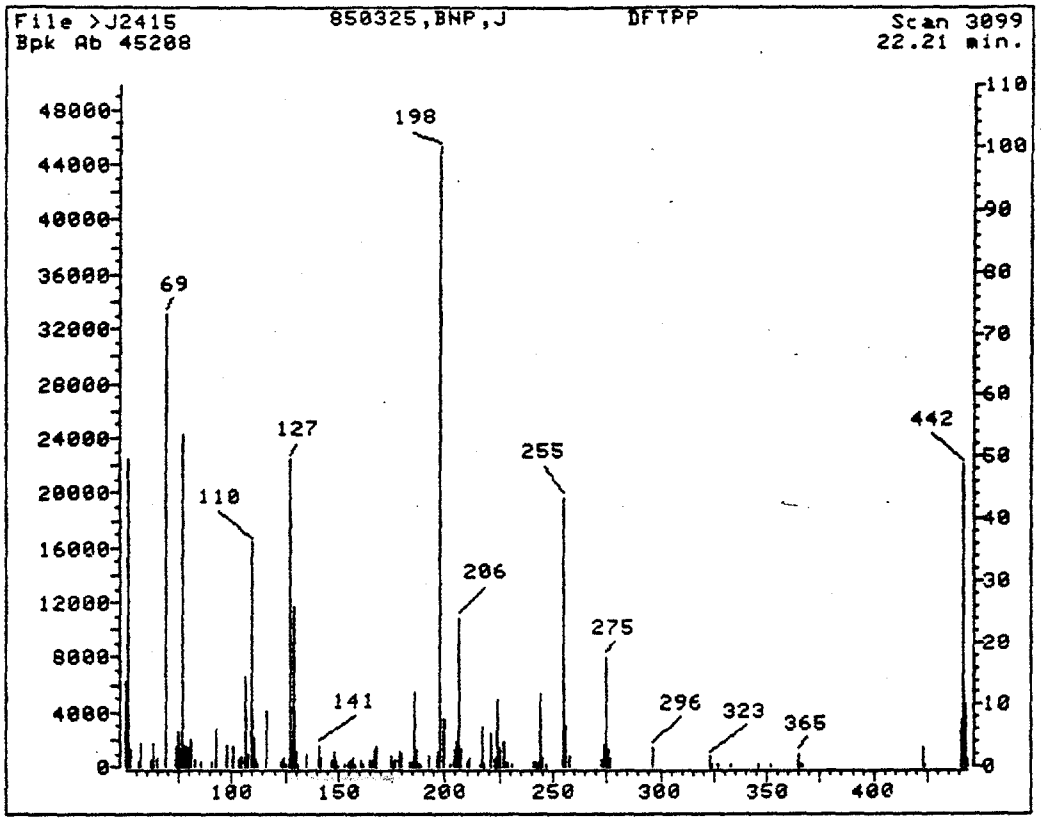

TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.57	49.57	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	73.28	73.28	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.67	49.67	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	7.82	7.82	Ok
275	10-30% of mass 198	17.57	17.57	Ok
365	Greater then 1% of mass 198	2.21	2.21	Ok
441	Less then mass 443	7.49	73.87	Ok
442	Greater then 40% of mass 198	48.68	48.68	Ok
443	17-23% of mass 442	10.13	20.82	Ok

Injection Date: 03/26/85
Injection Time: 15:03
Run No: >J2415
Spectrun No: 3099

Analyst: Tom Russowicz
Processor: Mike Mulhern
QC Batch: QB2834
Samples: H3207-H3212, G9144, G9146-G9148 G9150, G9153, G9.1

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300667

Relative Percent Difference (RPD) for VOA

H2210 Job Number | NJ DEP Account Name | NJDCOMBESO Facility | WHEMMINGS S Source | 850321 Date | 1111 Time

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	3	6	67
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	1	6	143
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

017

300668

300693

Relative Percent Difference (RPD) for ACID

H2210 NJ DEP — NJDCOMBESO WHEMMINGS S 850321 1111
Job Number Account Name — Facility Source Date Time

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

300693

Relative Percent Difference (RPD) for B/N

H2210 NJ DEP — Job Number / Account Name
NJDCOMBESO WHEMMINGS S 850321 1111 — Facility Source Date Time

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

300671

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

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300671

Relative Percent Difference (RPD) for PEST

Job Number	Account Name	Facility	Source	Date	Time
H2210	NJ DEP	NJDCOMBESO	WHEMMINGS S	850321	1111

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

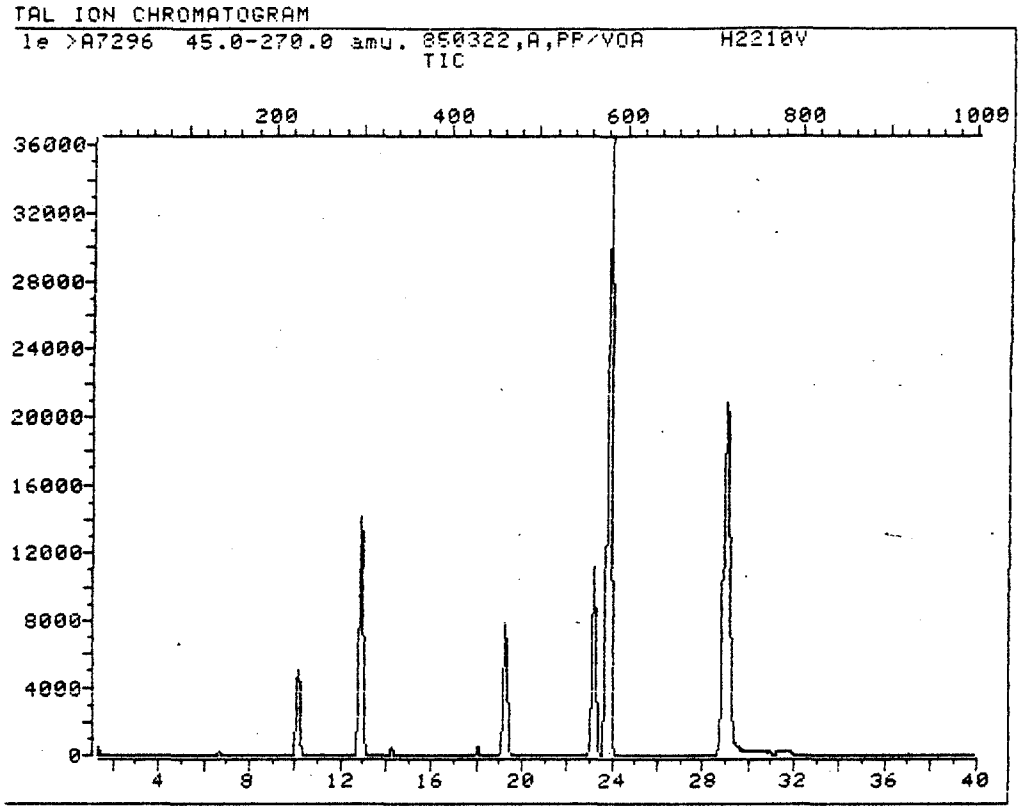
Appendix A

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.

300673



Data File: >A7296::U2
Name: 850322,A,PP/VOA
Misc: H2210V

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: TM0576
Quant Time: 850323 07:34

300674

QUANT REPORT

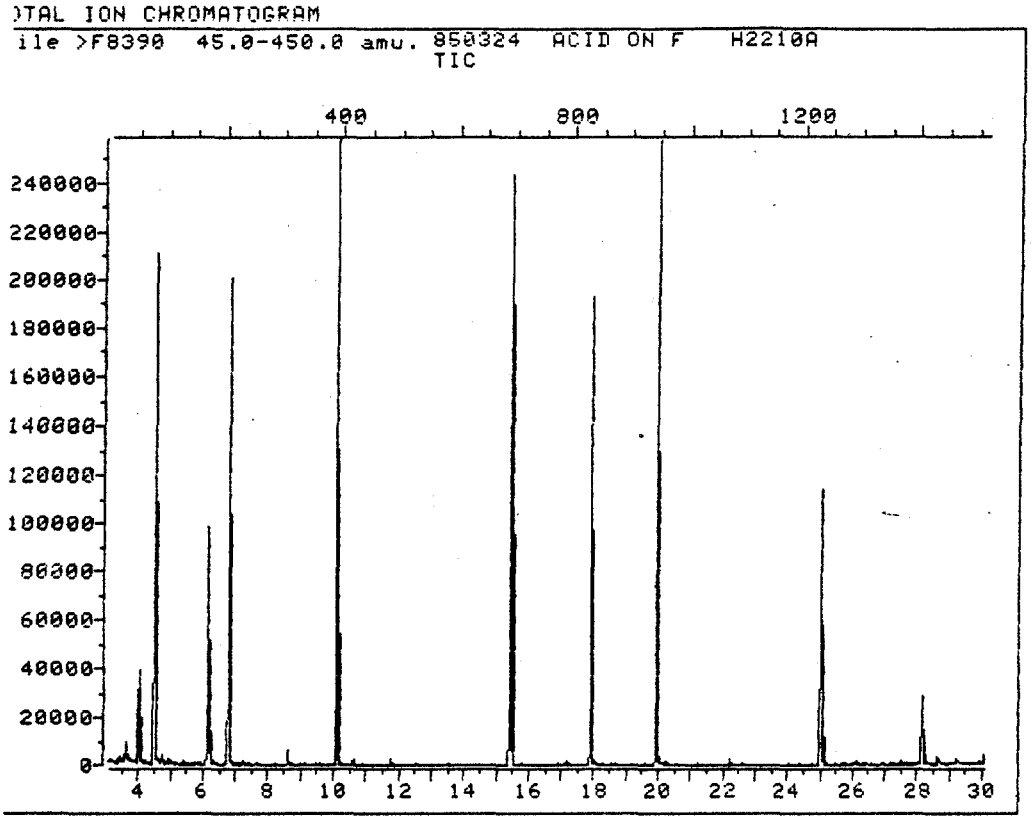
Operator ID: TM0576 Quant Rev: 3 Quant Time: 850323 07:34
Injected at: 850322 23:17
Data File: >A7296::U2 Dilution Factor: 1.00
Name: 850322,A,PP/VOA
Misc: H2210V

ID File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.28	466	55769	200.00	NG
34)	1,2-Dichloroethane-D4	12.92	301	34269	212.43	NG
35)	Toluene-D8	23.83	584	202569	223.41	NG
36)	p-Bromofluorobenzene	29.01	718	72486	~~211.24~~	NG ≥ 18
37)	*1,4-Dichlorobutane	23.18	567	72436	200.00	NG

* Compound is ISTD

300675



Data File: >F8390::U6
Name: 850324 ACID ON F
Misc: H2210A

BTL#11

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

Operator ID: KB5414
Quant Time: 850325 08:43

300676

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:43
Injected at: 850325 07:11
Data File: >F8390::U6 Dilution Factor: 1.00
Name: 850324 ACID ON F
Misc: H2210A BTL#11

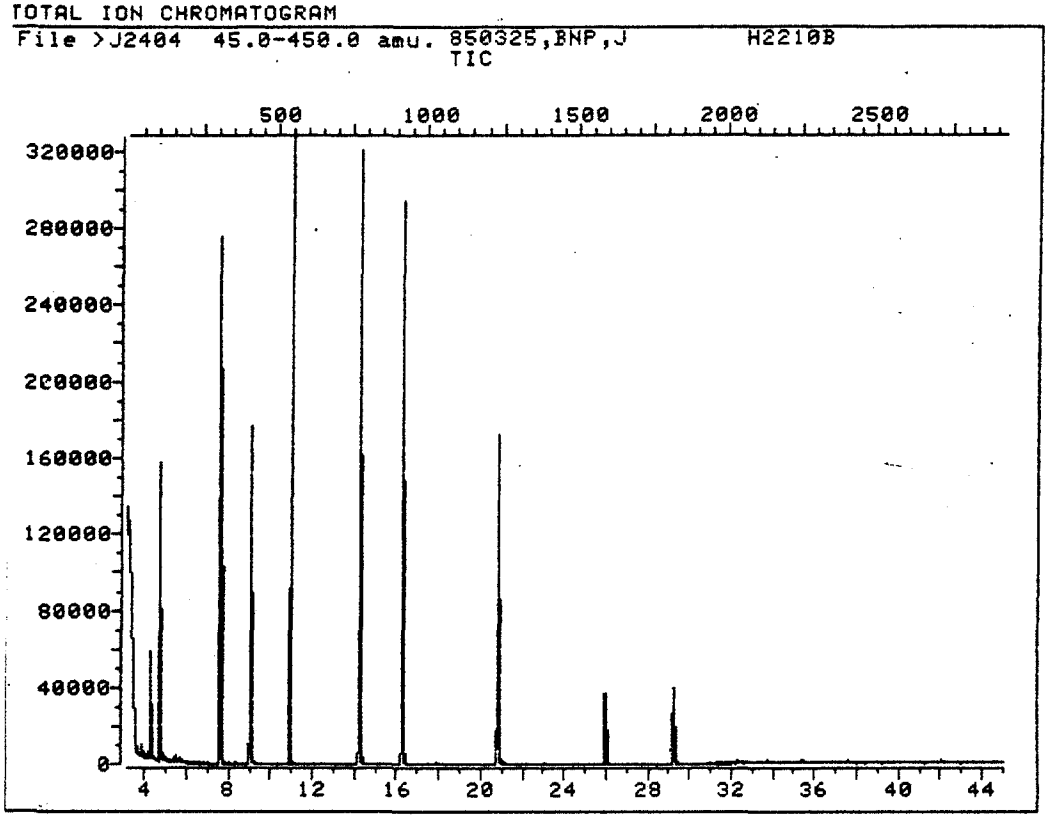
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.76	206	135887	40.00	UG/ML
3)	2-Fluorophenol	4.47	77	125777	58.41	UG/ML
5)	Phenol-D5	6.12	170	93429	40.52	UG/ML
5)	Phenol-D5	6.78	207	873	.38	~~UG/ML~~
6)	*d8-Naphthalene	10.09	393	281011	40.00	UG/ML
11)	*d10-Acenaphthalene	15.42	693	145441	40.00	UG/ML
16)	*d10-Phenanthrene	19.92	946	305100	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.88	831	64698	90.01	UG/ML

* Compound is ISTD

300677

TOTAL ION CHROMATOGRAM



Data File: >J2404::U2
Name: 850325,BNP,J
Misc: H2210B

BTL#11

Id File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

Operator ID: TR9113
Quant Time: 850327 00:58

300678

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850327 00:58
Injected at: 850327 00:10
Data File: >J2404::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: H2210B BTL#11

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	308	114057	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	409	185408	37.87	UG/ML
10)	*d8-Naphthalene	10.85	541	423850	40.00	UG/ML
11)	2-Fluorobiphenyl	14.20	775	308825	42.16	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	409	22038	~~7.15~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	915	199600	40.00	UG/ML
23)	Dimethyl phthalate	16.20	915	34566	~~3.98~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1235	234611	40.00	UG/ML
58)	*d12-Chrysene	29.15	1821	56375	40.00	UG/ML
70)	Terphenyl-D14	25.94	1596	49499	27.17	UG/ML

* Compound is ISTD

J586AG

300679

Appendix B

GC/MS Calibration Data

300680

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00759	2.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.01130	21.52	Average	(Conc=400.00)
Benzene	2.26343	2.36695	4.57	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.40933	3.91	Average	
Carbon tetrachloride	.70237	.66949	4.68	Average	
Chlorobenzene	1.52935	1.57670	3.10	Average	
Chlorodibromomethane	.69374	.70172	1.15	Average	
Chloroethane	.13254	.14557	9.83	Average	
2-Chloroethylvinyl ether	.29315	.31732	8.25	Average	
Chloroform	1.49245	1.60717	7.69	Average	
Dichlorobromomethane	1.00980	1.05578	4.55	Average	
Dichlorodifluoromethane	.16533	.15146	8.39	Average	
1,1-Dichloroethane	.97647	1.00277	2.69	Average	
1,2-Dichloroethane	.85557	.94816	10.82	Average	
1,1-Dichloroethylene	1.00001	.94938	5.06	Average	
1,2-Dichloropropane	.83951	.90397	7.68	Average	
trans-1,3-Dichloropropylene	.68624	.66508	3.08	Average	
cis-1,3-Dichloropropylene	-	-	-	Average	
Ethylbenzene	2.92450	3.04036	3.96	Average	
Methyl bromide	.14225	.13208	7.15	Average	
Methyl chloride	.44723	.43620	2.47	Average	
Methylene chloride	.14438	.18028	24.86	Average	
1,1,2,2-Tetrachloroethane	.83452	.93597	12.16	Average	
Tetrachloroethylene	.88116	.84556	4.04	Average	
Toluene	2.58175	2.63445	2.04	Average	
1,2-Trans-dichloroethylene	1.01197	.98718	2.45	Average	
1,1,1-Trichloroethane	.84920	.95146	12.04	Average	
1,1,2-Trichloroethane	.51355	.56918	10.83	Average	
Trichloroethylene	.56000	.55064	1.67	Average	
Trichlorofluoromethane	1.05182	1.04730	.43	Average	
Vinyl chloride	.23812	.23732	.33	Average	
1,2-Dichloroethane-D4	.46030	.48311	4.96	Average	(Conc=250.00)
Toluene-D8	2.83719	2.74046	3.41	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.01404	5.00	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

300681

030

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7277
Injection Time: 850322 08:17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
lein	.00738	.00884	19.87	Average	(Conc=4000.00)
lonitrile	.01440	.13271	821.63	Average	(Conc=400.00)
ene	2.26343	2.49908	10.41	Average	
(Chloromethyl)ether	-	-	-	Average	
oform	.42598	.44373	4.17	Average	
on tetrachloride	.70237	.73549	4.72	Average	
robenzene	1.52935	1.65404	8.15	Average	
rodibromomethane	.69374	.74853	7.90	Average	
roethane	.13254	.16074	21.27	Average	
loroethylvinyl ether	.29315	.34050	16.15	Average	
roform	1.49245	1.68143	12.66	Average	
lorobromomethane	1.00980	1.11452	10.37	Average	
lorodifluoromethane	.16533	.17440	5.49	Average	
-Dichloroethane	.97647	1.06009	8.56	Average	
-Dichloroethane	.85557	.99072	15.80	Average	
-Dichloroethylene	1.00001	1.02252	2.25	Average	
-Dichloropropane	.83951	.92571	10.27	Average	
ns-1,3-Dichloropropylene	.68624	.73263	6.76	Average	
-1,3-Dichloropropylene	.52512	.52617	.20	Average	
ylbenzene	2.92450	3.15306	7.82	Average	
yl bromide	.14225	.11614	18.35	Average	
hyl chloride	.44723	.53753	20.19	Average	
ylene chloride	.14438	.18617	28.94	Average	(1)
,2,2-Tetrachloroethane	.83452	.99819	19.61	Average	
achloroethylene	.88116	.89390	1.45	Average	
uene	2.58175	2.80600	8.69	Average	
-Trans-dichloroethylene	1.01197	1.03942	2.71	Average	
,1-Trichloroethane	.84920	.98838	16.39	Average	
,2-Trichloroethane	.51355	.58132	13.20	Average	
chloroethylene	.56000	.57108	1.98	Average	
chlorofluoromethane	1.05182	1.12827	7.27	Average	
yl chloride	.23812	.25087	5.35	Average	
-Dichloroethane-D4	.46030	.47036	2.19	Average	(Conc=250.00)
uene-D8	2.83719	2.69823	4.90	Average	(Conc=250.00)
romofluorobenzene	1.06746	1.00031	6.29	Average	(Conc=250.00)
,1,2-Tetrachloroethane	-	-	-	Average	
rene	-	-	-	Average	
-Dibromo-3-Chloropropane	-	-	-	Average	
mobenzene	-	-	-	Average	
hlorotoluene	-	-	-	Average	
hlorotoluene	-	-	-	Average	
ta-Xylene	-	-	-	Average	(Conc=75.00)
ho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
opylbenzene	-	-	-	Average	

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

iff - % Difference from original average or curve

300682

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850325 08:25

Compound	Files: >F8381 RF 60.00	>F8382 RF 100.00	>F8380 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.76356	.83867	.74054	.944	.78093	6.571	
Phenol	.75362	.79100	.76738	.913	.77067	2.453	
2,4-Dichlorophenol	.27080	.29320	.24170	.969	.26857	9.615	
2,4-Dimethylphenol	.33404	.37237	.31240	.926	.33960	8.943	
2-Nitrophenol	.17761	.20297	.18032	.904	.18697	7.446	
p-Chloro-m-cresol	.31219	.32754	.28079	1.190	.30684	7.766	
4,6-Dinitro-o-cresol	.22647	.29143	.30170	1.136	.27320	14.933	
2,4-Dinitrophenol	.13182	.16687	.21471	1.025	.17113	24.313	
4-Nitrophenol	.26598	.30397	.30452	1.049	.29149	7.580	
2,4,6-Trichlorophenol	.34641	.38430	.31699	.856	.34923	9.662	
Pentachlorophenol	.11444	.13158	.11626	.984	.12076	7.798	
2-Fluorophenol	.59468	.66553	.64127	.660	.63382	5.681	(Conc=100.0,100.0,100.0)
Phenol-D5	.64038	.68374	.71218	.908	.67876	5.327	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.08766	.10429	.09077	.898	.09424	9.378	(Conc=100.0,100.0,100.0)

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

300683

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
itrosodimethylamine	-	-	-	-	-	-	-	
(2-Chloroethyl) ether	2.00571	2.13516	2.14932	-	.938	2.09673	3.775	
-Dichlorobenzene	1.60123	1.75494	1.77725	-	.989	1.71114	5.601	
-Dichlorobenzene	1.75399	1.93459	2.03805	-	1.006	1.90888	7.531	
-Dichlorobenzene	1.73350	1.86518	1.91383	-	1.064	1.83750	5.078	
obenzene-d5	1.69135	1.72120	1.73779	-	1.197	1.71678	1.371	(Conc=50.0,50.0,50.0,50.0)
(2-Chloroisopropyl)ether	.29921	.32213	.30814	-	1.106	.30983	3.728	
luorobiphenyl	.66715	.69963	.70722	-	1.304	.69133	3.079	(Conc=50.0,50.0,50.0,50.0)
itrosodi-n-propylamine	.29042	.31573	.26633	-	.804	.29083	8.493	
achloroethane	.11149	.11314	.11990	-	.804	.11485	3.882	
robenzene	.48705	.53837	.56214	-	.834	.52918	7.252	
horone	.67764	.67101	.71173	-	.890	.68679	3.181	
(2-Chloroethoxy)methane	.45639	.50623	.48037	-	.954	.48100	5.183	
,4-Trichlorobenzene	.26105	.27492	.30311	-	.990	.27969	7.664	
ithalene	1.08256	.90528	1.17031	-	1.007	1.05272	12.825	
achlorobutadiene	.15405	.15124	.16945	-	1.056	.15825	6.196	
achlorocyclopentadiene	.24847	.32158	.36148	-	.843	.31051	18.458	
hloronaphthalene	1.16971	1.38547	1.51546	-	.891	1.35688	12.871	
ethyl phthalate	1.58204	1.83228	1.80250	-	.970	1.73894	7.861	
naphthylene	2.31351	2.36939	2.78464	-	.971	2.48918	10.341	
-Dinitrotoluene	.30296	.35086	.35578	-	.982	.33653	8.670	
naphthene	1.50394	1.69463	1.69863	-	1.008	1.63240	6.816	
-Dinitrotoluene	.24610	.30466	.32313	-	1.053	.29130	13.805	
thyl phthalate	1.49776	1.63907	1.72022	-	1.107	1.61901	6.953	
orene	1.31068	1.48414	1.51338	-	1.105	1.43606	7.630	
hlorophenyl phenyl ether	.47471	.55595	.59740	-	1.110	.54269	11.501	
itrosodiphenylamine	.58147	.75207	.84103	-	1.136	.72486	18.197	
-Diphenylhydrazine	1.46457	1.71293	1.97610	-	1.140	1.71787	14.891	
romophenyl phenyl ether	.21467	.26327	.28297	-	.937	.25363	13.860	
achlorobenzene	.25084	.26391	.26410	-	.956	.25962	2.927	
nanthrene	.95335	1.12081	1.16894	-	1.004	1.08103	10.469	
hracene	1.08936	1.31865	1.38202	-	1.012	1.26334	12.188	
n-butyl phthalate	1.24755	1.39169	1.57505	-	1.108	1.40476	11.685	
oranthene	.71240	.79531	.92843	-	1.185	.81205	13.421	
zidine	.00355	.01784	.15308	-	1.211	.05816	141.884	
ene	.67249	.74158	.85998	-	1.218	.75802	12.509	
ha-BHC	.17577	.18898	-	.27508	.944	.21328	25.287	
a-BHC	.15025	.14853	-	-	.989	.14939	.814	
ma-BHC	.15025	.14853	-	.23212	.989	.17697	26.994	
ta-BHC	.09342	.09507	-	.16687	1.020	.11845	35.406	
tachlor	.25255	.29932	-	.42292	1.082	.32493	27.089	
rin	.18976	.19480	-	.27049	1.127	.21835	20.711	
tachlor epoxide	.08211	.06374	-	.14081	.838	.09555	42.131	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

- Percent Relative Standard Deviation

300684

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.03711	.03503	-	.13780	.859	.06998	83.943	
Endosulfan I	.10145	.07596	-	.12209	.871	.09983	23.145	
4,4'-DDE	.53392	.44356	-	.73316	.889	.57021	25.986	
Dieldrin	.72347	.58904	-	.77568	.893	.69606	13.834	
Endrin	.06811	.06033	-	.07807	.912	.06884	12.914	
Endosulfan II	.07236	.07841	-	.09781	.920	.08286	16.048	
4,4'-DDD	.72215	.67457	-	1.06136	.924	.81936	25.742	
Endrin aldehyde	-	-	-	.27225	.937	.27225	-	
4,4'-DDT	.62198	.60434	-	.95673	.955	.72769	27.285	
Endosulfan sulfate	.11604	.10426	-	.19246	.955	.13759	34.804	
Terphenyl-D14	1.45457	1.33032	1.09364	-	.889	1.29285	14.183	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.01276	1.16971	1.04826	-	.949	1.07691	7.643	
Benzo(a)anthracene	1.20557	1.38543	1.36745	-	.998	1.31948	7.508	
Chrysene	1.24619	1.28462	1.20289	-	1.003	1.24457	3.286	
3,3'-Dichlorobenzidine	.14238	.25873	.37811	-	1.000	.25974	45.379	
bis(2-Ethylhexyl)phthalate	1.28539	1.61735	1.47943	-	1.016	1.46072	11.417	
Di-n-octyl phthalate	1.74922	2.60869	2.56817	-	1.078	2.30869	21.005	
Benzo(b)fluoroanthene	.91095	1.21683	-	-	1.109	1.06389	20.330	
Benzo(k)fluoranthene	1.04272	1.11371	-	-	1.112	1.07822	4.656	
Benzo(a)pyrene	.86854	1.02772	1.08836	-	1.144	.99487	11.412	
Indeno(1,2,3-c,d)pyrene	.93919	1.21051	1.36545	-	1.293	1.17172	18.414	
Dibenzo(a,h)anthracene	.68069	.87789	1.03428	-	1.296	.86429	20.501	
Benzo(ghi)perylene	.73653	.90724	1.01704	-	1.333	.88694	15.937	
1,2,3,4-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
1,2,3,5-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
Pentachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)

3008

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

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

$\overline{RF}$ - Average Response Factor

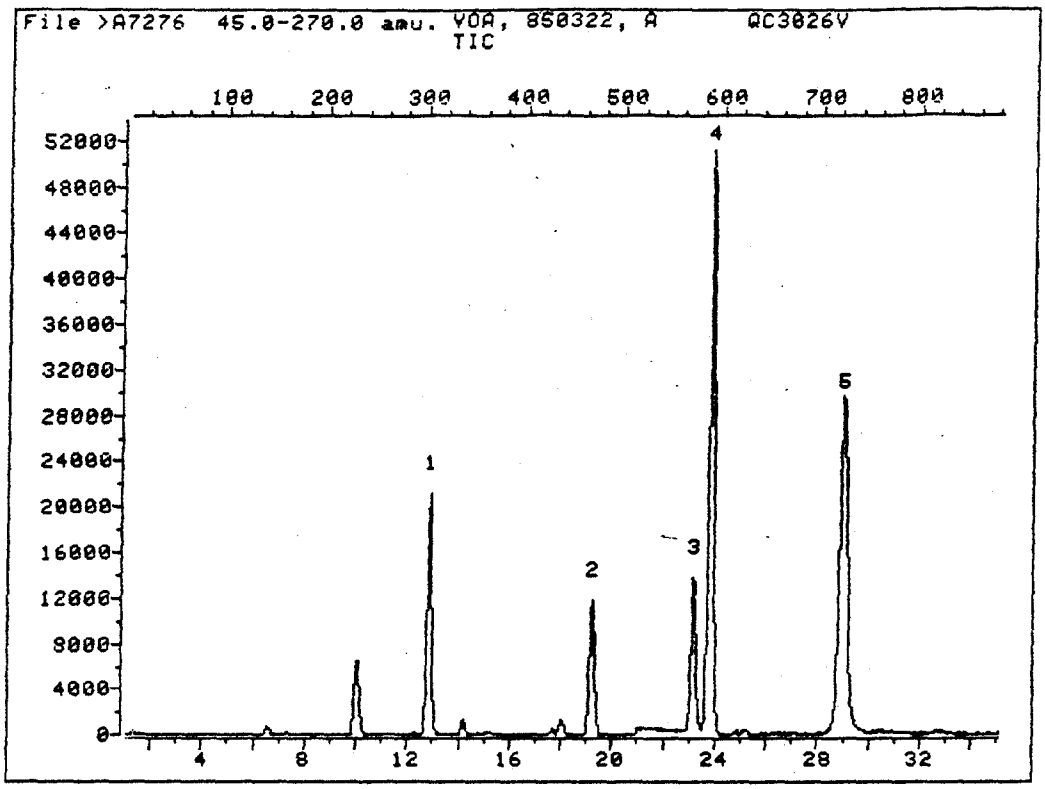
300685

Appendix C1

GC/MS Subsidiary Data

300686

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7276::U2
Name: VOA, 850322, A
Misc Data: QC3026V

300687

036

QUANT REPORT

ator ID: TM0576 Quant Rev: 3 Quant Time: 850322 09:12
Injected at: 850322 07:30
File: >A7276::U2 Dilution Factor: 1.00
: VOA, 850322, A
: QC3026V

ile: AVOA
e: IDFILE FOR PP VOAS
Calibration: 850322 09:12

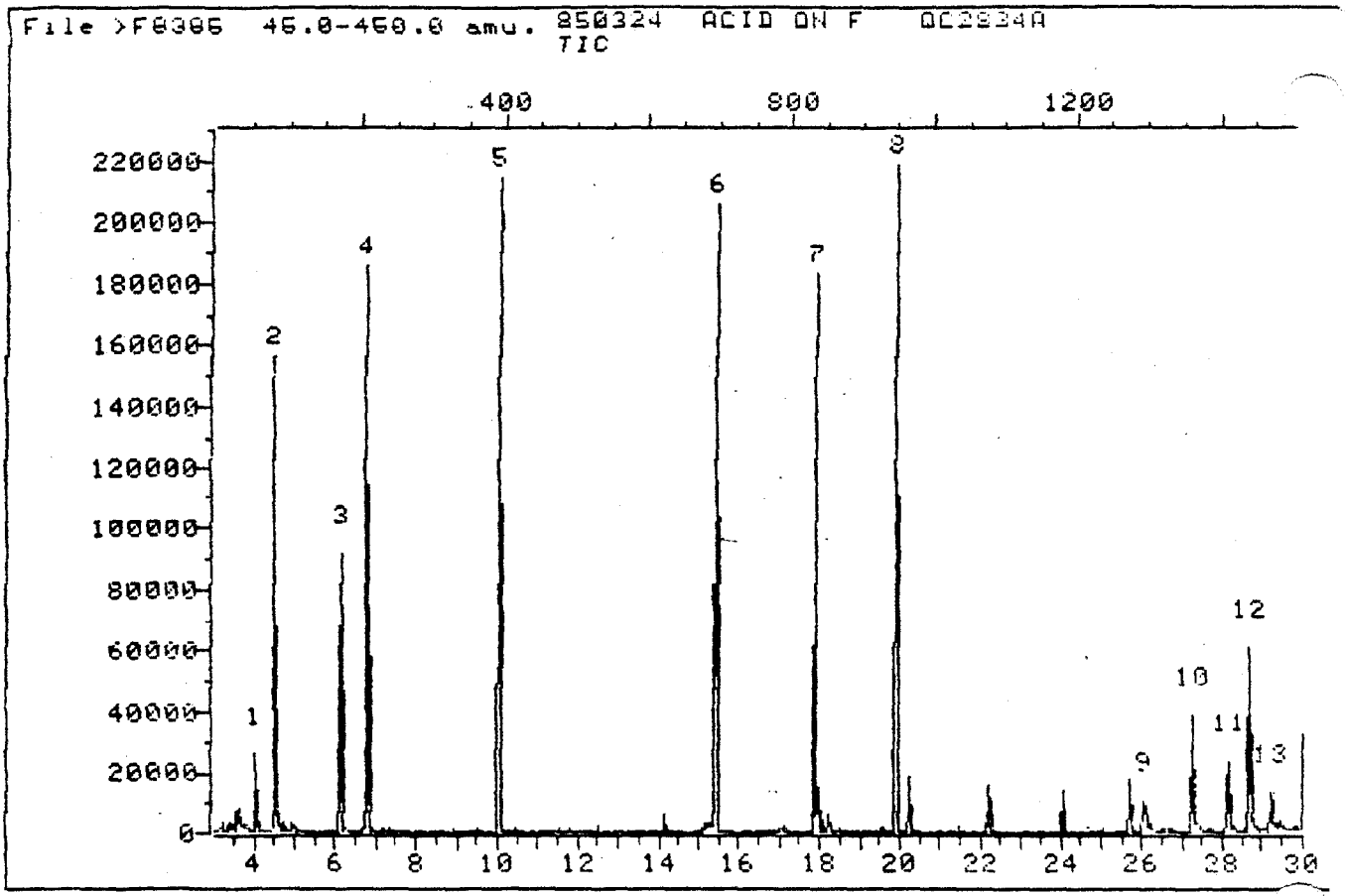
Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.21	471	67258	200.00	NG
Carbon tetrachloride	14.19	341	495	~~2.10~~	~~NG~~
Toluene	23.95	594	2353	~~2.71~~	~~NG~~
1,1,1-Trichloroethane	14.19	341	5363	18.78	NG ✓
1,2-Dichloroethane-D4	12.84	306	48637	250.00	NG
Toluene-D8	23.80	590	273371	250.00	NG
p-Bromofluorobenzene	28.97	724	103458	250.00	NG
*1,4-Dichlorobutane	23.14	573	85458	200.00	NG

Compound is ISTD

300688

300688

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A

RTL#

300689

QUANT REPORT

ator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:36
Injected at: 850325 04:02
File: >F8385::U6 Dilution Factor: 1.00
: 850324 ACID ON F
: QC2834A BTL# 6

ile: FACID
e: ACID ID FILE.....3/15/85,#F,WWC
Calibration: 850325 08:26

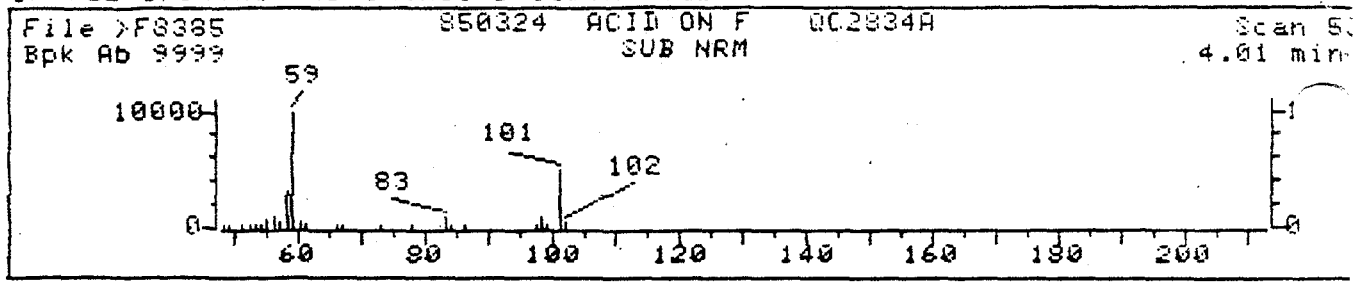
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.75	207	114254	40.00	UG/ML
2-Fluorophenol	4.45	78	113153	62.50	UG/ML
Phenol-D5	6.12	172	81565	42.07	UG/ML
Phenol-D5	6.75	207	819	.42	UG/ML
*d8-Naphthalene	10.04	392	247294	40.00	UG/ML
*d10-Acenaphthalene	15.41	694	136968	40.00	UG/ML
*d10-Phenanthrene	19.91	947	272572	40.00	UG/ML
2,4,6-Tribromophenol	17.88	833	55655	86.67	UG/ML

ompound is ISTD

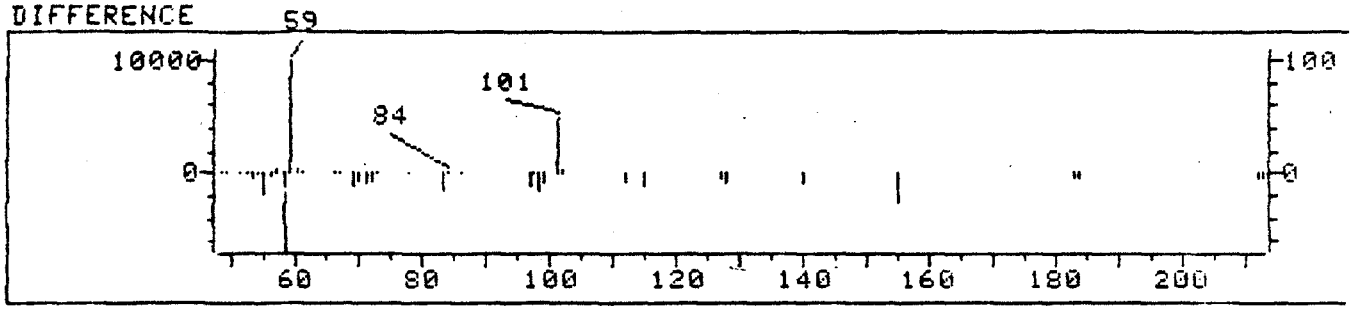
300690

300690

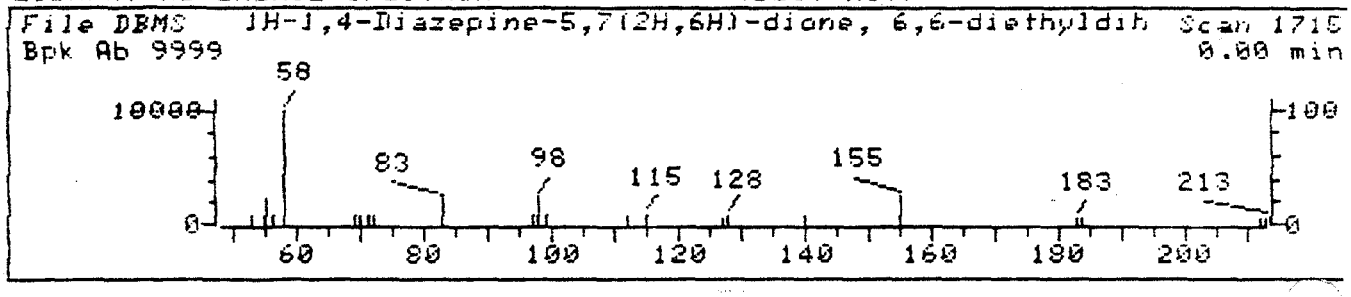
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A BTL#
RT (min): 4.01
Scan: 53
Area: 67198
Semi-quantitative Conc: 5.35 UG/ML

Data File: >F8385 Scan Number: 53
Search Speed: 2 Titling option: S Number of ion ranges searched: 5

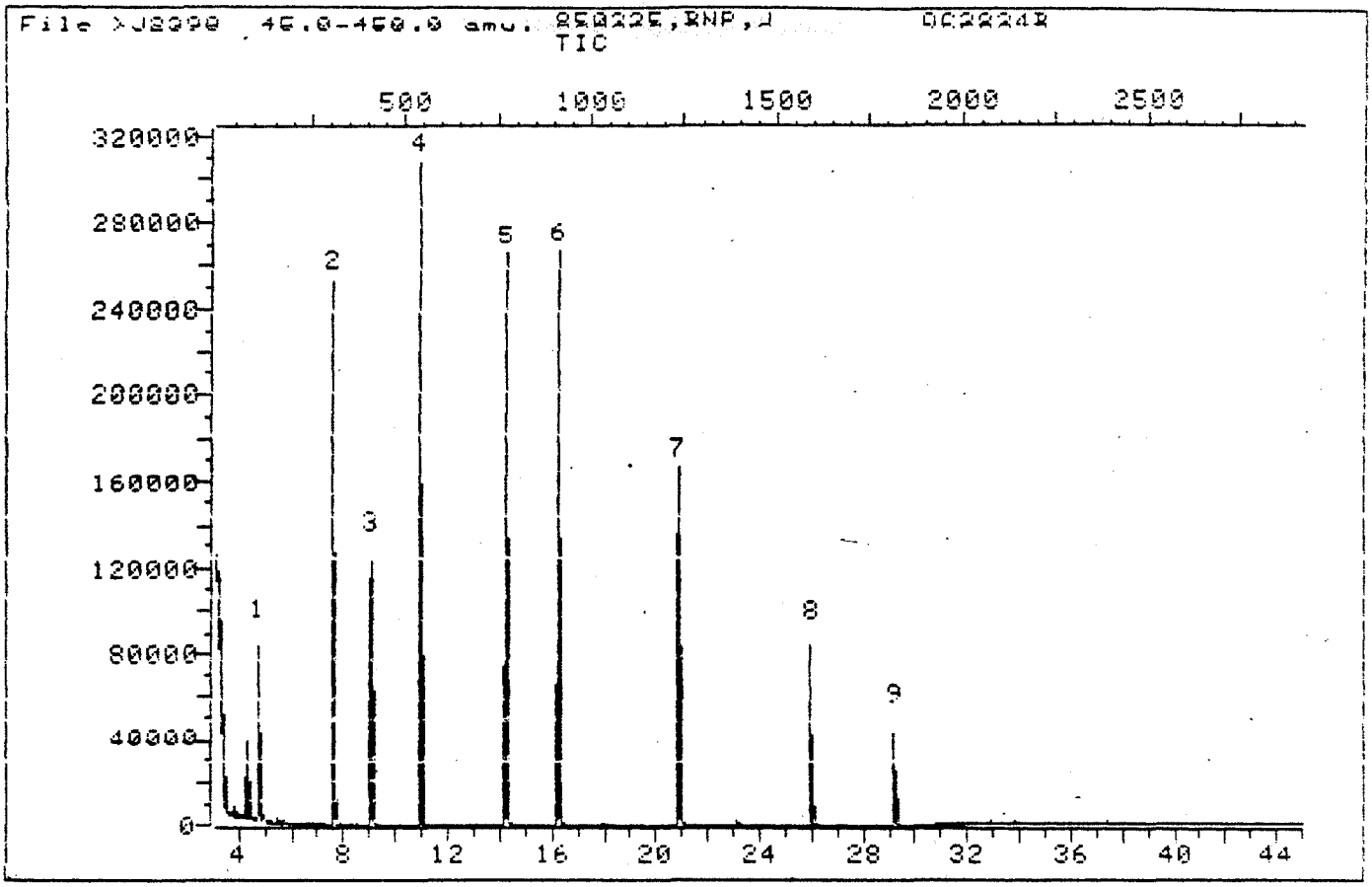
1. 1H-1,4-Diazepine-5,7(2H,6H)-dione, 6,6-diethyldihydr 212 C11H20N2O2
o-2,2-dimethyl- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	36	69315931	38	51	0	-2

300691

300691

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B

BTL# 5

3008

300692

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 16:45
Injected at: 850326 15:57
Data File: >J2398::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: QC2834B BTL# 5

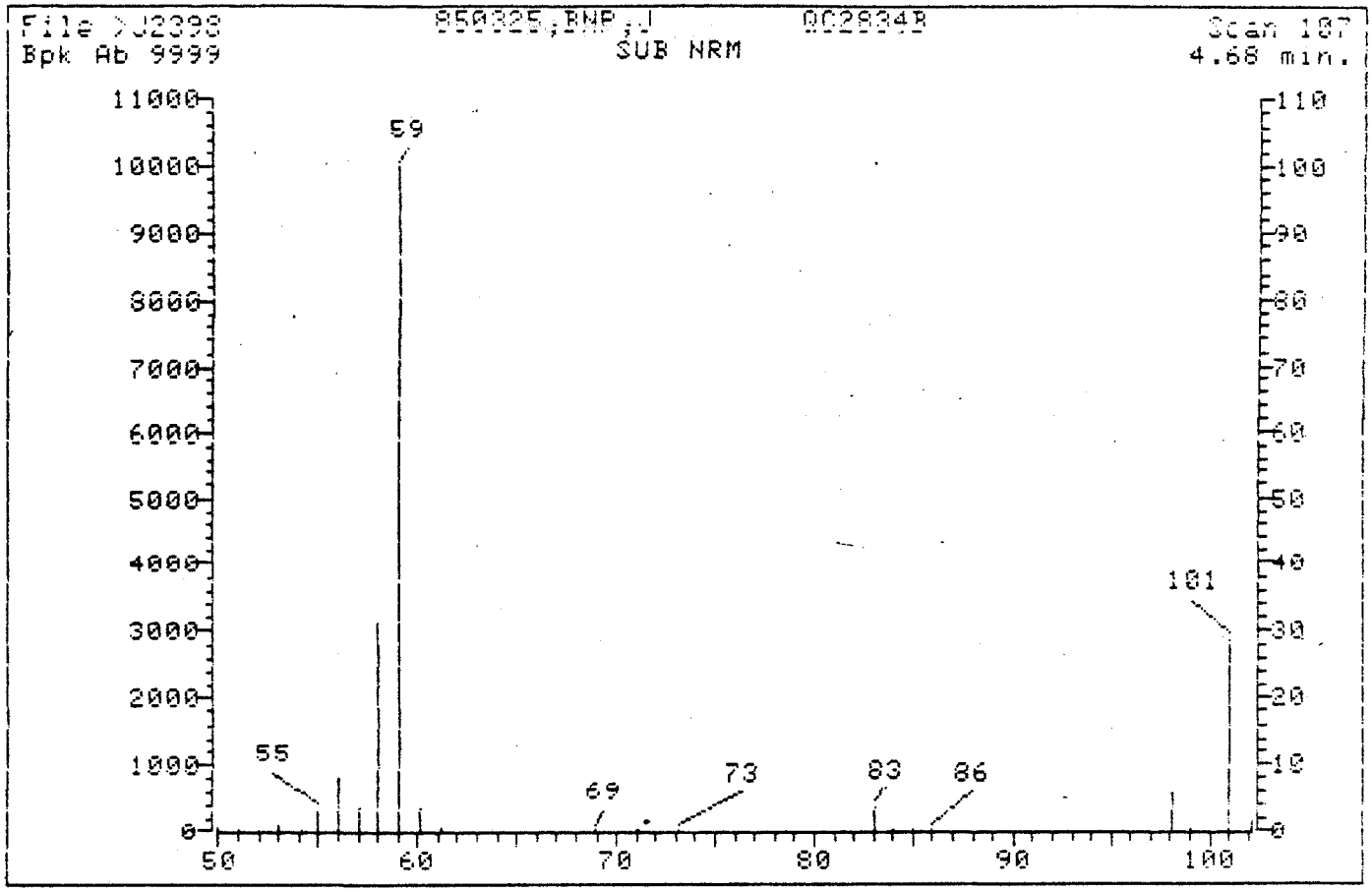
J086AA

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	104366	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	407	127170	28.39	UG/ML
10)	*d8-Naphthalene	10.85	539	393618	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	234312	34.44	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	407	15690	~~5.48~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	913	183550	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	32456	~~4.87~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	225585	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	6268	.79	UG/ML
58)	*d12-Chrysene	29.15	1819	59669	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	103871	53.86	UG/ML

* Compound is ISTD

300693



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B
RT (min): 4.68
Scan: 107
Area: 155021
Semi-quantitative Conc: 7.73 UG/ML

BTL# 5

No PBM hits for this scan.

300694

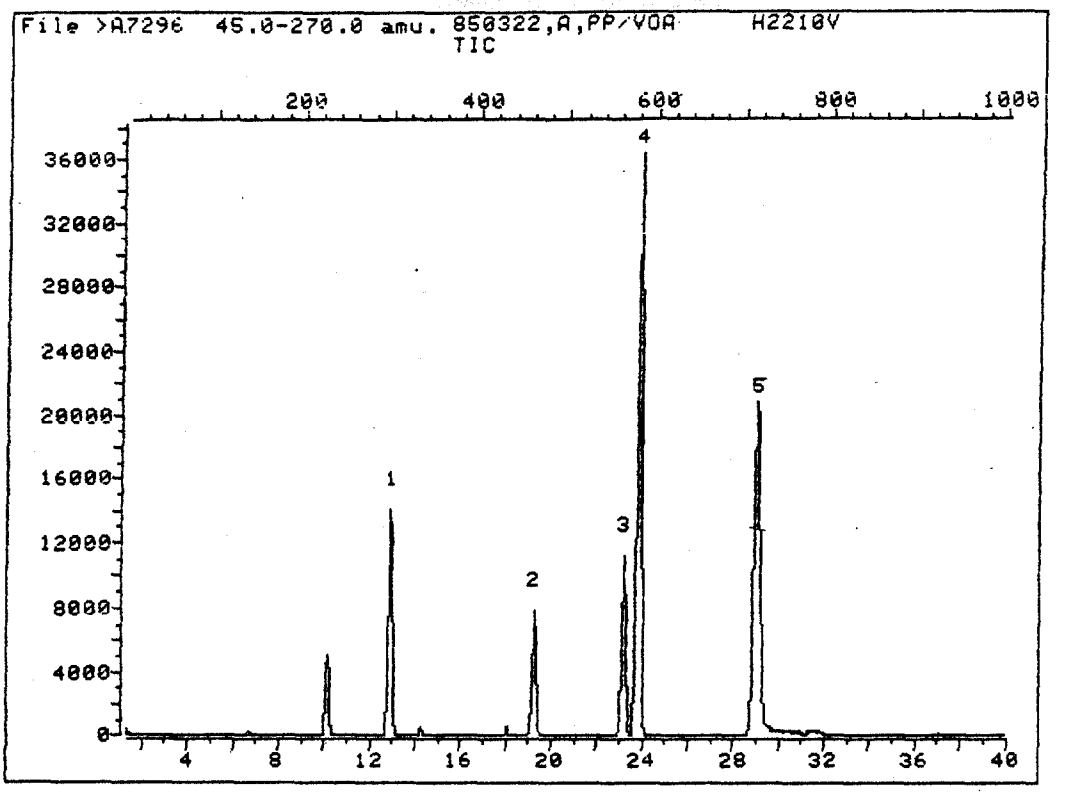
Appendix C

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.

300695

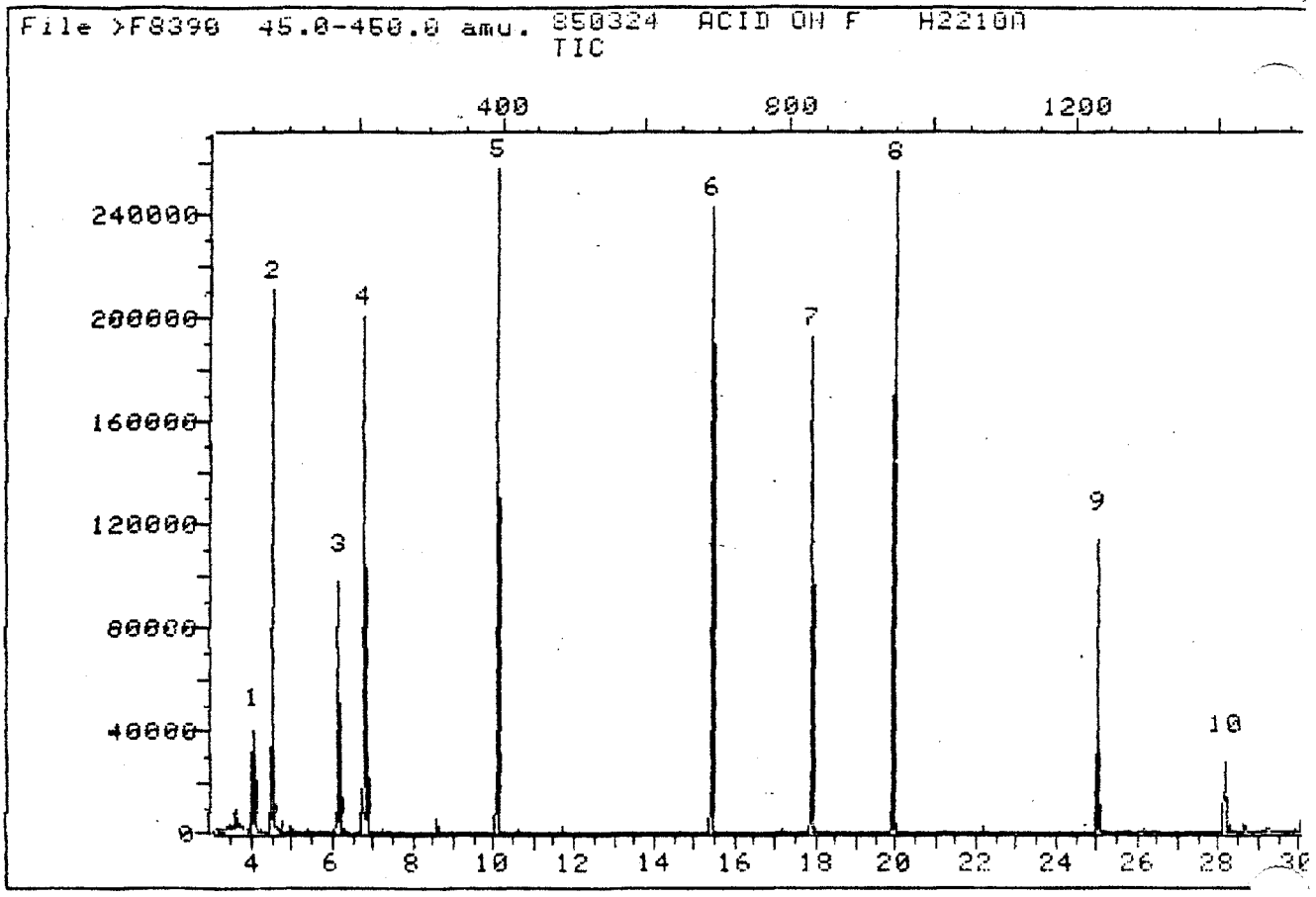
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7296::U2
Name: 850322,A,PP/VOA
Misc Data: H2210V

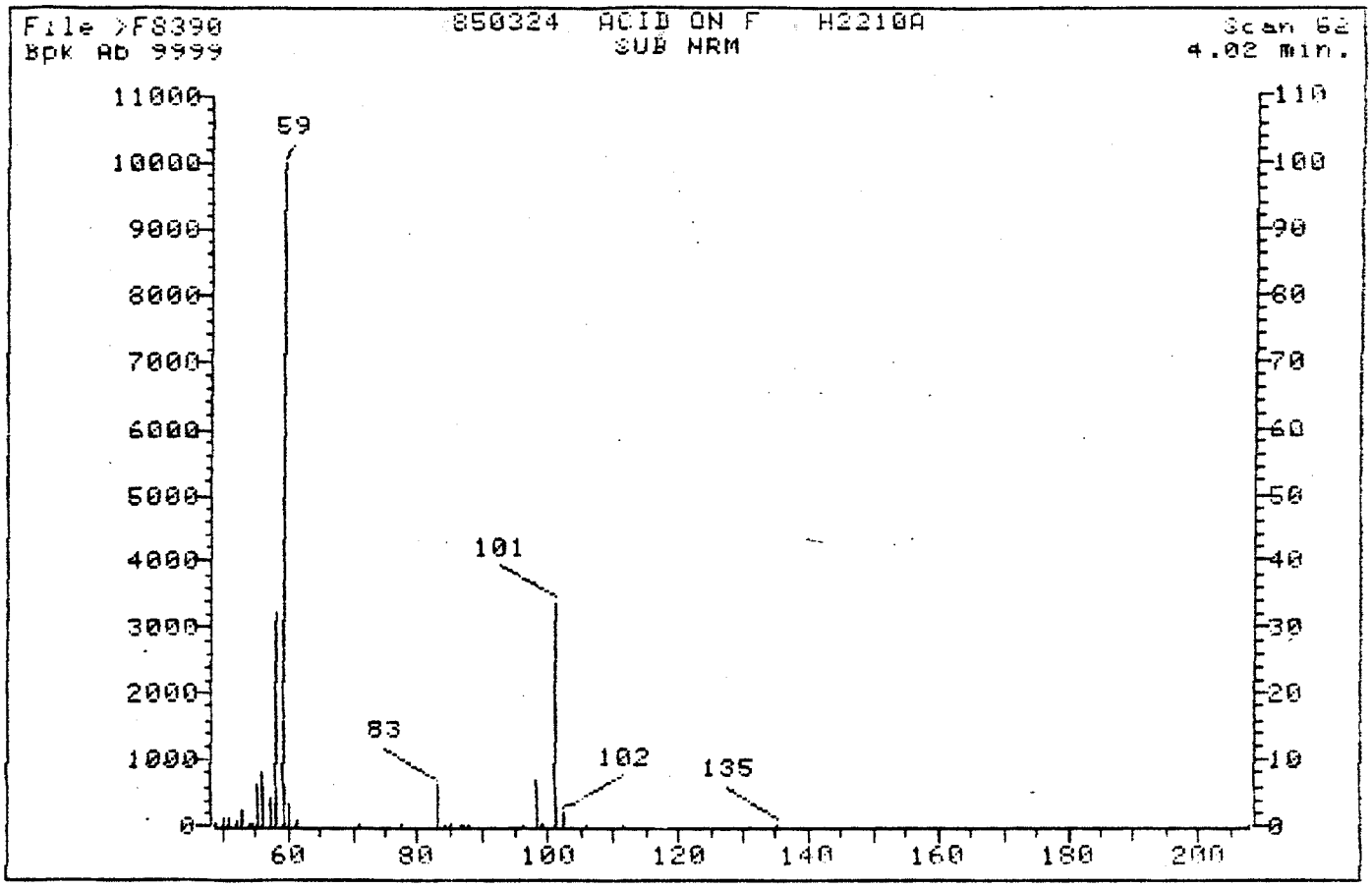
300696

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8390::U6
Name: 850324 ACID ON F
Misc Data: H2210A

BTL#



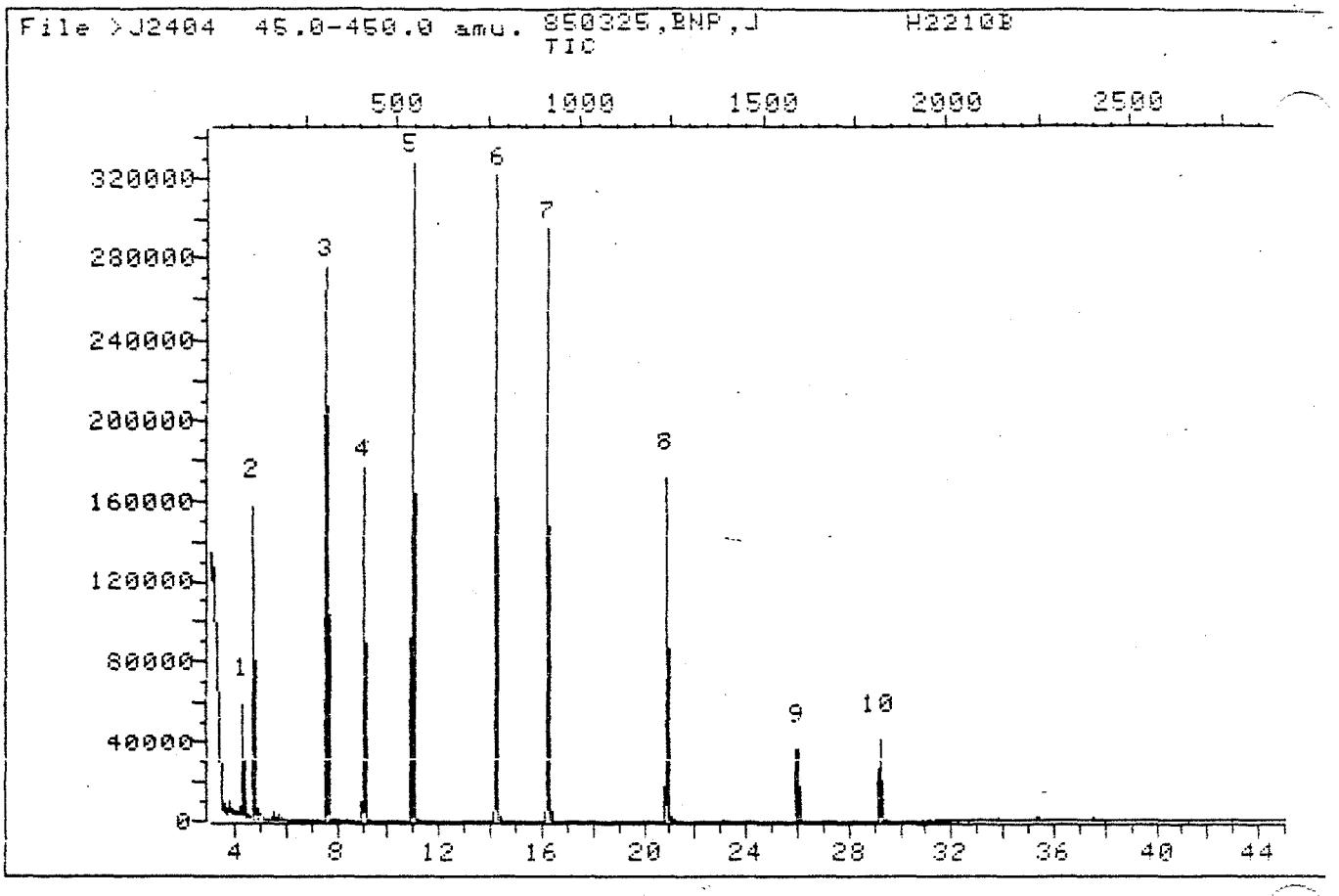
Data File: >F8390::U6
Name: 850324 ACID ON F
Misc Data: H2210A
RT (min): 4 02
Scan: 52
Area: 96422
Semi-quantitative Conc: 6.74 UG/ML

BTL#11

No PBM hits for this scan.

300698

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

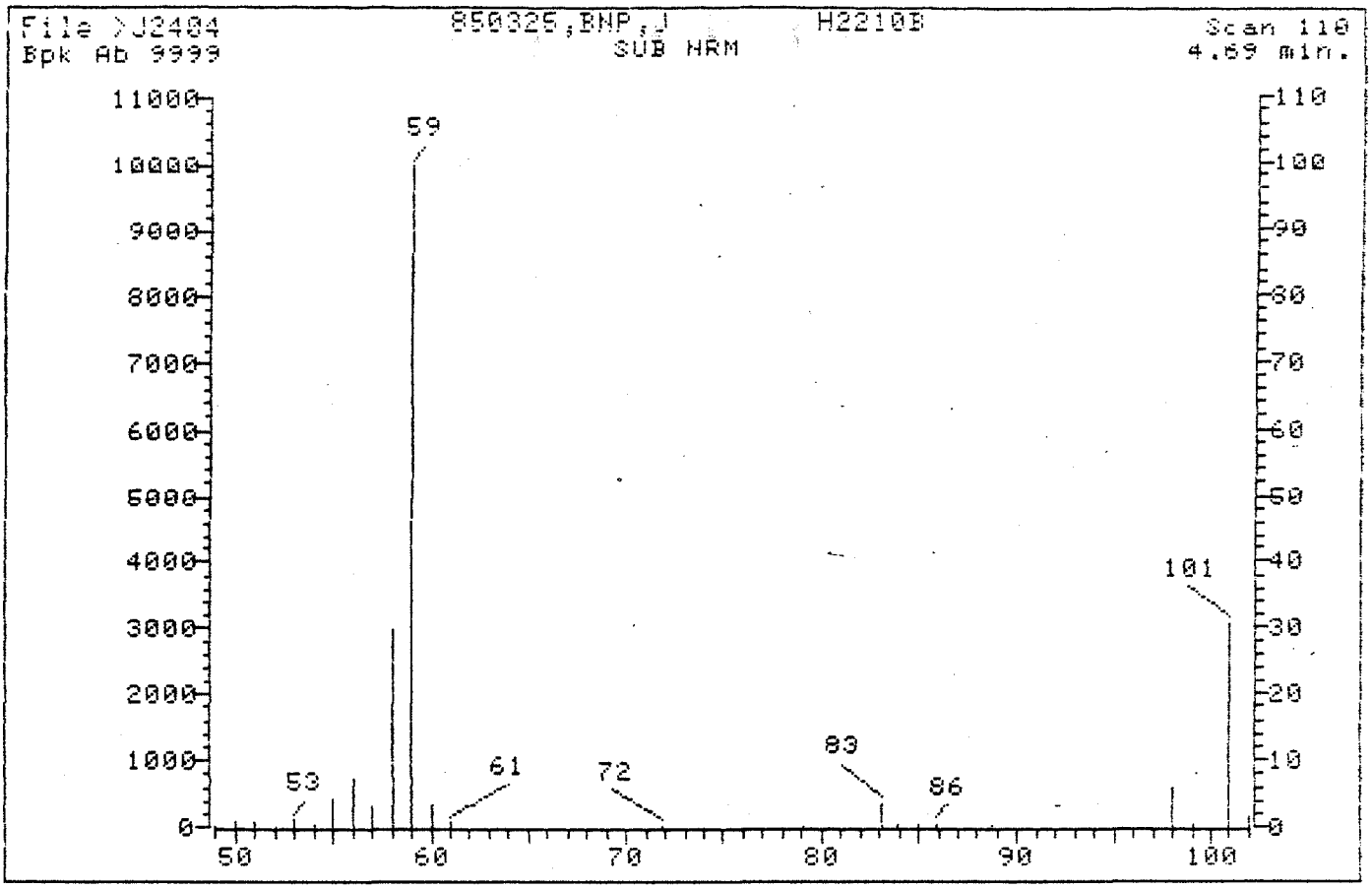


Data File: >J2404::U2
Name: 850325,BNP,J
Misc Data: H2210B

BTL#11

300699

300699



Data File: >J2404::U2
Name: 850325,BNP,J
Misc Data: H2210B
RT (min): 4.69
Scan: 110
Area: 285372
Semi-quantitative Conc: 13.31 UG/ML

BTL#11

No PBM hits for this scan.

300700

049

300700

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.

300701

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV. 1

ETC Job # H3210

ID: L85253-A4

mitted by: MW CHUN

e: 3/26/85

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 MAR 27 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			

300702

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.

300703

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28513 ETC Job # H2210

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, N.J

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMGE SCOT

Sample Point: [W] - HFMMWSS | 03/21/85 | 1011 | LLT

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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N	QC	
1	M	1L	HNO3	Metals	N	C.K	
1	CN	500ml	NaOH	Cyanides	N		
1	PN	1L	H2SO4	Phenoes	N		
2	V	40ml	Sod-thio.	VOA	N	QC	
1	TB	40ml	DC/MS H2O	Trip blank	N	Bottle in Blank	No head sp.

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) S. O'CONNOR Date: 3/21/85 Time: 1111
   Signature: [signature] Seal #: 0028513 Intact: Y

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: 300704
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) _____ Date: _____ Time: _____
   Signature: _____ Seal #: _____ Intact: _____

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 800

Seal #: 28574 Condition: Intact

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # KSM0

Sample Point [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
Source Code | Sample Point I.D

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

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

[ ] [ ] [ ] [ ] (°C) Sample Temp
[ ] [ ] [ ] [ ] [ ] NTU Turbidity

FIELD COMMENTS

Sample Appearance: Potable
Weather Conditions: _____
Other: _____

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

Sampler: S. Bergiamini (Print) Employer: NJDEP

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

(Date) _____ (Signature) _____

300705

300706

-MS ANALYSIS CUSTODY LOG

TE 3/22/85 SHIFT ___
ACTION VOA
STRUMENT A
NE FILE APE101
QUENCE FILE
THOD FILE VOAA
FILE AVOA
ALYST(S) S Johnston
PERVISOR
TCH #'s QV3026

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	96409	1ML

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
Q	JJ	DATE	3/22
P	PC	BY	SJ

H-C P/VOA

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
BFB	>A7275	1uL			A00106	OK 5:30 AM 3/22	
QC3026V	>A7276	5ml			QC/AB	3/82 GJ 0758	
QC3026VS	>A7277	5ml			AC	SJL ABC 0817	
P-BFB	>A7278	1uL				0911	
HC291V	>A7281	5ml	1	OK	AD		
HC291VS	>A7282		2	OK	AE	SJL ABC	
HC293V	>A7283		3	OK	AH		
HC293VR	>A72[illegible]		4	OK	AG		
HC294V	>A7285		5	OK	AH		
HC295V	>A7286		6	OK	AI		
HC301V	>A7287		7	OK	AJ		
HC302V	>A7288		8	OK	AK		
HC304V	>A728[illegible]		9	OK	A081 AL		
HC305V	>A7290	↓	10	OK	AM		
P-BFB	>A7291	1uL			A00106	1830	
QC3026VS	>A7292	FAST				SJL 3/22 1932	
H2207	>A7293		1		AH		
H2208 DUE	>A7294		2		AI		
H2209	>A7295		3		AJ		
H2210	>A7296		4		AK		
H2211	>A7297		5		A082 AA		
H2212	>A7298		6		AM		
H2213	>A7299		7		AN		
H2140	>A7300		8		AO		
HC293	>A730[illegible]		9	055	AP		
[illegible]	[illegible]		10		AQ		

FTS#: 8-84

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emer

Date: 3/23/85

Extraction Method:

- sep funnel ✓
- continuous
- soxhlet
- other

Sample Number	Log Number	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H1801	8652	950	—	—	Could not get emulsion to separate
G3877	8492	1000		1.0	
H2207	8682	~~890~~ 1000	1.0	1.0	
H2208		~~1000~~ 1000	1.0	1.0	
H2209		1000	1.0	1.0	
H2210		~~850~~ 1000	1.0	1.0	
H2211		~~950~~ 1000	1.0	1.0	
H2212	↓	~~980~~ 1000	1.0	1.0	
G8833	8354	980		1.0	
G9144		940	1.0		
G9146		830	1.0		
G9147		830	1.0		
G9148		850	1.0		
G9150		950	1.0		
G9153		1000	1.0		
G9970		1000	10.0	1.0	
QC 2834		1000	1.0	1.0	
QC 2834 S		1000	1.0	1.0	
H2211 S		1000	1.0	1.0	
H2211 R		1000	1.0	1.0	

COMMENTS FOR EXTRACT.

* PP/T: H1801, H2207

PP/Acid (repeat): G8833

PP/BN: G9144, 46-48, 53

PP/org: G9970

COMMENTS FOR GC/MS:

H1801 EXTRACTED BY CONTINUOUS: QC2843

300707

FRACTION	SPIKE Amt (ml)	Conc	Lot #
ACID	1.0	100	9700
Acid/Ether (260)	1.0	100	9763
BN	1.0	100	9617
PEST	1.0	100/200	10190

SURROGATE	Amt. (ml)	Conc.
	1.0	BN: 50 ug/ml
		ACID: 100 ug/ml

Set-up: [signature] 3/23/85

UPD/Supervisor: [signature]

BN Conc.: [signature] 3/24/85

Acid Conc.: [signature] 3/24/85

spike/surr verified: [signature] 3/25/85

A-A

EXTRACTION LOG B-H

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 3/23/85

Extraction Method:

- sep funnel ✓
- continuous
- soxhlet
- other

Sample #	Log #	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
801	8652	950	—	—	Could not get emulsion to separate*
377	8492	1000	✓		
207	8682	890	1.0	1.0	~~ABN~~ A15
208	↓	1000	1.0	↓	
209		1000	1.0		
210		~~1000~~ 850	1.0		
211		~~950~~ 1000	1.0		
212	↓	~~980~~ 1000	1.0		↓
8833	8354	960	✓	↓	ACT1
9144	8481	960	1.0	✓	
1146		830	1.0		
9147		830	1.0		
9148		850	1.0		
9150		850	1.0		
9153	↓	1000	1.0		
9970	8473	1000	10.0	1.0	
QC 2834		1000	1.0		
QC 2834 S		1000	1.0		
#2211 S		1000	1.0		
#2211 R		1000	1.0		

COMMENTS FOR EXTRACT.:

* PP/T: #1801, #2207-12

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

COMMENTS FOR GC/MS:

300708

FRACTION	SPIKE Amt (ml)	SPIKE Conc	SPIKE Lot #
ACID	1.0	100	9700
Acid/BN 1260	1.0	100	0763
BN	1.0	100	9617
PEST	1.0	100/200	10,190

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10195
	ACID: 100 ug/ml	

057

Analyst

QC/Supervisor

GC-MS ANALYSIS CUSTODY LOG

DATE 3/24-25/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE KSBF
METHOD FILE ACIDF
IDFILE FACID / FACHS
ANALYST(S) KS Bonanta
SUPERVISOR [signature]
BATCH #'s QA 7834
QA2814

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ	KSB	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9584	2ul
ACID CAL I	60	5909	1ul
" " II	100	5910	
" " III	300	5911	
HSLPP ACID STD	300	9603	
" " STD	100	9604	
" " STD	60	9605	1ml
INT STD MIX	400	9653	100ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
DFTPP							
ACID STD III	F8380		1				
" " I	F8381		2				
" " II	F8382		3				
H2211 AS	F8383		4				
QC 2834 AS	F8384		5				
QC2834A	F8385		6				
H2211AR	F8386		7				
H2207A	F8387		8				
H2208A	F8388		9				
H2209A	F8389		10				
H2210A	F8390		11				
H2211A	F8391		12				
H2212A	F8392		13				
63877A	F8393		14				
69970A	F8394		15				
68833A	F8395		.16				
69969A	F8396		17	10:1			
DFTPP	F8397		18				
ACID CAL II	F8398		19				
HSLPPACID300	F8399		20			FACHS	
HSLPPACID100	F8400		21			↓	

TSR 8-84

300709

7006

MS ANALYSIS CUSTODY LOG

E 3/25/85 SHIFT ____
CTION Acid
TRUMENT F
E FILE MTF001
UENCE FILE KEBF
HOD FILE AC10F
ILE FACTS
LYST(S) KE Bompart
ERVISOR
CH #'s
OA2834

(PLEASE INITIAL)

CURRENT MS STATUS	STANDARDS UPDATED
	DATE
	BY

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 9

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
LPP ACID 60	F8401		22				
5906AS	F8402		23				
2814AB	F8403		24				
C2814A	F8404		25				Y
8891AR	F84005		26				
7232A	F84006		27				Y
5900A	F84007		28				
5901A	F84008		29				
5902A	F84009		30				
5903A	F84010		31				
5904A	F84011		32				
5905A	F84012		33				
5906A	F84013		34				
8832A	F84014		35				X
8890A	F84015		36				
DFTPP	F84016		37				
C10CALSTD	F84017		38				
7231A	F84018		39				Y
8914A	F84019		40				
8891A	F84020		41				
7230A	F84021		42				Y

300710 TSR 8-84

300711

GC-MS ANALYSIS CUSTODY LOG

DATE 850325 SHIFT ___
FRACTION BNP
INSTRUMENT J
TUNE FILE MTJ004
SEQUENCE FILE JSR23
METHOD FILE JBNP
IDFILE BNPJ
ANALYST(S) Tom Kusowicz
SUPERVISOR Kathy Alsup
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ	R	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	VOL

NAME	DATA FILE >J	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	2390	2	—			NC 1605 HRS
↓	2391	↓				NC
	2392					NC
↓	2393	↓			DONT USE→	OK 1830 HRS
BNP CALIB STD I	2394		1			
BNP CALIB STD II	2395		2			
BN CALIB STD III	2396		3			
PEST CALIB STD IV	2397		4			
QC2834B	2398		5			QC2834B
QC2834BS	2399		6			
H2211BS	2400		7			EMERG.
H2207B	2401		8			
H2208B	2402		9			
H2209B	2403		10			
H2210B	2404		11			
H2211B	2405		12			
H2211BR	2406		13			
H2212B	2407		14			↓
69144B	2408		15			
69146B	2409		16			
69147B	2410		17			
69148B	2411		18			
69150B	2412		19			
69153B	2413		20			
69970BDUP	2414		21		060	↓

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL 8683

Metals Analysis Custody Log

Samples H 2207 to H 2212

	Chemist	Date
Hg Prep	Dorothy D. Lehfeld	3/20/85
AA/ICAP Prep	Maura Jane McClare	3/21/85

Lab Supervisor Lidya Wikiewicz date 3/26/85

300712

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2211	NJ DEP	NJDCOMBES0	WTRIPBLANK	850321	1415	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

300713

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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

300714

Furnace AA

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

300714

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

300715

ETC ENVIRONMENTAL TESTING and CERTIFICATION

300716

MAR 27, 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
H2211	NJ DEP	NJDCOMBES0	WTRIPBLANK	850321	1415	

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	ND	ND	ND	800	120	ND	800	98
2V	Acrylonitrile	ND	100	ND	ND	ND	80	83	ND	80	73
3V	Benzene	ND	4.40	ND	ND	ND	18	110	ND	18	93
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	75
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	105	ND	18	76
7V	Chlorobenzene	ND	6	3	6	ND	18	108	ND	18	81
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	108	ND	18	80
9V	Chloroethane	ND	10	ND	ND	ND	18	121	ND	18	75
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	116	ND	18	64
11V	Chloroform	ND	1.60	ND	ND	ND	18	113	ND	18	85
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	110	ND	18	81
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	91	ND	20	90
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	109	ND	18	84
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	116	ND	18	88
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	102	16	18	75
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	110	ND	18	83
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	100	ND	18	64
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	108	ND	18	82
20V	Methyl bromide	ND	10	ND	ND	ND	18	82	ND	18	38
21V	Methyl chloride	ND	10	ND	ND	ND	18	120	ND	18	86
22V	Methylene chloride	ND	2.80	1	6	ND	18	129	ND	18	80
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	120	ND	18	93
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	101	ND	18	77
25V	Toluene	ND	6	ND	ND	ND	18	109	ND	18	81
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	103	209	18	63B
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	96	ND	18	90
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	113	ND	18	98
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	102	652	18	78B
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	107	ND	18	84
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	84
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	107	ND	18	56

A EPA published Method Detection Limit.

B Spiked s[illegible]ut contain compounds present at high levels do not provide valid spike recovery data.

004

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2211	NJ DEP	NJDCOMBES0	WTRIPBLANK	850321	1415	

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	3.30	ND	ND	ND	100	104	ND	100	97
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	108	ND	100	72
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	103	ND	100	97
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	105	ND	100	105
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	87	ND	100	77
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	102	ND	100	100
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	62	ND	100	62
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	106	ND	100	106
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	108	ND	100	103
10A	Phenol	ND	1.50	ND	ND	ND	100	59	ND	100	52
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	100	ND	100	104

a EPA published Method Detection Limit.

005

300717

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 1985

300718

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
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850321	1415	

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	1.90	ND	ND	ND	100	79	ND	100	78
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	80	ND	100	76
3B	Anthracene	ND	1.90	ND	ND	ND	100	82	ND	100	78
4B	Benzidine	ND	44	ND	ND	ND	100	3b	ND	100	8b
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	90	ND	100	87
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	92	ND	100	86
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	95	ND	100	82
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	87	ND	100	90
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	98	ND	100	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	83	ND	100	81
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	87	ND	100	93
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	73	ND	100	71
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	105	ND	100	106
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	33	ND	100	35
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	77	ND	100	76
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	100	89
18B	Chrysene	ND	2.50	ND	ND	ND	100	90	ND	100	90
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	74	ND	100	69
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	64
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	71	ND	100	64
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	58	ND	100	51
24B	Diethyl phthalate	ND	10	ND	ND	ND	100	14b	ND	100	10b
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	0b	ND	100	0b
26B	Di-n-butyl phthalate	ND	10	ND	ND	BMDL	100	50	ND	100	45
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	104	ND	100	88
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	94	ND	100	91
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	71	ND	100	62
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	86	ND	100	75
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	94	ND	100	85
32B	Fluorene	ND	1.90	ND	ND	ND	100	83	ND	100	75

300718

900

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850321	1415	

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	1.90	ND	ND	ND	100	117	ND	100	124
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	83	ND	100	82
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	79	ND	100	74
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	94	ND	100	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	97	ND	100	92
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	89	ND	100	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	100	ND	100	97
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	93	ND	100	82
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	86	ND	100	82
45B	Pyrene	ND	1.90	ND	ND	ND	100	96	ND	100	86
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	165c	ND	100	179c

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C Recovery normally variable using EPA Protocol Method 625.

300719

007

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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

H2211 NJ DEP NJDCOMBES0 WTRIPBLANK 850321 1415

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

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	76	ND	100	76
2P	Alpha-BHC	ND	10	ND	ND	ND	100	20	ND	100	19
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	56	ND	100	59
4P	Gamma-BHC	ND	10	ND	ND	ND	100	23	ND	100	21
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	3	ND	100	3
6P	Chlordane	ND	10	ND	ND	ND	200	27	ND	200	35
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	71	ND	100	76
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	71	ND	100	85
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	71	ND	100	76
10P	Dieldrin	ND	2.50	ND	ND	ND	100	57	ND	100	68
11P	Endosulfan I	ND	10	ND	ND	ND	100	8	ND	100	14
12P	Endosulfan II	ND	10	ND	ND	ND	100	6	ND	100	11
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	53	ND	100	59
14P	Endrin	ND	10	ND	ND	ND	100	64	ND	100	70
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	10	ND	100	17
16P	Heptachlor	ND	1.90	ND	ND	ND	100	70	ND	100	69
17P	Heptachlor epoxide	ND	2.20	ND	ND	NC	100	68	ND	100	89
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	78	ND	100	55
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

800

300720

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols – Analysis Data (QR05)

300721

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850?21	1415	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l								
1M	Antimony	ND	60								
2M	Arsenic	ND	10								
3M	Beryllium	ND	1								
4M	Cadmium	ND	3								
5M	Chromium	ND	10								
6M	Copper	20	4								
7M	Lead	6.00	5								
8M	Mercury	ND	.30								
9M	Nickel	BMDL	7								
10M	Selenium	ND	5								
11M	Silver	ND	8								
12M	Thallium	ND	5								
13M	Zinc	ND	3								
14M	Cyanide, Total	<25	25								
15M	Phenolics, Total	<10	10								

600

300721

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850321	1415	

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

300722

300722

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2211	NJ DEP	NJDCOMBES0	WTRIPBLANK	850321	1415	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	50	4.06	-	-	-	6		

300723

011

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2211	NJ DEP	NJDCOMBES0	WTRIPBLANK	850321	1415	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	107	4.69	-		-	10		

300724

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2211

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	90	86	119
Bromofluorobenzene	.250	86	85	121
1,2-Dichloroethane-D4	.250	89	77	120
ACID FRACTION				
Phenol-D5	100	44	15	103
2-Fluorophenol	100	67	23	121
2,4,6-Tribromophenol	100	94	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	72	41	120
2-Fluorobiphenyl	50	79	44	119
Terphenyl-D14	50	88	33	128

* IFB EPA Control Limits.

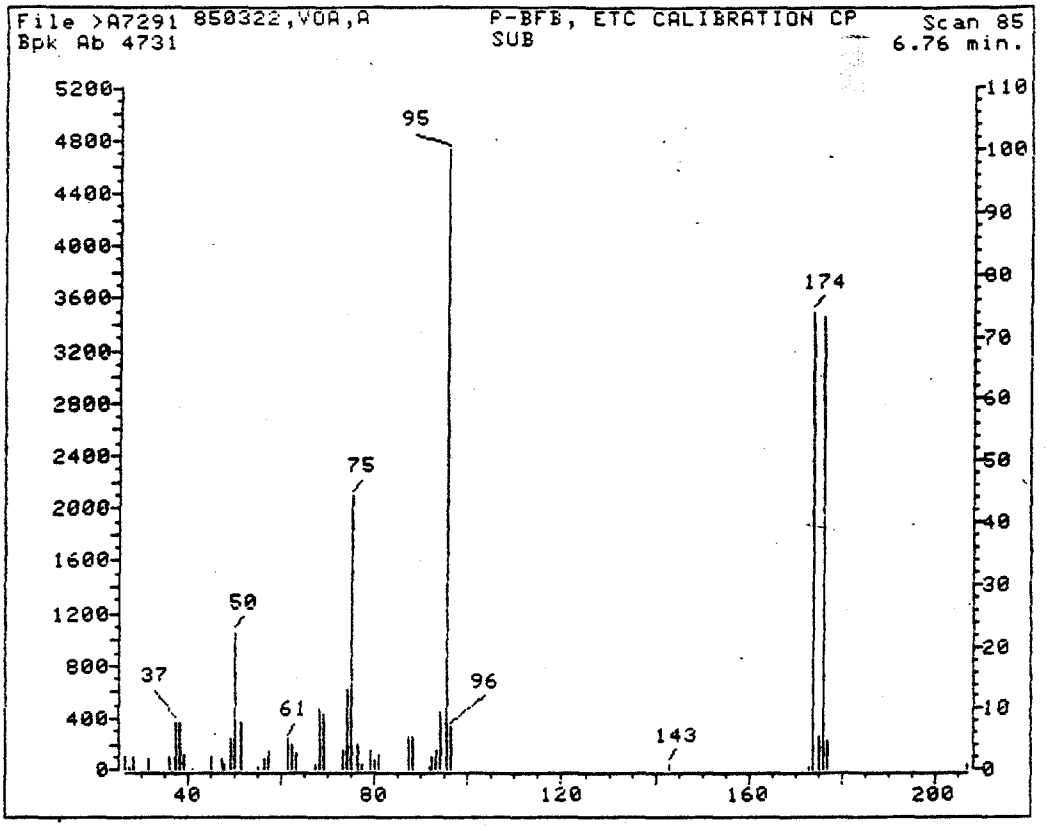

TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.26	22.26	Ok
75	30-60% of mass 95	44.35	44.35	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.00	7.00	Ok
173	Less then 1% of mass 95	.55	.55	Ok
174	Greater then 50% of mass 95	73.98	73.98	Ok
175	5-9% of mass 174	5.33	7.20	Ok
176	95-101% of mass 174	73.13	98.86	Ok
177	5-9% of mass 176	4.92	6.73	Ok

Injection Date: 03/22/85
Injection Time: 18:31
Run No: >A7291
Spectrun No: 85

Analyst: Thomas J Monaco
Processor: ~~Wm Dan~~ QV3026
QC Batch: ~~10~~ QV3026
Samples: H2207 — H2212, H2139, H21
H0297, H0298

300726

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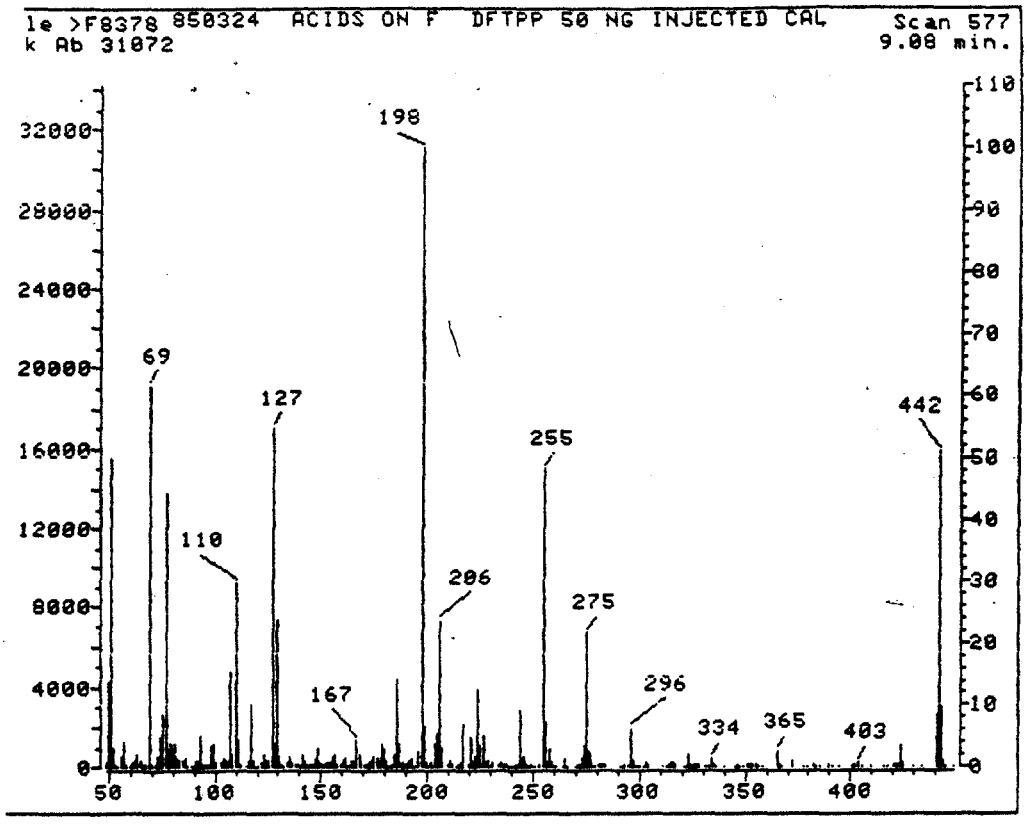


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	49.99	49.99	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less then 2% of mass 69	.44	.72	Ok
27	40-60% of mass 198	54.81	54.81	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.62	6.62	Ok
75	10-30% of mass 198	21.41	21.41	Ok
65	Greater then 1% of mass 198	2.45	2.45	Ok
41	Less then mass 443	8.47	85.21	Ok
42	Greater then 40% of mass 198	50.97	50.97	Ok
43	17-23% of mass 442	9.94	19.51	Ok

Injection Date: 03/24/85 Analyst: K.E Bonanno
Injection Time: 23:17 Processor: Mita Mukherjee
Run No: >F8378 QC Batch: QA 2834
Spectrun No: 577 Samples: G3877, H2207-H2212, G9970 G8833

300727

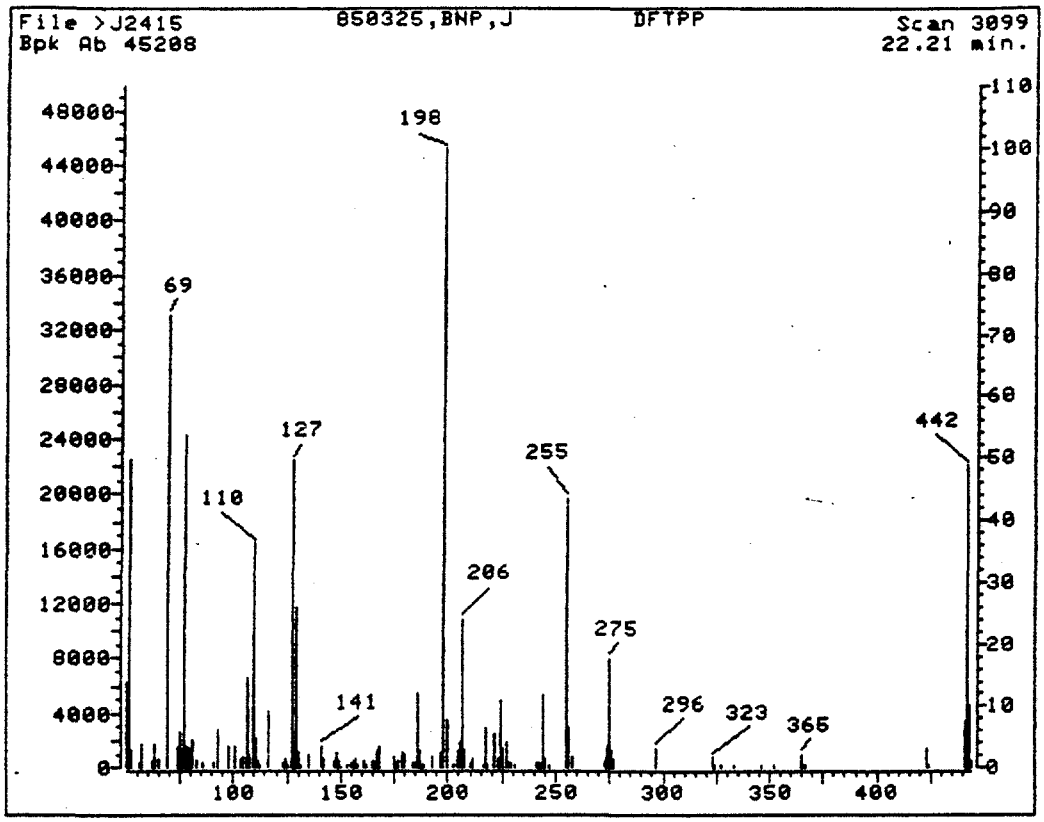


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.57	49.57	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	73.28	73.28	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.67	49.67	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	7.82	7.82	Ok
275	10-30% of mass 198	17.57	17.57	Ok
365	Greater then 1% of mass 198	2.21	2.21	Ok
441	Less then mass 443	7.49	73.87	Ok
442	Greater then 40% of mass 198	48.68	48.68	Ok
443	17-23% of mass 442	10.13	20.82	Ok

Injection Date: 03/26/85 Analyst: Tom Lisowicz
Injection Time: 15:03 Processor: Mita Mukherjee
Run No: >J2415 QC Batch: QB2834
Spectrun No: 3099 Samples: H2207-H2212, G9144, G9146-G9148, G9150, G9153, G9970

300728

Relative Percent Difference (RPD) for VOA

H2211 NJ DEP — Job Number / Account Name
NJDCOMBESO WTRIPBLANK 850321 1415 — Facility Source / Date Time

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	3	6	67
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	1	6	143
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	ND	0
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
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850321	1415

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
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850321	1415

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
H2211	NJ DEP	NJDCOMBESO	WTRIPBLANK	850321	1415

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

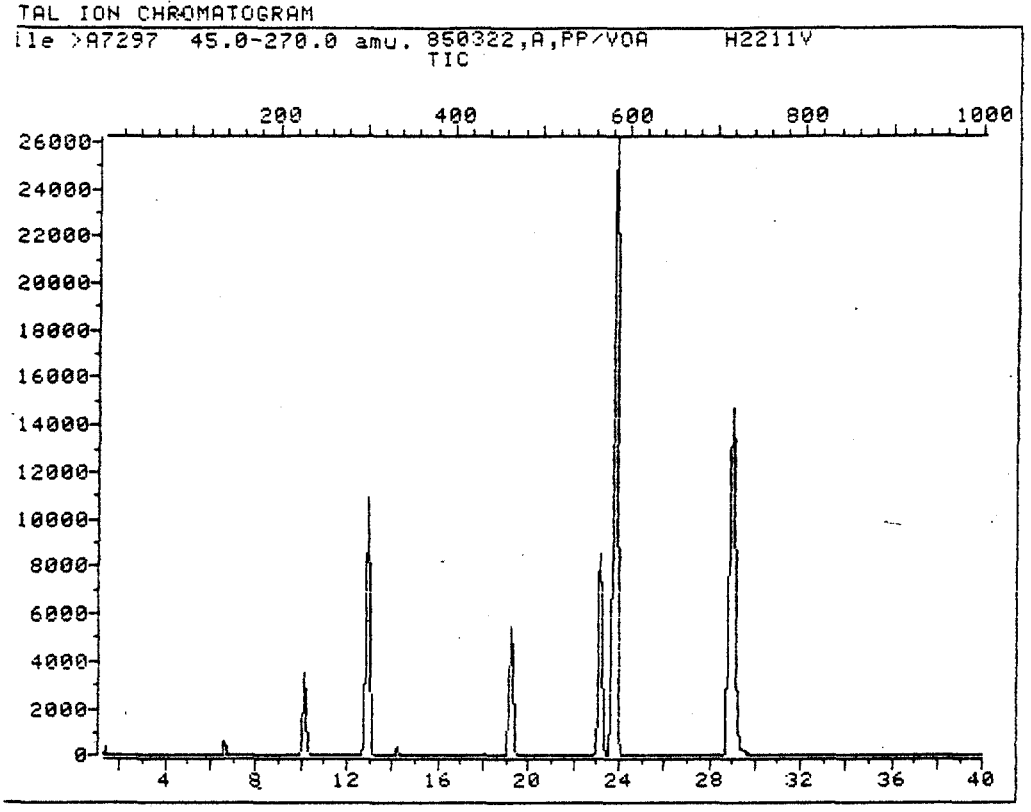
Mass Spectral Data for Quantitated Compounds

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.

300734

TAL ION CHROMATOGRAM



Data File: >A7297::U2
Name: 850322,A,PP/VOA
Misc: H2211V

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: TM0576
Quant Time: 850323 07:35

300735

QUANT REPORT

Operator ID: TM0576

Quant Rev: 3 Quant Time: 850323 07:35
Injected at: 850323 00:06
Dilution Factor: 1.00

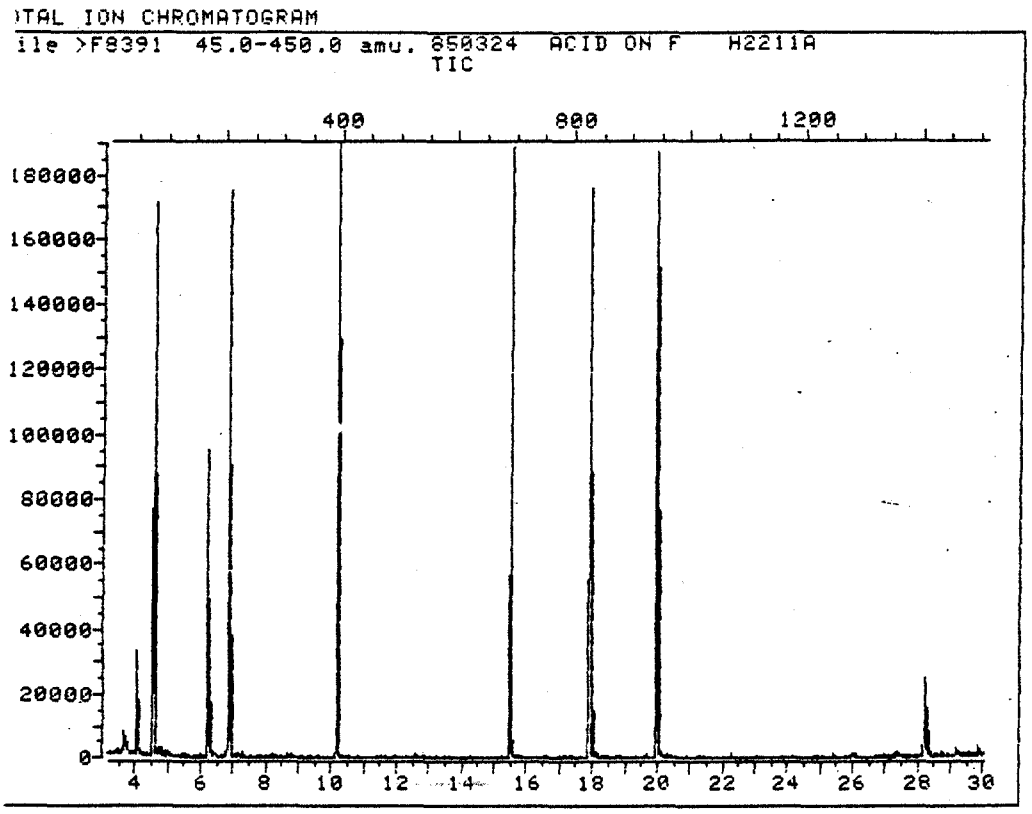
Data File: >A7297::U2
Name: 850322,A,PP/VOA
Misc: H2211V

ID File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.26	467	40661	200.00	NG
34)	1,2-Dichloroethane-D4	12.93	303	26089	221.82	NG
35)	Toluene-D8	23.81	585	149402	226.00	NG
36)	p-Bromofluorobenzene	28.98	719	53681	214.57	NG
37)	*1,4-Dichlorobutane	23.15	568	56993	200.00	NG

* Compound is ISTD

300736



Data File: >F8391::U6
Name: 850324 ACID ON F
Misc: H2211A

BTL#12

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

Operator ID: KB5414
Quant Time: 850325 08:44

300737

QUANT REPORT

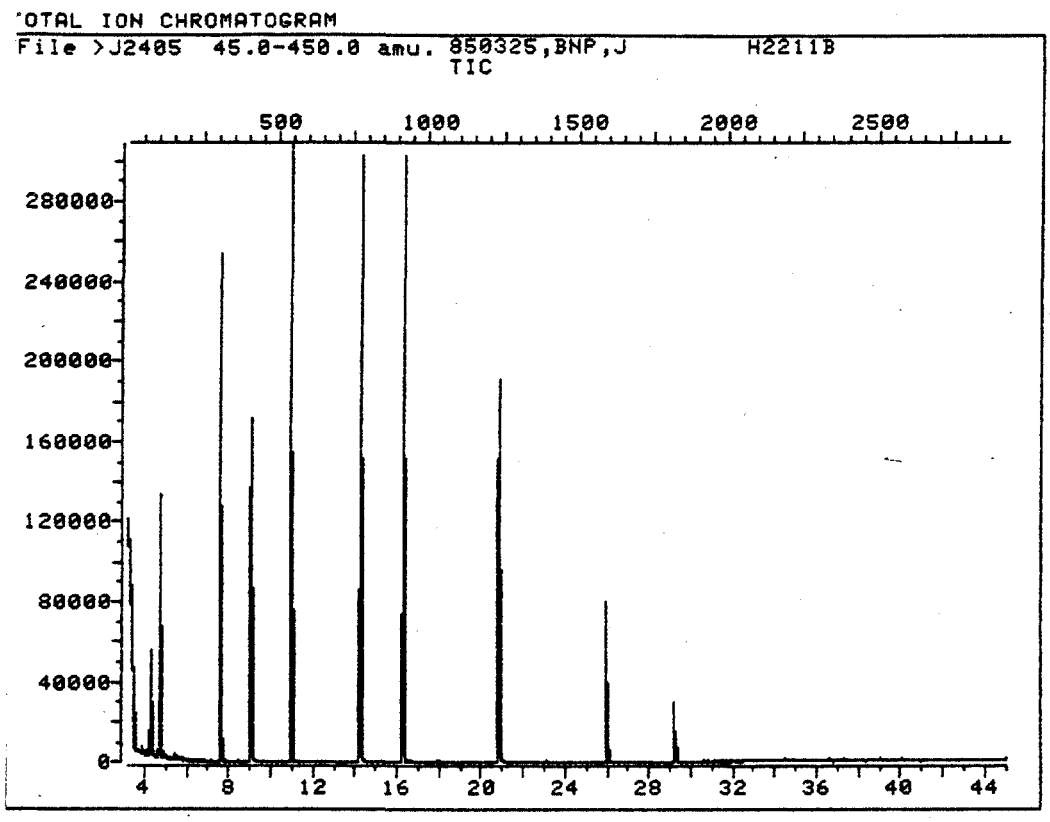
Operator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:44
Injected at: 850325 07:49
Data File: >F8391::U6 Dilution Factor: 1.00
Name: 850324 ACID ON F
Misc: H2211A BTL#12

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.85	207	99928	40.00	UG/ML
3)	2-Fluorophenol	4.52	76	105698	66.75	UG/ML
5)	Phenol-D5	6.21	171	75272	44.39	UG/ML
6)	*d8-Naphthalene	10.16	393	215128	40.00	UG/ML
11)	*d10-Acenaphthalene	15.47	692	118972	40.00	UG/ML
16)	*d10-Phenanthrene	19.97	945	231564	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.93	830	51510	94.42	UG/ML

* Compound is ISTD

300738



Data File: >J2405::U2
Name: 850325,BNP,J
Misc: H2211B

BTL#12

Id File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

Operator ID: TR9113
Quant Time: 850327 01:58

300739

Chet Scan

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850327 01:58
Injected at: 850327 01:10
Data File: >J2405::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: H2211B BTL#12

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

J086Att

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.54	306	106499	40.00	UG/ML
8)	Nitrobenzene-d5	8.98	407	164332	35.95	UG/ML
10)	*d8-Naphthalene	10.87	539	401657	40.00	UG/ML
11)	2-Fluorobiphenyl	14.20	772	274722	39.57	UG/ML
12)	N-Nitrosodi-n-propylamine	8.98	407	20350	~~6.97~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.22	913	208386	40.00	UG/ML
23)	Dimethyl phthalate	16.22	913	37079	~~4.89~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.79	1233	253487	40.00	UG/ML
48)	Di-n-butyl phthalate	23.02	1389	2838	~~.32~~	~~UG/ML~~
58)	*d12-Chrysene	29.17	1819	43109	40.00	UG/ML
70)	Terphenyl-D14	25.95	1594	~~99134~~ 91907	~~71.15~~	UG/ML

* Compound is ISTD

300740

Appendix B

GC/MS Calibration Data

300741

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00759	2.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.01130	21.52	Average	(Conc=400.00)
Benzene	2.26343	2.36695	4.57	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.40933	3.91	Average	
Carbon tetrachloride	.70237	.66949	4.68	Average	
Chlorobenzene	1.52935	1.57670	3.10	Average	
Chlorodibromomethane	.69374	.70172	1.15	Average	
Chloroethane	.13254	.14557	9.83	Average	
2-Chloroethylvinyl ether	.29315	.31732	8.25	Average	
Chloroform	1.49245	1.60717	7.69	Average	
Dichlorobromomethane	1.00980	1.05578	4.55	Average	
Dichlorodifluoromethane	.16533	.15146	8.39	Average	
1,1-Dichloroethane	.97647	1.00277	2.69	Average	
1,2-Dichloroethane	.85557	.94816	10.82	Average	
1,1-Dichloroethylene	1.00001	.94938	5.06	Average	
1,2-Dichloropropane	.83951	.90397	7.68	Average	
trans-1,3-Dichloropropylene	.68624	.66508	3.08	Average	
cis-1,3-Dichloropropylene	-	-	-	Average	
Ethylbenzene	2.92450	3.04036	3.96	Average	
Methyl bromide	.14225	.13208	7.15	Average	
Methyl chloride	.44723	.43620	2.47	Average	
Methylene chloride	.14438	.18028	24.86	Average	
1,1,2,2-Tetrachloroethane	.83452	.93597	12.16	Average	
Tetrachloroethylene	.88116	.84556	4.04	Average	
Toluene	2.58175	2.63445	2.04	Average	
1,2-Trans-dichloroethylene	1.01197	.98718	2.45	Average	
1,1,1-Trichloroethane	.84920	.95146	12.04	Average	
1,1,2-Trichloroethane	.51355	.56918	10.83	Average	
Trichloroethylene	.56000	.55064	1.67	Average	
Trichlorofluoromethane	1.05182	1.04730	.43	Average	
Vinyl chloride	.23812	.23732	.33	Average	
1,2-Dichloroethane-D4	.46030	.48311	4.96	Average	(Conc=250.00)
Toluene-D8	2.83719	2.74046	3.41	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.01404	5.00	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

300742

030

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File:)A7277
Injection Time: 850322 08:17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
ein	.00738	.00884	19.87	Average	(Conc=4000.00)
onitrile	.01440	.13271	821.63	Average	(Conc=400.00)
ne	2.26343	2.49908	10.41	Average	
hloromethyl)ether	-	-	-	Average	
form	.42598	.44373	4.17	Average	
n tetrachloride	.70237	.73549	4.72	Average	
obenzene	1.52935	1.65404	8.15	Average	
odibromomethane	.69374	.74853	7.90	Average	
oethane	.13254	.16074	21.27	Average	
loroethylvinyl ether	.29315	.34050	16.15	Average	
oform	1.49245	1.68143	12.66	Average	
lorobromomethane	1.00980	1.11452	10.37	Average	
orodifluoromethane	.16533	.17440	5.49	Average	
)ichloroethane	.97647	1.06009	8.56	Average	
)ichloroethane	.85557	.99072	15.80	Average	
Dichloroethylene	1.00001	1.02252	2.25	Average	
)ichloropropane	.83951	.92571	10.27	Average	
s-1,3-Dichloropropylene	.68624	.73263	6.76	Average	
1,3-Dichloropropylene	.52512	.52617	.20	Average	
lbenzene	2.92450	3.15306	7.82	Average	
yl bromide	.14225	.11614	18.35	Average	
yl chloride	.44723	.53753	20.19	Average	
ylene chloride	.14438	.18617	28.94	Average	(1)
2,2-Tetrachloroethane	.83452	.99819	19.61	Average	
achloroethylene	.88116	.89390	1.45	Average	
ene	2.58175	2.80600	8.69	Average	
Trans-dichloroethylene	1.01197	1.03942	2.71	Average	
1-Trichloroethane	.84920	.98838	16.39	Average	
2-Trichloroethane	.51355	.58132	13.20	Average	
hloroethylene	.56000	.57108	1.98	Average	
hlorofluoromethane	1.05182	1.12827	7.27	Average	
l chloride	.23812	.25087	5.35	Average	
Dichloroethane-D4	.46030	.47036	2.19	Average	(Conc=250.00)
ene-D8	2.83719	2.69823	4.90	Average	(Conc=250.00)
omofluorobenzene	1.06746	1.00031	6.29	Average	(Conc=250.00)
1,2-Tetrachloroethane	-	-	-	Average	
ene	-	-	-	Average	
-Dibromo-3-Chloropropane	-	-	-	Average	
obenzene	-	-	-	Average	
lorotoluene	-	-	-	Average	
lorotoluene	-	-	-	Average	
a-Xylene	-	-	-	Average	(Conc=75.00)
o- and para-Xylenes	-	-	-	Average	(Conc=150.00)
ylbenzene	-	-	-	Average	

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

ff - % Difference from original average or curve

300743

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850325 08:25

Files: >F8381 >F8382 >F8380

Compound	RF 60.00	RF 100.00	RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.76356	.83867	.74054	.944	.78093	6.571	
Phenol	.75362	.79100	.76738	.913	.77067	2.453	
2,4-Dichlorophenol	.27080	.29320	.24170	.969	.26857	9.615	
2,4-Dimethylphenol	.33404	.37237	.31240	.926	.33960	8.943	
2-Nitrophenol	.17761	.20297	.18032	.904	.18697	7.446	
p-Chloro-m-cresol	.31219	.32754	.28079	1.190	.30684	7.766	
4,6-Dinitro-o-cresol	.22647	.29143	.30170	1.136	.27320	14.933	
2,4-Dinitrophenol	.13182	.16687	.21471	1.025	.17113	24.313	
4-Nitrophenol	.26598	.30397	.30452	1.049	.29149	7.580	
2,4,6-Trichlorophenol	.34641	.38430	.31699	.856	.34923	9.662	
Pentachlorophenol	.11444	.13158	.11626	.984	.12076	7.798	
2-Fluorophenol	.59468	.66553	.64127	.660	.63382	5.681	(Conc=100.0,100.0,100.0)
Phenol-D5	.64038	.68374	.71218	.908	.67876	5.327	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.08766	.10429	.09077	.898	.09424	9.378	(Conc=100.0,100.0,100.0)

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

300744

032

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
trosodimethylamine	-	-	-	-	-	-	-	
2-Chloroethyl) ether	2.00571	2.13516	2.14932	-	.938	2.09673	3.775	
Dichlorobenzene	1.60123	1.75494	1.77725	-	.989	1.71114	5.601	
Dichlorobenzene	1.75399	1.93459	2.03805	-	1.006	1.90888	7.531	
Dichlorobenzene	1.73350	1.86518	1.91383	-	1.064	1.83750	5.078	
obenzene-d5	1.69135	1.72120	1.73779	-	1.197	1.71678	1.371	(Conc=50.0,50.0,50.0,50.0)
2-Chloroisopropyl)ether	.29921	.32213	.30814	-	1.106	.30983	3.728	
uorobiphenyl	.66715	.69963	.70722	-	1.304	.69133	3.079	(Conc=50.0,50.0,50.0,50.0)
trosodi-n-propylamine	.29042	.31573	.26633	-	.804	.29083	8.493	
ichloroethane	.11149	.11314	.11990	-	.804	.11485	3.882	
obenzene	.48705	.53837	.56214	-	.834	.52918	7.252	
horone	.67764	.67101	.71173	-	.890	.68679	3.181	
(2-Chloroethoxy)methane	.45639	.50623	.48037	-	.954	.48100	5.183	
,4-Trichlorobenzene	.26105	.27492	.30311	-	.990	.27969	7.664	
ithalene	1.08256	.90528	1.17031	-	1.007	1.05272	12.825	
achlorobutadiene	.15405	.15124	.16945	-	1.056	.15825	6.196	
achlorocyclopentadiene	.24847	.32158	.36148	-	.843	.31051	18.458	
iloronaphthalene	1.16971	1.38547	1.51546	-	.891	1.35688	12.871	
ethyl phthalate	1.58204	1.83228	1.80250	-	.970	1.73894	7.861	
aphthylene	2.31351	2.36939	2.78464	-	.971	2.48918	10.341	
-Dinitrotoluene	.30296	.35086	.35578	-	.982	.33653	8.670	
naphthene	1.50394	1.69463	1.69863	-	1.008	1.63240	6.816	
-Dinitrotoluene	.24610	.30466	.32313	-	1.053	.29130	13.805	
thyl phthalate	1.49776	1.63907	1.72022	-	1.107	1.61901	6.953	
orene	1.31068	1.48414	1.51338	-	1.105	1.43606	7.630	
hlorophenyl phenyl ether	.47471	.55595	.59740	-	1.110	.54269	11.501	
itrosodiphenylamine	.58147	.75207	.84103	-	1.136	.72486	18.197	
-Diphenylhydrazine	1.46457	1.71293	1.97610	-	1.140	1.71787	14.891	
romophenyl phenyl ether	.21467	.26327	.28297	-	.937	.25363	13.860	
achlorobenzene	.25084	.26391	.26410	-	.956	.25962	2.927	
nanthrene	.95335	1.12081	1.16894	-	1.004	1.08103	10.469	
hracene	1.08936	1.31865	1.38202	-	1.012	1.26334	12.188	
n-butyl phthalate	1.24755	1.39169	1.57505	-	1.108	1.40476	11.685	
oranthene	.71240	.79531	.92843	-	1.185	.81205	13.421	
zidine	.00355	.01784	.15308	-	1.211	.05816	141.884	
ene	.67249	.74158	.85998	-	1.218	.75802	12.509	
ha-BHC	.17577	.18898	-	.27508	.944	.21328	25.287	
a-BHC	.15025	.14853	-	-	.989	.14939	.814	
ma-BHC	.15025	.14853	-	.23212	.989	.17697	26.994	
ta-BHC	.09342	.09507	-	.16687	1.020	.11845	35.406	
tachlor	.25255	.29932	-	.42292	1.082	.32493	27.089	
drin	.18976	.19480	-	.27049	1.127	.21835	20.711	
tachlor epoxide	.08211	.06374	-	.14081	.838	.09555	42.131	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

- Percent Relative Standard Deviation

300745

033

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.03711	.03503	-	.13780	.859	.06998	83.943	
Endosulfan I	.10145	.07596	-	.12209	.871	.09983	23.145	
4,4'-DDE	.53392	.44356	-	.73316	.889	.57021	25.986	
Dieldrin	.72347	.58904	-	.77568	.893	.69606	13.834	
Endrin	.06811	.06033	-	.07807	.912	.06884	12.914	
Endosulfan II	.07236	.07841	-	.09781	.920	.08286	16.048	
4,4'-DDD	.72215	.67457	-	1.06136	.924	.81936	25.742	
Endrin aldehyde	-	-	-	.27225	.937	.27225	-	
4,4'-DDT	.62198	.60434	-	.95673	.955	.72769	27.285	
Endosulfan sulfate	.11604	.10426	-	.19246	.955	.13759	34.804	
Terphenyl-D14	1.45457	1.33032	1.09364	-	.889	1.29285	14.183	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.01276	1.16971	1.04826	-	.949	1.07691	7.643	
Benzo(a)anthracene	1.20557	1.38543	1.36745	-	.998	1.31948	7.508	
Chrysene	1.24619	1.28462	1.20289	-	1.003	1.24457	3.286	
3,3'-Dichlorobenzidine	.14238	.25873	.37811	-	1.000	.25974	45.379	
bis(2-Ethylhexyl)phthalate	1.28539	1.61735	1.47943	-	1.016	1.46072	11.417	
Di-n-octyl phthalate	1.74922	2.60869	2.56817	-	1.078	2.30869	21.005	
Benzo(b)fluoroanthene	.91095	1.21683	-	-	1.109	1.06389	20.330	
Benzo(k)fluoranthene	1.04272	1.11371	-	-	1.112	1.07822	4.656	
Benzo(a)pyrene	.86854	1.02772	1.08836	-	1.144	.99487	11.412	
Indeno(1,2,3-c,d)pyrene	.93919	1.21051	1.36545	-	1.293	1.17172	18.414	
Dibenzo(a,h)anthracene	.68069	.87789	1.03428	-	1.296	.86429	20.501	
Benzo(ghi)perylene	.73653	.90724	1.01704	-	1.333	.88694	15.937	
1,2,3,4-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
1,2,3,5-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
Pentachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)

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

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

$\overline{RF}$ - Average Response Factor

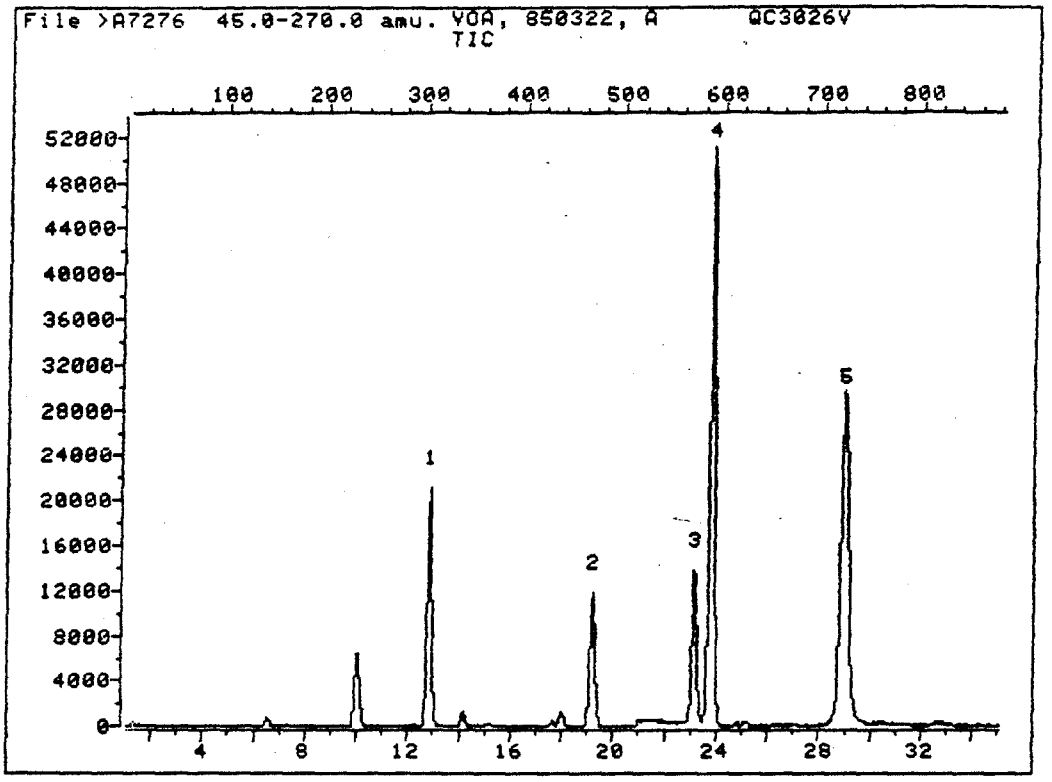
300746

034

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7276::U2
Name: VOA, 850322, A
Misc Data: QC3026V

300748

036.

QUANT REPORT

ator ID: TM0576 Quant Rev: 3 Quant Time: 850322 09:12
Injected at: 850322 07:30
File: >A7276::U2 Dilution Factor: 1.00
: VOA, 850322, A
: QC3026V

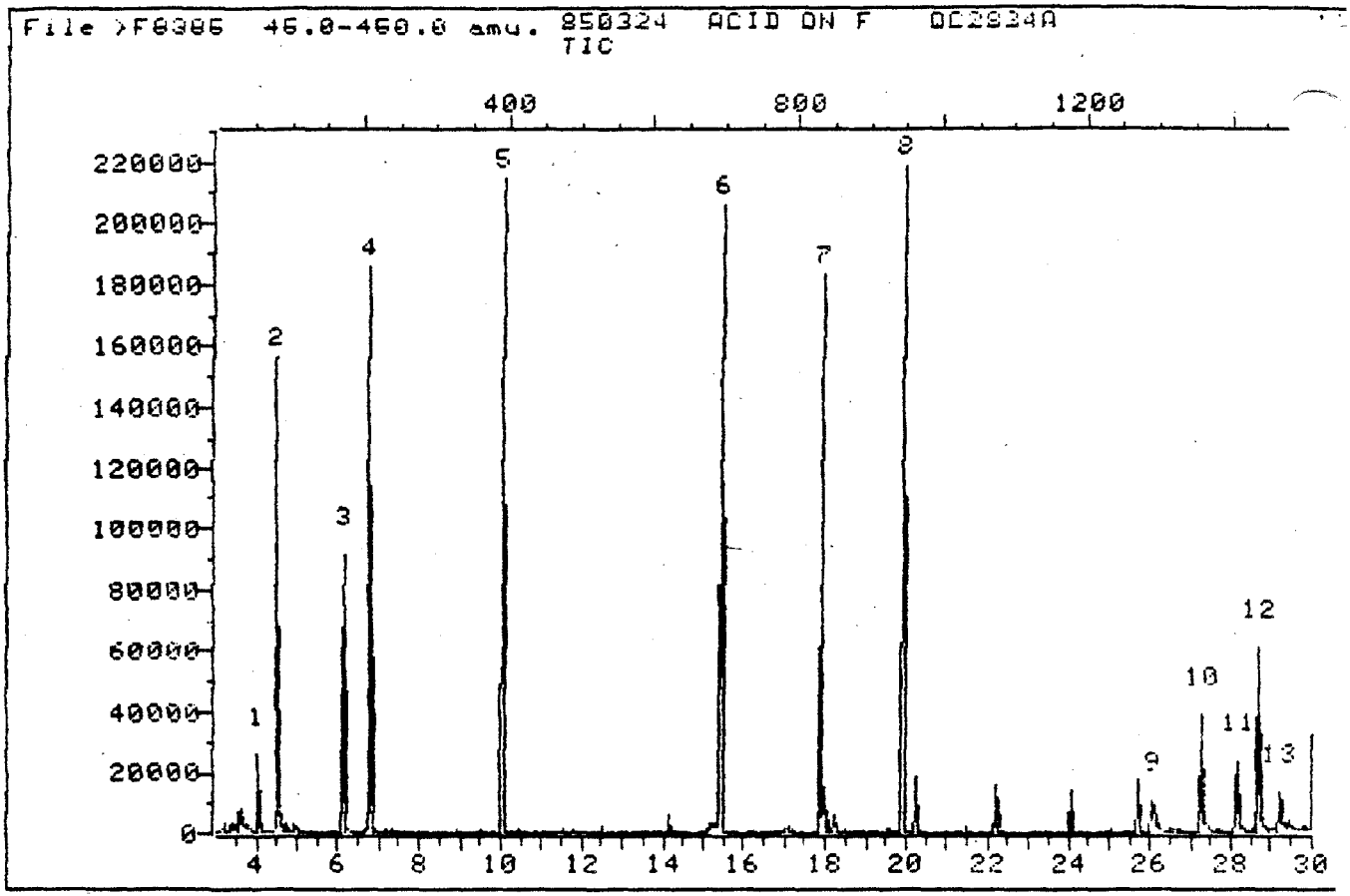
ile: AVOA
e: IDFILE FOR PP VOAS
: Calibration: 850322 09:12

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.21	471	67258	200.00	NG
Carbon tetrachloride	14.19	341	495	~~2.10~~	~~NG~~
Toluene	23.95	594	2353	~~2.71~~	~~NG~~
1,1,1-Trichloroethane	14.19	341	5363	18.78	NG ✓
1,2-Dichloroethane-D4	12.84	306	48637	250.00	NG
Toluene-D8	23.80	590	273371	250.00	NG
p-Bromofluorobenzene	28.97	724	103458	250.00	NG
*1,4-Dichlorobutane	23.14	573	85458	200.00	NG

Compound is ISTD

300749

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A

RTL#

300750

QUANT REPORT

ator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:36
Injected at: 850325 04:02
File: >F8385::U6 Dilution Factor: 1.00
:: 850324 ACID ON F
:: QC2834A BTL# 6

File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
: Calibration: 850325 08:26

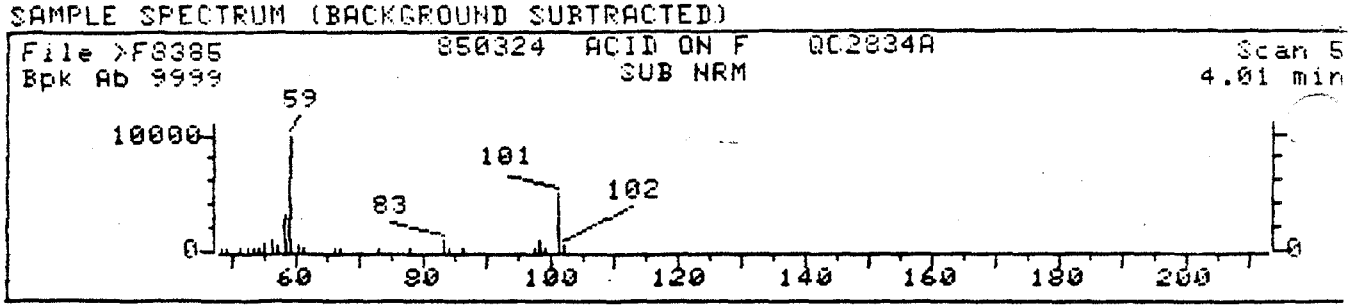
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.75	207	114254	40.00	UG/ML
2-Fluorophenol	4.45	78	113153	62.50	UG/ML
Phenol-D5	6.12	172	81565	42.07	UG/ML
Phenol-D5	6.75	207	819	.42	UG/ML
*d8-Naphthalene	10.04	392	247294	40.00	UG/ML
*d10-Acenaphthalene	15.41	694	136968	40.00	UG/ML
*d10-Phenanthrene	19.91	947	272572	40.00	UG/ML
2,4,6-Tribromophenol	17.88	833	55655	86.67	UG/ML

Compound is ISTD

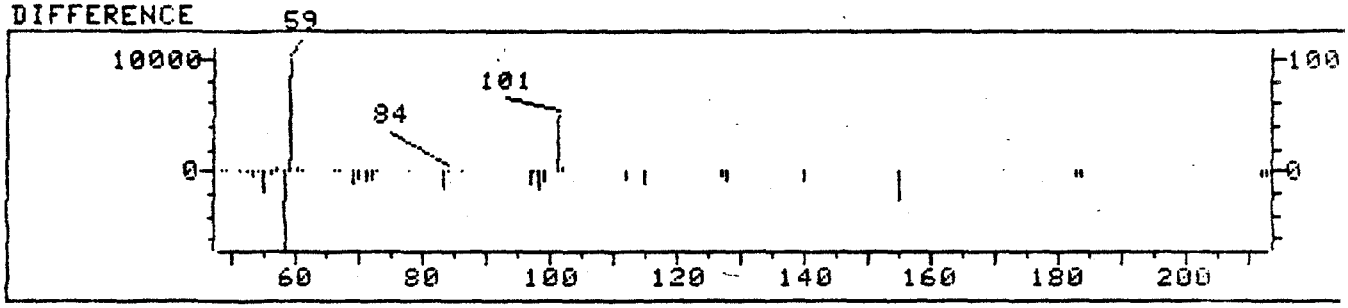
300751

300751

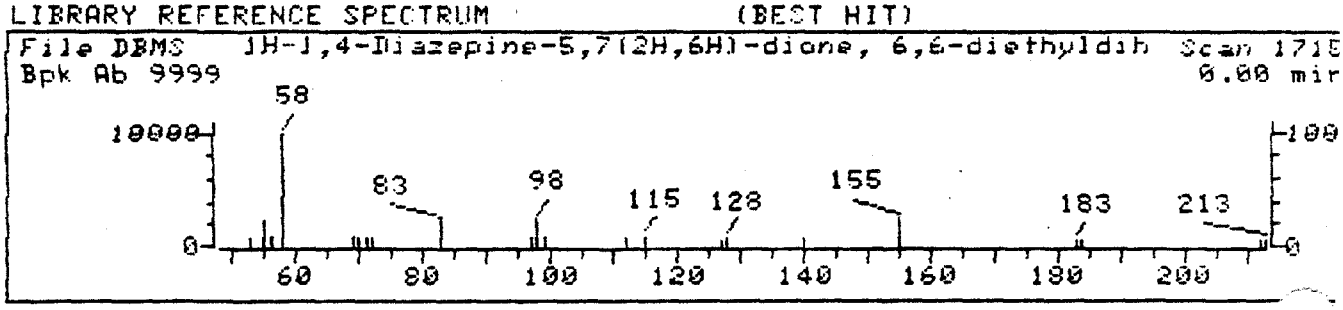
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A BTL#
RT (min): 4.01
Scan: 53
Area: 67198
Semi-quantitative Conc: 5.35 UG/ML

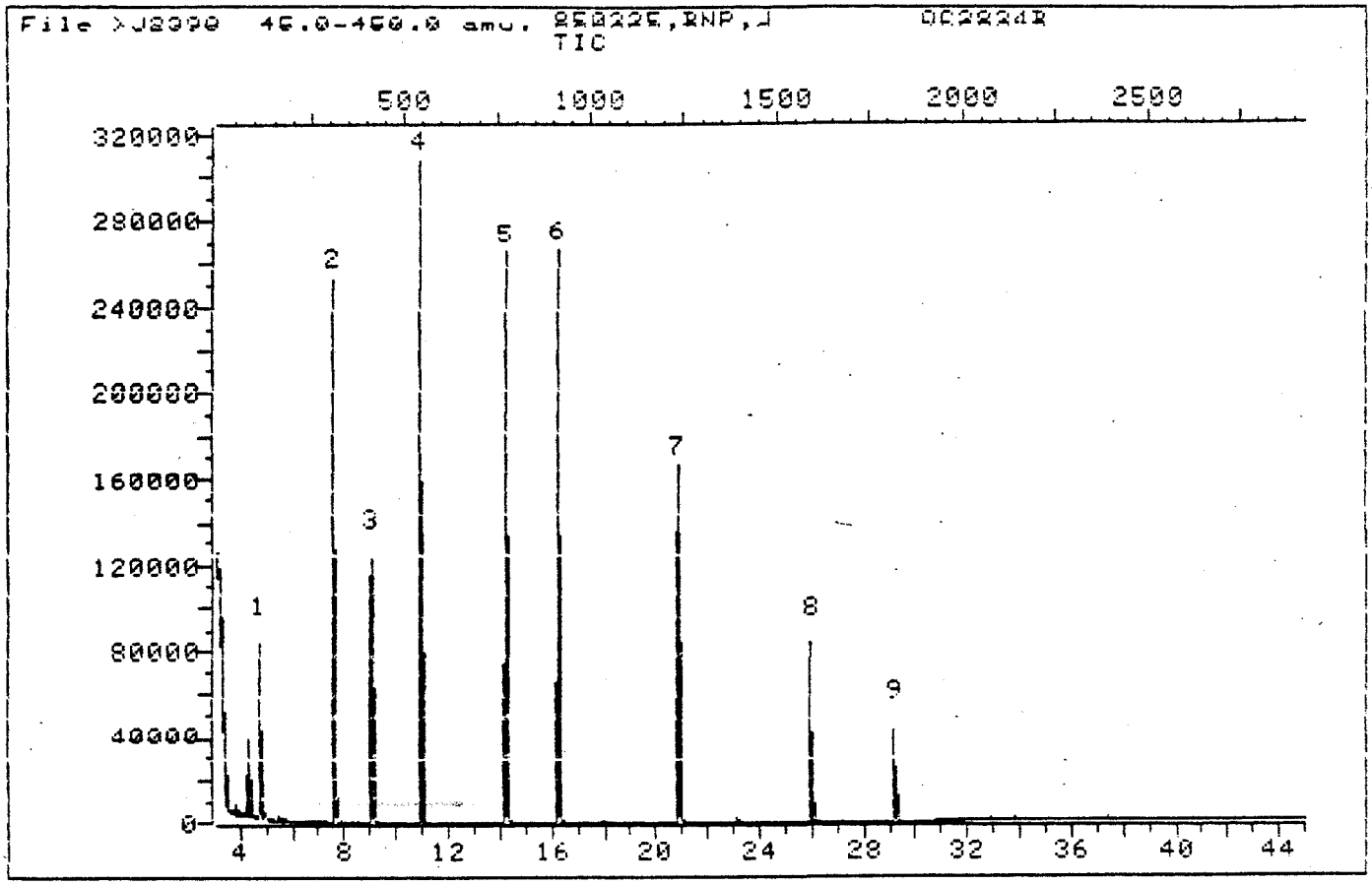
Data File: >F8385 Scan Number: 53
Search Speed: 2 Titling option: S Number of ion ranges searched:

1. 1H-1,4-Diazepine-5,7(2H,6H)-dione, 6,6-diethyldihydr 212 C11H20N202
o-2,2-dimethyl- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	36	69315931	38	51	0	-2

300752

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B

BTL# 5

300753

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 16:45
Injected at: 850326 15:57
Data File: >J2398::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: QC2834B BTL# 5

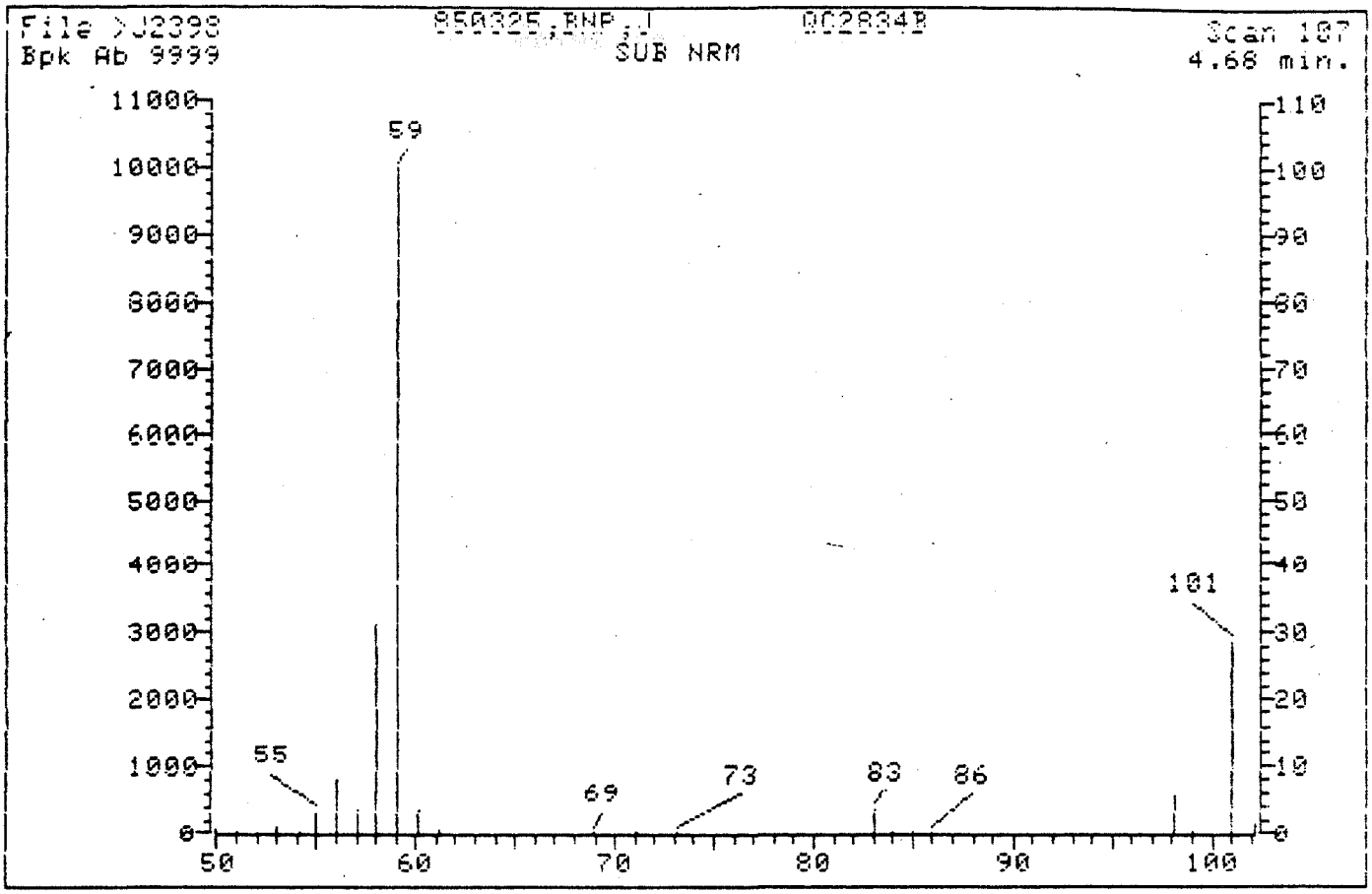
J086AA

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	104366	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	407	127170	28.39	UG/ML
10)	*d8-Naphthalene	10.85	539	393618	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	234312	34.44	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	407	15690	~~5.48~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	913	183550	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	32456	~~4.87~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	225585	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	6268	.79	UG/ML
58)	*d12-Chrysene	29.15	1819	59669	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	103871	53.86	UG/ML

* Compound is ISTD

300754



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B
RT (min): 4.68
Scan: 107
Area: 155021
Semi-quantitative Conc: 7.73 UG/ML

BTL# 5

No PBM hits for this scan.

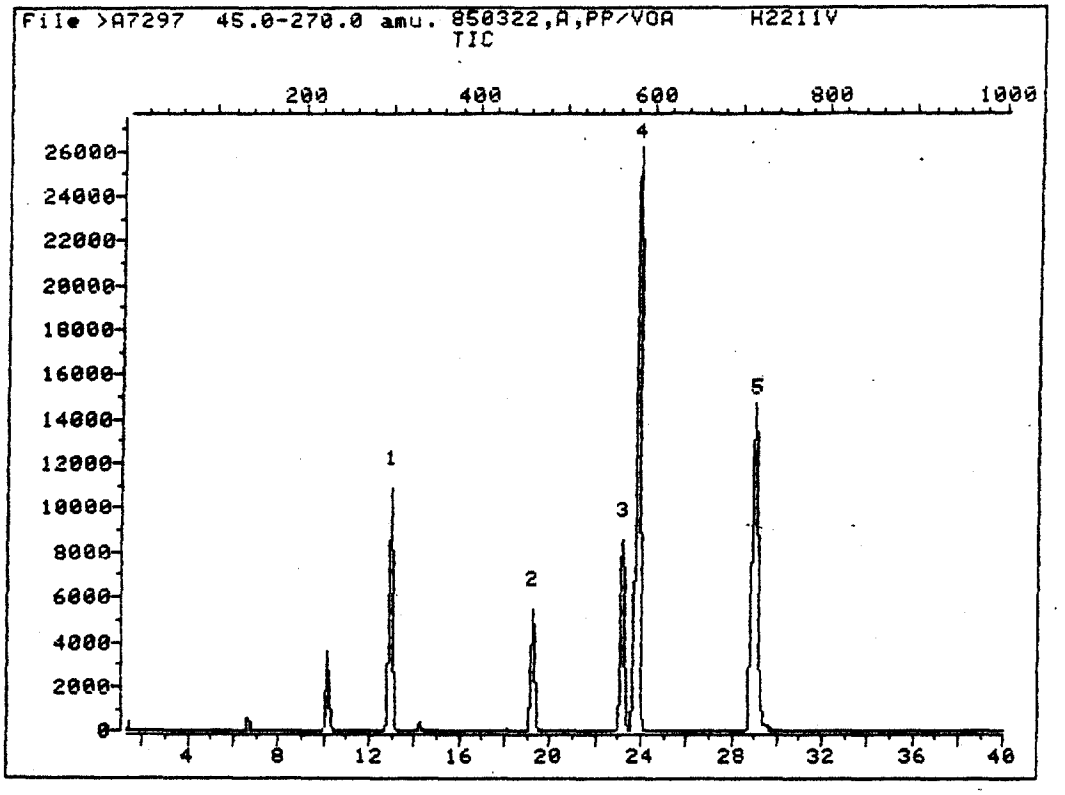
300755

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.

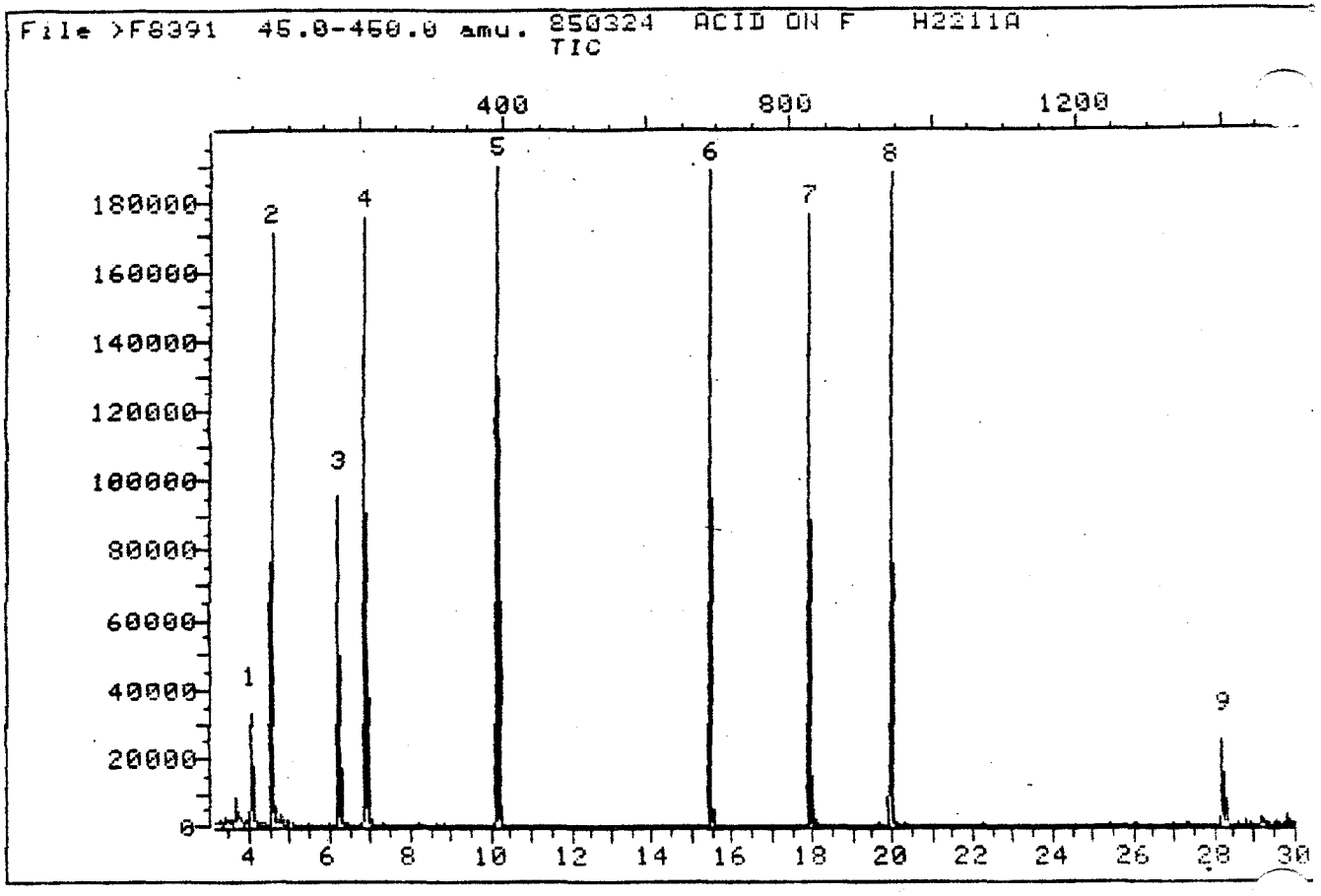
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7297::U2
Name: 850322,A,PP/VOA
Misc Data: H2211V

300757

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



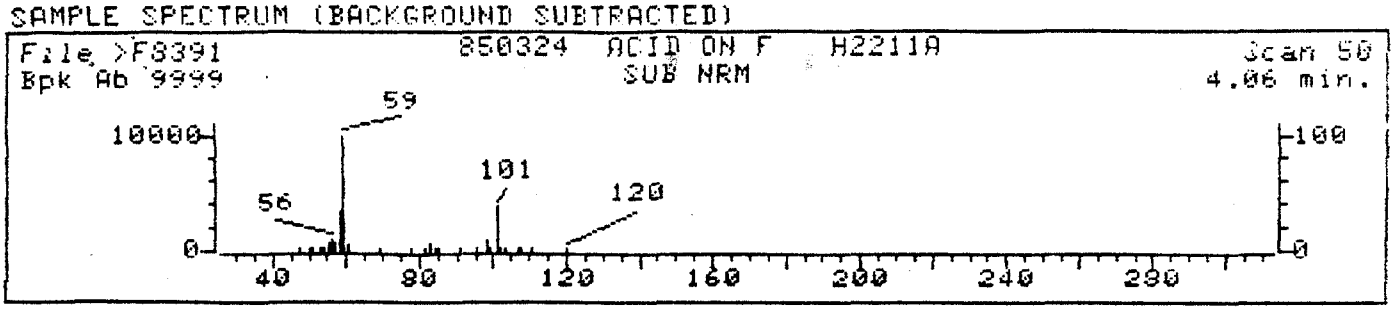
Data File: >F8391::U6
Name: 850324 ACID ON F
Misc Data: H2211A

BTL#:

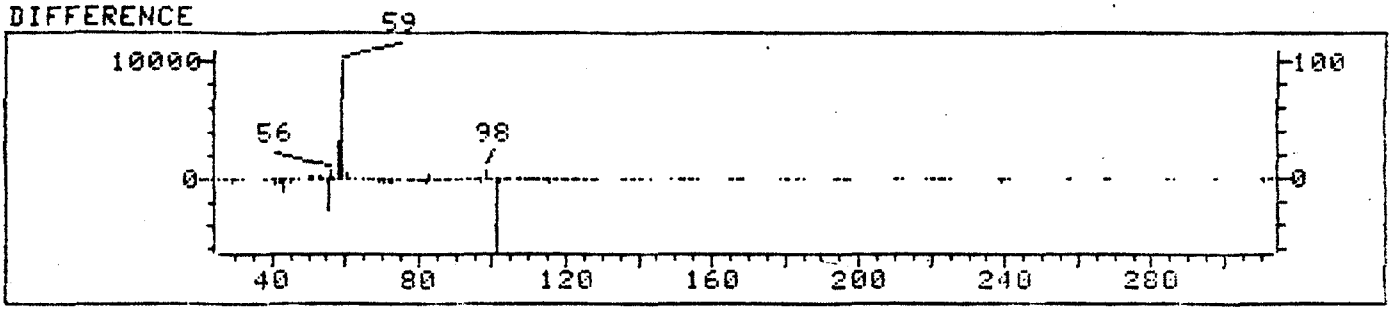
300758

300758

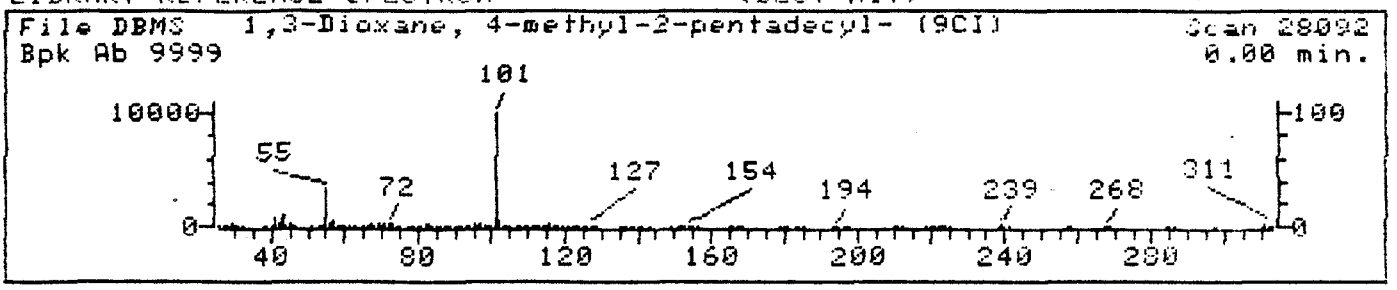
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8391::U6
Name: 850324 ACID ON F
Misc Data: H2211A BTL#12
RT (min): 4 06
Scan: 50
Area: 62427
Semi-quantitative Conc: 5.69 UG/ML

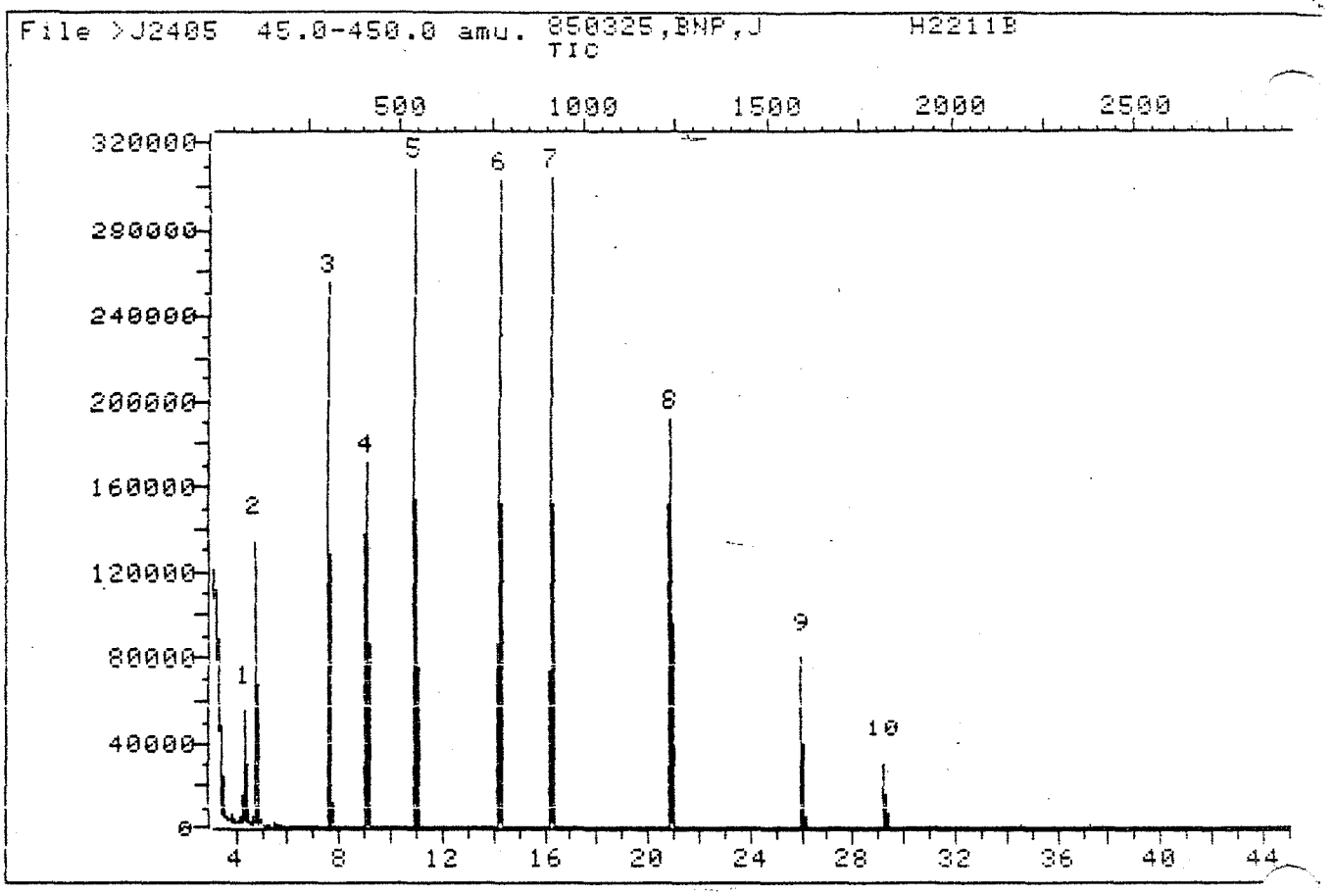
Data File: >F8391 Scan Number: 50
Search Speed: 2 Titling option: S Number of ion ranges searched: 57

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	33	81	0	-2

300759

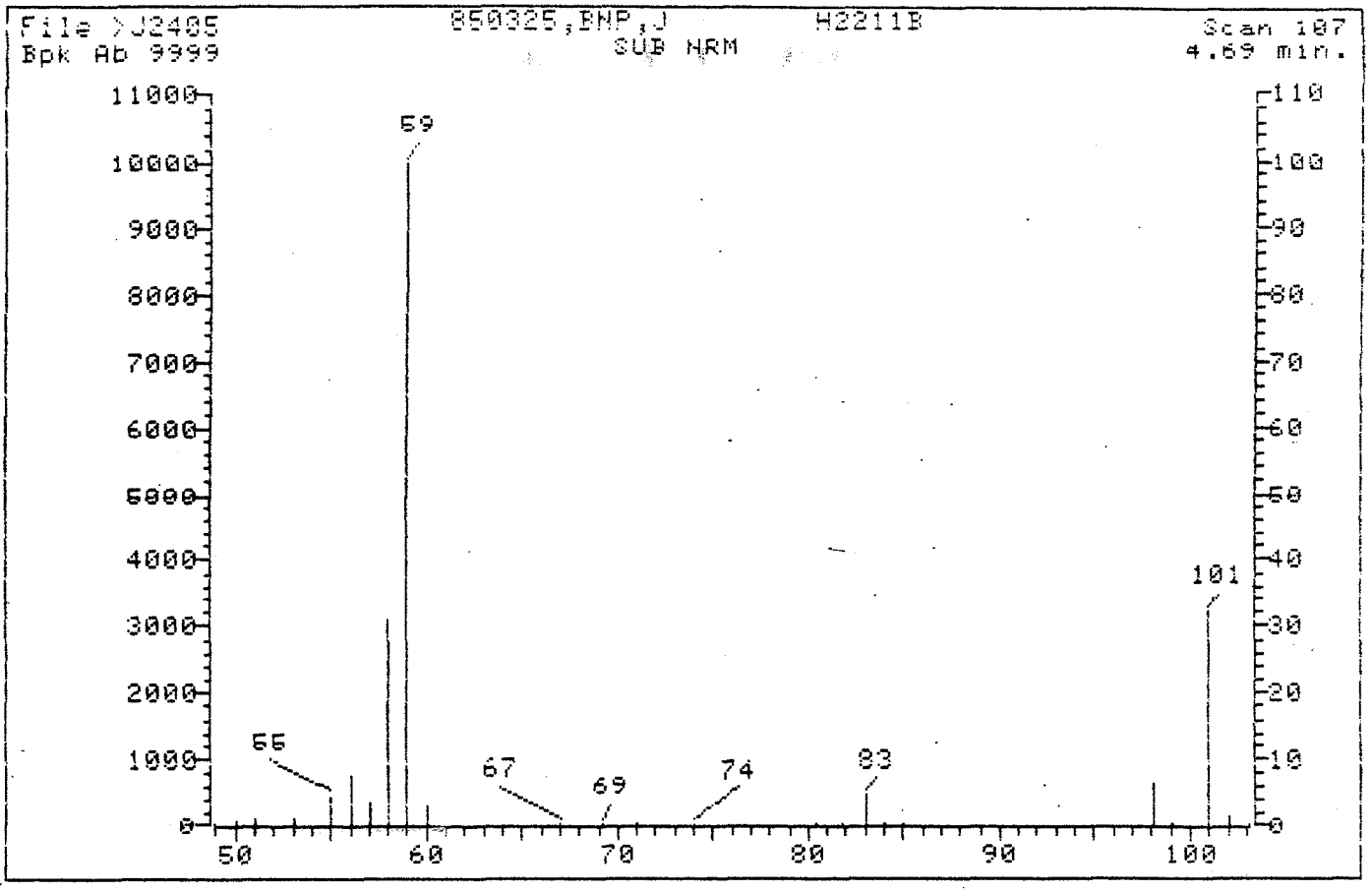
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2405::U2
Name: 850325,BNP,J
Misc Data: H2211B

BTL#1

300760



Data File: >J2405::U2
Name: 850325,BNP,J
Misc Data: H2211B
RT (min): 4.69
Scan: 107
Area: 228248
Semi-quantitative Conc: 10.02 UG/ML

BTL#12

No PBM hits for this scan.

300761

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.

300762

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV. 1

ETC Job # 412111

ID: L85253-A5

Facility: ____ Facility Code

Sample Point: ____ – ____ Source Code / Sample Point ID

mitted by: MW CHAN

e: 3/26/85

Date Sampled: ____ (Y Y M M D D)

Time Sampled: ____ (H H : M M)

MAR 27 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			

300763

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28533 ETC Job # H2211

Date Sealed 3-20-95 By: Quad

Company: NJ DEP

Attn.: Joe Buttich

Facility/Site:

Address: Trenton NJ

Phone: ( )

SAMPLE IDENTIFICATION

Facility: Chemfax Inc

Sample Point: [W] - Trip Blank (Facility/Site Code; Source Code (from below); Your Sample Point ID (left justify)) | 03/21/95 (Start Date (YY/MM/DD); Optional Sample Point Descriptions) | 1611ST (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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables		OK	✓
1	M	1L	HNO3	Metals			✓
1	CN	500ml	NaOH	Cyanides			✓
1	PN	1L	H2SO4	Phenols			✓
2	VB	40ml	6CM5H2O	VOA		OK	✓ Headspace
			↓				
			in Millipore H2O — this is a Trip Blank			OK	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) D. DeCristini Date: 3/21/95 Time: 1619
   Signature: [signature] Seal #: 28533 Intact: Y

2. I have received these materials in good condition from the above person.
   Name: Signature: 300764
   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) Date: Time:
   Signature: Seal #: Intact:

ETC USE ONLY Opened By: [signature] Date: 3-22-95 Time: 800

Seal #: 28534 Condition: Intact

300E

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2211

Sample Point [4] TW1-W3L1 (Source Code / Sample Point ID)

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)

Samplier 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)

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

Sample Temp (°C) | Turbidity NTU

FIELD COMMENTS

Sample Appearance: CLEAR

Weather Conditions:

Other:

300

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

Sampler: (Print) [illegible] Employer: WDFT

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

3/21/[illegible] (Date) (Signature)

300765

300766

MS ANALYSIS CUSTODY LOG

E 3/22/85 SHIFT ___
CTION VOA
STRUMENT A
E FILE APE101
UENCE FILE
THOD FILE VOAA
FILE AVOA
ALYST(S) S. Johnston
ERVISOR
TCH #'s QV3026

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ML

(PLEASE INITIAL)

CURRENT GCMS STATUS		STANDARDS UPDATED	
D	JJ	DATE	3/22
P	PC	BY	SJ

U-C PRIOR

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
BFB	>A7275	1.0			A00106	OK 5:00 AM 3/22	
QC3026V	>A7276	5ml			QC1 AB	3/22 6042 0758	
QC3026VS	>A7277	5ml			AC	SVL ABC 0817	
P-BFB	>A7278	1.0				09:11	
HC291V	>A7281	5ml	1	OK	AD		
HO291VS	>A7282		2	OK	AE	SVL ABC	
HC293V	>A7283		3	OK	AH		
HO293VR	>A7284		4	OK	AG		
HO294V	>A7285		5	OK	AH		
HO295V	>A7286		6	OK	AI		
HO301V	>A7287		7	OK	AJ		
HO302V	>A7288		8	OK	AK		
HO304V	>A7289		9	OK	A081 AL		
HO305V	>A7290	↓	10	OK	AM		
P-BFB	>A7291	1ml			A00106	1830hr	
QC3026VS	>A7292	5ml				SVL 3/22 1920	
H2207	>A7293		1		AH		
H2208	>A7294		2		AI		
H2209	>A7295		3		AJ		
H2210	>A7296		4		AK		
H2211	>A7297		5		A082 AL		
H2212	>A7298		6		AM		
H2213	>A7299		7		AO		
H2142	>A7300		8		AO		
HC297	>A7301		9	05	AP		

EXTRACTION LOG

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emer

Date: 3/23/85

Extraction Method:
- sep funnel ✓
- continuous
- soxhlet
- other

Sample Number	Log Number	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H1801	8652	950	~~~	~~~	Could not get emulsion to separate
G3877	8492	1000	/	1.0	
H2207	8682	~~1~~890	1.0	1.0	
H2208	|	1000	1.0	1.0	
H2209	|	1000	1.0	1.0	
H2210	|	~~850~~ 1000	1.0	1.0	
H2211	|	~~950~~ 1000	1.0	1.0	
H2212	↓	~~980~~ 1000	1.0	1.0	
G8833	8354	980	/	1.0	
G9144		940	1.0	/	
G9146		830	1.0	/	
G9147		830	1.0	/	
G9148		850	1.0	/	
G9150		850	1.0	/	
G9153		1000	1.0	/	
G9970		1000	10.0	1.0	
QC 2834		1000	1.0	1.0	
QC 2834 S		1000	1.0	1.0	
H2211 S		1000	1.0	1.0	
H2211 R		1000	1.0	1.0	

COMMENTS FOR EXTRACT.

* PP/T: H1801, H220~~8~~

PP/Acid (repeat): G387 G8833

PP/BN: G9144, 46-48, 53

PP/org: G9970

COMMENTS FOR GC/MS:

H1801 EXTRACTED BY CONTINUOUS: QC2843

300767

FRACTION	SPIKE Amt (ml)	SPIKE Conc (ng/µl)	SPIKE Lot #
ACID	1.0	100	9700
Acid/BN 1260	1.0	100	9763
B/N	1.0	100	9817
PEST	1.0	100/200	10190

SURROGATE	Amt. (ml)	Conc.	L
	1.0	BN: 50 ng/µl	1.0
		ACID: 100 ng/µl	

Set-up: Jackie Ahlen 3/23/85

UPD/Supervisor: Ron Allen 3/25/85

BN Conc.: [illegible] 3/24/85

Acid Conc.: Ron Wan 3/24/85

spike/surr. verified: [illegible] 3/25/85

A-A

EXTRACTION LOG B-H

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 8/23/85

Extraction Method:

- Sep funnel ✓
- continuous
- soxhlet
- other

Sample Number	Log Number	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
1801	8652	950	—	—	Could not get emulsion to separate
3877	8492	1000	✓		
2207	8682	890	1.0	1.0	ABN 15
2208	↓	1000	1.0	↓	↓
2209		1000	1.0		
2210		~~1000~~ 850	1.0		
2211		~~950~~ 1000	1.0		
2212	↓	~~1000~~ 980	1.0	↓	↓
8833	8354	980	✓	✓	ACT 1
9144	8481	940	1.0	✓	
9146		830	1.0	✓	
9147		830	1.0	✓	
9148		850	1.0	✓	
9150		850	1.0	✓	
9153	↓	1000	1.0	✓	
9970	8473	1000	10.0	1.0	
QC 2834		1000	1.0		
QC 2834 S		1000	1.0		
#2211 S		1000	1.0		
#2211 R		1000	1.0		

COMMENTS FOR EXTRACT.:

* PP/T: #1801, #2207-

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

COMMENTS FOR GC/MS:

300768

FRACTION	SPIKE Amt: (ml)	Conc	Lot #
ACID	1.0	100	9700
~~Another Base~~	1.0	100	9763
BN	1.0	100	9817
TEST	1.0	100/200	10,190

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10 19
	ACID: 100 ug/ml	

057

Supervisor:

GC-MS ANALYSIS CUSTODY LOG

DATE 3/24-25/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE KSBF
METHOD FILE ACIDF
IDFILE FACID / FACHS
ANALYST(S) KSBmanta
SUPERVISOR [signature]
BATCH #'s QA 2834
QA2814

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ	KSB	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9634	2 uL
ACID CAL I	60	5909	1 mL
" " II	100	5910	↓
" " III	300	5911	
HSLPP ACID STD	300	9603	
" " STD	100	9604	
" " STD	60	9605	1 mL
INT STD MIX	400	9653	100 uL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
DFTPP							
ACID STD III	F8380		1				
" " I	F8381		2				
" " II	F8382		3				
H2211AS	F8383		4				
QC2834AS	F8384		5				
QC2834A	F8385		6				
H2211AR	F8386		7				
H2207A	F8387		8				
H2208A	F8388		9				
H2209A	F8389		10				
H2210A	F8390		11				
H2211A	F8391		12				
H2212A	F8392		13				
63877A	F8393		14				
61970A	F8394		15				
68833A	F8395		16				
69969A	F8396		17	10:1			
DFTPP	F8397		18				
ACIDCALII	F8398		19				
HSLPPACID300	F8399		20			FACHS	
HSLPPACID100	F8400		21			↓	

TSR 8-84

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IS ANALYSIS CUSTODY LOG

: 3/25/85 SHIFT ___
:TION ACID
'RUMENT E
: FILE MTP001
IENCE FILE KEBF
400 FILE AC10F
ILE EACH5
.YST(S) KS Bonfanti
ERVISOR
:H #'s 0A2834

(PLEASE INITIAL)

CURRENT IS STATUS	STANDARDS UPDATED	
	DATE	
	BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 1

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
LPP ACID 60	F8401		22				
5906AS	F8402		23				
2C2814AS	F8403		24				
2C2814A	F8404		25				Y
68891AR	F8405		26				
67232A	F8406		27				Y
65900A	F8407		28				
65901A	F8408		29				
65902A	F8409		30				
25903A	F8410		31				
65904A	F8411		32				
65905A	F8412		33				
65906A	F8413		34				
68832A	F8414		35				X
68890A	F8415		36				
DFTPP	F8416		37				
AC10CALSTD	F8417		38				
67231A	F8418		39				Y
68914A	F8419		40				
68891A	F8420		41				
67230A	F8421		42				Y

TSR 8-84

300771

GC-MS ANALYSIS CUSTODY LOG

DATE 850325 SHIFT ___
FRACTION BNP
INSTRUMENT J
TUNE FILE MTJ004
SEQUENCE FILE TSR23
METHOD FILE JBNP
IDFILE BNPJ
ANALYST(S) Tom Kwasowiec
SUPERVISOR Kathy Alsup
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CS&S STATUS		STANDARDS UPDATED	
ACQ	R	DATE	
HIP		BY	

STANDARD	CONC PPM	LOT NO.	VOL

NAME	DATA FILE >J	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	2390	2	—			NG 1605 HRS
↓	2391	↓				NG
	2392					NC
↓	2393	↓			DON'T USE→	OK 1830 HRS
BNP CALIB STD I	2394		1			
BNP CALIB STD II	2395		2			
BN CALIB STD III	2396		3			
PEST CALIB STD IV	2397		4			
QC2834B	2398		5			QC2834B
QC2834BS	2399		6			
H2211BS	2400		7			EMERG.
H2207B	2401		8			
H2208B	2402		9			
H2209B	2403		10			
H2210B	2404		11			
H2211B	2405		12			
H2211BR	2406		13			
H2212B	2407		14			↓
69144B	2408		15			
69146B	2409		16			
69147B	2410		17			
69148B	2411		18			
69150B	2412		19			
69153B	2413		20			
69970B	2414		21		060	↓

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL 8683

Metals Analysis Custody Log

Samples H2207 to H2212

	Chemist	Date
Hg Prep	Dwayne G. Lehfeld	3/22/85
AA/ICAP Prep	Maura Jean McClain	3/21/85

Lab Supervisor Lidija Wrianov date 3/26/85

300772

300E

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

300774

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

300775

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

300776

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 27, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

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	ND	ND	ND	800	120	ND	800	98
2V	Acrylonitrile	ND	100	ND	ND	ND	80	83	ND	80	73
3V	Benzene	ND	4.40	ND	ND	ND	18	110	ND	18	93
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	75
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	105	ND	18	76
7V	Chlorobenzene	ND	6	3	6	ND	18	108	ND	18	81
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	108	ND	18	80
9V	Chloroethane	ND	10	ND	ND	ND	18	121	ND	18	75
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	116	ND	18	64
11V	Chloroform	ND	1.60	ND	ND	ND	18	113	ND	18	85
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	110	ND	18	81
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	91	ND	20	90
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	109	ND	18	84
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	116	ND	18	88
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	102	16	18	75
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	110	ND	18	83
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	100	ND	18	64
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	108	ND	18	82
20V	Methyl bromide	ND	10	ND	ND	ND	18	82	ND	18	38
21V	Methyl chloride	ND	10	ND	ND	ND	18	120	ND	18	86
22V	Methylene chloride	ND	2.80	1	6	ND	18	129	ND	18	80
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	120	ND	18	93
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	101	ND	18	77
25V	Toluene	ND	6	ND	ND	ND	18	109	ND	18	81
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	103	209	18	63[B]
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	96	ND	18	90
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	113	ND	18	98
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	102	652	18	78[B]
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	107	ND	18	84
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	84
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	107	ND	18	56

A EPA [illegible]ished Method Detection Limit.

B Sa[illegible]ples that contain compounds present at high levels do not provide valid spike recovery data.

004

300777

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

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	3.30	ND	ND	ND	100	104	ND	100	97
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	108	ND	100	72
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	103	ND	100	97
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	105	ND	100	105
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	87	ND	100	77
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	102	ND	100	100
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	62	ND	100	62
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	106	ND	100	106
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	108	ND	100	103
10A	Phenol	ND	1.50	ND	ND	ND	100	59	ND	100	52
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	100	ND	100	104

a EPA published Method Detection Limit.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	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	1.90	ND	ND	ND	100	79	ND	100	78
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	80	ND	100	76
3B	Anthracene	ND	1.90	ND	ND	ND	100	82	ND	100	78
4B	Benzidine	ND	44	ND	ND	ND	100	3[8]	ND	100	8[8]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	90	ND	100	87
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	92	ND	100	86
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	95	ND	100	82
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	87	ND	100	90
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	98	ND	100	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	83	ND	100	81
12B	bis(2-Chloroisopropyl)ether	ND	5.70	ND	ND	ND	100	87	ND	100	93
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	100	73	ND	100	71
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	105	ND	100	106
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	100	33	ND	100	35
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	77	ND	100	76
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	100	89
18B	Chrysene	ND	2.50	ND	ND	ND	100	90	ND	100	90
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	74	ND	100	69
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	70	ND	100	64
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	71	ND	100	64
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	58	ND	100	51
24B	Diethyl phthalate	ND	10	ND	ND	ND	100	14[8]	ND	100	10[8]
25B	Dimethyl phthalate	ND	10	ND	ND	ND	100	0[8]	ND	100	0[8]
26B	Di-n-butyl phthalate	ND	10	ND	ND	BMDL	100	50	ND	100	45
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	104	ND	100	88
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	94	ND	100	91
29B	Di-n-octyl phthalate	ND	10	ND	ND	ND	100	71	ND	100	62
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	86	ND	100	75
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	94	ND	100	85
32B	Fluorene	ND	1.90	ND	ND	ND	100	83	ND	100	75

300679

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

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	1.90	ND	ND	ND	100	117	ND	100	124
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	83	ND	100	82
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	79	ND	100	74
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	94	ND	100	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	97	ND	100	92
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	89	ND	100	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	100	ND	100	97
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	93	ND	100	82
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	86	ND	100	82
45B	Pyrene	ND	1.90	ND	ND	ND	100	96	ND	100	86
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	165[c]	ND	100	179[c]

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 825.

C Recovery normally variable using EPA Protocol Method 825.

007

300780

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2212	NJ DEP	NJDCOMBESD	XCONF	850321	1440	

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	76	ND	100	76
2P	Alpha-BHC	ND	10	ND	ND	ND	100	20	ND	100	19
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	56	ND	100	59
4P	Gamma-BHC	ND	10	ND	ND	ND	100	23	ND	100	21
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	3	ND	100	3
6P	Chlordane	ND	10	ND	ND	ND	200	27	ND	200	35
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	71	ND	100	76
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	71	ND	100	85
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	71	ND	100	76
10P	Dieldrin	ND	2.50	ND	ND	ND	100	57	ND	100	68
11P	Endosulfan I	ND	10	ND	ND	ND	100	8	ND	100	14
12P	Endosulfan II	ND	10	ND	ND	ND	100	6	ND	100	11
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	53	ND	100	59
14P	Endrin	ND	10	ND	ND	ND	100	64	ND	100	70
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	10	ND	100	17
16P	Heptachlor	ND	1.90	ND	ND	ND	100	70	ND	100	69
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	68	ND	100	89
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	78	ND	100	55
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 29, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l								
1M	Antimony	ND	60								
2M	Arsenic	ND	10								
3M	Beryllium	ND	1								
4M	Cadmium	ND	3								
5M	Chromium	ND	10								
6M	Copper	10	4								
7M	Lead	15	5								
8M	Mercury	ND	.30								
9M	Nickel	7.00	7								
10M	Selenium	ND	5								
11M	Silver	ND	8								
12M	Thallium	ND	5								
13M	Zinc	ND	3								
14M	Cyanide, Total	<25	25								
15M	Phenolics, Total	<10	10								

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	53	4.05	-	-	-	6		

300784

011

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2212	NJ DEP	NJDCOMBESO	XCONE	850321	1440	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 Unknown	108	4.69	-		-	11		

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2212

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	86	86	119
Bromofluorobenzene	.250	93	85	121
1,2-Dichloroethane-D4	.250	84	77	120
ACID FRACTION				
Phenol-D5	100	37	15	103
2-Fluorophenol	100	36	23	121
2,4,6-Tribromophenol	100	76	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	65	41	120
2-Fluorobiphenyl	50	72	44	119
Terphenyl-D14	50	107	33	128

* IFB EPA Control Limits.

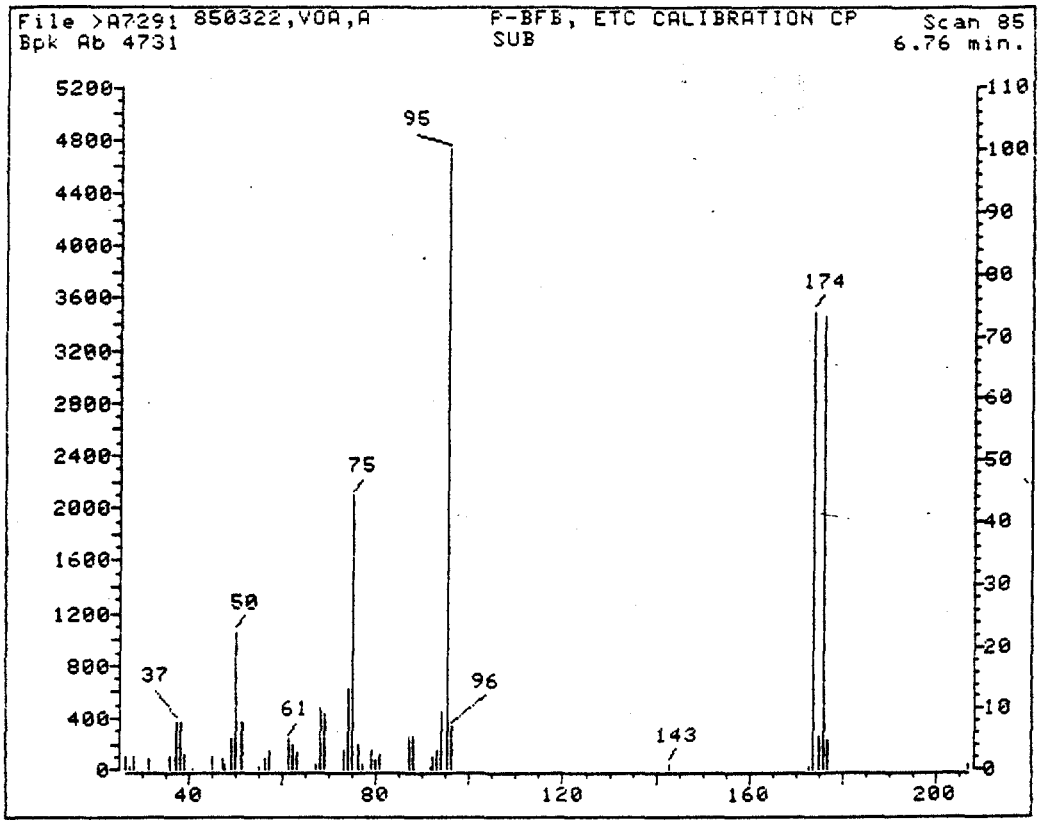


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.26	22.26	Ok
75	30-60% of mass 95	44.35	44.35	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.00	7.00	Ok
173	Less then 1% of mass 95	.55	.55	Ok
174	Greater then 50% of mass 95	73.98	73.98	Ok
175	5-9% of mass 174	5.33	7.20	Ok
176	95-101% of mass 174	73.13	98.86	Ok
177	5-9% of mass 176	4.92	6.73	Ok

Injection Date: 03/22/85
Injection Time: 18:31
Run No: >A7291
Spectrun No: 85

Analyst: Thomas J. Monaco
Processor: ~~QV3026~~
QC Batch: ~~QV3026~~
Samples: H2207-H2212, H2139, H21
H0297, H0298

300787

0.14

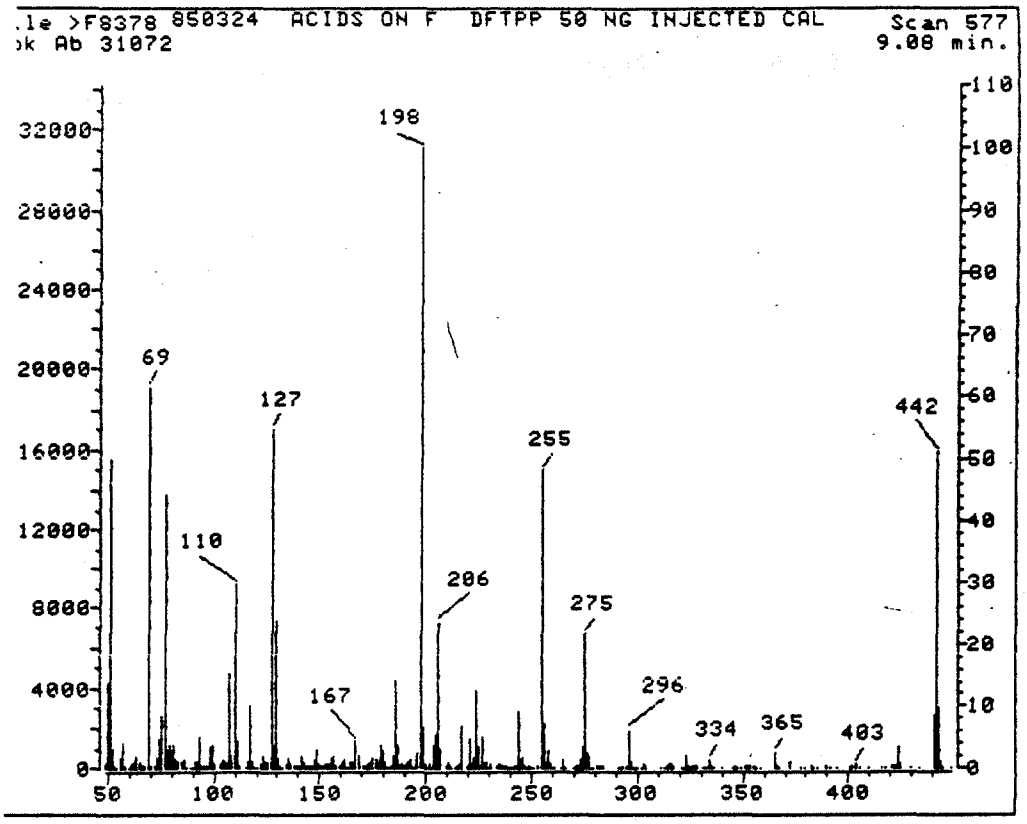


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
51	30-60% of mass 198	49.99	49.99	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	61.53	61.53	Ok
70	Less then 2% of mass 69	.44	.72	Ok
27	40-60% of mass 198	54.81	54.81	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.62	6.62	Ok
75	10-30% of mass 198	21.41	21.41	Ok
65	Greater then 1% of mass 198	2.45	2.45	Ok
41	Less then mass 443	8.47	85.21	Ok
42	Greater then 40% of mass 198	50.97	50.97	Ok
43	17-23% of mass 442	9.94	19.51	Ok

Injection Date: 03/24/85 Analyst: K.E Bonanno
Injection Time: 23:17 Processor: Mita Mukherji
Run No: >F8378 QC Batch: QA 2834
Spectrun No: 577 Samples: G3877, H2207-H2212, G9970
G8833

300788

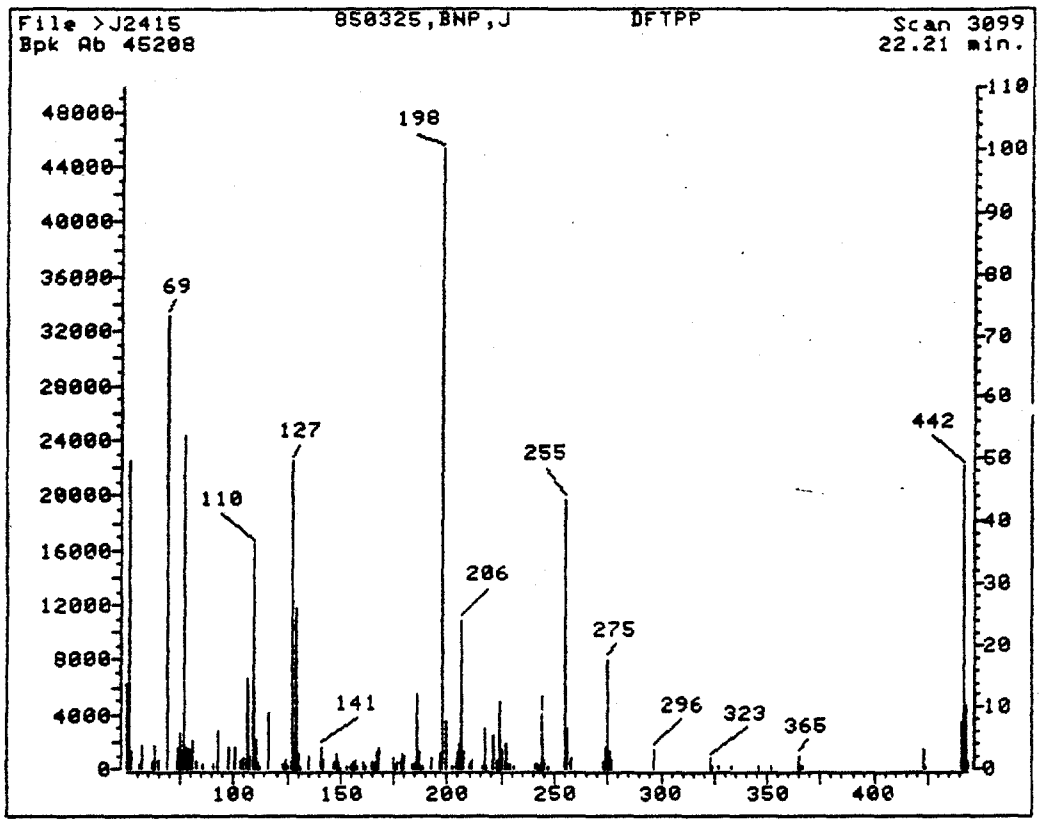


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	49.57	49.57	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	73.28	73.28	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	49.67	49.67	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	7.82	7.82	Ok
275	10-30% of mass 198	17.57	17.57	Ok
365	Greater then 1% of mass 198	2.21	2.21	Ok
441	Less then mass 443	7.49	73.87	Ok
442	Greater then 40% of mass 198	48.68	48.68	Ok
443	17-23% of mass 442	10.13	20.82	Ok

Injection Date: 03/26/85 Analyst: Tom Lusowicz
Injection Time: 15:03 Processor: Nita Mukherjee
Run No: >J2415 QC Batch: DB2634
Spectrun No: 3099 Samples: H2207-H2212, G9144, G9146-G9148, G9150, G9153, G997

300789

Relative Percent Difference (RPD) for VOA

Job Number	Account Name	Facility	Source	Date	Time
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440

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	3	6	67
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	1	6	143
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

300790

300791

Relative Percent Difference (RPD) for ACID

Job Number	Account Name	Facility	Source	Date	Time
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440

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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440

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
H2212	NJ DEP	NJDCOMBESO	XCONF	850321	1440

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

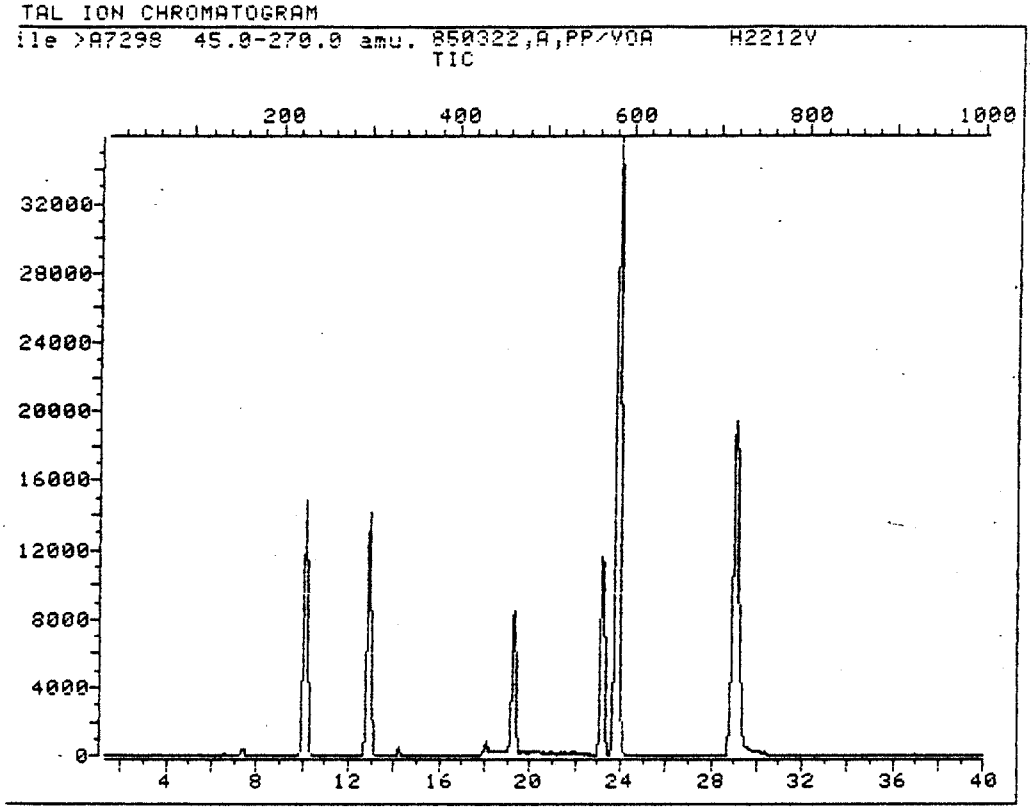
Mass Spectral Data for Quantitated Compounds

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.

300795

TAL ION CHROMATOGRAM



Data File: >A7298::U2
Name: 850322,A,PP/VOA
Misc: H2212V

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: TM0576
Quant Time: 850323 07:36

300796

QUANT REPORT

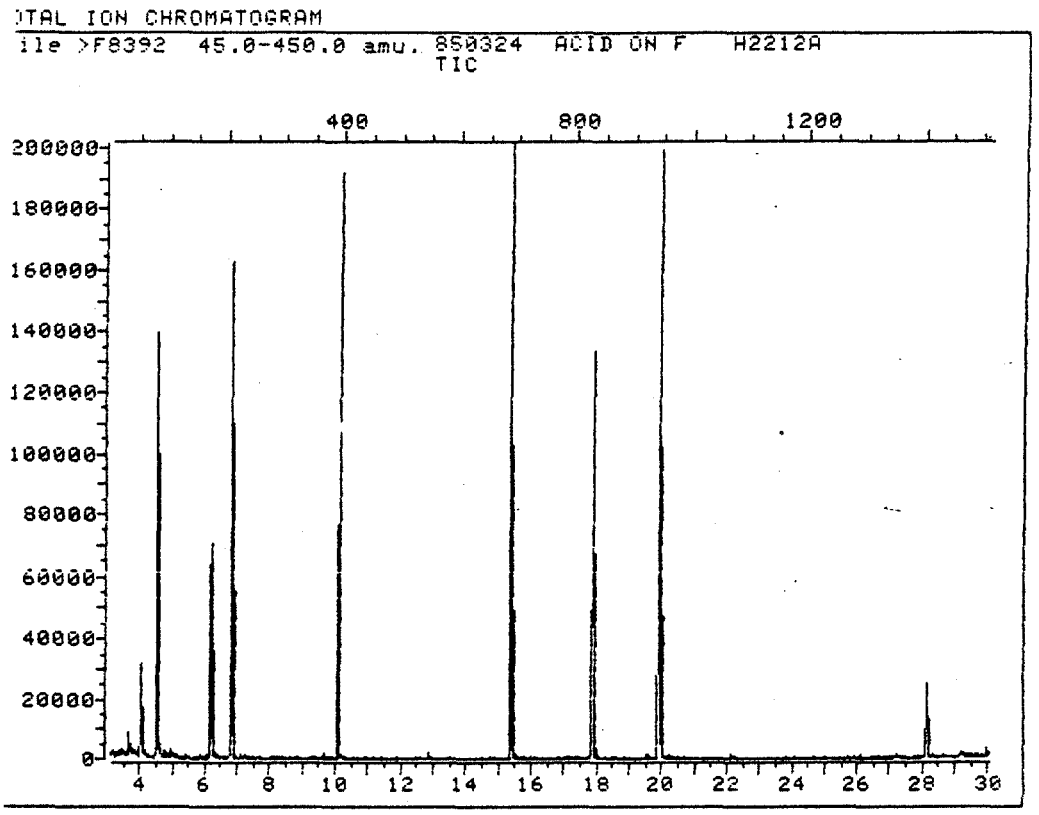
Operator ID: TM0576 Quant Rev: 3 Quant Time: 850323 07:36
Injected at: 850323 00:56
Data File: >A7298::U2 Dilution Factor: 1.00
Name: 850322,A,PP/VOA
Misc: H2212V

ID File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.29	468	57035	200.00	NG
34)	1,2-Dichloroethane-D4	12.89	302	34461	208.88	NG
35)	Toluene-D8	23.85	586	200015	215.70	NG
36)	p-Bromofluorobenzene	29.06	721	70851	~~201.89~~	NG 23
37)	*1,4-Dichlorobutane	23.19	569	73615	200.00	NG

* Compound is ISTD

300797



Data File: >F8392::U6
Name: 850324 ACID ON F
Misc: H2212A

BTL#13

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

Operator ID: KB5414
Quant Time: 850325 08:59

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:59
Injected at: 850325 08:27
Data File: >F8392::U6 Dilution Factor: 1.00
Name: 850324 ACID ON F
Misc: H2212A BTL#13

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850325 08:26

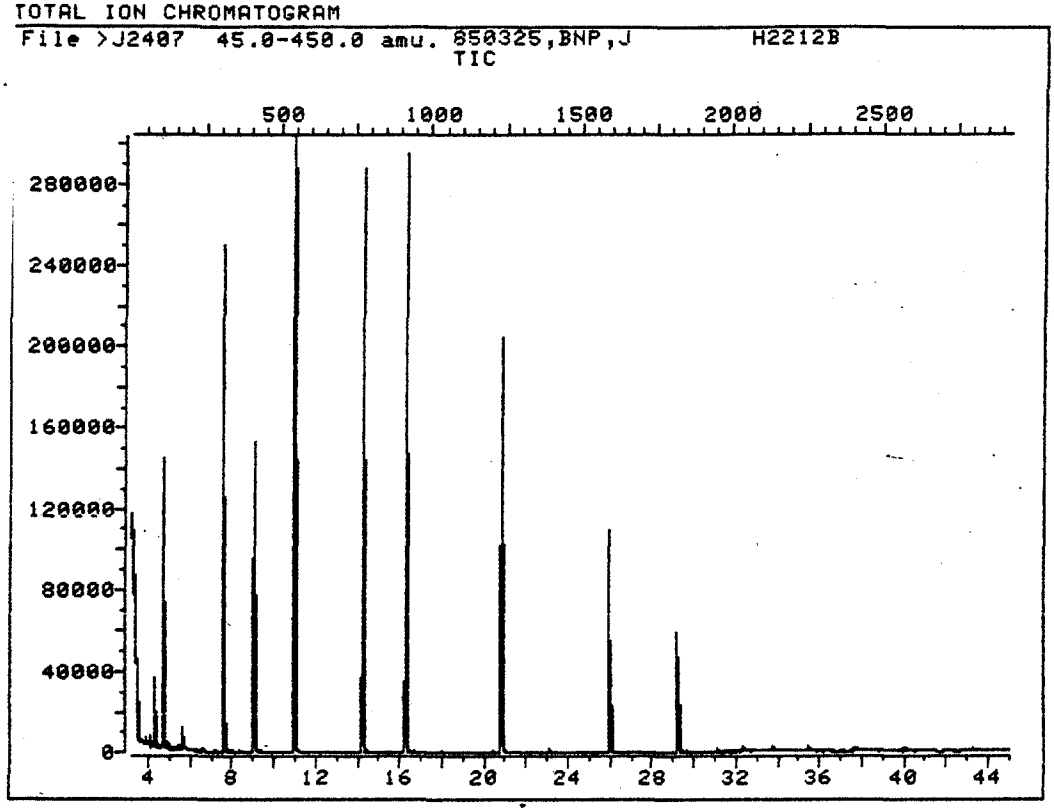
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.79	207	101514	40.00	UG/ML
3)	2-Fluorophenol	4.49	78	90405	56.20	UG/ML
5)	Phenol-D5	6.15	171	63950	37.12	UG/ML
6)	*d8-Naphthalene	10.06	391	214991	40.00	UG/ML
11)	*d10-Acenaphthalene	15.38	690	118304	40.00	UG/ML
16)	*d10-Phenanthrene	19.91	945	240478	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.85	829	43267	76.37	UG/ML

* Compound is ISTD

300799

TOTAL ION CHROMATOGRAM

File >J2407 45.0-450.0 amu. 850325,BNP,J H2212B
TIC



Data File: >J2407::U2
Name: 850325,BNP,J
Misc: H2212B

BTL#14

Id File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

Operator ID: TR9113
Quant Time: 850327 03:55

300800

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850327 03:55
Injected at: 850327 03:07
Data File: >J2407::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: H2212B BTL#14

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	114012	40.00	UG/ML
2)	N-Nitrosodimethylamine	3.31	11	1401	~~1.38~~	~~UG/ML~~
8)	Nitrobenzene-d5	8.97	407	159189	32.53	UG/ML
10)	*d8-Naphthalene	10.86	539	414739	40.00	UG/ML
11)	2-Fluorobiphenyl	14.20	773	258909	36.12	UG/ML
20)	*d10-Acenaphthalene	16.20	913	203947	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	35892	~~4.05~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.79	1234	270292	40.00	UG/ML
48)	Di-n-butyl phthalate	23.02	1390	4218	~~.44~~	~~UG/ML~~
58)	*d12-Chrysene	29.17	1820	76718	40.00	UG/ML
70)	Terphenyl-D14	25.95	1595	132564	53.46	UG/ML

* Compound is ISTD

300801

300801

Appendix B

GC/MS Calibration Data

300802

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File: >A7292
Injection Time: 850322 19:20

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.00738	.00759	2.87	Average	(Conc=4000.00)
Acrylonitrile	.01440	.01130	21.52	Average	(Conc=400.00)
Benzene	2.26343	2.36695	4.57	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.42598	.40933	3.91	Average	
Carbon tetrachloride	.70237	.66949	4.68	Average	
Chlorobenzene	1.52935	1.57670	3.10	Average	
Chlorodibromomethane	.69374	.70172	1.15	Average	
Chloroethane	.13254	.14557	9.83	Average	
2-Chloroethylvinyl ether	.29315	.31732	8.25	Average	
Chloroform	1.49245	1.60717	7.69	Average	
Dichlorobromomethane	1.00980	1.05578	4.55	Average	
Dichlorodifluoromethane	.16533	.15146	8.39	Average	
1,1-Dichloroethane	.97647	1.00277	2.69	Average	
1,2-Dichloroethane	.85557	.94816	10.82	Average	
1,1-Dichloroethylene	1.00001	.94938	5.06	Average	
1,2-Dichloropropane	.83951	.90397	7.68	Average	
trans-1,3-Dichloropropylene	.68624	.66508	3.08	Average	
cis-1,3-Dichloropropylene	-	-	-	Average	
Ethylbenzene	2.92450	3.04036	3.96	Average	
Methyl bromide	.14225	.13208	7.15	Average	
Methyl chloride	.44723	.43620	2.47	Average	
Methylene chloride	.14438	.18028	24.86	Average	
1,1,2,2-Tetrachloroethane	.83452	.93597	12.16	Average	
Tetrachloroethylene	.88116	.84556	4.04	Average	
Toluene	2.58175	2.63445	2.04	Average	
1,2-Trans-dichloroethylene	1.01197	.98718	2.45	Average	
1,1,1-Trichloroethane	.84920	.95146	12.04	Average	
1,1,2-Trichloroethane	.51355	.56918	10.83	Average	
Trichloroethylene	.56000	.55064	1.67	Average	
Trichlorofluoromethane	1.05182	1.04730	.43	Average	
Vinyl chloride	.23812	.23732	.33	Average	
1,2-Dichloroethane-D4	.46030	.48311	4.96	Average	(Conc=250.00)
Toluene-D8	2.83719	2.74046	3.41	Average	(Conc=250.00)
p-Bromofluorobenzene	1.06746	1.01404	5.00	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

300803

030

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850320 12:39

Check Standard Data File:)A7277
Injection Time: 850322 08.17

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
lein	.00738	.00884	19.87	Average	(Conc=4000.00)
lonitrile	.01440	.13271	821.63	Average	(Conc=400.00)
ene	2 26343	2.49908	10.41	Average	
(Chloromethyl)ether	-	-	-	Average	
oform	.42598	.44373	4.17	Average	
on tetrachloride	.70237	.73549	4.72	Average	
robenzene	1.52935	1.65404	8.15	Average	
rodibromomethane	.69374	.74853	7.90	Average	
roethane	.13254	.16074	21.27	Average	
loroethylvinyl ether	.29315	.34050	16.15	Average	
roform	1.49245	1.68143	12.66	Average	
lorobromomethane	1.00980	1.11452	10.37	Average	
lorodifluoromethane	.16533	.17440	5.49	Average	
-Dichloroethane	.97647	1.06009	8.56	Average	
-Dichloroethane	.85557	.99072	15.80	Average	
-Dichloroethylene	1.00001	1.02252	2.25	Average	
-Dichloropropane	.83951	.92571	10.27	Average	
ns-1,3-Dichloropropylene	.68624	.73263	6.76	Average	
-1,3-Dichloropropylene	.52512	.52617	.20	Average	
ylbenzene	2.92450	3.15306	7.82	Average	
yl bromide	.14225	.11614	18.35	Average	
hyl chloride	.44723	.53753	20.19	Average	
ylene chloride	.14438	.18617	28.94	Average	(1)
,2,2-Tetrachloroethane	.83452	.99819	19.61	Average	
achloroethylene	.88116	.89390	1.45	Average	
uene	2.58175	2.80600	8.69	Average	
-Trans-dichloroethylene	1.01197	1.03942	2.71	Average	
,1-Trichloroethane	.84920	.98838	16.39	Average	
,2-Trichloroethane	.51355	.58132	13.20	Average	
chloroethylene	.56000	.57108	1.98	Average	
chlorofluoromethane	1.05182	1.12827	7.27	Average	
yl chloride	.23812	.25087	5.35	Average	
-Dichloroethane-D4	.46030	.47036	2.19	Average	(Conc=250.00)
uene-D8	2.83719	2.69823	4.90	Average	(Conc=250.00)
omofluorobenzene	1.06746	1.00031	6.29	Average	(Conc=250.00)
,1,2-Tetrachloroethane	-	-	-	Average	
rene	-	-	-	Average	
-Dibromo-3-Chloropropane	-	-	-	Average	
mobenzene	-	-	-	Average	
hlorotoluene	-	-	-	Average	
hlorotoluene	-	-	-	Average	
a-Xylene	-	-	-	Average	(Conc=75.00)
ho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
pylbenzene	-	-	-	Average	

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

iff - % Difference from original average or curve

300804

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850325 08:25

Files: >F8381 >F8382 >F8380

Compound	RF 60.00	RF 100.00	RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.76356	.83867	.74054	.944	.78093	6.571	
Phenol	.75362	.79100	.76738	.913	.77067	2.453	
2,4-Dichlorophenol	.27080	.29320	.24170	.969	.26857	9.615	
2,4-Dimethylphenol	.33404	.37237	.31240	.926	.33960	8.943	
2-Nitrophenol	.17761	.20297	.18032	.904	.18697	7.446	
p-Chloro-m-cresol	.31219	.32754	.28079	1.190	.30684	7.766	
4,6-Dinitro-o-cresol	.22647	.29143	.30170	1.136	.27320	14.933	
2,4-Dinitrophenol	.13182	.16687	.21471	1.025	.17113	24.313	
4-Nitrophenol	.26598	.30397	.30452	1.049	.29149	7.580	
2,4,6-Trichlorophenol	.34641	.38430	.31699	.856	.34923	9.662	
Pentachlorophenol	.11444	.13158	.11626	.984	.12076	7.798	
2-Fluorophenol	.59468	.66553	.64127	.660	.63382	5.681	(Conc=100.0,100.0,100.0)
Phenol-D5	.64038	.68374	.71218	.908	.67876	5.327	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.08766	.10429	.09077	.898	.09424	9.378	(Conc=100.0,100.0,100.0)

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

300805

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
trosodimethylamine	-	-	-	-	-	-	-	
2-Chloroethyl) ether	2.00571	2.13516	2.14932	-	.938	2.09673	3.775	
-Dichlorobenzene	1.60123	1.75494	1.77725	-	.989	1.71114	5.601	
-Dichlorobenzene	1.75399	1.93459	2.03805	-	1.006	1.90888	7.531	
-Dichlorobenzene	1.73350	1.86518	1.91383	-	1.064	1.83750	5.078	
obenzene-d5	1.69135	1.72120	1.73779	-	1.197	1.71678	1.371	(Conc=50.0,50.0,50.0,50.0)
2-Chloroisopropyl)ether	.29921	.32213	.30814	-	1.106	.30983	3.728	
luorobiphenyl	.66715	.69963	.70722	-	1.304	.69133	3.079	(Conc=50.0,50.0,50.0,50.0)
itrosodi-n-propylamine	.29042	.31573	.26633	-	.804	.29083	8.493	
chloroethane	.11149	.11314	.11990	-	.804	.11485	3.882	
obenzene	.48705	.53837	.56214	-	.834	.52918	7.252	
horone	.67764	.67101	.71173	-	.890	.68679	3.181	
(2-Chloroethoxy)methane	.45639	.50623	.48037	-	.954	.48100	5.183	
,4-Trichlorobenzene	.26105	.27492	.30311	-	.990	.27969	7.664	
thalene	1.08256	.90528	1.17031	-	1.007	1.05272	12.825	
chlorobutadiene	.15405	.15124	.16945	-	1.056	.15825	6.196	
chlorocyclopentadiene	.24847	.32158	.36148	-	.843	.31051	18.458	
loronaphthalene	1.16971	1.38547	1.51546	-	.891	1.35688	12.871	
thyl phthalate	1.58204	1.83228	1.80250	-	.970	1.73894	7.861	
naphthylene	2.31351	2.36939	2.78464	-	.971	2.48918	10.341	
-Dinitrotoluene	.30296	.35086	.35578	-	.982	.33653	8.670	
naphthene	1.50394	1.69463	1.69863	-	1.008	1.63240	6.816	
-Dinitrotoluene	.24610	.30466	.32313	-	1.053	.29130	13.805	
thyl phthalate	1.49776	1.63907	1.72022	-	1.107	1.61901	6.953	
orene	1.31068	1.48414	1.51338	-	1.105	1.43606	7.630	
hlorophenyl phenyl ether	.47471	.55595	.59740	-	1.110	.54269	11.501	
itrosodiphenylamine	.58147	.75207	.84103	-	1.136	.72486	18.197	
-Diphenylhydrazine	1.46457	1.71293	1.97610	-	1.140	1.71787	14.891	
romophenyl phenyl ether	.21467	.26327	.28297	-	.937	.25363	13.860	
achlorobenzene	.25084	.26391	.26410	-	.956	.25962	2.927	
nanthrene	.95335	1.12081	1.16894	-	1.004	1.08103	10.469	
hracene	1.08936	1.31865	1.38202	-	1.012	1.26334	12.188	
n-butyl phthalate	1.24755	1.39169	1.57505	-	1.108	1.40476	11.685	
oranthene	.71240	.79531	.92843	-	1.185	.81205	13.421	
zidine	.00355	.01784	.15308	-	1.211	.05816	141.884	
ene	.67249	.74158	.85998	-	1.218	.75802	12.509	
ha-BHC	.17577	.18898	-	.27508	.944	.21328	25.287	
a-BHC	.15025	.14853	-	-	.989	.14939	.814	
ma-BHC	.15025	.14853	-	.23212	.989	.17697	26.994	
ta-BHC	.09342	.09507	-	.16687	1.020	.11845	35.406	
tachlor	.25255	.29932	-	.42292	1.082	.32493	27.089	
lrin	.18976	.19480	-	.27049	1.127	.21835	20.711	
tachlor epoxide	.08211	.06374	-	.14081	.838	.09555	42.131	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

300806

Calibration Report

Title: B/N+PEST ID FILE .....MASTER, 850119
Calibrated: 850326 15:20

Compound	Files: >J2394 RF 60.00	>J2395 RF 100.00	>J2396 RF 200.00	>J2397 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.03711	.03503	-	.13780	.859	.06998	83.943	
Endosulfan I	.10145	.07596	-	.12209	.871	.09983	23.145	
4,4'-DDE	.53392	.44356	-	.73316	.889	.57021	25.986	
Dieldrin	.72347	.58904	-	.77568	.893	.69606	13.834	
Endrin	.06811	.06033	-	.07807	.912	.06884	12.914	
Endosulfan II	.07236	.07841	-	.09781	.920	.08286	16.048	
4,4'-DDD	.72215	.67457	-	1.06136	.924	.81936	25.742	
Endrin aldehyde	-	-	-	.27225	.937	.27225	-	
4,4'-DDT	.62198	.60434	-	.95673	.955	.72769	27.285	
Endosulfan sulfate	.11604	.10426	-	.19246	.955	.13759	34.804	
Terphenyl-D14	1.45457	1.33032	1.09364	-	.889	1.29285	14.183	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.01276	1.16971	1.04826	-	.949	1.07691	7.643	
Benzo(a)anthracene	1.20557	1.38543	1.36745	-	.998	1.31948	7.508	
Chrysene	1.24619	1.28462	1.20289	-	1.003	1.24457	3.286	
3,3'-Dichlorobenzidine	.14238	.25873	.37811	-	1.000	.25974	45.379	
bis(2-Ethylhexyl)phthalate	1.28539	1.61735	1.47943	-	1.016	1.46072	11.417	
Di-n-octyl phthalate	1.74922	2.60869	2.56817	-	1.078	2.30869	21.005	
Benzo(b)fluoroanthene	.91095	1.21683	-	-	1.109	1.06389	20.330	
Benzo(k)fluoranthene	1.04272	1.11371	-	-	1.112	1.07822	4.656	
Benzo(a)pyrene	.86854	1.02772	1.08836	-	1.144	.99487	11.412	
Indeno(1,2,3-c,d)pyrene	.93919	1.21051	1.36545	-	1.293	1.17172	18.414	
Dibenzo(a,h)anthracene	.68069	.87789	1.03428	-	1.296	.86429	20.501	
Benzo(ghi)perylene	.73653	.90724	1.01704	-	1.333	.88694	15.937	
1,2,3,4-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
1,2,3,5-Tetrachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)
Pentachlorobenzene	-	-	-	-	-	-	-	(Conc=30.0,100.0,300.0,)

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

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

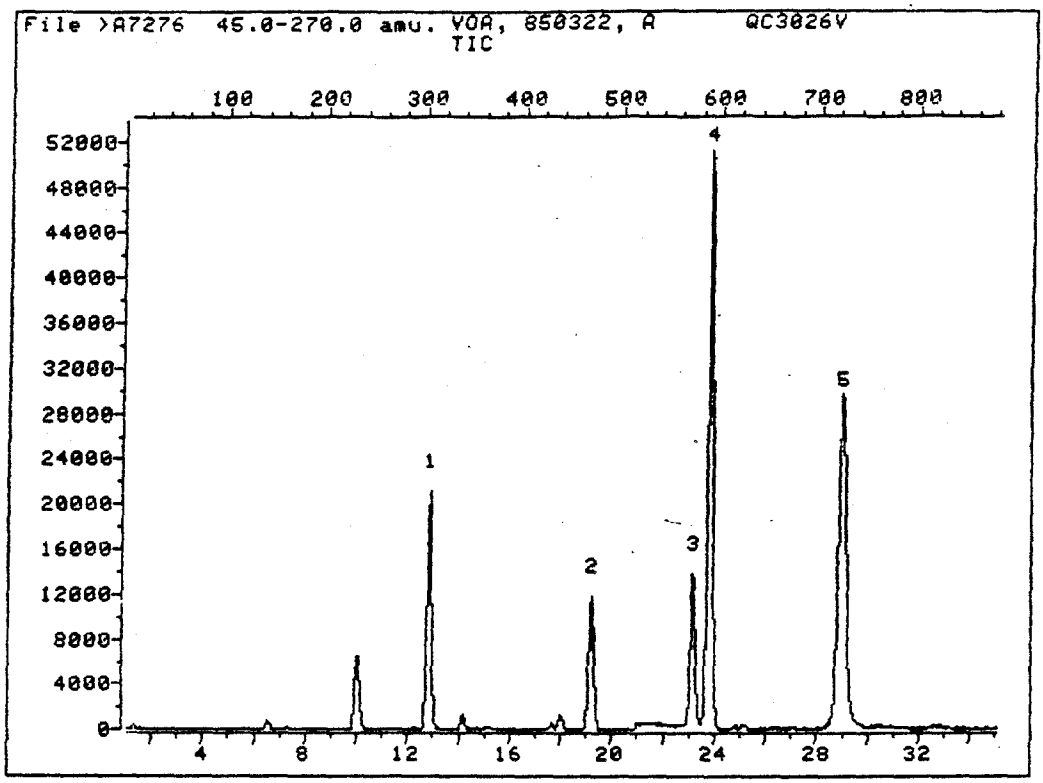
$\overline{RF}$ - Average Response Factor

300807

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7276::U2
Name: VOA, 850322, A
Misc Data: QC3026V

300809

QUANT REPORT

ator ID: TM0576 Quant Rev: 3 Quant Time: 850322 09:12
Injected at: 850322 07:30
File: >A7276::U2 Dilution Factor: 1.00
: VOA, 850322, A
: QC3026V

ile: AVOA
e: IDFILE FOR PP VOAS
Calibration: 850322 09:12

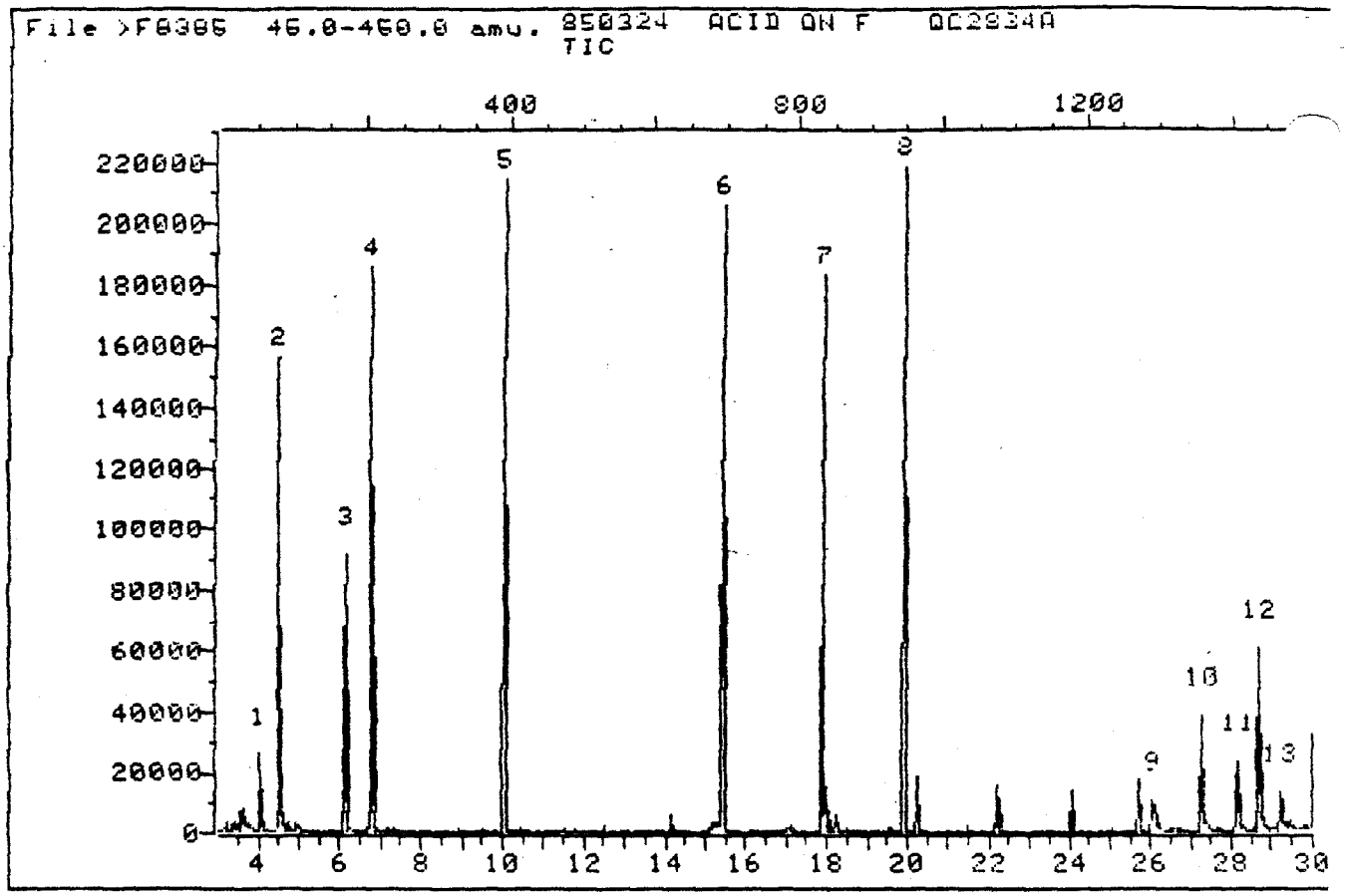
Compound	R.T.	Scan#	Area	Conc	Units	
*2-Bromo-1-chloropropane	19.21	471	67258	200.00	NG	
Carbon tetrachloride	14.19	341	495	~~2.10~~	~~NG~~	
Toluene	23.95	594	2353	~~2.71~~	~~NG~~	
1,1,1-Trichloroethane	14.19	341	5363	18.78	NG	✓
1,2-Dichloroethane-D4	12.84	306	48637	250.00	NG	
Toluene-D8	23.80	590	273371	250.00	NG	
p-Bromofluorobenzene	28.97	724	103458	250.00	NG	
*1,4-Dichlorobutane	23.14	573	85458	200.00	NG	

ompound is ISTD

300E

300810

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A

RTL#

300811

QUANT REPORT

ator ID: KB5414 Quant Rev: 3 Quant Time: 850325 08:36
Injected at: 850325 04:02
File: >F8385::U6 Dilution Factor: 1.00
: 850324 ACID ON F
: QC2834A BTL# 6

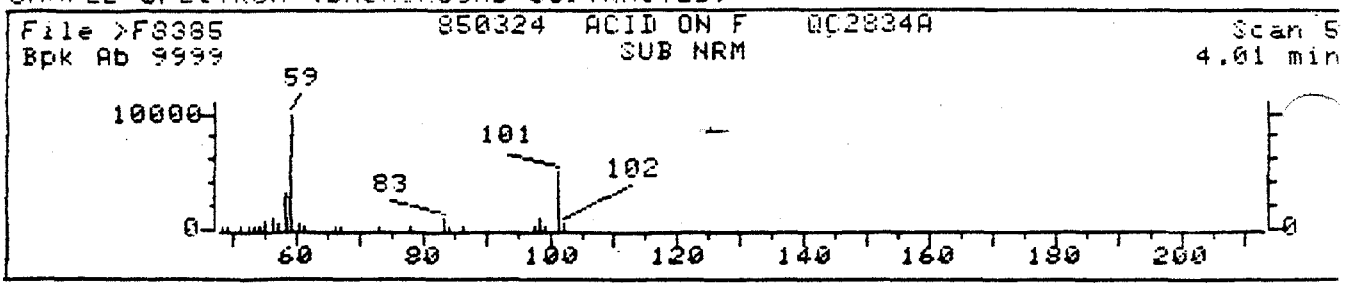
ile: FACID
e: ACID ID FILE.....3/15/85,#F,WWC
Calibration: 850325 08:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.75	207	114254	40.00	UG/ML
2-Fluorophenol	4.45	78	113153	62.50	UG/ML
Phenol-D5	6.12	172	81565	42.07	UG/ML
Phenol-D5	6.75	207	819	.42	UG/ML
*d8-Naphthalene	10.04	392	247294	40.00	UG/ML
*d10-Acenaphthalene	15.41	694	136968	40.00	UG/ML
*d10-Phenanthrene	19.91	947	272572	40.00	UG/ML
2,4,6-Tribromophenol	17.88	833	55655	86.67	UG/ML

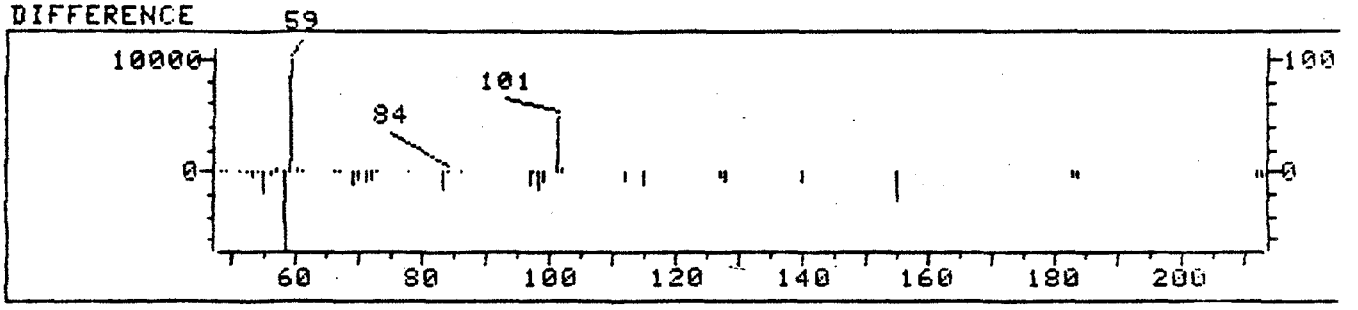
Compound is ISTD

300812

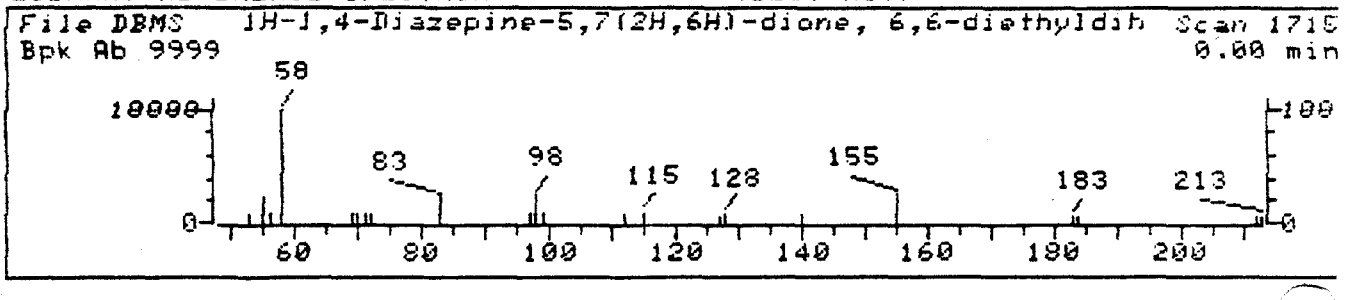
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8385::U6
Name: 850324 ACID ON F
Misc Data: QC2834A BTL#
RT (min): 4.01
Scan: 53
Area: 67198
Semi-quantitative Conc: 5.35 UG/ML

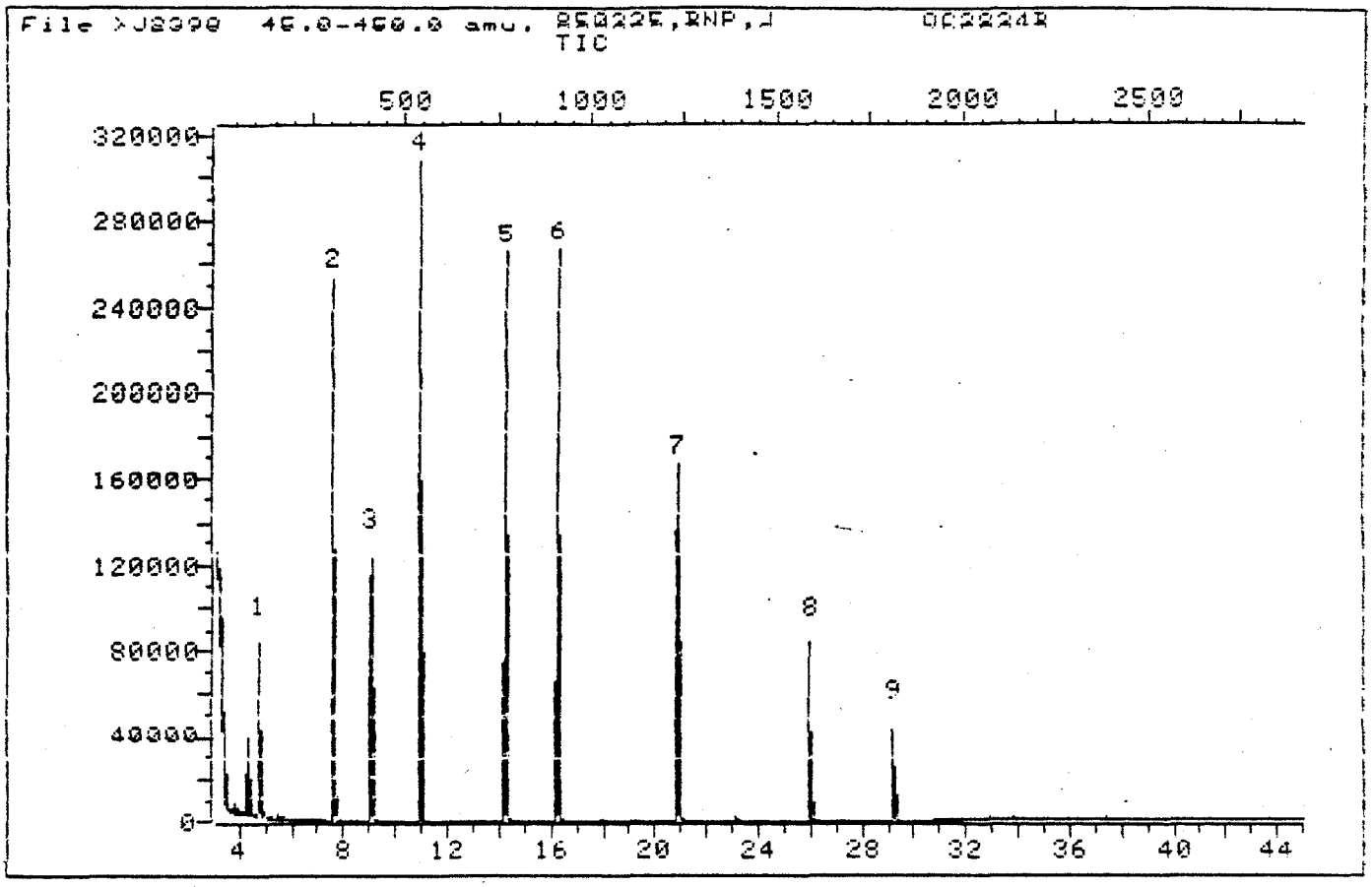
Data File: >F8385 Scan Number: 53
Search Speed: 2 Titling option: S Number of ion ranges searched: 5

1. 1H-1,4-Diazepine-5,7(2H,6H)-dione, 6,6-diethyldihydr 212 C11H20N202
o-2,2-dimethyl- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	36	69315931	38	51	0	-2

300813

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B

BTL# 5

300814

QUANT REPORT

Operator ID: TR9113 Quant Rev: 3 Quant Time: 850326 16:45
Injected at: 850326 15:57
Data File: >J2398::U2 Dilution Factor: 1.00
Name: 850325,BNP,J
Misc: QC2834B BTL# 5

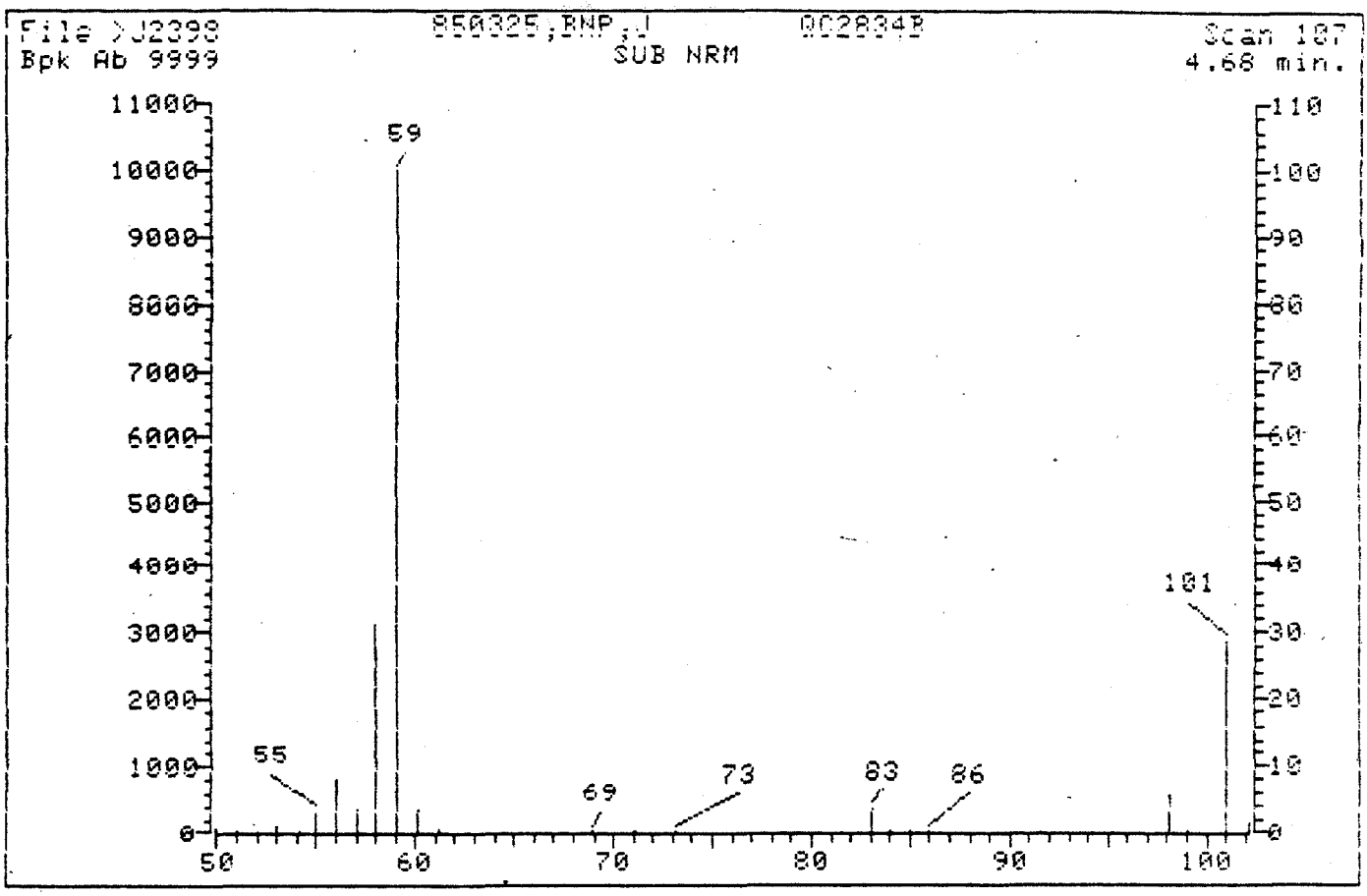
5086AA

ID File: JBNP
Title: B/N/P FRACTION ID FILE....3/16/85,#J,WWC
Last Calibration: 850326 15:40

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.52	306	104366	40.00	UG/ML
8)	Nitrobenzene-d5	8.97	407	127170	28.39	UG/ML
10)	*d8-Naphthalene	10.85	539	393618	40.00	UG/ML
11)	2-Fluorobiphenyl	14.19	772	234312	34.44	UG/ML
12)	N-Nitrosodi-n-propylamine	8.97	407	15690	~~5.48~~	~~UG/ML~~
20)	*d10-Acenaphthalene	16.20	913	183550	40.00	UG/ML
23)	Dimethyl phthalate	16.20	913	32456	~~4.07~~	~~UG/ML~~
43)	*d10-Phenanthrene	20.78	1233	225585	40.00	UG/ML
48)	Di-n-butyl phthalate	23.01	1389	6268	.79	UG/ML
58)	*d12-Chrysene	29.15	1819	59669	40.00	UG/ML
70)	Terphenyl-D14	25.94	1594	103871	53.86	UG/ML

* Compound is ISTD

300815



Data File: >J2398::U2
Name: 850325,BNP,J
Misc Data: QC2834B BTL# 5
RT (min): 4.68
Scan: 107
Area: 155021
Semi-quantitative Conc: 7.73 UG/ML

No PBM hits for this scan.

300816

Appendix C

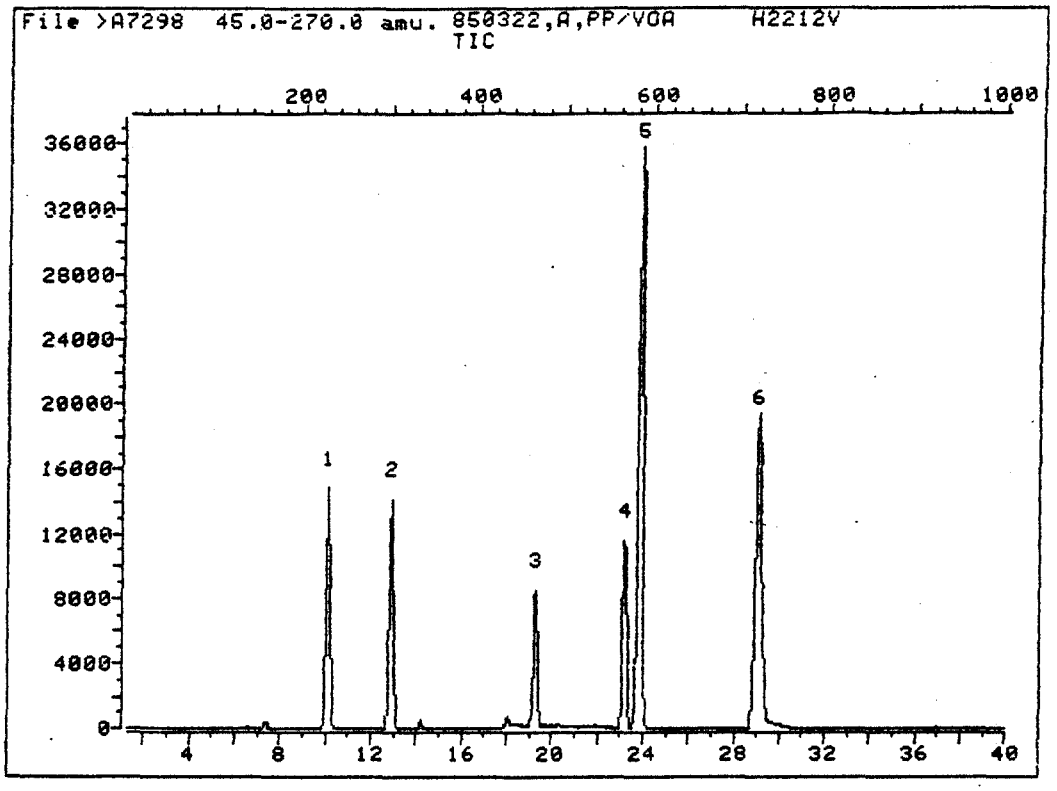
Mass Spectral Data for Tentatively Identified Compounds

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.

300817

300

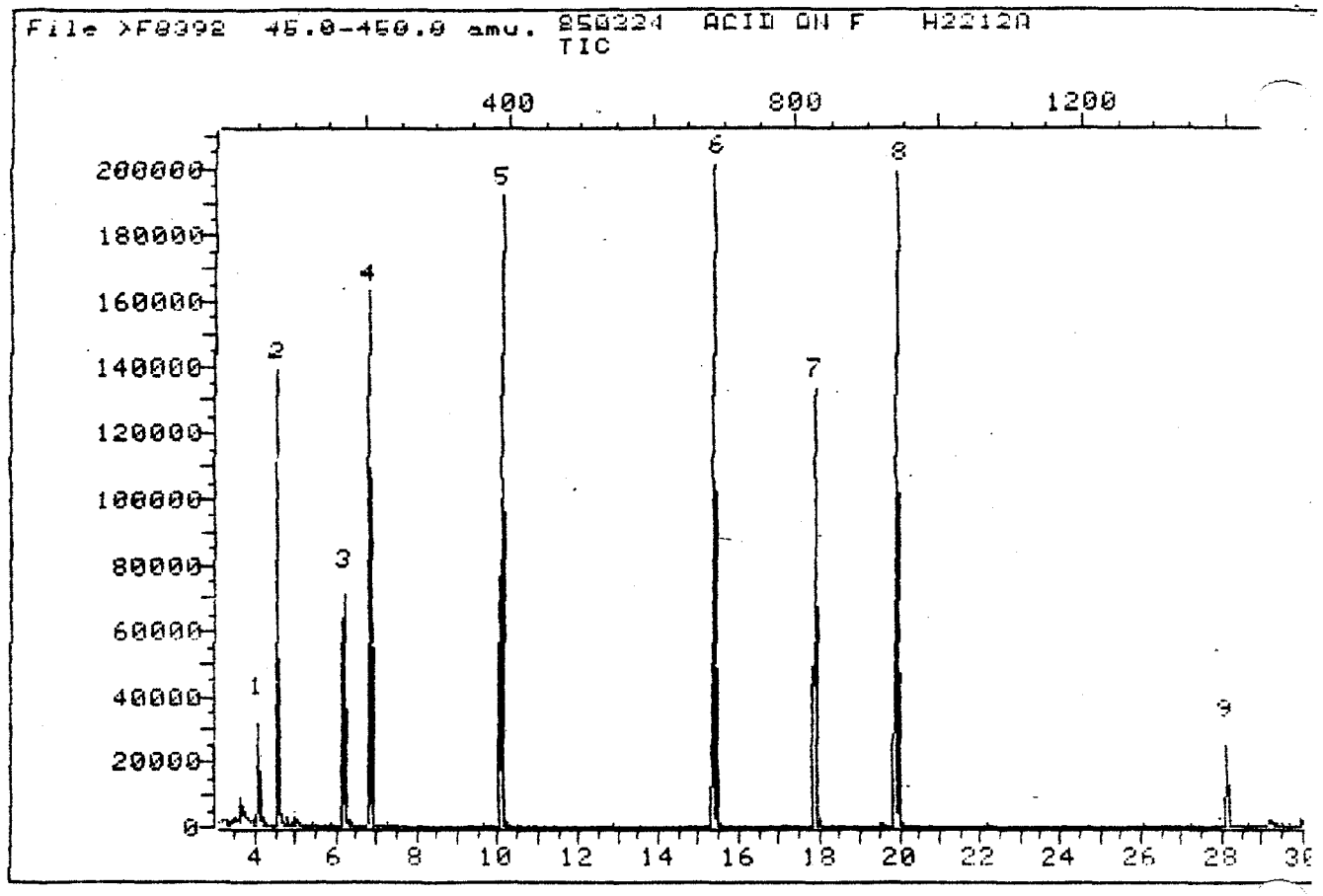
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7298::U2
Name: 850322,A,PP/VOA
Misc Data: H2212V

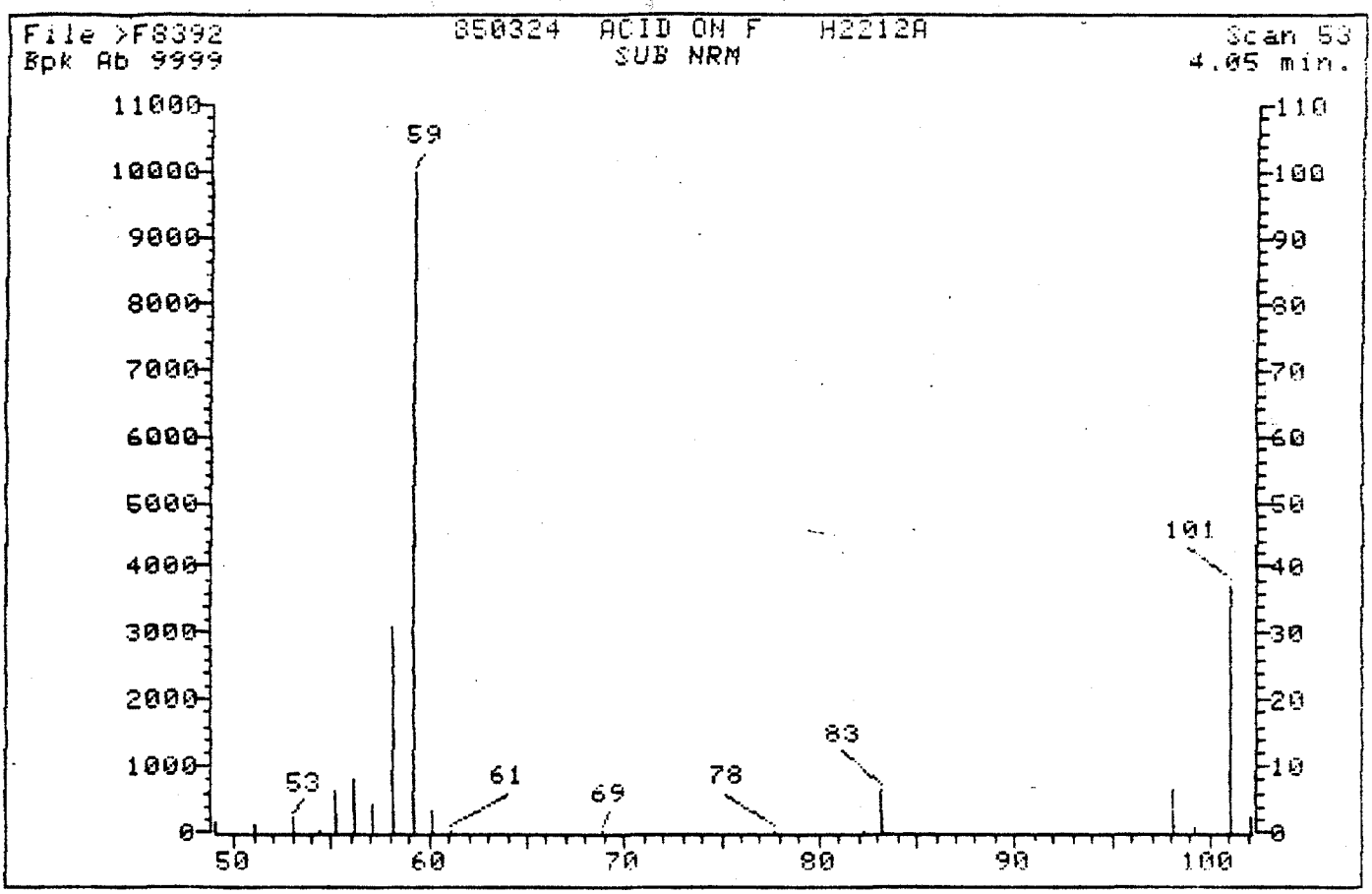
300818

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8392::U6
Name: 850324 ACID ON F
Misc Data: H2212A

BTL#



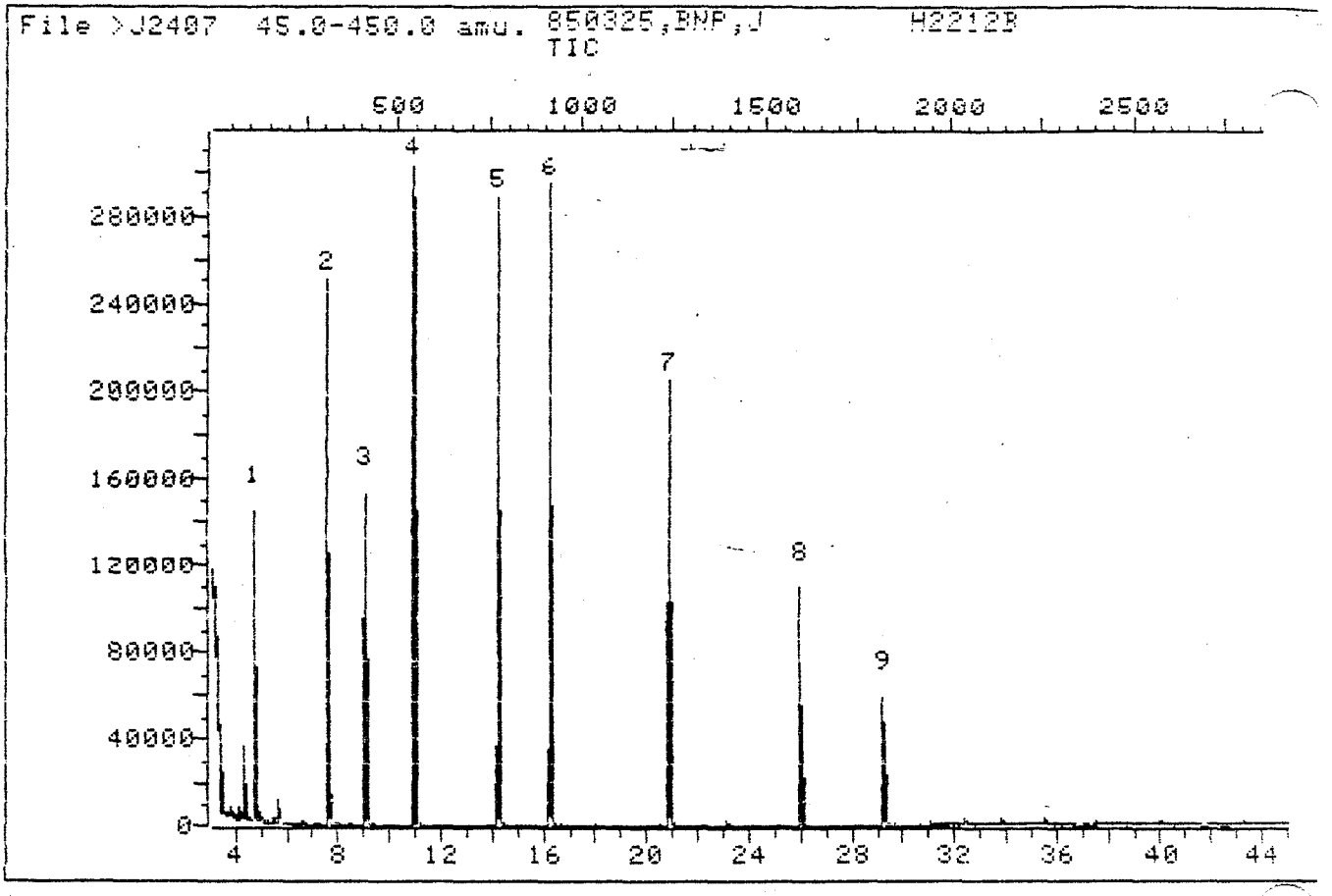
Data File: >F8392::U6
Name: 850324 ACID ON F
Misc Data: H2212A
RT (min): 4.05
Scan: 53
Area: 62270
Semi-quantitative Conc: 5.71 UG/ML

BTL#13

No PBM hits for this scan.

300820

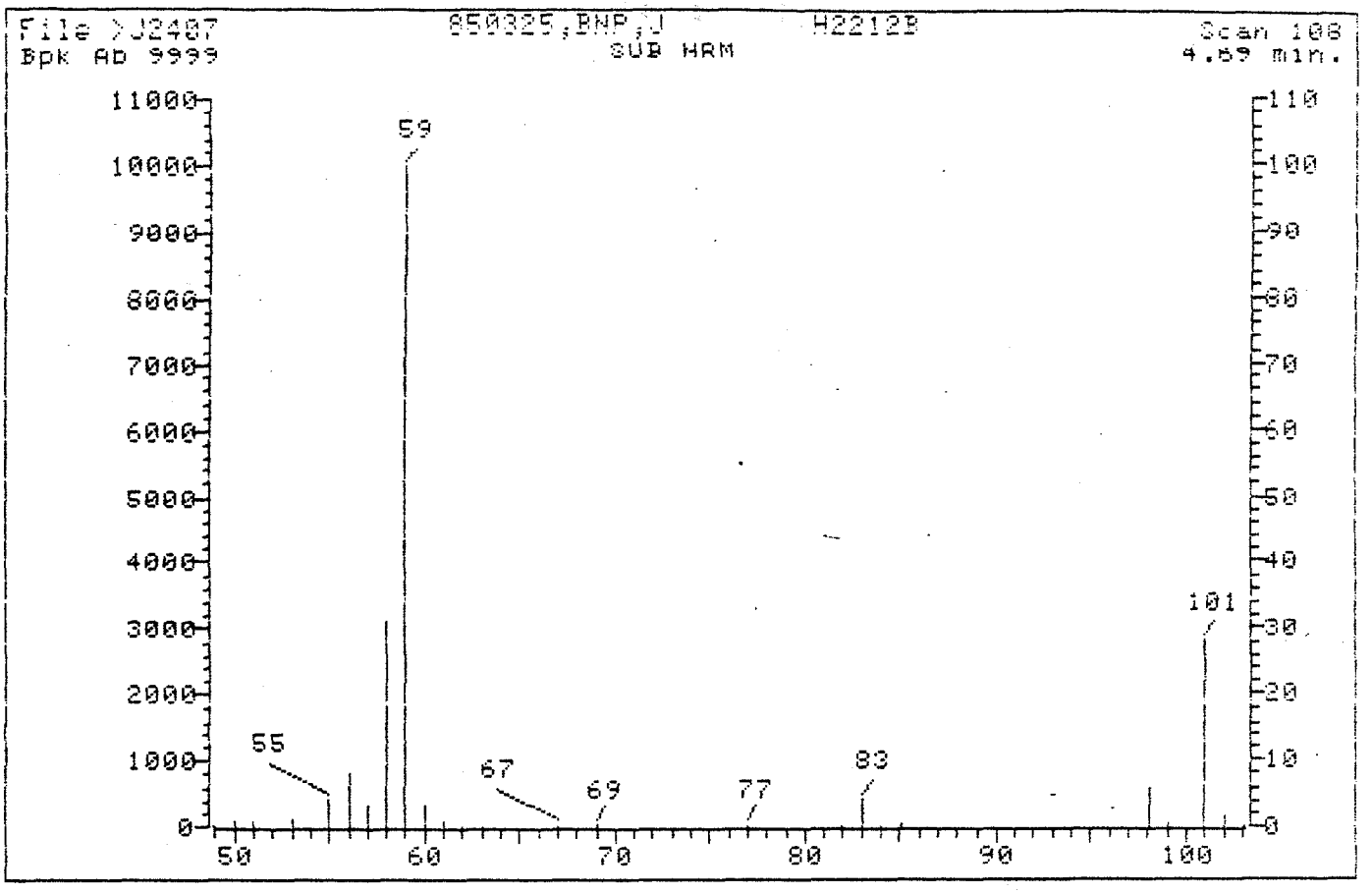
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >J2407::U2
Name: 850325,BNP,J
Misc Data: H2212B

BTL#1

300821



Data File: >J2407::U2
Name: 850325,BNP,J
Misc Data: H2212B
RT (min): 4.69
Scan: 108
Area: 254243
Semi-quantitative Conc: 11.43 UG/ML

BTL#14

No PBM hits for this scan.

300822

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.

300823

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV.

ETC Job # 141212121

ID: L85253-A6

Submitted by: MW CHEM

Date: 3/26/85

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 MAR 27 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			

300824

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.

300825

ETC ENVIRONMENTAL TESTING and CERTIFICATION Shuttle B

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28537 ETC Job # H2212

Date Sealed 3-20-85 By: [signature]

Company: NJDEP

Attn.: Joe Buttich

Facility/Site: _____

Phone: ( )

Address: Trenton NJ

SAMPLE IDENTIFICATION

Facility: UNIVERSITY H

Facility/Site Code

Sample Point: K - GOW K

Source Code (from below) | Your Sample Point ID (left justify)

(Optional Sample Point Descriptions)

03/21/85 | 1440

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 SHUTTLE

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	Iced	Extractable / Field blank		DUPLICATE IN	
1	M	1L	HNO3	Metals /		VOA TRIP	
1	PN	1L	H2SO4	Phenols /		40 ml	
1	CN	500ml	NaOH	Cyanide /			
2	V	40ml	Sod thio	VOA /			
1	TB	40ml	GC/MS H2O	Trip blank			Received

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) C.F. Lowry Date: 3/21/85 Time: 1440
   Signature: [signature] Seal #: 028537 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: 300826
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) C.F. Lowry Date: 3/21/85 Time: 1500
   Signature: [signature] Seal #: 028536 Intact: yes

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 800

Seal #: 2853[illegible] Condition: Intact

300826

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2212B

Sample Point [ ] (Source Code) [ ] (Sample Point ID)

FIELD PROCEDURES

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

SAMPLING METHOD: FIELD BLANK

Sampler Type [V]: A-Submersible Pump, B-ISCO, C-Bladder Pump, D-Dipper/Bottle, E-Bailer, F-Scoop/Shovel, X-Other FIELD BLANK (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) [ ] Well Depth (ft) [ ]

Depth to Ground water (ft) [ ] Sample Depth (non-well) (ft) [ ]

Groundwater Elevation (ft msl) [ ]

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

Sample Temp [ ] (°C) Turbidity [ ] NTU

FIELD COMMENTS

Sample Appearance: clear

Weather Conditions: clear 41°F

Other:

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

Sampler (Print): C F Ludwig Employer: ETC

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

5/21/85 (Date) (Signature)

300827

300828

-MS ANALYSIS CUSTODY LOG

TE 3/22/85 SHIFT ___
ACTION VOA
STRUMENT A
NE FILE AFE101
QUENCE FILE SEQ
THOD FILE VOAA
FILE AVOA
ALYST(S) S. Johnston
PERVISOR [illegible]
TCH #'s QV3026

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
Q	SJ	DATE	3/22
P	PC	BY	SJ

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ML

U_C P/VOA

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
BFB	>A7275	1.c			A00106	OK 5:30 AM 3/22	
QC3026V	>A7276	5ml			QC1 AB	3/22 0052 (0758)	
QC3026VS	>A7277	5ml			AC	SVL PBC (0817)	
P-BFB	>A7278	1.c				(09:11)	
4C291	>A7281	5ml	1	OK	AD		
4029IVS	>A7282		2	OK (TA)	AE	SVL ABC	
4C293	>A7283		3	OK	AH		
H0293VR	>A728[illegible]		4	OK	AG		
[illegible]0294	>A7285		5	OK	AH		
[illegible]0295	>A7286		6	OK	AI		
H0301	>A7287		7	OK	AJ		
H0302	>A7288		8	OK	AK		
[illegible]0304	>A7289		9	OK	A081 AL		
[illegible]0305	>A7290	↓	10	OK	AM		
P-BFB	>A7291	1ml			A00106	1830hr	
QC3026VS	>A7292	FAST				SVL 3/22 1928	
[illegible]2207	>A7293		1		AH		
H2208	>A7294		2		AI		
H2209	>A7295		3		AJ		
H2210	>A7296		4		AK		
H2211	>A7297		5		A082 AL		
H2212	>A7298		6		AM		
H2[illegible]3	>A7299		7		AN		
H2[illegible]4	>A7[illegible]		8		AO		
H2[illegible]5	>A7[illegible]		9		AP		
[illegible]2206	[illegible]		IN		055	[illegible]	

EXTRACTION LOG

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg

Date: 3/23/85

Extraction Method:
- Sep funnel ✓
- continuous
- soxhlet
- other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H1801	8652	950	~~~	~~~	Could not get emulsion to separate
G3877	8492	1000	✓	1.0	
H2207	8682	~~890~~	1.0	1.0	
H2208	"	~~1000~~	1.0	1.0	
H2209		1000	1.0	1.0	
H2210		~~1000~~ 950	1.0	1.0	
H2211		~~950~~ 1000	1.0	1.0	
H2212	✓	~~1000~~ 980	1.0	1.0	
G8833	8354	980	✓	1.0	
G9144		940	1.0	✓	
G9146		830	1.0	✓	
G9147		830	1.0	✓	
G9148		950	1.0	✓	
G9150		950	1.0	✓	
G9153		1000	1.0	✓	
G9970		1000	10.0	1.0	
QC 2834		1000	1.0	1.0	
QC 2834 S		1000	1.0	1.0	
H2211 S		1000	1.0	1.0	
H2211 R		1000	1.0	1.0	

COMMENTS FOR EXTRACT.

* PP/T: H1801, H2207

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 53

PP/org: G9970

COMMENTS FOR GC/MS:

H1801 EXTRACTED BY CONTINUOUS: QC2843

300829

FRACTION	SPIKE Amt (ml)	SPIKE Conc (ug/ml)	SPIKE Lot #
ACID	1.0	100	9700
Aroclor 1260	1.0	100	9763
BN PEST	1.0	100/200	9817 10190

SURROGATE Amt. (ml)	Conc.	L
1.0	BN: 50 ug/ml	10
	ACID: 100 ug/ml	

Set-up: [signature] 3/23/85 UPD/Supervisor: [signature] 3/

BN Conc.: [signature] 3/24/85

Acid Conc.: [signature] 3/24/85

Spike/Surr. verified: [signature] 7/25/85

A-A

EXTRACTION LOG: B-H

QC Batch # 2834

Analysis: *

Matrix: H_2O

Turnaround: Norm. + Emerg.

Date: 8/23/85

Extraction Method:
- sep funnel ✓
- continuous
- soxhlet
- other

Sample #	Log #	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
801	8652	950	—	—	Could not get emulsion to separate
877	8492	1000			
2207	8682	890	1.0	1.0	ABNA15
2208		1000	1.0		
2209		1000	1.0		
2210		850	1.0		
2211		950	1.0		
2212	↓	980	1.0		↓
8833	8354	960		↓	ACT1
9144	8481	940	1.0		
9146		830	1.0		
9147		830	1.0		
9148		850	1.0		
9150		850	1.0		
9153	↓	1000	1.0		
9970	8473	1000	10.0	1.0	
QC 2834		1000	1.0		
QC 2834 S		1000	1.0		
#2211 S		1000	1.0		
#2211 R		1000	1.0		

COMMENTS FOR EXTRACT.:

* PP/T: #1801, #2207-12

PP/Acid (repeat): G3877, G8833

PP/BN: G9144, 46-48, 50, 53

PP/org: G9970

COMMENTS FOR GC/MS:

300830

FRACTION	SPIKE Amt (ml)	Conc	Lot #
ACID	1.0	100	9700
Fraction 1 (BN)	1.0	100	9763
BN	1.0	100	9617
TEST	1.0	100/200	10190

SURROGATE	Amt. (ml)	Conc.	Lot #
057	1.0	BN: 50 ug/ml ACID: 100 ug/ml	10195

[illegible] 7/22/10

[illegible]/Supervisor

GC-MS ANALYSIS CUSTODY LOG

DATE 3/24-25/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE KSBF
METHOD FILE ACIDF
IDFILE FACID / FACHS
ANALYST(S) K S Bonanno
SUPERVISOR
BATCH #'s QA 7834
QA2814

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ	KSB	DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9834	2uL
ACID CAL I	60	5909	1mL
" " II	100	5910	
" " III	300	5911	
HSLPP ACID STD	300	9603	
" " STD	100	9604	
" " STD	60	9605	1mL
INT STD MIX	400	9653	100uL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLI Y/N
DFTPP							
ACID STD III	F8380		1				
" " I	F8381		2				
" " II	F8382		3				
H2211AS	F8383		4				
QC2834AS	F8384		5				
QC2834A	F8385		6				
H2211AR	F8386		7				
H2207A	F8387		8				
H2208A	F8388		9				
H2209A	F8389		10				
H2210A	F8390		11				
H2211A	F8391		12				
H2212A	F8392		13				
G3877A	F8393		14				
G9970A	F8394		15				
G8833A	F8395		16				
G9904A	F8396		17	10:1			
DFTPP	F8397		18				
ACIDCALII	F8398		19				
HSLPPACID300	F8399		20			FACHS	
HSLPPACID100	F8400		21			↓	

300832

MS ANALYSIS CUSTODY LOG

E 3/25/85 SHIFT ___
CTION ACID
TRUMENT E
E FILE MTF001
UENCE FILE KERF
HOD FILE ACIDF
ILE FACHS
LYST(S) KS Ronpaul
ERVISOR
CH #'s QA2834

(PLEASE INITIAL)

CURRENT MS STATUS	STANDARDS UPDATED
	DATE
	BY

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 1

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
SLPPAC1060	F8401		22				
5906AS	F8402		23				
2814AS	F8403		24				
SC2814A	F8404		25				Y
6891AR	F8405		26				
7232A	F8406		27				Y
5900A	F8407		28				
5901A	F8408		29				
5902A	F8409		30				
5903A	F8410		31				
5904A	F8411		32				
5905A	F8412		33				
5906A	F8413		34				
8832A	F8414		35				X
8890A	F8415		36				
DATPP	F8416		37				
AC10CALSTD	F8417		38				
7231A	F8418		39				Y
8914A	F8419		40				
8891A	F8420		41				
7230A	F8421		42				Y

TSR 8-84

300833

GC-MS ANALYSIS CUSTODY LOG

DATE 850325 SHIFT ___
FRACTION BNP
INSTRUMENT J
TUNE FILE MTJ004
SEQUENCE FILE TSR23
METHOD FILE JBNP
IDFILE BNPJ
ANALYST(S) Tom Rusowicz
SUPERVISOR [signature]
BATCH #'s ___

STANDARD	CONC PPM	LOT NO.	VOL

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACO	[signature]	DATE	
HIP		BY	

NAME	DATA FILE >J	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	2390	2	—			NG 1605 HRS
↓	2391	↓				NG
	2392					NG
↓	2393	↓			DON'T USE→	OK 1830 HRS
BNP CALIB STD I	2394		1			
BNP CALIB STD II	2395		2			
BN CALIB STD III	2396		3			
PEST CALIB STD IV	2397		4			
QC2834B	2398		5			QC2834B
QC2834BS	2399		6			
H2211BS	2400		7			EMERG.
H2207B	2401		8			
H2208B	2402		9			
H2209B	2403		10			
H2210B	2404		11			
H2211B	2405		12			
H2211BR	2406		13			
H2212B	2407		14			
69144B	2408		15			
69146B	2409		16			
69147B	2410		17			
69148B	2411		18			
69150B	2412		19			
69153B	2413		20			
69970B	2414		21		060	

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL 8683

Metals Analysis Custody Log

Samples H 2207 to H 2212

	Chemist	Date
Hg Prep	Dwayne G. Lehfeldt	3/22/85
AA/ICAP Prep	Maura Jean McClure	3/21/85

Lab Supervisor Lidya Wilson date 3/26/85

300834

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

300835

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2213	NJ DEP	NJDCOMBESO WLING FILTN		850321	1143	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

James N. Bowers

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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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

300839

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 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
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143	

300840

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	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	ND	2.80	5	7	BMDL	18	172b	5	18	53b
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

300840

a EPA ...ed Method Detection Limit.

b Rec...ormally variable using EPA Protocol Method 624.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 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
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	85032!	1143	

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	ND	ND	ND	100	86	ND	103	77
2A	2,4-Dichlorophenol	ND	3	ND	ND	ND	100	90	ND	103	82
3A	2,4-Dimethylphenol	ND	3	ND	ND	ND	100	90	ND	103	78
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	79	ND	103	86
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	43	ND	103	62
6A	2-Nitrophenol	ND	4	ND	ND	ND	100	85	ND	103	79
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	53	ND	103	55
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	101	ND	103	86
9A	Pentachlorophenol	ND	4	ND	ND	ND	100	83	ND	103	82
10A	Phenol	ND	2	ND	ND	ND	100	40	ND	103	58
11A	2,4,6-Trichlorophenol	ND	3	ND	ND	ND	100	87	ND	103	84

A EPA published Method Detection Limit.

300841

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10[e]	ND	103	9[e]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6.70	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 [c]	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 [c]	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	41	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 [c]	ND	ND	ND	100	3[e]	ND	103	35[e]
25B	Dimethyl phthalate	ND	10 [c]	ND	ND	ND	100	1[e]	ND	103	3[e]
26B	Di-n-butyl phthalate	ND	10 [c]	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 [c]	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

300842

300842

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27[B]	ND	103	43[B]
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24[B]	ND	103	32[B]
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

300843

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143	

NPDES Number	Compound	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 B	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

300844

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols – Analysis Data (QR05)

300845

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l							
1M	Antimony	ND	80							
2M	Arsenic	BMDL	5							
3M	Beryllium	ND	.60							
4M	Cadmium	ND	3							
5M	Chromium	ND	20							
6M	Copper	1000	10							
7M	Lead	ND	5							
8M	Mercury	ND	.30							
9M	Nickel	ND	10							
10M	Selenium	6.00	5							
11M	Silver	ND	8							
12M	Thallium	ND	5							
13M	Zinc	40	30							
14M	Cyanide, Total	<25	25							
15M	Phenolics, Total	<10	10							

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2213	NJ DEP	NJDCOMBESO	WLINGFILTN	850321	1143	

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

300846

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 1, 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
H2213	NJ DEP	NJDCOMBESO	WLINGFILTN	850321	1143	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
None Found								

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143	

	Compound Name	Data: Scan Number	Data: Retention Time (Min)	Data: M.W.	Identifiers: CAS Number	Identifiers: Empirical Formula	Estimated Conc. ug/l
1	Unknown	81	4.60	-	-	-	12

300848

Relative Percent Difference (RPD) for VOA

Job Number	Account Name	Facility	Source	Date	Time
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143

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	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	5	7	33
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	ND	0
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
H2213	NJ DEP	NJDCOMBESO	WLING FILTN	850321	1143

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

H2213 NJ DEP — Job Number / Account Name
NJDCOMBESO WLING FILTN 850321 1143 — Facility / Source / Date / Time

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

300851

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

H2213 NJ DEP — Job Number / Account Name

NJDCOMBESO WLING FILTN 850321 1143 — Facility Source / Date Time

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

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2213

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	112	86	119
Bromofluorobenzene	.250	112	85	121
1,2-Dichloroethane-D4	.250	104	77	120
ACID FRACTION				
Phenol-D5	100	26	15	103
2-Fluorophenol	100	42	23	121
2,4,6-Tribromophenol	100	56	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	76	41	120
2-Fluorobiphenyl	50	80	44	119
Terphenyl-D14	50	40	33	128

* IFB EPA Control Limits

300854

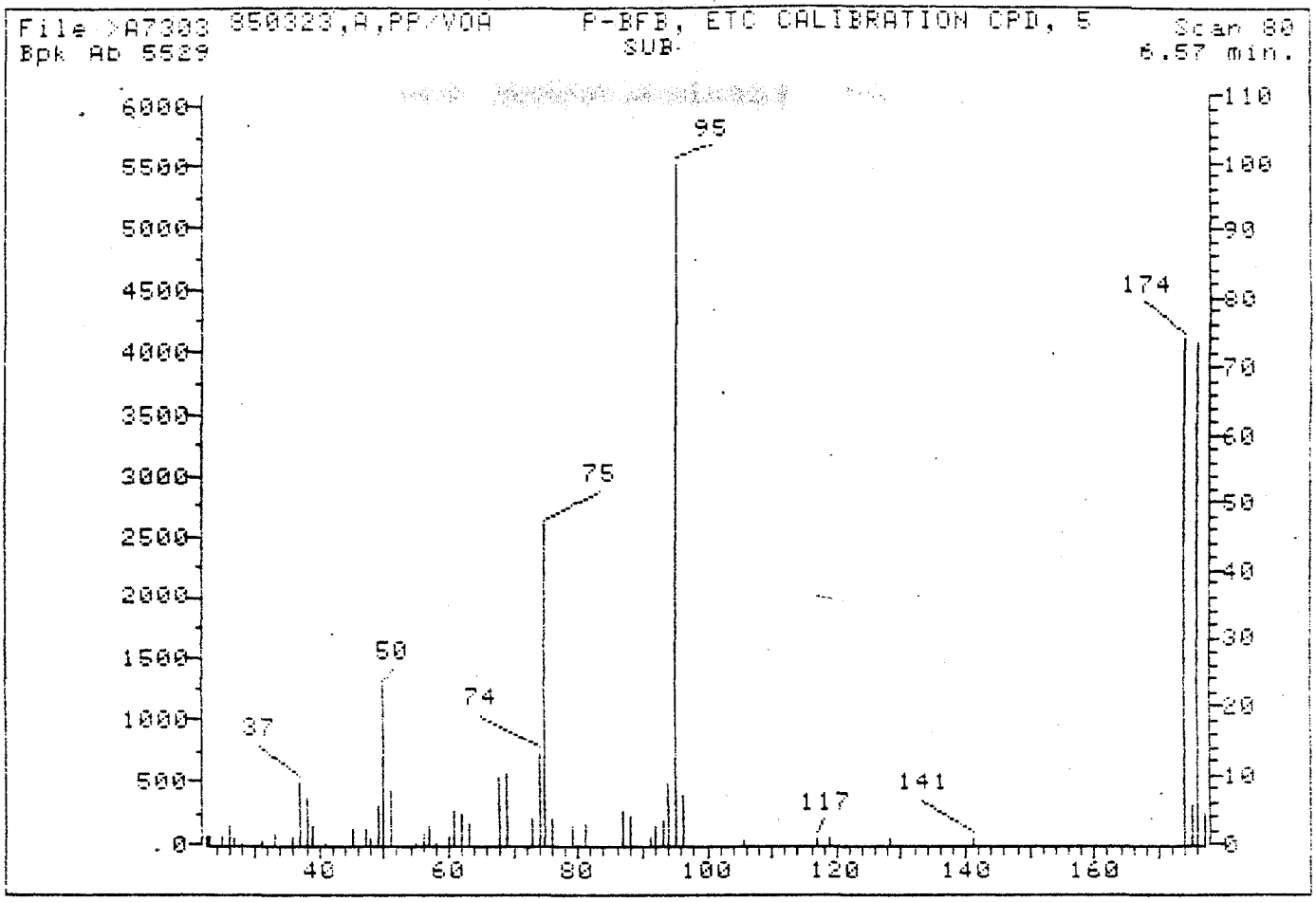


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
73	Less then 1% of mass 95	0.00	0.00	Ok
74	Greater then 50% of mass 95	74.14	74.14	Ok
75	5-9% of mass 174	5.46	7.37	Ok
76	95-101% of mass 174	73.36	98.95	Ok
77	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85 Analyst: Thomas M Mancuso
Injection Time: 08:09 Processor: Pearl Trent
Run No: >A7303 QC Batch: QV3033
Spectrun No: 80 Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0877, H0887, H0888.

300855

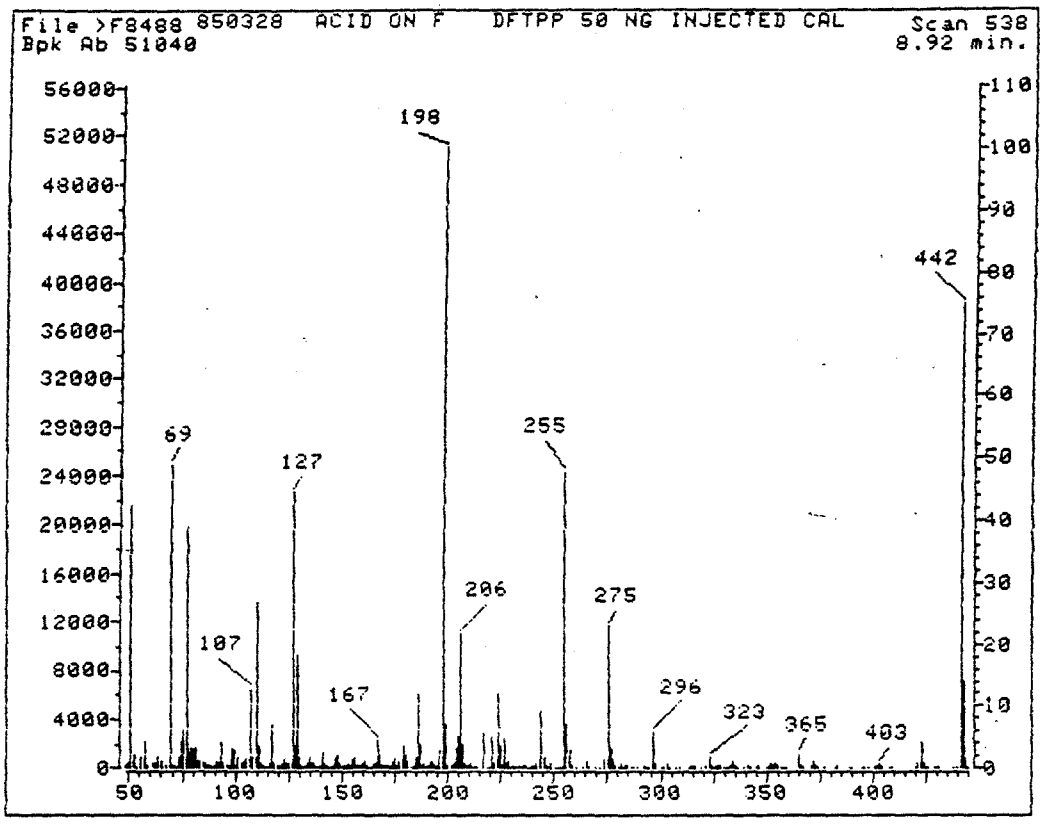


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	42.19	42.19	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	48.87	48.87	Ok
70	Less then 2% of mass 69	.41	.85	Ok
127	40-60% of mass 198	44.25	44.25	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	6.71	6.71	Ok
275	10-30% of mass 198	22.79	22.79	Ok
365	Greater then 1% of mass 198	2.24	2.24	Ok
441	Less then mass 443	~~0.00~~ 1.3	~~0.00~~ .85	Ok
442	Greater then 40% of mass 198	74.81	74.81	Ok
443	17-23% of mass 442	13.80	18.45	Ok

Injection Date: 03/28/85 Analyst: K. G. Bonpante
Injection Time: 13:26 Processor: Wen-Wen Chi
Run No: >F8488 QC Batch: QA2854
Spectrun No: 538 Samples: H2213-H2217

300856

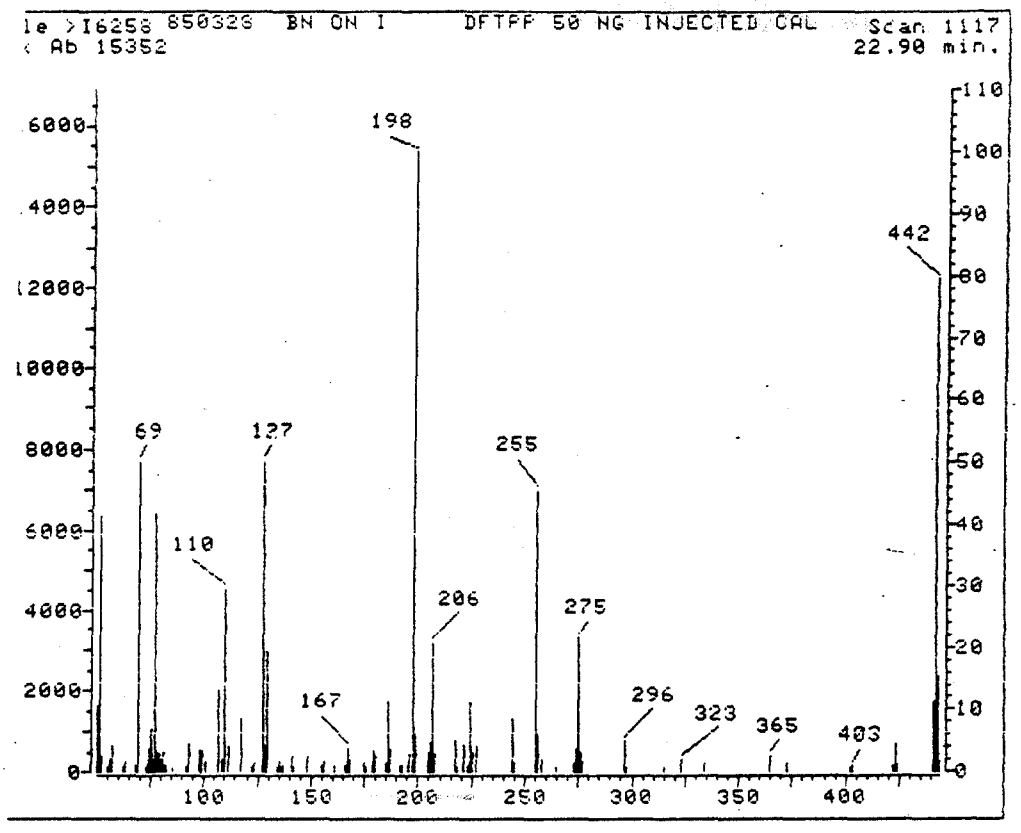


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	41.17	41.17	Ok
68	Less then 2% of mass 69	.93	1.86	Ok
69	(reference only)	50.12	50.12	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	50.18	50.18	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.25	6.25	Ok
75	10-30% of mass 198	21.53	21.53	Ok
65	Greater then 1% of mass 198	2.59	2.59	Ok
41	Less then mass 443	11.28	74.64	Ok
42	Greater then 40% of mass 198	79.46	79.46	Ok
43	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85
Injection Time: 01:25
Run No: >I6258
Spectrun No: 1117

Analyst: K.E. Bonanno
Processor: [illegible] / Pat Chang
QC Batch: QB2854
Samples: H2213 - H2217, H2219, H2220, G9863, H1813

300857

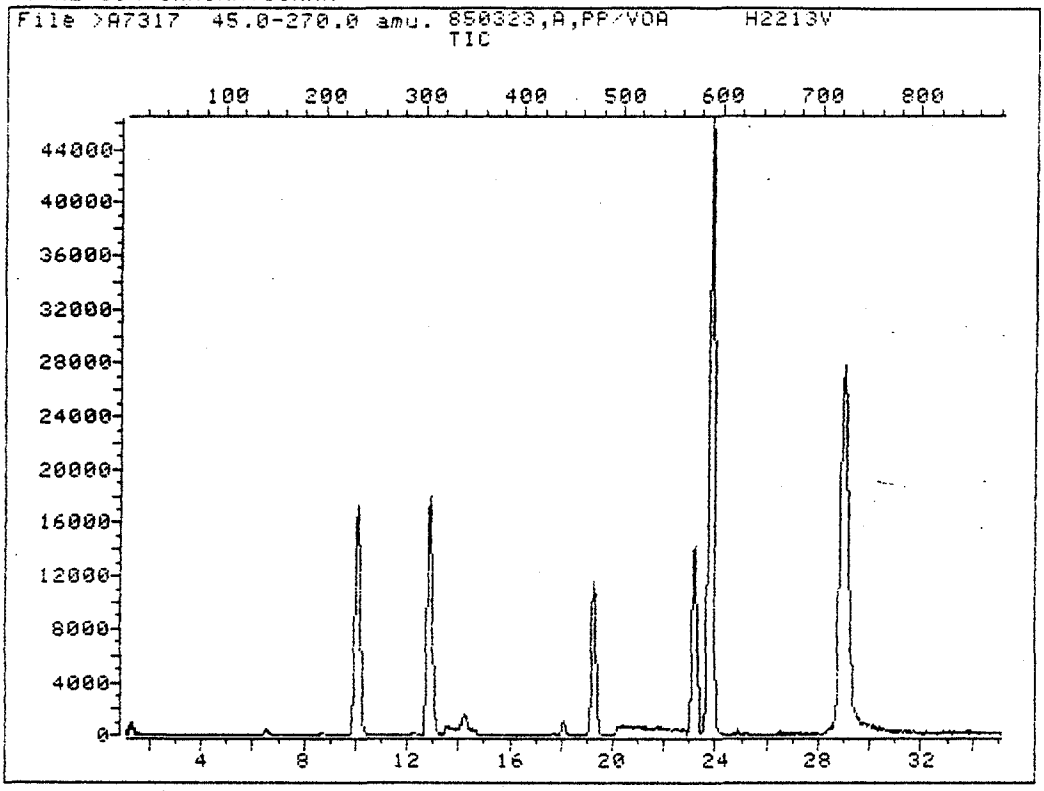
Appendix A

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: >A7317::U2
Name: 850323,A,PP/VOA
Misc: H2213U 5ML

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM5066
Quant Time: 850323 22:49

300859

QUANT REPORT

Operator ID: MM5066 Quant Rev: 3 Quant Time: 850325 08:35
Injected at: 850323 22:13
Data File: >AZ317::U2 Dilution Factor: 1.00
Name: 850323,A,PP/VOA
Misc: H2213V 5ML

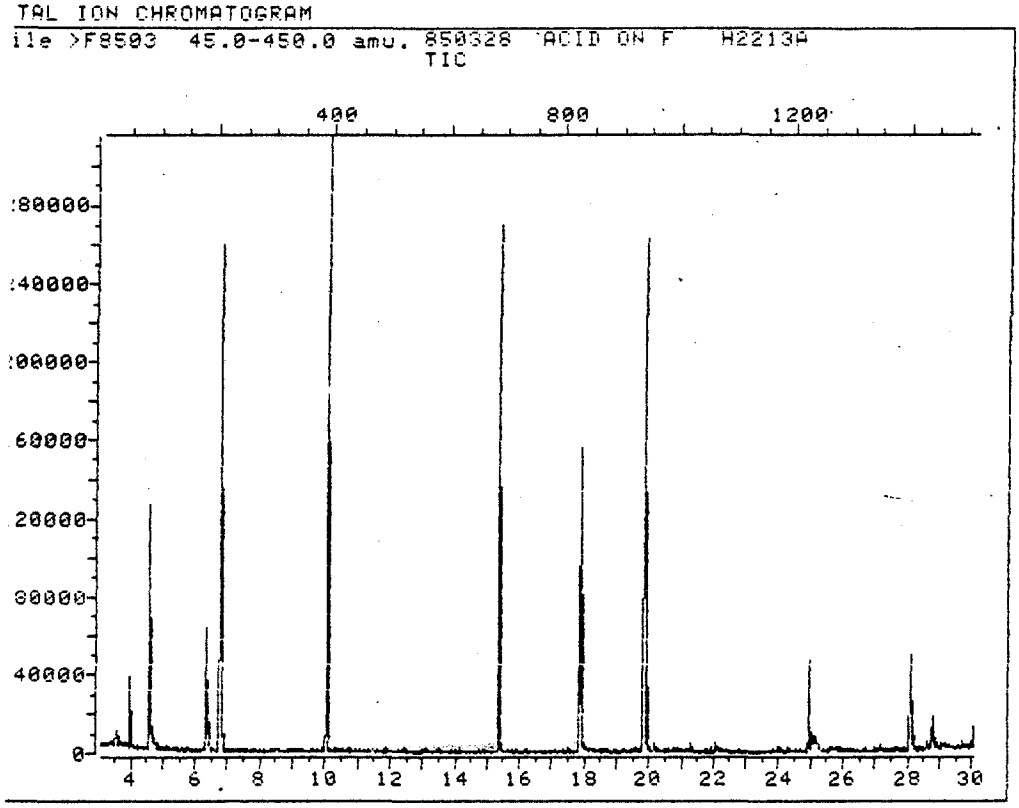
ID File: PK
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08:20

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.29	473	67482	200.00	NG
27)	Toluene	24.00	595	1746	1.73	NG
29)	1,1,1-Trichloroethane	14.23	342	4581	13.87	NG
35)	1,2-Dichloroethane-D4	12.88	307	41763	260.82	NG
36)	Toluene-D8	23.81	590	245127	280.79	NG
37)	p-Bromofluorobenzene	28.98	724	90395	279.89	NG
38)	*1,4-Dichlorobutane	23.19	574	89226	200.00	NG

* Compound is 1sTD

300860

TAL ION CHROMATOGRAM



Data File: >F8503::U4
Name: 850328 ACID ON F
Misc: H2213A

BTL# 4

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

Operator ID: KB5414
Quant Time: 850329 01:41

300861

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:41
Injected at: 850329 01:09
Data File: >F8503::U4 Dilution Factor: 1.00
Name: 850328 ACID ON F
Misc: H2213A BTL# 4

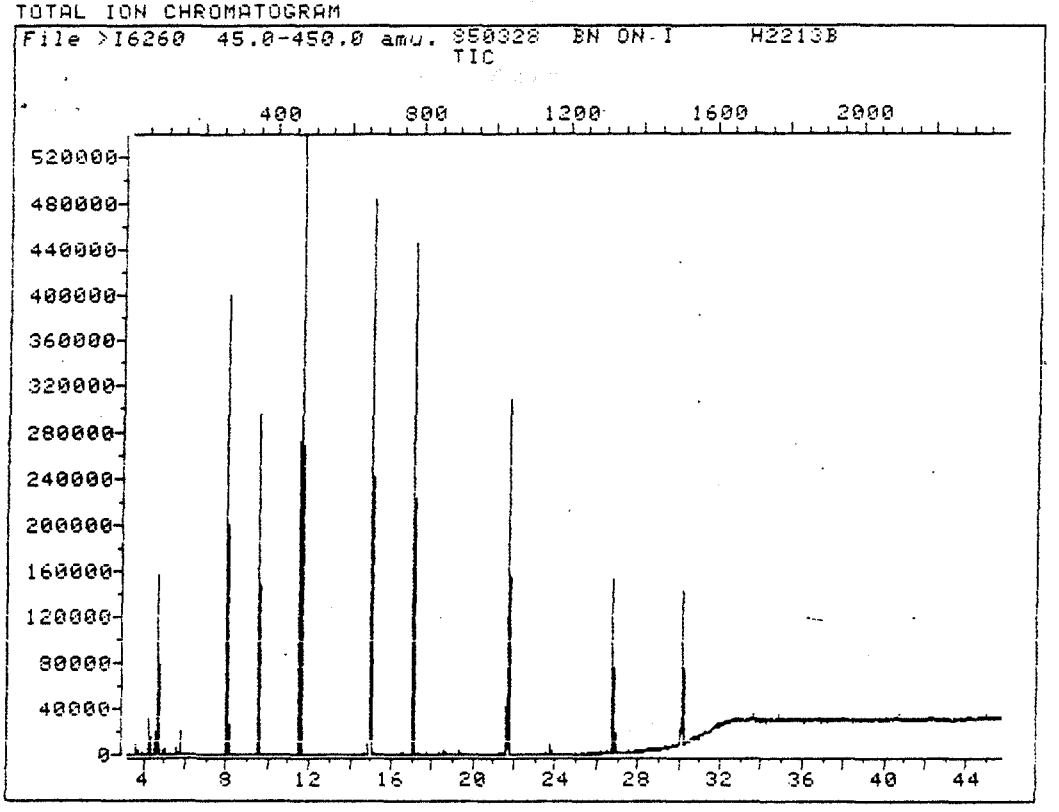
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.73	205	169171	40.00	UG/ML
3)	2-Fluorophenol	4.52	81	119533	41.53	UG/ML
5)	Phenol-D5	6.32	182	75904	25.53	UG/ML
5)	Phenol-D5	6.75	206	1478	.50	UG/ML
6)	*d8-Naphthalene	10.03	390	337055	40.00	UG/ML
11)	*d10-Acenaphthalene	15.33	688	174541	40.00	UG/ML
16)	*d10-Phenanthrene	19.84	941	335197	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.84	829	51010	56.34	UG/ML

* Compound is ISTD

300862

TOTAL ION CHROMATOGRAM



Data File: >I6260::U2
Name: 850328 BN ON I
Misc: H2213B

BTL#11

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 03:48

300863

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 03:
Injected at: 850329 03:
Data File: >I6260::U2 Dilution Factor: 1
Name: 850328 BN ON I
Misc: H2213B BTL#11

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Uni
1)	*d4-1,4-Dichlorobenzene	7.94	269	144706	40.00	UG/MI
7)	Nitrobenzene-d5	9.49	356	239724	38.10	UG/MI
8)	bis(2-Chloroisopropyl)ether	7.96	270	7708	~~7.83~~	~~UG/MI~~
8)	bis(2-Chloroisopropyl)ether	9.50	357	713	~~.72~~	~~UG/MI~~
9)	*d8-Naphthalene	11.52	471	581109	40.00	UG/MI
10)	2-Fluorobiphenyl	14.93	663	380742	39.87	UG/MI
11)	N-Nitrosodi-n-propylamine	9.49	356	35889	~~0.14~~	~~UG/MI~~
19)	*d10-Acenaphthalene	17.02	781	253063	40.00	UG/MI
22)	Dimethyl phthalate	17.02	781	45788	~~5.33~~	~~UG/MI~~
26)	2,4-Dinitrotoluene	17.02	781	33538	~~14.46~~	~~UG/MI~~
27)	Diethyl phthalate	18.58	869	3350	~~.40~~	~~UG/MI~~
32)	*d10-Phenanthrene	21.64	1042	319078	40.00	UG/MI
37)	Di-n-butyl phthalate	23.70	1158	15302	~~1.68~~	~~UG/MI~~
39)	Benzidine	26.73	1329	1604	~~5.10~~	~~UG/MI~~
47)	*d12-Chrysene	30.07	1517	125257	40.00	UG/M
59)	Terphenyl-D14	26.73	1329	141024	19.87	UG/M
63)	3,3'-Dichlorobenzidine	29.98	1512	614	~~.85~~	~~UG/M~~
64)	bis(2-Ethylhexyl)phthalate	30.30	1530	1383	~~.34~~	~~t~~
65)	Di-n-octyl phthalate	32.15	1634	1995	~~.43~~	~~UG/M~~
66)	Benzo(b)fluoroanthene	33.52	1711	5374	~~1.82~~	~~UG/M~~
66)	Benzo(b)fluoroanthene	33.61	1716	6892	~~2.34~~	~~UG/M~~
67)	Benzo(k)fluoranthene	33.52	1711	5374	~~1.96~~	~~UG/M~~
67)	Benzo(k)fluoranthene	33.61	1716	6892	~~2.51~~	~~UG/M~~
68)	Benzo(a)pyrene	34.80	1783	6012	~~2.30~~	~~UG/M~~
69)	Indeno(1,2,3-c,d)pyrene	40.56	2106	7412	~~2.29~~	~~UG/M~~
70)	Dibenzo(a,h)anthracene	40.68	2113	5590	~~2.29~~	~~UG/M~~
71)	Benzo(ghi)perylene	42.22	2199	6186	~~2.51~~	~~UG/M~~

* Compound is ISTD

PCB ND

222, 224 } ND

256, 258 } ND

290, 292 } ND

324, 326 } ND

360, 362 } ND

300864

Appendix B

GC/MS Calibration Data

Calibration Report

Title: IOFILE FOR PP VOAS
Calibrated: 850325 08:17 * Original Update Form missing from QC Batch. Betw
of Batch review and time this data was generated, a
had been updated. Therefore new form
had to be generated after Bat
acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.398	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19899	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81778	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39926	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1.2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62582	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

300866

030

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
opropylbenzene	-	-	-	-	-	
Dichlorobenzene	-	-	-	-	-	
p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

- Response Factor (Subscript is amount in NG)

- Average Response Factor

RSD - Percent Relative Standard Deviation

031

300867

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.01533	.01577	2.87	Average	(Conc=4000.00)
Acrylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
Benzene	2.80658	3.08857	10.05	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.46582	.45820	1.64	Average	
Carbon tetrachloride	.84777	.90423	6.66	Average	
Chlorobenzene	1.68410	1.84648	9.64	Average	
Chlorodibromomethane	.75280	.79924	6.17	Average	
Chloroethane	.21329	.15739	26.21	Average	
2-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
Chloroform	1.67484	1.89299	13.02	Average	
Dichlorobromomethane	1.14979	1.22293	6.36	Average	
Dichlorodifluoromethane	.43848	.48366	10.30	Average	
1,1-Dichloroethane	1.17938	1.28676	9.10	Average	
1,2-Dichloroethane	1.07848	1.18416	9.80	Average	
1,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
1,2-Dichloropropane	.99831	1.06739	6.92	Average	
trans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
cis-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
Ethylbenzene	3.39051	3.69108	8.86	Average	
Methyl bromide	.19890	.24156	21.45	Average	
Methyl chloride	.99538	1.08607	9.11	Average	
Methylene chloride	.24840	.20530	17.35	Average	
1,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
Tetrachloroethylene	1.01130	1.16432	15.13	Average	
Toluene	2.98290	3.34990	12.30	Average	
1,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
1,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
1,1,2-Trichloroethane	.56035	.63100	12.61	Average	
Trichloroethylene	.67765	.70670	4.29	Average	
Trichlorofluoromethane	1.34416	1.58651	18.03	Average	
Vinyl chloride	.43792	.48682	11.16	Average	
1,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
Toluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
p-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

300868

032

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
sopropylbenzene	-	-	-	Average	
-Dichlorobenzene	-	-	-	Average	
&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

F - Response Factor from daily standard file at 90.00 NG

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

Diff - % Difference from original average or curve

300869

033

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850328 22:20

Compound	Files: >F8493 RF 60.00	>F8492 RF 100.00	>F8489 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.79614	.80437	.76134	.954	.78728	2.901	
Phenol	.80904	.85955	.93328	.931	.86729	7.204	
2,4-Dichlorophenol	.26602	.27976	.27663	.981	.27414	2.627	
2,4-Dimethylphenol	.33494	.34353	.30516	.934	.32788	6.141	
2-Nitrophenol	.18484	.19537	.19435	.904	.19152	3.034	
p-Chloro-m-cresol	.27674	.29355	.22907	1.208	.26645	12.554	
4,6-Dinitro-o-cresol	.22150	.27287	.21589	1.139	.23675	13.264	
2,4-Dinitrophenol	.06770	.11025	.11233	1.029	.09676	26.031	
4-Nitrophenol	.08473	.13355	.09617	1.080	.10482	24.361	
2,4,6-Trichlorophenol	.34095	.35554	.42589	.858	.37413	12.140	
Pentachlorophenol	.03058	.05702	.05922	.988	.04894	32.570	
2-Fluorophenol	.67275	.67515	.69391	.675	.68060	1.703	(Conc=100.0,100.0,100.0)
Phenol-D5	.67214	.70067	.73630	.927	.70304	4.573	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.10538	.10039	.11837	.898	.10804	8.590	(Conc=100.0,100.0,100.0)

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

300870

034

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
rosodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
'-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
)ichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
)ichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
)ichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
)benzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
'-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
)orobiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
rosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
hloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
)benzene	.53986	.53064	.44149	-	.830	.50400	10.779	
)orone	.61445	.61958	.51124	-	.885	.58176	10.507	
'-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
,-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
thalene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
chlorobutadiene	.16213	.15028	.12153	-	1.054	.14465	14.436	
chlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
loronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
thyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
aphthylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
)initrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
aphthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
)initrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
nyl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
rene	1.32085	1.11815	.85208	-	1.099	1.09703	21.430	
lorophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
trosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
Diphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
omophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
chlorobenzene	.23428	.23767	.17391	-	.956	.21529	16.664	
anthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
racene	1.15723	1.12032	.86688	-	1.010	1.05481	13.898	
-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
ranthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
idine	.01720	.00866	.09231	-	1.199	.03939	116.851	
ne	.76361	.65946	.61773	-	1.212	.68027	11.044	
a-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
a-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
a-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
achlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
in	.17530	.17093	-	.15573	1.123	.16732	6.142	
achlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

) - Percent Relative Standard Deviation

300871

035

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.05775	.09214	-	.10898	.862	.08629	30.260	
Endosulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4,4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
Dieldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
Endrin	.11420	.11589	-	.08328	.915	.10446	17.572	
Endosulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4,4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
Endrin aldehyde	-	-	-	.25209	.937	.25209	-	
4,4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
Endosulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
Terphenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
Benzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
Chrysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3,3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
bis(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
Di-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
Benzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
Benzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
Benzo(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
Indeno(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
Dibenzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
Benzo(ghi)perylene	.69610	.86743	.79438	-	1.410	.78597	10.938	

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

036

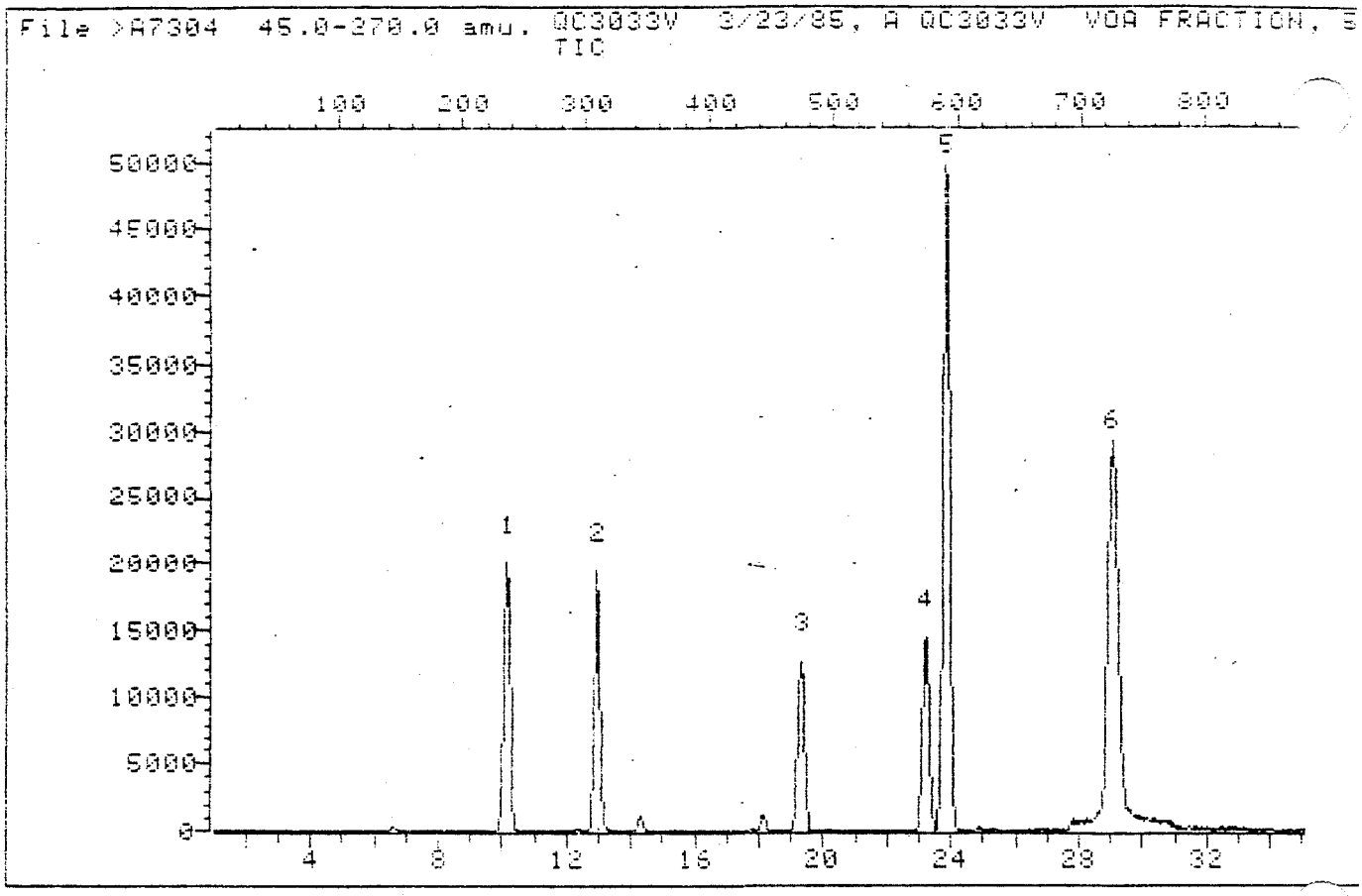
300872

Appendix C1

GC/MS Subsidiary Data

300873

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, SML WATER, BLANK

300874

QUANT REPORT

ator ID: LA2639 Quant Rev: 3 Quant Time: 850325 08:23
Injected at: 850323 09:04
File: >A7304::U2 Dilution Factor: 1.00
: QC3033V 3/23/85, A
:: QC3033V VOA FRACTION, 5ML WATER, BLANK

ile: PK
e: IDFILE FOR PP VOAS
Calibration: 850325 08:20

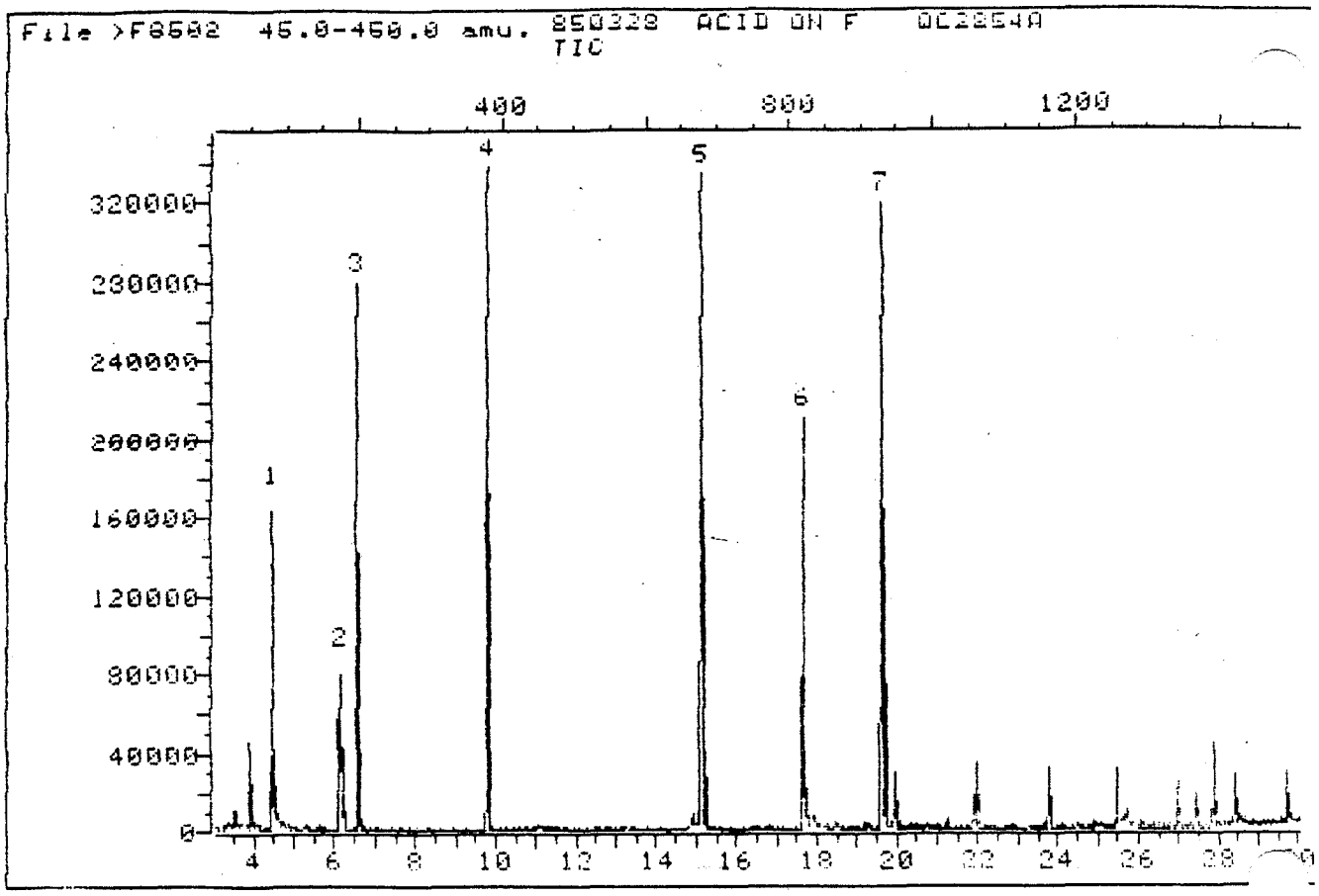
Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

ompound is ISTD

300875

039

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8502::U4
Name: 850328 ACID ON F
Misc Data: QC2854A

BTL#

300876

QUANT REPORT

ator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:04
Injected at: 850329 00:32
a File: >F8502::U4 Dilution Factor: 1.00
e: 850328 ACID ON F
c: QC2854A BTL# 3

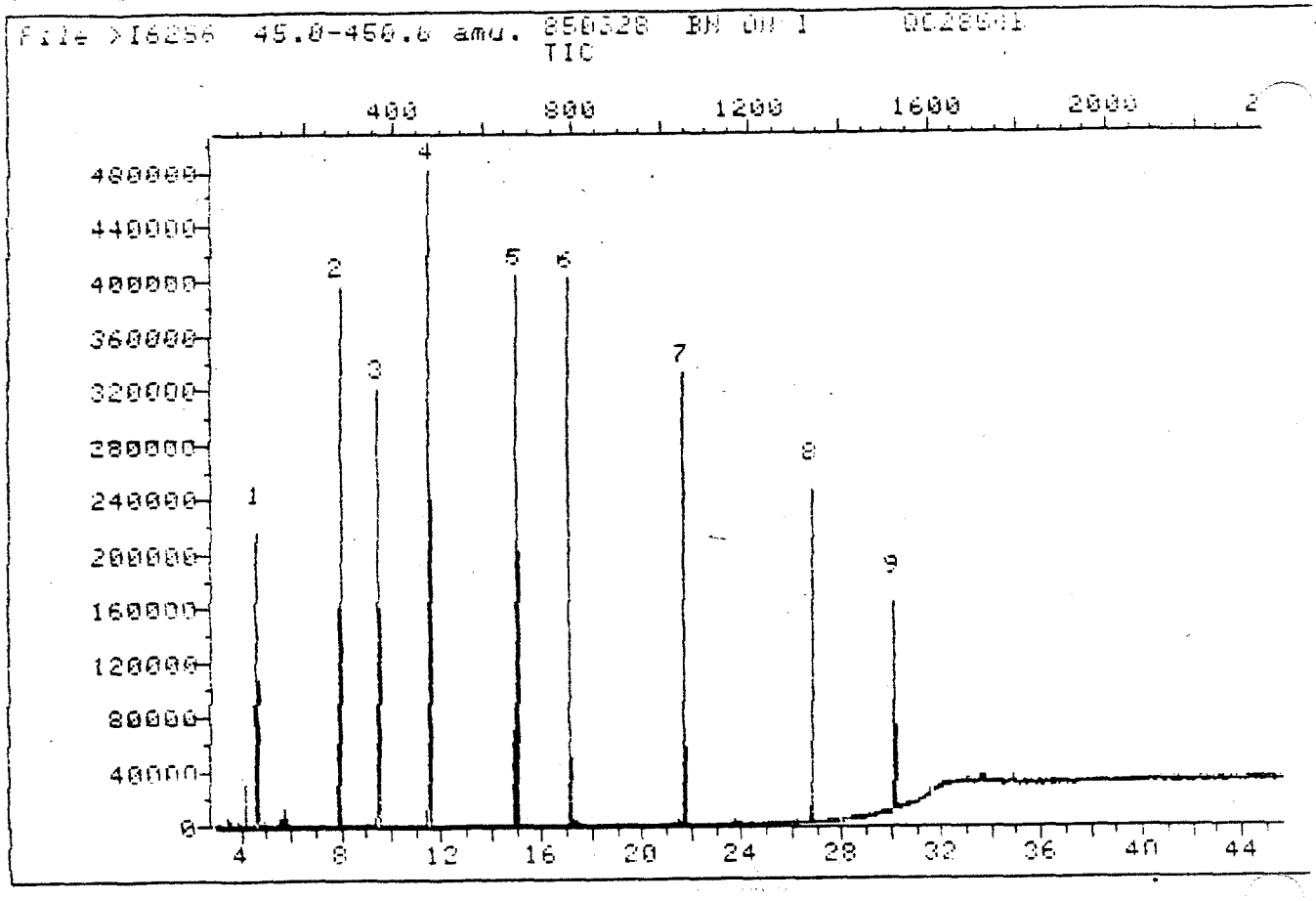
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850328 22:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.55	196	174971	40.00	UG/ML
2-Fluorophenol	4.41	76	145527	48.88	UG/ML
2-Fluorophenol	4.98	108	380	.13	UG/ML
Phenol-D5	6.12	172	101427	32.98	UG/ML
Phenol-D5	6.55	196	1354	.44	UG/ML
*d8-Naphthalene	9.79	378	372654	40.00	UG/ML
*d10-Acenaphthalene	15.12	677	205801	40.00	UG/ML
*d10-Phenanthrene	19.62	930	419734	40.00	UG/ML
2,4,6-Tribromophenol	17.61	817	78559	69.29	UG/ML

Compound is.ISTD

300877

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6256..00
Name: 850328 BN ON 1
Misc Data: 0C2854A

BTL#

042

300878

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850328 23:43
Injected at: 850328 22:55
Data File: >I6256::U1 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC2854B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

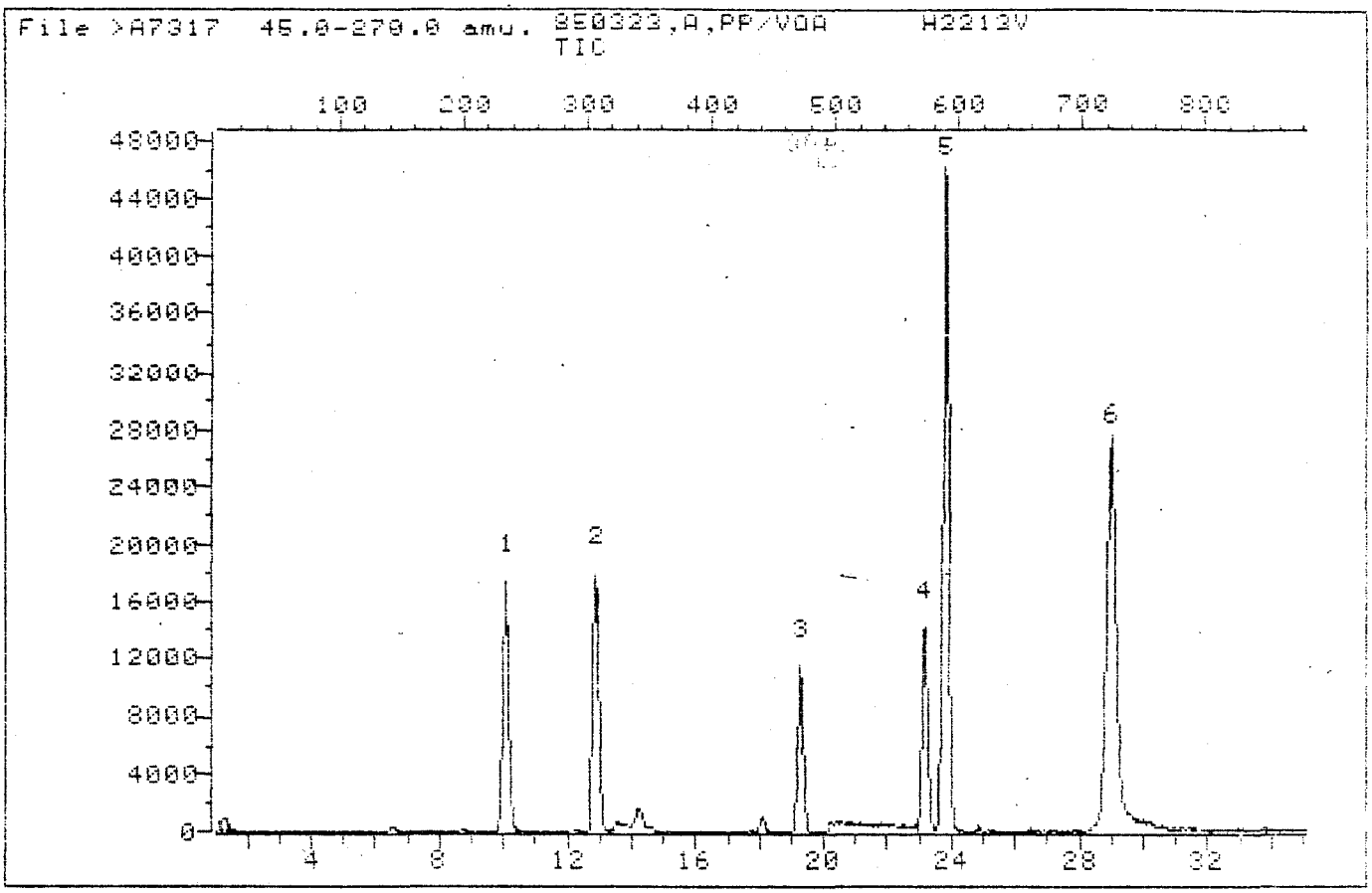
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	7.52	UG/ML
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	.71	UG/ML
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	5.37	UG/ML
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	.48	UG/ML
39)	Benzidine	26.76	1338	2450	6.77	UG/ML
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1338	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	1.44	UG/ML
65)	Di-n-octyl phthalate	32.16	1642	1965	.38	UG/ML
66)	Benzo(b)fluoroanthene	33.53	1719	8410	2.54	UG/ML
66)	Benzo(b)fluoroanthene	33.62	1724	8549	2.58	UG/ML
67)	Benzo(k)fluoranthene	33.53	1719	8410	2.72	UG/ML
67)	Benzo(k)fluoranthene	33.62	1724	8549	2.77	UG/ML
68)	Benzo(a)pyrene	34.83	1792	9898	3.37	UG/ML
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	1.55	UG/ML

* Compound is ISTD

PCB NA

300879

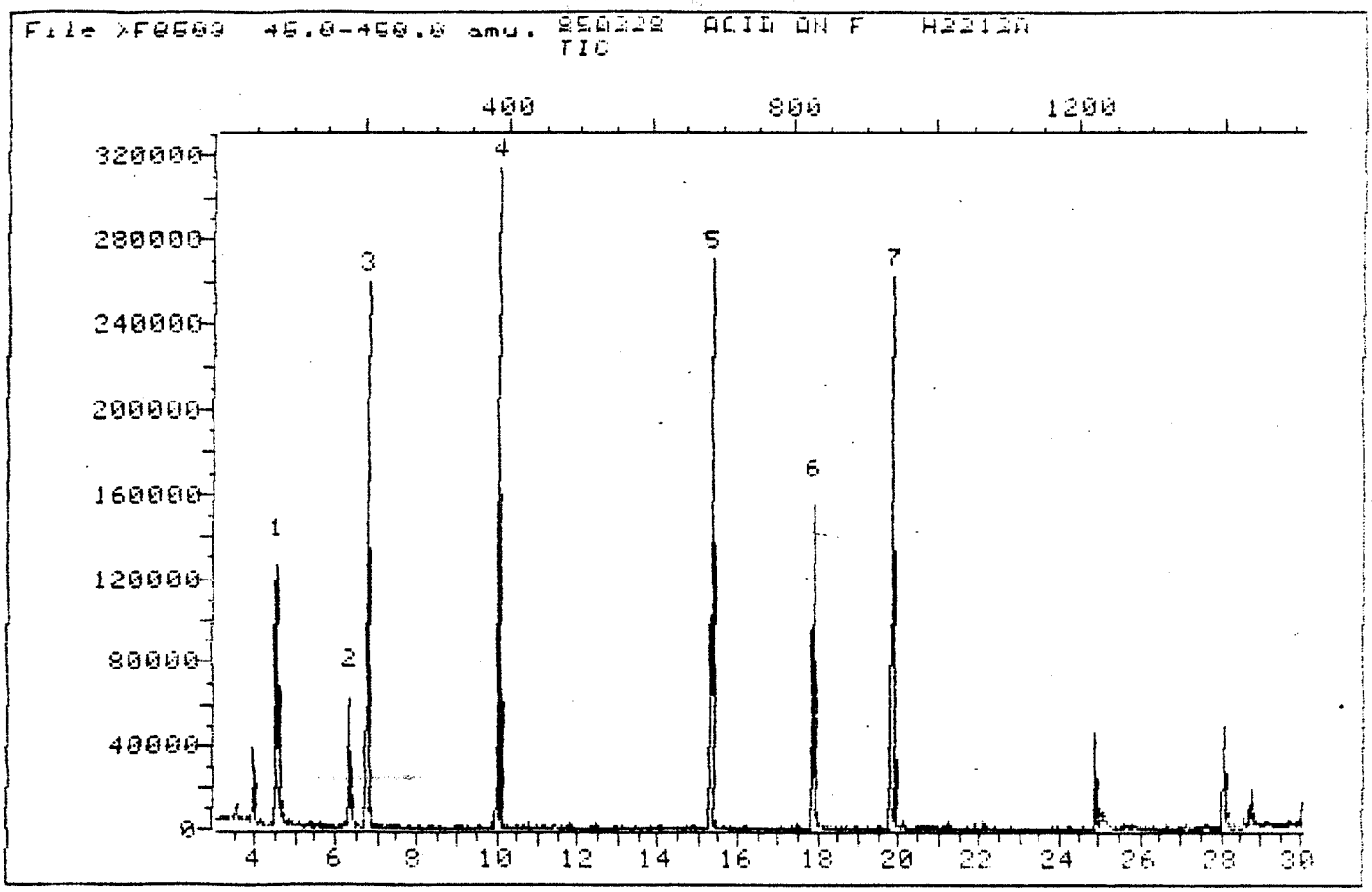
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7317::U2
Name: 850323,A,PP/VOA
Misc Data: H2213V SML

300880

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

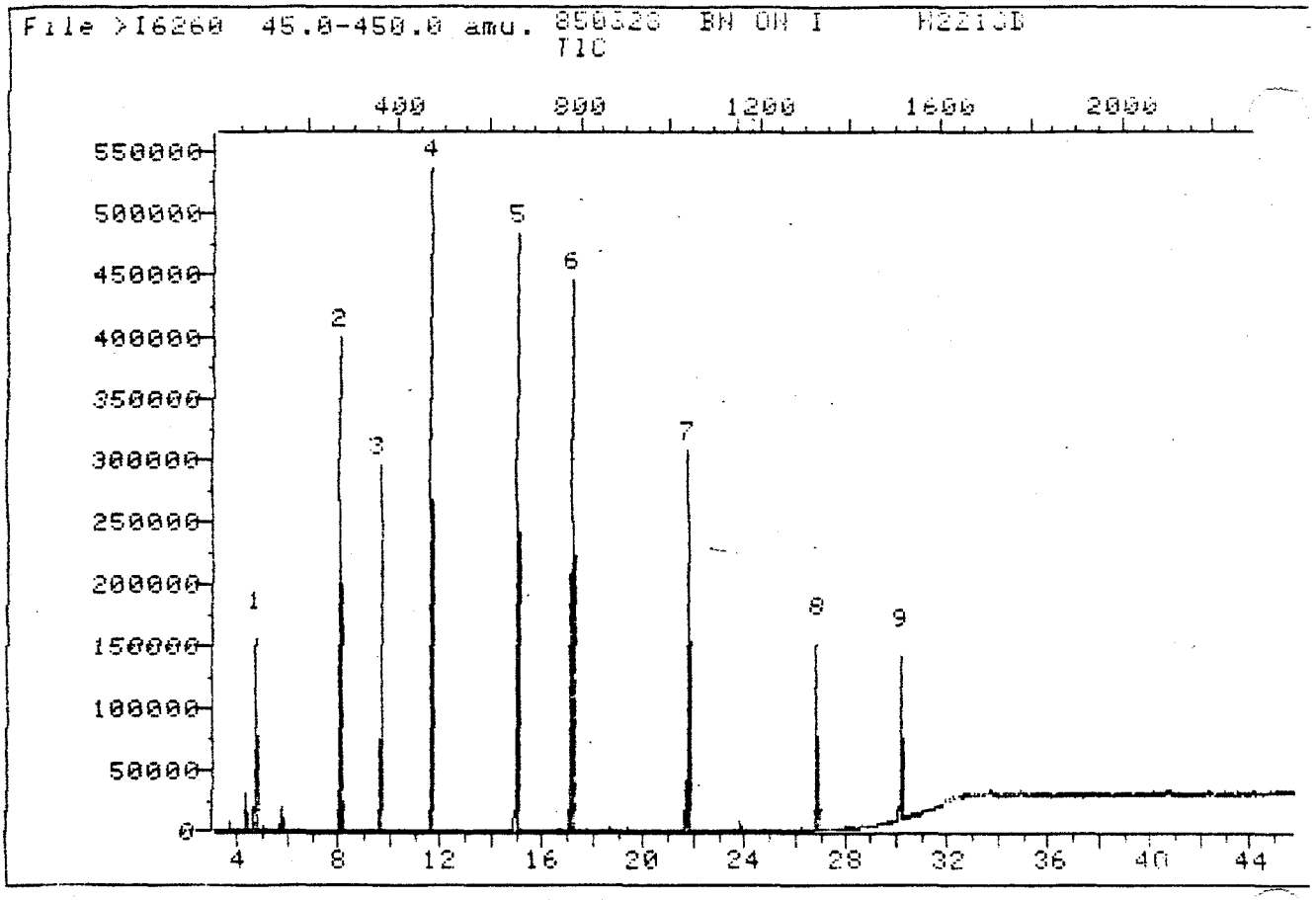


Data File: >F0503::U4
Name: 850328 ACID ON F
Misc Data: H2213A

BTL# 4

300881

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

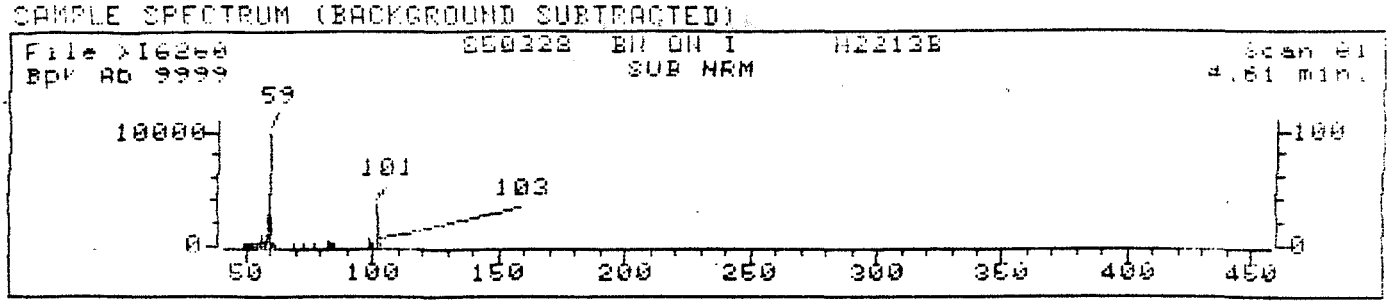


Data File: >I6260::U2
Name: 850328 BN ON I
Misc Data: H2213B

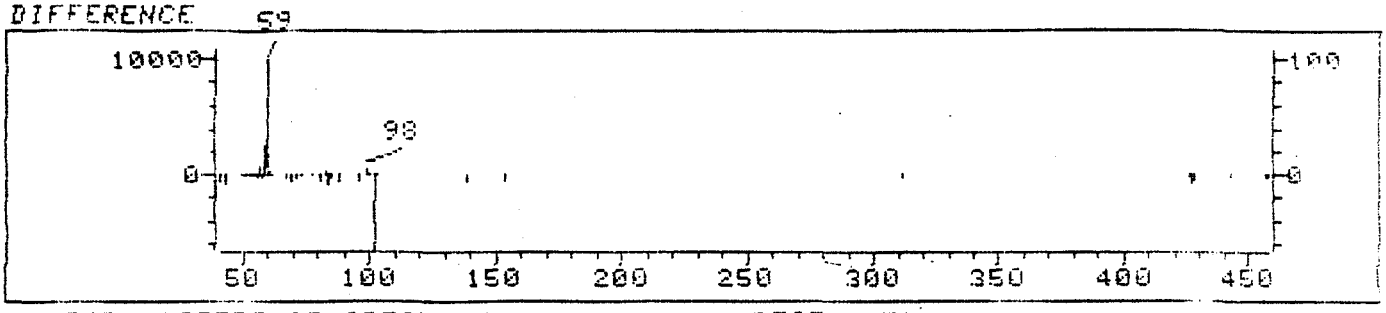
BTL#:

300882

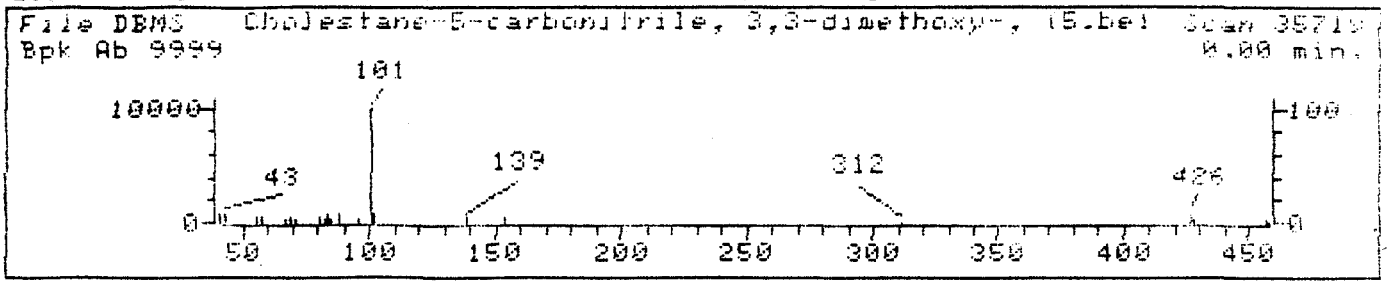
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6260::U2
Name: 850328 BN ON I
Misc Data: H2213B RTL#11
RT (min): 4.61
Scan: 81
Area 341942
Semi-quantitative Conc: 12.05 UG/ML

Data File: >I6260 Scan Number: 81
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 59

1. Cholestane-5-carbonitrile, 3,3-dimethoxy-, (5.beta.) 457 C30H51NO2
- (9CI)
2. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) - 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	55280490	36	101	0	-2
2.	78	54950571	33	81	0	-2

300883

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.

300884

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV. 1

ETC Job # 4122131

ID: L85253-B6

mitted by: WW CHUN

E: 4/9/85

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 APR 10 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	051		
34	Sulfide as S		mg/l			
35	Surfactants (MBAS/LAS)		mg/l			
36	Turbidity (Lab)		NTU			

300885

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. 28515 ETC Job # H2213

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, N.J

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE FUT — Filtered

Sample Point: W - WELL FILTER — 032185 — 1114 — 4

(Facility/Site Code; Source Code (from below); 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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N	OK	
1	M	1L	HNO3	Metals	N	OK	
1	CN	500ml	NaOH	Cyanides	N	OK	
1	PN	1L	H2SO4	Phenols	N	OK	
2	V	40ml	Sod-Thio.	VOA	N	OK	N, hdspc
1	TB	40ml	SC/MS H2O	Trip blank	N	OK	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) S. GORGIANNI Date: 3/21/85 Time: 1143
   Signature: _____ Seal #: 028515 Intact: Y

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. 300887
   Name: _____ Signature: _____
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) _____ Date: _____ Time: _____
   Signature: _____ Seal #: _____ Intact: _____

ETC USE ONLY Opened By: _____ Date: 3-22-85 Time: 8:00 am

Seal #: 28516 Condition: OK

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2213

Sample Point LW KILLING FKT
(Source Code) (Sample Point ID)

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)

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

Sample Temp (°C) | Turbidity NTU

FIELD COMMENTS

Sample Appearance: Potable, Filtered, Not Purged
Weather Conditions:
Other:

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

Sampler: S Bocchinni (Print) Employer: NJDEP

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

(Date) (Signature)

054

300888

ETC / CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:
Sample(s) relinquished by: Mary Jander

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H2220 H2217

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____ 300889

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
		055	
Time/Date	Time/Date	Time/Date	Time/Date

GC-MS ANALYSIS CUSTODY LOG

DATE 850323 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE APEI01
SEQUENCE FILE TM
METHOD FILE VOAA
IDFILE AVOA
ANALYST(S) TMancuso
SUPERVISOR MDunkelberg
BATCH #'s QV3033

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	9605	1
ISTD	40	9,10	5
surr	25	9377	10
ABC	18	10,221	5

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLOT Y/N
P-BFB	>A7303	1			A00106	0810hrs 3173	
QC3033V	>A7304	5ml	1				Y
QC3033VS	>A7305		2			Sul ABC Something ~~ABC~~ ABC	
QC3033VS	>A7306		4			10	
QC3033VS	>A7307		5			30 Blew out Tube	
QC3033VS	>A7308		3			5	
QC3033VS	>A7309		6			30	
QC3033VS	>A7310		1			5 1544 hrs	
H2205VS	>A7311		1				
H2206V	>A7312		2				Y
H2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000 hrs 3173	
QC3033VS	>A7316					Sul ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220V	>A7322						
G9862V	>A7323					composite Reno 1:10	INT
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326				056		
H0887V	>A7327						

300890

300891

MS ANALYSIS CUSTODY LOG

E 850324 SHIFT ___
CTION VOA
TRUMENT A
E FILE AEIG1
UENCE FILE JOA
HOD FILE VOAA
ILE AVOA
LYST(S) Paul Bu -
ERVISOR Charles Clements
CH #'s ___

(PLEASE INITIAL)

CURRENT MS STATUS	STANDARDS UPDATED	
	DATE	
	BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
ISTD	40	9141	5
SURR	25	8977	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
40888V	>A7328	5uL			A-106		
39862V	>A7329	1		1:10		composite OC 3126	
					057		

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EXTRACTION LOG

QC Batch # 2854

Analysis: PP/T
PP/ORG/PST/PCB
PP/ACID (REPEATS)

Matrix: H_2O

Turnaround: NORM

Date: 3/27/85

Extraction Method:
Sep funnel ✓
cont. mucus
soxhlet
other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2213	8683	1000	1.0	1.0	
H2214	"	960	1.0	1.0	
H2215	"	970	1.0	1.0	
H2216	"	950	1.0	1.0	
H2217	"	930	1.0	1.0	
H2219	"	930	1.0	1.0	
H2220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
H1813	8698	980	1.0	1.0	
G8913	8383	1000		1.0	
G9222	8411	1000		1.0	
G9224	↓	1000		1.0	
G5914	8437	950		1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

COMMENTS FOR EXTRACT.:
PP/T: H2213 – 17, 19, 20
H1813
PP/ORG/PST/PCB: G9[illegible]
PP/ACID (REPEAT): G8913, G9222, 24, G5914

300892

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	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

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

Set-up: [signature] 3/27/85 UPD/Supervisor: [signature] 3/2

300893

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE PK
METHOD FILE ACIDP
LOGFILE FACIDP
ANALYST(S) R. TRAUB
SUPERVISOR [signature]
BATCH #'s 07354, DA2855

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ	BT	DATE	K&B
WIP		BY	3/28/85

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Gold	4000	9553	100
DFTPP	25	9534	2

4, 15, 16. 09102.

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLU .Y/N
DFTPP	F8488				I00160		
Acid Calib Std. III	F8489		1				
II	F8490		2				
I	F8491		3				
QC 2854A	F8492		4			Aborted. Batched at 8:00pm not used rewritten	Y
QC 2854AS	F8493		2 5				
H2213AS	F8494		6				
H2213A	F8495		7				Y
H2214A	F8496		8				
H2215A	F8497		9				
H2216A	F8498		10				
H2217A	F8499		11				
H2217AR	F8500		12				
H2219A	F8501		10 13				Y
H2220A	F8502		11 14				Y
G9863A	F8503		12, 15				
H1813A	F8504		13 16				
G8913A	F8505		14 17				
G9222A	F8506		15 18				
G9224A	F8507		16 19				
G5914A	F8508		17 20				
H0867A	F8509		18 21	1:10		For QC 2852	
DFTPP	F8510		19 22		059		
Acid Calib Std II	F8511		20 23				

TSR 8-84

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE KBB/KBBF
METHOD FILE ACIDF
IDFILE BACID
ANALYST(S) KF Bonpasty
SUPERVISOR [signature]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
AC10 CAL II	F8492					
AC10 CAL I	F8493					
H2213AS	F8500		1			
QC2854AS	F8501		2			
QC2854A	F8502		3			
H2213A	F8503		4			
H2214A	F8504		5			
H2215A	F8505		6			
H2216A	F8506		7			
H2217A	F8507		8			
DFTPP	F8508		9			
AC10 CAL II	F8509		10			
H2217AR	F8510		11			
H2219A	F8511		12			
H2220A	F8512		13			
G9863A	F8513		14			
H1813A	F8514		15		6898	F8515-15 14
G9222A	F8516		17			
G9224A	F8518		18			
G5914A	F8518		19			
H0867A	F8519		20	10:1	060	QB2852
QC2855AS	F8520		20			

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300894

300895

C-MS ANALYSIS CUSTODY LOG

ATE 3/28-29/85 SHIFT ___
RACTION ACID
NSTRUMENT F 11
UNE FILE MTF001
EQUENCE FILE ___
ETHOD FILE ___
DFILE ___
NALYST(S) K. S Bonavita
UPERVISOR Mark A Worley
ATCH #'s ___

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
NCQ		DATE	
IIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
55229AS	F8521		22				
QB285SA	F8522		23				Y
G5228A	F8523		24				"
G5229A	F8524		25				"
G5231A	F8525		26				Y
55231AR	F8526		27				
25232A	F8527		28				Y
DPTPP	F8528		29				
AC10 CAL II	F8529		30				
55233A	F8530		31				Y
55234A	F8531		32				"
G5235A	F8532		33				Y
H0737A	F8533		34				
H0293A	F8534		35				
G8937A	F8535		36				
					061		

TSR 8-84

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas L. Ladd	4/8/85
AA/ICAP Prep	Marisa Gran McElwee	4/8/85

Lab Supervisor Vidya Vaidyanathan date 4/12/85

064

300896

8085

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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 Hamilton 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

X-029

Sample(s) Relinquished by: M. Jacobs

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 3:15

300897

Technical Report

for

NJ DEP

CONTRACT X-029

300898

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2214	NJ DEP	NJDCOMBES0	WLING UNFP	850321	1327	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*	*Time*	*Elapsed Hours*

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

TABLE OF CONTENTS

300899

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

300900

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

300901

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

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	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	ND	2.80	5	7	BMDL	18	172[B]	5	18	53[B]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

A EPA [illegible]d Method Detection Limit.

B Reco[illegible] finally variable using EPA Protocol Method 824.

206002

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

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	ND	ND	ND	100	86	ND	103	77
2A	2,4-Dichlorophenol	ND	3	ND	ND	ND	100	90	ND	103	82
3A	2,4-Dimethylphenol	ND	3	ND	ND	ND	100	90	ND	103	78
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	79	ND	103	86
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	43	ND	103	62
6A	2-Nitrophenol	ND	4	ND	ND	ND	100	85	ND	103	79
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	53	ND	103	55
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	101	ND	103	86
9A	Pentachlorophenol	ND	4	ND	ND	ND	100	83	ND	103	82
10A	Phenol	ND	2	ND	ND	ND	100	40	ND	103	58
11A	2,4,6-Trichlorophenol	ND	3	ND	ND	ND	100	87	ND	103	84

a EPA published Method Detection Limit.

300903

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10[B]	ND	103	9[B]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6.70	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 [c]	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 [c]	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	41	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 [c]	ND	ND	ND	100	3[B]	ND	103	35[B]
25B	Dimethyl phthalate	ND	10 [c]	ND	ND	ND	100	1[B]	ND	103	3[B]
26B	Di-n-butyl phthalate	ND	10 [c]	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 [c]	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

300904

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27[B]	ND	103	43[B]
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24[B]	ND	103	32[B]
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

300905

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

NPDES Number	Compound	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 B	QC Matrix Spike: Unspiked Sample ug/l	QC Matrix Spike: Concen. Added ug/l	QC Matrix Spike: % Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

300906

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

NPDES Number	Compound		Results: Sample Concen.	Results: MDL
1M	Antimony	ug/l	ND	80
2M	Arsenic	ug/l	BMDL	5
3M	Beryllium	ug/l	ND	.60
4M	Cadmium	ug/l	ND	3
5M	Chromium	ug/l	ND	20
6M	Copper	ug/l	150	10
7M	Lead	ug/l	BMDL	5
8M	Mercury	ug/l	ND	.30
9M	Nickel	ug/l	ND	10
10M	Selenium	ug/l	6.00	5
11M	Silver	ug/l	ND	8
12M	Thallium	ug/l	ND	5
13M	Zinc	ug/l	ND	30
14M	Cyanide, Total	mg/l	<.02	.02
15M	Phenolics, Total	mg/l	<1.00E-02	1.00E-02

300907

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2214	NJ DEP	NJDCOMBESO	WLINGUNFP	850321	1327	

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

300908

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 1, 1985

TABLE 1: QUALITATIVE RESULTS

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

300909

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2214	NJ DEP	NJDCOMBESO	WLINGUNFP	850321	1327	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/l		
1 3-Penten-2-one, 4-methyl	16	3.4	98	141797	$C_6H_{10}O$	18		

300909

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	85	4.59	-	-	-	13		

300910

Relative Percent Difference (RPD) for VOA

H2214 NJ DEP — Job Number / Account Name
NJDCOMBESO WLING UNFP 850321 1327 — Facility Source / Date Time

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	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	5	7	33
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	ND	0
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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327

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

H2214 NJ DEP — Job Number / Account Name
NJDCOMBESO WLING UNFP 850321 1327 — Facility Source / Date Time

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
H2214	NJ DEP	NJDCOMBESO	WLING UNFP	850321	1327

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

300915

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2214

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	114	86	119
Bromofluorobenzene	.250	114	85	121
1,2-Dichloroethane-D4	.250	109	77	120
ACID FRACTION				
Phenol-D5	100	18	15	103
2-Fluorophenol	100	40	23	121
2,4,6-Tribromophenol	100	68	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	68	41	120
2-Fluorobiphenyl	50	82	44	119
Terphenyl-D14	50	48	33	128

* IFB EPA Control Limits.

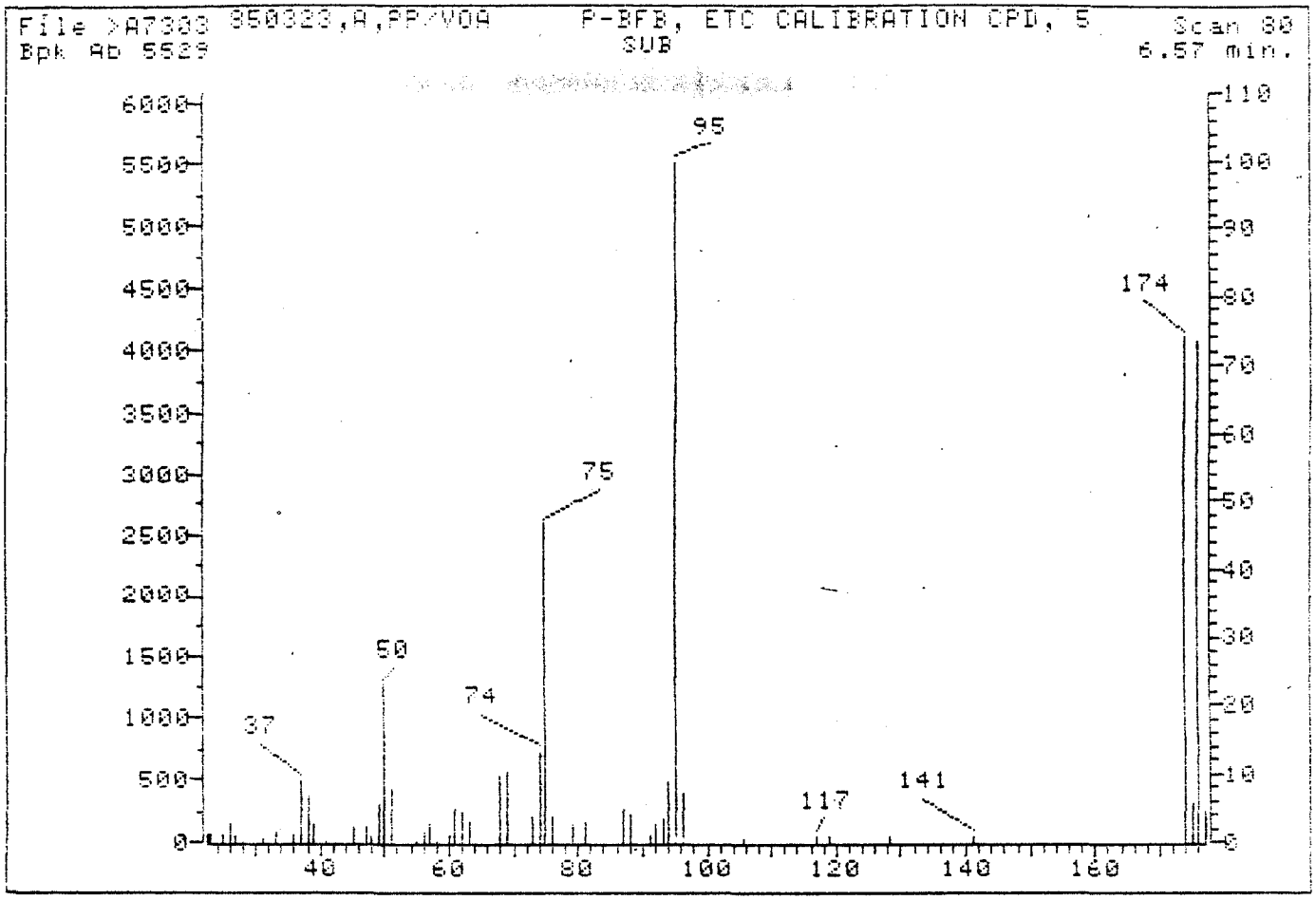


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
73	Less then 1% of mass 95	0.00	0.00	Ok
74	Greater then 50% of mass 95	74.14	74.14	Ok
75	5-9% of mass 174	5.46	7.37	Ok
76	95-101% of mass 174	73.36	98.95	Ok
77	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85
Injection Time: 08:09
Run No: >A7303
Spectrum No: 80

Analyst: Thomas Mancuso
Processor: Pearl Trent
QC Batch: QV 3033
Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0877, H0887, H0888.

300917

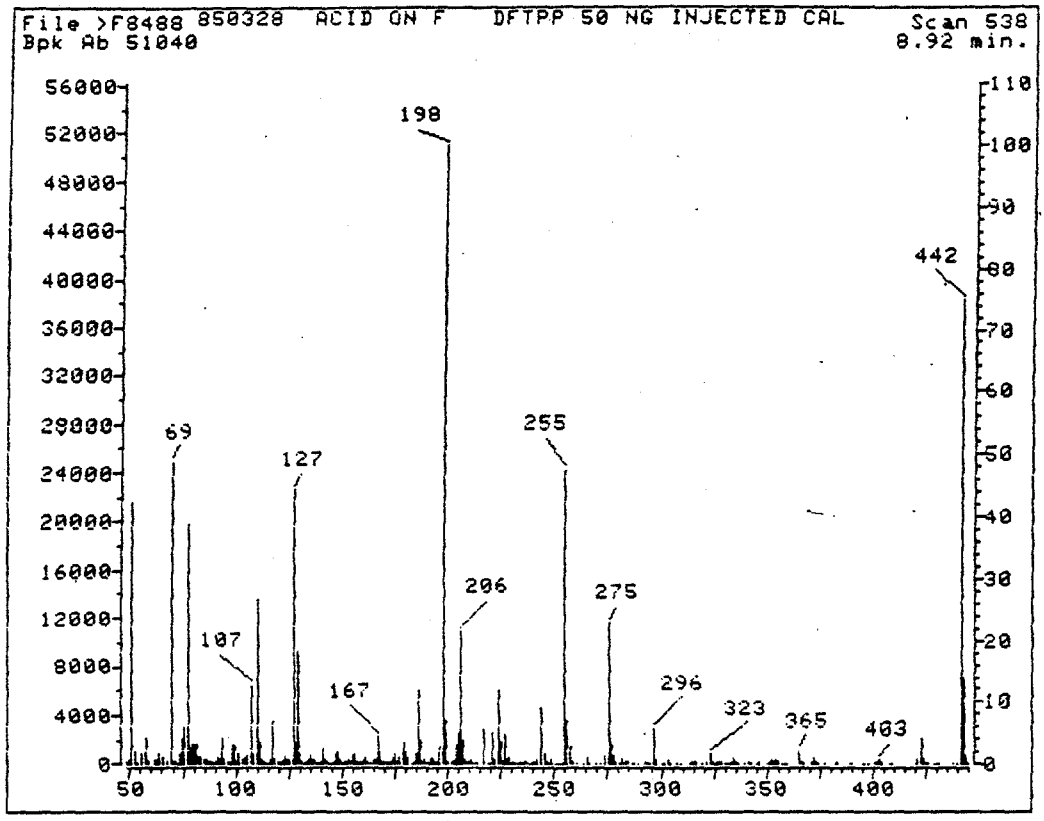


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	42.19	42.19	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	48.87	48.87	Ok
70	Less then 2% of mass 69	.41	.85	Ok
127	40-60% of mass 198	44.25	44.25	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	6.71	6.71	Ok
275	10-30% of mass 198	22.79	22.79	Ok
365	Greater then 1% of mass 198	2.24	2.24	Ok
441	Less then mass 443	~~0.00~~	~~0.00~~	Ok
442	Greater then 40% of mass 198	74.81	74.81	Ok
443	17-23% of mass 442	13.80	18.45	Ok

Injection Date: 03/28/85 Analyst: K. E. Bonfante
Injection Time: 13:26 Processor: Wen-Wen Chi
Run No: >F8488 QC Batch: QA-854
Spectrun No: 538 Samples: H2213-H2217

300918

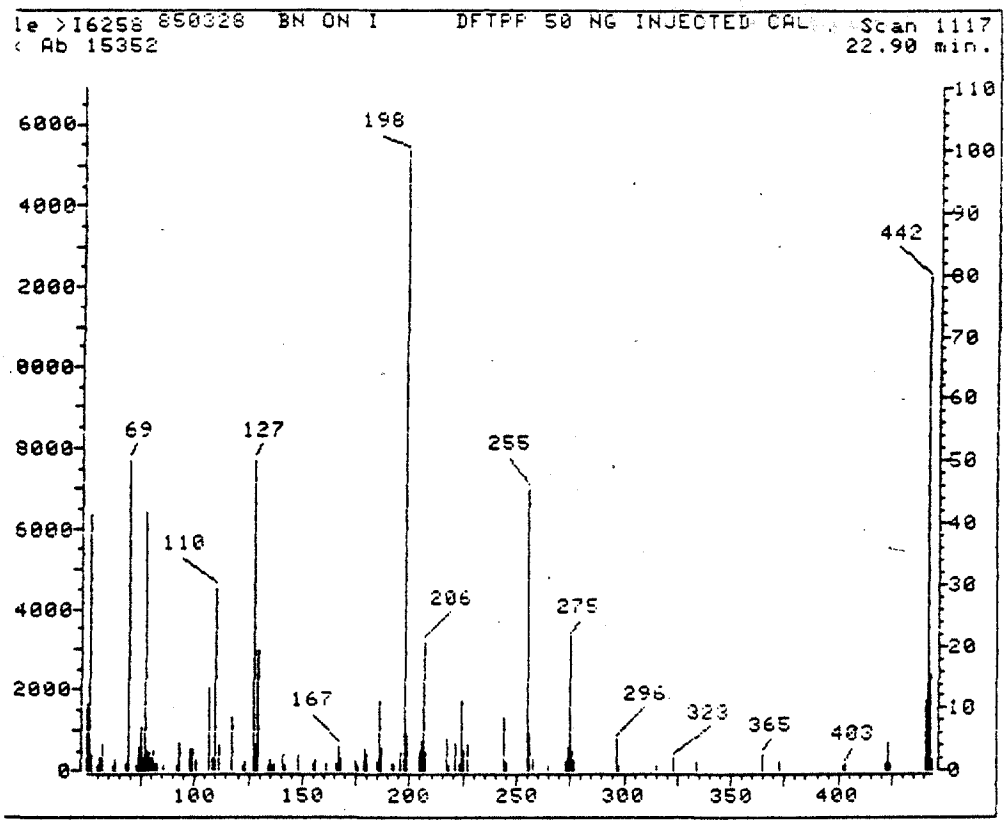


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
1	30-60% of mass 198	41.17	41.17	Ok
8	Less then 2% of mass 69	.93	1.86	Ok
9	(reference only)	50.12	50.12	Ok
0	Less then 2% of mass 69	0.00	0.00	Ok
7	40-60% of mass 198	50.18	50.18	Ok
7	Less then 1% of mass 198	0.00	0.00	Ok
8	Base peak, 100% relative abundance	100.00	100.00	Ok
9	5-9% of mass 198	6.25	6.25	Ok
5	10-30% of mass 198	21.53	21.53	Ok
5	Greater then 1% of mass 198	2.59	2.59	Ok
1	Less then mass 443	11.28	74.64	Ok
2	Greater then 40% of mass 198	79.46	79.46	Ok
3	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85
Injection Time: 01:25
Run No: >I6258
Spectrun No: 1117

Analyst: K.E. Bonora
Processor: Instrument QC / Pat Chang
QC Batch: QB2854
Samples: H2213 - H2217, H2219, H2220
G9863, H1813

300919

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 02:19
Injected at: 850329 01:47
Data File: >F8504::U4 Dilution Factor: 1.00
Name: 850328 ACID ON F
Misc: H2214A BTL# 5

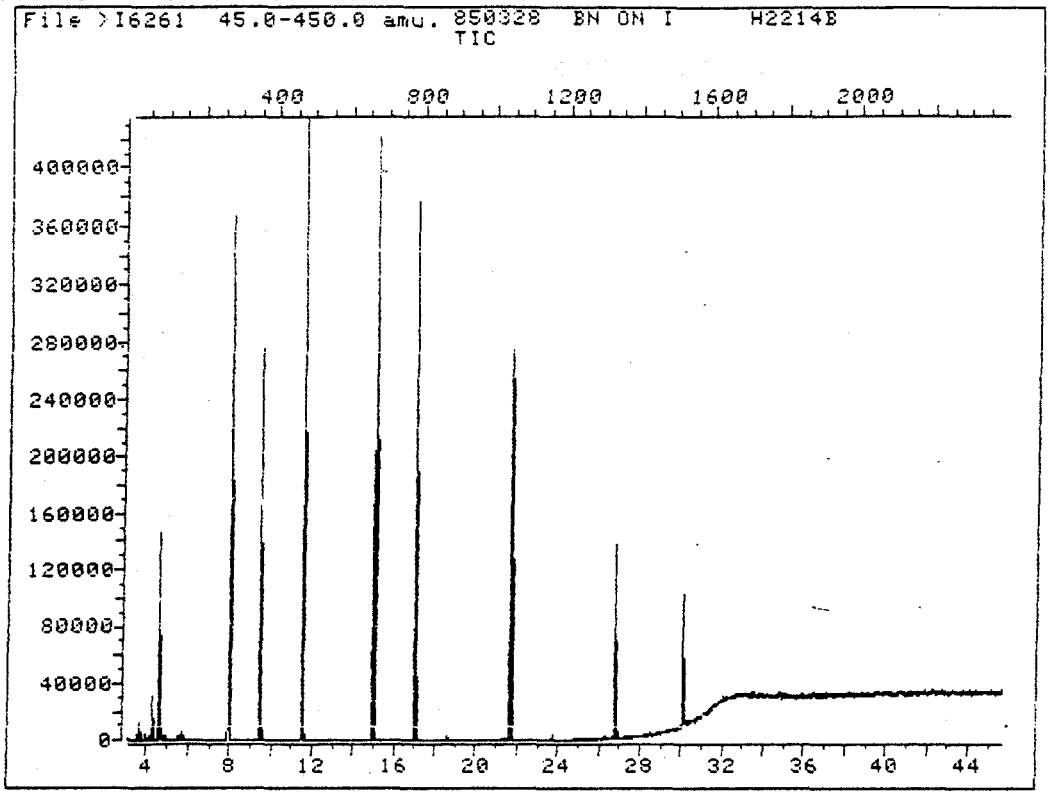
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.56	194	146716	40.00	UG/ML
3)	2-Fluorophenol	4.45	76	82264	32.95	UG/ML
5)	Phenol-D5	6.14	171	16044	~~6.22~~	UG/ML 18
5)	Phenol-D5	6.56	194	965	~~.37~~	UG/ML
6)	*d8-Naphthalene	9.84	378	315889	40.00	UG/ML
11)	*d10-Acenaphthalene	15.16	677	133926	40.00	UG/ML
16)	*d10-Phenanthrene	19.65	929	367689	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.64	816	66285	66.74	UG/ML

* Compound is ISTD

300920

TOTAL ION CHROMATOGRAM



Data File: >I6261::U2
Name: 850328 BN ON I
Misc: H2214B

BTL#12

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 04:43

300921

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 04:
Injected at: 850329 03:
Data File: >I6261::U2 Dilution Factor:
Name: 850328 BN ON I
Misc: H2214B BTL#12

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Unit
1)	*d4-1,4-Dichlorobenzene	7.90	272	130937	40.00	UG/ML
7)	Nitrobenzene-d5	9.45	359	190718	33.50	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.92	273	6426	~~7.21~~	~~UG/ML~~
9)	*d8-Naphthalene	11.48	474	500608	40.00	UG/ML
10)	2-Fluorobiphenyl	14.89	666	336708	40.93	UG/ML
11)	N-Nitrosodi-n-propylamine	9.45	359	28850	~~7.60~~	~~UG/ML~~
19)	*d10-Acenaphthalene	16.98	784	232862	40.00	UG/ML
22)	Dimethyl phthalate	17.00	785	41862	~~9.29~~	~~UG/ML~~
27)	Diethyl phthalate	18.54	872	1694	~~.22~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.60	1045	304286	40.00	UG/ML
37)	Di-n-butyl phthalate	23.68	1162	7672	~~.88~~	~~UG/ML~~
39)	Benzidine	26.73	1334	1363	~~4.55~~	~~UG/ML~~
47)	*d12-Chrysene	30.06	1522	88087	40.00	UG/ML
59)	Terphenyl-D14	26.73	1334	120217	24.08	UG/ML
64)	bis(2-Ethylhexyl)phthalate	30.28	1534	1073	~~.38~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.52	1716	2164	~~1.04~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.61	1721	1782	~~.86~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.52	1716	2164	~~1.12~~	~~U~~
67)	Benzo(k)fluoranthene	33.61	1721	1782	~~.92~~	~~UG/ML~~
68)	Benzo(a)pyrene	34.80	1788	2371	~~1.29~~	~~UG/ML~~
70)	Dibenzo(a,h)anthracene	40.70	2119	2965	~~1.73~~	~~UG/ML~~

* Compound is ISTD

PCB ND

300922

Appendix B

GC/MS Calibration Data

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

* Original Update Form missing from AC Batch. Beta Batch review and time this data was generated, had been updated. Should have new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.388	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19899	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81778	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1,2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62582	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

300924

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
opropylbenzene	-	-	-	-	-	
Dichlorobenzene	-	-	-	-	-	
p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

300925

- RF - Response Factor (Subscript is amount in NG)
- $\overline{RF}$ - Average Response Factor
- RSD - Percent Relative Standard Deviation

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.01533	.01577	2.87	Average	(Conc=4000.00)
Acrylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
Benzene	2.80658	3.08857	10.05	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.46582	.45820	1.64	Average	
Carbon tetrachloride	.84777	.90423	6.66	Average	
Chlorobenzene	1.68410	1.84648	9.64	Average	
Chlorodibromomethane	.75280	.79924	6.17	Average	
Chloroethane	.21329	.15739	26.21	Average	
2-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
Chloroform	1.67484	1.89299	13.02	Average	
Dichlorobromomethane	1.14979	1.22293	6.36	Average	
Dichlorodifluoromethane	.43848	.48366	10.30	Average	
1,1-Dichloroethane	1.17938	1.28676	9.10	Average	
1,2-Dichloroethane	1.07848	1.18416	9.80	Average	
1,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
1,2-Dichloropropane	.99831	1.06739	6.92	Average	
trans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
cis-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
Ethylbenzene	3.39051	3.69108	8.86	Average	
Methyl bromide	.19890	.24156	21.45	Average	
Methyl chloride	.99538	1.08607	9.11	Average	
Methylene chloride	.24840	.20530	17.35	Average	
1,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
Tetrachloroethylene	1.01130	1.16432	15.13	Average	
Toluene	2.98290	3.34990	12.30	Average	
1,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
1,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
1,1,2-Trichloroethane	.56035	.63100	12.61	Average	
Trichloroethylene	.67765	.70670	4.29	Average	
Trichlorofluoromethane	1.34416	1.58651	18.03	Average	
Vinyl chloride	.43792	.48682	11.16	Average	
1,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
Toluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
p-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

300926

0 2

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
sopropylbenzene	-	-	-	Average	
-Dichlorobenzene	-	-	-	Average	
&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

- Response Factor from daily standard file at 90.00 NG

- Average Response Factor from Initial Calibration

Diff - % Difference from original average or curve

300927

073

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850328 22:20

Compound	Files: >F8493 RF 60.00	>F8492 RF 100.00	>F8489 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.79614	.80437	.76134	.954	.78728	2.901	
Phenol	.80904	.85955	.93328	.931	.86729	7.204	
2,4-Dichlorophenol	.26602	.27976	.27663	.981	.27414	2.627	
2,4-Dimethylphenol	.33494	.34353	.30516	.934	.32788	6.141	
2-Nitrophenol	.18484	.19537	.19435	.904	.19152	3.034	
p-Chloro-m-cresol	.27674	.29355	.22907	1.208	.26645	12.554	
4,6-Dinitro-o-cresol	.22150	.27287	.21589	1.139	.23675	13.264	
2,4-Dinitrophenol	.06770	.11025	.11233	1.029	.09676	26.031	
4-Nitrophenol	.08473	.13355	.09617	1.080	.10482	24.361	
2,4,6-Trichlorophenol	.34095	.35554	.42589	.858	.37413	12.140	
Pentachlorophenol	.03058	.05702	.05922	.988	.04894	32.570	
2-Fluorophenol	.67275	.67515	.69391	.675	.68060	1.703	(Conc=100.0,100.0,100.0)
Phenol-D5	.67214	.70067	.73630	.927	.70304	4.573	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.10538	.10039	.11837	.898	.10804	8.590	(Conc=100.0,100.0,100.0)

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

300928

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
rosodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
ichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
ichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
ichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
benzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
lorobiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
rosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
hloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
benzene	.53986	.53064	.44149	-	.830	.50400	10.779	
lorone	.61445	.61958	.51124	-	.885	.58176	10.507	
-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
halene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
chlorobutadiene	.16213	.15028	.12153	-	1.054	.14465	14.436	
chlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
loronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
thyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
aphthylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
Dinitrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
aphthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
Dinitrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
nyl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
rene	1.32085	1.11815	.85208	-	1.099	1.09703	21.430	
lorophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
trosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
Diphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
omophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
chlorobenzene	.23428	.23767	.17391	-	.956	.21529	16.664	
anthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
racene	1.15723	1.12032	.88688	-	1.010	1.05481	13.898	
-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
ranthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
idine	.01720	.00866	.09231	-	1.199	.03939	116.851	
ne	.76361	.65946	.61773	-	1.212	.68027	11.044	
a-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
a-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
a-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
achlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
in	.17530	.17093	-	.15573	1.123	.16732	6.142	
achlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

) - Percent Relative Standard Deviation

300929

035

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.05775	.09214	-	.10898	.862	.08629	30.260	
Endosulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4,4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
Dieldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
Endrin	.11420	.11589	-	.08328	.915	.10446	17.572	
Endosulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4,4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
Endrin aldehyde	-	-	-	.25209	.937	.25209	-	
4,4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
Endosulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
Terphenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
Benzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
Chrysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3,3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
bis(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
Di-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
Benzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
Benzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
Benzo(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
Indeno(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
Dibenzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
Benzo(ghi)perylene	.69610	.86743	.79438	-	1.410	.78597	10.938	

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

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

$\overline{RF}$ - Average Response Factor

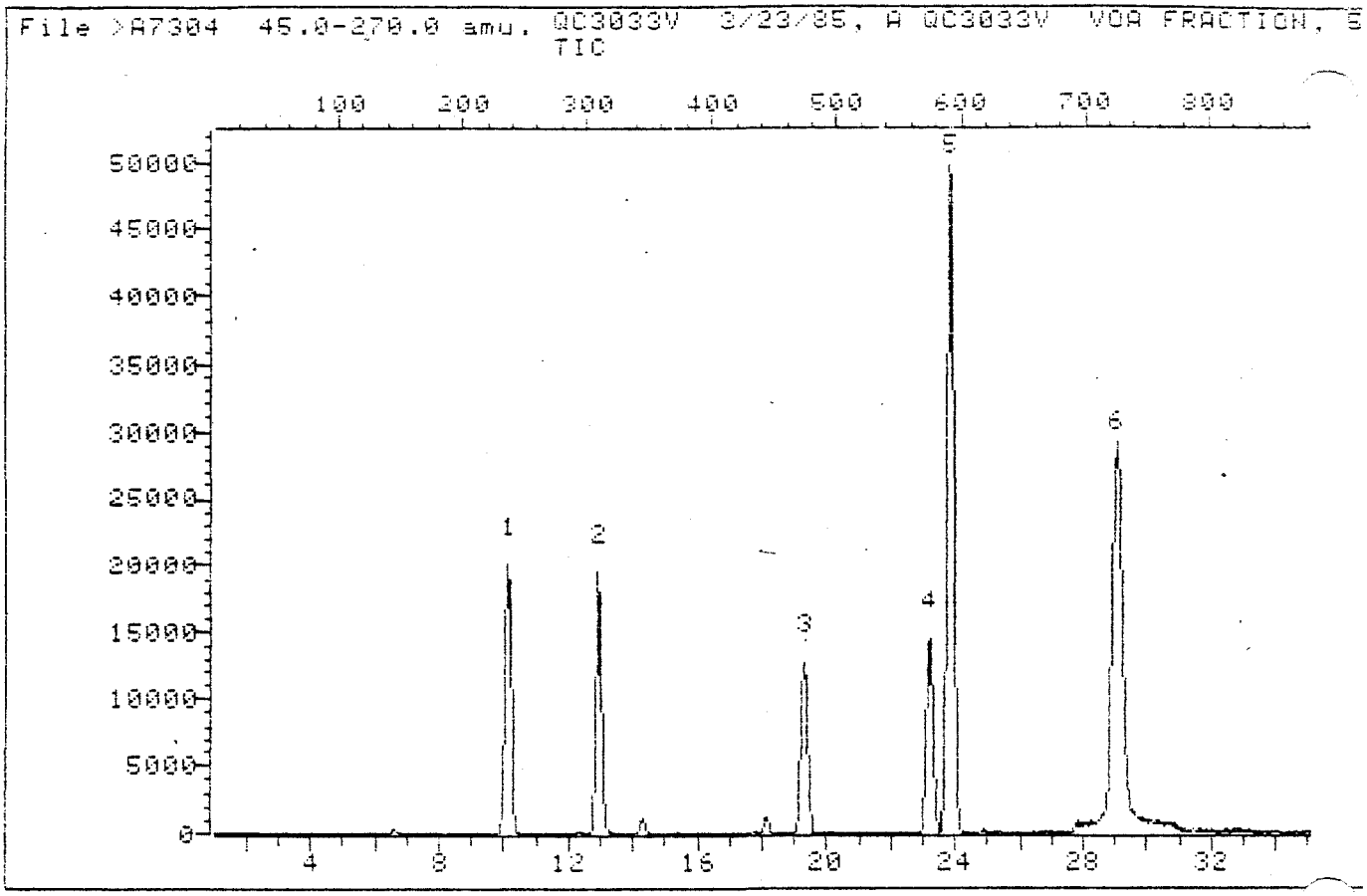
%RSD - Percent Relative Standard Deviation

300930

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, SML WATER, BLANK

300932

QUANT REPORT

ator ID: LA2639 Quant Rev: 3 Quant Time: 850325 08:23
Injected at: 850323 09:04
File: >A7304::U2 Dilution Factor: 1.00
: QC3033V 3/23/85, A
: QC3033V VOA FRACTION, SML WATER, BLANK

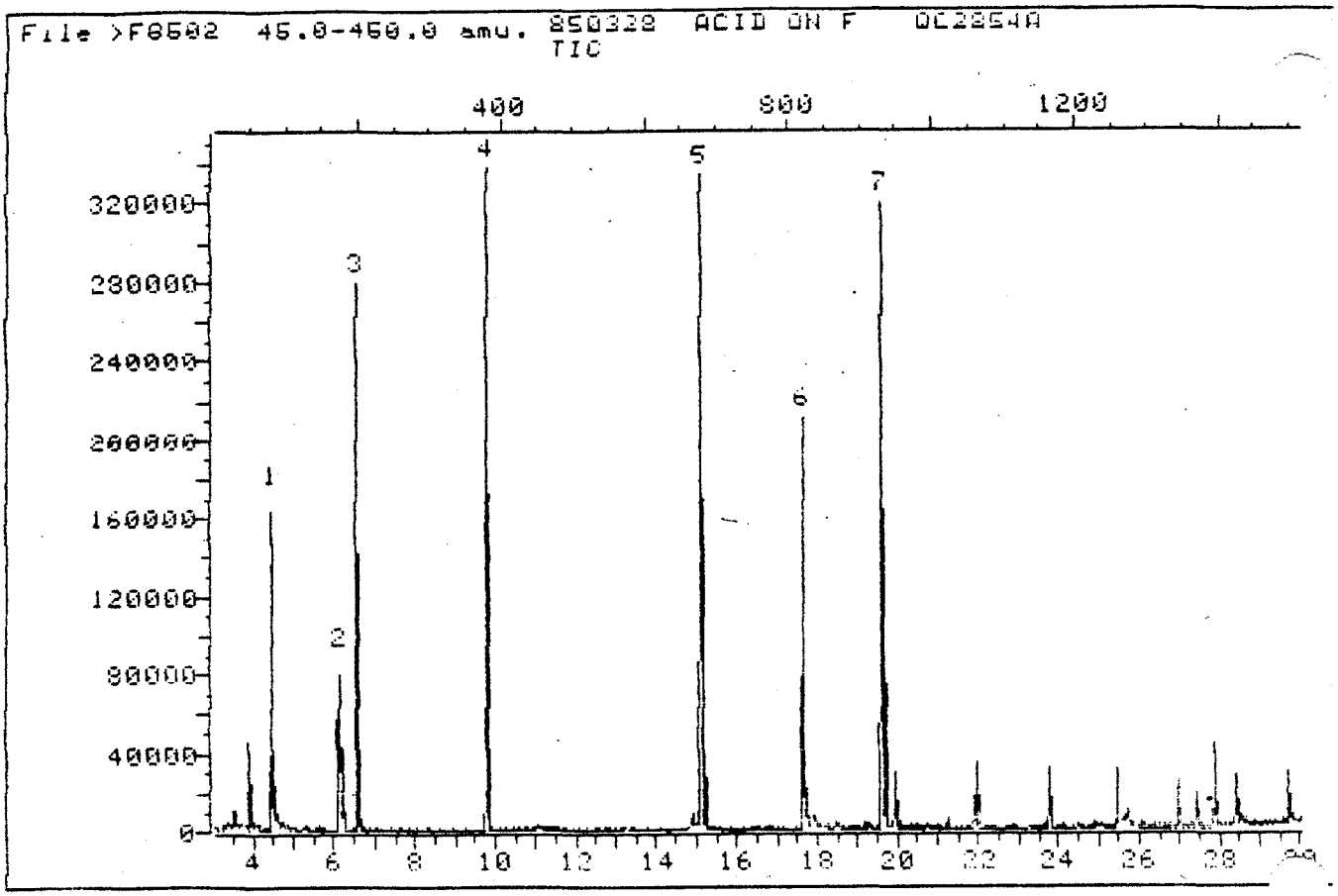
ile: PK
: IDFILE FOR PP VOAS
Calibration: 850325 08:20

Compound	R.T.	Scan#	Area	Conc	Units
K2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

ompound is ISTD

300933

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8502::UA
Name: 850328 ACID ON F
Misc Data: QC2854A

BTL#

300934

300908

0:0

QUANT REPORT

ator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:04
Injected at: 850329 00:32
File: >F8502::U4 Dilution Factor: 1.00
: 850328 ACID ON F
: QC2854A BTL# 3

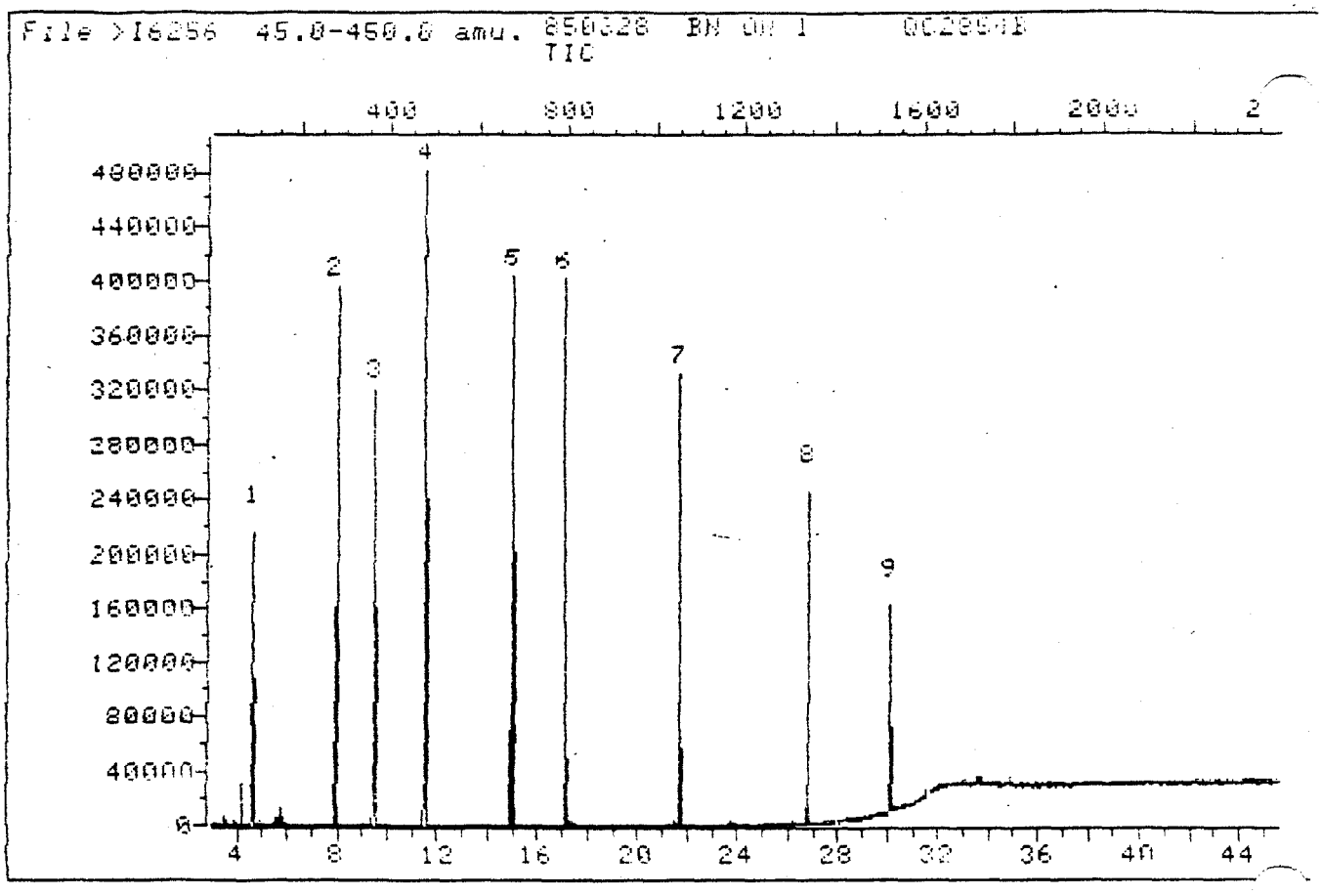
ile: FACID
e: ACID ID FILE.....3/15/85,#F,WWC
Calibration: 850328 22:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.55	196	174971	40.00	UG/ML
2-Fluorophenol	4.41	76	145527	48.88	UG/ML
2-Fluorophenol	4.98	108	380	~~.13~~	UG/ML
Phenol-D5	6.12	172	101427	32.98	UG/ML
Phenol-D5	6.55	196	1354	~~.44~~	UG/ML
*d8-Naphthalene	9.79	378	372654	40.00	UG/ML
*d10-Acenaphthalene	15.12	677	205801	40.00	UG/ML
*d10-Phenanthrene	19.62	930	419734	40.00	UG/ML
2,4,6-Tribromophenol	17.61	817	78559	69.29	UG/ML

ompound is ISTD

300935

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6256..UA
Name: 850328 BN ON 1
Misc Data: QC2854B

FTL#

300936

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850328 23:43
Injected at: 850329 22:55
Data File: >I6256::U1 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC2854B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

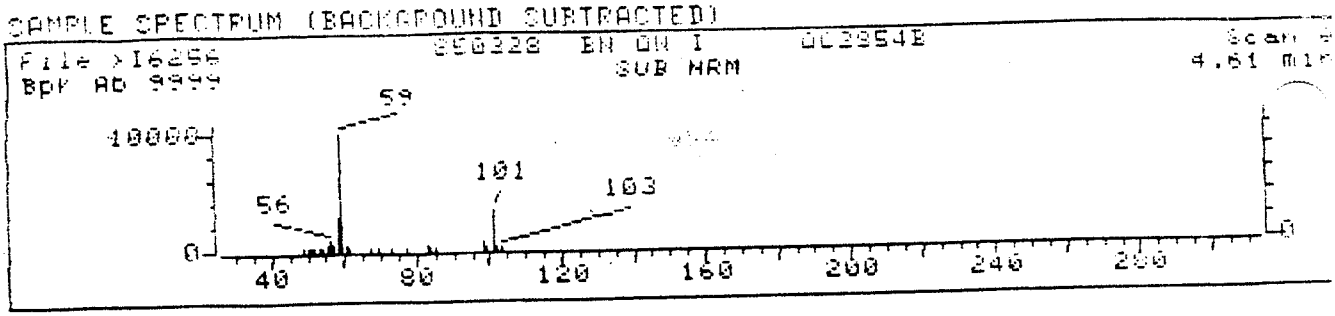
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	~~7.52~~	~~UG/ML~~
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	~~.71~~	~~UG/ML~~
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	~~5.37~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	~~.48~~	~~UG/ML~~
39)	Benzidine	26.76	1338	2450	~~6.77~~	~~UG/ML~~
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1338	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	~~1.44~~	~~UG/ML~~
65)	Di-n-octyl phthalate	32.16	1642	1965	~~.38~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.53	1719	8410	~~2.54~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.62	1724	8549	~~2.58~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.53	1719	8410	~~2.72~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.62	1724	8549	~~2.77~~	~~UG/ML~~
68)	Benzo(a)pyrene	34.83	1792	9898	~~3.37~~	~~UG/ML~~
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	~~1.55~~	~~UG/ML~~

* Compound is ISTD

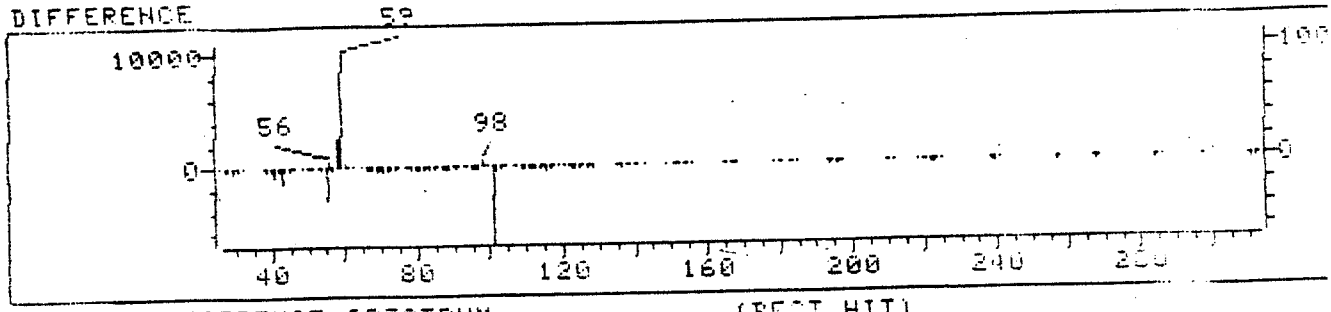
PCB MD

300937

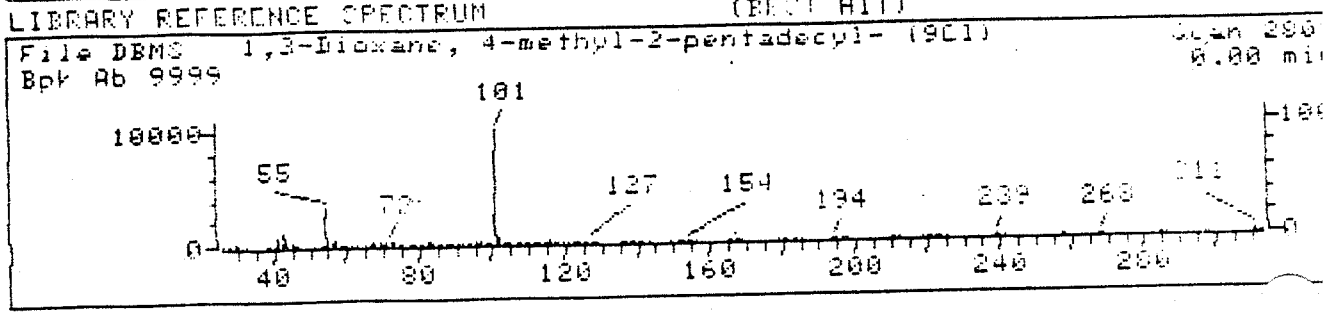
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6256.(1)
Name: 850328 BN ON I
Misc Data: QC2854B
RT (min): 4.61
Scan: 88
Area: 3[illegible]
Semi-quantitative Conc: 14.[illegible] UG/ML

BTL#

Data File: >I6256 Scan Number: 88
Search Speed: 2 Titling option: S Number of ion ranges searched

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	33	81	0	-2

3008

300938

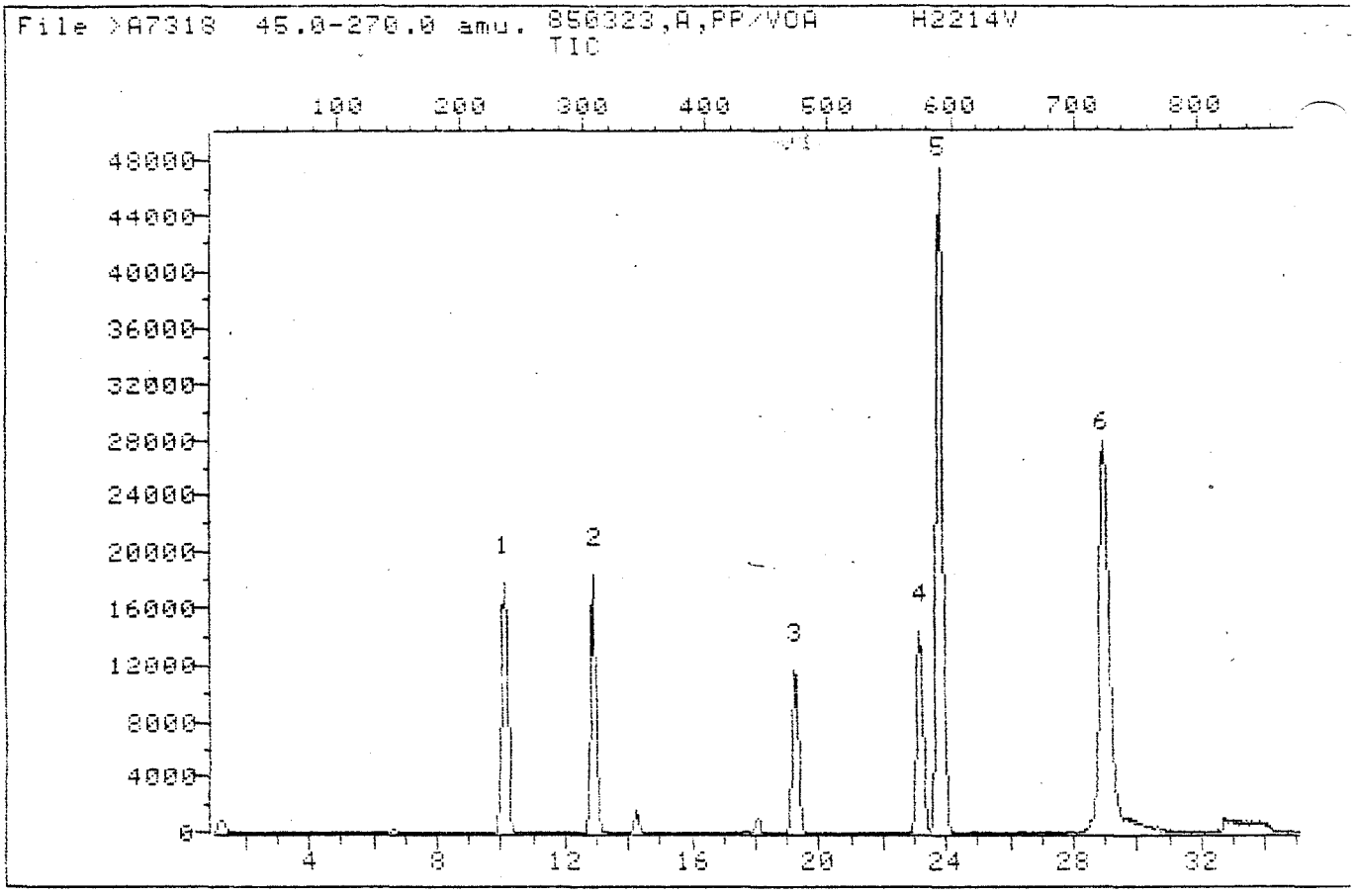
Appendix C

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.

300939

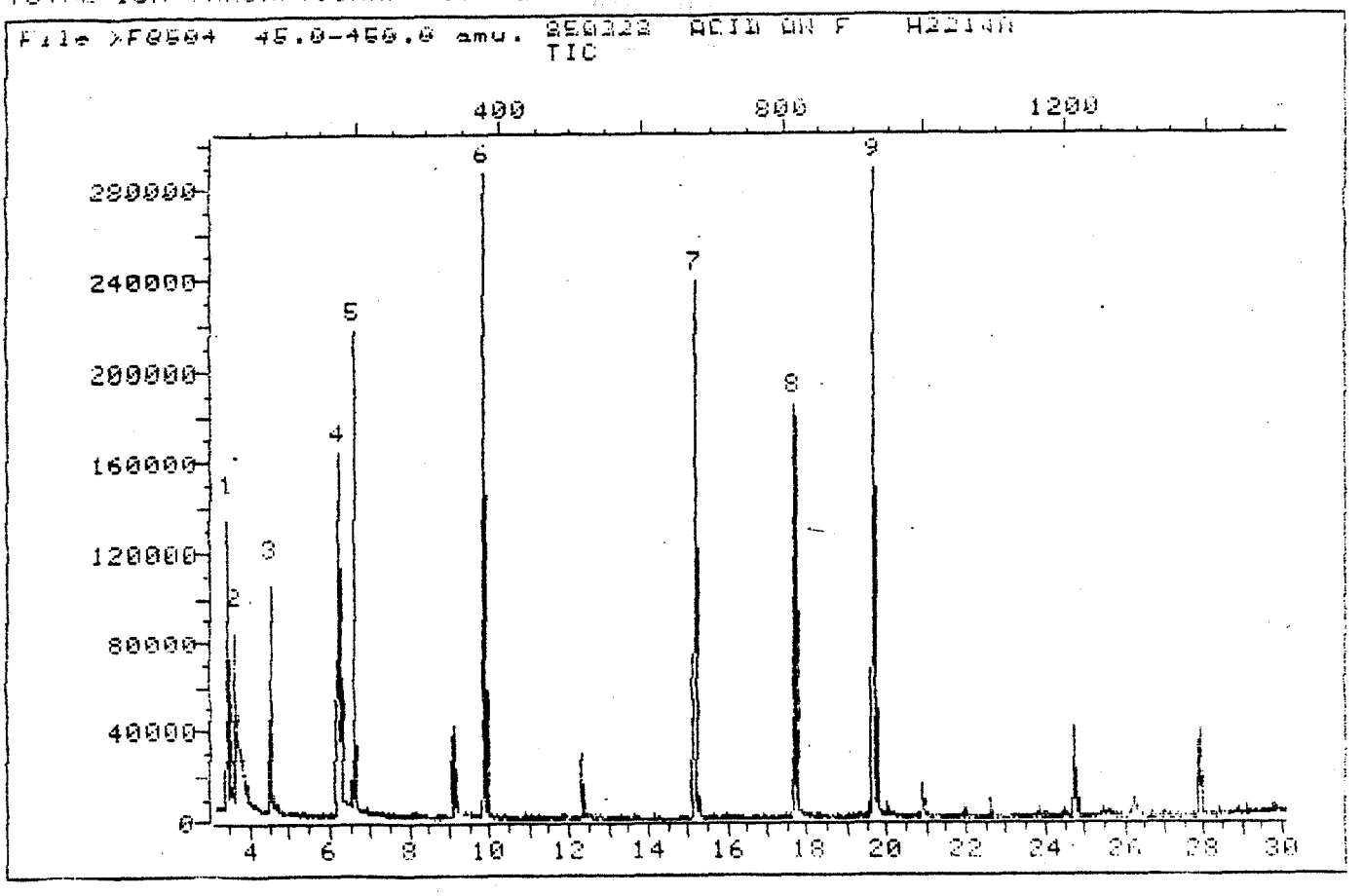
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7318::U2
Name: 850323,A,PP/VOA
Misc Data: H2214V SML

300940

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

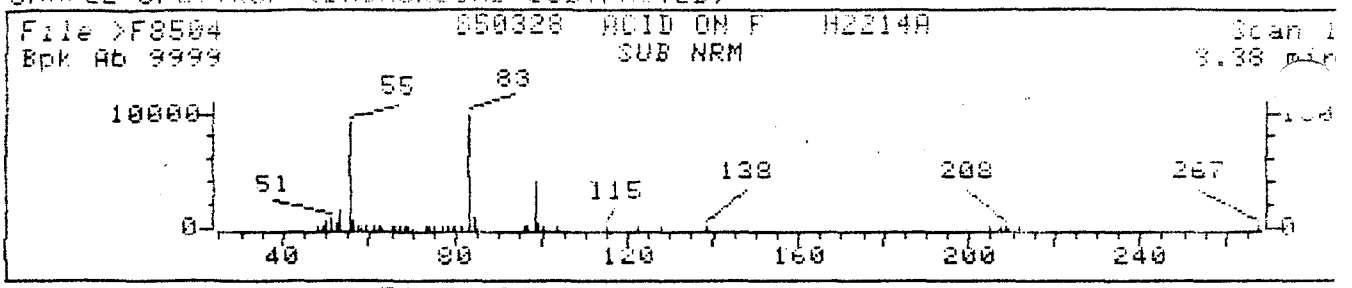


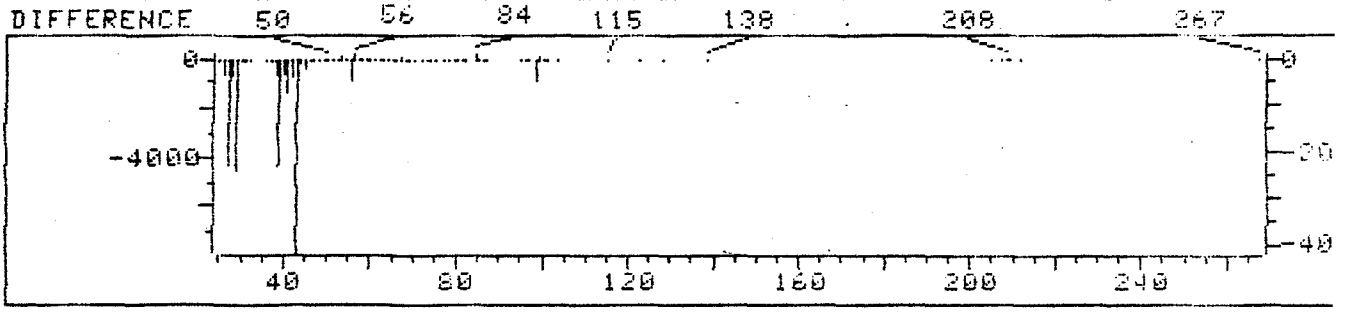
Data File: >F8504::U4
Name: 850328 ACID ON F
Misc Data: H22140

RTL# 5

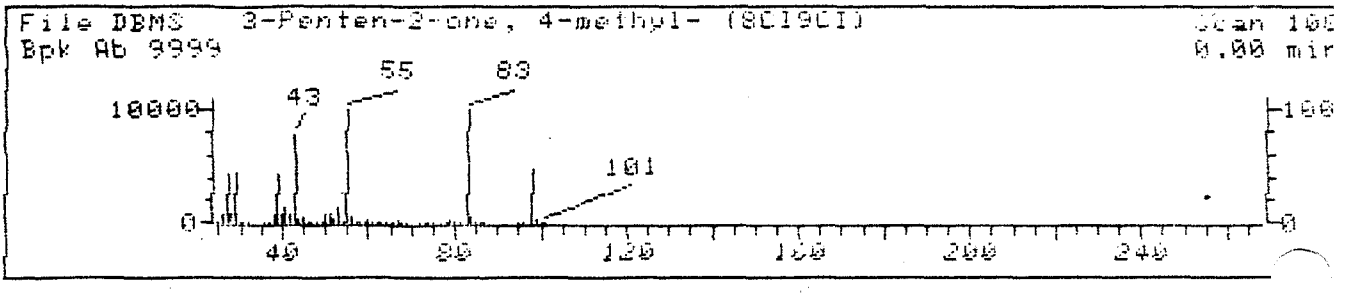
300941

SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)





LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8504::U4
Name: 850328 ACID ON F
Misc Data: H2214A RTL#
RT (min): 3.38
Scan: 16
Area: 282163
Semi-quantitative Conc: 17.07 UG/ML

Data File: >F8504 Scan Number: 16.
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 1

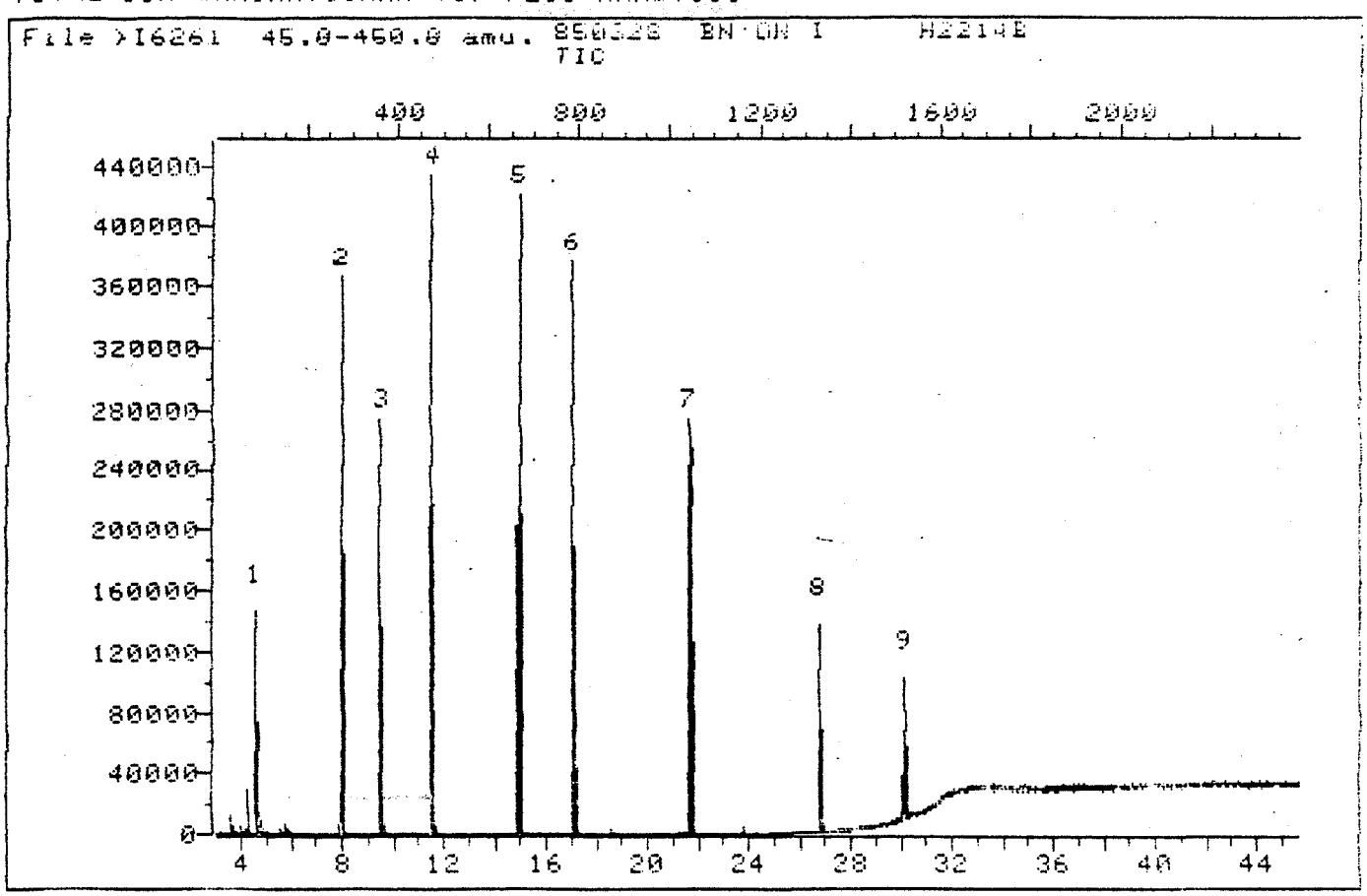
1.	3-Penten-2-one, 4-methyl- (8CI9CI)	98	C6H10O
2.	2-Pentene, 3,4-dimethyl-, (E)- (8CI9CI)	98	C7H14
3.	2-Pentene, 4,4-dimethyl-, (E)- (8CI9CI)	98	C7H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	87	141797	58	40	1	0
2.	86	4914925	52	44	2	0
3.	83	690084	45	46	2	0

2008

300942

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

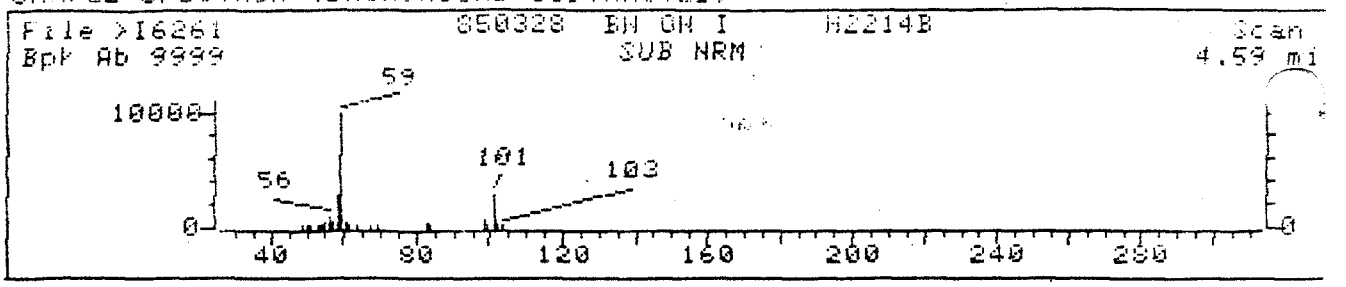


Data File: >I6261::U2
Name: 850328 BN ON I
Misc. Data: H2214B

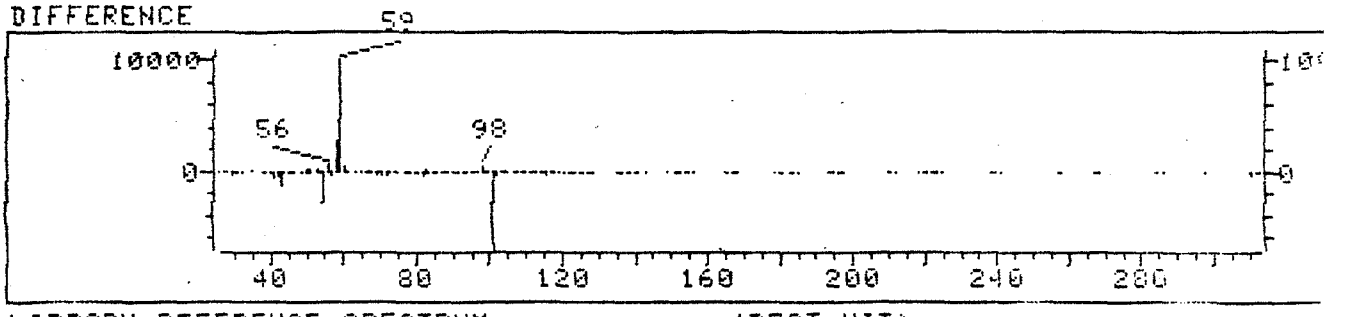
BTL#12

300943

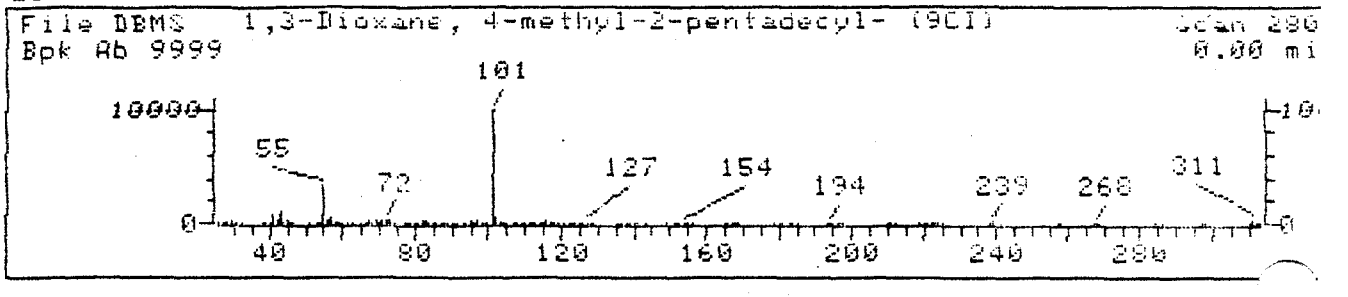
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6261:U2
Name: 850328 BN ON I
Misc Data: H2214B BTL#
RT (min): 4.59
Scan: 85
Area: 321777
Semi-quantitative Conc: 12.31 UG/ML

Data File: >I6261 Scan Number: 85
Search Speed: 2 Titling option: 5 Number of ion ranges searched:

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	33	81	0	-2

300944

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

ETC Job # 141212/14

Lab ID: L85253-B4

Submitted by: MW CHUN

Date: 4/9/85

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 APR 10 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			

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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. 28517 ETC Job # H2214

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: -- 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBIG SOUT | Unfiltered, Nondrinking, Purged

388 3

Sample Point: W | 2114G | UNFA | 03211555 | 1327 | | |

(Facility/Site Code; Optional Sample Point Descriptions)

Source Code (from below) | Your Sample Point ID (left justify) | Start Date (YY/MM/DD) | Start Time (2400 hr. clock) | Elapsed (compos

Source Codes:

Well ..(W) Outfall.....(O) Bottom Sediment....(B) Surface Impoundment....(I) Leachate Collection Sys.....(C) Other .....

Soil ...(S) River/Stream..(R) Generation Point ....(G) Treatment Facility .....(T) Lake/Ocean .....(L) Specify

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observatio
3	E	1L	baked	Extractables	N	OK	✓
1	M	1L	HNO3	Metals	N	OK	✓
1	CN	500ml	NaOH	Cyanides	N	OK	✓
1	PN	1L	H2SO4	Phenoles	N	OK	✓
2	V	40ml	Sod-Thio.	VOA	N	OK	✓ VL hds
1	TB	40ml	SC/MS H2O	Trip blank	N	OK	✓

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) S. SORGIANNI Date: 3/21/85 Time: 1327
   Signature: [signature] Seal #: 28517 Intact: Y

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. 300948
   Name: Signature:
   Date: Time: Remarks:

4. Shuttle Sealed By: (print) Date: Time:
   Signature: Seal #: Intact:

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 8:10

Seal #: 28518 Condition: ok

0 4

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2114

Sample Point LW LIMG UNFP
(Source Code) (Sample Point ID)

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

Sampler Type [ ] 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)

	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: Pebble Unfound, Purged
Weather Conditions:
Other:

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

Sampler: S. BOSCHANIN (Print) Employer: NJDEP

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

3/21/88 (Date) (Signature)

300949

79008

GC-MS ANALYSIS CUSTODY LOG

DATE 850323 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE APEI01
SEQUENCE FILE TM
METHOD FILE VOA
IDFILE AVOA
ANALYST(S) T Monroe

SUPERVISOR MDonley
BATCH #'s QV3033

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	9609	1
ISTD	40	9170	5
SUST	25	9377	10
ABC	18	10,221	5

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLU Y/N
P-BFB	>A7303	1			A00106	0810hrs 3/23	
QC3033V	>A7304	5ml	1				Y
QC3033VS	>A7305		2			5ul ABC Something DG Over ABC	
QC3033VS	>A7306		4			10	
QC3033VS	>A7307		5			30 Blew out Tube	
QC3033VS	>A7308		3			5	
QC3033VS	>A7309		6			30	
QC3033VS	>A7310		1			5 1544 hrs	
H2205VS	>A7311		1				
H2205V	>A7312		2				Y
H2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000 hrs 3/27	
QC3033VS	>A7316					5ul ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220V	>A7322						
G9862V	>A7323					composites Keno 1:10	
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326						
H0887V	>A7327						

300950

300951

S ANALYSIS CUSTODY LOG

850324 SHIFT
TION VOA
RUMENT A
FILE APSJG1
ENCE FILE JQA
OD FILE VOAA
LE AVOA
YST(S) [signature]
RVISOR [signature]
H #'s

(PLEASE INITIAL)

URRENT S STATUS	STANDARDS UPDATED	
	DATE	
	BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
ISTD	40	9141	5
SURR	25	8377	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
10888V	>A7328	5ul			A-106		
29862V	>A7329	↓		1:10		composite Office 1124	

30906

057

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EXTRACTION LOG

3908

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2213	8683	1000	1.0	1.0	
H2214	"	960	1.0	1.0	
H2215	"	970	1.0	1.0	
H2216	"	950	1.0	1.0	
H2217	"	930	1.0	1.0	
H2219	"	930	1.0	1.0	
H2220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
H1813	8698	980	1.0	1.0	
G8913	8383	1000		1.0	
G9222	8411	1000		1.0	
G9224	↓	1000		1.0	
G5914	8437	950		1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

QC Batch # 2854

Analysis: PP/T

PP/ORG/PST/PCB

PP/ACID (REPEATS)

Matrix: H_2O

Turnaround: NORM

Date: 3/27/85

Extraction Method:

sep funnel ✓

continuous

soxhlet

other

COMMENTS FOR EXTRACT.:

PP/T: H2213 – 17, 19, 20
H1813

PP/ORG/PST/PCB: G98[illegible]

PP/ACID (REPEAT): G8913, G9222, 24, G5914

COMMENTS FOR GC/MS:

*16 comp @ 100 ug/ml
chlordane @ 200 ug/ml

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FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

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

Set-up: [signature] 3/27/85 QUPD/Supervisor: [signature] 3/2

300953

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT 2
TUNE FILE MTF001
SEQUENCE FILE PE
METHOD FILE ACIDP
DFILE EACIP
ANALYST(S) R. TAGUE
SUPERVISOR
BATCH #'s QA2854, QA2855

(PLEASE INITIAL)

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ	RT	DATE	K&S
WIP		BY	3/28/85

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Add	4000	9553	100
DFTPP	25	9534	2

4, 5, 6. 9/10/2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DFTPP	F8488				I00160		
Acid Calib Std. III	F8489		1				
II	F8490		2				
I	F8491		3				
QC 2854A	F8492		4			Aborted. Batch at 8:00pm not used rewritten	Y
QC 2854AS	F8493		5				
H2213AS	F8494		6				
H2213A	F8495		7				Y
H2214A	F8496		8				
H2215A	F8497		9				
H2216A	F8498		10				
H2217A	F8499		11				↓
H2217AR	F8500		12				
H2219A	F8501		13				Y
H2220A	F8502		14				Y
G9863A	F8503		15				
H1813A	F8504		16				
G8913A	F8505		17				
G9222A	F8506		18				
G9224A	F8507		19				
G5914A	F8508		20				
H0867A	F8509		21	1:10		For QC 2852	
DFTPP	F8510		22				
Acid Calib Std II	F8511		23		↓		

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE KRB/KEBF
METHOD FILE ACIDF
IDFILE PACID
ANALYST(S) KE Bonaparte
SUPERVISOR [signature]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
AC10 CAL II	F8492					
AC10 CAL I	F8493					
H2213AS	F8500		1	A		
BC2854AS	F8501		2			
BC2854A	F8502		3			
H2213A	F8503		4			
H2214A	F8504		5			
H2215A	F8505		6			
H2216A	F8506		7			
H2217A	F8507		8			
DFTPP	F8508		9			
AC10 CAL II	F8509		10			
H2217AR	F8510		11			
H2219A	F8511		12			
H2220A	F8512		13			
G9863A	F8513		14			
H1813A	F8514		15		6898	F8515-15 14
G9222A	F8516		17			
G9224A	F8517		18			
G5914A	F8518		19			
H0867A	F8519		20	10:1		QB2852
BC2855AS	F8520		20			

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C-MS ANALYSIS CUSTODY LOG

ATE 3/28-29/85 SHIFT ___
RACTION ACID
NSTRUMENT F11
UNE FILE MTF001
EQUENCE FILE ___
ETHOD FILE ___
DFILE ___
NALYST(S) K.S Brown Jr.
UPERVISOR Mark A Worthy
ATCH #'s ___

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ICQ		DATE	
IP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
GS229AS	F8521		22				
GB285SA	F8522		23				Y
GS228A	F8523		24				"
GS229A	F8524		25				"
GS231A	F8525		26				Y
GS231AR	F8526		27				
GS232A	F8527		28				Y
DATPP	F8528		29				
AC10 CAL II	F8529		30				
GS233A	F8530		31				Y
GS234A	F8531		32				"
GS235A	F8532		33				Y
H0737A	F8533		34				
H0293A	F8534		35				
G8937A	F8535		36				

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BNP
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE KEBI
METHOD FILE BNPI
IOFILE IBNP
ANALYST(S) K$ Bonpa S
SUPERVISOR [signature]
BATCH #'s Q-B2854
Q B2855

(PLEASE INITIAL)

CURRENT CS#5 STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VI
DFTPP	25	9534	2uS
BN CAL IV	150	10194	1mL
III	200	9961	1
II	100	10193	1
I	60	10192	1 mL
INT STD MIX	400	9653	100

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	I6249					
BN CAL II	I6250		1			
BN CAL III	I6251		2			
BN CAL I	I6252		3			
BNCAL II	I6253		4			
H243 BS	I6254		5		088 AS	
QC2854BS	I6255		6		T	
QC2854B	I6256		7		U	
H2217 BR	I6257		8		V	
DFTPP	I6258		9			
BNCAL II	I6259		10			
H2213 B	I6260		11		W	
H2214B	I6261		12		X	
H2215B	I6262		13		Y	
H2216B	I6263		14		Z	
H2217B	I6264		15		BA	
H2219B	I6265		16		B	
H2220B	I6266		17		C	
G9863B	I6267		18		D	
H1813B	I6268		19		E	
G5229BS	I6269		20			
QC2855BS	I6270		21			
DFTPP	I6271		22			
BNCAL II	I6272		23			
QC2855B	I6273		24		092	

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BN
INSTRUMENT H
TUNE FILE MTH001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) K.R. Brown
SUPERVISOR Charles A. Watts
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
G5231BR	I6274		25				
G5228B	I6275		26				Y
G5229B	I6276		27				Y
G5231B	I6277		28				
G5232B	I6278		29				
G5233B	I6279		30				
G5234B	I6280		31				
G5235B	I6281		32				Y
H2853B	I6282		33				
H0293B	I6283		34				
H0737B	I6284		35				

300E

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8683

3008

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas Schield	4/8/85
AA/ICAP Prep	Maura Ann McClean	4/8/85

Lab Supervisor Lidya Wikiarek date 4/12/85

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064

ETC / CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mun Jaeho

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H2220 H2217

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

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Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	Time/Date	Time/Date

8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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 Hamilton 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

X-029

Sample(s) Relinquished by: M. Jaehn

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 315

300960

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2215	NJ DEP	NJDCOMBES0	RSTATION 3	850321	1505	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*	*Time*	*Elapsed Hours*

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

300961

TABLE OF CONTENTS

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

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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

300964

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 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
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

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	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	BMDL	2.80	5	7	BMDL	18	172[B]	5	18	53[B]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

A EPA published Method Detection Limit.

B Recove[illegible] [illegible]nally variable using EPA Protocol Method 624.

300965

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 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
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

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	ND	ND	ND	100	86	ND	103	77
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	90	ND	103	82
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	90	ND	103	78
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	79	ND	103	86
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	43	ND	103	62
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	85	ND	103	79
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	53	ND	103	55
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	101	ND	103	86
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	83	ND	103	82
10A	Phenol	ND	1.50	ND	ND	ND	100	40	ND	103	58
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	87	ND	103	84

a EPA published Method Detection Limit.

300966

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10[B]	ND	103	9[B]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 [c]	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 [c]	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	41	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 [c]	ND	ND	ND	100	3[B]	ND	103	35[B]
25B	Dimethyl phthalate	ND	10 [c]	ND	ND	ND	100	1[B]	ND	103	3[B]
26B	Di-n-butyl phthalate	ND	10 [c]	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	6	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 [c]	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

300967

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27[b]	ND	103	43[b]
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24[b]	ND	103	32[b]
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

300968

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

300969

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

300969

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols – Analysis Data (QR05)

300970

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l
1M	Antimony	ND	80
2M	Arsenic	BMDL	5
3M	Beryllium	ND	.60
4M	Cadmium	ND	3
5M	Chromium	ND	20
6M	Copper	ND	10
7M	Lead	ND	5
8M	Mercury	ND	.30
9M	Nickel	ND	10
10M	Selenium	ND	10
11M	Silver	ND	8
12M	Thallium	ND	5
13M	Zinc	ND	30
14M	Cyanide, Total	<25	25
15M	Phenolics, Total	<10	10

300970

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2215	NJ DEP	NJDCOMBESO	RSTATION3	850321	1505	

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

300971

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 1, 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
H2215	NJ DEP	NJDCOMBESO	RSTATION3	850321	1505	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
None Found								

300972

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

3003

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	84	4.50	-	-	-	14		
2 Unknown	1284	25.80	-	-	-	5		

300973

Relative Percent Difference (RPD) for VOA

H2215 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 3 — Facility Source
850321 1505 — Date Time

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	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	5	7	33
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	ND	0
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
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505

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
H2215	NJ DEP	NJDCOMBESO	RSTATION 3	850321	1505

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

H2215 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 3 — Facility / Source
850321 1505 — Date / Time

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

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2215

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	119	86	119
Bromofluorobenzene	.250	116	85	121
1,2-Dichloroethane-D4	.250	98	77	120
ACID FRACTION				
Phenol-D5	100	26	15	103
2-Fluorophenol	100	37	23	121
2,4,6-Tribromophenol	100	53	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	84	41	120
2-Fluorobiphenyl	50	86	44	119
Terphenyl-D14	50	54	33	128

* IFB EPA Control Limits.

300979

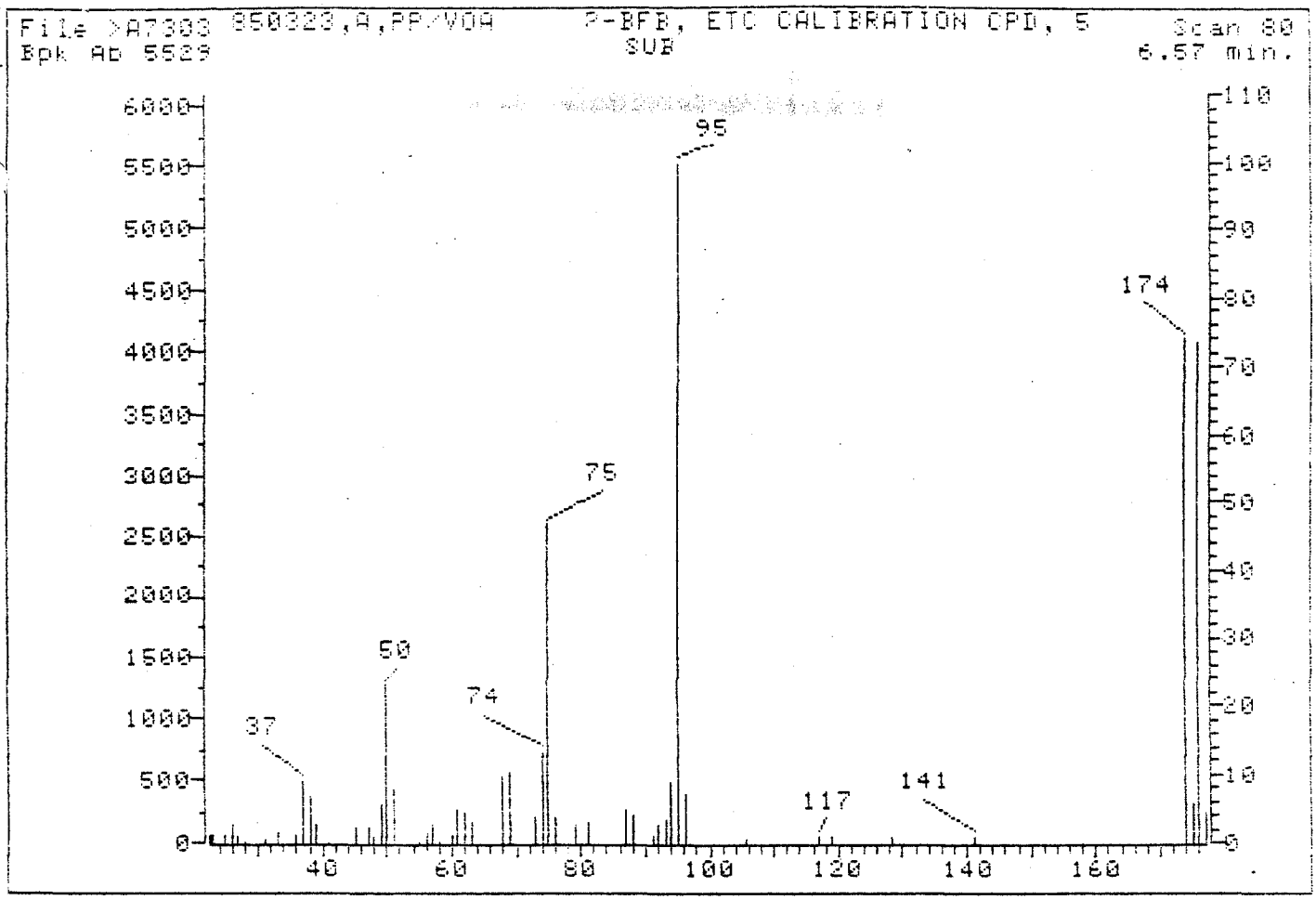


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
73	Less then 1% of mass 95	0.00	0.00	Ok
74	Greater then 50% of mass 95	74.14	74.14	Ok
75	5-9% of mass 174	5.46	7.37	Ok
76	95-101% of mass 174	73.36	98.95	Ok
77	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85 Analyst: Tommy Mancuso
Injection Time: 08:09 Processor: Pearl Trent
Run No: >A7303 QC Batch: QV3033
Spectrum No: 80 Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0877, H0887, H0888.

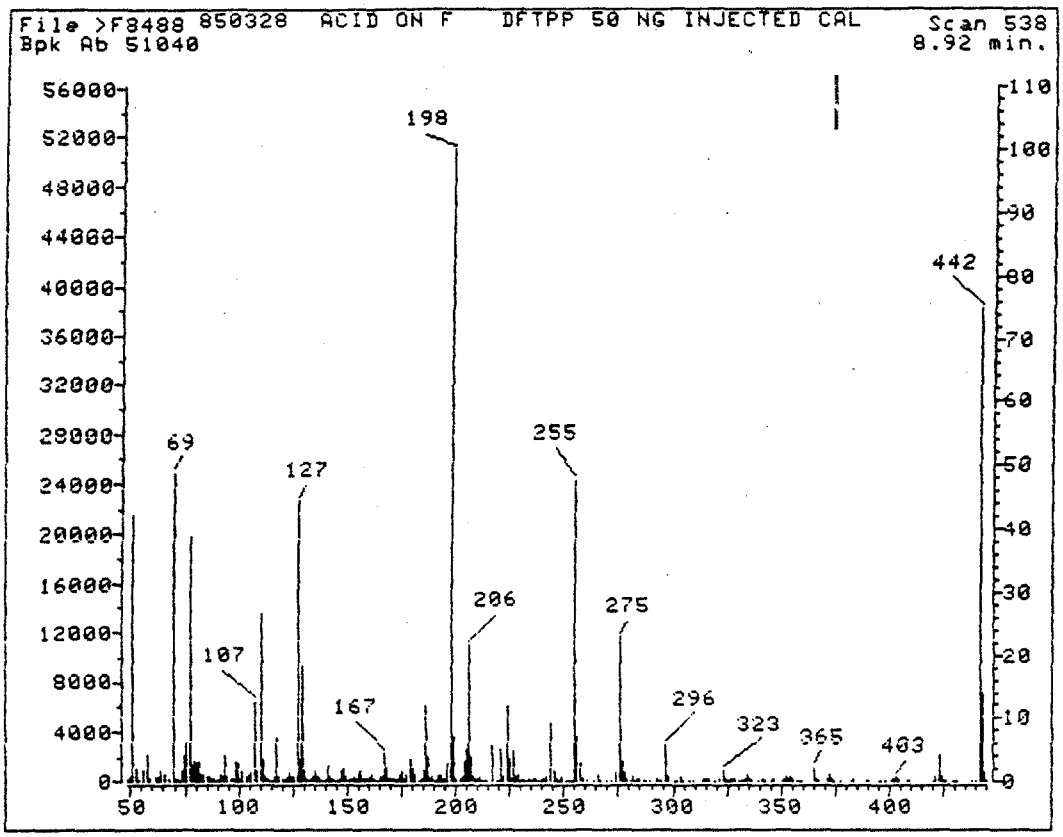


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	42.19	42.19	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	48.87	48.87	Ok
70	Less then 2% of mass 69	.41	.85	Ok
127	40-60% of mass 198	44.25	44.25	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	6.71	6.71	Ok
275	10-30% of mass 198	22.79	22.79	Ok
365	Greater then 1% of mass 198	2.24	2.24	Ok
441	Less then mass 443	~~0.00~~	~~0.00~~	Ok
442	Greater then 40% of mass 198	74.81	74.81	Ok
443	17-23% of mass 442	13.80	18.45	Ok

Injection Date: 03/28/85 Analyst: K. G. Bonpante
Injection Time: 13:26 Processor: Wen-Wen Chi
Run No: >F8488 QC Batch: QA2854
Spectrun No: 538 Samples: H2213-H2217

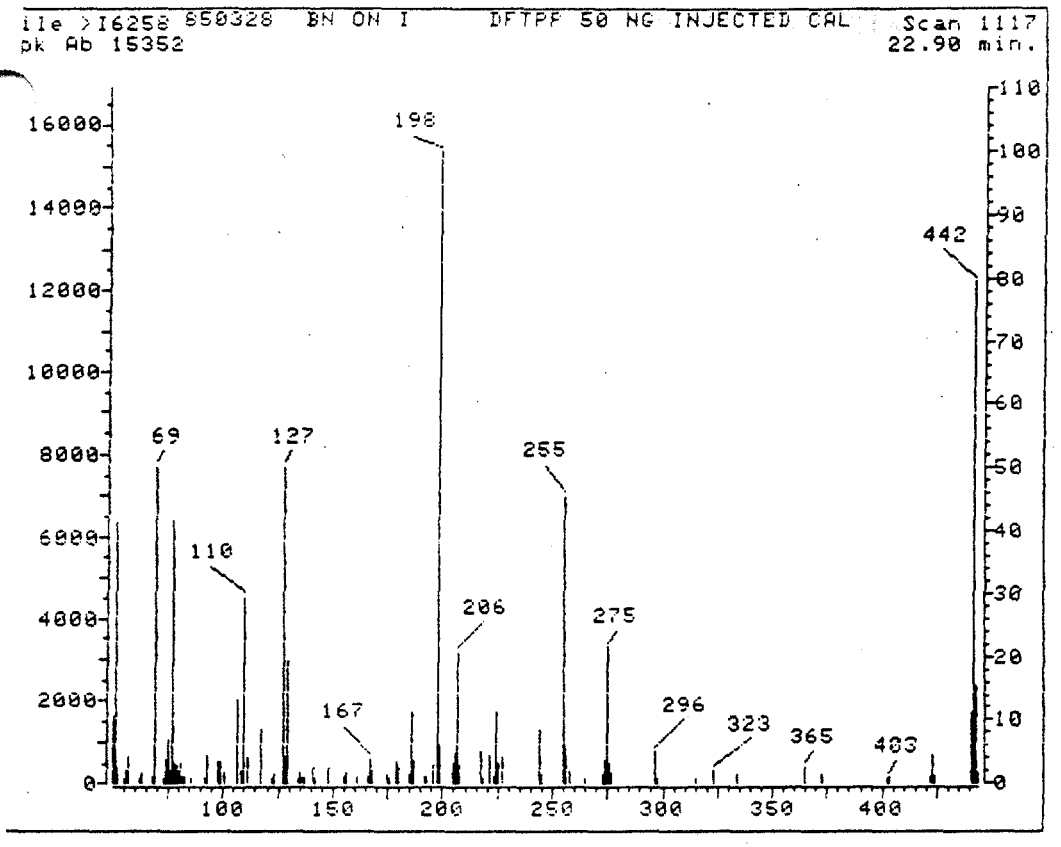


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	41.17	41.17	Ok
68	Less then 2% of mass 69	.93	1.86	Ok
69	(reference only)	50.12	50.12	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	50.18	50.18	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	6.25	6.25	Ok
275	10-30% of mass 198	21.53	21.53	Ok
365	Greater then 1% of mass 198	2.59	2.59	Ok
441	Less then mass 443	11.28	74.64	Ok
442	Greater then 40% of mass 198	79.46	79.46	Ok
443	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85 Analyst: K.E. Bonner
Injection Time: 01:25 Processor: [illegible] / Pat Chang
Run No: >I6258 QC Batch: QB2854
Spectrun No: 1117 Samples: H2213 - H2217, H2219, H2220 G9863, H1813

300982

Appendix A

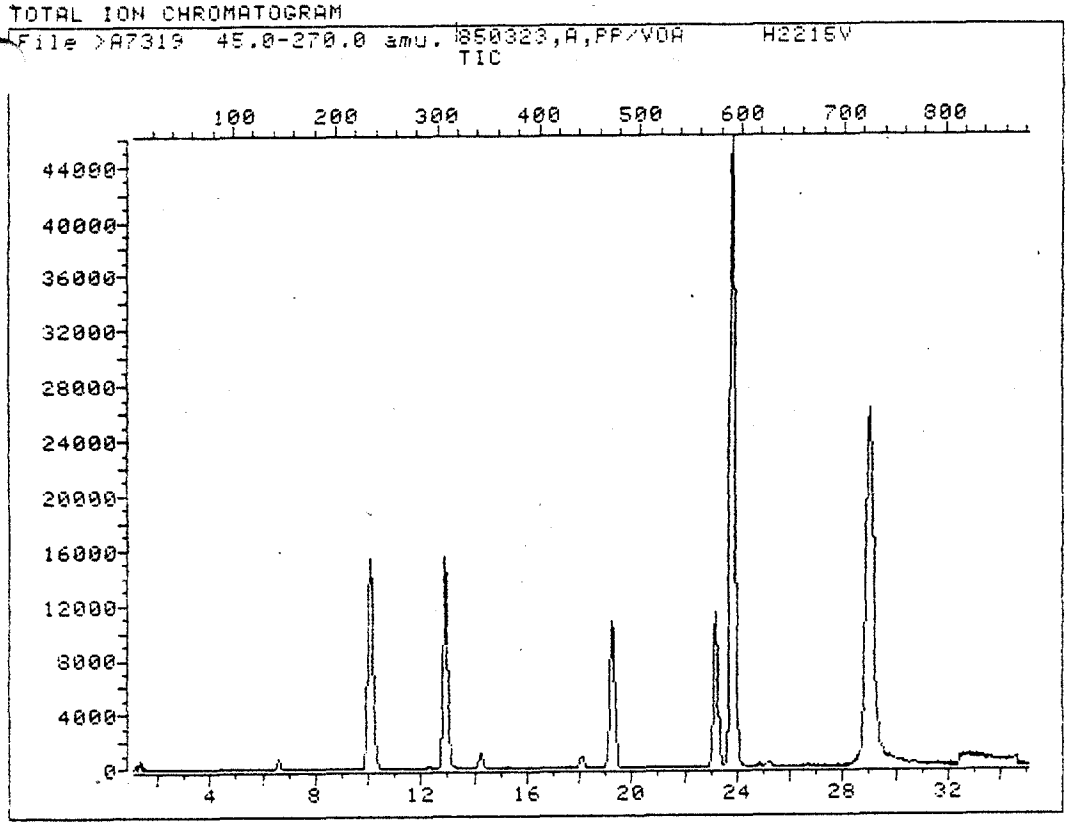
Mass Spectral Data for Quantitated Compounds

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.

300983

TOTAL ION CHROMATOGRAM



Data File: >A7319::U2
Name: 850323,A,PP/VOA
Misc: H2215V 5ML

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM5066
Quant Time: 850324 00:16

300984

QUANT REPORT

Operator ID: MM5066 Quant Rev: 3 Quant Time: 850325 08:30
Injected at: 850323 23:40
Data File: >A7319::U2 Dilution Factor: 1.00
Name: 850323,A,PP/VOA
Misc: H2215V SML

ID File: PK
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08:20

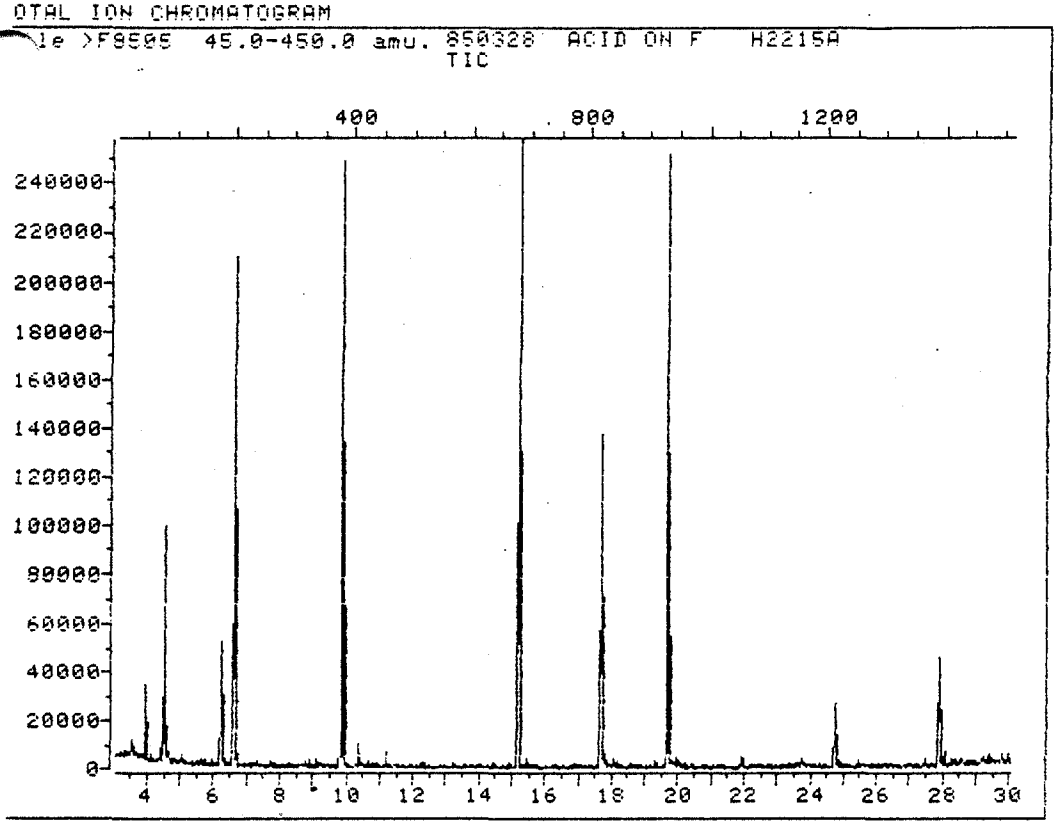
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.25	472	61566	200.00	NG
11)	2-Chloroethylvinyl ether	19.25	472	1454	~~13.94~~	NG
24)	Methylene chloride	6.59	144	1482	19.~~38~~	NG 10
27)	Toluene	24.00	595	1797	1.~~84~~	NG
29)	1,1,1-Trichloroethane	14.27	343	4677	15.~~92~~	NG
35)	1,2-Dichloroethane-D4	12.92	308	35966	246.20	NG
36)	Toluene-D8	23.84	591	245598	~~300.30~~	NG 298
37)	p-Bromofluorobenzene	29.01	725	85499	290.16	NG
38)	*1,4-Dichlorobutane	23.18	574	67915	200.00	NG

* Compound is ISTD

98 = 237422

300985

OTAL ION CHROMATOGRAM



Data File: >F8505::U5
Name: 850328 ACID ON F
Misc: H2215A

BTL# 6

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

Operator ID: KB5414
Quant Time: 850329 03:00

300986

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 03:00
Injected at: 850329 02:24
Data File: >F8505::U5 Dilution Factor: 1.00
Name: 850328 ACID ON F
Misc: H2215A BTL# 6

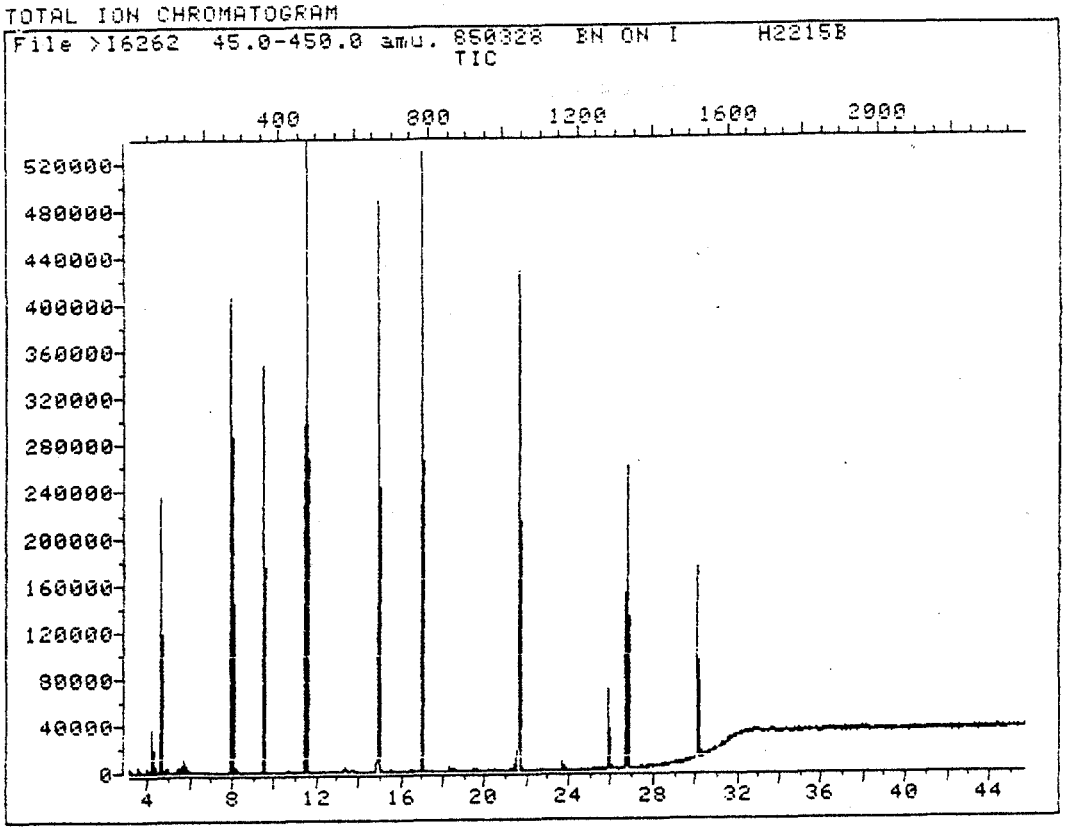
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.60	199	131076	40.00	UG/ML
2)	2-Chlorophenol	6.28	181	221	~~.09~~	UG/ML
3)	2-Fluorophenol	4.48	80	82413	36.95	UG/ML
5)	Phenol-D5	6.19	176	59150	25.68	UG/ML
5)	Phenol-D5	6.60	199	765	~~.33~~	UG/ML
6)	*d8-Naphthalene	9.84	381	274602	40.00	UG/ML
11)	*d10-Acenaphthalene	15.15	679	160331	40.00	UG/ML
16)	*d10-Phenanthrene	19.67	933	325679	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.66	820	46752	53.15	UG/ML
17)	2,4,6-Tribromophenol	18.04	841	247	~~.28~~	UG/ML

* Compound is ISTD

300987

TOTAL ION CHROMATOGRAM



Data File: >I6262::U2
Name: 850328 BN ON I
Misc: H2215B

BTL#13

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 05:37

QUANT REPORT

Operator ID: KB5414

Quant Rev: 3 Quant Time: 850329 05:32
Injected at: 850329 04:49
Dilution Factor: 1.00

Data File: >I6262::U2
Name: 850328 BN ON I
Misc: H2215B

BTL#13

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.89	270	136471	40.00	UG/ML
7)	Nitrobenzene-d5	9.43	357	248060	41.81	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.91	271	7239	~~7.88~~	~~UG/ML~~
8)	bis(2-Chloroisopropyl)ether	9.43	357	639	~~.69~~	~~UG/ML~~
9)	*d8-Naphthalene	11.45	471	584508	40.00	UG/ML
10)	2-Fluorobiphenyl	14.86	663	411128	42.81	UG/ML
11)	N-Nitrosodi-n-propylamine	9.43	357	37170	~~8.38~~	~~UG/ML~~
19)	*d10-Acenaphthalene	16.96	782	295204	40.00	UG/ML
22)	Dimethyl phthalate	16.96	782	53622	~~5.35~~	~~UG/ML~~
26)	2,4-Dinitrotoluene	16.96	782	39696	~~14.67~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.59	1043	447292	40.00	UG/ML
37)	Di-n-butyl phthalate	23.65	1159	11860	~~.93~~	~~UG/ML~~
39)	Benzidine	26.70	1331	2925	~~6.64~~	~~UG/ML~~
47)	*d12-Chrysene	30.04	1519	145754	40.00	UG/ML
59)	Terphenyl-D14	26.70	1331	222739	26.97	UG/ML
64)	bis(2-Ethylhexyl)phthalate	30.27	1532	3092	~~.66~~	~~UG/ML~~

* Compound is ISTD

PCB ND

300989

Appendix B

GC/MS Calibration Data

300990

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850329 08:17

* Original Update Form missing from QC Batch. Between time of Batch review and time this data was generated, Had been updated. Therefore new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.398	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19999	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81778	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1,2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62582	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

D006

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

300991

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
sopropylbenzene	-	-	-	-	-	
ı-Dichlorobenzene	-	-	-	-	-	
)&p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

)F - Response Factor (Subscript is amount in NG)

)F - Average Response Factor

)RSD - Percent Relative Standard Deviation

300992

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.01533	.01577	2.87	Average	(Conc=4000.00)
Acrylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
Benzene	2.80658	3.08857	10.05	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.46582	.45820	1.64	Average	
Carbon tetrachloride	.84777	.90423	6.66	Average	
Chlorobenzene	1.68410	1.84648	9.64	Average	
Chlorodibromomethane	.75280	.79924	6.17	Average	
Chloroethane	.21329	.15739	26.21	Average	
2-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
Chloroform	1.67484	1.89299	13.02	Average	
Dichlorobromomethane	1.14979	1.22293	6.36	Average	
Dichlorodifluoromethane	.43848	.48366	10.30	Average	
1,1-Dichloroethane	1.17938	1.28676	9.10	Average	
1,2-Dichloroethane	1.07848	1.18416	9.80	Average	
1,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
1,2-Dichloropropane	.99831	1.06739	6.92	Average	
trans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
cis-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
Ethylbenzene	3.39051	3.69108	8.86	Average	
Methyl bromide	.19890	.24156	21.45	Average	
Methyl chloride	.99538	1.08607	9.11	Average	
Methylene chloride	.24840	.20530	17.35	Average	
1,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
Tetrachloroethylene	1.01130	1.16432	15.13	Average	
Toluene	2.98290	3.34990	12.30	Average	
1,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
1,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
1,1,2-Trichloroethane	.56035	.63100	12.61	Average	
Trichloroethylene	.67765	.70670	4.29	Average	
Trichlorofluoromethane	1.34416	1.58651	18.03	Average	
Vinyl chloride	.43792	.48682	11.16	Average	
1,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
Toluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
p-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

RF - Response Factor from daily standard file at 90.00 NG

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

%Diff - % Difference from original

300993

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
sopropylbenzene	-	-	-	Average	
ı-Dichlorobenzene	-	-	-	Average	
ı&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

:F - Response Factor from daily standard file at 90.00 NG

:F - Average Response Factor from Initial Calibration

:Diff - % Difference from original average or curve

300994

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850328 22:20

Compound	Files: >F8493 RF 60.00	>F8492 RF 100.00	>F8489 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.79614	.80437	.76134	.954	.78728	2.901	
Phenol	.80904	.85955	.93328	.931	.86729	7.204	
2,4-Dichlorophenol	.26602	.27976	.27663	.981	.27414	2.627	
2,4-Dimethylphenol	.33494	.34353	.30516	.934	.32788	6.141	
2-Nitrophenol	.18484	.19537	.19435	.904	.19152	3.034	
p-Chloro-m-cresol	.27674	.29355	.22907	1.208	.26645	12.554	
4,6-Dinitro-o-cresol	.22150	.27287	.21589	1.139	.23675	13.264	
2,4-Dinitrophenol	.06770	.11025	.11233	1.029	.09676	26.031	
4-Nitrophenol	.08473	.13355	.09617	1.080	.10482	24.361	
2,4,6-Trichlorophenol	.34095	.35554	.42589	.858	.37413	12.140	
Pentachlorophenol	.03058	.05702	.05922	.988	.04894	32.570	
2-Fluorophenol	.67275	.67515	.69391	.675	.68060	1.703	(Conc=100.0,100.0,100.0)
Phenol-D5	.67214	.70067	.73630	.927	.70304	4.573	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.10538	.10039	.11837	.898	.10804	8.590	(Conc=100.0,100.0,100.0)

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 .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
itrosodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
(2-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
-Dichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
-Dichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
-Dichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
robenzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
(2-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
luorobiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
itrosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
achloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
robenzene	.53986	.53064	.44149	-	.830	.50400	10.779	
phorone	.61445	.61958	.51124	-	.885	.58176	10.507	
(2-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
,4-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
hthalene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
achlorobutadiene	.16213	.15028	.12153	-	1.054	.14465	14.436	
achlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
hloronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
ethyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
phthylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
.nitrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
naphthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
-Dinitrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
thyl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
orene	1.32085	1.11815	.85208	-	1.099	1.09703	21.430	
hlorophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
itrosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
-Diphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
romophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
achlorobenzene	.23428	.23767	.17391	-	.956	.21529	16.664	
nanthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
hracene	1.15723	1.12032	.88686	-	1.010	1.05481	13.898	
n-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
ioranthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
zidine	.01720	.00866	.09231	-	1.199	.03939	116.851	
ene	.76361	.65946	.61773	-	1.212	.68027	11.044	
ha-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
a-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
ma-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
ta-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
otachlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
drin	.17530	.17093	-	.15573	1.123	.16732	6.142	
otachlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

0 - Percent Relative Standard Deviation

300996

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.05775	.09214	-	.10898	.862	.08629	30.260	
Endosulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4,4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
Dieldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
Endrin	.11420	.11589	-	.08328	.915	.10446	17.572	
Endosulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4,4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
Endrin aldehyde	-	-	-	.25209	.937	.25209	-	
4,4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
Endosulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
Terphenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
Benzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
Chrysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3,3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
bis(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
Di-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
Benzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
Benzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
Benzo(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
Indeno(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
Dibenzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
Benzo(ghi)perylene	.69610	.86743	.79438	-	1.410	.78597	10.938	

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

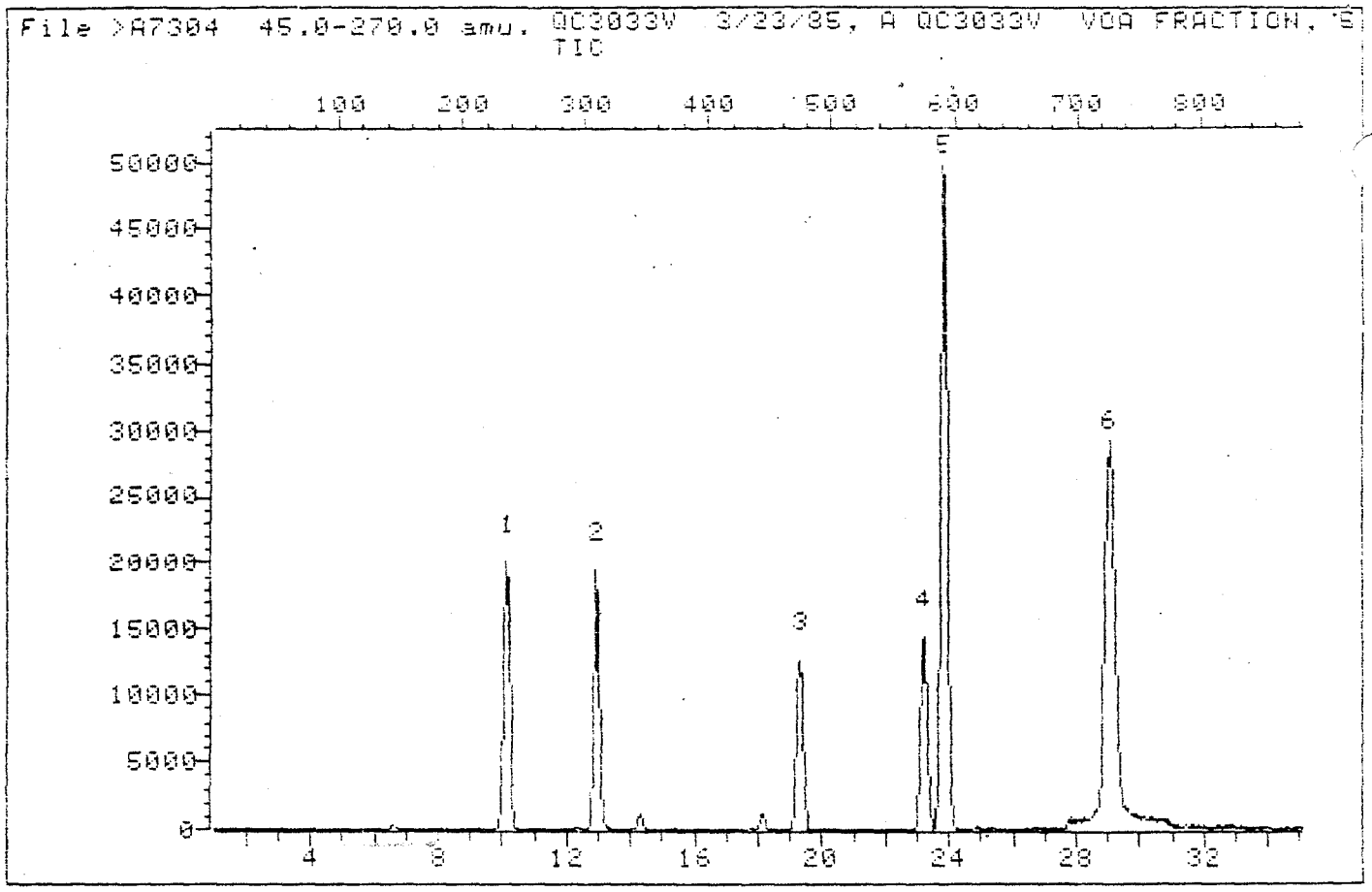
300997

Appendix C1

GC/MS Subsidiary Data

300998

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, SML WATER, BLANK

300999

QUANT REPORT

^ator ID: LA2639 Quant Rev: 3 Quant Time: 850325 08:23
Injected at: 850323 09:04
File: >A7304:U2 Dilution Factor: 1.00
QC3033V 3/23/85, A
c: QC3033V VOA FRACTION, 5ML WATER, BLANK

File: PK
le: IDFILE FOR PP VOAS
t Calibration: 850325 08:20

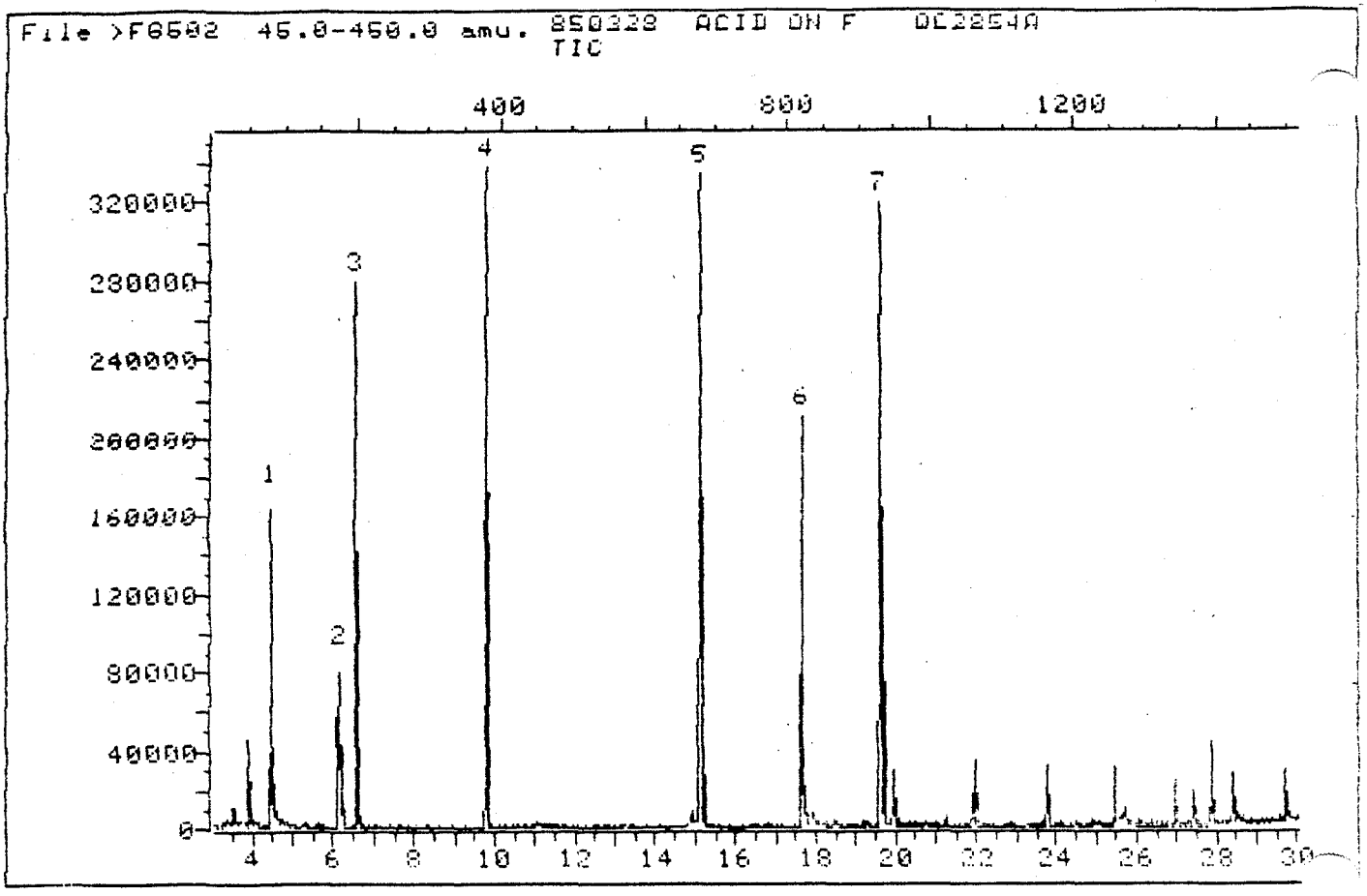
Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

Compound is ISTD

301000

301000

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8502::U4
Name: 850328 ACID DN F
Misc Data: QC2854A

BTL# 3

QUANT REPORT

rator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:04
Injected at: 850329 00:32
a File: >F8502::U4 Dilution Factor: 1.00
e: 850328 ACID ON F
c: QC2854A BTL# 3

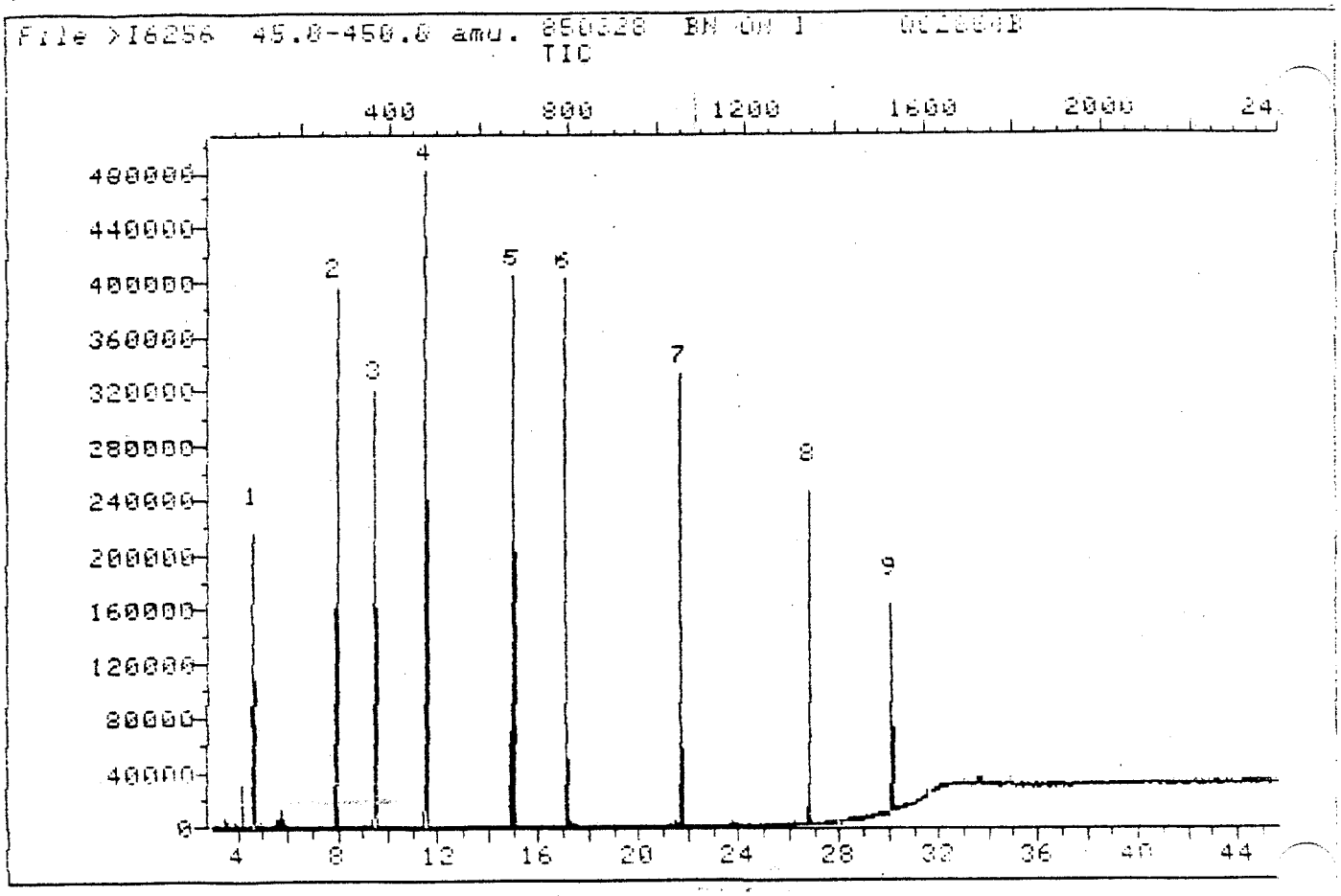
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850328 22:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.55	196	174971	40.00	UG/ML
2-Fluorophenol	4.41	76	145527	48.88	UG/ML
2-Fluorophenol	4.98	108	380	.13	UG/ML
Phenol-D5	6.12	172	101427	32.98	UG/ML
Phenol-D5	6.55	196	1354	.44	UG/ML
*d8-Naphthalene	9.79	378	372654	40.00	UG/ML
*d10-Acenaphthalene	15.12	677	205801	40.00	UG/ML
*d10-Phenanthrene	19.62	930	419734	40.00	UG/ML
2,4,6-Tribromophenol	17.61	817	78559	69.29	UG/ML

Compound is ISTD

301002

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6256.:0
Name: 850328 BN ON 1
Misc Data: QC2854B

BTL# 7

301003

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850328 23:47
Injected at: 850328 22:55
Data File: >I6256::U1 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC2854B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

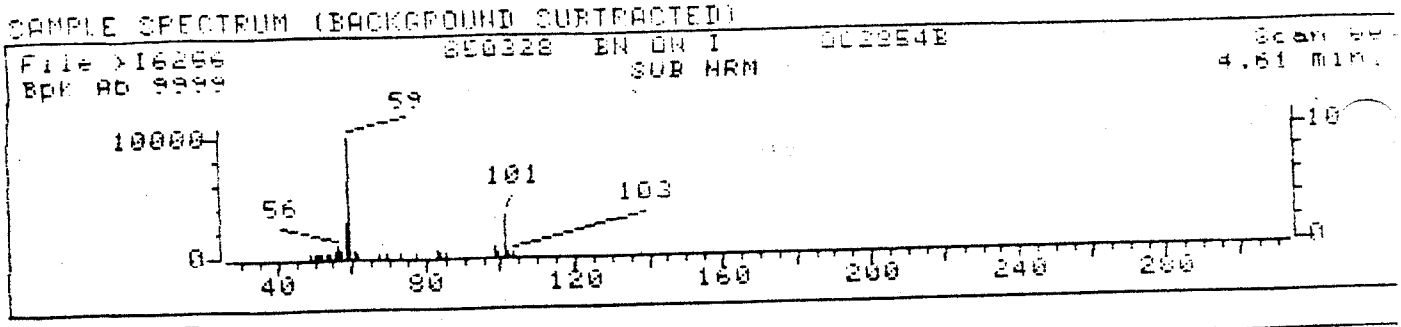
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	~~7.52~~	~~UG/ML~~
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	~~.71~~	~~UG/ML~~
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	~~5.37~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	~~.48~~	~~UG/ML~~
39)	Benzidine	26.76	1338	2450	~~6.77~~	~~UG/ML~~
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1338	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	~~1.44~~	~~UG/ML~~
65)	Di-n-octyl phthalate	32.16	1642	1965	~~.38~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.53	1719	8410	~~2.54~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.62	1724	8549	~~2.58~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.53	1719	8410	~~2.72~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.62	1724	8549	~~2.77~~	~~UG/ML~~
68)	Benzo(a)pyrene	34.83	1792	9898	~~3.35~~	~~UG/ML~~
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	~~1.55~~	~~UG/ML~~

* Compound is ISTD

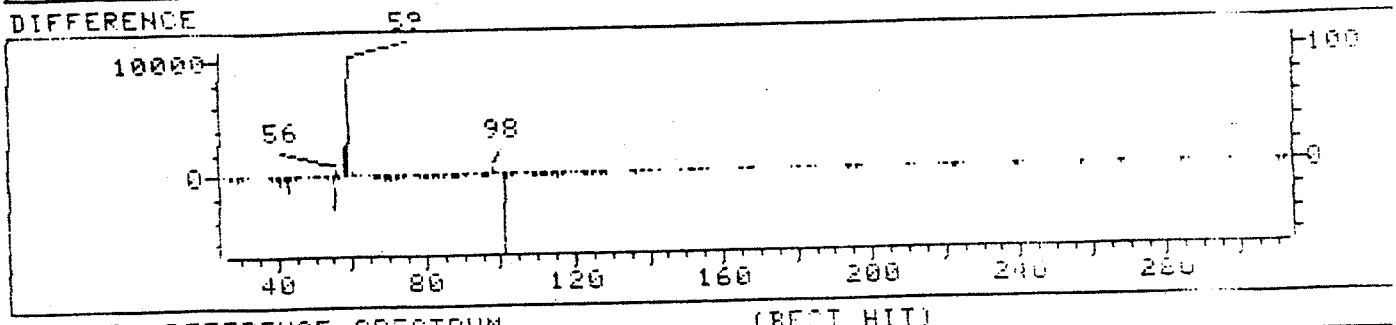
PCB ND

301004

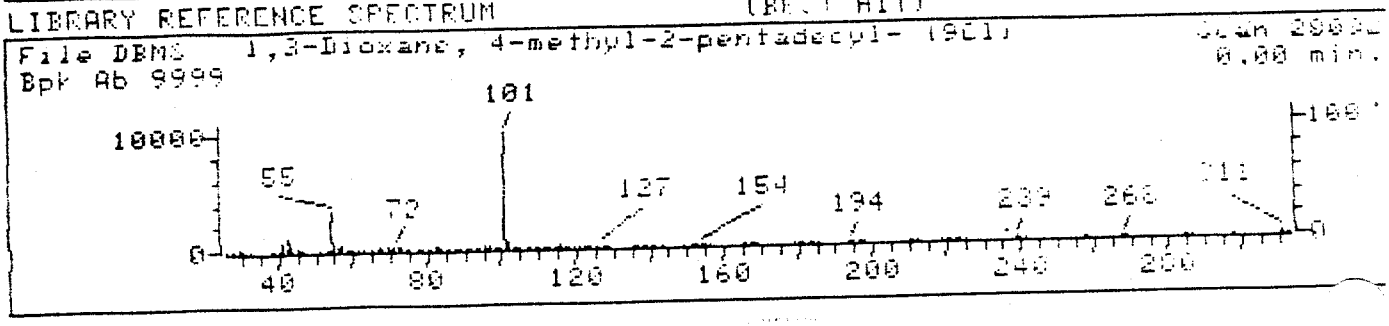
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6256.[illegible]
Name: 850328 RN ON I
Misc Data: 002854B
RT (min): 4.61
Scan: 88
Area: 39[illegible]
Semi-quantitative Conc 14.[illegible] UG/ML

BTL# [illegible]

Data File: >I6256 Scan Number: 88
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 2

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

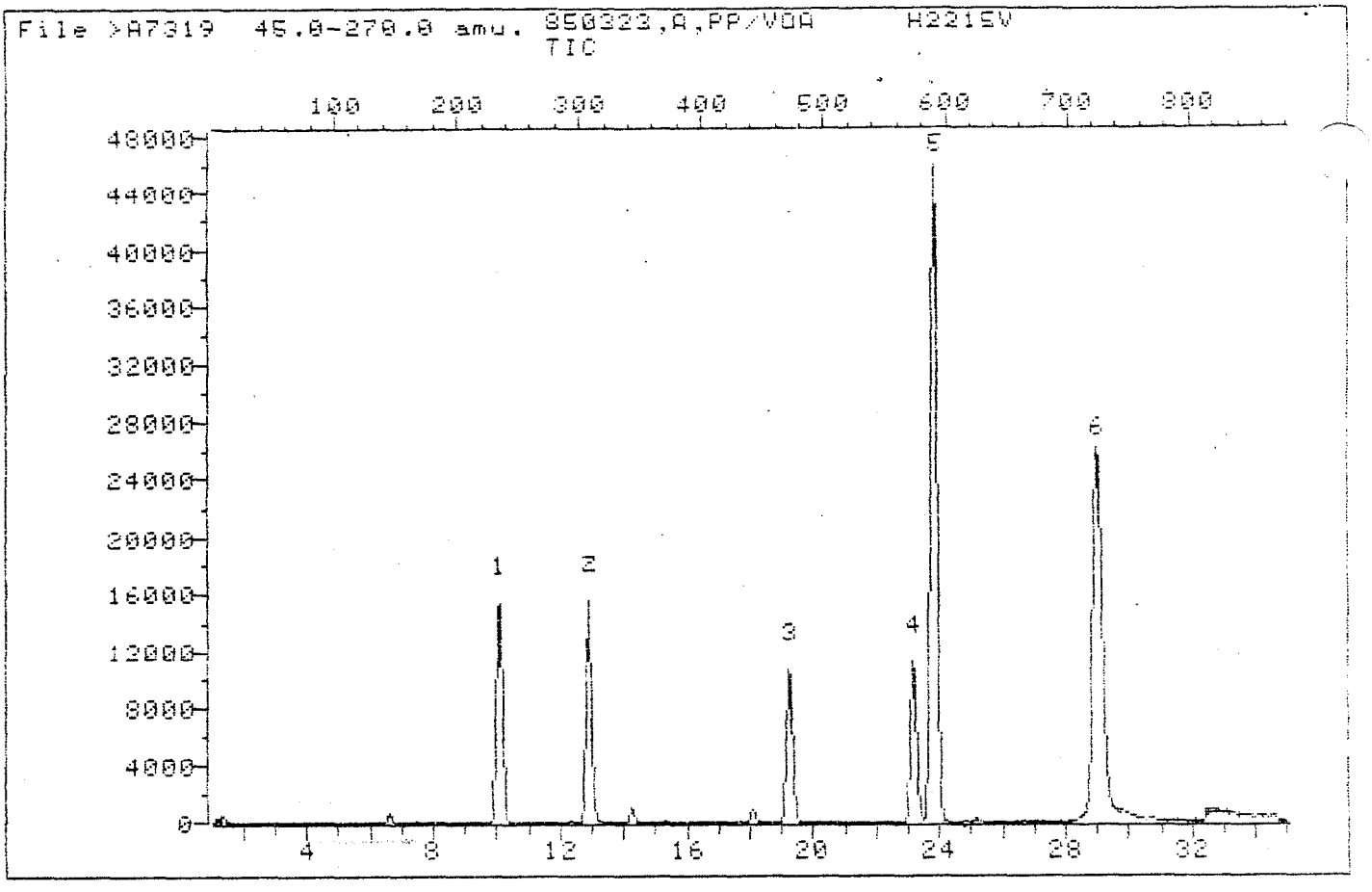
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	37	81	0	-2

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

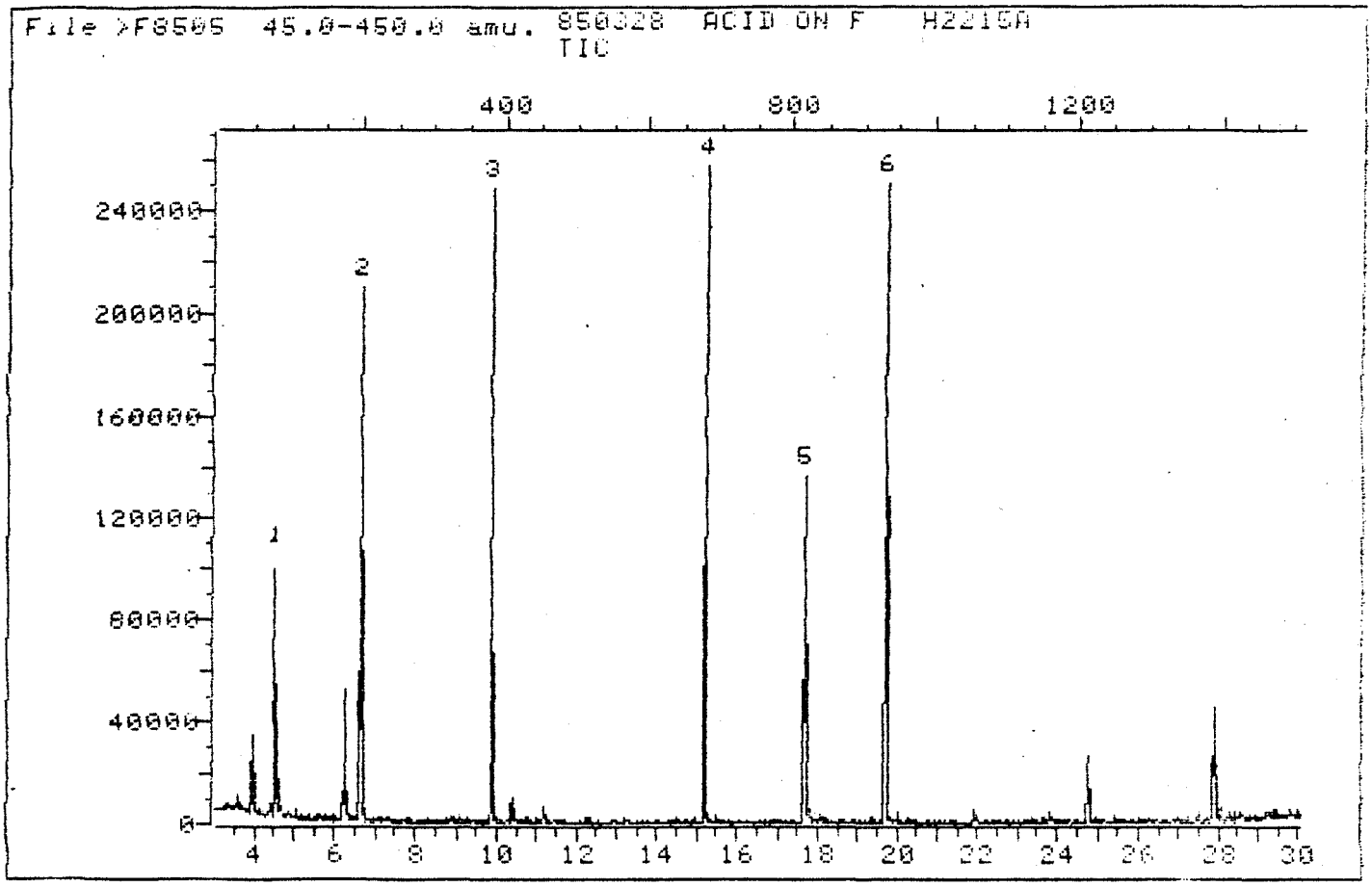


Data File: >A7319::U2
Name: 850323,A,PP/VOA
Misc Data: H221SV

SML

301007

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

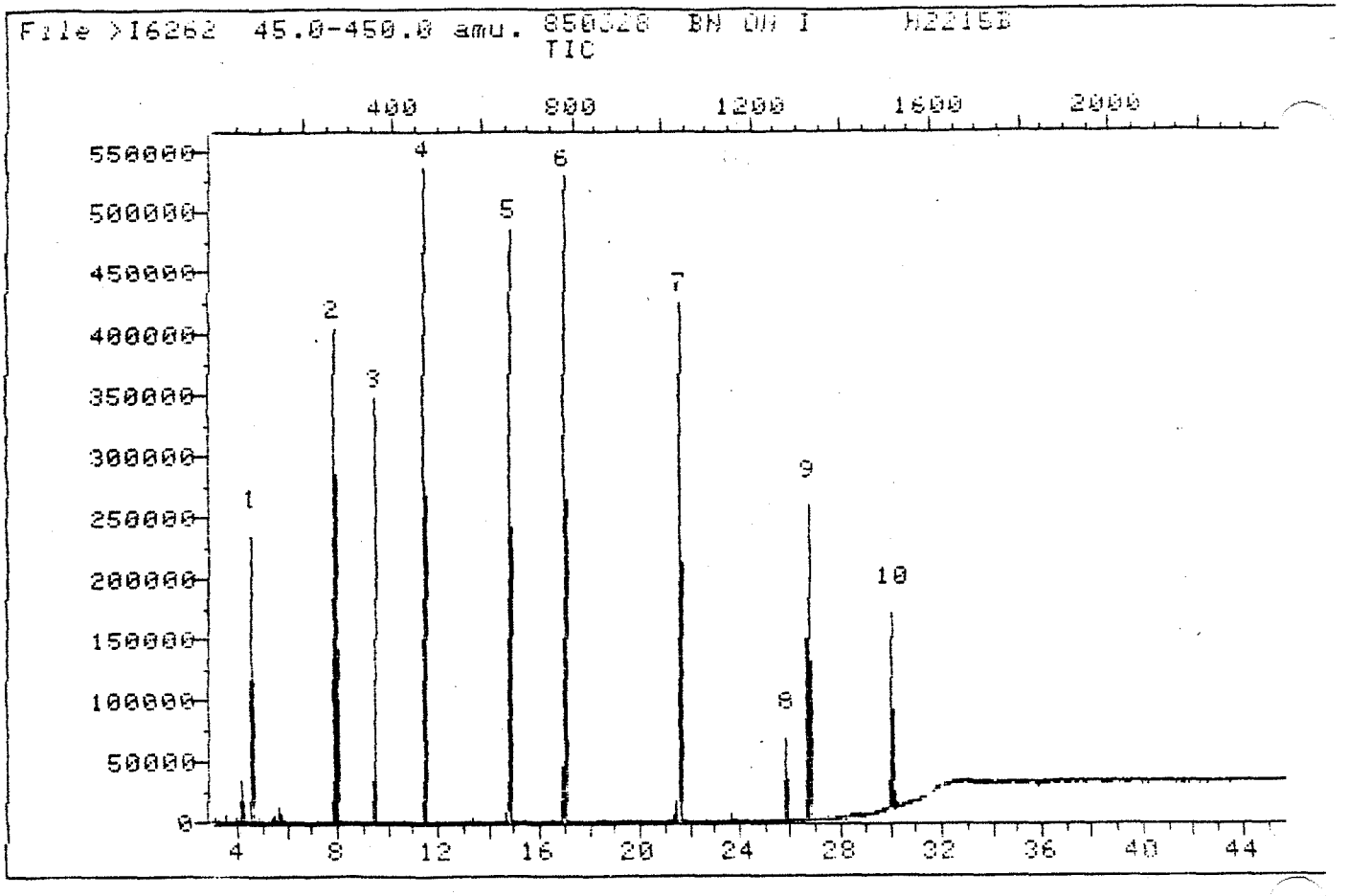


Data File: >F8505::US
Name: 850328 ACID ON F
Misc Data: H2215A

DTL# 6

301008

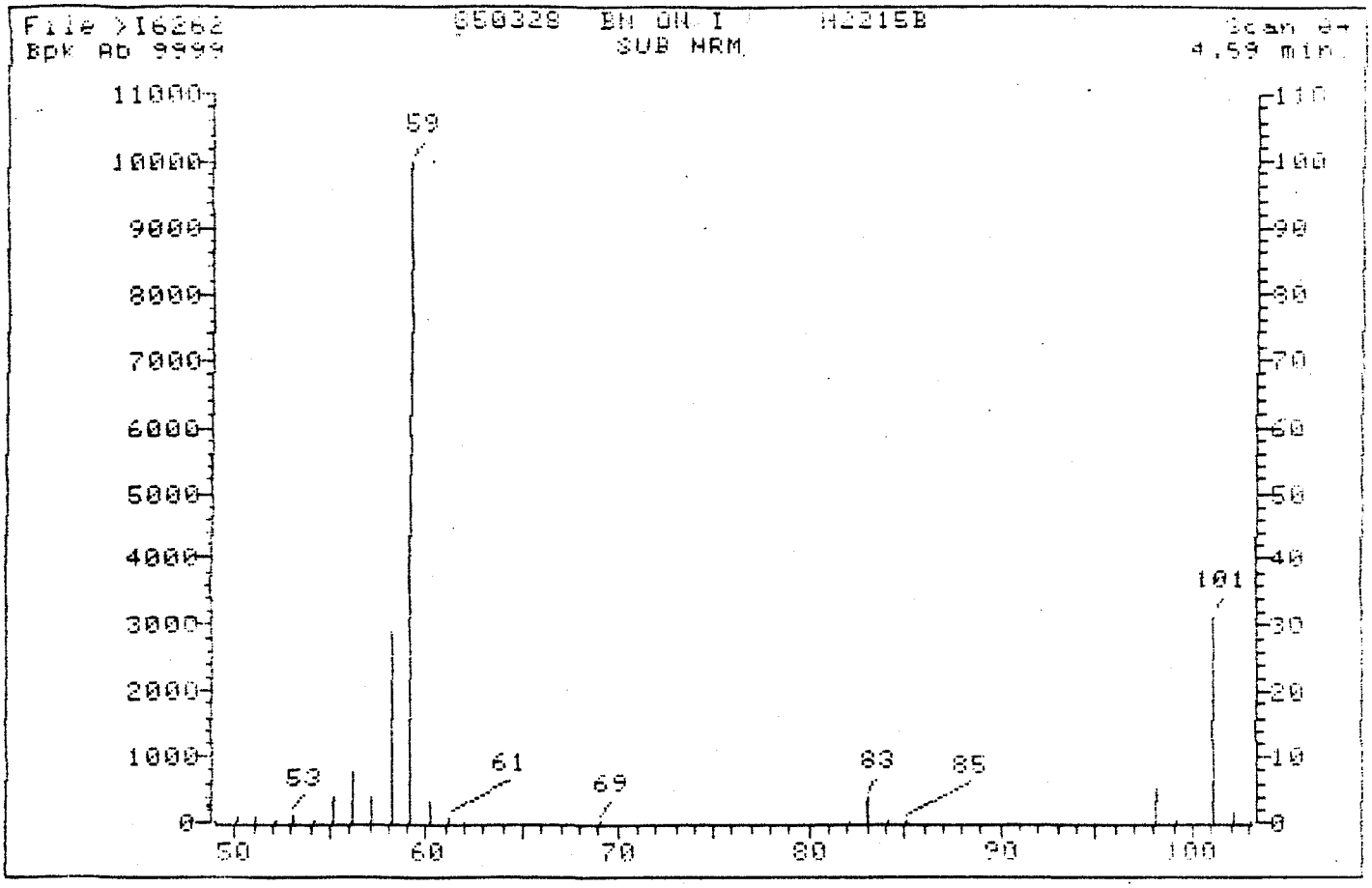
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6262::U2
Name: 850328 BN ON I
Misc Data: H2215B

BTL#13

301009



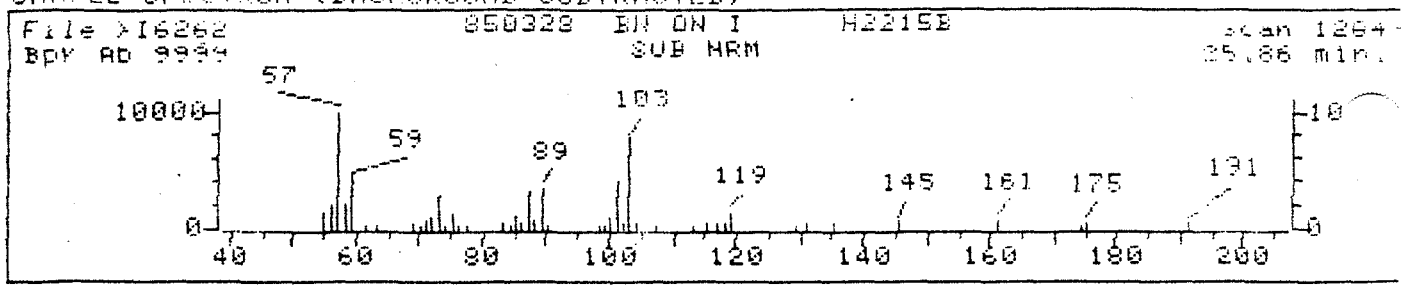
Data File: >I6262::U2
Name: 850328 BN ON I
Misc Data: H2215B
RT (min): 4.59
Scan: 84
Area: 456960
Semi-quantitative Conc: 13.65 UG/ML

BTL#13

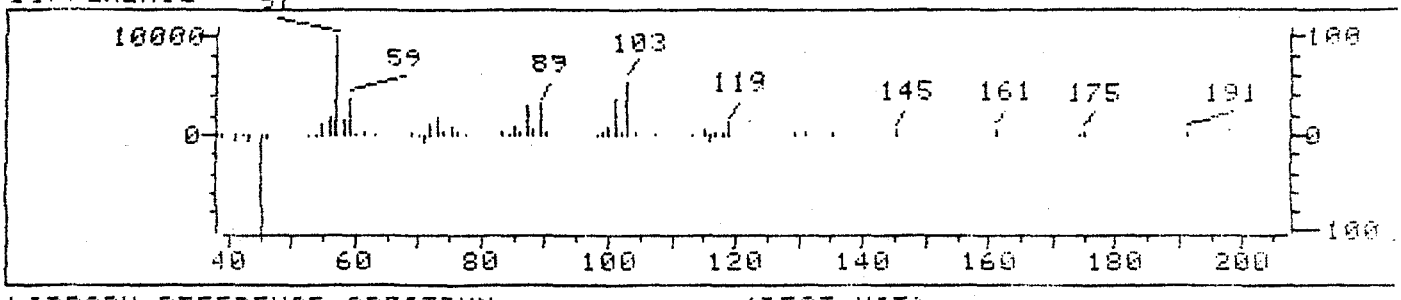
No PDM hits for this scan.

301010

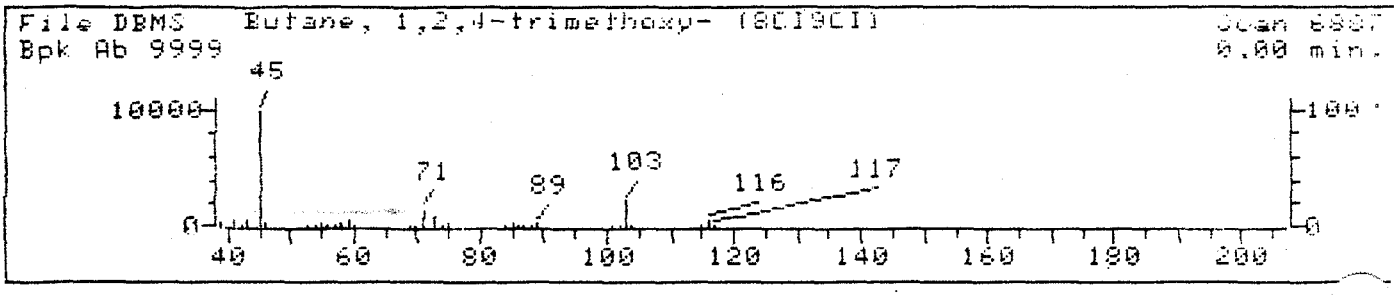
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6262::U2
Name: 850328 BN ON I
Misc Data: H2215B RTL#13
RT (min): 25.86
Scan: 1284
Area: 156091
Semi-quantitative Conc: 4.66 UG/ML

Data File: >I6262 Scan Number: 1284
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 65

1. Butane, 1,2,4-trimethoxy- (8CI9CI) 148 C7H16O3
2. 1,3-Dioxane, 2-methyl- (9CI) 102 C5H10O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	20	20637483	37	49	2	0
2.	11	626686	25	78	2	0

301011

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.

Subcontracted Analytical Results

ETC

Lab ID: L85253-B5

Submitted by: MW CHILL

Date: 4/9/85

Facility: (Facility Code) Samp

Date Sampled: (Y Y M M D D) Time

Line No.	Parameter	Table	Units Of Measure	Value	
	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.U.
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**		

052

301013

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. 28519 ETC Job # H2215

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: -- 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

196
3

Facility: [K] [0] [W] [D] [E] [S] [0] [0] [T] [H]
Facility/Site Code

Sample Point: [K] - [S] [T] [A] [T] [I] [O] [N] [3] [1] | [0] [3] [1] [4] [8] [5] | [1] [5] [0] [5] | [ ] [ ]

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

(Optional Sample Point Descriptions)

Source Codes:

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

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables			✓
1	M	1L	HNO3	Metals		✓	✓
1	CN	500ml	NaOH	Cyanides			✓
1	PN	1L	H2SO4	Phenols			✓
2	V	40ml	Sod-Thio.	VOA			✓
1	TB	40ml	DI/MS H2O	Trip blank			✓ hdsp.

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) J F Lowry Date: 3/21/85 Time: 1515
   Signature: J F Lowry Seal #: 28519 Intact: yes

2. I have received these materials in good condition from the above person.
   Name: Signature: 301015
   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) J. F. Lowry Date: 3/21/85 Time: 1515
   Signature: J F Lowry Seal #: 28520 Intact: yes

ETC USE ONLY Opened By: Quad Date: 3-22-85 Time: 8:00 a
Seal #: 28520 Condition: ok

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H215

Sample Point [ ] Source Code [ ] Sample Point ID

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 [D]
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) [ ]

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

Sample Temp [ ] (°C) Turbidity [ ] NTU

FIELD COMMENTS

Sample Appearance: _____
Weather Conditions: _____
Other: _____

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

Sampler: (Print) D. BOSSIMINI Employer: NUS-FPC

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

(Date) _____ (Signature) _____

301016

301017

GC-MS ANALYSIS CUSTODY LOG

DATE 850323 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE APEI01
SEQUENCE FILE TM
METHOD FILE VOA
IDFILE AVOA
ANALYST(S) TMancuso
SUPERVISOR MOakley
BATCH #'s QV3033

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	9609	1
ISTD	40	9,10	5
Surr	25	9377	10
ABC	18	10,221	5

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	>A7303	1			A00106	0810hr 3/23	
QC3033V	>A7304	5ml	1				Y
QC3033VS	>A7305		2			Surr ABC Something MG (over ABC)	
QC3033VS	>A7306		4			10	
QC3033VS	>A7307		5			30 Blow out Tube	
QC3033VS	>A7308		3			5	
QC3033VS	>A7309		6			30	
QC3033VS	>A7310		1			5 1544 hrs	
H2205VS	>A7311		1				
H2205V	>A7312		2				Y
H2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000 hr 3/27	
QC3033VS	>A7316					Surr ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220V	>A7322						
G9862V	>A7323					composite Reno 1:10	
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326						
H0887V	>A7327				050		

MS ANALYSIS CUSTODY LOG

301018

850324 SHIFT ____

TION VOA
TRUMENT A
E FILE AFIG1
UENCE FILE JOA
HOD FILE VOAA
ILE AVOA
LYST(S) [illegible]
ERVISOR [illegible]
CH #'s ____

(PLEASE INITIAL)

CURRENT MS STATUS		STANDARDS UPDATED	
		DATE	
		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
ESTD	40	9140	5
SURR	25	8977	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
HOBBBV	>A7328	5			A-106		
G9862V	>A7329	1		1:10		composite OC [illegible] 124	

TSR A-84

EXTRACTION LOG

QC Batch # 2854

Analysis: PP/T
PP/ORG/PST/PCB
PP/ACID (REPEATS)

Matrix: H_2O

Turnaround: NORM

Date: 3/27/85

Extraction Method:
sep funnel ✓
cont. nuevs
soxhlet
other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2213	8683	1000	1.0	1.0	
H2214	"	960	1.0	1.0	
H2215	"	970	1.0	1.0	
H2216	"	950	1.0	1.0	
H2217	"	930	1.0	1.0	
H2219	"	930	1.0	1.0	
H2220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
H1813	8698	980	1.0	1.0	
G8913	8383	1000		1.0	
G9222	8411	1000		1.0	
G9224	↓	1000		1.0	
G5914	8437	950		1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

COMMENTS FOR EXTRACT.:
PP/T: H2213 – 17, 19, 20
H1813
PP/ORG/PST/PCB: G9863
PP/ACID (REPEAT): G8913, G9222, 24, G5914

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

301019

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10,19
	ACID: 100 ug/ml	

Set-up: Lisa Armitage 3/27/85 UPD/Supervisor: Karen Allerton 3/27

301020

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE PE
METHOD FILE ACIDP
IOFILE EACIP
ANALYST(S) R. TAURY
SUPERVISOR [signature]
BATCH #'s QA2854, QA2855

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ	RT	DATE	K&B
WIP		BY	3/28/85

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Load	4000	9053	100
DFTPP	25	9534	2

4, 5, 6. 9 of 12.

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DFTPP	F8488				I00160		
Acid Calib Std. III	F8489		1				
II	F8490		2				
I	F8491		3				
QC 2854A	F8492		4			Aborted. Batched at 8:00pm not used rewritten	Y
QC 2854AS	F8493		2 5				
H2213AS	F8494		3 6				
H2213A	F8495		4 7				Y
H2214A	F8496		5 8				
H2215A	F8497		6 9				
H2216A	F8498		7 10				
H2217A	F8499		8 11				↓
H2217AR	F8500		9 12				
H2219A	F8501		10 13				Y
H2220A	F8502		11 14				Y
G9863A	F8503		12, 15				
H1813A	F8504		13 16				
G8913A	F8505		14 17				
G9222A	F8506		15 18				
G9224A	F8507		16 19				
G5914A	F8508		17 20				
H0867A	F8509		18 21	1:10		For QC 2852	
DFTPP	F8510		19 22				
Acid Calib Std II	F8511		20 23		↓	059	

301021

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE KBB/KEBF
METHOD FILE ACIDF
IDFILE PACID
ANALYST(S) KE Bonpart
SUPERVISOR Marcia A Austin
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CS#S STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	P Y
AC10 CAL II	F8492						
AC10 CAL I	F8493						
H2213AS	F8500		1	A			
DC2854AS	F8501		2				
QC2854A	F8502		3				
H2213A	F8503		4				
H2214A	F8504		5				
H2215A	F8505		6				
H2216A	F8506		7				
H2217A	F8507		8				
DFTPP	F8508		9				
AC10 CAL II	F8509		10				
H2217AR	F8510		11				
H2219A	F8511		12				
H2220A	F8512		13				
G9863A	F8513		14				
H1813A	F8514		15		689B	F8515-15 14	
G9222A	F8516		17				
G9224A	F8517		18				
G5914A	F8518		19				
H0867A	F8519		20	10:1		QB2852	
QC2855AS	F8520		20				

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060

301022

GC-MS ANALYSIS CUSTODY LOG

301022

DATE 3/28-29/85 SHIFT
FRACTION ACID
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) K.S Brown
SUPERVISOR Mark A Worley
BATCH #'s

Page 3

(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
GS229AS	F8521		22				
GB285SA	F8522		23				Y
GS228A	F8523		24				"
GS229A	F8524		25				"
GS231A	F8525		26				Y
GS231AR	F8526		27				
GS232A	F8527		28				Y
DPTPP	F8528		29				
AC10 CAL II	F8529		30				
GS233A	F8530		31				Y
GS234A	F8531		32				"
GS235A	F8532		33				Y
H0737A	F8533		34				
H0293A	F8534		35				
G8937A	F8535		36				
					061		

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301023

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BNP
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE KEBI
METHOD FILE BNPI
IOFILE IBNP
ANALYST(S) K.E. Bopp E
SUPERVISOR Martha Alverson
BATCH #'s Q B2854
Q B2855

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9534	2 ml
BN CAL IV	150	10194	1 ml
III	200	9961	1
II	100	10193	1
I	60	10192	1 ml
INT STD MIX	400	9653	100 ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	P Y
DFTPP	I6245						
BN CAL III	I6250		1				
BN CAL III	I6251		2				
BN CAL I	I6252		3				
BN CAL II	I6253		4				
H223 BS	I6254		5		088 AS		
QC2854BS	I6255		6		T		
QC2854B	I6256		7		U		
H2217 BR	I6257		8		V		
DFTPP	I6258		9				
BN CAL II	I6259		10				
H2213 B	I6260		11		W		
H2214 B	I6261		12		X		
H2215 B	I6262		13		Y		
H2216 B	I6263		14		Z		
H2217 B	I6264		15		BA		
H2219 B	I6265		16		B		
H2220 B	I6266		17		C		
G9863 B	I6267		18		D		
H1813 B	I6268		19		E		
G5229 BS	I6269		20				
QC2855 BS	I6270		21				
DFTPP	I6271		22				
BN CAL II	I6272		23				
QC2855 B	I6273		24		UC2		

GC-MS ANALYSIS CUSTODY LOG

301024

DATE 3/28/85 SHIFT ____
FRACTION BN
INSTRUMENT I
TUNE FILE MI2001
SEQUENCE FILE ____
METHOD FILE ____
IOFILE ____
ANALYST(S) K.E. Bozant
SUPERVISOR Charles O. Webster
BATCH #'s ____

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
Page 2			

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
65231BR	I6274		25				
65228B	I6275		26				Y
65229B	I6276		27				Y
65231B	I6277		28				
65232B	I6278		29				
65233B	I6279		30				
65234B	I6280		31				V
65235B	I6281		32				Y
H2853B	I6282		33				
H0293B	I6283		34				
H0737B	I6284		35				

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas Lubold	4/8/85
AA/ICAP Prep	Maura Jane McClean	4/8/85

Lab Supervisor Lidya Wiawer date 4/12/85

301025

ETC / CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mun Jaeha

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H2220 H2217

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

301026

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	Time/Date	Time/Date

8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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

X-029

Sample(s) Relinquished by: M. Jaudon

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 3:15

065

301027

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2216	NJ DEP	NJDCOMBES0	RSTATION 2	850321	1615	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

301028

TABLE OF CONTENTS

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

301030

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

301031

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

301 to

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615	

NPDES Number	Compound (Acrolein and Acrylonitrile values are screen only.)	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
1V	Acrolein	ND	100	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	†19	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	BMDL	2.80	5	7	BMDL	18	172[B]	5	18	53[B]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

301032

[A] EPA published Method Detection Limit.

[B] Recovery normally variable using EPA Protocol Method 624.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 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
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615	

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	ND	ND	ND	100	86	ND	103	77
2A	2,4-Dichlorophenol	ND	3	ND	ND	ND	100	90	ND	103	82
3A	2,4-Dimethylphenol	ND	3	ND	ND	ND	100	90	ND	103	78
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	79	ND	103	86
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	43	ND	103	62
6A	2-Nitrophenol	ND	4	ND	ND	ND	100	85	ND	103	79
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	53	ND	103	55
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	101	ND	103	86
9A	Pentachlorophenol	ND	4	ND	ND	ND	100	83	ND	103	82
10A	Phenol	ND	2	ND	ND	ND	100	40	ND	103	58
11A	2,4,6-Trichlorophenol	ND	3	ND	ND	ND	100	87	ND	103	84

A EPA published Method Detection Limit.

301033

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10[B]	ND	103	9[B]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 [C]	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 [C]	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	44	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 [C]	ND	ND	ND	100	3[B]	ND	103	35[B]
25B	Dimethyl phthalate	ND	10 [C]	ND	ND	ND	100	1[B]	ND	103	3[B]
26B	Di-n-butyl phthalate	ND	10 [C]	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 [C]	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

301034

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27B	ND	103	43B
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24B	ND	103	32B
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

301035

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

301036

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2216	NJ DEP		NJDCOMBESO	RSTATION 2	850321	1615
ETC Sample No.	Company		Facility	Sample Point	Date	Time Elapsed Hours

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

301036

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols - Analysis Data (QR05)

301037

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615	

NPDES Number	Compound		Results: Sample Concen.	Results: MDL							
1M	Antimony	ug/l	ND	80							
2M	Arsenic	ug/l	ND	5							
3M	Beryllium	ug/l	ND	.60							
4M	Cadmium	ug/l	ND	3							
5M	Chromium	ug/l	ND	20							
6M	Copper	ug/l	ND	10							
7M	Lead	ug/l	ND	6							
8M	Mercury	ug/l	ND	.30							
9M	Nickel	ug/l	ND	10							
10M	Selenium	ug/l	ND	10							
11M	Silver	ug/l	BMDL	8							
12M	Thallium	ug/l	ND	5							
13M	Zinc	ug/l	ND	30							
14M	Cyanide, Total	mg/l	<.02	.02							
15M	Phenolics, Total	mg/l	<1.00E-02	1.00E-02							

301037

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2216	NJ DEP	NJDCOMBESO	RSTATION2	850321	1615	

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

301038

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 1, 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
H2216	NJ DEP	NJDCOMBESO	RSTATION2	850321	1615	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
None Found								

301039

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	80	4.50	-	-	-	16		
2 Unknown	1279	25.80	-	-	-	7		

301040

Relative Percent Difference (RPD) for VOA

H2216 NJ DEP — Job Number / Account Name

NJDCOMBESO RSTATION 2 — Facility Source

850321 1615 — Date Time

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	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	5	7	33
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	ND	0
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
H2216	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1615

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

H2216 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 2 — Facility Source
850321 1615 — Date Time

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

H2216 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 2 — Facility Source
850321 1615 — Date Time

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

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2216

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	116	86	119
Bromofluorobenzene	.250	113	85	121
1,2-Dichloroethane-D4	.250	109	77	120
ACID FRACTION				
Phenol-D5	100	20	15	103
2-Fluorophenol	100	29	23	121
2,4,6-Tribromophenol	100	42	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	84	41	120
2-Fluorobiphenyl	50	90	44	119
Terphenyl-D14	50	56	33	128

* IFB EPA Control Limits.

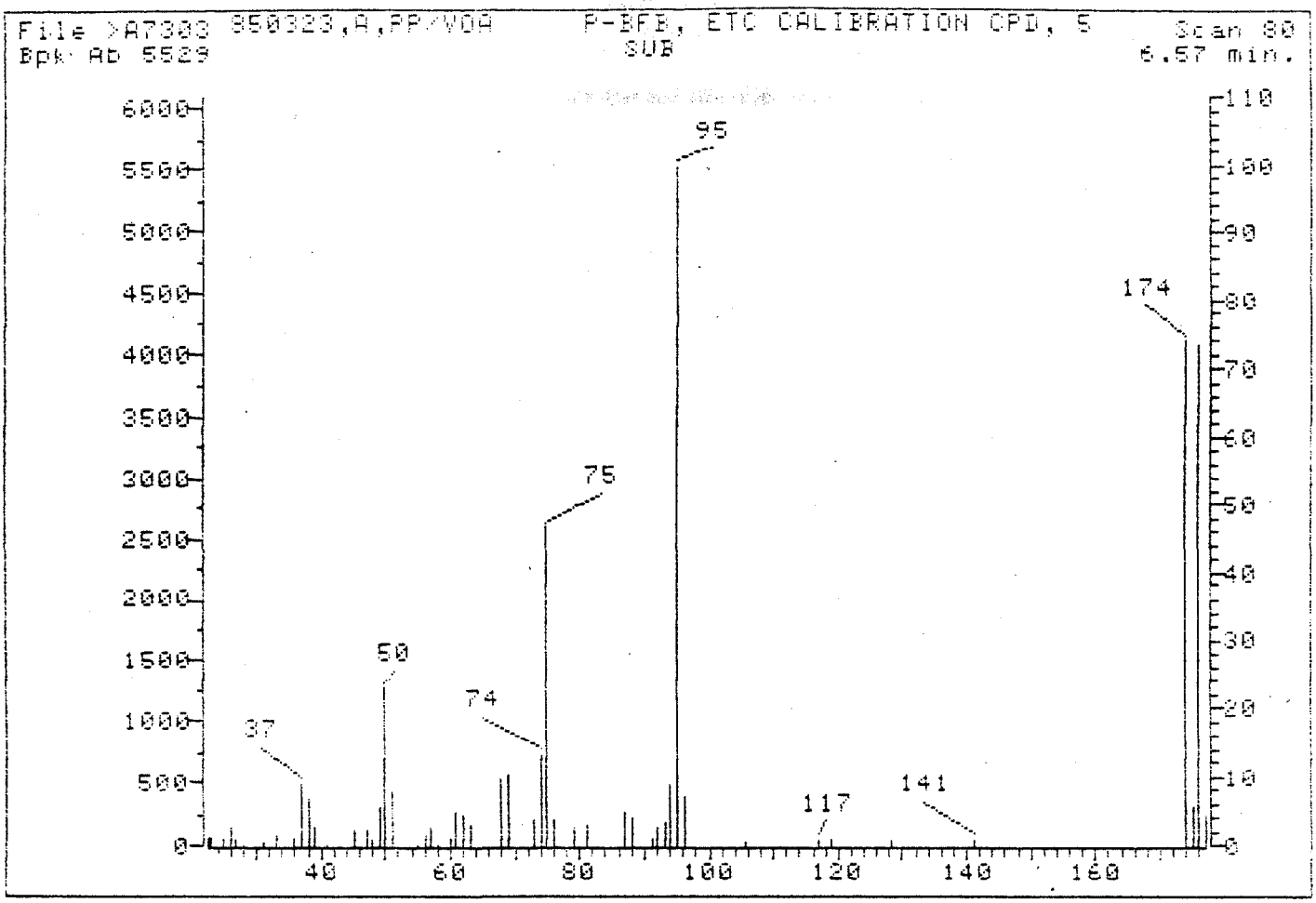


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
73	Less then 1% of mass 95	0.00	0.00	Ok
74	Greater then 50% of mass 95	74.14	74.14	Ok
75	5-9% of mass 174	5.46	7.37	Ok
76	95-101% of mass 174	73.36	98.95	Ok
77	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85
Injection Time: 08:09
Run No: >A7303
Spectrum No: 80

Analyst: Thomas Mancuso
Processor: Pearl Trent
QC Batch: QV 3033
Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0877, H0887, H0888.

301047

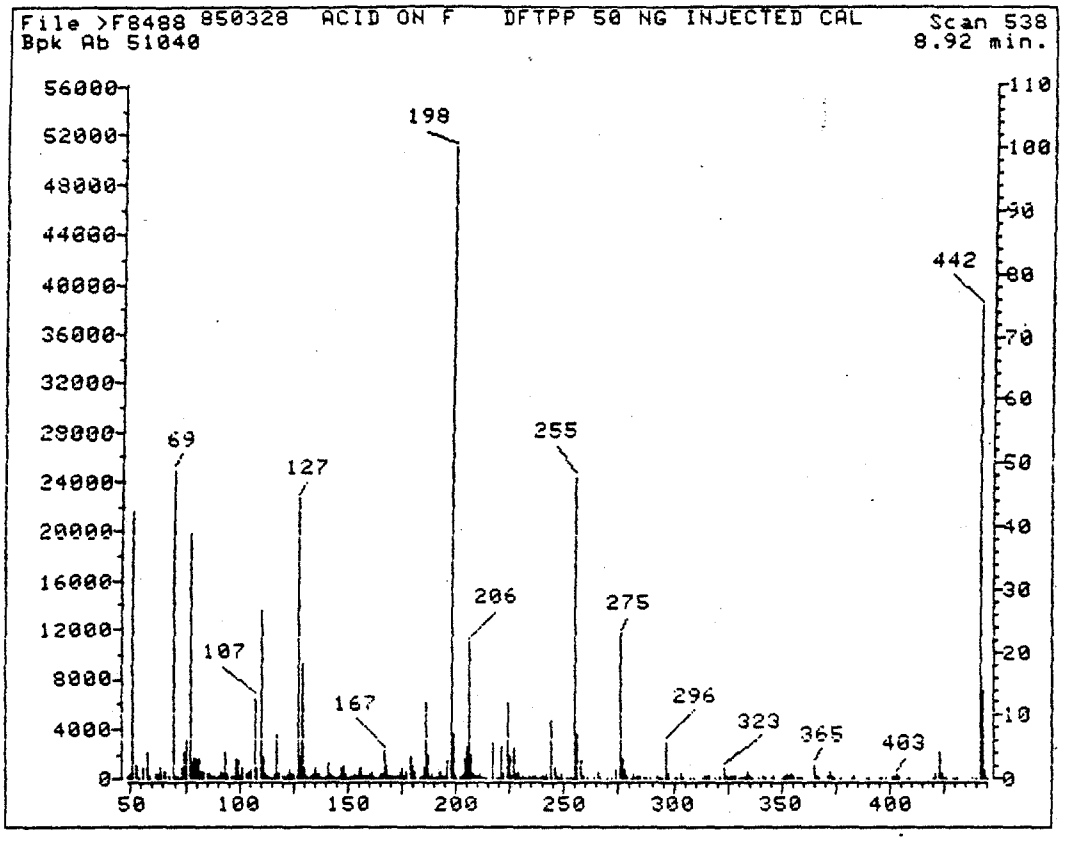


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	42.19	42.19	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	48.87	48.87	Ok
70	Less then 2% of mass 69	.41	.85	Ok
127	40-60% of mass 198	44.25	44.25	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	6.71	6.71	Ok
275	10-30% of mass 198	22.79	22.79	Ok
365	Greater then 1% of mass 198	2.24	2.24	Ok
441	Less then mass 443	~~0.00~~	~~0.00~~	Ok
442	Greater then 40% of mass 198	74.81	74.81	Ok
443	17-23% of mass 442	13.80	18.45	Ok

Injection Date: 03/28/85 Analyst: K. G. Borgarte
Injection Time: 13:26 Processor: Wen-Wen Chen
Run No: >F8488 QC Batch: QA2854
Spectrun No: 538 Samples: H2213-H2217

301048

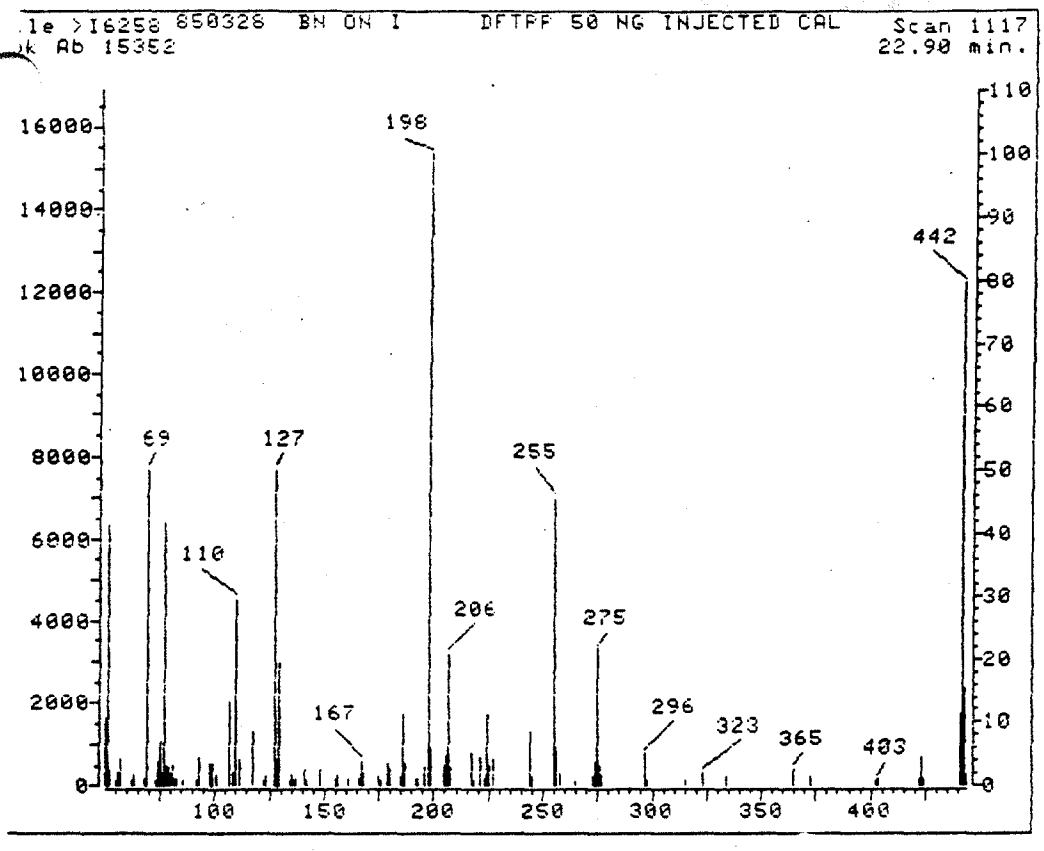


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	41.17	41.17	Ok
68	Less then 2% of mass 69	.93	1.86	Ok
69	(reference only)	50.12	50.12	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	50.18	50.18	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.25	6.25	Ok
75	10-30% of mass 198	21.53	21.53	Ok
65	Greater then 1% of mass 198	2.59	2.59	Ok
41	Less then mass 443	11.28	74.64	Ok
42	Greater then 40% of mass 198	79.46	79.46	Ok
43	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85
Injection Time: 01:25
Run No: >I6258
Scan No: 1117

Analyst: K.E. Bonanno
Processor: [illegible] / Pat Chang
QC Batch: QB2854
Samples: H2213 - H2217, H2219, H2220
G9863, H1813

301049

Appendix A

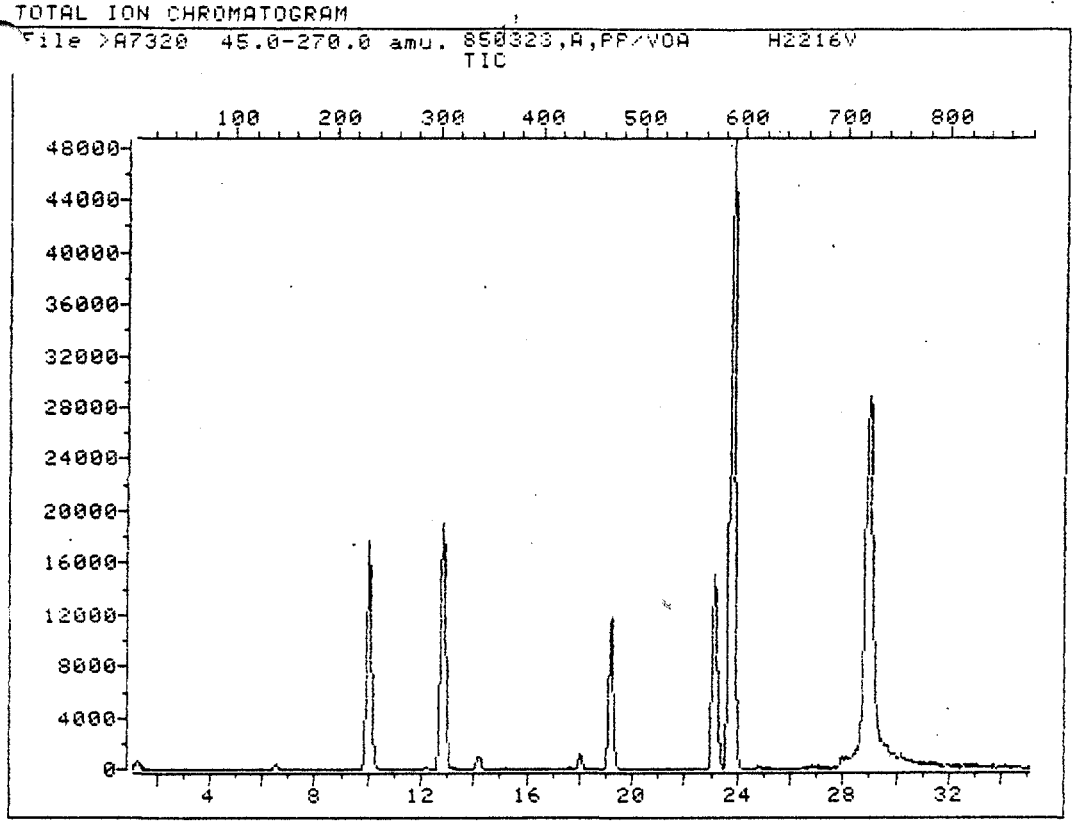
Mass Spectral Data for Quantitated Compounds

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

File >A7320 45.0-270.0 amu. 850323,A,PP/VOA H2216V
TIC



Data File: >A7320::U2
Name: 850323,A,PP/VOA
Misc: H2216V 5ML

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM5066
Quant Time: 850324 00:59

301051

QUANT REPORT

Operator ID: MM5066 Quant Rev: 3 Quant Time: 850325 08:39
Injected at: 850324 00:23
Data File: >A7320::U2 Dilution Factor: 1.00
Name: 850323,A,PP/VOA
Misc: H2216V SML

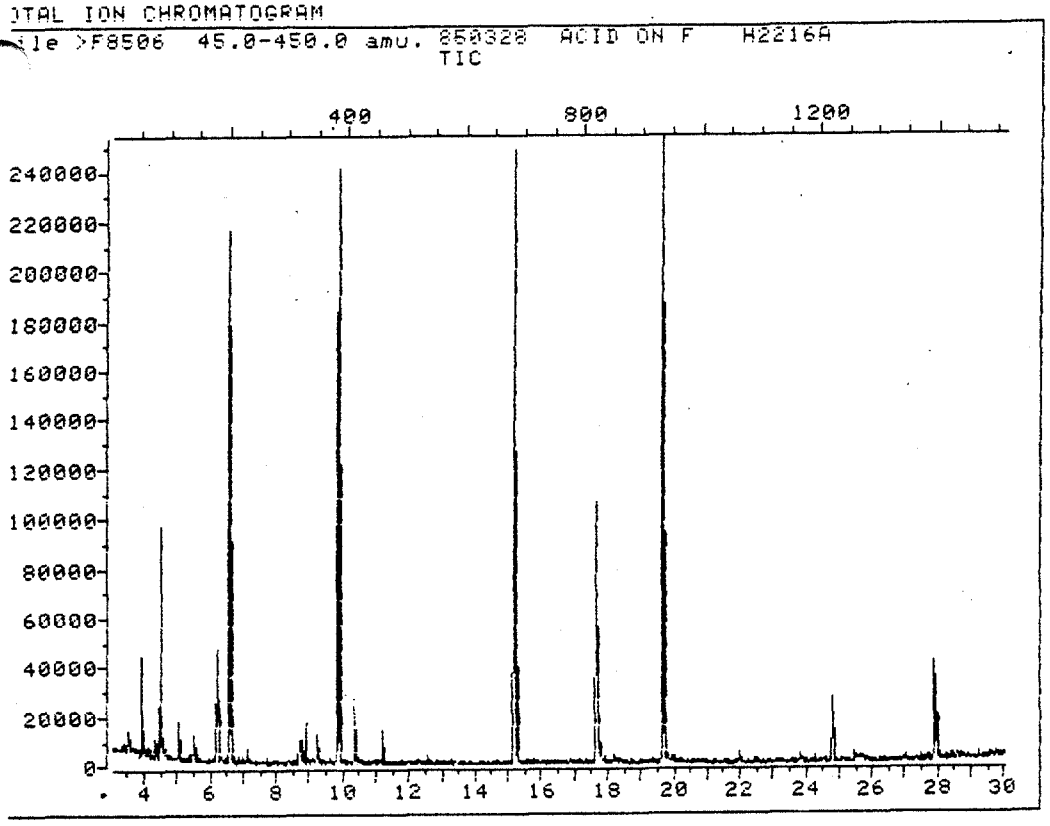
ID File: PK
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08:20

	Compound	R.T.	Scan#	Area	Conc	Units	
1)	*2-Bromo-1-chloropropane	19.21	470	69004	200.00	NG	
11)	2-Chloroethylvinyl ether	19.17	469	2050	~~19.50~~	~~NG~~	
24)	Methylene chloride	6.55	142	1032	12 ~~.04~~	NG	3.0
29)	1,1,1-Trichloroethane	14.19	340	4791	14. ~~1~~	NG	
35)	1,2-Dichloroethane-D4	12.81	304	44720	273.13	NG	
36)	Toluene-D8	23.76	588	258044	289.06	NG	
37)	p-Bromofluorobenzene	28.94	722	93359	282.69	NG	
38)	*1,4-Dichlorobutane	23.15	572	93223	200.00	NG	

* Compound is ISTD

301052

301052



Data File: >F8506::U5
Name: 850328 ACID ON F
Misc: H2216A

BTL# 7

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

Operator ID: KB5414
Quant Time: 850329 03:34

301053

301053

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 03:34
Injected at: 850329 03:02
Data File: >F8506::U5 Dilution Factor: 1.00
Name: 850328 ACID ON F
Misc: H2216A BTL# 7

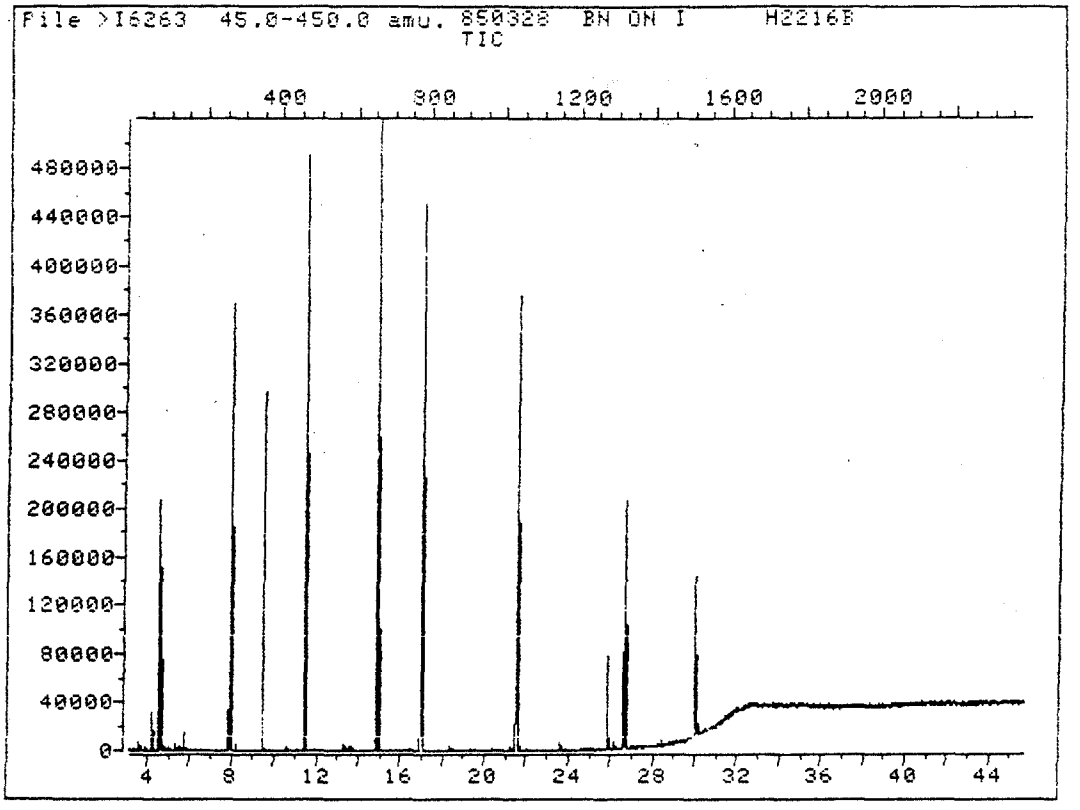
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.58	198	139939	40.00	UG/ML
3)	2-Fluorophenol	4.46	79	68318	28.69	UG/ML
5)	Phenol-D5	6.17	175	50313	20.46	UG/ML
5)	Phenol-D5	6.58	198	844	.34	UG/ML
6)	*d8-Naphthalene	9.85	382	286535	40.00	UG/ML
11)	*d10-Acenaphthalene	15.18	681	156806	40.00	UG/ML
16)	*d10-Phenanthrene	19.67	933	305949	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.66	820	34512	41.76	UG/ML

* Compound is ISTD

301054

TOTAL ION CHROMATOGRAM



Data File: >I6263::U2
Name: 850328 BN ON I
Misc: H2216B

BTL#14

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 06:32

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 06:3
Injected at: 850329 05:4
Data File: >I6263::U2 Dilution Factor: 1.0
Name: 850328 BN ON I
Misc: H2216B BTL#14

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.87	267	127094	40.00	UG/ML
7)	Nitrobenzene-d5	9.41	354	234055	42.36	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.87	267	6462	~~7.47~~	~~UG/ML~~
8)	bis(2-Chloroisopropyl)ether	9.41	354	784	~~.91~~	~~UG/ML~~
9)	*d8-Naphthalene	11.43	468	524125	40.00	UG/ML
10)	2-Fluorobiphenyl	14.84	660	389653	45.24	UG/ML
11)	N-Nitrosodi-n-propylamine	9.41	354	35443	~~8.91~~	~~UG/ML~~
14)	Isophorone	10.11	393	1160	~~.15~~	~~UG/ML~~
19)	*d10-Acenaphthalene	16.93	778	257941	40.00	UG/ML
22)	Dimethyl phthalate	16.93	778	46565	~~5.31~~	~~UG/ML~~
27)	Diethyl phthalate	18.47	865	1850	~~.21~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.54	1038	395950	40.00	UG/ML
37)	Di-n-butyl phthalate	23.59	1154	8508	~~.79~~	~~UG/ML~~
39)	Benzidine	25.83	1280	8349	~~21.41~~	~~UG/ML~~
39)	Benzidine	26.66	1327	2528	~~6.48~~	~~UG/ML~~
47)	*d12-Chrysene	29.99	1514	127246	40.00	UG/ML
59)	Terphenyl-D14	26.64	1326	200804	27.85	UG/ML

* Compound is ISTD

PCB ND

301056

301056

Appendix B

GC/MS Calibration Data

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17 * Original Update Form missing from QC Batch. Between QC Batch review and time this data was generated. had been updated. Therefore new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.388	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19899	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81778	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1.2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62582	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

301058

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
sopropylbenzene	-	-	-	-	-	
-Dichlorobenzene	-	-	-	-	-	
&p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

301059

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.01533	.01577	2.87	Average	(Conc=4000.00)
Acrylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
Benzene	2.80658	3.08857	10.05	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.46582	.45820	1.64	Average	
Carbon tetrachloride	.84777	.90423	6.66	Average	
Chlorobenzene	1.68410	1.84648	9.64	Average	
Chlorodibromomethane	.75280	.79924	6.17	Average	
Chloroethane	.21329	.15739	26.21	Average	
2-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
Chloroform	1.67484	1.89299	13.02	Average	
Dichlorobromomethane	1.14979	1.22293	6.36	Average	
Dichlorodifluoromethane	.43848	.48366	10.30	Average	
1,1-Dichloroethane	1.17938	1.28676	9.10	Average	
1,2-Dichloroethane	1.07848	1.18416	9.80	Average	
1,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
1,2-Dichloropropane	.99831	1.06739	6.92	Average	
trans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
cis-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
Ethylbenzene	3.39051	3.69108	8.86	Average	
Methyl bromide	.19390	.24156	21.45	Average	
Methyl chloride	.99538	1.08607	9.11	Average	
Methylene chloride	.24840	.20530	17.35	Average	
1,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
Tetrachloroethylene	1.01130	1.16432	15.13	Average	
Toluene	2.98290	3.34990	12.30	Average	
1,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
1,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
1,1,2-Trichloroethane	.56035	.63100	12.61	Average	
Trichloroethylene	.67765	.70670	4.29	Average	
Trichlorofluoromethane	1.34416	1.58651	18.03	Average	
Vinyl chloride	.43792	.48682	11.16	Average	
1,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
Toluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
p-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

301060

032

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
sopropylbenzene	-	-	-	Average	
ı-Dichlorobenzene	-	-	-	Average	
&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

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 FRACTION.....2/22/85,$F,WWC
Calibrated: 850328 22:20

Compound	Files: >F8493 RF 60.00	>F8492 RF 100.00	>F8489 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.79614	.80437	.76134	.954	.78728	2.901	
Phenol	.80904	.85955	.93328	.931	.86729	7.204	
2,4-Dichlorophenol	.26602	.27976	.27663	.981	.27414	2.627	
2,4-Dimethylphenol	.33494	.34353	.30516	.934	.32788	6.141	
2-Nitrophenol	.18484	.19537	.19435	.904	.19152	3.034	
p-Chloro-m-cresol	.27674	.29355	.22907	1.208	.26645	12.554	
4,6-Dinitro-o-cresol	.22150	.27287	.21589	1.139	.23675	13.264	
2,4-Dinitrophenol	.06770	.11025	.11233	1.029	.09676	26.031	
4-Nitrophenol	.08473	.13355	.09617	1.080	.10482	24.361	
2,4,6-Trichlorophenol	.34095	.35554	.42589	.858	.37413	12.140	
Pentachlorophenol	.03058	.05702	.05922	.988	.04894	32.570	
2-Fluorophenol	.67275	.67515	.69391	.675	.68060	1.703	(Conc=100.0,100.0,100.0)
Phenol-D5	.67214	.70067	.73630	.927	.70304	4.573	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.10538	.10039	.11837	.898	.10804	8.590	(Conc=100.0,100.0,100.0)

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 .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
trosodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
2-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
Dichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
Dichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
Dichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
obenzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
2-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
uorobiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
trosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
chloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
obenzene	.53986	.53064	.44149	-	.830	.50400	10.779	
horone	.61445	.61958	.51124	-	.885	.58176	10.507	
2-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
4-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
thalene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
chlorobutadiene	.16213	.15028	.12153	-	1.054	.14465	14.436	
chlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
loronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
thyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
thylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
nitrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
aphthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
-Dinitrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
thyl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
rene	1.32085	1.11815	.85208	-	1.099	1.09703	21.430	
lorophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
itrosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
-Diphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
romophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
achlorobenzene	.23428	.23767	.17391	-	.956	.21529	16.664	
nanthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
hracene	1.15723	1.12032	.88688	-	1.010	1.05481	13.898	
n-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
oranthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
zidine	.01720	.00866	.09231	-	1.199	.03939	116.851	
ene	.76361	.65946	.61773	-	1.212	.68027	11.044	
ha-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
a-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
ma-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
ta-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
tachlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
drin	.17530	.17093	-	.15573	1.123	.16732	6.142	
tachlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

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

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

SD - Percent Relative Standard Deviation

301063

075

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.05775	.09214	-	.10898	.862	.08629	30.260	
Endosulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4,4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
Dieldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
Endrin	.11420	.11589	-	.08328	.915	.10446	17.572	
Endosulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4,4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
Endrin aldehyde	-	-	-	.25209	.937	.25209	-	
4,4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
Endosulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
Terphenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
Benzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
Chrysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3,3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
bis(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
Di-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
Benzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
Benzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
Benzo(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
Indeno(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
Dibenzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
Benzo(ghi)perylene	.69610	.86743	.79438	-	1.410	.78597	10.938	

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

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

$\overline{RF}$ - Average Response Factor

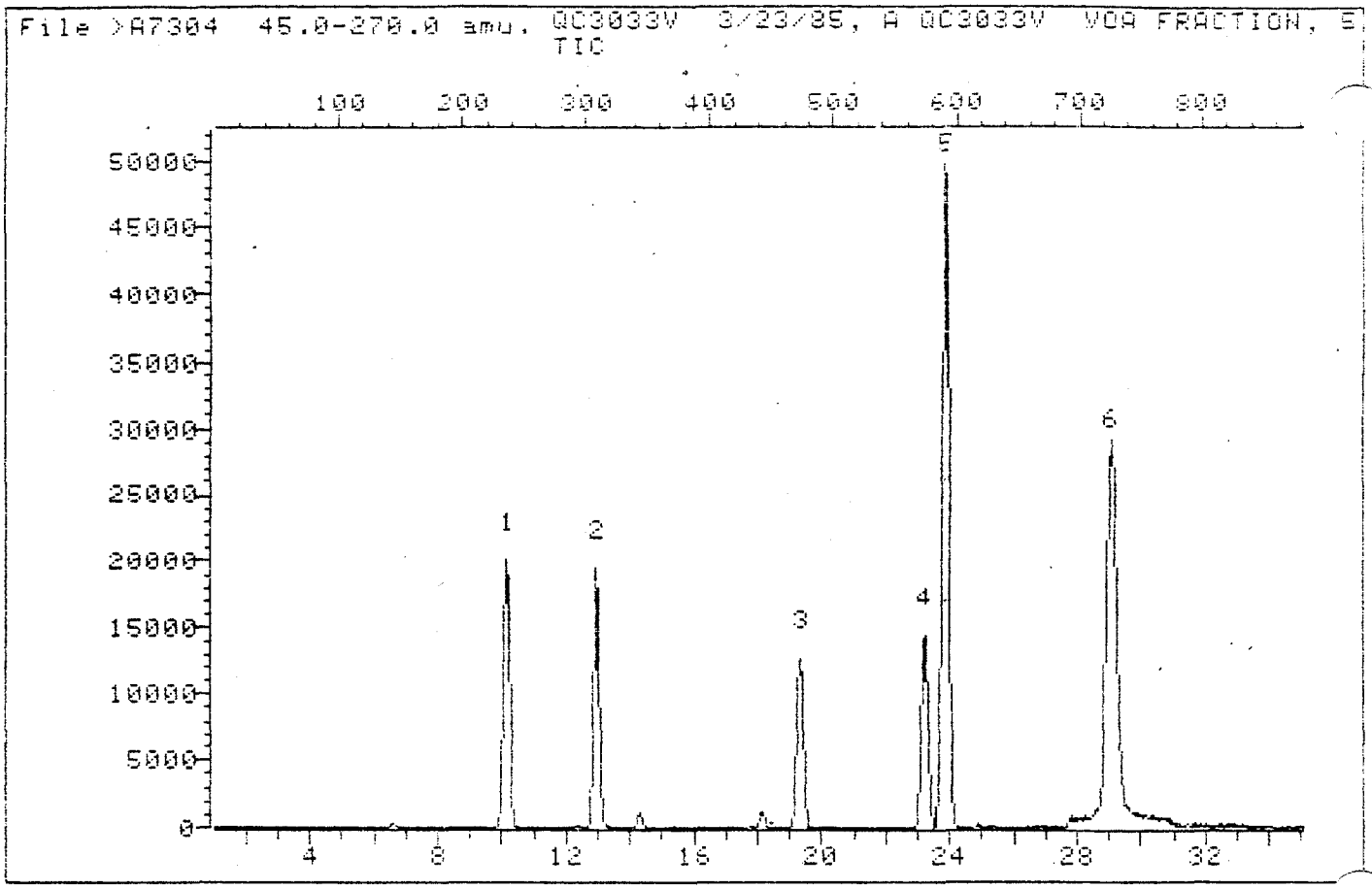
%RSD - Percent Relative Standard Deviation

301064

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, 5ML WATER, BLANK

301066

QUANT REPORT

ator ID: LA2639 Quant Rev: 3 Quant Time: 850325 08:23
Injected at: 850323 09:04
a File: >A7304::U2 Dilution Factor: 1.00
: QC3033V 3/23/85, A
: QC3033V VOA FRACTION, 5ML WATER, BLANK

File: PK
le: IDFILE FOR PP VOAS
t Calibration: 850325 08:20

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

Compound is ISTD

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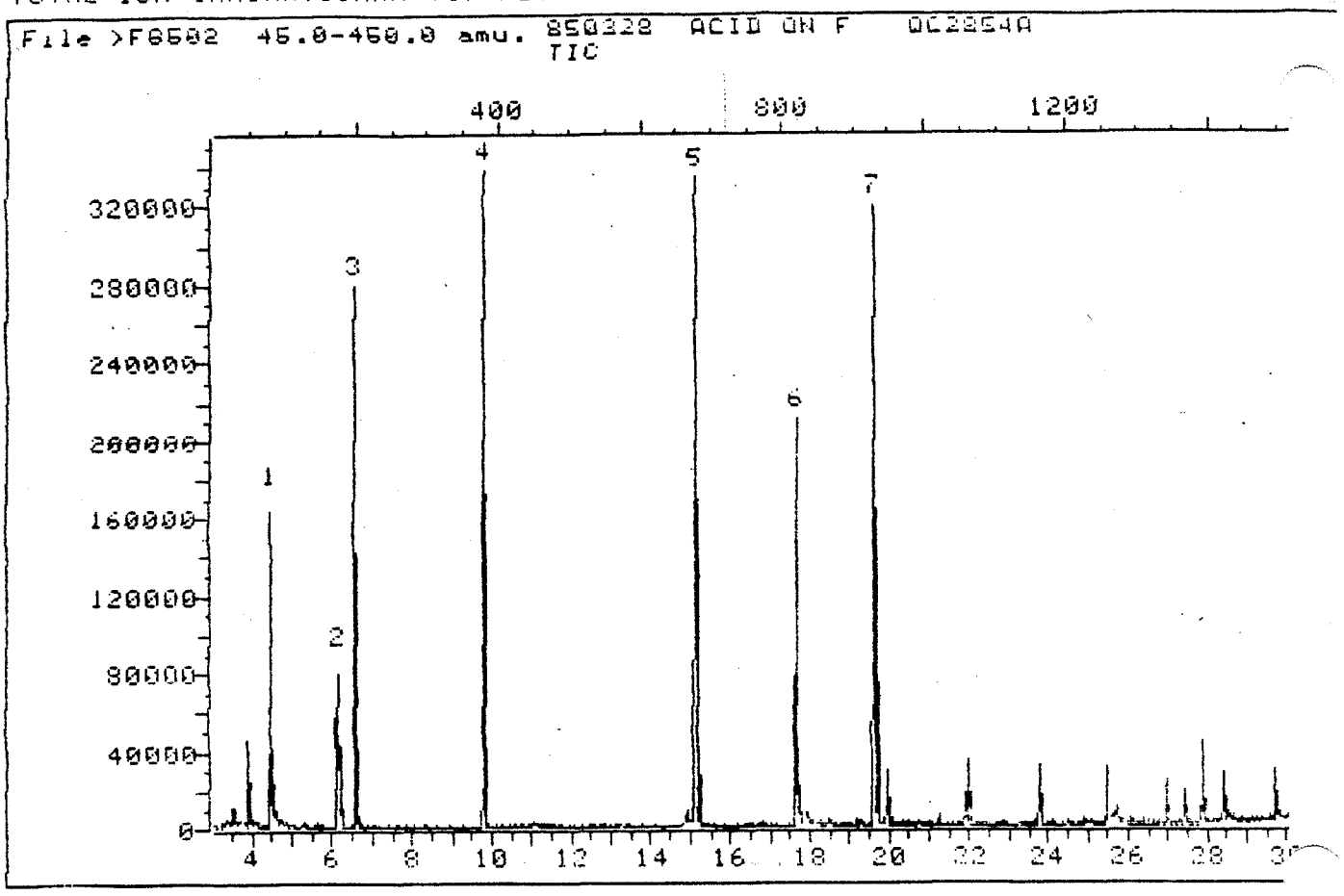
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8502::U4
Name: 850328 ACID ON F
Misc Data: QC2854A

BTL# 3

301068

QUANT REPORT

rator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:04
Injected at: 850329 00:32
a File: >F8502::U4 Dilution Factor: 1.00
e: 850328 ACID ON F
c: QC2854A BTL# 3

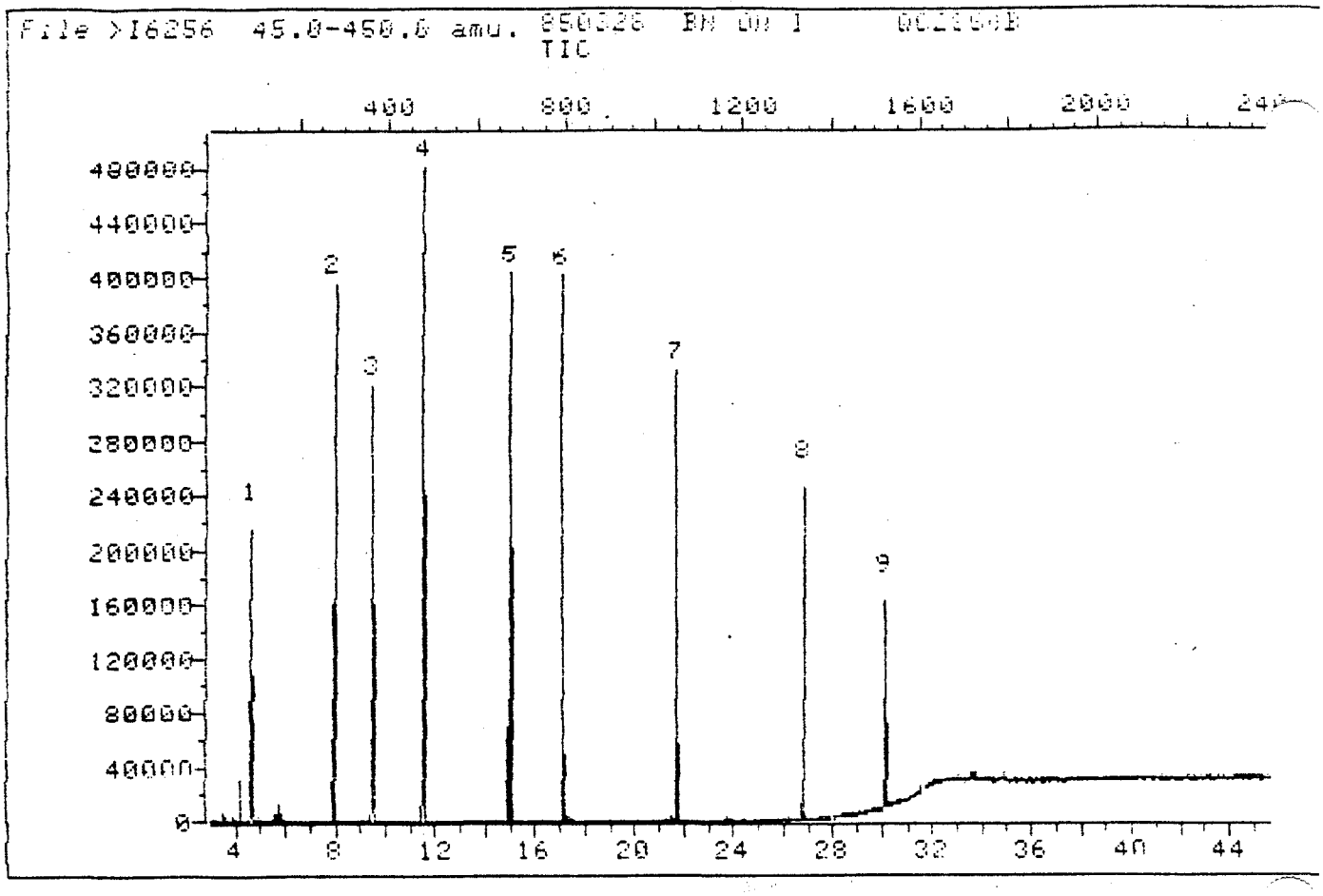
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850328 22:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.55	196	174971	40.00	UG/ML
2-Fluorophenol	4.41	76	145527	48.88	UG/ML
2-Fluorophenol	4.98	108	380	~~.13~~	UG/ML
Phenol-D5	6.12	172	101427	32.98	UG/ML
Phenol-D5	6.55	196	1354	~~.44~~	UG/ML
*d8-Naphthalene	9.79	378	372654	40.00	UG/ML
*d10-Acenaphthalene	15.12	677	205801	40.00	UG/ML
*d10-Phenanthrene	19.62	930	419734	40.00	UG/ML
2,4,6-Tribromophenol	17.61	817	78559	69.29	UG/ML

Compound is ISTD

301069

TOTAL ION CHROMATOGRAM for PLUC ANALYSIS



Data File: >I6256:.UU
Name: 850328 BN ON 1
Misc Data: QC2854D

RTL# 7

QUANT REPORT

Operator ID: KB5414 | Quant Rev: 3 | Quant Time: 850328 23:43
Injected at: 850328 22:55
Data File: >I6256::U1 | Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC2854B | BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	~~7.52~~	~~UG/ML~~
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	~~.71~~	~~UG/ML~~
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	~~5.37~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	~~.48~~	~~UG/ML~~
39)	Benzidine	26.76	1338	2450	~~6.77~~	~~UG/ML~~
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1338	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	~~1.44~~	~~UG/ML~~
65)	Di-n-octyl phthalate	32.16	1642	1965	~~.38~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.53	1719	8410	~~2.54~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.62	1724	8549	~~2.58~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.53	1719	8410	~~2.72~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.62	1724	8549	~~2.77~~	~~UG/ML~~
68)	Benzo(a)pyrene	34.83	1792	9898	~~3.37~~	~~UG/ML~~
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	~~1.55~~	~~UG/ML~~

* Compound is ISTD

PCB ND

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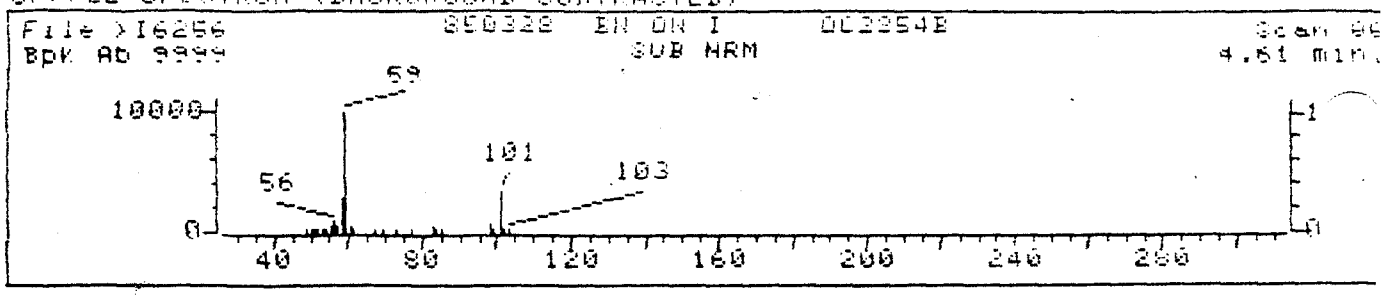
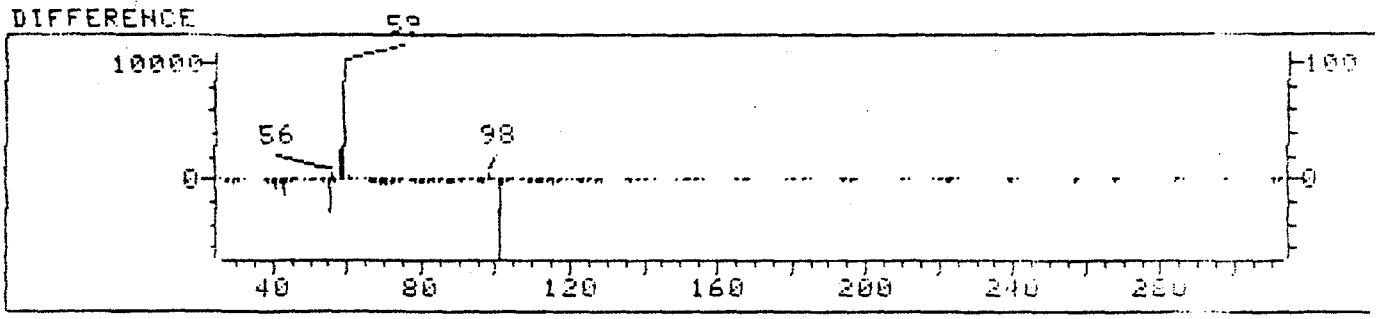
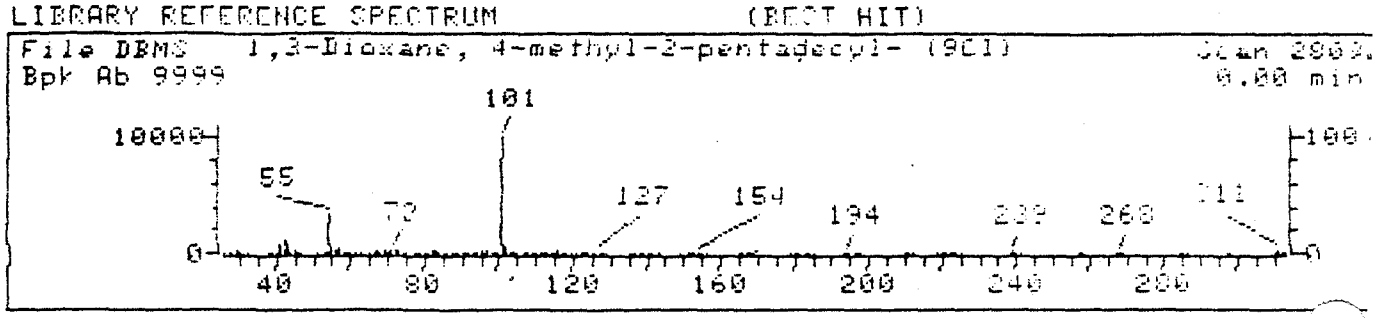
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6256.:U1
Name: 850328 BN ON I
Misc Data: QC2854B BTL#
RT (min): 4.61
Scan: 88
Area: 39007
Semi-quantitative Conc: 14.44 UG/ML

Data File: >I6256 Scan Number: 88
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 5

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	33	81	0	-2

301072

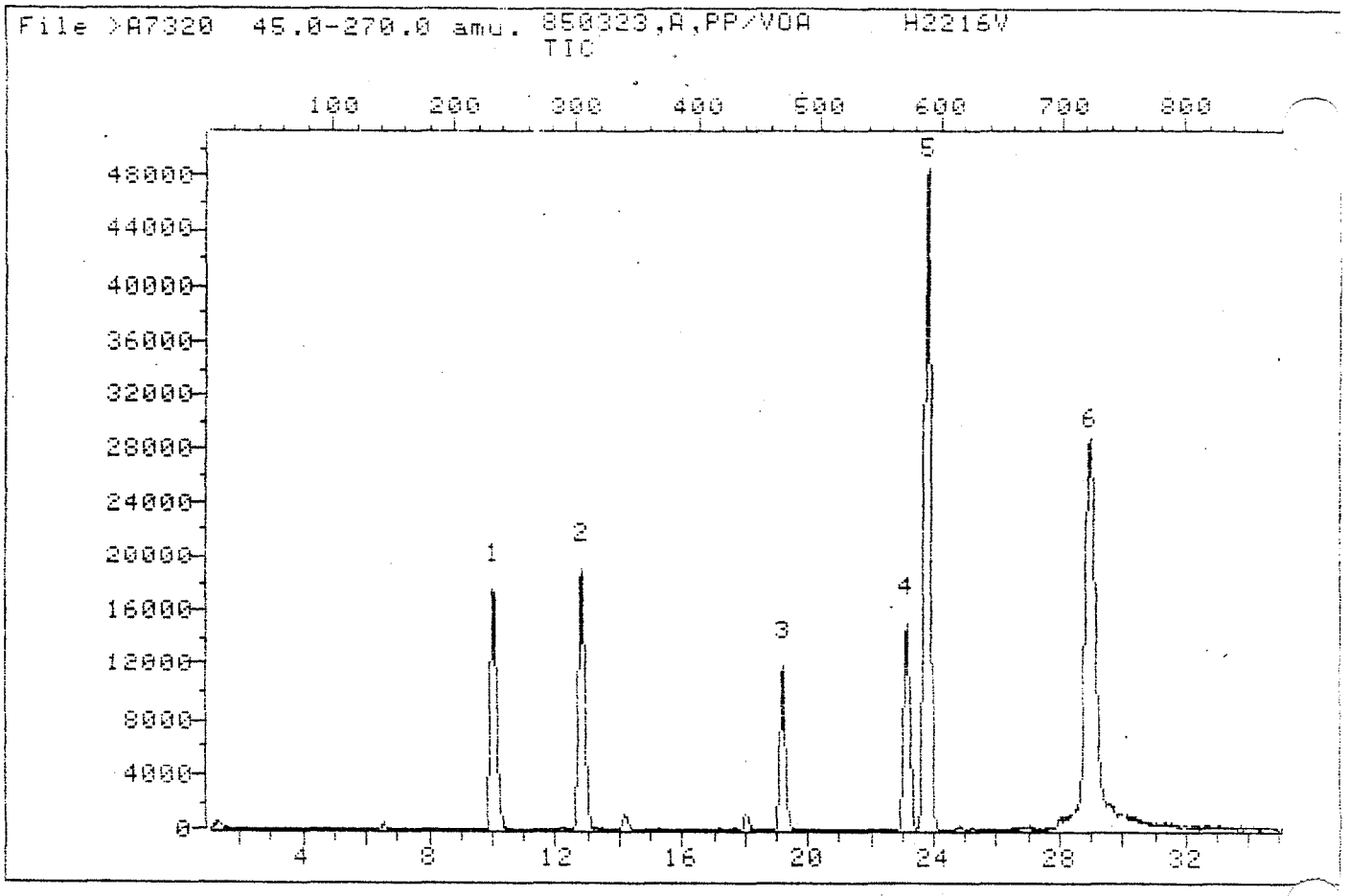
301072

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: >A7320::U2
Name: 850323,A,PP/VOA
Misc Data: H2216V

SML

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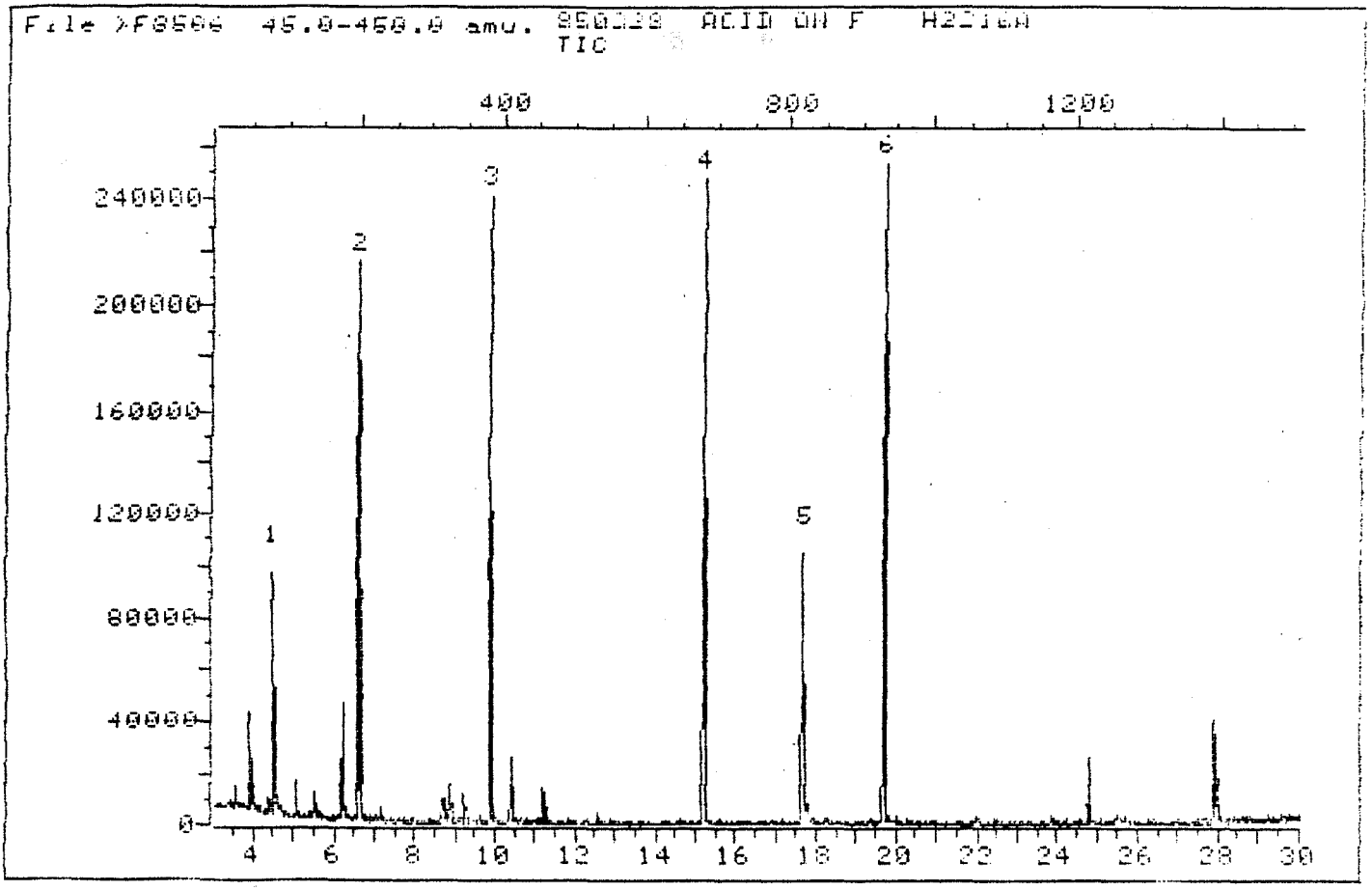
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

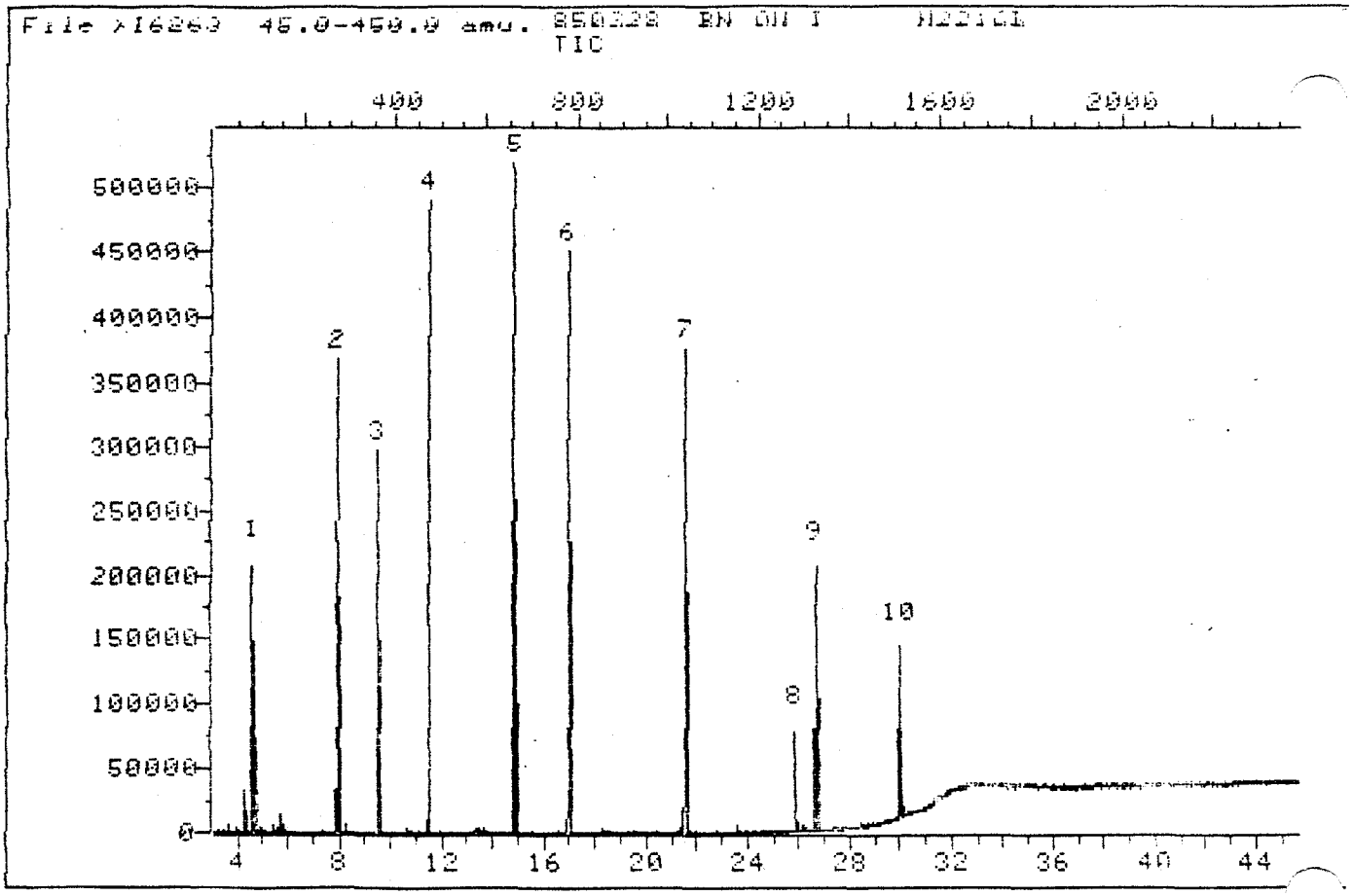


Data File: >F8506::US
Name: 850328 ACID ON F
Misc Data: H2216A

BTL# 7

301075

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6263::U?
Name: 850328 BN ON I
Misc Data: H2216B

BTL#14

301076

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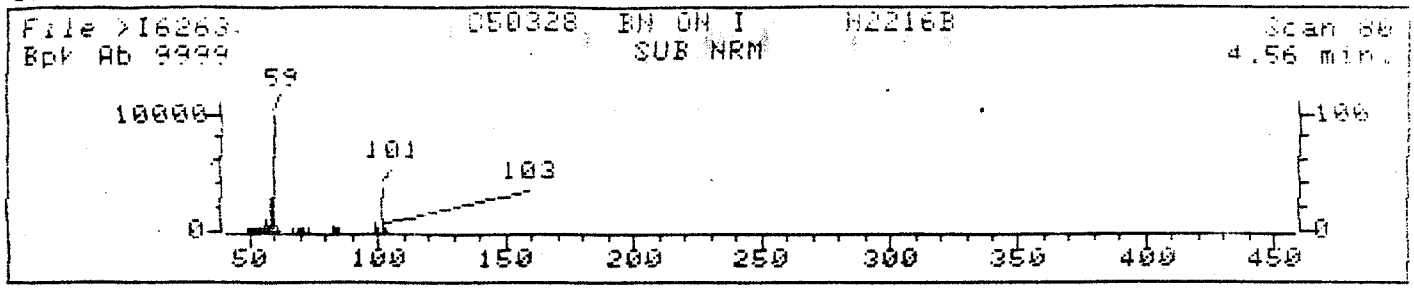
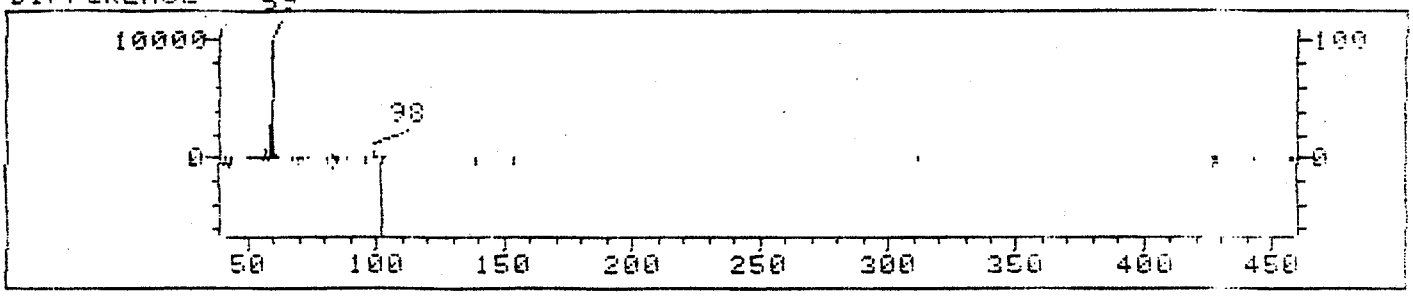
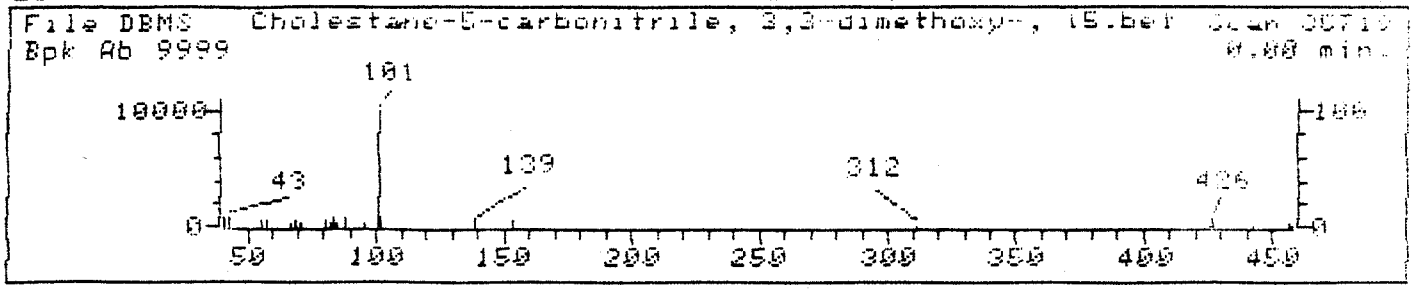
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6263::U2
Name: 850328 BN ON I
Misc Data: H2216B BTL#14
RT (min): 4.56
Scan: 80
Area: 434979
Semi-quantitative Conc: 14.84 UG/ML

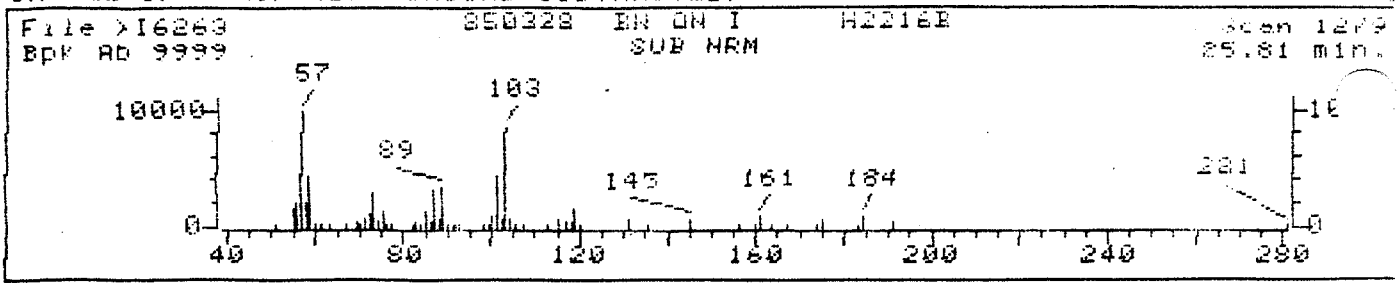
Data File: >I6263 Scan Number: 80
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

1. Cholestane-5-carbonitrile, 3,3-dimethoxy-, (5.beta.) 457 C30H51NO2 - (9CI)

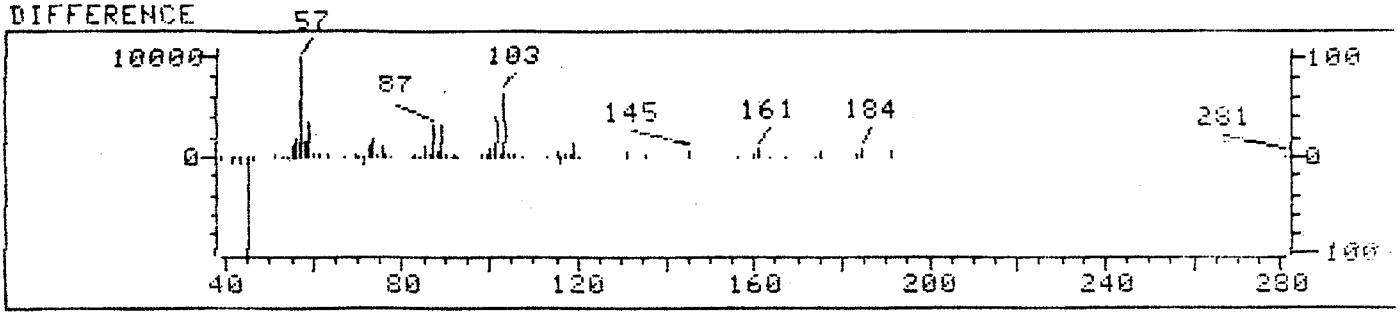
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	55282490	36	101	0	-2

301077

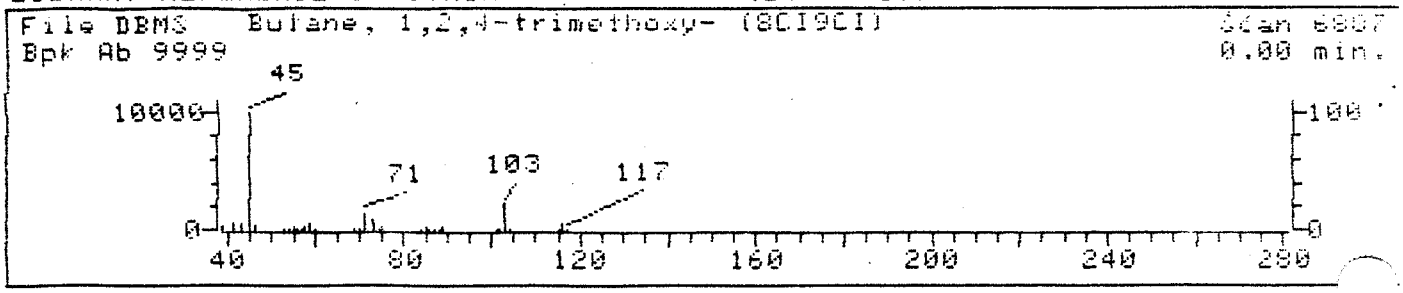
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6263::U2
Name: 850328 BN ON I
Misc Data: H2216B BTL#14
RT (min): 25.81
Scan 1279
Area 197795
Semi-quantitative Conc: 6.7(UG/ML

Data File: >I6263 Scan Number: 1279
Search Speed: 2 Titling option: S Number of ion ranges searched: 6

1.	Butane, 1,2,4-trimethoxy- (8CI9CI)	148 C7H16O3
2.	2-Oxazolidinethione (8CI9CI)	103 C3H5NOS
3.	Propanoic acid, 2-methyl-3-(trimethylsilyl)-, methyl ester (9CI)	174 C8H18O2Si

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	20	20637483	41	45	2	0
2.	11	5840813	20	78	2	0
3.	11	18388426	22	94	3	0

301078

301078

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

RI

ETC Job # 4A2121-61

Lab ID: L85253-B3

Submitted by: MW CHMIN

Date: 4/9/85

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 APR 10 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			

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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. 28521 ETC Job # 11216

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: CHEMBIC ISLAND — 50yds Upstream of Stone Stairs + Bridge
(Facility/Site Code) (Optional Sample Point Descriptions)

429
3

Sample Point: R - SITA1101W121 | 032185 | 1615 | |
Source Code (from below) | Your Sample Point ID (left justify) | Start Date (YY/MM/DD) | Start Time (2400 hr. clock) | Elapsed H (compos

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

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observation
3	E	1L	baked	Extractables		All	
1	M	1L	HNO3	Metals			
1	CN	500ml	NaOH	Cyanides			
1	PN	1L	H2SO4	Phenols			
2	V	40ml	Sod-Thio.	VOA		Secure	
1	TB	40ml	SC/MS H2O	Trip blank		Bubble in VOA hds	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) J. Buttich Date: 3/21/85 Time: 1615
   Signature: [signature] Seal #: 0028521 Intact: Yes

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

3. I have received these materials in good condition from the above person. 301082
   Name: Signature:
   Date: Time: Remarks:

4. Shuttle Sealed By: (print) J. Buttich Date: 3/21/85 Time: 1655
   Signature: [signature] Seal #: 0028521 Intact: Yes

301082

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 8:00
Seal #: 28522 Condition: OK

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2216

Sample Point [ ] Source Code [ ] Sample Point I.D

FIELD PROCEDURES

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

SAMPLING METHOD: _____

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: Stream H2O

Weather Conditions: Fair 40°F

Other: _____

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

Sampler: J Bethke (Print) Employer: ODEC

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

3/21/95 (Date) (Signature)

301083

GC-MS ANALYSIS CUSTODY LOG

DATE 850323 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE APEI01
SEQUENCE FILE TM
METHOD FILE VOA
IDFILE AVOA
ANALYST(S) T Mancuso

SUPERVISOR MDunkley
BATCH #'s QV3033

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	4609	1
ISTD	40	9,10	5
SURR	25	9377	10
ABC	18	10,221	5

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	>A7303	1			A00106	0810hrs 3/23	
QC3033V	>A7304	5ml	1				Y
QC3033VS	>A7305		2			5ul ABC Something #6 (over ABC)	
QC3033VS	>A7306		4			10	
QC3033VS	>A7307		5			30 Blew out Tube	
QC3033VS	>A7308		3			5	
QC3033VS	>A7309		6			30	
QC3033VS	>A7310		1			5 1544 hrs	
H2205VS	>A7311		1				
H2205V	>A7312		2				Y
H2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000 hrs 3/27	
QC3033VS	>A7316					5ul ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220V	>A7322						
G9862V	>A7323					composite Reno 1:10	
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326						
H0887V	>A7327						

301084

)Y LOG

_ SHIFT _

A

A

[illegible]

(SE INITIAL)

US	STANDARDS UPDATED
	DATE
	BY

STANDARD	CONC PPM	LOT NO.	LOT VOL
ISTD	40	9140	5
SURR	25	8377	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
02888V	2A7328	5ul			A-106		
29862V	2A7329			1:10		composite [illegible] 1124	

301085

TSR 8-84

EXTRACTION LOG

QC

IS ANALYSIS CUSTOD
B503Z4
TION VOA
RUMENT A
FILE AP21G1
ENCE FILE JQ
OD FILE AVOA
LE AVOA
YST(S)
RUISOR
H #'s
(PLEA
URRENT
S STAT

Matrix:
Turnaround
Date: 3/27

Extraction Method:
- sep funnel
- cont. nucus
- soxhlet
- other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2213	8683	1000	1.0	1.0	
H2214	|	960	1.0	1.0	
H2215	|	970	1.0	1.0	
H2216	|	950	1.0	1.0	
H2217	|	930	1.0	1.0	
H2219	|	930	1.0	1.0	
H2220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
H1813	8698	980	1.0	1.0	
G8913	8383	1000		1.0	
G9222	8411	1000		1.0	
G9224	↓	1000		1.0	
G5914	8437	950		1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

COMMENTS FOR EXTRACT.:
PP/T: H2213 – 17, 19, 20
H1813
PP/ORG/PST/PCB: G986?
PP/ACID (REPEAT): G8913, G9222, 24, G5914

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

301086

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713
WATER			
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ng/ml	10,19
	ACID: 100 ng/ml	

Set-up: [signature] 3/27/87 1150 HPD/Supervisor: [signature] 3/27

301087

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE QF
METHOD FILE ACIDP
IDFILE EACIQ
ANALYST(S) R. TRAUB
SUPERVISOR [signature]
BATCH #'s QA2854, QA2855

(PLEASE INITIAL)

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ	RT	DATE	KEB
WIP		BY	3/28/85

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Load	4000	9053	10cl
DFTPP	25	9534	2

4, 5, 6 9/02

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DFTPP	F8488				I00160		
Acid Calib Std. III	F8489		1				
II	F8490		2				
I	F8491		3				
QC 2854A	F8492		4			Aborted. Batch at 8:00pm not used rewritten	Y
QC 2854AS	F8493		2 5				
H2213AS	F8494		3 6				
H2213A	F8495		4 7				Y
H2214A	F8496		5 8				
H2215A	F8497		6 9				
H2216A	F8498		7 10				
H2217A	F8499		8 11				↓
H2217AR	F8500		9 12				
H2219A	F8501		10 13				Y
H2220A	F8502		11 14				Y
G9863A	F8503		12 15				
H1813A	F8504		13 16				
G8913A	F8505		14 17				
G9222A	F8506		15 18				
G9224A	F8507		16 19				
G5914A	F8508		17 20				
H0867A	F8509		18 21	1:10		For QC 2852	
DFTPP	F8510		19 22				
Acid Calib Std II	F8511		20 23		↓		

301088

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT "E"
TUNE FILE MTF001
SEQUENCE FILE K&B/KEBF
METHOD FILE ACIDF
IDFILE PACID
ANALYST(S) K.E. Bonfanti
SUPERVISOR [signature]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CS#S STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
AC10 CAL II	F8492						
AC10 CAL I	F8493						
H2213AS	F8500		1	A B C			
QC2854AS	F8501		2	A B			
QC2854A	F8502		3	A			
H2213A	F8503		4	A			
H2214A	F8504		5	A			
H2215A	F8505		6	A			
H2216A	F8506		7	A			
H2217A	F8507		8	A			
DFTPP	F8508		9	A			
AC10 CAL II	F8509		10	A			
H2217AR	F8510		11	A			
H2219A	F8511		12	A			
H2220A	F8512		13	A			
G9863A	F8513		14	A			
H1813A	F8514		15	A	6891B	F8515-15 14	
G9223HAC	F8516		17	A			
G9224A	F8517		18	A B			
G5914A	F8518		19	A B			
H0867A	F8519		20	10:1 A		QB2852	
QC2855AS	F8520		20		060		

TSR 8-84

301089

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28-29/85 SHIFT ___
FRACTION ACID
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) K.S. Brown Jr.
SUPERVISOR Mark C. Worthy
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
GS229AS	F8521		22				
GB285SA	F8522		23				Y
GS228A	F8523		24				"
GS229A	F8524		25				"
GS231A	F8525		26				Y
GS231AR	F8526		27				
GS232A	F8527		28				Y
DPTPP	F8528		29				
ACID CAL II	F8529		30				
GS233A	F8530		31				Y
GS234A	F8531		32				"
GS235A	F8532		33				Y
H0737A	F8533		34				
H0293A	F8534		35				
G8937A	F8535		36				
					031		

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301090

301090

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BNP
INSTRUMENT II
TUNE FILE MTI001
SEQUENCE FILE KEBI
METHOD FILE BNPI
IDFILE IBNP
ANALYST(S) K&S Bmpsts
SUPERVISOR [signature]
BATCH #'s Q B2854
Q B2855

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LO VO
DFTPP	25	9534	2ul
BNCAL IV	150	10194	1ml
III	200	9961	1
II	100	10193	1
I	60	10192	1 ml
INT STD MIX	400	9653	100ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	B Y
DFTPP	I6245						
BN CAL III	I6250		1				
BN CAL III	I6251		2				
BN CAL I	I6252		3				
BNCAL II	I6253		4				
H2213 BS	I6254		5		088 AS		
QC2854BS	I6255		6		T		
QC2854B	I6256		7		U		
H2217 BR	I6257		8		V		
DFTPP	I6258		9				
BNCAL II	I6259		10				
H2213 B	I6260		11		W		
H2214 B	I6261		12		X		
H2215 B	I6262		13		Y		
H2216 B	I6263		14		Z		
H2217 B	I6264		15		BA		
H2219 B	I6265		16		B		
H2220 B	I6266		17		C		
G9863 B	I6267		18		D		
H1813 B	I6268		19		E		
G5229 BS	I6269		20				
QC2855BS	I6270		21				
DFTPP	I6271		22				
BNCAL II	I6272		23				
QC2855B	I6273		24		092		

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT
FRACTION BN
INSTRUMENT I
TUNE FILE MI001
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) K.S. Bryant
SUPERVISOR [signature]
BATCH #'s

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
G5231BR	I6274		25				
G5228B	I6275		26				Y
G5229B	I6276		27				Y
G5231B	I6277		28				↓
G5232B	I6278		29				
G5233B	I6279		30				
G5234B	I6280		31				Y
G5235B	I6281		32				Y
H2853B	I6282		33				
H0293B	I6283		34				
H0737B	I6284		35				

30108

063

ETC ENVIRONMENTAL TESTING and CERTIFICATION

301092

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas S. Lilfield	4/8/05
AA/ICAP Prep	Melissa Lynn McClean	4/8/05

Lab Supervisor Lidya Wkiawot date 4/12/05

301092

8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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 Hamilton 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

X-029

Sample(s) Relinquished by: M. Gaudin

Date 3-22-85 Time 3:15 PM

301093

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 315

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2217	NJ DEP	NJDCOMBES0	RSTATION 4 B50321 1525			
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

James N. Bowen

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

301094

TABLE OF CONTENTS

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

301097

301097

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 27, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

4-3-301098

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2217	NJ DEP		NJDCOMBESO	RSTATION 4	850321	1525
ETC Sample No.	Company		Facility	Sample Point	Date	Time Elapsed Hours

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	ND	ND	ND	800	60	ND	800	18B
2V	Acrylonitrile	ND	100	ND	ND	ND	80	80	ND	80	97
3V	Benzene	ND	4.40	ND	ND	ND	18	103	ND	18	104
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	86	ND	18	95
6V	Carbon tetrachloride	ND	2.80	23	24	ND	18	102	ND	18	105
7V	Chlorobenzene	ND	6	51	50	ND	18	102	ND	18	104
8V	Chlorodibromomethane	ND	3.10	32	31	ND	18	97	ND	18	101
9V	Chloroethane	ND	10	ND	ND	ND	18	94	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	93	ND	18	101
11V	Chloroform	ND	1.60	ND	ND	ND	18	105	ND	18	106
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	103	ND	18	104
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	104	ND	18	104
15V	1,2-Dichloroethane	ND	2.80	33	33	ND	18	101	ND	18	105
16V	1,1-Dichloroethylene	ND	2.80	19	20	ND	18	103	ND	18	100
17V	1,2-Dichloropropane	ND	6	44	44	ND	18	102	ND	18	102
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	91
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	103	ND	18	104
20V	Methyl bromide	ND	10	ND	ND	ND	18	120	ND	18	86
21V	Methyl chloride	ND	10	ND	ND	ND	18	102	ND	18	109
22V	Methylene chloride	ND	2.80	37	38	5	18	101	ND	18	98
23V	1,1,2,2-Tetrachloroethane	ND	6.90	54	47	ND	18	96	ND	18	114
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	100	ND	18	102
25V	Toluene	ND	6	ND	ND	ND	18	102	ND	18	103
26V	1,2-Trans-dichloroethylene	ND	1.60	59	60	ND	18	102	ND	18	102
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	110	ND	18	113
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	96	ND	18	102
29V	Trichloroethylene	ND	1.90	71	71	ND	18	92	ND	18	91
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	117
31V	Vinyl chloride	ND	10	ND	ND	ND	18	94	ND	18	108
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	100	ND	18	72

301098

A EPA published Method Detection Limit.

B Recovery low due to sample matrix interference.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 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
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525	

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	ND	ND	ND	100	86	ND	103	77
2A	2,4-Dichlorophenol	ND	3	ND	ND	ND	100	90	ND	103	82
3A	2,4-Dimethylphenol	ND	3	ND	ND	ND	100	90	ND	103	78
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	79	ND	103	86
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	43	ND	103	62
6A	2-Nitrophenol	ND	4	ND	ND	ND	100	85	ND	103	79
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	53	ND	103	55
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	101	ND	103	86
9A	Pentachlorophenol	ND	4	ND	ND	ND	100	83	ND	103	82
10A	Phenol	ND	2	ND	ND	ND	100	40	ND	103	58
11A	2,4,6-Trichlorophenol	ND	3	ND	ND	ND	100	87	ND	103	84

[A] EPA published Method Detection Limit.

301099

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10[b]	ND	103	9[b]
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 [c]	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 [c]	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	41	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 [c]	ND	ND	ND	100	3[b]	ND	103	35[b]
25B	Dimethyl phthalate	ND	10 [c]	ND	ND	ND	100	1[b]	ND	103	3[b]
26B	Di-n-butyl phthalate	ND	10 [c]	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 [c]	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

301100

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27[B]	ND	103	43[B]
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24[B]	ND	103	32[B]
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

301101

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

3011102

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525	

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l								
1M	Antimony	ND	80								
2M	Arsenic	ND	5								
3M	Beryllium	ND	.60								
4M	Cadmium	ND	3								
5M	Chromium	ND	20								
6M	Copper	ND	10								
7M	Lead	BMDL	5								
8M	Mercury	ND	.30								
9M	Nickel	ND	10								
10M	Selenium	ND	10								
11M	Silver	ND	8								
12M	Thallium	ND	5								
13M	Zinc	ND	30								
14M	Cyanide, Total	<25	25								
15M	Phenolics, Total	<10	10								

3011103

ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2217	NJ DEP	NJDCOMBESO	RSTATION4	850321	1525	

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

301104

301104

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 1, 1985

TABLE 1: QUALITATIVE RESULTS

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

301105

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2217	NJ DEP	NJDCOMBESO	RSTATION4	850321	1525	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
None Found								

301105

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	85	4.60	-	-	-	16		

301106

Relative Percent Difference (RPD) for VOA

H2217 NJ DEP — NJDCOMBESO RSTATION 4 850321 1525
Job Number Account Name — Facility Source Date Time

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	23	24	4
Chlorobenzene	51	50	2
Chlorodibromomethane	32	31	3
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	33	33	0
1,1-Dichloroethylene	19	20	5
1,2-Dichloropropane	44	44	0
cis-1,3-Dichloropropylene	ND	ND	0
Ethylbenzene	ND	ND	0
Methyl bromide	ND	ND	0
Methyl chloride	ND	ND	0
Methylene chloride	37	38	3
1,1,2,2-Tetrachloroethane	54	47	14
Tetrachloroethylene	ND	ND	0
Toluene	ND	ND	0
1,2-trans-dichloroethylene	59	60	2
1,1,1-Trichloroethane	ND	ND	0
1,1,2-Trichloroethahe	ND	ND	0
Trichloroethylene	71	71	0
Trichlorofluoromethane	ND	ND	0
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
H2217	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1525

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

H2217 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 4 — Facility Source
850321 1525 — Date Time

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

H2217 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 4 — Facility Source
850321 1525 — Date Time

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

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2217

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

Compound	Amount Added ug	% Recovery	Control Limits * Lower	Control Limits * Upper
VOLATILE FRACTION				
Toluene-D8	.250	104	86	119
Bromofluorobenzene	.250	105	85	121
1,2-Dichloroethane-D4	.250	107	77	120
ACID FRACTION				
Phenol-D5	100	35	15	103
2-Fluorophenol	100	45	23	121
2,4,6 Tribromophenol	100	71	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	76	4	120
2-Fluorobiphenyl	50	87	44	119
Terphenyl-D14	50	62	33	128

* IFB EPA Control Limits.

301112

>E8072

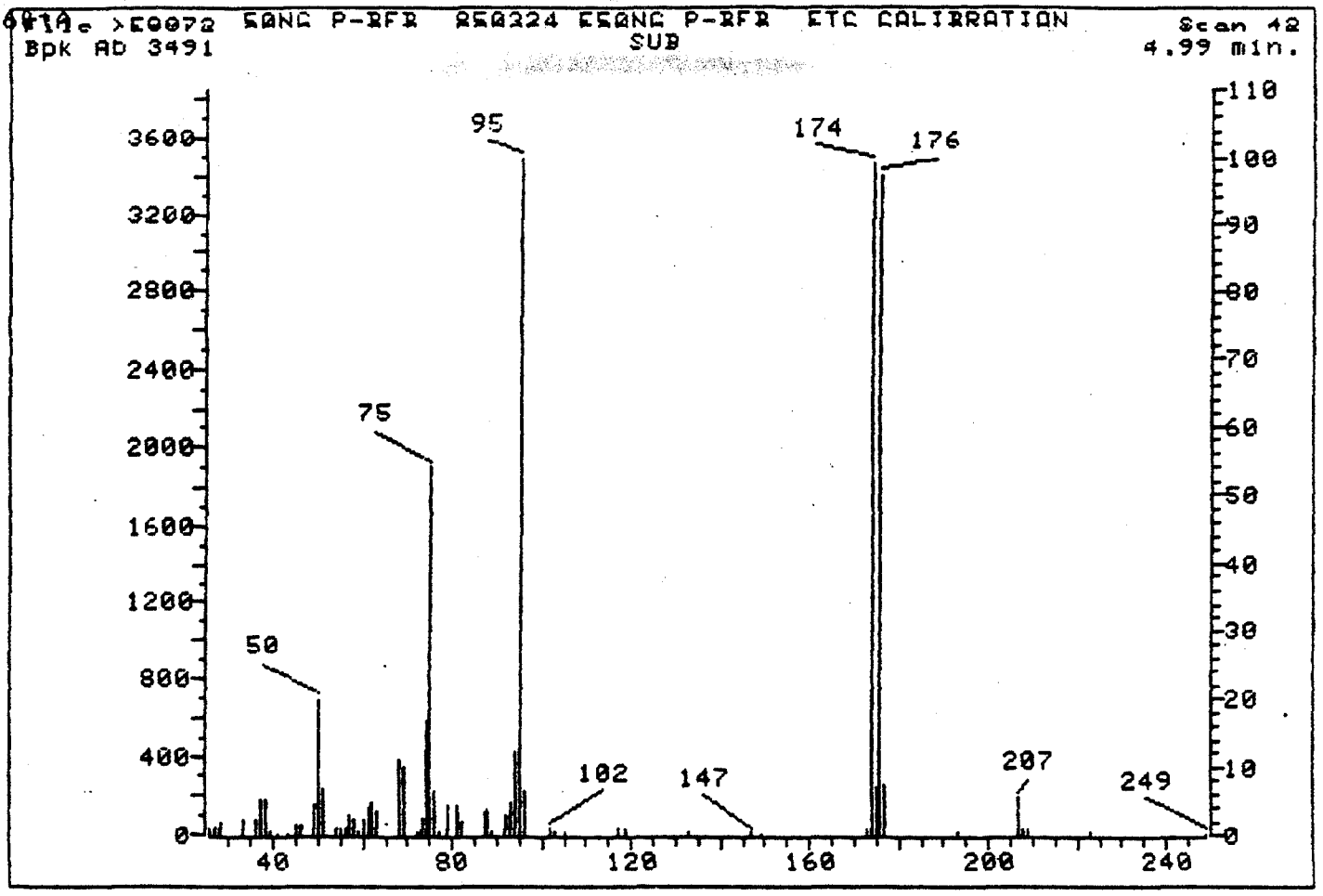

TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	19.77	19.77	Ok
75	30-60% of mass 95	54.40	54.40	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.10	6.10	Ok
173	Less then 1% of mass 95	.95	.95	Ok
174	Greater then 50% of mass 95	99.23	99.23	Ok
175	5-9% of mass 174	6.93	6.99	Ok
176	95-101% of mass 174	97.39	98.15	Ok
177	5-9% of mass 176	7.45	7.65	Ok

Injection Date: 03/24/85 Analyst: Jim Yager
Injection Time: 08:37 Processor: Pearl Frank
Run No: >E8072 QC Batch: QV 3038
Spectrun No: 42 Samples: H2217, H0776

301113

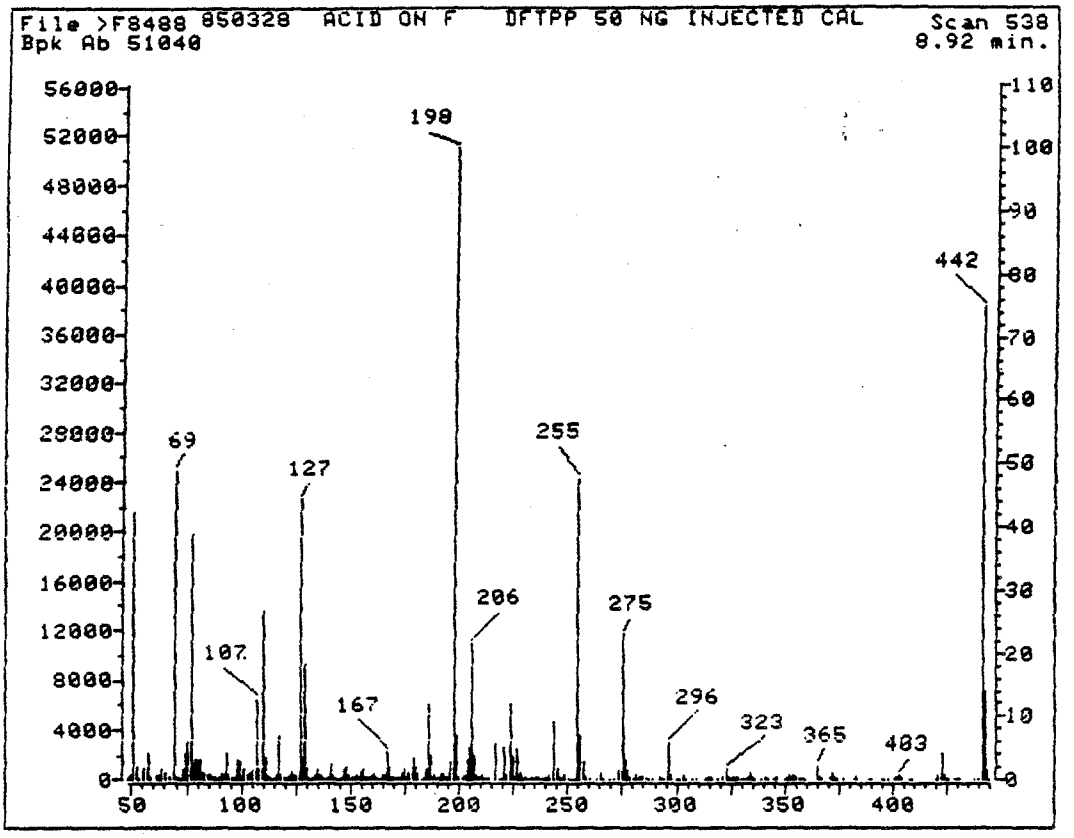

TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	42.19	42.19	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	48.87	48.87	Ok
70	Less then 2% of mass 69	.41	.85	Ok
127	40-60% of mass 198	44.25	44.25	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	6.71	6.71	Ok
275	10-30% of mass 198	22.79	22.79	Ok
365	Greater then 1% of mass 198	2.24	2.24	Ok
441	Less then mass 443	0.00	0.00	Ok
442	Greater then 40% of mass 198	74.81	74.81	Ok
443	17-23% of mass 442	13.80	18.45	Ok

Injection Date: 03/28/85 Analyst: K. G. Bonparte
Injection Time: 13:26 Processor: Wen-Wen Chen
Run No: >F8488 QC Batch: QA2854
Spectrun No: 538 Samples: H2213-H2217

301114

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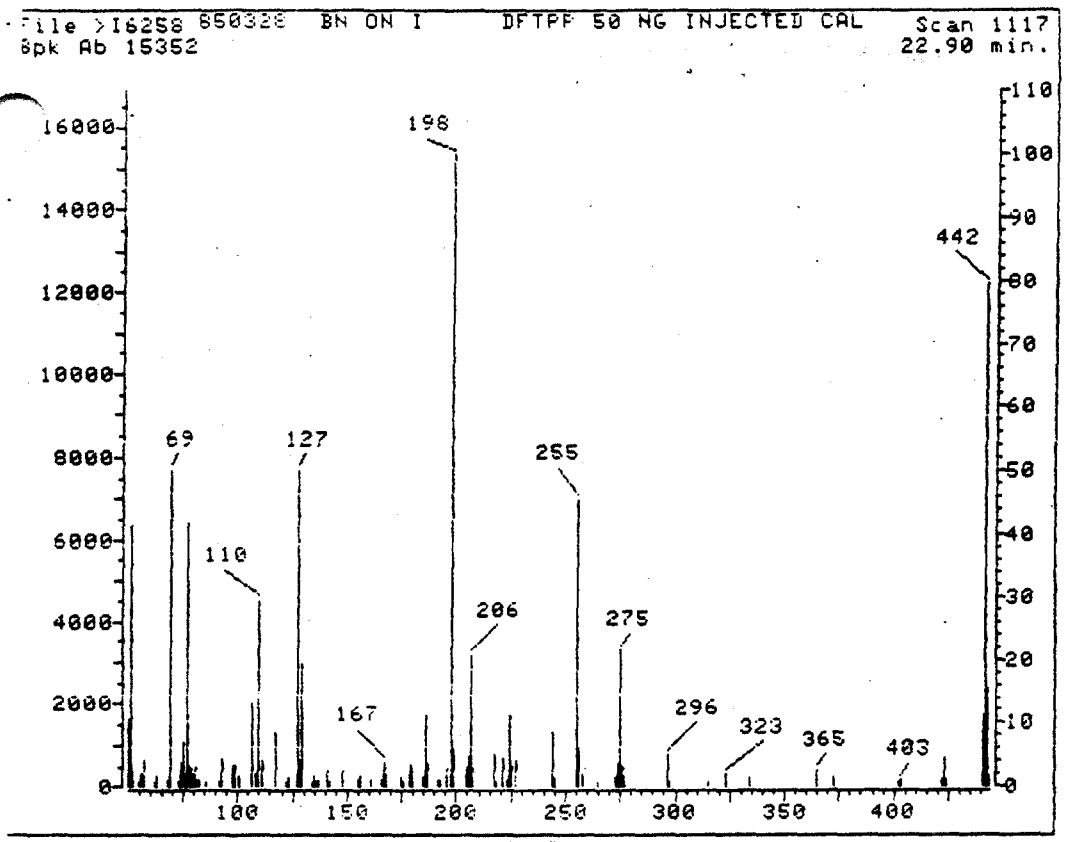


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	41.17	41.17	Ok
68	Less then 2% of mass 69	.93	1.86	Ok
69	(reference only)	50.12	50.12	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	50.18	50.18	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	6.25	6.25	Ok
275	10-30% of mass 198	21.53	21.53	Ok
365	Greater then 1% of mass 198	2.59	2.59	Ok
441	Less then mass 443	11.28	74.64	Ok
442	Greater then 40% of mass 198	79.46	79.46	Ok
443	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85
Injection Time: 01:25
Run No: >I6258
Spectrum No: 1117

Analyst: K.E. Bonanno
Processor: Humphreys & Associates / Pat Chang
QC Batch: QB2854
Samples: H2213 - H2217, H2219, H2220
G9863, H1813

301115

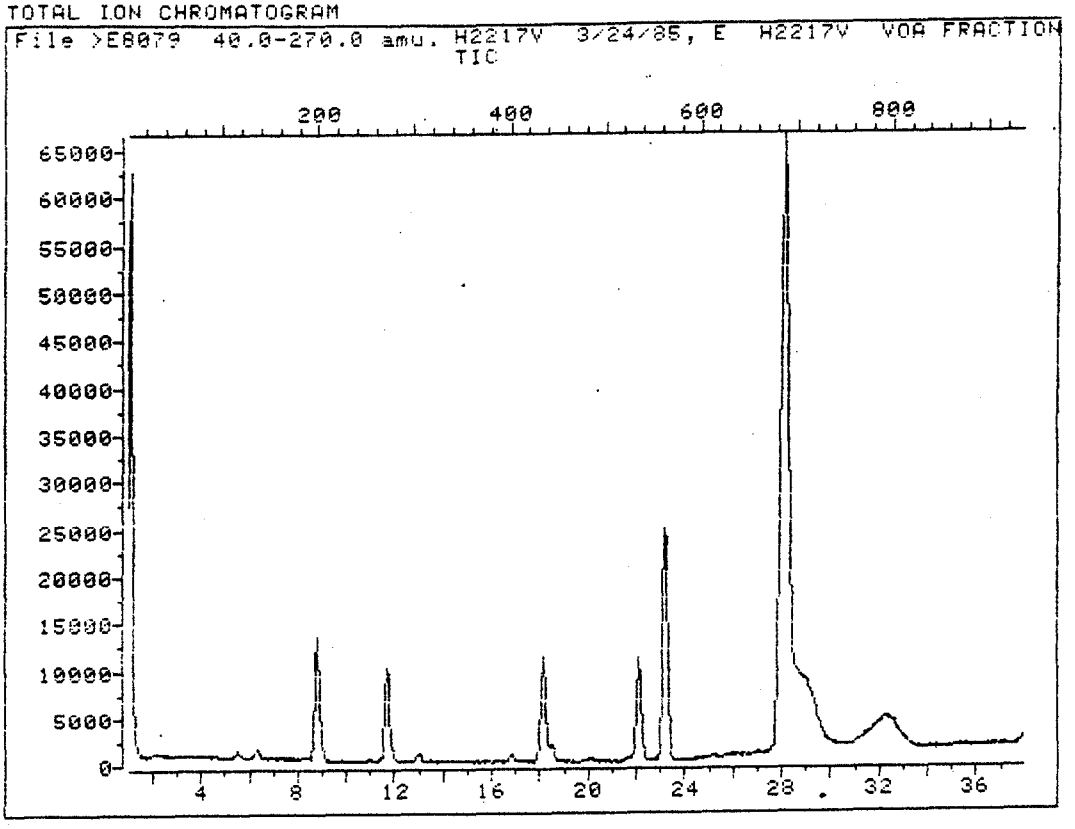
Appendix A

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: >E8079::U2
Name: H2217V 3/24/85, E
Misc: H2217V VOA FRACTION, 3/24/85, 5ML. WATER,

Id File: EVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, E
Last Calibration: 850324 20:17

Operator ID: RL9134
Quant Time: 850324 23:10

301117

QUANT REPORT

Operator ID: RL9134 Quant Rev: 3 Quant Time: 85032 3
Injected at: 850324 22
Data File: >E8079::U2 Dilution Factor: 1
Name: H2217V 3/24/85, E
Misc: H2217V VOA FRACTION, 3/24/85, 5ML. WATER,

ID File: EVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, E
Last Calibration: 850324 20:17

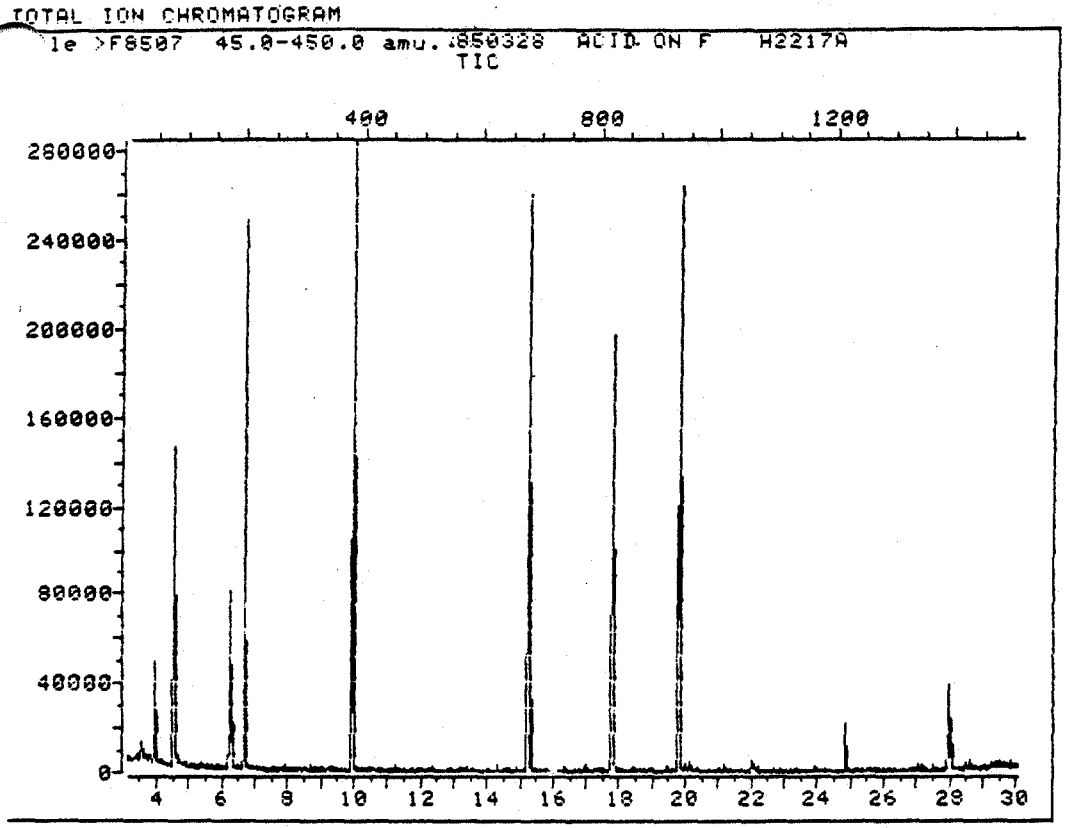
	Compound	R.T.	Scan#	Area	Conc	Ur
1)	*2-Bromo-1-chloropropane	18.13	435	58242	200.00	NG
10)	2-Chloroethylvinyl ether	16.83	402	1046	~~15.21~~	NG
11)	Chloroform	10.99	254	1169	~~3.21~~	NG
12)	Dichlorobromomethane	10.99	254	1169	~~3.95~~	NG
23)	Methylene chloride	5.54	116	2846	~~15.13~~	NG
26)	Toluene	23.30	566	1551	~~2.78~~	NG
28)	1,1,1-Trichloroethane	13.00	305	4747	~~15.47~~	NG
36)	1,2-Dichloroethane-D4	11.70	272	26833	267.51	NG
37)	Toluene-D8	23.19	563	136136	258.84	NG
38)	p-Bromofluorobenzene	28.04	686	80307	263.06	NG
39)	*1,4-Dichlorobutane	22.08	535	62035	200.00	NG

* Compound is ISTD

301118

301118

TOTAL ION CHROMATOGRAM



Data File: >F8507::U5
Name: 850328 ACID ON F
Misc: H2217A

BTL# 8

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

Operator ID: KB5414
Quant Time: 850329 04:12

301119

QUANT REPORT

ɔrator ID: KB5414 Quant Rev: 3 Quant Time: 850329 04:12
Injected at: 850329 03:40
ta File: >F8507::U5 Dilution Factor: 1.00
ne: 850328 ACID ON F
sc: H2217A BTL# 8

File: FACID
tle: ACID ID FILE.....3/15/85,#F,WWC
st Calibration: 850328 22:26

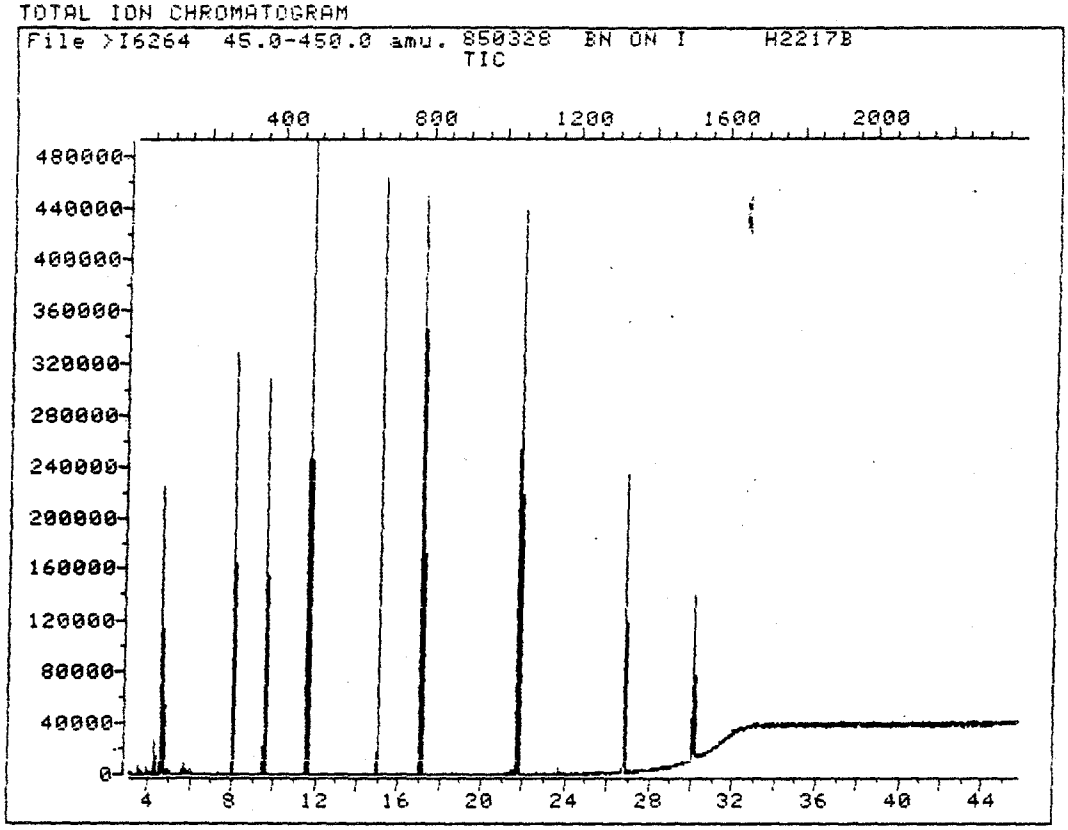
	Compound	R.T.	Scan#	Area	Conc	Units
)	*d4-1,4-Dichlorobenzene	6.64	198	149185	40.00	UG/ML
)	2-Fluorophenol	4.47	76	113650	44.77	UG/ML
)	Phenol-D5	6.19	173	90603	34.55	UG/ML
)	Phenol-D5	6.64	198	1199	.46	UG/ML
)	*d8-Naphthalene	9.92	382	309368	40.00	UG/ML
)	*d10-Acenaphthalene	15.23	680	166846	40.00	UG/ML
)	*d10-Phenanthrene	19.75	934	330207	40.00	UG/ML
)	2,4,6-Tribromophenol	17.74	821	62833	70.45	UG/ML

Compound is ISTD

301120

301120

TOTAL ION CHROMATOGRAM



Data File: >I6264::U2
Name: 850328 BN ON I
Misc: H2217B

BTL#15

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 07:27

301121

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 07:27
Injected at: 850329 06:39
Data File: >I6264::U2 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: H2217B BTL#15

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.97	274	128427	40.00	UG/ML
7)	Nitrobenzene-d5	9.53	362	212758	38.10	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.98	275	6490	~~7.43~~	~~UG/ML~~
9)	*d8-Naphthalene	11.55	476	521042	40.00	UG/ML
10)	2-Fluorobiphenyl	14.93	667	371994	43.45	UG/ML
11)	N-Nitrosodi-n-propylamine	9.53	362	32489	~~8.22~~	~~UG/ML~~
19)	*d10-Acenaphthalene	17.02	785	258308	40.00	UG/ML
22)	Dimethyl phthalate	17.02	785	46003	~~5.24~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.65	1046	444147	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1162	8491	~~.67~~	~~UG/ML~~
39)	Benzidine	26.74	1333	2687	~~6.14~~	~~UG/ML~~
47)	*d12-Chrysene	30.10	1522	120539	40.00	UG/ML
59)	Terphenyl-D14	26.74	1333	215097	31.49	UG/ML

* Compound is ISTD

PCB MD

301108

301122

Appendix B

GC/MS Calibration Data

301123

Calibration Report

Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, I
Calibrated: 850324 19:19

Files:	)E8077	)E8075	)E8076				
* Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Acrolein	.02643	.05243	.05224	.350	.04370	34.231	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.09764	.14504	.12555	.388	.12275	19.410	(Conc=400.0,800.0,2400.0)
Benzene	1.60928	1.56688	1.50216	.933	1.55944	3.459	
Bromoform	.53262	.63803	.67925	1.067	.61663	12.264	
Carbon tetrachloride	.91072	.88641	.88934	.740	.89549	1.482	
Chlorobenzene	1.31901	1.29611	1.27647	1.346	1.29720	1.641	
Chlorodibromomethane	.84480	.87568	.89690	.921	.87246	3.003	
Chloroethane	.29144	.32442	.31811	.198	.31133	5.623	
2-Chloroethylvinyl ether	.21380	.25612	.23335	1.000	.23609	7.967	
Chloroform	1.31699	1.25370	1.18416	.605	1.25162	5.308	
Dichlorobromomethane	1.04183	.98862	1.01667	.767	1.01571	2.621	
Dichlorodifluoromethane	.72894	.77842	.65228	.156	.71988	8.828	(Conc=100.0,200.0,600.0)
1,1-Dichloroethane	.76696	.73258	.71633	.534	.73862	3.500	
1,2-Dichloroethane	.84859	.87064	.80296	.650	.84073	4.106	
1,1-Dichloroethylene	.94803	.89935	.90823	.469	.91854	2.822	
1,2-Dichloropropane	.57949	.56866	.56302	.848	.57039	1.467	
trans-1,3-Dichloropropylene	.81471	.80018	.82669	.863	.81386	1.632	
cis-1,3-Dichloropropylene	.72413	.74714	.73941	.935	.73689	1.589	
Ethylbenzene	2.49299	2.40220	2.35845	1.446	2.41788	2.838	
Methyl bromide	.51007	.55970	.20403	.129	.42460	45.366	
Methyl chloride	.33127	.33293	.30847	.091	.32422	4.216	
Methylene chloride	.82594	.60348	.50844	.305	.64595	25.227	
1,1,2,2-Tetrachloroethane	.68494	.74340	.70724	1.196	.71186	4.144	
Tetrachloroethylene	.98686	1.00617	.97283	1.213	.98862	1.693	
Toluene	1.95294	1.91988	1.87952	1.289	1.91745	1.918	
1,2-Trans-dichloroethylene	.84105	.81437	.80647	.583	.82063	2.208	
1,1,1-Trichloroethane	1.15954	1.05551	.95046	.717	1.05517	9.907	
1,1,2-Trichloroethane	.41704	.46350	.42696	.931	.43583	5.615	
Trichloroethylene	.47853	.55915	.51975	.901	.51914	7.765	
Trichlorofluoromethane	1.25204	1.33126	1.15322	.427	1.24550	7.162	
Vinyl chloride	.49375	.55934	.51978	.158	.52429	6.299	
meta-Xylene	2.33928	2.27515	2.14225	1.625	2.25223	4.462	(Conc=75.0,150.0,450.0)
ortho-and-para-Xylenes	2.27887	2.16596	2.07534	1.663	2.17339	4.692	(Conc=150.0,300.0,900.0)
1,2 Diclorobenzene	-	-	-	-	-	-	(Conc=180.0,180.0,180.0)
Styrene	1.64093	1.59631	1.54611	1.611	1.59445	2.975	
1,2-Dichloroethane-D4	.34188	.35204	.33941	.643	.34444	1.944	(Conc=250.0,250.0,250.0)
Toluene-D8	1.81714	1.81591	1.78514	1.279	1.80607	1.004	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	1.07180	1.06074	1.01243	1.546	1.04832	3.011	(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

301124

030

Calibration Check Report

Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, I
Calibrated: 850324 19:19

Check Standard Data File:)E8077
Injection Time: 850324 18:33

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.04370	.02643	39.53	Average	(Conc=4000.00)
Acrylonitrile	.12275	.09764	20.45	Average	(Conc=400.00)
Benzene	1.55944	1.60928	3.20	Average	
Bromoform	.61663	.53262	13.62	Average	
Carbon tetrachloride	.89549	.91072	1.70	Average	
Chlorobenzene	1.29720	1.31901	1.68	Average	
Chlorodibromomethane	.87246	.84480	3.17	Average	
Chloroethane	.31133	.29144	6.39	Average	
2-Chloroethylvinyl ether	.23609	.21880	7.32	Average	
Chloroform	1.25162	1.31699	5.22	Average	
Dichlorobromomethane	1.01571	1.04183	2.57	Average	
Dichlorodifluoromethane	.71988	.80993	12.51	Average	
1,1-Dichloroethane	.73862	.76696	3.84	Average	
1,2-Dichloroethane	.84073	.84859	.94	Average	
1,1-Dichloroethylene	.91854	.94803	3.21	Average	
1,2-Dichloropropane	.57039	.57949	1.59	Average	
trans-1,3-Dichloropropylene	.81386	.81471	.10	Average	
cis-1,3-Dichloropropylene	.73689	.72413	1.73	Average	
Ethylbenzene	2.41788	2.49299	3.11	Average	
Methyl bromide	.42460	.51007	20.13	Average	
Methyl chloride	.32422	.33127	2.17	Average	
Methylene chloride	.64595	.82594	27.86	Average	
1,1,2,2-Tetrachloroethane	.71186	.68494	3.78	Average	
Tetrachloroethylene	.98862	.98686	.18	Average	
Toluene	1.91745	1.95294	1.85	Average	
1,2-Trans-dichloroethylene	.82063	.84105	2.49	Average	
1,1,1-Trichloroethane	1.05517	1.15954	9.89	Average	
1,1,2-Trichloroethane	.43583	.41704	4.31	Average	
Trichloroethylene	.51914	.47853	7.82	Average	
Trichlorofluoromethane	1.24550	1.25204	.52	Average	
Vinyl chloride	.52429	.49375	5.82	Average	
meta-Xylene	2.25223	2.33928	3.87	Average	(Conc=75.00)
ortho-and-para-Xylenes	2.17339	2.27887	4.85	Average	(Conc=150.00)
1,2 Diclorobenzene	-	-	-	Average	(Conc=180.00)
Styrene	1.59445	1.64093	2.92	Average	
1,2-Dichloroethane-D4	.34444	.34188	.74	Average	(Conc=250.00)
Toluene-D8	1.80607	1.81714	.61	Average	(Conc=250.00)
p-Bromofluorobenzene	1.04832	1.07180	2.24	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

031

301125

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WAC
Calibrated: 850328 22:20

Compound	Files: >F8493 RF 60.00	>F8492 RF 100.00	>F8489 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
hlorophenol	.79614	.80437	.76134	.954	.78728	2.901	
nol	.80904	.85955	.93328	.931	.86729	7.204	
-Dichlorophenol	.26602	.27976	.27663	.981	.27414	2.627	
-Dimethylphenol	.33494	.34353	.30516	.934	.32788	6.141	
itrophenol	.18484	.19537	.19435	.904	.19152	3.034	
hloro-m-cresol	.27674	.29355	.22907	1.208	.26645	12.554	
-Dinitro-o-cresol	.22150	.27287	.21589	1.139	.23675	13.264	
-Dinitrophenol	.06770	.11025	.11233	1.029	.09676	26.031	
itrophenol	.08473	.13355	.09617	1.080	.10482	24.361	
,6-Trichlorophenol	.34095	.35554	.42589	.858	.37413	12.140	
tachlorophenol	.03058	.05702	.05922	.988	.04894	32.570	
luorophenol	.67275	.67515	.69391	.675	.68060	1.703	(Conc=100.0,100.0,100.0)
nol-D5	.67214	.70067	.73630	.927	.70304	4.573	(Conc=100.0,100.0,100.0)
,6-Tribromophenol	.10538	.10039	.11837	.898	.10804	8.590	(Conc=100.0,100.0,100.0)

- Response Factor (Subscript is amount in UG/ML)
- Average Relative Retention Time (RT Std/RT Istd)
- Average Response Factor
D - Percent Relative Standard Deviation

032

301126

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
bis(2-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
1,3-Dichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
1,4-Dichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
1,2-Dichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
Nitrobenzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
bis(2-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
2-Fluorobiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
N-Nitrosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
Hexachloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
Nitrobenzene	.53986	.53064	.44149	-	.830	.50400	10.779	
Isophorone	.61445	.61958	.51124	-	.885	.58176	10.507	
bis(2-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
1,2,4-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
Naphthalene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
Hexachlorobutadiene	.16213	.15028	.12153	-	1.054	.14465	14.436	
Hexachlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
2-Chloronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
Dimethyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
Acenaphthylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
2,6-Dinitrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
Acenaphthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
2,4-Dinitrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
Diethyl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
Fluorene	1.32085	1.11815	.85208	-	1.099	1.09703	21.430	
4-Chlorophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
N-Nitrosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
1,2-Diphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
4-Bromophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
Hexachlorobenzene	.23428	.23767	.17391	-	.956	.21529	16.664	
Phenanthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
Anthracene	1.15723	1.12032	.88688	-	1.010	1.05481	13.898	
Di-n-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
Fluoranthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
Benzidine	.01720	.00866	.09231	-	1.199	.03939	116.851	
Pyrene	.76361	.65946	.61773	-	1.212	.68027	11.044	
Alpha-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
Beta-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
Gamma-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
Delta-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
Heptachlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
Aldrin	.17530	.17093	-	.15573	1.123	.16732	6.142	
Heptachlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

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

033

301127

Calibration Report

Title: B/N+PEST ID FILE ..... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
.ordane	.05775	.09214	-	.10898	.862	.08629	30.260	
losulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
ldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
lrin	.11420	.11589	-	.08328	.915	.10446	17.572	
losulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
lrin aldehyde	-	-	-	.25209	.937	.25209	-	
4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
losulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
-phenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
tyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
nzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
rysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
s(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
nzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
nzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
o(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
no(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
benzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
nzo(ghi)perylene	.69610	.86743	.79438	-	1.410	.78597	10.938	

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

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

$\overline{F}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

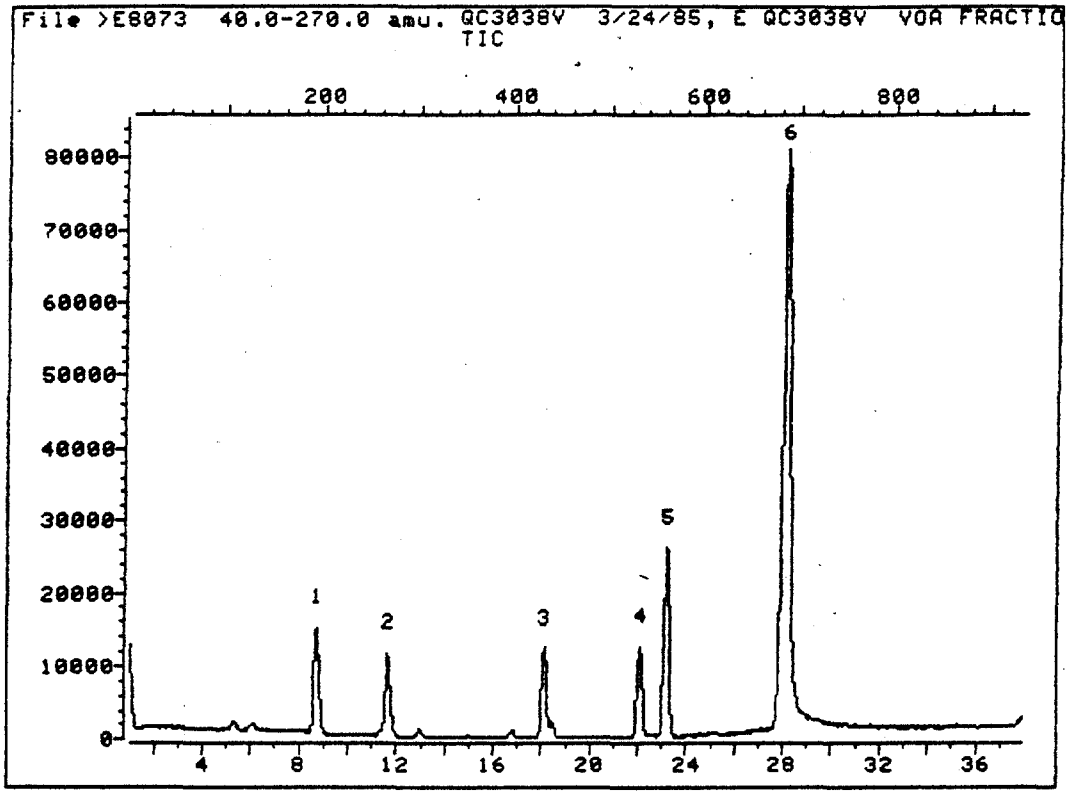
034

301128

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >E8073::U1
Name: QC3038V 3/24/85, E
Misc Data: QC3038V VOA FRACTION, 3/24/85, E, 5ML. WATER

301130

QUANT REPORT

Operator ID: SJ3562 Quant Rev: 3 Quant Time: 850324
Injected at: 850324
Data File: >E8073::U1 Dilution Factor: 1.
Name: QC3038V 3/24/85, E
Misc: QC3038V VOA FRACTION, 3/24/85, E, 5ML. WATER

ID File: EVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, E
Last Calibration: 850324 20:17

	Compound	R.T.	Scan#	Area	Conc	Uni
1)	*2-Bromo-1-chloropropane	18.12	434	63133	200.00	NG
10)	2-Chloroethylvinyl ether	16.82	401	1380	~~18.52~~	NG
10)	2-Chloroethylvinyl ether	18.12	434	490	~~6.57~~	NG
11)	Chloroform	10.94	252	1245	~~3.15~~	NG
12)	Dichlorobromomethane	10.94	252	1245	~~3.88~~	NG
15)	1,2-Dichloroethane	11.72	272	1494	~~5.63~~	NG
23)	Methylene chloride	5.29	109	4844	23.76	NG
27)	1,2-Trans-dichloroethylene	12.99	304	2370	~~9.15~~	NG
28)	1,1,1-Trichloroethane	12.99	304	5415	~~16.26~~	NG
36)	1,2-Dichloroethane-D4	11.65	270	29706	273.21	NG
37)	Toluene-D8	23.17	562	145442	255.11	NG
38)	p-Bromofluorobenzene	28.03	685	85289	257.73	NG
39)	*1,4-Dichlorobutane	22.10	535	66971	200.00	NG

* Compound is ISTD

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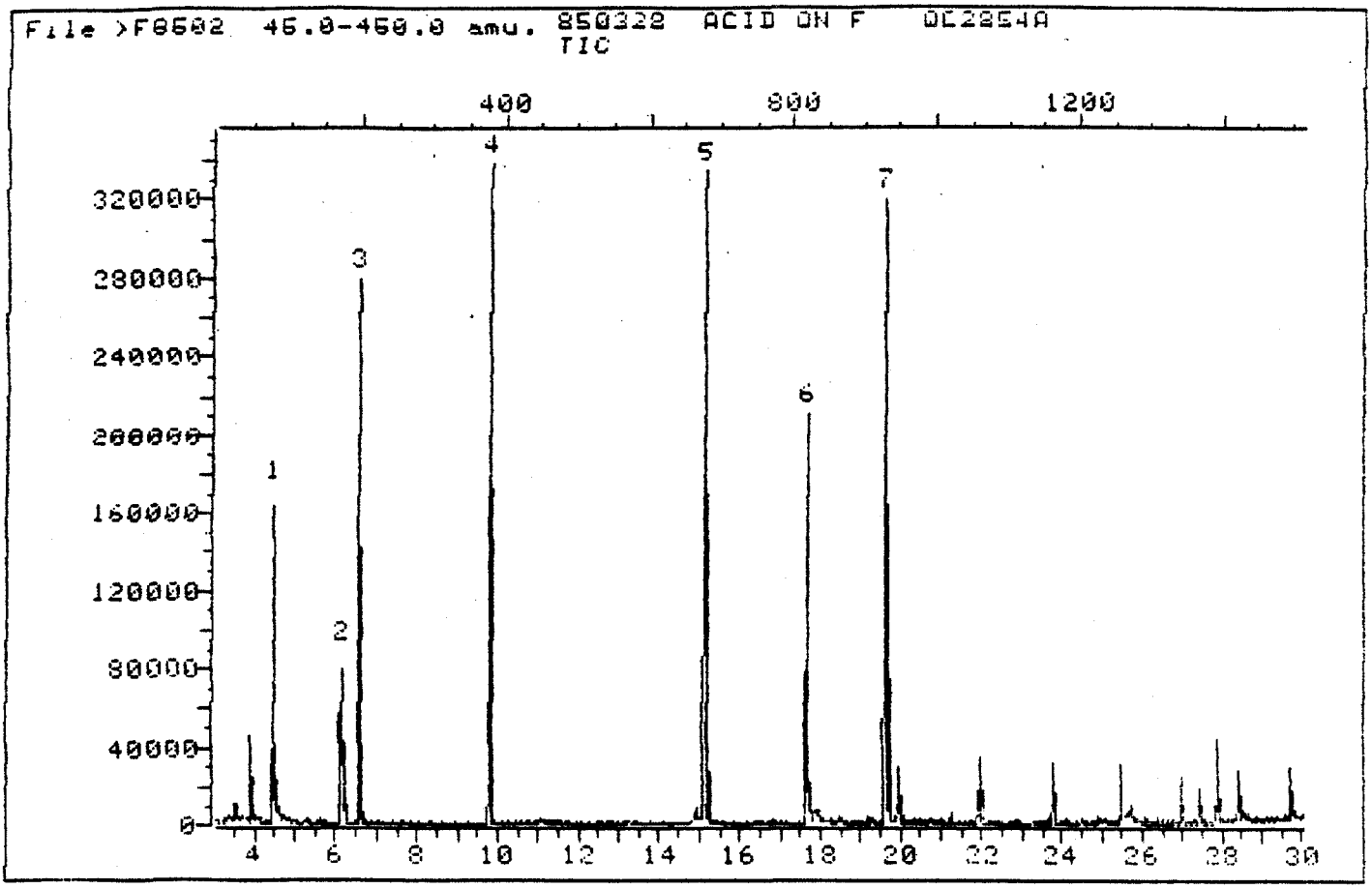
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8502::U4
Name: 850328 ACID ON F
Misc Data: QC2854A

BTL# 3

301132

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:04
Injected at: 850329 00:32
Data File: >F8502::U4 Dilution Factor: 1.00
Name: 850328 ACID ON F
Misc: QC2854A BTL# 3

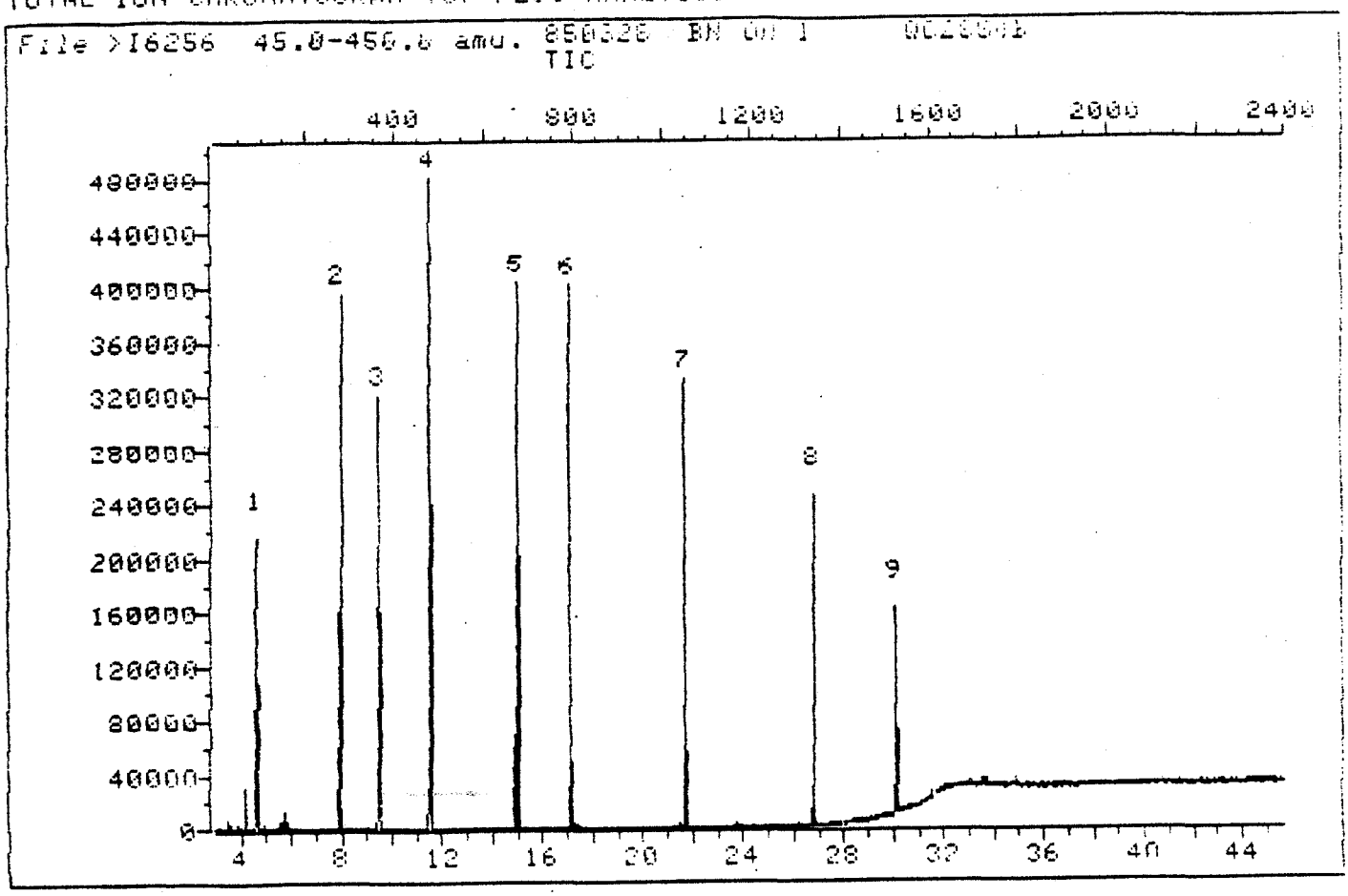
ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.55	196	174971	40.00	UG/ML
3)	2-Fluorophenol	4.41	76	145527	48.88	UG/ML
3)	2-Fluorophenol	4.98	108	380	.13	UG/ML
5)	Phenol-D5	6.12	172	101427	32.98	UG/ML
5)	Phenol-D5	6.55	196	1354	.44	UG/ML
6)	*d8-Naphthalene	9.79	378	372654	40.00	UG/ML
11)	*d10-Acenaphthalene	15.12	677	205801	40.00	UG/ML
16)	*d10-Phenanthrene	19.62	930	419734	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.61	817	78559	69.29	UG/ML

* Compound is ISTD

301133

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6256:.UA
Name: 850328 BN ON 1
Misc Data: QC2054B

BTL# 7

301134

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850328 23:43
Injected at: 850328 22:55
Data File: >I6256::U1 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC2854B BTL# 7

ID File: I8NP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	~~7.52~~	~~UG/ML~~
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	~~.71~~	~~UG/ML~~
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	~~5.37~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	~~.48~~	~~UG/ML~~
39)	Benzidine	26.76	1338	2450	~~6.77~~	~~UG/ML~~
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1338	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	~~1.44~~	~~UG/ML~~
65)	Di-n-octyl phthalate	32.16	1642	1965	~~.38~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.53	1719	8410	~~2.54~~	~~UG/ML~~
66)	Benzo(b)fluoroanthene	33.62	1724	8549	~~2.58~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.53	1719	8410	~~2.72~~	~~UG/ML~~
67)	Benzo(k)fluoranthene	33.62	1724	8549	~~2.77~~	~~UG/ML~~
68)	Benzo(a)pyrene	34.83	1792	9898	~~3.37~~	~~UG/ML~~
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	~~1.55~~	~~UG/ML~~

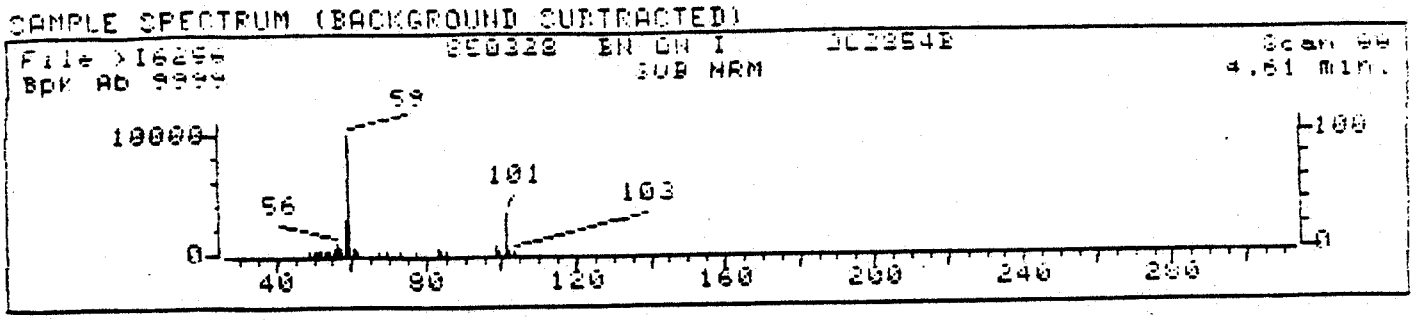
* Compound is ISTD

PCB MS

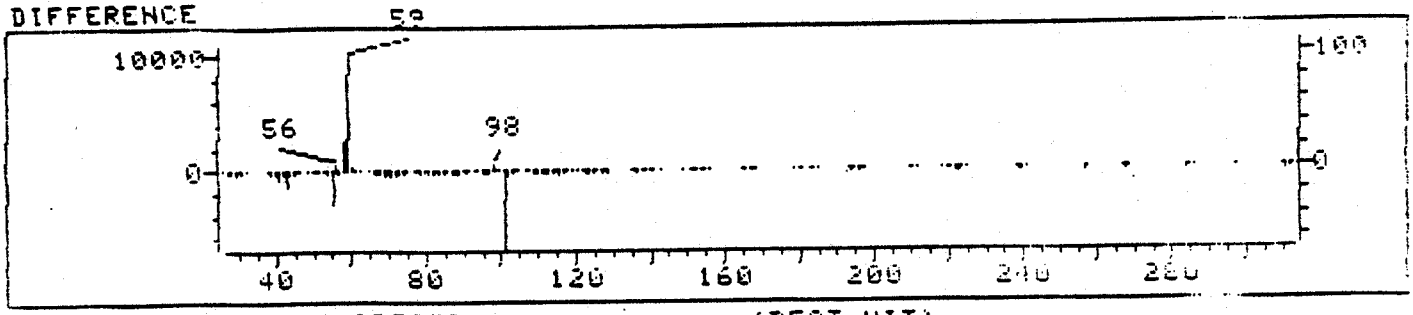
301135

301135

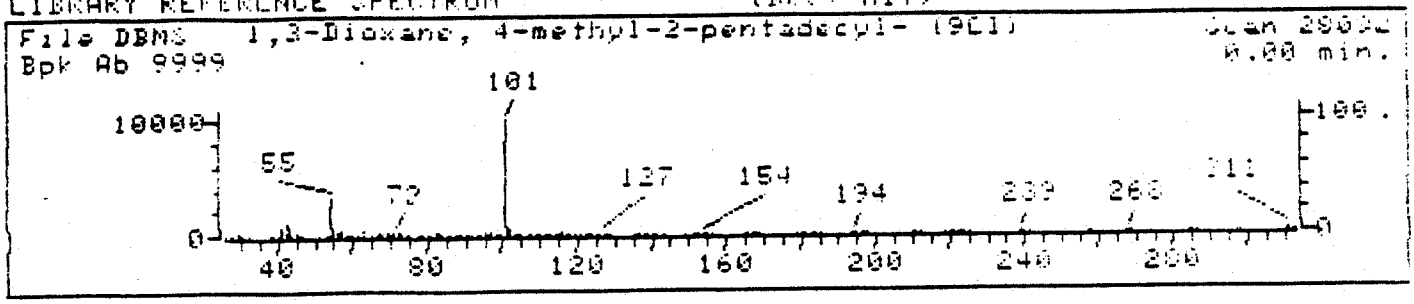
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6256.:::
Name: 850328 BN ON I
Misc Data OC2854B
RT (min): 4.61
Scan: 88
Area: 39[illegible]
Semi-quantitative Conc: 14.[illegible] UG/ML

BTL# 7

Data File: >I6256 Scan Number: 88
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 5

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	54950571	77	81	0	-2

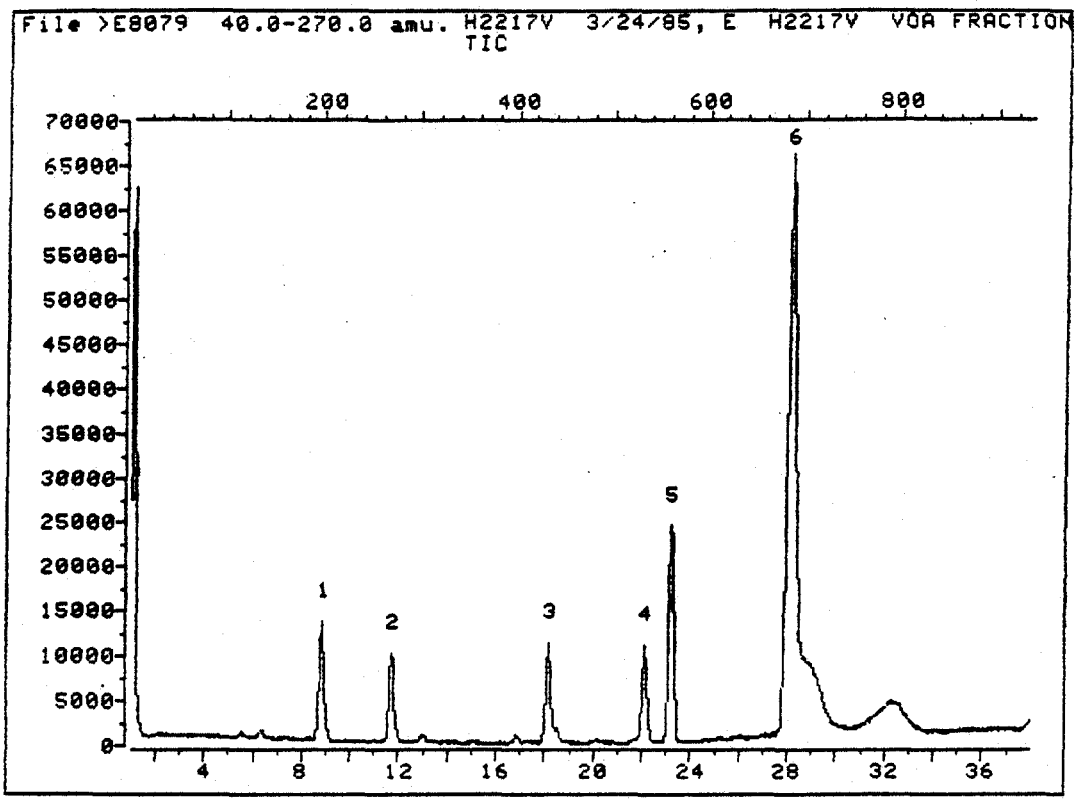
301136

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: >E8079::U2
Name: H2217V 3/24/85, E
Misc Data: H2217V VOA FRACTION, 3/24/85, 5ML. WATER,

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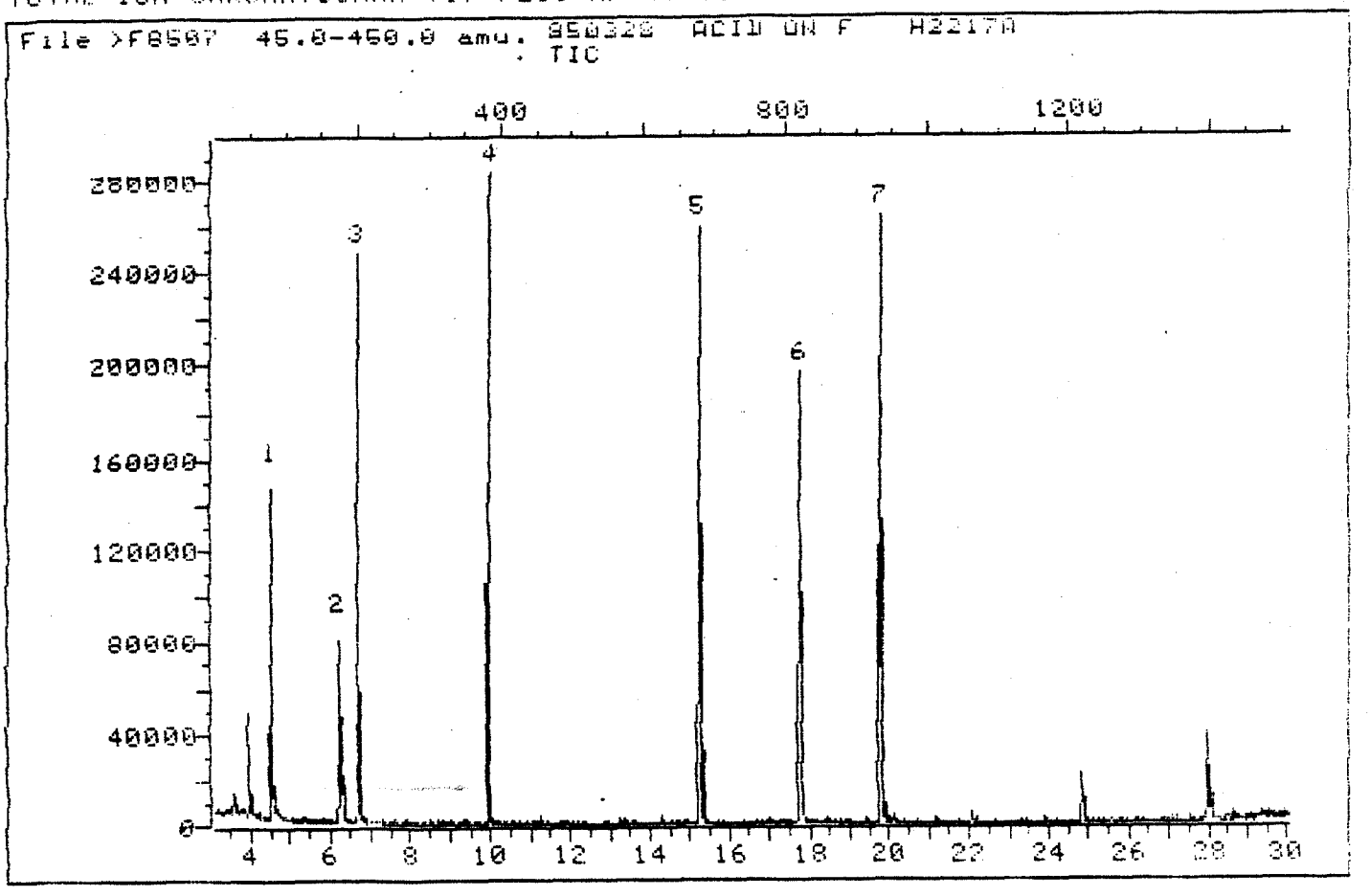
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

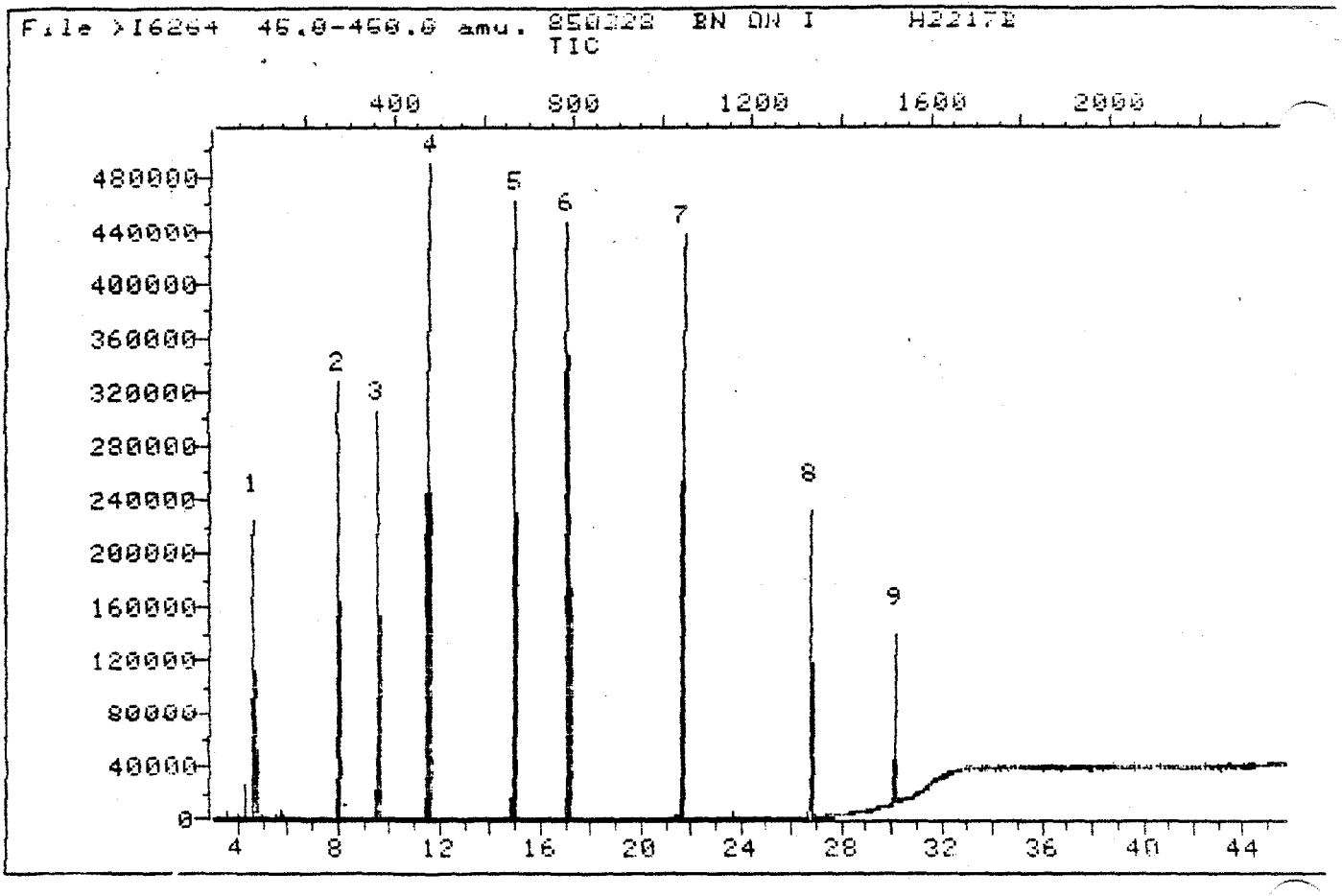


Data File: >F8507::U5
Name: 850328 ACID ON F
Misc Data: H2217A

RTL# 8

301139

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

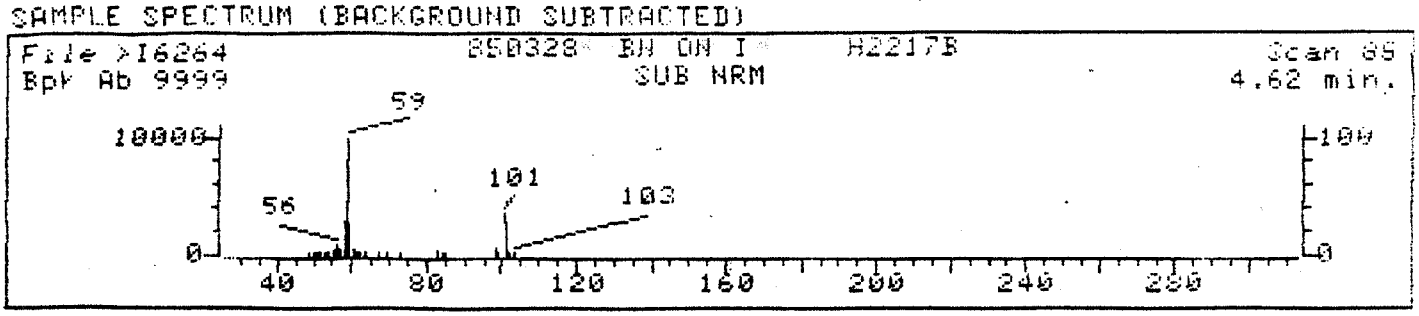


Data File: >I6264::U2
Name: 850328 BN ON I
Misc Data: H2217B

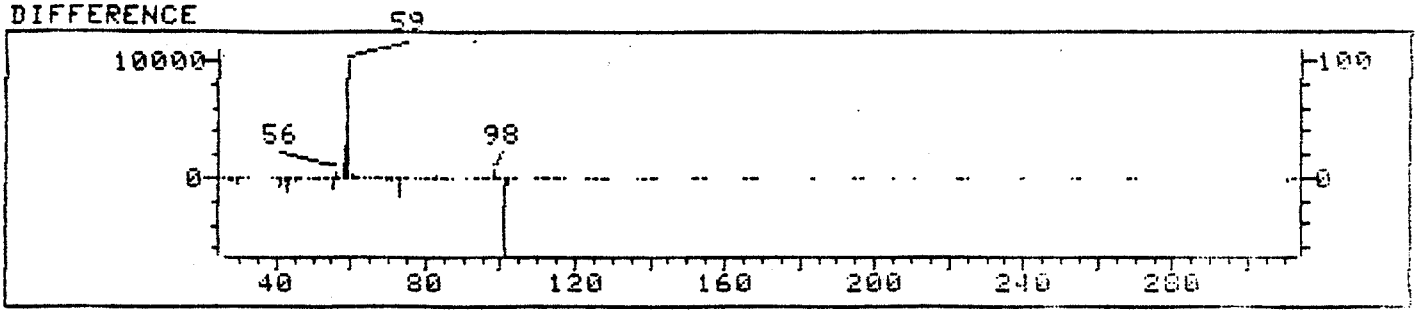
BTL#15

301140

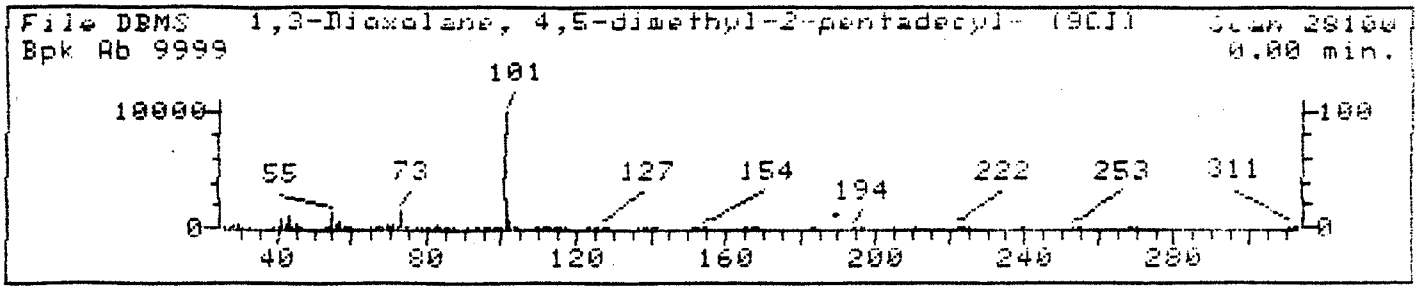
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6264::U2
Name: 850328 BN ON I
Misc Data: H2217B BTL#15
RT (min): 4.62
Scan: 85
Area: 424912
Semi-quantitative Conc: 14.72 UG/ML

Data File: >I6264 Scan Number: 85
Search Speed: 2 Titling option: S Number of ion ranges searched: 59

1. 1,3-Dioxolane, 4,5-dimethyl-2-pentadecyl- (9CI) 312 C20H40O2
2. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	†Flg	Tilt
1.	83	56599612	38	71	0	-2
2.	78	54950571	35	79	0	-2

301141

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.

REV.

Subcontracted Analytical Results

ETC Job # 4121

D: L85253-89

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

itted by: MW CHUW

4/9/85

Date Sampled: ____ (Y Y M M D D) Time Sampled: ____ (H H :)

RECEIVED APR 10 1985

e No.	Parameter	Table	Units Of Measure	Value	MDL	Comments
ONVENTIONALS						
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			
	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			
	Acidity as CaCO3		mg/l			
	Alkalinity as CaCO3		mg/l			
	Ammonia as N		mg/l			
	Bicarbonate as CaCO3		mg/l			
	Biochemical Oxygen Demand		mg/l			
	Carbonate as CaCO3		mg/l			
	Chemical Oxygen Demand		mg/l			
	Color, Apparent (Lab)		Pt/Co			
	Cyanide, Total		mg/l	<0.025	0.025	
	Hardness as CaCO3		mg/l			
	Nitrite as N		mg/l			
	Nitrogen Total Kjeldahl (TKN)		mg/l			
	Nitrogen, Total Organic		mg/l			
	Odor (Lab)		TON			
	Oil and Grease (grav, IR)		mg/l			
	Phosphate, ortho		mg/l			
	Phosphate, Total		mg/l			
	Solids, Total		mg/l			
	Solids, Total Dissolved (ROE) 180°		mg/l			
	Solids, Total Suspended		mg/l			
	Sulfide as S		mg/l	049		
	Surfactants (MBAS/LAS)		mg/l			
	Turbidity (Lab)		NTU			

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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.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 285523 ETC Job # 1221

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: -- 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE SOUT | 300yds upstream of confluence / Black R.
(Facility/Site Code) (Optional Sample Point Descriptions)

Sample Point: R-STATION 14 | 032185 | 1520 | LLL
(Source Code from below) (Your Sample Point ID left justify) (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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt. (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N	OK	✓
1	M	1L	HNO3	Metals	N	OK	✓
1	CN	500ml	NaOH	Cyanides	N	OK	✓
1	PN	1L	H2SO4	Phenoles	N	OK	✓
2	V	40ml	Sod-Thio.	VOA	N	OK	✓
1	TB	40ml	SC/MS H2O	Trip blank	N	OK	✓

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P. Zavgillo Date: 3/21/85 Time: 1520
   Signature: Paul M Zavgillo Seal #: 0028523 Intact: Y

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: 301145
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) P Zavgillo 051 Date: 3/21/85 Time: 1554
   Signature: Paul M Zavgillo Seal #: 0028524 Intact: Y

ETC USE ONLY Opened By: _____ Date: 3-22-85 Time: 8:00a

Seal #: 28524 Condition: ok

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2217

Sample Point R STATION 4
(Source Code) (Sample Point ID)

FIELD PROCEDURES

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

SAMPLING METHOD: 6RFB

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

	ph	(STD)	spec. cond.	um/cm at 25° C	(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: Slow Water
Weather Conditions:
Other:

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

Sampler: PAUL M ZARRILLO (Print) Employer: NJDEP

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

3/21/85 (Date) Paul M Zarrillo (Signature)

052

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ETC / CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mark Jacobs

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H2220 H2217

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

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Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	053 Time/Date	Time/Date

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GC-MS ANALYSIS CUSTODY LOG

DATE 850324 SHIFT ___
FRACTION VOA
INSTRUMENT F
TUNE FILE APFI01
SEQUENCE FILE LYVOA
METHOD FILE VOAF
IDFILE FVOA
ANALYST(S) Lin Yager (ORD) 7/25/85
SUPERVISOR Charles A Hopper
BATCH #'s QV3038

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	9609	1
ISTD	40	9140	5
SURR	25	9793	10
ABC	18	10,22]	5,10,30
SCVOA	18,15	10,155	5,10,30

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	P Y
P-BFB	>E8071						
P-BFB	>E8072						
QC3038V	>E8073	5ml	1			5·	
QC3038VS	>E8074	|	2			5pd ABC 5pd SCVOA	
QC3038VS	>E8075	|	3			10pd ABC 10pd SCVOA	
QC3038VS	>E8076	|	4			30pd ABC 30pd SCVOA	
QC3038VS	>E8077	|	1			5pd ABC 5pd SCVOA	
~~QC3038VS~~	~~>E8078~~	↓					
H2217VS	>E8078	5ml	1		(d)		
H2217V	>E8079	|	2		(d)		
H0776V (Matrix	>E8080	|	3		(d)		
H0776VR Replicate	>E8081	|	4		(d)		
~~H0762~~ V dataset	>E8082	|	5		NG	over-load NG	
~~H0763~~ V	>E8083	|	6		NG		
~~H0765~~ V single	>E8084	|	7		NG		Being Re-
~~H0766~~ V not	>E8085	|	8		NG		in new Ba
~~H0767~~ V report	>E8086	|	9		NG		
~~H0768~~ V Batch.	>E8087	↓	10		NG	↓	
					054		

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EXTRACTION LOG

QC Batch # 2854

Analysis: PP/T
PP/ORG/PST/PCB
PP/ACID (REPEATS)

Matrix: H_2O

Turnaround: NORM

Date: 3/27/85

Extraction Method:
sep funnel ✓
continuous
soxhlet
other

Sample Number	Log Book	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2213	8683	1000	1.0	1.0	
H2214	"	960	1.0	1.0	
H2215	"	970	1.0	1.0	
H2216	"	950	1.0	1.0	
H2217	"	930	1.0	1.0	
H2219	"	930	1.0	1.0	
H2220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
H1813	8698	980	1.0	1.0	
G8913	8383	1000		1.0	
G9222	8411	1000		1.0	
G9224	↓	1000		1.0	
G5914	8437	950		1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

COMMENTS FOR EXTRACT.:
PP/T: H2213 – 17, 19, 20
H1813
PP/ORG/PST/PCB: G9863
PP/ACID (REPEAT): G8913, G9222, 24, G5914

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

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml ACID: 100 ug/ml	10,195

Set-up: [signature] 3/27/85 UPD/Supervisor: [signature] 3/27/85

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE PE
METHOD FILE ACIDF
IDFILE FACIDF
ANALYST(S) R. TAMURA
SUPERVISOR
BATCH #'s QA2854, QA2855

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ	RT	DATE	KEB
WIP		BY	3/28/85

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Add	4000	9653	100
DFTPP	25	9534	2

4, 15, 16. 09/02.

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	P Y
DFTPP	F8488				I00160		
Acid Calib Std. III	F8489		1				
II	F8490		2				
I	F8491		3				
QC 2854A	F8492		4			Aborted. Batch at 8:00pm not used rewritten	
QC 2854AS	F8493		2 5				
H2213AS	F8494		3 6				
H2213A	F8495		4 7				
H2214A	F8496		5 8				
H2215A	F8497		6 9				
H2216A	F8498		7 10				
H2217A	F8499		8 11				
H2217ARINF	F8500		9 12				
H2219A	F8501		10 13				
H2220A	F8502		11 14				
G9863A	F8503		12, 15				
H1813A	F8504		13 16				
G8913A	F8505		14 17				
G9222A	F8506		15 18				
G9224A	F8507		16 19				
G5914A	F8508		17 20		056		
H0867A	F8509		18 21	1:10		For QC 2852	
DFTPP	F8510		19 22				
Acid Calib Std. II	F8511		20 23				

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GC-MS ANALYSIS CUSTODY LOG

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DATE 3/28/85 SHIFT —
FRACTION ACIDS
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE K&B/KEBF
METHOD FILE ACIDF
IDFILE BACID
ANALYST(S) K/E Bonfanti
SUPERVISOR [signature]
BATCH #'s —

Page 2

(PLEASE INITIAL)

CURRENT CSMS 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
AC10 CAL II	F8492						
AC10 CAL I	F8493						
H2213AS	F8500		1	A B C			
QC2854AS	F8501		2	A B			
QC2854A	F8502		3				Y
H2213A	F8503		4				Y
H2214A	F8504		5				Y
H2215A	F8505		6				Y
H2216A	F8506		7				Y
H2217A	F8507		8				Y
DFTPP	F8508		9				
AC10 CAL II	F8509		10				
H2217AR	F8510		11				
H2219A	F8511		12				Y
H2220A	F8512		13				Y
G9863A	F8513		14				
H1813A	F8514		15		689B	F8515-1514	
G9222A	F8516		17				
G9224A	F8517		18		057		
G5914A	F8518		19				
H0867A	F8519		20	10:1		QB2852	
QC2855AS	F8520		20				

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28-29/85 SHIFT ___
FRACTION ACID
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) K.S Brown
SUPERVISOR Monte Worthy
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACB		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
GS229AS	F8521		22			
GB285SA	F8522		23			
GS228A	F8523		24			
GS229A	F8524		25			
GS231A	F8525		26			
GS231AR	F8526		27			
GS232A	F8527		28			
DFTPP	F8528		29			
AC10 CAL II	F8529		30			
GS233A	F8530		31			
GS234A	F8531		32			
GS235A	F8532		33			
H0737A	F8533		34			
H0293A	F8534		35			
G8937A	F8535		36			
					058	

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BNP
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE KEBI
METHOD FILE BNPI
IDFILE IBNP
ANALYST(S) K.S. Bompay
SUPERVISOR [signature]
BATCH #'s Q B2854
Q B2855

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9534	2ml
BNCAL IV	150	10194	1ml
III	200	9961	1
II	100	10193	1
I	60	10192	1 ml
INT STD MIX	400	9653	100ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DFTPP	I6249						
BN CAL III	I6250		1				
BN CAL II	I6251		2				
BN CAL I	I6252		3				
BN CAL II	I6253		4				
H243 BS	I6254		5		088 AS		
QC2854BS	I6255		6		T		
QC2854B	I6256		7		U		Y
H2217BR	I6257		8		V		
DFTPP	I6258		9				
BN CAL II	I6259		10				
H2213B	I6260		11		W		Y
H2214B	I6261		12		X		|
H2215B	I6262		13		Y		|
H2216B	I6263		14		Z		|
H2217B	I6264		15		BA		|
H2219B	I6265		16		B		↓
H2220B	I6266		17		C		Y
G9863B	I6267		18		D		
H1813B	I6268		19		E		
G5229BS	I6269		20				
QC2855BS	I6270		21		059		
DFTPP	I6271		22				
BN CAL II	I6272		23				
QC2855B	I6273		24				Y

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BN
INSTRUMENT I
TUNE FILE MTI200
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) K.S. Boyant
SUPERVISOR Charles Chiarelli
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSOS 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)
G5231BR	I6274		25			
G5228B	I6275		26			
G5229B	I6276		27			
G5231B	I6277		28			
G5232B	I6278		29			
G5233B	I6279		30			
G5234B	I6280		31			
G5235B	I6281		32			
H2853B	I6282		33			
H0293B	I6283		34			
H0737B	I6284		35			
					060	

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ETC TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas L. Liddell	4/18/85
AA/ICAP Prep	Marisa Ann McClain	4/8/85

Lab Supervisor Lidya Wikiarek date 4/12/85

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8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

of Subcontractor: Chyun

Sample Number(s)
2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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

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

Data Required: 4/2/85
Deadline cannot be met, contact John Hamilton immediately.

Please perform the analyses requested below:

Color	___ Coliform, Total
Conductance, Specific	___ Coliform, Fecal
Odor	___ Biological Oxygen Demand (5 day, 20 degree C)
pH	___ Chemical Oxygen Demand (COD)
Turbidity	___ Oil & Grease (Gravimetric)
Total Solids	___ Petroleum Hydrocarbons (Infrared)
Total Suspended Solids	___ Organic Carbon, Total (TOC)
Total Dissolved Solids	X Phenols, Total (as Phenolics)
Total Volatile Solids	___ Methylene Blue Active Substances (MBAS) (Foaming Agents, Surfactants)
Gross Alpha and Gross Beta*	
Radium 226 if Gross Alpha exceeds 5 pCi/l	
Radium 228 if Radium 226 exceeds 3 pCi/l	

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

Acidity	___ Nitrate-Nitrite
Alkalinity	___ Nitrite
Bromide	___ Oxygen, Dissolved
Chloride	___ Phosphorous, Ortho Phosphate
Chlorine, Total Residual	___ Silica, Dissolved
Cyanide, Total	___ Sulfate (as SO_4)
Ammonia (as N)	___ Sulfide (as S)
Total Kjeldahl Nitrogen (TKN)	___ Sulfite (as SO_3)
Nitrate	___ Fluoride

REMARKS

X-029

Sample(s) Relinquished by: M. Jacobs
3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly
3/22/85 Time 1015

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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

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Technical Report

for

NJ DEP

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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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TABLE OF CONTENTS

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

MAR 28, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

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	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	ND	2.80	5	7	BMDL	18	172b	5	18	53b
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

a EPA published Method Detection Limit.

b Recovery highly variable using EPA Protocol Method 624.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

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	3.30	ND	ND	ND	100	86	ND	100	88
2A	2,4-Dichlorophenol	ND	2.70	ND	ND	ND	100	88	ND	100	85
3A	2,4-Dimethylphenol	ND	2.70	ND	ND	ND	100	83	ND	100	74
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	102	ND	100	100
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	50	ND	100	91
6A	2-Nitrophenol	ND	3.60	ND	ND	ND	100	89	ND	100	84
7A	4-Nitrophenol	ND	2.40	ND	ND	ND	100	20b	ND	100	29b
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	89	ND	100	87
9A	Pentachlorophenol	ND	3.60	ND	ND	ND	100	20b	ND	100	23b
10A	Phenol	ND	1.50	ND	ND	ND	100	49	ND	100	47
11A	2,4,6-Trichlorophenol	ND	2.70	ND	ND	ND	100	84	ND	100	86

a EPA published Method Detection Limit.

b Recovery normally low using EPA Protocol Method 625.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10e	ND	103	9e
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 c	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 c	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	41	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 c	ND	ND	ND	100	3e	ND	103	35e
25B	Dimethyl phthalate	ND	10 c	ND	ND	ND	100	1e	ND	103	3e
26B	Di-n-butyl phthalate	ND	10 c	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 c	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27[B]	ND	103	43[B]
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24[B]	ND	103	32[B]
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

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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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 625.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l
1M	Antimony	ND	80
2M	Arsenic	ND	5
3M	Beryllium	ND	.60
4M	Cadmium	ND	3
5M	Chromium	ND	20
6M	Copper	ND	10
7M	Lead	ND	5
8M	Mercury	ND	.30
9M	Nickel	ND	10
10M	Selenium	ND	10
11M	Silver	ND	8
12M	Thallium	ND	5
13M	Zinc	ND	30
14M	Cyanide, Total	<25	25
15M	Phenolics, Total	<10	10

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION1	850321	1630	

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 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
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2219	NJ DEP	NJDCOMBESO	RSTATION 1	850321	1630	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	83	4.50	-	-	-	14		
2 Unknown	1281	25.80	-	-	-	10		

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Relative Percent Difference (RPD) for VOA

H2218 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 1 — Facility Source
850321 1630 — Date Time

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	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	5	7	33
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

Relative Percent Difference (RPD) for ACID

H2219 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 1 — Facility Source
850321 1630 — Date Time

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

H2219 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 1 — Facility Source
850321 1630 — Date Time

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

H2219 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 1 — Facility / Source
850321 1630 — Date / Time

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

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2219

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	112	86	119
Bromofluorobenzene	.250	112	85	121
1,2-Dichloroethane-D4	.250	114	77	120
ACID FRACTION				
Phenol-D5	100	37	15	103
2-Fluorophenol	100	52	23	121
2,4,6-Tribromophenol	100	36	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	74	41	120
2-Fluorobiphenyl	50	78	44	119
Terphenyl-D14	50	50	33	128

* IFB EPA Control Limits.

301176

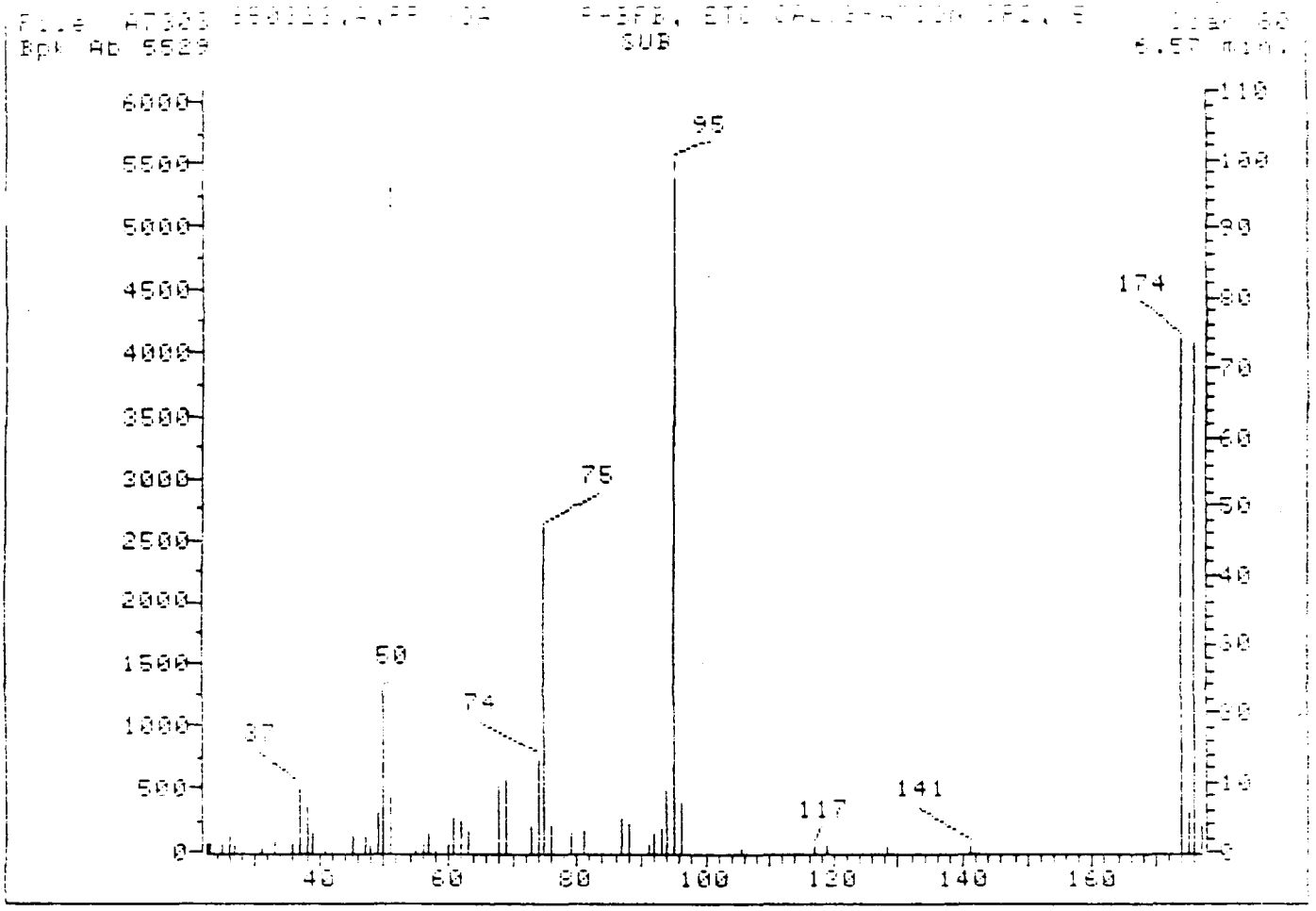


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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

#	Ion Abundance Criteria	% Relative Abundance: Base Peak	% Relative Abundance: Appropriate Peak	Status
0	15-40% of mass 95	22.90	22.90	Ok
5	30-60% of mass 95	46.72	46.72	Ok
5	Base peak, 100% relative abundance	100.00	100.00	Ok
6	5-9% of mass 95	6.87	6.87	Ok
3	Less then 1% of mass 95	0.00	0.00	Ok
4	Greater then 50% of mass 95	74.14	74.14	Ok
5	5-9% of mass 174	5.46	7.37	Ok
6	95-101% of mass 174	73.36	98.95	Ok
7	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85 Analyst: Thomas M Mancuso

Injection Time: 08:09 Processor: Pearl Trent

Run No: >A7303 QC Batch: QV3033

Spectrum No: 80 Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0877, H0887, H0888.

KB

301177

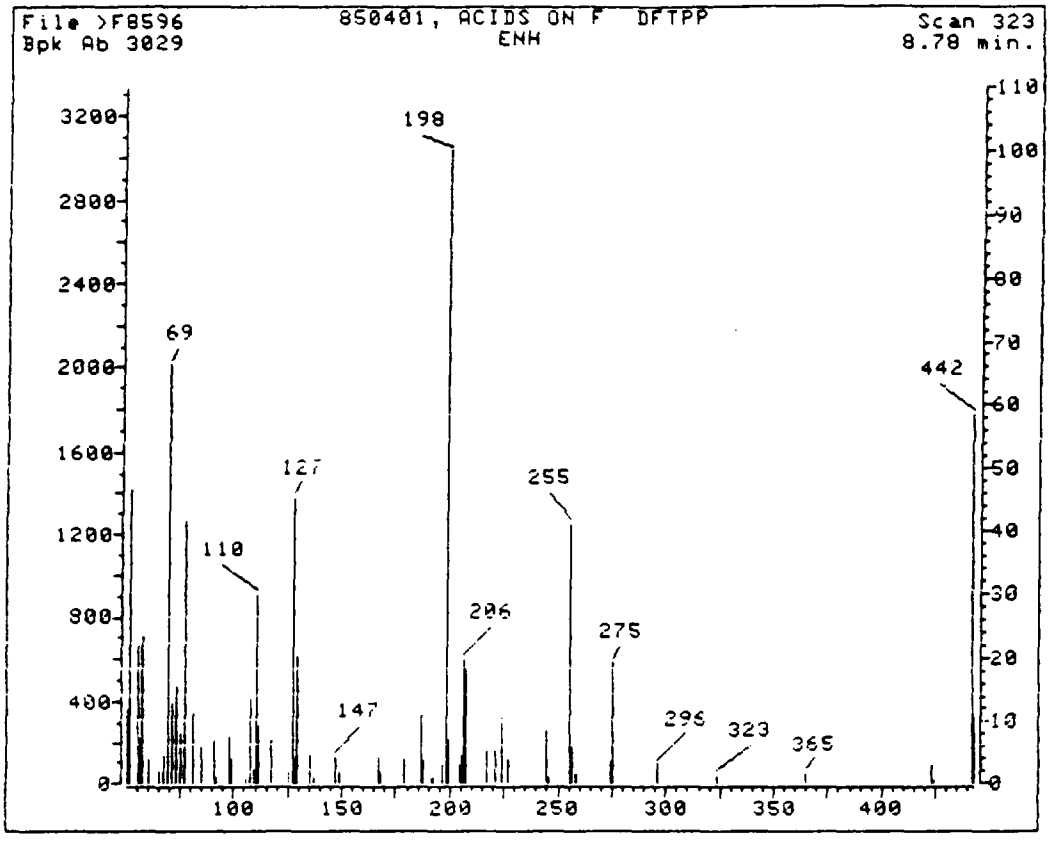


TABLE 2: METHOD PERFORMANCE DATA (QP22)

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	46.72	46.72	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	66.38	66.38	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	45.50	45.50	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	6.83	6.83	Ok
275	10-30% of mass 198	19.16	19.16	Ok
365	Greater then 1% of mass 198	1.45	1.45	Ok
441	Less then mass 443	0.00	0.00	Ok
442	Greater then 40% of mass 198	58.30	58.30	Ok
443	17-23% of mass 442	10.39	17.82	Ok

Injection Date: 04/01/85 Analyst: L. Ho
Injection Time: 10:17 Processor: Nita Mukhe
Run No: >F8596 QC Batch: QC2859A
Spectrum No: 323 Samples: G8891, G1469, GHT2, H0978, H
H1852, H1853

020

301178

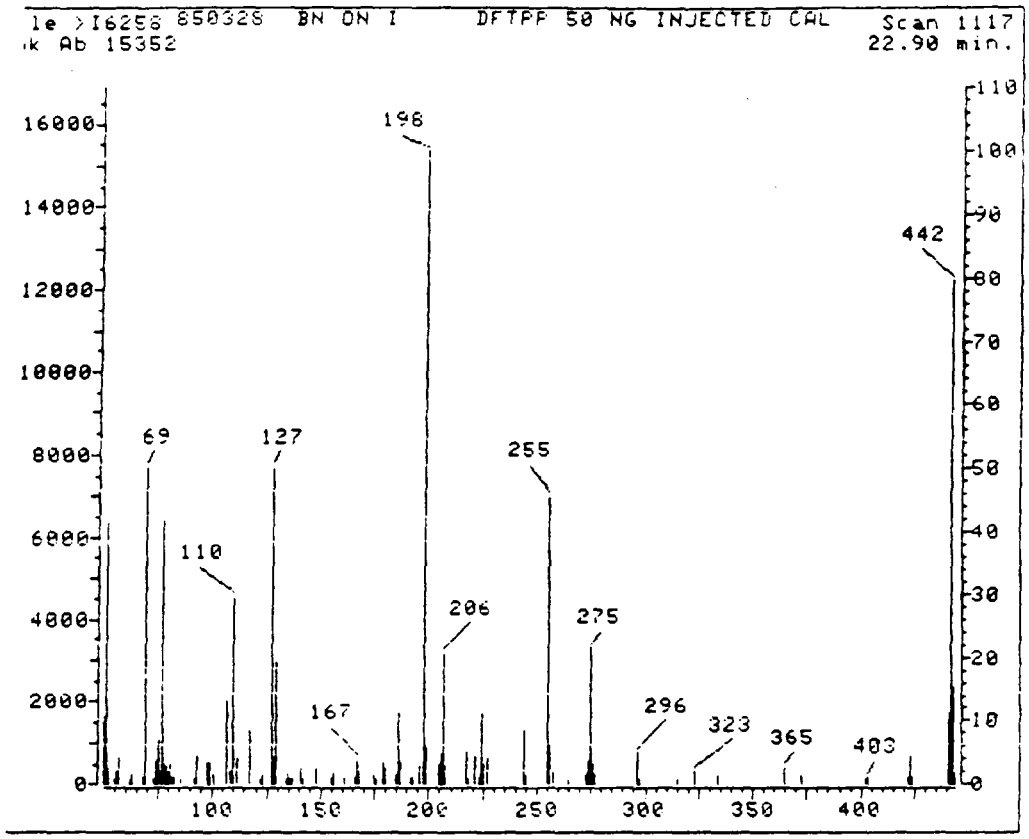


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	41.17	41.17	Ok
68	Less then 2% of mass 69	.93	1.86	Ok
69	(reference only)	50.12	50.12	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	50.18	50.18	Ok
97	Less then 1% of mass 198	0.00	0.00	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	6.25	6.25	Ok
75	10-30% of mass 198	21.53	21.53	Ok
65	Greater then 1% of mass 198	2.59	2.59	Ok
441	Less then mass 443	11.28	74.64	Ok
442	Greater then 40% of mass 198	79.46	79.46	Ok
443	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85 Analyst: K.E. Bonanno

Injection Time: 01:25 Processor: Wangkuan Ho / Pat Chang

Run No: >I6258 QC Batch: QB2854

Spectrum No: 1117 Samples: H2213 - H2217, H2219, H2220 G9863, H1813

Filed

021

301179

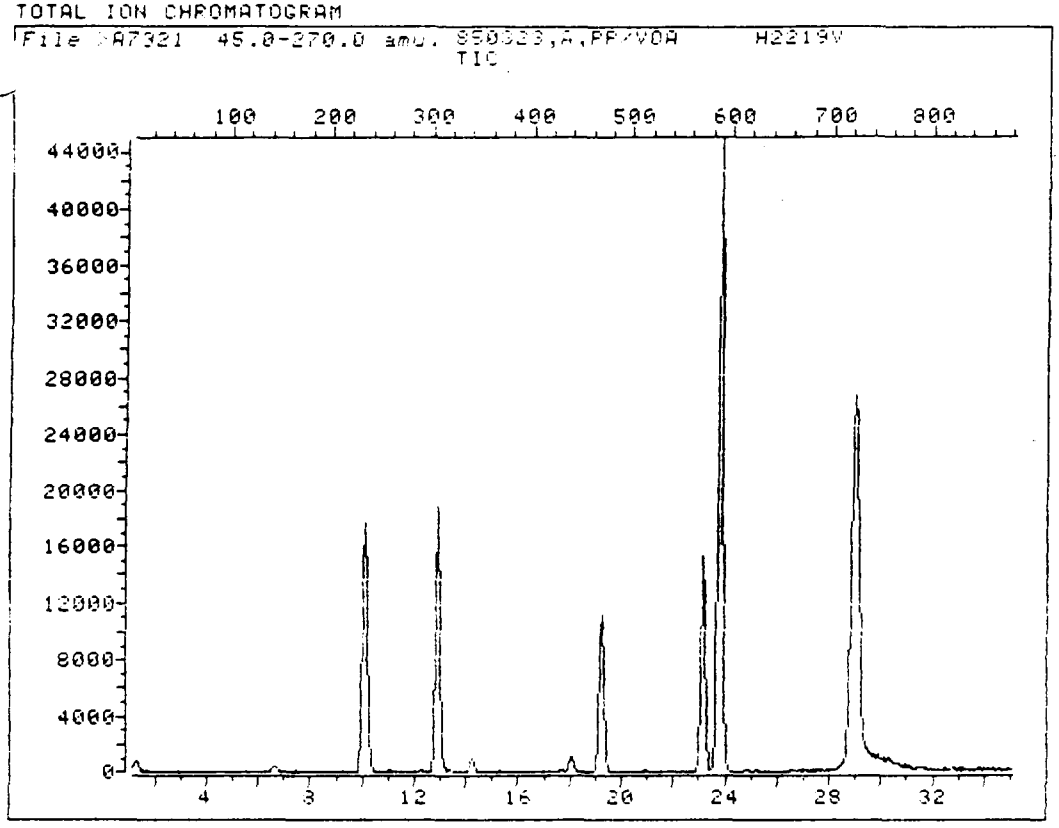
Appendix A

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: >A7321::U2
Name: 850323,A,PP/VOA
Misc: H2219U 5ML

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM5066
Quant Time: 850324 01:40

023

301181

QUANT REPORT

Operator ID: MMEGAA　　　　Quant Rev: 3　　　Quant Time: [illegible]
Injected at: 850324 [illegible]
Data File: [illegible]　　　　Dilution Factor: [illegible].00
Name: 850323,A,PP/VOA
Misc: HP219V　　　　SML

ID File: PK
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08.20

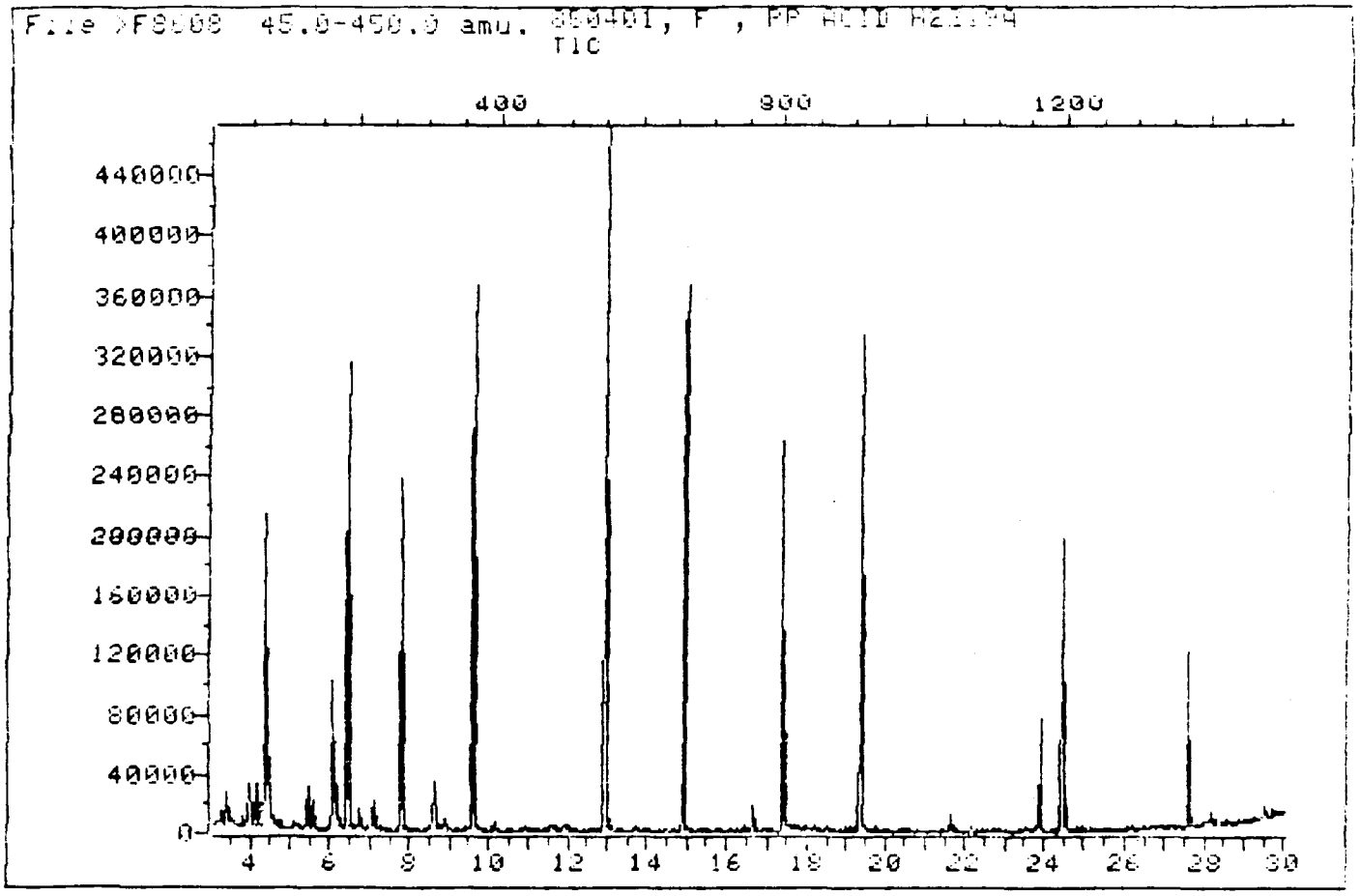
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	19.24	471	65169	200.00	NG
24)	Methylene chloride	6.62	144	704	8 ~~.20~~	NG
27)	Toluene	23.98	594	2244	2 ~~.34~~	NG
29)	1,1,1-Trichloroethane	14.22	341	4568	14 ~~.22~~	NG
35)	1,2-Dichloroethane-D4	12.91	307	43991	284.49	NG
36)	Toluene-D8	23.79	589	235627	279.49	NG
37)	p-Bromofluorobenzene	28.96	723	87152	279.42	NG
38)	*1,4-Dichlorobutane	23.13	572	94659	200.00	NG

* Compound is ISTD

024

301182

101108



Data File: >F8608::05
Name: 850401, F , PP/ACID
Misc: H2219A BTL#12

Id File: FACID
Title: ACID ID FILE. .....3/15/85,#F,WWC
Last Calibration: 850401 13:59

Operator ID: JA4996
Quant Time: 850401 12:46

301183

QUANT REPORT

Operator ID: JA4996 Quant Rev: 3 Quant Time: 850401 19:[illegible]
Injected at: 850401 12:14
Data File:)F8608.U5 Dilution Factor: 1.00
Name: 850401 F , PP/ACID
Misc: H2219A BTL#12

ID File: FACID
Title: ACID ID FILE ..... 3/15/85,#F,WWC
Last Calibration: 850401 13:59

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.38	187	192084	40.00	UG/ML
2)	o-Cresol	6.40	188	1182	[illegible]	[illegible]
2)	o-Cresol	6.87	214	244	[illegible]	[illegible]
2)	o-Cresol	7.38	243	239	[illegible]	[illegible]
4)	m+p-Cresols	6.40	188	1182	[illegible]	[illegible]
4)	m+p-Cresols	6.87	214	244	[illegible]	[illegible]
4)	m+p-Cresols	7.79	266	2855	[illegible]	[illegible]
5)	2-Fluorophenol	4.32	71	168243	51.68	UG/ML
5)	2-Fluorophenol	4.83	100	751	[illegible]	[illegible]
7)	Phenol-D5	5.92	161	666	[illegible]	[illegible]
7)	Phenol-D5	6.03	167	129136	37.47	UG/ML
7)	Phenol-D5	6.38	187	2700	[illegible]	[illegible]
8)	*d8-Naphthalene	9.59	367	430825	40.00	UG/ML
10)	2,4-Dimethylphenol	9.50	362	1123	[illegible]	[illegible]
13)	*d10-Acenaphthalene	14.89	664	238272	40.00	UG/ML
18)	*d10-Phenanthrene	12.36	915	394212	40.00	UG/ML
19)	2,4,6-Tribromophenol	17.38	804	86304	36.23	UG/ML

* Compound is ISTD

387484

d10 Phenanthrene

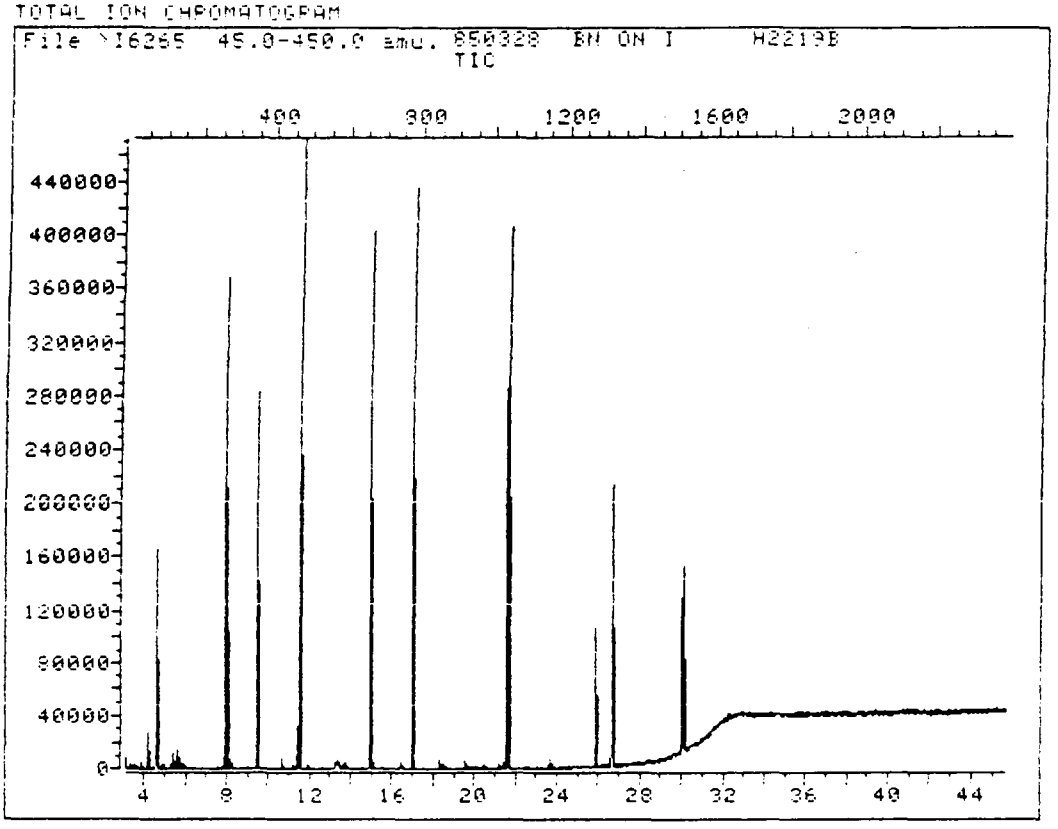
85361

301184

026

[illegible]108

TOTAL ION CHROMATOGRAM



Data File: >I6265::U2
Name: 850328 BN ON I
Misc: H2219B

BTL#16

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 08:22

301185

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 08:
Injected at: 850329 07:
Data File: >I6265::U2 Dilution Factor: 1.
Name: 850328 BN ON I
Misc: H2219B BTL#16

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Un
1)	*d4-1,4-Dichlorobenzene	7.90	270	123321	40.00	UG/M
7)	Nitrobenzene-d5	9.44	357	198332	36.99	UG/M
8)	bis(2-Chloroisopropyl)ether	7.90	270	6392	~~7.62~~	~~UG/M~~
9)	*d8-Naphthalene	11.48	472	511462	40.00	UG/M
10)	2-Fluorobiphenyl	14.88	664	324998	38.67	UG/M
11)	N-Nitrosodi-n-propylamine	9.44	357	29796	~~7.60~~	~~UG/M~~
19)	*d10-Acenaphthalene	16.96	781	258225	40.00	UG/M
22)	Dimethyl phthalate	16.96	781	46441	~~5.29~~	~~UG/M~~
27)	Diethyl phthalate	18.52	869	2041	~~.24~~	~~UG/M~~
32)	*d10-Phenanthrene	21.57	1041	434895	40.00	UG/M
37)	Di-n-butyl phthalate	23.61	1156	12956	~~1.34~~	~~UG/M~~
39)	Benzidine	26.66	1328	1941	~~4.53~~	~~U~~
47)	*d12-Chrysene	30.00	1516	128595	40.00	U
59)	Terphenyl-D14	26.66	1328	183891	25.23	UG/M
64)	bis(2-Ethylhexyl)phthalate	30.23	1529	1576	~~38~~	~~UG/M~~

* Compound is ISTD

PCB ND

301186

301186

Appendix B

GC/MS Calibration Data

Calibration Report

Title: IOFILE FOR PP VOAS
Calibrated: 850325 08:17

* Original Update Form missing from QC Batch. Between QC Batch review and time this data was generated had been updated. Therefore new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.338	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71889	.75280	4.094	
Chloroethane	.22491	.19899	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45987	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81778	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.59738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14953	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27420	1.34416	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1,2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62582	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

301188

030

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
sopropylbenzene	-	-	-	-	-	
-Dichlorobenzene	-	-	-	-	-	
&p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

F - Response Factor (Subscript is amount in NG)

$\overline{F}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.01533	.01577	2.87	Average	(Conc=4000.00)
Acrylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
Benzene	2.80658	3.08857	10.05	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.46582	.45820	1.64	Average	
Carbon tetrachloride	.84777	.90423	6.66	Average	
Chlorobenzene	1.68410	1.84648	9.64	Average	
Chlorodibromomethane	.75280	.79924	6.17	Average	
Chloroethane	.21329	.15739	26.21	Average	
2-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
Chloroform	1.67484	1.89299	13.02	Average	
Dichlorobromomethane	1.14979	1.22293	6.36	Average	
Dichlorodifluoromethane	.43848	.48366	10.30	Average	
1,1-Dichloroethane	1.17938	1.28676	9.10	Average	
1,2-Dichloroethane	1.07848	1.18416	9.80	Average	
1,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
1,2-Dichloropropane	.99831	1.06739	6.92	Average	
trans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
cis-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
Ethylbenzene	3.39051	3.69108	8.86	Average	
Methyl bromide	.19390	.24156	21.45	Average	
Methyl chloride	.99538	1.08607	9.11	Average	
Methylene chloride	.24840	.20530	17.35	Average	
1,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
Tetrachloroethylene	1.01130	1.16432	15.13	Average	
Toluene	2.98290	3.34990	12.30	Average	
1,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
1,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
1,1,2-Trichloroethane	.56035	.63100	12.61	Average	
Trichloroethylene	.67765	.70670	4.29	Average	
Trichlorofluoromethane	1.34416	1.58651	18.03	Average	
Vinyl chloride	.43792	.48682	11.16	Average	
1,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
Toluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
p-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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

301190

301190

032

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
sopropylbenzene	-	-	-	Average	
-Dichlorobenzene	-	-	-	Average	
&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

= - Response Factor from daily standard file at 90.00 NG

= - Average Response Factor from Initial Calibration

Diff - % Difference from original average or curve

033

301191

Calibration Report

Title: ACID FRACTION.....2/22/85,#F,WWC
Calibrated: 850401 13:44

Files:)F8599)F8597)F8598

Compound	RF 60.00	RF 100.00	RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.80508	.78653	.66825	.956	.75329	9.854	
Phenol	.88095	.93744	.90011	.938	.90617	3.170	
2,4-Dichlorophenol	.28070	.29111	.24726	.985	.27302	8.391	
2,4-Dimethylphenol	.34296	.32713	.26759	.938	.31256	12.714	
2-Nitrophenol	.18578	.19101	.17606	.904	.18428	4.114	
p-Chloro-m-cresol	.29545	.29681	.26108	1.222	.28445	7.119	
4,6-Dinitro-o-cresol	.21925	.26474	.22725	1.143	.23708	10.244	
2,4-Dinitrophenol	.07510	.15468	.15727	1.030	.12902	36.205	
4-Nitrophenol	.05196	.11511	.14932	1.093	.10547	46.831	
2,4,6-Trichlorophenol	.38032	.39867	.30928	.858	.36275	13.016	
Pentachlorophenol	0.0590	0.1325	0.1369	.972	[illegible]	[illegible]	
2-Fluorophenol	.67334	.67124	.67816	.676	.67425	.526	(Conc=100.0,100.0,100.0)
Phenol-D5	.66671	.69850	.64650	.934	.67057	3.909	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	0.2209	0.2562	0.2764	.883	0.2417	[illegible]	(Conc=100.0,100.0,100.0)
o-Cresol	-	-	-	-	-	-	
m+p-Cresols	-	-	-	-	-	-	

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

034

301192

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >16253 RF 60.00	>16252 RF 100.00	>16251 RF 200.00	>16250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
osodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
ichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
ichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
ichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
benzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
robiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
rosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
hloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
benzene	.53986	.53064	.44149	-	.830	.50400	10.779	
orone	.61445	.61958	.51124	-	.885	.58176	10.507	
-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
halene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
hlorobutadiene	.16213	.15028	.12153	-	1.054	.14465	14.436	
hlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
oronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
hyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
phthylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
itrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
phthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
initrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
yl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
ene	1.32085	1.11815	.85208	-	1.099	1.09703	21.430	
orophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
rosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
)iphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
mophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
chlorobenzene	.23428	.23767	.17391	-	.956	.21529	16.664	
nthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
acene	1.15723	1.12032	.88686	-	1.010	1.05481	13.898	
-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
anthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
idine	.01720	.00866	.09231	-	1.199	.03939	116.851	
ne	.76361	.65946	.61773	-	1.212	.68027	11.044	
s-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
a-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
a-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
achlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
in	.17530	.17093	-	.15573	1.123	.16732	6.142	
achlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

- Response Factor (Subscript is amount in UG/ML)
- Average Relative Retention Time (RT Std/RT Istd)
- Average Response Factor
- Percent Relative Standard Deviation

301193

Calibration Report

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850328 21:36

Compound	Files: >I6253 RF 60.00	>I6252 RF 100.00	>I6251 RF 200.00	>I6250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.05775	.09214	-	.10898	.862	.08629	30.260	
Endosulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4,4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
Dieldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
Endrin	.11420	.11589	-	.08328	.915	.10446	17.572	
Endosulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4,4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
Endrin aldehyde	-	-	-	.25209	.937	.25209	-	
4,4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
Endosulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
Terphenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
Benzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
Chrysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3,3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
bis(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
Di-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
Benzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
Benzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
Benzo(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
Indeno(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
Dibenzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
Benzo(ghi)perylene	.69610	.86743	.79438	-	1.410	.78597	10.938	

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

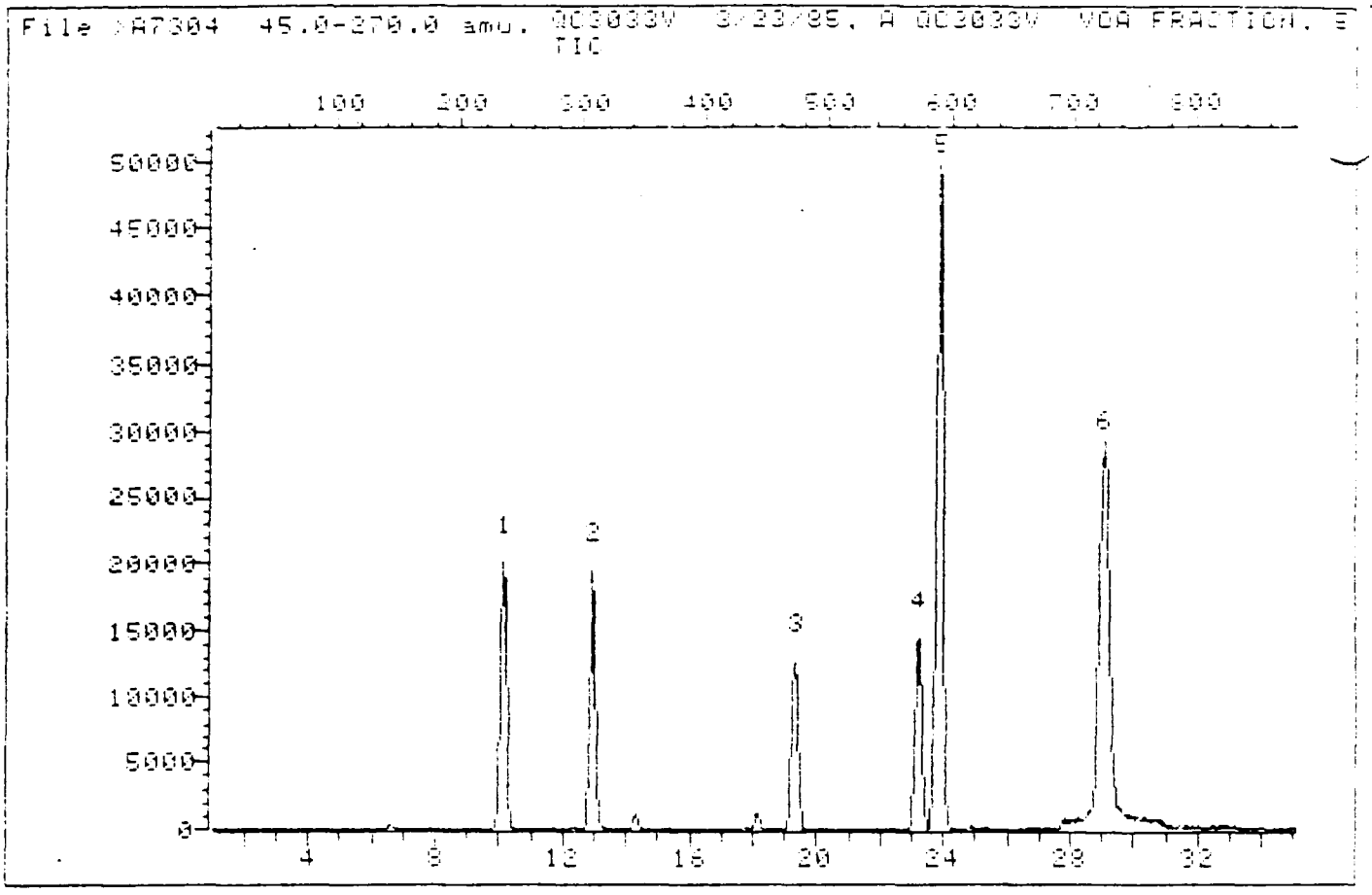
036

301194

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304::U2
Name: QC3033V 3/23/85, A
Misc Data: QC3033V VOA FRACTION, SML WATER, BLANK

301196

QUANT REPORT

Scan ID: LA2633V Quant Rev: 3 Quant Time: 850[illegible]
Injected at: 850325 [illegible]
File: DA7304: U2 Dilution Factor: 1.00
QC3033V 3/23/85, A
QC3033V VOA FRACTION, 5ML WATER, BLANK

File: PK
e: IDFILE FOR PP V04S
Calibration: 850325 08:20

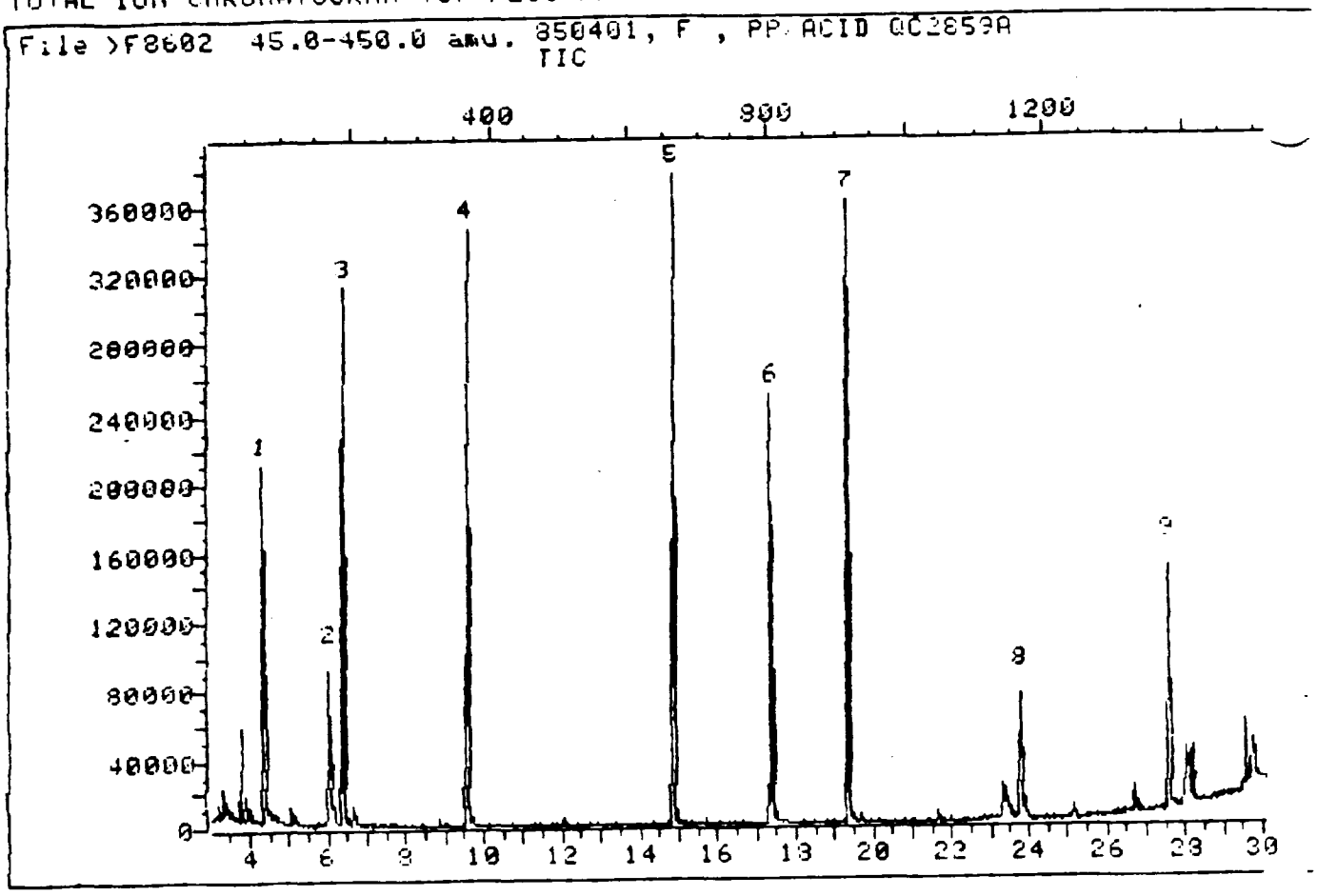
Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

ompound is ISTD

301197

[illegible] 039

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8602::U5
Name: 850401, F , PP/ACID
Misc Data: QC2859A

BTL# 6

301198

QUANT REPORT

erator ID: JA4996 Quant Rev: 3 Quant Time: 850401 15:59
Injected at: 850401 15:27
ata File:)F8602::U5 Dilution Factor: 1.00
ime 850401, F , PP/ACID
sc: QC2859A BTL# 6

D File: FACID
tle: ACID ID FILE.....3/15/85,#F,WWC
ast Calibration: 850401 13:59

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.37	187	197574	40.00	UG/ML
2)	o-Cresol	6.38	188	1278	~~.23~~	~~UG/ML~~
3)	o-Cresol	6.85	214	582	~~.10~~	~~UG/ML~~
4)	m+p-Cresols	6.38	188	1278	~~.11~~	~~UG/ML~~
5)	m+p-Cresols	6.85	214	582	~~.05~~	~~UG/ML~~
6)	m+p-Cresols	7.58	255	221	~~.02~~	~~UG/ML~~
7)	2-Fluorophenol	4.32	72	184285	55.03	UG/ML
8)	Phenol-D5	6.03	168	137884	38.90	UG/ML
9)	Phenol-D5	6.37	187	3007	~~.85~~	~~UG/ML~~
10)	*d8-Naphthalene	9.57	367	452247	40.00	UG/ML
11)	*d10-Acenaphthalene	14.86	664	247221	40.00	UG/ML
12)	*d10-Phenanthrene	20.04	955	340	40.00	UG/ML
13)	2,4,6-Tribromophenol	17.35	804	89883	43750.39	UG/ML
14)	2,4,6-Tribromophenol	17.89	834	447	217.58	UG/ML

* Compound is ISTD

47311

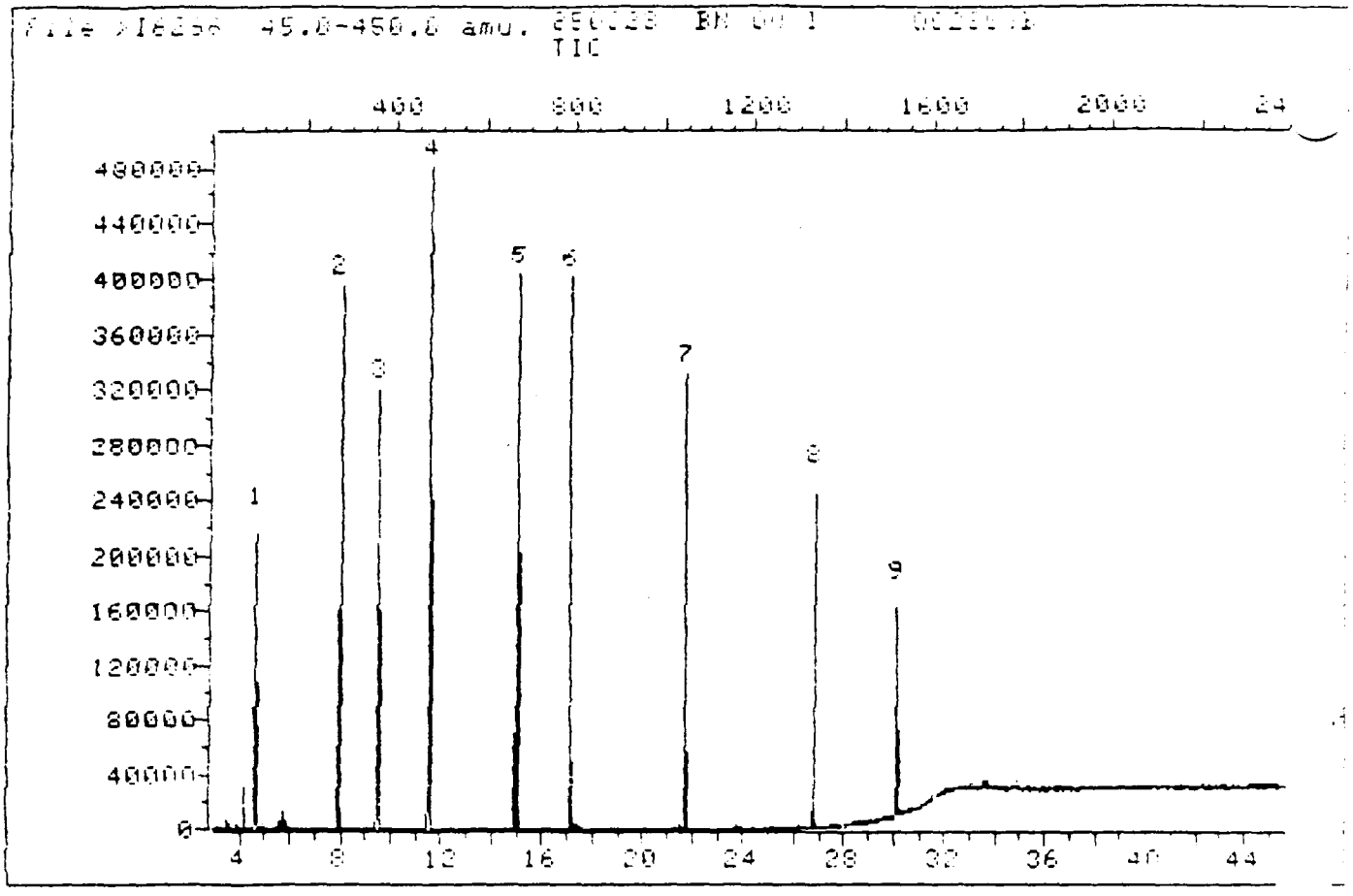
$\frac{89883 \times 40}{47311 \times .242}$

11499

041

301199

TOTAL ION CHROMATOGRAM for PLUG ANALYSIS



Data File: [illegible]
Time: 850328 PN ON 1
Misc Data: QC7054B

PTL# 7

042

301200

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850326 23:43
Injected at: 850329 22:55
Data File: >I6256::U1 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC2854B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

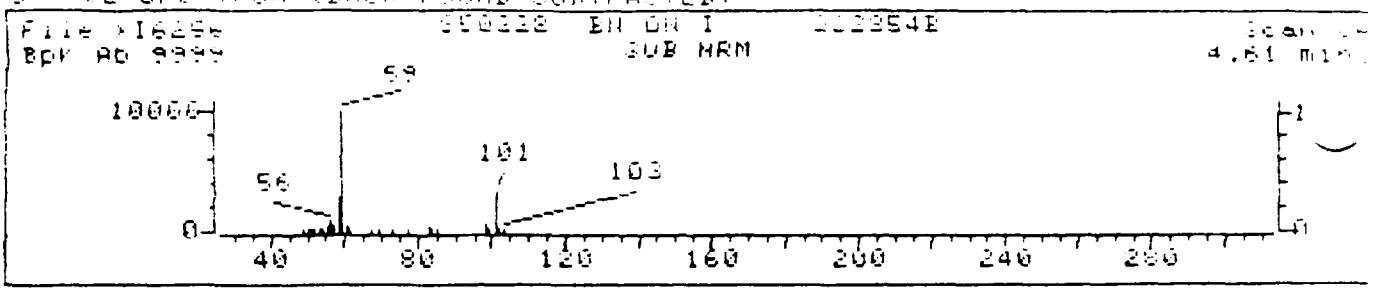
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	7.92	UG/ML
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	.71	UG/ML
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	5.37	UG/ML
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	.48	UG/ML
39)	Benzidine	26.76	1338	2450	6.77	UG/ML
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1338	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	1.44	UG/ML
65)	Di-n-octyl phthalate	32.16	1642	1965	.38	UG/ML
66)	Benzo(b)fluoroanthene	33.53	1719	8410	2.54	UG/ML
66)	Benzo(b)fluoroanthene	33.62	1724	8549	2.58	UG/ML
67)	Benzo(k)fluoranthene	33.53	1719	8410	2.72	UG/ML
67)	Benzo(k)fluoranthene	33.62	1724	8549	2.77	UG/ML
68)	Benzo(a)pyrene	34.83	1792	9898	3.35	UG/ML
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	1.55	UG/ML

* Compound is ISTD

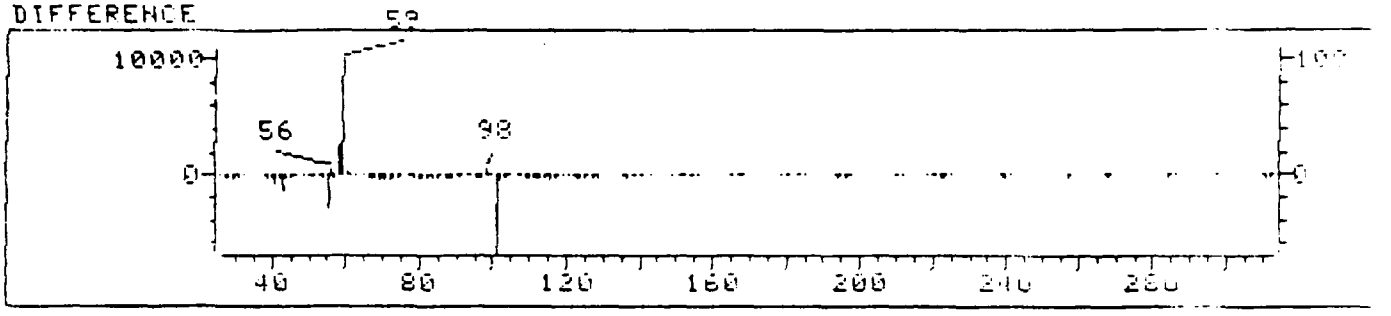
PCB NS

301201

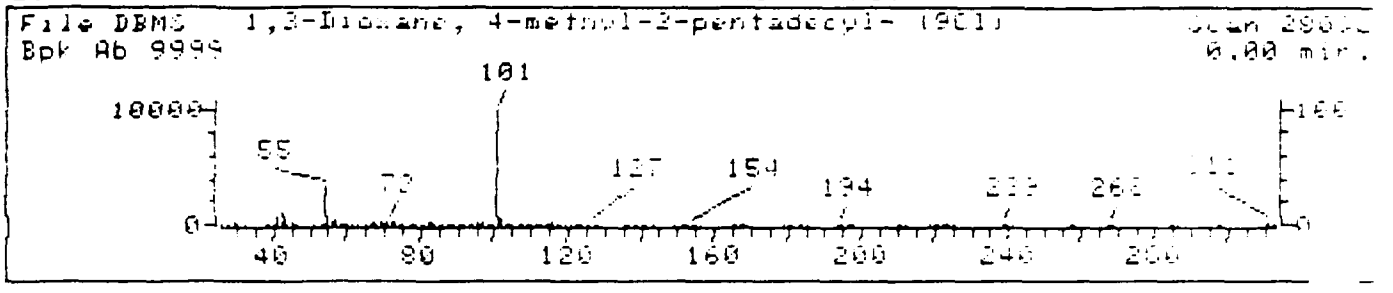
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6256.U1
Name: 850328 BN ON I
Misc Data: 0022954B
RT (min): 4.61
Scan: 59
Area: 39993
Semi-quantitative Conc: 14.[illegible] UG/ML

Data File: >I6256 Scan Number: 59
Search Speed: 2 Titling option: S Number of ion ranges searched: 5

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1	78	54950571	77	81	0	-2

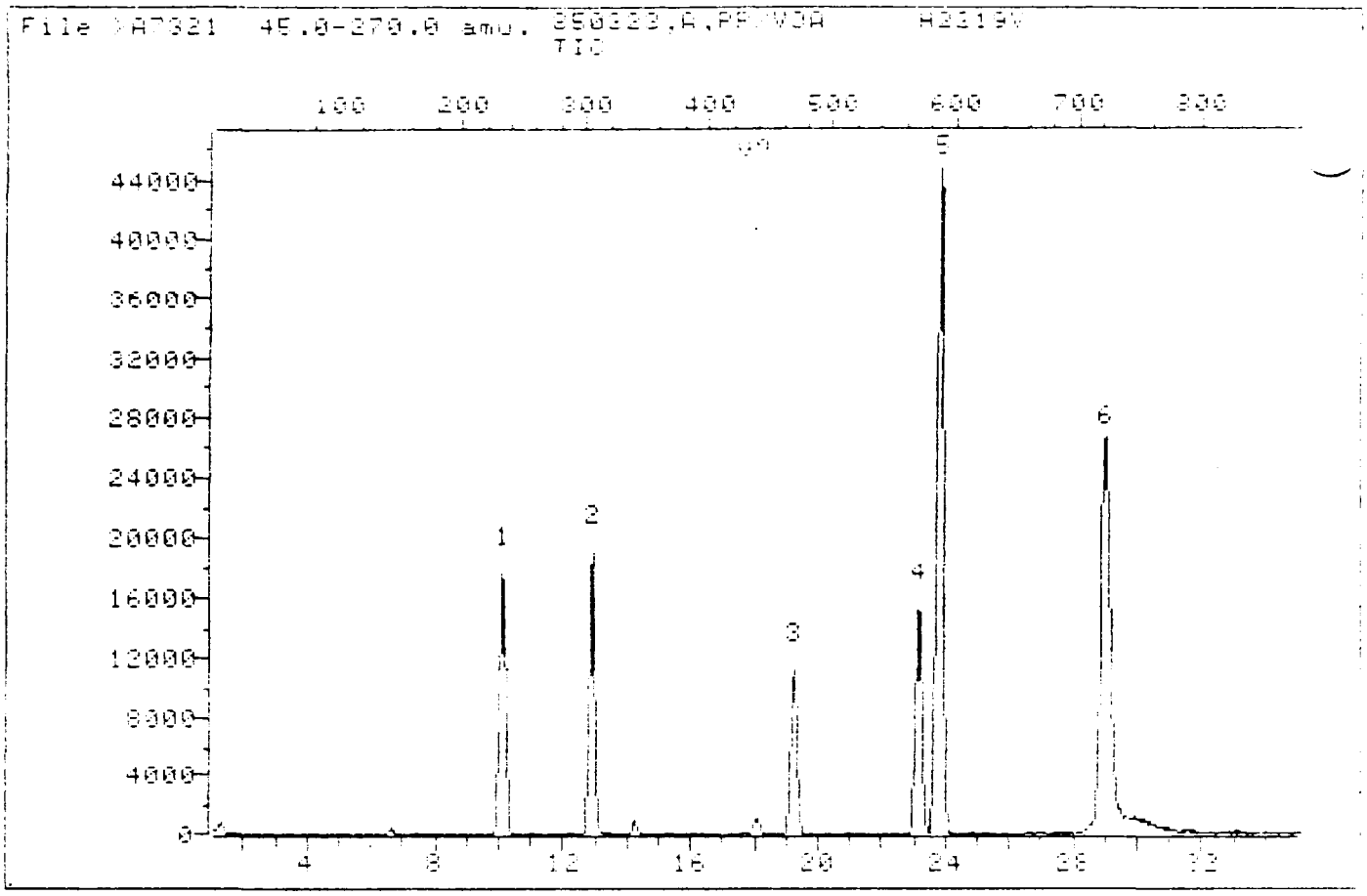
301202

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 PLOT ANALYSIS

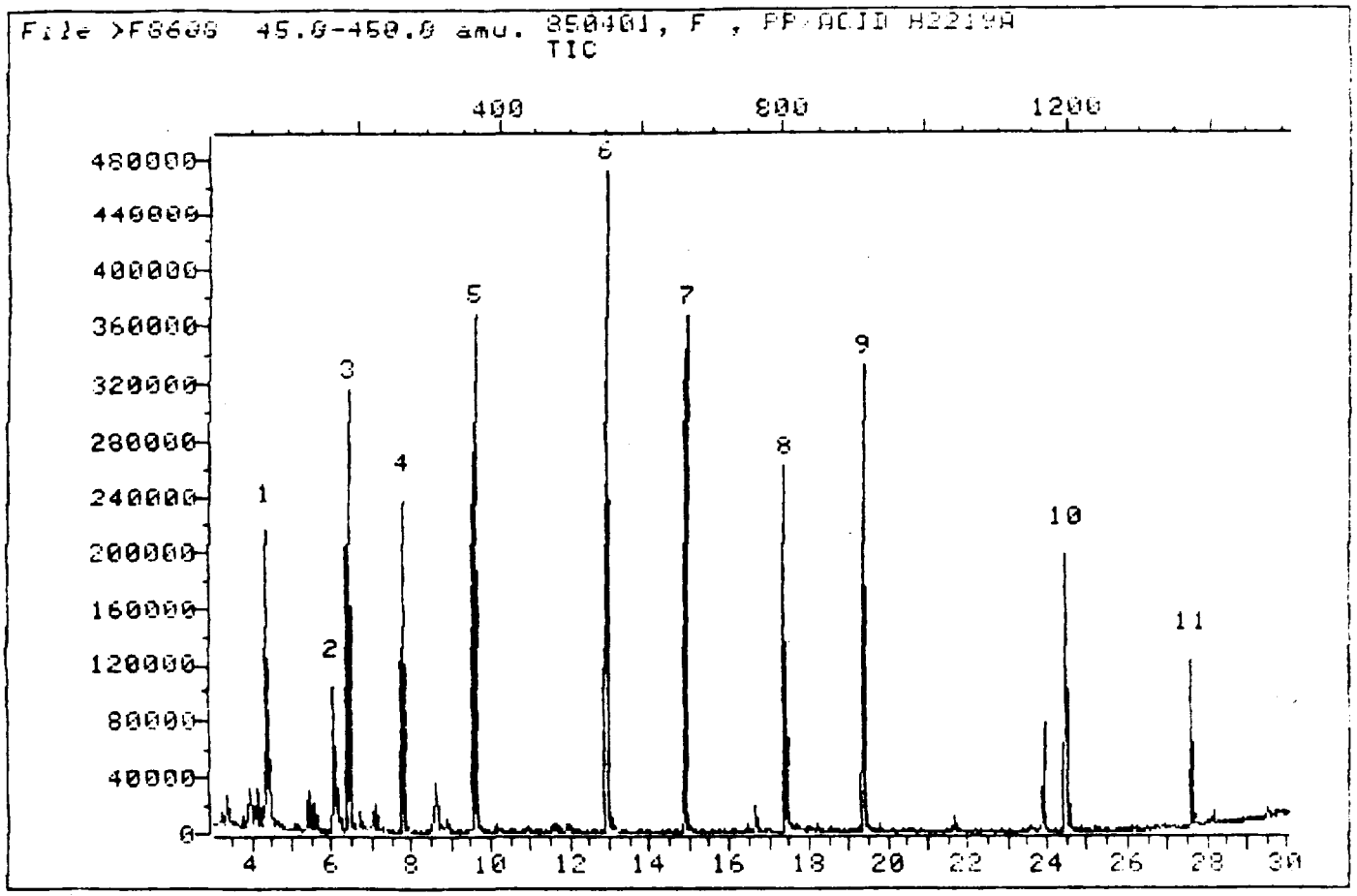


Data File: >A7321:.U2
Name 950323.A.PF/VOA
Misc Data H2219V 5mL

301204

046

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS

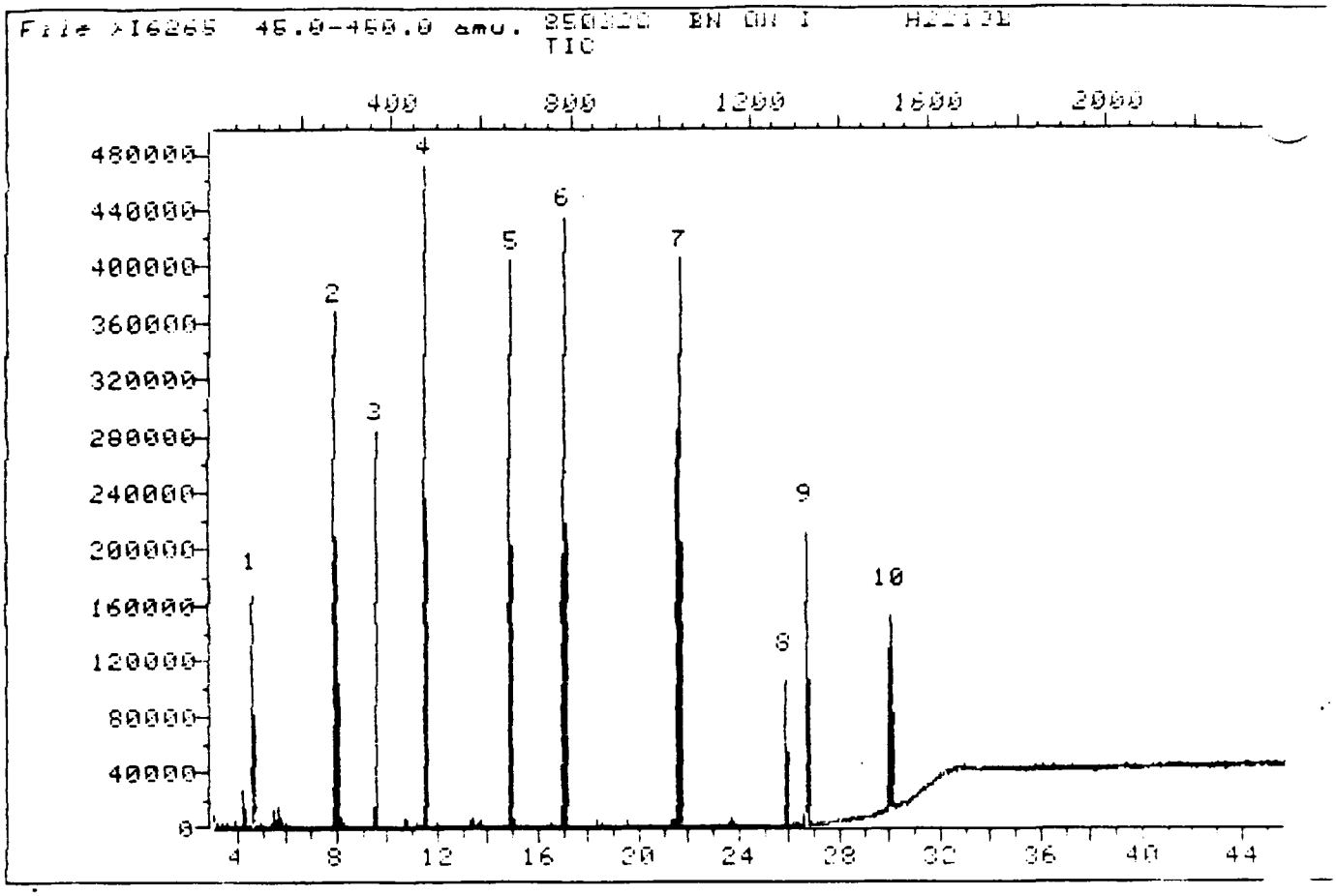


Data File: >F8608::U5
Name: 850401, F , PP/ACID
Misc Data: H2219A

BTL#12

301205

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS

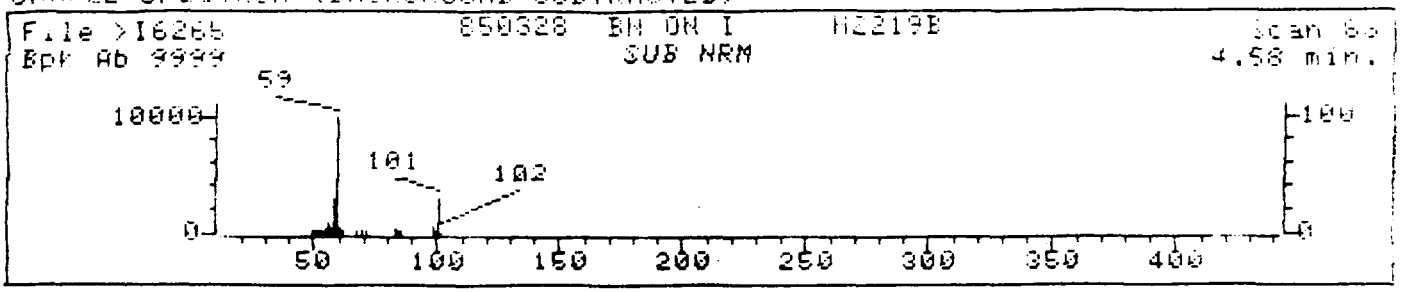


Data File: >I6265::U2
Name: 850328 BN ON I
Misc Data: H2219B

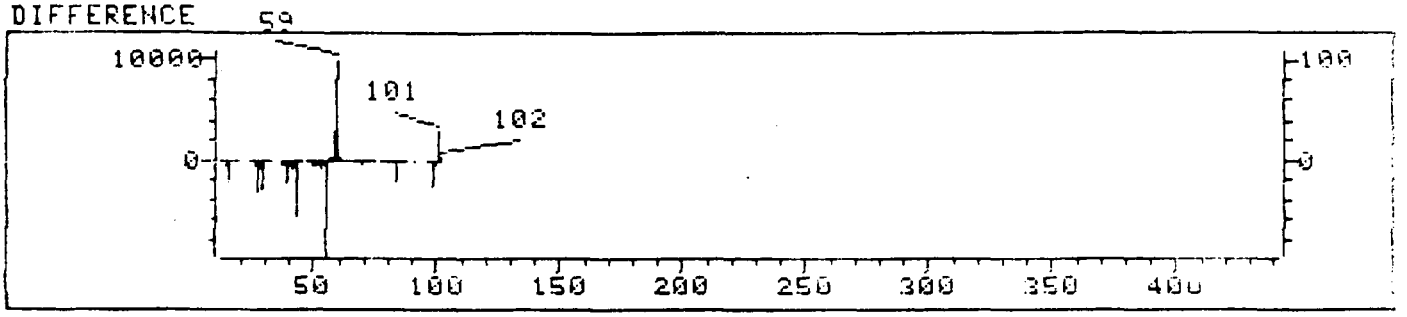
BTL#16

301206

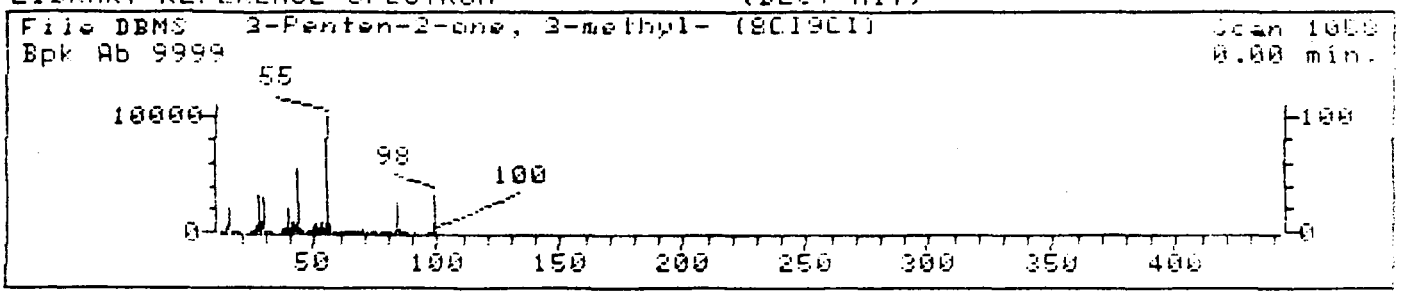
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6265:U2
Name: 850328 BN ON I
Misc Data: H2219B BTL#16
RT (min): 4.58
Scan: 83
Area: 375341
Semi-quantitative Conc: 12.89 UG/ML

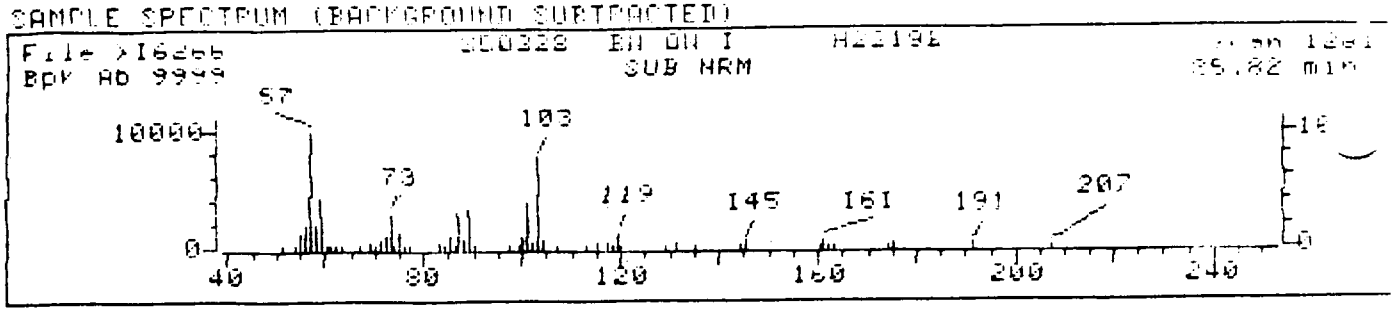
Data File: >I6265 Scan Number: 83
Search Speed: 2 Tilting option: 5 Number of ion ranges searched: 5?

1. 3-Penten-2-one, 3-methyl- (8CI9CI) 98 C6H10O

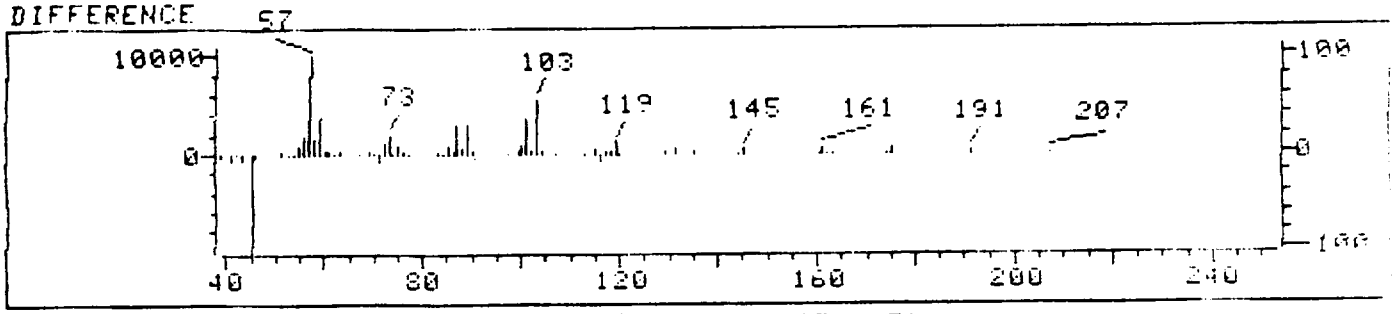
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	60	565628	52	40	2	-1

301207

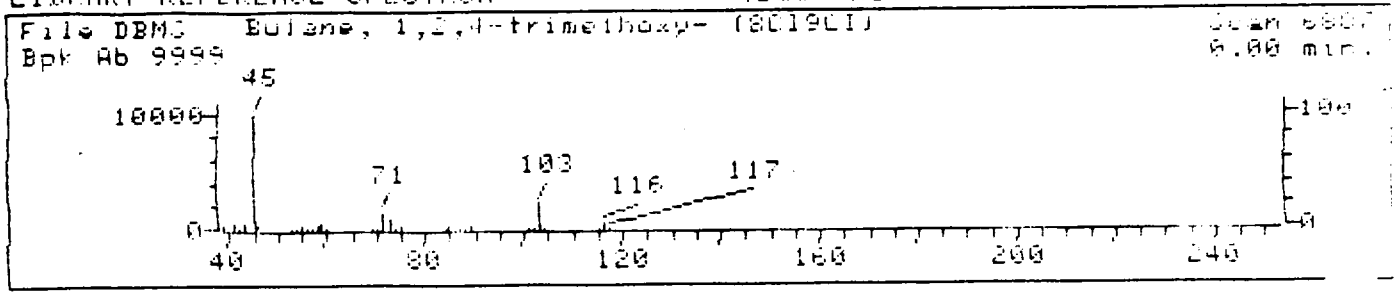
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6265.:ID
Name: 870328 DN ON I
Misc Data: H22198
RT (min): 25.82
Scan: 1281
Area 260[illegible]
Semi-quantitative Conc: 8 % UG/ML

BTL#17

Data File: >I6265 Scan Number: 1281
Search Speed: 2 Titling option: S Number of ion ranges searched 61

1. Butane, 1,2,4-trimethoxy- (8CI9CI) 148 C7H16O3
2. Butanoic acid, 3-methyl-, propyl ester (9CI) 144 C9H18O2
3. Pentanoic acid, propyl ester (9CI) 144 C8H16O2

	Prob.	Cast	K	dK	#Flg	Tilt
1.	25	20637483	37	49	2	0
2.	25	557006	31	86	3	0
3.	24	141060	22	91	3	0

050

301208

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

ETC Job # 4121/9

Lab ID: L85253-B7

Submitted by: MW CHAIN

Facility: (Facility Code) Sample Point: (Source Code) – (Sample Point ID)

Date: 4/9/85 Date Sampled: (Y Y M M D D) Time Sampled: (H H : M M)

RECEIVED APR

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	052		
34	Sulfide as S		mg/l			
35	Surfactants (MBAS/LAS)		mg/l			
36	Turbidity (Lab)		NTU			

301210

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. 28527 ETC Job # H2219

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE FILL STATION I

504
3

Sample Point: R - STATION 1 (Optional Sample Point Descriptions)

Source Code (from below)	Facility/Site Code + Your Sample Point ID (left justify)	Start Date (YY/MM/DD)	Start Time (2400 hr. clock)	Elapsed Hrs (composite)
R	STATION 1	03/03/25	1630	

Source Codes:

Well ..(W) Outfall.....(O) Bottom Sediment....(B) Surface Impoundment....(I) Leachate Collection Sys.....(C) Other .....

Soil ...(S) River/Stream..(R) Generation Point ....(G) Treatment Facility .....(T) Lake/Ocean .....(L) Specify _____

SHUTTLE CONTENTS

BOTTLE No	BOTTLE Type	BOTTLE Size	BOTTLE Preserv.	ANALYSIS	SAMPLER Filt. (Y/N)	SAMPLER Observations	LAB Observations
3	E	1L	baked	Extractables			
1	M	1L	HNO3	Metals			
1	CN	500ml	NaOH	Cyanides			
1	PN	1L	H2SO4	Phenols			
2	V	40ml	Sod-Thio.	VOA			1/2 hdsp.
1	TB	40ml	DI/MS H2O	Trip blank			

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P ZARRILLO Date: 3/21/85 Time:
   Signature: Paul M Zarrillo Seal #: 28527 Intact:

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: 301212
   Date: Time: Remarks:

4. Shuttle Sealed By: (print) P M ZARRILLO 054- Date: 3/21/85 Time: 1600
   Signature: Paul M Zarrillo Seal #: 0028528 Intact:

ETC USE ONLY Opened By: Date: 3-22-85 Time: 8:00

Seal #: 28528 Condition: OK

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2216

Sample Point [ ] (Source Code) [ ] (Sample Point ID)

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 [E D] (SPECIFY OTHER)

Sampler Material [D]
A-Teflon, B-Metal, C-PVC, D-Plastic
X-Other [E BOTTLE] (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 (STD)	spec. cond. (um/cm at 25° C)	(other parameter)	value	units
1st					
2nd					
3rd					
4th					

Sample Temp (°C) | Turbidity NTU

FIELD COMMENTS

Sample Appearance:

Weather Conditions:

Other:

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

Sampler: P ZARILLA (Print) Employer: NJDEP

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

3/21/85 (Date) Paul M Zarilla (Signature)

055

301213

ETC / CHYUN

CHYUN ASSOCIATES
(609)924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mun Jaeha

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H2
H2

Received at Chyun

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: 056

301214

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
1610			
Time/Date	Time/Date	Time/Date	Time/Date

MS ANALYSIS CUSTODY LOG

301215

: 850323 SHIFT :
CTION VOA
TRUMENT A
E FILE APE101
UENCE FILE TM
HOD FILE VOA
ILE AVOA
LYST(S) T Mancuso

ERVISOR MOakley
CH #'s QV3033

(PLEASE INITIAL)

CURRENT MS STATUS	STANDARDS UPDATED	
	DATE	
	BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	9609	1
ISTD	40	9,10	5
SURR	25	9337	10
ABC	18	10,221	5

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	>A7303	1			A00106	0810hrs 3/23	
C3033V	>A7304	5ml	1				Y
3033VS	>A7305		2			Sul ABC Something ABC (over ABC)	
3033VS	>A7306		4			10	
C3033VS	>A7307		5			30 Blew out Tube	
C3033VS	>A7308		3			5	
3033VS	>A7309		6			30	
3033VS	>A7310		1			5 1544 hrs	
H2205VS	>A7311		1				
H2206V	>A7312		2				Y
H2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000 hrs 3/27	
C3033VS	>A7316					Sul ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220V	>A7322						
G9862V	>A7323				057	composites Reno 1:10	
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326						
H0887V	>A7327						

GC-MS ANALYSIS CUSTODY LOG

DATE 850324 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE AF3IG1
SEQUENCE FILE JOA
METHOD FILE VOAA
IDFILE AVOA
ANALYST(S) [illegible]
SUPERVISOR [illegible]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
HIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
~~STD~~	40	9140	5
SURR	25	[illegible]977	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
HOBBBV	>A7328	5			A-106		
(P) G9B62V	>A7329	5		1:10		composite [illegible] 124	

053

301216

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EXTRACTION LOG

QC Batch # 2854

Analysis: PP/T
PP/ORG/PST/PCB
PP/ACID (REPEATS)

Matrix: H_2O

Turnaround: NORM

Date: 3/27/85

Extraction Method:
sep funnel ✓
continuous
soxhlet
other

Sample #	Log #	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
12213	8683	1000	1.0	1.0	
12214	"	960	1.0	1.0	
2215	"	970	1.0	1.0	
2216	"	950	1.0	1.0	
12217	"	930	1.0	1.0	
12219	"	930	1.0	1.0	
12220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
11813	8698	980	1.0	1.0	
G8913	8383	1000	/	1.0	
G9222	8411	1000	/	1.0	
G9224	↓	1000	/	1.0	
G5914	8437	950	/	1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

COMMENTS FOR EXTRACT.:
PP/T: H2213 - 17, 19, 20
H1813
PP/ORG/PST/PCB: G9863
PP/ACID (REPEAT): G8913,
G9222, 24, G5914

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

301217

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
sticide:	1.0	:: *	10,190
rochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ng/ml	10,195
	ACID: 100 ng/ml	

Set-up: [signature] 3/27/85 UPD/Supervisor: [signature] 3/27/85

301218

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT —
FRACTION AC10S
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE PK
METHOD FILE AC10F
IOFILE EAC1Q
ANALYST(S) R. TAUBY
SUPERVISOR
BATCH #'s QA3854, QA2855

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ	RT	DATE	K&B
WIP		BY	3/28/85

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Add	400	9053	100
DFTPP	25	9534	2

U4, U5, U6 03/02

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	F8488				I00160	
Acid Calib Std. III	F8489		1			
II	F8490		2			
I	F8491		3			
QC 2854A	F8492		4			Aborted. Batch at 8:00pm not used rewritten
QC 2854AS	F8493		2 5			
H2213AS	F8494		3 6			
H2213A	F8495		4 7			
H2214A	F8496		5 8			
H2215A	F8497		6 9			
H2214A	F8498		7 10			
H2217A	F8499		8 11			
H2217AR	F8500		9 12			
H2219A	F8501		10 13			
H2220A	F8502		11 14			
G9863A	F8503		12 15			
H1813A	F8504		13 16			
G8913A	F8505		14 17			
G9222A	F8506		15 18			
G9224A	F8507		16 19			
G5914A	F8508		17 20		040	
H0867A	F8509		18 21	1:10		For QC 2852
DFTPP	F8510		19 20			
Acid Calib Std II	F8511		20 22			

TSR 8-84

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT —
FRACTION ACIDS
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE KBB/KBBF
METHOD FILE ACIDF
DFILE PACID
ANALYST(S) KE Bonpart
SUPERVISOR [signature]
BATCH #'s

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ		DATE	
DIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
AC10 CAL II	F8492						
AC10 CAL I	F8493						
H2213AS	F8500		1	A			
DC2854AS	F8501		2	B			
QC2854A	F8502		3	C			Y
H2213A	F8503		4	D			Y
H2214A	F8504		5	E			Y
H2215A	F8505		6	F			Y
H2216A	F8506		7	G			Y
H2217A	F8507		8	H			Y
DFTPP	F8508		9	I			
AC10 CAL II	F8509		10	J			
H2217AR	F8510		11	K			
H2219A	F8511		12	L			Y
H2220A	F8512		13	M			Y
G9863A	F8513		14	N			
H1813A	F8514		15	O	6898	F8515-15 IL	
G9222A	F8516		17	P			
G9224A	F8517		18	Q			
G5914A	F8518		19	R			
H0867A	F8519		20	10:1		QB2852	
QC2855AS	F8520		21				

301219 TSR 8-84

301220

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28-29/85 SHIFT ___
FRACTION ACID
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) K.E. Brown Jr.
SUPERVISOR Mark A. Worley
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT V

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	P Y
GS229AS	F8521		22				
QB285SA	F8522		23				
GS228A	F8523		24				
GS229A	F8524		25				
GS231A	F8525		26				
GS231AR	F8526		27				
GS232A	F8527		28				
DPTPP	F8528		29				
AC10 CAL II	F8529		30				
GS233A	F8530		31				
GS234A	F8531		32				
GS235A	F8532		33				
H0737A	F8533		34				
H0293A	F8534		35				
G8937A	F8535		36				
					052		

TCP 9-84

Sample Number	Log Number	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
1465	8762	1000	1.0		
1468	|	1000	1.0		
1469	|	1000	1.0		
1474	|	1000	1.0		
11481	|	1000	1.0		
11482	|	1000	1.0		
12388	↓	1000	1.0		
8891	8418	1000		1.0	
9153	8481	1000	1.0		
1469	8677	1000		1.0	
1472	|	850		1.0	
10978	↓	1000		1.0	
12219	8683	1000		1.0	
8937	8472	1000		1.0	
1853	8703	920	1.0	1.0	
11852	↓	920	1.0	1.0	
11853-S	—	950	1.0		
11852-R	—	900	1.0		
QC 2859		1000	1.0	1.0	
QC 2859 S		1000	1.0	1.0	
G1472 S		955	1.0	1.0	
H0978 R		1000	1.0	1.0	

QC Batch # 2859

Analysis: ✱

REPEATS

Matrix: H_2O

Turnaround: EMERG.

Date: 3/30/85

Extraction Method:

- sep funnel ↘
- cont. nucus
- soxhlet
- other

COMMENTS FOR EXTRACT.:

✱ PP/PST: H1465, 68, 69, 74, 81, 82, H2388

PP/BN: G9153

PP/ACID: G1469, 72, H0978, H2219, G8937

PP/T: H1851-2

301221

Log assigned from original Spike data 3/31/85 DS

COMMENTS FOR GC/MS:

✱ 16 comp @ 100 ug/ml
Chlordane @ 200 ug/ml

✱✱ Spike/rep for BN due to no BN extraction corresponding to G1472-S & H0978R

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
ACID	1.0	100 ug/ml	9700
BN	1.0	100 ug/ml	9817
Pesticide	1.0	✱	10,190
Arochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml ACID: 100 ug/ml	10,195

Set-up: Doris Armstrong

Conc.: Doris Armstrong

Conc.: Doris Armstrong

UPD/Supervisor: S McAuliffe 3/31/85

spike/surr. verified: D. Hamilton (S McAuliffe) 3/30/85

301222

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BNP
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE KEBI
METHOD FILE BNPI
IDFILE IBNP
ANALYST(S) K.S. Brogan E
SUPERVISOR [signature]
BATCH #'s Q B2854
Q B2855

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT Yr
DFTPP	25	9534	2 wks
BN CAL IV	150	10194	1 mo
III	200	9961	1
II	100	10193	1
I	60	10192	1 mo
INT STD MIX	400	9653	100 wks

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	I6245					
BN CAL IV	I6250		1			
BN CAL III	I6251		2			
BN CAL I	I6252		3			
BN CAL II	I6253		4			
H223 BS	I6254		5		088 A S	
QC2854BS	I6255		6		T	
QC2854B	I6256		7		U	
H2217 B2	I6257		8		V	
DFTPP 1/2	I6258		9			
BN CAL II	I6259		10			
H2213 B	I6260		11		W	
H2214 B	I6261		12		X	
H2215 B	I6262		13		Y	
H2216 B	I6263		14		Z	
H2217 B	I6264		15		BA	
H2219 B	I6265		16		B	
H2220 B	I6266		17		C	
G9863 B	I6267		18		D	
H1813 B	I6268		19		E	
G5229 BS	I6269		20			
QC2855 BS	I6270		21		0[illegible]4	
DFTPP	I6271		22			
BN CAL II	I6272		23			
QC2855 B	I6273		24			

TSR 8-84

GC-MS ANALYSIS CUSTODY LOG

301223

DATE 3/28/85 SHIFT ___
FRACTION BN
INSTRUMENT I
TUNE FILE MIT001
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) K.S. Boggart
SUPERVISOR [signature]
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
G5231BR	I6274		25				
G5228B	I6275		26				Y
G5229B	I6276		27				Y
G5231B	I6277		28				
G5232B	I6278		29				
G5233B	I6279		30				
G5234B	I6280		31				
G5235B	I6281		32				Y
H2853B	I6282		33				
H0293B	I6283		34				
H0737B	I6284		35				

TSR 8-84

301224

GC-MS ANALYSIS CUSTODY LOG

DATE 850401 SHIFT ___
FRACTION BC/Acid
INSTRUMENT F
TUNE FILE MIF001
SEQUENCE FILE ___
METHOD FILE ACIDF
IDFILE FACID
ANALYST(S) [signature]
SUPERVISOR [signature]
BATCH #'s BC2859A

(PLEASE INITIAL)

CURRENT CSuS STATUS		STANDARDS UPDATED	
ACQ		DATE	[signature]
WIP		BY	[signature]

STANDARD	CONC PPM	LOT NO.	LOT V
ACID CALIB I	60	9509	
II	100	9962	
III	300	9511	
Int. Std.	400	9653	
DFTPP	25	9534	

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
DFTPP	>F8596				I00164	OK
ACID CALIB. II	>F8597		1			
ACID CALIB III	>F8598		2			
ACID CALIB I	>F8599		3			
BC 2859AS	>F8600		4			
G1472AS	>F8601		5			
BC 2859A	>F8602		6			
H0978A	>F8603		7			
H0978AS	>F8604		8			
H1832A	>F8605		9			
H1833A	>F8606		10			
G8891A	>F8607		11			
H2219A	>F8608		12			PLS ACID
G1469A	>F8609		13			
G1472A	>F8610		14			
(R) H0871A	>F8611		15			Perm Sample
~~G8851A~~	~~>F8612~~		~~16~~			
~~G8852A~~	~~>F8613~~		~~17~~		~~blank~~	~~bombshell~~
~~G8853A~~	~~>F8614~~		~~18~~		not included in this batch	
~~MASS CALIB III~~	~~>F8615~~		~~19~~			
~~DFTPP~~	~~>F8616~~		~~20~~			
					945	

TSR 8-84

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas L. Lilfield	4/18/85
AA/ICAP Prep	Marisa Ann McClain	4/8/85

Lab Supervisor Lidya Lukianov date 4/12/85

067

301225

8683

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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

X-029

Sample(s) Relinquished by: M. Jacobs

Date 3-22-85 Time 3:15 PM

301226

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 315

Technical Report

for

NJ DEP

CONTRACT X-029

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

301227

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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Based on October, 1984 version of
ETC Standard Operating Procedures

NJDEP Contract 029

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Cadmium	IM-1-005
Chromium	IM-1-006
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- Haloethers
- Nitroaromatic and Cyclic Ketones
- Organochlorine Pesticides
- Polychlorinated Biphenyls
- Phthalate Esters
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ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 28, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

301231

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

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	ND	ND	ND	800	94	ND	800	94
2V	Acrylonitrile	ND	100	ND	ND	ND	80	54	ND	80	80
3V	Benzene	ND	4.40	ND	ND	ND	18	104	ND	18	105
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	97	ND	18	99
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	103	ND	18	102
7V	Chlorobenzene	ND	6	ND	ND	ND	18	105	ND	18	107
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	103	ND	18	110
9V	Chloroethane	ND	10	ND	ND	ND	18	105	ND	18	107
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	101	ND	18	100
11V	Chloroform	ND	1.60	ND	ND	ND	18	104	ND	18	109
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	101	ND	18	107
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	0	-	ND	0	-
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	101	ND	18	103
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	102	ND	18	102
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	98	ND	18	98
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	101	ND	18	104
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	98	ND	18	94
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	104	ND	18	107
20V	Methyl bromide	ND	10	ND	ND	ND	18	119	ND	18	122
21V	Methyl chloride	ND	10	ND	ND	ND	18	99	ND	18	101
22V	Methylene chloride	BMDL	2.80	5	7	BMDL	18	172.	5	18	53.
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	103	ND	18	106
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	107	ND	18	108
25V	Toluene	ND	6	ND	ND	ND	18	106	ND	18	108
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	98	ND	18	99
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	ND	18	109	ND	18	112
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	104	ND	18	106
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	100	ND	18	99
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	101	ND	18	108
31V	Vinyl chloride	ND	10	ND	ND	ND	18	105	ND	18	115
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	98	ND	18	93

a EPA published Method Detection Limit.

b Recovery minimally reliable using EPA Protocol Method 624.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

MAR 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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

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	ND	ND	ND	100	86	ND	103	77
2A	2,4-Dichlorophenol	ND	3	ND	ND	ND	100	90	ND	103	82
3A	2,4-Dimethylphenol	ND	3	ND	ND	ND	100	90	ND	103	78
4A	4,6-Dinitro-o-cresol	ND	24	ND	ND	ND	100	79	ND	103	86
5A	2,4-Dinitrophenol	ND	42	ND	ND	ND	100	43	ND	103	62
6A	2-Nitrophenol	ND	4	ND	ND	ND	100	85	ND	103	79
7A	4-Nitrophenol	ND	2	ND	ND	ND	100	53	ND	103	55
8A	p-Chloro-m-cresol	ND	3	ND	ND	ND	100	101	ND	103	86
9A	Pentachlorophenol	ND	4	ND	ND	ND	100	83	ND	103	82
10A	Phenol	ND	2	ND	ND	ND	100	40	ND	103	58
11A	2,4,6-Trichlorophenol	ND	3	ND	ND	ND	100	87	ND	103	84

A EPA published Method Detection Limit.

301232

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

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	1.90	ND	ND	ND	100	90	ND	103	96
2B	Acenaphthylene	ND	3.50	ND	ND	ND	100	87	ND	103	93
3B	Anthracene	ND	1.90	ND	ND	ND	100	89	ND	103	94
4B	Benzidine	ND	44	ND	ND	ND	100	10e	ND	103	9e
5B	Benzo(a)anthracene	ND	7.80	ND	ND	ND	100	89	ND	103	96
6B	Benzo(a)pyrene	ND	2.50	ND	ND	ND	100	89	ND	103	72
7B	Benzo(b)fluoroanthene	ND	4.80	ND	ND	ND	100	80	ND	103	68
8B	Benzo(ghi)perylene	ND	4.10	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	2.50	ND	ND	ND	100	81	ND	103	72
10B	bis(2-Chloroethoxy)methane	ND	5.30	ND	ND	ND	100	92	ND	103	94
11B	bis(2-Chloroethyl) ether	ND	5.70	ND	ND	ND	100	87	ND	103	88
12B	bis(2-Chloroisopropyl)ether	ND	6	ND	ND	ND	100	74	ND	103	76
13B	bis(2-Ethylhexyl)phthalate	ND	10 c	ND	ND	ND	100	89	ND	103	89
14B	4-Bromophenyl phenyl ether	ND	1.90	ND	ND	ND	100	84	ND	103	90
15B	Butyl benzyl phthalate	ND	10 c	ND	ND	ND	100	64	ND	103	81
16B	2-Chloronaphthalene	ND	1.90	ND	ND	ND	100	79	ND	103	83
17B	4-Chlorophenyl phenyl ether	ND	4.20	ND	ND	ND	100	96	ND	103	102
18B	Chrysene	ND	2.50	ND	ND	ND	100	86	ND	103	87
19B	Dibenzo(a,h)anthracene	ND	2.50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	1.90	ND	ND	ND	100	50	ND	103	51
21B	1,3-Dichlorobenzene	ND	1.90	ND	ND	ND	100	41	ND	103	44
22B	1,4-Dichlorobenzene	ND	4.40	ND	ND	ND	100	44	ND	103	48
23B	3,3'-Dichlorobenzidine	ND	16.50	ND	ND	ND	100	76	ND	103	73
24B	Diethyl phthalate	ND	10 c	ND	ND	ND	100	3e	ND	103	35e
25B	Dimethyl phthalate	ND	10 c	ND	ND	ND	100	1e	ND	103	3e
26B	Di-n-butyl phthalate	ND	10 c	ND	ND	ND	100	71	ND	103	102
27B	2,4-Dinitrotoluene	ND	5.70	ND	ND	ND	100	105	ND	103	107
28B	2,6-Dinitrotoluene	ND	1.90	ND	ND	ND	100	95	ND	103	99
29B	Di-n-octyl phthalate	ND	10 c	ND	ND	ND	100	90	ND	103	77
30B	1,2-Diphenylhydrazine	ND	10	ND	ND	ND	100	95	ND	103	102
31B	Fluoranthene	ND	2.20	ND	ND	ND	100	106	ND	103	109
32B	Fluorene	ND	1.90	ND	ND	ND	100	97	ND	103	103

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

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	1.90	ND	ND	ND	100	86	ND	103	90
34B	Hexachlorobutadiene	ND	.90	ND	ND	ND	100	27[B]	ND	103	43[B]
35B	Hexachlorocyclopentadiene	ND	10	ND	ND	ND	0	-	ND	0	-
36B	Hexachloroethane	ND	1.60	ND	ND	ND	100	24[B]	ND	103	32[B]
37B	Indeno(1,2,3-c,d)pyrene	ND	3.70	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	2.20	ND	ND	ND	100	90	ND	103	92
39B	Naphthalene	ND	1.60	ND	ND	ND	100	78	ND	103	75
40B	Nitrobenzene	ND	1.90	ND	ND	ND	100	87	ND	103	84
41B	N-Nitrosodimethylamine	ND	10	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	10	ND	ND	ND	100	88	ND	103	87
43B	N-Nitrosodiphenylamine	ND	1.90	ND	ND	ND	100	110	ND	103	118
44B	Phenanthrene	ND	5.40	ND	ND	ND	100	92	ND	103	99
45B	Pyrene	ND	1.90	ND	ND	ND	100	108	ND	103	109
46B	1,2,4-Trichlorobenzene	ND	1.90	ND	ND	ND	100	163	ND	103	97

A EPA published Method Detection Limit.

B Recovery normally low using EPA Protocol Method 625.

C ETC established Method Detection Limit for this particular sample.

301234

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

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 B	Unspiked Sample ug/l	Concen. Added ug/l	% Recov B
1P	Aldrin	ND	1.90	ND	ND	ND	100	83	ND	103	78
2P	Alpha-BHC	ND	10	ND	ND	ND	100	6	ND	103	45
3P	Beta-BHC	ND	4.20	ND	ND	ND	100	85	ND	103	89
4P	Gamma-BHC	ND	10	ND	ND	ND	100	6	ND	103	48
5P	Delta-BHC	ND	3.10	ND	ND	ND	100	5	ND	103	20
6P	Chlordane	ND	10	ND	ND	ND	200	35	ND	206	41
7P	4,4'-DDT	ND	4.70	ND	ND	ND	100	80	ND	103	78
8P	4,4'-DDE	ND	5.60	ND	ND	ND	100	83	ND	103	86
9P	4,4'-DDD	ND	2.80	ND	ND	ND	100	81	ND	103	88
10P	Dieldrin	ND	2.50	ND	ND	ND	100	76	ND	103	98
11P	Endosulfan I	ND	10	ND	ND	ND	100	15	ND	103	25
12P	Endosulfan II	ND	10	ND	ND	ND	100	15	ND	103	20
13P	Endosulfan sulfate	ND	5.60	ND	ND	ND	100	26	ND	103	71
14P	Endrin	ND	10	ND	ND	ND	100	72	ND	103	92
15P	Endrin aldehyde	ND	10	ND	ND	ND	100	24	ND	103	38
16P	Heptachlor	ND	1.90	ND	ND	ND	100	80	ND	103	81
17P	Heptachlor epoxide	ND	2.20	ND	ND	ND	100	74	ND	103	98
18P	PCB-1242	ND	36	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	36	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	30	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	36	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	36	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	36	ND	ND	ND	100	75	ND	103	91
24P	PCB-1016	ND	36	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	10	ND	ND	ND	0	-	ND	0	-

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 62

301235

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

NPDES Number	Compound	Results: Sample Concen. ug/l	Results: MDL ug/l
1M	Antimony	ND	80
2M	Arsenic	ND	5
3M	Beryllium	ND	.60
4M	Cadmium	ND	3
5M	Chromium	ND	20
6M	Copper	ND	10
7M	Lead	ND	5
8M	Mercury	BMDL	.30
9M	Nickel	ND	10
10M	Selenium	ND	10
11M	Silver	ND	8
12M	Thallium	ND	5
13M	Zinc	ND	30
14M	Cyanide, Total	<25	25
15M	Phenolics, Total	<10	10

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

March 28, 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
H2220	NJ DEP	NJDCOMBESO	RSTATION5	850321	1518	

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

301237

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 1, 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
H2220	NJ DEP	NJDCOMBESO	RSTATION5	850321	1518	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
None Found								

3011238

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Conc. ug/l		
1 Unknown	80	4.70	-	-	-	15		

301239

Relative Percent Difference (RPD) for VOA

H2220 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 5 — Facility Source
850321 1518 — Date Time

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	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	5	7	33
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

301240

Relative Percent Difference (RPD) for ACID

Job Number	Account Name	Facility	Source	Date	Time
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518

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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518

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
H2220	NJ DEP	NJDCOMBESO	RSTATION 5	850321	1518

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

April 3, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Water- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2220

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	114	86	119
Bromofluorobenzene	.250	112	85	121
1,2-Dichloroethane-D4	.250	114	77	120
ACID FRACTION				
Phenol-D5	100	32	15	103
2-Fluorophenol	100	49	23	121
2,4,6-Tribromophenol	100	74	10	130
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	76	41	120
2-Fluorobiphenyl	50	86	44	119
Terphenyl-D14	50	50	33	128

* IFB EPA Control Limits.

301245

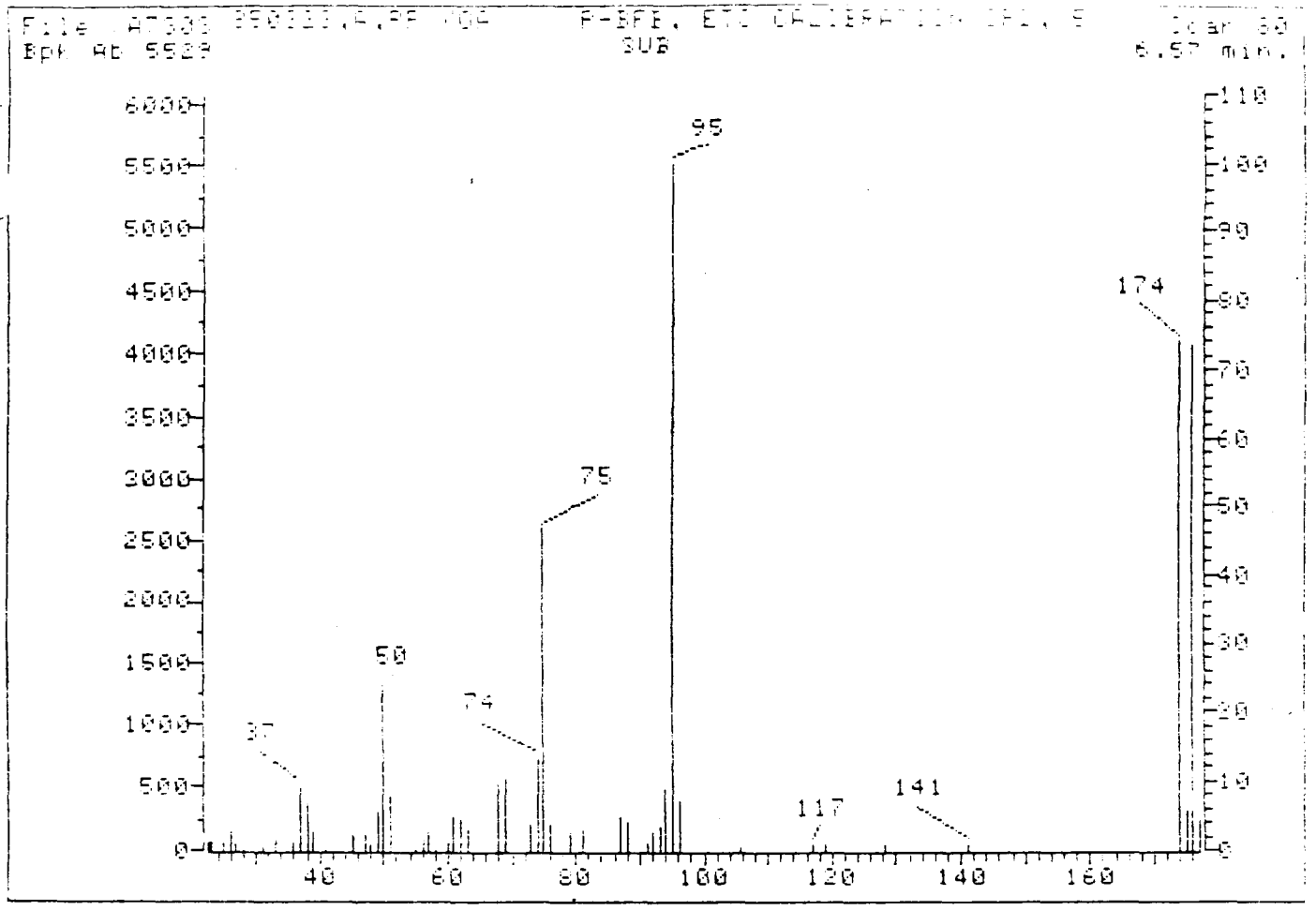

TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	22.90	22.90	Ok
75	30-60% of mass 95	46.72	46.72	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	6.87	6.87	Ok
173	Less then 1% of mass 95	0.00	0.00	Ok
174	Greater then 50% of mass 95	74.14	74.14	Ok
175	5-9% of mass 174	5.46	7.37	Ok
176	95-101% of mass 174	73.36	98.95	Ok
177	5-9% of mass 176	4.52	6.16	Ok

Injection Date: 03/23/85 Analyst: Thomas M Mancuso
Injection Time: 08:09 Processor: Pearl Trent
Run No: >A7303 QC Batch: QV3033
Spectrum No: 80 Samples: H2205, H2206, H2213 - H2216, H2219, H2220, G9862, H0875 - H0877, H0887, H0888.

301246

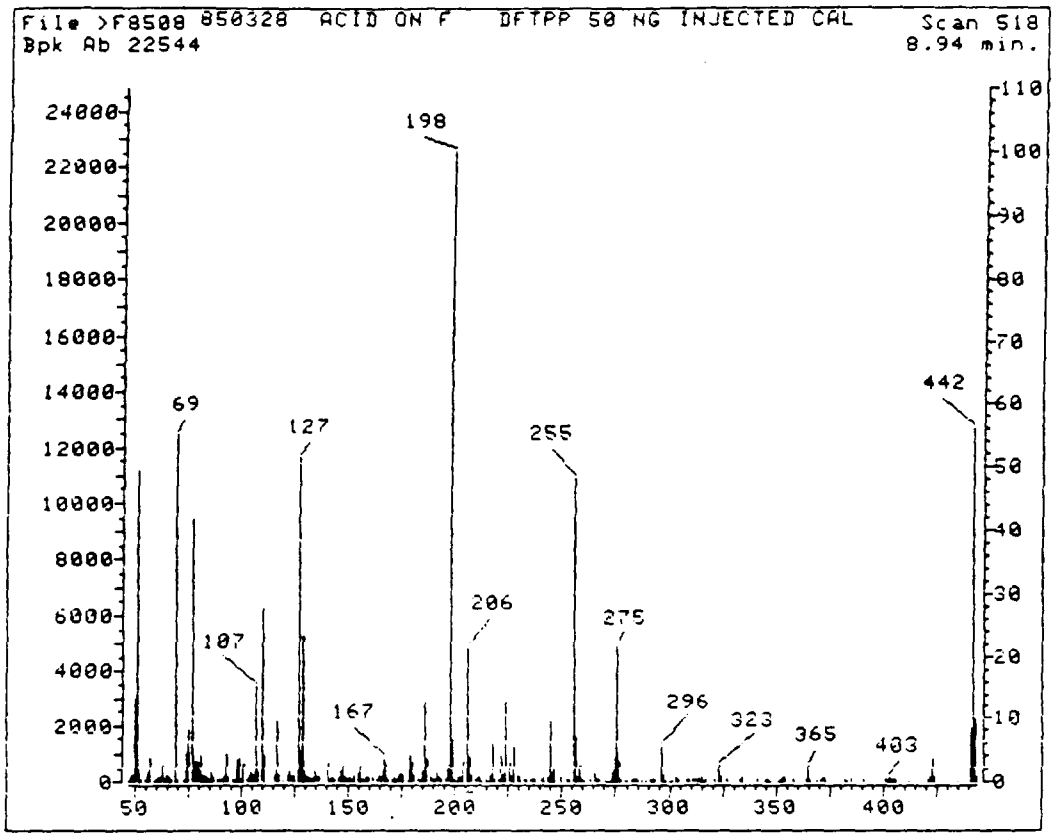

TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	49.24	49.24	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	54.96	54.96	Ok
70	Less then 2% of mass 69	.58	1.05	Ok
127	40-60% of mass 198	51.27	51.27	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	6.37	6.37	Ok
275	10-30% of mass 198	21.40	21.40	Ok
365	Greater then 1% of mass 198	2.44	2.44	Ok
441	Less then mass 443	8.18 ~~0.00~~ SW	83.8 ~~0.00~~ SW	Ok
442	Greater then 40% of mass 198	55.93	55.93	Ok
443	17-23% of mass 442	9.76	17.46	Ok

Injection Date: 03/29/85 Analyst: K.S. Smith
Injection Time: 04:17 Processor: Wen-Allen Chi
Run No: >F8508 QC Batch: QA2856
Spectrun No: 518 Samples: H2219, H2220, G9863, H1813
~~H2221~~ G9222, G9224, G9144
G8923

000

301247

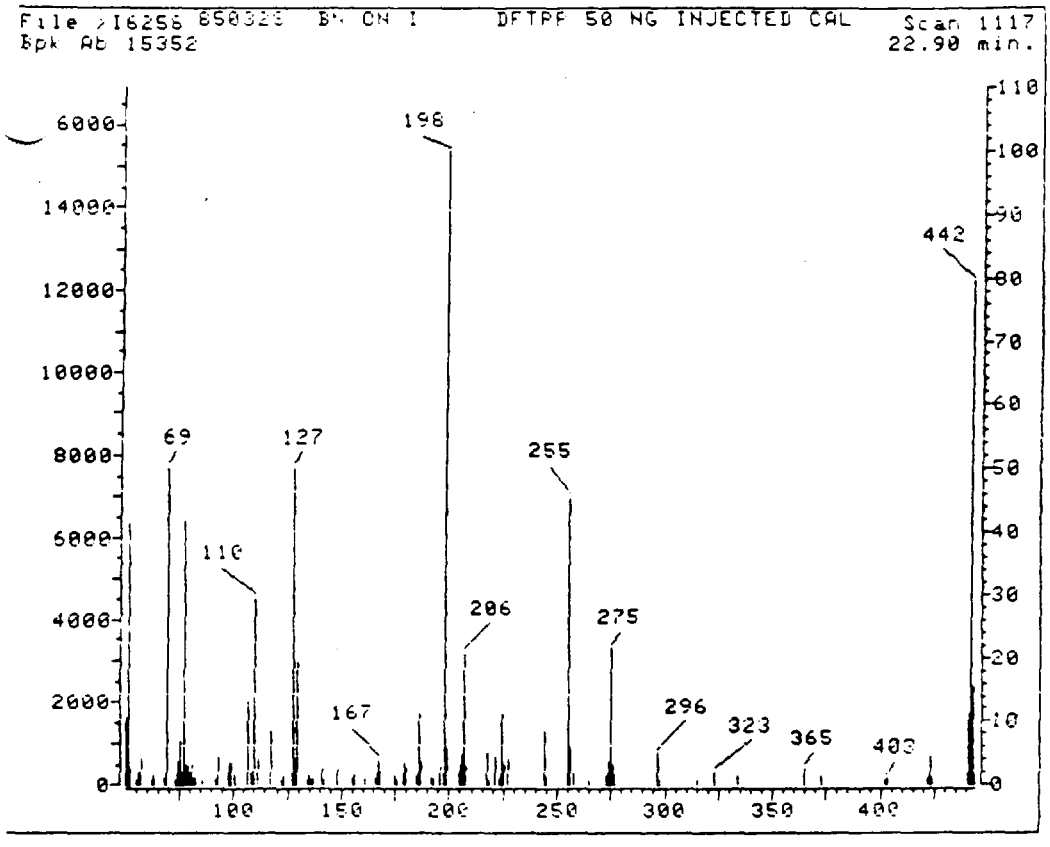

TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	41.17	41.17	Ok
68	Less then 2% of mass 69	.93	1.86	Ok
69	(reference only)	50.12	50.12	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	50.18	50.18	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	6.25	6.25	Ok
275	10-30% of mass 198	21.53	21.53	Ok
365	Greater then 1% of mass 198	2.59	2.59	Ok
441	Less then mass 443	11.28	74.64	Ok
442	Greater then 40% of mass 198	79.46	79.46	Ok
443	17-23% of mass 442	15.11	19.01	Ok

Injection Date: 03/29/85 Analyst: K.E. Bonar
Injection Time: 01:25 Processor: Pat Chang
Run No: >I6258 QC Batch: QB2854
Spectrun No: 1117 Samples: H2213 - H2217, H2219, H2220
G9863, H1813

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Appendix A

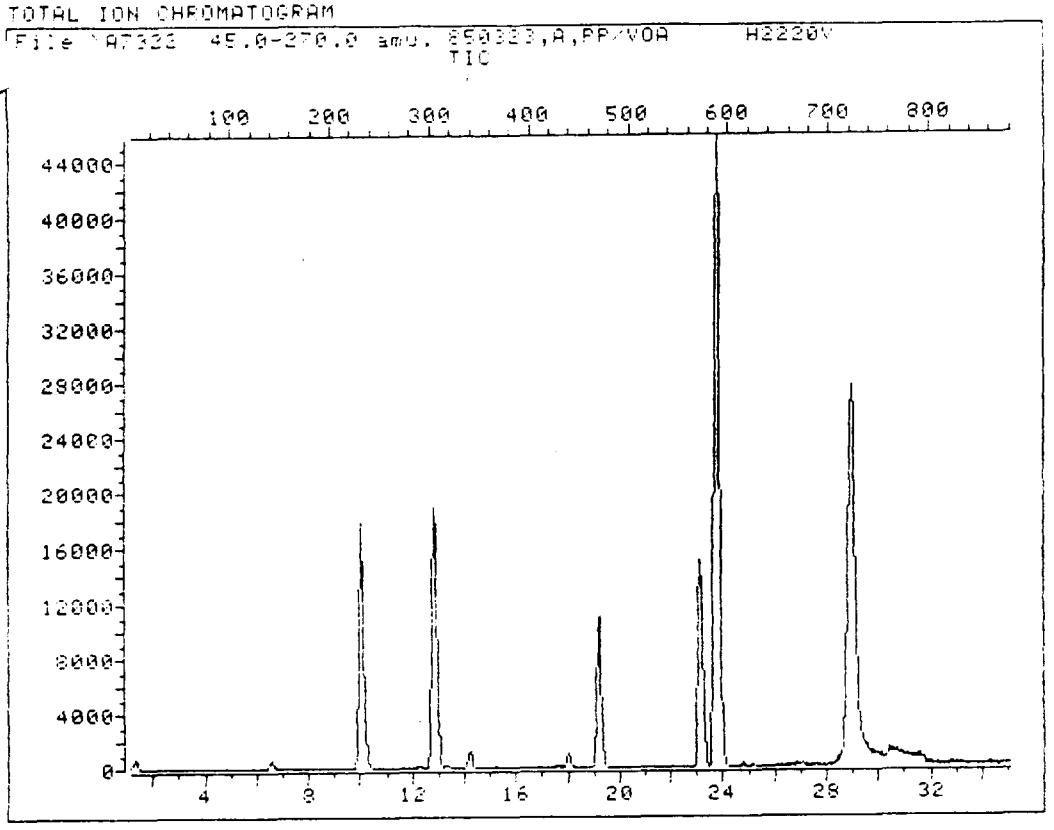
Mass Spectral Data for Quantitated Compounds

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

File >A7323 45.0-270.0 amu. 850323,A,PP/VOA H2220V
TIC



Data File: >A7322::U2
Name: 850323,A,PP/VOA
Misc: H2220V

5ML

Id File: AVOA
Title: IDFILE FOR PP VOAS
Last Calibration: 850322 09:12

Operator ID: MM506o
Quant Time: 850324 02:23

301250

QUANT REPORT

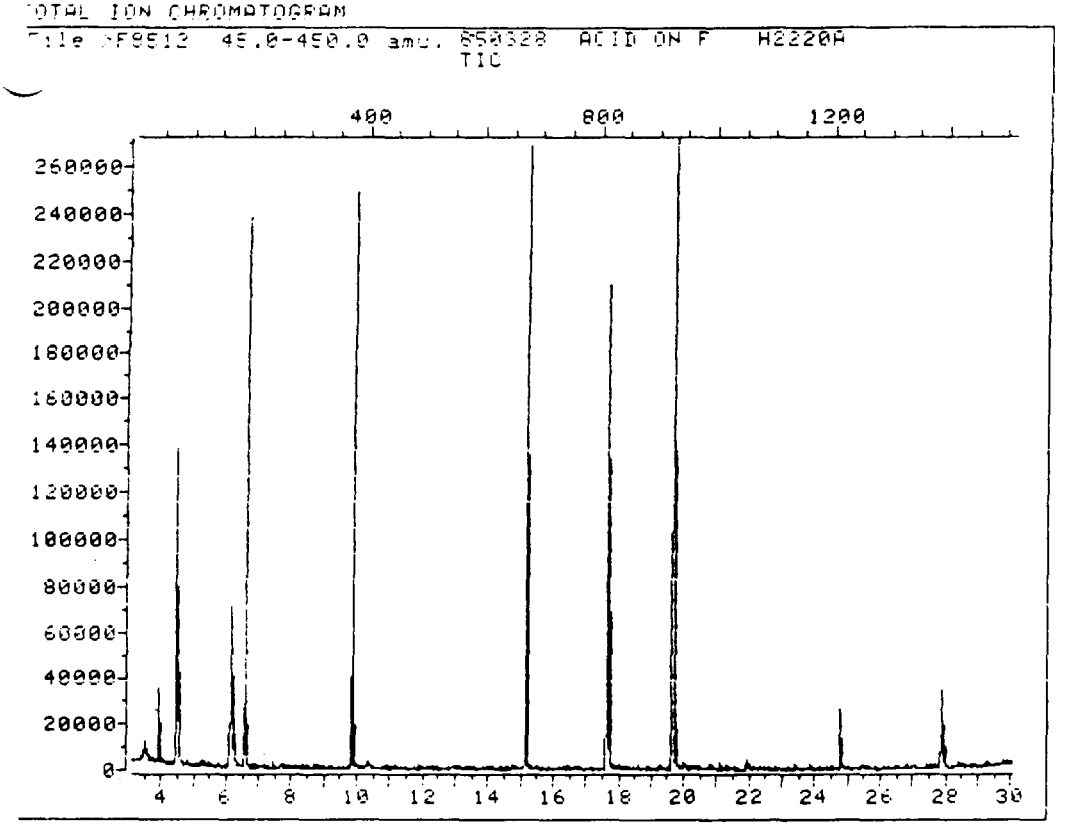
Operator ID: MM5056 Quant Rev: 3 Quant Time: 85032[illegible]
Injected at 850324 01:17
Data File: A[illegible] DF Dilution Factor: 1.00
Name: 850323,A,PP/VOA
Misc: H2220V 5ML

ID File: PP
Title: IDFILE FOR PP VOAS
Last Calibration: 850325 08:20

	Compound	R.T.	Scan#	Area	Conc	Units	
1)	*2-Bromo-1-chloropropane	19.24	470	66678	200.00	NG	
24)	Methylene chloride	6.62	143	1630	1~~9.68~~	~~NG~~	10
29)	1,1,1-Trichloroethane	14.22	340	5265	16~~.17~~	NG	
35)	1,2-Dichloroethane-D4	12.87	305	45163	285.58	NG	
36)	Toluene-D8	23.79	583	245548	284.68	NG	
37)	p-Bromofluorobenzene	20.96	722	88975	278.81	NG	
38)	*1,4-Dichlorobutane	23.17	572	93841	200.00	NG	

* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >F8512::U5
Name: 850328 ACID ON F
Misc: H2220A

BTL#13

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

Operator ID: KB5414
Quant Time: 850329 07:12

301252

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 07:12
Injected at: 850329 06:40
Data File: >F8512::U5 Dilution Factor: 1.00
Name: 850328 ACID ON F
Misc: H2220A BTL#13

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850328 22:26

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.56	194	136162	40.00	UG/ML
3)	2-Fluorophenol	4.44	75	113691	49.07	UG/ML
5)	Phenol-D5	6.13	170	75866	31.70	UG/ML
5)	Phenol-D5	6.56	194	1152	~~.48~~	~~UG~~/ML
6)	*d8-Naphthalene	9.82	377	301015	40.00	UG/ML
11)	*d10-Acenaphthalene	15.14	676	157237	40.00	UG/ML
16)	*d10-Phenanthrene	19.65	929	329949	40.00	UG/ML
17)	2,4,6-Tribromophenol	17.63	816	65695	73.71	UG/ML

* Compound is ISTD

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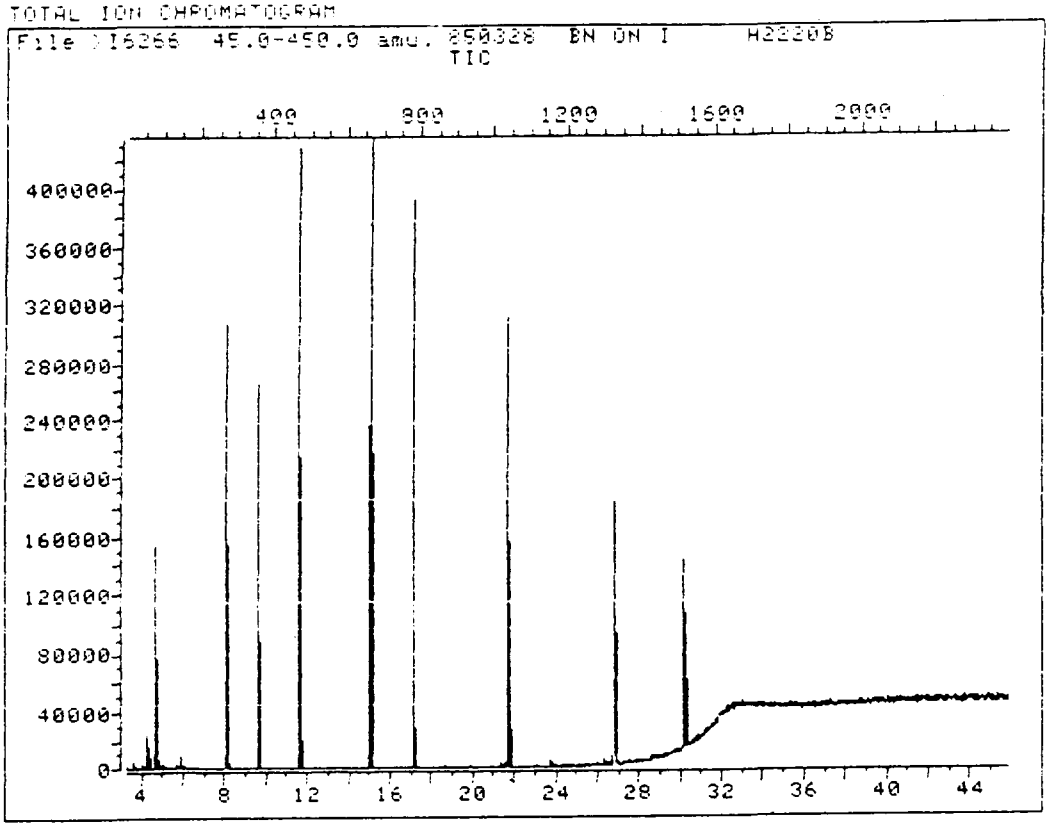
TOTAL ION CHROMATOGRAM



Data File: >I6266::U2
Name: 850328 BN ON I
Misc: H2220B

BTL#1?

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

Operator ID: KB5414
Quant Time: 850329 09:16

301254

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850329 09:1
Injected at: 850329 09:1

Data File: >I6266::U2 Dilution Factor: 1.
Name: 850328 BN ON I
Misc: H2220B BTL#17

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

	Compound	R.T.	Scan#	Area	Conc	Unit
1)	*d4-1,4-Dichlorobenzene	8.03	268	113964	40.00	UG/ML
7)	Nitrobenzene-d5	9.57	355	190014	38.35	UG/ML
8)	bis(2-Chloroisopropyl)ether	8.05	269	5856	~~7.55~~	~~UG/ML~~
9)	*d8-Naphthalene	11.59	469	466578	40.00	UG/ML
10)	2-Fluorobiphenyl	14.99	661	326786	42.62	UG/ML
11)	N-Nitrosodi-n-propylamine	9.57	355	28941	~~8.15~~	~~UG/ML~~
19)	*d10-Acenaphthalene	17.08	779	216661	40.00	UG/ML
22)	Dimethyl phthalate	17.08	779	38902	~~5.27~~	~~UG/ML~~
32)	*d10-Phenanthrene	21.69	1039	324943	40.00	UG/ML
37)	Di-n-butyl phthalate	23.75	1155	5530	~~.59~~	~~UG/ML~~
39)	Benzidine	26.82	1328	1882	~~5.00~~	~~UG/ML~~
47)	*d12-Chrysene	30.14	1515	114689	40.00	UG/ML
59)	Terphenyl-D14	26.80	1327	163935	25.22	U ML
64)	bis(2-Ethylhexyl)phthalate	30.37	1528	1986	~~.54~~	~~UG/ML~~

* Compound is ISTD

PCB: ND

Appendix B

GC/MS Calibration Data

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

* Original Update Form missing from QC Batch. Between QC Batch review and time this data was generated had been updated. Therefore new form had to be generated after Batch acquisition.

Files: >A7310 >A7307 >A7309

Compound	RF 90.00	RF 180.00	RF 540.00	$\overline{RF}$	% RSD	
Acrolein	.01437	.01560	.01603	.01533	5.608	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.04089	.13716	.05035	.07614	69.694	(Conc=400.0,800.0,2400.0)
Benzene	2.92955	2.85493	2.63526	2.80658	5.451	
bis(Chloromethyl)ether	-	-	-	-	-	
Bromoform	.45093	.46149	.48504	.46582	3.749	
Carbon tetrachloride	.87002	.84286	.83044	.84777	2.338	
Chlorobenzene	1.77068	1.74068	1.54094	1.68410	7.415	
Chlorodibromomethane	.77911	.76039	.71839	.75280	4.094	
Chloroethane	.22491	.19999	.21597	.21329	6.173	
2-Chloroethylvinyl ether	.34382	.34004	.33495	.33960	1.311	
Chloroform	1.73609	1.70265	1.58579	1.67484	4.712	
Dichlorobromomethane	1.16517	1.15043	1.13377	1.14979	1.367	
Dichlorodifluoromethane	.45907	.43296	.42341	.43848	4.209	
1,1-Dichloroethane	1.19163	1.18157	1.16493	1.17938	1.143	
1,2-Dichloroethane	1.10365	1.08829	1.04349	1.07848	2.898	
1,1-Dichloroethylene	1.34089	1.39539	1.38708	1.37446	2.136	
1,2-Dichloropropane	1.00917	1.00884	.97693	.99831	1.855	
trans-1,3-Dichloropropylene	.81779	.83466	.87039	.84094	3.194	
cis-1,3-Dichloropropylene	.57533	.58738	.59694	.58988	2.137	
Ethylbenzene	3.52721	3.49555	3.14878	3.39051	6.192	
Methyl bromide	.23674	.17522	.18472	.19890	16.651	
Methyl chloride	.98579	1.03279	.96757	.99538	3.380	
Methylene chloride	.45241	.14325	.14957	.24840	71.140	
1,1,2,2-Tetrachloroethane	.94480	.97569	.84369	.92139	7.494	
Tetrachloroethylene	1.08423	1.06378	.88590	1.01130	10.787	
Toluene	3.14815	3.07790	2.72264	2.98290	7.647	
1,2-Trans-dichloroethylene	1.37267	1.39826	1.41520	1.39538	1.534	
1,1,1-Trichloroethane	1.06359	.97641	.89658	.97886	8.534	
1,1,2-Trichloroethane	.58336	.58946	.50822	.56035	8.075	
Trichloroethylene	.67785	.70636	.64874	.67765	4.252	
Trichlorofluoromethane	1.35508	1.40321	1.27428	1.34418	4.850	
Vinyl chloride	.46096	.43273	.42008	.43792	4.779	
Acetonitrile	-	-	-	-	-	(Conc=250.0,500.0,1500.0)
1,2-Dichloroethane-D4	.46878	.49734	.45756	.47456	4.322	(Conc=250.0,250.0,250.0)
Toluene-D8	2.62592	2.70627	2.42996	2.58735	5.493	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.97000	.98704	.91459	.95721	3.957	(Conc=250.0,250.0,250.0)
1,1,1,2-Tetrachloroethane	-	-	-	-	-	
Styrene	-	-	-	-	-	
1,2-Dibromo-3-Chloropropane	-	-	-	-	-	
Bromobenzene	-	-	-	-	-	
o-Chlorotoluene	-	-	-	-	-	
p-Chlorotoluene	-	-	-	-	-	
meta-Xylene	-	-	-	-	-	(Conc=75.0,150.0,450.0)
ortho- and para-Xylenes	-	-	-	-	-	(Conc=150.0,300.0,900.0)
Propylbenzene	-	-	-	-	-	

RF - Response Factor (Subscript is amount in NG)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

030

301257

Calibration Report

Title: IDFILE FOR PP VOAS
Calibrated: 850325 08:17

Compound	Files: >A7310 RF 90.00	>A7307 RF 180.00	>A7309 RF 540.00	$\overline{RF}$	% RSD	
sopropylbenzene	-	-	-	-	-	
ı-Dichlorobenzene	-	-	-	-	-	
ı&p-Dichlorobenzenes	-	-	-	-	-	(Conc=180.0,360.0,1080.0)

F - Response Factor (Subscript is amount in NG)

$\overline{F}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

301258

Calibration Check Report

Title: IDFILE FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Acrolein	.01533	.01577	2.87	Average	(Conc=4000.00)
Acrylonitrile	.07614	.20877	174.21	Average	(Conc=400.00)
Benzene	2.80658	3.08857	10.05	Average	
bis(Chloromethyl)ether	-	-	-	Average	
Bromoform	.46582	.45820	1.64	Average	
Carbon tetrachloride	.84777	.90423	6.66	Average	
Chlorobenzene	1.68410	1.84648	9.64	Average	
Chlorodibromomethane	.75280	.79924	6.17	Average	
Chloroethane	.21329	.15739	26.21	Average	
2-Chloroethylvinyl ether	.33960	.36954	8.81	Average	
Chloroform	1.67484	1.89299	13.02	Average	
Dichlorobromomethane	1.14979	1.22293	6.36	Average	
Dichlorodifluoromethane	.43848	.48366	10.30	Average	
1,1-Dichloroethane	1.17938	1.28676	9.10	Average	
1,2-Dichloroethane	1.07848	1.18416	9.80	Average	
1,1-Dichloroethylene	1.37446	1.45310	5.72	Average	
1,2-Dichloropropane	.99831	1.06739	6.92	Average	
trans-1,3-Dichloropropylene	.84094	.81153	3.50	Average	
cis-1,3-Dichloropropylene	.58988	.60992	3.40	Average	
Ethylbenzene	3.39051	3.69108	8.86	Average	
Methyl bromide	.19890	.24156	21.45	Average	
Methyl chloride	.99538	1.08607	9.11	Average	
Methylene chloride	.24840	.20530	17.35	Average	
1,1,2,2-Tetrachloroethane	.92139	1.02791	11.56	Average	
Tetrachloroethylene	1.01130	1.16432	15.13	Average	
Toluene	2.98290	3.34990	12.30	Average	
1,2-Trans-dichloroethylene	1.39538	1.48009	6.07	Average	
1,1,1-Trichloroethane	.97886	1.15847	18.35	Average	
1,1,2-Trichloroethane	.56035	.63100	12.61	Average	
Trichloroethylene	.67765	.70670	4.29	Average	
Trichlorofluoromethane	1.34416	1.58651	18.03	Average	
Vinyl chloride	.43792	.48682	11.16	Average	
1,2-Dichloroethane-D4	.47456	.50560	6.54	Average	(Conc=250.00)
Toluene-D8	2.58735	2.79963	8.20	Average	(Conc=250.00)
p-Bromofluorobenzene	.95721	1.02482	7.06	Average	(Conc=250.00)
1,1,1,2-Tetrachloroethane	-	-	-	Average	
Styrene	-	-	-	Average	
1,2-Dibromo-3-Chloropropane	-	-	-	Average	
Bromobenzene	-	-	-	Average	
o-Chlorotoluene	-	-	-	Average	
p-Chlorotoluene	-	-	-	Average	
meta-Xylene	-	-	-	Average	(Conc=75.00)
ortho- and para-Xylenes	-	-	-	Average	(Conc=150.00)
Propylbenzene	-	-	-	Average	

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 FOR PP VOAS
Calibrated: 850323 16:28

Check Standard Data File: >A7316
Injection Time: 850323 20:55

Compound	$\overline{RF}$	RF	%Diff	Calib Meth	
Isopropylbenzene	-	-	-	Average	
m-Dichlorobenzene	-	-	-	Average	
o&p-Dichlorobenzenes	-	-	-	Average	(Conc=180.00)

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

033

301260

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850328 22:20

Files: >F8493 >F8492 >F8489

Compound	RF 60.00	RF 100.00	RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.79614	.80437	.76134	.954	.78728	2.901	
Phenol	.80904	.85955	.93328	.931	.86729	7.204	
2,4-Dichlorophenol	.26602	.27976	.27663	.981	.27414	2.627	
2,4-Dimethylphenol	.33494	.34353	.30516	.934	.32788	6.141	
2-Nitrophenol	.18484	.19537	.19435	.904	.19152	3.034	
p-Chloro-m-cresol	.27674	.29355	.22907	1.208	.26645	12.554	
4,6-Dinitro-o-cresol	.22150	.27287	.21589	1.139	.23675	13.264	
2,4-Dinitrophenol	.06770	.11025	.11233	1.029	.09676	26.031	
4-Nitrophenol	.08473	.13355	.09617	1.080	.10482	24.361	
2,4,6-Trichlorophenol	.34095	.35554	.42589	.858	.37413	12.140	
Pentachlorophenol	.03058	.05702	.05922	.988	.04894	32.570	
2-Fluorophenol	.67275	.67515	.69391	.675	.68060	1.703	(Conc=100.0,100.0,100.0)
Phenol-D5	.67214	.70067	.73630	.927	.70304	4.573	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.10538	.10039	.11837	.898	.10804	8.590	(Conc=100.0,100.0,100.0)

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 .... FOF i 850326
Calibrated: 850328 21:36

Compound	Files: >16253 RF 60.00	>16252 RF 100.00	>16251 RF 200.00	>16250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
trosodimethylamine	1.13334	1.09719	.96390	-	.408	1.06481	8.381	
2-Chloroethyl) ether	1.72801	1.69756	1.42032	-	.927	1.61530	10.496	
Dichlorobenzene	1.53932	1.43756	1.18762	-	.990	1.38817	13.037	
-Dichlorobenzene	1.58727	1.49123	1.18332	-	1.006	1.42061	14.855	
Dichlorobenzene	1.59505	1.48195	1.18623	-	1.067	1.42107	14.855	
obenzene-d5	1.71640	1.77896	1.72177	-	1.196	1.73904	1.994	(Conc=50.0,50.0,50.0,)
2-Chloroisopropyl)ether	.28858	.30048	.22745	-	1.103	.27217	14.397	
uorobiphenyl	.66725	.66926	.63527	-	1.296	.65726	2.901	(Conc=50.0,50.0,50.0,)
trosodi-n-propylamine	.31965	.31707	.27377	-	.793	.30350	8.494	
ichloroethane	.12547	.12619	.09556	-	.807	.11574	15.101	
obenzene	.53986	.53064	.44149	-	.830	.50400	10.779	
horone	.61445	.61958	.51124	-	.885	.58176	10.507	
2-Chloroethoxy)methane	.46943	.45367	.38607	-	.945	.43639	10.148	
,4-Trichlorobenzene	.28907	.27332	.21692	-	.990	.25977	14.604	
ithalene	1.11187	.98819	.76627	-	1.006	.95544	18.328	
ichlorobutadiene	.16213	.15028	.12157	-	1.054	.14465	14.436	
ichlorocyclopentadiene	.36937	.36759	.30664	-	.848	.34787	10.267	
iloronaphthalene	1.18869	1.11418	.89206	-	.894	1.06498	14.490	
thyl phthalate	1.49799	1.38244	1.19638	-	.961	1.35893	11.198	
thylene	2.11492	1.90906	1.53373	-	.972	1.85257	15.907	
nitrotoluene	.31482	.29536	.25939	-	.974	.28986	9.702	
aphthene	1.34579	1.23403	.96283	-	1.006	1.18089	16.677	
-Dinitrotoluene	.38291	.37309	.34361	-	1.044	.36654	5.580	
thyl phthalate	1.51058	1.32123	1.18452	-	1.092	1.33878	12.230	
rene	1.32085	1.11815	.85209	-	1.099	1.09703	21.430	
lorophenyl phenyl ether	.55110	.46724	.33536	-	1.100	.45123	24.102	
trosodiphenylamine	.80794	.69717	.62115	-	1.123	.70875	13.253	
-Diphenylhydrazine	1.82545	1.61571	1.38960	-	1.129	1.61026	13.537	
romophenyl phenyl ether	.22033	.22126	.16302	-	.936	.20154	16.553	
achlorobenzene	.23428	.23707	.17391	-	.956	.21529	16.664	
anthrene	.97395	.92894	.73951	-	1.004	.88080	14.125	
racene	1.15723	1.12032	.88686	-	1.010	1.05481	13.898	
n-butyl phthalate	1.22824	1.11972	1.08691	-	1.095	1.14496	6.460	
oranthene	.79328	.68124	.64187	-	1.179	.70546	11.136	
zidine	.01720	.00866	.09231	-	1.199	.03939	116.851	
ene	.76361	.65946	.61773	-	1.212	.68027	11.044	
a-BHC	.15367	.15194	-	.14072	.945	.14878	4.724	
a-BHC	.07218	.07665	-	.08946	.978	.07943	11.290	
a-BHC	.12714	.12725	-	.11937	.988	.12459	3.624	
a-BHC	.08735	.08961	-	.10082	1.017	.09259	7.794	
achlor	.23072	.22889	-	.21375	1.079	.22445	4.151	
rin	.17530	.17093	-	.15573	1.123	.16732	6.142	
achlor epoxide	.12868	.15435	-	.09765	.841	.12690	22.374	

Response Factor (Subscript is amount in UG/ML)

- Average Relative Retention Time (RT Std/RT Istd)

- Average Response Factor

) - Percent Relative Standard Deviation

301262

035

Calibration Report

Title: B/N+PEST ID FILE .... FOR 1 850326
Calibrated: 850328 21:36

Compound	Files: >16253 RF 60.00	>16252 RF 100.00	>16251 RF 200.00	>16250 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.05775	.09214	-	.10898	.862	.08629	30.260	
Endosulfan I	.12446	.14881	-	.09034	.873	.12120	24.232	
4,4'-DDE	.72452	.73245	-	.52458	.887	.66052	17.833	
Dieldrin	.80521	.89510	-	.60464	.895	.76832	19.354	
Endrin	.11420	.11589	-	.08328	.915	.10446	17.572	
Endosulfan II	.09159	.10112	-	.07526	.922	.08933	14.643	
4,4'-DDD	.80782	.78403	-	.66221	.922	.75135	10.396	
Endrin aldehyde	-	-	-	.25209	.937	.25209	-	
4,4'-DDT	.66034	.63729	-	.59908	.953	.63224	4.894	
Endosulfan sulfate	.11397	.11501	-	.12045	.956	.11648	2.990	
Terphenyl-D14	2.19189	2.20381	2.40464	-	.889	2.26678	5.273	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.19539	1.07772	1.09858	-	.945	1.12390	5.587	
Benzo(a)anthracene	1.34184	1.34252	1.23620	-	.998	1.30685	4.682	
Chrysene	1.28312	1.35328	1.17204	-	1.003	1.26948	7.199	
3,3'-Dichlorobenzidine	.20342	.23259	.26010	-	.997	.23204	12.216	
bis(2-Ethylhexyl)phthalate	1.34376	1.25450	1.24788	-	1.007	1.28205	4.176	
Di-n-octyl phthalate	1.25984	1.64402	1.50630	-	1.070	1.47005	13.240	
Benzo(b)fluoroanthene	.78863	1.10036	.93344	-	1.116	.94081	16.581	
Benzo(k)fluoranthene	.86286	.96429	.80367	-	1.119	.87694	9.263	
Benzo(a)pyrene	.76624	.93363	.80318	-	1.159	.83435	10.540	
Indeno(1,2,3-c,d)pyrene	.93072	1.12331	1.04442	-	1.354	1.03282	9.374	
Dibenzo(a,h)anthracene	.69757	.84784	.79523	-	1.358	.78021	9.773	
Benzo(ghi)perylene	.69610	.86743	.79436	-	1.410	.78597	10.938	

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

036

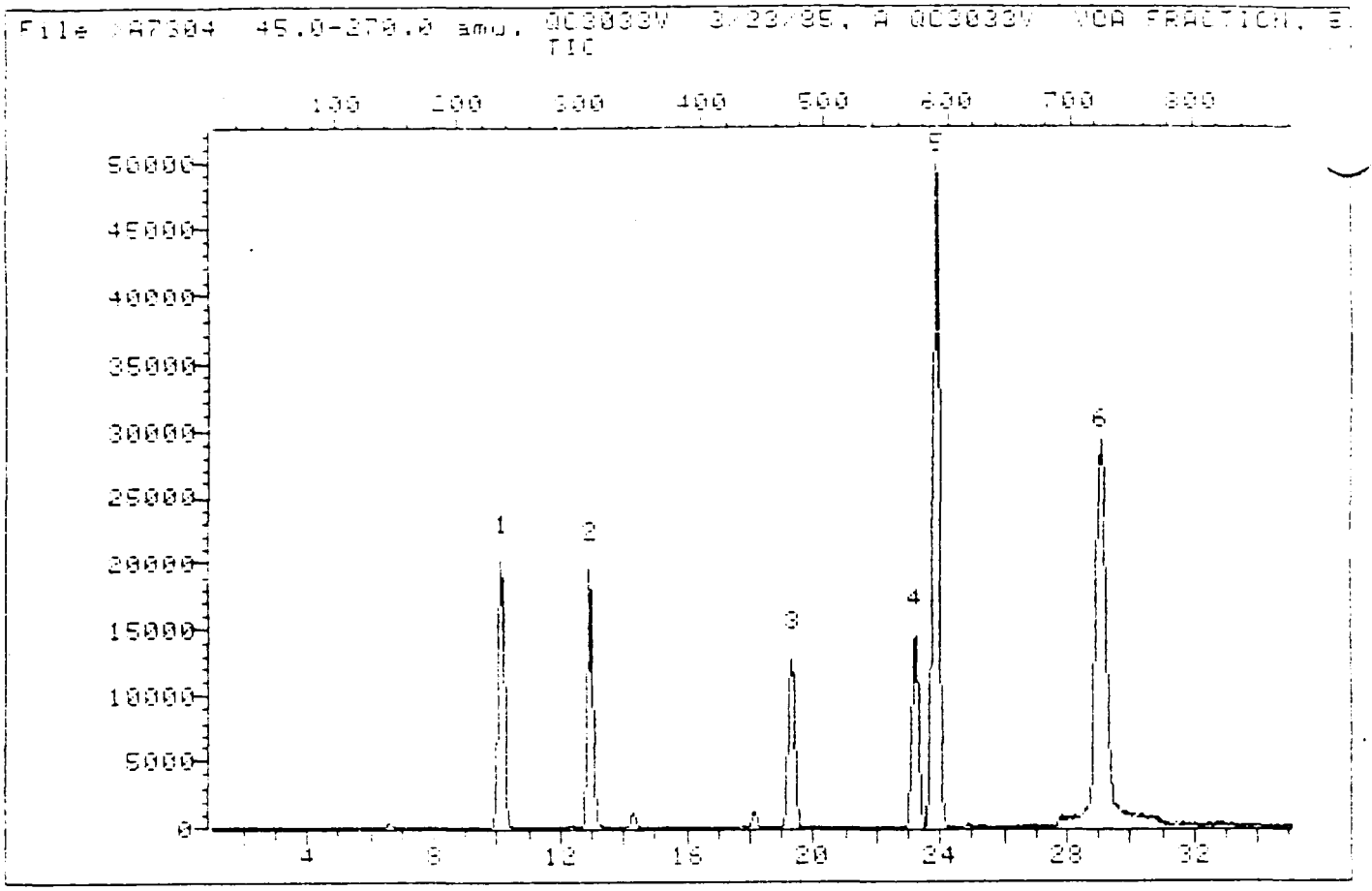
301263

Appendix C1

GC/MS Subsidiary Data

301264

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >A7304: U2
Name: QC30330V 3/23/95 A
Misc Data: QC30330V VOA FRACTION, 5ML WATER, BLANK

301265

[illegible] REPORT

[illegible] ID: LA2677 Quant Rev: J Quant Time: 850327 09:[illegible]
Injected at: 850323 09:[illegible]
a File: >A7303: U2 Dilution Factor: 1.00
[illegible]: QC3034V 3/23/85, [illegible]
[illegible]: QC3033V VOA FRACTION, 5ML WATER, BLANK

File: PK
le: IDFILE FOR PP VOAS
t Calibration: 850325 08:20

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	19.33	474	75032	200.00	NG
Methylene chloride	6.59	144	831	8.92	NG
Toluene	24.07	597	1871	~~1.67~~	NG
1,1,1-Trichloroethane	14.27	343	4918	~~13.39~~	NG
1,2-Dichloroethane-D4	12.96	309	46178	259.38	NG
Toluene-D8	23.84	591	265033	273.04	NG
p-Bromofluorobenzene	29.05	726	98119	273.23	NG
*1,4-Dichlorobutane	23.22	575	92148	200.00	NG

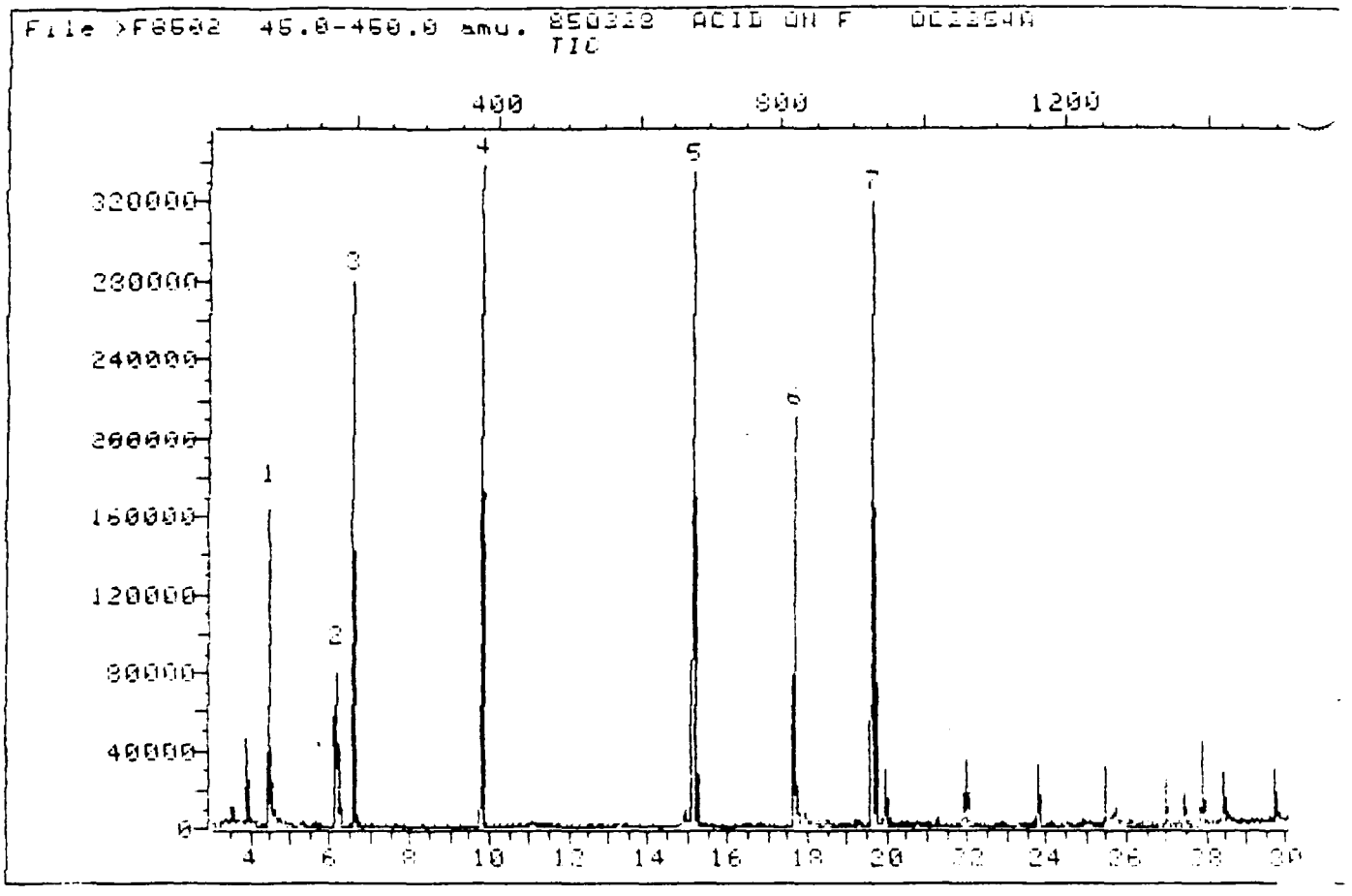
Compound [illegible] ISTD

[illegible]102

301266

039

TOTAL ION CHROMATOGRAM for PLUG ANALYSIS



Data File: >F8502:(1)
Name: 850328 ACID ON F
Misc Data: QC2854A

BTL# 7

301267

QUANT REPORT

rator ID: KB5414 Quant Rev: 3 Quant Time: 850329 01:04
Injected at: 850329 00:32
a File: >F8502::U4 Dilution Factor: 1.00
e: 850328 ACID ON F
c: QC2854A BTL# 3

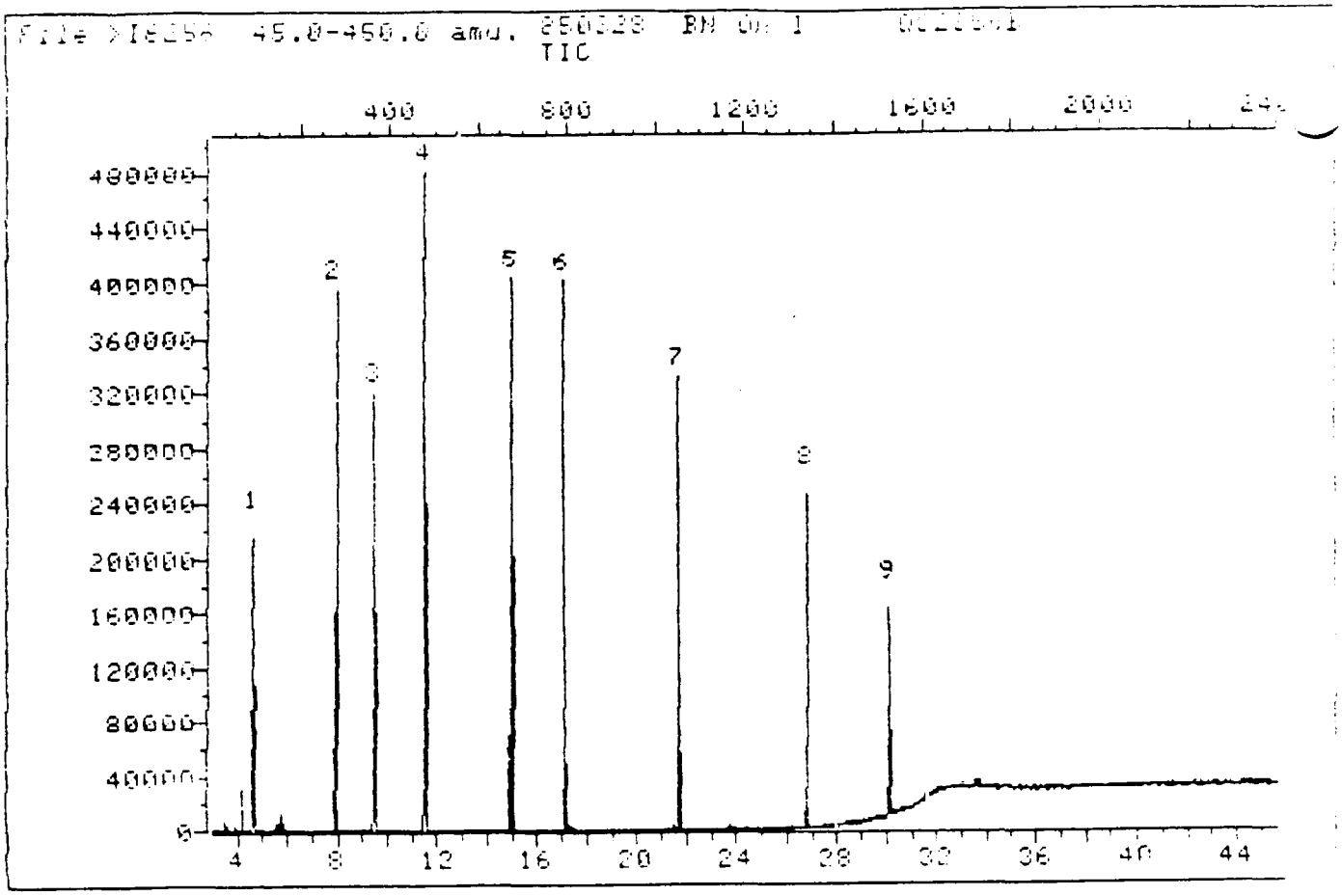
File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
st Calibration: 850328 22:26

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.55	196	174971	40.00	UG/ML
2-Fluorophenol	4.41	76	145527	48.88	UG/ML
2-Fluorophenol	4.98	108	380	.13	UG/ML
Phenol-D5	6.12	172	101427	32.98	UG/ML
Phenol-D5	6.55	196	1354	.44	UG/ML
*d8-Naphthalene	9.79	328	372654	40.00	UG/ML
*d10-Acenaphthalene	15.12	677	205801	40.00	UG/ML
*d10-Phenanthrene	19.62	930	419734	40.00	UG/ML
2,4,6-Tribromophenol	17.61	817	78559	69.29	UG/ML

Compound is ISTD

301268

TOTAL ION CHROMATOGRAM for PLUO ANALYSIS



Data File I6256.UD
Name: 850328 RN On 1
Misc Data 0020540

FIL# 2

301269

QUANT REPORT

Operator ID: KB5414 Quant Rev: 3 Quant Time: 850328 23:43
Injected at: 850328 22:55
Data File: >I6256::U1 Dilution Factor: 1.00
Name: 850328 BN ON I
Misc: QC28548 BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850328 22:15

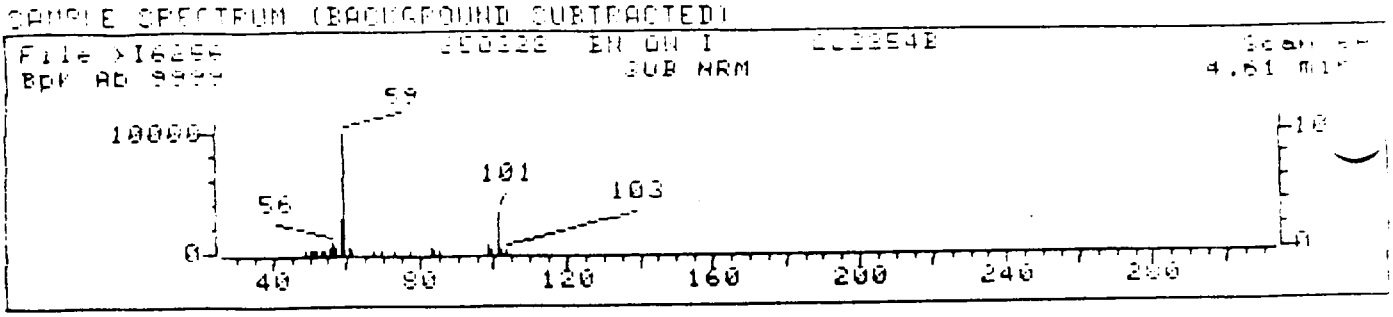
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	276	131108	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	363	215845	37.87	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	276	6712	7.52	UG/ML
8)	bis(2-Chloroisopropyl)ether	9.48	363	631	.71	UG/ML
9)	*d8-Naphthalene	11.52	478	518404	40.00	UG/ML
10)	2-Fluorobiphenyl	14.96	672	323002	37.92	UG/ML
19)	*d10-Acenaphthalene	17.03	789	243091	40.00	UG/ML
22)	Dimethyl phthalate	17.03	789	44364	5.37	UG/ML
32)	*d10-Phenanthrene	21.64	1049	367651	40.00	UG/ML
37)	Di-n-butyl phthalate	23.71	1166	5056	.48	UG/ML
39)	Benzidine	26.76	1338	2450	6.77	UG/ML
47)	*d12-Chrysene	30.08	1525	141008	40.00	UG/ML
59)	Terphenyl-D14	26.76	1339	216095	27.04	UG/ML
63)	3,3'-Dichlorobenzidine	30.01	1521	1179	1.44	UG/ML
65)	Di-n-octyl phthalate	32.16	1642	1965	.38	UG/ML
66)	Benzo(b)fluoroanthene	33.53	1719	8410	2.54	UG/ML
66)	Benzo(b)fluoroanthene	33.62	1724	8549	2.58	UG/ML
67)	Benzo(k)fluoranthene	33.53	1719	8410	2.72	UG/ML
67)	Benzo(k)fluoranthene	33.62	1724	8549	2.77	UG/ML
68)	Benzo(a)pyrene	34.83	1792	9898	3.35	UG/ML
70)	Dibenzo(a,h)anthracene	40.76	2125	4269	1.55	UG/ML

* Compound is ISTD

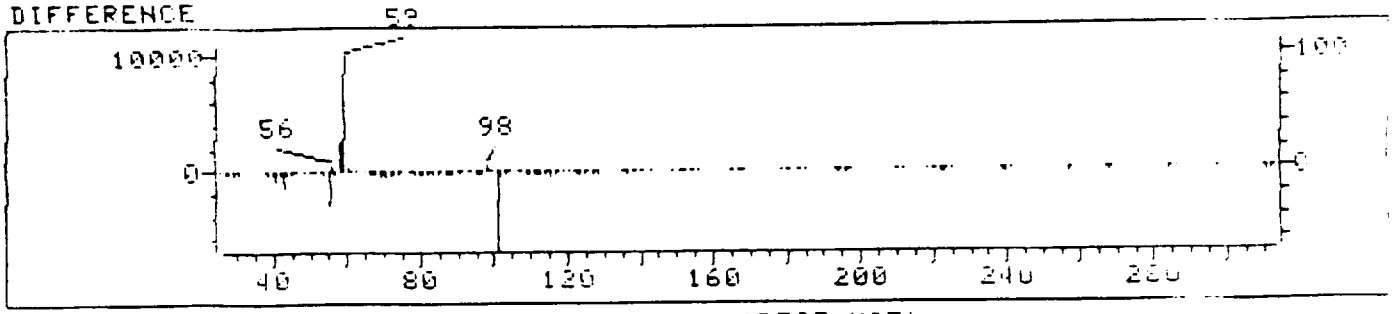
PCB ND

301270

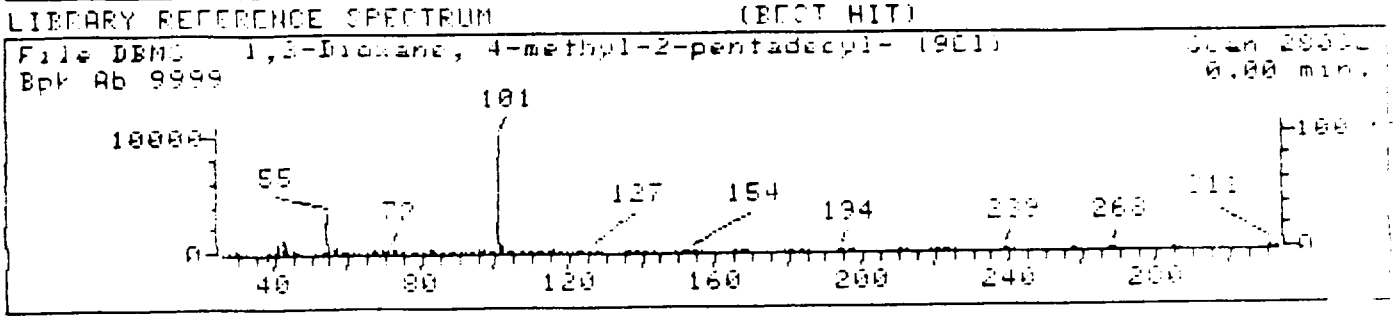
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6256.
Name: 850328 BN ON I
Misc Data: 002354B
RT (min): 4.61
Scan: 80
Area: 39997.
Semi-quantitative Conc: 14.44 UG/ML

BTL#

Data File: >I6256 Scan Number: 80
Search Speed: 2 Titling option: 5 Number of ion ranges searched:

1. 1,3-Dioxane, 4-methyl-2-pentadecyl- (9CI) 312 C20H40O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	28	54250571	37	81	0	-2

TP102

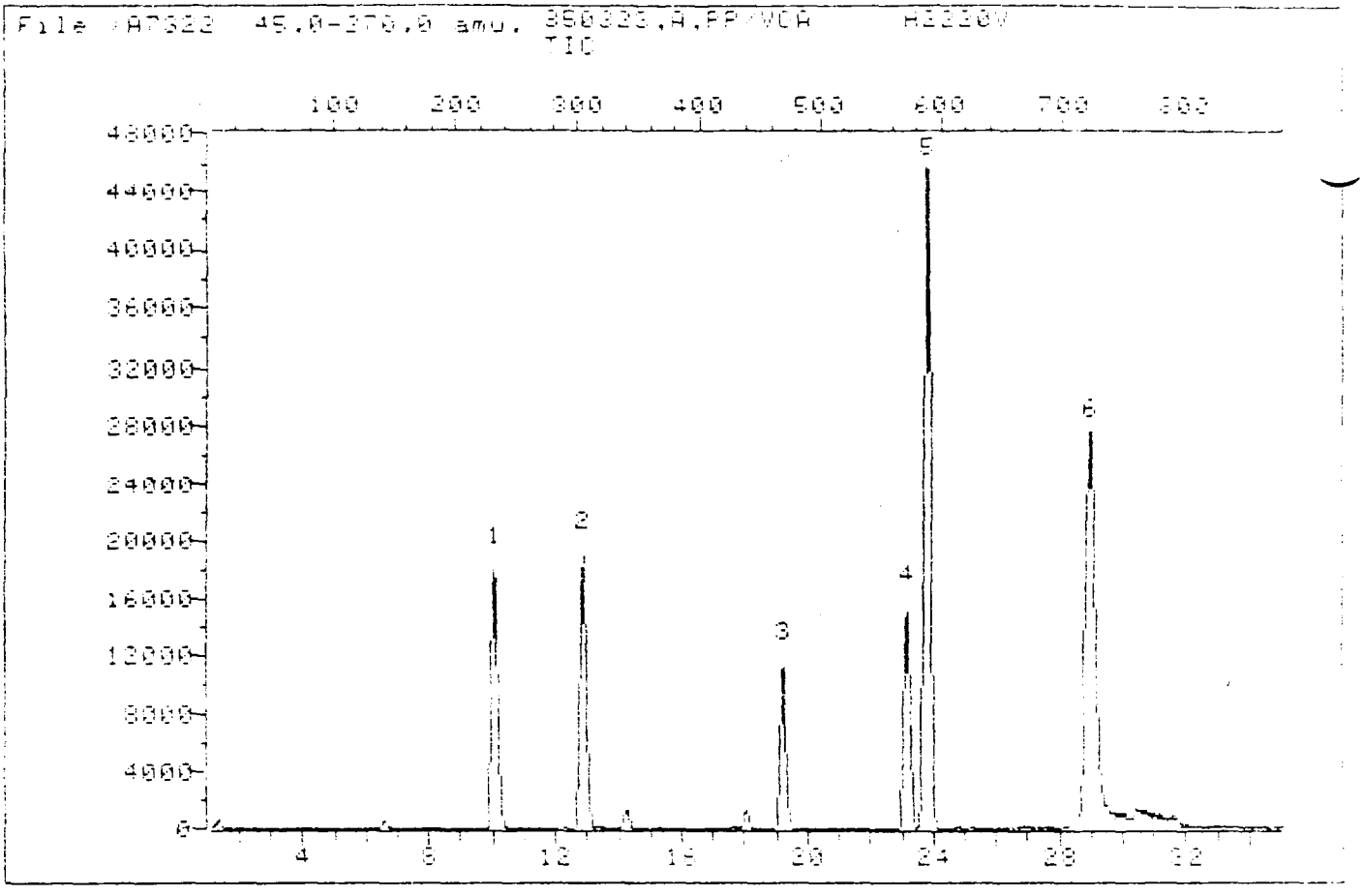
301271

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 FLUID ANALYSIS

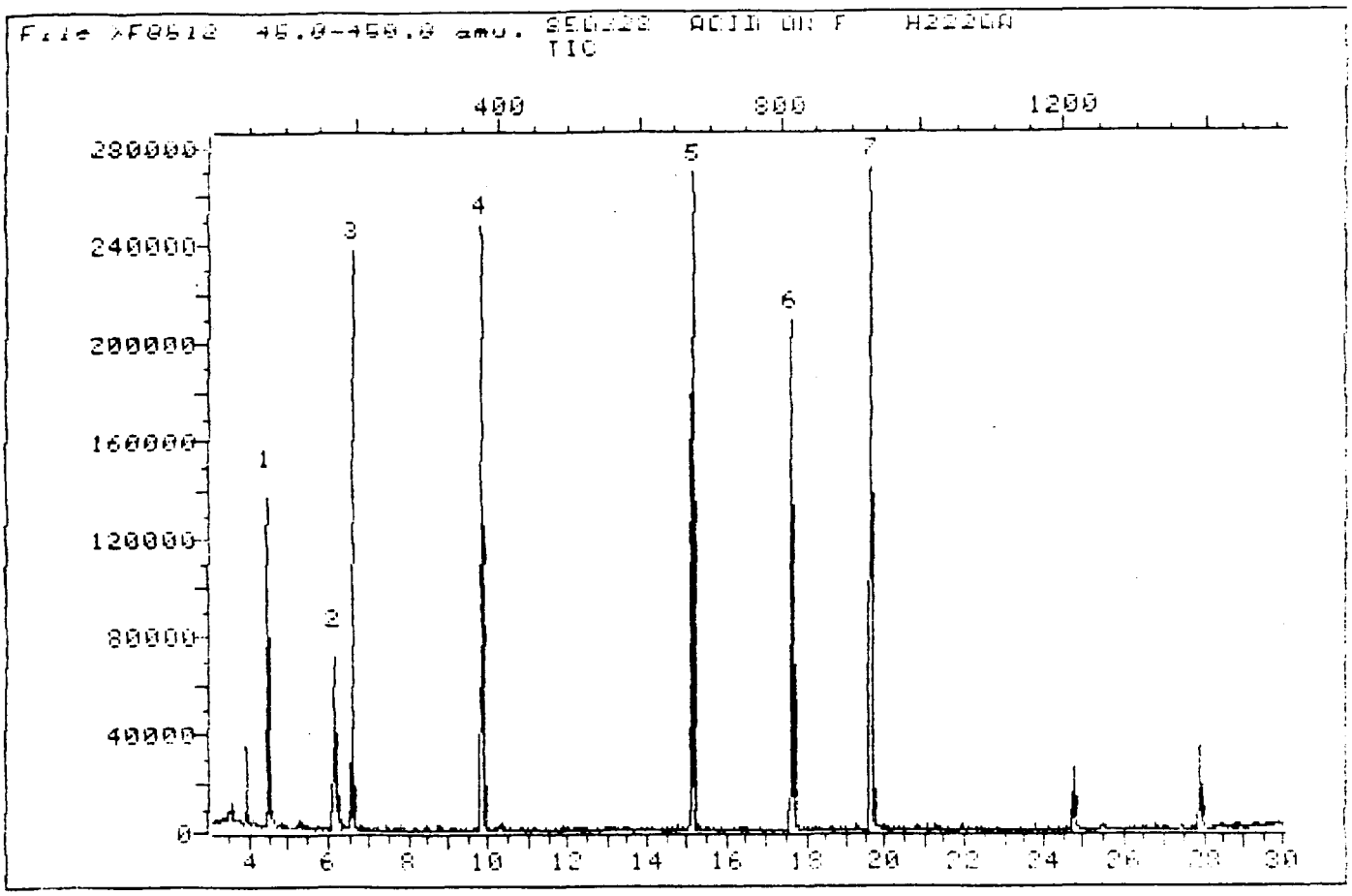


Data File: >A7322:UZ
Name: 950323 A PP/UIA
Misc Data: /22240

SML

301273

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

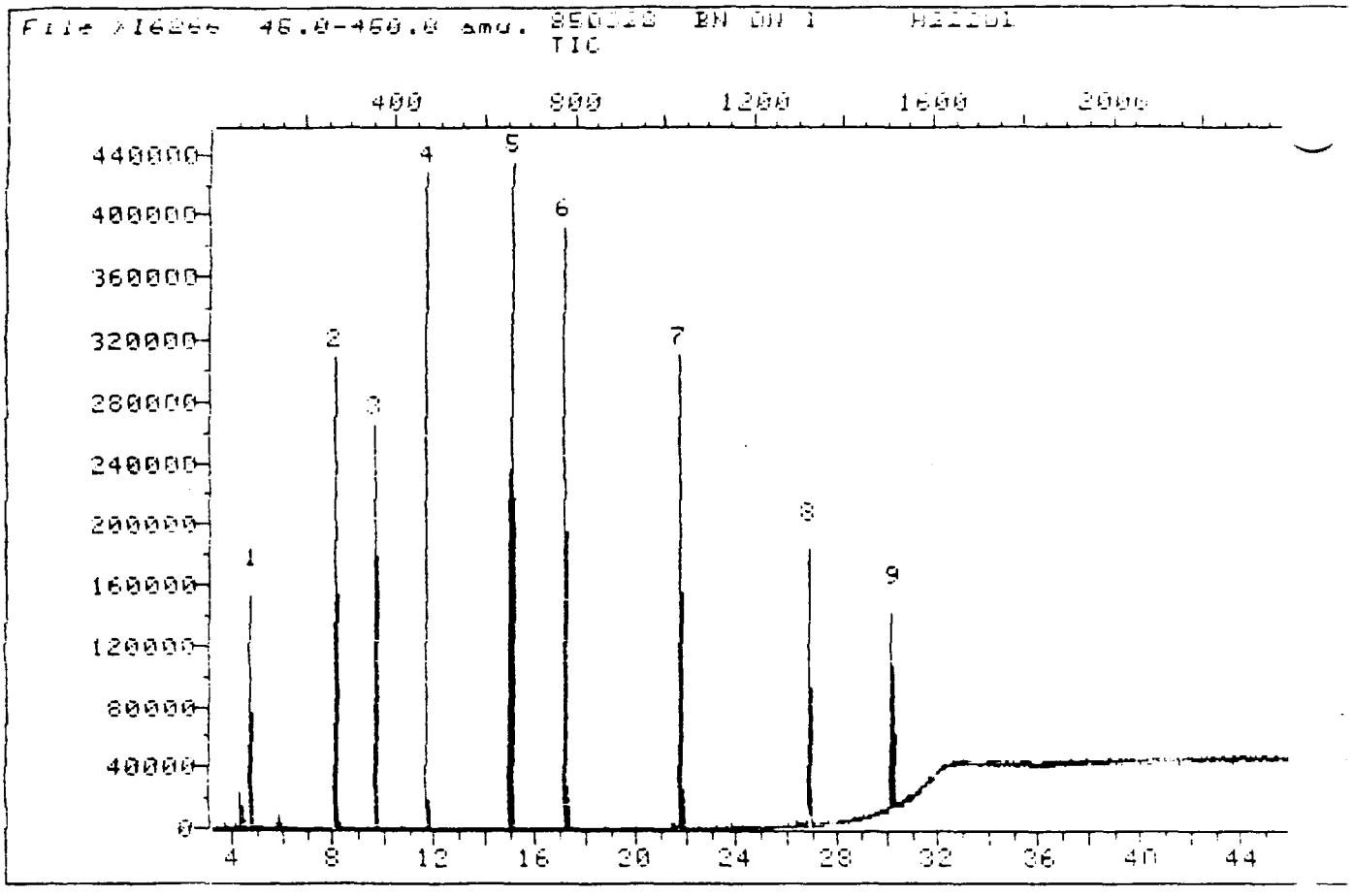


Data File: >F0512.:US
Name: 950328 ACID ON F
Misc Data: H222LA

RTL#13

301274

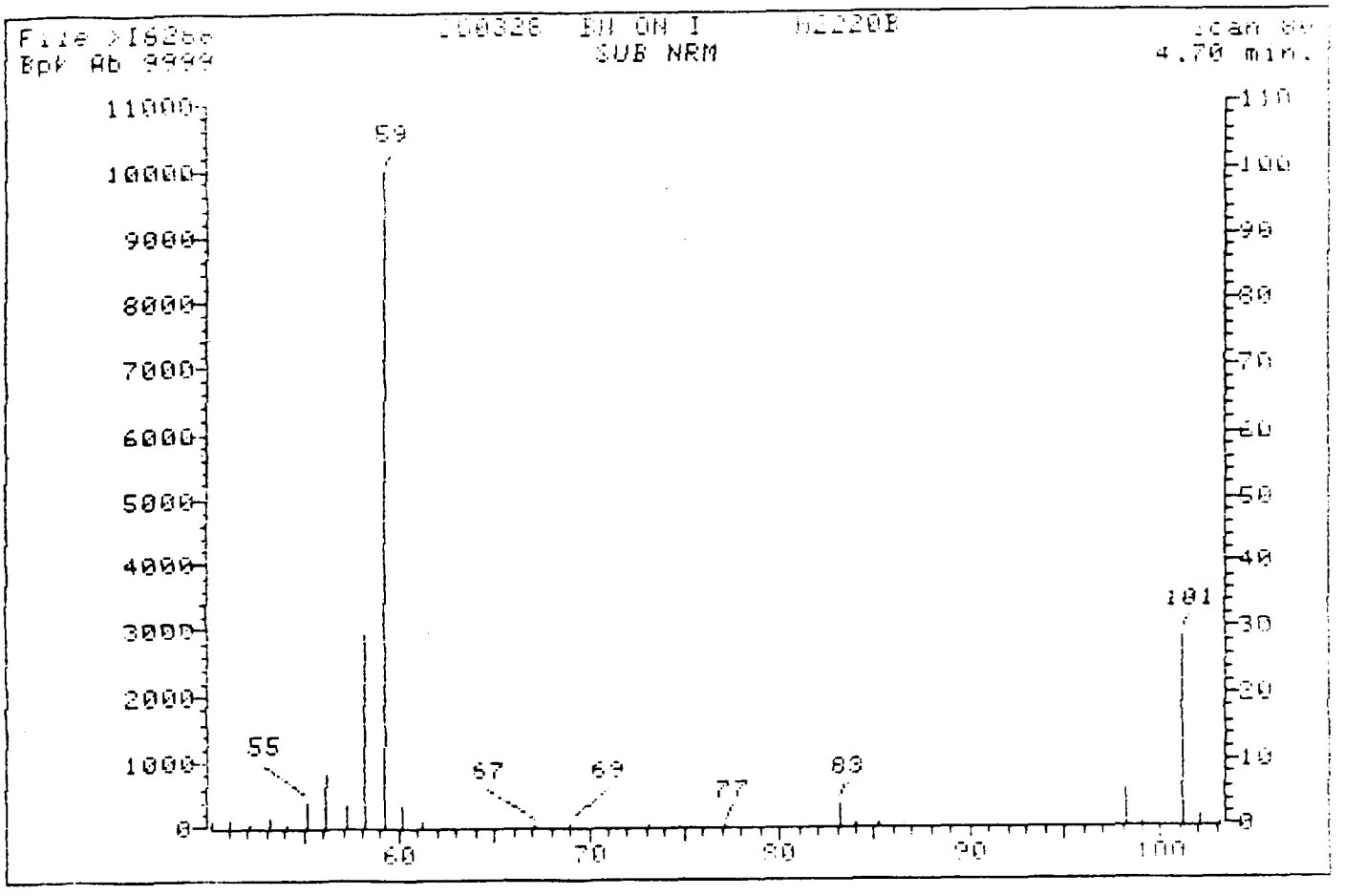
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >I6266::U2
Name: 850328 BN ON 1
Misc Data: H2220B

BTL#17

301275



Data File: >I6266::U2
Name: 850328 BN ON I
Misc Data: H2220B
RT (min): 4.70
Scan 80
Area 350475
Semi-quantitative Conc: 14.52 UG/ML

RTL#17

No PBM hits for this scan.

301276

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.

IVIRONMENTAL
STING and CERTIFICATION

Subcontracted Analytical Results 301278

REV. 1

ETC Job # 421310

5253-B8

by: HW CHAN

4/9/85

Facility: ___ (Facility Code) Sample Point: ___ – ___ (Source Code / Sample Point ID)

Date Sampled: ___ (Y Y M M D D) Time Sampled: ___ (H H : M M)

	Parameter	Table	Units Of Measure	Value	MDL	Comments
	ENTIONALS					
	Chloride	QR 10	mg/l			
	Fluoride	QR 10	mg/l			
	Nitrate as N	QR 10	mg/l			
	Sulfate as SO4	QR 10	mg/l			
	Phenolics, Total	QR 10	mg/l	<0.01	0.01	
	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			
	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			
3	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			
	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	0.5		
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. 028529 ETC Job # H2220

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

15

Facility: GAMBLE SOUT | DOWNSTREAM 100 YDS. BLACK R.

Sample Point: R - STATION 5 | 03/21/85 | 1518 | | |

(Facility/Site Code) (Optional Sample Point Descriptions)

Source Code (from below) | Your Sample Point ID (left justify) | 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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Fill (Y/N)	Observations	Observations
3	E	1L	baked	Extractables	N	OK	
1	M	1L	HNO3	Metals	N	OK	
1	CN	500ml	NaOH	Cyanides	N	OK	
1	PN	1L	H2SO4	Phenols	N	OK	
2	V	40ml	Sod-Thio.	VOA	N	OK	
1	TR	40ml	SC/MS H2O	→ Pip beaut	N	OK	

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) S. BORGIANNI Date: 3/21/85 Time: 1510
   Signature: Signature illegible Seal #: 028529 Intact: Y

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: 053 Signature: 301280
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) S BORGIANINI Date: 3/21/85 Time: 1534
   Signature: Signature illegible Seal #: 028530 Intact: Y

ETC USE ONLY Opened By: Signature illegible Date: 3-22-85 Time: 8:00a

Seal #: 28530 Condition: ok

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2220

Sample Point LA (Source Code) STATION 5 (Sample Point ID)

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

Sampler Type [ ] 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. umv/cm at 25° C	(other parameter)	value	units
2nd	pH (STD)	2nd	spec. cond. umv/cm at 25°C	(other parameter)	value	units
3rd	pH (STD)	3rd	spec. cond. umv/cm at 25°C	(other parameter)	value	units
4th	pH (STD)	4th	spec. cond. umv/cm at 25°C	(other parameter)	value	units

Sample Temp (°C) | Turbidity NTU

FIELD COMMENTS

Sample Appearance: _____

Weather Conditions: _____

Other: _____

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

Sampler: S. BORGIANINI (Print) Employer: NJDEP

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

3/15/85 (Date) _____ (Signature)

054

301281

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. 28525 ETC Job # H2218

Date Sealed 3-20-85 By: Quad

Company: NJDEP

Facility/Site: Trenton, NJ

Address: 08625

Attn.: Joe Buttich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: [Facility/Site Code] [Optional Sample Point Descriptions]

Sample Point: [Source Code (from below)] - [Your Sample Point ID (left justify)] [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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Fill (Y/N)	Observations	Observations
3	E	1L	baked	Extractables			All rec'd Empty
1	M	1L	HNO3	Metals			
1	CN	500ml	NaOH	Cyanides			
1	PN	1L	H2SO4	Phenols			
2	V	40ml	Sod-thio.	VOA			
1	TB	40ml	GC/MS H2O	→ Trip blank			

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) _____ Date: _____ Time: _____
   Signature: _____ Seal #: _____ Intact: _____

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. 301282
   Name: _____ Signature: _____
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) _____ Date: _____ Time: _____
   Signature: _____ Seal #: _____ Intact: _____

ETC USE ONLY Opened By: Jason Date: 3-22-85 Time: 8:00 am

Seal #: 28525 Condition: ok

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # 14218

Sample Point [ ] (Source Code) [ ] (Sample Point ID)

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) [ ] Well Depth (ft) [ ]

Depth to Ground water (ft) [ ] Sample Depth (non-well) (ft) [ ]

Groundwater Elevation (ft msl) [ ]

	pH		umhos/cm at 25° C		(other parameter)	value	units
1st	[ ]	(STD)	[ ]		[ ]	[ ]	[ ]
2nd	[ ]	(STD)	[ ]		[ ]	[ ]	[ ]
3rd	[ ]	(STD)	[ ]		[ ]	[ ]	[ ]
4th	[ ]	(STD)	[ ]		[ ]	[ ]	[ ]

Sample Temp [ ] (°C) Turbidity [ ] NTU

FIELD COMMENTS

Sample Appearance: _____

Weather Conditions: _____

Other: _____

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

Sampler: _____ (Print) Employer: _____

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

(Date) (Signature)

056

301283

ETC/CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mark Jacobs

3:15PM 3.22.85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2205, H2206 H2213 to H2216 H2219 H2220 H2217

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

301284

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	057 Time/Date	Time/Date

301285

GC-MS ANALYSIS CUSTODY LOG

DATE 850323 SHIFT ___
FRACTION VOA
INSTRUMENT A
TUNE FILE APEI01
SEQUENCE FILE IM
METHOD FILE VOA
IDFILE AVOA
ANALYST(S) T Mancuso

SUPERVISOR M Donley
BATCH #'s QV3033

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
P-BFB	50	9605	1
ISTD	40	9,10	5
SURR	25	9577	10
ABC	18	10,221	5

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
P-BFB	>A7303	1			A00106	0810hrs >173	
QC3033V	>A7304	5ml	1				Y
QC3033VS	>A7305		2			Sul ABC Something ABC	
QC3033VS	>A7306		4			10	
QC3033VS	>A7307		5			30 Blow out Tube	
QC3033VS	>A7308		3			5	
QC3033VS	>A7309		6			30	
QC3033VS	>A7310		1			5 154 hrs	
H2205VS	>A7311		1				
H2205V	>A7312		2				Y
H2206V	>A7313		3				Y
H2206VR	>A7314		4				
P-BFB	>A7315	1				2000hrs 3173	
QC3033VS	>A7316					Sul ABC	
H2213V	>A7317						
H2214V	>A7318						
H2215V	>A7319						
H2216V	>A7320						
H2219V	>A7321						
H2220VE	>A7322						
G9862V	>A7323					composite Kuma 1:10	
H0875V	>A7324						
H0876V	>A7325						
H0877V	>A7326						
H0887V	>A7327						

MS ANALYSIS CUSTODY LOG

301286

850324 SHIFT
TION VOA
TRUMENT A
E FILE AFSIG1
UENCE FILE JOA
HOD FILE VOAA
ILE AVOA
LYST(S)
ERVISOR
CH #'s

(PLEASE INITIAL)

CURRENT MS STATUS	STANDARDS UPDATED	
	DATE	
	BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
STD	40	9140	5
SURR	25	8977	10

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
H3R88V	2A7328	5ul			A-106		
G98G2V	2A7329	1		1:10		Composite OC 1124	

TSR 8-84

EXTRACTION LOG

QC Batch # 2854

Analysis: PP/T
PP/ORG/PST/PCB
PP/ACID (REPEATS)

Matrix: H_2O

Turnaround: NORM

Date: 3/27/85

Extraction Method:
sep funnel ✓
continuous
soxhlet
other

Sample Number	Log Date	Sample Vol (ml)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2213	8683	1000	1.0	1.0	
H2214	"	960	1.0	1.0	
H2215	"	970	1.0	1.0	
H2216	"	950	1.0	1.0	
H2217	"	930	1.0	1.0	
H2219	"	930	1.0	1.0	
H2220	↓	970	1.0	1.0	
G9863	8696	810	1.0	1.0	
H1813	8698	980	1.0	1.0	
G8913	8383	1000		1.0	
G9222	8411	1000		1.0	
G9224	↓	1000		1.0	
G5914	8437	950		1.0	
QC 2854		1000	1.0	1.0	
QC 2854 S		1000	1.0	1.0	
H2213 S		970	1.0	1.0	
H2217 R		930	1.0	1.0	

COMMENTS FOR EXTRACT.:
PP/T: H2213 – 17, 19, 20
H1813
PP/ORG/PST/PCB: G9863
PP/ACID (REPEAT): G8913, G9222, 24, G5914

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

301287

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Arochlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml ACID: 100 ug/ml	10,195

Set-up: Susan Arrowsmith 3/27/85 UPD/Supervisor: Karen Allenton 3/27/85

GC-MS ANALYSIS CUSTODY LOG

301288

ATE 3/28/85 SHIFT —
RACTION ACIDS
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE PK
METHOD FILE ACIDP
IDFILE EACID
ANALYST(S) R. TAMURA
SUPERVISOR
BATCH #'s QA3854, QA2855

STANDARD	CONC PPM	LOT NO.	LOT VOL
Acid Calib Std III	300	9511	
II	100	9962	
I	60	9509	
Acid	4000	9053	100
DFTPP	25	9534	2

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ	BT	DATE	K&B
WIP		BY	3/28/85

U4, U5, U6 09/02.

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DFTPP	F8488				I00160		
Acid Calib Std. III	F8489		1				
II	F8490		2				
I	F8491		3				
QC 2854A	F8492		4			Aborted. Batch at 8:00pm not used rewritten	Y
QC 2854AS	F8493		2 5				
H2213AS	F8494		3 6				
H2213A	F8495		4 7				Y
H2214A	F8496		5 8				
H2215A	F8497		6 9				
H2216A	F8498		7 10				
H2217A	F8499		8 11				↓
H2217AR	F8500		9 12				
H2219A	F8501		10 13				Y
H2220A	F8502		11 14				Y
G9863A	F8503		12 15				
H1813A	F8504		13 16				
G8913A	F8505		14 17				
G9222A	F8506		15 18				
G9224A	F8507		16 19				
G5914A	F8508		17 20				
H0867A	F8509		18 21	1:10		For QC 2852	
DFTPP	F8510		19 22				
Acid Calib Std II	F8511		20 23				

TSR 8-84

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GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION ACIDS
INSTRUMENT "E"
TUNE FILE MTF00)
SEQUENCE FILE EBB/KEBF
METHOD FILE ACIDF
IDFILE AACID
ANALYST(S) KE Bonguet
SUPERVISOR [signature]
BATCH #'s ___

(PLEASE INITIAL)

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
AC10 CAL II	F8492						
AC10 CAL I	F8493						
H2213AS	F8500		1				
DC2854AS	F8501		2				
QC2854A	F8502		3				
H2213A	F8503		4				
H2214A	F8504		5				
H2215A	F8505		6				
H2216A	F8506		7				
H2217A	F8507		8				
DFTPP	F8508		9				
AC10 CAL II	F8509		10				
H2217AR	F8510		11				
H2219A	F8511		12				
H2220A	F8512		13				
G9863A	F8513		14				
H1813A	F8514		15		6898	F8515-15	
G9222A	F8516		17				
G9224A	F8517		18				
G5914A	F8518		19		0-2		
H0867A	F8519		20	10:1		QB2852	
QC2855AS	F8520		20				

TSR 8-84

30190

301290

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28-29/85 SHIFT
FRACTION ACID
INSTRUMENT "F"
TUNE FILE MTF001
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) K.S. Bmarty
SUPERVISOR [signature]
BATCH #'s

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
Page 3			

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
GS229AS	F8521		22				
QB2855A	F8522		23				Y
GS228A	F8523		24				|
GS229A	F8524		25				|
GS231A	F8525		26				Y
GS231AR	F8526		27				
GS232A	F8527		28				Y
DPTPP	F8528		29				
ACID CAL II	F8529		30				
GS233A	F8530		31				Y
GS234A	F8531		32				|
GS235A	F8532		33				Y
H0737A	F8533		34				
H0293A	F8534		35				
G8937A	F8535		36				

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°S16C

301291

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ___
FRACTION BNP
INSTRUMENT I
TUNE FILE MTI00!
SEQUENCE FILE KEBI
METHOD FILE BNPI
IOFILE IBNP
ANALYST(S) K&B
SUPERVISOR
BATCH #'s QB2854
QB2855

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
DFTPP	25	9534	2 ml
BN CAL IV	150	10194	1 ml
III	200	9961	1
II	100	10193	1
I	60	10192	1 ml
INT STD MIX	400	9653	100 ul

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
DFTPP	I6245						
BN CAL III	I6250		1				
BN CAL III	I6251		2				
BN CAL I	I6252		3				
BN CAL II	I6253		4				
H223 BS	I6254		5		088 AS		
QC2854BS	I6255		6		T		
QC2854B	I6256		7		U		
H2217B2	I6257		8		V		
DFTPP	I6258		9				
BN CAL II	I6259		10				
H2213B	I6260		11		W		
H2214B	I6261		12		X		
H2215B	I6262		13		Y		
H2216B	I6263		14		Z		
H2217B	I6264		15		BA		
H2219B	I6265		16		B		
H2220B	I6266		17		C		
G9863B	I6267		18		D		
H1813B	I6268		19		E		
G5229BS	I6269		20				
QC2855BS	I6270		21				
DFTPP	I6271		22		044		
BN CAL II	I6272		23				
QC2855B	I6273		24				

GC-MS ANALYSIS CUSTODY LOG

DATE 3/28/85 SHIFT ____
FRACTION BN
INSTRUMENT I
TUNE FILE MI001
SEQUENCE FILE ____
METHOD FILE ____
IDFILE ____
ANALYST(S) K.S. Bryant
SUPERVISOR [signature]
BATCH #'s ____

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

Page 2

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
65231BR	I6274		25				
65228B	I6275		26				Y
65229B	I6276		27				Y
65231B	I6277		28				|
65232B	I6278		29				|
65233B	I6279		30				|
65234B	I6280		31				↓
65235B	I6281		32				Y
42853B	I6282		33				
H0293B	I6283		34				
H0737B	I6284		35				

0515
065

ETC TESTING and CERTIFICATION

LL8683

Metals Analysis Custody Log

Samples H2205, H2206, H2213 TO H2217
H2219, H2220

	Chemist	Date
Hg Prep	Douglas L Lilfield	4/8/05
AA/ICAP Prep	Teresa Ann McElwee	4/8/05

Lab Supervisor Lidya Wikiarek date 4/12/05

301293

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyun

ETC Sample Number(s)
H2205 H2206 H2216
H2214 H2215 H2213
H2219 H2220 H2217

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: 4/2/85
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 Hamilton 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

X-029

Sample(s) Relinquished by: M. Jaehn
Date 3-22-85 Time 3:15 PM
Sample(s) Received by: Mark Kelly
Date 3/22/85 Time 315

301294

Technical Report

for

NJ DEP

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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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Based on October, 1984 version of
ETC Standard Operating Procedures

NJDEP Contract 029

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Hexavalent Chromium Sample Preparation	AA-005-1

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Flame AA or ICP

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Cadmium	IM-1-005
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2,3,7,8-TCDD by GC/MS	GC/MS-1-003

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

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301298

H2221

COMMENTS

Acids: Low recoveries also appear in matrix spike, for which this sample was used Total Ion Chromatogram and quant report for matrix spike are included. This confirms low surrogate recoveries due to sample matrix interference.

301299

301299

ETC ENVIRONMENTAL TESTING and CERTIFICATION

...R 4, 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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

301300

NPDES Number	Compound (Acrolein and Acrylonitrile values are screen only.)	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	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1V	Acrolein	ND	100	ND	ND	ND	800	157[B]	ND	800	58[B]
2V	Acrylonitrile	ND	100	ND	ND	ND	80	105	ND	80	94
3V	Benzene	ND	4.40	ND	ND	ND	18	117	ND	18	114
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	85
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	117	ND	18	124
7V	Chlorobenzene	ND	6	ND	ND	ND	18	109	ND	18	102
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	111	ND	18	99
9V	Chloroethane	ND	10	ND	ND	ND	18	101	ND	18	97
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	106	ND	18	117
11V	Chloroform	ND	1.60	ND	ND	ND	18	118	ND	18	117
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	112	ND	18	106
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	130	ND	20	104
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	116	ND	18	117
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	114	ND	18	107
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	117	ND	18	125
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	114	ND	18	109
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	110	ND	18	98
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	115	ND	18	109
20V	Methyl bromide	ND	10	ND	ND	ND	18	89	ND	18	146[C]
21V	Methyl chloride	ND	10	ND	ND	ND	18	89	ND	18	124
22V	Methylene chloride	22.60	2.80	5	8	3	18	67	23	18	43[C]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	100	ND	18	84
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	111	ND	18	113
25V	Toluene	ND	6	ND	ND	ND	18	108	ND	18	111
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	118	ND	18	121
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	104	ND	18	113
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	111	ND	18	100
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	115	ND	18	113
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	116	ND	18	126
31V	Vinyl chloride	ND	10	ND	ND	ND	18	127	ND	18	82
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	118	ND	18	106

A EPA published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 624.

C Recovery variable due to sample matrix interference.

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

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 10, 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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

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	60	ND	ND	ND	0	-	ND	1991	6
2A	2,4-Dichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	8
3A	2,4-Dimethylphenol	ND	60	ND	ND	ND	0	-	ND	1991	2
4A	4,6-Dinitro-o-cresol	ND	480	ND	ND	ND	0	-	ND	1991	0
5A	2,4-Dinitrophenol	ND	840	ND	ND	ND	0	-	ND	1991	0
6A	2-Nitrophenol	ND	80	ND	ND	ND	0	-	ND	1991	18
7A	4-Nitrophenol	ND	40	ND	ND	ND	0	-	ND	1991	13
8A	p-Chloro-m-cresol	ND	60	ND	ND	ND	0	-	ND	1991	5
9A	Pentachlorophenol	ND	80	ND	ND	ND	0	-	ND	1991	14
10A	Phenol	ND	40	ND	ND	ND	0	-	ND	1991	2
11A	2,4,6-Trichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	11

A ETC established Method Detection Limit for this particular sample.

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

301301

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1B	Acenaphthene	ND	38	ND	ND	ND	0	-	ND	1991	75
2B	Acenaphthylene	ND	70	ND	ND	ND	0	-	ND	1991	72
3B	Anthracene	ND	40	ND	ND	ND	0	-	ND	1991	78
4B	Benzidine	ND	44	ND	ND	ND	0	-	ND	1991	18
5B	Benzo(a)anthracene	ND	160	ND	ND	ND	0	-	ND	1991	76
6B	Benzo(a)pyrene	ND	60	ND	ND	ND	0	-	ND	1991	81
7B	Benzo(b)fluoroanthene	ND	96	ND	ND	ND	0	-	ND	1991	76
8B	Benzo(ghi)perylene	ND	82	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	50	ND	ND	ND	0	-	ND	1991	77
10B	bis(2-Chloroethoxy)methane	ND	106	ND	ND	ND	0	-	ND	1991	81
11B	bis(2-Chloroethyl) ether	ND	114	ND	ND	ND	0	-	ND	1991	54
12B	bis(2-Chloroisopropyl)ether	ND	120	ND	ND	ND	0	-	ND	1991	30
13B	bis(2-Ethylhexyl)phthalate	ND	10	ND	ND	ND	0	-	ND	1991	77
14B	4-Bromophenyl phenyl ether	ND	38	ND	ND	ND	0	-	ND	1991	79
15B	Butyl benzyl phthalate	ND	10	ND	ND	ND	0	-	ND	1991	9
16B	2-Chloronaphthalene	ND	38	ND	ND	ND	0	-	ND	1991	63
17B	4-Chlorophenyl phenyl ether	ND	84	ND	ND	ND	0	-	ND	1991	81
18B	Chrysene	ND	60	ND	ND	ND	0	-	ND	1991	86
19B	Dibenzo(a,h)anthracene	ND	50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	18
21B	1,3-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	16
22B	1,4-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	16
23B	3,3'-Dichlorobenzidine	ND	330	ND	ND	ND	0	-	ND	1991	71
24B	Diethyl phthalate	ND	200	ND	ND	27	0	-	ND	1991	1
25B	Dimethyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	1
26B	Di-n-butyl phthalate	ND	200	ND	ND	29	0	-	ND	1991	17
27B	2,4-Dinitrotoluene	ND	114	ND	ND	ND	0	-	ND	1991	13
28B	2,6-Dinitrotoluene	ND	38	ND	ND	ND	0	-	ND	1991	30
29B	Di-n-octyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	47
30B	1,2-Diphenylhydrazine	ND	200	ND	ND	ND	0	-	ND	1991	78
31B	Fluoranthene	BMDL	44	ND	ND	ND	0	-	27	1991	91
32B	Fluorene	ND	38	ND	ND	ND	0	-	ND	1991	78

301302

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

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	38	ND	ND	ND	0	-	ND	1991	79
34B	Hexachlorobutadiene	ND	18	ND	ND	ND	0	-	ND	1991	34
35B	Hexachlorocyclopentadiene	ND	200	ND	ND	ND	0	-	ND	1991	-
36B	Hexachloroethane	ND	32	ND	ND	ND	0	-	ND	1991	6[D]
37B	Indeno(1,2,3-c,d)pyrene	ND	74	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	44	ND	ND	ND	0	-	ND	1991	82
39B	Naphthalene	ND	32	ND	ND	ND	0	-	ND	1991	35
40B	Nitrobenzene	ND	38	ND	ND	ND	0	-	ND	1991	40
41B	N-Nitrosodimethylamine	ND	200	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	200	ND	ND	ND	0	-	ND	1991	79
43B	N-Nitrosodiphenylamine	ND	38	ND	ND	ND	0	-	ND	1991	80
44B	Phenanthrene	ND	100	ND	ND	ND	0	-	ND	1991	84
45B	Pyrene	BMDL	38	12	22	ND	0	-	24	1991	0[D]
46B	1,2,4-Trichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	78

A ETC established Method Detection Limit for this particular sample.

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

C Recovery normally low using EPA Protocol Method 625.

D Recovery low due to sample matrix interference.

301903

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

301304

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

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 [c]
1P	Aldrin	ND	38	ND	ND	ND	0	-	ND	1991	75
2P	Alpha-BHC	ND	200	ND	ND	ND	0	-	ND	1991	4
3P	Beta-BHC	ND	84	ND	ND	ND	0	-	ND	1991	0
4P	Gamma-BHC	ND	200	ND	ND	ND	0	-	ND	1991	47
5P	Delta-BHC	ND	62	ND	ND	ND	0	-	ND	1991	0
6P	Chlordane	ND	200	ND	ND	ND	0	-	ND	3982	85
7P	4,4'-DDT	ND	94	ND	ND	ND	0	-	ND	1991	10
8P	4,4'-DDE	ND	112	ND	ND	ND	0	-	ND	1991	152
9P	4,4'-DDD	ND	56	ND	ND	ND	0	-	ND	1991	31
10P	Dieldrin	ND	50	ND	ND	ND	0	-	ND	1991	85
11P	Endosulfan I	ND	200	ND	ND	ND	0	-	ND	1991	4
12P	Endosulfan II	ND	200	ND	ND	ND	0	-	ND	1991	28
13P	Endosulfan sulfate	ND	112	ND	ND	ND	0	-	ND	1991	0
14P	Endrin	ND	200	ND	ND	ND	0	-	ND	1991	79
15P	Endrin aldehyde	ND	200	ND	ND	ND	0	-	ND	1991	22
16P	Heptachlor	ND	38	ND	ND	ND	0	-	ND	1991	71
17P	Heptachlor epoxide	ND	44	ND	ND	ND	0	-	ND	1991	89
18P	PCB-1242	ND	720	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	720	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	600	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	720	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	720	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	720	ND	ND	ND	0	-	ND	1991	71
24P	PCB-1016	ND	720	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	200	ND	ND	ND	0	-	ND	0	-

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.

301304

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

NPDES Number	Compound	Results: Sample Concen. ug/kg	Results: MDL ug/kg								
1M	Antimony	10000	8000								
2M	Arsenic	BMDL	1000								
3M	Beryllium	600	100								
4M	Cadmium	BMDL	300								
5M	Chromium	18000	2000								
6M	Copper	30000	1000								
7M	Lead	28000	500								
8M	Mercury	ND	200								
9M	Nickel	10000	2000								
10M	Selenium	ND	600								
11M	Silver	ND	500								
12M	Thallium	ND	500								
13M	Zinc	60000	2000								
14M	Cyanide, Total	<500	500								
15M	Phenolics, Total	<100	100								

301305

ET ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

301306

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

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

301306

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 11, 1985

TABLE 1: QUALITATIVE RESULTS

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

301307

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2221	NJ DEP	NJDCOMBES0	WSTATION 1	850321	1640	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 2-butyl-1,1-dimethyl-hydrazine	30	3.6	116	54007237	$C_6H_{16}N_2$	3540		
2 2-methyl-2-butenoic acid	110	5.0	100	13201462	$C_6H_{12}O$	376		
3 Unknown	230	7.1	-	-	-	757		
4 Unknown	423	10.6	-	-	-	773		
5 Unknown	514	12.2	-	-	-	1280		
6 Pentadecanoic acid	718	15.8	242	1002842	$C_{15}H_{30}O_2$	1910		
7 Tetradecanoic acid	873	18.6	228	544638	$C_{14}H_{28}O_2$	414		
8 9-Hexadecenoic acid	1007	21.0	254	2091294	$C_{16}H_{30}O_2$	1540		
9 Hexadecanoic acid	1019	21.2	256	57103	$C_{16}H_{32}O_2$	707		

301307

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 11, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

	Compound Name	Data: Scan Number	Data: Retention Time (Min)	Data: M.W.	Identifiers: CAS Number	Identifiers: Empirical Formula	Estimated Concen. ug/kg		
1	4,4-dimethyl-2-Pentene	78	3.9	98	26232984	C_7H_{14}	723		
2	Unknown	122	4.7	-	-	-	28300		
3	pentylcyclopropane	361	8.9	112	2511913	C_8H_{16}	489		
4	Unknown	801	16.7	-	-	-	469		
5	Unknown	948	19.4	-	-	-	488		
6	Unknown	1075	21.6	-	-	-	434		
7	Unknown	1190	23.7	-	-	-	429		
8	Unknown	1294	25.5	-	-	-	449		
9	Unknown	1388	27.2	-	-	-	592		
10	Unknown	1476	28.7	-	-	-	712		
11	Unknown	1558	30.2	-	-	-	877		
12	Unknown	1634	31.6	-	-	-	1020		
13	Unknown	1710	32.9	-	-	-	719		
14	Unknown	1800	34.5	-	-	-	575		
15	Unknown	1912	36.5	-	-	-	504		

301308

Relative Percent Difference (RPD) for VOA

H2221 NJ DEP — Job Number / Account Name
NJDCOMBESO WSTATION 1 — Facility / Source
850321 1640 — Date / Time

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	5	8	46
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

301309

Relative Percent Differe((RPD) for ACID

H2221 NJ DEP — Job Number / Account Name
NJDCOMBESO WSTATION 1 — Facility / Source
850321 1640 — Date / Time

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

301310

Relative Percent Difference (RPD) for B/N

H2221 NJ DEP — Job Number / Account Name
NJDCOMBESO WSTATION 1 — Facility Source
850321 1640 — Date Time

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

301311

N-Nitrosodiphenylamine	ND	ND	0
Phenanthrene	ND	ND	0
Pyrene	12	22	59
1,2,4-Trichlorobenzene	ND	ND	0

Relative Percent Difference (RPD) for PEST

H2221 NJ DEP — Job Number / Account Name
NJDCOMBESO WSTATION 1 — Facility / Source
850321 1640 — Date / Time

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

Parameter	REP 1 ug/kg	REP 2 ug/kg	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

April 12, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Soil- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2221

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	120	50	160
Bromofluorobenzene	.250	109	50	160
1,2-Dichloroethane-D4	.250	110	50	160
ACID FRACTION				
Phenol-D5	100	9**	20	140
2-Fluorophenol	100	8**	20	140
2,4,6-Tribromophenol	100	25	10	140
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	21	20	140
2-Fluorobiphenyl	50	48	20	140
Terphenyl-D14	50	52	20	150

* IFB EPA Control Limits.
** See comments.

301314

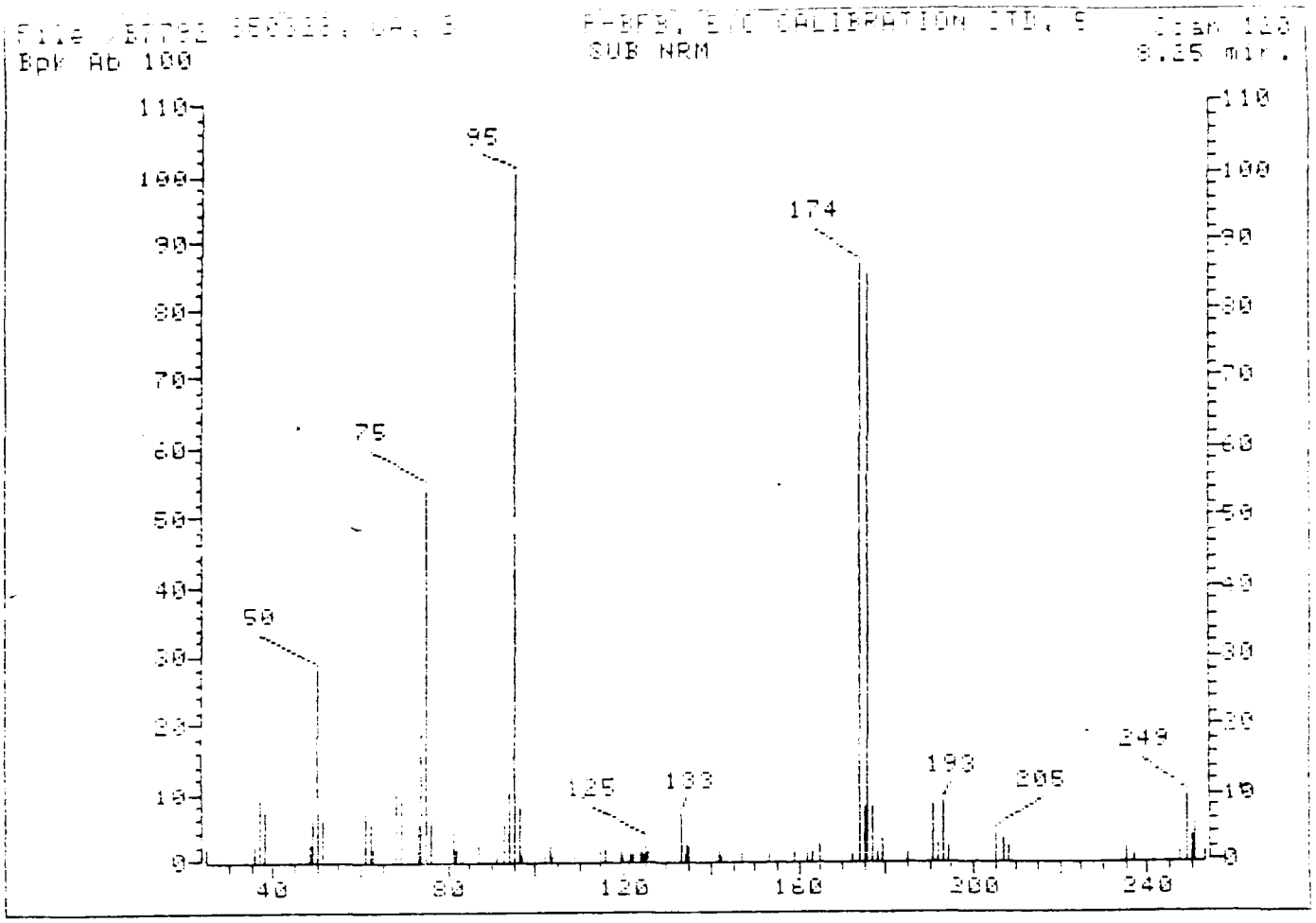


TABLE 2 METHOD PERFORMANCE DATA (QM21)

DFTPP Tuning Data - 4-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	27.83	27.83	P
75	30-60% of mass 95	54.23	54.23	P
95	Base peak, 100% relative abundance	100.00	100.00	P
96	5-9% of mass 95	7.50	7.50	P
173	Less than 1% of mass 95	0.00	0.00	0
174	Greater than 50% of mass 95	86.47	86.47	P
175	5-9% of mass 174	7.76	8.97	P
176	95-101% of mass 174	84.71	97.97	P
177	5-9% of mass 176	7.50	8.85	P

Injection Date: 03/20/85 Analyst: J. Martin
Injection Time: 15:35 Processor: Klingsman AO
Run No: 10779 QC Batch: ~~QV3050~~ QV3056
Sequence No: 1 Samples: H2221, H2222, H2223

301315

3013

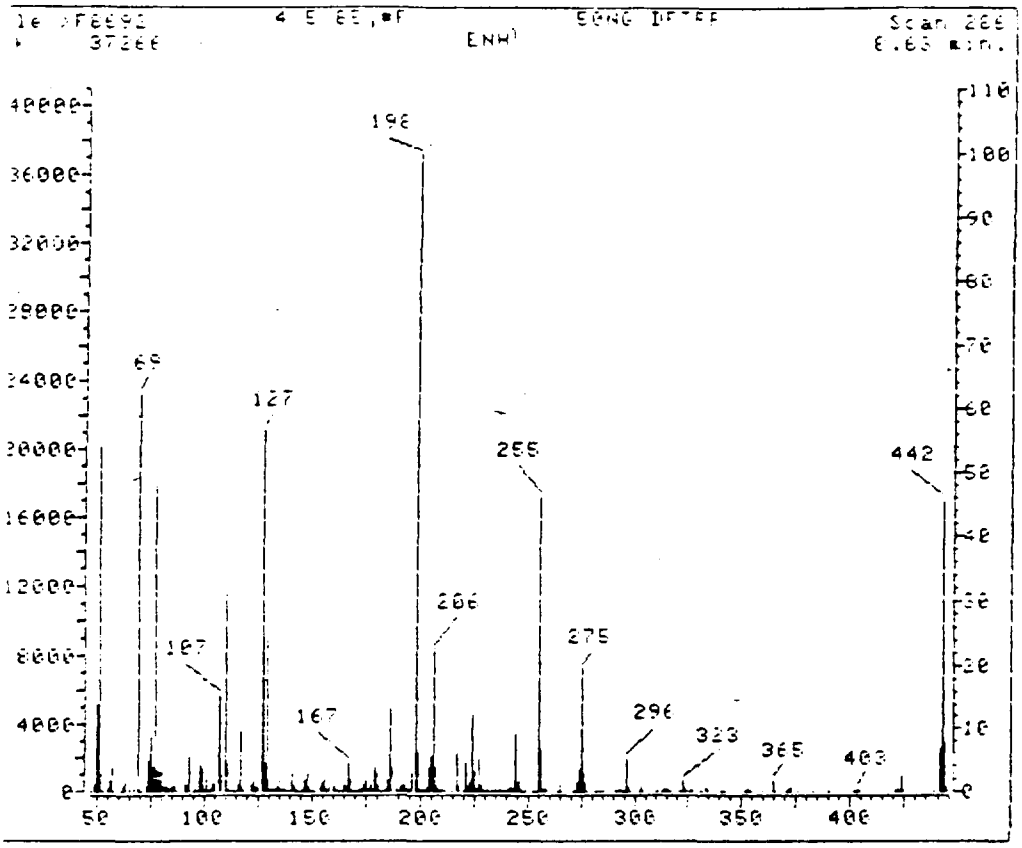


TABLE 2: METHOD PERFORMANCE DATA (OR22)

MS Tuning Data - Decafluorotriphenylphospine (DFTPP) for Acids Analysis

z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
1	30-60% of mass 198	54.01	54.01	Ok
2	Less then 2% of mass 69	0.00	0.00	Ok
3	(reference only)	62.50	62.50	Ok
4	Less then 2% of mass 69	.33	.53	Ok
5	40-60% of mass 198	56.63	56.63	Ok
6	Less then 1% of mass 198	0.00	0.00	Ok
7	Base peak, 100% relative abundance	100.00	100.00	Ok
8	5-9% of mass 198	6.28	6.28	Ok
9	10-30% of mass 198	19.49	19.49	Ok
10	Greater then 1% of mass 198	1.90	1.90	Ok
11	Less then mass 443	6.83	86.74	Ok
12	Greater then 40% of mass 198	45.42	45.42	Ok
13	17-23% of mass 442	7.87	17.33	Ok

Injection Date: 04/06/89 Analyst: Dan Wanek

Injection Time: 01:17 Processor: Patricia Chaney

Run No: >F8692 QC Batch: QA2864

Spectrum No: 286 Samples: H2221-H2225, H2338-H2341 68385

301316

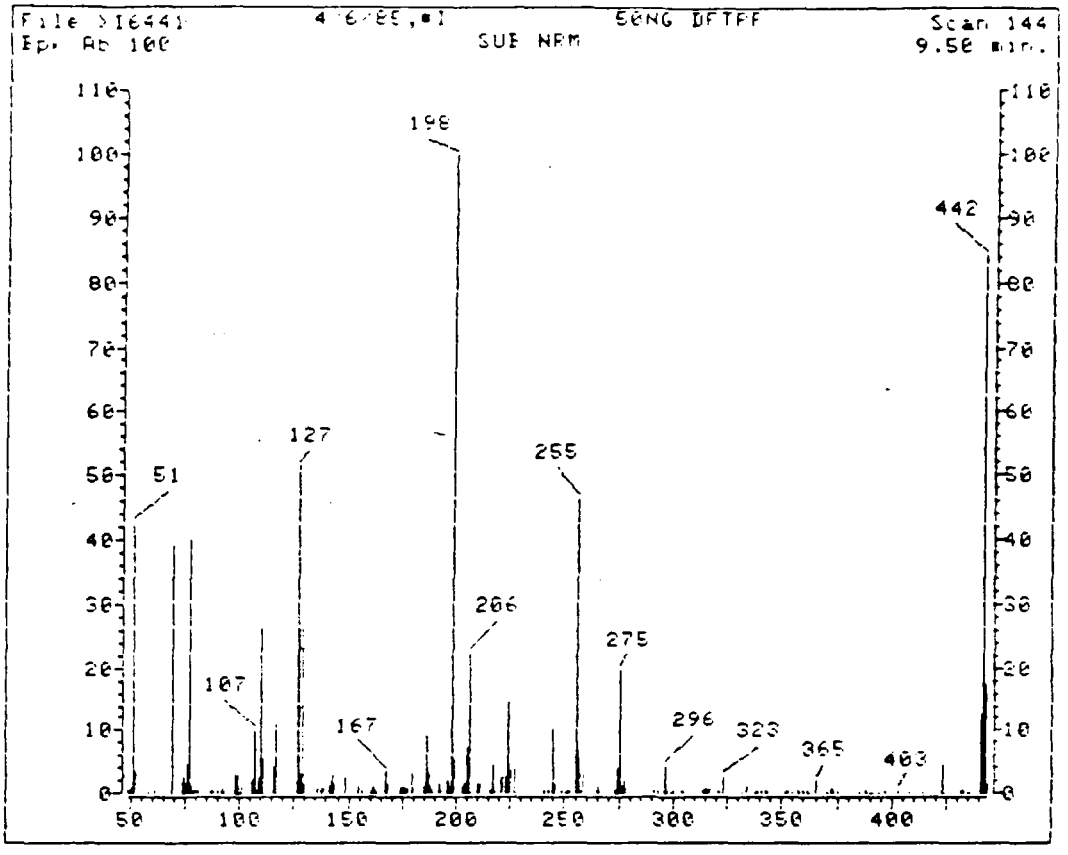


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	42.39	42.39	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	39.05	39.05	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	51.34	51.34	Ok
197	Less then 1% of mass 198	.60	.60	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	5.33	5.33	Ok
275	10-30% of mass 198	19.56	19.56	Ok
365	Greater then 1% of mass 198	2.02	2.02	Ok
441	Less then mass 443	12.44	72.64	Ok
442	Greater then 40% of mass 198	84.13	84.13	Ok
443	17-23% of mass 442	17.13	20.36	Ok

Injection Date: 04/06/85 Analyst: Wen-Wen C
Injection Time: 07:37 Processor: Patricia Chang
Run No: >16441 QC Batch: QB2864
Spectrum No: 144 Samples: H2221 - H2225, H2338-H2

13 022

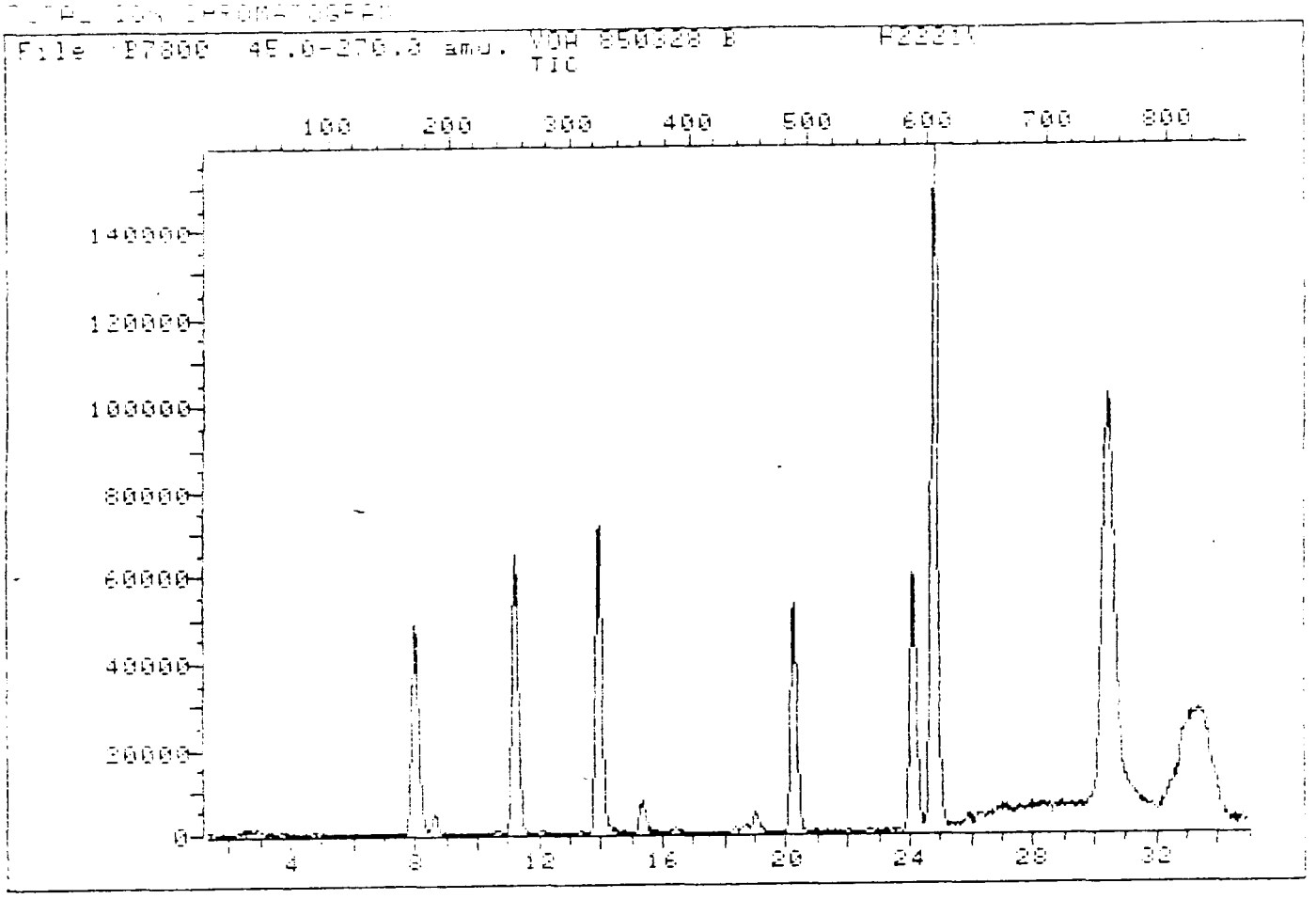
301317

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.



Data File: B7800.05
Name: VOA 850328 B
Misc: MP,Std

Id File: RVOA
Title: 1611 PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850328 20:54

Operator: BP PGrimm
Quant Time: 850329 22:45

301319

QUANT REPORT

ator ID: MS156A Quant Rev: 3 Quant Time: 850328 22:40
Injected at: 850328 22:05
File: B7800.LS Dilution Factor: 1.00
\ 850328 B
MS221U

ile: PVOA
: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Calibration: 85032? 20 51

Compound	R.T.	Scan#	Area	Conc	Units
*2-Bromo-1-chloropropane	20.26	488	317232	200.00	NG
Acrolein	8.58	187	6656	~~16.06~~	~~NG~~
bis(Chloromethyl)ether	20.26	488	104912	~~155.50~~	~~NG~~
Carbon tetrachloride	15.33	361	2409	~~5.60~~	~~NG~~
Chlorobenzene	25.93	634	1201	~~.69~~	~~NG~~
Chlorobenzene	26.28	643	1311	~~.75~~	~~NG~~
2-Chloroethylvinyl ether	18.98	455	10585	~~41.25~~	~~NG~~
Chloroform	13.28	308	1727	~~4.03~~	~~NG~~
Methylene chloride	8.00	172	147001	143.21	NG-30=113
Toluene	24.99	610	11832	~~4.20~~	~~NG~~
1,1,1-Trichloroethane	15.33	361	30033	~~21.69~~	~~NG~~
1,2-Dichloroethane-D4	13.94	325	171295	274.72	NG
Toluene-D8	24.80	605	806261	300.48	NG
p-Bromofluorobenzene	30.43	750	405282	272.78	NG
1,4-Dichlorobutane	24.10	587	365883	200.00	NG

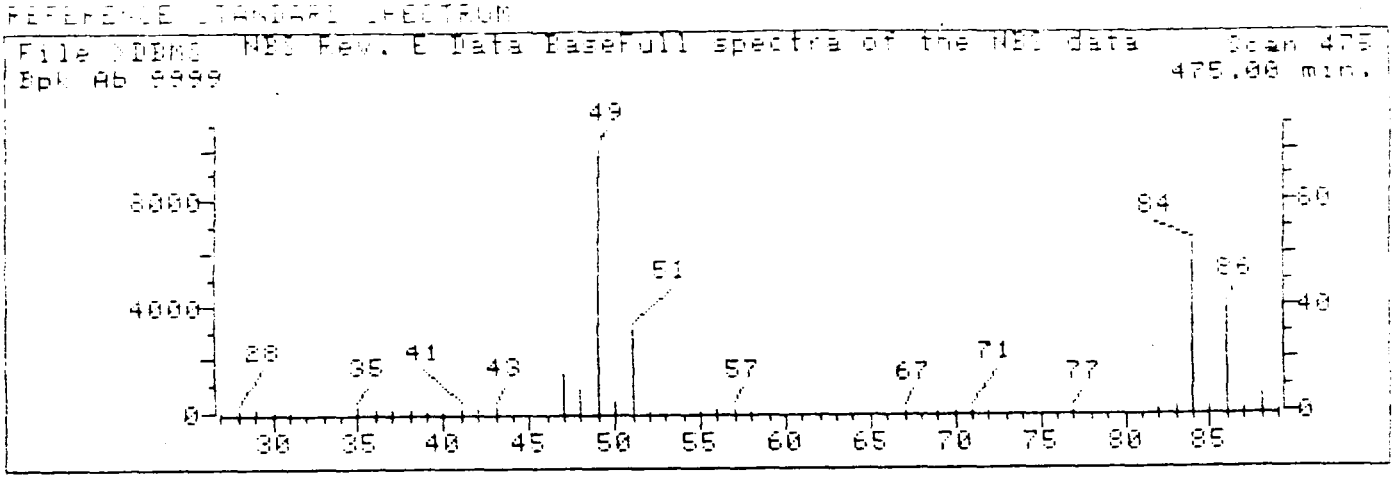
* = uns is ISTD

108

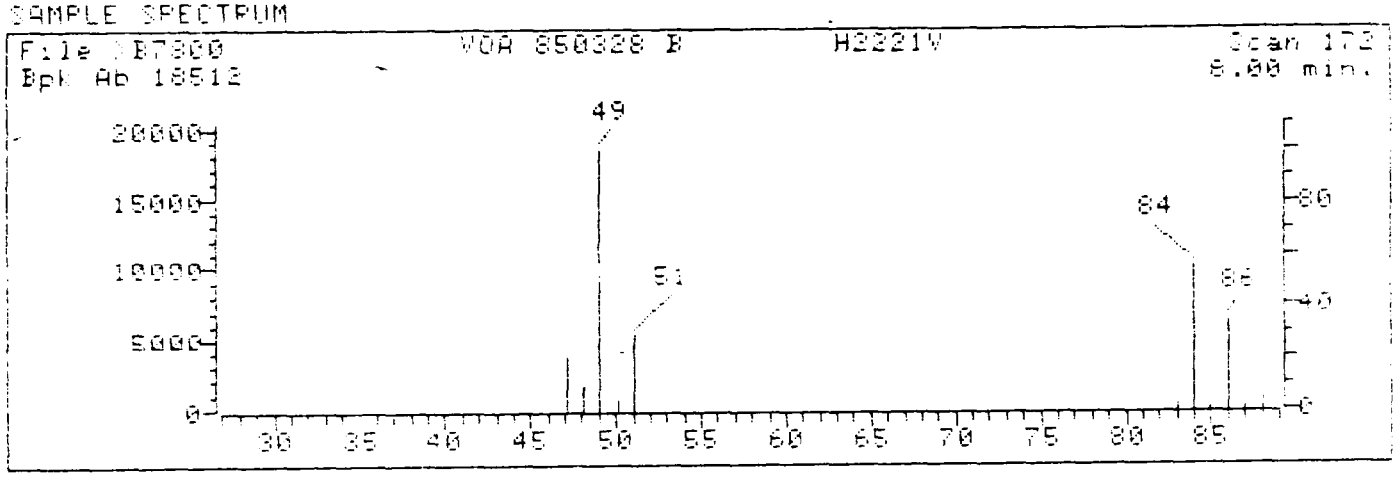
025

301320

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM

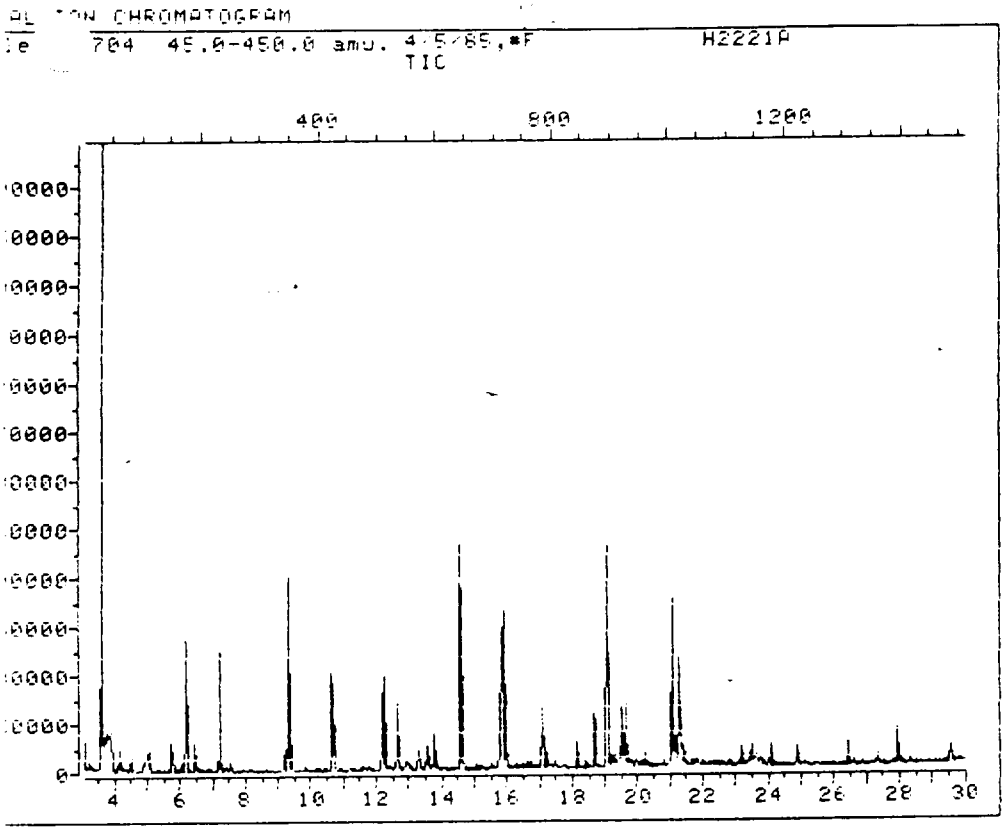


Data File: :B7800::US
Name: VOA 850328 B
Misc: H2221V

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 172
Retention Time: 8.00 min.
Area: 147613
Concentration: 142.21 NG

301321

301321



Data File: >F8704::U5
Name: 4/5/85,#F
Misc: H2221A

BTL#28

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

Operator ID: WW9928
Quant Time: 850406 09:03

301322

QUANT REPORT

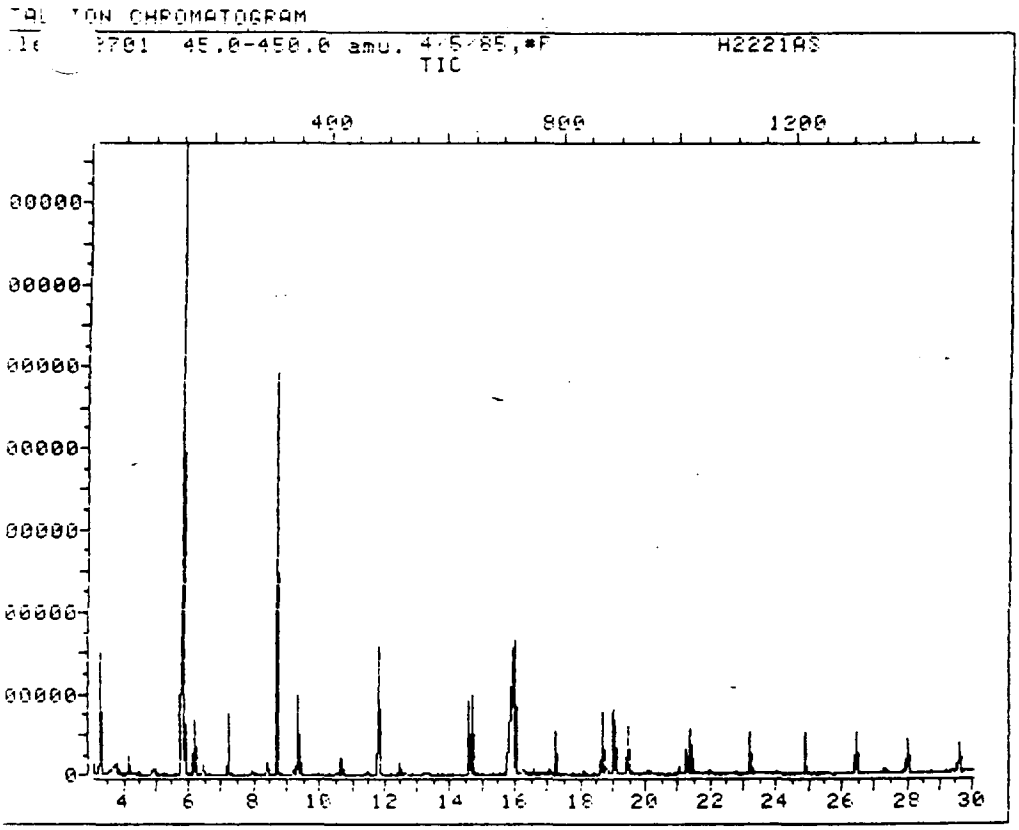
Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 09:03
Injected at: 850406 08:31
Data File: >F8704::U5 Dilution Factor: 1.00
Name: 4/5/85,#F
Misc: H2221A BTL#28

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.16	173	81096	40.00	UG/ML
5)	2-Fluorophenol	4.11	58	12697	8.48	UG/ML
7)	Phenol-D5	5.75	150	15296	9.02	UG/ML
8)	*d8-Naphthalene	9.33	351	231337	40.00	UG/ML
13)	*d10-Acenaphthalene	14.57	645	136404	40.00	UG/ML
18)	*d10-Phenanthrene	19.04	895	281730	40.00	UG/ML
19)	2,4,6-Tribromophenol	17.06	784	18364	24.87	UG/ML

* Compound is ISTD

F098AG



Data File: >F8701::U5
Name: 4/5/85,#F
Misc: H2221AS

BTL#25

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

Operator ID: WW9928
Quant Time: 850406 07:10

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 07:10
Injected at: 850406 06:38
Data File: >F8701::U5 Dilution Factor: 1.00
Name: 4/5/85,#F
Misc: H2221AS BTL#25

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

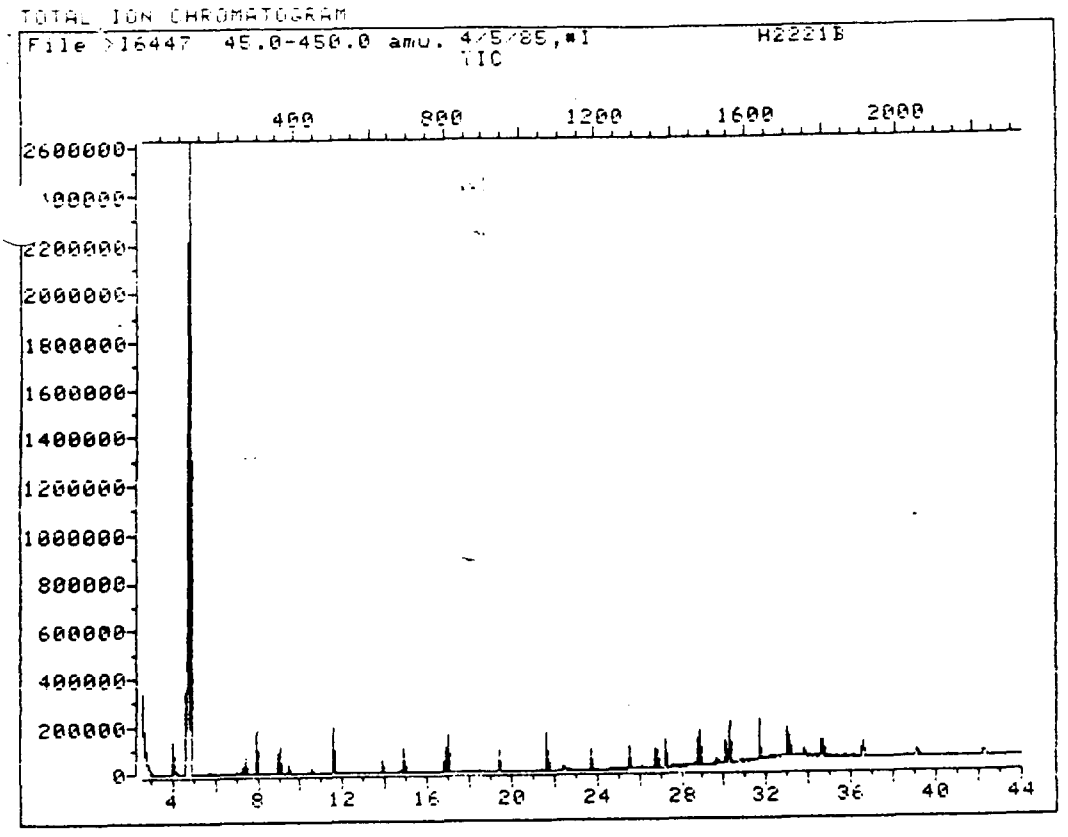
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.15	172	70579	40.00	UG/ML
2)	o-Cresol	6.67	201	220	.11	UG/ML
3)	2-Chlorophenol	5.87	156	8452	6.03	UG/ML
4)	m+p-Cresols	6.67	201	220	.05	UG/ML
5)	2-Fluorophenol	4.12	58	2986	2.29	UG/ML
6)	Phenol	5.78	151	2882	1.65	UG/ML
7)	Phenol-D5	5.76	150	3733	2.53	UG/ML
8)	*d8-Naphthalene	9.34	351	216788	40.00	UG/ML
9)	2,4-Dichlorophenol	9.20	343	11236	8.13	UG/ML
10)	2,4-Dimethylphenol	8.74	317	3868	2.23	UG/ML
11)	2-Nitrophenol	8.42	299	16571	17.58	UG/ML
12)	p-Chloro-m-cresol	11.45	469	8460	5.30	UG/ML
13)	*d10-Acenaphthalene	14.57	644	105279	40.00	UG/ML
14)	4-Nitrophenol	15.85	716	4308	13.04	UG/ML
17)	2,4,6-Trichlorophenol	12.46	526	9944	10.61	UG/ML
18)	*d10-Phenanthrene	19.03	894	185267	40.00	UG/ML
19)	2,4,6-Tribromophenol	17.05	783	3663	7.54	UG/ML
20)	Pentachlorophenol	18.80	881	5974	14.22	UG/ML

* Compound is ISTD

4,6-dinitro-o-cresol NR

2,4-dinitrophenol NR

F098AB



Data File: >I6447::U6
Name: 4/5/85,#I
Misc: H2221B

BTL# 8

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

Operator ID: WW9928
Quant Time: 850406 15:41

301326

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 15:41
Injected at: 850406 14:55
Data File: >16447::U6 Dilution Factor: 1.00
Name: 4/5/85,#1
Misc: H2221B BTL# 8

I096MC

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.94	302	54866	40.00	UG/ML
7)	Nitrobenzene-d5	9.48	389	30546	10.72	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.94	302	4155	6.76	UG/ML
9)	*d8-Naphthalene	11.49	502	191289	40.00	UG/ML
10)	2-Fluorobiphenyl	14.91	695	61776	24.32	UG/ML
19)	*d10-Acenaphthalene	16.99	812	68358	40.00	UG/ML
22)	Dimethyl phthalate	16.99	812	12192	4.80	UG/ML
27)	Diethyl phthalate	18.57	901	1132	.39	UG/ML
32)	*d10-Phenanthrene	21.58	1071	138923	40.00	UG/ML
35)	Phenanthrene	21.66	1075	3099	.85	UG/ML
36)	Anthracene	21.66	1075	3099	.71	UG/ML
37)	Di-n-butyl phthalate	23.70	1190	13190	2.44	UG/ML
38)	Fluoranthene	25.46	1289	4231	1.40	UG/ML
38)	Fluoranthene	26.15	1328	3659	1.21	UG/ML
39)	Benzidine	26.72	1360	808	1.49	UG/ML
40)	Pyrene	25.46	1289	4231	1.42	UG/ML
40)	Pyrene	26.15	1328	3659	1.23	UG/ML
47)	*d12-Chrysene	30.05	1547	66104	40.00	UG/ML
59)	Terphenyl-D14	26.72	1360	57694	26.38	UG/ML
64)	bis(2-Ethylhexyl)phthalate	30.33	1563	5089	1.72	UG/ML
65)	Di-n-octyl phthalate	31.60	1634	5968	1.64	UG/ML
65)	Di-n-octyl phthalate	32.56	1688	776	.21	UG/ML
65)	Di-n-octyl phthalate	32.96	1710	4876	1.34	UG/ML

* Compound is ISTD

301327

Appendix B

GC/MS Calibration Data

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850328 20:34

Compound	Files: >B7798 RF 90.00	>B7794 RF 180.00	>B7796 RF 540.00	RRT	RF	% RSD	
Acrolein	.06037	.04826	.04702	.421	.05189	14.216	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.31384	.34887	.25785	.459	.30685	14.961	(Conc=400.0,800.0,2400.0)
Benzene	1.57834	1.46012	1.24284	.926	1.42710	11.924	
bis(Chloromethyl)ether	.72764	-	.12306	1.000	.42535	100.506	
Bromoform	.45109	.28050	.45308	1.069	.39489	25.088	
Carbon tetrachloride	.65221	.53275	.56451	.776	.58315	10.610	
Chlorobenzene	1.22304	1.10531	.96382	1.290	1.09739	11.827	
Chlorodibromomethane	.66694	.50296	.58377	.939	.58456	14.026	
Chloroethane	.30709	.25257	.07398	.274	.21121	57.730	
2-Chloroethylvinyl ether	.20928	.15644	.11963	.941	.16178	27.854	
Chloroform	1.19832	1.07267	.91071	.656	1.06057	13.595	
Dichlorobromomethane	.87281	.72505	.73185	.802	.77657	10.742	
Dichlorodifluoromethane	.08605	.10454	.08508	.210	.19189	95.975	
1,1-Dichloroethane	.79561	.71663	.63920	.591	.71715	10.905	
1,2-Dichloroethane	1.01260	.96287	.78669	.692	.92072	12.893	
1,1-Dichloroethylene	.96286	.90633	.76286	.525	.87735	11.752	
1,2-Dichloropropane	.62519	.55734	.51416	.866	.56556	9.896	
trans-1,3-Dichloropropylene	.72106	.56936	.65130	.879	.64724	11.731	
cis-1,3-Dichloropropylene	.53230	.43035	.49321	.942	.49195	12.396	
Ethylbenzene	2.36996	2.21929	1.76098	1.382	2.11674	14.984	
Methyl bromide	.05942	.10329	.09993	.178	.07421	33.926	
Methyl chloride	.68387	.71137	.51436	.123	.63653	16.762	
Methylene chloride	.94649	.66091	.33417	.390	.64716	47.344	
1,1,2,2-Tetrachloroethane	.99836	1.00942	.85200	1.177	.95325	9.217	
Tetrachloroethylene	.79116	.70786	.62674	1.175	.70859	11.602	
Toluene	1.94631	1.83538	1.49428	1.234	1.77532	14.439	
1,2-Trans-dichloroethylene	.84313	.78202	.69195	.626	.77237	9.846	
1,1,1-Trichloroethane	1.03591	.87905	.70440	.757	.87312	18.994	
1,1,2-Trichloroethane	.47263	.42579	.38834	.942	.42899	9.868	
Trichloroethylene	.47963	.42833	.38285	.904	.43034	11.275	
Trichlorofluoromethane	1.07733	1.05983	.81481	.493	.98334	14.864	
Vinyl chloride	.04713	.04133	.06786	.221	.18544	119.632	
Ortho & Para Xylenes	-	.01022	-	1.580	.01022	-	(Conc=150.0,300.0,900.0)
Meta-Xylene	-	.02045	-	1.580	.02045	-	(Conc=75.0,150.0,450.0)
Styrene	-	-	-	-	-	-	
Methyl Methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0)
Heptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0)
2-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
Acetone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
1,2-Dichloroethane-D4	.35297	.36539	.32715	.686	.45517	8.216	(Conc=250.0,250.0,250.0)
Toluene-D8	1.60919	1.64823	1.55211	1.225	1.61984	4.546	(Conc=250.0,250.0,250.0)
p-Bromofluorobenzene	.88447	.95926	.86090	1.582	.90135	5.698	(Conc=250.0,250.0,250.0)

RF - Response Factor (Subscript is Amount in NG)

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

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

301329

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850329 06:54

Compound	Files:)B7809 RF 90.00	)B7807 RF 180.00	)B7808 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
lein	.08164	.05118	.04663	.420	.05982	31.822	(Conc=4000.0,8000.0,24000.)
lonitrile	.32229	.29611	.23926	.456	.28589	14.849	(Conc=400.0,800.0,2400.0)
ene	1.66370	1.54363	1.45550	.926	1.55428	6.724	
Chloromethyl)ether	.72580	.37036	.12539	1.000	.40718	74.143	
oform	.41209	.45193	.50636	1.069	.45679	10.360	
)on tetrachloride	.68273	.73331	.70692	.776	.70765	3.575	
robenzene	1.19067	1.14628	1.06509	1.291	1.13401	5.616	
rodibromomethane	.65153	.68807	.69511	.938	.67824	3.449	
roethane	.28633	.30689	.26093	.277	.28472	8.085	
loroethylvinyl ether	.22300	.18046	.13799	.942	.18048	23.550	
roform	1.24829	1.21346	1.09469	.656	1.18714	6.860	
lorobromomethane	.87339	.91320	.87693	.802	.88951	2.800	
lorodifluoromethane	.27636	.11532	.09639	.213	.16269	60.787	
-Dichloroethane	.83335	.80402	.76278	.592	.80005	4.431	
Dichloroethane	1.04839	1.07545	.94158	.692	1.02181	6.927	
-Dichloroethylene	1.02930	1.03149	.92591	.526	.99190	5.772	
Dichloropropane	.64510	.61153	.57480	.867	.61718	4.149	
)s-1,3-Dichloropropylene	.76339	.75082	.75586	.879	.75669	.836	
1,3-Dichloropropylene	.67820	.58057	.58532	.941	.61470	8.955	
lbenzene	2.42945	2.33792	2.05772	1.385	2.27503	8.513	
yl bromide	.05782	.07546	.05919	.183	.06429	16.471	
yl chloride	.56473	.74078	.64111	.126	.64887	13.605	
ylene chloride	.54523	.54960	.45099	.392	.51527	10.812	
2 trachloroethane	.95397	.89623	.87788	1.178	.90936	4.366	
ac oethylene	.78347	.75871	.72224	1.175	.75481	4.080	
)ene	1.92334	1.88876	1.73083	1.235	1.84764	5.555	
-Trans-dichloroethylene	.9.909	.87474	.82718	.626	.87034	4.726	
.1-Trichloroethane	1.08730	1.02281	.86685	.757	.99232	11.422	
2-Trichloroethane	.47.94	.46353	.44712	.942	.46287	3.332	
chloroethylene	.49395	.47952	.45233	.904	.47527	4.447	
chlorofluoromethane	1.14004	1.17561	1.02745	.494	1.11437	6.941	
l chloride	.35891	.20413	.07868	.221	.21392	69.615	
o & Para Xylenes	-	-	.00132	1.615	.00132	-	(Conc=150.0,300.0,900.0)
e-Xylene	-	-	.02965	1.577	.02965	-	(Conc=75.0,150.0,450.0)
ene	-	-	-	-	-	-	
yl Methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0)
ane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0)
tanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
one	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
-Dichloroethane-D4	.39894	.40133	.37880	.686	.39302	3.149	(Conc=250.0,250.0,250.0)
ene-D8	1.74907	1.73898	1.71717	1.226	1.74174	1.254	(Conc=250.0,250.0,250.0)
omofluorobenzene	.96423	.97536	.93361	1.504	.95773	2.257	(Conc=250.0,250.0,250.0)

- Response Factor (Subscript is amount in NG)

- Average Relative Retention Time (RT Std/RT Istd)

Average Response Factor

D - Percent Relative Standard Deviation

301330

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850405 13:00

Compound	Files: >F8673 RF 60.00	>F8672 RF 100.00	>F8671 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
2-Chlorophenol	.83592	.73068	.81756	.951	.79472	7.074	
Phenol	.98071	.89677	1.09611	.933	.99120	10.097	
2,4-Dichlorophenol	.26172	.23387	.26967	.982	.25509	7.371	
2,4-Dimethylphenol	.32646	.29338	.33857	.934	.31947	7.322	
2-Nitrophenol	.17049	.15824	.19300	.901	.17391	10.138	
p-Chloro-m-cresol	.28227	.28217	.31972	1.220	.29472	7.347	
4,6-Dinitro-o-cresol	.15313	.17674	.28582	1.142	.20523	34.491	
2,4-Dinitrophenol	.03048	.07098	.16179	1.030	.08775	76.633	
4-Nitrophenol	.05392	.10687	.21582	1.083	.12554	65.758	
2,4,6-Trichlorophenol	.37352	.32565	.36901	.855	.35606	7.424	
Pentachlorophenol	.07220	.08028	.11961	.987	.09069	27.966	
2-Fluorophenol	.69832	.64982	.86694	.664	.73836	15.435	(Conc=100.0,100.0,100.0)
Phenol-D6	.78008	.71532	1.01455	.929	.83665	18.617	(Conc=100.0,100.0,100.0)
2,4,6-Tribromophenol	.10672	.09071	.11706	.896	.10483	12.665	(Conc=100.0,100.0,100.0)
o-Cresol	-	-	-	-	-	-	
m+p-Cresols	-	-	-	-	-	-	

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

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >16444 RF 60.00	>16443 RF 100.00	>16442 RF 200.00	>16445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	1.42642	1.55796	1.62088	-	.407	1.53509	6.464	
bis(2-Chloroethyl) ether	2.10289	2.17665	2.28073	-	.928	2.18676	4.086	
1,3-Dichlorobenzene	1.51193	1.55715	1.53923	-	.989	1.53610	1.482	
1,4-Dichlorobenzene	1.59404	1.66507	1.58416	-	1.005	1.61442	2.734	
1,2-Dichlorobenzene	1.54852	1.58178	1.50744	-	1.066	1.54591	2.409	
Nitrobenzene-d5	2.08223	2.11723	2.03519	-	1.194	2.07822	1.991	(Conc=50.0,50.0,50.0,)
bis(2-Chloroisopropyl)ether	.33376	.40855	.60278	-	1.105	.44836	30.970	
2-Fluorobiphenyl	.57248	.56061	.46036	-	1.298	.53115	11.597	(Conc=50.0,50.0,50.0,)
N-Nitrosodi-n-propylamine	.43678	.46548	.51124	-	.795	.47117	7.971	
Hexachloroethane	.10226	.10747	.10932	-	.807	.10635	3.444	
Nitrobenzene	.75059	.78541	.84478	-	.829	.79392	5.988	
Isophorone	.77110	.81078	.85405	-	.886	.81198	5.110	
bis(2-Chloroethoxy)methane	.54119	.56212	.57102	-	.947	.55811	2.744	
1,2,4-Trichlorobenzene	.24720	.24046	.22742	-	.990	.23836	4.219	
Naphthalene	1.10205	1.12455	1.09741	-	1.006	1.10801	1.310	
Hexachlorobutadiene	.12333	.12072	.11194	-	1.055	.11866	5.029	
Hexachlorocyclopentadiene	.16484	.18283	.16439	-	.847	.17069	6.162	
2-Chloronaphthalene	1.14013	1.18323	1.20879	-	.894	1.17738	2.947	
Dimethyl phthalate	1.50424	1.46034	1.48967	-	.962	1.48475	1.506	
Acenaphthylene	2.23281	2.31954	2.26215	-	.971	2.27150	1.942	
2,6-Dinitrotoluene	.32778	.34251	.32217	-	.974	.33082	3.175	
Acenaphthene	1.42080	1.49196	1.43761	-	1.006	1.45012	2.565	
2,4-Dinitrotoluene	.42484	.43414	.36352	-	1.045	.40750	9.415	
[illegible]yl phthalate	1.69292	1.71707	1.62561	-	1.094	1.67854	2.824	
[illegible]ene	1.48025	1.55150	1.37945	-	1.099	1.47040	5.879	
4-Chlorophenyl phenyl ether	.50351	.53967	.47311	-	1.102	.50543	6.592	
N-Nitrosodiphenylamine	.97808	.99039	.81829	-	1.125	.92892	10.335	
1,2-Diphenylhydrazine	2.82605	2.97484	2.75638	-	1.131	2.85242	3.912	
4-Bromophenyl phenyl ether	-	.16821	.17603	-	.936	.17212	3.212	
Hexachlorobenzene	.17131	.17365	.16437	-	.956	.16978	2.843	
Phenanthrene	1.04300	1.09407	1.02829	-	1.003	1.05512	3.272	
Anthracene	1.23121	1.28610	1.26973	-	1.010	1.26235	2.232	
Di-n-butyl phthalate	1.55575	1.57139	1.54098	-	1.097	1.55604	.977	
Fluoranthene	.87063	.90528	.82844	-	1.178	.86812	4.433	
Benzidine	.10353	.10837	.25676	-	1.200	.15622	55.756	
Pyrene	.84941	.88562	.83557	-	1.211	.85687	3.016	
Alpha-BHC	.14566	.14607	-	.15357	.945	.14843	2.998	
Beta-BHC	.08651	.09762	-	.08816	.979	.09076	6.603	
Gamma-BHC	.13450	.13291	-	.13649	.988	.13463	1.333	
Delta-BHC	.09821	.10262	-	.09713	1.018	.09932	2.924	
Heptachlor	.30795	.33440	-	.34428	1.080	.32888	5.711	
Aldrin	.32730	.34450	-	.32552	1.123	.33244	3.153	
Heptachlor epoxide	.04600	.04941	-	.06596	.841	.05379	19.847	

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

301332

037

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >16444 RF 60.00	>16443 RF 100.00	>16442 RF 200.00	>16445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.01334	.01547	-	.01932	.861	.01604	18.900	(Conc=100.0,200.0,,500.0)
Endosulfan I	.07643	.08687	-	.10965	.873	.09098	18.672	
4,4'-DDE	.39651	.38293	-	.48692	.888	.42212	13.392	
Dieldrin	.85559	.92026	-	1.12272	.895	.96619	14.424	
Endrin	.12875	.12799	-	.16973	.915	.14216	16.800	
Endosulfan II	.06944	.07567	-	.09137	.921	.07883	14.333	
4,4'-DDD	.62091	.66602	-	.77665	.923	.68786	11.650	
Endrin aldehyde	-	-	-	.51049	.937	.51049	-	
4,4'-DDT	.42969	.49759	-	.49155	.953	.47294	7.945	
Endosulfan sulfate	.08499	.09885	-	.10942	.956	.09775	12.535	
Terphenyl-D14	1.26005	1.33392	1.37678	-	.890	1.32358	4.461	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.37825	1.43947	1.55231	-	.946	1.45668	6.061	
Benzo(a)anthracene	1.36803	1.41663	1.24239	-	.998	1.34235	6.698	
Chrysene	1.12478	1.23627	1.18429	-	1.003	1.18178	4.721	
3,3'-Dichlorobenzidine	.23359	.24852	.28045	-	.998	.25419	9.416	
bis(2-Ethylhexyl)phthalate	1.66490	1.83512	1.87571	-	1.010	1.79191	6.242	
Di-n-octyl phthalate	2.04556	2.37214	2.20092	-	1.071	2.20621	7.404	
Benzo(b)fluoroanthene	.74969	.69436	.67445	-	1.111	.70617	5.521	
Benzo(k)fluoranthene	.66081	.79919	.65568	-	1.114	.70523	11.545	
Benzo(a)pyrene	.60956	.71871	.57713	-	1.151	.63513	11.678	
Indeno(1,2,3-c,d)pyrene	.59747	.78757	.61852	-	1.331	.66785	15.603	
Dibenzo(a,h)anthracene	.45676	.58732	.45797	-	1.335	.50068	14.986	
Benzo(ghi)perylene	.44679	.57162	.47055	-	1.382	.49632	13.356	

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

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

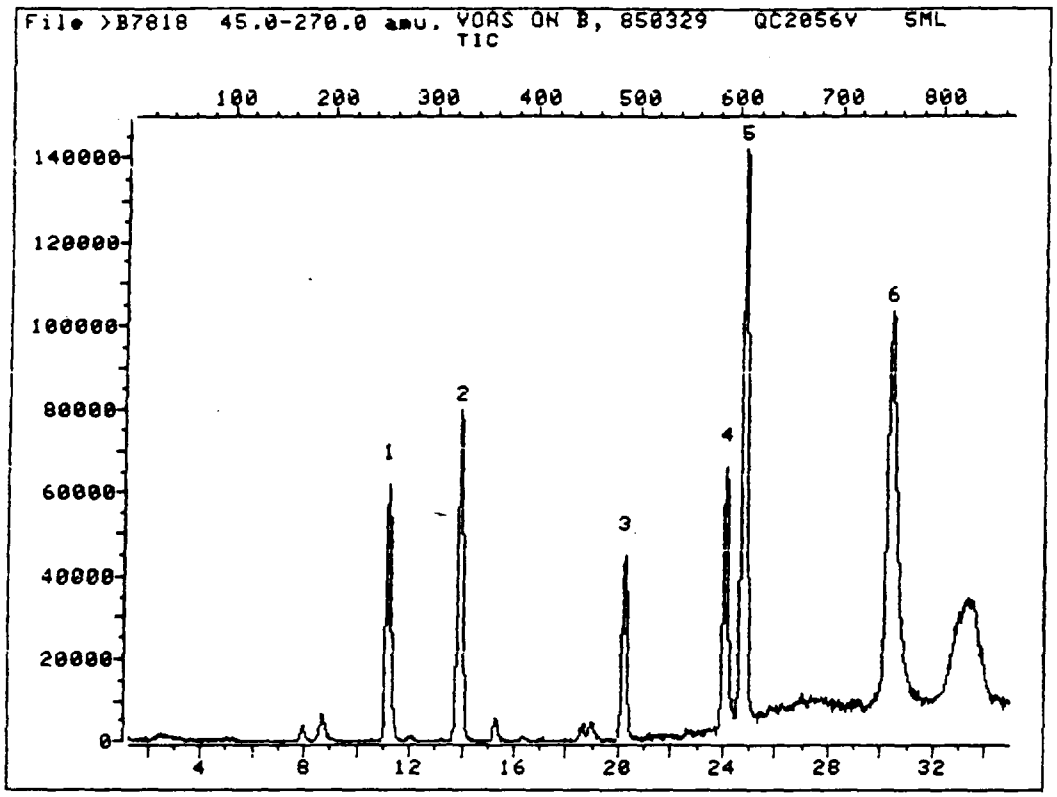
$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >B7818::U4
Name: VOAS ON B, 850329
Misc Data: QC2056V 5ML

301335

QUANT REPORT

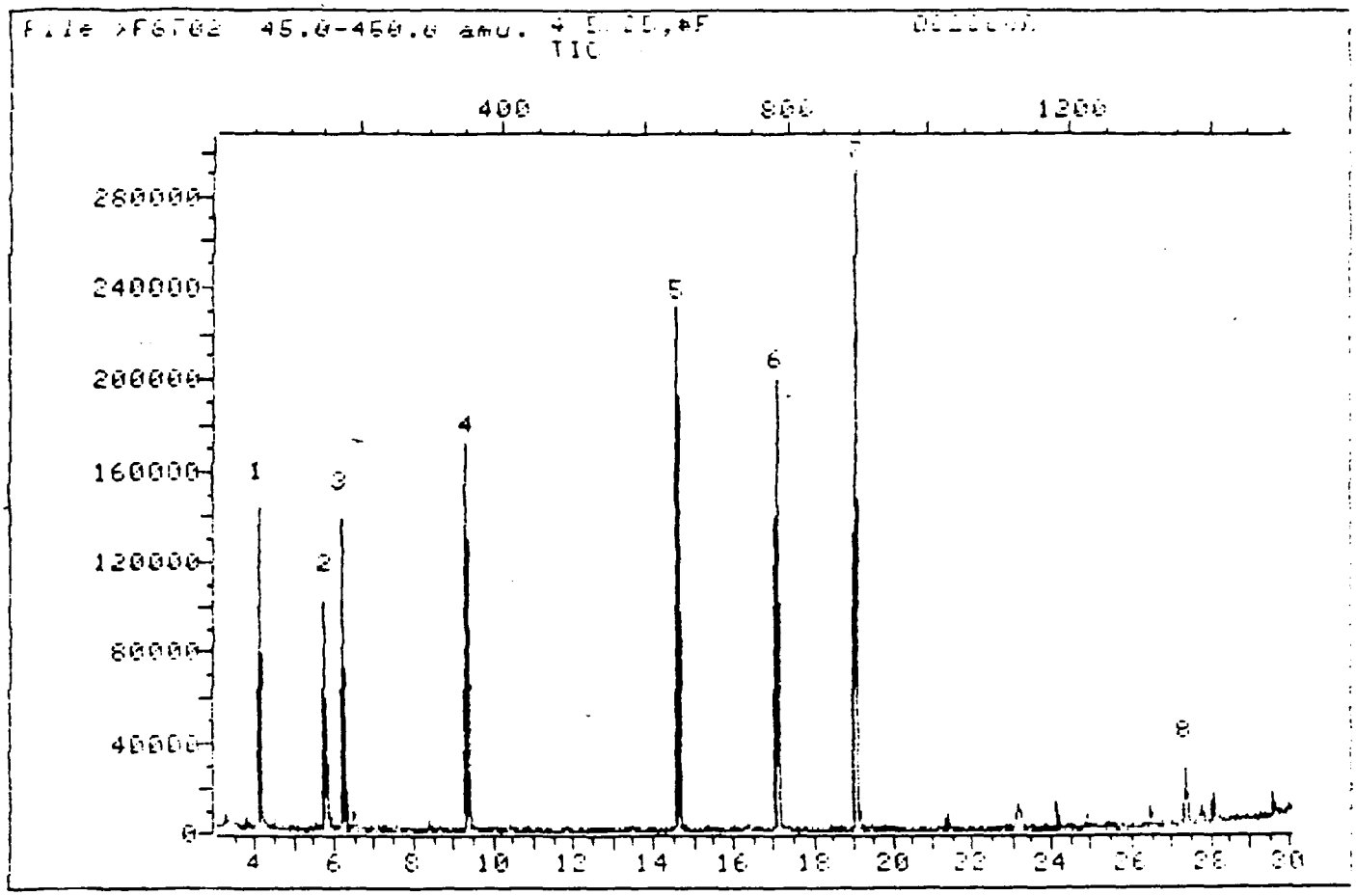
Operator ID: TM0576 Quant Rev: 3 Quant Time: 850329 17:02
Injected at: 850329 16:26
Data File: >B7818::U4 Dilution Factor: 1.00
Name: VOAS ON B, 850329
Misc: QC3056V 5ML

ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850329 07:25

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	20.21	489	264363	200.00	NG
5)	bis(Chloromethyl)ether	20.21	489	91627	~~170.24~~	NG
11)	2-Chloroethylvinyl ether	19.01	458	11719	~~49.12~~	NG
12)	Chloroform	13.27	310	3505	~~2.23~~	NG
24)	Methylene chloride	7.95	173	10801	15.86	NG
27)	Toluene	24.95	611	11795	~~4.83~~	NG
29)	1,1,1-Trichloroethane	15.28	362	24369	18.58	NG
34)	1,2-Dichloroethane-D4	13.89	326	181685	349.73	NG
35)	Toluene-D8	24.75	606	690787	300.05	NG
36)	p-Bromofluorobenzene	30.38	751	398249	314.59	NG
37)	*1,4-Dichlorobutane	24.09	589	385785	200.00	NG

* Compound is ISTD

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



Data File: >F8702::US
Name: 4/5/05,#F
Misc Data: 002764A

BTL#26

301337

QUANT REPORT

ator ID: WW9928 Quant Rev: 3 Quant Time: 850406 07:47
Injected at: 850406 07:15
File: >F8702::U5 Dilution Factor: 1.00
: 4/5/85,#F
: QC2864F BTL#26

ile: FACID
e: ACID ID FILE.....3/15/85,#F,WWC
Calibration: 850405 13:04

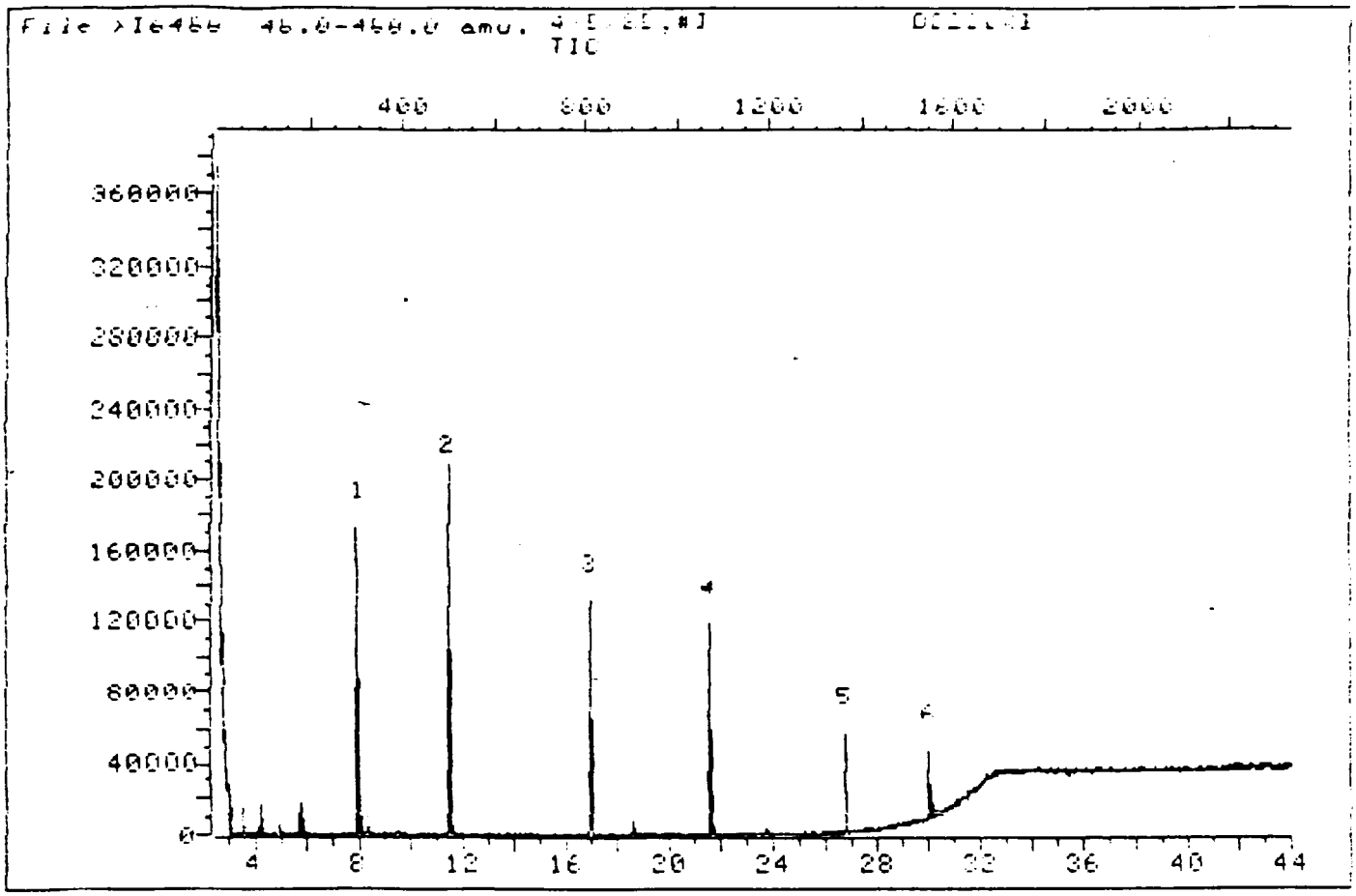
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.18	174	75508	40.00	UG/ML
2-Fluorophenol	4.10	57	85623	61.43	UG/ML
2-Fluorophenol	4.46	77	437	.31	UG/ML
Phenol-D5	5.74	149	126055	79.81	UG/ML
Phenol-D5	6.04	166	1022	.65	UG/ML
Phenol-D5	6.18	174	704	.45	UG/ML
*d8-Naphthalene	9.34	351	199669	40.00	UG/ML
*d10-Acenaphthalene	14.58	645	135525	40.00	UG/ML
*d10-Phenanthrene	19.03	895	336877	40.00	UG/ML
2,4,6-Tribromophenol	17.04	783	54192	61.38	UG/ML

:o ound is ISTD

F098AC

301338

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



Data File: >I6458::U6
Name: 4/5/05,#I
Misc Data: 0029641

PTL# 7

301339

301339

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 14:48
Injected at: 850406 14:01
Data File: >16458::U6 Dilution Factor: 1.00
Name: 4/5/85,#1
M__: QC2864B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

I095mI

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.95	303	58901	40.00	UG/ML
2)	N-Nitrosodimethylamine	2.77	11	1350	.60	UG/ML
2)	N-Nitrosodimethylamine	2.93	20	618	.27	UG/ML
7)	Nitrobenzene-d5	9.51	391	3863	1.26	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.97	304	4643	7.03	UG/ML
9)	*d8-Naphthalene	11.51	504	214112	40.00	UG/ML
19)	*d10-Acenaphthalene	16.98	812	68494	40.00	UG/ML
22)	Dimethyl phthalate	17.00	813	12774	5.02	UG/ML
27)	Diethyl phthalate	18.58	902	3211	1.12	UG/ML
32)	*d10-Phenanthrene	21.63	1074	103137	40.00	UG/ML
37)	Di-n-butyl phthalate	23.72	1192	5758	1.44	UG/ML
39)	Benzidine	26.76	1363	627	1.56	UG/ML
47)	*d12-Chrysene	30.06	1549	30758	40.00	UG/ML
59)	Terphenyl-D14	26.76	1363	36210	35.58	UG/ML
65)	Di-n-octyl phthalate	31.40	1624	1581	.93	UG/ML

* Compound is ISTD

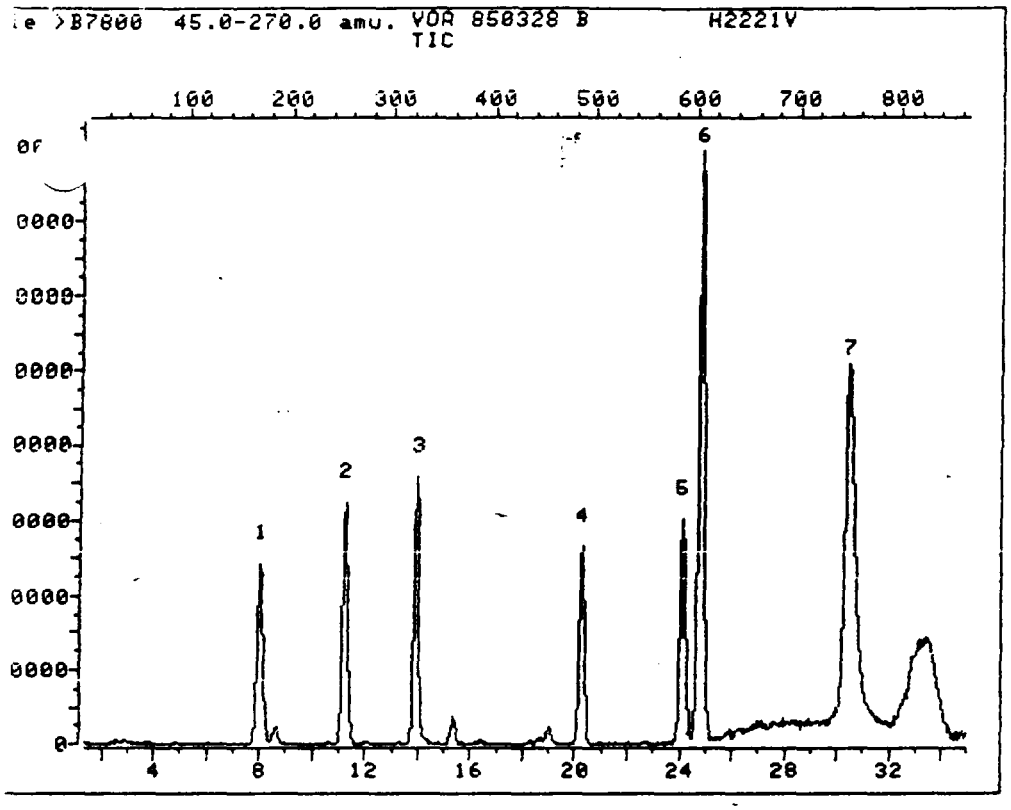
301340

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.

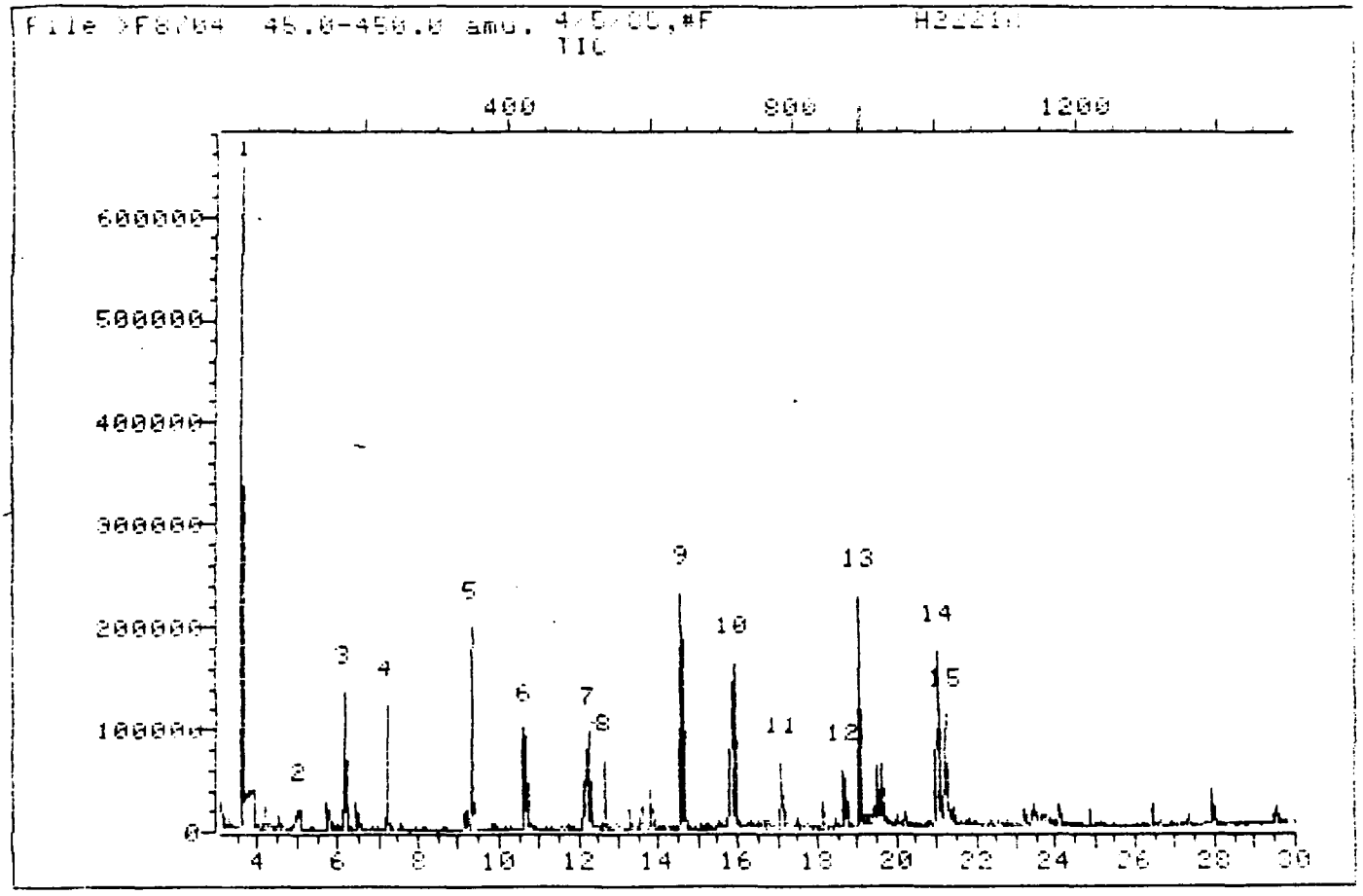
RL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >B7800::U5
Name: VOA 850328 B
Misc Data: H2221V

301342

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



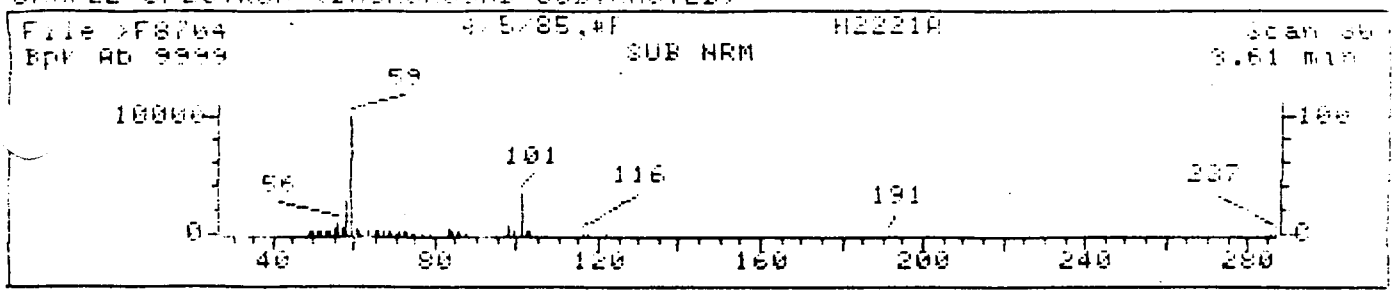
Data File: >F8704.:US
Name: 4/5/05,#F
Misc Data: H221A

BTL#20

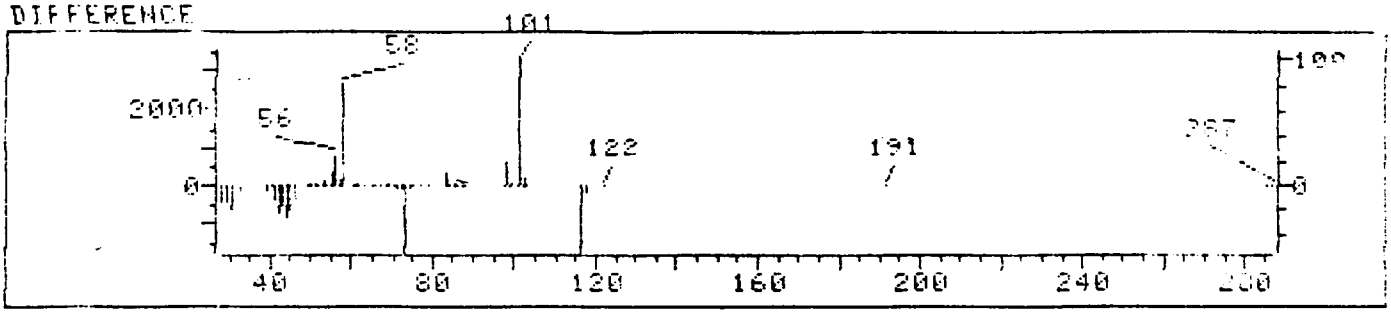
301343

301343

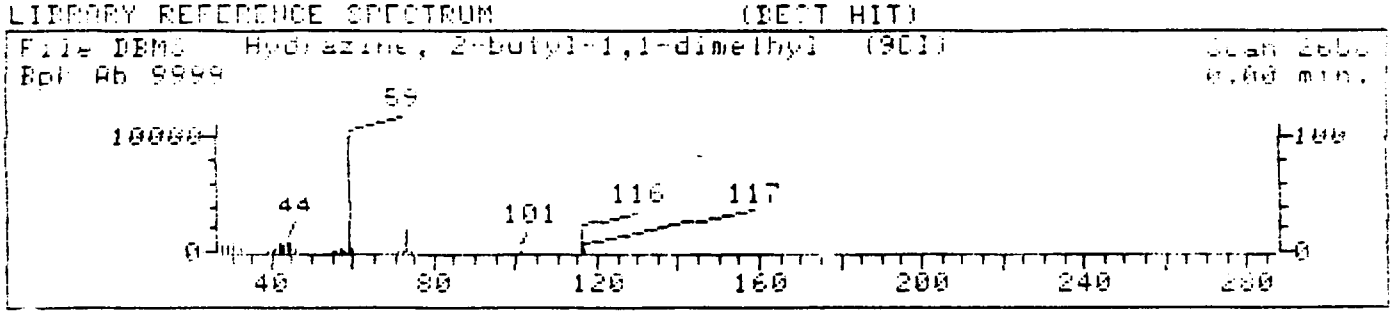
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File >F8704.UF
Time: 4:5:85,#F
Misc Data: H2221A RTL#20
RT (min): 3.61
Scan: 30
Area: 135070
Semi-quantitative Conc: 180.17 UG/ML

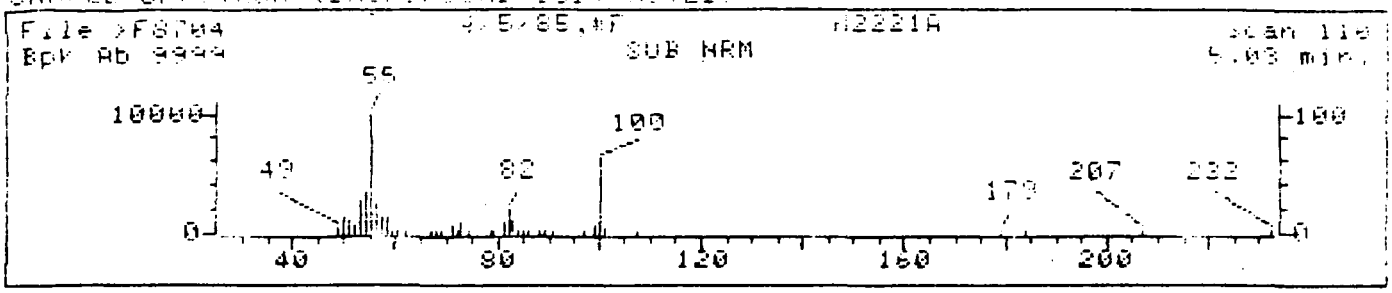
Data File >F8704 Scan Number: 30
Search Speed: 2 Tailing option: 0 Number of ion ranges searched: 5

Hydrazine, 2-butyl-1,1-dimethyl- (9CI) 116 C6H16N2

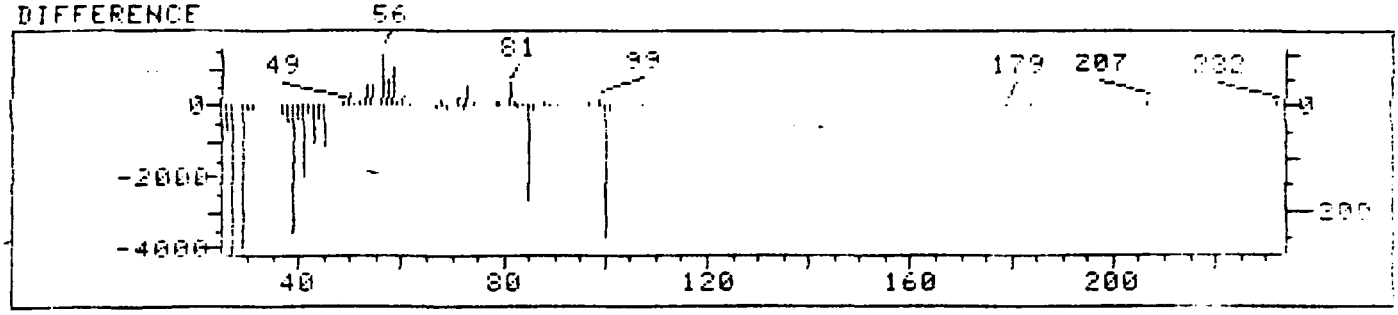
Prob.	Conf	K	dK	#Flg	Tilt
76	54007237	76	46	0	-1

301344

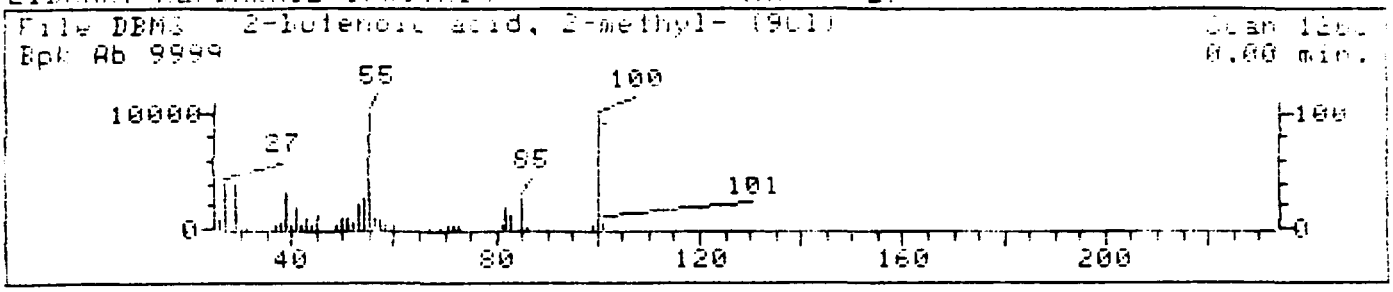
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



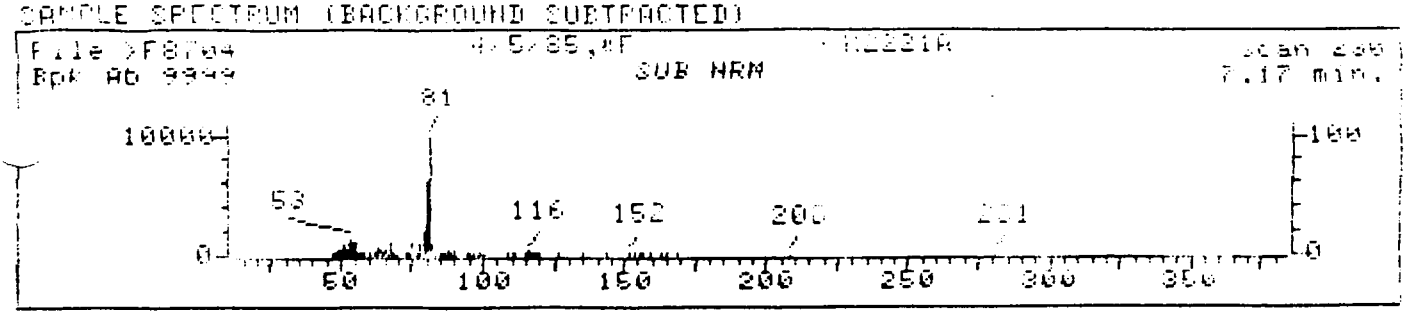
Data File: >F8704 :05
Name: 4/5/85,#F
Misc Data: H2221A BTL#20
RT (min): 5.03
Scan: 110
Area: 1444/2
Semi-quantitative Conc: 19.17 UG/ML

Data File: >F8704 Scan Number: 110
Search Spec: 2 Titling option: 5 Number of ion ranges searched: 50

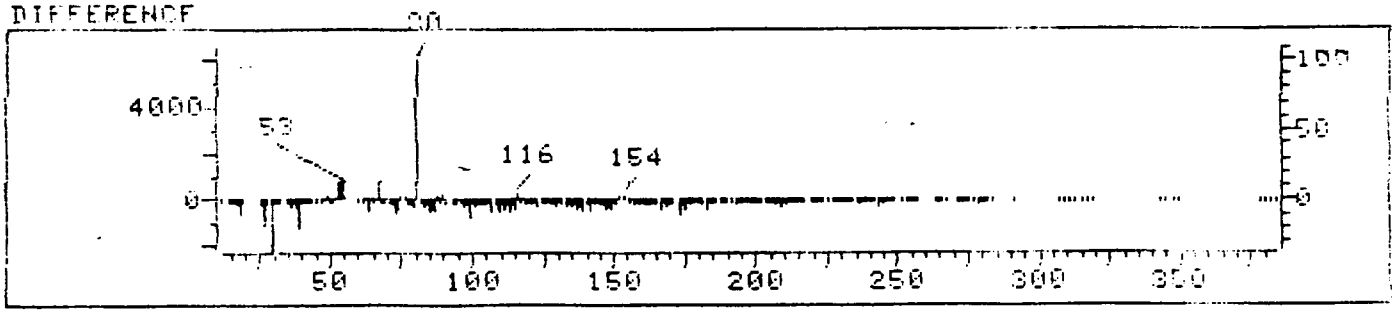
1. 1-Propene, 3-ethoxy-2-methyl- (9CI) 100 C6H12O
2. 2-Butenoic acid, 2-methyl- (9CI) 100 C5H8O2
3. 2H-Pyran-2-one, tetrahydro- (8CI,9CI) 100 C5H8O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	30	24309282	30	68	3	0
2.	29	13201462	32	76	1	0
3.	20	542299	26	68	2	0

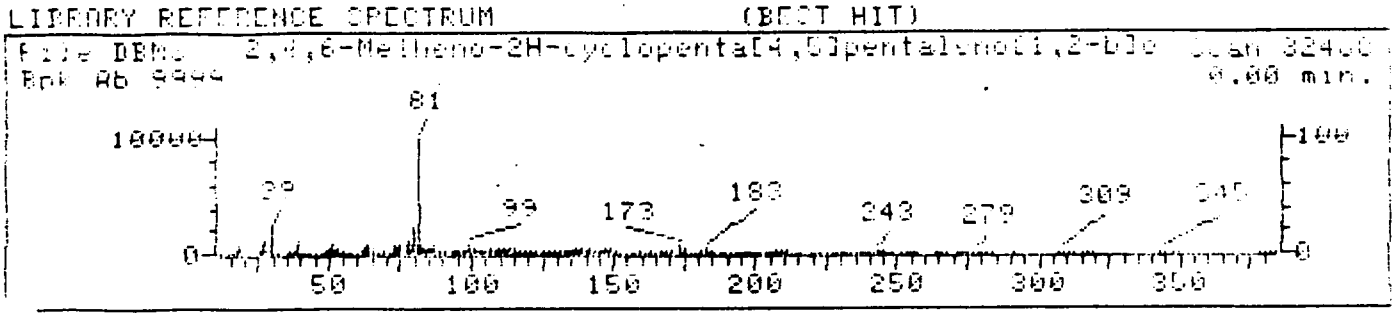
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: NF8704.UG
Name: 4/5/85,#F
Misc Data: M0704A
RT (min): 7.17
Scan: 230
Area: 290417
Semi-quantitative Conc: 30.52 UG/ML

RTL#20

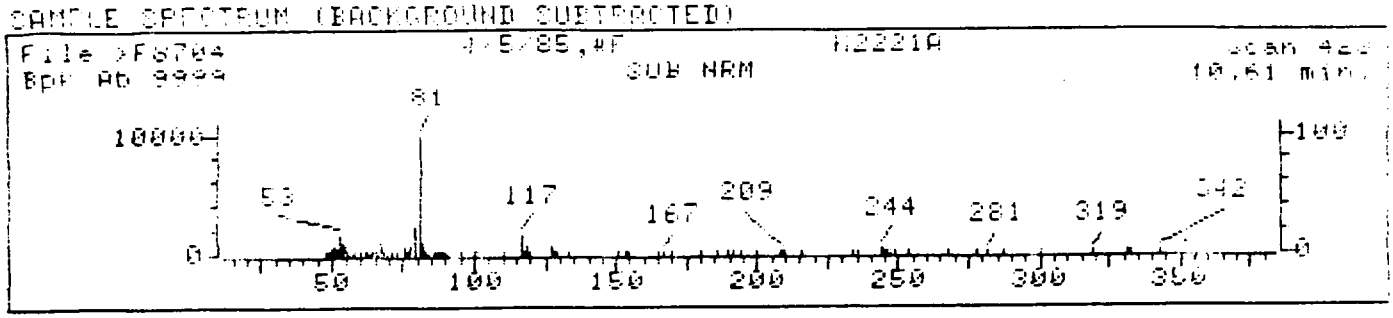
Data File: NF8704 Scan Number: 230
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 5

1.	2,4,6-Methano-2H-cyclopenta[4,5]pentaleno[1,2-b]oxir ene, 2a,3,3,4,5,5a-hexachlorodecahydro-, (1a.alpha., 1b.beta.,2.alpha.,2a.beta.,4.beta.,5.beta.,5a.beta., 5b.beta.,6.alpha.,6a.alpha.)- (9CI)	370	C12H8Cl6O
2.	Rhodium, di-.mu.-bromobis[(1,2,5,6-.eta.)-1,5-cycloo ctadiene]di- (9CI)	500	C16H24Br2Rh2
3.	Cyclohexane, 1,2-dichloro-, trans- (8CI,9CI)	152	C6H10Cl2

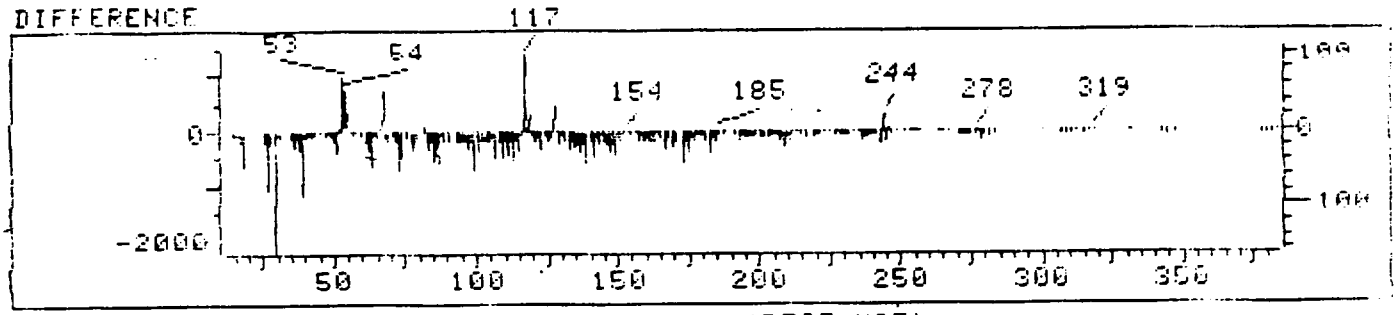
Prob.	Cnct	K	dK	%Flg	Tilt
1. 87	133/239	57	85	0	-2
2. 83	170/254	67	110	0	-2
3. 73	99/266	62	20	0	2

301346

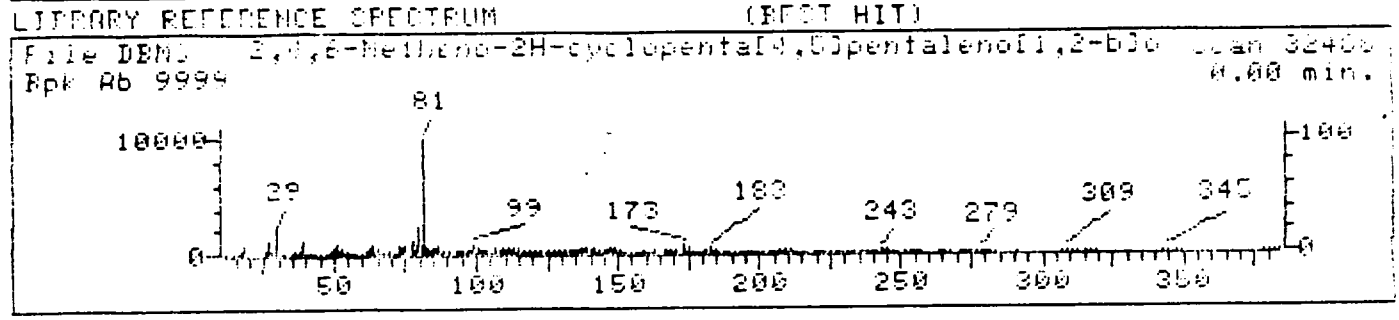
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F6704.MS
Name: 4/5/85,#F
Misc Data: H2221A
RT (min): 10.61
Scan: 423
Area: 29707
Semi quantitative Conc: 39.41 UG/ML

BTL#38

Data File: >F6704 Scan Number: 423
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 50

1.	2,4,6-Metheno-2H-cyclopenta[4,5]pentaleno[1,2-b]oxir ene, 2a,3,3,4,5,5a-hexachlorodecahydro-, (1a.alpha., 1b.beta.,2.alpha.,2a.beta.,4.beta.,5.beta.,5a.beta., 5b.beta.,6.alpha.,6a.alpha.)- (9CI)	378	C12H8Cl6O
2.	Bi-2-cyclohexen-1-yl (8CI,9CI)	162	C12H18
3.	Ethanone, 1-(1-methyl-2-cyclopenten-1-yl)- (9CI)	124	C8H12O

	Prob.	Con't	K	dK	Flg	Tilt
1.	8%	1.3726739	45	97	0	-2
2.	45	1541704	44	44	2	0
3.	47	60752169	40	39	2	0

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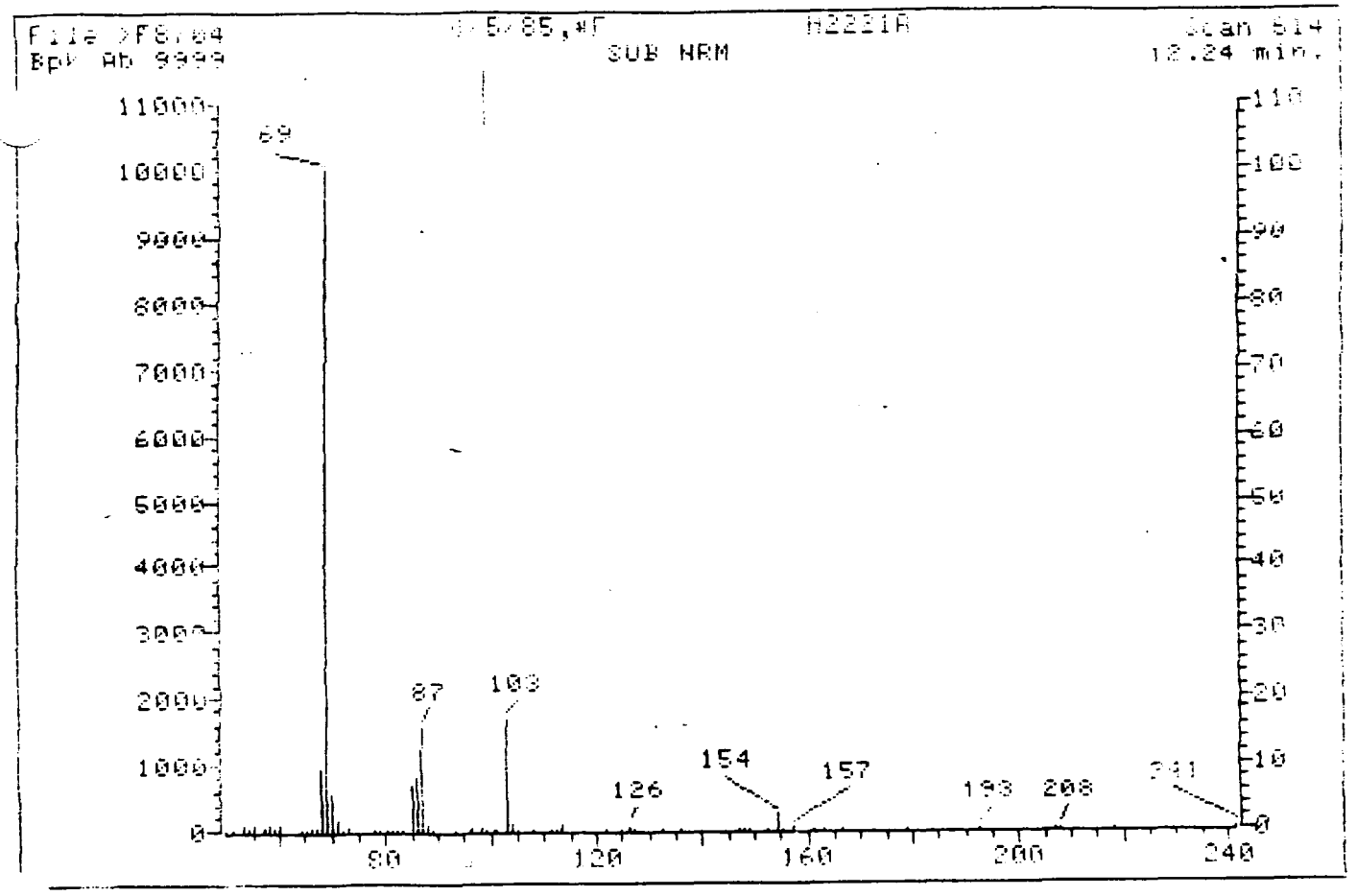
052



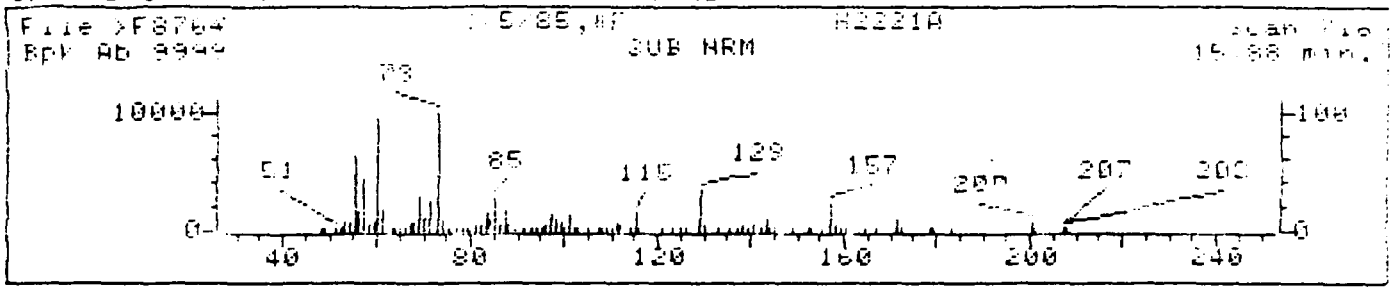
Data File: >F0704:05
Name: 4/5/85,#F
Mi (Data: M2231A
RT (min): 12.24
Scan: 514
Area: 49[illegible]
Semi-quantitative Conc: 65.1 UG/ML

BTL#28

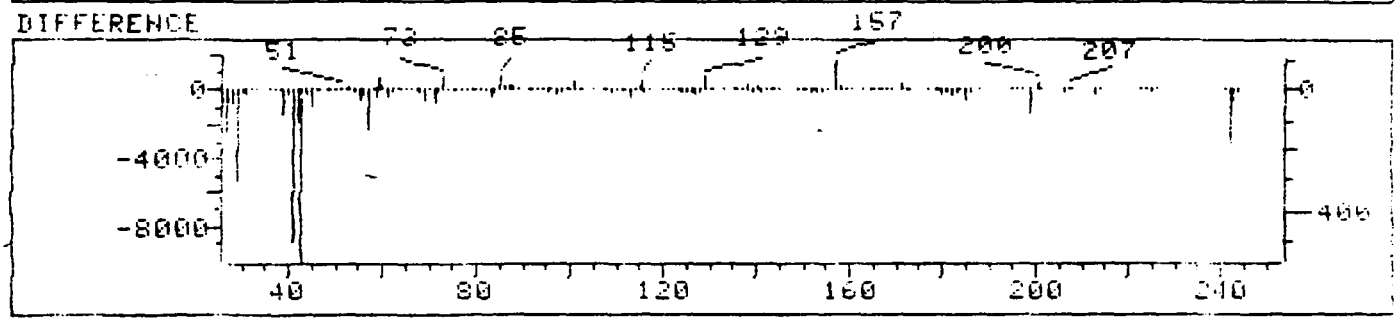
No PBM hits for this scan.

301348

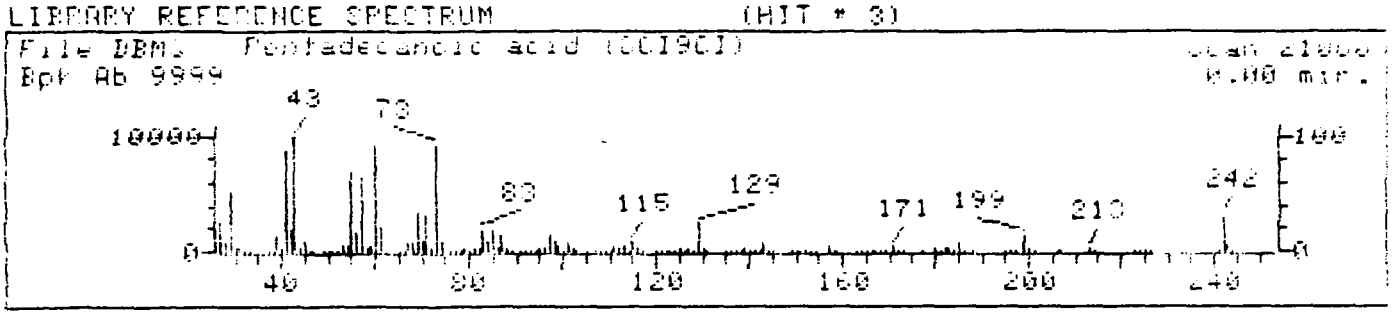
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT * 3)



Data File: >F8704 :US
Name: 4/5/85,#F
Misc Data: H2221A BTL#20
RT (min): 15.98
Scan: 710
Area: 73400
Semi-quantitative Conc 97.5 UG/ML

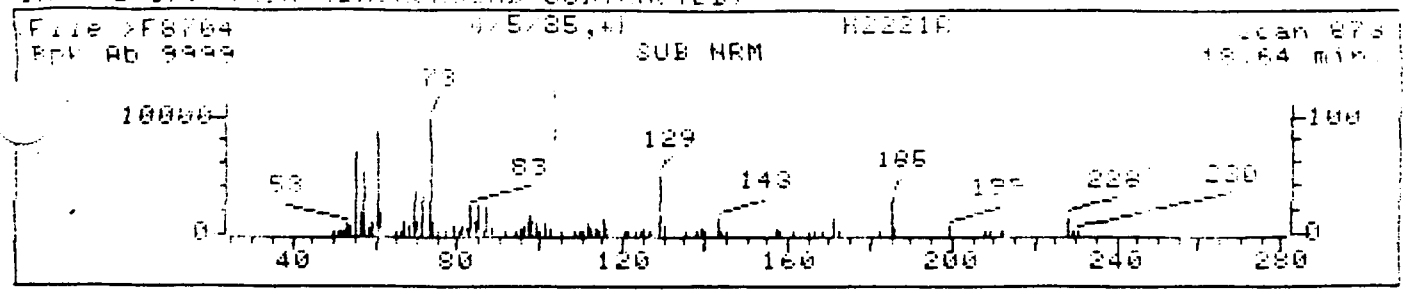
Data File: >F8704 Scan Number: 710
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 50

1. Butyric acid, 4,4'-thiodi-, didodecyl ester (9CI) 542 C32H62O4S
2. Dodecanoic acid (9CI) 200 C12H24O2
3. Pentadecanoic acid (9CI9CI) 242 C15H30O2

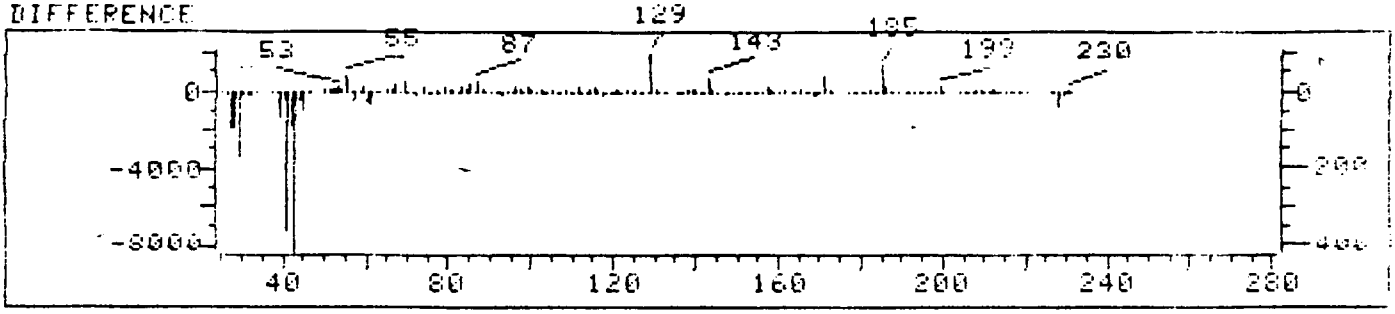
	Prob.	Cmpd	K	dK	#Flg	Tilt
1.	99	3290033	65	70	0	-2
2.	97	143077	107	31	2	0
3.	93	1002042	82	68	1	-1

301349

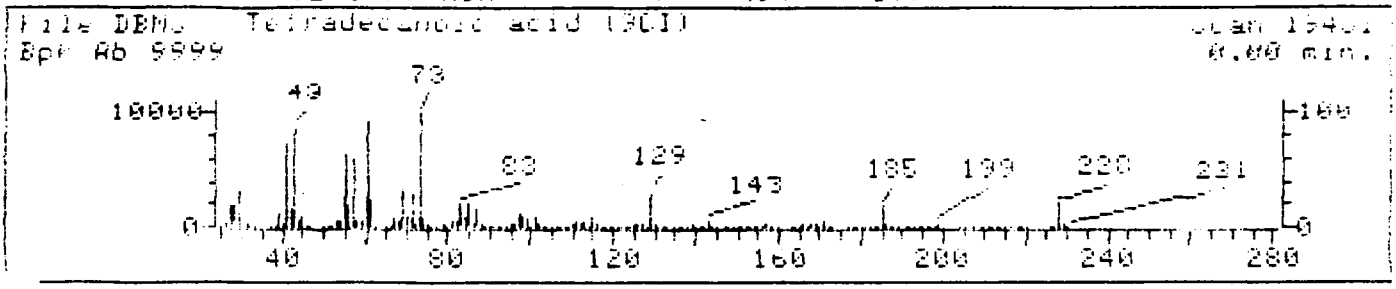
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8704 .UC
Name: 4/5/85,#F
Misc Data: H2221A
RT (min) 10.47
Scan: 877
Area 15[illegible]
Semi-quantitative Conc 21.57 UG/ML

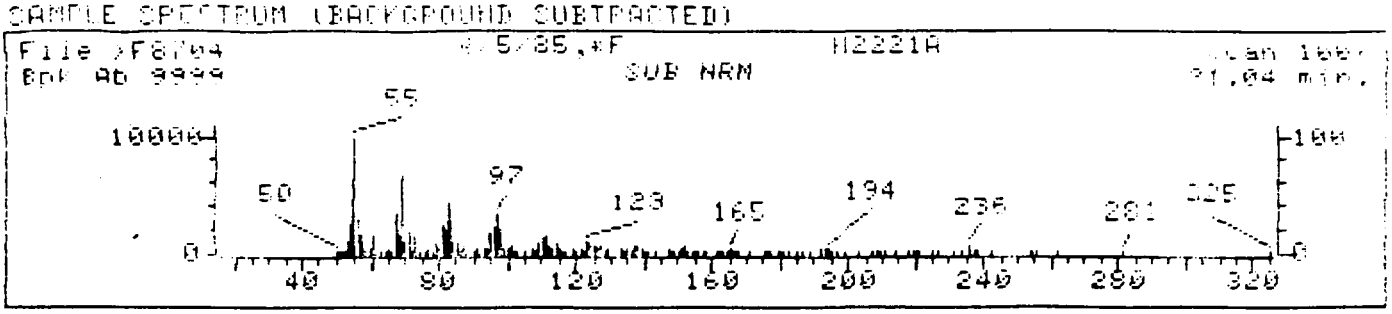
Data File: >F8704 Scan Number: 877
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 60

1. Tetradecanoic acid (9CI) 228 C14H28O2
2. Ethanol, 2-(dodecyloxy)- (8CI,9CI) 230 C14H30O2
3. Tridecanoic acid (9CI,9CI) 214 C13H26O2

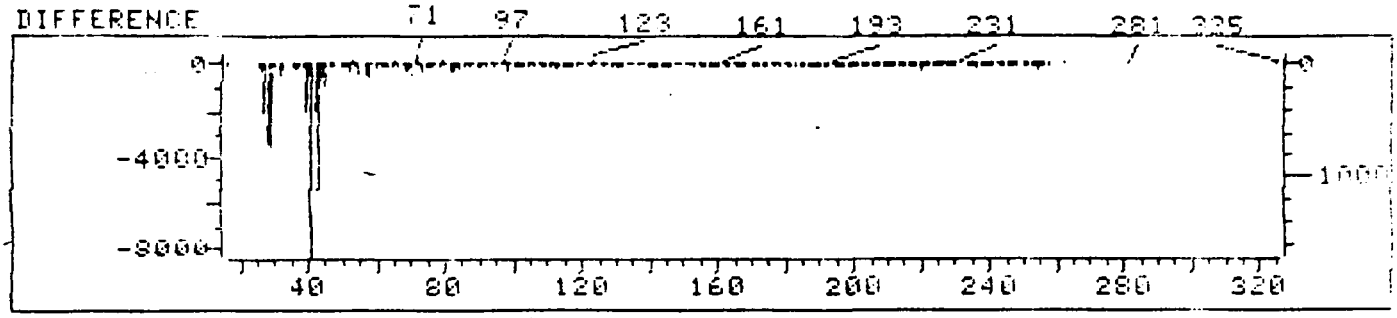
	Prob.	Conf	K	dK	#Fig	Tilt
1.	27	549638	91	55	1	1
2.	20	453630S	55	81	2	-1
3.	60	638539	76	66	3	0

301350

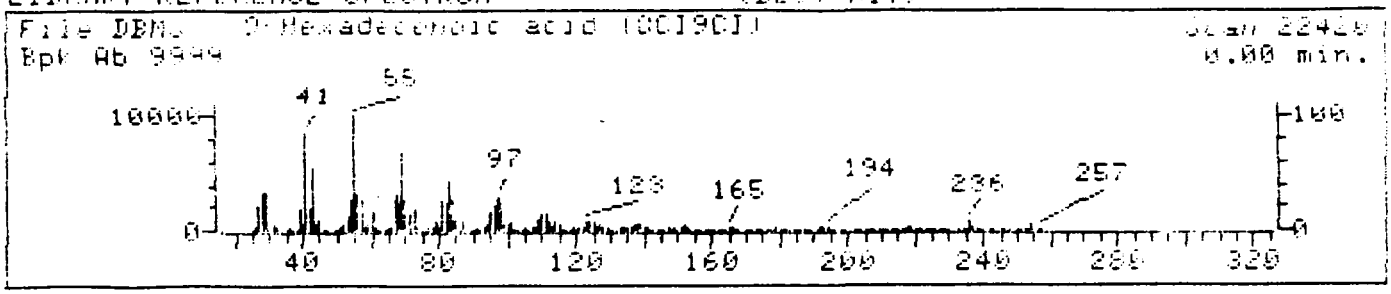
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8704.:US
Name: 4/5/85,#F
Misc Data: H2221A BTL#20
RT (min): 21.04
Scan: 1007
Area: 58[illegible]
Semi-quantitative Conc: 78.3[illegible] UG/ML

Data File: >F8704 Scan Number: 1007
Search Speed: 7 Tiling option: 5 Number of ion ranges searched: 94

1.	9-Hexadecenoic acid (9CI9CI)	254	C16H30O2
2.	14-Pentadecenoic acid (9CI9CI)	240	C15H28O2
3.	Nonahexacontanoic acid, propyl ester (9CI)	1040	C72H144O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	95	2091294	150	7	1	0
2.	88	17351347	114	44	2	0
3	86	40710416	74	148	0	-2

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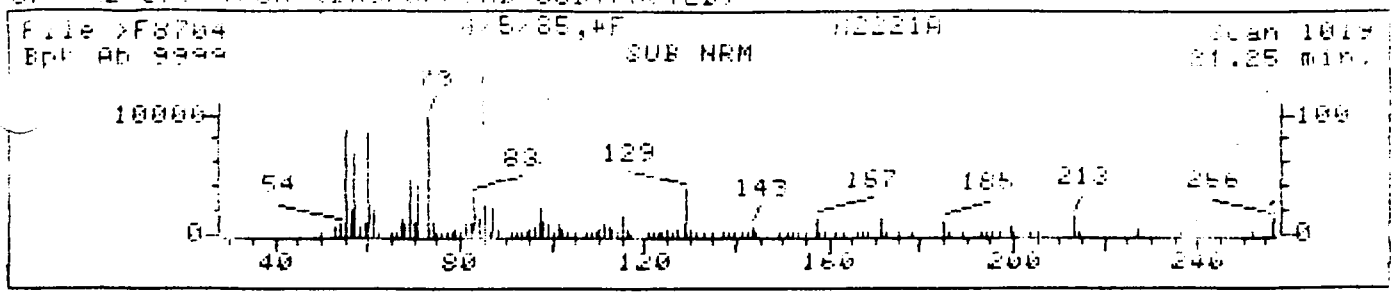
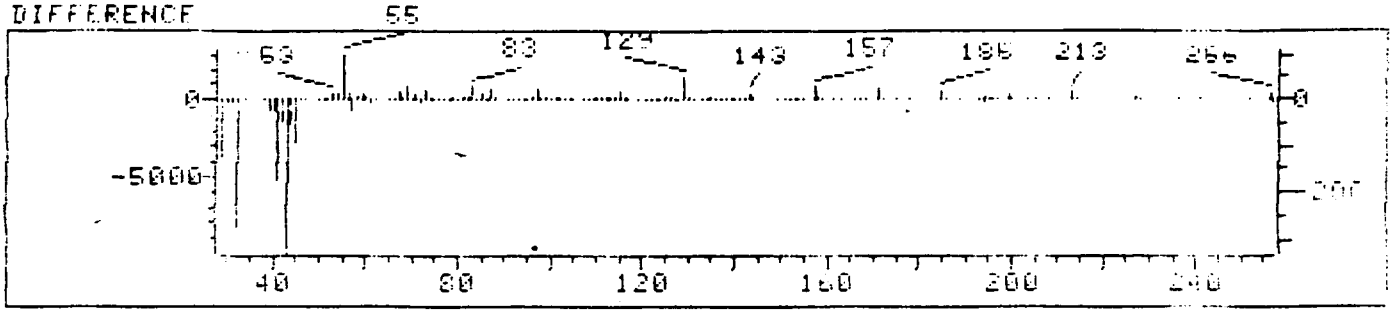
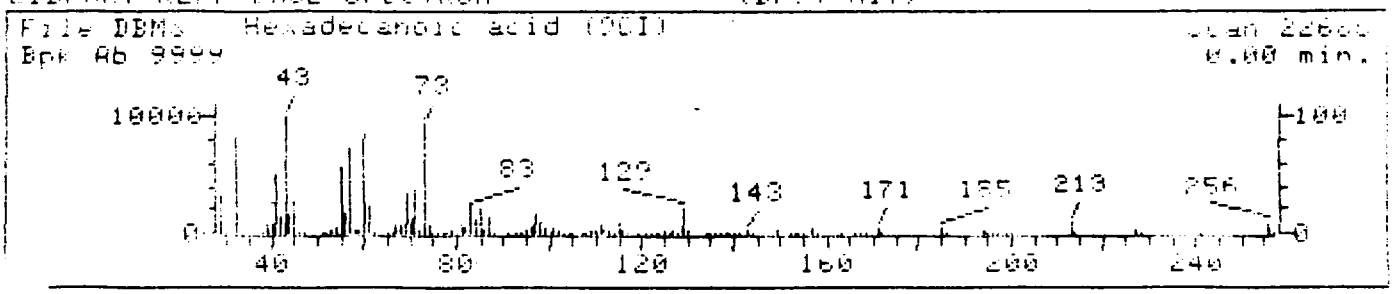
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



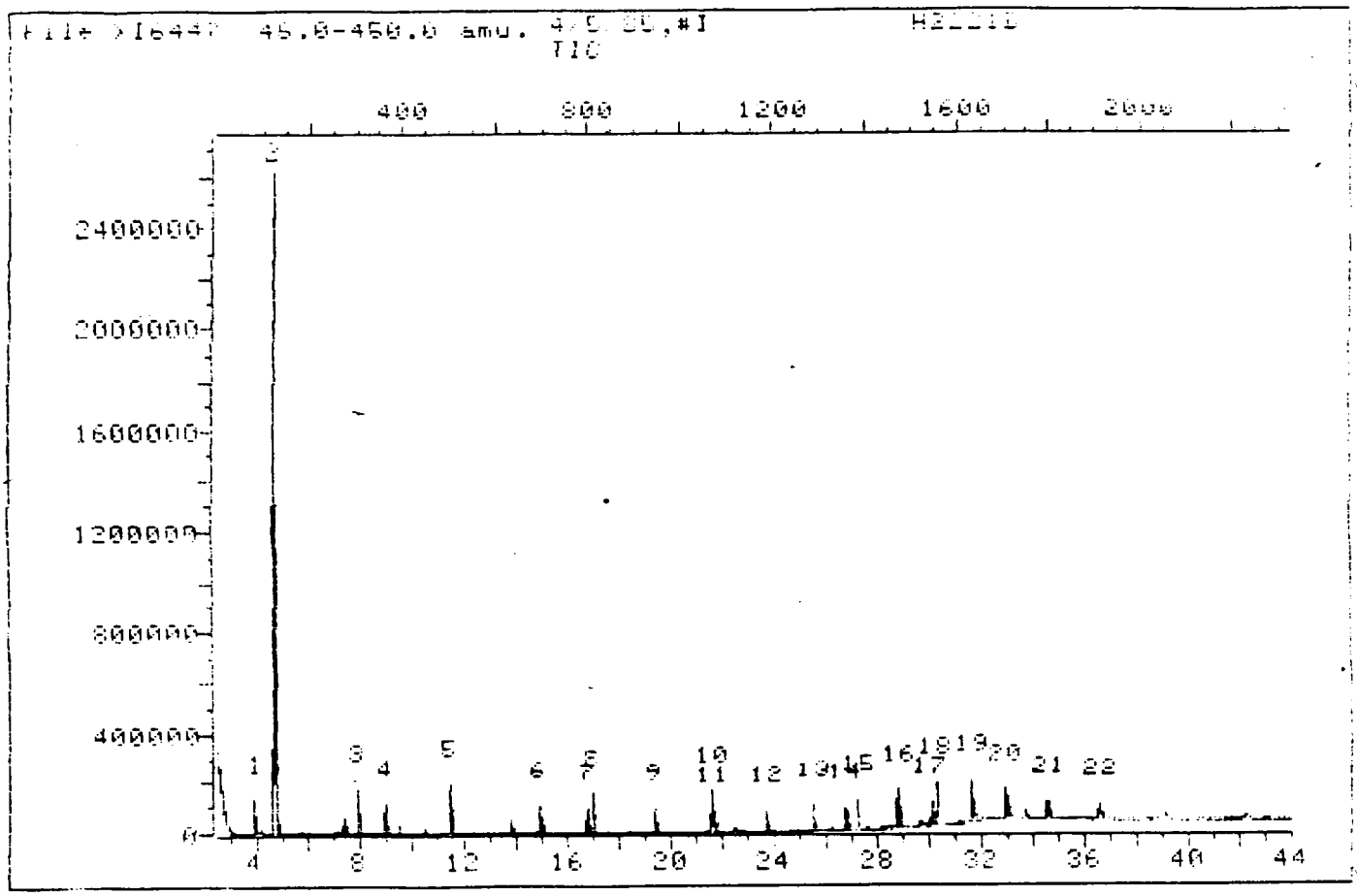
Data File: >F0704.UB
Name: 4/5/93,#F
Misc Data: H2201A BTL#20
RT (min): 21.25
Scan: 1019
Area: 221752
Semi-quantitative Conc: 36.07 UG/ML

Data File: >F0704 Scan Number: 1019
Search Speed: 2 Tilting option: 5 Number of ion ranges searched: Ab

1. Hexadecanoic acid (9CI) 256 C16H32O2
2. Nonahexacontanoic acid, propyl ester (9CI) 1040 C72H144O2
3. Octatetracontane, 1 iodo (9CI) 800 C48H97I

	Prob.	Cost#	K	dK	#Flg	Tilt
1.	25	57103	84	67	0	0
2.	86	40710416	74	148	0	-2
3.	79	40710701	77	111	1	-1

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



Data File: >I6447::06
Name: 4/5 SE,#I
Misc Data: H2201D

PTL# 0

301353

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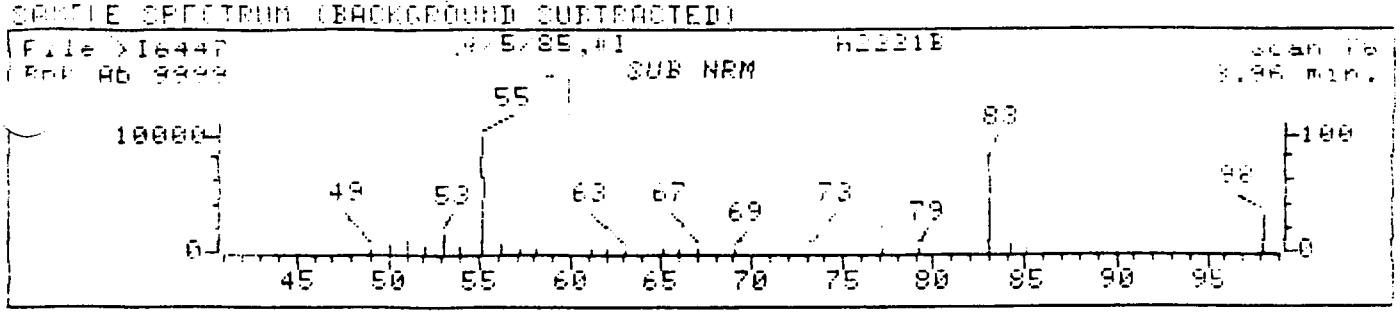
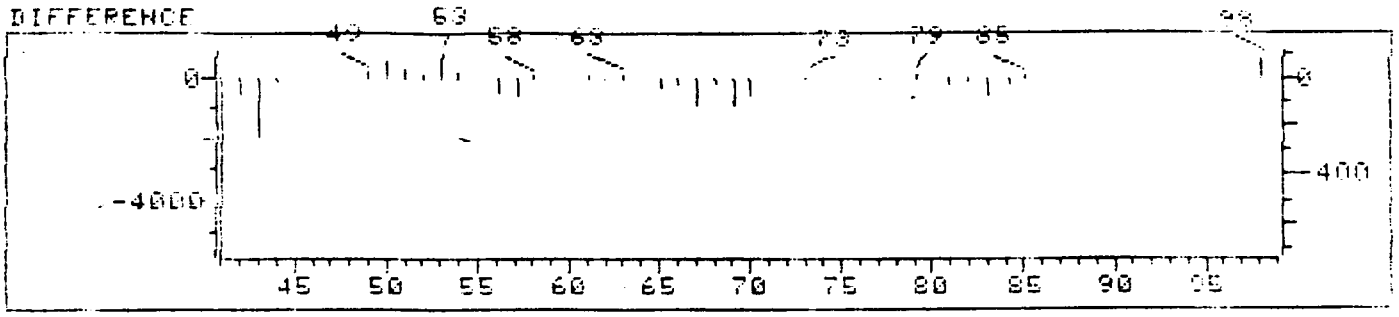
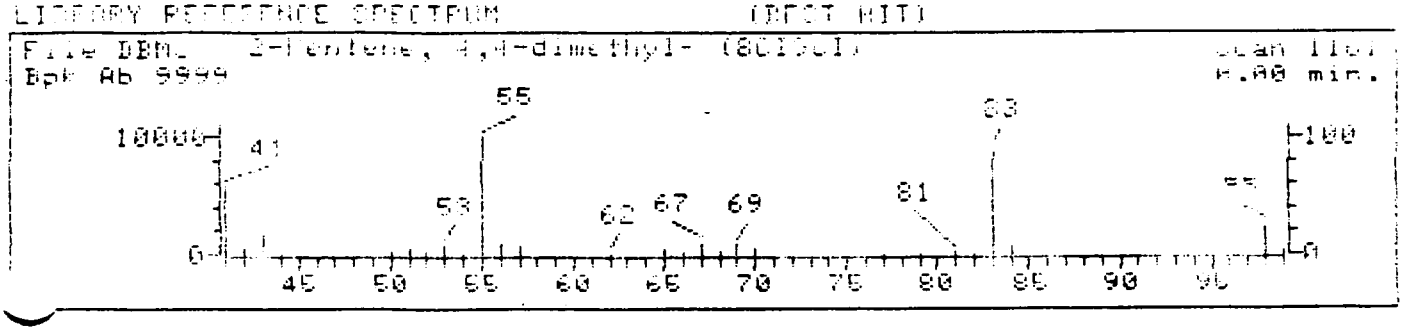
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



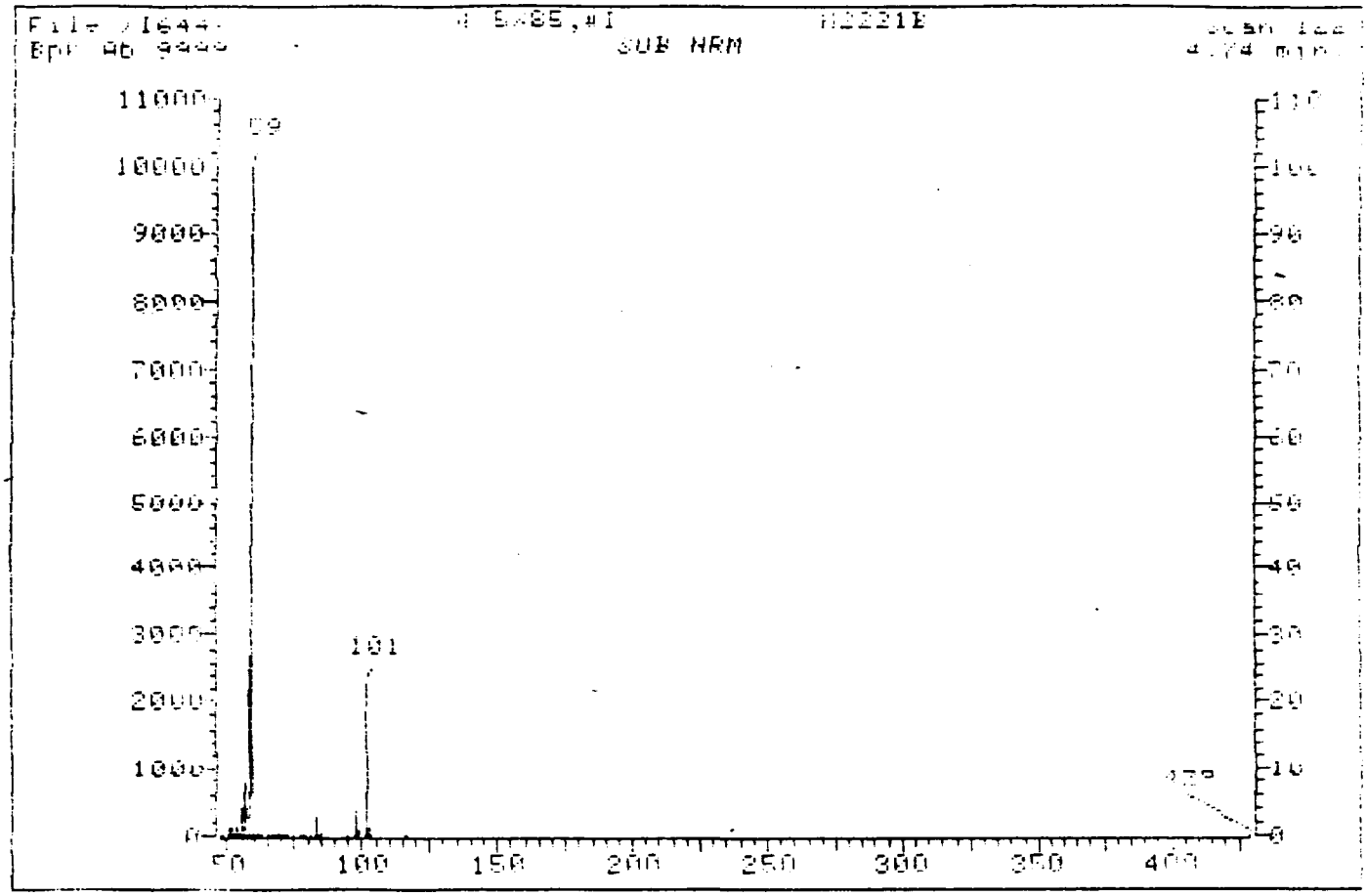
Data File: >I6447.UG
Name: 4/5/85,#1
Misc Data: HC22IR
RT (min): 3.96
Scan: 78
Area: 41[illegible]42
Semi-quantitative Conc: 36.00 UG/ML

RTL# 0

Data File: >I6447 Scan Number: 78
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 59

2-Pentene, 4,4-dimethyl- (8CI9CI)	98	C_7H_{14}
2-Pentene, 4,4-dimethyl-, (Z)- (8CI9CI)	90	C_7H_{14}
2-Pentene, 3,4-dimethyl-, (Z)- (8CI9CI)	98	C_7H_{14}

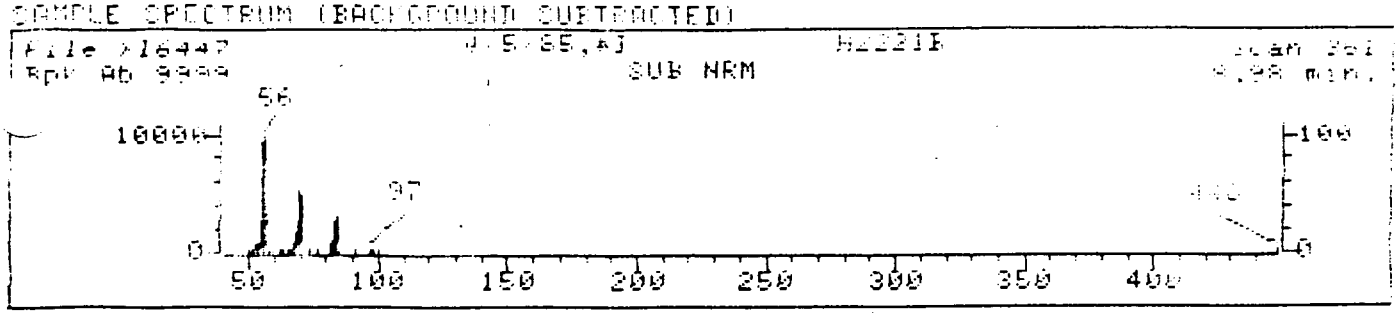
Prob.	Cas#	K	dK	#Flg	Tilt
79	26232984	39	51	2	0
78	762630	34	58	2	0
77	4914914	75	43	2	0



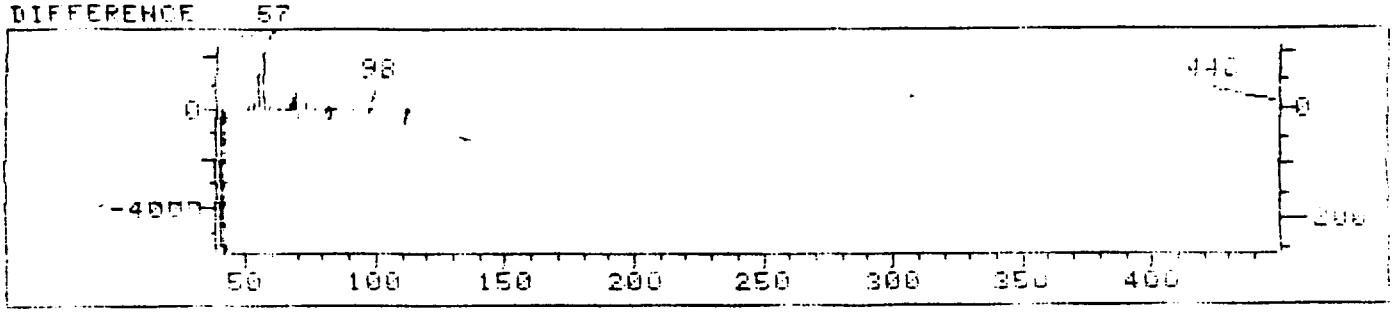
Data File: [illegible]
Name: [illegible]
Misc Data: [illegible] BTL# 0
RT (min): [illegible]
Scan: 122
Area: [illegible]
Semi-quantitative Conc: 1443.00 UG/ML

No PDM hits for this scan.

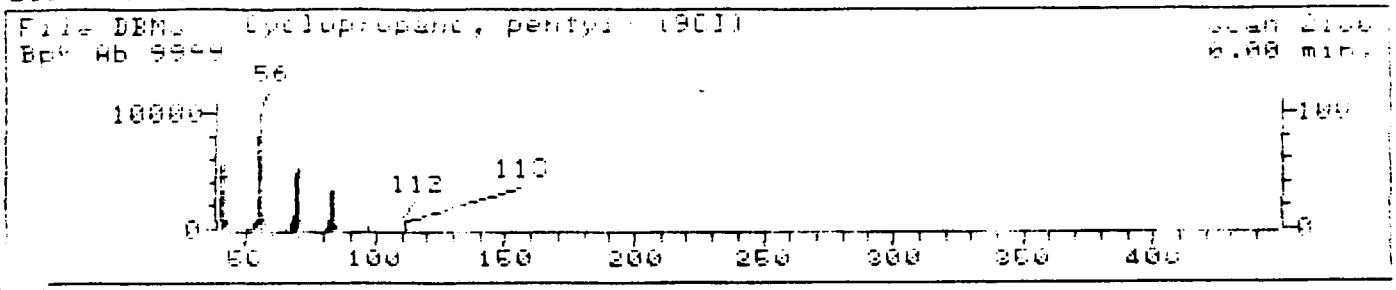
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE 57



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >16447 H6

Misc Data: H2221B BTL# 0

PT (min): 0 °C

Scan: 760

Area: 2[illegible]

Semi-quantitative Conc: 24.[illegible] UG/ML

Data File: >16447 Scan Number: 760

Search Speed: 2 Tilting option: 5 Number of ion ranges searched: [illegible]

Cyclopropane, pentyl- (9CI)	112	C8H16
Heptane, 4-methylene- (9CI)	112	C8H16
1-Pentanol, 3-methyl- (8CI,9CI)	102	C6H14O

Prob.	Conf	K	dK	#Flg	Tilt
29	0511913	63	39	2	0
11	1791[illegible]8	31	53	1	0
7[illegible]	[illegible]	[illegible]	67	0	0

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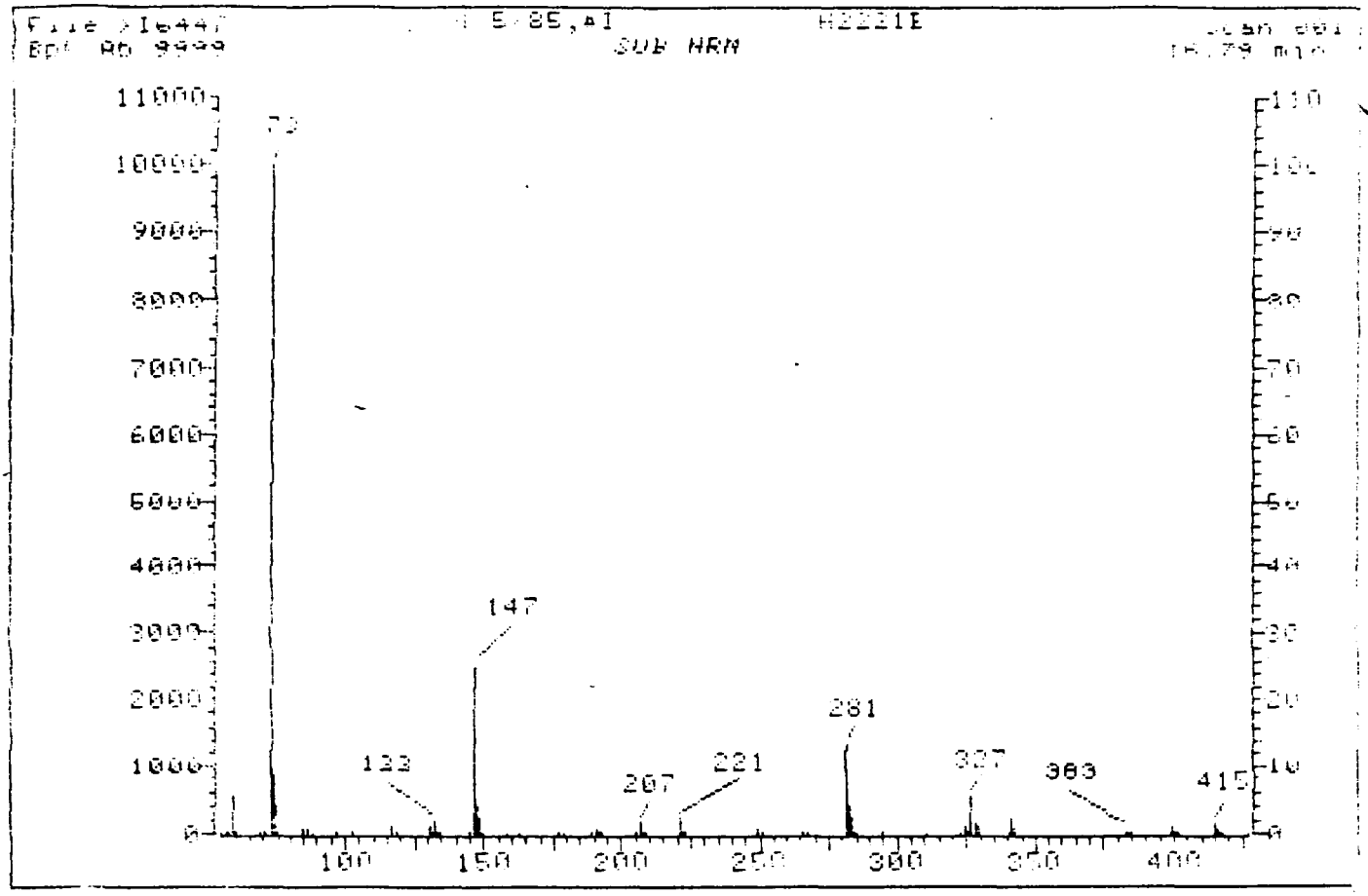
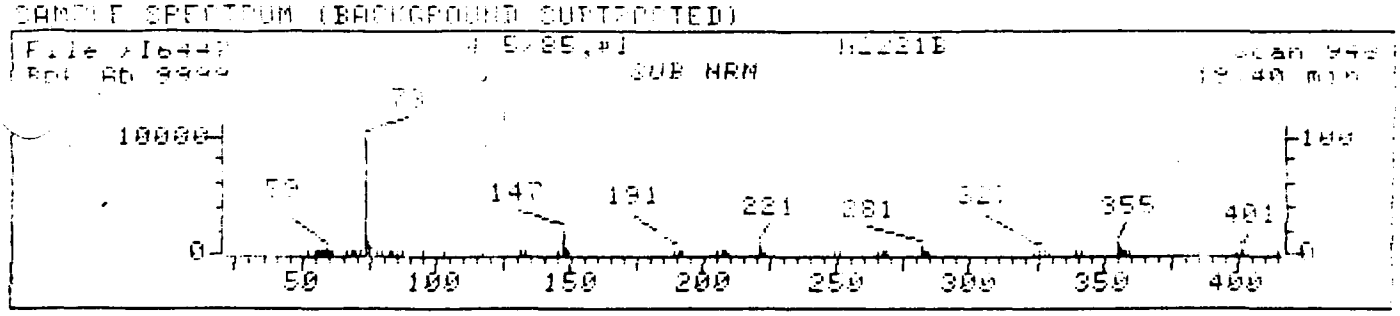


Data File: [illegible]
Name: 4/5/95,#1
Misc Data: H2221B
RT (min): [illegible]
Scan: 803
Area: [illegible]
Semi-quantitative Conc.: [illegible] UG/ML

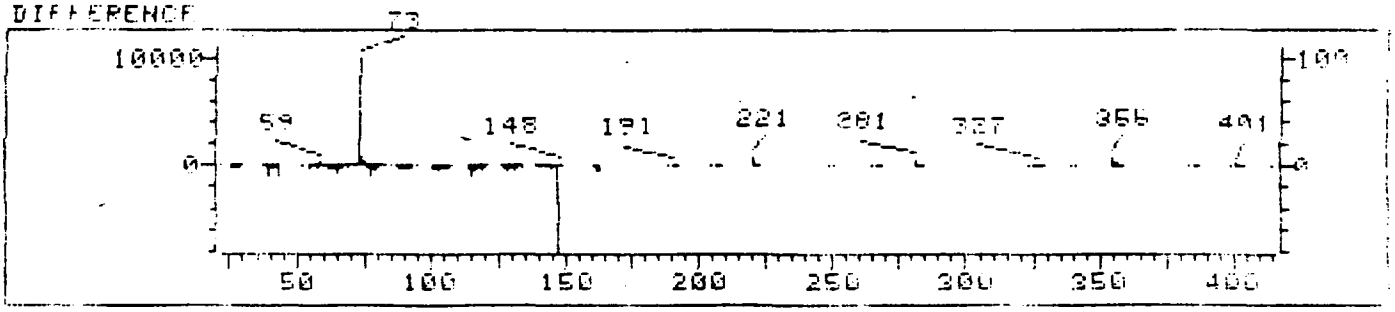
BTL# 9

No PBM hits for this scan.

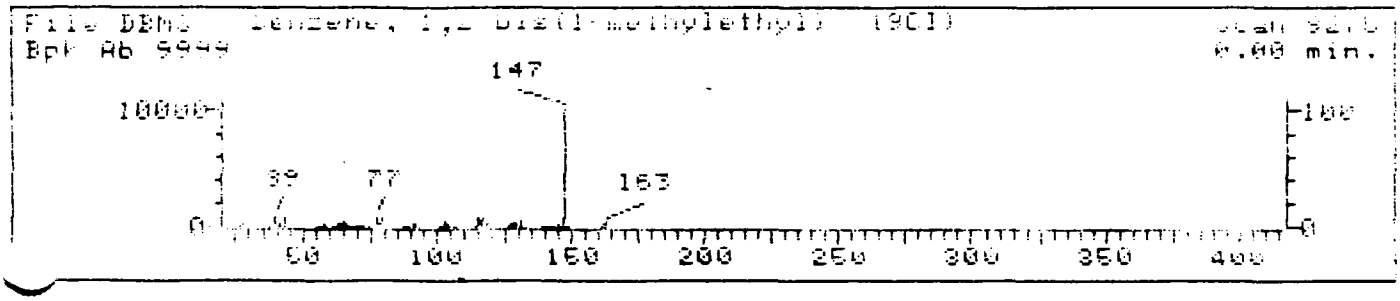
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)

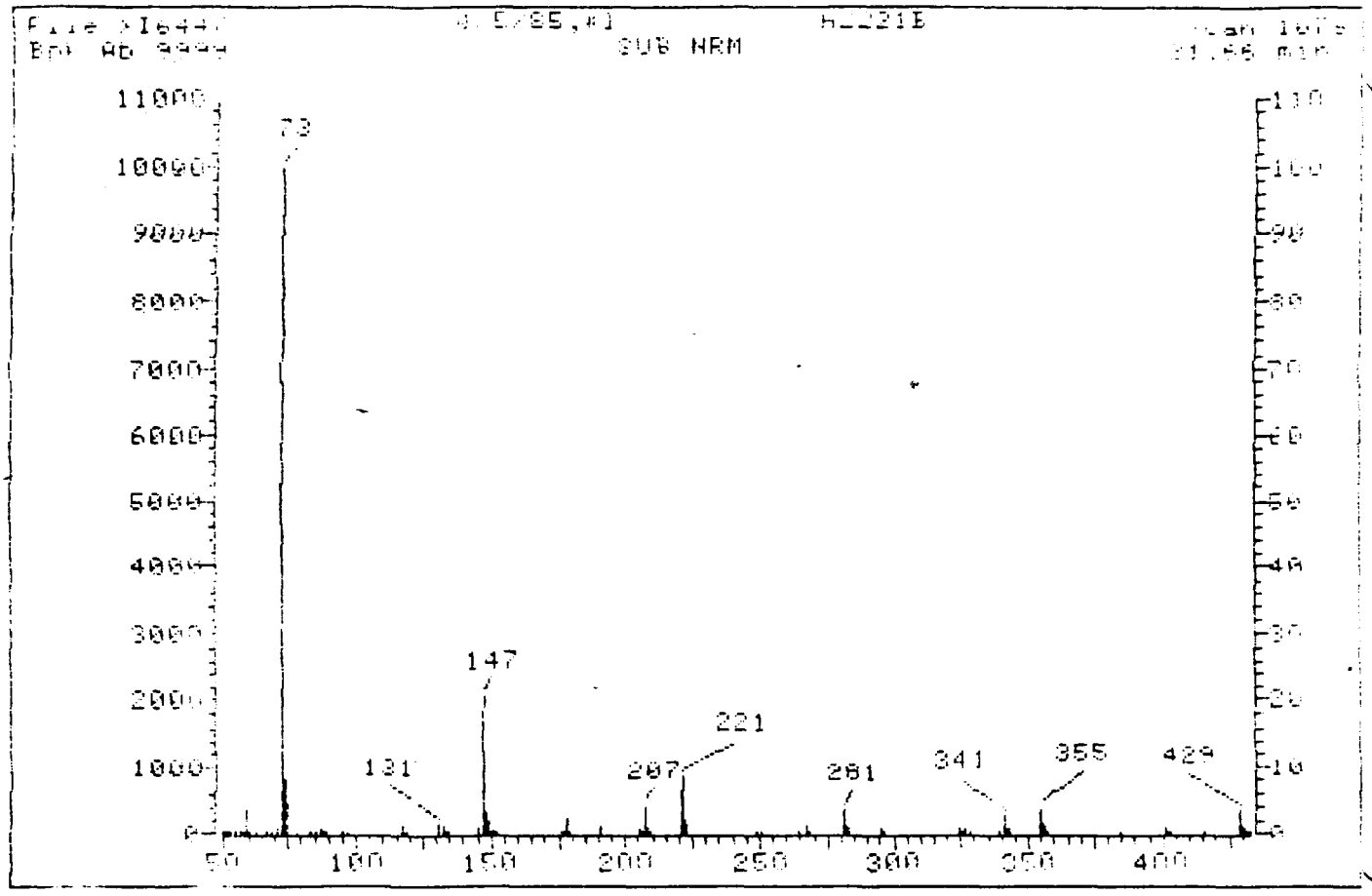


Data File: NT447 .UK
Type: 4/5 95.#I
Misc Data: NC991B
RTL# 0
RT (min): 19.40
Scan: 940
Area: 2000??
Semi-quantitative Conc: 24.00 UG/ML

Data File: NT447 Scan Number: 940
Match Speed: 2 Tilting option: 0 Number of ion ranges searched: 20

1. Benzene, 1,2 bis(1 methylethyl)- (9CI) 162 C10H18

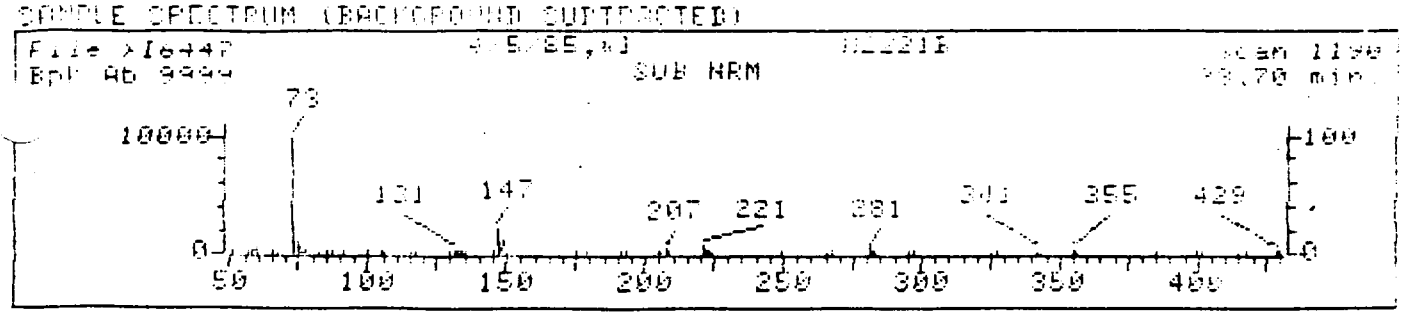
	Prob.	Cas#	K	dK	#Fig	Tilt
1.	50	772559	3%	49	0	-2



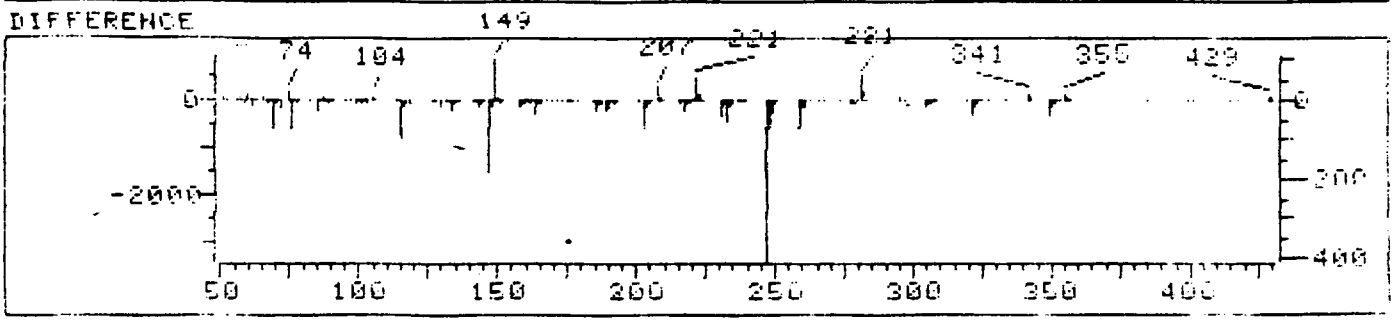
Data F.I. [illegible]
Name: [illegible]
Misc Data: [illegible]
RT (min): [illegible]
Scan: 1075
Area: 240[illegible]
Semi-quantitative Conc: [illegible] UG/ML

No PBM hits for this scan.

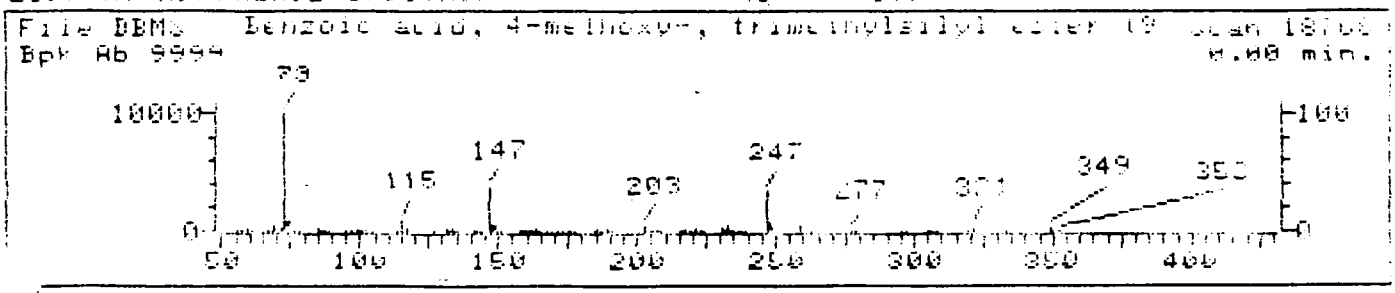
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6447:HP
Name: 4/5/85,#I
Misc Data: HP5971B
RT (min): 2.70
Scan: 1190
Area: 2447.2
Semi-quantitative Conc: 21.07 UG/ML

PTL# 0

Data File: >I6447 Scan Number: 1190
Search Speed: 2 Tuning option: S Number of ion ranges searched: 67

1. Benzoic acid, 4-methoxy , trimethylsilyl ester (CDI) 224 C11H16O3Si

	Prob.	Cas#	K	dK	#Rlg	Tilt
1.	20	3079140	22	80	2	0

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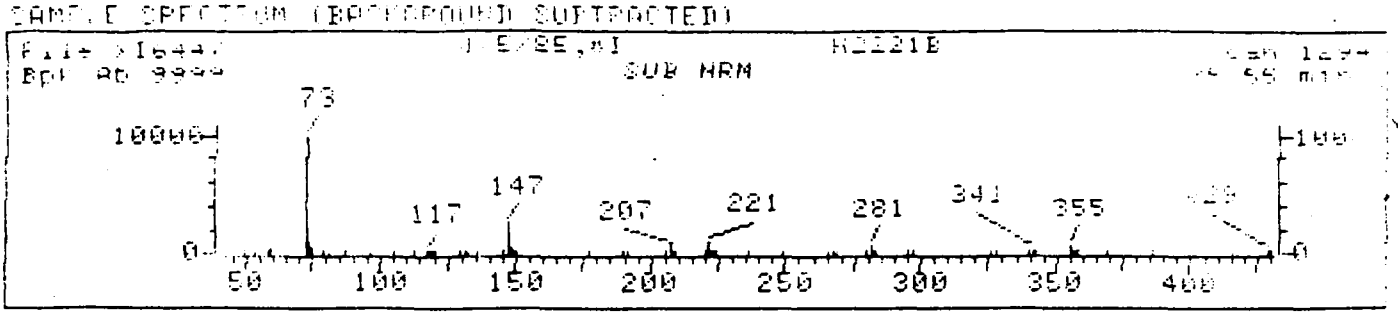
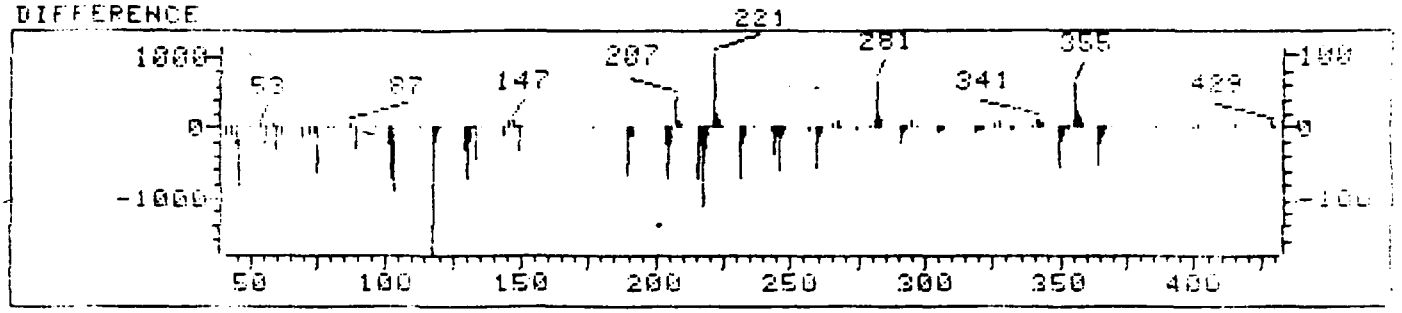
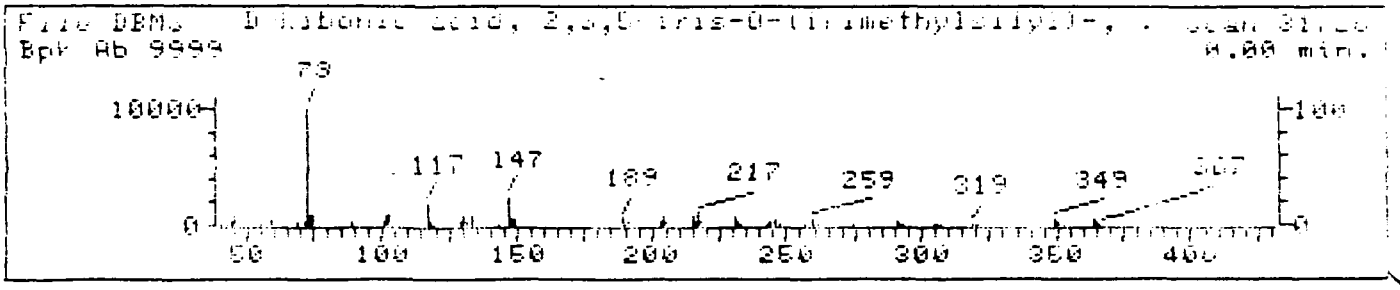
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6447.UA
Time: 4/5/85,#I
Misc Data: HP221B
RT (min): 27.75
Scan: 1294
Area: 250500
Semi-quantitative Conc: 22.09 UG/ML

PTL# 8

Data File: >I6447 Scan Number: 1294
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 67

1. D-Ribonic acid, 2,3,5 tris-O-(trimethylsilyl)-, gam 364 C14H32O5Si3
   -lactone (9CI)
2. Benzenepropanoic acid, .beta.,.beta.,3,4-tetramethyl 206 C13H18O2
   (9CI)
3. Pro t-13-en i-oic acid, 9,11,15-tris[(trimethylsilyl 644 C32H60O5Si4
)oxy]-, trimethylsilyl ester, (9.beta.,11.alpha.,13E
   ,15S)- (9CI)

	Prob.	Cas#	M	dK	#Rig	Tilt
1.	07	10529341	57	95	0	-2
2.	13	57605100	40	79	0	-2
3.	79	55756379	33	150	0	2

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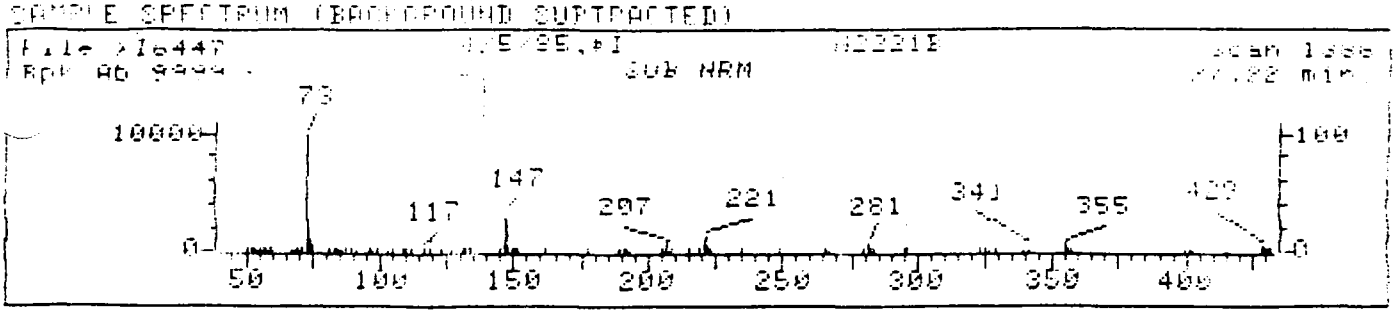
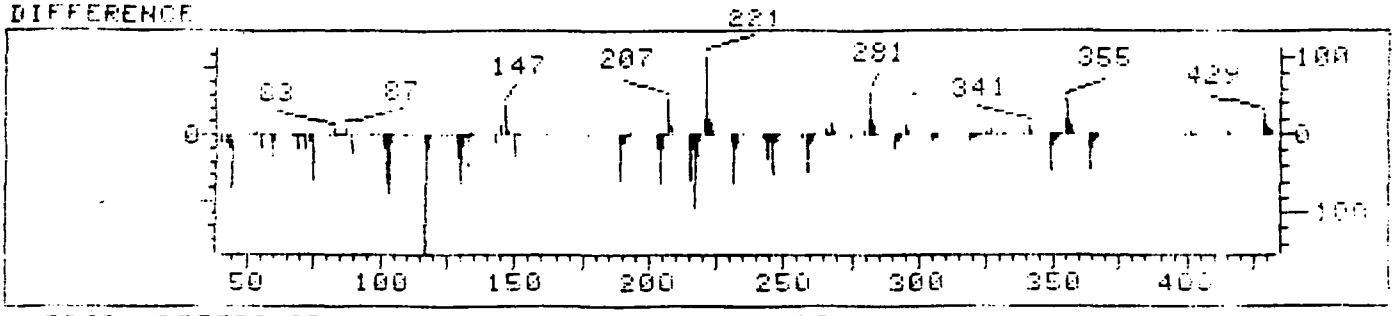
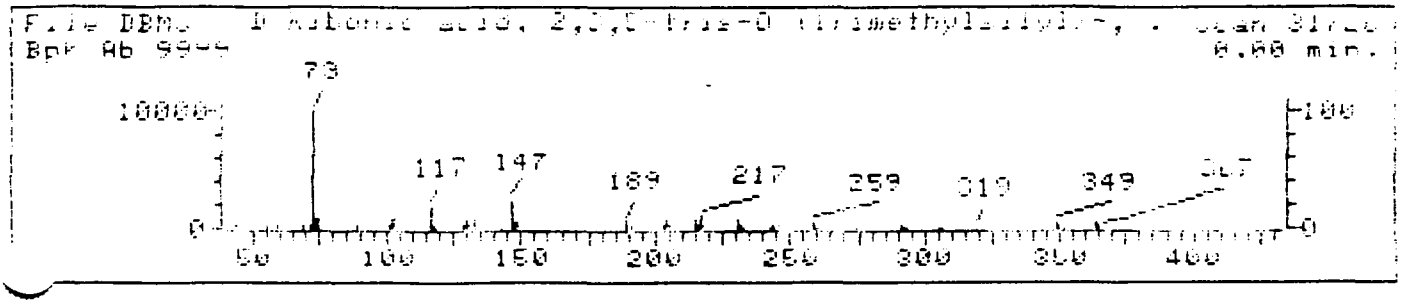
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I(447:)M:
Time: 27'55,#I
Misc Data: M2??AB
RT (min): 27.22
Scan: 1388
Area: 340???
Semi-quantitative Conc. 30.10 UG/ML

RTL# 0

Data File: >I:447 Scan Number: 1388
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 22

1. D-Ribonic acid, 2,3,5-tris-O-(trimethylsilyl) , gam 364 C14H32O7Si
N?-lactone (9CI)
2. Butanal, 2,3,4-tris[(trimethylsilyl)oxy]-, O-methylo 365 C15H35NO4Si3
xime, [R (R*,R*)]- (9CI)
3. Pro-t-13-en-1-oic acid, 9,11,15-tris[(trimethylsilyl 644 C??H??O??Si4
)oxy] , trimethylsilyl ester, (?.beta.,11.alpha.,13E
,15S)- (9CI)

Prob	Card	K	dK	#Tic	Tilt
1 02	C0???1	37	92	0	2
2 ??	Si?3A2	3?	107	0	-1
3 ??	????	??	158	0	-2

2?102

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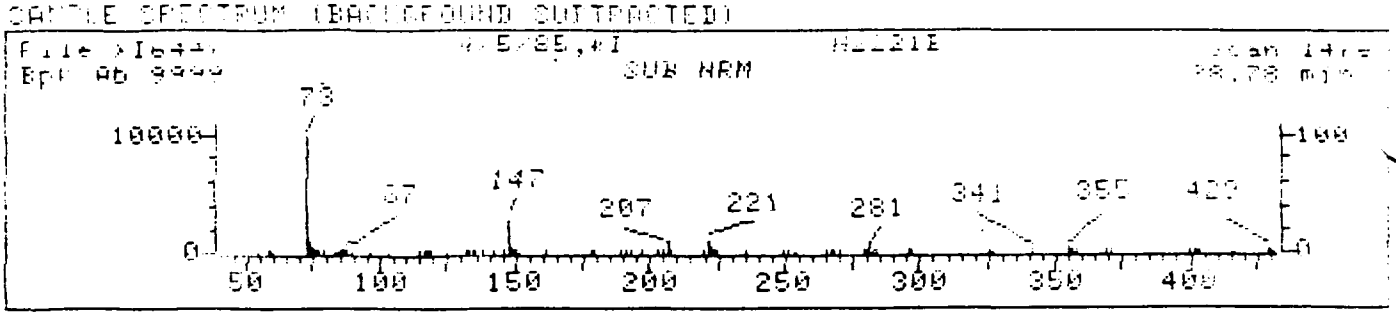
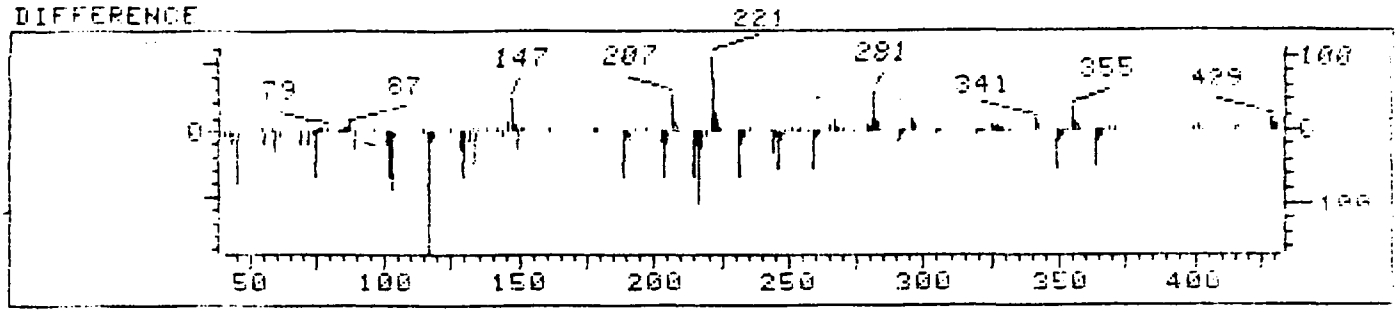
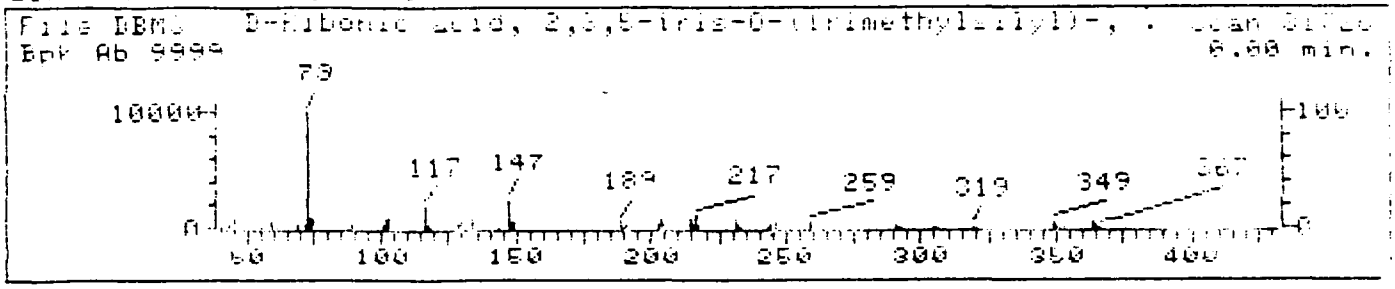
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: .T6147..DA
Time: 4/5/85,#1
Misc Data: HC*.*B
RT (min): *.**
Scan: 1476
Area: 40****
Semi-quantitative Conc: 36.33 UG/ML

RTL# 8

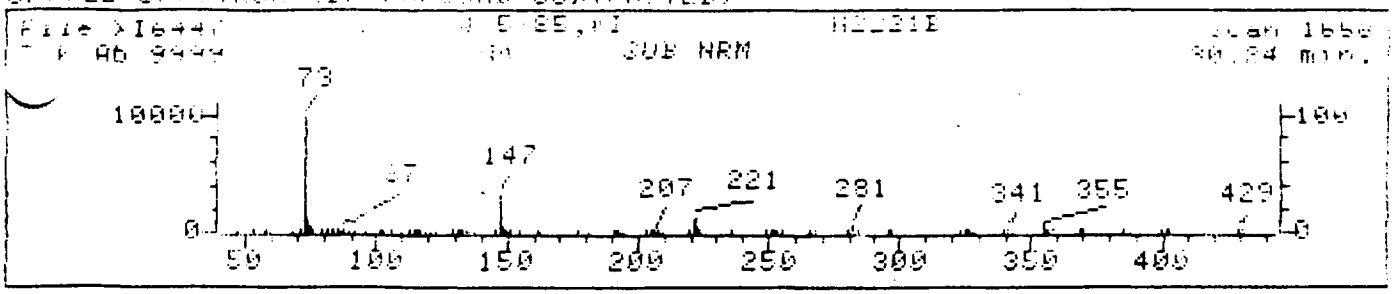
Data File:)T:447 Scan Number: 1476
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 7

1. D Ribonic acid, 2,3,5 tris-O-(trimethylsilyl)-, .gam 364 C14H32O7Si
   m.-lactone (9CI)
2. Benzenepropanoic acid, .beta.,.beta.,3,4-tetramethyl 206 C13H18O2
   - (9CI)
3. Pro.t-13-en-1-oic acid, 9,11,15-tris[(trimethylsilyl 644 C32H68O5Si
)oxy]-, trimethylsilyl ester, (9.beta.,11.alpha.,13E
   ,15S)- (9CI)

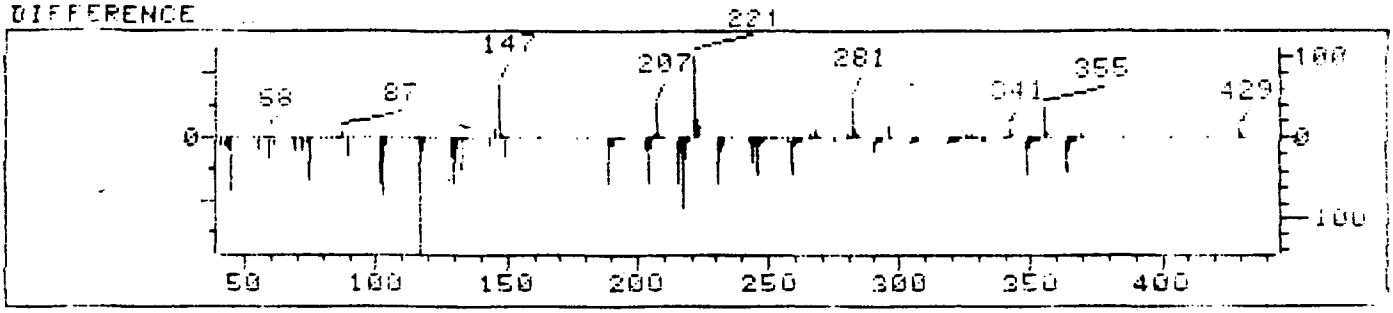
	Prob.	Conf	K	dK	#Flg	Tilt
1.	97	10389341	71	101	0	-2
2.	96	5760310	49	80	0	-2
3.	70	2555279	35	176	0	-2

301363

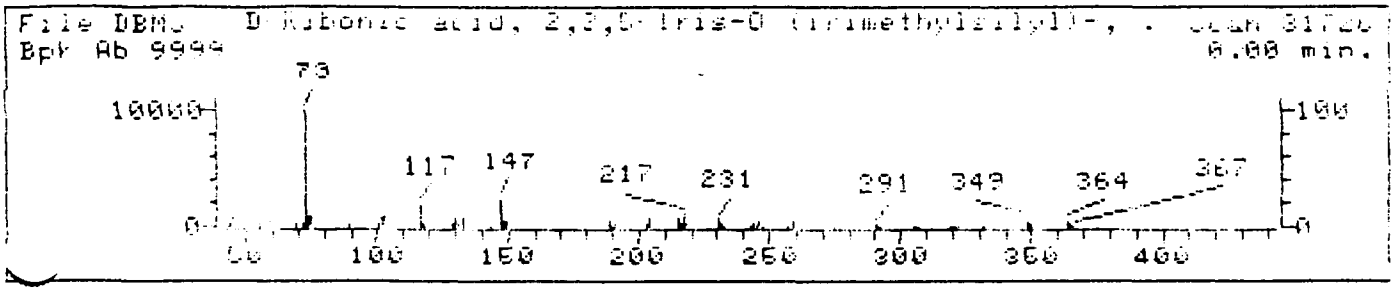
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: [illegible]
Name: [illegible]
Misc Data: [illegible]
RT (min): [illegible]
Scan: [illegible]
Area: [illegible]
Semi-quantitative Conc 44.70 UG/ML

RTL# 0

Data File: [illegible] Scan Number: [illegible]
Search Speed: 0 Tuning option 0 Number of ion ranges searched: [illegible]

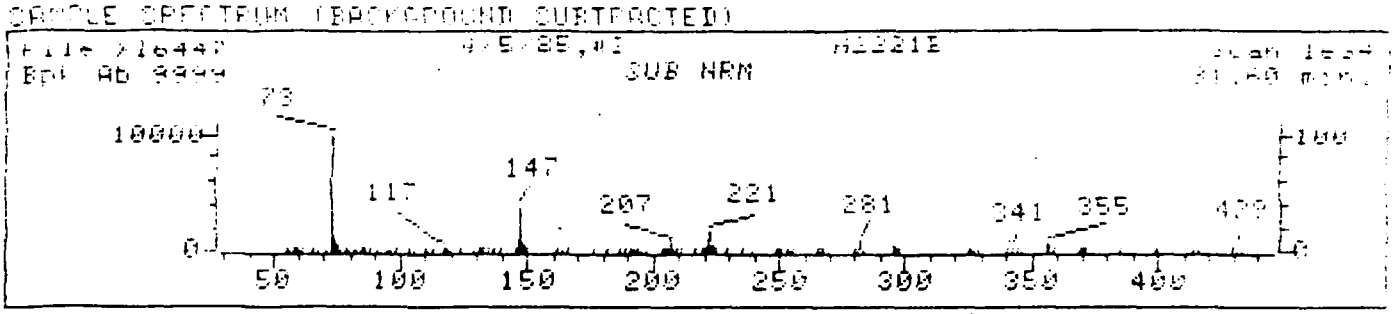
D Ribonic acid, 2,3,5 tris-O-(trimethylsilyl) , lactone 364 C14H32O5Si3
(9CI)
Benzenepropanoic acid, beta.,beta.,3,4-tetramethyl 206 C13H18O2
- (9CI)

Prob.	Cas#	K	dK	#Dig	Tilt
87	10589341	56	96	0	-2
[illegible]	55703100	37	86	0	-2

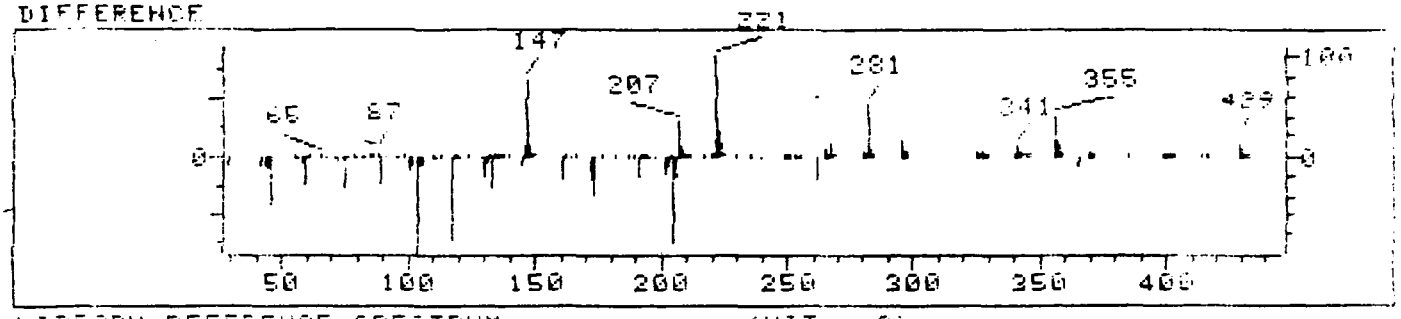
[illegible]

301364

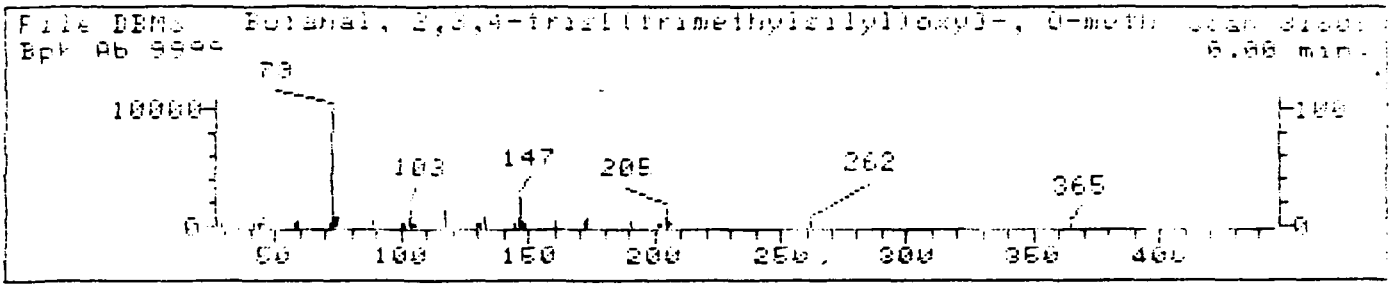
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



Data File: [illegible]
Name: [illegible]
Misc Data: [illegible]
RT (min): [illegible]
Scan: [illegible]
Area: [illegible]
Semi-quantitative Conc: 52.01 UG/ML

RTL# 0

Data File: [illegible] Scan Number: [illegible]
Search Speed: 2 Titling option: 5 Number of ion ranges sea[illegible]

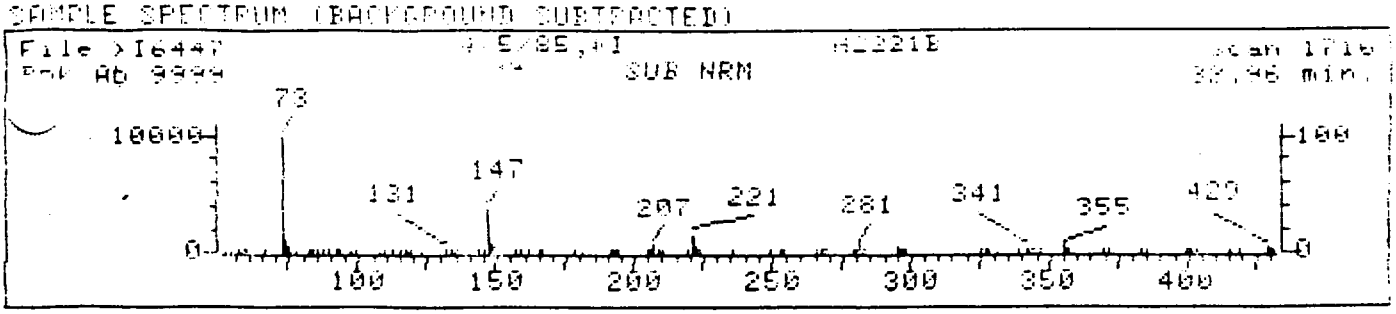
1. Benzenepropanoic acid, .beta.,.beta.,3,4 tetramethyl- 206 C13H18O2 (9CI)
2. Butanal, 2,3,4-tris[(trimethylsilyl)oxy]-, O-methyloxime, [R-(R*,R*)]- (9CI) 365 C[illegible]
3. Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C[illegible]

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	72	55[illegible]08	33	86	0	-2
2.	35	56[illegible]2	31	109	0	-2
3.	17	70[illegible]40	26	76	0	0

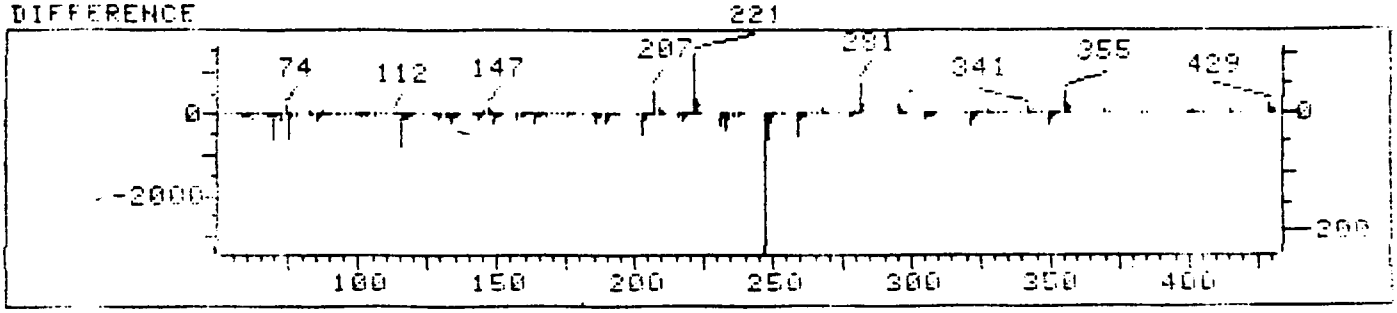
301365

301365

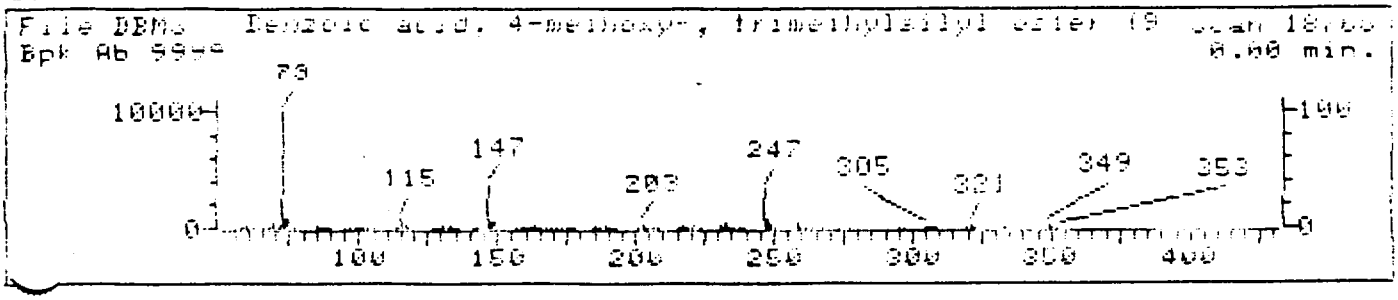
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: [illegible]
Name: [illegible]
Misc Data: [illegible]
PT (min): [illegible]
Scan: [illegible]
Area: [illegible]
Semi-quantitative Conc: [illegible] UG/ML

PTL# 0

Data File: [illegible] Scan Number: [illegible]
Search Speed: [illegible] Tuning option: [illegible] Number of ion ranges searched: [illegible]

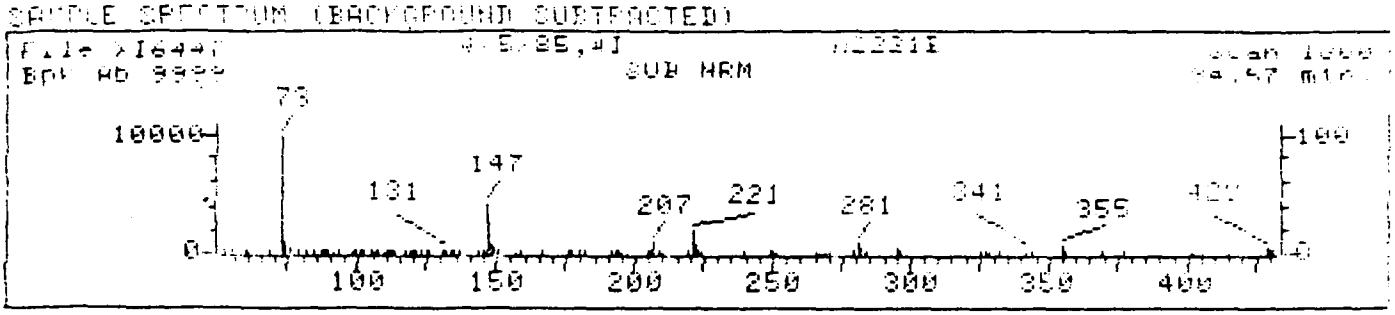
Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si

Prob.	Cas#	K	dK	#Fig	Tilt
50	0070140	76	76	2	0

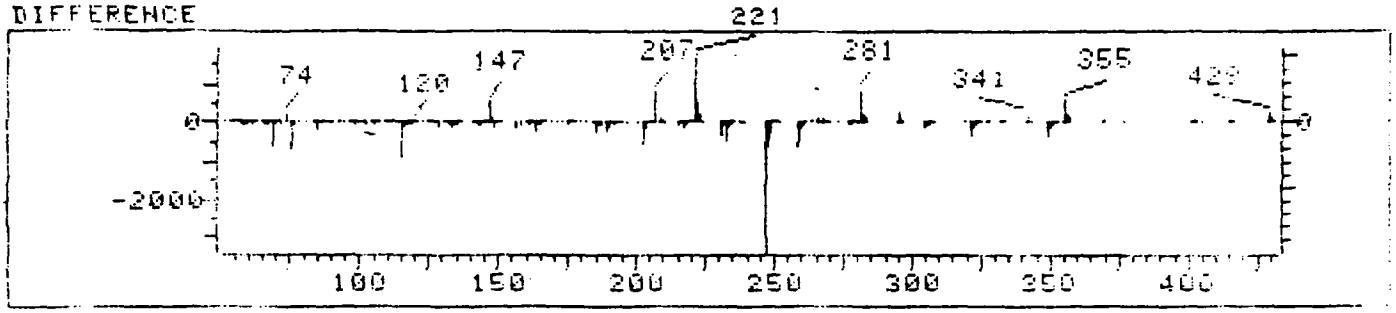
301366

301366

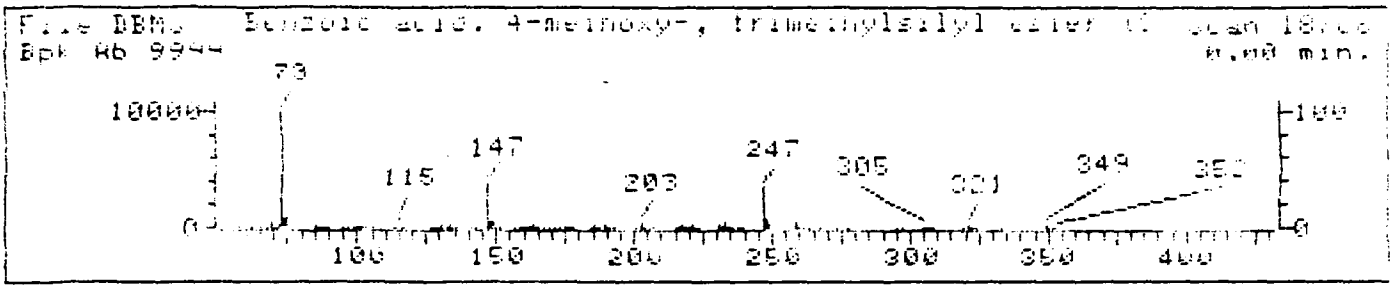
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: [illegible]
Name: 4/5/85,#1
Misc Data: [illegible]
FT (amp): [illegible]
Scan: 1000
Area [illegible]
Semi-quantitative Conc 29.34 UG/ML

BTL# 0

Data File: [illegible] Scan Number: 1000
Search Speed: 2 Tuning option: S Number of ion ranges searched: 6

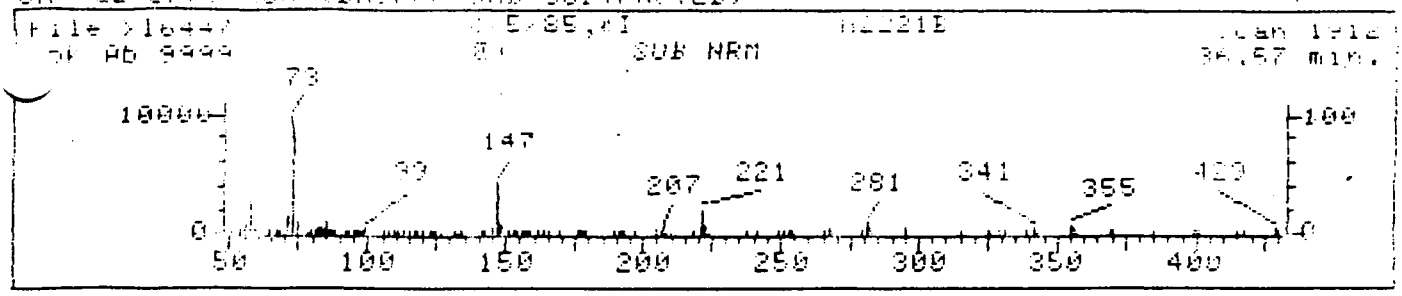
1. Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si
2. 1H-Indole-2-phenyl-3-(trimethylsilyl)- (9CI) 265 C17H19NSi

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	52	20[illegible]40	31	71	2	0
2.	11	74367547	35	59	2	0

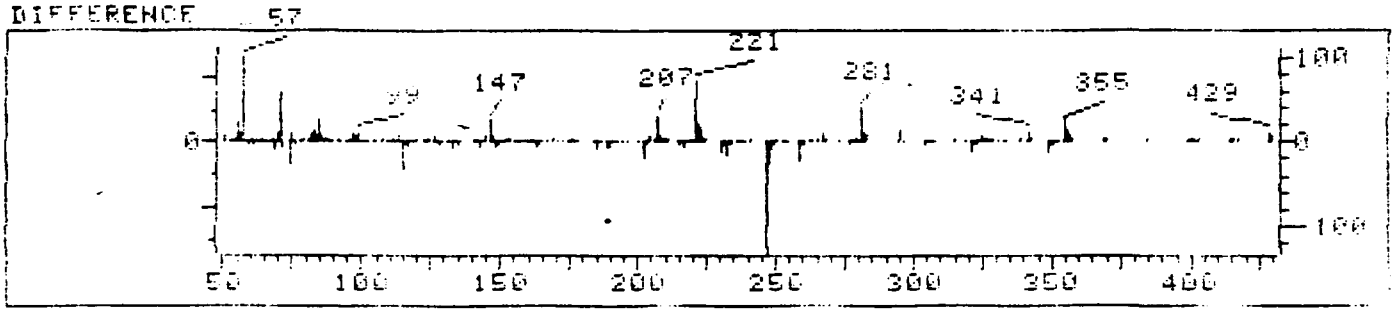
301367

301367

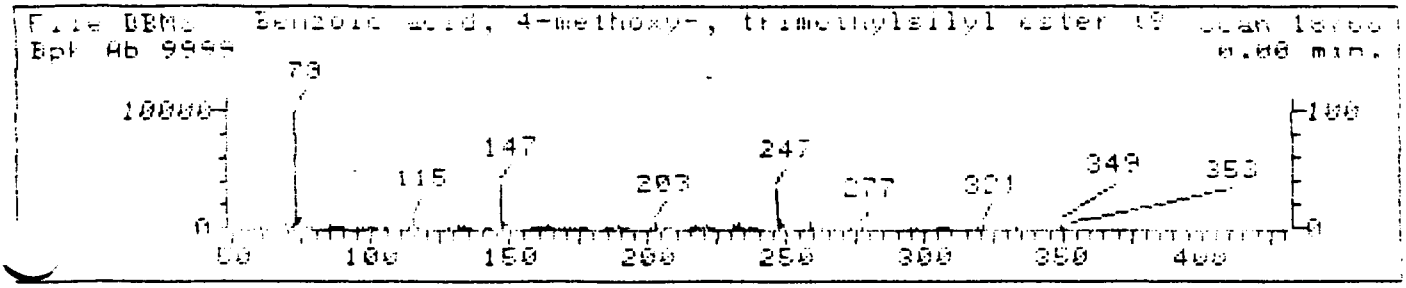
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >T:447:HC
Name: 4/5/95,#I
Misc Data: M9C91D
RT (min): 34.57
Scan: 1913
Area: 2[illegible]
Semi-quantitative Conc: 25.71 UG/ML

Data File: >T:447 Scan Number: 1913
Search Speed: 0 Tuning option: 0 Number of ion ranges searched: 60

1. Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si
2. 9H-Purin-6-amine, [(2-fluorophenyl)methyl]- (9CI) 243 C13H10FN5
3. 1H-Pyrimido[4,5,6-ij][1,7]naphthyridine-6-carbonitri 203 C14H13N5O2
le, 2-ethyl-5,8-dimethoxy- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	37	2078140	36	66	2	0
2.	25	24521446	70	56	2	0
3.	20	77011389	21	47	2	0

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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.

C ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results 301370

REV. 1

ETC Job # 4121211

[redacted]

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 APR 0 8 1985

Line No.	Parameter	Table	Units Of Measure	Value	MDL	Comments
ONVENTIONALS						
1	Chloride	QR 10	mg/l			
[redacted]						
3	Nitrate as N	QR 10	mg/l			
[redacted]						
5	Phenolics, Total	QR 10	mg/l	<0.1	0.1	mg/kg
[redacted]						
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	<0.5	0.5	mg/kg
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			
	Solids, Total		mg/l			
[redacted]						
33	Solids, Total Suspended		mg/l			
[redacted]						
35	Surfactants (MBAS/LAS)		mg/l			
[redacted]						

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. 60251 ETC Job # FF2221

Date Sealed 3-20-85 By: David D

Company: NJDEP

Attn.: Joe Bodtich

Facility/Site:

Address: Trenton NJ

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE SCOT (Facility/Site Code)

Sample Point: LA (Source Code from below) - STATION 11 (Your Sample Point ID, left justify) | 032185 (Start Date YY/MM/DD) | 0640 (Start Time 2400 hr. clock) | (Elapsed Hours composite) (Optional Sample Point Descriptions)

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 FIIL (Y/N)	SAMPLER Observations	LAB Observations
1	E	1L	baked	Extractable			✓
2	V	40ml	baked	VOA			✓

Also rec'd H2226 All Empty

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P Zigrillo Date: 3/21/85 Time: 1435
   Signature: [signature] Seal #: 002953 Intact:

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. 301372
   Name: Signature:
   Date: Time: Remarks:

Shuttle Sealed By: (print) [illegible] Date: 3/21/85 Time: 1811
Signature: [signature] Seal #: 0028532 Intact: Y

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 8:00 am

Seal #: 28532 Condition: ok

301

077

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H222

Sample Point RI STATION 2
(Source Code) (Sample Point ID)

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)

	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:

Weather Conditions:

Other:

MS/MSD

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

Sampler: P. Zarrillo (Print) Employer: NJDEP

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

3/21/85 (Date) Paul M Zarrillo (Signature)

078

301373

ETC/CHYUN

301374

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mark Gardner

3:15 PM 3-22-85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2221 to H2225

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

301374

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	079 Time/Date	Time/Date

GC-MS ANALYSIS CUSTODY LOG

301375

DATE 950328 SHIFT ___
FRACTION VOA
INSTRUMENT B
TUNE FILE ABFID2
SEQUENCE FILE JM8
METHOD FILE [redacted] VOAB
IDFILE [redacted] BVOA
ANALYST(S) G. Martin Lawrence Schoonover
SUPERVISOR M Barkley
BATCH #'s [redacted] QV3856

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ml
ISTD	40	9140	5ml
SURR	25	9793	10ml
ABC	18	10221	

IFB Prep Soil

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
p-BFB	> B7792	1ml			A00107	PS 120, Sub-3, Sub-174 1350
QC3506V	> B7793					
QC3506VS	> B7794					10ml ABC
QC3506VS	> B7795					3ml ABC (NG)
QC3506VS	> B7796					30ml ABC
QC3506VS	> B7797					5ml ABC
QC3506VS	> B7798					5-Q ABC } IFB 2nd
H2221VS	> B7799	5g/5ml				
H2221V	> B7800					
H2222V	> B7801					
H2222VR	> B7802					
H2223V	> B7803					
[redacted]	[redacted]					
[redacted]	> [redacted]	↓				
BFB	> B7804	1ml				NG-
BFB	> B7805	1ml				OK 2ND ATM 3/29
QC3056VS	> B7806	5ml				[redacted] 5ml ABC (NG)
QC3056VS	> B7807					10ml ABC
QC3056VS	> B7808					30ml ABC
QC3056VS	> B7809	↓				5ml ABC
H2224V	> B7810	5ml				
H2225V	> B7811					3/29 0800 hrs.
H2339V	> B7512	↓				
H2340V	> B7513				030	
H2341V	> B7514	↓				

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GC-MS ANALYSIS CUSTODY LOG

DA 850329 SHIFT
FR ION
INSTRUMENT
TUNE FILE
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) J. Martin
SUPERVISOR
BATCH #'s GV3056 Continued

(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
V-12F12	>87816	1			A00107		
V C3056V	>87817					86 UG Methylene Chloride	
V 3056V	>87818					OK	
V 2224V	>87819						
	TOE						
					081		

TCD 6-84

EXTRACTION LOG

Sample Number	Log Number	Sample weight (g)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2221	8684	50.99	1.0	1.0	
H2222	|	50.38	1.0	1.0	
H2223	|	50.20	1.0	1.0	
H2224	|	50.65	1.0	1.0	
H2225	↓	50.18	1.0	1.0	
H2338	8765	50.82	1.0	1.0	
H2339	|	52.18	1.0	1.0	
H2340	|	50.49	1.0	1.0	
H2341	↓	50.62	1.0	1.0	
G-8385	8311	50.99		1.0	
QC2864		—	1.0	1.0	
H2221 S		50.22	1.0	1.0	
H2222 R		50.104	1.0	1.0	

QC Batch # 2864

Analysis: *

Matrix: SOIL

Turnaround: Norm.

Date: 4/3/85

Extraction Method:

sep funnel

cont. nucus

soxhlet

other - ~~Homogenize~~

COMMENTS FOR EXTRACT.:

*

PP/T: H2221-25

PP/org: H2338-41

Spec SP: (PP/Acid only):

G8385

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

301377

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Aroclor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	LOT #
1.0	BN: 50 ug/ml	10,195
	ACID: 100 ug/ml	

Set-up: J'M CampBell 4/3/85 UPD/Supervisor: S McArthur 4/4/85

BN Conc.: Lois Arrington 4-4-85 spike/surr. verified: S McArthur 4/3/85

ACID Conc.: Lois Arrington 4/6/85

301378

:-MS ANALYSIS CUSTODY LOG

ATE 4/5/85 SHIFT
RAT ON Acid
NS IENT F
JNE FILE UTF001
:QUENCE FILE WWCH
:THOD FILE DFTPPF / ACIOF
)FILE FACID
NALYST(S) Won-Wen Chi
JPERVISOR Dave M. Speet
ATCH #'s

(PLEASE INITIAL) CBFACD

CURRENT SUS STATUS		STANDARDS UPDATED	
:Q	✓	DATE	4/5/85
:P		BY	W.W.

STANDARD	CONC PPM	LOT NO.	LOT VOL

PEAC PLFACD PLESRH

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
NG DFTPP	>F8668	2					
DNGT DFTPP	>F8669						
DNG DFTPP	>F8670						
C 6 III	>F8671		1				
II	>F8672		2				
I	>F8673		3				
>336AS	>F8674		4				
C>867AS	>F8675		5				
C>867A	>F8676		6				Y,+
>332A	>F8677		1				Y
>333A	>F8678		2				
1233UA	>F8679		3				
1>335A	>F8680		4				
1>336A	>F8681		5				
1>337A	>F8682		6				↓
1>337AR	>F8683		7				
F89/4A	>F8684		8				
41449A	>F8685		9				
H0>94	>F8686		10				
H029C	>F8687		11				
H1F1U	>F8688		12				
H 15	>F8689		13				
H1876	>F8690		14				
G5>36	>F8691		15		033		+
SONG DFTPP	>F8692		16				

TSR 8-84

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GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT 7a-3p
FRACTION A+B
INSTRUMENT H
TUNE FILE
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) Ben Wag Chi
SUPERVISOR Dave M. Spey
BATCH #'s

(PLEASE INITIAL)

CURRENT CSOS 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)	PLI Y/I
Calib III	>F8693		17				
H0957AS	>F8694		18				
QC>866A	>F8695		19				Y
H0957A	>F8696		20				
H0959A	>F8697		21				
H0960A	>F8698		22				Y
H0960AR	>F8699		23				
H0958	>F8700		24	1=52			
H2221AS	>F8701		25				
QC2864A	>F8702		26				Y
G8385A	>F8703		27				Y
H2221A	>F8704		28				Y
H2222A	>F8705		29			Colour big difference. for sample	d
H2223A	>F8706		30				
H2225A	>F8707		31				
H2339A	>F8708		32				
H2224A	>F8709		33				
H2341A	>F8710		34	1=5			
H2340A	>F8711		35	1=5			
H2338A	>F8712		36	1=5			
H2222AR	>F8713		37	1=2			
					184		

TSR 8-84

301380

:-MS ANALYSIS CUSTODY LOG

:T 4/6/85 SHIFT
:ATION B/W
:STRUMENT I
:NE FILE MTI001
:QUENCE FILE
:THOD FILE BNPI
:FILE 2BNP
:ALYST(S) Wen-Jen Chi
:PERVISOR David M. Hoard
:TCH #'s QB2864

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
:Q		DATE	4-6-85
P		BY	W.J.

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
) NOT DITPP	>I6401	2			I00167	7:00 4/6/85	
lib III	>I6402	1	3				
II	>I6403		4				
I	>I6404		5				
IV	>I6405		6				
H2221B	>I6406		7				
H2221B	>I6407		8				Y
H2225B	>I6408		9				Y
H2222B	>I6409		10				Y
H2222BR	>I6410		11				
H2223B	>I6451		12				Y
H2224B	>I6452		13				
H3341B	>I6453		14				
H3339B	>I6454		15				
H3338B	>I6455		16				
H3340B	>I6456	↓	17				↓
			~~18~~				
C2864B	>I6458		7				
					085		

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8684

Metals Analysis Custody Log

Samples H2221-H2225

	Chemist	Date
Hg Prep	Douglas S. Lilford	4/3/85
AA/ICAP Prep	Maura Jean McClure	4/2/85

Lab Supervisor Maura Jean McClure date 4/10/85

301381

8684

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyan

Sample Number(s) H2221 to H2225

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: 4/2/85
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 Hamilton 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

5 soils !

OTHERS

X-029

Sample(s) Relinquished by: M. Jacobs

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 3:15 1127

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Technical Report

for

NJ DEP

CONTRACT X-029

Sediment

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2222	NJ DEP	NJDCOMBES0	RSTATION 2	850321	1630	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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Based on October, 1984 version of ETC Standard Operating Procedures

NJDEP Contract 029

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Mercury Sample Preparation	AA-001-3
Hexavalent Chromium Sample Preparation	AA-005-1

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Soil and Sediment Samples

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Flame AA or ICP

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Barium	IM-1-003
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Chromium	IM-1-006
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Lead	IM-1-010
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Includes:
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- Chlorinated Hydrocarbons
- Haloethers
- Nitroaromatic and Cyclic Ketones
- Organochlorine Pesticides
- Polychlorinated Biphenyls
- Phthalate Esters
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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

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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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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	ND	ND	ND	800	157[a]	ND	800	58[b]
2V	Acrylonitrile	ND	100	ND	ND	ND	80	105	ND	80	94
3V	Benzene	ND	4.40	ND	ND	ND	18	117	ND	18	114
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	85
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	117	ND	18	124
7V	Chlorobenzene	ND	6	ND	ND	ND	18	109	ND	18	102
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	111	ND	18	99
9V	Chloroethane	ND	10	ND	ND	ND	18	101	ND	18	97
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	106	ND	18	117
11V	Chloroform	ND	1.60	ND	ND	ND	18	118	ND	18	117
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	112	ND	18	106
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	130	ND	20	104
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	116	ND	18	117
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	114	ND	18	107
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	117	ND	18	125
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	114	ND	18	109
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	110	ND	18	98
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	115	ND	18	109
20V	Methyl bromide	ND	10	ND	ND	ND	18	89	ND	18	146[c]
21V	Methyl chloride	ND	10	ND	ND	ND	18	89	ND	18	124
22V	Methylene chloride	8.00	2.80	5	8	3	18	67	23	18	43[b]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	100	ND	18	84
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	111	ND	18	113
25V	Toluene	ND	6	ND	ND	ND	18	108	ND	18	111
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	118	ND	18	121
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	104	ND	18	113
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	111	ND	18	100
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	115	ND	18	113
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	116	ND	18	126
31V	Vinyl chloride	ND	10	ND	ND	ND	18	127	ND	18	82
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	118	ND	18	106

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A EPA published Method Detection Limit.

B Recovery no[illegible]tly variable using EPA Protocol Method 624.

C Recovery[illegible] due to sample matrix interference.

D Spiked s[illegible] but contain compounds present at high levels do not provide valid spike recovery data.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 10, 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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	60	ND	ND	ND	0	-	ND	1991	6
2A	2,4-Dichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	8
3A	2,4-Dimethylphenol	ND	60	ND	ND	ND	0	-	ND	1991	2
4A	4,6-Dinitro-o-cresol	ND	480	ND	ND	ND	0	-	ND	1991	0
5A	2,4-Dinitrophenol	ND	840	ND	ND	ND	0	-	ND	1991	0
6A	2-Nitrophenol	ND	80	ND	ND	ND	0	-	ND	1991	18
7A	4-Nitrophenol	ND	40	ND	ND	ND	0	-	ND	1991	13
8A	p-Chloro-m-cresol	ND	60	ND	ND	ND	0	-	ND	1991	5
9A	Pentachlorophenol	ND	80	ND	ND	ND	0	-	ND	1991	14
10A	Phenol	ND	40	ND	ND	ND	0	-	ND	1991	2
11A	2,4,6-Trichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	11

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

APR 12, 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1B	Acenaphthene	ND	38	ND	ND	ND	0	-	ND	1991	75
2B	Acenaphthylene	ND	70	ND	ND	ND	0	-	ND	1991	72
3B	Anthracene	ND	40	ND	ND	ND	0	-	ND	1991	78
4B	Benzidine	ND	44	ND	ND	ND	0	-	ND	1991	18c
5B	Benzo(a)anthracene	ND	156	ND	ND	ND	0	-	ND	1991	76
6B	Benzo(a)pyrene	ND	50	ND	ND	ND	0	-	ND	1991	81
7B	Benzo(b)fluoroanthene	ND	96	ND	ND	ND	0	-	ND	1991	76
8B	Benzo(ghi)perylene	ND	82	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	50	ND	ND	ND	0	-	ND	1991	77
10B	bis(2-Chloroethoxy)methane	ND	106	ND	ND	ND	0	-	ND	1991	81
11B	bis(2-Chloroethyl) ether	ND	114	ND	ND	ND	0	-	ND	1991	54
12B	bis(2-Chloroisopropyl)ether	ND	120	ND	ND	ND	0	-	ND	1991	30
13B	bis(2-Ethylhexyl)phthalate	ND	200	ND	ND	ND	0	-	ND	1991	77
14B	4-Bromophenyl phenyl ether	ND	38	ND	ND	ND	0	-	ND	1991	79
15B	Butyl benzyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	9b
16B	2-Chloronaphthalene	ND	38	ND	ND	ND	0	-	ND	1991	63
17B	4-Chlorophenyl phenyl ether	ND	84	ND	ND	ND	0	-	ND	1991	81
18B	Chrysene	ND	50	ND	ND	ND	0	-	ND	1991	86
19B	Dibenzo(a,h)anthracene	ND	50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	18b
21B	1,3-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	16b
22B	1,4-Dichlorobenzene	ND	88	ND	ND	ND	0	-	ND	1991	16b
23B	3,3'-Dichlorobenzidine	ND	330	ND	ND	ND	0	-	ND	1991	71
24B	Diethyl phthalate	ND	200	ND	ND	27	0	-	ND	1991	1b
25B	Dimethyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	1b
26B	Di-n-butyl phthalate	ND	200	ND	ND	29	0	-	ND	1991	17b
27B	2,4-Dinitrotoluene	ND	114	ND	ND	ND	0	-	ND	1991	13b
28B	2,6-Dinitrotoluene	ND	38	ND	ND	ND	0	-	ND	1991	30
29B	Di-n-octyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	47
30B	1,2-Diphenylhydrazine	ND	200	ND	ND	ND	0	-	ND	1991	78
31B	Fluoranthene	ND	40	ND	ND	ND	0	-	27	1991	91
32B	Fluorene	ND	38	ND	ND	ND	0	-	ND	1991	78

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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	38	ND	ND	ND	0	-	ND	1991	79
34B	Hexachlorobutadiene	ND	18	ND	ND	ND	0	-	ND	1991	34
35B	Hexachlorocyclopentadiene	ND	200	ND	ND	ND	0	-	ND	1991	-
36B	Hexachloroethane	ND	32	ND	ND	ND	0	-	ND	1991	6[D]
37B	Indeno(1,2,3-c,d)pyrene	ND	74	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	40	ND	ND	ND	0	-	ND	1991	82
39B	Naphthalene	ND	32	ND	ND	ND	0	-	ND	1991	35
40B	Nitrobenzene	ND	38	ND	ND	ND	0	-	ND	1991	40
41B	N-Nitrosodimethylamine	ND	200	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	200	ND	ND	ND	0	-	ND	1991	79
43B	N-Nitrosodiphenylamine	ND	38	ND	ND	ND	0	-	ND	1991	80
44B	Phenanthrene	ND	100	ND	ND	ND	0	-	ND	1991	84
45B	Pyrene	BMDL	38	12	22	ND	0	-	24	1991	0[D]
46B	1,2,4-Trichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	78

A ETC established Method Detection Limit for this particular sample.

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

C Recovery normally low using EPA Protocol Method 625.

D Recovery low due to sample matrix interference.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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 [c]
1P	Aldrin	ND	38	ND	ND	ND	0	-	ND	1991	75
2P	Alpha-BHC	ND	200	ND	ND	ND	0	-	ND	1991	4
3P	Beta-BHC	ND	84	ND	ND	ND	0	-	ND	1991	0
4P	Gamma-BHC	ND	200	ND	ND	ND	0	-	ND	1991	47
5P	Delta-BHC	ND	62	ND	ND	ND	0	-	ND	1991	0
6P	Chlordane	ND	200	ND	ND	ND	0	-	ND	3982	85
7P	4,4'-DDT	ND	94	ND	ND	ND	0	-	ND	1991	10
8P	4,4'-DDE	ND	112	ND	ND	ND	0	-	ND	1991	152
9P	4,4'-DDD	ND	56	ND	ND	ND	0	-	ND	1991	31
10P	Dieldrin	ND	50	ND	ND	ND	0	-	ND	1991	85
11P	Endosulfan I	ND	200	ND	ND	ND	0	-	ND	1991	4
12P	Endosulfan II	ND	200	ND	ND	ND	0	-	ND	1991	28
13P	Endosulfan sulfate	ND	112	ND	ND	ND	0	-	ND	1991	0
14P	Endrin	ND	200	ND	ND	ND	0	-	ND	1991	79
15P	Endrin aldehyde	ND	200	ND	ND	ND	0	-	ND	1991	22
16P	Heptachlor	ND	38	ND	ND	ND	0	-	ND	1991	71
17P	Heptachlor epoxide	ND	44	ND	ND	ND	0	-	ND	1991	89
18P	PCB-1242	ND	720	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	720	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	600	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	720	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	720	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	720	ND	ND	ND	0	-	ND	1991	71
24P	PCB-1016	ND	720	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	200	ND	ND	ND	0	-	ND	0	-

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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.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

NPDES Number	Compound	Results: Sample Concen. ug/kg	Results: MDL ug/kg								
1M	Antimony	BMDL	8000								
2M	Arsenic	1400	1000								
3M	Beryllium	300	100								
4M	Cadmium	BMDL	300								
5M	Chromium	18000	2000								
6M	Copper	14000	1000								
7M	Lead	12000	500								
8M	Mercury	ND	200								
9M	Nickel	9000	2000								
10M	Selenium	600	600								
11M	Silver	ND	500								
12M	Thallium	ND	500								
13M	Zinc	52000	2000								
14M	Cyanide, Total	<500	500								
15M	Phenolics, Total	<100	100								

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 Unknown	29	3.6	-	-	-	829		
2 Unknown	230	7.1	-	-	-	543		
3 Dodecanoic acid	715	15.8	200	143077	$C_{12}H_{24}O_2$	287		
4 Unknown	930	19.6	-	-	-	204		
5 9-Hexadecenoic acid	1009	21.0	254	2091294	$C_{16}H_{30}O_2$	548		
6 Tetradecanoic acid	1022	21.3	228	544638	$C_{14}H_{28}O_2$	303		
7 Unknown	1488	29.6	-	-	-	204		

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 11, 1985

TABLE 1: QUALITATIVE RESULTS

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

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 4,4-dimethyl-2-Pentene	79	3.9	98	26232984	C_7H_{14}	1690		
2 Unknown	126	4.7	-	-	-	58900		
3 Hexatriacontane	1528	29.6	506	630068	$C_{36}H_{74}$	374		
4 Docosane	1639	31.6	310	629970	$C_{22}H_{46}$	322		
5 Unknown	1720	33.1	-	-	-	197		
6 Nonadecane	1755	33.7	268	629925	$C_{19}H_{40}$	273		
7 Unknown	1913	36.5	-	-	-	216		

301395

...ve Percent Difference (RPD) for VOA

H2222 NJ DEP — NJDCOMBESO RSTATION 2 — 850321 1630
Job Number Account Name — Facility Source — Date Time

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	5	8	46
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

Relative Percent Difference (RPD) for ACID

H2222 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 2 — Facility Source
850321 1630 — Date Time

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

H2222 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 2 — Facility Source
850321 1630 — Date Time

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	12	22	59
1,2,4-Trichlorobenzene	ND	ND	0

Relative Percent Difference (RPD) for PEST

H2222 NJ DEP — NJDCOMBESO RSTATION 2 — 850321 1630
Job Number Account Name — Facility Source — Date Time

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

Parameter	REP 1 ug/kg	REP 2 ug/kg	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

April 12, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Soil- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2222

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	115	50	160
Bromofluorobenzene	.250	111	50	160
1,2-Dichloroethane-D4	.250	108	50	160
ACID FRACTION				
Phenol-D5	100	35	20	140
2-Fluorophenol	100	27	20	140
2,4,6-Tribromophenol	100	48	10	140
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	46	20	140
2-Fluorobiphenyl	50	80	20	140
Terphenyl-D14	50	84	20	150

* IFB EPA Control Limits.

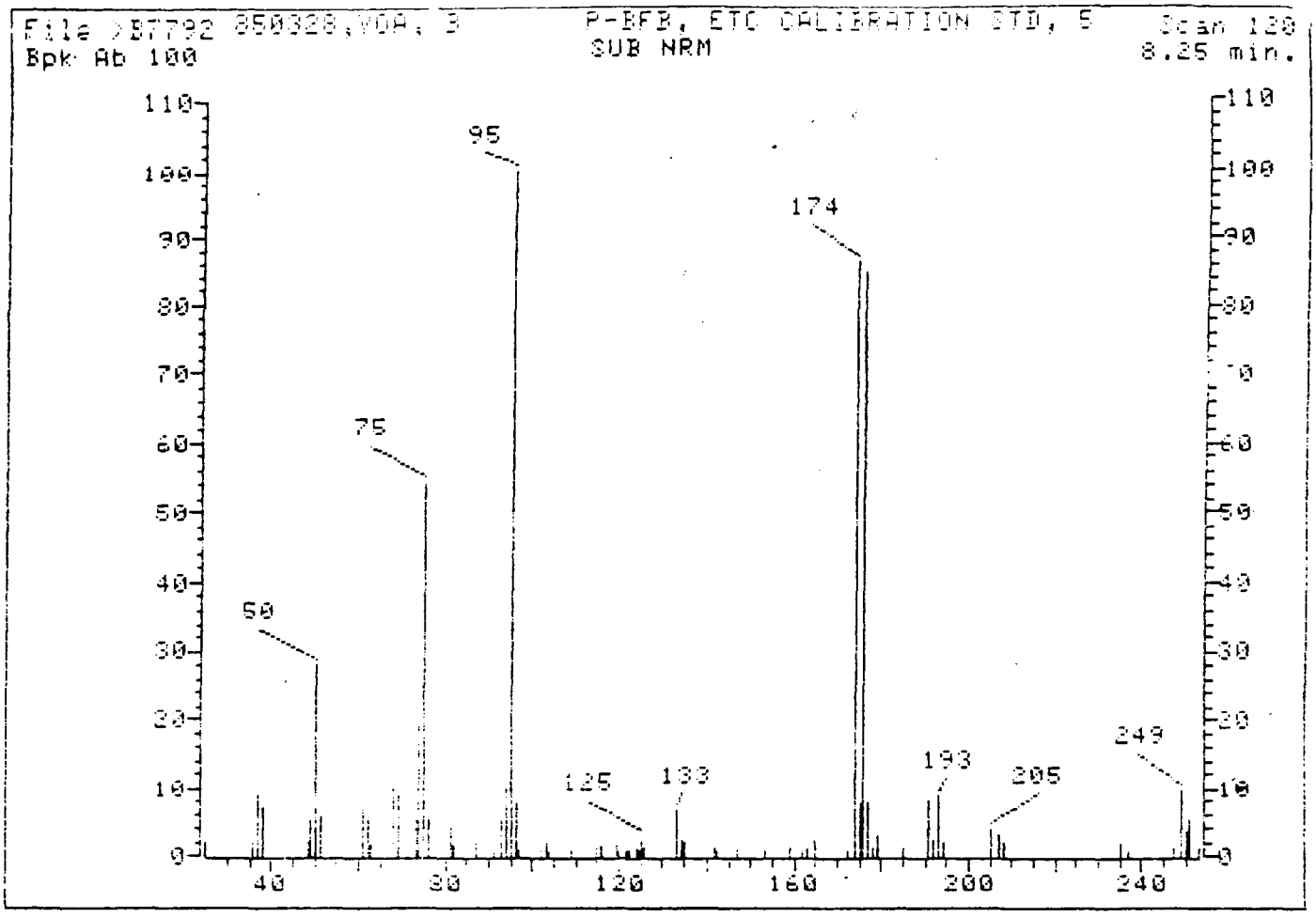


TABLE 2: METHOD PERFORMANCE DATA (WR21)

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	27.83	27.83	Ok
75	30-60% of mass 95	54.24	54.24	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.50	7.50	Ok
173	Less then 1% of mass 95	0.00	0.00	Ok
174	Greater then 50% of mass 95	86.47	86.47	Ok
175	5-9% of mass 174	7.76	8.97	Ok
176	95-101% of mass 174	84.71	97.97	Ok
177	5-9% of mass 176	7.50	8.85	Ok

Injection Date: 03/28/85 Analyst: J. Martin
Injection Time: 15:55 Processor: [illegible]
Run No: B7792 QC Batch: ~~QV3605~~ QV3056
Spectrum No: 130 Samples: H2221, H2222, H2223

301402

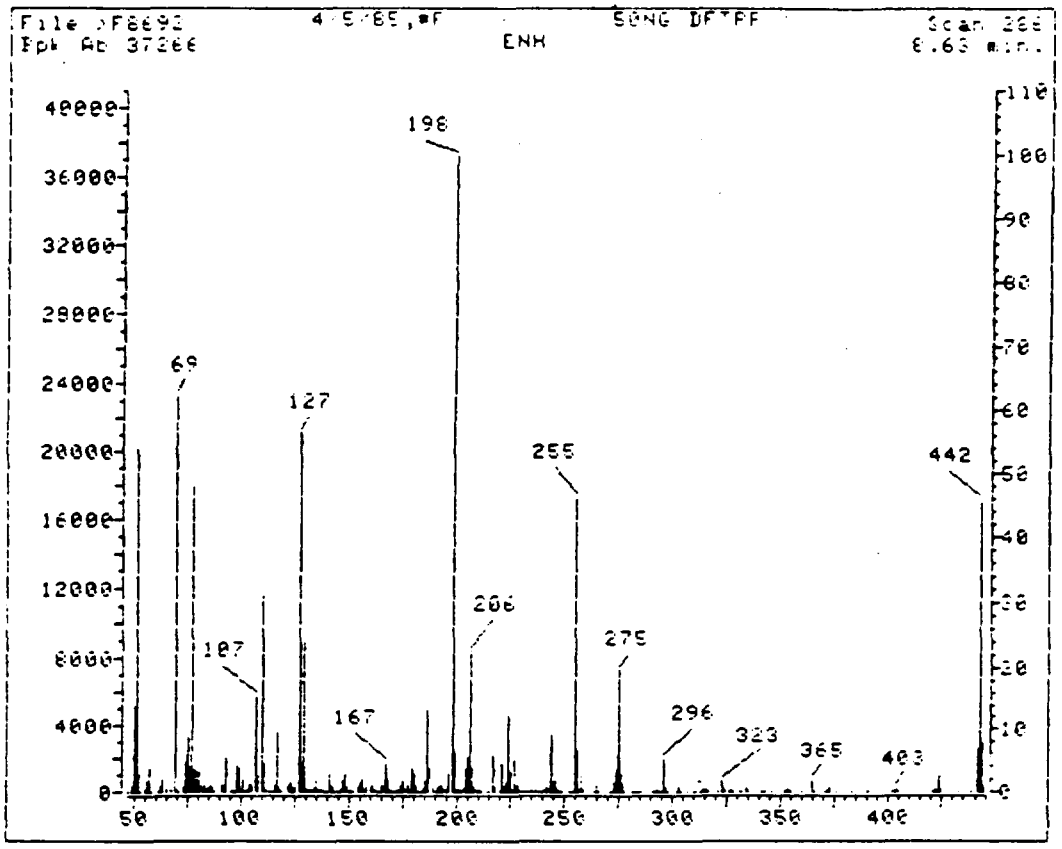


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	54.01	54.01	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.50	62.50	Ok
70	Less then 2% of mass 69	.33	.53	Ok
127	40-60% of mass 198	56.63	56.63	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	6.28	6.28	Ok
275	10-30% of mass 198	19.49	19.49	Ok
365	Greater then 1% of mass 198	1.90	1.90	Ok
441	Less then mass 443	6.83	86.74	Ok
442	Greater then 40% of mass 198	45.42	45.42	Ok
443	17-23% of mass 442	7.87	17.33	Ok

Injection Date: 04/06/89 Analyst: Dan Wan C
Injection Time: 01:17 Processor: Patricia Chang
Run No: >F8692 QC Batch: QA2864
Spectrum No: 286 Samples: H2221-H2225, H2338-H2541
68385

301403

301403

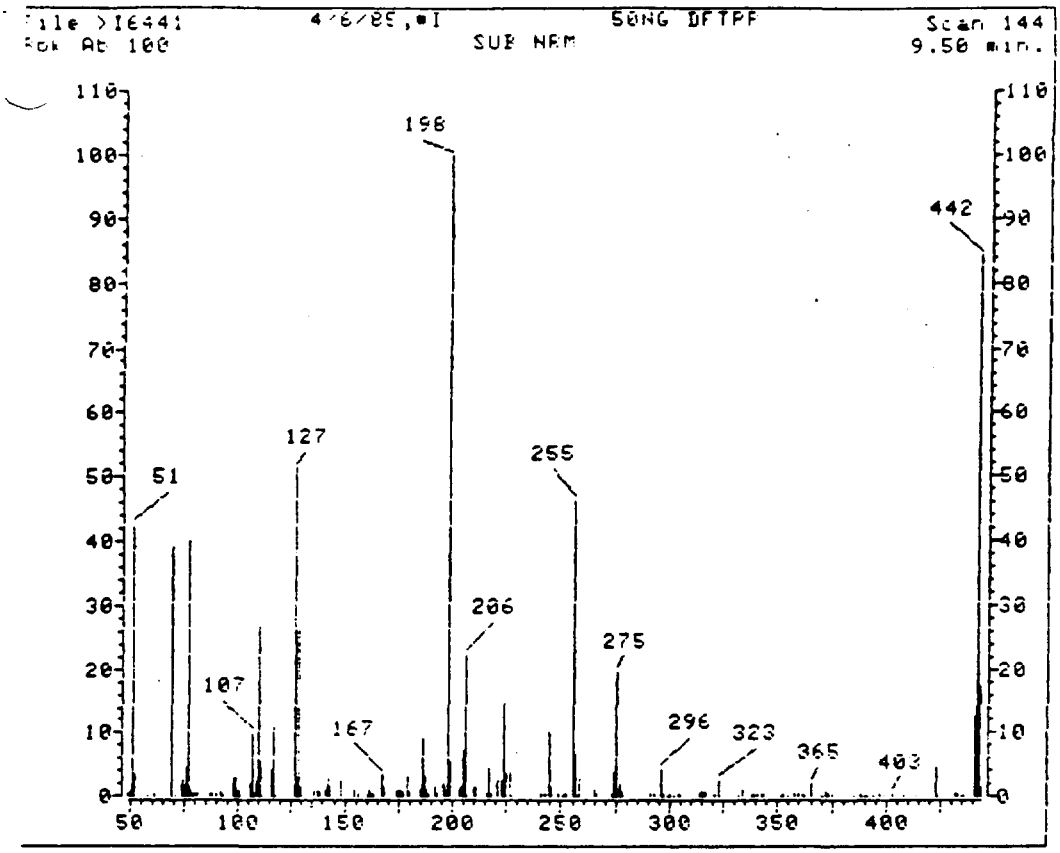


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	42.39	42.39	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	39.05	39.05	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	51.34	51.34	Ok
97	Less then 1% of mass 198	.60	.60	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	5.33	5.33	Ok
75	10-30% of mass 198	19.56	19.56	Ok
65	Greater then 1% of mass 198	2.02	2.02	Ok
41	Less then mass 443	12.44	72.64	Ok
42	Greater then 40% of mass 198	84.13	84.13	Ok
43	17-23% of mass 442	17.13	20.36	Ok

Injection Date: 04/06/85 Analyst: Wen-Wen C
Injection Time: 07:37 Processor: Patricia Chang
Run No: >I6441 QC Batch: QB2864
Spectrum No: 144 Samples: HZ221 - HZ225, HZ338-HZ341

Peak 102.

13 021

301404

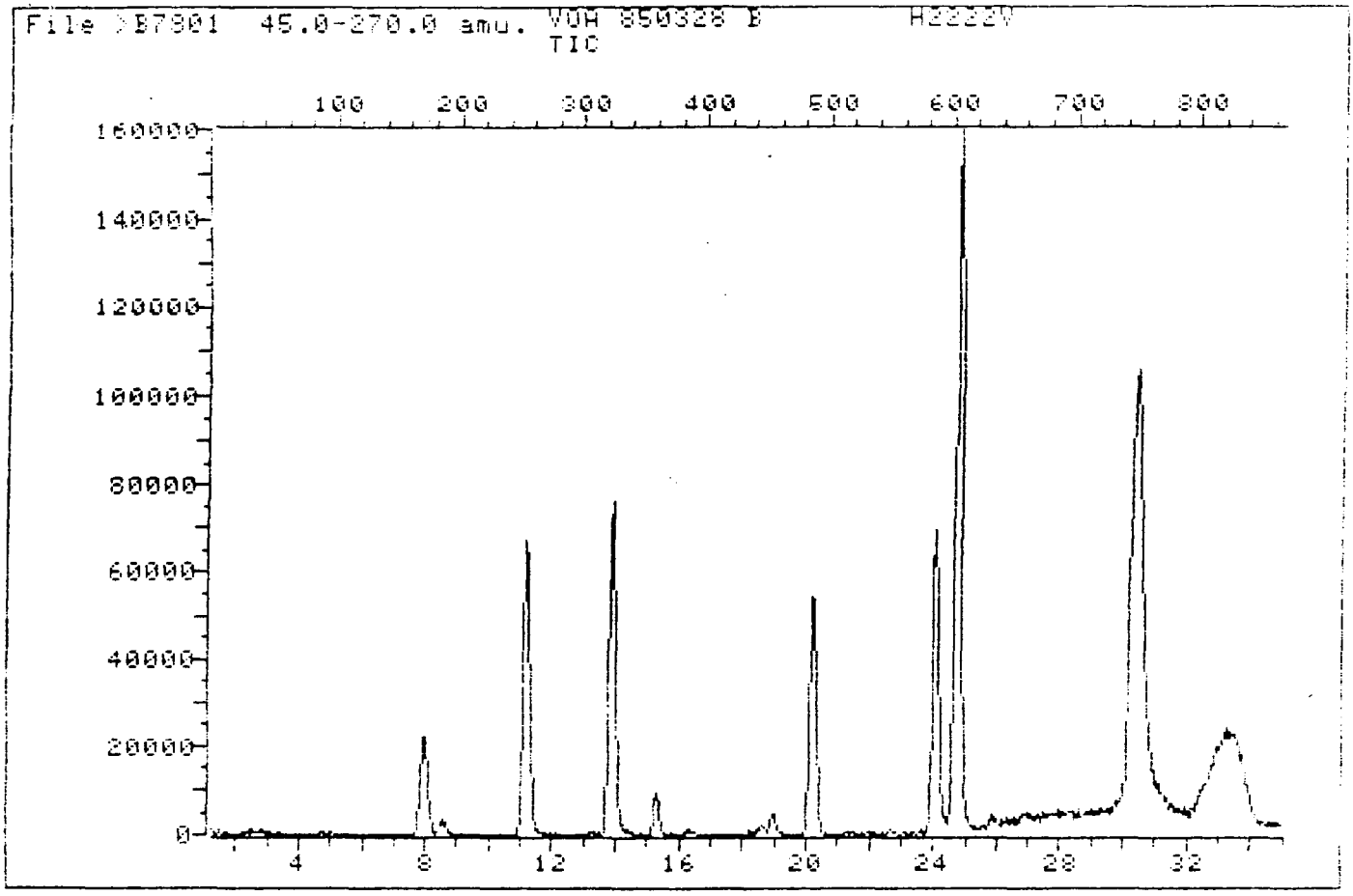
Appendix A

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: >B7801::US
Name: VOA 850328 B
Misc: H2222V

Id File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850328 20:51

Operator ID: MSi56
Quant Time: 850328 23:26

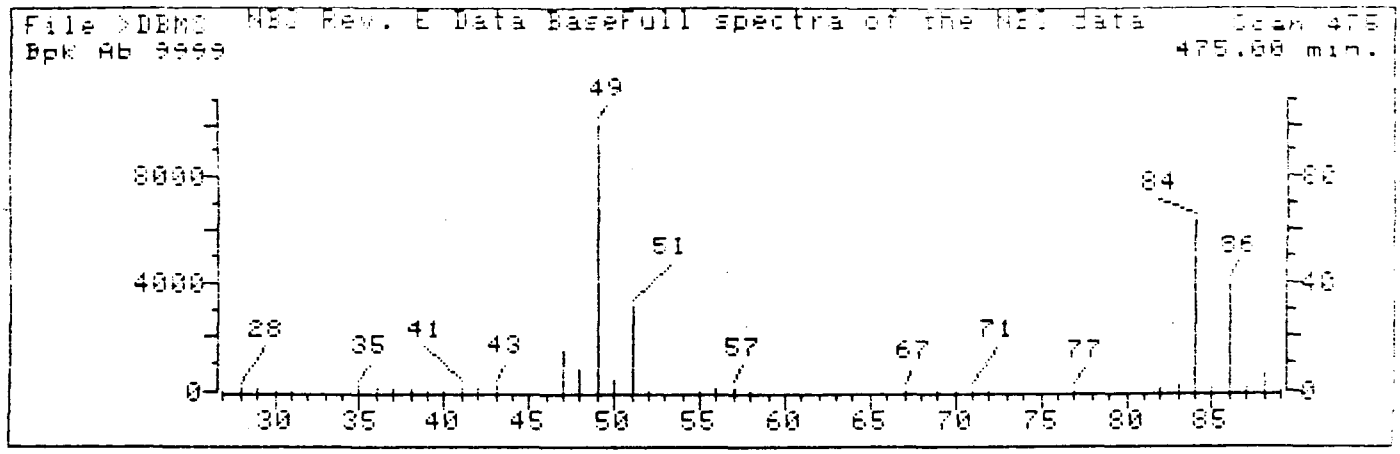
QUANT REPORT

Operator ID: MS1566 Quant Rev: 3 Quant Time: 850328 23:26
Injected at: 850328 22:50
Data File: >B7301:US Dilution Factor: 1.00
Name: VOA 850328 B
Misc: H2222V

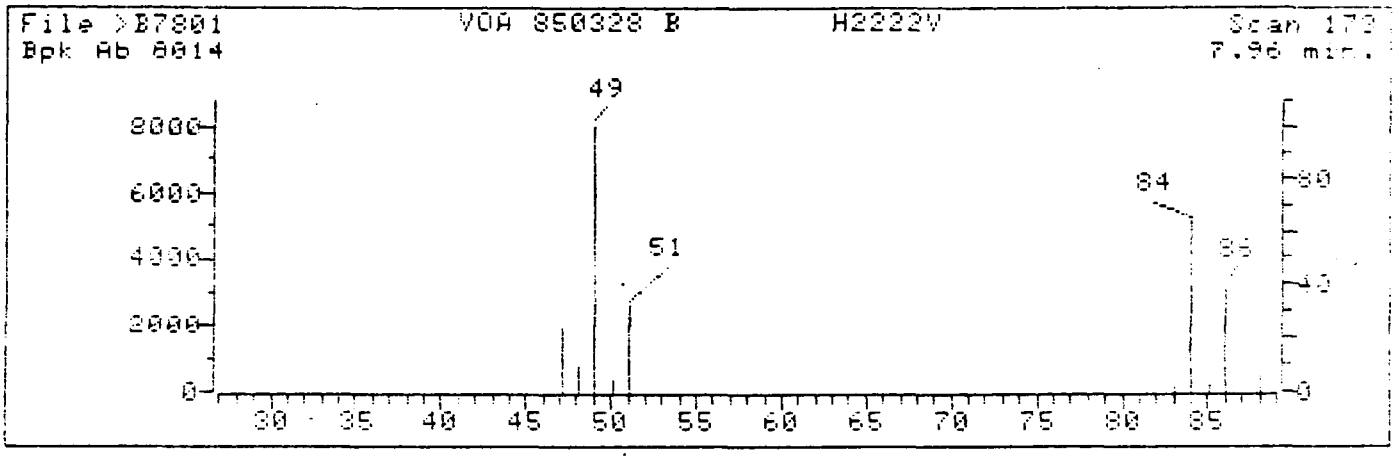
ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850328 20:51

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	20.22	489	336451	200.00	NG
2)	Acrolein	8.54	188	3841	~~44.61~~	~~NG~~
5)	bis(Chloromethyl)ether	20.22	489	110689	~~154.69~~	~~NG~~
7)	Carbon tetrachloride	15.29	362	3457	~~3.52~~	~~NG~~
8)	Chlorobenzene	25.89	635	1499	~~.81~~	NG
11)	2-Chloroethylvinyl ether	18.98	457	10925	~~46.14~~	~~NG~~
12)	Chloroform	13.24	309	3957	~~2.22~~	~~NG~~
24)	Methylene chloride	7.96	173	76396	70.16	NG -30=40
27)	Toluene	24.95	611	13184	~~4.41~~	~~NG~~
29)	1,1,1-Trichloroethane	15.29	362	38426	~~26.16~~	~~NG~~
38)	1,2-Dichloroethane-D4	13.90	326	178083	269.30	NG
39)	Toluene-D8	24.76	606	817987	287.44	NG
39)	Toluene-D8	25.46	624	1326	~~.47~~	~~NG~~
40)	p-Bromofluorobenzene	30.39	751	436570	277.05	NG
41)	*1,4-Dichlorobutane	24.06	588	422809	200.00	NG

* Compound is ISTD



SAMPLE SPECTRUM

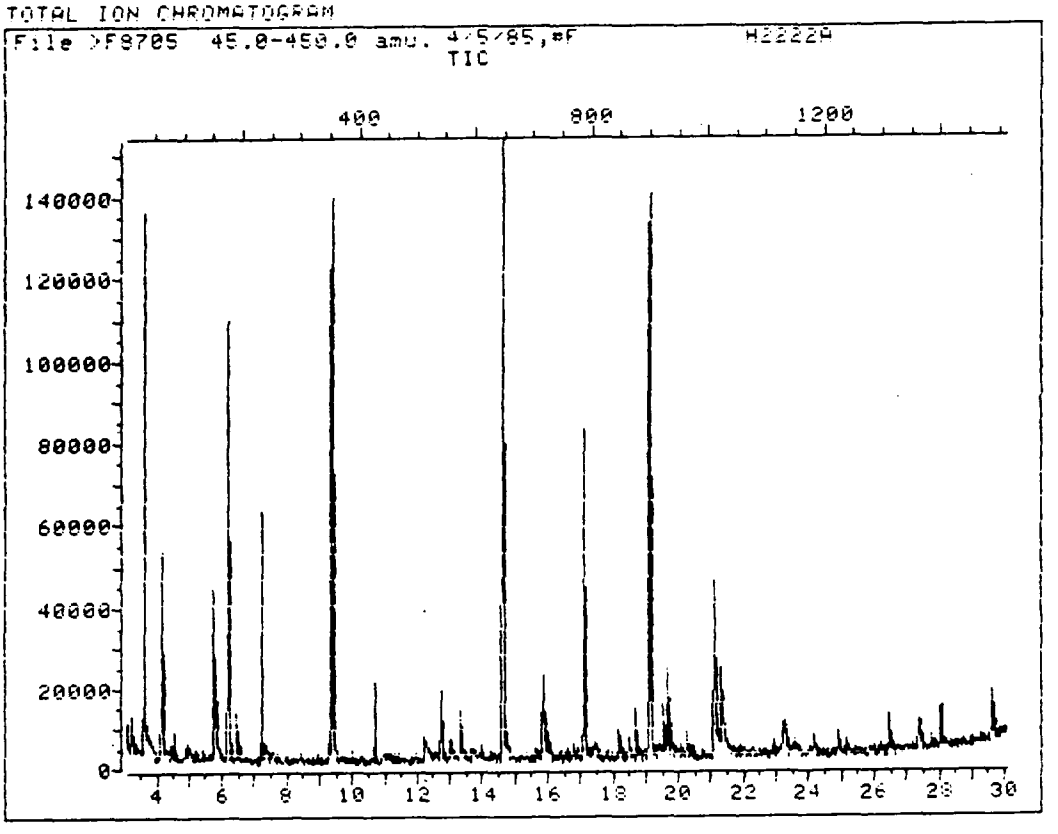


Data File: >B7801::US
Name: VOA 850328 B
Misc: H2222V

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 172
Retention Time: 7.96 min.
Area: 76586
Concentration: 70.16 NG

301408

TOTAL ION CHROMATOGRAM



Data File: >F8705::U5
Name: 4/5/85,#F
Misc: H2222A

BTL#29

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

Operator ID: WW9928
Quant Time: 850406 09:41

QUANT REPORT

rator ID: WW9928 Quant Rev: 3 Quant Time: 850406 09:41
Injected at: 850406 09:09
a File: >F8705::U5 Dilution Factor: 1.00
e: 4/5/85,#F
c: H2222A BTL#29

File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850405 13:04

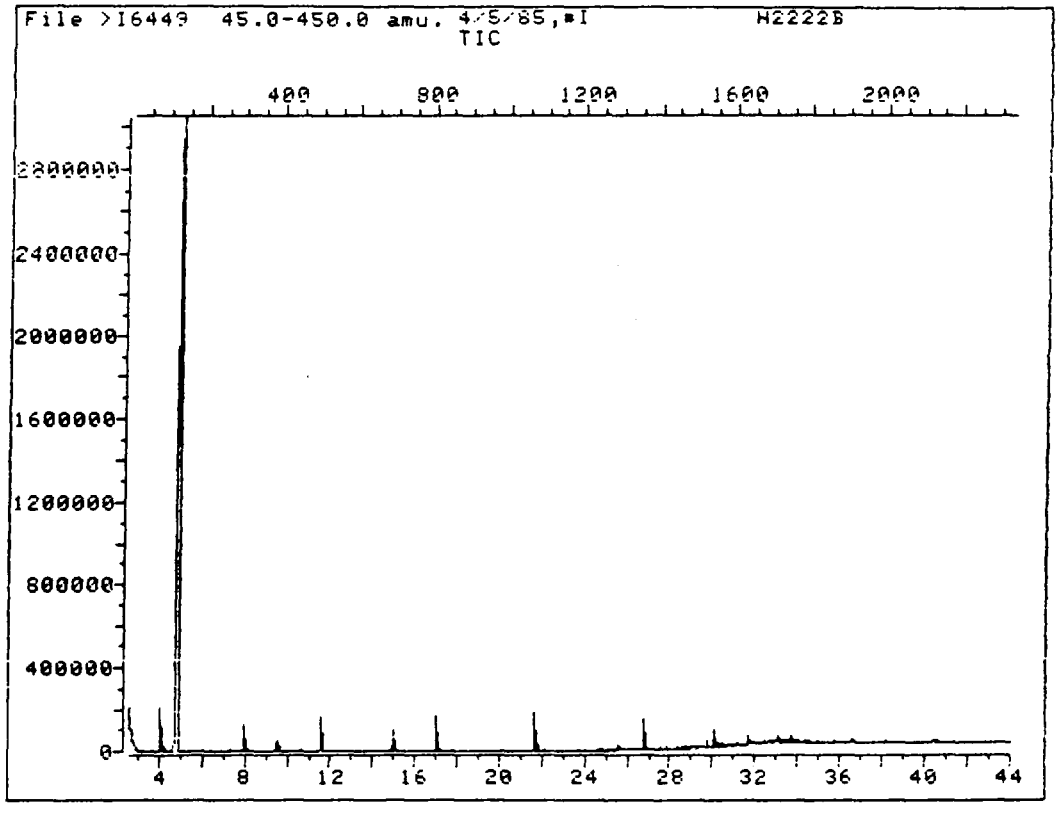
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.17	173	56912	40.00	UG/ML
2-Fluorophenol	4.12	58	28668	27.29	UG/ML
Phenol-D5	5.76	150	41395	34.77	UG/ML
Phenol-D5	5.96	161	374	.31	UG/ML
*d8-Naphthalene	9.36	352	170166	40.00	UG/ML
*d10-Acenaphthalene	14.62	647	86506	40.00	UG/ML
*d10-Phenanthrene	19.08	897	173393	40.00	UG/ML
2,4,6-Tribromophenol	17.08	785	21863	48.11	UG/ML

Compound is ISTD

F098AF

301410

TOTAL ION CHROMATOGRAM



Data File: >I6449::U6
Name: 4/5/85,#I
Misc: H2222B

BTL#10

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

Operator ID: WW9928
Quant Time: 850406 17:27

301411

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 17:27
Injected at: 850406 16:41
Data File: >I6449::U6 Dilution Factor: 1.00
Name: 4/5/85,#1
Misc: H2222B BTL#10

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326 050MG
Last Calibration: 850406 14:13

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.95	304	36518	40.00	UG/ML
2)	N-Nitrosodimethylamine	2.77	12	756	.54	UG/ML
7)	Nitrobenzene-d5	9.49	391	43397	22.87	UG/ML
7)	Nitrobenzene-d5	9.72	404	659	.35	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.95	304	2867	7.00	UG/ML
9)	*d8-Naphthalene	11.49	504	147990	40.00	UG/ML
10)	2-Fluorobiphenyl	14.90	696	78571	39.98	UG/ML
19)	*d10-Acenaphthalene	16.99	814	77714	40.00	UG/ML
22)	Dimethyl phthalate	16.99	814	14161	4.91	UG/ML
32)	*d10-Phenanthrene	21.61	1074	164980	40.00	UG/ML
37)	Di-n-butyl phthalate	23.74	1194	7394	1.15	UG/ML
38)	Fluoranthene	25.48	1292	3810	1.06	UG/ML
38)	Fluoranthene	26.17	1331	3985	1.11	UG/ML
39)	Benzidine	26.76	1364	1623	2.52	UG/ML
40)	Pyrene	25.48	1292	3810	1.08	UG/ML
40)	Pyrene	26.17	1331	3985	1.13	UG/ML
47)	*d12-Chrysene	30.05	1549	69146	40.00	UG/ML
52)	Dieldrin	26.90	1372	926	.55	UG/ML
59)	Terphenyl-D14	26.76	1364	96944	42.37	UG/ML
64)	bis(2-Ethylhexyl)phthalate	30.36	1566	4724	1.53	UG/ML

* Compound is ISTD

301412

Appendix B

GC/MS Calibration Data

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850328 20:34

Compound	Files:)B7798 RF 90.00	)B7794 RF 180.00	)B7796 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
rolein	.06037	.04826	.04702	.421	.05189	14.216	(Conc=4000.0,8000.0,24000.)
rylonitrile	.31384	.34887	.25785	.459	.30685	14.961	(Conc=400 0,800 0,2400.0)
nzene	1.57834	1.46012	1.24284	.926	1.42710	11.924	
.s(Chloromethyl)ether	.72764	-	.12306	1.000	.42535	100.506	
omoform	.45109	.28050	.45308	1 069	.39489	25.088	
arbon tetrachloride	.65221	.53275	.56451	.776	.58315	10.610	
lorobenzene	1.22304	1.10531	.96382	1.290	1.09739	11.827	
ilorodibromomethane	.66694	.50296	.58377	.939	.58456	14.026	
loroethane	.30709	.25257	.07398	.274	.21121	57.730	
-Chloroethylvinyl ether	.20928	.15644	.11963	.941	.16178	27.854	
loroform	1.19832	1.07267	.91071	.656	1.06057	13.595	
.chlorobromomethane	.87291	.72505	.73185	.802	.77657	10.742	
chlorodifluoromethane	.08605	.40454	.08508	.210	.19189	95.975	
1-Dichloroethane	.79561	.71663	.63920	.591	.71715	10.905	
2-Dichloroethane	1 01260	.96287	.78669	.692	.92072	12.893	
1-Dichloroethylene	.96286	.90633	.76286	.525	.87735	11.752	
2-Dichloropropane	.62519	.55734	.51416	.866	.56556	9.896	
ans-1,3-Dichloropropylene	.72106	.56936	.65130	.879	.64724	11.731	
s-1,3-Dichloropropylene	.55238	.43035	.49321	.942	.49195	12.396	
hylbenzene	2.36996	2.21929	1.76098	1.382	2.11674	14.984	
thyl bromide	.05942	.10328	.05993	.178	.07421	33.926	
ethyl chloride	.68387	.71137	.51436	.123	.63653	16.762	
thylene chloride	.94649	.66031	.33417	.390	.64716	47.344	
2,2-Tetrachloroethane	.99833	1.00942	.85200	1.177	.95325	9.217	
achloroethylene	.79116	.70786	.62674	1.175	.70859	11.602	
luene	1.99631	1.83538	1.49428	1.234	1.77532	14.439	
2-Trans-dichloroethylene	.84313	.78202	.69195	.626	.77237	9.846	
1,1-Trichloroethane	1 03591	.87905	.70440	.757	.87312	18.994	
1,2-Trichloroethane	.47283	.42579	.38834	.942	.42899	9.868	
richloroethylene	.47983	.42833	.38285	.904	.43034	11.275	
richlorofluoromethane	1.07539	1.05983	.81481	.493	.98334	14.364	
inyl chloride	.04713	.04133	.06786	.221	.18544	119.632	
rtho & Para Xylenes	-	.01022	-	1.680	.01022	-	(Conc=150 0,300.0,900.0)
eta-Xylene	-	.02045	-	1 680	.02045	-	(Conc=75 0,150.0,450.0)
yrene	-	-	-	-	-	-	
ethyl Methacrylate .	-	-	-	-	-	-	(Conc=500 0,500.0,1000.0)
eptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0)
-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
etone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
,2-Dichloroethane-D4	.35297	.38539	.32715	.686	.35517	8.216	(Conc=250.0,250.0,250.0)
luene-D8	1.60919	1.63823	1.55211	1.225	1.61984	4.546	(Conc=250.0,250.0,250.0)
-Bromofluorobenzene	.88417	.95926	.86090	1.502	.90155	5.698	(Conc=250.0,250.0,250.0)

F - Response Factor (Subscript is amount in NG)

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

$\overline{RF}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850329 06:54

Compound	Files:)B7809 RF 90.00	)B7807 RF 180.00	)B7808 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Acrolein	.08164	.05118	.04663	.420	.05982	31.822	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.32229	.29611	.23926	.456	.28589	14.849	(Conc=400.0,800.0,2400.0)
Benzene	1.66370	1.54363	1.45550	.926	1.55428	6.724	
bis(Chloromethyl)ether	.72580	.37036	.12539	1.000	.40718	74.143	
Bromoform	.41209	.45193	.50636	1.069	.45679	10.360	
Carbon tetrachloride	.68273	.73331	.70692	.776	.70765	3.575	
Chlorobenzene	1.19067	1.14628	1.06509	1.291	1.13401	5.616	
Chlorodibromomethane	.65153	.68807	.69511	.938	.67824	3.449	
Chloroethane	.28633	.30689	.26093	.277	.28472	8.085	
2-Chloroethylvinyl ether	.22300	.18046	.13799	.942	.18048	23.550	
Chloroform	1.24828	1.21846	1.09469	.656	1.18714	6.860	
Dichlorobromomethane	.87339	.91320	.87693	.802	.88951	2.800	
Dichlorodifluoromethane	.27636	.11532	.09639	.213	.16269	60.787	
1,1-Dichloroethane	.83335	.80402	.76278	.592	.80005	4.431	
1,2-Dichloroethane	1.04839	1.07545	.94158	.692	1.02181	6.927	
1,1-Dichloroethylene	1.02838	1.02149	.92591	.526	.99190	5.772	
1,2-Dichloropropane	.64510	.61163	.59480	.867	.61718	4.149	
trans-1,3-Dichloropropylene	.76339	.76082	.75586	.879	.75869	.836	
cis-1,3-Dichloropropylene	.67829	.58957	.53532	.941	.61470	8.955	
Ethylbenzene	2.42945	2.33792	2.05772	1.385	2.27503	8.513	
Methyl bromide	.05722	.07546	.05919	.183	.06429	16.471	
Methyl chloride	.56473	.54078	.64111	.126	.64887	13.605	
Methylene chloride	.54523	.54960	.45099	.392	.51527	10.812	
1,1,2,2-Tetrachloroethane	.85397	.89623	.87788	1.178	.90936	4.366	
Tetrachloroethylene	.78347	.75871	.72224	1.175	.75481	4.080	
Toluene	1.92334	1.88876	1.73083	1.235	1.84764	5.555	
1,2-Trans-dichloroethylene	.91909	.87474	.82718	.626	.87034	4.726	
1,1,1-Trichloroethane	1.08730	1.02281	.86685	.757	.99232	11.422	
1,1,2-Trichloroethane	.47794	.46253	.44712	.942	.46287	3.332	
Trichloroethylene	.49395	.47952	.45233	.984	.47527	4.447	
Trichlorofluoromethane	1.14004	1.17561	1.02745	.494	1.11437	6.941	
Vinyl chloride	.33891	.20418	.07868	.221	.21392	65.615	
Ortho & Para Xylenes	-	-	.00132	1.615	.00132	-	(Conc=150.0,300.0,900.0
Meta-Xylene	-	-	.02965	1.577	.02965	-	(Conc=75.0,150.0,450.0
Styrene	-	-	-	-	-	-	
Methyl Methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0
Heptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0
2-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0
Acetone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0
1,2-Dichloroethane-D4	.39894	.40133	.37880	.686	.39302	3.149	(Conc=250.0,250.0,250.0
Toluene-D8	1.74907	1.76898	1.71717	1.226	1.74174	1.254	(Conc=250.0,250.0,250.0
p-Bromofluorobenzene	.96423	.97536	.93361	1.504	.95773	2.257	(Conc=250.0,250.0,250.0

RF - Response Factor (Subscript is amount in NG)

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

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

032

301415

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850405 13:00

Compound	Files: >F8673 RF 60.00	>F8672 RF 100.00	>F8671 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
hlorophenol	.83592	.73068	.81756	.951	.79472	7.074	
nol	.98071	.89677	1.09611	.933	.99128	10.097	
-Dichlorophenol	.26172	.23387	.26967	.982	.25509	7.371	
-Dimethylphenol	.32646	.29338	.33857	.934	.31947	7.322	
itrophenol	.17049	.15824	.19300	.901	.17391	10.138	
hloro-m-cresol	.28227	.28217	.31972	1.220	.29472	7.347	
-Dinitro-o-cresol	.15313	.17674	.28582	1.142	.20523	34.491	
-Dinitrophenol	.03048	.07098	.16179	1.030	.08775	76.633	
itrophenol	.05392	.10687	.21582	1.083	.12554	65.758	
,6-Trichlorophenol	.37352	.32565	.36901	.855	.35606	7.424	
tachlorophenol	.07220	.08028	.11961	.987	.09069	27.966	
luorophenol	.69832	.64982	.86694	.664	.73836	15.435	(Conc=100.0,100.0,100.0)
nol-D5	.78008	.71532	1.01455	.929	.83665	18.817	(Conc=100.0,100.0,100.0)
,6-Tribromophenol	.10672	.09071	.11706	.896	.10483	12.665	(Conc=100.0,100.0,100.0)
resol	-	-	-	-	-	-	
-Cresols	-	-	-	-	-	-	

- Response Factor (Subscript is amount in UG/ML)
- Average Relative Retention Time (RT Std/RT Istd)
- Average Response Factor
- Percent Relative Standard Deviation

301416

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >16444 RF 60.00	>16443 RF 100.00	>16442 RF 200.00	>16445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	1.42642	1.55796	1.62088	-	.407	1.53509	6.464	
bis(2-Chloroethyl) ether	2.10289	2.17665	2.28073	-	.928	2.18676	4.086	
1,3-Dichlorobenzene	1.51193	1.55715	1.53923	-	.989	1.53610	1.482	
1,4-Dichlorobenzene	1.59404	1.66507	1.58416	-	1.005	1.61442	2.734	
1,2-Dichlorobenzene	1.54852	1.58178	1.50744	-	1.066	1.54591	2.409	
Nitrobenzene-d5	2.08223	2.11723	2.03519	-	1.194	2.07822	1.981	(Conc=50.0,50.0,50.0,)
bis(2-Chloroisopropyl)ether	.33376	.40855	.60278	-	1.105	.44836	30.970	
2-Fluorobiphenyl	.57248	.56061	.46036	-	1.298	.53115	11.597	(Conc=50.0,50.0,50.0,)
N-Nitrosodi-n-propylamine	.43678	.46548	.51124	-	.795	.47117	7.971	
Hexachloroethane	.10226	.10747	.10932	-	.807	.10635	3.444	
Nitrobenzene	.75059	.78641	.84478	-	.829	.79392	5.988	
Isophorone	.77110	.81078	.85405	-	.886	.81198	5.110	
bis(2-Chloroethoxy)methane	.54119	.56212	.57102	-	.947	.55811	2.744	
1,2,4-Trichlorobenzene	.24720	.24046	.22742	-	.990	.23836	4.219	
Naphthalene	1.10205	1.12455	1.09741	-	1.006	1.10801	1.310	
Hexachlorobutadiene	.12333	.12072	.11194	-	1.055	.11866	5.029	
Hexachlorocyclopentadiene	.16484	.18283	.16439	-	.847	.17069	6.162	
2-Chloronaphthalene	1.14013	1.18323	1.20879	-	.894	1.17738	2.947	
Dimethyl phthalate	1.50424	1.46034	1.48967	-	.962	1.48475	1.506	
Acenaphthylene	2.23281	2.31954	2.26215	-	.971	2.27150	1.942	
2,6-Dinitrotoluene	.32778	.34251	.32217	-	.974	.33082	3.175	
Acenaphthene	1.42080	1.49196	1.43761	-	1.006	1.45012	2.565	
2,4-Dinitrotoluene	.42484	.43414	.36352	-	1.045	.40750	9.415	
Diethyl phthalate	1.69292	1.71707	1.62561	-	1.094	1.67854	2.824	
Fluorene	1.48025	1.55150	1.37945	-	1.099	1.47040	5.879	
4-Chlorophenyl phenyl ether	.50351	.53967	.47311	-	1.102	.50543	6.592	
N-Nitrosodiphenylamine	.97808	.99039	.81829	-	1.125	.92892	10.335	
1,2-Diphenylhydrazine	2.82605	2.97484	2.75638	-	1.131	2.85242	3.912	
4-Bromophenyl phenyl ether	-	.16821	.17603	-	.936	.17212	3.212	
Hexachlorobenzene	.17131	.17365	.16437	-	.956	.16978	2.843	
Phenanthrene	1.04300	1.09407	1.02829	-	1.003	1.05512	3.272	
Anthracene	1.23121	1.28610	1.26973	-	1.010	1.26235	2.232	
Di-n-butyl phthalate	1.55575	1.57139	1.54098	-	1.097	1.55604	.977	
Fluoranthene	.87063	.90528	.82844	-	1.178	.86812	4.433	
Benzidine	.10353	.10837	.25676	-	1.200	.15622	55.756	
Pyrene	.84941	.88562	.83557	-	1.211	.85687	3.016	
Alpha-BHC	.14566	.14607	-	.15357	.945	.14843	2.998	
Beta-BHC	.08651	.09762	-	.08816	.979	.09076	6.603	
Gamma-BHC	.13450	.13291	-	.13649	.988	.13463	1.333	
Delta-BHC	.09821	.10262	-	.09713	1.018	.09932	2.924	
Heptachlor	.30795	.33440	-	.34428	1.080	.32888	5.711	
Aldrin	.32730	.34450	-	.32552	1.123	.33244	3.153	
Heptachlor epoxide	.04600	.04941	-	.06596	.841	.05379	19.847	

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

301417

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >16444 RF 60.00	>16443 RF 100.00	>16442 RF 200.00	>16445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.01334	.01547	-	.01932	.861	.01604	18.900	(Conc=100.0,200.0,,500.0)
Endosulfan I	.07643	.08687	-	.10965	.873	.09098	18.672	
4,4'-DDE	.39651	.38293	-	.48692	.888	.42212	13.392	
Dieldrin	.85559	.92026	-	1.12272	.895	.96619	14.424	
Endrin	.12875	.12799	-	.16973	.915	.14216	16.800	
Endosulfan II	.06944	.07567	-	.09137	.921	.07883	14.333	
4,4'-DDD	.62091	.66602	-	.77665	.923	.68786	11.650	
Endrin aldehyde	-	-	-	.51049	.937	.51049	-	
4,4'-DDT	.42969	.49759	-	.49155	.953	.47294	7.945	
Endosulfan sulfate	.08499	.09885	-	.10942	.956	.09775	12.535	
Terphenyl-D14	1.26005	1.33392	1.37678	-	.890	1.32358	4.461	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.37825	1.43947	1.55231	-	.946	1.45668	6.061	
Benzo(a)anthracene	1.36803	1.41663	1.24239	-	.998	1.34235	6.698	
Chrysene	1.12478	1.23627	1.18429	-	1.003	1.18178	4.721	
3,3'-Dichlorobenzidine	.23359	.24852	.28045	-	.998	.25419	9.416	
bis(2-Ethylhexyl)phthalate	1.66490	1.83512	1.87571	-	1.010	1.79191	6.242	
Di-n-octyl phthalate	2.04556	2.37214	2.20092	-	1.071	2.20621	7.404	
Benzo(b)fluoroanthene	.74969	.69436	.67445	-	1.111	.70617	5.521	
Benzo(k)fluoranthene	.66081	.79919	.65568	-	1.114	.70523	11.545	
Benzo(a)pyrene	.60956	.71871	.57713	-	1.151	.63513	11.678	
Indeno(1,2,3-c,d)pyrene	.59747	.78757	.61852	-	1.331	.66785	15.603	
Dibenzo(a,h)anthracene	.45676	.58732	.45797	-	1.335	.50068	14.986	
Benzo(ghi)perylene	.44679	.57162	.47055	-	1.382	.49632	13.356	

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

301418

QUANT REPORT

Operator ID: TM0576 Quant Rev: 3 Quant Time: 850329
Injected at: 850329
Data File: >B7818::U4 Dilution Factor: 1
Name: VOAS ON B, 850329
Misc: QC3056V 5ML

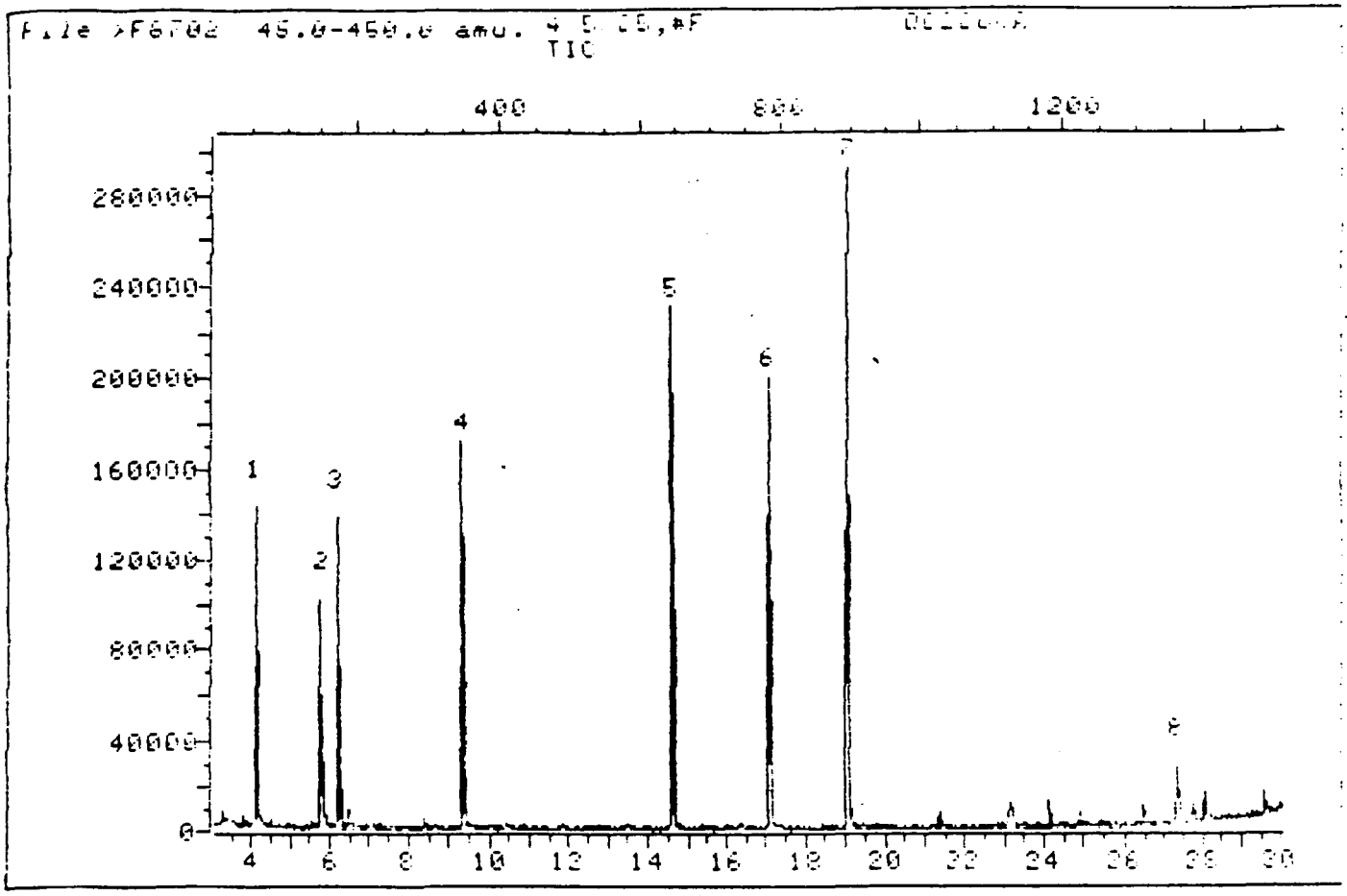
ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850329 07:25

	Compound	R.T.	Scan#	Area	Conc	Un
1)	*2-Bromo-1-chloropropane	20.21	489	264363	200.00	NG
5)	bis(Chloromethyl)ether	20.21	489	91627	~~170.24~~	NG
11)	2-Chloroethylvinyl ether	19.01	458	11719	~~49.12~~	NG
12)	Chloroform	13.27	310	3505	~~2.23~~	NG
24)	Methylene chloride	7.95	173	10801	15.86	NG
27)	Toluene	24.95	611	11795	~~4.83~~	NG
29)	1,1,1-Trichloroethane	15.28	362	24369	18.58	NG
34)	1,2-Dichloroethane-D4	13.89	326	181685	349.73	NG
35)	Toluene-D8	24.75	606	690787	300.05	NG
36)	p-Bromofluorobenzene	30.38	751	398249	314.59	NG
37)	*1,4-Dichlorobutane	24.09	589	385785	200.00	NG

* Compound is ISTD

301419

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F6702.:US
Name: 4/5/95,#F
Misc Data: QC2064A

BTL#26

301420

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 07:47
Injected at: 850406 07:15
Data File: >F8702::U5 Dilution Factor: 1.00
Name: 4/5/85,#F
Misc: QC2864A BTL#26

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

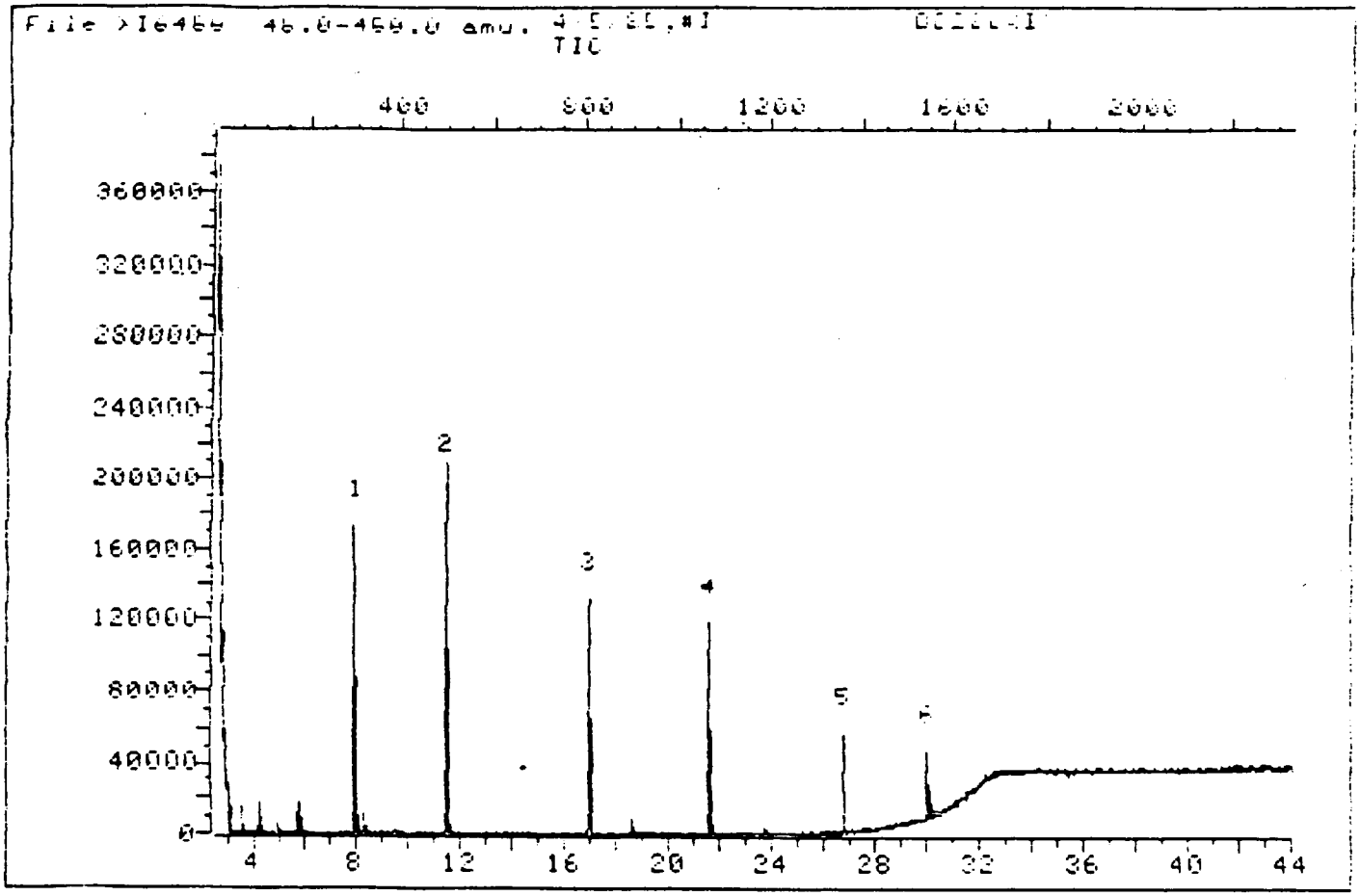
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.18	174	75508	40.00	UG/ML
5)	2-Fluorophenol	4.10	57	85623	61.43	UG/ML
5)	2-Fluorophenol	4.46	77	437	.31	UG/ML
7)	Phenol-D5	5.74	149	126055	79.81	UG/ML
7)	Phenol-D5	6.04	166	1022	.65	UG/ML
7)	Phenol-D5	6.18	174	704	.45	UG/ML
8)	*d8-Naphthalene	9.34	351	199669	40.00	UG/ML
13)	*d10-Acenaphthalene	14.58	645	135525	40.00	UG/ML
18)	*d10-Phenanthrene	19.03	895	336877	40.00	UG/ML
19)	2,4,6-Tribromophenol	17.04	783	54192	61.38	UG/ML

* Compound is ISTD

F098AC

301421

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



Data File: >I6458::U6
Name: 4/5/05,#I
Misc Data: QC2064B

BTL# 7

301422

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 14:4
Injected at: 850406 14:0
Data File: >I6458::U6 Dilution Factor: 1.0
Name: 4/5/85,#1
Misc: QC2864B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

I0315I

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.95	303	58901	40.00	UG/ML
2)	N-Nitrosodimethylamine	2.77	11	1350	.60	UG/ML
2)	N-Nitrosodimethylamine	2.93	20	618	.27	UG/ML
7)	Nitrobenzene-d5	9.51	391	3863	1.26	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.97	304	4643	7.03	UG/ML
9)	*d8-Naphthalene	11.51	504	214112	40.00	UG/ML
19)	*d10-Acenaphthalene	16.98	812	68494	40.00	UG/ML
22)	Dimethyl phthalate	17.00	813	12774	5.02	UG/ML
27)	Diethyl phthalate	18.58	902	3211	1.12	UG/ML
32)	*d10-Phenanthrene	21.63	1074	103137	40.00	UG/ML
37)	Di-n-butyl phthalate	23.72	1192	5758	1.44	UG/ML
39)	Benzidine	26.76	1363	627	1.56	UG/ML
47)	*d12-Chrysene	30.06	1549	30758	40.00	UG/ML
59)	Terphenyl-D14	26.76	1363	36210	35.58	UG/ML
65)	Di-n-octyl phthalate	31.40	1624	1581	.93	UG/ML

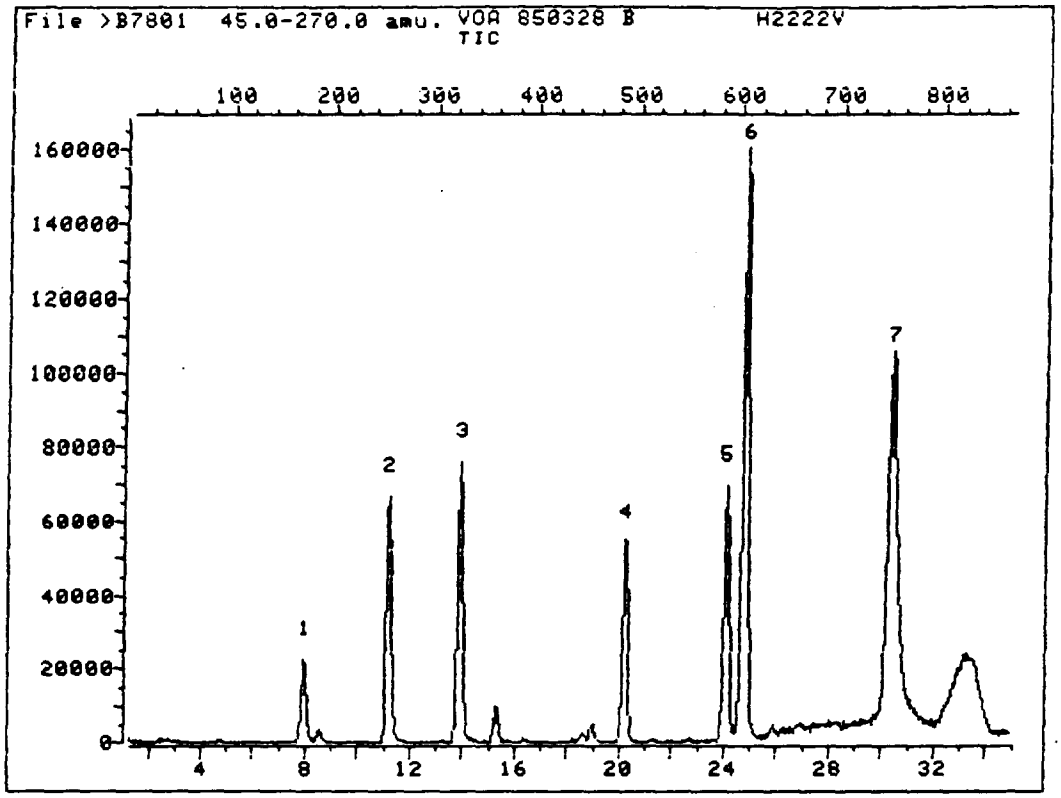
* Compound is ISTD

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.

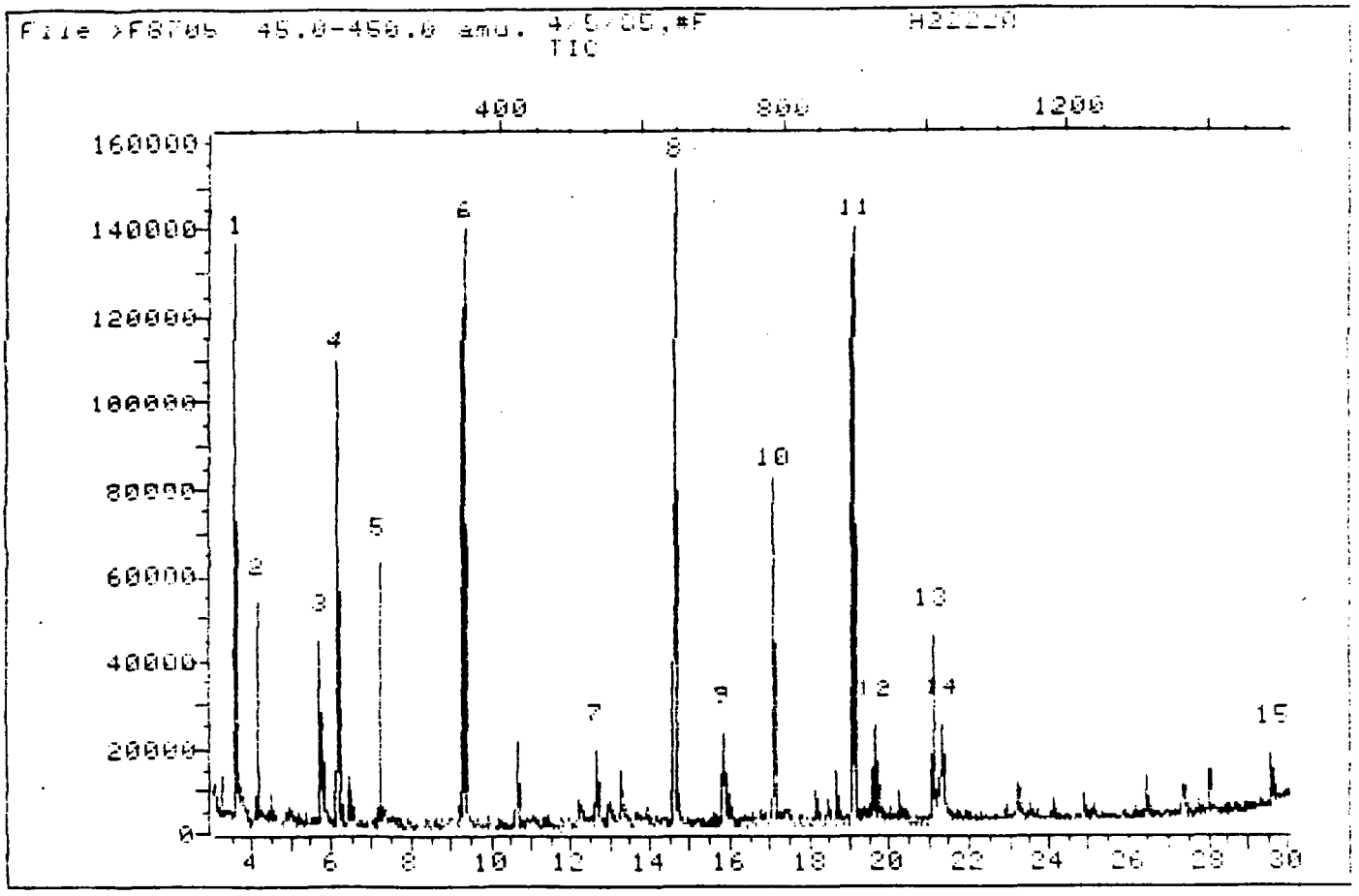
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >B7801::U5
Name: VOA 850328 B
Misc Data: H2222V

301425

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS

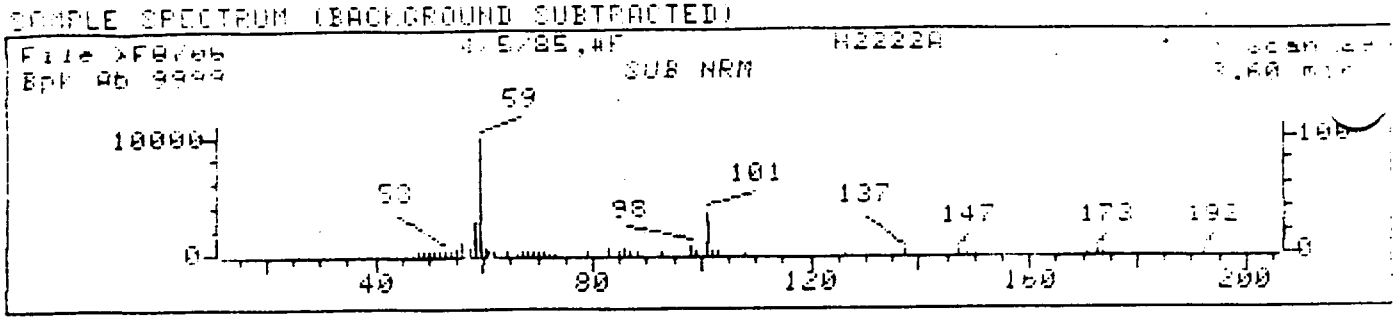


Data File: >F0705.:US
Name: 4/5/05,#F
Misc Data: H2220A

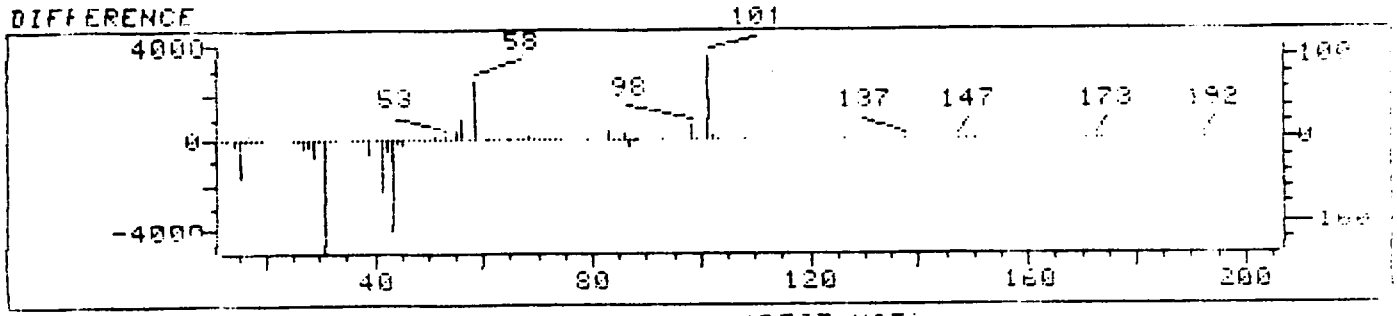
BTL#29

301426

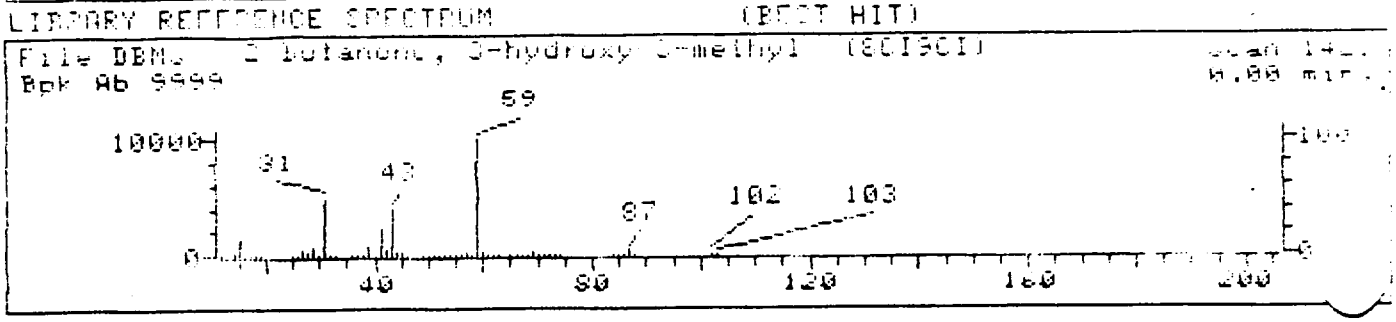
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8705.UC
Name: 4/5/85,#F
Misc Data: H2222A
RT (min): 3.60
Scan: 29
Area: 21417
Semi-quantitative Conc: 41.71 UG/ML

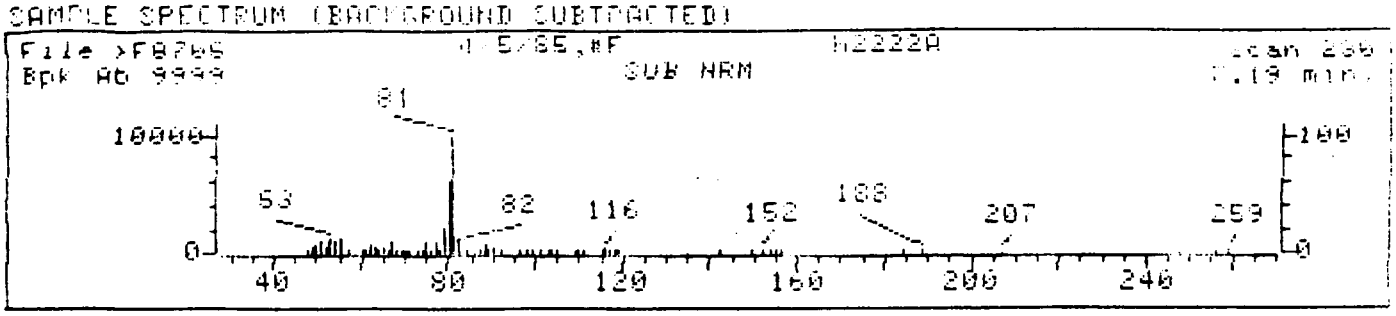
Data File: >F8705 Scan Number: 29
Search Speed: 2 Titling option: S Number of ion ranges searched: 57

1. 2-Butanone, 3 hydroxy 3-methyl (ECIPCI) 102 C5H10O2

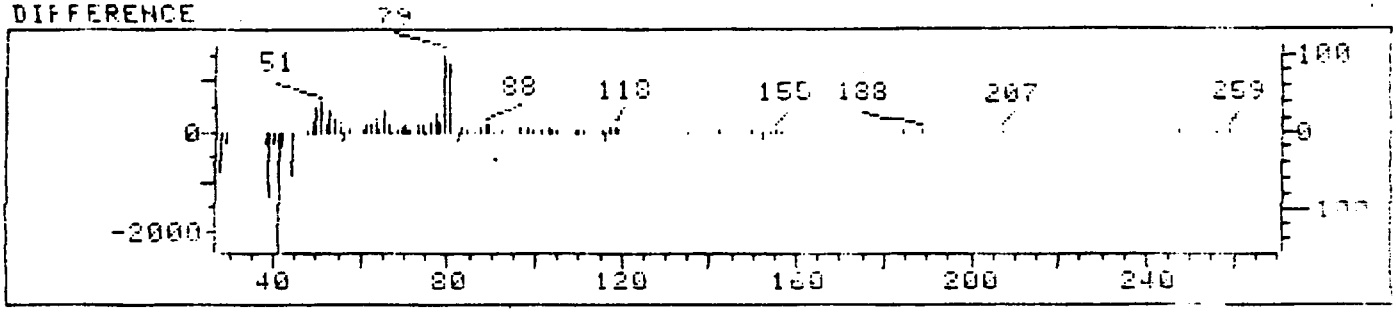
	Prob.	Conf	K	dK	#Flg	Tilt
1.	29	115220	82	59	1	0

301427

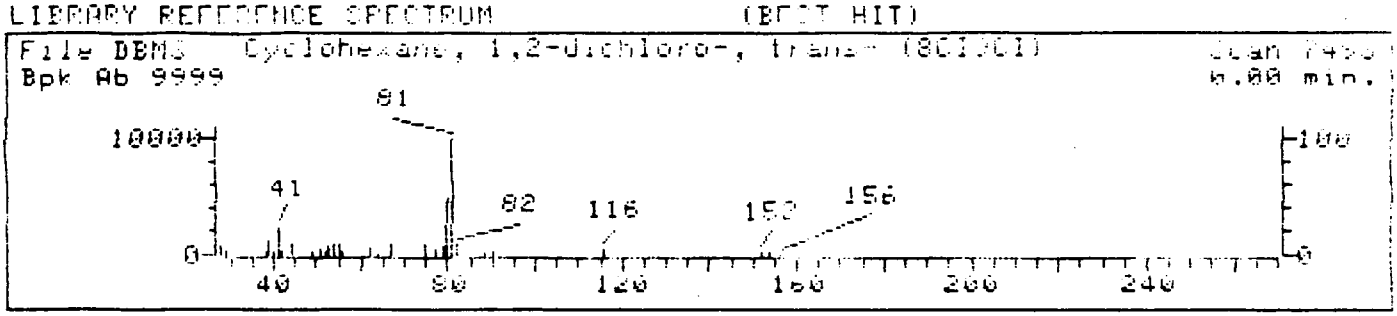
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File F8705.UF
Name: 4/5/85,#F
Misc Data: H2222A BTL#09
RT (min): 7.19
Scan 230
Area 141677
Semi-quantitative Conc: 27.31 UG/ML

Data File: F8705 Scan Number: 230
Search Speed: 2 Tilting option: 0 Number of ion ranges searched: 50

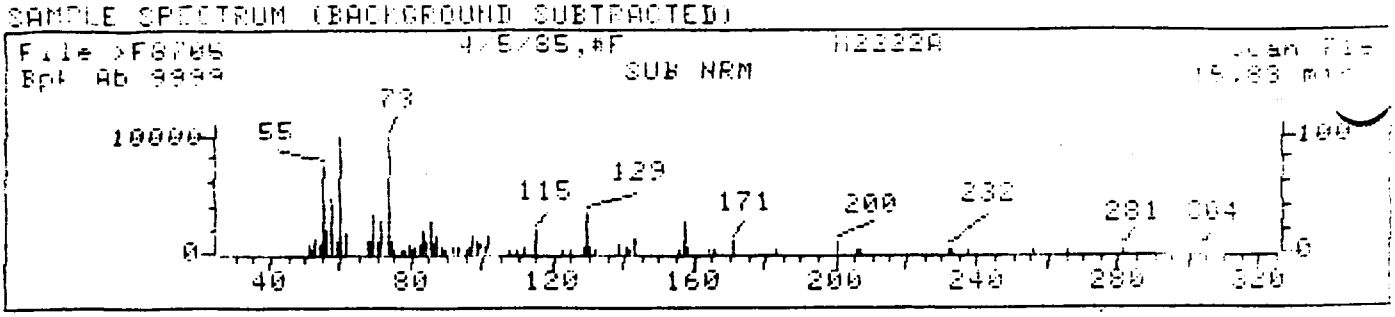
1.	Cyclohexane, 1,2-dichloro-, trans- (8CI,9CI)	152	C6H10Cl2
2.	2,4,6-Methano-2H-cyclopenta[4,5]pentaleno[1,2-b]oxir ene, 2a,3,3,4,5,5a-hexachlorodecahydro-, (1a.alpha., 1b.beta.,2.alpha.,2a.beta.,4.beta.,5.beta.,5a.beta., 5b.beta.,6.alpha.,6a.alpha.)- (9CI)	378	C12H6Cl6O
3.	Rhodium, di-.mu.-bromobis[(1,2,5,6-.eta.)-1,5-cyclo octadiene]di- (9CI)	580	C16H24Br2Rh2

	Prob	Conf	K	dF	#Flg	Tilt
1.	86	8228%6	73	17	0	2
2.	93	13366739	42	77	0	-2
3.	83	12092451	42	140	0	-2

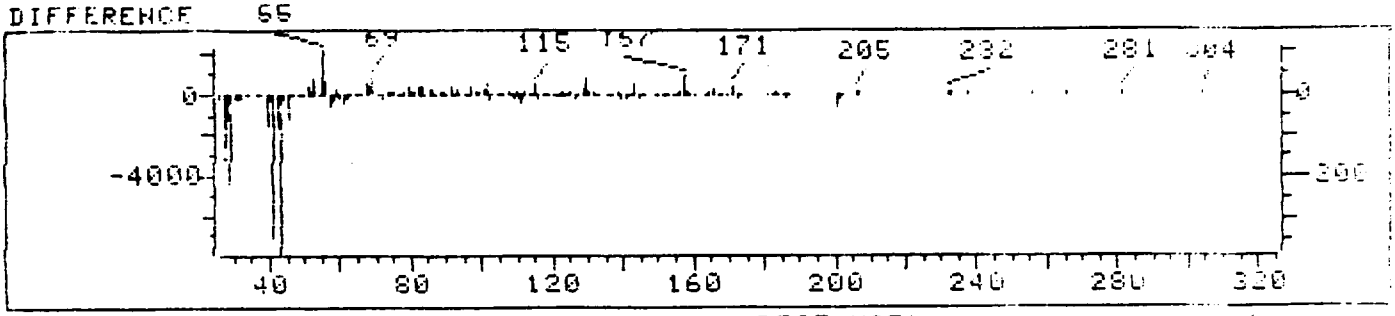
CA10E

301428

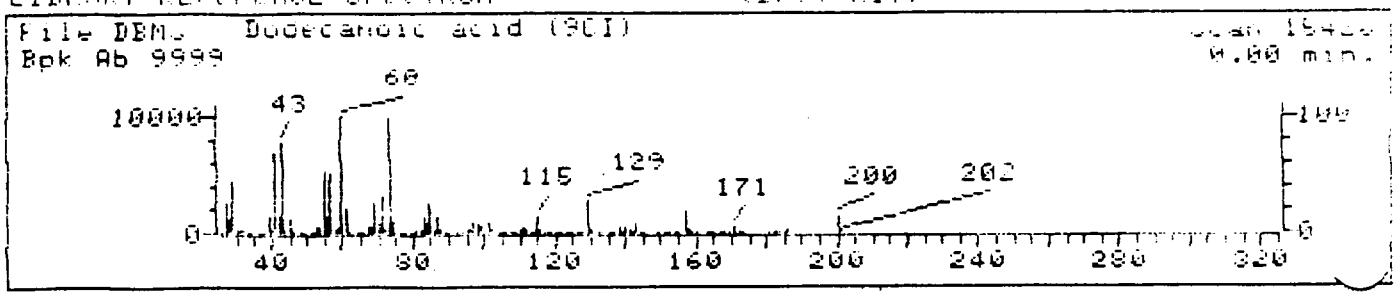
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8705:US
Name: 4/5/85,#F
Misc Data: H2322A
RT (min): 15.83
Scan: 715
Area: 74940
Semi-quantitative Conc 14.47 UG/ML

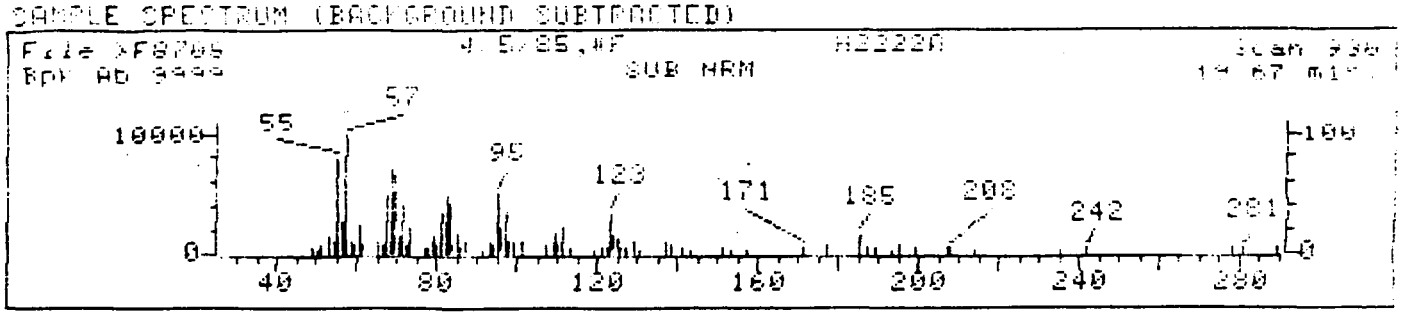
Data File: >F8705 Scan Number: 715
Search Speed: 2 Titling option: S Number of ion ranges searched: 61

1.	Dodecanoic acid (9CI)	200 C12H24O2
2.	Pentadecanoic acid (8CI9CI)	242 C15H30O2
3.	Nonanoic acid (8CI9CI)	158 C9H18O2

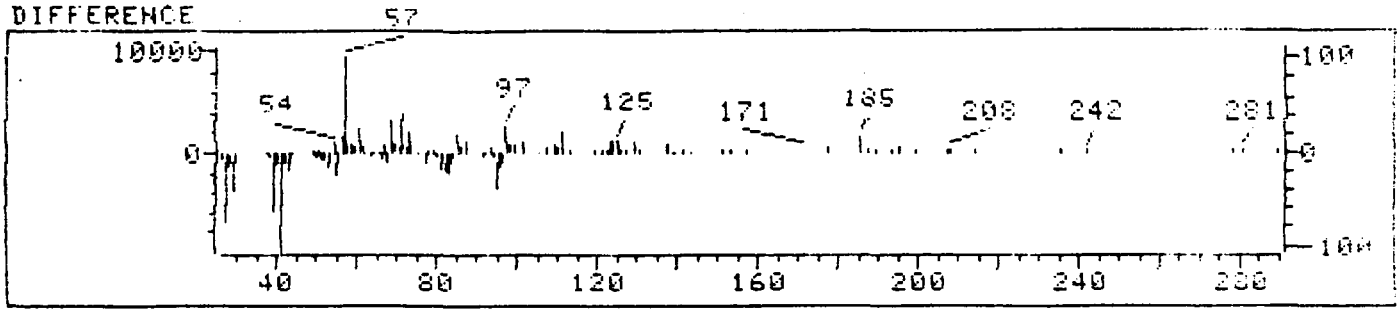
	Prob.	Cas#	K	dK	#Fls	Tilt
1.	76	143077	86	52	2	1
2.	52	1002842	71	79	2	0
3.	39	112050	39	65	1	0

301429

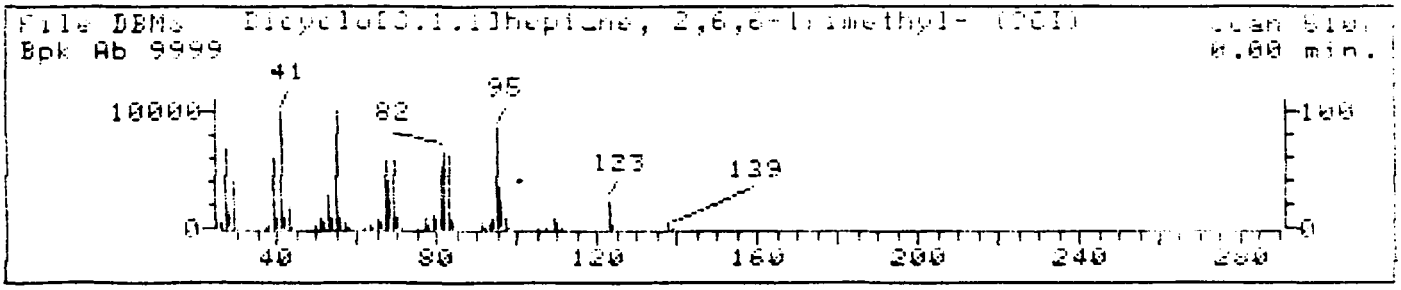
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F0705::US
Name: 4/5/95,#F
Misc Data: H2222A PTL#29
RT (min): 19.67
Scan: 930
Area: 57179
Semi-quantitative Conc: 10.27 UG/ML

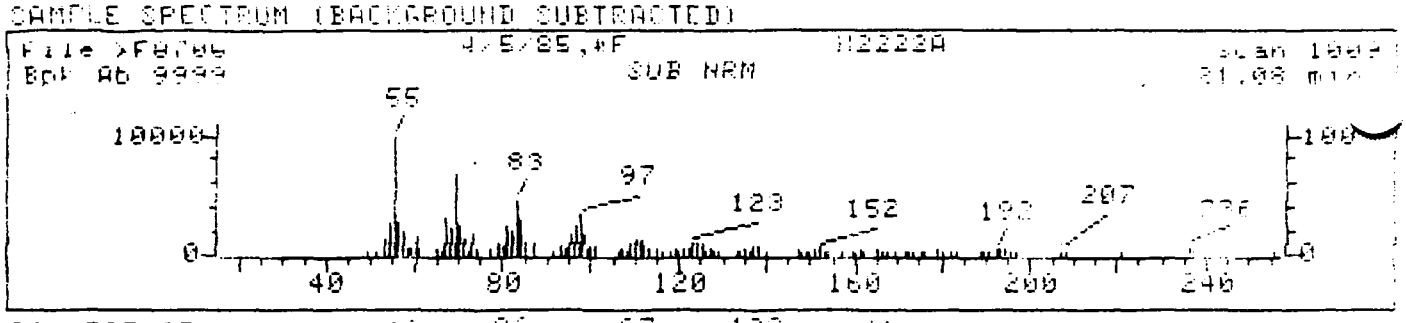
Data File: >F0705 Scan Number: 930
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 75

1.	Bicyclo[3.1.1]heptane, 2,6,6-trimethyl- (9CI)	138	C10H18
2.	Butanoic acid, 3,7-dimethyl-6-octenyl ester (9CI)	226	C14H26O2
3.	3-Eicosyne (9CI)	278	C20H38

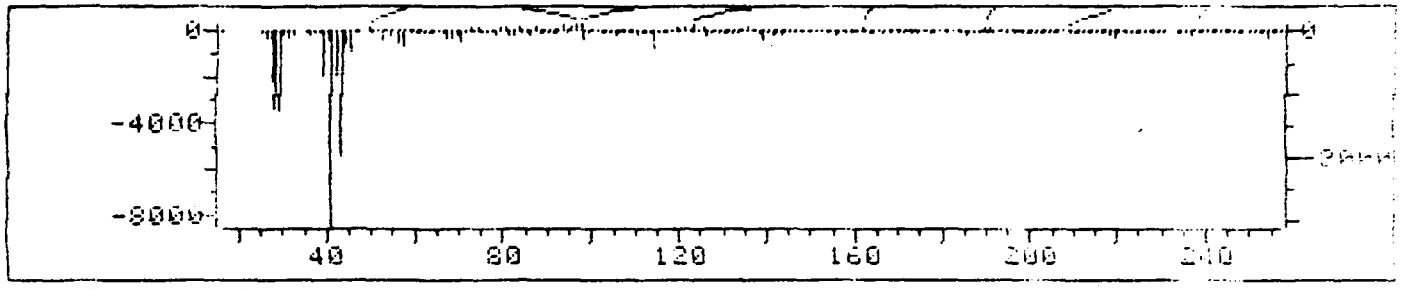
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	70	473552	64	58	0	0
2.	39	111162	81	69	2	0
3.	36	61006666	52	95	2	0

301430

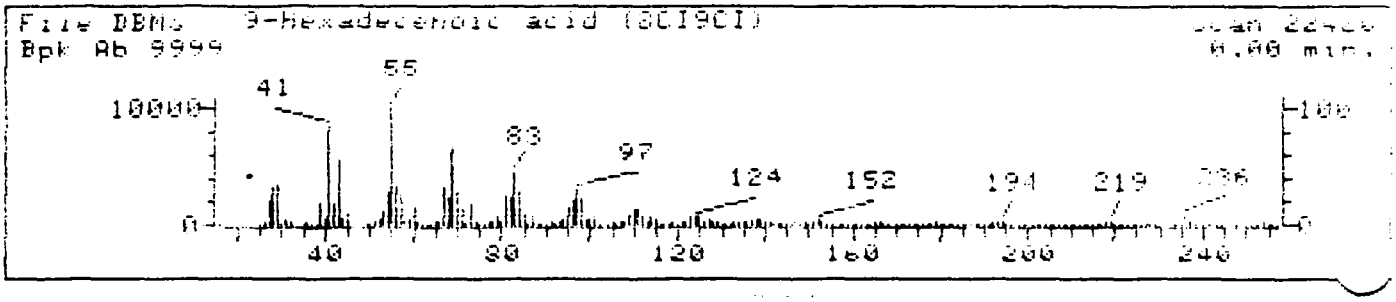
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8705:US
Name: 4/5/85,#F
Misc Data: H2222A
RT (min) 21.09
Scan: 1009
Area: 14310
Semi-quantitative Conc: 27.63 UG/ML

BTL#29

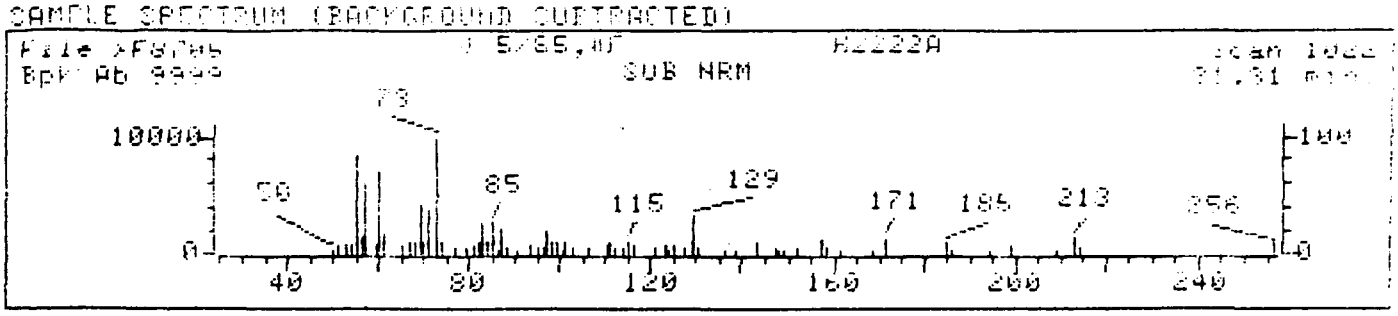
Data File: >F8705 Scan Number: 1009
Search Speed: 2 Titling option: S Number of ion ranges searched: 97

1. 9-Hexadecenoic acid (8CI,9CI) 271 C16H30O2
2. 4,5-Nonadiene (8CI,9CI) 124 C9H16
3. Bicyclo[3.1.0]hexan-2-one, 5-(1-methylethyl)- (9CI) 138 C9H14O

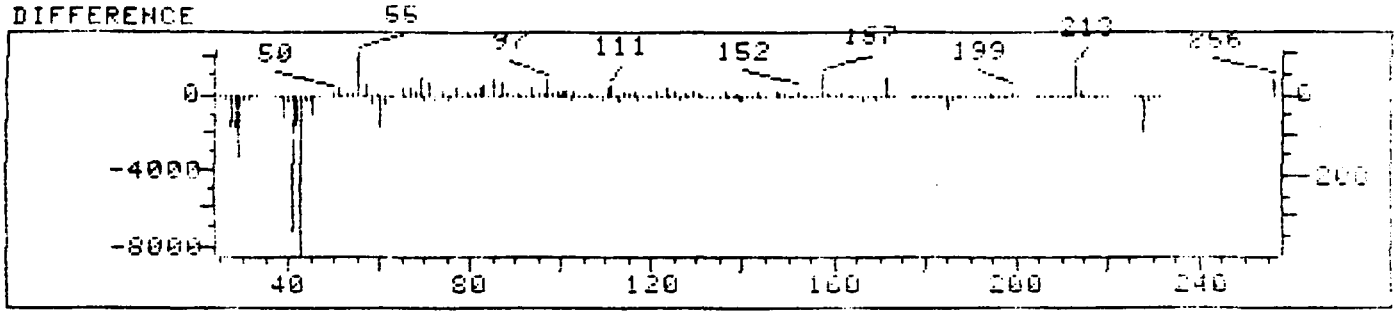
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	94	2091294	143	14	1	0
2.	87	821749	55	53	0	-2
3.	86	513202	47	72	0	-2

301431

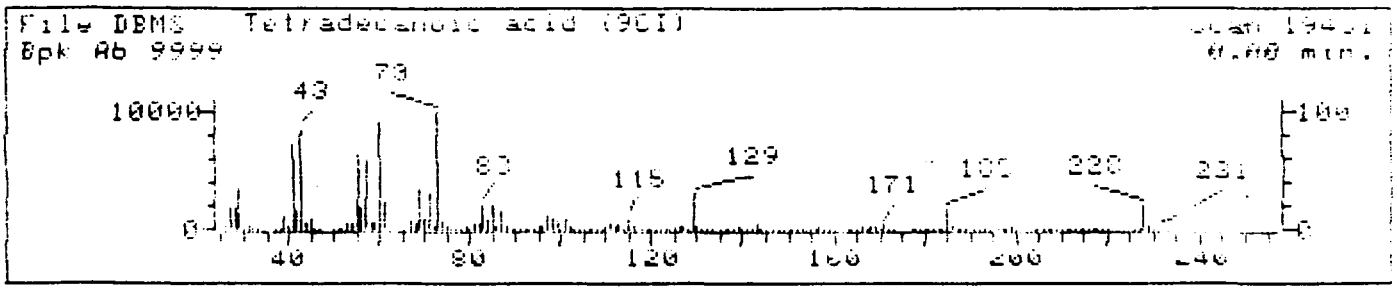
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



Data File: >F0705: UC
Mang: 4/5/85,#F
Misc Data: HP222A BTL#29
RT (min): 21.31
Scan: 1022
Area: 29107
Semi-quantitative Conc: 15.29 UG/ML

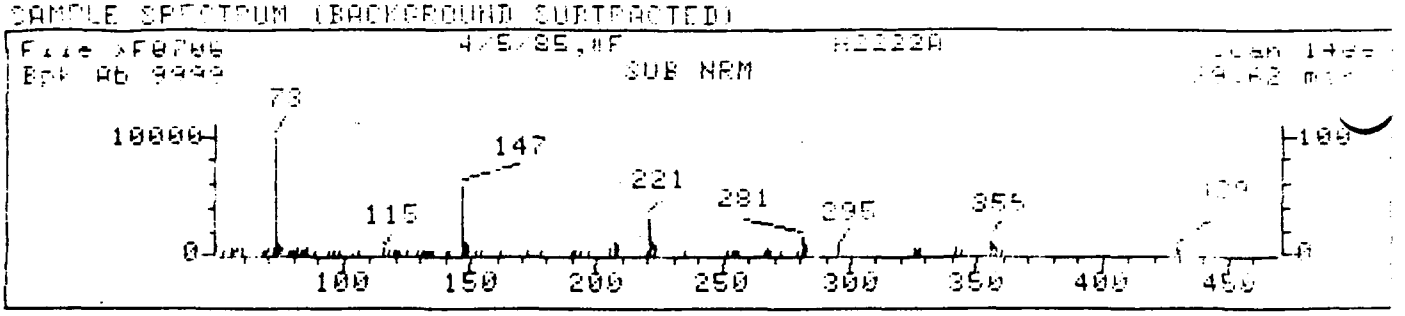
Data File: >F0705 Scan Number: 1022
Search Speed: 3 Tilting option: 0 Number of ion ranges searched: 47

1.	9-Tricosene, (Z)- (9CI)(9CI)	322	C23H46
2.	Tetradecanoic acid (9CI)	228	C14H28O2
3.	Oxirane, [(dodecyloxy)methyl]- (9CI)	242	C15H30O2

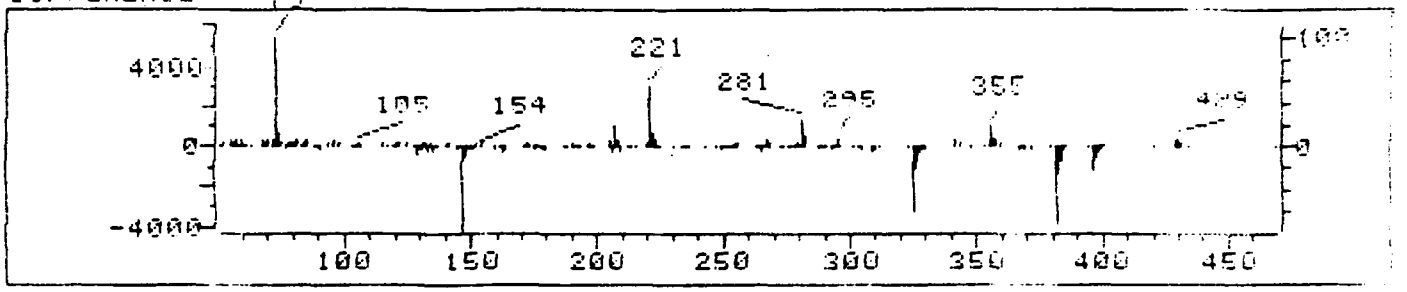
	Prob.	Coef	K	dK	#Flg	Tilt
1.	78	2751924	84	90	1	-1
2.	78	544638	81	65	2	-1
3.	7%	2461189	93	19	2	-1

301432

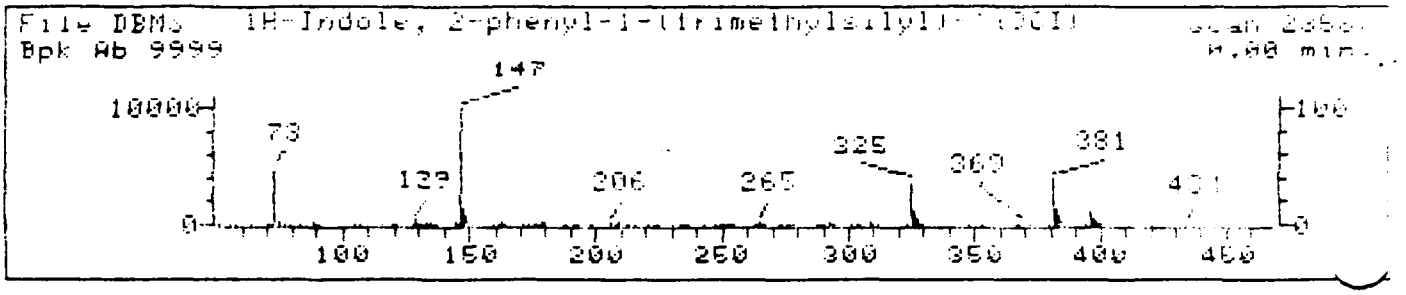
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



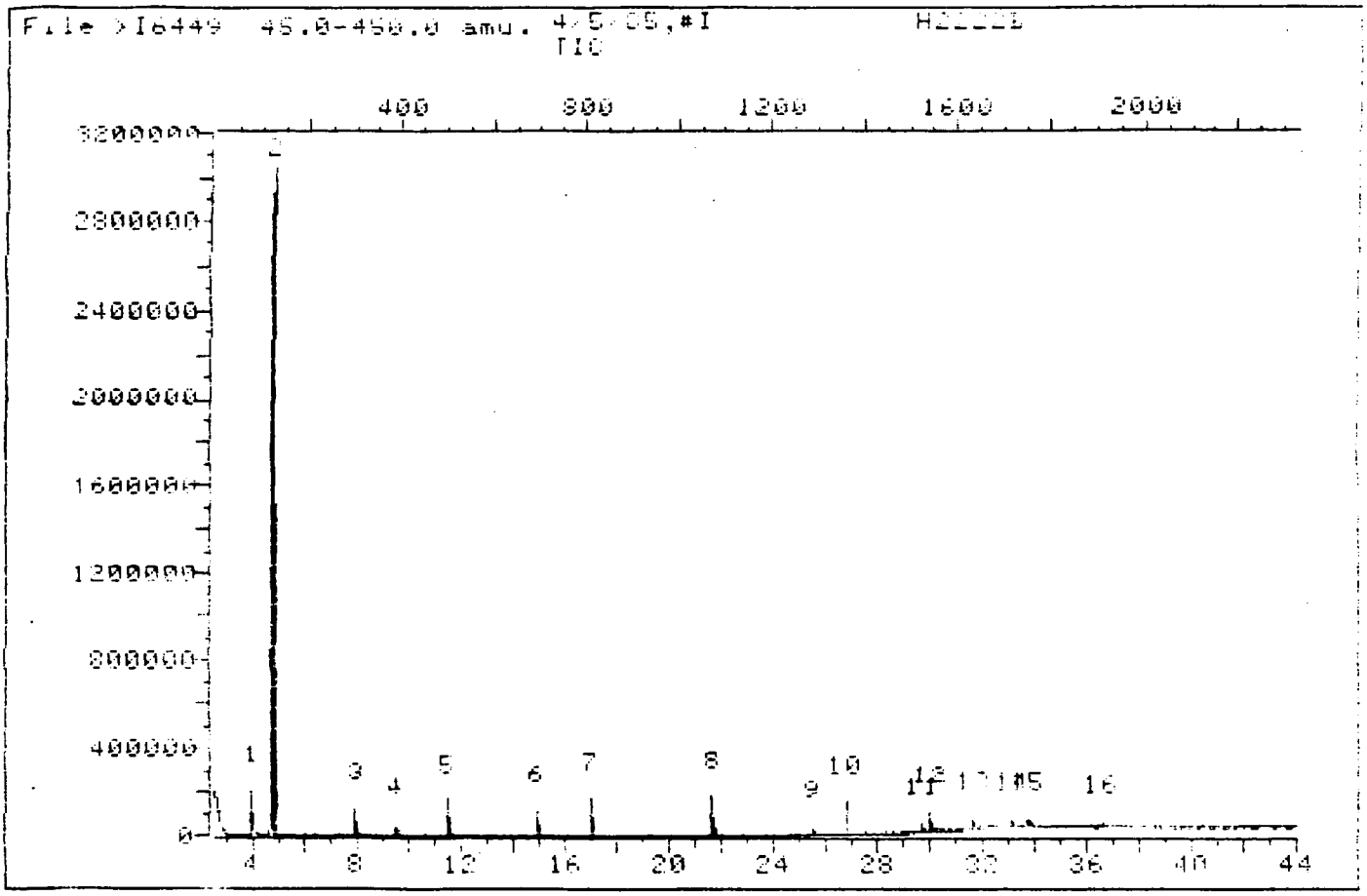
Data File:)F0705:.US
Name: 4/5/05,#F
Misc Data: H2222A PTL#29
RT (min): 29.62
Scan 1400
Area: 5320
Semi quantitative Conc: 10.29 UG/ML

Data File:)F0705 Scan Number: 1400
Search Speed: 2 Titling option: 3 Number of ion ranges searched: 6

1. 1H Indole, 2-phenyl-1-(trimethylsilyl)- (9CI) 265 C17H19NSi
2. 1,3-Dioxolane, 2-(1-methylpropyl)- (9CI) 130 C7H14O2
3. 2-Propanone, oxime (9CI) 73 C3H7NO

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	7439/2547	36	58	0	-2
2.	20	14447257	26	53	2	0
3.	20	1070/0	20	30	2	0

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



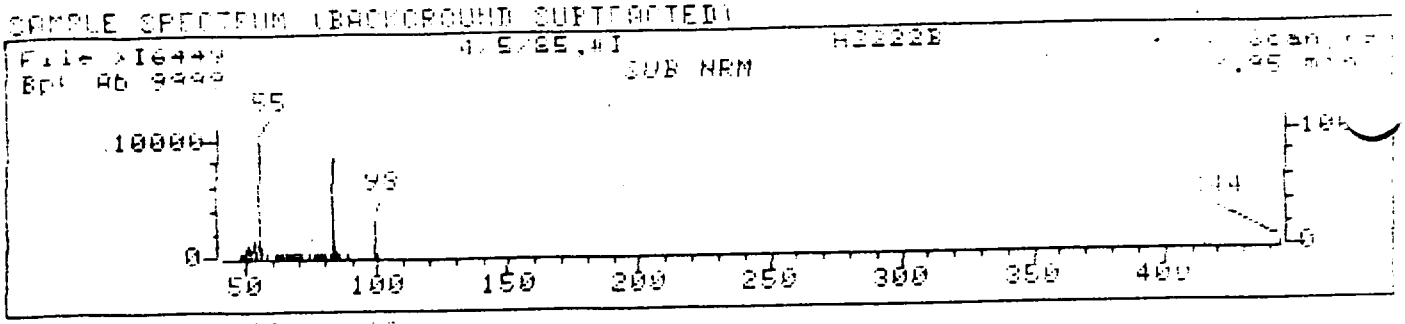
Data File: >I6449:.UA
Name: 4/5/95,#I
Misc Data: H27228

BTL#10

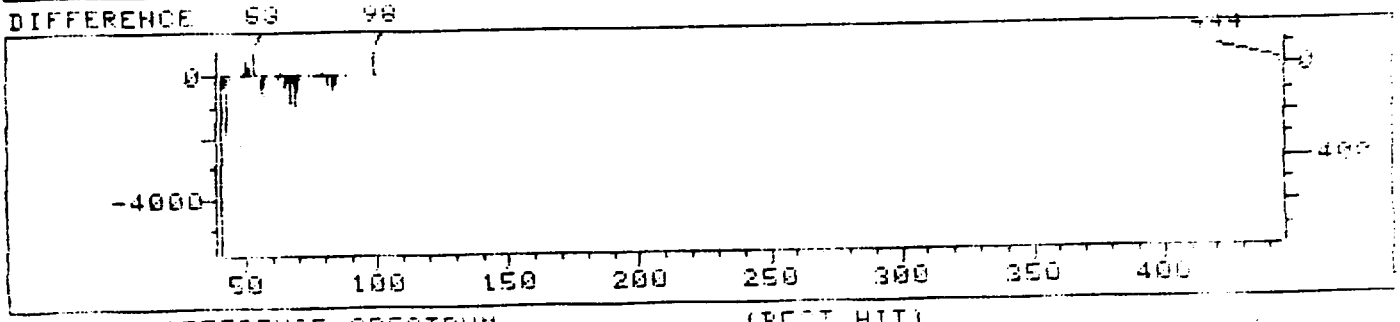
301434

301

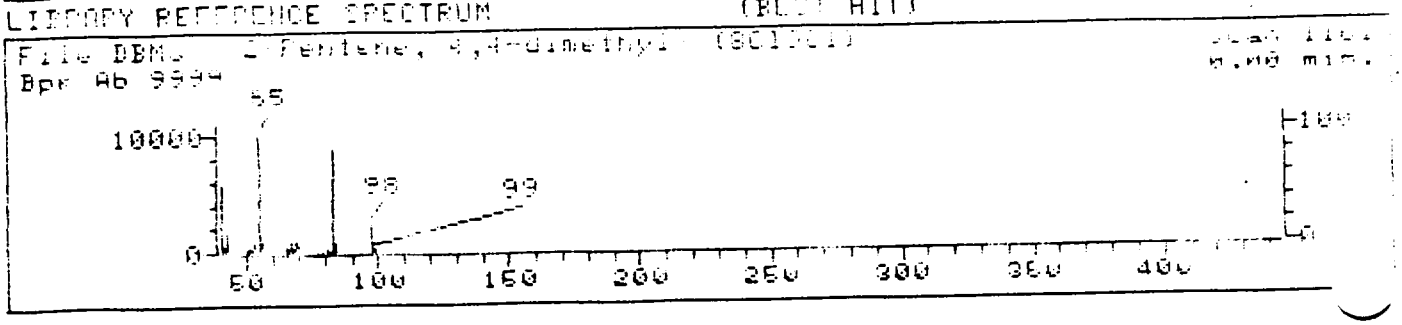
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



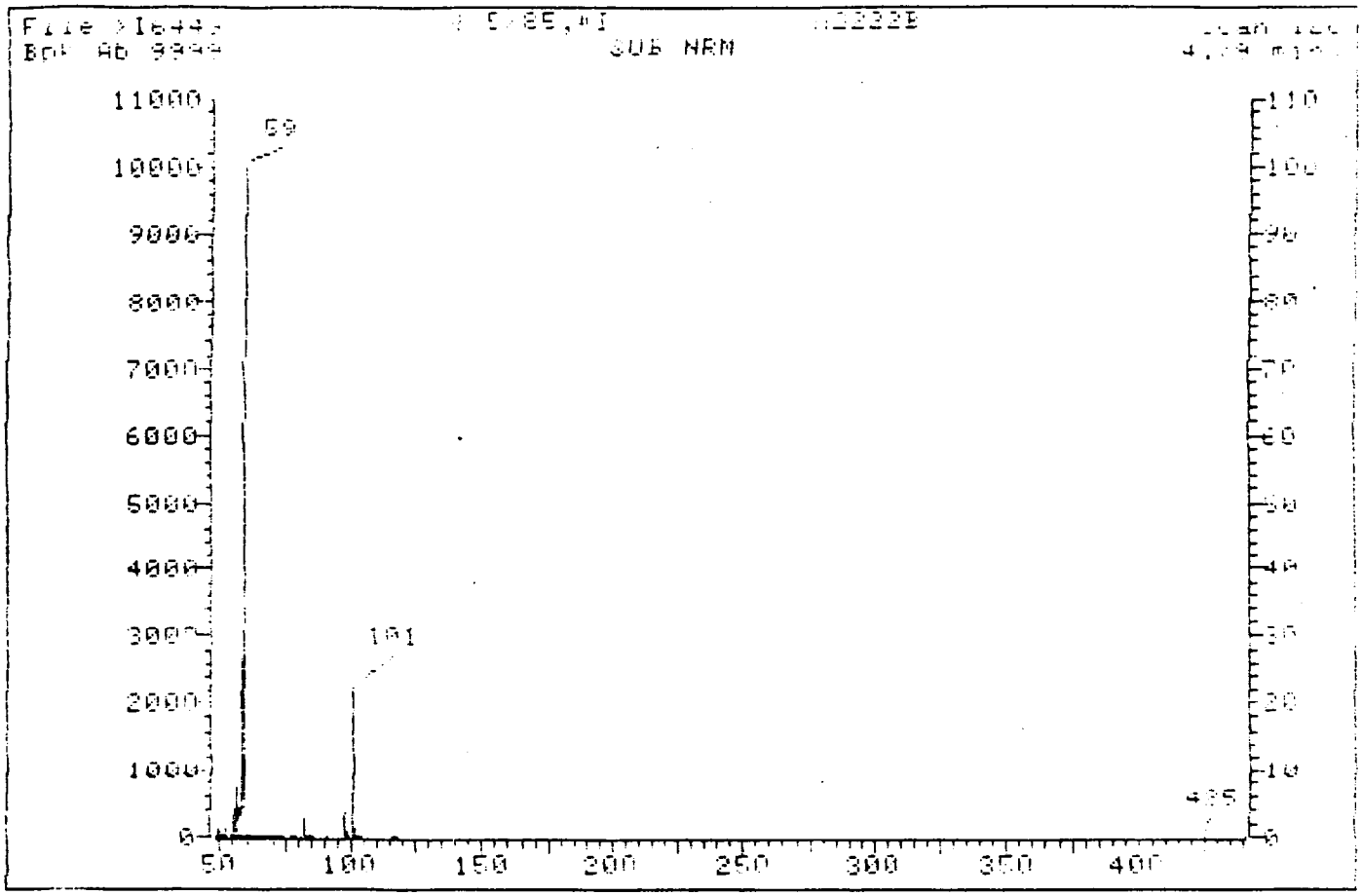
Data File: >I6449
Name: 4/5/85,#I
Misc Data: HP222B
RT (min):
Scan:
Area:
Semi-quantitative Conc: 85.30 UG/ML

Data File: >I6449 Scan Number:
Search Speed: 3 Tilting option: 0 Number of ion ranges searched:

1. 2-Pentene, 4,4-dimethyl- (9CI,9CI) 99
2. 2-Pentene, 3,4-dimethyl-, (Z)- (9CI,9CI) 99
3. 2-Pentene, 3,4-dimethyl-, (E)- (9CI,9CI) 98

	Prob.	Conf	K	dK	#Flg	Tilt
1.	78	26232904	34	56	2	0
2.	78	4914914	35	63	2	0
3.	78	4914925	34	62	2	0

301435



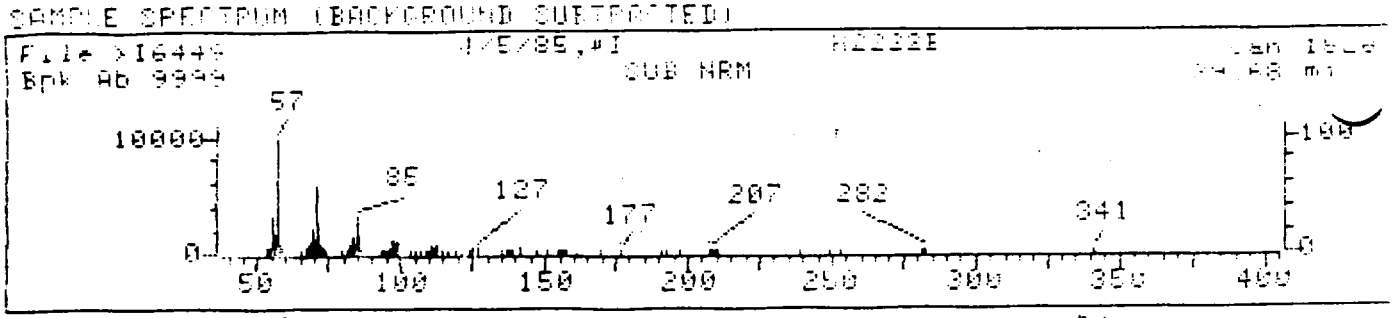
Data File: XT6192:UA
Name: 4/5/05,#1
Misc Data: HP222B
RT (min): 4.79
Scan: 176
Area: 2227.072
Semi-quantitative Conc: 296.55 UG/Ml

PTL#10

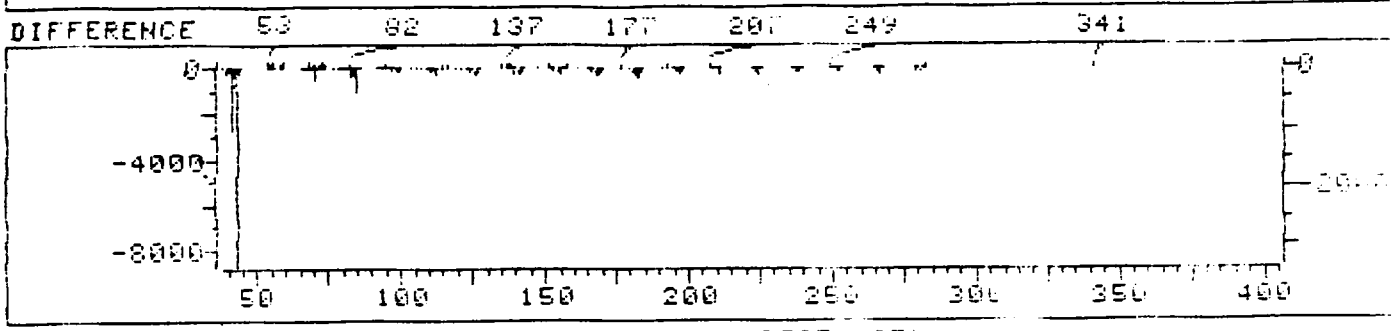
No PRM hits for this scan.

301436

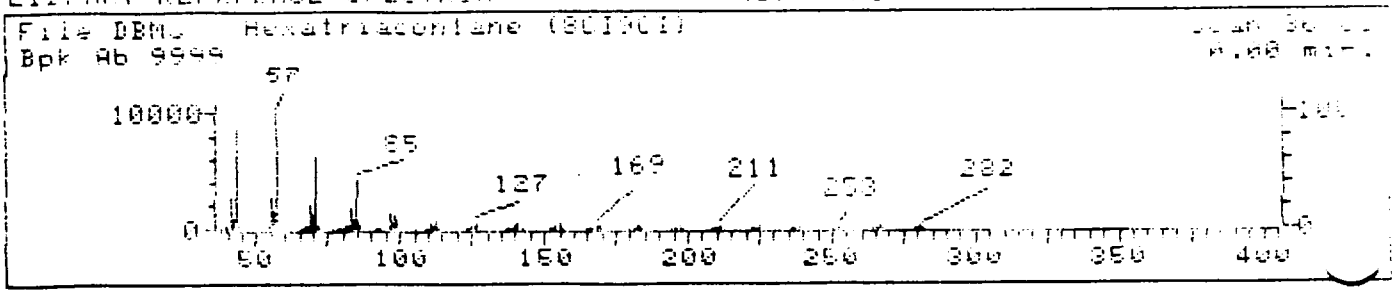
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6449.
Name: 4/5/85,#I
Misc Data: H2222R
RT (min):
Scan:
Area
Semi-quantitative Conc: 15 % NG/ML

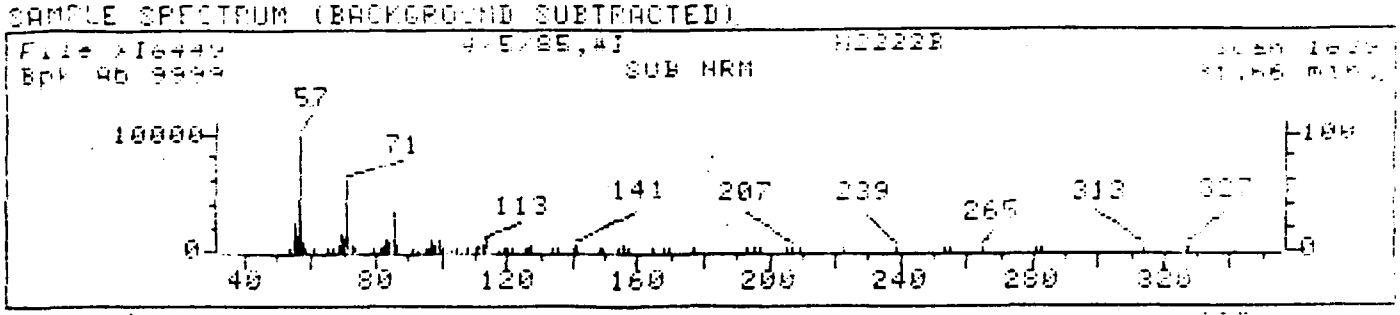
Data File: >I6449 Scan Number:
Search Speed: 2 Tiling option: 5 Number of ion ranges searched:

1. Hexatriacontane (8CI9CI)
2. Tritetracontane (8CI9CI)
3. Nonadecane, 2-methyl- (8CI9CI)

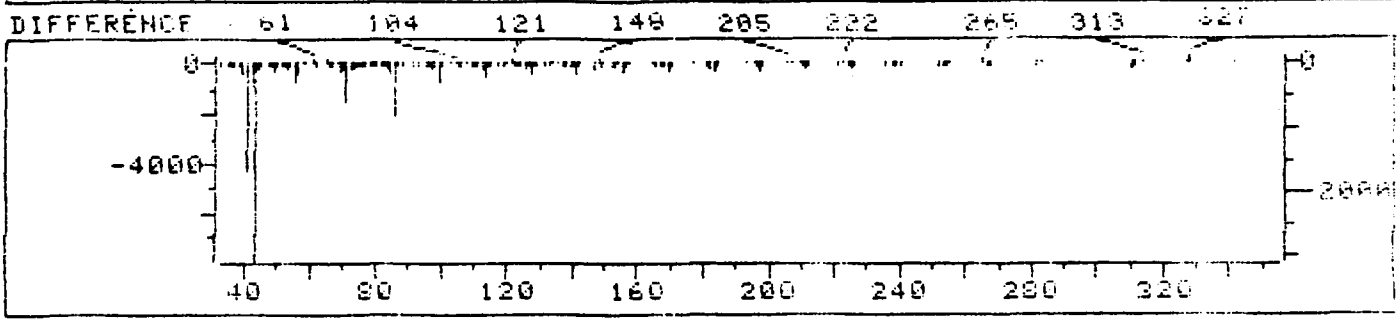
	Prob.	Ca-#	K	dK	#Flg	Tilt
1.	87	430068	84	78	2	0
2.	78	7028217	107	59	3	1
3.	78	1740867	72	104	3	0

301437

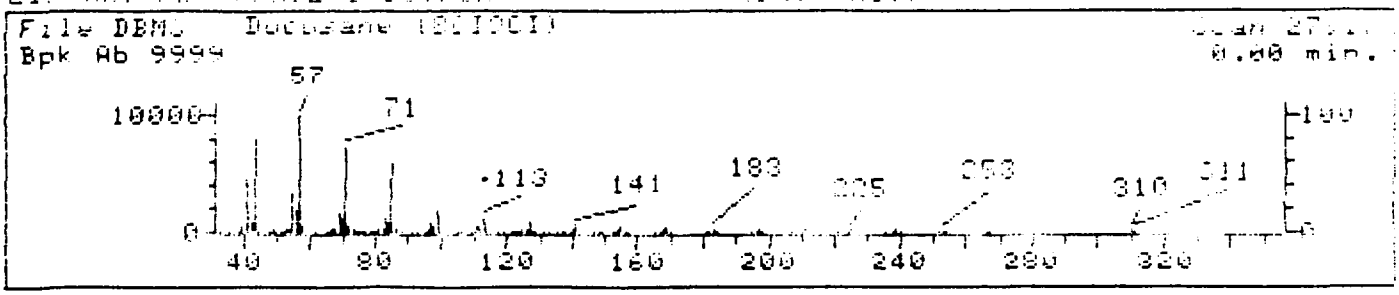
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6449:106
Name: 4/5/85,#I
Misc Data: H2222B BTL#10
RT (min): 31.66
Scan: 1679
Area: 121779
Semi-quantitative Conc: 16.21 UG/ML

Data File: >I6449 Scan Number: 1679
Search Speed: 2 Titling option: S Number of ion ranges searched 79

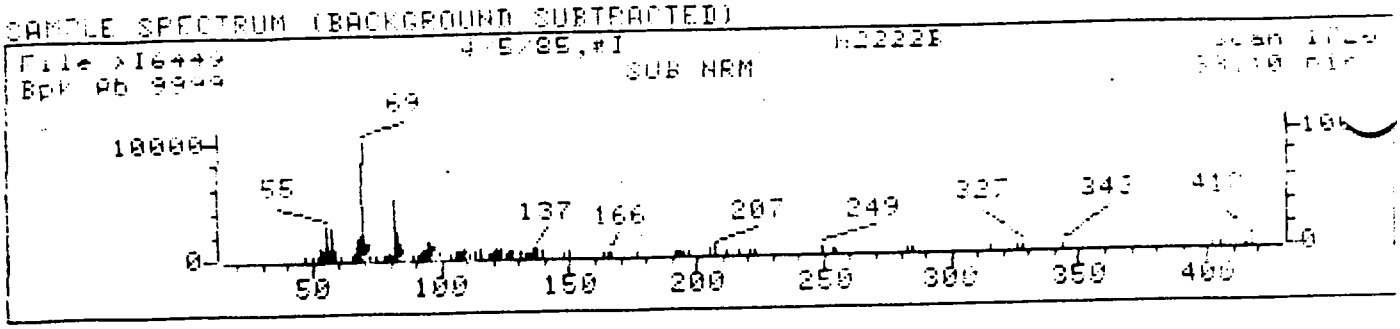
1.	Docosane (8CI9CI)	310 C22H46
2.	Tetratetracontane (8CI9CI)	618 C44H90
3.	Nonacosane (8CI9CI)	408 C29H60

	Prob.	Coef	K	dK	#Flc	Tilt
1.	87	622930	117	30	2	4
2.	86	7098328	101	52	2	2
3.	86	670035	97	48	2	0

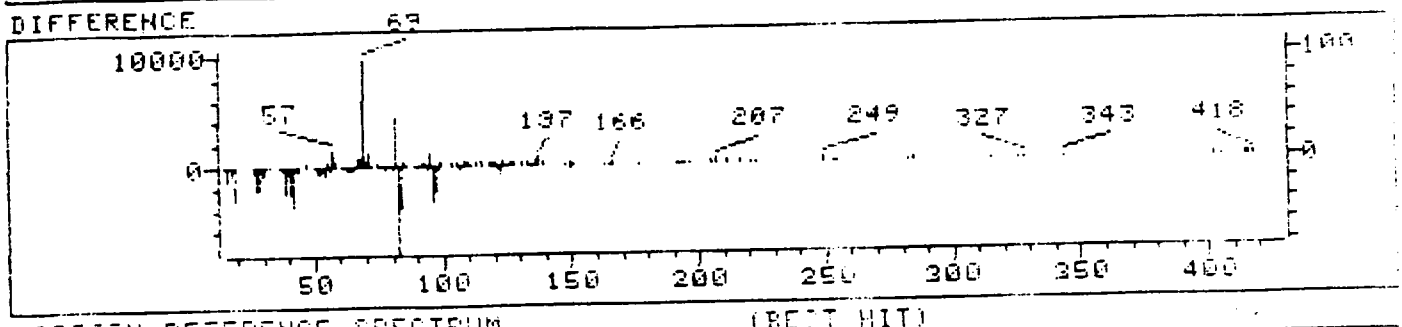
301438

057

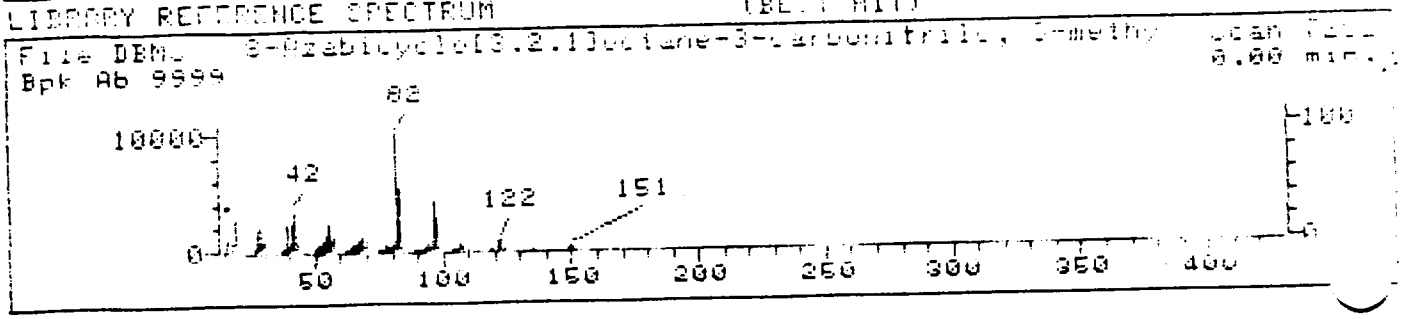
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



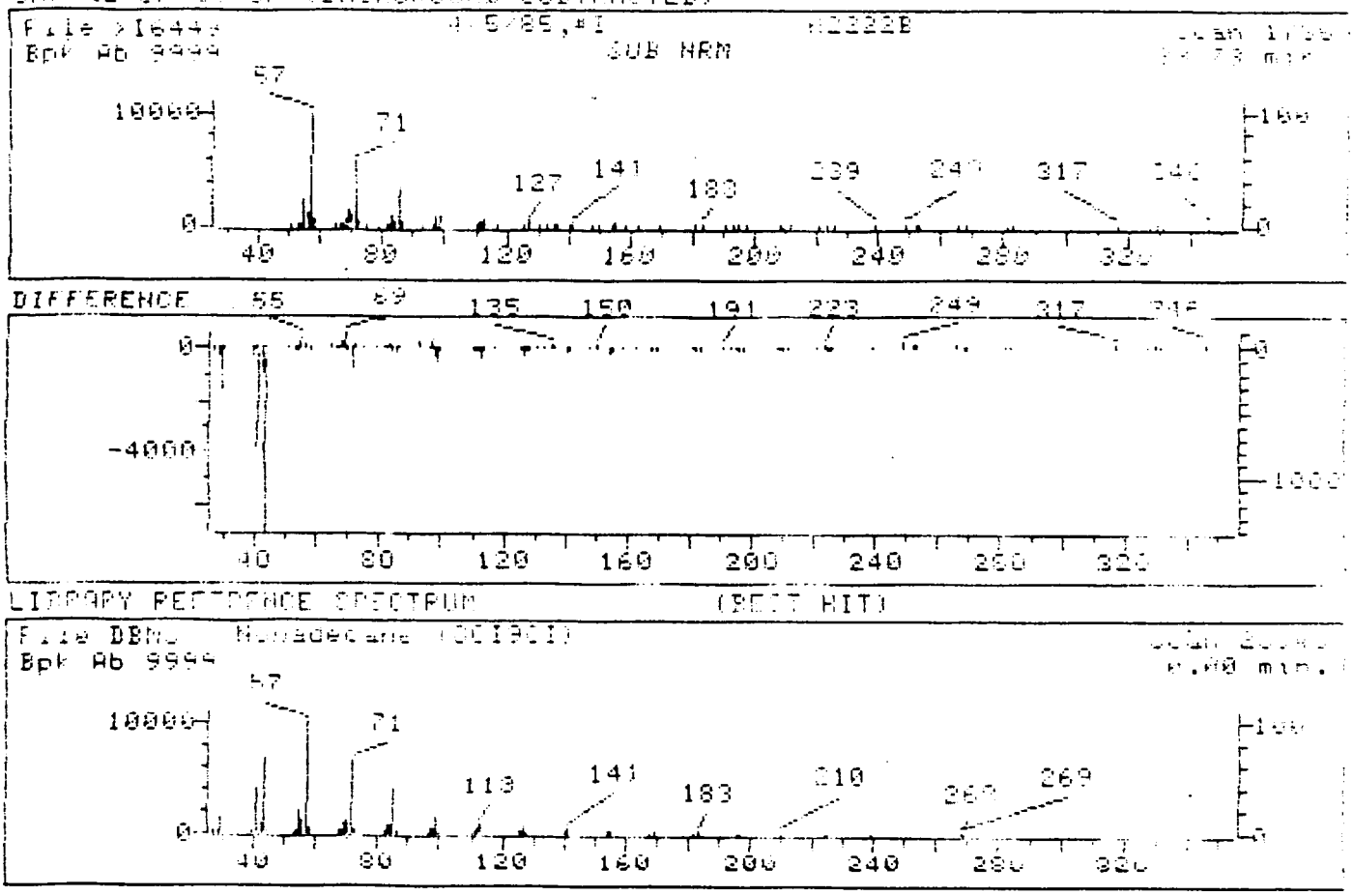
Data File: >I6449:.UA
Name: 4/5/85,#I
Misc Data: H2222R
RT (min): 3[illegible]
Scan: 1720
Area [illegible]
Semi-quantitative Conc: 9.00 UG/ML

Data File: >I6449 Scan Number: 1720
Search Speed: 2 Titling option: S Number of ion ranges searched: 5

1. 8-Azabicyclo[3.2.1]octane-3-carbonitrile, 8-methyl-, endo- (9CI) 150 C9H14N2
2. Bicyclo[2.2.1]heptane, 2-methyl-, exo- (9CI) 110 C8H14
3. Bicyclo[4.1.0]heptane, 3-methyl- (9CI) 110 C8H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	41	5911-19	38	40	2	2
2.	36	87-86	40	13	2	2
3.	35	4127-43	38	52	2	2

SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



Data File)I6449: UG
Name: 4/5/85,#I
Misc Data: H2322B
RT (min): 33.72
Scan: 1755
Area: 10?169
Semi-quantitative Conc 13.77 UG/ML

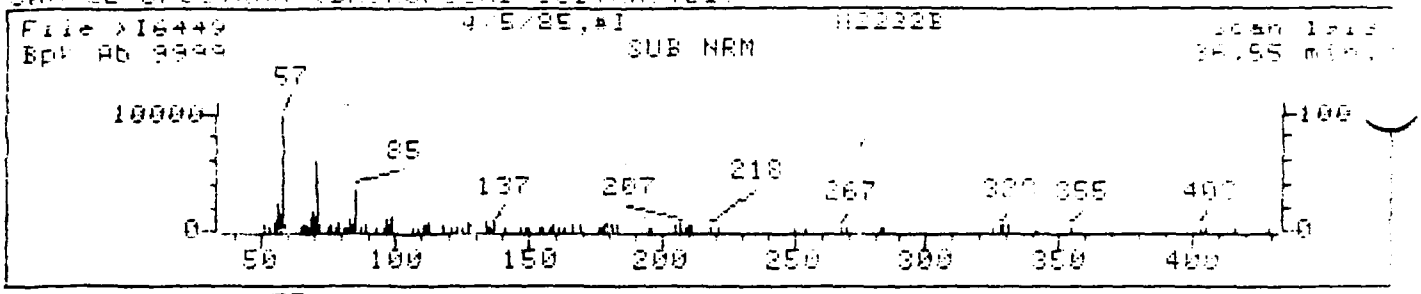
Data File:)I6449 Scan Number: 1755
Search Speed: 2 Titling option 5 Number of ion ranges searched 20

1. Nonadecane (8CI9CI)
2. Octadecane, 2-methyl- (8CI9CI)
3. Hexadecane, 2,6,10-trimethyl- (9CI)

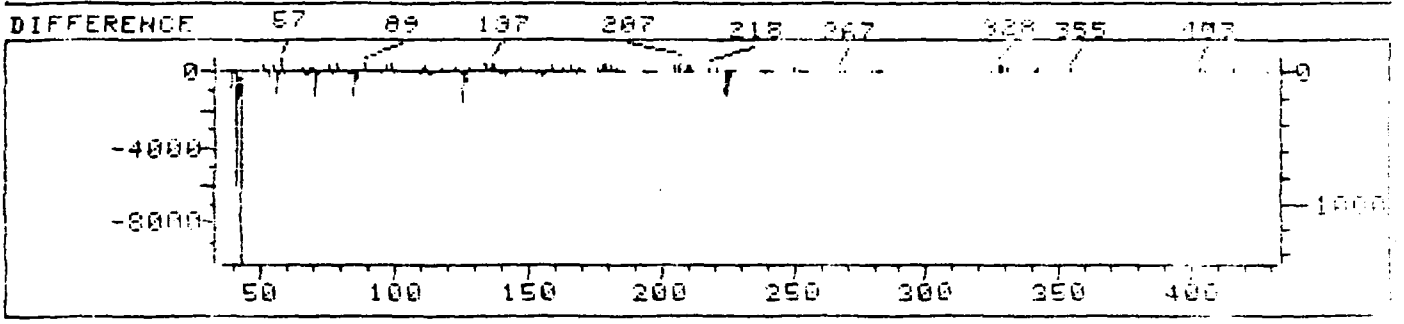
	Prob.	Conf	K	dK	#Flg	Tilt	
1.	87	429925	68	63	2	0	268 C19H40
2.	87	1?60889	69	67	2	0	268 C19H40
3.	83	?7000??	52	??	3	0	?68 C19H40

301440

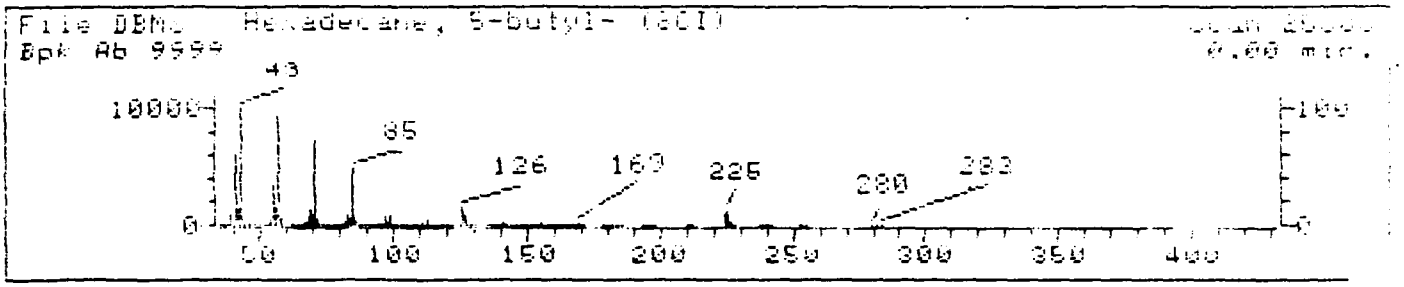
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6449:HG
Name: 4/5/85,#I
Misc Data: H2232B
RT (min): 36.57
Scan: 1913
Area: 9871
Semi-quantitative Conc: 10.00 UG/ML

RTL#10

Data File: >I6449 Scan Number: 1913
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 37

1. Hexadecane, 5-butyl- (8CI) 282 C20H42
2. Tritetracontane (8CI,9CI) 604 C43H88
3. Tetratetracontane (8CI,9CI) 618 C44H90

	Prob.	Conf	K	dK	#Flg	Tilt
1.	76	6212078	61	82	3	0
2.	70	5020317	83	85	2	1
3.	70	5098259	77	81	2	0

301441

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

301443

ETC Job # 121212121

[redacted]

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 APR 0 5

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	<0.1	0.1	mg/kg
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			[redacted]
	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	<0.5	0.5	mg/kg
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	0.52		
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.

301444

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. _____ ETC Job # H2272

Date Sealed 3-20-85 By: Duane

Company: NJDEP Attn.: Joe Bodtich

Facility/Site: _____ Phone: ( ) _____

Address: Trenton NJ

SAMPLE IDENTIFICATION

Facility: KOMIGE SCOUT

Sample Point: 47/3

Facility/Site Code + Source Code (from below)	Your Sample Point ID (left justify)	(Optional Sample Point Descriptions) Start Date (YY/MM/DD)	Start Time (2400 hr. clock)	Elapsed Ho (composit
KJ-	STATION 2	03/21/85	1230	

Source Codes:

Well ..(W) Outfall.....(O) Bottom Sediment....(B) Surface Impoundment....(I) Leachate Collection Sys.....(C) Other .....

Soil ...(S) River/Stream..(R) Generation Point ....(G) Treatment Facility .....(T) Lake/Ocean .....(L) Specify _____

SHUTTLE CONTENTS

BOTTLE No	Type	Size	Preserv.	ANALYSIS	SAMPLER Filt. (Y/N)	SAMPLER Observations	LAB Observations
1	E	1L	baked	Extractable			½ full
2	V	40ml	baked	VOA			½ not full

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P. Zarrillo Date: 3/21/85 Time: 1438
   Signature: Paul M Zarrillo Seal #: 002853 Intact: Y

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: 301445
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) W. Coward Date: 3/21/85 Time: 18~
   Signature: _____ Seal #: 002852 Intact: _____

ETC USE ONLY Opened By: _____ Date: 3-22-85 Time: 8:00a

Seal #: 29532 Condition: OK

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H222

Sample Point [ ] (Source Code) [ ] (Sample Point ID)

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

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

Sample Temp [ ] (°C)
Turbidity [ ] NTU

FIELD COMMENTS

Sample Appearance:
Weather Conditions:
Other:

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

Sampler: P Zamilla (Print) Employer: NDEP

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

1/21/85 Paul M Zamilla (Date) (Signature)

065

301446

ETC / CHYUN

301447

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mark Pavelka

3:15 PM 3-22-85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2221 to H2225

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	Time/Date	Time/Date

GC-MS ANALYSIS CUSTODY LOG

301448

DATE 950328 SHIFT ___
FRACTION VOA
INSTRUMENT B
TUNE FILE APEI02
SEQUENCE FILE JM8
METHOD FILE [redacted] VOAB
IDFILE [redacted] BVOA
ANALYST(S) G. Martin/Lavinia Jaboucki
SUPERVISOR MBarkley
BATCH #'s [redacted] QV3856

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ml
ISTD	40	9140	5ml
SURR	25	9793	10ml
ABC	18	10221	

IFB Prep Soil

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
p-BFB	> B7792	1ml			A00107	PE 120, Subs 3, Subs 174, 1350 L	
QC3506V	> B7793						
QC3506VS	> B7794					10ml ABC	
QC3506VS	> B7795					3ml ABC (NG)	
QC3506VS	> B7796					30ml ABC	
QC3506VS	> B7797					5ml ABC	
QC3506VS	> B7798					5ml ABC } GP from L2	
H2221VS	> B7799	5ml/5ml					
H2221V	> B7800						
H2222V	> B7801						
H2222VP	> B7802						
H2223V	> B7803						
[redacted]	[redacted]						
[redacted]	> [redacted]	↓					
BFB	> B7804	1ml				NG	
BFB	> B7805	1ml				OK 2nd AM 3/29	
QC3056VS	> B7806	5ml				[redacted] 5ml ABC (NG)	
QC3056VS	> B7807					10ml ABC	
QC3056VS	> B7808					30ml ABC	
QC3056VS	> B7809	↓				5ml ABC	
H2224V	> B7810	5ml					
H2225V	> B7811					3/29 0800 hrs.	
H2339V	> B7512	↓					
H2340V	> B7513				057		
H2341V	> B7514	↓					

GC-MS ANALYSIS CUSTODY LOG

301449

DATE 850329 SHIFT ___
FRACTION ___
INSTRUMENT ___
TUNE FILE ___
SEQUENCE FILE ___
METHOD FILE ___
IOFILE ___
ANALYST(S) J Martin
SUPERVISOR [signature]
BATCH #'s GC3056
Continued

(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)
V-12F12	>87816	1			A00107	
GC3056V	>87517					86 UG Methylene Chloride
GC3056V	>87515					OK
(R)H2224V	>87519					
					053	

TSP 8-84

EXTRACTION LOG

PP/OC

Sample Number	Log Number	Sample weight(g)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
2221	8684	50.99	1.0	1.0	
2222	|	50.38	1.0	1.0	
2223	|	50.20	1.0	1.0	
2224	|	50.65	1.0	1.0	
2225	↓	50.18	1.0	1.0	
2338	8765	50.82	1.0	1.0	
2339	|	52.18	1.0	1.0	
2340	|	50.49	1.0	1.0	
2341	↓	50.62	1.0	1.0	
8385	8311	50.99		1.0	
QC 2864		—	1.0	1.0	
#2221 S		50.22	1.0	1.0	
#2222 R		50.104	1.0	1.0	

QC Batch # 2864

Analysis: *

Matrix: SOIL

Turnaround: Norm.

Date: 4/3/85

Extraction Method:

sep funnel

cont. nucus

soxhlet

other – Homogenize

COMMENTS FOR EXTRACT.:

*

PP/T: H2221-25

PP/org: H2338-41

Spec SP: (PP/Acid only):

G8385

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

301450

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	10,000 ug/ml	9700
Pesticide	1.0	*	10,190
Aroclor 1260	1.0	500 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10,195
	ACID: 100 ug/ml	

Set-up: J.M CAMPBELL 4/3/85 UPD/Supervisor: S McAuliffe 4/4/85

Conc.: Jim Arrington 4-7-85 spike/surr. verified: S McAuliffe 4/3/85

Conc.: Jim Arrington 4/6/85

301451

GC-MS ANALYSIS CUSTODY LOG

DATE 4/5/85 SHIFT 7-3
FRACTION Acid
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE WWCH
METHOD FILE DFTPF / ACIOF
IDFILE FACID
ANALYST(S) Wen-Wei Chi
SUPERVISOR David M. Speet
BATCH #'s

(PLEASE INITIAL) CB FACD

CURRENT CSUS STATUS		STANDARDS UPDATED	
ACO	✓	DATE	4/5/85
WIP		BY	W.W.

STANDARD	CONC PPM	LOT NO.	LOT VOL

PEAC PLFACD PLFSRH

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PI Y.
SONG DFTPP	>F8668	2					
SONGT DFTPP	>F8669						
SONG DFTPP	>F8670						
Calib III	>F8671		1				
II	>F8672		2				
I	>F8673		3				
H>336AS	>F8674		4				
QC>867AS	>F8675		5				
QC>867A	>F8676		6				Y
H>332A	>F8677		1				
H>333A	>F8678		2				
H>334A	>F8679		3				
H>335A	>F8680		4				
H>336A	>F8681		5				
H>337A	>F8682		6				
H>337AR	>F8683		7				
G8914A	>F8684		8				
H1449A	>F8685		9				
H0>94 [illegible]	>F8686		10				
H029C	>F8687		11				
H1814	>F8688		12				
H1815	>F8689		13				
H1816	>F8690		14				
G5>36	>F8691		15				
SONG DFTPP	>F8692		16				

TSR 8-84

301452

C-MS ANALYSIS CUSTODY LOG

TE 4/6/85 SHIFT Day
ACTION Acid
NSTRUMENT H
UNE FILE
EQUENCE FILE
ETHOD FILE
DFILE
NALYST(S)
UPERVISOR
ATCH #'s

(PLEASE INITIAL)

CURRENT CSUS STATUS		STANDARDS UPDATED	
CQ		DATE	
IP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
Calib III	>F8693		17				
H0957AS	>F8694		18				
QC>866A	>F8695		19				Y
H0957A	>F8696		20				Y
H0959A	>F8697		21				Y
H0960A	>F8698		22				Y
H0960AR	>F8699		23				
H0958	>F8700		24	1=52			Y
H2221AS	>F8701		25				
QC2864A	>F8702		26				Y
G8385A	>F8703		27				+
H2221A	>F8704		28				Y
H2222A	>F8705		29			Colour big difference for sample & Sample	
H2223A	>F8706		30				
H2225A	>F8707		31				
H2339A	>F8708		32				
H2224A	>F8709		33				
H2341A	>F8710		34	1=5			
H2340A	>F8711		35	1=5			
H2338A	>F8712		36	1=5			↓
2222AR	>F8713		37	1=2			
					071		

TCD A-84

301453

GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT ___
FRACTION B/N
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE ___
METHOD FILE BNPI
IDFILE IBNP
ANALYST(S) Wen-Yen Chiu
SUPERVISOR David M. Speed
BATCH #'s RB2864

(PLEASE INITIAL)

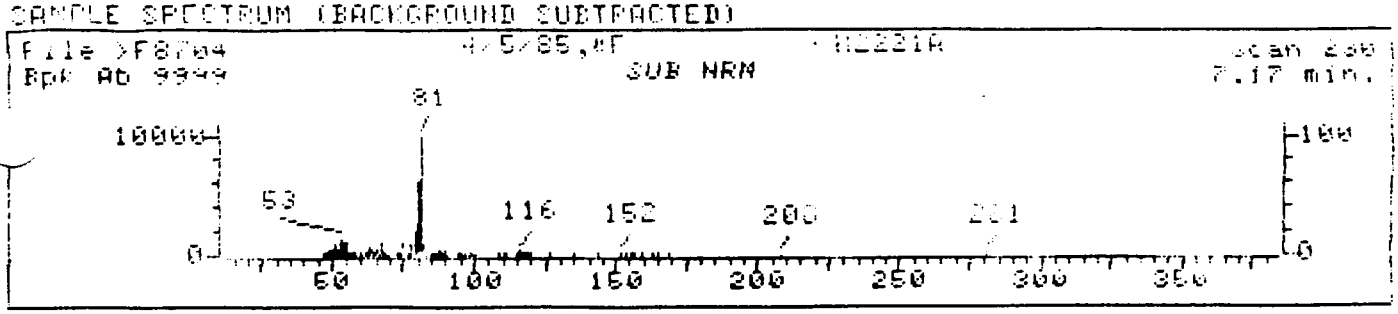
CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	4-6-85
WIP		BY	W.Y.

STANDARD	CONC PPM	LOT NO.	LC VO

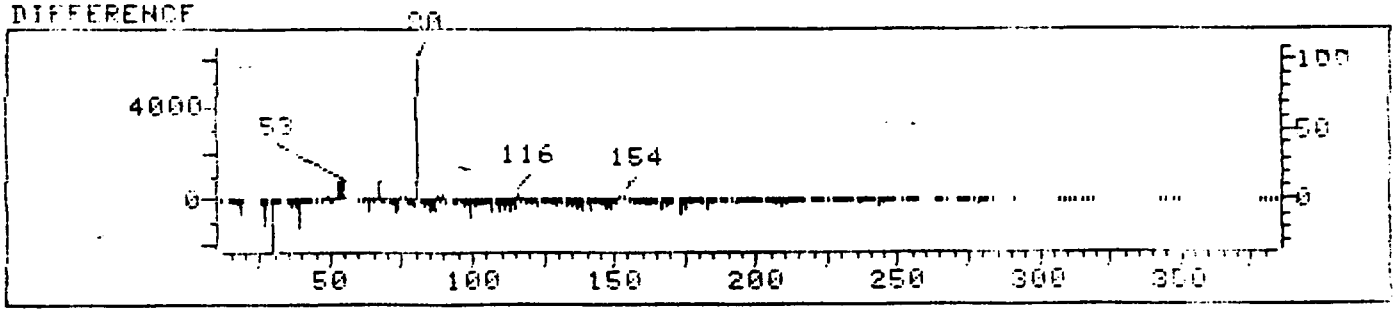
NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
SO NOT DFTPP	>I6441	2			I00167	7:00 4/6/85	
Calib III	>I6442	1	3				
II	>I6443		4				
I	>I6444		5				
IV	>I6445		6				
(R) H 2221BS	>I6446		7				
(R) H2221B	>I6447		8				Y
(R) H2225B	>I6448		9				Y
(R) H2222B	>I6449		10				Y
(R) H2222BR	>I6450		11				
(R) H2223B	>I6451		12				Y
(R) H2224B	>I6452		13				
(R) H2341B	>I6453		14				
(R) H2339B	>I6454		15				
(R) H2338B	>I6455		16				
(R) H2340B	>I6456	↓	17				
			~~8~~				
(B) RQC2864B	>I6458		7				

0.2

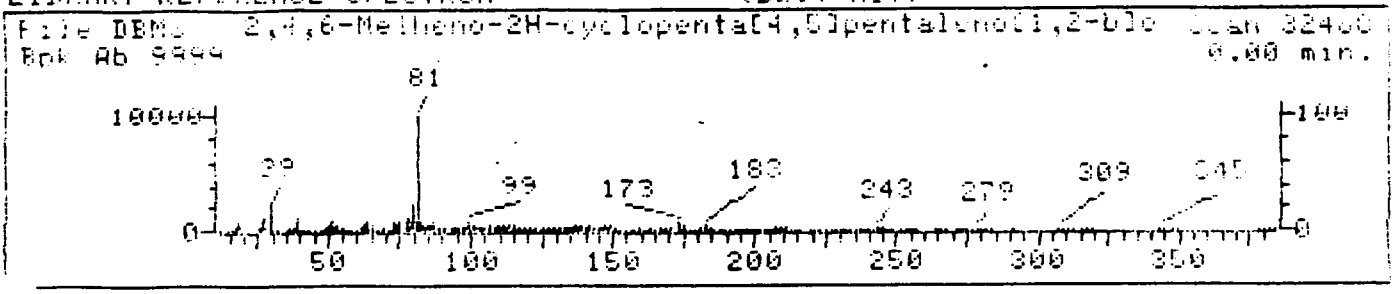
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8704.U5
Name: 4/5/85,#F
Misc Data: HC221A PTL#20
RT (min): 7.17
Scan 230
Area 29047
Semi-quantitative Conc 30.52 UG/ML

Data File: >F8704 Scan Number: 230
Search Speed: 2 Tiling option: 0 Number of ion ranges searched: 5

1. 2,4,6-Metheno-2H-cyclopenta[4,5]pentalen[1,2-b]oxir 370 C12H8Cl6O
ene, 2a,3,3,4,5,5a-hexachlorodecahydro-, (1a.alpha.,
1b.beta.,2.alpha.,2a.beta.,4.beta.,5.beta.,5a.beta.,
5b.beta.,6.alpha.,6a.alpha.)- (9CI)
2. Rhodium, di-.mu.-bromobis[(1,2,5,6-.eta.)-1,5-cyclo 500 C16H24Br2Rh2
octadiene]di- (9CI)
3. Cyclohexane, 1,2-dichloro-, trans- (8CI,9CI) 152 C6H10Cl2

	Prob.	Cas#	K	dK	*Flg	Tilt
1.	87	133/239	57	85	0	-2
2.	87	17092454	47	140	0	-2
3.	73	822866	62	20	0	2

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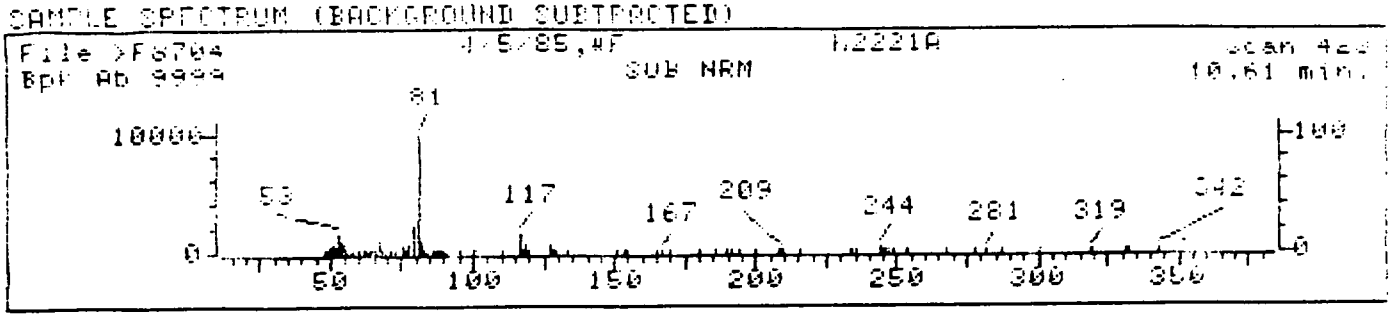
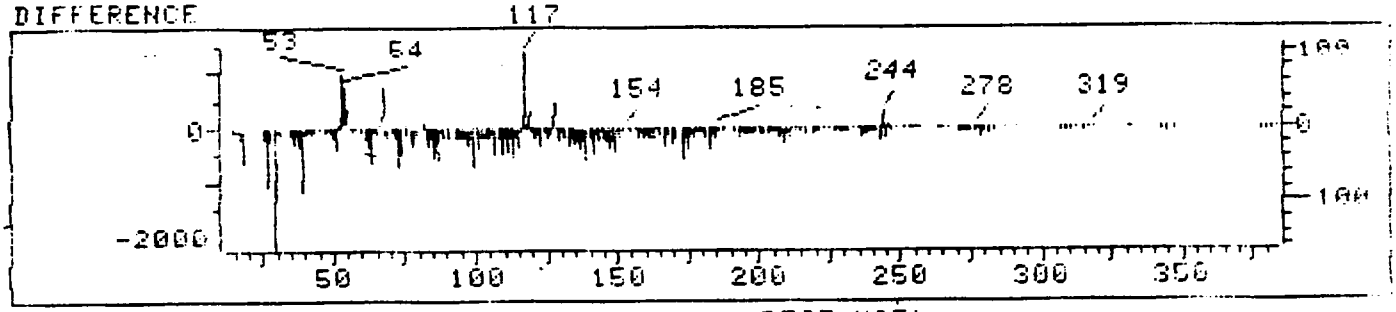
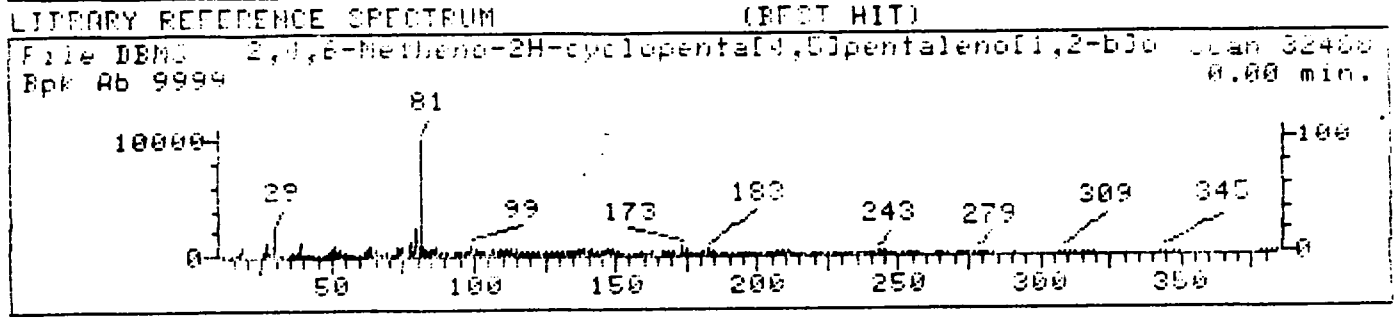
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F6704.:HP
Name: 4/5/85,#F
Misc Data: H2221A
RT (min): 10.61
Scan 423
Area: 29[illegible]
Semi quantitative Conc 39.41 UG/ML

BTL#28

Data File: >F6704 Scan Number: 423
Search Speed: 2 Tilting option 3 Number of ion ranges searched: 50

1. 2,4,6-Methano-2H-cyclopenta[4,5]pentaleno[1,2-b]oxir ene, 2a,3,3,4,5,5a-hexachlorodecahydro-, (1a.alpha., 1b.beta.,2.alpha.,2a.beta.,4.beta.,5.beta.,5a.beta., 5b.beta.,6.alpha.,6a.alpha.)- (9CI) 378 C12H8Cl6O
2. Bi-2-cyclohexen-1-yl (9CI?CI) 162 C12H18
3. Ethanone, 1-(1-methyl-2-cyclopenten-1-yl)- (9CI) 124 C8H12O

	Prob.	Cnt	K	dK	Flg	Tilt
1.	8%	13766739	45	97	0	-2
2.	45	6541704	44	44	2	0
3.	47	6875169	40	39	2	0

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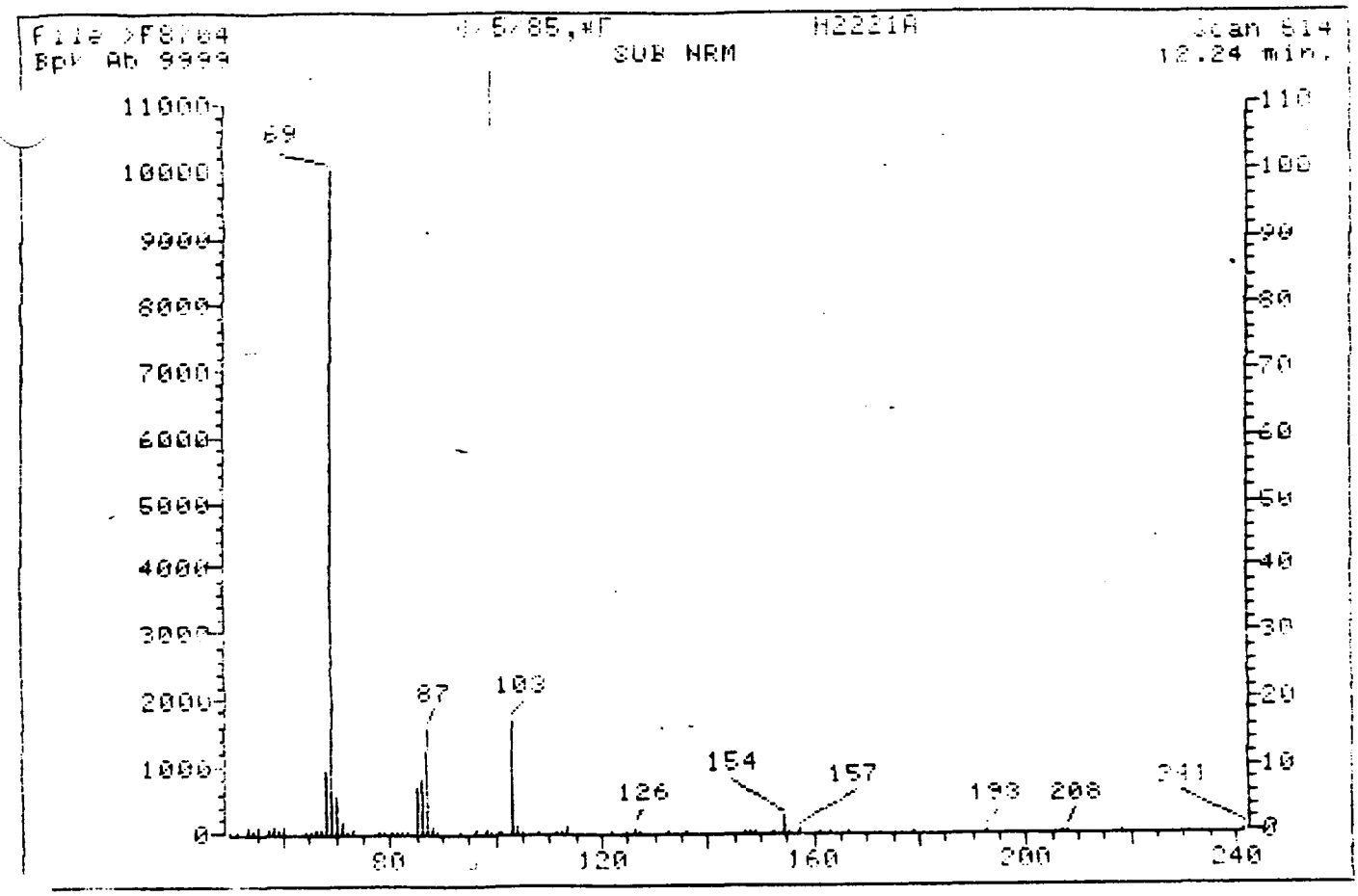


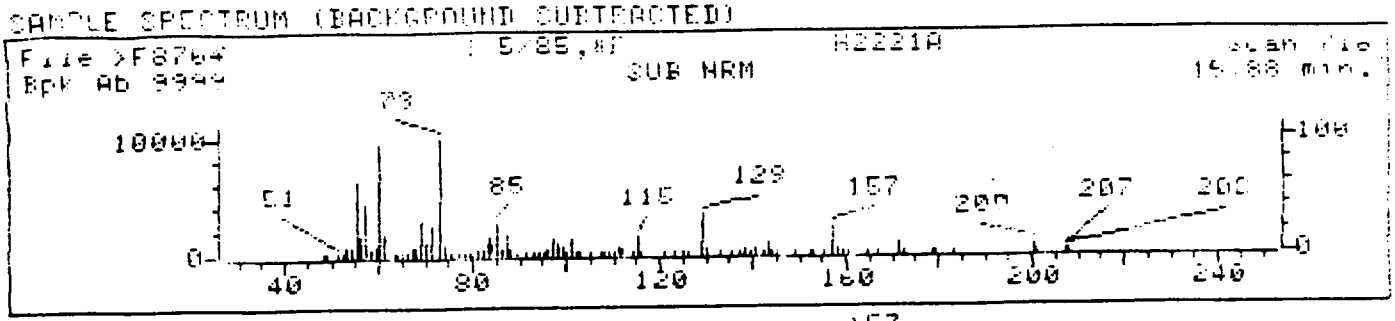
Data File: >F0704::05
Name: 4/5/05,#F
Mi (Data: H2231A
RT (min): 12.24
Scan: 514
Area: 49[illegible]
Semi-quantitative Conc: 65.1 UG/ML

BTL#20

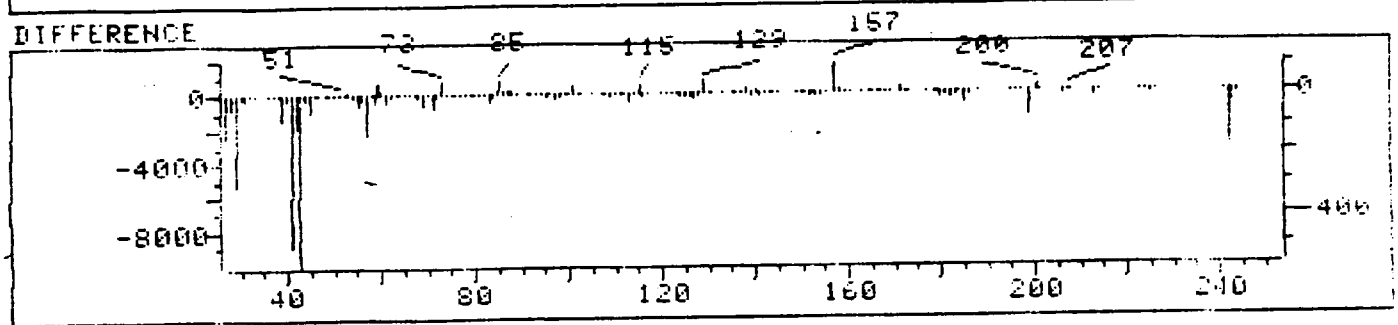
No PDM hits for this scan.

301348

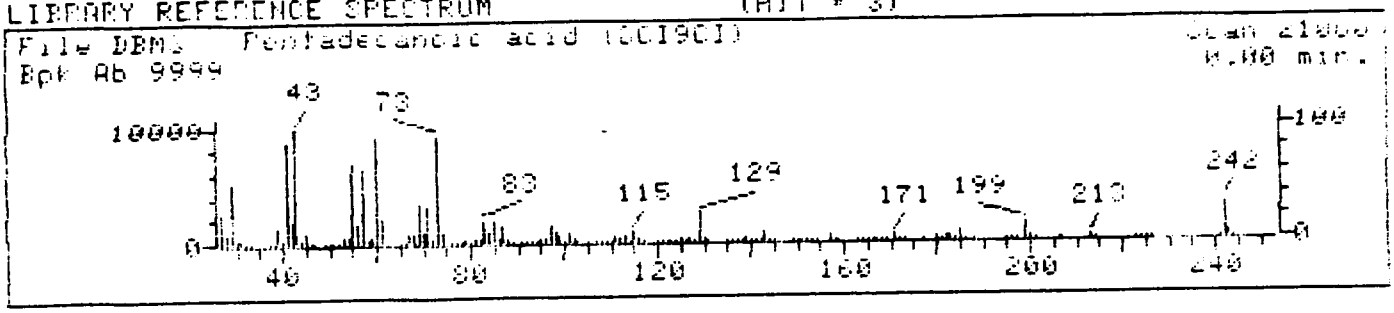
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT * 3)



Data File: >F0704 :05
Name: 4/5/88,#F
Misc Data: H2221A
RT (min): 15.50
Scan: 710
Area: 734807
Semi-quantitative Conc 97.5 UG/ML

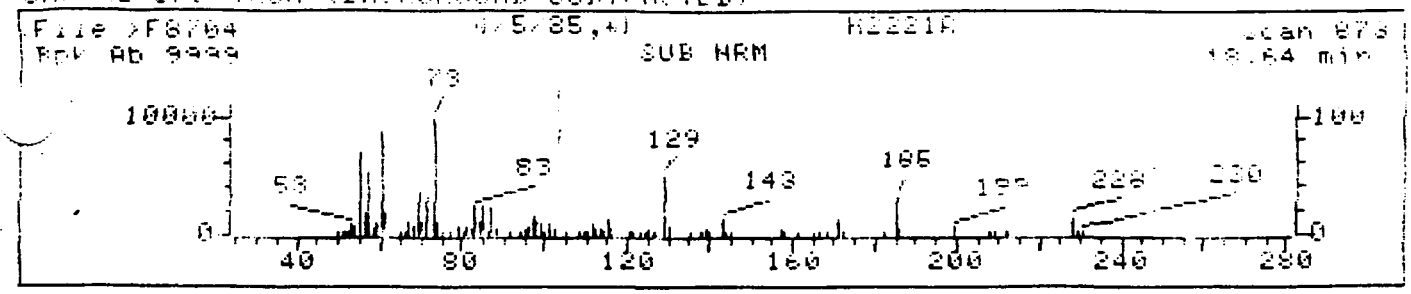
BTL#28

Data File: >F0704 Scan Number: 710
Search Speed: 2 Tilting option: 5 Number of ion ranges searched: 50

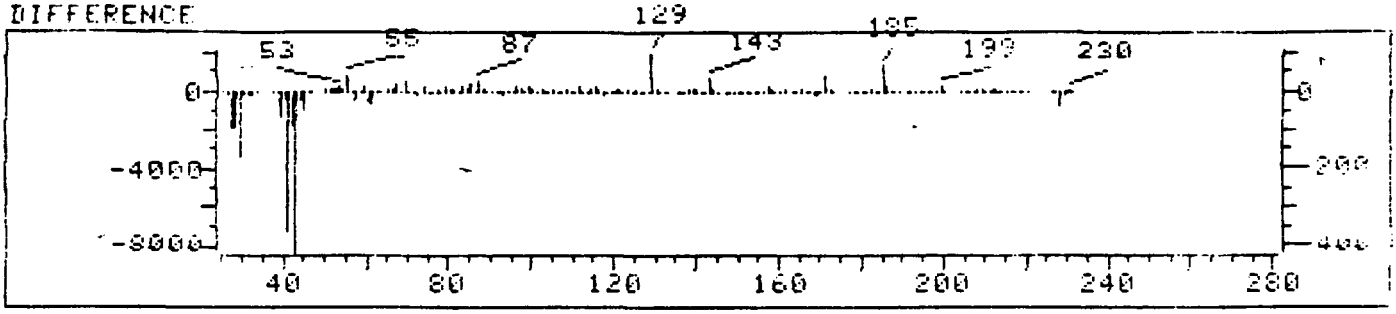
1. Butyric acid, 4,4'-thiodi-, didodecyl ester (8CI) 542 C32H62O4S
2. Dodecanoic acid (9CI) 200 C12H24O2
3. Pentadecanoic acid (9CI9CI) 242 C15H30O2

	Prob.	Cost	K	dK	#Flg	Tilt
1.	88	3288033	65	70	0	-2
2.	87	143077	107	31	2	0
3.	83	1002012	82	68	1	-1

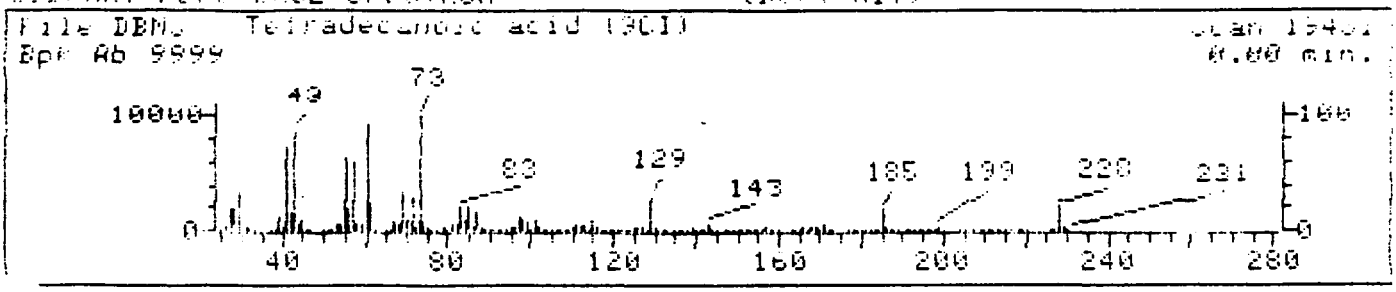
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8704 :US
Name: 4/5/85,#F
Misc Data: H2221A
RT (min) 18.64
Scan: 873
Area 159052
Semi-quantitative Conc 21.37 UG/ML

RTL#20

Data File: >F8704 Scan Number: 873
Match Speed: 2 Tilting option: 0 Number of ion ranges searched: 60

1. Tetradecanoic acid (9CI) 228 C14H28O2
2. Ethanol, 2-(dodecyloxy)- (8CI,9CI) 230 C14H30O2
3. Tridecanoic acid (9CI,9CI) 214 C13H26O2

	Prob.	Conf	K	dK	#Pks	Tilt
1.	77	541638	91	55	1	1
2.	70	453630S	55	81	2	-1
3.	60	638539	76	66	3	0

301350

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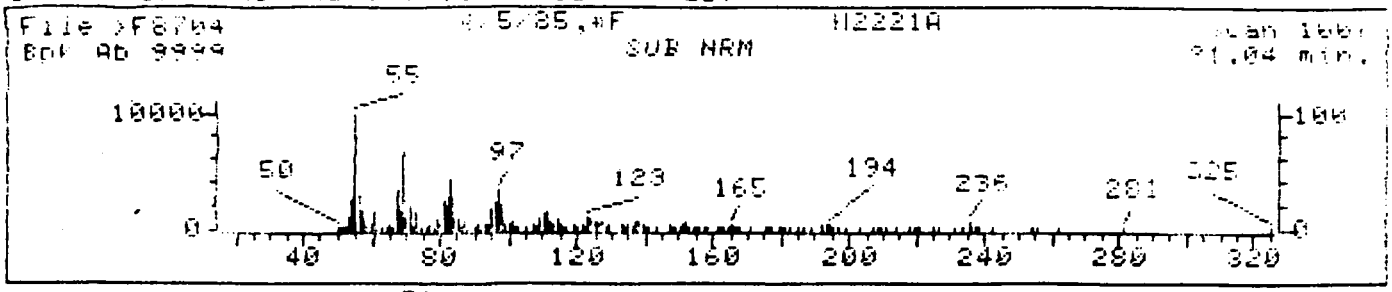
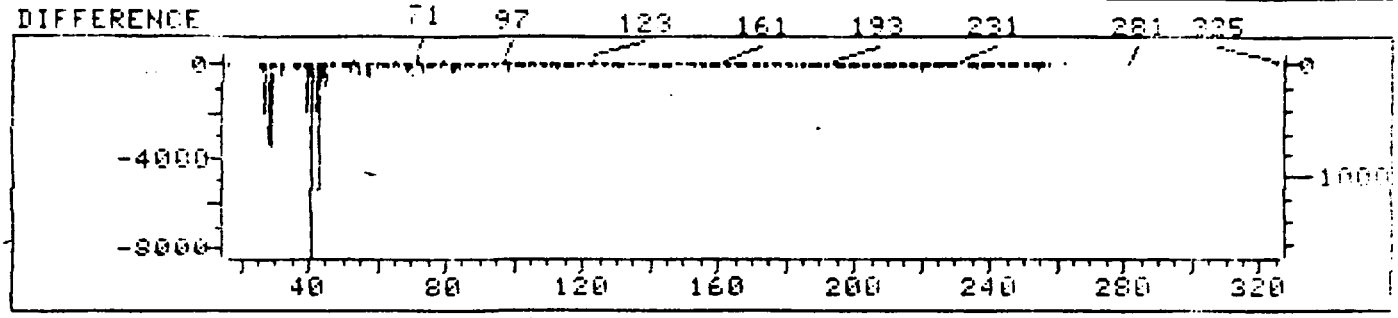
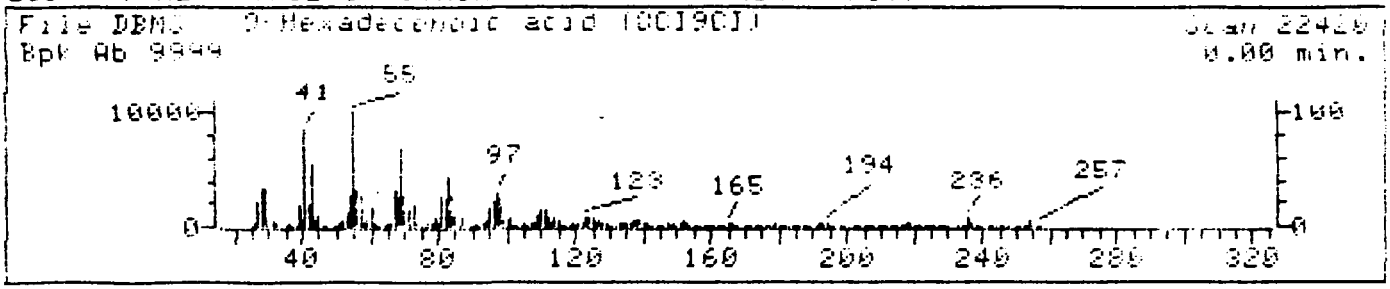
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8704::US
Name: 4/5/95,#F
Misc Data: H2221A BTL#20
RT (min): 21.04
Scan: 1007
Area: 58[illegible]
Semi-quantitative Conc: 78.3? UG/ML

Data File: >F8704 Scan Number: 1007
Search Speed: 2 Tiling option: 3 Number of ion ranges searched: 94

1.	9-Hexadecenoic acid (9CI9CI)	254	C16H30O2
2.	14-Pentadecenoic acid (9CI9CI)	240	C15H28O2
3.	Nonahexacontanoic acid, propyl ester (9CI)	1040	C72H144O2

	Prob.	Cos#	K	dK	#Flg	Tilt
1.	95	2091294	150	7	1	0
2.	88	17351347	114	44	2	0
3.	86	40710416	74	148	0	-2

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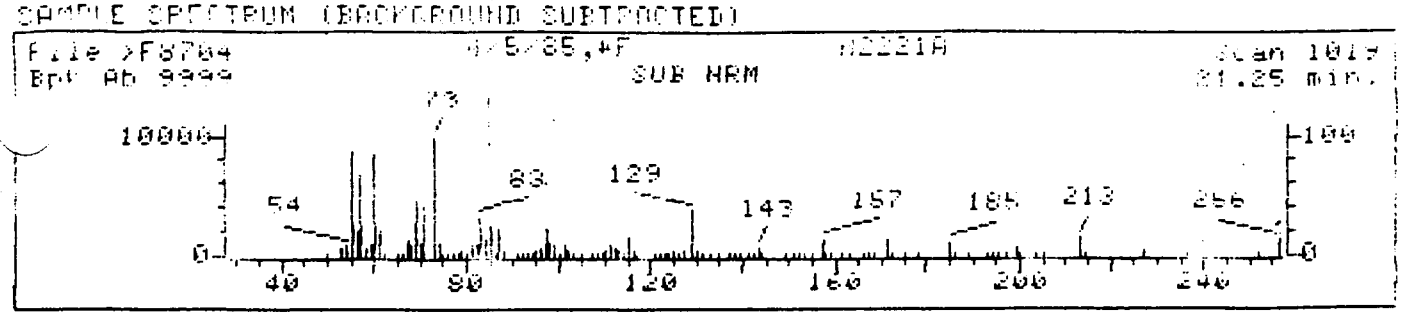
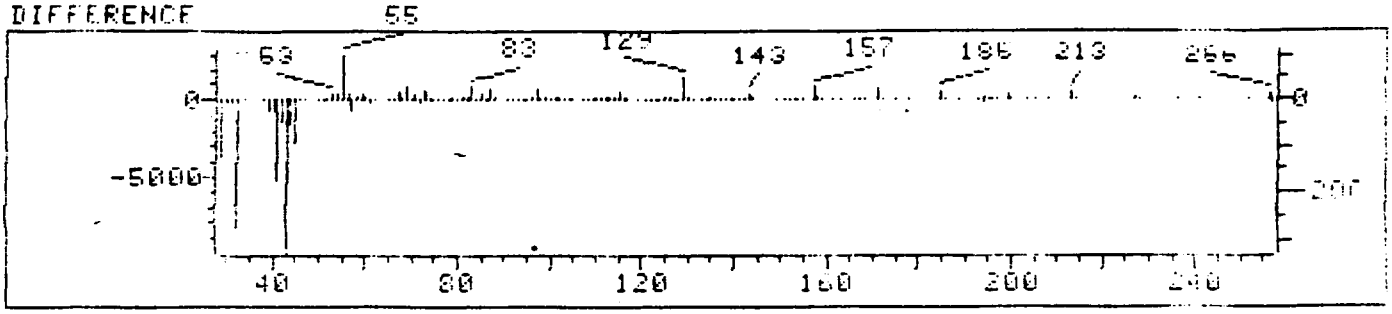
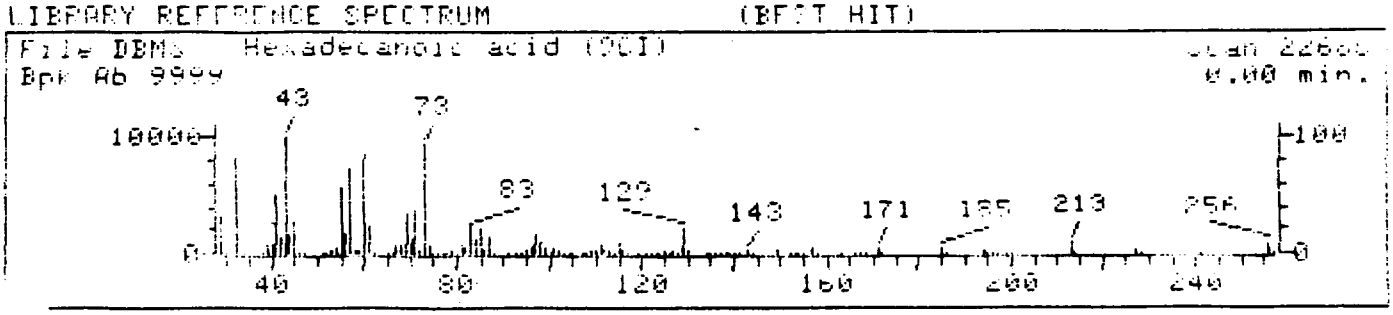
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F0704.:05
Name: 4/5/85,#F
Misc Data: H2221A BTL#20
RT (min): 21.25
Scan: 1019
Area: 271752
Semi-quantitative Conc: 36.07 UG/ML

Data File: >F0704 Scan Number: 1019
Search Speed: 2 Titling option: S Number of ion ranges searched: 40

1. Hexadecanoic acid (9CI) 25% C16H32O2
2. Nonahexacontanoic acid, propyl ester (9CI) 1040 C72H144O2
3. Octatetracontane, 1-iodo- (9CI) 900 C48H97I

	Prob.	Cost#	K	dK	#Flg	Tilt
1.	95	57103	84	67	0	0
2.	86	40710416	74	148	0	-2
3.	79	40710701	77	111	1	-1

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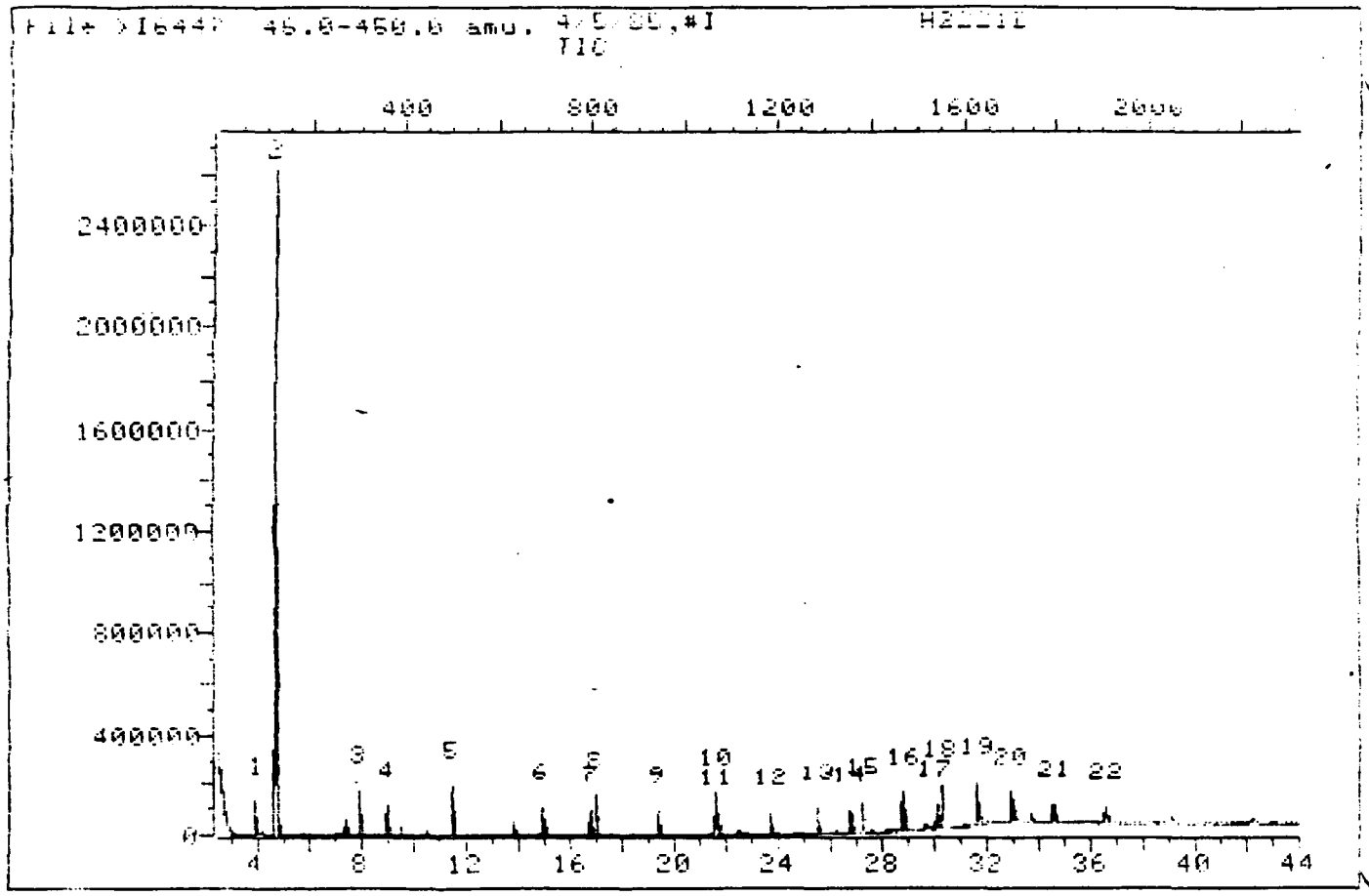
TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



Data File: >I6447:HA
Name: 4/5/95,#I
Misc Data: H2271B

DTL# 0

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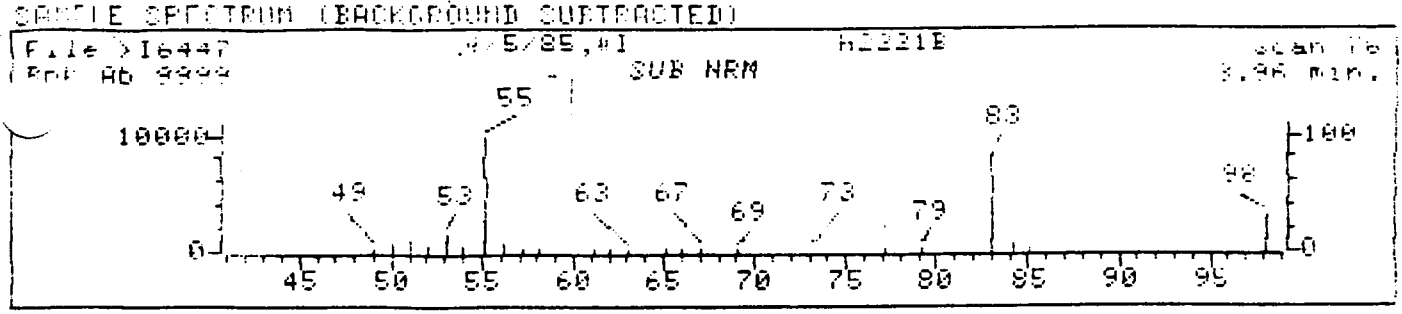
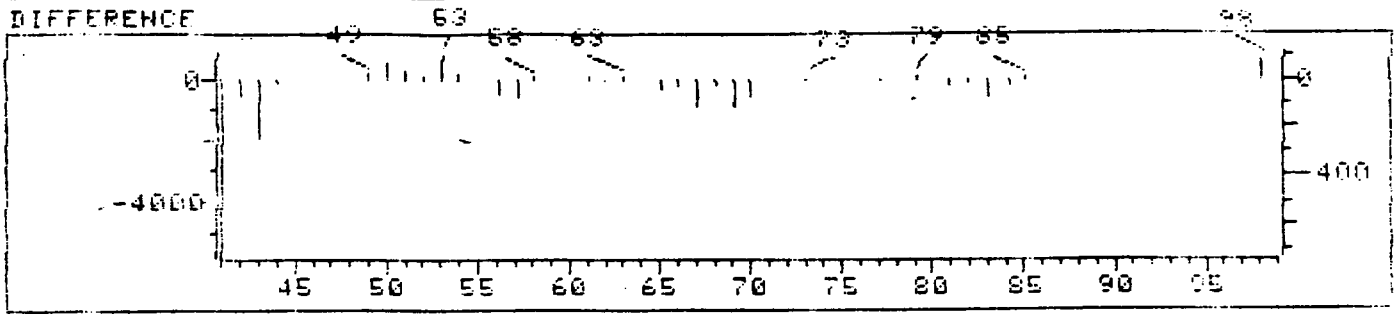
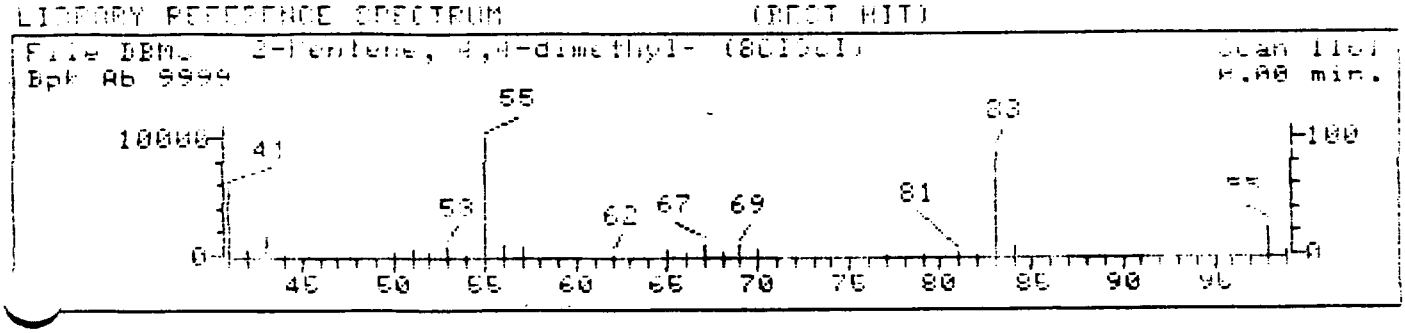
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



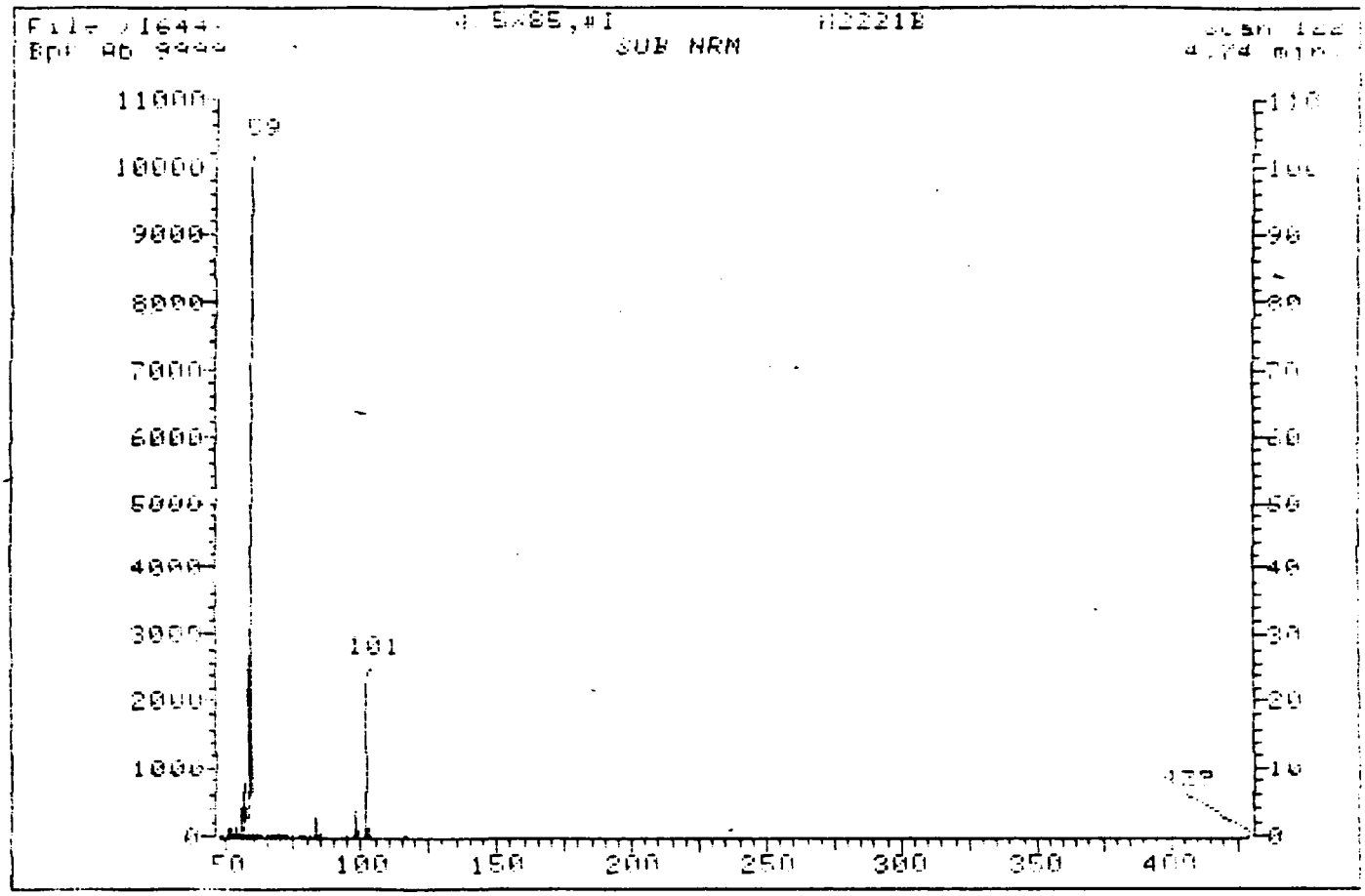
Data File:)I6447.UU
Time: 4/5/85,#I
Misc Data: H2221B
RT (min): 5.97
Scan: 78
Area: 41[illegible]
Semi-quantitative Conc: 36.00 UG/ML

BTL# 0

Data File:)I6447 Scan Number: 78
Search Speed: 2 Tilting option: 0 Number of ion ranges searched: 59

2-Pentene, 4,4-dimethyl (8CI?CI)	98	C_7H_{14}
2-Pentene, 4,4-dimethyl-, (Z)- (8CI?CI)	98	C_7H_{14}
2-Pentene, 3,4-dimethyl, (Z)- (8CI?CI)	98	C_7H_{14}

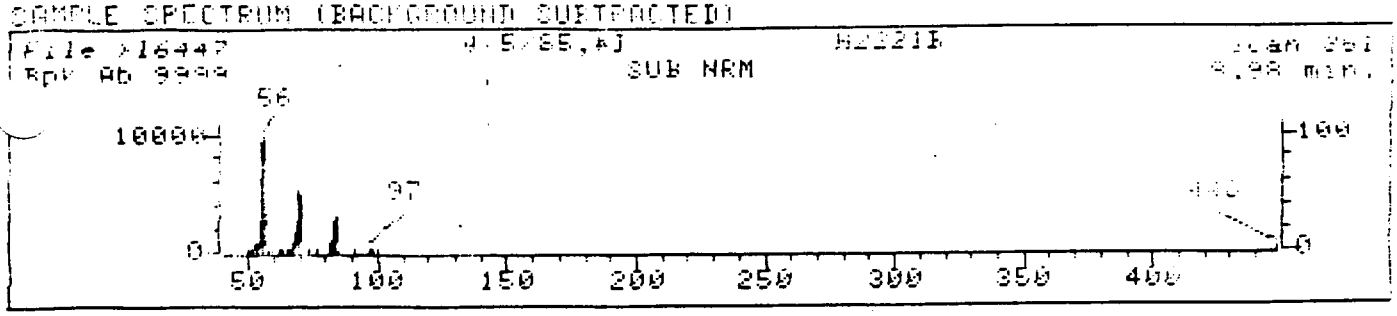
Prob.	Cas#	K	dK	#Flg	Tilt
79	26072984	39	51	2	0
78	762630	34	58	2	0
78	4914914	75	43	2	0



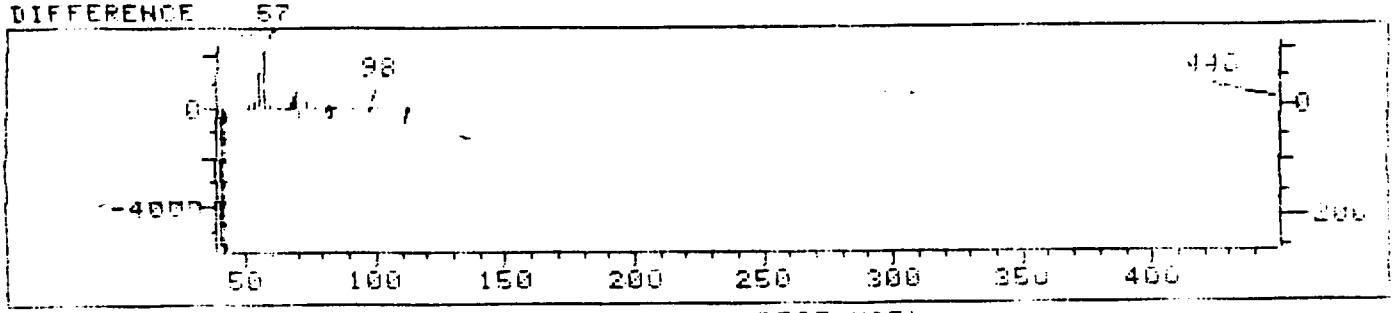
Data File:)I6447::UA
Mass: 4'5.''.#I
Misc Data: H2''1B BTL# 0
RT (min): 4.74
Scan: 122
Area: 1628''''
Semi-quantitative Conc: 1443.00 UG/ML

No PBM hits for this scan.

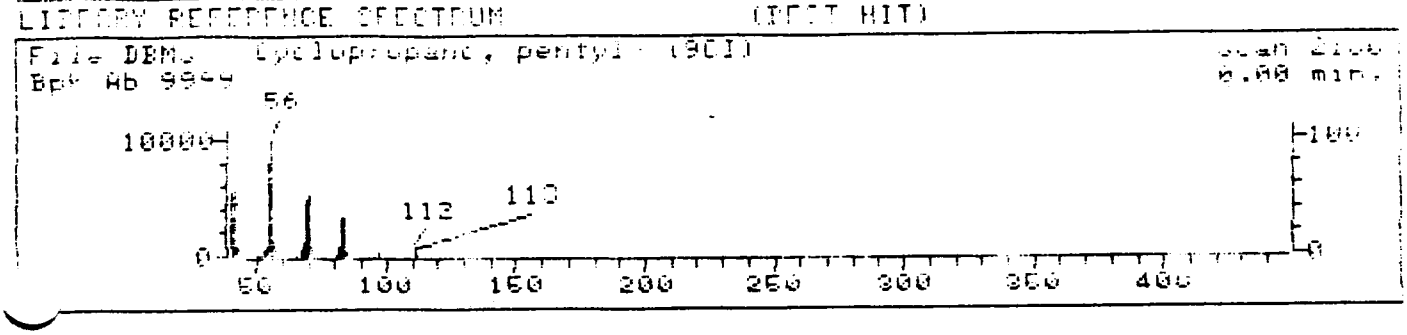
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: [illegible]
Name: [illegible]
Misc Data: [illegible]
RT (min): [illegible]
Scan: [illegible]
Area: [illegible]
Semi-quantitative Conc: [illegible] UG/ML

BTL# 0

Data File: [illegible] Scan Number: [illegible]
Search Speed: 2 Titling option: 5 Number of ion ranges searched: [illegible]

Cyclopropane, pentyl- (9CI)	112	C8H16
Heptane, 4-methylene- (9CI)	112	C8H16
1-Pentanol, 3-methyl-, (3CI,9CI)	102	C6H14O

Prob.	Cas#	K	dK	#Flg	Tilt
78	0511913	63	39	2	0
11	17219008	31	53	1	0
10	[illegible]	7	67	0	0

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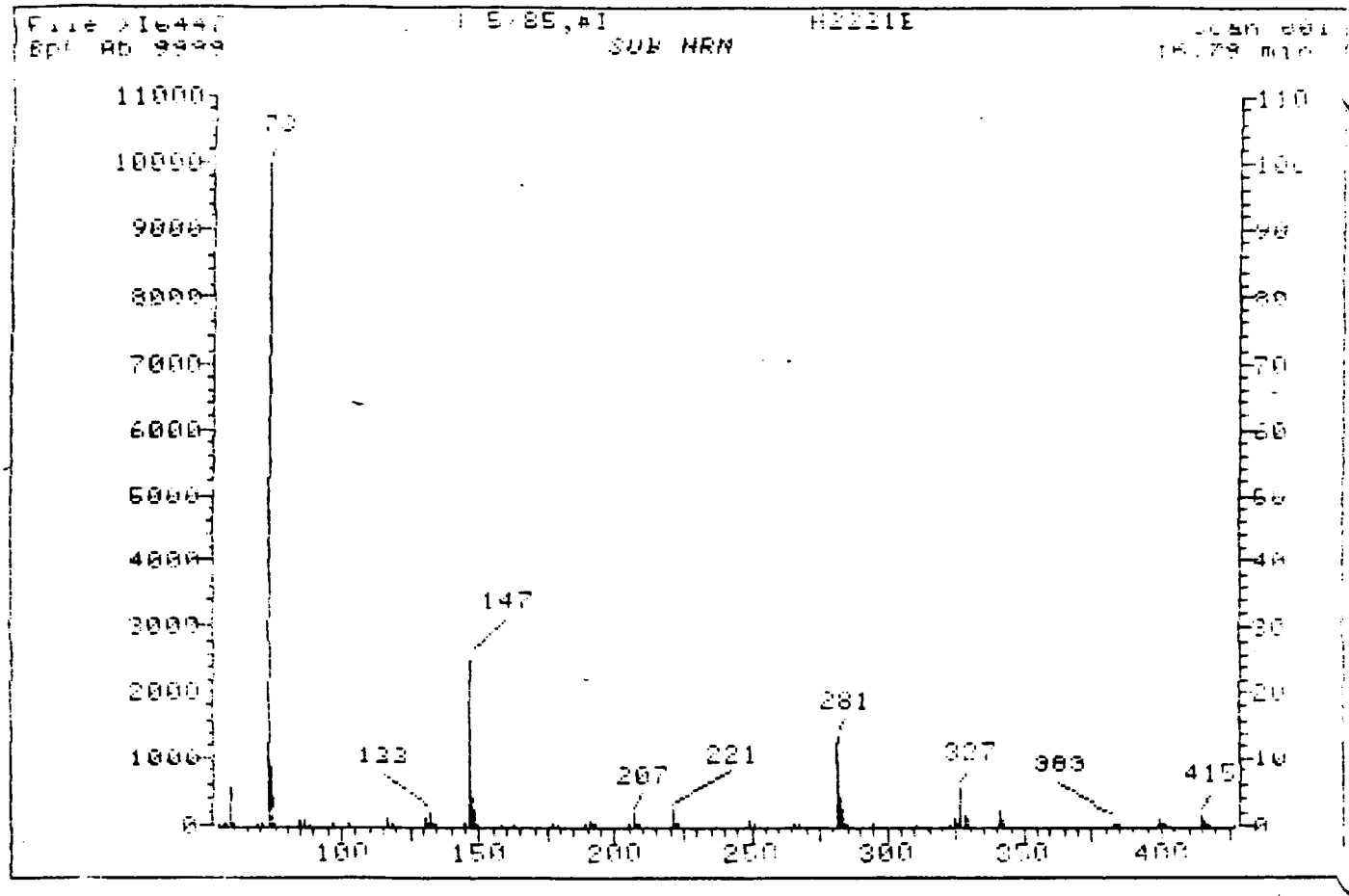
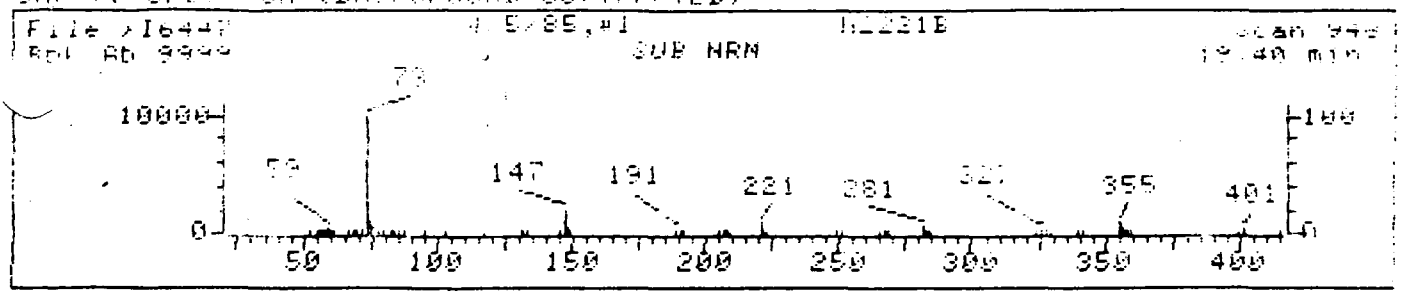


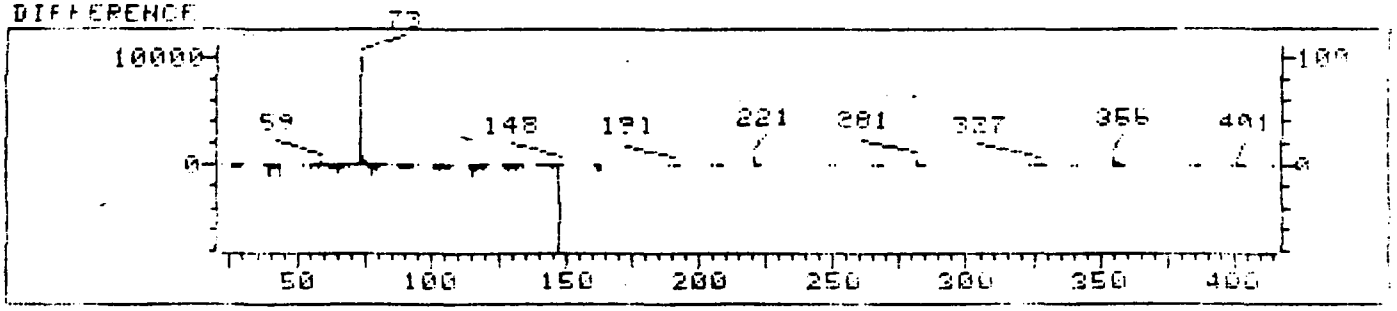
Data File: >I6447..UA
Name: 4/5/85,#1
Misc Data: H2221B BTL# 0
RT (min): 11.79
Scan: 801
Area: 26077..
Semi-quantitative Conc. 23.91 UG/ML

No PBM hits for this scan.

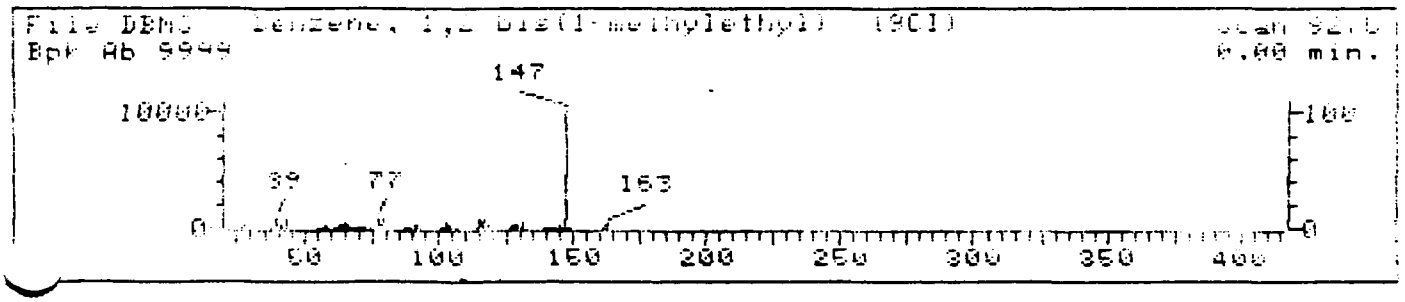
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)

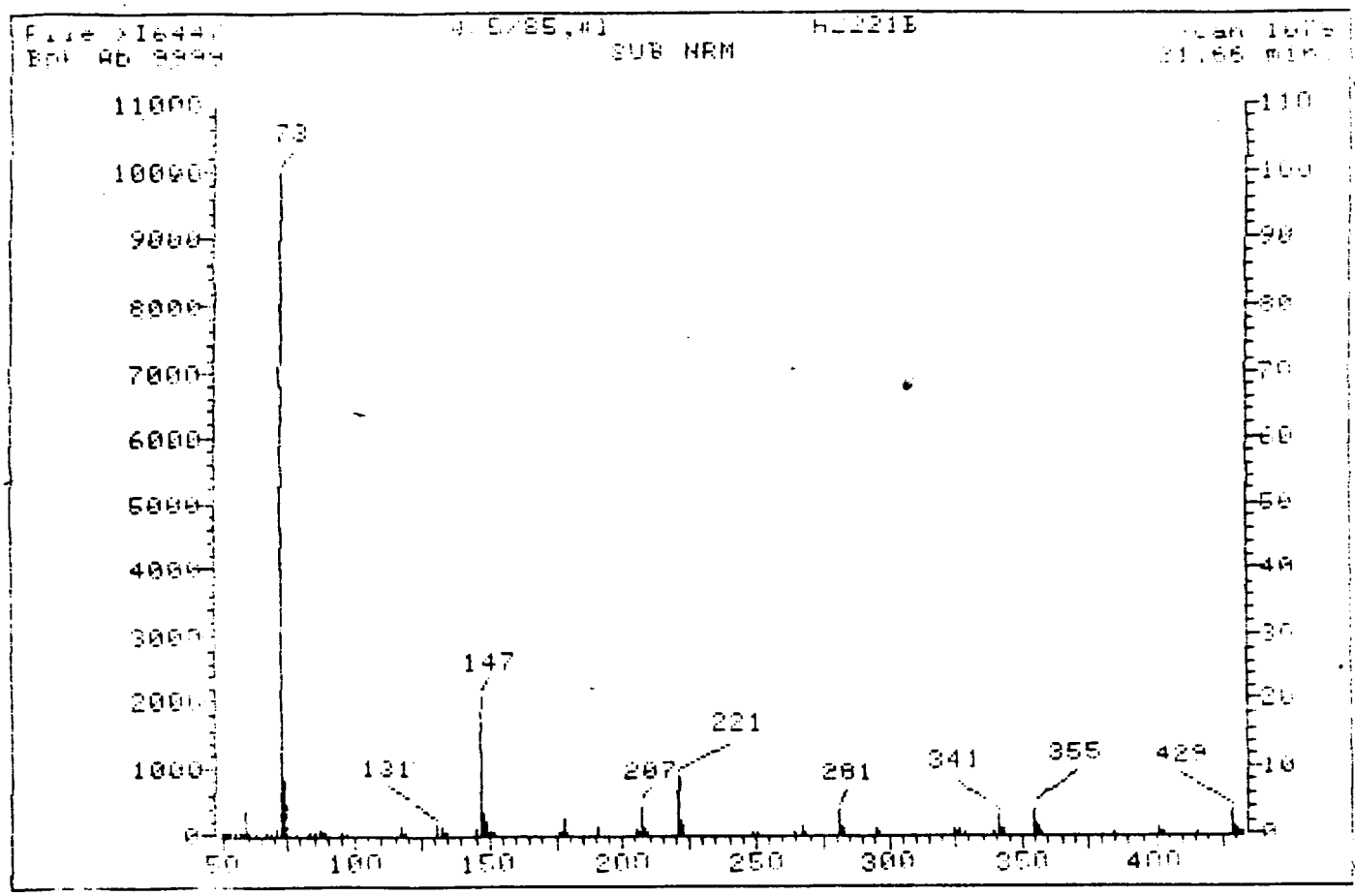


Data File: >I6447
Name: 4/5 PS,#I
Misc Data: M20218 PTL# 0
RT (min): 19.40
Scan: 940
Area: 20007
Semi-quantitative Conc: 24.20 UG/ML

Data File: >I6447 Scan Number: 940
Search Speed: 2 Tilting option: 0 Number of ion ranges searched: 20

1. Benzene, 1,2 bis(1 methylethyl)- (PCI) 162 C12H18

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	50	577559	3%	49	0	-2

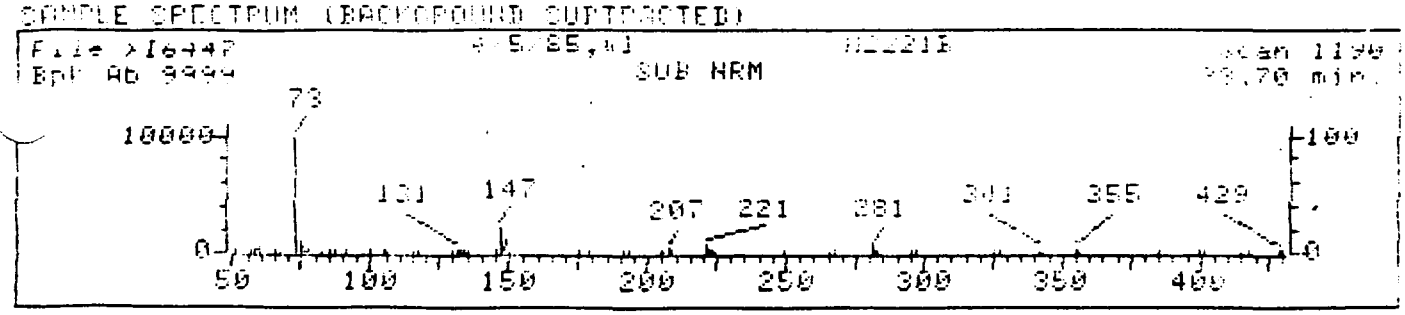


Data F.[illegible] SIA447.HX
Time: [illegible] PS,#1
Misc Data: H2O2/B
RT (min): [illegible]
Scan: 1025
Area: 249[illegible]
Semi-quantitative Conc: 20.[illegible] UG/ML

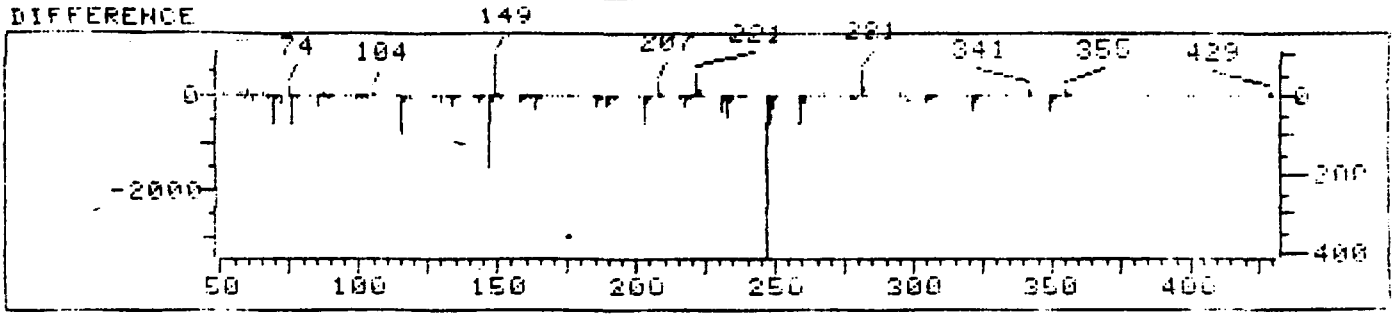
DIL# 0

No PBM hits for this scan.

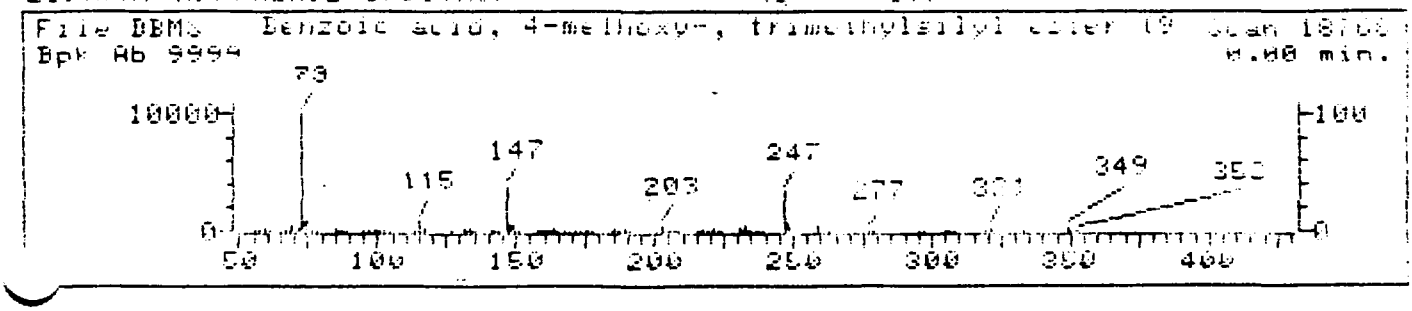
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6447:
Time: 4/5/95,#I
Misc Data: HP5971B
RT (min): 2
Scan: 1190
Area: 24
Semi-quantitative Conc: 21.07 UG/ML

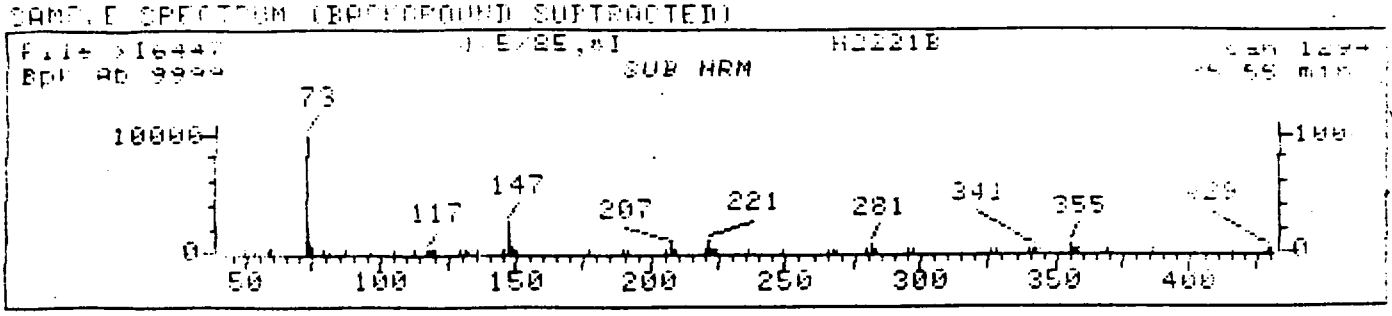
PTL# 0

Data File: >I6447 Scan Number: 1190
Search Speed: 2 Titling option: S Number of ion ranges searched: 6

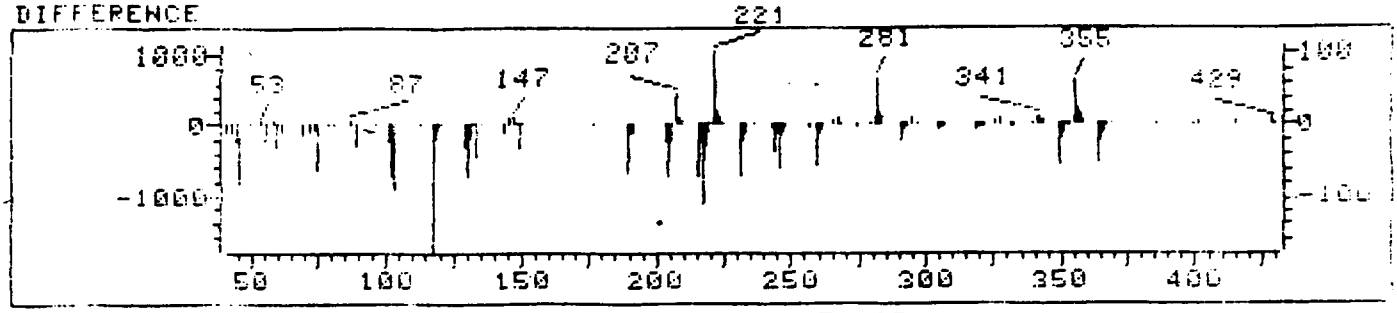
1. Benzoic acid, 4-methoxy , trimethylsilyl ester (CDI) 224 C11H16O3Si

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	20	2079140	22	80	2	0

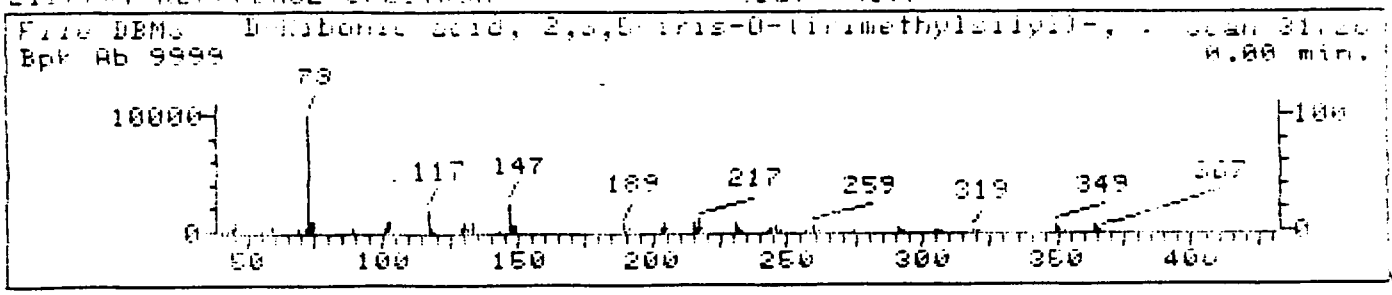
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6447.UG
Time: 4/5/85,#1
Misc Data: H2221B
RT (min): 11.55
Scan: 1294
Area: 250360
Semi-quantitative Conc: 22.09 UG/ML

RTL# 0

Data File: >I6447 Scan Number: 1294
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 67

1. D-Ribonic acid, 2,3,5-tris-O-(trimethylsilyl)-, .gam. 364 C14H32O7Si3
.-lactone (9CI)
2. Benzenepropanoic acid, .beta.,.beta.,3,4-tetramethyl 206 C13H18O2
(9CI)
3. Prost-13-en-1-oic acid, 9,11,15-tris[(trimethylsilyl 644 C37H68O5Si4
)oxy]-, trimethylsilyl ester, (9.beta.,11.alpha.,13E
,15S)- (9CI)

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	87	10599341	57	95	0	-2
2.	13	55603108	40	79	0	-2
3.	00	57556279	33	153	0	-2

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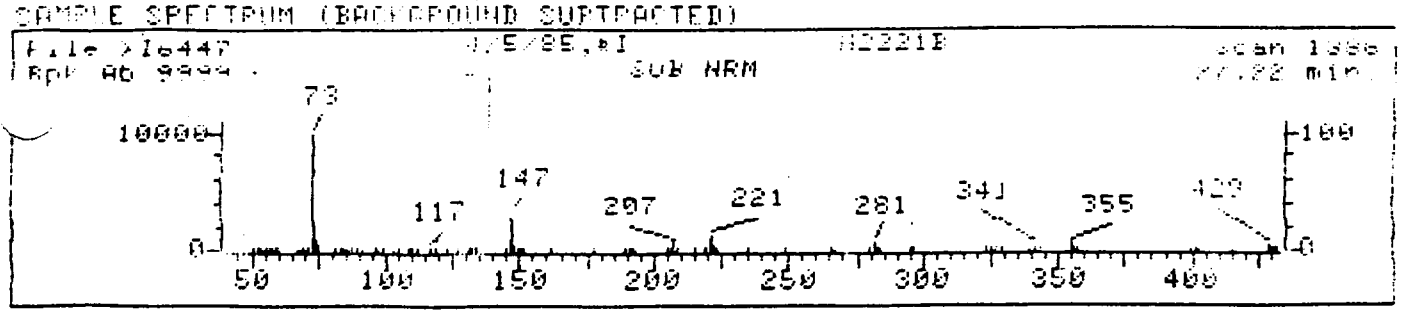
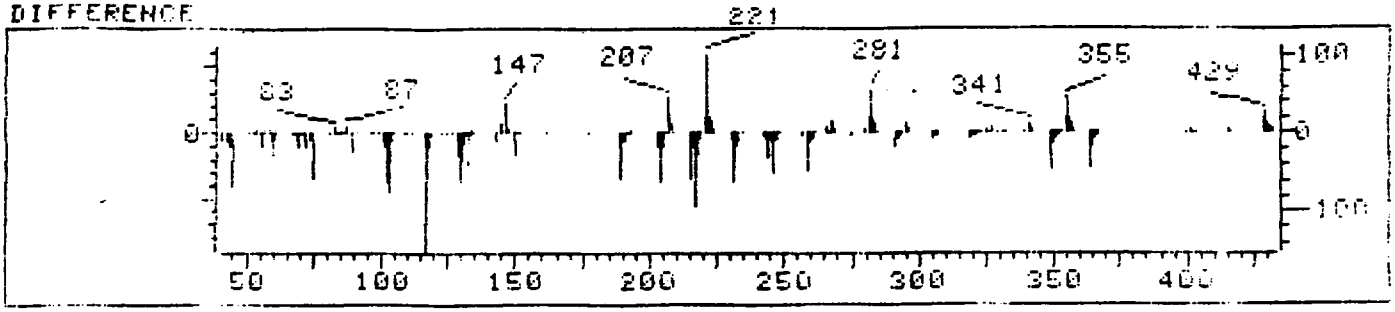
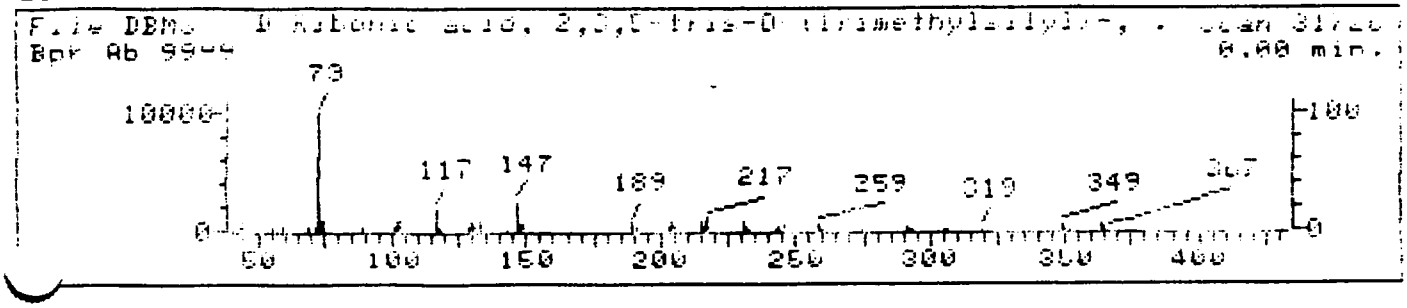
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I(447:)M
Time: 4/5/95,#I
Misc Data: M0221B
PT (min): 77.22
Scan: 1330
Area: 340573
Semi-quantitative Conc: 30.10 UG/ML

PTL# 0

Data File: >I/447 Scan Number: 1330
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 77

1. D Ribonic acid, 2,3,5 tris-O-(trimethylsilyl) , gam 364 C14H32O5Si3
m.-lactone (9CI)
2. Butanal, 2,3,4-tris[(trimethylsilyl)oxy]-, O-methylo 365 C14H35NO4Si3
xime, [R-(R*,R*)]- (9CI)
3. Prost-13-en-1-oic acid, 9,11,15-tris[(trimethylsilyl 644 C37H80O5Si4
)oxy]-, trimethylsilyl ester, (9.beta.,11.alpha.,13E
,15S)- (9CI)

	Prob	Cas#	K	dK	#Flg	Tilt
1	83	40500341	37	92	0	2
2	87	54536362	36	107	0	-1
3	0	55554779	37	158	0	-2

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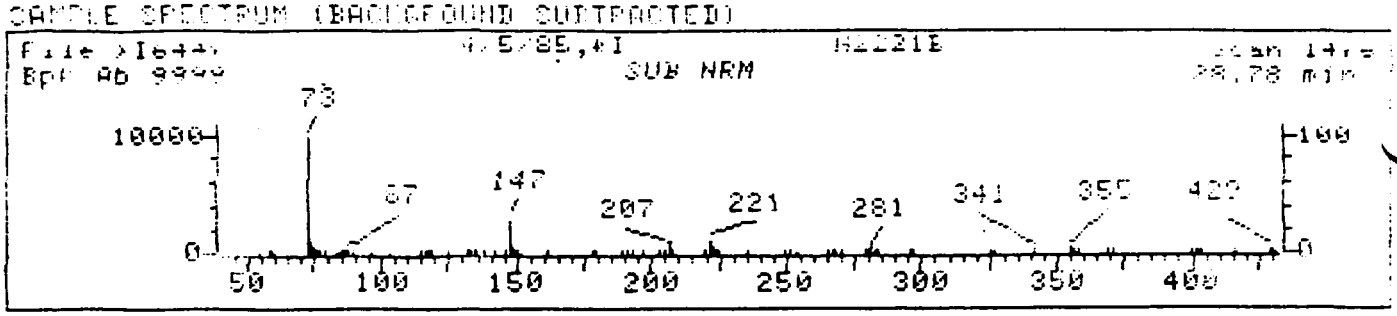
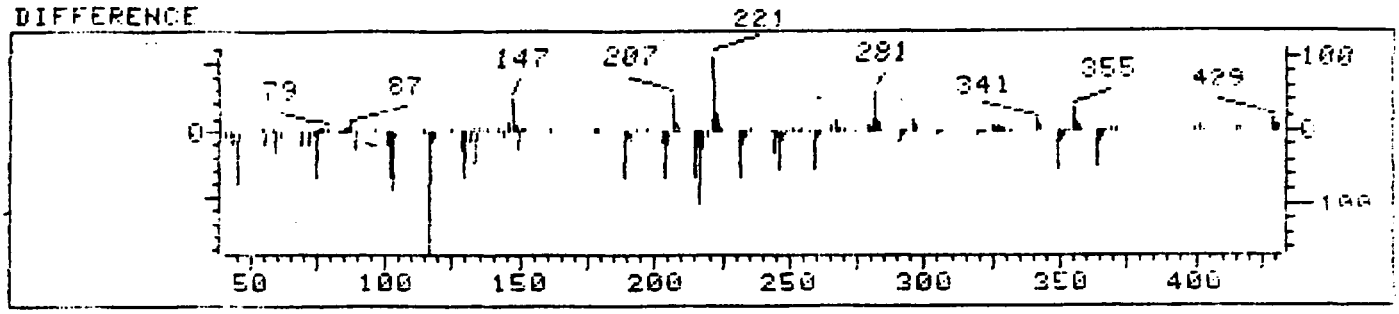
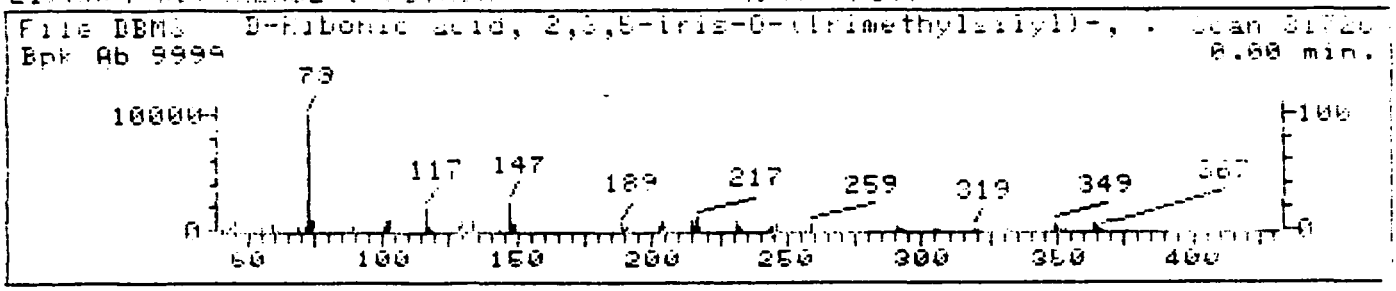
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6447..HA
Time: 4/5/85,#1
Misc Data: H2221B
RT (min): 28.78
Scan: 1476
Area: 40[illegible]
Semi-quantitative Conc: 36.33 UG/ML

RTL# 8

Data File: >I6447 Scan Number: 1476
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 7

1. D Ribonic acid, 2,3,5 tris-O-(trimethylsilyl)-, .gam 364 C14H32O7Si3
   ma.-lactone (9CI)
2. Benzenepropanoic acid, .beta.,.beta.,3,4-tetramethyl 206 C13H18O2
   - (9CI)
3. Pro-t-13-en-1-oic acid, 9,11,15-tris[(trimethylsilyl 644 C37H68O5Si4
)oxy]-, trimethylsilyl ester, (9.beta.,11.alpha.,13E
   ,15S)- (9CI)

	Prob.	Cm#	K	dK	#Flg	Tilt
1.	87	10589341	51	101	0	-2
2.	36	5560310	49	88	0	-2
3.	28	5556779	35	176	0	-2

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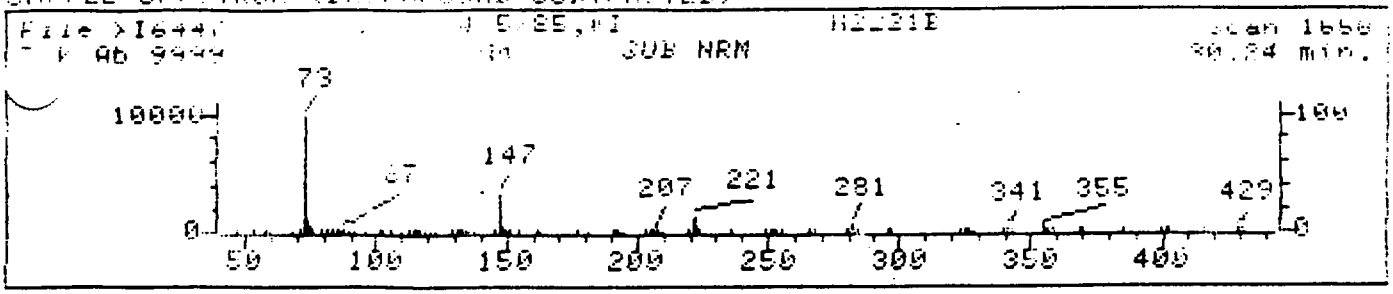
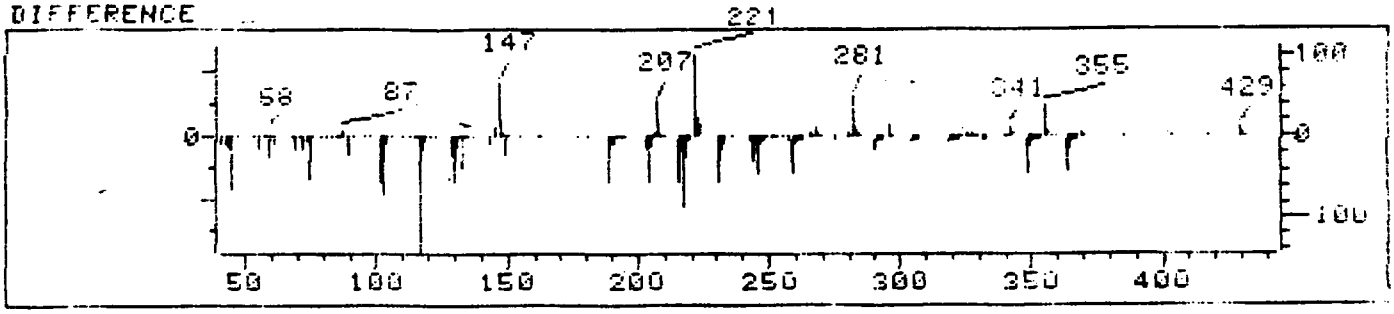
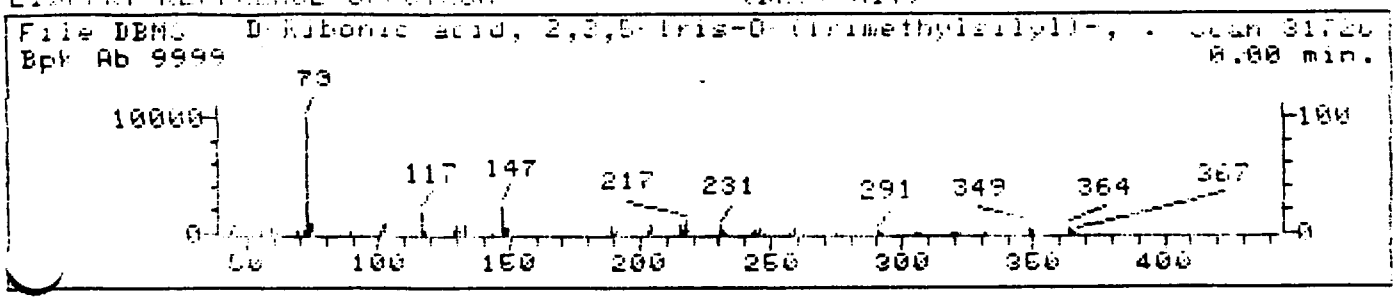
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I:447:.UA
Time: 4/[illegible]/95,#I
Misc Data: HP5971B BTL# 0
RT (min) 30.24
Scan: 1650
Area: 504[illegible]
Semi-quantitative Conc 44.70 UG/ML

Data File: >I:447 Scan Number: 1650
Search Speed: 2 Tuning option 5 Number of ion ranges searched: 66

D-Ribonic acid, 2,3,5-tris-O-(trimethylsilyl) , .gam 364 C14H32O7Si3
m-lactone (9CI)
Benzenepropanoic acid, .beta.,.beta.,3,4-tetramethyl 206 C13H18O2
- (9CI)

Prob.	Cas#	K	dK	#Flg	Tilt
87	.10589341	56	96	0	-2
[illegible]	55683100	37	86	0	-2

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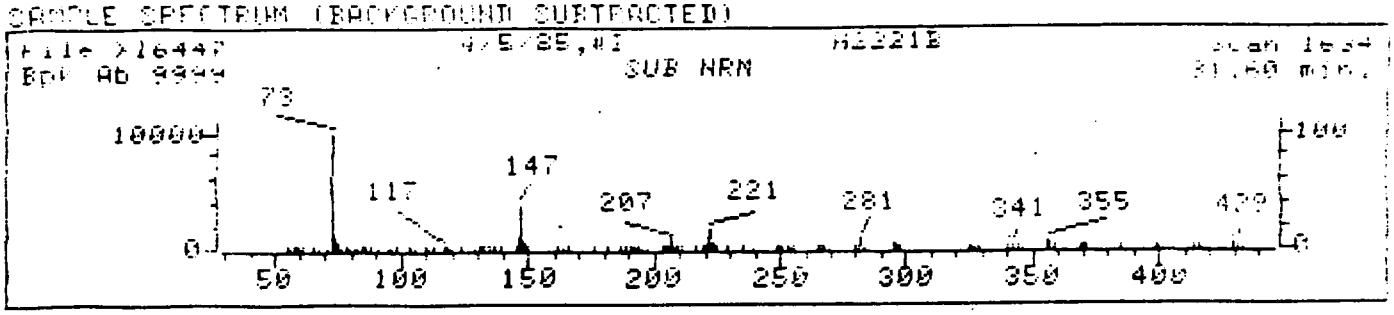
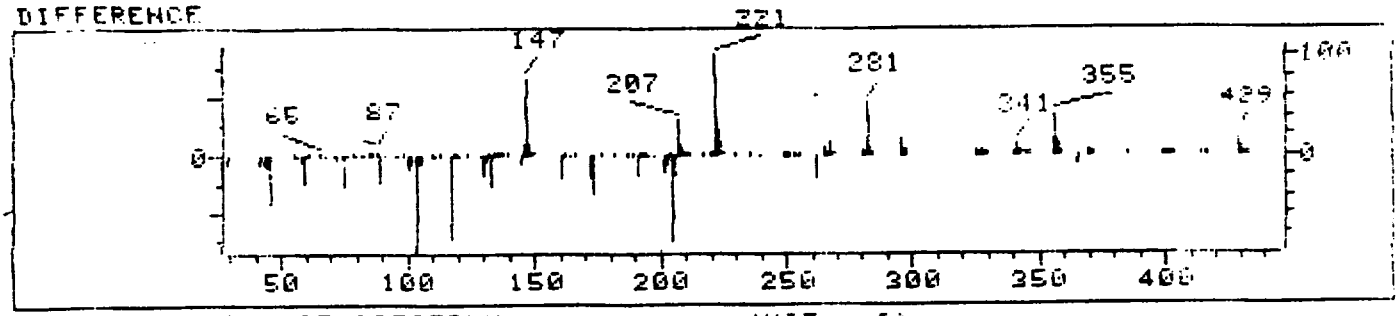
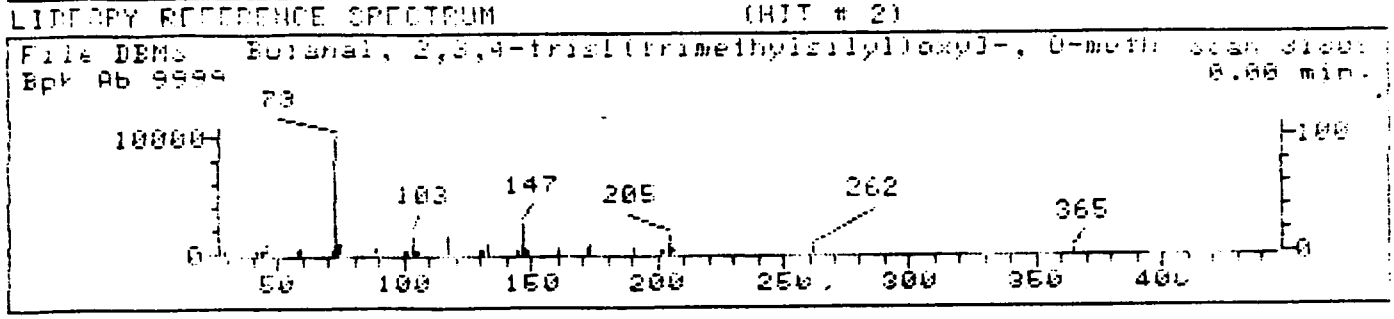
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



Data File: >16447:UG
Name: 4/5/85,#I
Misc Data: M13218
RT (min): 31.60
Scan: 1674
Area: 5[illegible]
Semi-quantitative Conc. 52.01 UG/ML

RTL# 0

Data File: >16447 Scan Number: 1674
Search Speed: 2 Titling option: S Number of ion ranges searched: 67

1. Benzenepropanoic acid, .beta.,.beta.,3,4 tetramethyl 206 C13H18O2 (9CI)
2. Butanal, 2,3,4-tris[(trimethylsilyl)oxy]-, O-methylo 365 C16H35NO4Si3 xime, [R-(R*,R*)]- (9CI)
3. Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	72	55603408	33	86	0	-2
2.	28	56[illegible]62	31	109	0	-2
3.	13	70[illegible]40	26	76	2	0

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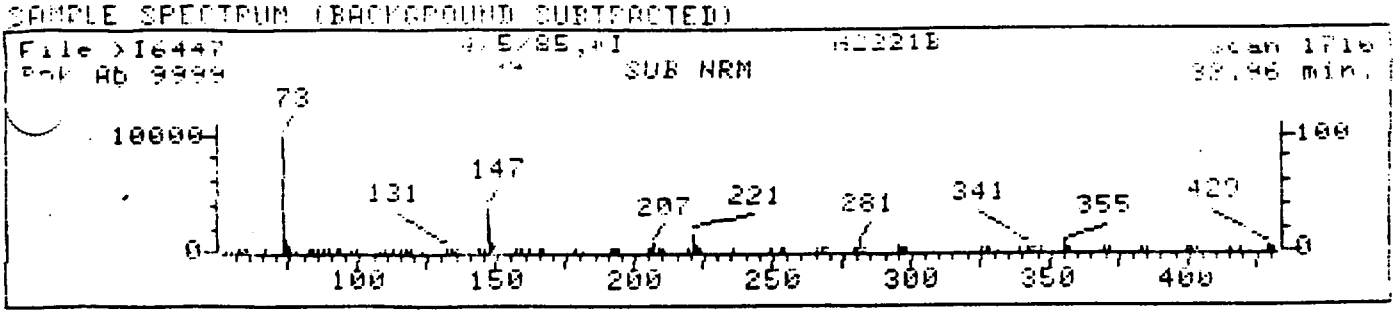
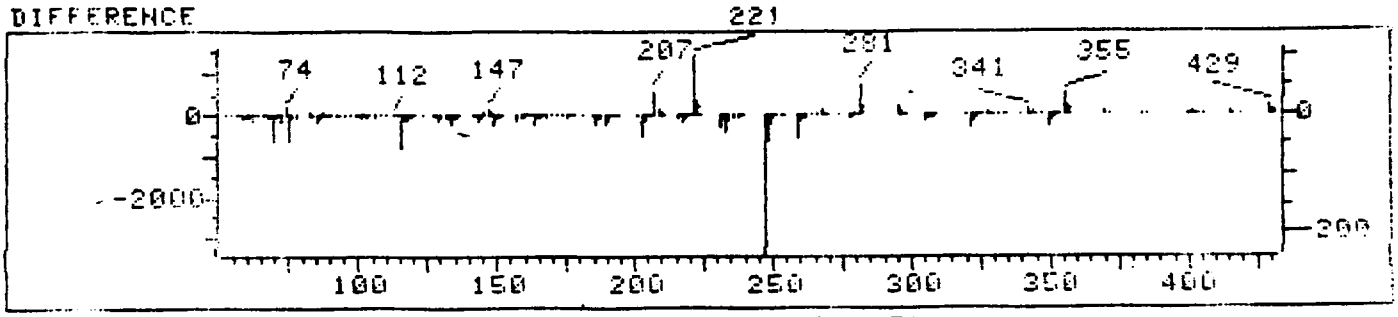
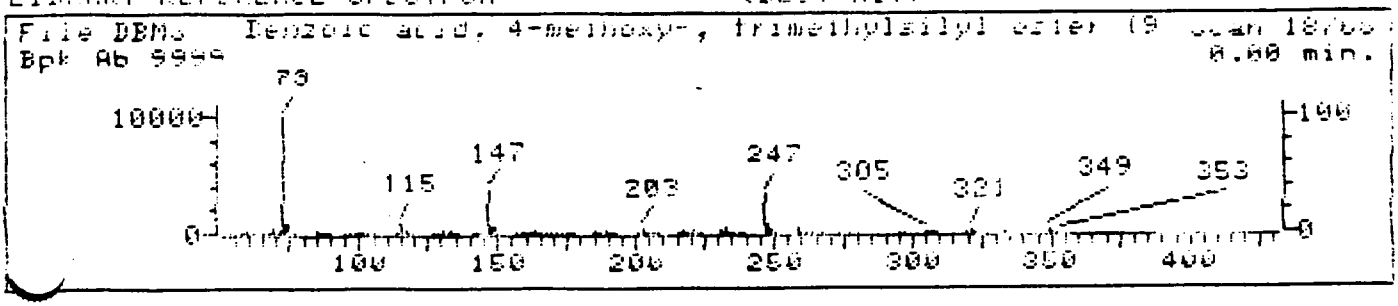
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: [illegible]
Name: 4/[illegible]/85,#I
Misc Data: [illegible]
PT (min): [illegible]2.96
Scan: [illegible]710
Area: [illegible]
Semi-quantitative Conc: [illegible]36.60 UG/ML

BTL# 8

ta File: [illegible] Scan Number: 1710
arch Speed: 2 Titling option: 0 Number of ion ranges searched: [illegible]

Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si

Prob.	Cas#	K	dK	#Flg	Tilt
52	2078140	76	76	2	0

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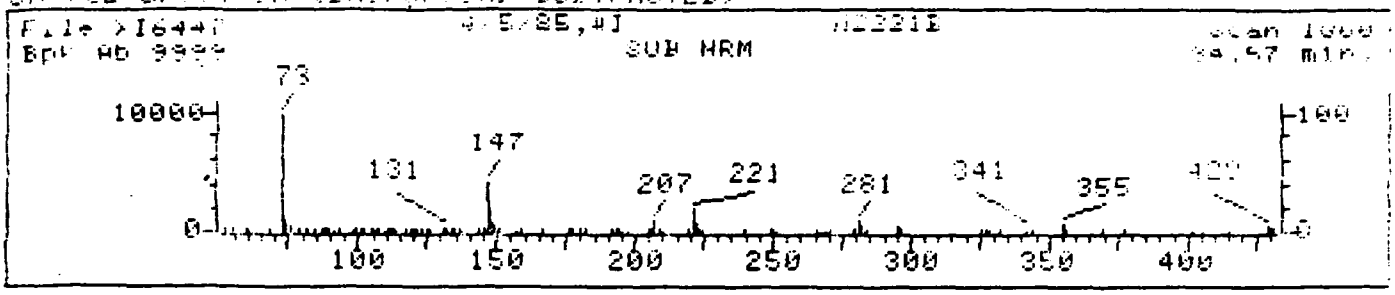
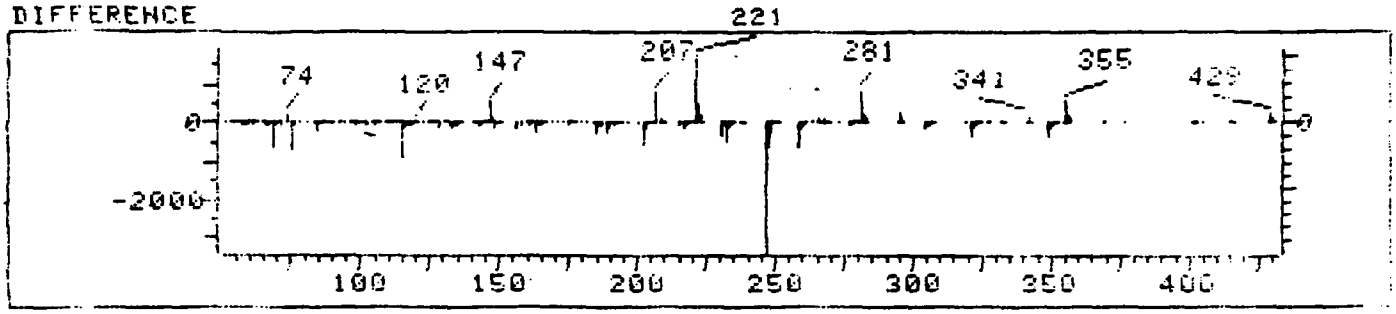
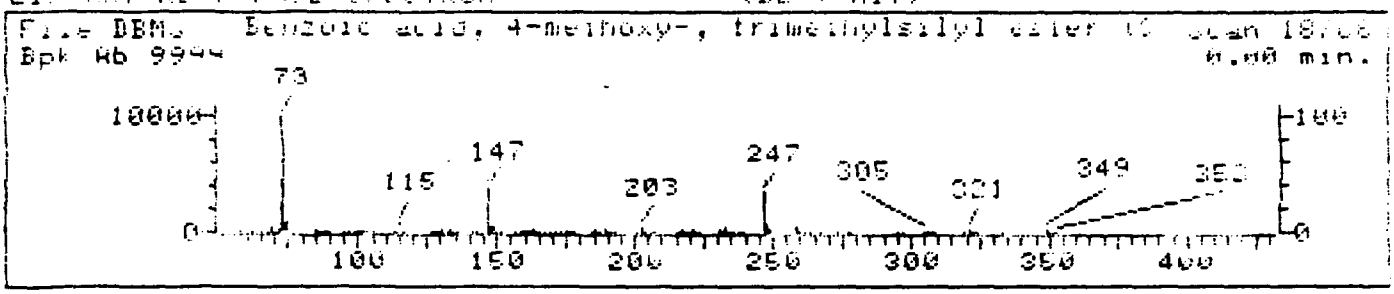
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: I6447
Name: 4/5/85,#1
Misc Data: H2221B BTL# 0
RT (min): 34.57
Scan: 1000
Area 32[illegible]
Semi-quantitative Conc: 29.74 UG/ML

Data File: I6447 Scan Number: 1000
Search Speed: 2 Tailing option: S Number of ion ranges searched: 6

1. Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si
2. 1H-Indole, 2-phenyl-3-(trimethylsilyl)- (9CI) 265 C17H19NSi

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	52	2078240	31	71	2	0
2.	11	74367547	35	59	2	0

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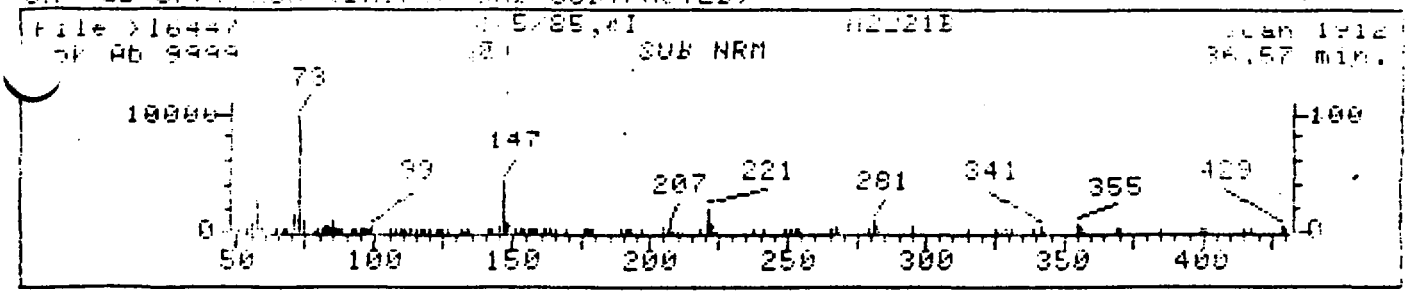
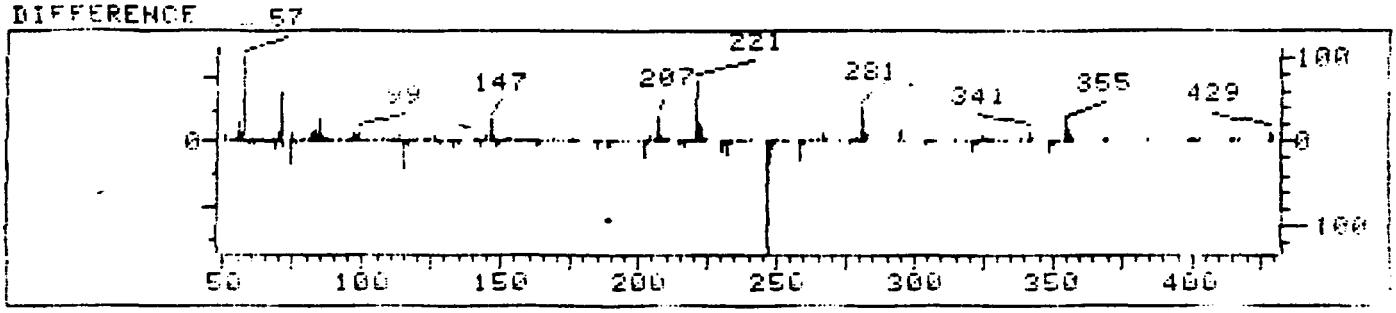
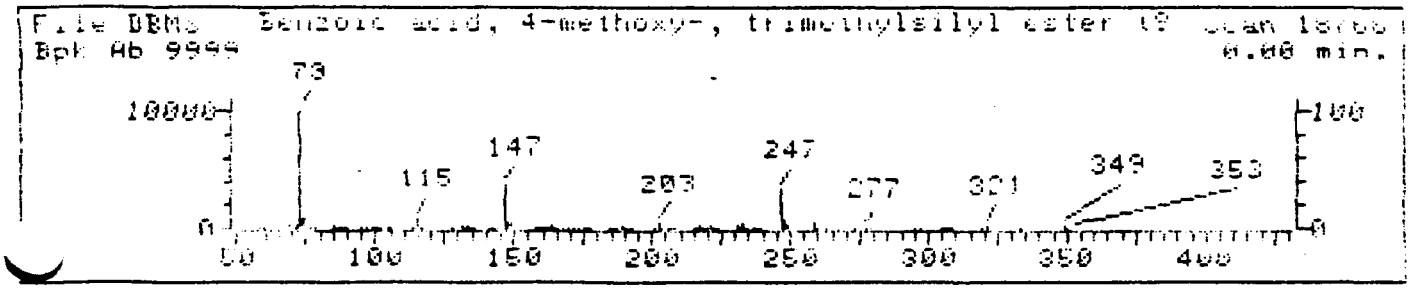
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >T6447::UA
Name: 4/5/85,#I
Misc Data: M2121B PTL# 0
RT (min): 36.57
Scan: 1712
Area: 200.72
Semi-quantitative Conc: 25.71 UG/ML

Data File: >T6447 Scan Number: 1712
Search Speed: 0 Tilting option: 0 Number of ion ranges searched: 60

1. Benzoic acid, 4-methoxy-, trimethylsilyl ester (9CI) 224 C11H16O3Si
2. 1H-Purin-6-amine, N-(2-fluorophenyl)methyl- (9CI) 243 C12H10FN5
3. 1H-Pyrimido[4,5,6-ij][1,7]naphthyridine-6-carbonitrile, 2-ethyl-5,8-dimethoxy- (9CI) 283 C14H13N5O2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	37	2078140	36	66	2	0
2.	25	74051446	70	56	2	0
3.	20	55914489	20	47	2	0

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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.

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results 301370

REV. 1

ETC Job # 1412121 1

[redacted]

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 APR 0 8 1985

Line No.	Parameter	Table	Units Of Measure	Value	MDL	Comments
CONVENTIONALS						
1	Chloride	QR 10	mg/l			
[redacted]						
3	Nitrate as N	QR 10	mg/l			
[redacted]						
5	Phenolics, Total	QR 10	mg/l	<0.1	0.1	mg/kg
[redacted]						
	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	<0.5	0.5	mg/kg
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			
	Solids, Total 105		mg/l			
[redacted]	Solids, Total Dissolved (ROE) 180°		mg/l			
33	Solids, Total Suspended		mg/l			
[redacted]	Sulfide as S		mg/l			
35	Surfactants (MBAS/LAS)		mg/l			
[redacted]	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. 40231 ETC Job # H2221

Date Sealed 3-20-85 By: [illegible]

Company: NJDEP

Facility/Site:

Address: Trenton NJ

Attn.: Joe Bottich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE SCOT (Facility/Site Code)

Sample Point: A-STATION 1 (Source Code from below; Your Sample Point ID left justify) | 03/21/85 (Start Date YY/MM/DD) | 1640 (Start Time 2400 hr. clock) | (Elapsed Hours composite) | (Optional Sample Point Descriptions)

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	BOTTLE Type	BOTTLE Size	BOTTLE Preserv.	ANALYSIS	SAMPLER Filt. (Y/N)	SAMPLER Observations	LAB Observations
1	E	1L	baked	Extractable			✓
2	V	40ml	baked	VOA			✓
							Also rec'd H2226 All Empty

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P Zigrillo Date: 3/21/85 Time: 1638
   Signature: [signature] Seal #: 002853 Intact:

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. 301372
   Name: Signature:
   Date: Time: Remarks:

Shuttle Sealed By: (print) [illegible] Date: 3/21/85 Time: 1811
Signature: [signature] Seal #: 0028532 Intact: Y

ETC USE ONLY Opened By: [signature] Date: 3-22-85 Time: 8:00 am

Seal #: 28532 Condition: ok

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2224

Sample Point RI STATION 2
(Source Code) (Sample Point ID)

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)

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

Sample Temp (°C) | Turbidity NTU

FIELD COMMENTS

Sample Appearance:
Weather Conditions:
Other:

MS/MSD

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

Sampler: P. Zarrillo (Print) Employer: NJDEP

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

3/21/85 (Date) Paul M Zarrillo (Signature)

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ETC / CHYUN

301374

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mark Gardner

3:15 PM 3-22-85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2221 to H2225

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

301374

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	Time/Date	Time/Date

079

GC-MS ANALYSIS CUSTODY LOG

301375

DATE 950328 SHIFT ___
FRACTION VOA
INSTRUMENT 5B
TUNE FILE AB5I02
SEQUENCE FILE :m8
METHOD FILE ~~8270~~ VOAB
IDFILE ~~VOAA~~ BVOA
ANALYST(S) G. Martin / Lawrence Sobocinski
SUPERVISOR M Barkley
BATCH #'s ~~BV3056~~ QV3056

(PLEASE INITIAL)

CURRENT CSuS STATUS		STANDARDS UPDATED	
ACQ		DATE	
HIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ml
DSTD	40	9140	5ml
SURR	25	9783	10ml
ABC	18	10221	

IFB Prep Soil

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
p-BFB	> B7792	1ml			A00107	PE 120, Subr 3, Subr 174 1350
QC3506V	> B7793					
QC3506VS	> B7794					10ml ABC
QC3506VS	> B7795					3ml ABC (NG)
QC3506VS	> B7796					30ml ABC
QC3506VS	> B7797					5ml ABC
QC3506VS	> B7798					5-Q ABC } BP from L
H2221VS	> B7799	5g/5ml				
H2221V	> B7800	↓				
H2222V	> B7801					
H2222VR	> B7802					
H2223V	> B7803					
[redacted]	[redacted]					
[redacted]	> [redacted]	↓				
BFB	> B7804	1ml				NG
BFB	> B7805	1ml				OK 2nd ANL 3/29
QC3056VS	> B7806	5ml				[redacted] 5ml ABC (NG)
QC3056VS	> B7807	↓				10ml ABC
QC3056VS	> B7808	↓				30ml ABC
QC~~3056~~10CVS	> B7809	↓				5ml ABC
H2224V	> B7810	5g/5ml				
H2225V	> B7811	↓				3/29 0800 hrs.
H2339V	> B7512	↓				
H2340V	> B7513	↓			080	
H2241V	> B7514	↓				

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GC-MS ANALYSIS CUSTODY LOG

DA 850329 SHIFT
FR ION
INSTRUMENT
TUNE FILE
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) J. Martin
SUPERVISOR
BATCH #'s GV3056 Continued

(PLEASE INITIAL)

CURRENT CSOS 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
V-1212	>87816	1			A00107		
C3056V	>87817					86 ug Methylene Chloride	
3056V	>87818					OK	
2224V	>87819						
	TOE						
					081		

TCD 8-84

EXTRACTION LOG

Sample Number	Log Date	Sample weight (g)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2221	8684	50.99	1.0	1.0	
H2222	|	50.38	1.0	1.0	
H2223	|	50.20	1.0	1.0	
H2224	|	50.65	1.0	1.0	
H2225	↓	50.18	1.0	1.0	
H2338	8765	50.82	1.0	1.0	
H2339	|	52.18	1.0	1.0	
H2340	|	50.49	1.0	1.0	
H2341	↓	50.62	1.0	1.0	
G-8385	8311	50.99	/	1.0	
QC2864		—	1.0	1.0	
H2221 S		50.22	1.0	1.0	
H2222 R		50.164	1.0	1.0	

QC Batch # 2864

Analysis: *

Matrix: SOIL

Turnaround: Norm.

Date: 4/3/85

Extraction Method:

sep funnel

continuous

soxhlet +

other - Homogenizer

COMMENTS FOR EXTRACT.:

*

PP/T: H2221-25

PP/org: H2338-41

Spec SP: (PP/Acid only):

G-8385

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

301377

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide	1.0	*	10,190
Aroclor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10,195
	ACID: 100 ug/ml	

Set-up: JM CAMPBELL 4/3/85 UPD/Supervisor: S McArthur 4/4/85

BN Conc.: Jim Arrington 4-7-85 spike/surr. verified: S McArthur 4/3/85

ACID Conc.: Jim Arrington 4/4/85

:-MS ANALYSIS CUSTODY LOG

301378

ATE 4/5/85 SHIFT 7p-7a

RAC ON Acid

MENT F

UNE FILE MTFD01

QUENCE FILE WWCH

THOD FILE DFTPP / ACID.F

FILE FACID

NALYST(S) Won-Wen Chi

UPERVISOR David M. Speet

ATCH #'s

(PLEASE INITIAL) CB FACD

CURRENT SUS STATUS		STANDARDS UPDATED	
Q	✓	DATE	4/5/85
P		BY	W.W.

STANDARD	CONC PPM	LOT NO.	LOT VOL

PEAC PLFACD PLFSRH

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
NG DFTPP	>F8668	2					
DNG DFTPP	>F8669						
DNG DFTPP	>F8670						
6 5 III	>F8671		1				
II	>F8672		2				
I	>F8673		3				
>336AS	>F8674		4				
C>867AS	>F8675		5				
C>867A	>F8676		6				Y,+
>332A	>F8677		1				Y
>333A	>F8678		2				
1233U A	>F8679		3				
1>335A	>F8680		4				
1>336A	>F8681		5				
1>337A	>F8682		6				
1>337AR	>F8683		7				
7 89/4A	>F8684		8				
H1U49A	>F8685		9				
H 0>94	>F8686		10				
H:029F	>F8687		11				
H 1F1U	>F8688		12				
H 15	>F8689		13				
H1876	>F8690		14				
G5>36	>F8691		15		033		+
SONG DFTPP	>F8692		16				

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GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT 7a-3p
FRACTION Acid
INSTRUMENT F
TUNE FILE
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) Wen-Ling Chi
SUPERVISOR Paul M. Spey
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)	PLI Y/I
Calib III	>F8693		17				
H0957AS	>F8694		18				
QC>866A	>F8695		19				Y
H0957A	>F8696		20				
H0959A	>F8697		21				
H0960A	>F8698		22				Y
H0960AR	>F8699		23				
H0958	>F8700		24	1:52			Y
H2221AS	>F8701		25				
QC2864A	>F8702		26				Y
G8385A	>F8703		27				+
H2221A	>F8704		28				Y
H2222A	>F8705		29			Color big difference. for Sample d	
H2223A	>F8706		30				
H2225A	>F8707		31				
H2339A	>F8708		32				
H2224A	>F8709		33				
H2341A	>F8710		34	1:5			
H2360A	>F8711		35	1:5			
H2338A	>F8712		36	1:5			V
H2222AR	>F8713		37	1:2			
					854		

TSR 8-84

301380

:-MS ANALYSIS CUSTODY LOG

:T 4/6/85 SHIFT
:ACTION B/N
:STRUMENT I
:NE FILE MTI001
:QUENCE FILE
:THOD FILE BNPI
:FILE IBNP
:ALYST(S) Wen-Yen Chin
:PERVISOR David M. Speed
:TCH #'s QB2864

(PLEASE INITIAL)

CURRENT SUS STATUS		STANDARDS UPDATED	
:Q		DATE	4-6-85
P		BY	W.Y.

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
)NGT DITPP	>I6441	2			I00167	7:00 4/6/85	
alib III	>I6442	1	3				
II	>I6443		4				
I	>I6444		5				
IV	>I6445		6				
H2221BJ	>I6446		7				
H2221B	>I6447		8				Y
H2225B	>I6448		9				Y
H2222B	>I6449		10				Y
H2222BR	>I6450		11				
H2223B	>I6451		12				Y
H2224B	>I6452		13				
H2341B	>I6453		14				
H2339B	>I6454		15				
H2338B	>I6455		16				
H2340B	>I6456	↓	17				↓
			18				
C2864B	>I6458		7				
	THE				055		

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8684

Metals Analysis Custody Log

Samples H2221-H2225

	Chemist	Date
Hg Prep	Douglas L. Lilford	4/3/85
AA/ICAP Prep	Maura Jan McShane	4/2/85

Lab Supervisor Maura Jan McShane date 4/10/85

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8684

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyan

Sample Number(s) H2221 to H2225

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: 4/2/85
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 Hamilton 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

50115 !

OTHERS

X-029

Sample(s) Relinquished by: M. Jacobs

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 3:15

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Technical Report

for

NJ DEP

CONTRACT X-029

Sediment

Chain of Custody Data Required for ETC Data Management Summary Reports						
H2222	NJ DEP	NJDCOMBES0	RSTATION 2	850321	1630	
ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

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TABLE OF CONTENTS

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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	ND	ND	ND	800	157[a]	ND	800	58[a]
2V	Acrylonitrile	ND	100	ND	ND	ND	80	105	ND	80	94
3V	Benzene	ND	4.40	ND	ND	ND	18	117	ND	18	114
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	85
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	117	ND	18	124
7V	Chlorobenzene	ND	6	ND	ND	ND	18	109	ND	18	102
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	111	ND	18	99
9V	Chloroethane	ND	10	ND	ND	ND	18	101	ND	18	97
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	106	ND	18	117
11V	Chloroform	ND	1.60	ND	ND	ND	18	118	ND	18	117
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	112	ND	18	106
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	130	ND	20	104
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	116	ND	18	117
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	114	ND	18	107
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	117	ND	18	125
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	114	ND	18	109
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	110	ND	18	98
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	115	ND	18	109
20V	Methyl bromide	ND	10	ND	ND	ND	18	89	ND	18	146[c]
21V	Methyl chloride	ND	10	ND	ND	ND	18	89	ND	18	124
22V	Methylene chloride	8.00	2.80	5	8	3	18	67	23	18	43[a]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	100	ND	18	84
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	111	ND	18	113
25V	Toluene	ND	6	ND	ND	ND	18	108	ND	18	111
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	118	ND	18	121
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	104	ND	18	113
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	111	ND	18	100
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	115	ND	18	113
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	116	ND	18	126
31V	Vinyl chloride	ND	10	ND	ND	ND	18	127	ND	18	82
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	118	ND	18	106

A EPA published Method Detection Limit.

B Recovery not statistically variable using EPA Protocol Method 624.

C Recovery [illegible] due to sample matrix interference.

D Spiked sa[illegible] not contain compounds present at high levels do not provide valid spike recovery data.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 10, 1985

TABLE 12 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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	60	ND	ND	ND	0	-	ND	1991	6
2A	2,4-Dichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	8
3A	2,4-Dimethylphenol	ND	60	ND	ND	ND	0	-	ND	1991	2
4A	4,6-Dinitro-o-cresol	ND	480	ND	ND	ND	0	-	ND	1991	0
5A	2,4-Dinitrophenol	ND	840	ND	ND	ND	0	-	ND	1991	0
6A	2-Nitrophenol	ND	80	ND	ND	ND	0	-	ND	1991	18
7A	4-Nitrophenol	ND	40	ND	ND	ND	0	-	ND	1991	13
8A	p-Chloro-m-cresol	ND	60	ND	ND	ND	0	-	ND	1991	5
9A	Pentachlorophenol	ND	80	ND	ND	ND	0	-	ND	1991	14
10A	Phenol	ND	40	ND	ND	ND	0	-	ND	1991	2
11A	2,4,6-Trichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	11

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

APR 12, 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1B	Acenaphthene	ND	38	ND	ND	ND	0	-	ND	1991	75
2B	Acenaphthylene	ND	70	ND	ND	ND	0	-	ND	1991	72
3B	Anthracene	ND	40	ND	ND	ND	0	-	ND	1991	78
4B	Benzidine	ND	44	ND	ND	ND	0	-	ND	1991	18
5B	Benzo(a)anthracene	ND	156	ND	ND	ND	0	-	ND	1991	76
6B	Benzo(a)pyrene	ND	50	ND	ND	ND	0	-	ND	1991	81
7B	Benzo(b)fluoroanthene	ND	96	ND	ND	ND	0	-	ND	1991	76
8B	Benzo(ghi)perylene	ND	82	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	50	ND	ND	ND	0	-	ND	1991	77
10B	bis(2-Chloroethoxy)methane	ND	106	ND	ND	ND	0	-	ND	1991	81
11B	bis(2-Chloroethyl) ether	ND	114	ND	ND	ND	0	-	ND	1991	54
12B	bis(2-Chloroisopropyl)ether	ND	120	ND	ND	ND	0	-	ND	1991	30
13B	bis(2-Ethylhexyl)phthalate	ND	200	ND	ND	ND	0	-	ND	1991	77
14B	4-Bromophenyl phenyl ether	ND	38	ND	ND	ND	0	-	ND	1991	79
15B	Butyl benzyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	9
16B	2-Chloronaphthalene	ND	38	ND	ND	ND	0	-	ND	1991	63
17B	4-Chlorophenyl phenyl ether	ND	84	ND	ND	ND	0	-	ND	1991	81
18B	Chrysene	ND	50	ND	ND	ND	0	-	ND	1991	86
19B	Dibenzo(a,h)anthracene	ND	50	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	18
21B	1,3-Dichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	16
22B	1,4-Dichlorobenzene	ND	88	ND	ND	ND	0	-	ND	1991	16
23B	3,3'-Dichlorobenzidine	ND	330	ND	ND	ND	0	-	ND	1991	71
24B	Diethyl phthalate	ND	200	ND	ND	27	0	-	ND	1991	1
25B	Dimethyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	1
26B	Di-n-butyl phthalate	ND	200	ND	ND	29	0	-	ND	1991	17
27B	2,4-Dinitrotoluene	ND	114	ND	ND	ND	0	-	ND	1991	13
28B	2,6-Dinitrotoluene	ND	38	ND	ND	ND	0	-	ND	1991	30
29B	Di-n-octyl phthalate	ND	200	ND	ND	ND	0	-	ND	1991	47
30B	1,2-Diphenylhydrazine	ND	200	ND	ND	ND	0	-	ND	1991	78
31B	Fluoranthene	ND	40	ND	ND	ND	0	-	27	1991	91
32B	Fluorene	ND	38	ND	ND	ND	0	-	ND	1991	78

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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	38	ND	ND	ND	0	-	ND	1991	79
34B	Hexachlorobutadiene	ND	18	ND	ND	ND	0	-	ND	1991	34
35B	Hexachlorocyclopentadiene	ND	200	ND	ND	ND	0	-	ND	1991	-
36B	Hexachloroethane	ND	32	ND	ND	ND	0	-	ND	1991	6[D]
37B	Indeno(1,2,3-c,d)pyrene	ND	74	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	40	ND	ND	ND	0	-	ND	1991	82
39B	Naphthalene	ND	32	ND	ND	ND	0	-	ND	1991	35
40B	Nitrobenzene	ND	38	ND	ND	ND	0	-	ND	1991	40
41B	N-Nitrosodimethylamine	ND	200	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	200	ND	ND	ND	0	-	ND	1991	79
43B	N-Nitrosodiphenylamine	ND	38	ND	ND	ND	0	-	ND	1991	80
44B	Phenanthrene	ND	100	ND	ND	ND	0	-	ND	1991	84
45B	Pyrene	BMDL	38	12	22	ND	0	-	24	1991	0[D]
46B	1,2,4-Trichlorobenzene	ND	38	ND	ND	ND	0	-	ND	1991	78

A ETC established Method Detection Limit for this particular sample.

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

C Recovery normally low using EPA Protocol Method 625.

D Recovery low due to sample matrix interferenc.

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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 C
1P	Aldrin	ND	38	ND	ND	ND	0	-	ND	1991	75
2P	Alpha-BHC	ND	200	ND	ND	ND	0	-	ND	1991	4
3P	Beta-BHC	ND	84	ND	ND	ND	0	-	ND	1991	0
4P	Gamma-BHC	ND	200	ND	ND	ND	0	-	ND	1991	47
5P	Delta-BHC	ND	62	ND	ND	ND	0	-	ND	1991	0
6P	Chlordane	ND	200	ND	ND	ND	0	-	ND	3982	85
7P	4,4'-DDT	ND	94	ND	ND	ND	0	-	ND	1991	10
8P	4,4'-DDE	ND	112	ND	ND	ND	0	-	ND	1991	152
9P	4,4'-DDD	ND	56	ND	ND	ND	0	-	ND	1991	31
10P	Dieldrin	ND	50	ND	ND	ND	0	-	ND	1991	85
11P	Endosulfan I	ND	200	ND	ND	ND	0	-	ND	1991	4
12P	Endosulfan II	ND	200	ND	ND	ND	0	-	ND	1991	28
13P	Endosulfan sulfate	ND	112	ND	ND	ND	0	-	ND	1991	0
14P	Endrin	ND	200	ND	ND	ND	0	-	ND	1991	79
15P	Endrin aldehyde	ND	200	ND	ND	ND	0	-	ND	1991	22
16P	Heptachlor	ND	38	ND	ND	ND	0	-	ND	1991	71
17P	Heptachlor epoxide	ND	44	ND	ND	ND	0	-	ND	1991	89
18P	PCB-1242	ND	720	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	720	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	600	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	720	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	720	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	720	ND	ND	ND	0	-	ND	1991	71
24P	PCB-1016	ND	720	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	200	ND	ND	ND	0	-	ND	0	-

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.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 13, 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
H2221	NJ DEP	NJDCOMBESO	WSTATION 1	850321	1640	

NPDES Number	Compound	Results: Sample Concen. ug/kg	Results: MDL ug/kg
1M	Antimony	BMDL	8000
2M	Arsenic	1400	1000
3M	Beryllium	300	100
4M	Cadmium	BMDL	300
5M	Chromium	18000	2000
6M	Copper	14000	1000
7M	Lead	12000	500
8M	Mercury	ND	200
9M	Nickel	9000	2000
10M	Selenium	600	600
11M	Silver	ND	500
12M	Thallium	ND	500
13M	Zinc	52000	2000
14M	Cyanide, Total	<500	500
15M	Phenolics, Total	<100	100

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 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
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

Compound Name	Data			Identifiers		Estimated Concen. ug/kg		
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula			
1 Unknown	29	3.6	-	-	-	829		
2 Unknown	230	7.1	-	-	-	543		
3 Dodecanoic acid	715	15.8	200	143077	$C_{12}H_{24}O_2$	287		
4 Unknown	930	19.6	-	-	-	204		
5 9-Hexadecenoic acid	1009	21.0	254	2091294	$C_{16}H_{30}O_2$	548		
6 Tetradecanoic acid	1022	21.3	228	544638	$C_{14}H_{28}O_2$	303		
7 Unknown	1488	29.6	-	-	-	204		

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 11, 1985

TABLE 1: QUALITATIVE RESULTS

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

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Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2222	NJ DEP	NJDCOMBESO	RSTATION 2	850321	1630	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 4,4-dimethyl-2-Pentene	79	3.9	98	26232984	C_7H_{14}	1690		
2 Unknown	126	4.7	-	-	-	58900		
3 Hexatriacontane	1528	29.6	506	630068	$C_{36}H_{74}$	374		
4 Docosane	1639	31.6	310	629970	$C_{22}H_{46}$	322		
5 Unknown	1720	33.1	-	-	-	197		
6 Nonadecane	1755	33.7	268	629925	$C_{19}H_{40}$	273		
7 Unknown	1913	36.5	-	-	-	216		

...ve Percent Difference (RPD) for VOA

H2222 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 2 — Facility Source
850321 1630 — Date Time

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	5	8	46
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	ND	0
Vinyl chloride	ND	ND	0
trans-1,3-Dichloropropylene	ND	ND	0

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Relative Percent Difference (RPD) for ACID

H2222 NJ DEP — Job Number / Account Name

NJDCOMBESO RSTATION 2 — Facility Source

850321 1630 — Date Time

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

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Relative Percent Difference (RPD) for B/N

H2222 NJ DEP — Job Number Account Name
NJDCOMBESO RSTATION 2 850321 1630 — Facility Source Date Time

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	12	22	59
1,2,4-Trichlorobenzene	ND	ND	0

Relative Percent Difference (RPD) for PEST

H2222 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 2 — Facility Source
850321 1630 — Date Time

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

Parameter	REP 1 ug/kg	REP 2 ug/kg	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

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 12, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Soil- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2222

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	115	50	160
Bromofluorobenzene	.250	111	50	160
1,2-Dichloroethane-D4	.250	108	50	160
ACID FRACTION				
Phenol-D5	100	35	20	140
2-Fluorophenol	100	27	20	140
2,4,6-Tribromophenol	100	48	10	140
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	46	20	140
2-Fluorobiphenyl	50	80	20	140
Terphenyl-D14	50	84	20	150

* IFB EPA Control Limits.

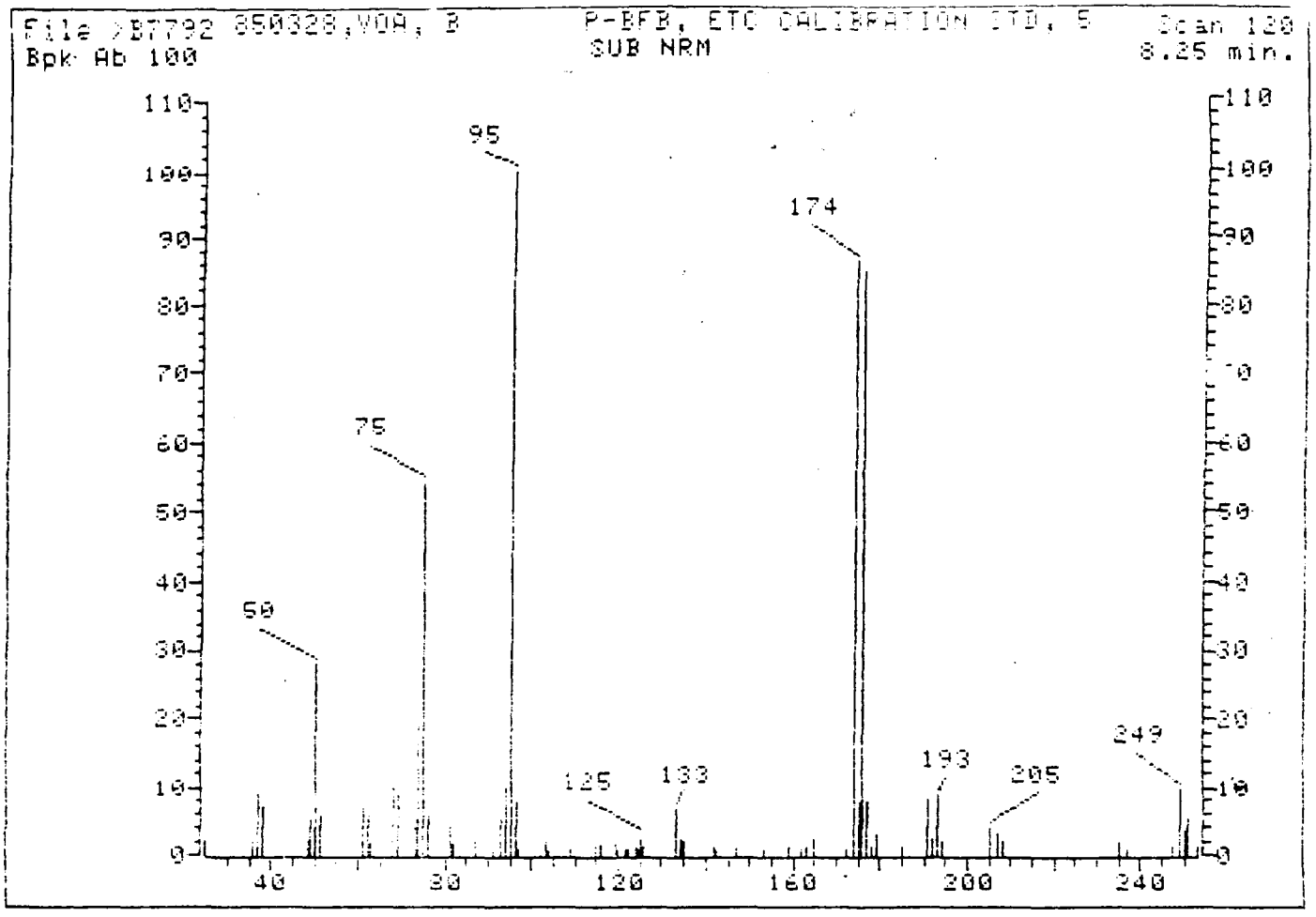

TABLE 2: METHOD PERFORMANCE DATA (WR21)

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	27.83	27.83	Ok
75	30-60% of mass 95	54.24	54.24	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.50	7.50	Ok
173	Less then 1% of mass 95	0.00	0.00	Ok
174	Greater then 50% of mass 95	86.47	86.47	Ok
175	5-9% of mass 174	7.76	8.97	Ok
176	95-101% of mass 174	84.71	97.97	Ok
177	5-9% of mass 176	7.50	8.85	Ok

Injection Date: 4/3/85 Analyst: J. Martin
Injection Time: 11:35 Processor: [illegible] AD
Run No: B7792 QC Batch: ~~QV3050~~ QV3056
Spectrum No: 120 Samples: H2221, H2222, H2223

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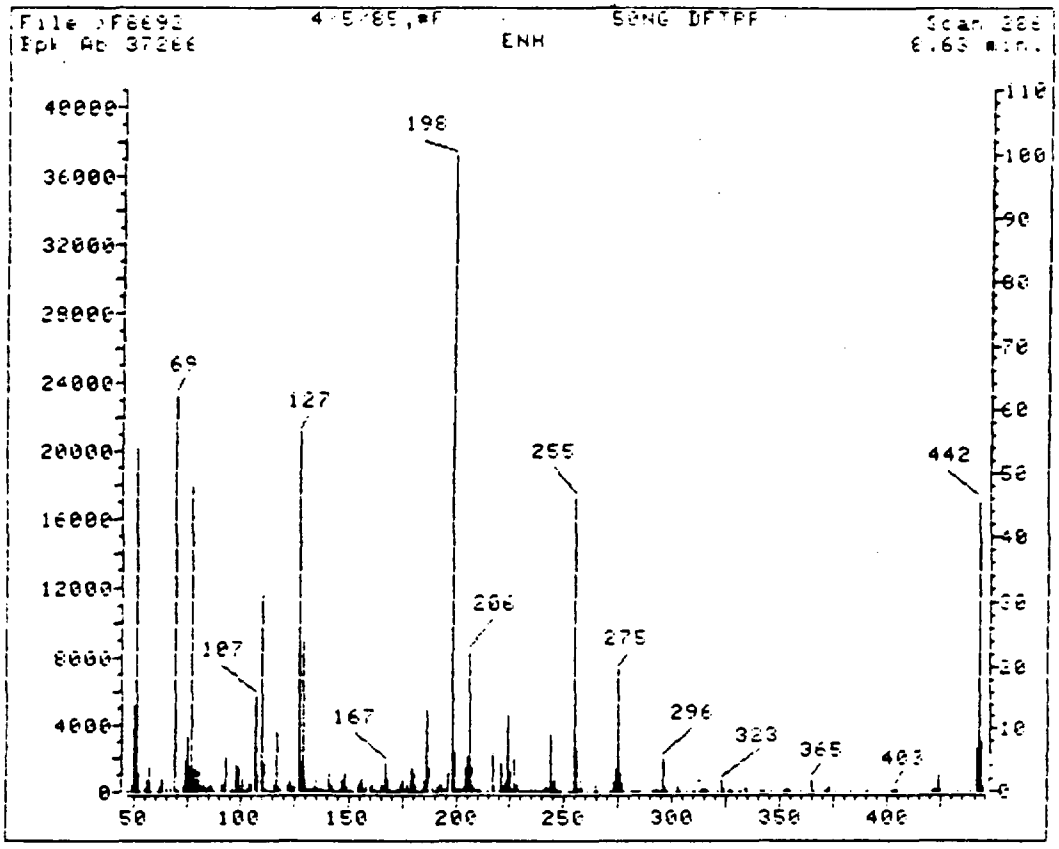


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	54.01	54.01	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.50	62.50	Ok
70	Less then 2% of mass 69	.33	.53	Ok
127	40-60% of mass 198	56.63	56.63	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	6.28	6.28	Ok
275	10-30% of mass 198	19.49	19.49	Ok
365	Greater then 1% of mass 198	1.90	1.90	Ok
441	Less then mass 443	6.83	86.74	Ok
442	Greater then 40% of mass 198	45.42	45.42	Ok
443	17-23% of mass 442	7.87	17.33	Ok

Injection Date: 04/06/89 Analyst: Dan Wan C
Injection Time: 01:17 Processor: Patricia Chang
Run No: >F8692 QC Batch: QA2864
Spectrum No: 286 Samples: H2221-H2225, H2338-H2541
68385

301403

301403

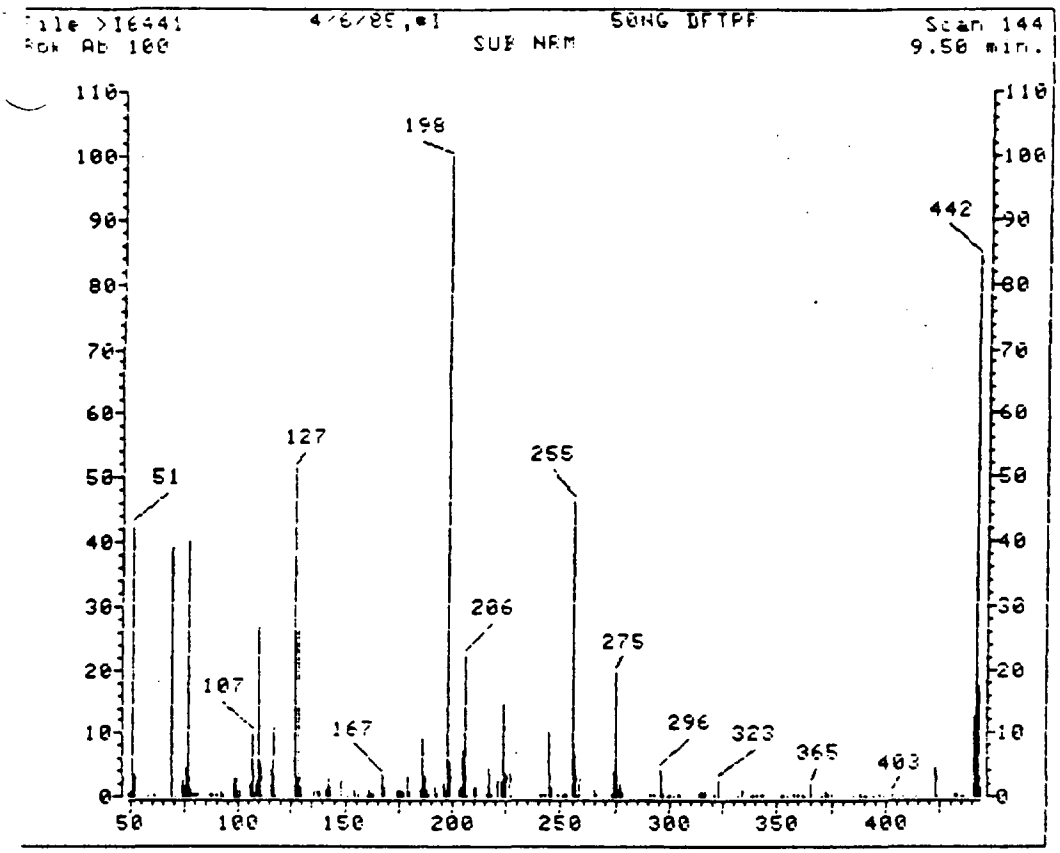


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	42.39	42.39	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	39.05	39.05	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
27	40-60% of mass 198	51.34	51.34	Ok
97	Less then 1% of mass 198	.60	.60	Ok
98	Base peak, 100% relative abundance	100.00	100.00	Ok
99	5-9% of mass 198	5.33	5.33	Ok
75	10-30% of mass 198	19.56	19.56	Ok
65	Greater then 1% of mass 198	2.02	2.02	Ok
41	Less then mass 443	12.44	72.64	Ok
42	Greater then 40% of mass 198	84.13	84.13	Ok
43	17-23% of mass 442	17.13	20.36	Ok

Injection Date: 04/06/85 Analyst: Wen-Wen C
Injection Time: 07:37 Processor: Patricia Chang
Run No: >I6441 QC Batch: QB2864
Spectrum No: 144 Samples: H2221 - H2225, H2338-H2341

PB101

13 021

301404

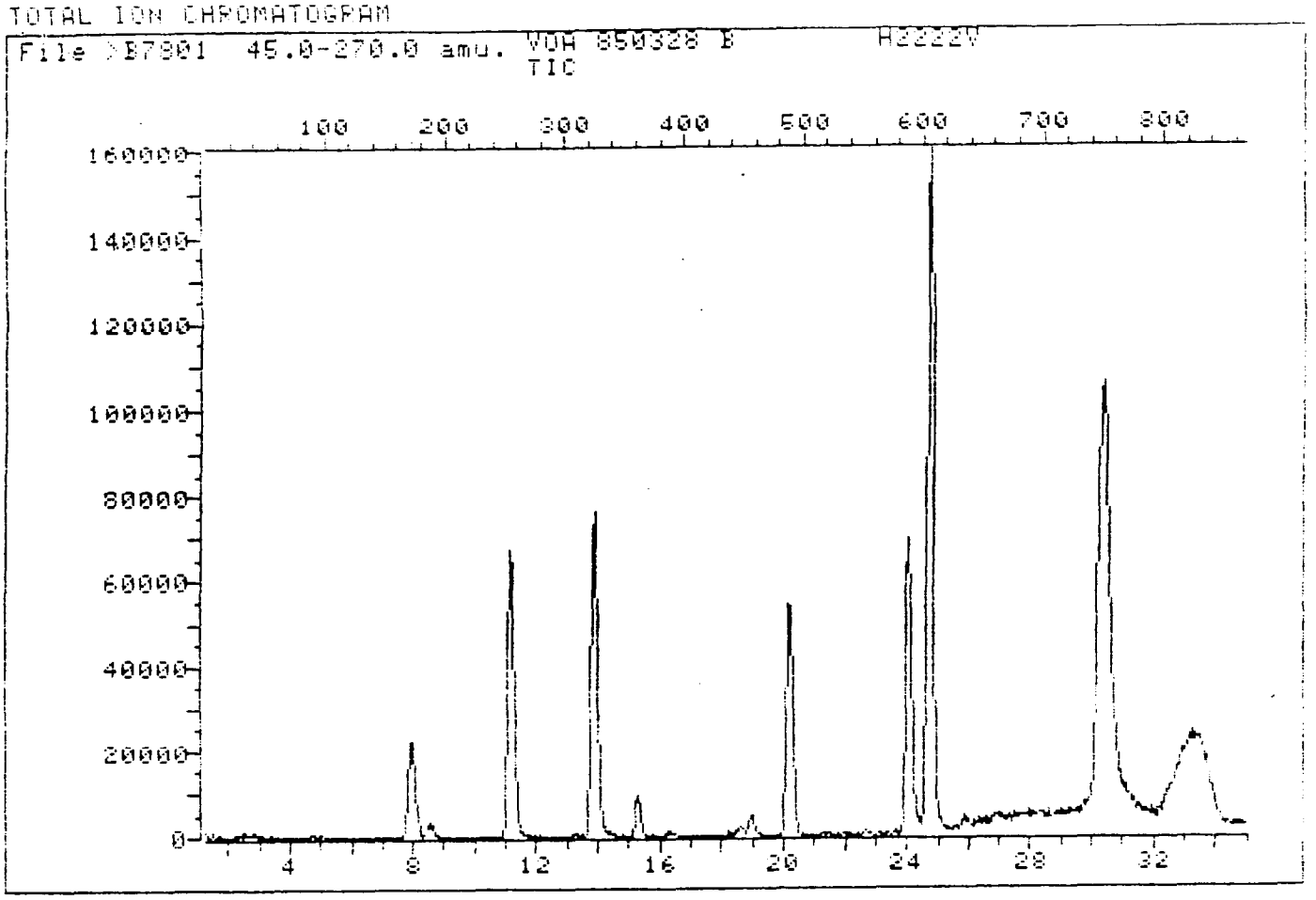
Appendix A

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: >B7801::US
Name: VOA 850328 B
Misc: H2222V

Id File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850328 20:51

Operator ID: mS156
Quant Time: 850328 23:26

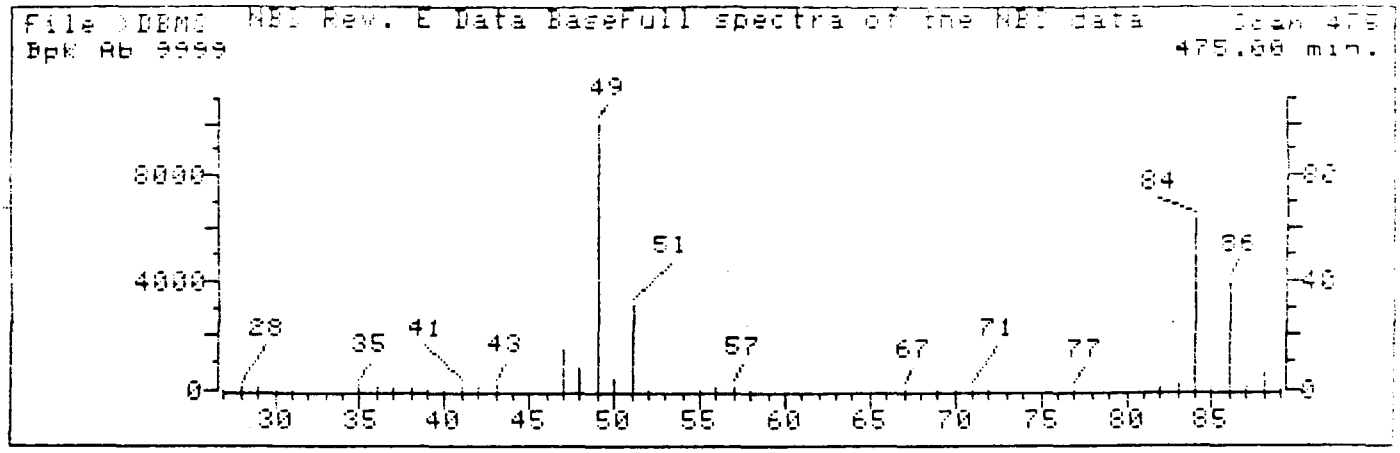
QUANT REPORT

Operator ID: MS1566 Quant Rev: 3 Quant Time: 850328 23:26
Injected at: 850328 22:50
Data File)B7301::US Dilution Factor: 1.00
Name: VOA 850328 B
Misc: H2222V

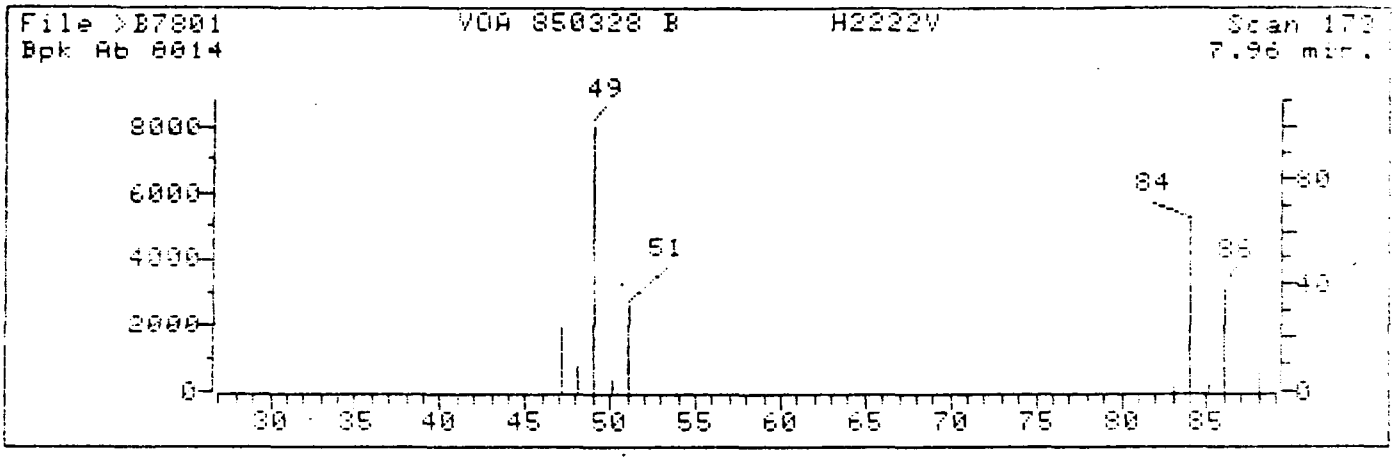
ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850328 20:51

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	20.22	489	336451	200.00	NG
2)	Acrolein	8.54	188	3841	~~44.01~~	~~NG~~
5)	bis(Chloromethyl)ether	20.22	489	110689	~~154.69~~	~~NG~~
7)	Carbon tetrachloride	15.29	362	3457	~~3.52~~	~~NG~~
8)	Chlorobenzene	25.89	635	1499	~~.81~~	NG
11)	2-Chloroethylvinyl ether	18.98	457	10925	~~40.14~~	~~NG~~
12)	Chloroform	13.24	309	3957	~~2.22~~	~~NG~~
24)	Methylene chloride	7.96	173	76386	70.16	NG -30=40
27)	Toluene	24.95	611	13184	~~4.41~~	~~NG~~
29)	1,1,1-Trichloroethane	15.29	362	38426	~~26.16~~	~~NG~~
38)	1,2-Dichloroethane-D4	13.90	326	178083	269.30	NG
39)	Toluene-D8	24.76	606	817987	287.44	NG
39)	Toluene-D8	25.46	624	1326	~~.47~~	~~NG~~
40)	p-Bromofluorobenzene	30.39	751	436570	272.05	NG
41)	*1,4-Dichlorobutane	24.06	588	422809	200.00	NG

* Compound is ISTD



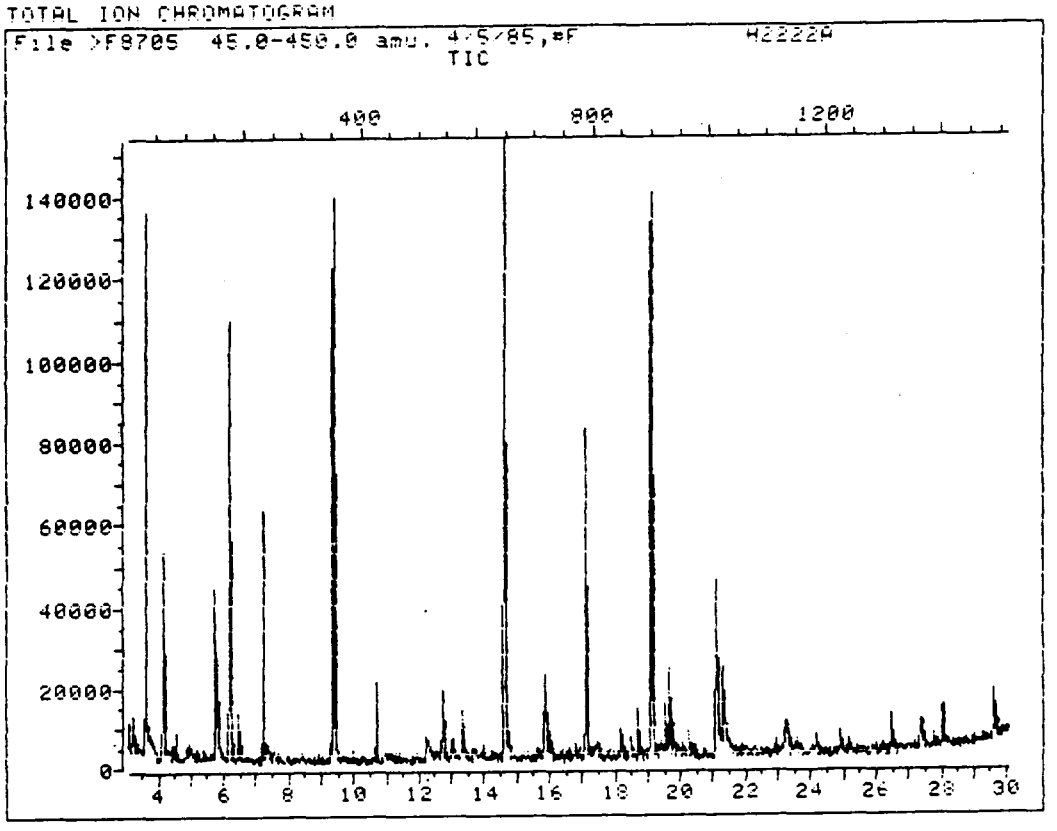
SAMPLE SPECTRUM



Data File: >B7801::US
Name: VOA 850328 B
Misc: H2222V

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 173
Retention Time: 7.96 min.
Area: 76586
Concentration: 70.16 NG

TOTAL ION CHROMATOGRAM



Data File: >F8705::U5
Name: 4/5/85,#F
Misc: H2222A

BTL#29

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

Operator ID: WW9928
Quant Time: 850406 09:41

301409

QUANT REPORT

rator ID: WW9928 Quant Rev: 3 Quant Time: 850406 09:41
Injected at: 850406 09:09
a File: >F8705::U5 Dilution Factor: 1.00
ıe: 4/5/85,#F
c: H2222A BTL#29

File: FACID
le: ACID ID FILE.....3/15/85,#F,WWC
t Calibration: 850405 13:04

Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.17	173	56912	40.00	UG/ML
2-Fluorophenol	4.12	58	28668	27.29	UG/ML
Phenol-D5	5.76	150	41395	34.77	UG/ML
Phenol-D5	5.96	161	374	.31	UG/ML
*d8-Naphthalene	9.36	352	170166	40.00	UG/ML
*d10-Acenaphthalene	14.62	647	86506	40.00	UG/ML
*d10-Phenanthrene	19.08	897	173393	40.00	UG/ML
2,4,6-Tribromophenol	17.08	785	21863	48.11	UG/ML

Compound is ISTD

F098AF

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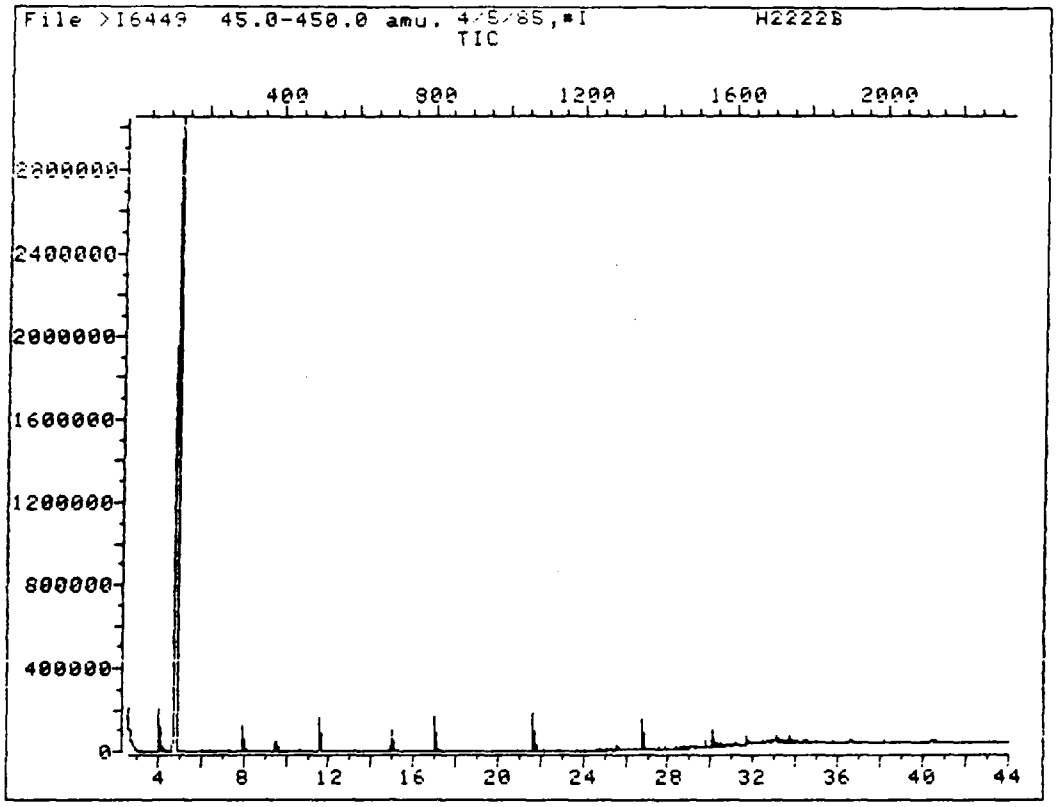
TOTAL ION CHROMATOGRAM



Data File: >I6449::U6
Name: 4/5/85,#I
Misc: H2222B

BTL#10

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

Operator ID: WW9928
Quant Time: 850406 17:27

301411

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 17:27
Injected at: 850406 16:41
Data File: >I6449::U6 Dilution Factor: 1.00
Name: 4/5/85,#1
Misc: H2222B BTL#10

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326 050MG
Last Calibration: 850406 14:13

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.95	304	36518	40.00	UG/ML
2)	N-Nitrosodimethylamine	2.77	12	756	.54	UG/ML
7)	Nitrobenzene-d5	9.49	391	43397	22.87	UG/ML
7)	Nitrobenzene-d5	9.72	404	659	.35	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.95	304	2867	7.00	UG/ML
9)	*d8-Naphthalene	11.49	504	147990	40.00	UG/ML
10)	2-Fluorobiphenyl	14.90	696	78571	39.98	UG/ML
19)	*d10-Acenaphthalene	16.99	814	77714	40.00	UG/ML
22)	Dimethyl phthalate	16.99	814	14161	4.91	UG/ML
32)	*d10-Phenanthrene	21.61	1074	164980	40.00	UG/ML
37)	Di-n-butyl phthalate	23.74	1194	7394	1.15	UG/ML
38)	Fluoranthene	25.48	1292	3810	1.06	UG/ML
38)	Fluoranthene	26.17	1331	3985	1.11	UG/ML
39)	Benzidine	26.76	1364	1623	2.52	UG/ML
40)	Pyrene	25.48	1292	3810	1.08	UG/ML
40)	Pyrene	26.17	1331	3985	1.13	UG/ML
47)	*d12-Chrysene	30.05	1549	69146	40.00	UG/ML
52)	Dieldrin	26.90	1372	926	.55	UG/ML
59)	Terphenyl-D14	26.76	1364	96944	42.37	UG/ML
64)	bis(2-Ethylhexyl)phthalate	30.36	1566	4724	1.53	UG/ML

* Compound is ISTD

301412

Appendix B

GC/MS Calibration Data

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850328 20:34

Compound	Files: >B7798 RF 90.00	>B7794 RF 180.00	>B7796 RF 540.00	RRT (avg)	RF (avg)	% RSD	
rolein	.06037	.04826	.04702	.421	.05189	14.216	(Conc=4000.0,8000.0,24000.)
:rylonitrile	.31384	.34887	.25785	.459	.30685	14.961	(Conc=400 0,800 0,2400.0)
nzene	1.57834	1.46012	~~1.24284~~	.926	1.42710	11.924	
.s(Chloromethyl)ether	.72764	-	.12306	1.000	.42535	100.506	
omoform	.45109	~~.28050~~	.45308	1.069	.39489	25.088	
irbon tetrachloride	.65221	.53275	.56451	.776	.58315	10.610	
lorobenzene	1.22304	1.10531	.96382	1.290	1.09739	11.827	
ılorodibromomethane	.66694	.50296	.58377	.939	.58456	14.026	
loroethane	.30709	.25257	.07398	.274	.21121	57.730	
-Chloroethylvinyl ether	.20928	.15644	.11963	.941	.16178	27.854	
loroform	1.19832	1.07267	.91071	.656	1.06057	13.595	
.chlorobromomethane	.87291	.72505	.73185	.802	.77657	10.742	
chlorodifluoromethane	.08605	.40454	.08508	.210	.19189	95.975	
1-Dichloroethane	.79561	.71663	.63920	.591	.71715	10.905	
2-Dichloroethane	1.01263	.96287	.78669	.692	.92072	12.893	
1-Dichloroethylene	.96286	.90633	.76286	.525	.87735	11.752	
2-Dichloropropane	.62519	.55734	.51416	.866	.56556	9.896	
'ans-1,3-Dichloropropylene	.72106	.56936	.65130	.879	.64724	11.731	
s-1,3-Dichloropropylene	.55230	.43035	.49321	.942	.49195	12.396	
:hylbenzene	2.36996	2.21927	1.76098	1.382	2.11674	14.984	
thyl bromide	.05942	.10328	.05993	.178	.07421	33.926	
ethyl chloride	.68387	.71137	.51436	.123	.63653	16.762	
thylene chloride	.94649	.66081	.33417	.390	.64716	47.344	
2,2-Tetrachloroethane	.99833	1.00942	.85200	1.177	.95325	9.217	
achloroethylene	.79116	.70786	.62674	1.175	.70859	11.602	
luene	1.99631	1.83538	1.49428	1.234	1.77532	14.439	
2-Trans-dichloroethylene	.84313	.78202	.69195	.626	.77237	9.846	
1,1-Trichloroethane	1.03591	.87905	.70440	.757	.87312	18.994	
1,2-Trichloroethane	.47283	.42579	.38834	.942	.42899	9.868	
ichloroethylene	.47983	.42833	.38285	.904	.43034	11.275	
ichlorofluoromethane	1.07539	1.05983	.81481	.493	.98334	14.364	
inyl chloride	.04713	.44133	.06786	.221	.18544	119.632	
tho & Para Xylenes	-	.01022	-	1.580	.01022	-	(Conc=150.0,300.0,900.0)
eta-Xylene	-	.02045	-	1.580	.02045	-	(Conc=75.0,150.0,450.0)
yrene	-	-	-	-	-	-	
ethyl Methacrylate .	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0)
ptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0)
-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
etone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
,2-Dichloroethane-D4	.35277	.38539	.32715	.686	.35517	8.216	(Conc=250.0,250.0,250.0)
luene-D8	1.60919	1.[illegible]823	1.55211	1.225	1.61984	4.546	(Conc=250.0,250.0,250.0)
-Bromofluorobenzene	.88437	.95928	.86090	1.502	.90155	5.698	(Conc=250.0,250.0,250.0)

F - Response Factor (Subscript is Amount in NG)

RT - Average Relative Retention (i.e. RT Std/RT Istd)

RF - Average Response Factor

RSD - Percent Relative Standard Deviation

031

301414

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850329 06:54

Compound	Files:)B7809 RF 90.00	)B7807 RF 180.00	)B7808 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Acrolein	.08164	.05118	.04663	.420	.05982	31.822	(Conc=4000.0,8000.0,24000.)
Acrylonitrile	.32229	.29611	.23926	.456	.28589	14.849	(Conc=400.0,800.0,2400.0)
Benzene	1.66370	1.54363	1.45550	.926	1.55428	6.724	
bis(Chloromethyl)ether	.72580	.37036	.12539	1.000	.40718	74.143	
Bromoform	.41209	.45193	.50636	1.069	.45679	10.360	
Carbon tetrachloride	.68273	.73331	.70692	.776	.70765	3.575	
Chlorobenzene	1.19067	1.14628	1.06509	1.291	1.13401	5.616	
Chlorodibromomethane	.65153	.68807	.69511	.938	.67824	3.449	
Chloroethane	.28633	.30689	.26093	.277	.28472	8.085	
2-Chloroethylvinyl ether	.22300	.18046	.13799	.942	.18048	23.550	
Chloroform	1.24828	1.21846	1.09469	.656	1.18714	6.860	
Dichlorobromomethane	.87339	.91320	.87693	.802	.88951	2.800	
Dichlorodifluoromethane	.27636	.11532	.09639	.213	.16269	60.787	
1,1-Dichloroethane	.83335	.80402	.76278	.592	.80005	4.431	
1,2-Dichloroethane	1.04839	1.07545	.94158	.692	1.02181	6.927	
1,1-Dichloroethylene	1.02830	1.02149	.92591	.526	.99190	5.772	
1,2-Dichloropropane	.64510	.61163	.59480	.867	.61718	4.149	
trans-1,3-Dichloropropylene	.76339	.75082	.75586	.879	.75669	.836	
cis-1,3-Dichloropropylene	.67829	.68057	.59532	.841	.61470	8.955	
Ethylbenzene	2.42943	2.33792	2.05772	1.385	2.27503	8.513	
Methyl bromide	.05722	.07546	.05919	.183	.06429	16.471	
Methyl chloride	.56473	.74078	.64111	.126	.64887	13.605	
Methylene chloride	.54523	.54960	.45099	.392	.51527	10.812	
1,1,2,2-Tetrachloroethane	.96397	.89623	.87788	1.178	.90936	4.366	
Tetrachloroethylene	.78347	.75871	.72224	1.175	.75481	4.080	
Toluene	1.92334	1.88876	1.73083	1.235	1.84764	5.555	
1,2-Trans-dichloroethylene	.91909	.87474	.82718	.626	.87034	4.726	
1,1,1-Trichloroethane	1.08730	1.02261	.86685	.757	.99232	11.422	
1,1,2-Trichloroethane	.47794	.46353	.44712	.942	.46287	3.332	
Trichloroethylene	.49395	.47952	.45233	.904	.47527	4.447	
Trichlorofluoromethane	1.14004	1.17561	1.02745	.494	1.11437	6.941	
Vinyl chloride	.33391	.20418	.07868	.221	.21392	69.615	
Ortho & Para Xylenes	-	-	.00132	1.615	.00132	-	(Conc=150.0,300.0,900.0
Meta-Xylene	-	-	.02965	1.577	.02965	-	(Conc=75.0,150.0,450.0
Styrene	-	-	-	-	-	-	
Methyl Methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0
Heptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0
2-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0
Acetone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0
1,2-Dichloroethane-D4	.39894	.00133	.37380	.686	.39302	3.149	(Conc=250.0,250.0,250.0
Toluene-D8	1.74907	1.76898	1.71717	1.226	1.74174	1.254	(Conc=250.0,250.0,250.0
p-Bromofluorobenzene	.96423	.97536	.93361	1.504	.95773	2.257	(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

032

301415

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850405 13:00

Compound	Files: >F8673 RF 60.00	>F8672 RF 100.00	>F8671 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
hlorophenol	.83592	.73068	.81756	.951	.79472	7.074	
nol	.98071	.89677	1.09611	.933	.99120	10.097	
-Dichlorophenol	.26172	.23387	.26967	.982	.25509	7.371	
-Dimethylphenol	.32646	.29338	.33857	.934	.31947	7.322	
itrophenol	.17049	.15824	.19300	.901	.17391	10.138	
hloro-m-cresol	.28227	.28217	.31972	1.220	.29472	7.347	
-Dinitro-o-cresol	.15313	.17674	.28582	1.142	.20523	34.491	
-Dinitrophenol	.03048	.07098	.16179	1.030	.08775	76.633	
itrophenol	.05392	.10687	.21582	1.083	.12554	65.758	
,6-Trichlorophenol	.37352	.32565	.36901	.855	.35606	7.424	
tachlorophenol	.07220	.08028	.11961	.987	.09069	27.966	
luorophenol	.69832	.64982	.86694	.664	.73836	15.435	(Conc=100.0,100.0,100.0)
nol-D5	.78009	.71532	1.01455	.929	.83665	18.817	(Conc=100.0,100.0,100.0)
,6-Tribromophenol	.10672	.09071	.11706	.896	.10483	12.665	(Conc=100.0,100.0,100.0)
resol	-	-	-	-	-	-	
-Cresols	-	-	-	-	-	-	

- Response Factor (Subscript is amount in UG/ML)
- Average Relative Retention Time (RT Std/RT Istd)
- Average Response Factor
- Percent Relative Standard Deviation

301416

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >I6444 RF 60.00	>I6443 RF 100.00	>I6442 RF 200.00	>I6445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	1.42642	1.55796	1.62088	-	.407	1.53509	6.464	
bis(2-Chloroethyl) ether	2.10289	2.17665	2.28073	-	.928	2.18676	4.086	
1,3-Dichlorobenzene	1.51193	1.55715	1.53923	-	.989	1.53610	1.482	
1,4-Dichlorobenzene	1.59404	1.66507	1.58416	-	1.005	1.61442	2.734	
1,2-Dichlorobenzene	1.54852	1.58178	1.50744	-	1.066	1.54591	2.409	
Nitrobenzene-d5	2.08223	2.11723	2.03519	-	1.194	2.07822	1.981	(Conc=50.0,50.0,50.0,)
bis(2-Chloroisopropyl)ether	.33376	.40855	.60278	-	1.105	.44836	30.970	
2-Fluorobiphenyl	.57248	.56061	.46036	-	1.298	.53115	11.597	(Conc=50.0,50.0,50.0,)
N-Nitrosodi-n-propylamine	.43678	.46548	.51124	-	.795	.47117	7.971	
Hexachloroethane	.10226	.10747	.10932	-	.807	.10635	3.444	
Nitrobenzene	.75059	.78641	.84478	-	.829	.79392	5.988	
Isophorone	.77110	.81078	.85405	-	.886	.81198	5.110	
bis(2-Chloroethoxy)methane	.54119	.56212	.57102	-	.947	.55811	2.744	
1,2,4-Trichlorobenzene	.24720	.24046	.22742	-	.990	.23836	4.219	
Naphthalene	1.10205	1.12455	1.09741	-	1.006	1.10801	1.310	
Hexachlorobutadiene	.12333	.12072	.11194	-	1.055	.11866	5.029	
Hexachlorocyclopentadiene	.16484	.18283	.16439	-	.847	.17069	6.162	
2-Chloronaphthalene	1.14013	1.18323	1.20879	-	.894	1.17738	2.947	
Dimethyl phthalate	1.50424	1.46034	1.48967	-	.962	1.48475	1.506	
Acenaphthylene	2.23281	2.31954	2.26215	-	.971	2.27150	1.942	
2,6-Dinitrotoluene	.32778	.34251	.32217	-	.974	.33082	3.175	
Acenaphthene	1.42080	1.49196	1.43761	-	1.006	1.45012	2.565	
2,4-Dinitrotoluene	.42484	.43414	.36352	-	1.045	.40750	9.415	
Diethyl phthalate	1.69292	1.71707	1.62561	-	1.094	1.67854	2.824	
Fluorene	1.48025	1.55150	1.37945	-	1.099	1.47040	5.879	
4-Chlorophenyl phenyl ether	.50351	.53967	.47311	-	1.102	.50543	6.592	
N-Nitrosodiphenylamine	.97808	.99039	.81829	-	1.125	.92892	10.335	
1,2-Diphenylhydrazine	2.82605	2.97484	2.75638	-	1.131	2.85242	3.912	
4-Bromophenyl phenyl ether	-	.16821	.17603	-	.936	.17212	3.212	
Hexachlorobenzene	.17131	.17365	.16437	-	.956	.16978	2.843	
Phenanthrene	1.04300	1.09407	1.02829	-	1.003	1.05512	3.272	
Anthracene	1.23121	1.28610	1.26973	-	1.010	1.26235	2.232	
Di-n-butyl phthalate	1.55575	1.57139	1.54098	-	1.097	1.55604	.977	
Fluoranthene	.87063	.90528	.82844	-	1.178	.86812	4.433	
Benzidine	.10353	.10837	.25676	-	1.200	.15622	55.756	
Pyrene	.84941	.88562	.83557	-	1.211	.85687	3.016	
Alpha-BHC	.14566	.14607	-	.15357	.945	.14843	2.998	
Beta-BHC	.08651	.09762	-	.08816	.979	.09076	6.603	
Gamma-BHC	.13450	.13291	-	.13649	.988	.13463	1.333	
Delta-BHC	.09821	.10262	-	.09713	1.018	.09932	2.924	
Heptachlor	.30795	.33440	-	.34428	1.080	.32888	5.711	
Aldrin	.32730	.34450	-	.32552	1.123	.33244	3.153	
Heptachlor epoxide	.04600	.04941	-	.06596	.841	.05379	19.847	

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

301417

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >16444 RF 60.00	>16443 RF 100.00	>16442 RF 200.00	>16445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.01334	.01547	-	.01932	.861	.01604	18.900	(Conc=100.0,200.0,,500.0)
Endosulfan I	.07643	.08687	-	.10965	.873	.09098	18.672	
4,4'-DDE	.39651	.38293	-	.48692	.888	.42212	13.392	
Dieldrin	.85559	.92026	-	1.12272	.895	.96619	14.424	
Endrin	.12875	.12799	-	.16973	.915	.14216	16.800	
Endosulfan II	.06944	.07567	-	.09137	.921	.07883	14.333	
4,4'-DDD	.62091	.66602	-	.77665	.923	.68786	11.650	
Endrin aldehyde	-	-	-	.51049	.937	.51049	-	
4,4'-DDT	.42969	.49759	-	.49155	.953	.47294	7.945	
Endosulfan sulfate	.08499	.09885	-	.10942	.956	.09775	12.535	
Terphenyl-D14	1.26005	1.33392	1.37678	-	.890	1.32358	4.461	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.37825	1.43947	1.55231	-	.946	1.45668	6.061	
Benzo(a)anthracene	1.36803	1.41663	1.24239	-	.998	1.34235	6.698	
Chrysene	1.12478	1.23627	1.18429	-	1.003	1.18178	4.721	
3,3'-Dichlorobenzidine	.23359	.24852	.28045	-	.998	.25419	9.416	
bis(2-Ethylhexyl)phthalate	1.66490	1.83512	1.87571	-	1.010	1.79191	6.242	
Di-n-octyl phthalate	2.04556	2.37214	2.20092	-	1.071	2.20621	7.404	
Benzo(b)fluoroanthene	.74969	.69436	.67445	-	1.111	.70617	5.521	
Benzo(k)fluoranthene	.66081	.79919	.65568	-	1.114	.70523	11.545	
Benzo(a)pyrene	.60956	.71871	.57713	-	1.151	.63513	11.678	
Indeno(1,2,3-c,d)pyrene	.59747	.78757	.61852	-	1.331	.66785	15.603	
Dibenzo(a,h)anthracene	.45676	.58732	.45797	-	1.335	.50068	14.986	
Benzo(ghi)perylene	.44679	.57162	.47055	-	1.382	.49632	13.356	

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

301418

035

QUANT REPORT

Operator ID: TM0576 Quant Rev: 3 Quant Time: 850329
Injected at: 850329
Data File: >B7818::U4 Dilution Factor: 1
Name: VOAS ON B, 850329
Misc: QC3056V 5ML

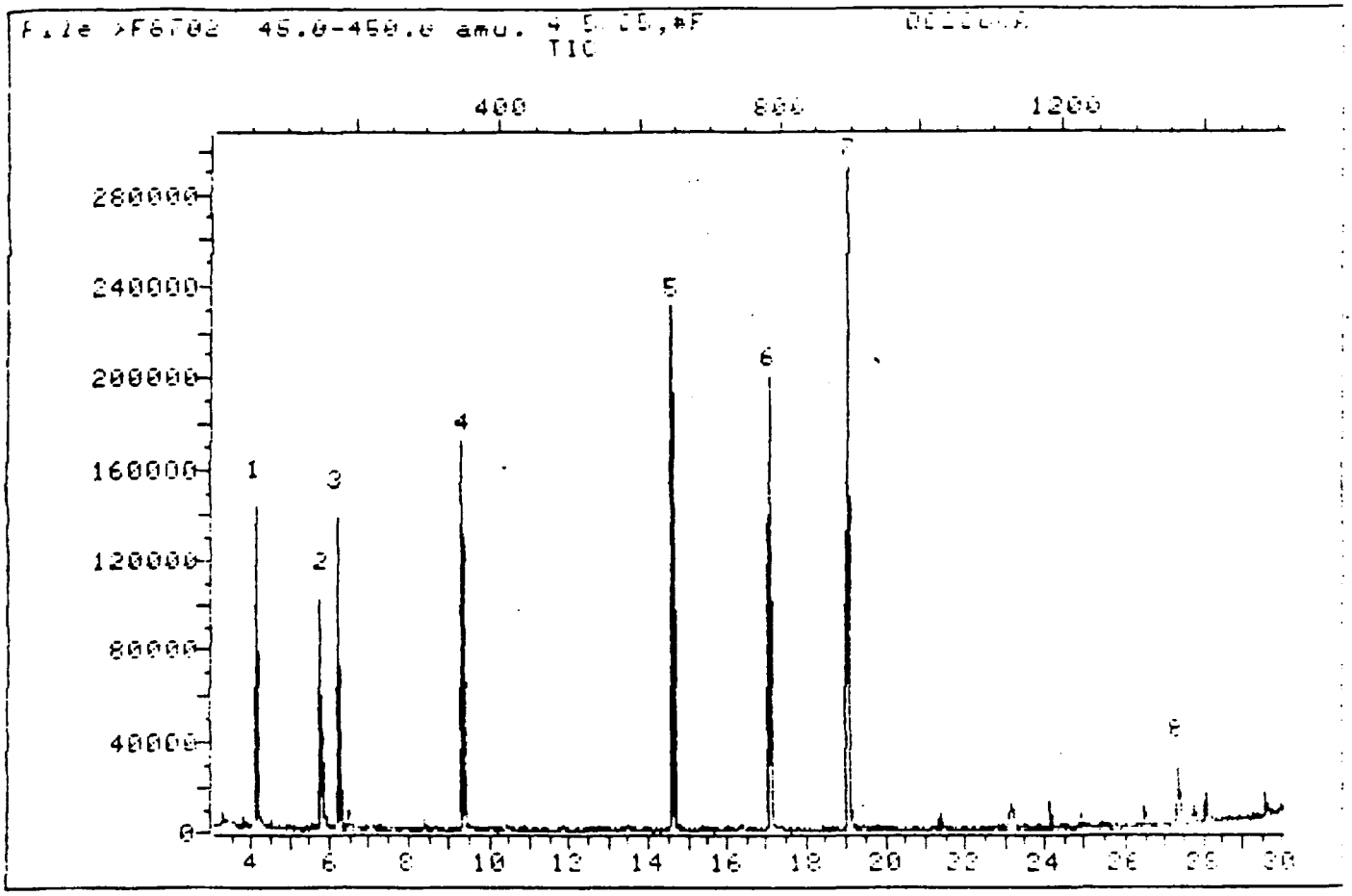
ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850329 07:25

	Compound	R.T.	Scan#	Area	Conc	Un
1)	*2-Bromo-1-chloropropane	20.21	489	264363	200.00	NG
5)	bis(Chloromethyl)ether	20.21	489	91627	~~178.24~~	NG
11)	2-Chloroethylvinyl ether	19.01	458	11719	~~49.12~~	NG
12)	Chloroform	13.27	310	3505	~~2.23~~	NG
24)	Methylene chloride	7.95	173	10801	15.86	NG
27)	Toluene	24.95	611	11795	~~4.83~~	NG
29)	1,1,1-Trichloroethane	15.28	362	24369	18.58	NG
34)	1,2-Dichloroethane-D4	13.89	326	181685	349.73	NG
35)	Toluene-D8	24.75	606	690787	300.05	NG
36)	p-Bromofluorobenzene	30.38	751	398249	314.59	NG
37)	*1,4-Dichlorobutane	24.09	589	385785	200.00	NG

* Compound is ISTD

301419

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >F8702::US
Name: 4/5/95,#F
Misc Data: QC2064A

BTL#28

301420

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 07:47
Injected at: 850406 07:15
Data File: >F8702::U5 Dilution Factor: 1.00
Name: 4/5/85,#F
Misc: QC2864A BTL#26

ID File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

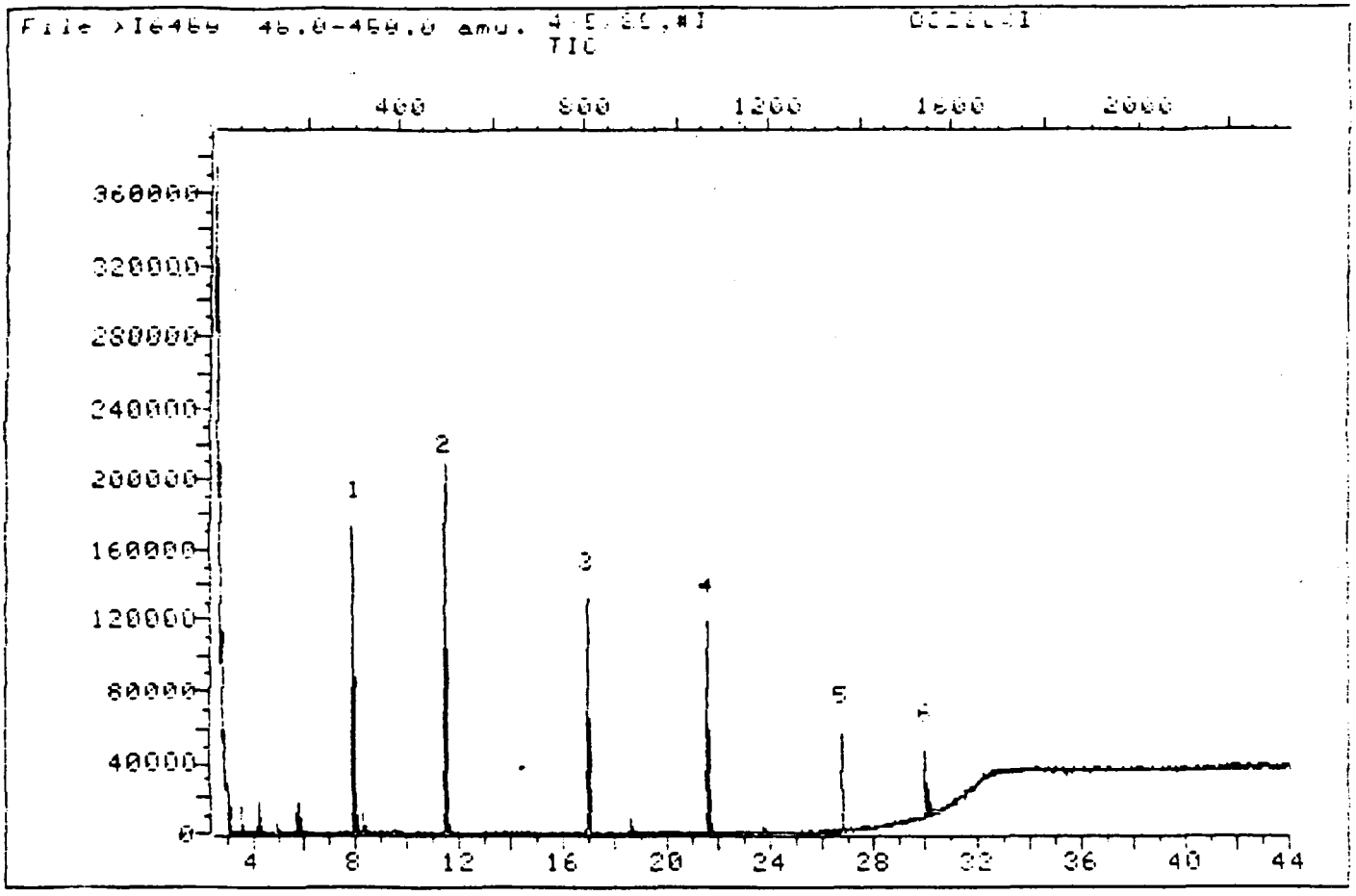
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	6.18	174	75508	40.00	UG/ML
5)	2-Fluorophenol	4.10	57	85623	61.43	UG/ML
5)	2-Fluorophenol	4.46	77	437	.31	UG/ML
7)	Phenol-D5	5.74	149	126055	79.81	UG/ML
7)	Phenol-D5	6.04	166	1022	.65	UG/ML
7)	Phenol-D5	6.18	174	704	.45	UG/ML
8)	*d8-Naphthalene	9.34	351	199669	40.00	UG/ML
13)	*d10-Acenaphthalene	14.58	645	135525	40.00	UG/ML
18)	*d10-Phenanthrene	19.03	895	336877	40.00	UG/ML
19)	2,4,6-Tribromophenol	17.04	783	54192	61.38	UG/ML

* Compound is ISTD

F098AC

301421

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



Data File: >I6458::U6
Name: 4/5/05,#I
Misc Data: 0C2C64F

BTL# 7

301422

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 14:4
Injected at: 850406 14:0
Data File: >I6458::U6 Dilution Factor: 1.0
Name: 4/5/85,#1
Misc: QC2864B BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

I0315I

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.95	303	58901	40.00	UG/ML
2)	N-Nitrosodimethylamine	2.77	11	1350	.60	UG/ML
2)	N-Nitrosodimethylamine	2.93	20	618	.27	UG/ML
7)	Nitrobenzene-d5	9.51	391	3863	1.26	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.97	304	4643	7.03	UG/ML
9)	*d8-Naphthalene	11.51	504	214112	40.00	UG/ML
19)	*d10-Acenaphthalene	16.98	812	68494	40.00	UG/ML
22)	Dimethyl phthalate	17.00	813	12774	5.02	UG/ML
27)	Diethyl phthalate	18.58	902	3211	1.12	UG/ML
32)	*d10-Phenanthrene	21.63	1074	103137	40.00	UG/ML
37)	Di-n-butyl phthalate	23.72	1192	5758	1.44	UG/ML
39)	Benzidine	26.76	1363	627	1.56	UG/ML
47)	*d12-Chrysene	30.06	1549	30758	40.00	UG/ML
59)	Terphenyl-D14	26.76	1363	36210	35.58	UG/ML
65)	Di-n-octyl phthalate	31.40	1624	1581	.93	UG/ML

* Compound is ISTD

301423

012

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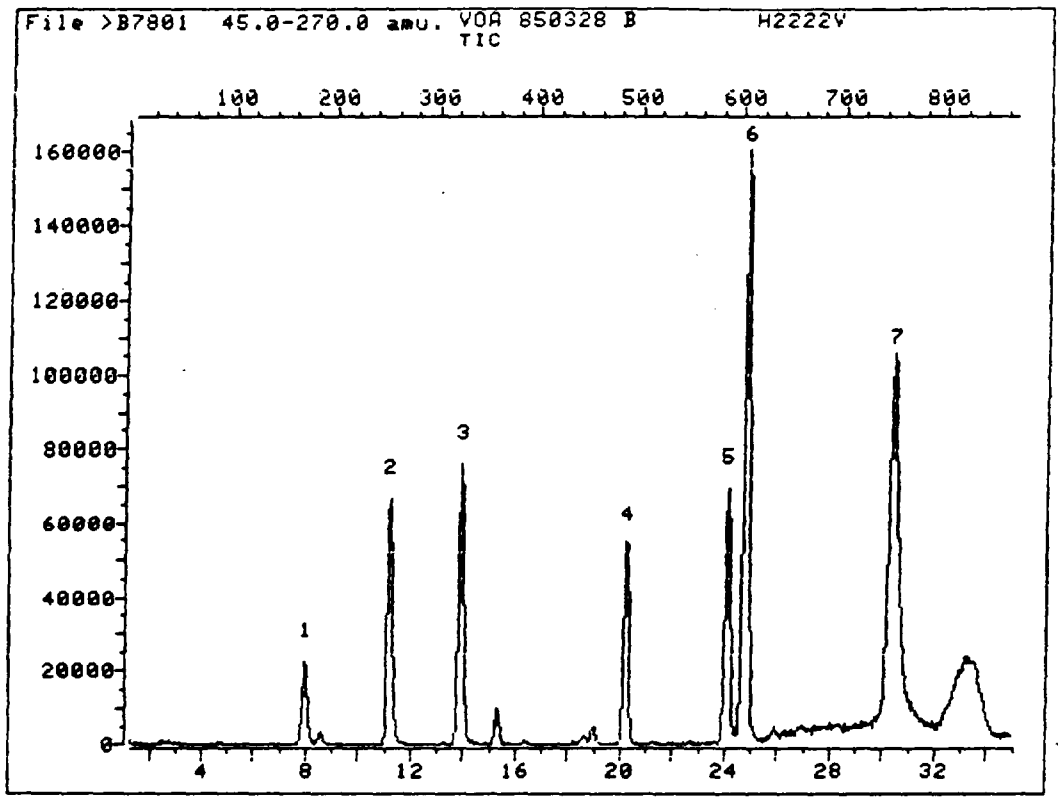
Appendix C

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.

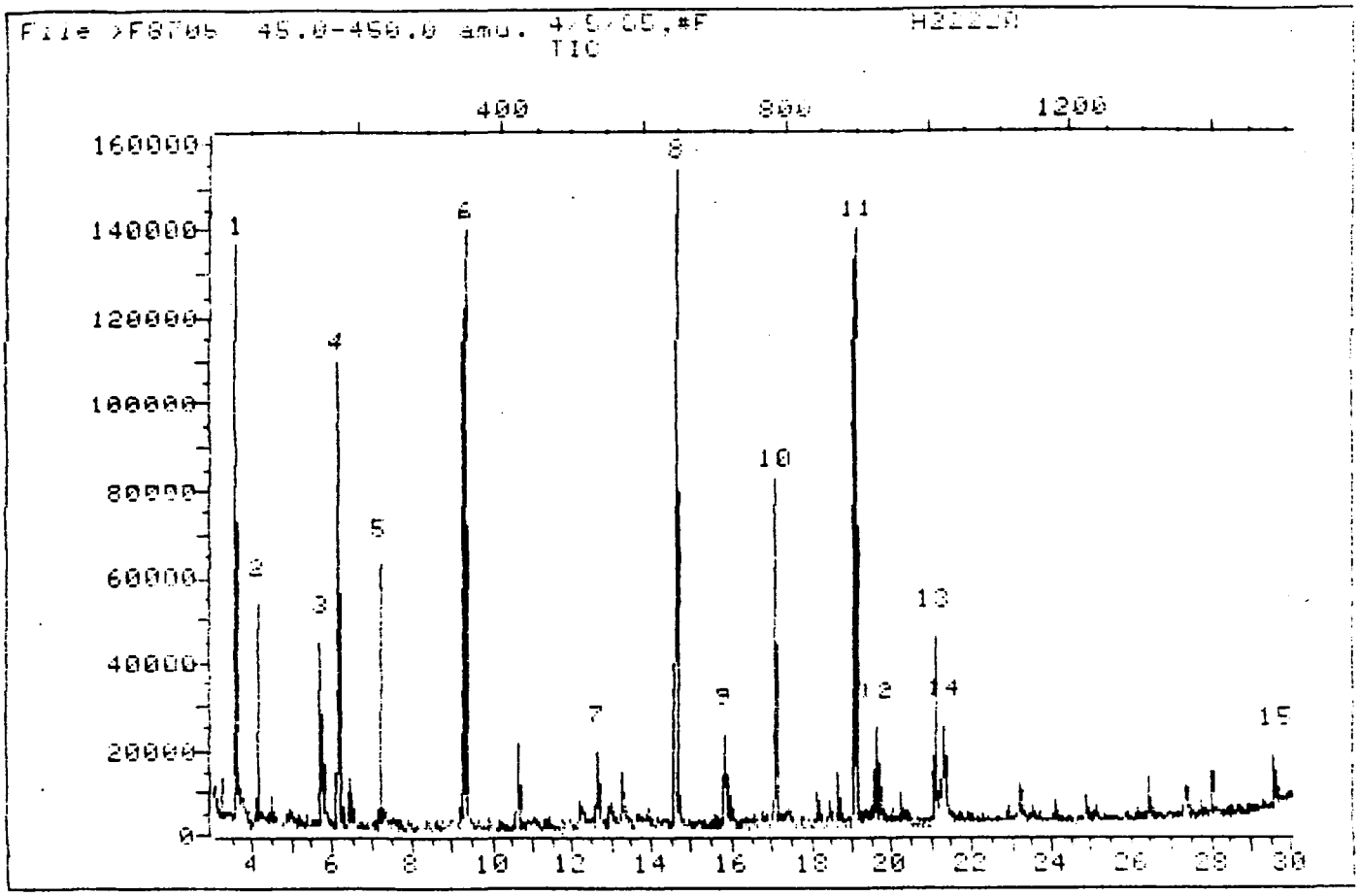
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >B7801::U5
Name: VOA 850328 B
Misc Data: H2222V

301425

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS

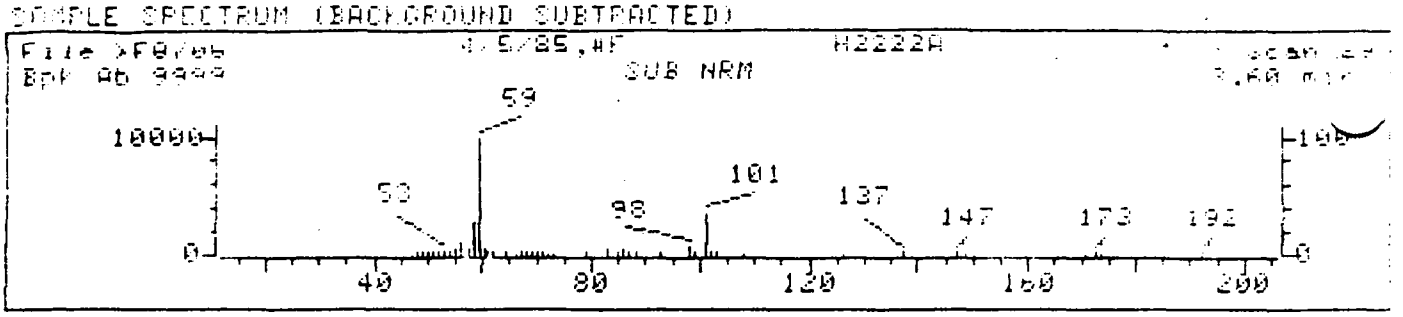


Data File: >F0705.:05
Name: 4/5/95,#F
Misc Data: H2220A

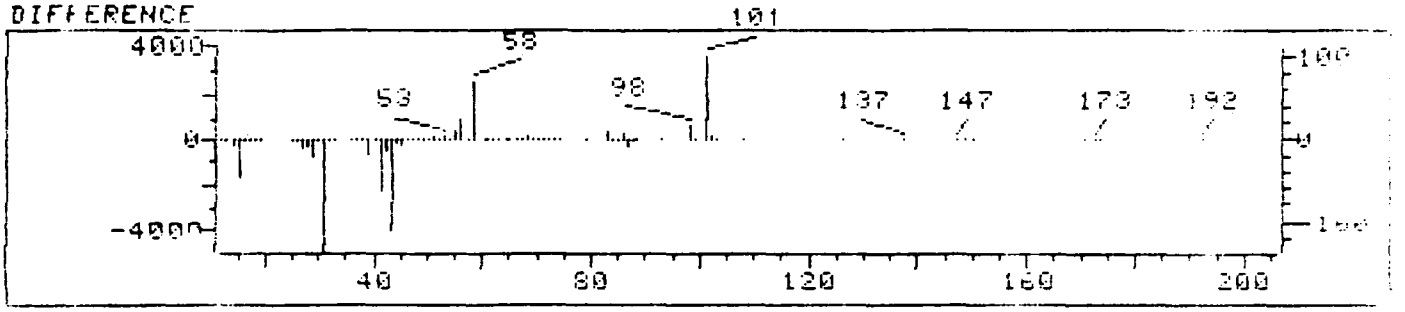
BTL#20

301426

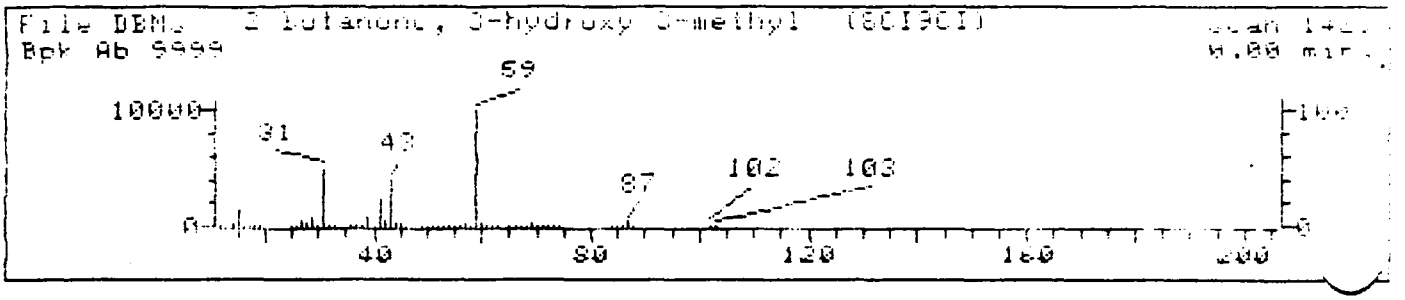
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8705::UC
Name: 4/5/85,#F
Misc Data: H2222A
RT (min): 3.60
Scan: 29
Area: 21[illegible]
Semi-quantitative Conc: 41.71 UG/ML

BTL#2

Data File: >F8705 Scan Number: 29
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 5

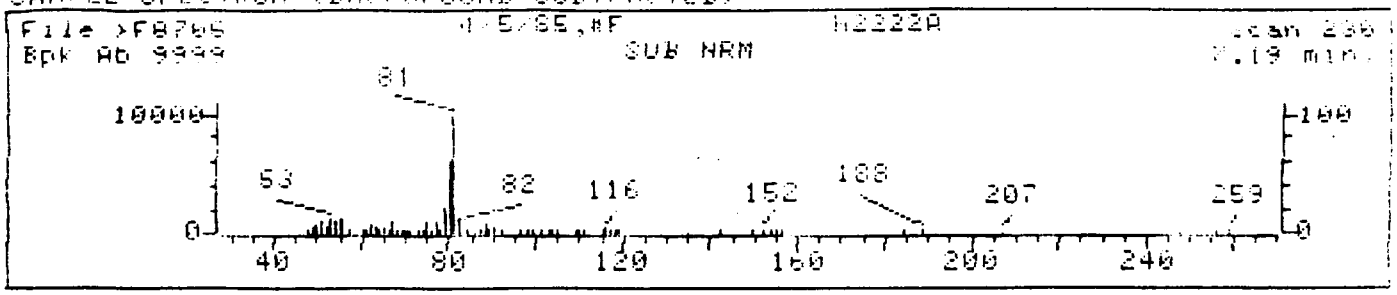
1. 2-Butanone, 3-hydroxy 3-methyl (8CI,9CI) 102 C5H10O2

	Prob.	Conf	K	dK	#Flg	Tilt
1.	29	115220	72	59	1	0

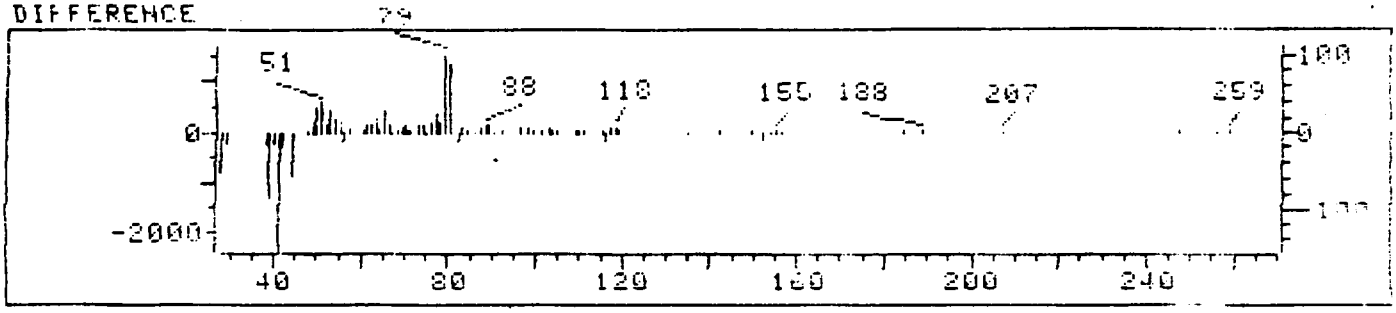
301427

[illegible]

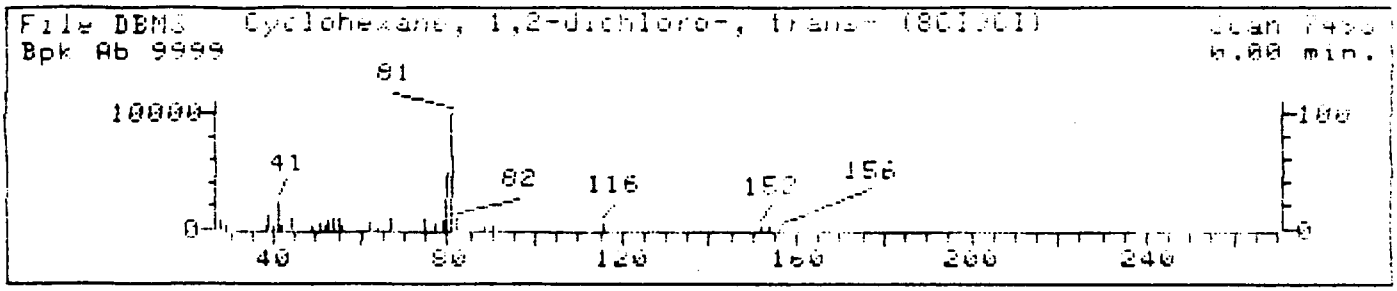
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File F8705.UC
Name: 4/5/85,#F
Misc Data: H2222A BTL#09
RT (min): 7.19
Scan 230
Area 141699
Semi-quantitative Conc: 27.31 UG/ML

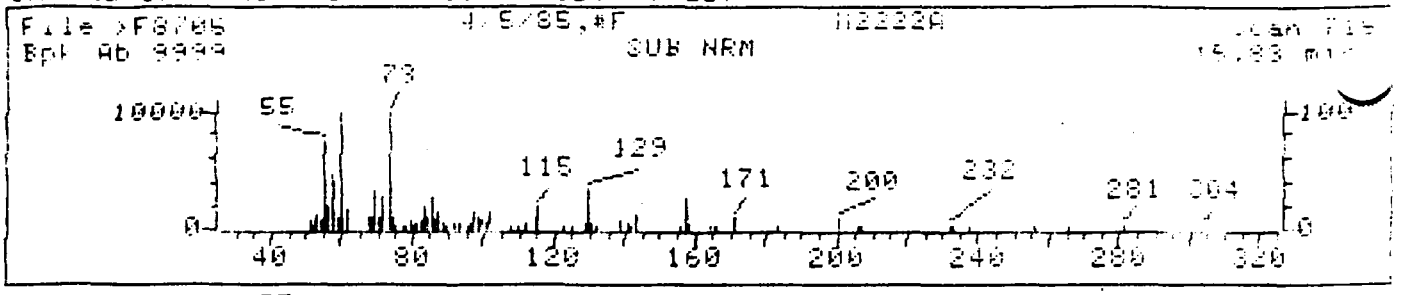
Data File: >F8705 Scan Number: 230
Search Speed: 2 Titling option: 0 Number of ion ranges searched: 50

1.	Cyclohexane, 1,2-dichloro-, trans- (8CI,9CI)	152 C6H10Cl2
2.	2,4,6-Methano-2H-cyclopenta[4,5]pentaleno[1,2-b]oxir ene, 2a,3,3,4,5,5a-hexachlorodecahydro-, (1a.alpha., 1b.beta.,2.alpha.,2a.beta.,4.beta.,5.beta.,5a.beta., 5b.beta.,6.alpha.,6a.alpha.)- (9CI)	378 C12H6Cl6O
3.	Rhodium, di-.mu.-bromobis[(1,2,5,6-.eta.)-1,5-cyclo ctadiene]di- (9CI)	580 C16H24Br2Rh2

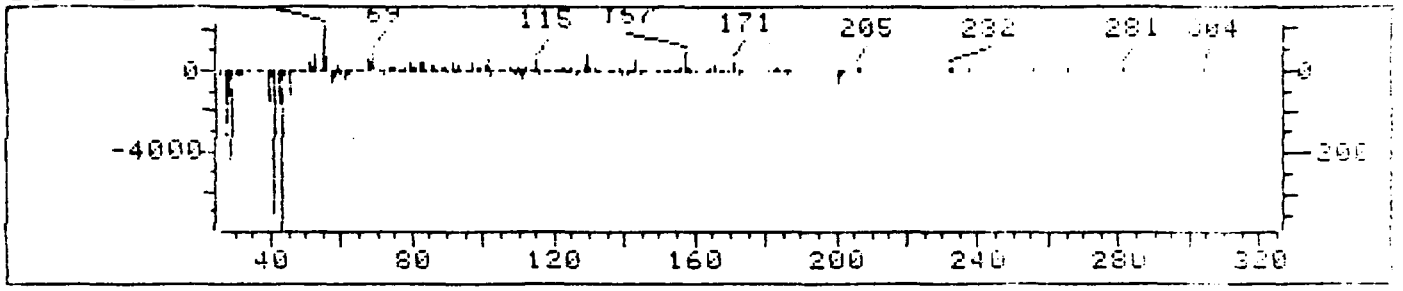
	Prob	Cal	K	dF	#Flg	Tilt
1.	86	8228/6	73	17	0	2
2.	83	13366739	42	77	0	-2
3.	82	12092454	42	140	0	-2

301428

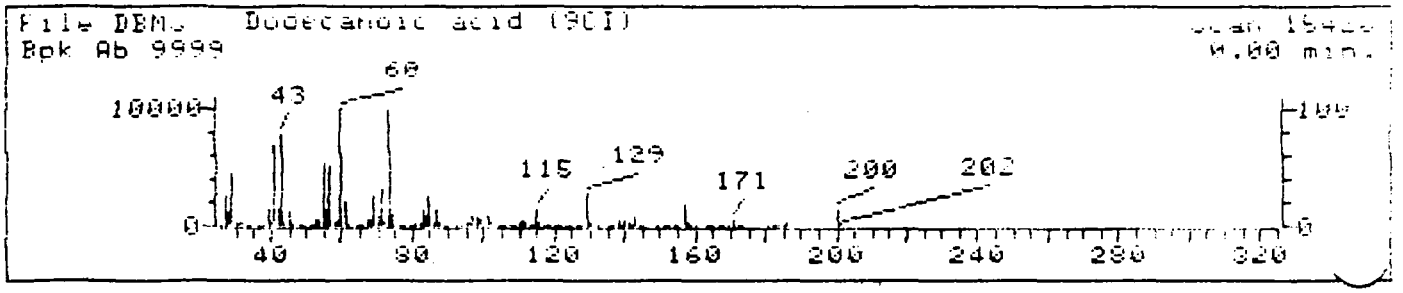
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE SS



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F0705:05
Name: 4/5/05,#F
Misc Data: H2222A
RT (min): 15.83
Scan: 715
Area: 74940
Semi-quantitative Conc 14.47 UG/ML

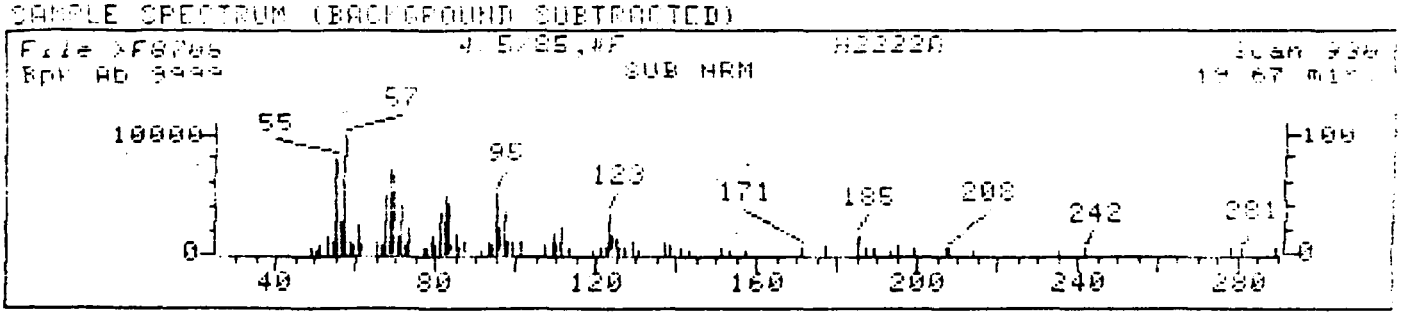
Data File: >F0705 Scan Number: 715
Search Speed: 2 Titling option: S Number of ion ranges searched: 6

1.	Dodecanoic acid (9CI)	200 C12H24O2
2.	Pentadecanoic acid (8CI9CI)	242 C15H30O2
3.	Nonanoic acid (8CI9CI)	158 C9H18O2

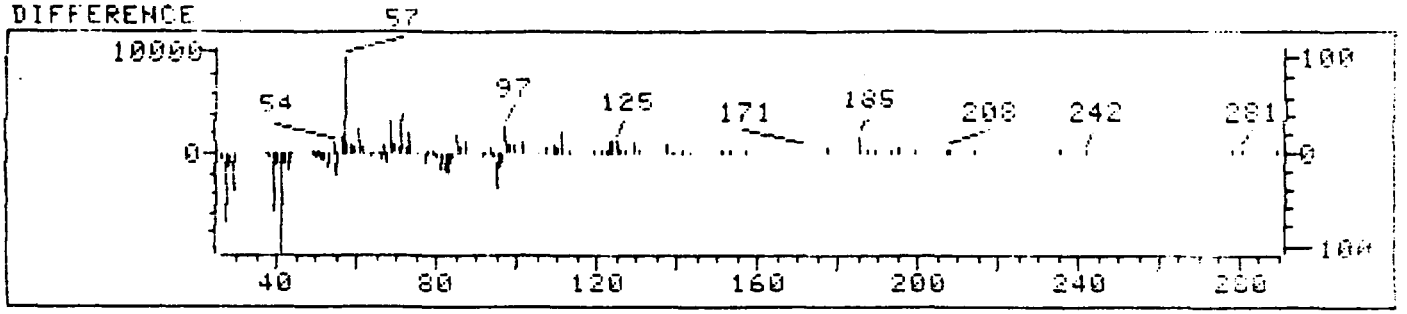
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	76	143077	86	52	2	1
2.	52	1002842	71	79	2	0
3.	38	112050	39	65	1	0

301429

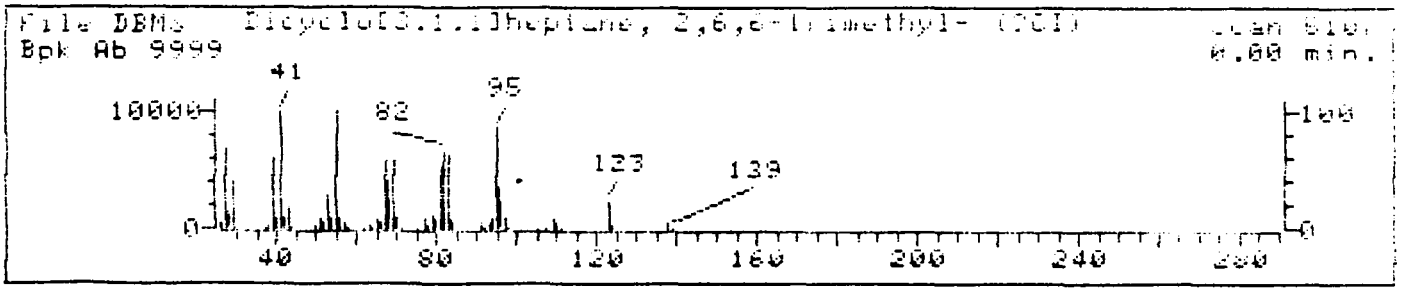
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F0705::US
Name: 4/5/05,#F
Misc Data: H2222A
RT (min): 19.67
Scan: 930
Area: 57x10
Semi-quantitative Conc: 10.27 UG/ML

BTL#29

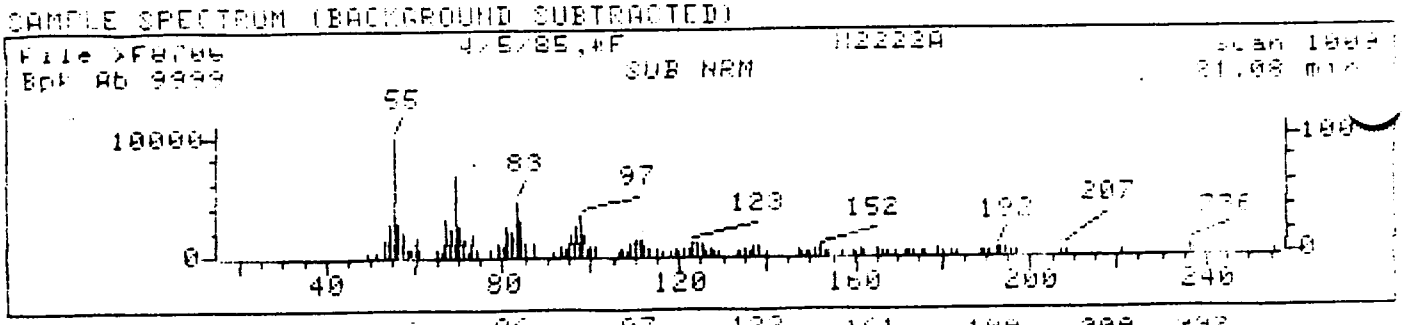
Data File: >F0705 Scan Number: 930
Search Speed: 2 Tuning option: S Number of ion ranges searched: 75

1.	Bicyclo[3.1.1]heptane, 2,6,6-trimethyl- (9CI)	138	C10H18
2.	Butanoic acid, 3,7-dimethyl-6-octenyl ester (9CI)	226	C14H26O2
3.	3-Eicosyne (9CI)	278	C20H38

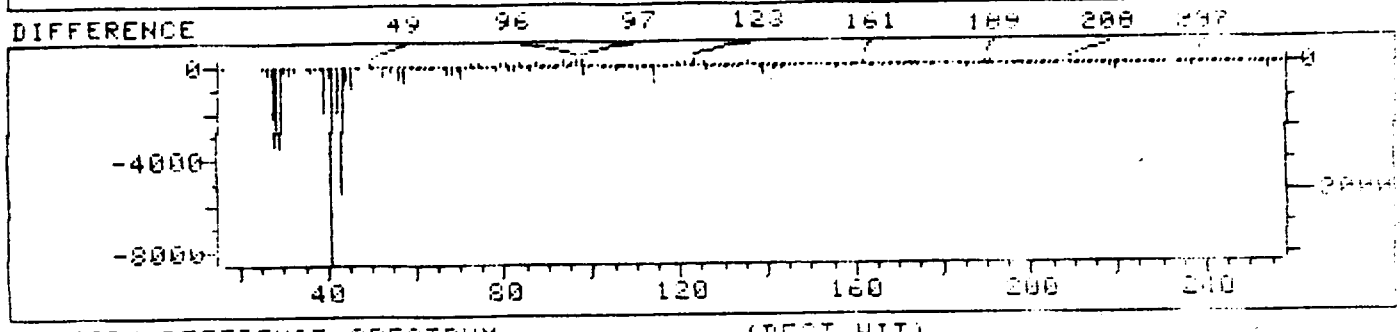
	Prob.	Conc#	K	dK	#Flg	Tilt
1.	78	473552	64	58	0	0
2.	39	111162	81	69	2	0
3.	36	6386666	52	95	2	0

301430

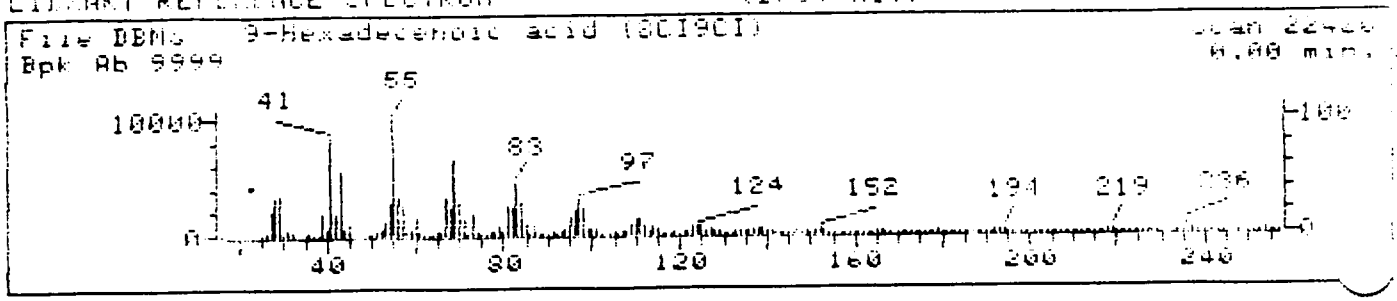
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8705:US
Name: 4/5/85,#F
Misc Data: H2222A
RT (min) 21.08
Scan: 1009
Area: 143103
Semi-quantitative Conc: 27.63 UG/ML

PTL#29

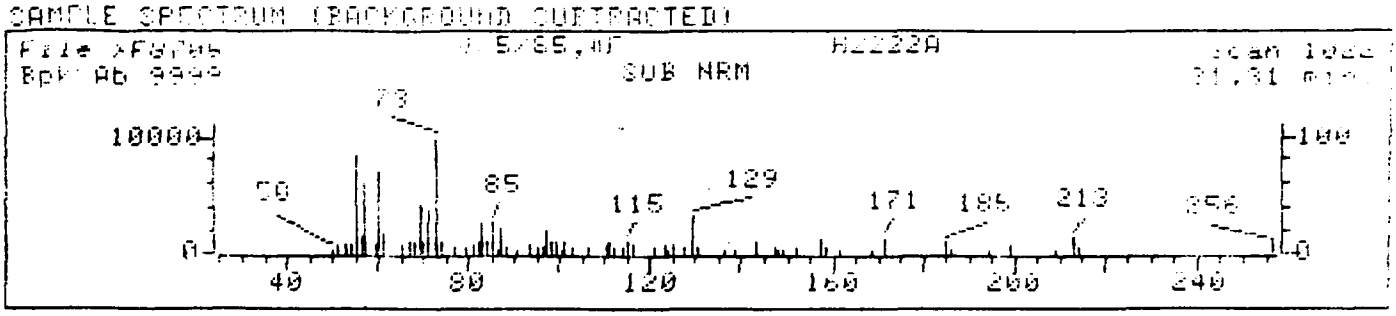
Data File: >F8705 Scan Number: 1009
Search Speed: 2 Titling option: S Number of ion ranges searched: 97

1.	9-Hexadecenoic acid (8CI9CI)	254 C16H30O2
2.	3,5-Nonadiene (8CI9CI)	124 C9H16
3.	Bicyclo[3.1.0]hexan-2-one, 5-(1-methylethyl)- (9CI)	138 C9H14O

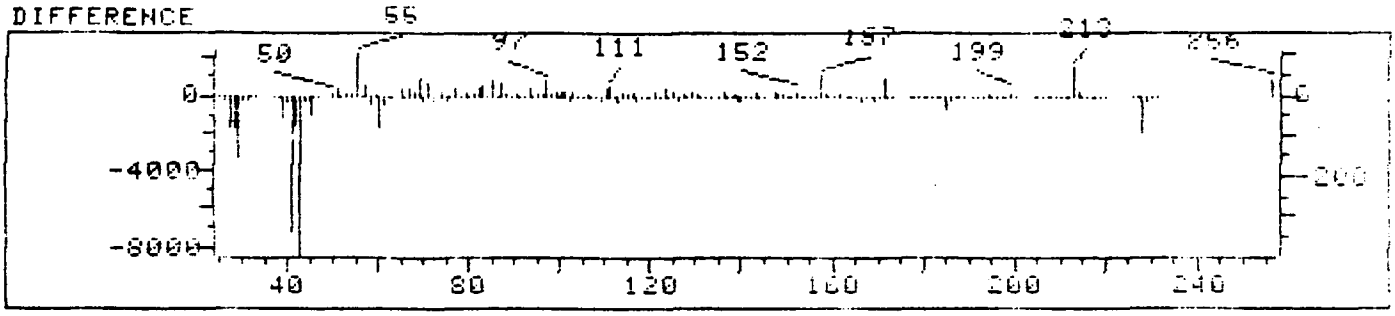
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	94	2091294	143	14	1	0
2.	87	821749	55	53	0	-2
3.	86	513202	43	72	0	-2

301431

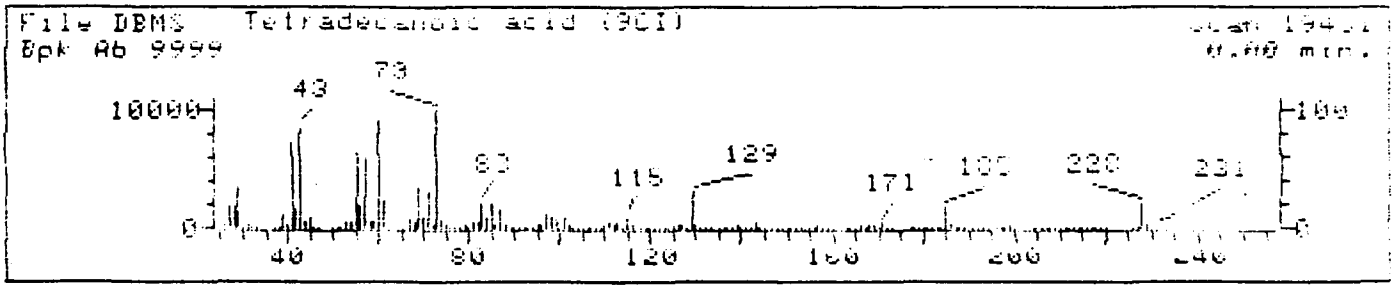
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (HIT # 2)



Data File: >F0705:UT
Name: 4/5/05,#F
Misc Data: HP222A BTL#29
RT (min): 21.71
Scan: 1072
Area: 29457
Semi-quantitative Conc: 15.29 UG/ML

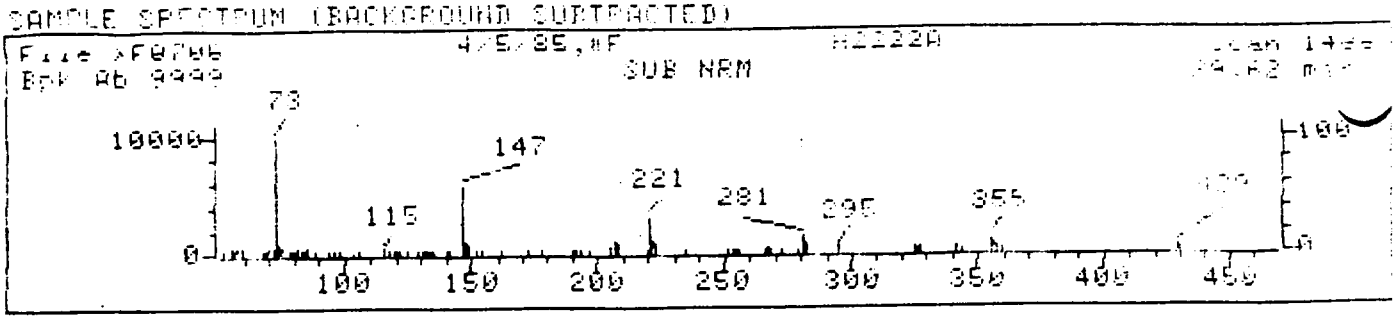
Data File: >F0705 Scan Number: 1072
Search Speed: 2 Tilting option: 0 Number of ion ranges searched: 67

1. 9-Tricosene, (Z)- (9CI)(9CI) 322 C23H46
2. Tetradecanoic acid (9CI) ~ 228 C14H28O2
3. Oxirane, [(dodecyloxy)methyl]- (9CI) 242 C15H30O2

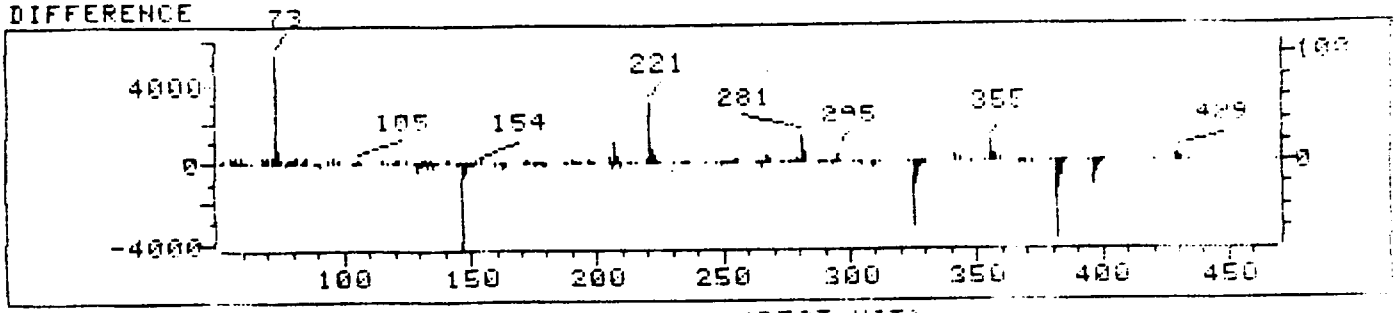
	Prob.	Conf	K	dK	#Flg	Tilt
1.	28	2751024	86	90	1	-1
2.	28	544638	84	65	2	-1
3.	2%	84/1102	98	49	2	-1

301432

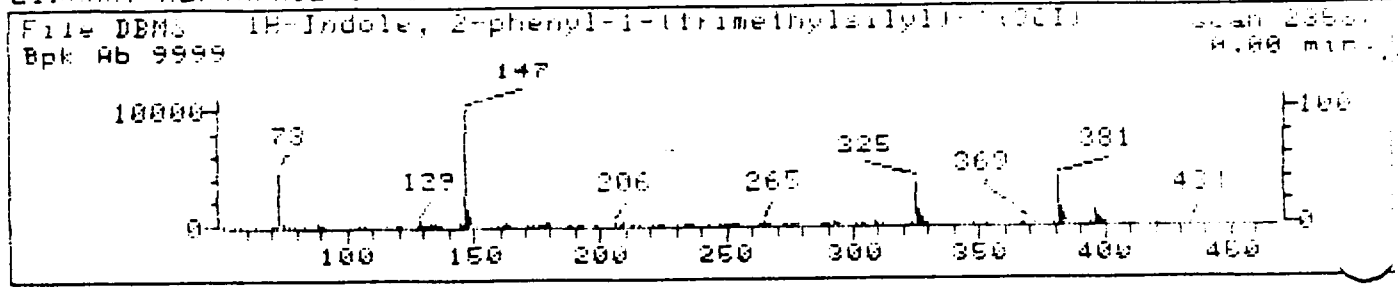
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8705.U5
Name: 4/5/95,#F
Misc Data: H2222A
RT (min): 29.62
Scan 1480
Area: 5727
Semi-quantitative Conc: 10.29 UG/ML

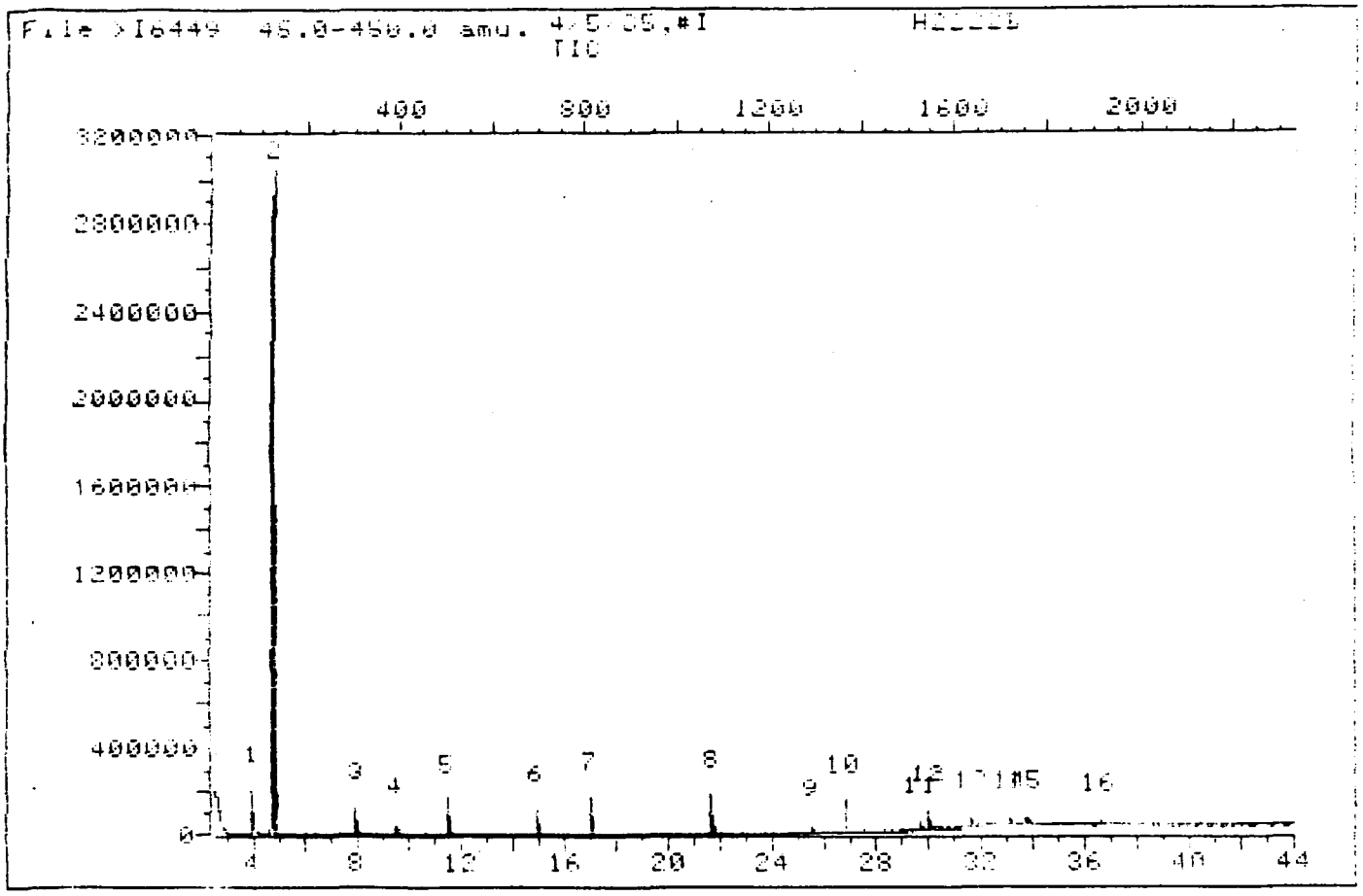
BTL#29

Data File: >F8705 Scan Number: 1480
Search Speed: 2 Tiling option: 3 Number of ion ranges searched: 6

1. 1H Indole, 2-phenyl-1-(trimethylsilyl)- (9CI) 265 C17H19NSi
2. 1,3-Dioxolane, 2-(1-methylpropyl)- (9CI) 130 C7H14O2
3. 2-Propanone, oxime (9CI) 73 C3H7NO

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	74367547	36	58	0	-2
2.	20	11447257	26	53	2	0
3.	20	127060	20	80	2	0

TOTAL ION CHROMATOGRAM for PLOT ANALYSIS



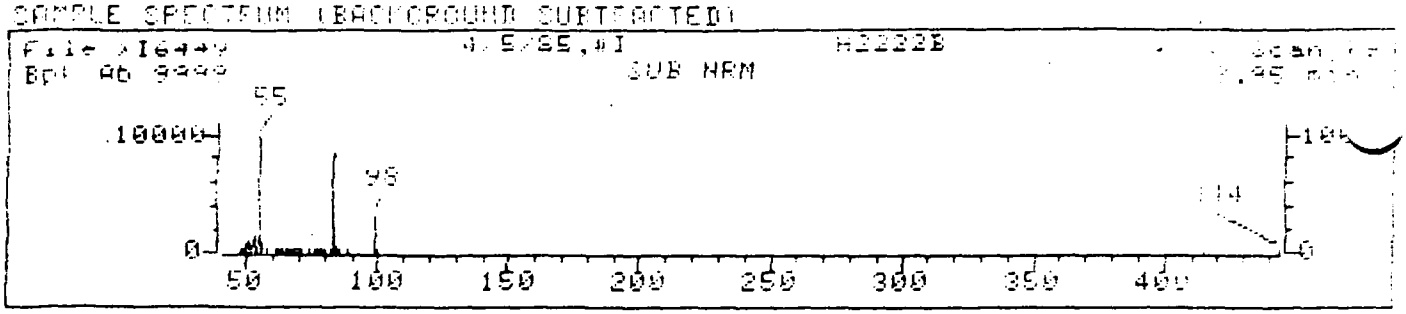
Data File: >I6449:.UA
Name: 4/5/95,#I
Misc Data: M2???B

BTL#10

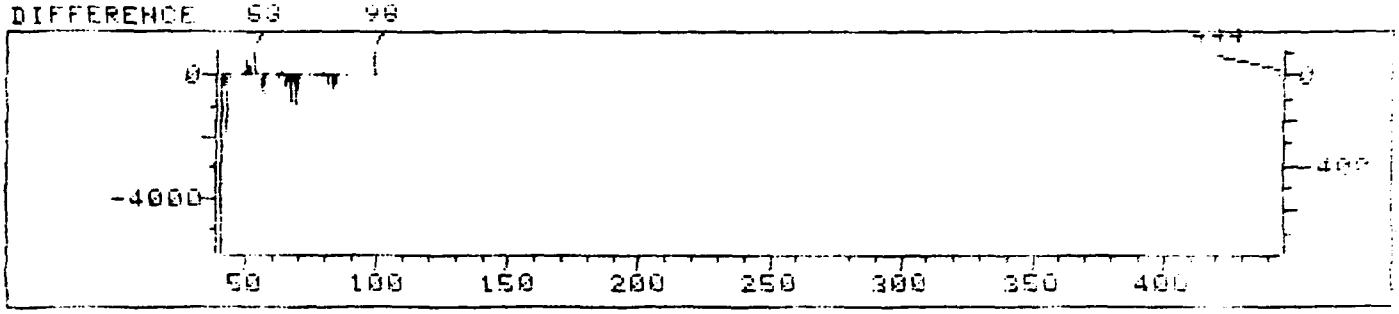
301434

301

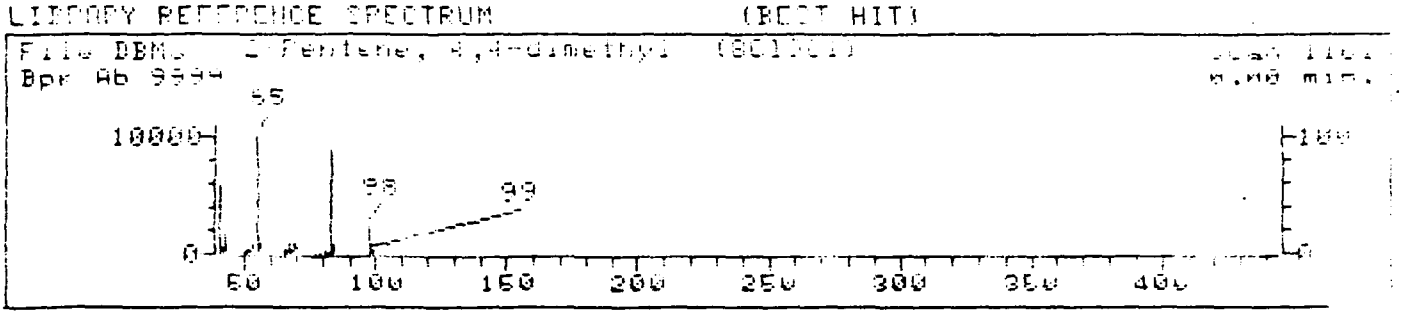
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE 53 99



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6119: 86
Name: 4/5/85,#I
Misc Data: HD2228
PT (min): 7.93
Scan: 79
Area: 64[illegible]
Semi-quantitative Conc: 85.30 UG/ML

BTL#:0

Data File: >I6119 Scan Number: 79
Search Speed: 2 Tilting option: 5 Number of ion ranges searched: 5

1. 2-Pentene, 4,4-dimethyl- (8CI,9CI) 99 C7H14
2. 2-Pentene, 3,4-dimethyl-, (Z)- (8CI,9CI) 99 C7H14
3. 2-Pentene, 3,4-dimethyl-, (E)- (8CI,9CI) 98 C7H14

	Prob.	Cmf	K	dK	#Flg	Tilt
1.	78	26232984	34	56	2	0
2.	78	4914914	35	63	2	0
3.	78	4914925	34	62	2	0

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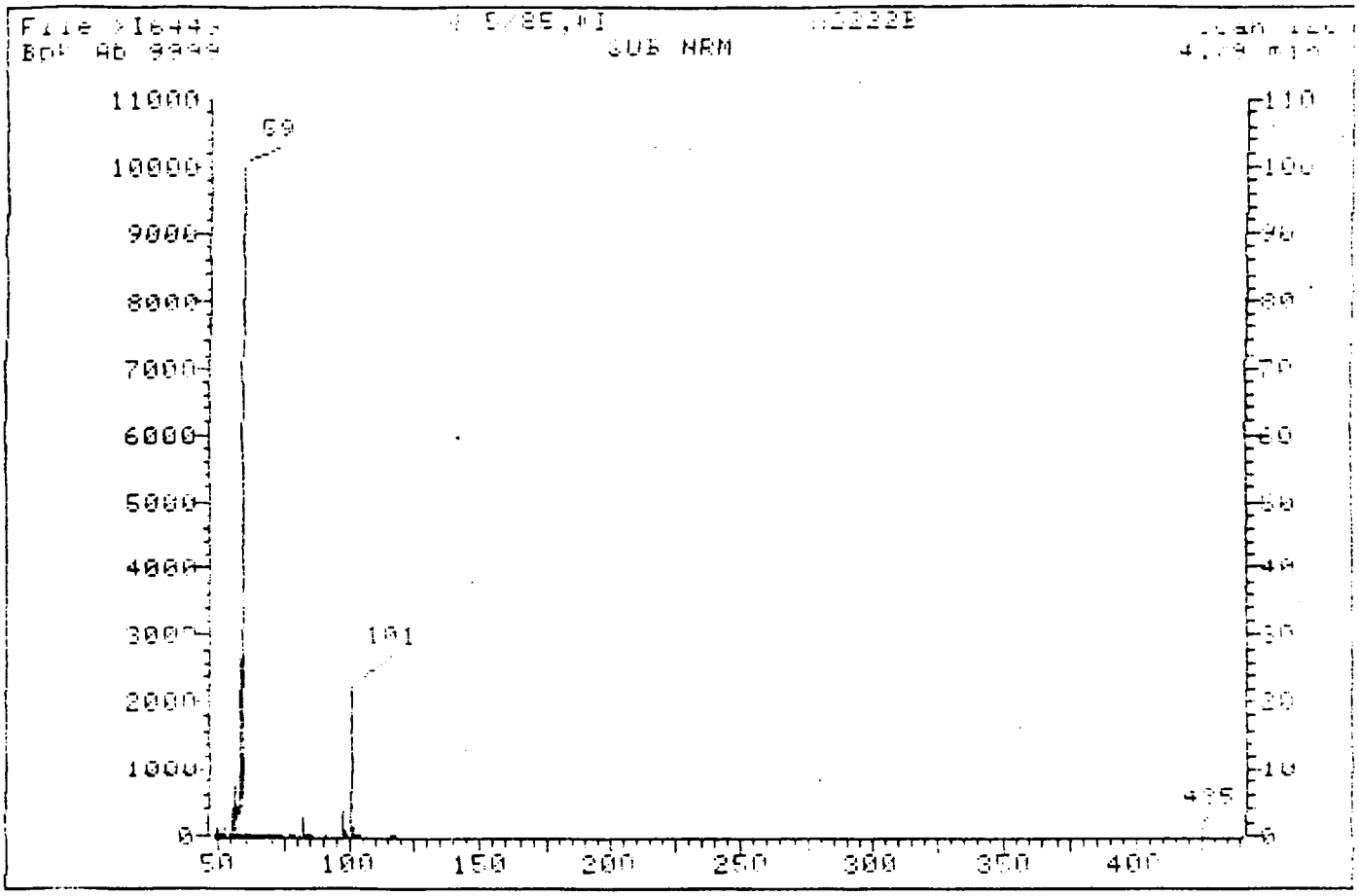


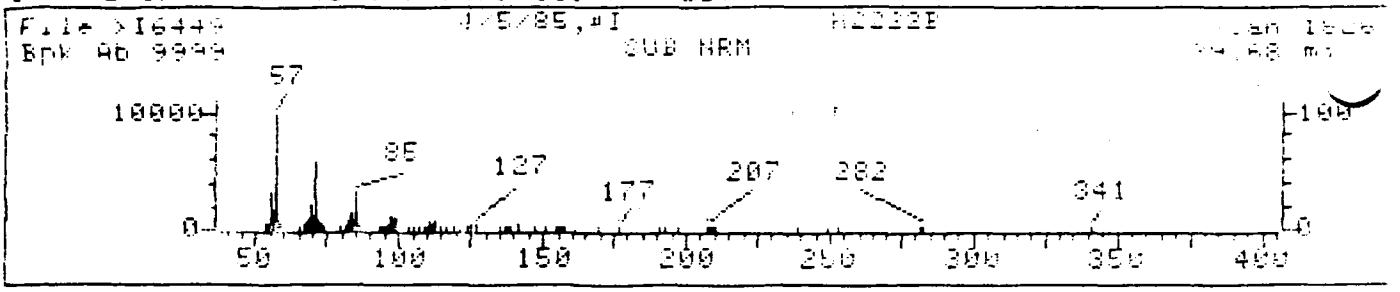
Data File: >I6449:.U6
Name: 4/5/05,#1
Misc Data: HP222B
RT (min): [illegible]
Scan 176
Area: 222[illegible]
Semi-quantitative Conc: 2960 55 UG/Ml

BTL#10

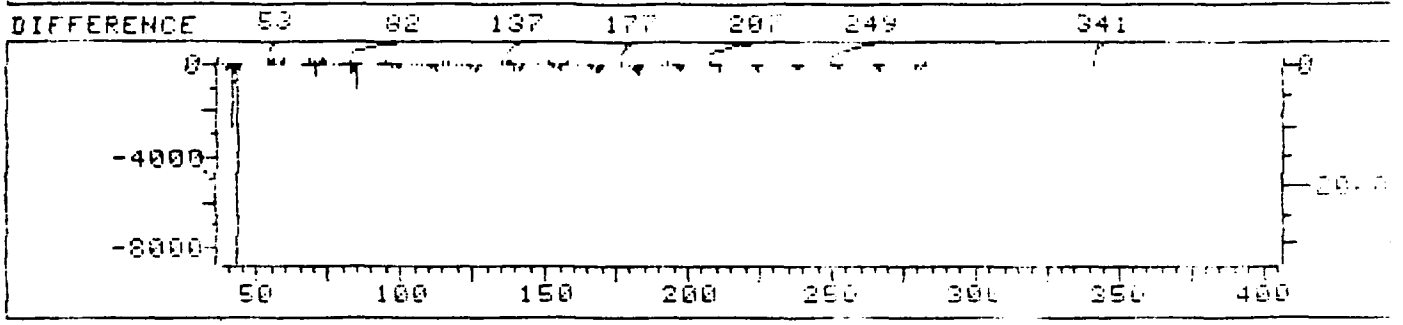
No PBM hits for this scan.

301436

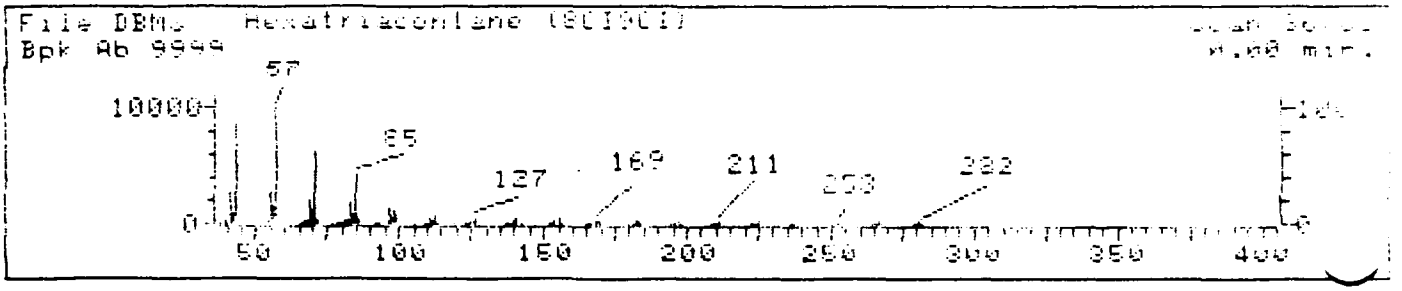
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6449:UA
Name: 4/5/85,#I
Misc Data: H2222R
RT (min): 25.63
Scan: 1520
Area: 11[illegible]
Semi-quantitative Conc: 15.0% UG/ML

Data File: >I6449 Scan Number: 1520
Search Speed: 2 Tuning option: S Number of ion ranges searched: 37

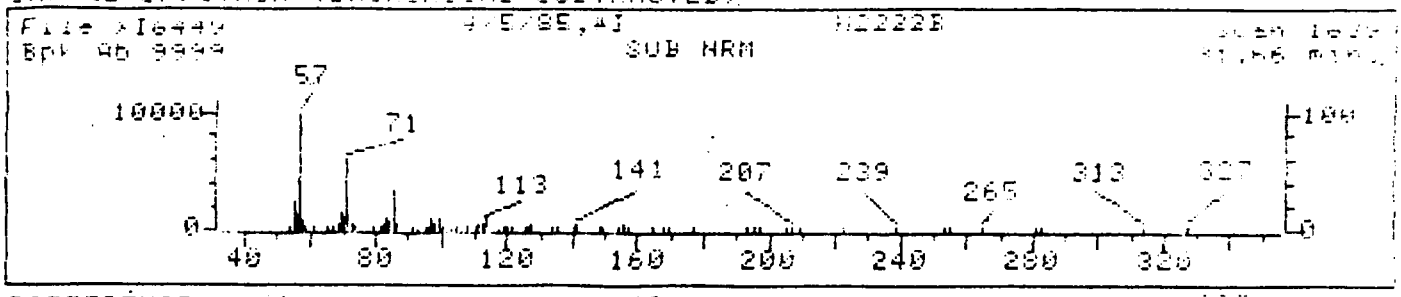
1	Hexatriacontane (8CI9CI)	506 C36H74
2.	Tritetracontane (8CI9CI)	604 C43H88
3.	Nonadecane, 2-methyl- (8CI9CI)	282 C20H42

	Prob.	Cal#	K	dK	#Flg	Tilt
1.	87	430068	84	78	2	0
2.	72	7028217	102	59	3	1
3.	28	1[illegible]0867	78	104	3	0

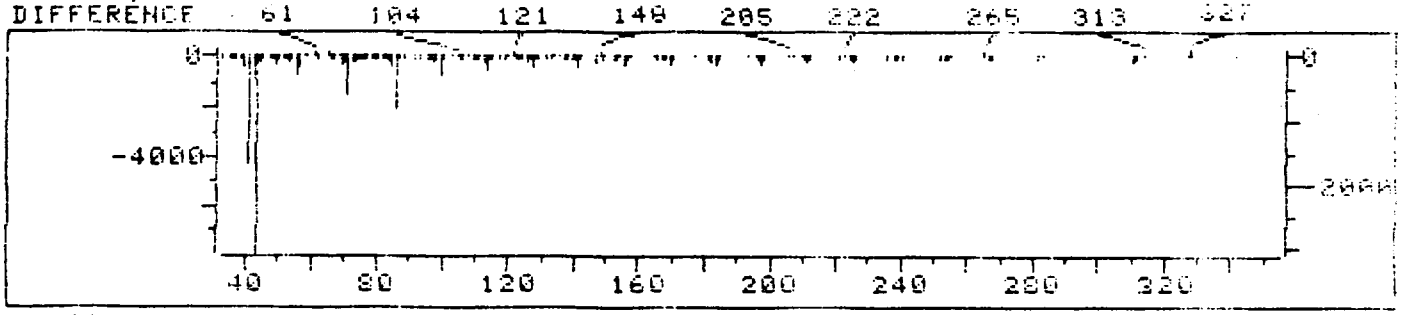
301437

301437

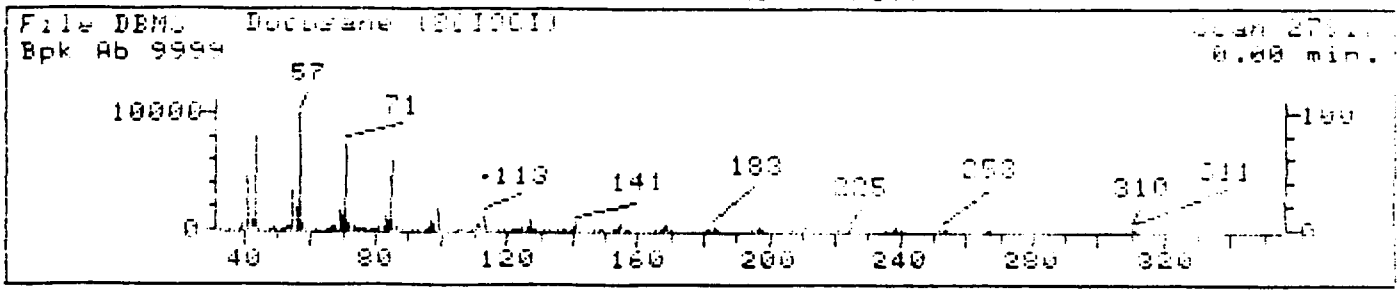
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6449::U6
Name: 4/5/85,#I
Misc Data: H2222B BTL#10
RT (min): 31.66
Scan: 1639
Area 121770
Semi-quantitative Conc: 16.21 UG/ML

Data File: >I6449 Scan Number: 1679
Search Spec'd: 2 Titling option: S Number of ion ranges searched: 20

1.	Docosane (8CI9CI)	310 C22H46
2.	Tetratetracontane (8CI9CI)	618 C44H90
3.	Nonacosane (8CI9CI)	408 C29H60

	Prob.	Conf	K	dK	#Flc	Tilt
1.	97	622220	117	30	2	4
2.	96	7028228	104	52	2	2
3.	96	670035	97	48	2	0

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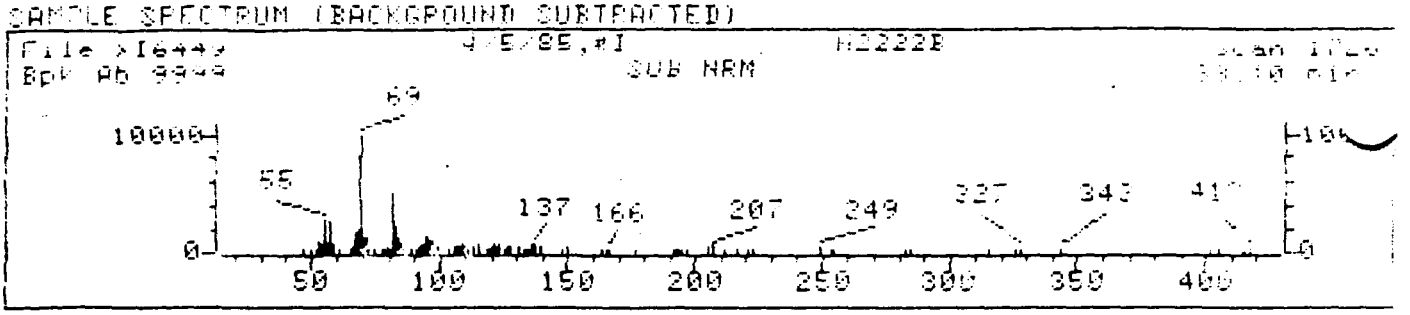
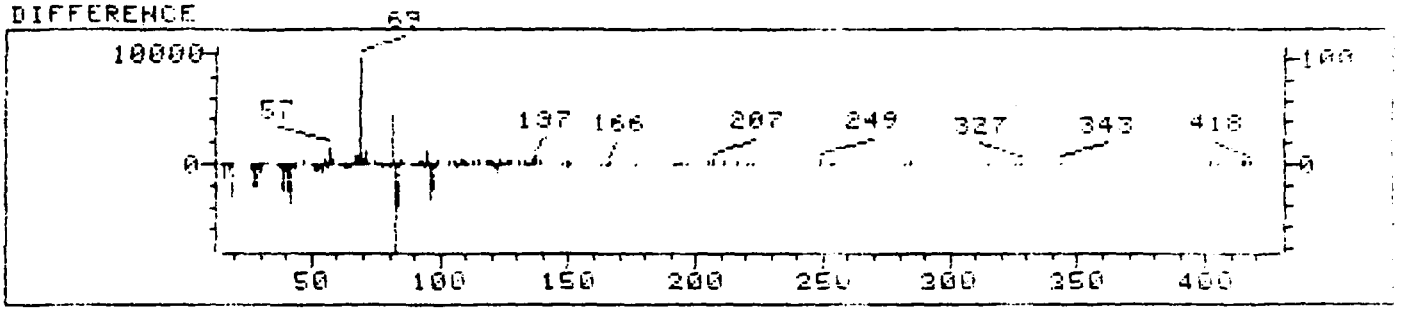
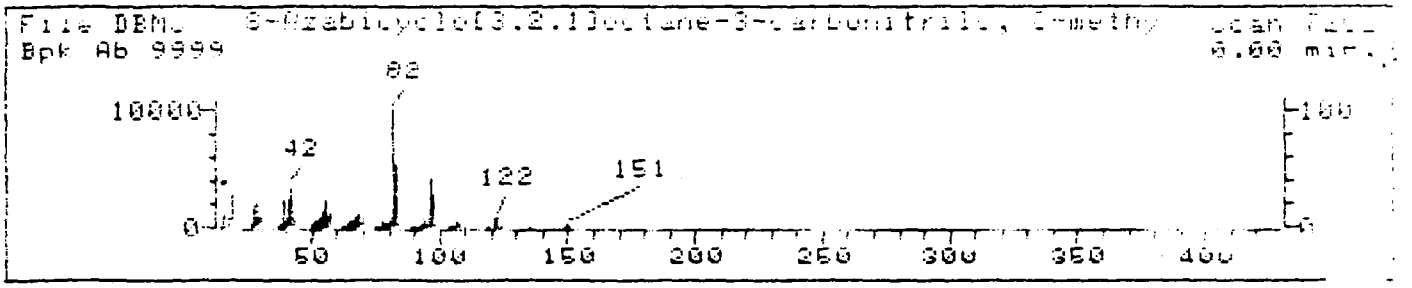
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >I6449:.UA
Name: 4/5/95,#I
Misc Data: H2222B
RT (min): 3[illegible]10
Scan: 1720
Area [illegible]
Semi-quantitative Conc: 9.90 UG/ML

Data File: >I6449 Scan Number: 1720
Search Speed: 2 Titling option: S Number of ion ranges searched: 5

1. 8-Azabicyclo[3.2.1]octane-3-carbonitrile, 8-methyl-, endo- (9CI) 150 C9H14N2
2. Bicyclo[3.2.1]heptane, 2-methyl-, exo- (9CI) 110 C8H14
3. Bicyclo[4.1.0]heptane, 3-methyl- (9CI) 110 C8H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	41	5911019	38	40	2	2
2.	36	872786	40	13	2	2
3.	35	4127[illegible]3	38	52	2	2

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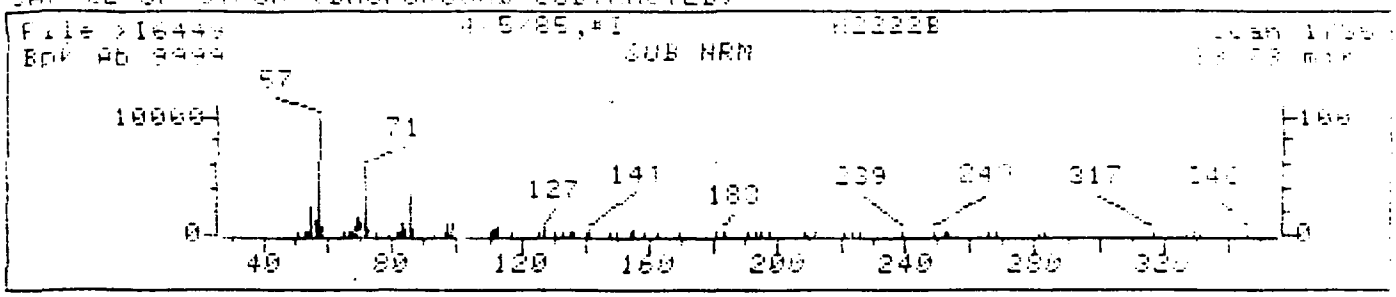
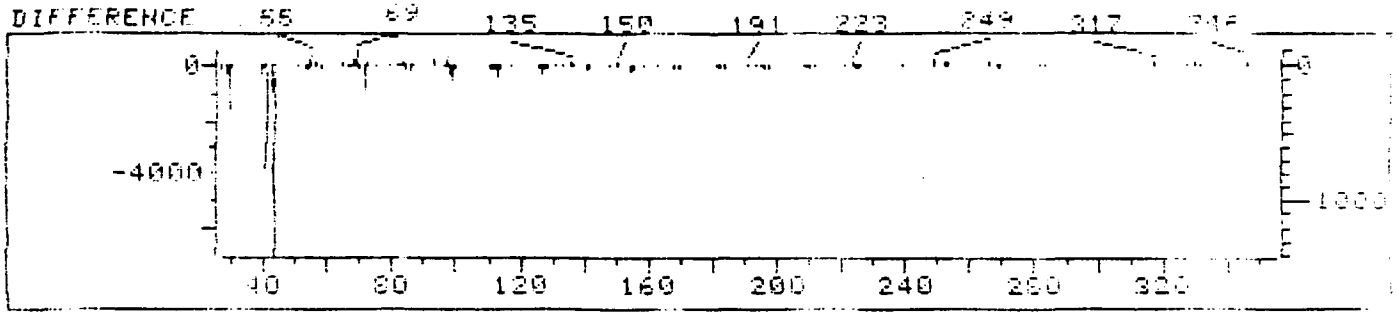
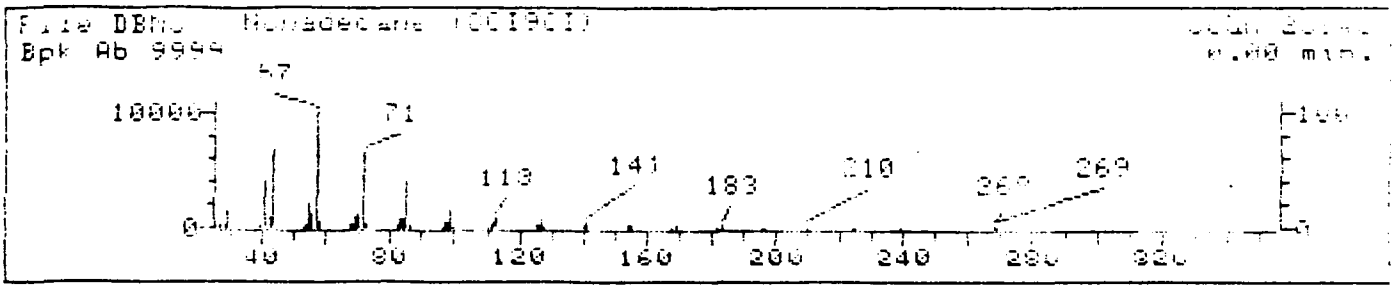
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: SI7449: UA
Name: 4/5/85,#I
Misc Data: H2322B
PT (min): 55.72
Scan: 1755
Area: 107160
Semi-quantitative Conc: 13.37 UG/ML

PTL#10

Data File: SI7449 Scan Number: 1755
Search Speed: 2 Titlang option: S Number of ion ranges searched: 20

1. Nonadecane (8CI9CI) 268 C19H40
2. Octadecane, 2-methyl- (8CI9CI) 268 C19H40
3. Hexadecane, 2,6,10-trimethyl- (9CI) 268 C19H40

	Prob.	Conf	K	dK	#Flg	Tilt
1.	87	629925	68	63	2	0
2.	87	1760889	69	67	2	0
3.	53	5000527	52	52	3	0

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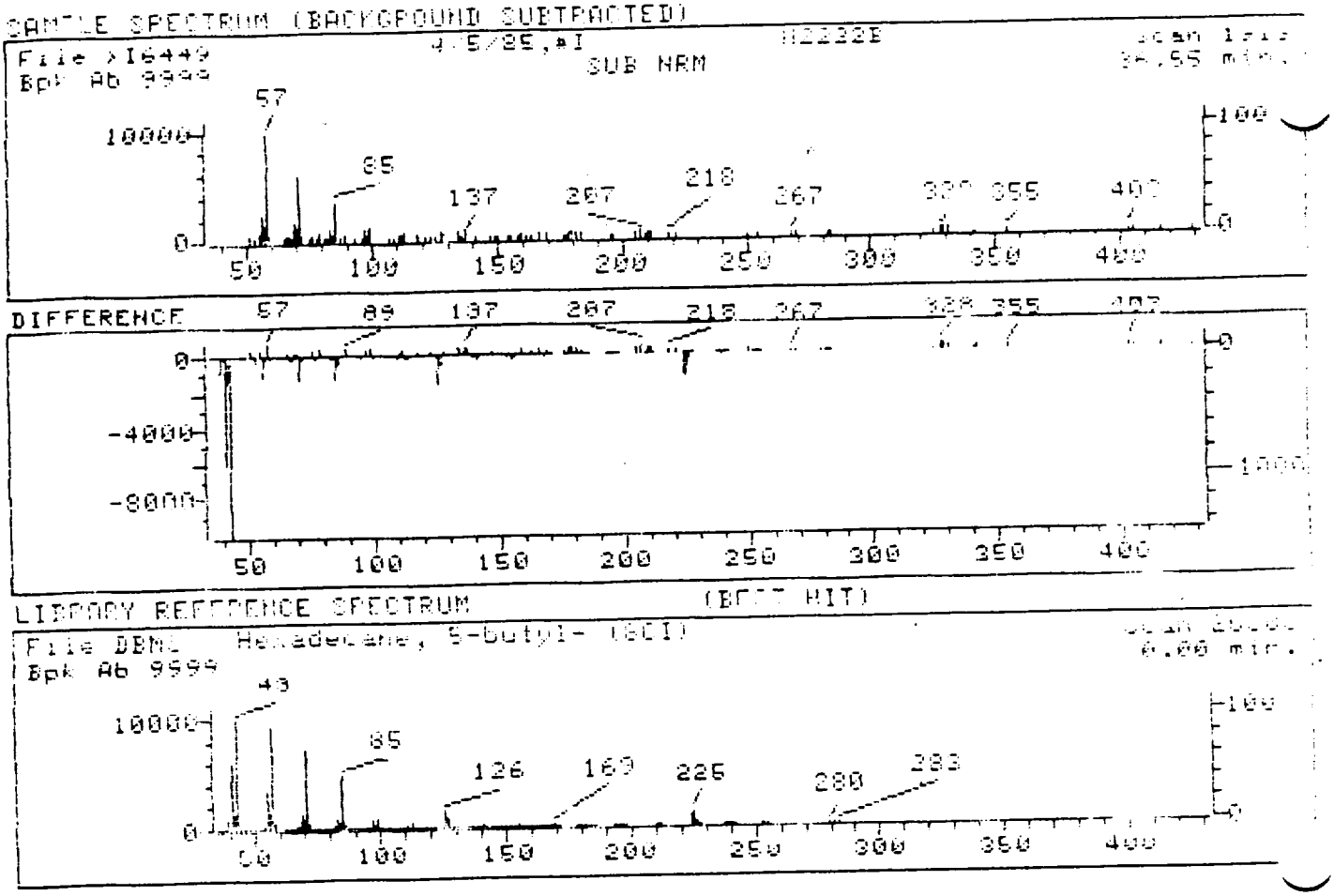

Data File: >I6449
Time: 4/5/85,#I
Misc Data: H2333B
RT (min): 34.55
Scan: 1913
Area 9471
Semi-quantitative Conc: 10.00 UG/ML

PTL#10

Data File: >I6449 Scan Number: 1913
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 37

1. Hexadecane, 5 butyl- (SCI)
2. Tritetracontane (SCI?CI)
3. Tetratetracontane (SCI?CI)

282 C20H42
604 C43H88
618 C44H90

	Prob.	Cast	K	dK	#Flg	Tilt
1.	76	6917078	61	82	3	0
2.	20	2090217	83	85	2	1
3.	20	1098209	75	81	2	0

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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

301443
ETC Job # 121212121

[redacted]

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 APR 0 5

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~~	<0.1	0.1	mg/kg
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			[redacted]
	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~~	<0.5	0.5	mg/kg
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	0.52		
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. _____ ETC Job # H2272

Date Sealed 3-20-85 By: Brad

Company: NJDEP

Facility/Site: _____

Address: Trenton NJ

Attn.: Joe Bottich

Phone: ( )

SAMPLE IDENTIFICATION

Facility: KOMSE SOUT

Sample Point: KI-STATION 2 | 032185 | 1630

(Facility/Site Code) (Source Code (from below)) (Your Sample Point ID (left justify)) (Optional Sample Point Description) (Start Date (YY/MM/DD)) (Start Time (2400 hr. clock)) (Elapsed Ho (composit)

47|3

Source Codes:

Well ..(W) Outfall.....(O) Bottom Sediment....(B) Surface Impoundment....(I) Leachate Collection Sys.....(C) Other .....

Soil ....(S) River/Stream..(R) Generation Point ....(G) Treatment Facility .....(T) Lake/Ocean .....(L) Specify _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		Filt (Y/N)	Observations	Observations
1	E	1L	baked	Extractable			½ full
2	V	40ml	baked	VOA			½ not full

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P. Zarillo Date: 3/21/85 Time: 1438
   Signature: Paul W Zarillo Seal #: 002853 Intact: Y

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: 301445
   Date: _____ Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) W. Lovard Date: 3/21/85 Time: 18~
   Signature: _____ Seal #: 002852 Intact: _____

ETC USE ONLY Opened By: _____ Date: 3-22-85 Time: 8:00

Seal #: 29532 Condition: OK

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # H2222

Sample Point [ ] (Source Code) [ ] (Sample Point ID)

FIELD PROCEDURES

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

SAMPLING METHOD: GRAB

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

Sample Temp (°C)

Turbidity NTU

FIELD COMMENTS

Sample Appearance:

Weather Conditions:

Other:

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

Sampler: (Print) P Zanella Employer: NUSEA

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

1/21/85 (Date) Paul M Zanella (Signature) 065

301446

ETC / CHYUN

301447

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Mark Gardiner

3:15 PM 3-22-85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2221 to H2225

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
Time/Date	Time/Date	Time/Date	Time/Date

GC-MS ANALYSIS CUSTODY LOG

301448

DATE 950328 SHIFT ___
FRACTION VOA
INSTRUMENT B
TUNE FILE ABFB02
SEQUENCE FILE JMB
METHOD FILE ~~8260~~ VOAB
IDFILE ~~VOAB~~ BVOA
ANALYST(S) G. Martin / Lavinia Sabourin
SUPERVISOR M Barkley
BATCH #'s ~~BV3856~~ QV3856

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ml
ISTD	40	9140	5ml
SURR	25	9793	10ml
ABC	18	10221	

IFB Prep Soil

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
p-BFB	> B7792	1ml			A00107	PC 120, Sub-3, Sub-174 1350 L	
QC3506V	> B7793						
QC3506VS	> B7794					10ml ABC	
QC3506VS	> B7795					3ml ABC (NG)	
QC3506VS	> B7796					30ml ABC	
QC3506VS	> B7797					5ml ABC	
QC3506VS	> B7798					5-0 ABC } GP 2 rounds	
H2221VS	> B7799	5ml/5ml					
H2221V	> B7800	↓					
H2222V	> B7801						
H2222VR	> B7802						
H2223V	> B7803						
[redacted]	[redacted]						
[redacted]	> [redacted]	↓					
BFB	> B7804	1ml				NG	
BFB	> B7805	1ml				OK 2nd AM 3/29	
QC3056VS	> B7806	5ml				[redacted] 5ml ABC (NG)	
QC3056VS	> B7807	↓				10ml ABC	
QC3056VS	> B7808					30ml ABC	
QC3056VS	> B7809	↓				5ml ABC	
H2224V	> B7810	5ml					
H2225V	> B7811	↓				3/29 0800 AM.	
H2339V	> B7512	↓					
H2340V	> B7513				057		
H2341V	> B7514	↓					

GC-MS ANALYSIS CUSTODY LOG

301449

DATE 850329 SHIFT ____
FRACTION ____
INSTRUMENT ____
TUNE FILE ____
SEQUENCE FILE ____
METHOD FILE ____
IDFILE ____
ANALYST(S) [signature]
SUPERVISOR [signature]
BATCH #'s GC3056 Continued

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VAL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)
V-1515	>B7516	1			A00107	
GC3056V	>B7517					86NG Methylene Chloride
GC3056V	>B7515					OK
(R) H2224V	>B7519					

063

EXTRACTION LOG

PP10

Sample No.	Log No.	Sample weight (g)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
2221	8684	50.99	1.0	1.0	
2222		50.38	1.0	1.0	
2223		50.20	1.0	1.0	
2224		50.65	1.0	1.0	
2225	↓	50.18	1.0	1.0	
2338	8765	50.82	1.0	1.0	
2339		52.18	1.0	1.0	
2340		50.49	1.0	1.0	
2341	↓	50.62	1.0	1.0	
8385	8311	50.99		1.0	
QC2864		—	1.0	1.0	
#2221 S		50.22	1.0	1.0	
#2222 R		50.104	1.0	1.0	

QC Batch # 2864

Analysis: *

Matrix: SOIL

Turnaround: Norm.

Date: 4/3/85

Extraction Method:

sep funnel

cont. nuevs

soxhlet

other – Homogenize

COMMENTS FOR EXTRACT.:

*

PP/T: H2221-25

PP/org: H2338-41

Spec SP: (PP/Acid only):

G8385

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

301450

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide ·	1.0	*	10,190
·chlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10,195
	ACID: 100 ug/ml	

Set-up: JM CAMPBELL 4/3/85 UPD/Supervisor: [signature] 4/4/85

Conc.: [signature] 4-7-85 spike/surr. verified: [signature] 4/3/85

Conc.: [signature] 4/6/85

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GC-MS ANALYSIS CUSTODY LOG

DATE 4/5/85 SHIFT 7/11
FRACTION Acid
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE WWCH
METHOD FILE DFTPPF / ACIDF
IDFILE FACID
ANALYST(S) Wan-Wen Chi
SUPERVISOR David M. Speet
BATCH #'s

(PLEASE INITIAL) CB FACD

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ	✓	DATE	4/5/85
WIP		BY	W.W.

STANDARD	CONC PPM	LOT NO.	LOT VOL

PEAC PLFACD PLESRH

NAME	DATA FILE	UL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PI Y.
SONG DFTPP	>F8668	2					
SONG DFTPP	>F8669						
SONG DFTPP	>F8670						
Calib III	>F8671		1				
II	>F8672		2				
I	>F8673		3				
H>336AS	>F8674		4				
QC>867AS	>F8675		5				
QC>867A	>F8676		6				Y
H>332A	>F8677		1				
H>333A	>F8678		2				
H>334A	>F8679		3				
H>335A	>F8680		4				
H>336A	>F8681		5				
H>337A	>F8682		6				
H>337AR	>F8683		7				
G891UA	>F8684		8				
H1449A	>F8685		9				
H094 TOL	>F8686		10				
H095	>F8687		11				
H1814	>F8688		12				
H1815	>F8689		13				
H1876	>F8690		14				
GS>36	>F8691		15				
SONG DFTPP	>F8692		16				

TSR 8-84

301452

GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT Aft
ACTION Acid
INSTRUMENT H
TUNE FILE
SEQUENCE FILE
METHOD FILE
DFILE
ANALYST(S) Wen Wg Chi
SUPERVISOR Thur M. Spey
BATCH #'s

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ICQ		DATE	
IIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
Calib III	>F8693		17				
H0957AS	>F8694		18				
QC>866A	>F8695		19				Y
H0957A	>F8696		20				Y
H0959A	>F8697		21				Y
H0960A	>F8698		22				Y
H0960AR	>F8699		23				
H0958	>F8700		24	1:5			Y
H2221AS	>F8701		25				
QC2864A	>F8702		26				Y
G8385A	>F8703		27				+
H2221A	>F8704		28				Y
H2222A	>F8705		29			Colour big difference for Sample & Spike	
H2223A	>F8706		30				
H2225A	>F8707		31				
H2339A	>F8708		32				
H2224A	>F8709		33				
H2341A	>F8710		34	1:5			
H2340A	>F8711		35	1:5			
H2338A	>F8712		36	1:5			Y
H2222AR	>F8713		37	1:2			
					071		

TCD A-84

PA108

301453

GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT ___
FRACTION B/N
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE ___
METHOD FILE BNPI
IOFILE IBNP
ANALYST(S) Wen-Jen Chiu
SUPERVISOR David M. Hart
BATCH #'s RB2864

(PLEASE INITIAL)

CURRENT CSWS STATUS		STANDARDS UPDATED	
ACQ		DATE	4-6/85
WIP		BY	W.J.

STANDARD	CONC PPM	LOT NO.	LC VO

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PL Y/
50 NG DFTPP	>I6441	2			I00167	7:00 4/6/85	
Calib III	>I6442	1	3				
II	>I6443		4				
I	>I6444		5				
IV	>I6445		6				
(R) H>221BS	>I6446		7				
(R) H2221B	>I6447		8				Y
(R) H2225B	>I6448		9				Y
(R) H2222B	>I6449		10				Y
(R) H2222BR	>I6450		11				
(R) H2223B	>I6451		12				Y
(R) H2224B	>I6452		13				
(R) H>341B	>I6453		14				
(R) H>339B	>I6454		15				
(R) H>338B	>I6455		16				
(R) H>340B	>I6456	↓	17				Y
			18				
(R) RC2864B	>I6458		7				

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8684

Metals Analysis Custody Log

Samples H2221-H2225

	Chemist	Date
Hg Prep	Douglas Lelfeld	4/3/85
AA/ICAP Prep	Maura Jan McClure	4/2/85

Lab Supervisor Maura Jan McClure date 4/10/85

301454

073

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyan

ETC Sample Number(s) H2221 to H2225 (H2222)

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: 4/2/85
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

★ soils !

OTHERS

X-029

Sample(s) Relinquished by: M. Jacobs

Date 3-22-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 3:15

301455

Technical Report

for

NJ DEP

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
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

Denis C. K. Lin, Ph.D.
Vice President
Research and Operations

301456

TABLE OF CONTENTS

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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

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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

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ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 3, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Volatile Compounds - GC/MS Analysis Data (QR01)

30TNE

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

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	ND	ND	ND	800	157[B]	ND	800	58[B]
2V	Acrylonitrile	ND	100	ND	ND	ND	80	105	ND	80	94
3V	Benzene	ND	4.40	ND	ND	ND	18	117	ND	18	114
4V	bis(Chloromethyl)ether	ND	10	ND	ND	ND	0	-	ND	0	-
5V	Bromoform	ND	4.70	ND	ND	ND	18	104	ND	18	85
6V	Carbon tetrachloride	ND	2.80	ND	ND	ND	18	117	ND	18	124
7V	Chlorobenzene	ND	6	ND	ND	ND	18	109	ND	18	102
8V	Chlorodibromomethane	ND	3.10	ND	ND	ND	18	111	ND	18	99
9V	Chloroethane	ND	10	ND	ND	ND	18	101	ND	18	97
10V	2-Chloroethylvinyl ether	ND	10	ND	ND	ND	18	106	ND	18	117
11V	Chloroform	ND	1.60	ND	ND	ND	18	118	ND	18	117
12V	Dichlorobromomethane	ND	2.20	ND	ND	ND	18	112	ND	18	106
13V	Dichlorodifluoromethane	ND	10	ND	ND	ND	20	130	ND	20	104
14V	1,1-Dichloroethane	ND	4.70	ND	ND	ND	18	116	ND	18	117
15V	1,2-Dichloroethane	ND	2.80	ND	ND	ND	18	114	ND	18	107
16V	1,1-Dichloroethylene	ND	2.80	ND	ND	ND	18	117	ND	18	125
17V	1,2-Dichloropropane	ND	6	ND	ND	ND	18	114	ND	18	109
18V	cis-1,3-Dichloropropylene	ND	5	ND	ND	ND	18	110	ND	18	98
19V	Ethylbenzene	ND	7.20	ND	ND	ND	18	115	ND	18	109
20V	Methyl bromide	ND	10	ND	ND	ND	18	89	ND	18	146[C]
21V	Methyl chloride	ND	10	ND	ND	ND	18	89	ND	18	124
22V	Methylene chloride	20.80	2.80	5	8	3	18	67	23	18	43[B]
23V	1,1,2,2-Tetrachloroethane	ND	6.90	ND	ND	ND	18	100	ND	18	84
24V	Tetrachloroethylene	ND	4.10	ND	ND	ND	18	111	ND	18	113
25V	Toluene	ND	6	ND	ND	ND	18	108	ND	18	111
26V	1,2-Trans-dichloroethylene	ND	1.60	ND	ND	ND	18	118	ND	18	121
27V	1,1,1-Trichloroethane	ND	3.80	ND	ND	BMDL	18	104	ND	18	113
28V	1,1,2-Trichloroethane	ND	5	ND	ND	ND	18	111	ND	18	100
29V	Trichloroethylene	ND	1.90	ND	ND	ND	18	115	ND	18	113
30V	Trichlorofluoromethane	ND	10	ND	ND	ND	18	116	ND	18	126
31V	Vinyl chloride	ND	10	ND	ND	ND	18	127	ND	18	82
18V	trans-1,3-Dichloropropylene	ND	10	ND	ND	ND	18	118	ND	18	106

301460

A ETC published Method Detection Limit.

B Recovery normally variable using EPA Protocol Method 624.

C Recovery variable due to sample matrix interference.

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

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 15, 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
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

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 [C]
1A	2-Chlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	6
2A	2,4-Dichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	8
3A	2,4-Dimethylphenol	ND	60	ND	ND	ND	0	-	ND	1991	2
4A	4,6-Dinitro-o-cresol	ND	480	ND	ND	ND	0	-	ND	1991	0
5A	2,4-Dinitrophenol	ND	840	ND	ND	ND	0	-	ND	1991	0
6A	2-Nitrophenol	ND	80	ND	ND	ND	0	-	ND	1991	18
7A	4-Nitrophenol	ND	40	ND	ND	ND	0	-	ND	1991	13
8A	p-Chloro-m-cresol	ND	60	ND	ND	ND	0	-	ND	1991	5
9A	Pentachlorophenol	ND	80	ND	ND	ND	0	-	ND	1991	14
10A	Phenol	ND	40	ND	ND	ND	0	-	ND	1991	2
11A	2,4,6-Trichlorophenol	ND	60	ND	ND	ND	0	-	ND	1991	11

A ETC established Method Detection Limit for this particular sample.

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

C Recovery low due to sample matrix interference.

301461

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

301462

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

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 [a]	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1B	Acenaphthene	ND	190	ND	ND	ND	0	-	ND	1991	75
2B	Acenaphthylene	ND	350	ND	ND	ND	0	-	ND	1991	72
3B	Anthracene	ND	200	ND	ND	ND	0	-	ND	1991	78
4B	Benzidine	ND	4400	ND	ND	ND	0	-	ND	1991	18[c]
5B	Benzo(a)anthracene	ND	780	ND	ND	ND	0	-	ND	1991	76
6B	Benzo(a)pyrene	ND	250	ND	ND	ND	0	-	ND	1991	81
7B	Benzo(b)fluoroanthene	ND	480	ND	ND	ND	0	-	ND	1991	76
8B	Benzo(ghi)perylene	ND	410	ND	ND	ND	0	-	ND	0	-
9B	Benzo(k)fluoranthene	ND	250	ND	ND	ND	0	-	ND	1991	77
10B	bis(2-Chloroethoxy)methane	ND	530	ND	ND	ND	0	-	ND	1991	81
11B	bis(2-Chloroethyl) ether	ND	570	ND	ND	ND	0	-	ND	1991	54
12B	bis(2-Chloroisopropyl)ether	ND	600	ND	ND	ND	0	-	ND	1991	30
13B	bis(2-Ethylhexyl)phthalate	ND	1000	ND	ND	ND	0	-	ND	1991	77
14B	4-Bromophenyl phenyl ether	ND	190	ND	ND	ND	0	-	ND	1991	79
15B	Butyl benzyl phthalate	ND	1000	ND	ND	ND	0	-	ND	1991	9[b]
16B	2-Chloronaphthalene	ND	190	ND	ND	ND	0	-	ND	1991	63
17B	4-Chlorophenyl phenyl ether	ND	420	ND	ND	ND	0	-	ND	1991	81
18B	Chrysene	ND	250	ND	ND	ND	0	-	ND	1991	86
19B	Dibenzo(a,h)anthracene	ND	250	ND	ND	ND	0	-	ND	0	-
20B	1,2-Dichlorobenzene	ND	190	ND	ND	ND	0	-	ND	1991	18[b]
21B	1,3-Dichlorobenzene	ND	190	ND	ND	ND	0	-	ND	1991	16[b]
22B	1,4-Dichlorobenzene	ND	44	ND	ND	ND	0	-	ND	1991	16[b]
23B	3,3'-Dichlorobenzidine	ND	1650	ND	ND	ND	0	-	ND	1991	71
24B	Diethyl phthalate	ND	1000	ND	ND	27	0	-	ND	1991	1[b]
25B	Dimethyl phthalate	ND	1000	ND	ND	ND	0	-	ND	1991	1[b]
26B	Di-n-butyl phthalate	ND	1000	ND	ND	29	0	-	ND	1991	17[b]
27B	2,4-Dinitrotoluene	ND	570	ND	ND	ND	0	-	ND	1991	13[b]
28B	2,6-Dinitrotoluene	ND	190	ND	ND	ND	0	-	ND	1991	30
29B	Di-n-octyl phthalate	ND	1000	ND	ND	ND	0	-	ND	1991	47
30B	1,2-Diphenylhydrazine	ND	1000	ND	ND	ND	0	-	ND	1991	78
31B	Fluoranthene	355	220	ND	ND	ND	0	-	27	1991	91
32B	Fluorene	ND	190	ND	ND	ND	0	-	ND	1991	78

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 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
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

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	190	ND	ND	ND	0	-	ND	1991	79
34B	Hexachlorobutadiene	ND	90	ND	ND	ND	0	-	ND	1991	34
35B	Hexachlorocyclopentadiene	ND	1000	ND	ND	ND	0	-	ND	1991	-
36B	Hexachloroethane	ND	160	ND	ND	ND	0	-	ND	1991	6[D]
37B	Indeno(1,2,3-c,d)pyrene	ND	370	ND	ND	ND	0	-	ND	0	-
38B	Isophorone	ND	220	ND	ND	ND	0	-	ND	1991	82
39B	Naphthalene	ND	160	ND	ND	ND	0	-	ND	1991	35
40B	Nitrobenzene	ND	190	ND	ND	ND	0	-	ND	1991	40
11B	N-Nitrosodimethylamine	ND	1000	ND	ND	ND	0	-	ND	0	-
42B	N-Nitrosodi-n-propylamine	ND	1000	ND	ND	ND	0	-	ND	1991	79
43B	N-Nitrosodiphenylamine	ND	190	ND	ND	ND	0	-	ND	1991	80
44B	Phenanthrene	BMDL	540	ND	ND	ND	0	-	ND	1991	84
45B	Pyrene	303	190	12	22	ND	0	-	24	1991	0[D]
46B	1,2,4-Trichlorobenzene	ND	190	ND	ND	ND	0	-	ND	1991	78

A ETC established Method Detection Limit for this particular sample.

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

C Recovery normally low using EPA Protocol Method 625.

D Recovery low due to sample matrix interference.

007

3014G3

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 12, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

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

3014[illegible]

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

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 C
1P	Aldrin	ND	190	ND	ND	ND	0	-	ND	1991	75
2P	Alpha-BHC	ND	1000	ND	ND	ND	0	-	ND	1991	4
3P	Beta-BHC	ND	420	ND	ND	ND	0	-	ND	1991	0
4P	Gamma-BHC	ND	1000	ND	ND	ND	0	-	ND	1991	47
5P	Delta-BHC	ND	310	ND	ND	ND	0	-	ND	1991	0
6P	Chlordane	ND	1000	ND	ND	ND	0	-	ND	3982	85
7P	4,4'-DDT	ND	470	ND	ND	ND	0	-	ND	1991	10
8P	4,4'-DDE	ND	560	ND	ND	ND	0	-	ND	1991	152
9P	4,4'-DDD	ND	280	ND	ND	ND	0	-	ND	1991	31
10P	Dieldrin	ND	250	ND	ND	ND	0	-	ND	1991	85
11P	Endosulfan I	ND	1000	ND	ND	ND	0	-	ND	1991	4
12P	Endosulfan II	ND	1000	ND	ND	ND	0	-	ND	1991	28
13P	Endosulfan sulfate	ND	560	ND	ND	ND	0	-	ND	1991	0
14P	Endrin	ND	1000	ND	ND	ND	0	-	ND	1991	79
15P	Endrin aldehyde	ND	1000	ND	ND	ND	0	-	ND	1991	22
16P	Heptachlor	ND	190	ND	ND	ND	0	-	ND	1991	71
17P	Heptachlor epoxide	ND	220	ND	ND	ND	0	-	ND	1991	89
18P	PCB-1242	ND	3600	ND	ND	ND	0	-	ND	0	-
19P	PCB-1254	ND	3600	ND	ND	ND	0	-	ND	0	-
20P	PCB-1221	ND	3000	ND	ND	ND	0	-	ND	0	-
21P	PCB-1232	ND	3600	ND	ND	ND	0	-	ND	0	-
22P	PCB-1248	ND	3600	ND	ND	ND	0	-	ND	0	-
23P	PCB-1260	ND	3600	ND	ND	ND	0	-	ND	1991	71
24P	PCB-1016	ND	3600	ND	ND	ND	0	-	ND	0	-
25P	Toxaphene	ND	1000	ND	ND	ND	0	-	ND	0	-

3014[illegible]

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.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

APR 15, 1985

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

Metals, Cyanide and Phenols - Analysis Data (QR05)

301 VC

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

NPDES Number	Compound		Results: Sample Concen.	Results: MDL
1M	Antimony	ug/kg	10000	8000
2M	Arsenic	mg/kg	1.60	1.00
3M	Beryllium	ug/kg	300	100
4M	Cadmium	ug/kg	BMDL	300
5M	Chromium	ug/kg	10000	2000
6M	Copper	ug/kg	30000	1000
7M	Lead	mg/kg	9.60	.5
8M	Mercury	ug/kg	ND	200
9M	Nickel	ug/kg	7000	2000
10M	Selenium	mg/kg	BMDL	.6
11M	Silver	ug/kg	ND	500
12M	Thallium	mg/kg	BMDL	.5
13M	Zinc	ug/kg	55000	2000
14M	Cyanide, Total	mg/kg	.500	.5
15M	Phenolics, Total	mg/kg	.100	.1

600

301465

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 3, 1985

TABLE 1: QUALITATIVE RESULTS

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

301466

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

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

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301466

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 15, 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
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 Unknown	31	3.6	-	-	-	515		
2 1,2-dichloro, trans-cyclo-hexane	232	7.2	152	822866	$C_6H_{10}Cl_2$	223		
3 Unknown	930	19.6	-	-	-	202		
4 9-Octadecenoic acid	1015	21.1	282	112801	$C_{18}H_{34}O_2$	235		
5 Unknown	1463	29.1	-	-	-	224		

301467

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 11, 1985

TABLE 1: QUALITATIVE RESULTS

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

301468

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540	

Compound Name	Data			Identifiers				
	Scan Number	Retention Time (Min)	M.W.	CAS Number	Empirical Formula	Estimated Concen. ug/kg		
1 4,4-dimethyl-2-Pentene	78	3.9	98	26232984	C_7H_{14}	2030		
2 Unknown	117	4.6	-	-	-	6600		
3 Unknown	120	4.7	-	-	-	1870		

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301468

ETC ENVIRONMENTAL TESTING and CERTIFICATION

April 12, 1985

TABLE 2: METHOD PERFORMANCE DATA

Surrogate Recovery Soil- GC/MS Data (QR20)

Chain of Custody Data Required for ETC Data Management Summary Reports

H2224

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	109	50	160
Bromofluorobenzene	.250	103	50	160
1,2-Dichloroethane-D4	.250	116	50	160
ACID FRACTION				
Phenol-D5	100	49	20	140
2-Fluorophenol	100	40	20	140
2,4,6-Tribromophenol	100	57	10	140
BASE/NEUTRAL FRACTION				
Nitrobenzene-D5	50	27	20	140
2-Fluorobiphenyl	50	85	20	140
Terphenyl-D14	50	104	20	150

* IFB EPA Control Limits.

301469

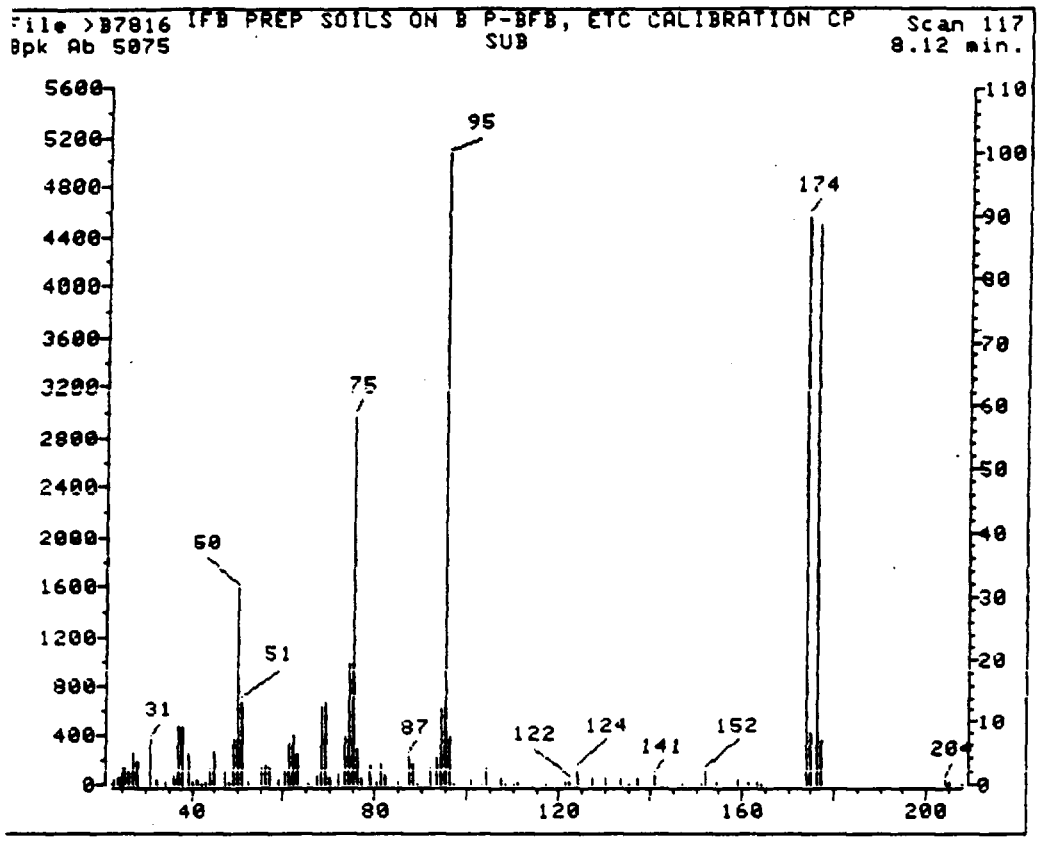


TABLE 2: METHOD PERFORMANCE DATA (QR21)

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	31.13	31.13	Ok
75	30-60% of mass 95	58.46	58.46	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.57	7.57	Ok
73	Less then 1% of mass 95	0.00	0.00	Ok
74	Greater then 50% of mass 95	90.01	90.01	Ok
75	5-9% of mass 174	8.06	8.95	Ok
76	95-101% of mass 174	88.69	98.53	Ok
77	5-9% of mass 176	6.92	7.80	Ok

Injection Date: 03/29/85 Analyst: [signature]
Injection Time: 14:52 Processor: [signature]
Run No: >B7816 QC Batch: QV3056
Spectrum No: 117 Samples: H2224

- Terminal type not recognized.

U,-B7816 301470
Queued for Archive: >B7816::U4
Queued for Archive: <B7816::U4

s Queued: 2

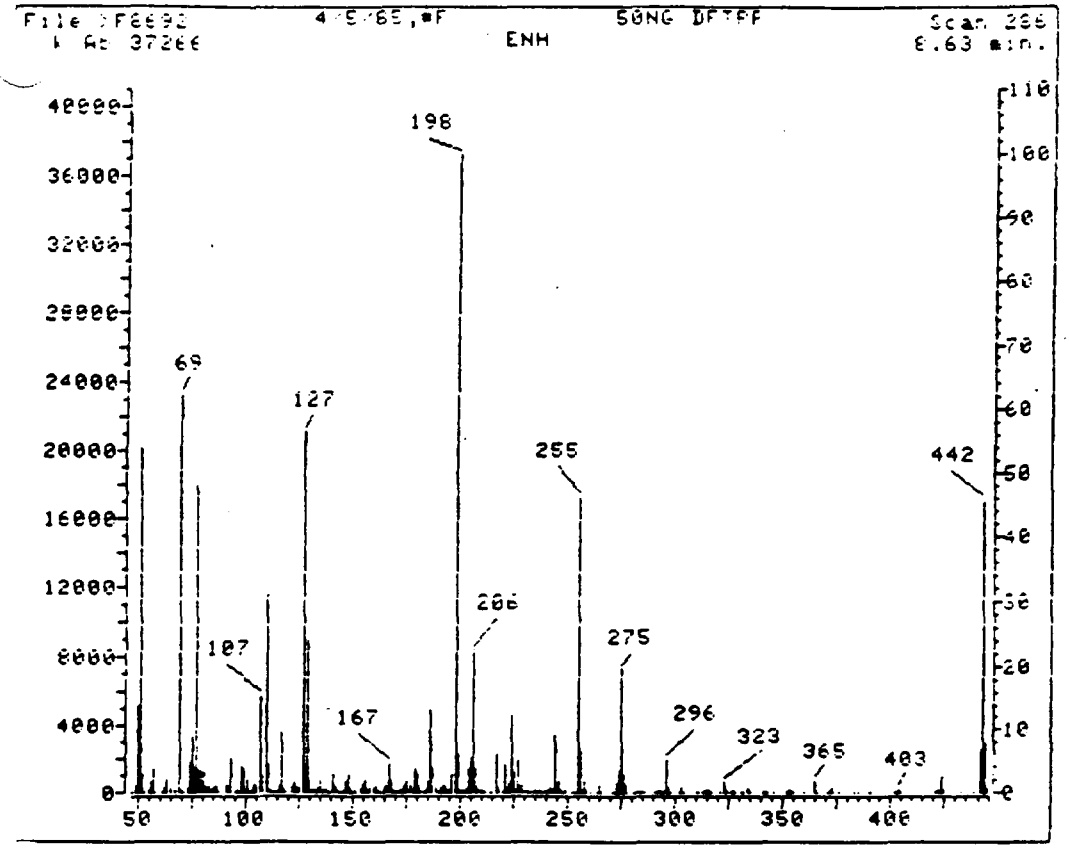


TABLE 2: METHOD PERFORMANCE DATA (QR22)

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	54.01	54.01	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	62.50	62.50	Ok
70	Less then 2% of mass 69	.33	.53	Ok
127	40-60% of mass 198	56.63	56.63	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	6.28	6.28	Ok
275	10-30% of mass 198	19.49	19.49	Ok
365	Greater then 1% of mass 198	1.90	1.90	Ok
441	Less then mass 443	6.83	86.74	Ok
442	Greater then 40% of mass 198	45.42	45.42	Ok
443	17-23% of mass 442	7.87	17.33	Ok

Injection Date: 04/06/85 Analyst: Dan Wan Ch
Injection Time: 01:17 Processor: Patricia Chang
Run No: >F8692 QC Batch: QA2864
Spectrum No: 286 Samples: H2221-H2225, H2338-H2341
68385

TOE

301471

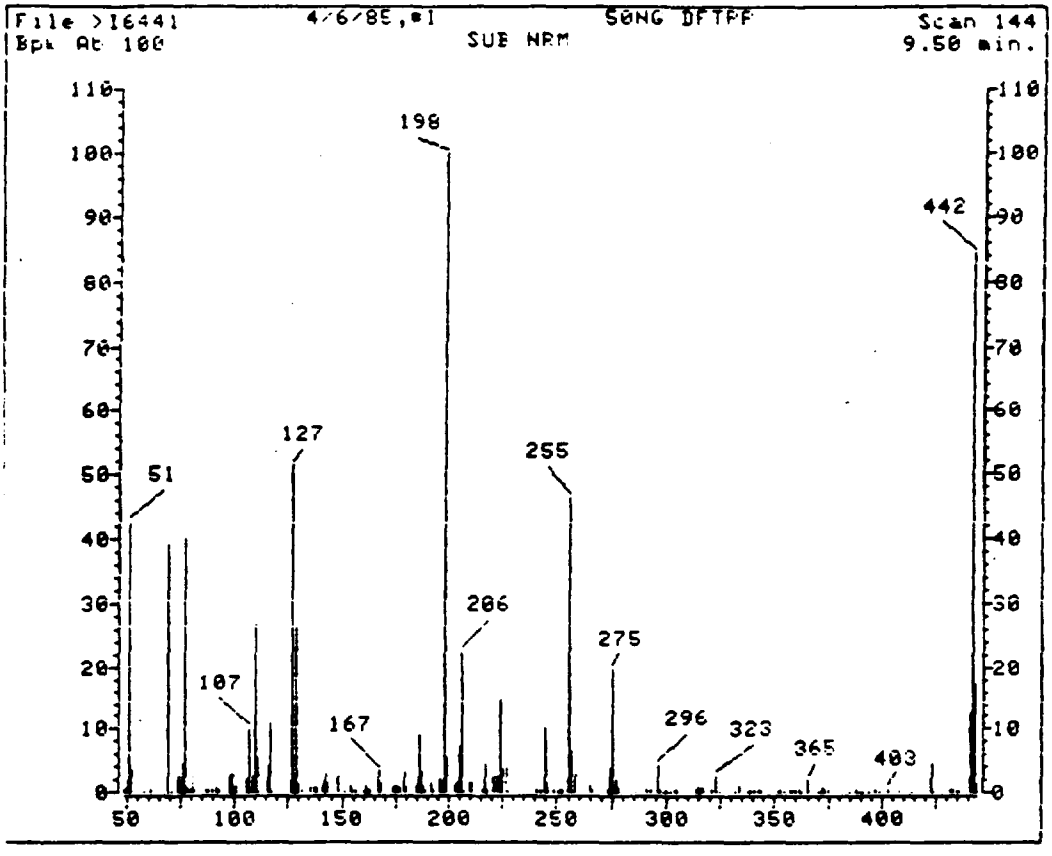


TABLE 2: METHOD PERFORMANCE DATA (QR23)

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

m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
51	30-60% of mass 198	42.39	42.39	Ok
68	Less then 2% of mass 69	0.00	0.00	Ok
69	(reference only)	39.05	39.05	Ok
70	Less then 2% of mass 69	0.00	0.00	Ok
127	40-60% of mass 198	51.34	51.34	Ok
197	Less then 1% of mass 198	.60	.60	Ok
198	Base peak, 100% relative abundance	100.00	100.00	Ok
199	5-9% of mass 198	5.33	5.33	Ok
275	10-30% of mass 198	19.56	19.56	Ok
365	Greater then 1% of mass 198	2.02	2.02	Ok
441	Less then mass 443	12.44	72.64	Ok
442	Greater then 40% of mass 198	84.13	84.13	Ok
443	17-23% of mass 442	17.13	20.36	Ok

Injection Date: 04/06/85 Analyst: Wen-Wen Chou
Injection Time: 07:37 Processor: Patricia Chang
Run No: >I6441 QC Batch: QB2864
Spectrun No: 144 Samples: H2221 - H2225, H2338-H2347

301472

Relative Percent Difference (RPD) for VOA

H2224 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 4 — Facility Source
850321 1540 — Date Time

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	5	8	46
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	ND	0
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
H2224	NJ DEP	NJDCOMBESO	RSTATION 4	850321	1540

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

H2224 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 4 — Facility Source
850321 1540 — Date Time

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	12	22	50
1,2,4-Trichlorobenzene	ND	ND	0

Relative Percent Difference (RPD) for PEST

H2224 NJ DEP — Job Number / Account Name
NJDCOMBESO RSTATION 4 — Facility Source
850321 1540 — Date Time

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

Parameter	REP 1 ug/kg	REP 2 ug/kg	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

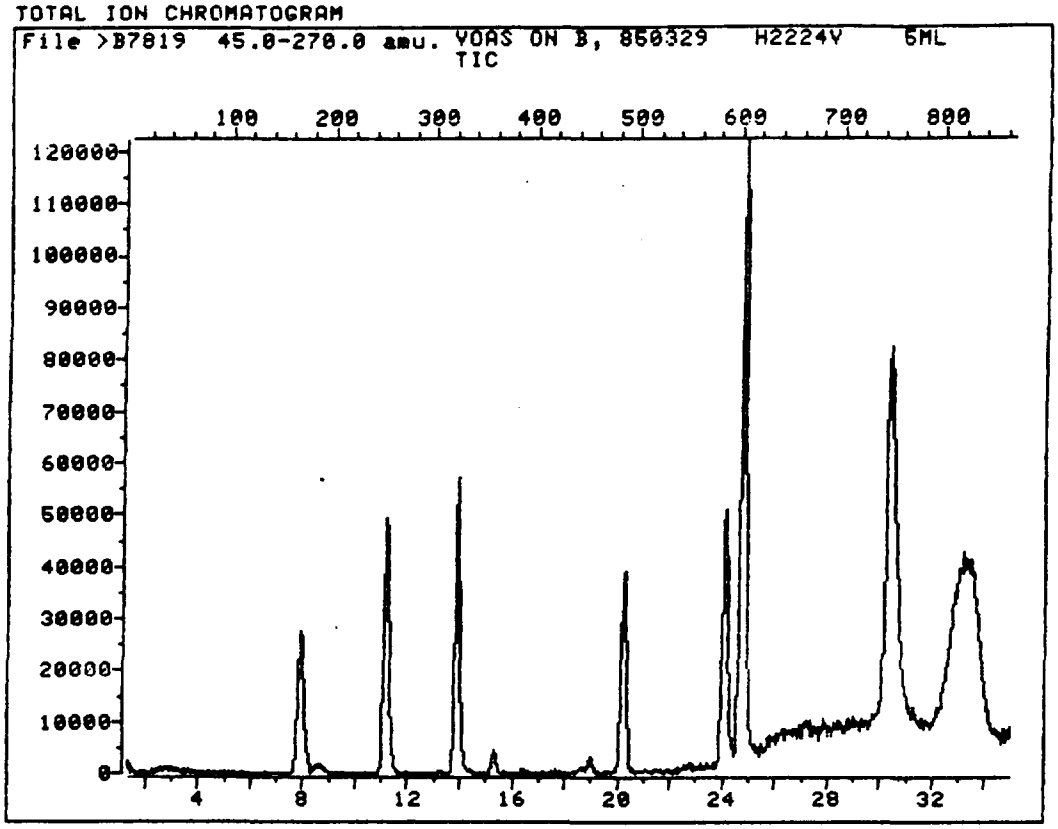
Appendix A

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: >B7819::U4
Name: VOAS ON B, 850329
Misc: H2224V 5ML

Id File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850329 07:25

Operator ID: TM0576
Quant Time: 850329 17:54

301479

QUANT REPORT

Operator ID: TM0576 Quant Rev: 3 Quant Time: 850329 17:5-
Injected at: 850329 17:-9
Data File: >87819::U4 Dilution Factor: 1
Name: VOAS ON B, 850329
Misc: H2224V 5ML

ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850329 07:25

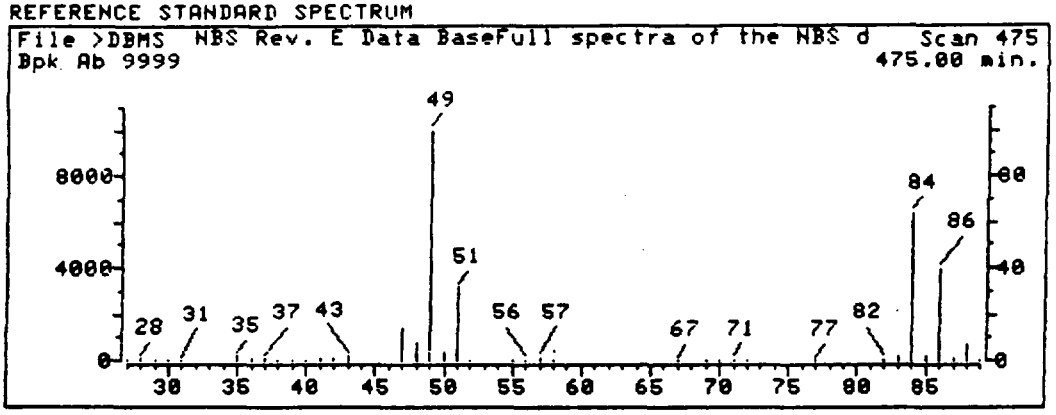
	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	20.24	488	249219	200.00	NG
5)	bis(Chloromethyl)ether	20.24	488	81547	~~160.72~~	NG
11)	2-Chloroethylvinyl ether	19.00	456	8644	~~38.44~~	NG
24)	Methylene chloride	7.90	170	85793	133.62	NG 30=10
27)	Toluene	24.94	609	12076	~~5.25~~	NG
29)	1,1,1-Trichloroethane	15.28	360	21566	~~17.44~~	NG
34)	1,2-Dichloroethane-D4	13.88	324	141411	288.74	NG
35)	Toluene-D8	24.78	605	589935	271.81	NG
35)	Toluene-D8	25.29	618	1562	~~.72~~	NG
36)	p-Bromofluorobenzene	30.37	749	306274	256.63	NG
37)	*1,4-Dichlorobutane	24.08	587	301057	200.00	NG

* Compound is ISTD

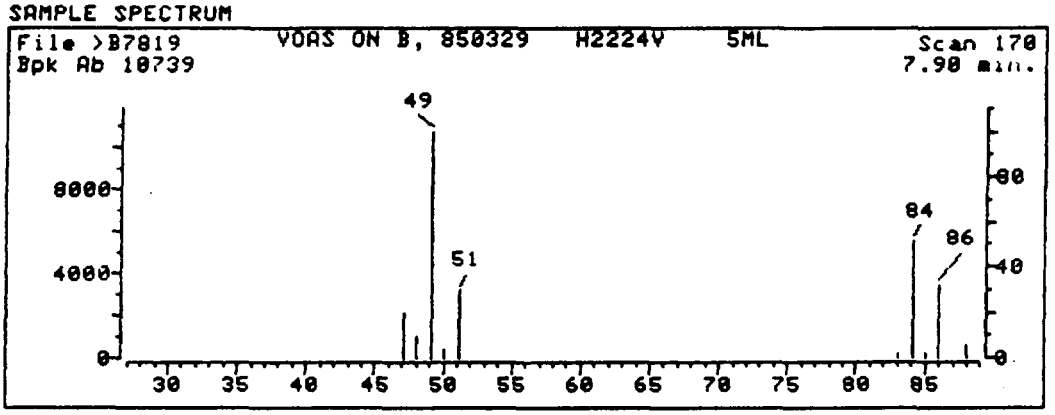
301480

301480

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM



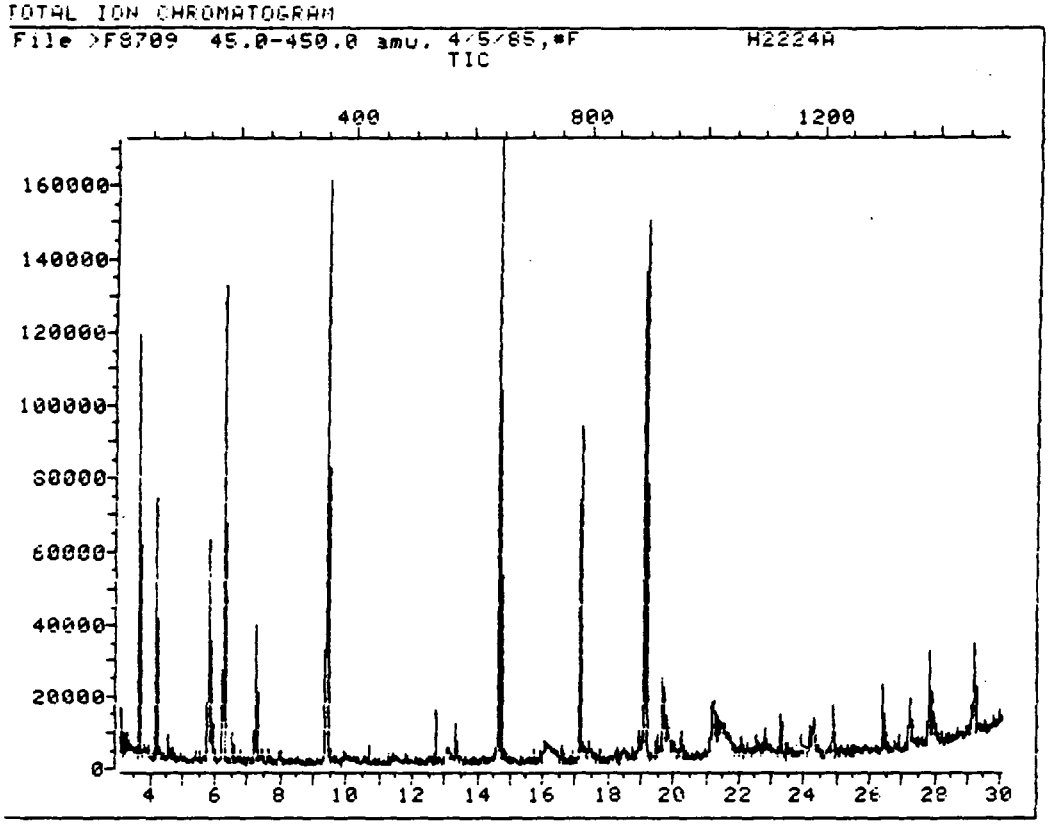
Data File: >B7819::U4
Name: VOAS ON B, 850329
Misc: H2224V 5ML

Compound No: 24
Compound Name: Methylene chloride
Scan Number: 170
Retention Time: 7.90 min.
Area: 85793
Concentration: 133.62 NG

301481

301481

TOTAL ION CHROMATOGRAM



Data File: >F8709::U5
Name: 4/5/85,#F
Misc: H2224A BTL#33

Id File: FACID
Title: ACID ID FILE.....3/15/85,#F,WWC
Last Calibration: 850405 13:04

Operator ID: WW9928
Quant Time: 850406 12:22

301482

QUANT REPORT

erator ID: WW9928 Quant Rev: 3 Quant Time: 850406 12:22
Injected at: 850406 11:50
ta File: >F8709::U5 Dilution Factor: 1.00
me: 4/5/85,#F
sc: H2224A BTL#33

File: FACID
tle: ACID ID FILE.....3/15/85,#F,WWC
st Calibration: 850405 13:04

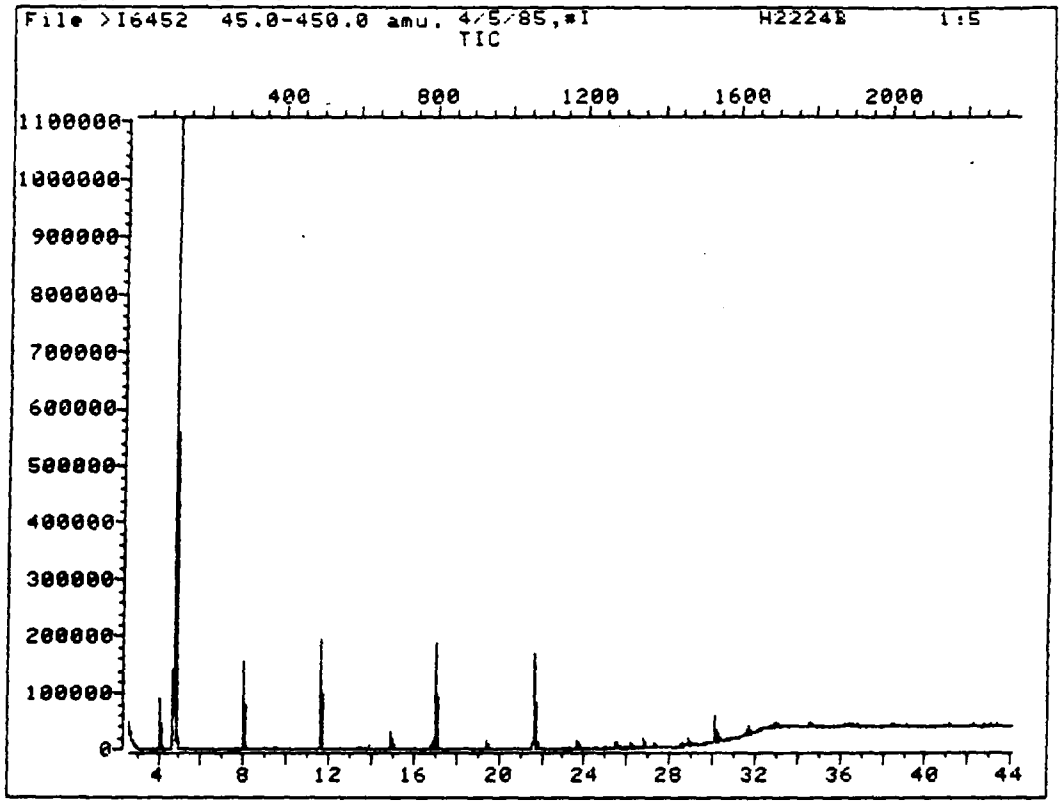
	Compound	R.T.	Scan#	Area	Conc	Units
)	*d4-1,4-Dichlorobenzene	6.20	175	71474	40.00	UG/ML
)	m+p-Cresols	7.57	252	220	.05	UG/ML
)	2-Fluorophenol	4.14	60	52679	39.93	UG/ML
)	Phenol-D5	5.77	151	73842	49.39	UG/ML
)	Phenol-D5	6.27	179	229	.15	UG/ML
)	*d8-Naphthalene	9.35	352	194730	40.00	UG/ML
)	*d10-Acenaphthalene	14.63	648	91124	40.00	UG/ML
)	*d10-Phenanthrene	19.07	897	172767	40.00	UG/ML
)	2,4,6-Tribromophenol	17.09	786	25884	57.17	UG/ML

Compound is ISTD

F098A5

301483

TOTAL ION CHROMATOGRAM



Data File: >I6452::U6
Name: 4/5/85,#I
Misc: H2224B 1:5 BTL#13

Id File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

Operator ID: WW9928
Quant Time: 850406 20:07

IOE

301484

QUANT REPORT

Operator ID: WW9928 Quant Rev: 3 Quant Time: 850406 20:07
Injected at: 850406 19:21
Data File: >I6452::U6 Dilution Factor: 1.00
Name: 4/5/85,#1
Misc: H2224B 1:5 BTL#13

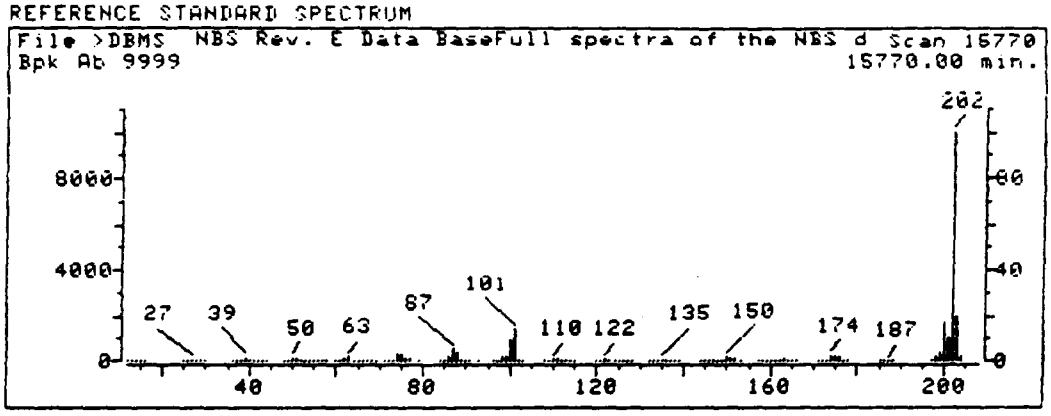
ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.97	303	44453	40.00	UG/ML
7)	Nitrobenzene-d5	9.52	390	6149	2.66	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.97	303	3695	7.42	UG/ML
9)	*d8-Naphthalene	11.52	503	179228	40.00	UG/ML
10)	2-Fluorobiphenyl	14.93	695	20306	8.53	UG/ML
19)	*d10-Acenaphthalene	17.00	812	83685	40.00	UG/ML
22)	Dimethyl phthalate	17.00	812	14823	4.77	UG/ML
32)	*d10-Phenanthrene	21.61	1072	135798	40.00	UG/ML
35)	Phenanthrene	21.68	1076	7683	2.14	UG/ML
36)	Anthracene	21.68	1076	7683	1.79	UG/ML
37)	Di-n-butyl phthalate	23.73	1191	2424	.46	UG/ML
38)	Fluoranthene	25.46	1289	10579	3.59	UG/ML
38)	Fluoranthene	26.17	1329	8931	3.03	UG/ML
40)	Pyrene	25.46	1289	10579	3.64	UG/ML
40)	Pyrene	26.17	1329	8931	3.07	UG/ML
47)	*d12-Chrysene	30.07	1548	34359	40.00	UG/ML
59)	Terphenyl-D14	26.74	1361	11751	10.34	UG/ML
65)	Di-n-octyl phthalate	31.65	1637	830	.44	UG/ML

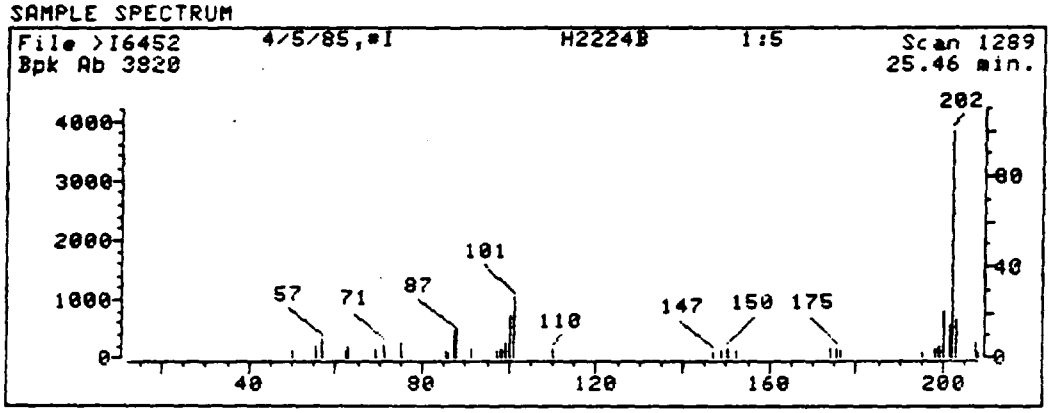
* Compound is ISTD

301485

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM



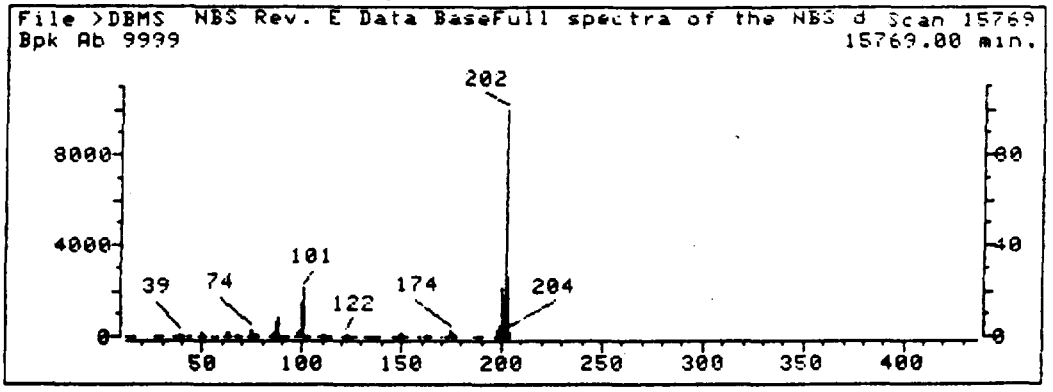
Data File: >I6452::U6
Name: 4/5/85,#I
Misc: H2224B 1:5

BTL#13

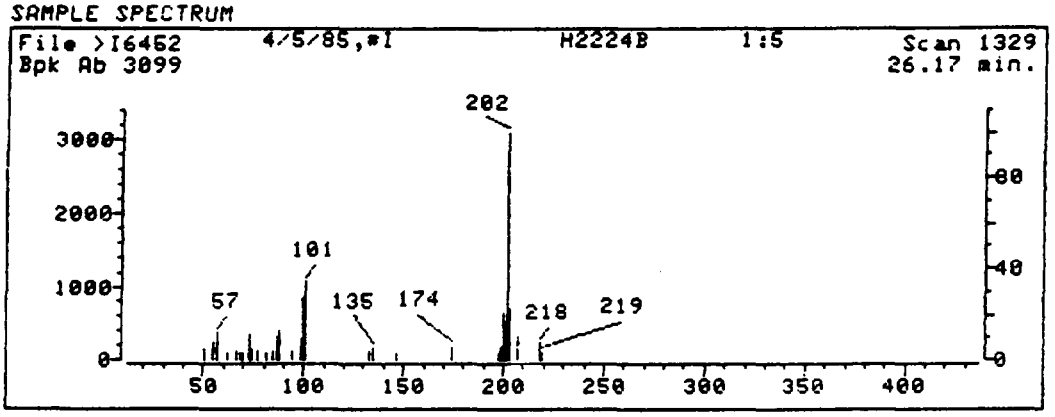
Compound No: 38
Compound Name: Fluoranthene
Scan Number: 1289
Retention Time: 25.46 min.
Area: 10579
Concentration: 3.59 UG/ML

301486

REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM



Data File: >I6452::U6
Name: 4/5/85,#I
Misc: H2224B 1:5

BTL#13

Compound No: 40
Compound Name: Pyrene
Scan Number: 1329
Retention Time: 26.17 min.
Area: 8931
Concentration: 3.07 UG/ML

301487

Appendix B

GC/MS Calibration Data

301488

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850328 20:34

Compound	Files:)B7798 RF 90.00	)B7794 RF 180.00	)B7796 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
:rolein	.06037	.04826	.04702	.421	.05189	14.216	(Conc=4000.0,8000.0,24000.)
crylonitrile	.31384	.34887	.25785	.459	.30685	14.961	(Conc=400.0,800 0,2400.0)
enzene	1.57834	1.46012	1.24284	.926	1.42710	11.924	
is(Chloromethyl)ether	.72764	-	.12306	1.000	.42535	100.506	
omoform	.45109	.28050	.45308	1.069	.39489	25.088	
arbon tetrachloride	.65221	.53275	.56451	.776	.58315	10.610	
lorobenzene	1.22304	1.10531	.96382	1.290	1.09739	11.827	
hlorodibromomethane	.66694	.50296	.58377	.939	.58456	14.026	
loroethane	.30709	.25257	.07398	.274	.21121	57.730	
-Chloroethylvinyl ether	.20928	.15644	.11963	.941	.16178	27.854	
loroform	1.19832	1.07267	.91071	.656	1.06057	13.595	
ichlorobromomethane	.87281	.72505	.73185	.802	.77657	10.742	
.chlorodifluoromethane	.08605	.40454	.08508	.210	.19189	95.975	
,1-Dichloroethane	.79561	.71663	.63920	.591	.71715	10.905	
.2-Dichloroethane	1.01260	.96287	.78669	.692	.92072	12.893	
,1-Dichloroethylene	.96286	.90633	.76286	.525	.87735	11.752	
.2-Dichloropropane	.62519	.55734	.51416	.866	.56556	9.896	
ans-1,3-Dichloropropylene	.72106	.56936	.65130	.879	.64724	11.731	
s-1,3-Dichloropropylene	.55230	.43035	.49321	.942	.49195	12.396	
thylbenzene	2.36996	2.21929	1.76098	1.382	2.11674	14.984	
ethyl bromide	.05942	.10328	.05993	.178	.07421	33.926	
ethyl chloride	.68387	.71137	.51436	.123	.63653	16.762	
thylene chloride	.94649	.66081	.33417	.390	.64716	47.344	
2,2-Tetrachloroethane	.99833	1.00942	.85200	1.177	.95325	9.217	
rachloroethylene	.79116	.70786	.62674	1.175	.70859	11.602	
oluene	1.99631	1.83538	1.49428	1.234	1.77532	14.439	
.2-Trans-dichloroethylene	.84313	.78202	.69195	.626	.77237	9.846	
,1,1-Trichloroethane	1.03591	.87905	.70440	.757	.87312	18.994	
.1,2-Trichloroethane	.47283	.42578	.38834	.942	.42899	9.868	
richloroethylene	.47983	.42933	.38285	.904	.43034	11.275	
richlorofluoromethane	1.07539	1.05983	.81481	.493	.98334	14.864	
inyl chloride	.04713	.44133	.06786	.221	.18544	119.632	
rtho & Para Xylenes	-	.01022	-	1.580	.01022	-	(Conc=150.0,300.0,900.0)
eta-Xylene	-	.02045	-	1.580	.02045	-	(Conc=75.0,150.0,450.0)
yrene	-	-	-	-	-	-	
ethyl Methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0)
eptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0)
-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
etone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
,2-Dichloroethane-D4	.35297	.38539	.32715	.686	.35517	8.216	(Conc=250.0,250.0,250.0)
oluene-D8	1.60919	1.67823	1.55211	1.225	1.61984	4.546	(Conc=250.0,250.0,250.0)
-Bromofluorobenzene	.88447	.95928	.86090	1.502	.90155	5.698	(Conc=250.0,250.0,250.0)

F - Response Factor (Subscript is amount in NG)

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

$\overline{RF}$ - Average Response Factor

RSD - Percent Relative Standard Deviation

301489

Title: CALIBRATION FILE FOR PRIORITY POLLUTANTS , B 2/20/85,AJR
Calibrated: 850329 06:54

Compound	Files:)B7809 RF 90.00	)B7807 RF 180.00	)B7808 RF 540.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
crolein	.08164	.05118	.04663	.420	.05982	31.822	(Conc=4000.0,8000.0,24000.)
crylonitrile	.32229	.29611	.23926	.456	.28589	14.849	(Conc=400.0,800.0,2400.0)
enzene	1.66370	1.54363	1.45550	.926	1.55428	6.724	
is(Chloromethyl)ether	.72580	.37036	.12539	1.000	.40718	74.143	
romoform	.41209	.45193	.50636	1.069	.45679	10.360	
arbon tetrachloride	.68273	.73331	.70692	.776	.70765	3.575	
hlorobenzene	1.19067	1.14628	1.06509	1.291	1.13401	5.616	
hlorodibromomethane	.65153	.68807	.69511	.938	.67824	3.449	
hloroethane	.28633	.30689	.26093	.277	.28472	8.085	
-Chloroethylvinyl ether	.22300	.18046	.13799	.942	.18048	23.550	
hloroform	1.24828	1.21846	1.09469	.656	1.18714	6.860	
ichlorobromomethane	.87339	.91820	.87693	.802	.88951	2.800	
ichlorodifluoromethane	.27636	.11532	.09639	.213	.16269	60.787	
,1-Dichloroethane	.83335	.80402	.76278	.592	.80005	4.431	
,2-Dichloroethane	1.04839	1.07545	.94158	.692	1.02181	6.927	
,1-Dichloroethylene	1.02830	1.02149	.92591	.526	.99190	5.772	
,2-Dichloropropane	.64510	.61163	.59480	.867	.61718	4.149	
rans-1,3-Dichloropropylene	.76339	.75082	.75586	.879	.75669	.836	
is-1,3-Dichloropropylene	.67820	.58057	.58532	.941	.61470	8.955	
thylbenzene	2.42945	2.33792	2.05772	1.385	2.27503	8.513	
ethyl bromide	.05722	.07646	.05919	.183	.06429	16.471	
ethyl chloride	.56473	.74078	.64111	.126	.64887	13.605	
ethylene chloride	.54523	.54960	.45099	.392	.51527	10.812	
,1,2,2-Tetrachloroethane	.95397	.89623	.87788	1.178	.90936	4.366	
etrachloroethylene	.78347	.75871	.72224	1.175	.75481	4.080	
oluene	1.92334	1.88876	1.73083	1.235	1.84764	5.555	
2-Trans-dichloroethylene	.90909	.87474	.82718	.626	.87034	4.726	
,1,1-Trichloroethane	1.08730	1.02281	.86685	.757	.99232	11.422	
1,2-Trichloroethane	.47794	.46353	.44712	.942	.46287	3.332	
richloroethylene	.49395	.47952	.45233	.904	.47527	4.447	
richlorofluoromethane	1.14004	1.17561	1.02745	.494	1.11437	6.941	
inyl chloride	.35391	.20418	.07868	.221	.21392	65.615	
rtho & Para Xylenes	-	-	.00132	1.615	.00132	-	(Conc=150.0,300.0,900.0)
eta-Xylene	-	-	.02965	1.577	.02965	-	(Conc=75.0,150.0,450.0)
yrene	-	-	-	-	-	-	
ethyl Methacrylate	-	-	-	-	-	-	(Conc=500.0,500.0,1000.0)
ptane	-	-	-	-	-	-	(Conc=250.0,250.0,250.0)
-Butanone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
etone	-	-	-	-	-	-	(Conc=450.0,450.0,450.0)
,2-Dichloroethane-D4	.39894	.40133	.37880	.686	.39302	3.149	(Conc=250.0,250.0,250.0)
luene-D8	1.74907	1.75898	1.71717	1.226	1.74174	1.254	(Conc=250.0,250.0,250.0)
-Bromofluorobenzene	.96423	.97536	.93361	1.504	.95773	2.257	(Conc=250.0,250.0,250.0)

: - Response Factor (Subscript is amount in NG)

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

- Average Response Factor

RSD - Percent Relative Standard Deviation

301490

Calibration Report

Title: ACID FRACTION.....2/22/85,$F,WWC
Calibrated: 850405 13:00

Compound	Files: >F8673 RF 60.00	>F8672 RF 100.00	>F8671 RF 300.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlorophenol	.83592	.73068	.81756	.951	.79472	7.074	
enol	.98071	.89677	1.09611	.933	.99120	10.097	
4-Dichlorophenol	.26172	.23387	.26967	.982	.25509	7.371	
4-Dimethylphenol	.32646	.29338	.33857	.934	.31947	7.322	
Nitrophenol	.17049	.15824	.19300	.901	.17391	10.138	
Chloro-m-cresol	.28227	.26217	.31972	1.220	.29472	7.347	
6-Dinitro-o-cresol	.15313	.17674	.28582	1.142	.20523	34.491	
4-Dinitrophenol	.03048	.07098	.16179	1.030	.08775	76.633	
Nitrophenol	.05392	.10687	.21582	1.083	.12554	65.758	
4,6-Trichlorophenol	.37352	.32565	.36901	.855	.35606	7.424	
ntachlorophenol	.07220	.08028	.11961	.987	.09069	27.966	
Fluorophenol	.69832	.64982	.86694	.664	.73836	15.435	(Conc=100.0,100.0,100.0)
enol-D5	.78008	.71532	1.01455	.929	.83665	18.817	(Conc=100.0,100.0,100.0)
4,6-Tribromophenol	.10672	.09071	.11706	.896	.10483	12.665	(Conc=100.0,100.0,100.0)
Cresol	-	-	-	-	-	-	
p-Cresols	-	-	-	-	-	-	

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

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

$\overline{RF}$ - Average Response Factor

%D - Percent Relative Standard Deviation

301491

035

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >16444 RF 60.00	>16443 RF 100.00	>16442 RF 200.00	>16445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
N-Nitrosodimethylamine	1.42642	1.55796	1.62088	-	.407	1.53509	6.464	
bis(2-Chloroethyl) ether	2.10289	2.17665	2.28073	-	.928	2.18676	4.086	
1,3-Dichlorobenzene	1.51193	1.55715	1.53923	-	.989	1.53610	1.482	
1,4-Dichlorobenzene	1.59404	1.66507	1.58416	-	1.005	1.61442	2.734	
1,2-Dichlorobenzene	1.54852	1.58178	1.50744	-	1.066	1.54591	2.409	
Nitrobenzene-d5	2.08223	2.11723	2.03519	-	1.194	2.07822	1.981	(Conc=50.0,50.0,50.0,)
bis(2-Chloroisopropyl)ether	.33376	.40855	.60278	-	1.105	.44836	30.970	
2-Fluorobiphenyl	.57248	.56061	.46036	-	1.298	.53115	11.597	(Conc=50.0,50.0,50.0,)
N-Nitrosodi-n-propylamine	.43678	.46548	.51124	-	.795	.47117	7.971	
Hexachloroethane	.10226	.10747	.10932	-	.807	.10635	3.444	
Nitrobenzene	.75059	.78641	.84478	-	.829	.79392	5.988	
Isophorone	.77110	.81078	.85405	-	.886	.81198	5.110	
bis(2-Chloroethoxy)methane	.54119	.56212	.57102	-	.947	.55811	2.744	
1,2,4-Trichlorobenzene	.24720	.24046	.22742	-	.990	.23836	4.219	
Naphthalene	1.10205	1.12455	1.09741	-	1.006	1.10801	1.310	
Hexachlorobutadiene	.12333	.12072	.11194	-	1.055	.11866	5.029	
Hexachlorocyclopentadiene	.16484	.18283	.16439	-	.847	.17069	6.162	
2-Chloronaphthalene	1.14013	1.18323	1.20879	-	.894	1.17738	2.947	
Dimethyl phthalate	1.50424	1.46034	1.48967	-	.962	1.48475	1.506	
Acenaphthylene	2.23281	2.31954	2.26215	-	.971	2.27150	1.942	
2,6-Dinitrotoluene	.32778	.34251	.32217	-	.974	.33082	3.175	
Acenaphthene	1.42080	1.49196	1.43761	-	1.006	1.45012	2.565	
2,4-Dinitrotoluene	.42484	.43414	.36352	-	1.045	.40750	9.415	
Diethyl phthalate	1.69292	1.71707	1.62561	-	1.094	1.67854	2.824	
Fluorene	1.48025	1.55150	1.37945	-	1.099	1.47040	5.879	
4-Chlorophenyl phenyl ether	.50351	.53967	.47311	-	1.102	.50543	6.592	
N-Nitrosodiphenylamine	.97808	.99039	.81829	-	1.125	.92892	10.335	
1,2-Diphenylhydrazine	2.82605	2.97484	2.75638	-	1.131	2.85242	3.912	
4-Bromophenyl phenyl ether	-	.16821	.17603	-	.936	.17212	3.212	
Hexachlorobenzene	.17131	.17365	.16437	-	.956	.16978	2.843	
Phenanthrene	1.04300	1.09407	1.02829	-	1.003	1.05512	3.272	
Anthracene	1.23121	1.28610	1.26973	-	1.010	1.26235	2.232	
Di-n-butyl phthalate	1.55575	1.57139	1.54098	-	1.097	1.55604	.977	
Fluoranthene	.87063	.90528	.82844	-	1.178	.86812	4.433	
Benzidine	.10353	.10837	.25676	-	1.200	.15622	55.756	
Pyrene	.84941	.88562	.83557	-	1.211	.85687	3.016	
Alpha-BHC	.14566	.14607	-	.15357	.945	.14843	2.998	
Beta-BHC	.08651	.09762	-	.08816	.979	.09076	6.603	
Gamma-BHC	.13450	.13291	-	.13649	.988	.13463	1.333	
Delta-BHC	.09821	.10262	-	.09713	1.018	.09932	2.924	
Heptachlor	.30795	.33440	-	.34428	1.080	.32888	5.711	
Aldrin	.32730	.34450	-	.32552	1.123	.33244	3.153	
Heptachlor epoxide	.04600	.04941	-	.06596	.841	.05379	19.847	

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

301492

Title: B/N+PEST ID FILE .... FOR I 850326
Calibrated: 850406 14:03

Compound	Files: >I6444 RF 60.00	>I6443 RF 100.00	>I6442 RF 200.00	>I6445 RF 150.00	$\overline{RRT}$	$\overline{RF}$	% RSD	
Chlordane	.01334	.01547	-	.01932	.861	.01604	18.900	(Conc=100.0,200.0,,500.0)
Endosulfan I	.07643	.08687	-	.10965	.873	.09098	18.672	
4,4'-DDE	.39651	.38293	-	.48692	.888	.42212	13.392	
Dieldrin	.85559	.92026	-	1.12272	.895	.96619	14.424	
Endrin	.12875	.12799	-	.16973	.915	.14216	16.800	
Endosulfan II	.06944	.07567	-	.09137	.921	.07883	14.333	
4,4'-DDD	.62091	.66602	-	.77665	.923	.68786	11.650	
Endrin aldehyde	-	-	-	.51049	.937	.51049	-	
4,4'-DDT	.42969	.49759	-	.49155	.953	.47294	7.945	
Endosulfan sulfate	.08499	.09885	-	.10942	.956	.09775	12.535	
Terphenyl-D14	1.26005	1.33392	1.37678	-	.890	1.32358	4.461	(Conc=50.0,50.0,50.0,)
Butyl benzyl phthalate	1.37825	1.43947	1.55231	-	.946	1.45668	6.061	
Benzo(a)anthracene	1.36803	1.41663	1.24239	-	.998	1.34235	6.698	
Chrysene	1.12478	1.23627	1.18429	-	1.003	1.18178	4.721	
3,3'-Dichlorobenzidine	.23359	.24852	.28045	-	.998	.25419	9.416	
bis(2-Ethylhexyl)phthalate	1.66490	1.83512	1.87571	-	1.010	1.79191	6.242	
Di-n-octyl phthalate	2.04556	2.37214	2.20092	-	1.071	2.20621	7.404	
Benzo(b)fluoroanthene	.74969	.69436	.67445	-	1.111	.70617	5.521	
Benzo(k)fluoranthene	.66081	.79919	.65568	-	1.114	.70523	11.545	
Benzo(a)pyrene	.60956	.71871	.57713	-	1.151	.63513	11.678	
Indeno(1,2,3-c,d)pyrene	.59747	.78757	.61852	-	1.331	.66785	15.603	
Dibenzo(a,h)anthracene	.45676	.58732	.45797	-	1.335	.50068	14.986	
Benzo(ghi)perylene	.44679	.57162	.47055	-	1.382	.49632	13.356	

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

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

$\overline{RF}$ - Average Response Factor

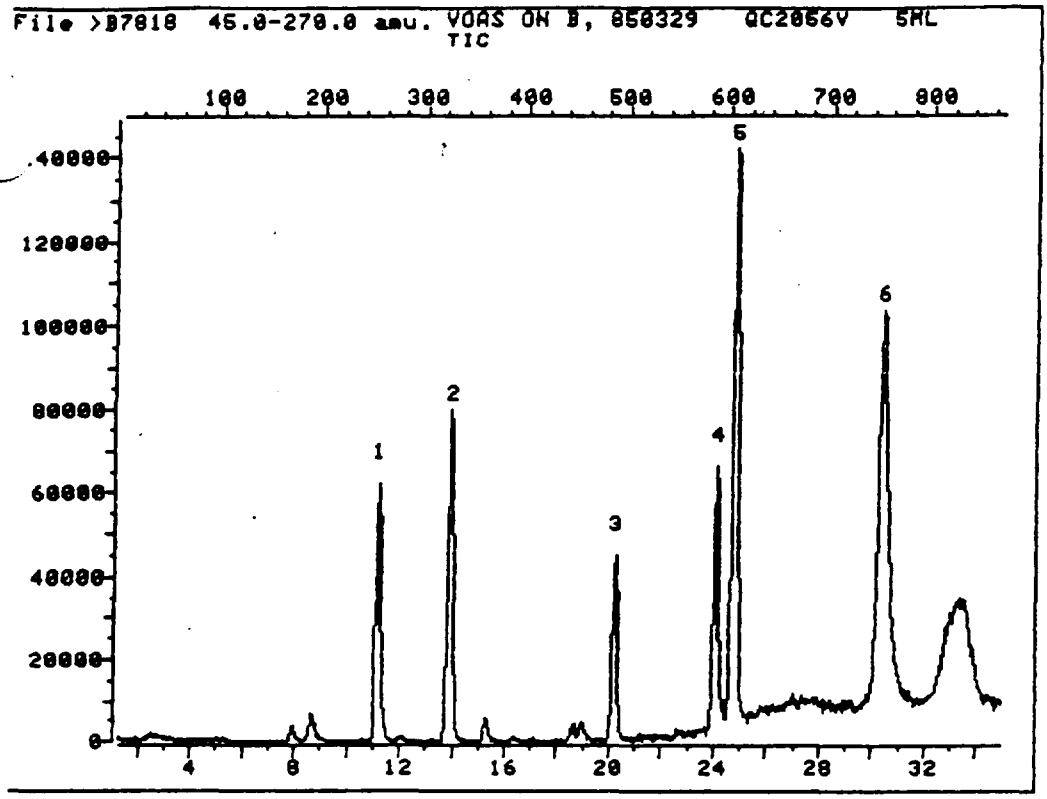
%RSD - Percent Relative Standard Deviation

301483

Appendix C1

GC/MS Subsidiary Data

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >B7818::U4
Name: VOAS ON B, 850329
Misc Data: QC2056V 5ML

301495

QUANT REPORT

Operator ID: TM0576 Quant Rev: 3 Quant Time: 850329 17:
Injected at: 850329 16
Data File: >87818::U4 Dilution Factor: 1.00
Name: VOAS ON B, 850329
Misc: QC3056V 5ML

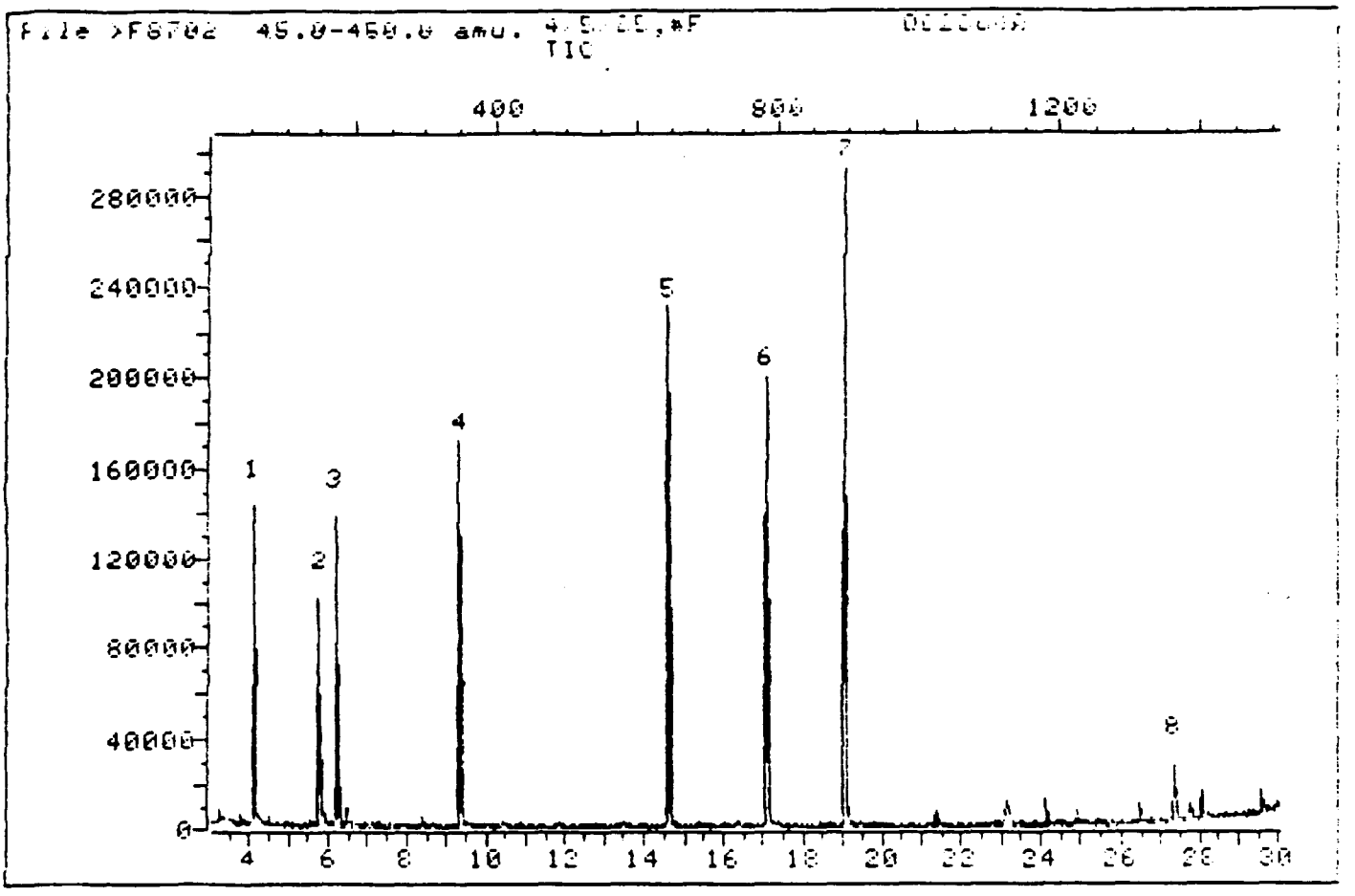
ID File: BVOA
Title: IDFILE, PURGEABLE PRIORITY POLLUTANTS, B
Last Calibration: 850329 07:25

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*2-Bromo-1-chloropropane	20.21	489	264363	200.00	NG
5)	bis(Chloromethyl)ether	20.21	489	91627	~~170.24~~	NG
11)	2-Chloroethylvinyl ether	19.01	458	11719	~~49.12~~	NG
12)	Chloroform	13.27	310	3505	~~2.23~~	NG
24)	Methylene chloride	7.95	173	10801	15.86	NG
27)	Toluene	24.95	611	11795	~~4.83~~	NG
29)	1,1,1-Trichloroethane	15.28	362	24369	18.58	NG
34)	1,2-Dichloroethane-D4	13.89	326	181685	349.73	NG
35)	Toluene-D8	24.75	606	690787	300.05	NG
36)	p-Bromofluorobenzene	30.38	751	398249	314.59	NG
37)	*1,4-Dichlorobutane	24.09	589	385785	200.00	NG

* Compound is ISTD

301496

TOTAL ION CHROMATOGRAM for PLUG ANALYSIS



Data File: >F8702::US
Name: 4/5/95,#F
Misc Data: 0C2064A

BTL#28

301497

QUANT REPORT

erator ID: WW9928 Quant Rev: 3 Quant Time: 850406 07:47
Injected at: 850406 07:15
ta File: >F8702::U5 Dilution Factor: 1.00
me: 4/5/85,#F
sc: QC2864A BTL#26

File: FACID
tle: ACID ID FILE.....3/15/85,#F,WWC
st Calibration: 850405 13:04

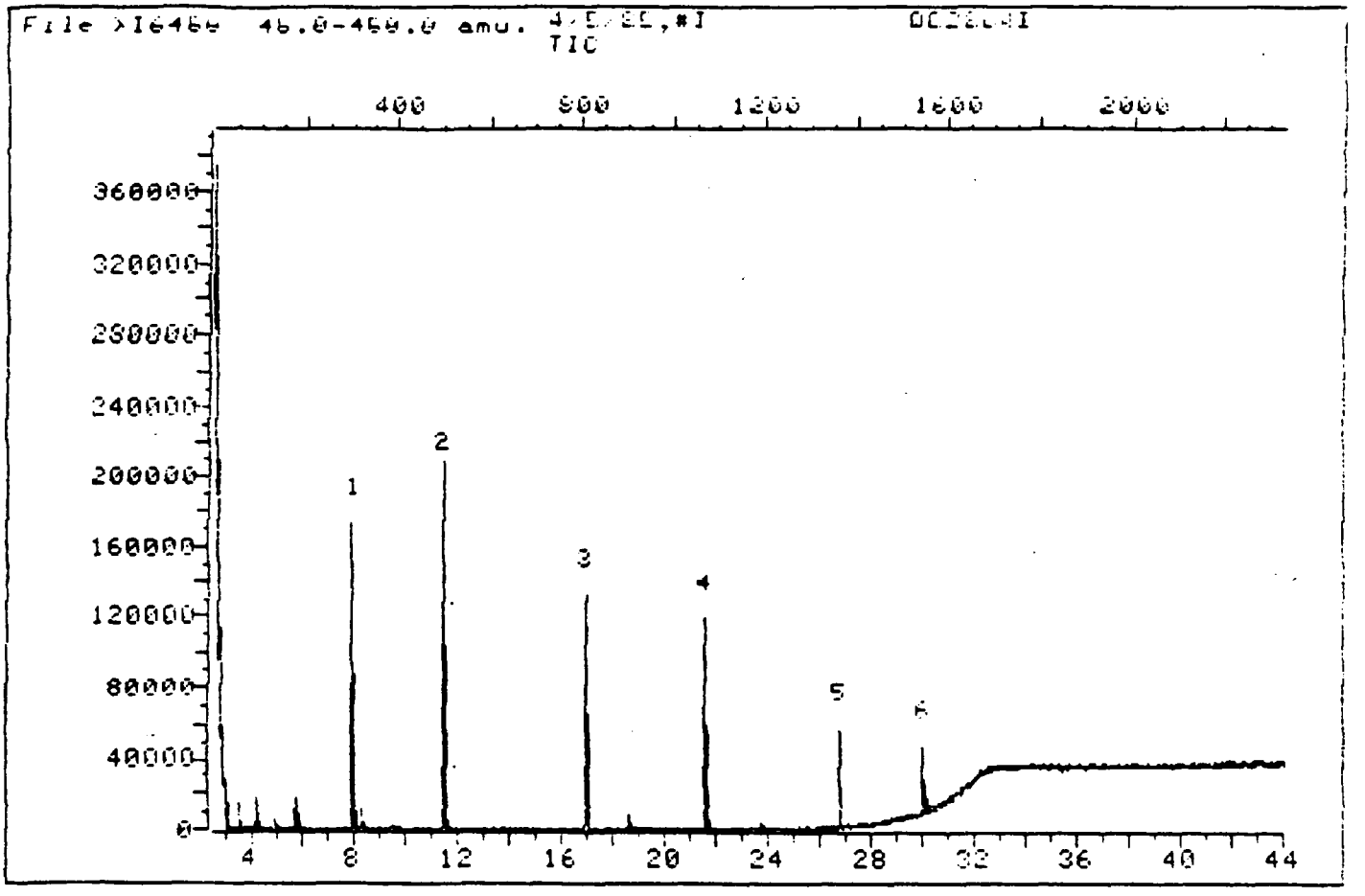
Compound	R.T.	Scan#	Area	Conc	Units
*d4-1,4-Dichlorobenzene	6.18	174	75508	40.00	UG/ML
2-Fluorophenol	4.10	57	85623	61.43	UG/ML
2-Fluorophenol	4.46	77	437	.31	UG/ML
Phenol-D5	5.74	149	126055	79.81	UG/ML
Phenol-D5	6.04	166	1022	.65	UG/ML
Phenol-D5	6.18	174	704	.45	UG/ML
*d8-Naphthalene	9.34	351	199669	40.00	UG/ML
*d10-Acenaphthalene	14.58	645	135525	40.00	UG/ML
*d10-Phenanthrene	19.03	895	336877	40.00	UG/ML
2,4,6-Tribromophenol	17.04	783	54192	61.38	UG/ML

Compound is ISTD

F098AC

301498

TOTAL ION CHROMATOGRAM for PLUC ANALYSIS



Data File: >I6458::U6
Name: 4/5/05,#I
Misc Data: QC2064P

RTL# 7

97108

301499

QUANT REPORT

Operator ID: WW9928

Quant Rev: 3 Quant Time: 850406 14:48
Injected at: 850406 14:01
Dilution Factor: 1.00

Data File: >16458::U6
Name: 4/5/85,#1
Misc: QC2864B

BTL# 7

ID File: IBNP
Title: B/N+PEST ID FILE .... FOR I 850326
Last Calibration: 850406 14:13

I095AI

	Compound	R.T.	Scan#	Area	Conc	Units
1)	*d4-1,4-Dichlorobenzene	7.95	303	58901	40.00	UG/ML
2)	N-Nitrosodimethylamine	2.77	11	1350	.60	UG/ML
2)	N-Nitrosodimethylamine	2.93	20	618	.27	UG/ML
7)	Nitrobenzene-d5	9.51	391	3863	1.26	UG/ML
8)	bis(2-Chloroisopropyl)ether	7.97	304	4643	7.03	UG/ML
9)	*d8-Naphthalene	11.51	504	214112	40.00	UG/ML
19)	*d10-Acenaphthalene	16.98	812	68494	40.00	UG/ML
22)	Dimethyl phthalate	17.00	813	12774	5.02	UG/ML
27)	Diethyl phthalate	18.58	902	3211	1.12	UG/ML
32)	*d10-Phenanthrene	21.63	1074	103137	40.00	UG/ML
37)	Di-n-butyl phthalate	23.72	1192	5758	1.44	UG/ML
39)	Benzidine	26.76	1363	627	1.56	UG/ML
47)	*d12-Chrysene	30.06	1549	30758	40.00	UG/ML
59)	Terphenyl-D14	26.76	1363	36210	35.58	UG/ML
65)	Di-n-octyl phthalate	31.40	1624	1581	.93	UG/ML

* Compound is ISTD

301500

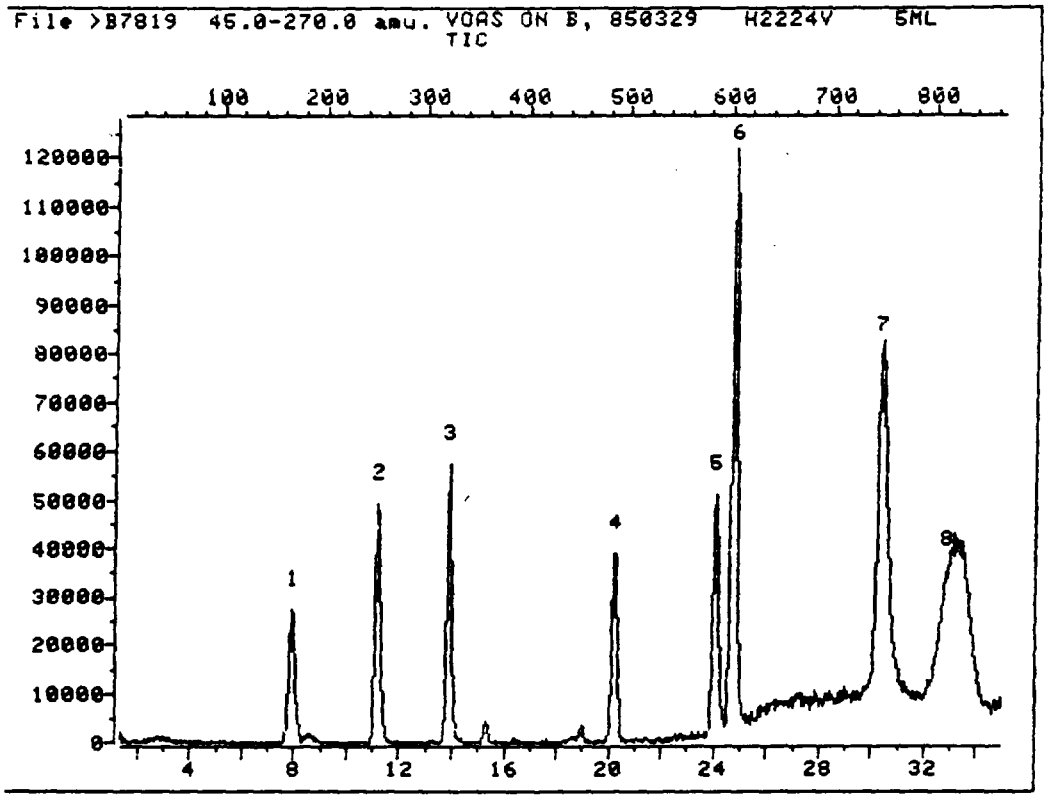
301500

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.

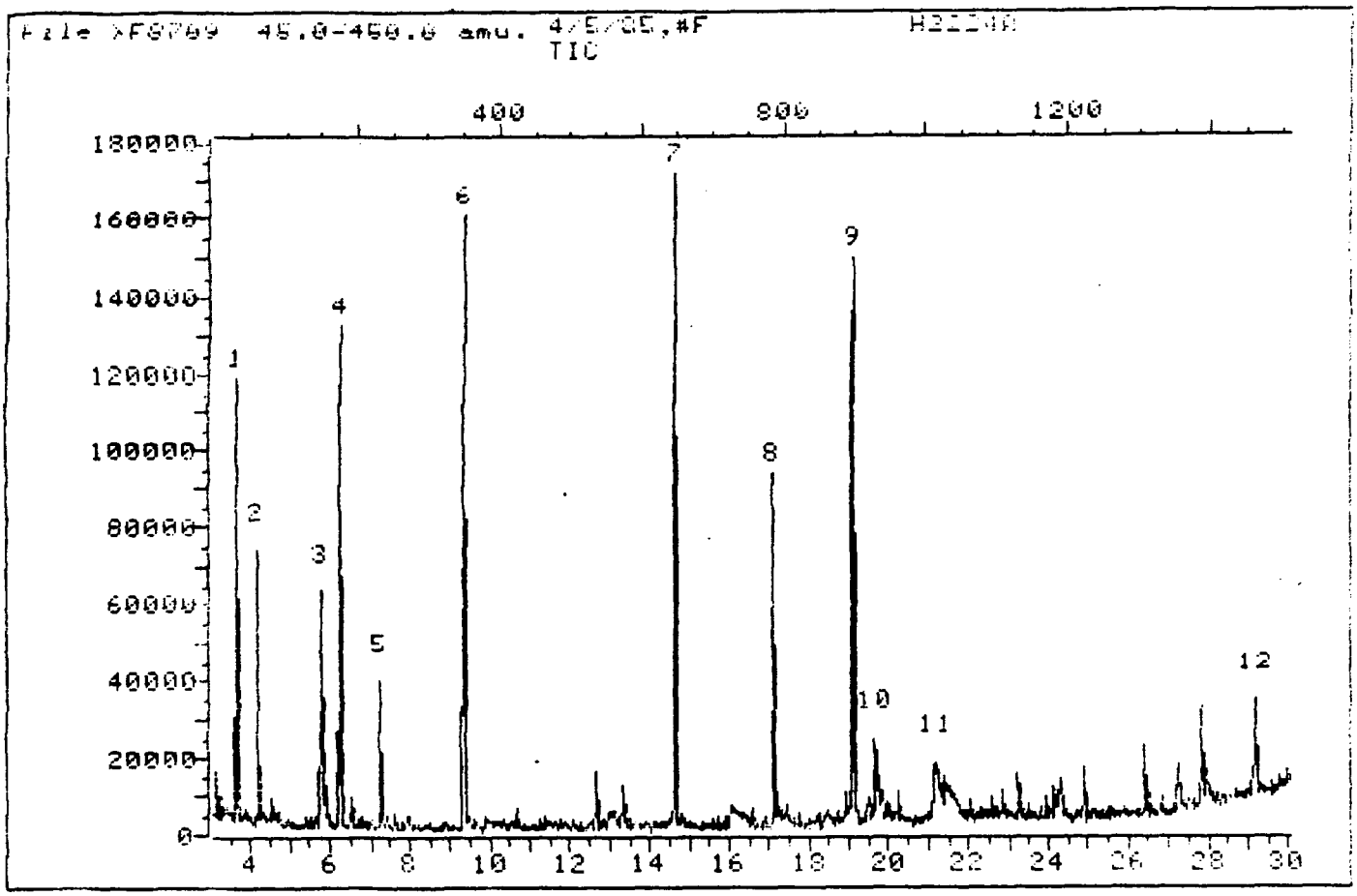
TOTAL ION CHROMATOGRAM for PLUS ANALYSIS



Data File: >B7819::U4
Name: VOAS ON B, 850329
Misc Data: H2224V 5ML

301502

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

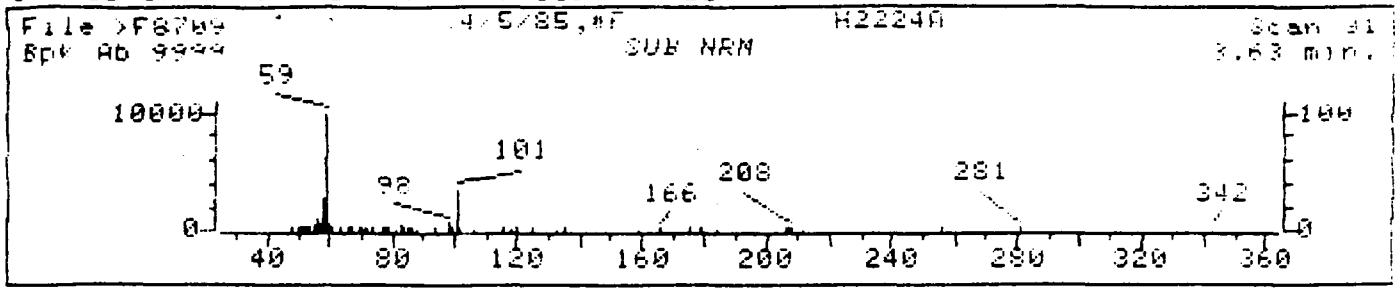


Data File: >F8709::U5
Name: 4/5/05,#F
Misc Data: H2224A

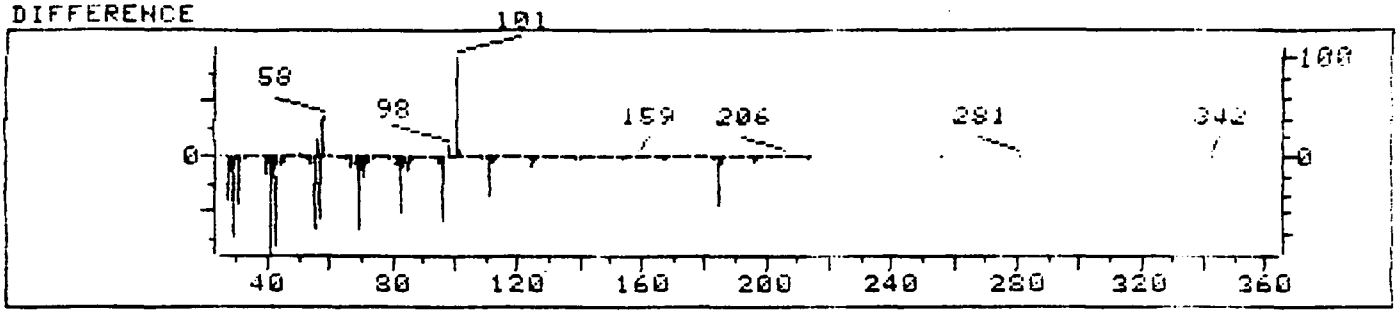
BTL#33

301503

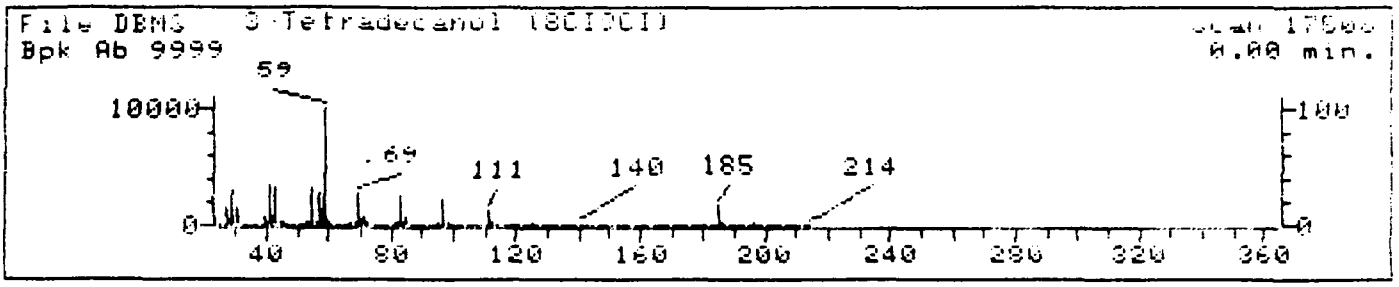
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8709::UC
Name: 4/5/85,#F
Misc Data: H2224A BTL#37
RT (min): 3.63
Scan: 31
Area: 174678
Semi-quantitative Conc: 26.11 UG/ML

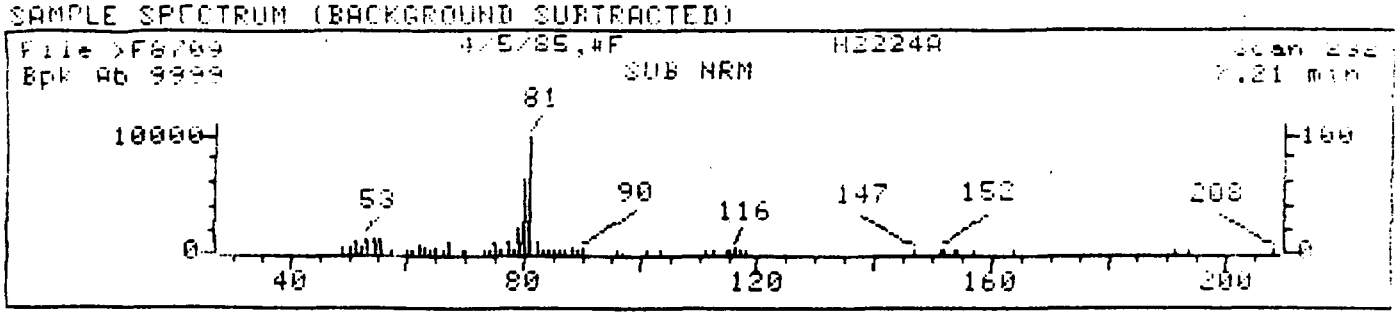
Data File: >F8709 Scan Number: 31
Search Speed: 2 Titling option: S Number of ion ranges searched: 50

1. 3-Tetradecanol (8CI)(CI) 214 C14H30O
2. Cyclooctanemethanol, .alpha.,.alpha.-dimethyl- (8CI) 170 C11H22O

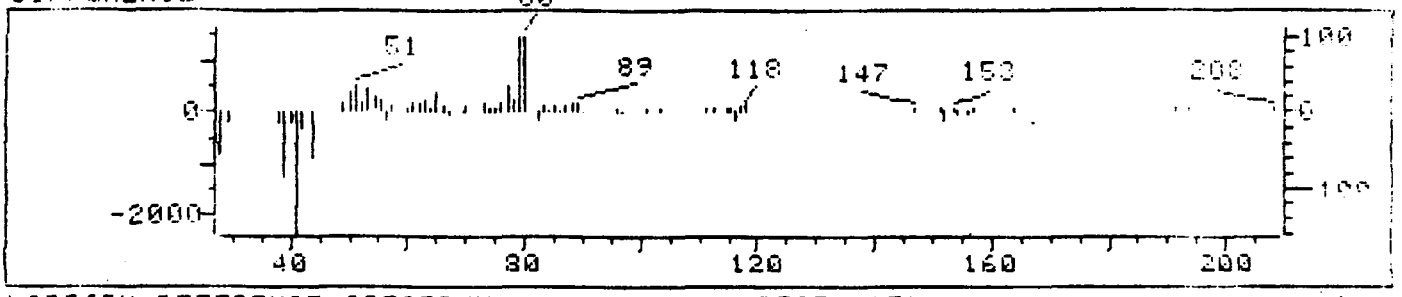
	Prob.	Cas#	K	dK	RFlg	Tilt
1.	70	1653323	34	01	0	-2
2.	70	16624069	57	26	0	-2

301504

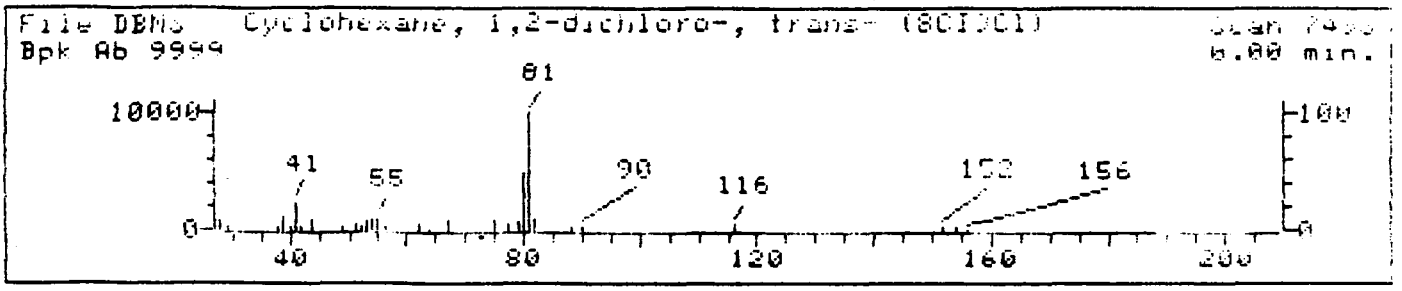
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8709::US
Name: 4/5/85,#F
Misc Data: H2224A BTL#33
RT (min): 7.21
Scan: 232
Area: 75670
Semi-quantitative Conc: 11.7 UG/ML

Data File: >F8709 Scan Number: 232
Search Speed: 2 Titling option: S Number of ion ranges searched: 50

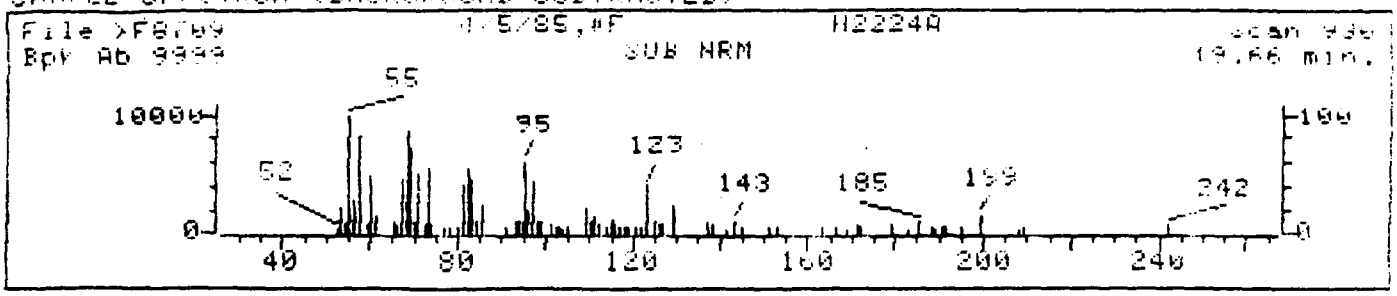
1. Cyclohexane, 1,2-dichloro-, trans- (8CI9CI) 152 C6H10Cl2
2. Bi-2-cyclohexen-1-yl (8CI9CI) 162 C12H18
3. Cyclohexane, 1,4-dichloro-, trans- (8CI9CI) 152 C6H10Cl2

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	83	822866	49	21	0	2
2.	52	1541204	47	38	2	0
3.	36	1000918	39	47	2	0

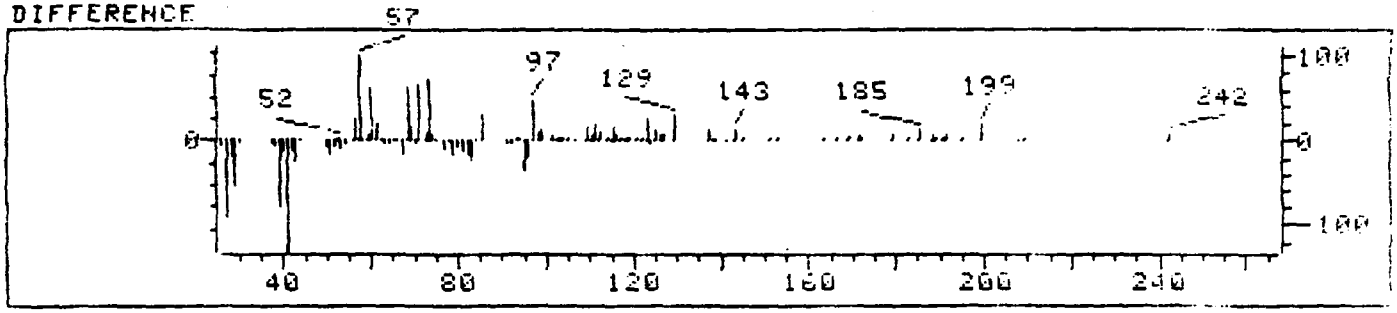
7108

301505

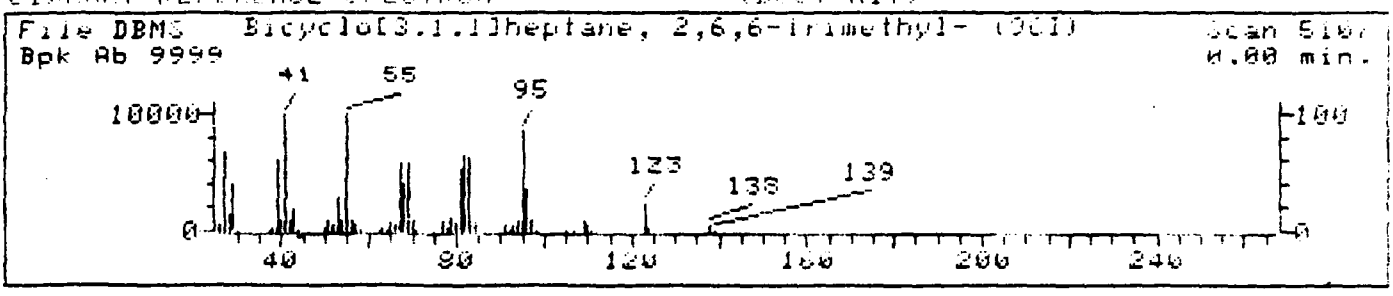
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8709::05
Name: 4/5/85,#F
Misc Data: H2224A BTL#33
RT (min): 12.66
Scan: 930
Area: 60407
Semi-quantitative Conc: 10.23 UG/ML

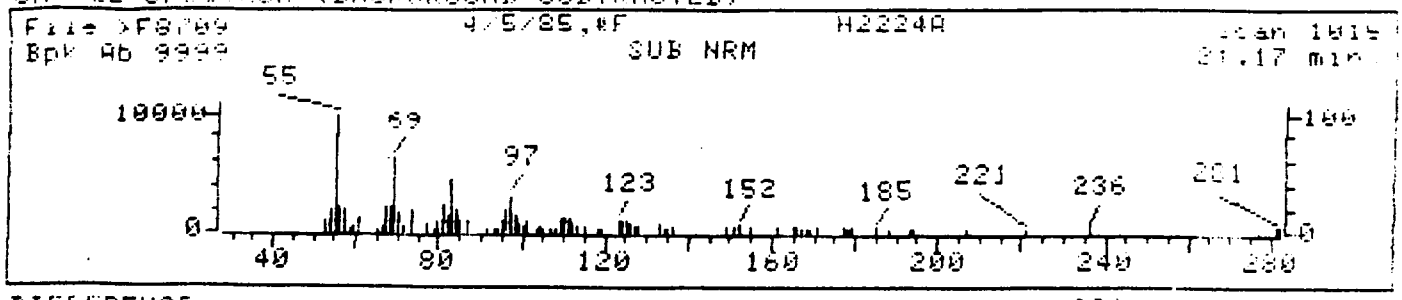
Data File: >F8709 Scan Number: 930
Search Speed: 2 Titling option: S Number of ion ranges searched: 01

1. Bicyclo[3.1.1]heptane, 2,6,6-trimethyl- (9CI) 138 C10H18
2. 3-Dodecyne (8CI9CI) 166 C12H22
3. Butanoic acid, 3,7-dimethyl-6-octenyl ester (9CI) 226 C14H26O2

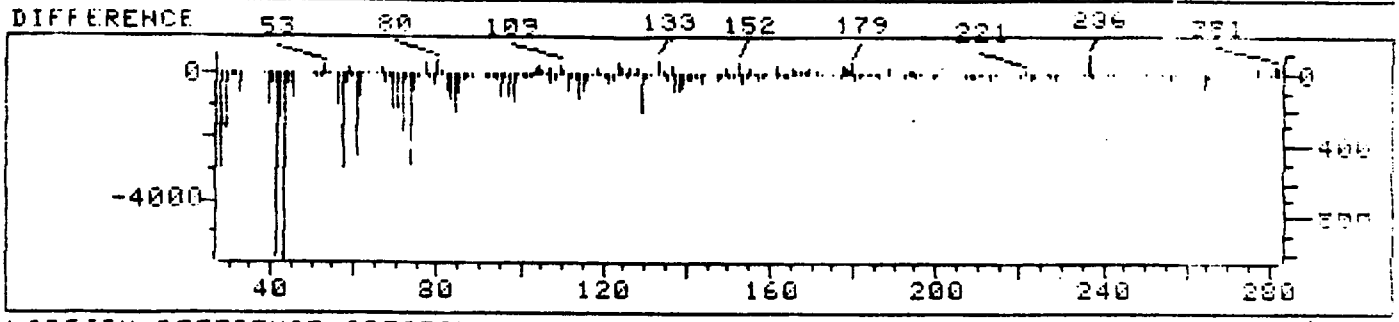
	Prob.	Cas#	K	dK	#Flg	Tilt
1.	38	473552	65	57	0	0
2.	25	6790278	22	82	3	0
3.	20	141162	77	73	3	0

301506

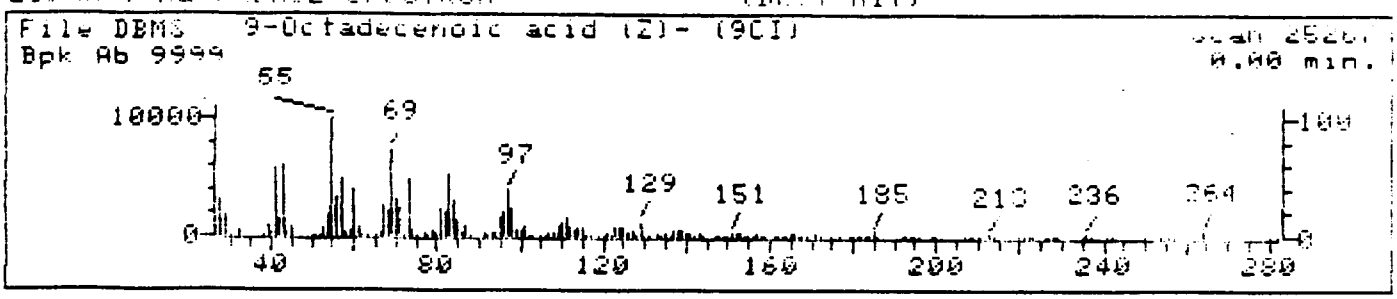
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8709.:05
Name: 4/5/85,#F
Misc Data H2224A BTL#37
RT (min): 21.17
Scan: 1015
Area: 72591
Semi-quantitative Conc: 11.00 UG/ML

Data File: >F8709 Scan Number: 1015
Search Speed: 2 Titling option: S Number of ion ranges searched: 9

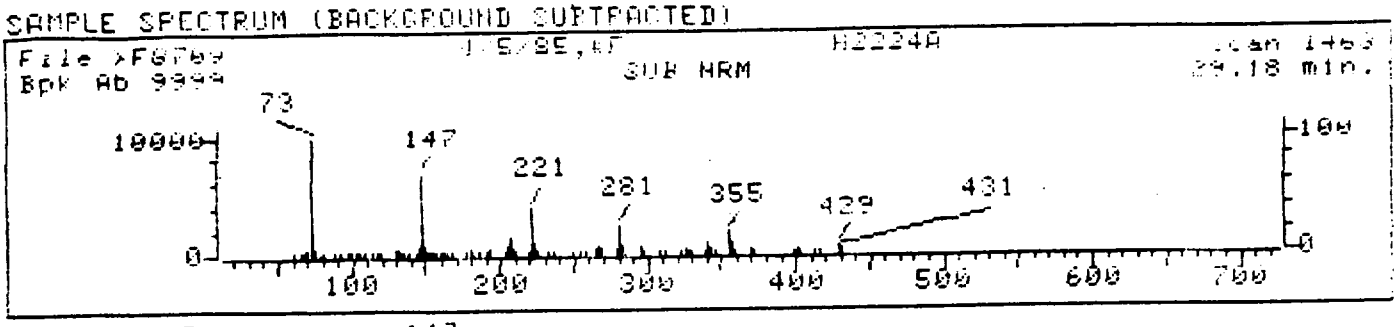
1.	9-Octadecenoic acid (Z)- (9CI)	282 C18H34O2
2.	1-Pentatriacontanol (9CI)	508 C35H72O
3.	9-Azabicyclo[6.1.0]nonane, cis- (9CI)	125 C8H15N

	Prob.	Cdef	K	dK	#Flg	Tilt
1.	55	112301	66	104	3	2
2.	52	55517903	72	113	3	0
3.	46	66307852	60	48	1	0

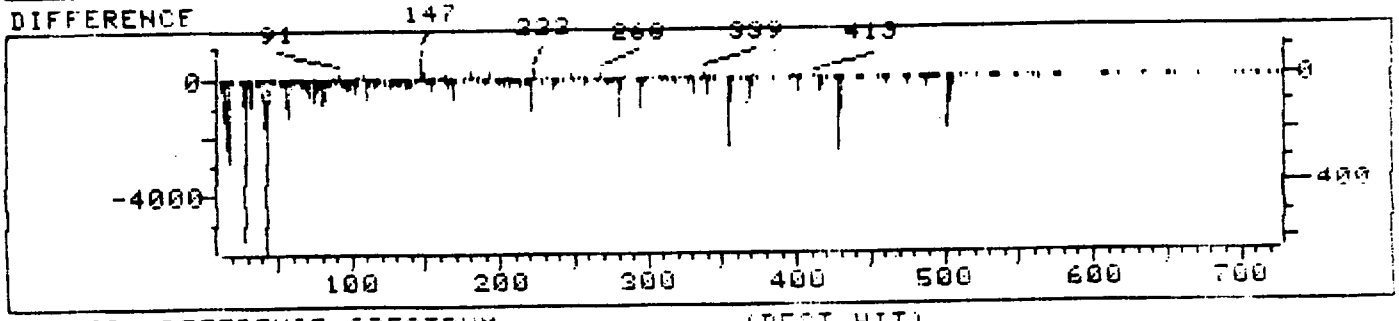
301507

051

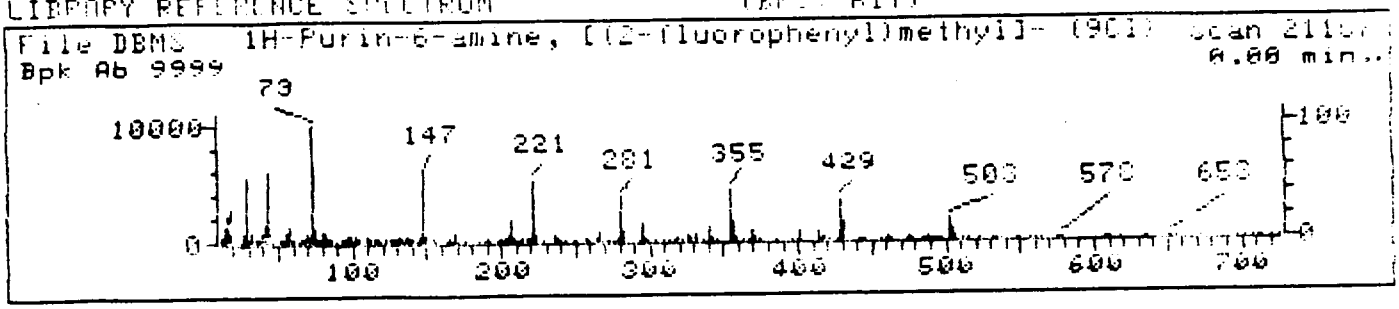
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



Data File: >F8709::US
Name: 4/5/85,#F
Misc Data: H2234A
RT (min): 29.19
Scan: 1463
Area: 76012
Semi-quantitative Conc: 11.37 UG/ML

BTL#37

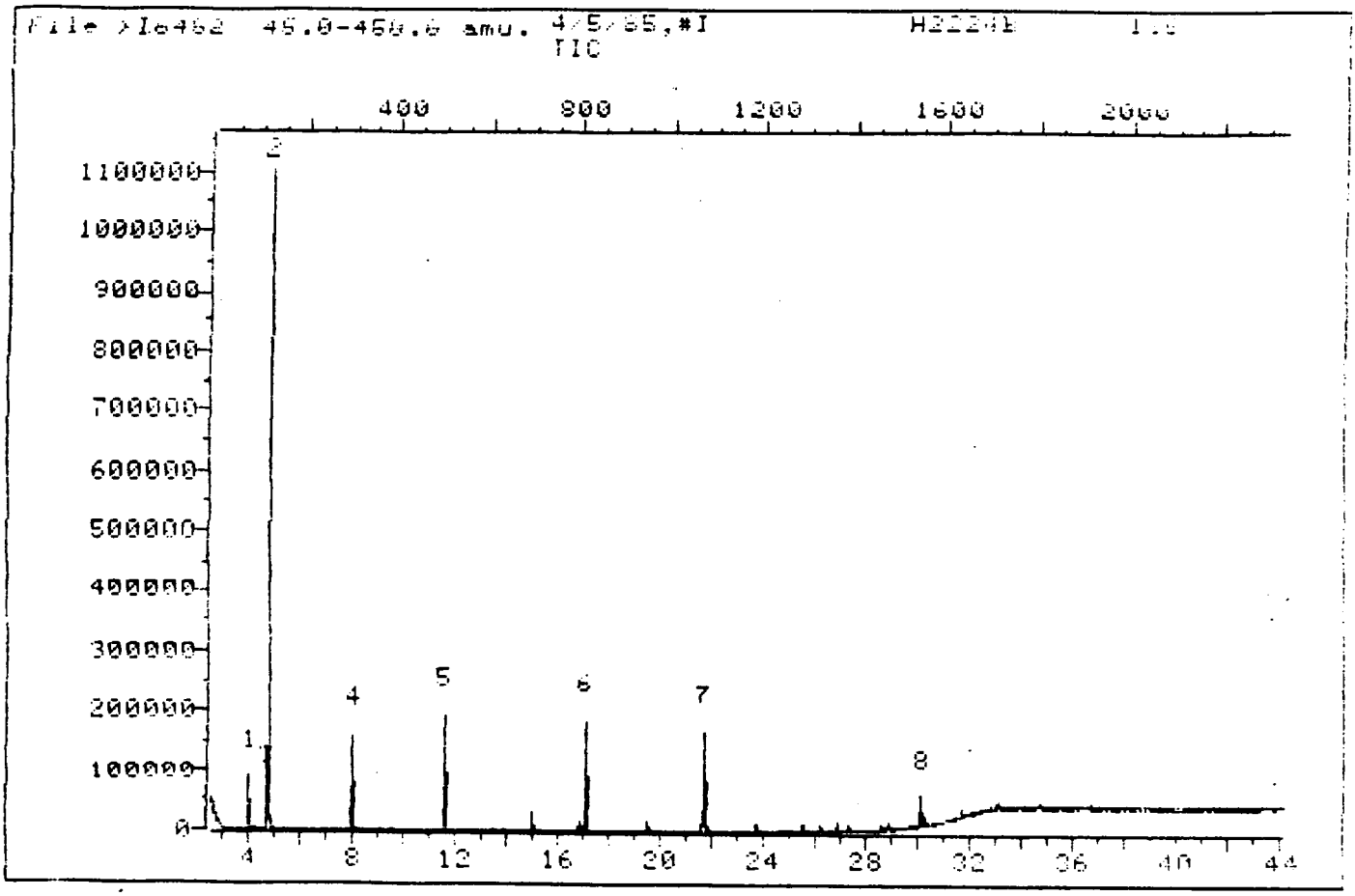
Data File: >F8709 Scan Number: 1463
Search Speed: 2 Titling option: 5 Number of ion ranges searched: 80

1. 1H-Purin-6-amine, [(2-fluorophenyl)methyl]- (9CI) - 243 C12H10FN5
2. Hexasiloxane, tetradecamethyl- (8CI9CI) 458 C14H42O5Si6
3. 2,6,10-Dodecatrienoic acid, 3,7,11-trimethyl- (8CI9C 236 C15H24O2

	Prob.	Coef	K	dK	#Flg	Tilt
1.	52	74421446	70	66	2	0
2.	27	1107528	73	94	3	0
3.	2%	7548132	74	110	3	0

301508

TOTAL ION CHROMATOGRAM for PLUS ANALYSIS

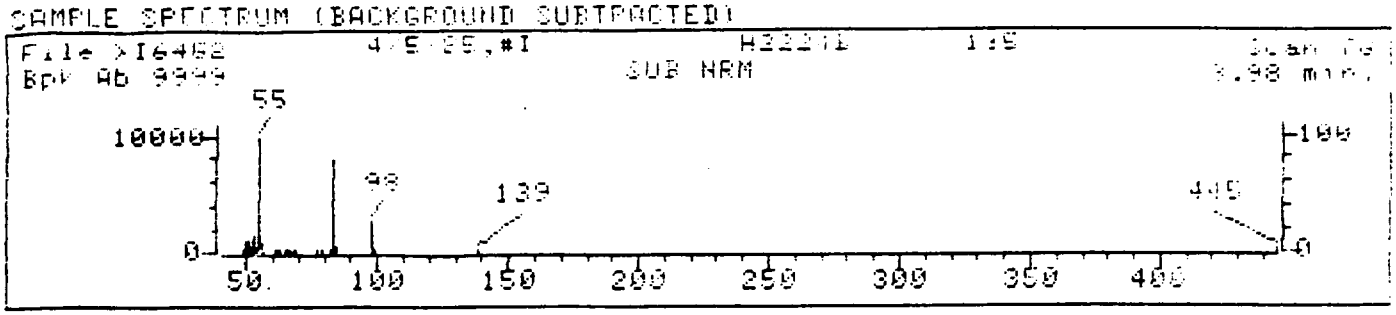


Data File: >I6452::U6
Name: 4/5/85,#I
Misc Data: H2224B 1:5

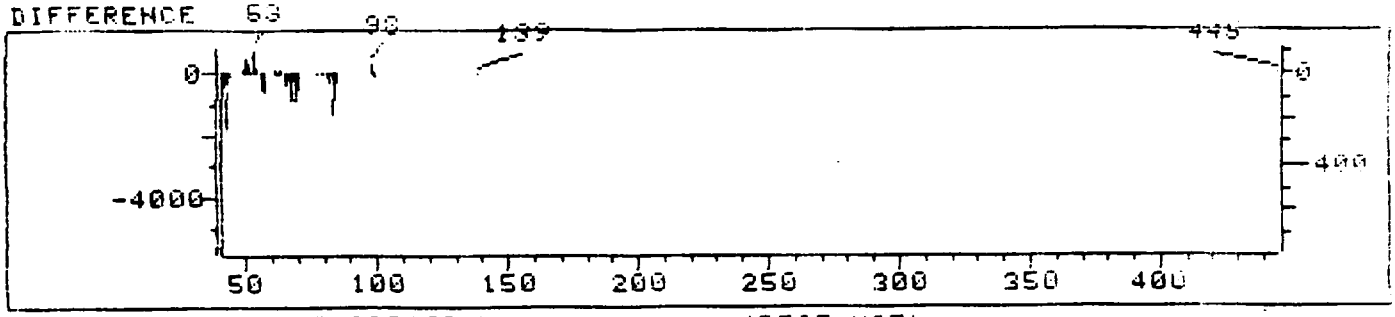
BTL#13

301509

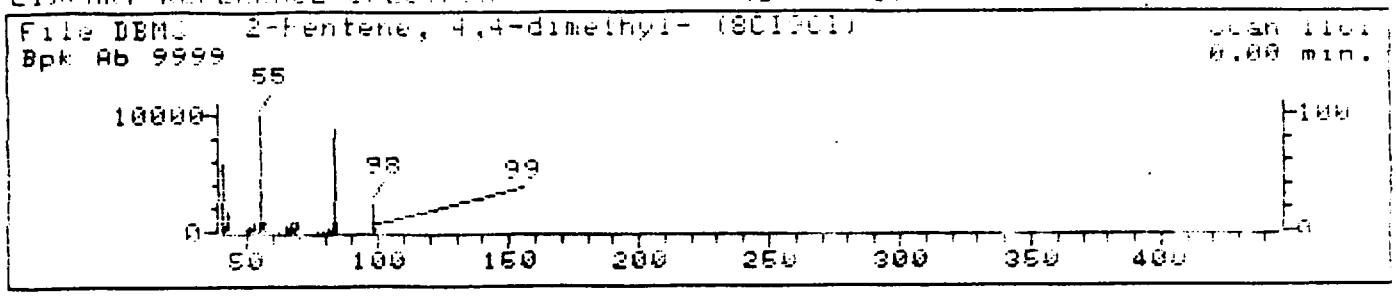
SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



DIFFERENCE



LIBRARY REFERENCE SPECTRUM (BEST HIT)



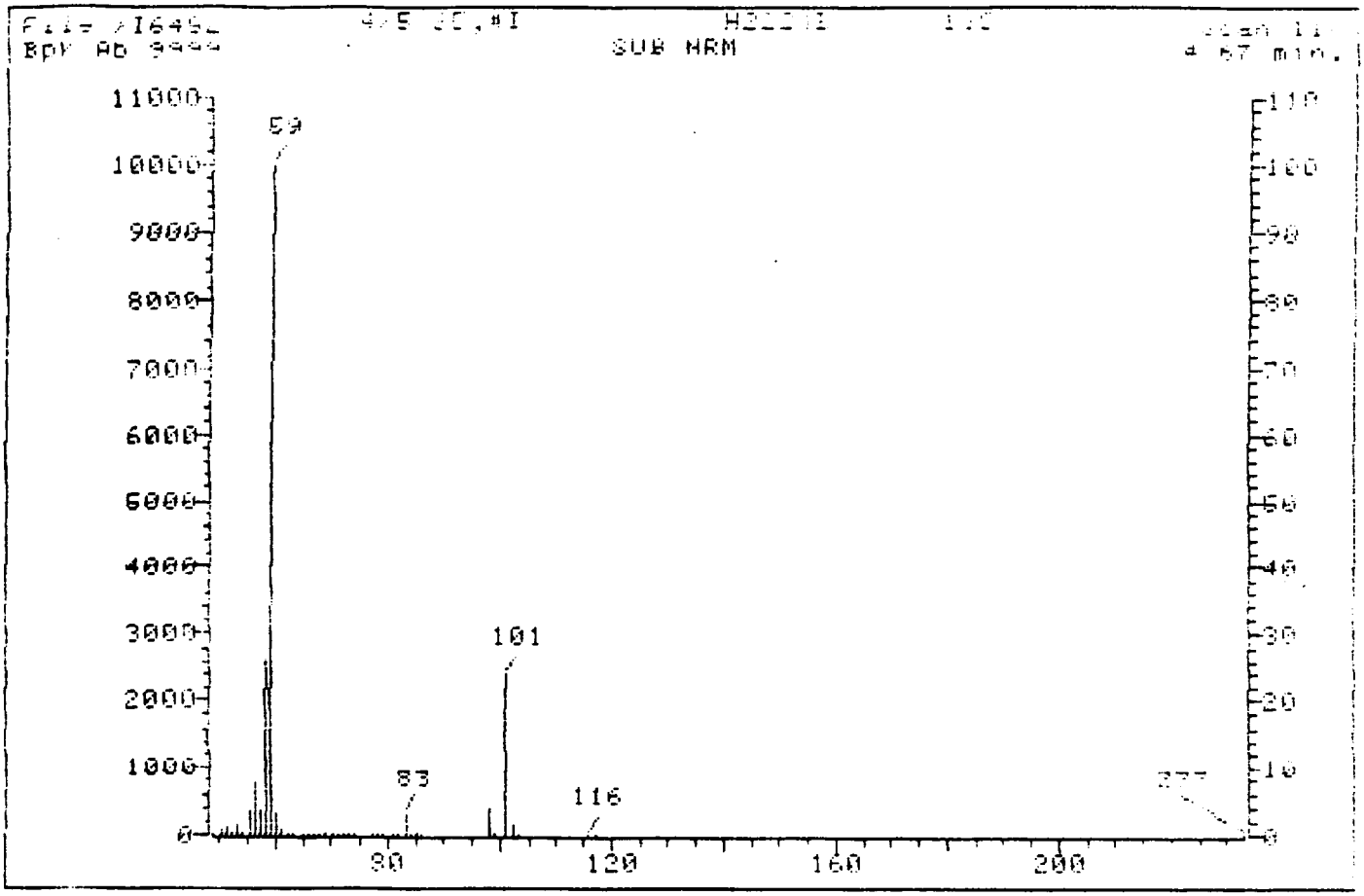
Data File: >I6452.:U6
Name: 4/5/85,#I
Misc Data: HC2C4B 1:5 PTL#17
RT (min): 3.20
Scan: 78
Area: 180642
Semi-quantitative Conc: 20.52 UG/ML

Data File: >I6452 Scan Number: 78
Search Speed: 2 Titling option: S Number of ion ranges searched: 50

1. 2-Pentene, 4,4-dimethyl (8CI,9CI) 98 C7H14
2. 2-Pentene, 3,4-dimethyl-, (E)- (8CI,9CI) 98 C7H14
3. 2-Pentene, 3,4-dimethyl-, (Z)- (8CI,9CI) 98 C7H14

	Prob.	Cas#	K	dK	#Flg	Tilt
1.	78	26232904	39	51	2	0
2.	78	4914925	35	61	2	0
3.	78	4914911	75	63	2	0

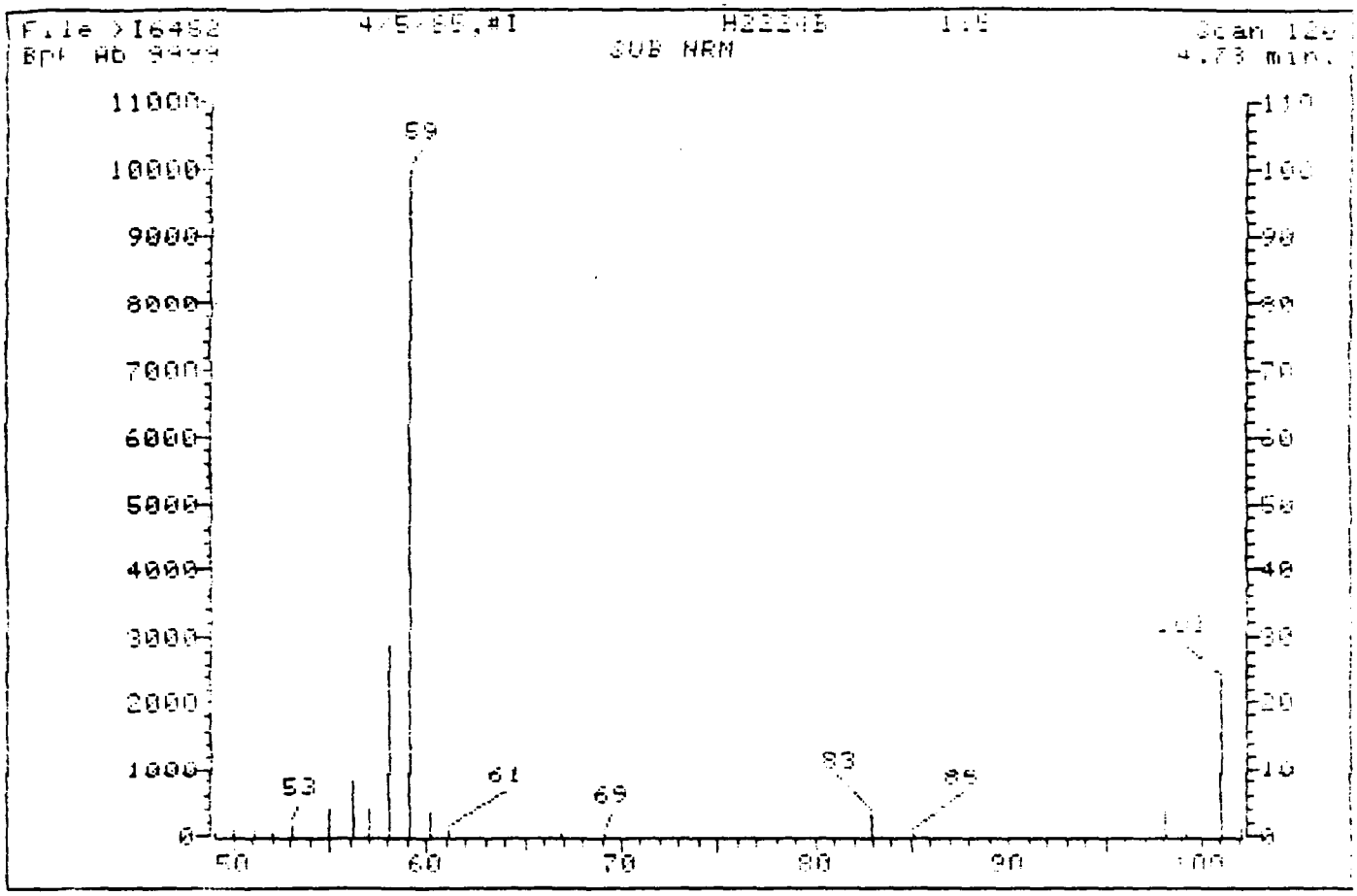
301510



Data File:)T/452..06
Name: 4/5/85,#I
Misc Data: H2221B 1:5 PTL#17
RT (min): 4.67
Scan: 117
Area: 3089230
Semi-quantitative Conc.: 334.26 UG/ML

No PBM hits for this scan.

301511



Data File: >I6452.UG
Name: 4/5/85,#I
Misc Data: H2224B 1:5 PTL#17
RT (min): 4.73
Scan: 120
Area: 175002
Semi-quantitative Conc: 10.91 UG/ML

No PBM hits for this scan.

301512

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.

ENVIRONMENTAL TESTING and CERTIFICATION

Subcontracted Analytical Results

REV 1

ETC Job # 1412124

L86253-C4

ed by: MW CHAW

4/8/85

Facility: _____ (Facility Code) Sample Point: _____ (Source Code) – _____ (Sample Point ID)

Date Sampled: _____ (Y Y M M D D) Time Sampled: _____ (H H : M M)

ie).	Parameter	Table	Units Of Measure	Value	MDL	Comments
VENTIONALS						
	Chloride	QR 10	mg/l			
	Fluoride	QR 10	mg/l			
	Nitrate as N	QR 10	mg/l			
	Sulfate as SO4	QR 10	mg/l			
	Phenolics, Total	QR 10	mg/l	<0.1	0.1	
	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			
	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			
	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			
	pH (Lab)	QR 10	std			
	pH (Lab)	QR 10	std			
	pH (Lab)	QR 10	std			
	pH (Lab)	QR 10	std			
	Coliform, Total	QR 10	C/100			
	Coliform, Fecal	QR 10	C/100			
	Gross Alpha	QR 10	PCi/l			
	Gross Beta	QR 10	pCi/l			
	Acidity as CaCO3		mg/l			
	Alkalinity as CaCO3		mg/l			
	Ammonia as N		mg/l			
	Bicarbonate as CaCO3		mg/l			
	Biochemical Oxygen Demand		mg/l			
	Carbonate as CaCO3		mg/l			
	Chemical Oxygen Demand		mg/l			
	Color, Apparent (Lab)		Pt/Co			
	Cyanide, Total		mg/l	<0.5	0.5	
	Hardness as CaCO3		mg/l			
	Nitrite as N		mg/l			
	Nitrogen Total Kjeldahl (TKN)		mg/l			
	Nitrogen, Total Organic		mg/l			
	Odor (Lab)		TON			
	Oil and Grease (grav, IR)		mg/l			
	Phosphate, ortho		mg/l			
	Phosphate, Total		mg/l			
	Solids, Total		mg/l			
	Solids, Total Dissolved (ROE) 180°		mg/l			
	Solids, Total Suspended		mg/l			
	Sulfide as S		mg/l			
	Surfactants (MBAS/LAS)		mg/l			
	Turbidity (Lab)		NTU			

301514

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.

301515

ETC ENVIRONMENTAL TESTING and CERTIFICATION

CHAIN OF CUSTODY FORM (CC1)

Seal No. _____ ETC Job # 42224

Date Sealed 3-20-85 By: Dwaid

Company: NJDEP

Attn.: Joe Bodtich

Facility/Site:

Address: Trenton NJ

Phone: ( )

SAMPLE IDENTIFICATION

Facility: COMBE SOUT

Sample Point: RI-STATION 41 (Facility/Site Code; Source Code (from below); Your Sample Point ID (left justify)) | 03/21/85 (Optional Sample Point Descriptions; Start Date (YY/MM/DD)) | 1540 (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 _____

SHUTTLE CONTENTS

BOTTLE				ANALYSIS	SAMPLER		LAB
No	Type	Size	Preserv.		FWL (Y/N)	Observations	Observations
1	E	1L	baked	Extractables			
2	V	40ml	baked	VOA			

CHAIN OF CUSTODY CHRONICLE

1. Shuttle Opened By: (print) P. Carrillo Date: 3/21/85 Time: 1438
   Signature: Paul M Carrillo Seal #: 002853 Intact: Y

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: 301516
   Date: 3-22-85 Time: _____ Remarks: _____

4. Shuttle Sealed By: (print) Joe Lowry Date: 3/21/85 Time: 1811
   Signature: _____ Seal #: 0028532 Intact: Y

ETC USE ONLY Opened By: _____ Date: 3-22-85 Time: 8:00 a

Seal #: 28532 Condition: OK

060

ETC ENVIRONMENTAL TESTING and CERTIFICATION

FIELD PARAMETER FORM (CC2)

ETC JOB # #2224

Sample Point [B] STATION 4
Source Code / Sample Point ID

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]	N		

Procedure/Proportions

FIELD MEASUREMENTS

Well Elevation (ft/msl)		Well Depth (ft)	
Depth to Ground water (ft)		Sample Depth (non-well) (ft)	
Groundwater Elevation (ft msl)			

	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		Turbidity	
	(°C)		NTU

FIELD COMMENTS

Sample Appearance: _____

Weather Conditions: _____

Other: _____

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

Sampler: P Carrillo (Print) _____ Employer: NJDEP

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

3/21/85 (Date) Paul M Zamella (Signature)

301517

ETC / CHYUN

CHYUN ASSOCIATES
609-924-5151

LABORATORY CHAIN-OF-CUSTODY CHRONICLE

(NJDEP Contract X-029)

(see back of page for complete list of bottles)

Sample Transfer to Chyun:

Sample(s) relinquished by: Marc Landsman

3:15 PM 3-22-85
Time/Date

Sample(s) accepted by: Mark Kelly

3:15 3/22/85
Time/Date

ETC Sample Number(s) H2221 to H2225

Received at Chyun _____

Bottle Type	Sample Preparation for:	Analyst	Date	Time

	Sample Analysis for:	Analyst	Date	Time

Verified By: _____

301518

Return of Samples to ETC:

Relinquished by:	Accepted by:	Relinquished by:	Accepted by:
3108 Time/Date	062 Time/Date	Time/Date	Time/Date

108

GC-MS ANALYSIS CUSTODY LOG

DATE 950328 SHIFT ___
FRACTION VOA
INSTRUMENT B
TUNE FILE APEI02
SEQUENCE FILE JM8
METHOD FILE [redacted] VOAB
IDFILE [redacted] BVOA
ANALYST(S) G. Martin / Lawrence Schoenwald
SUPERVISOR M Barkley
BATCH #'s [redacted] QV3856

(PLEASE INITIAL)

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ		DATE	
WIP		BY	

STANDARD	CONC PPM	LOT NO.	LOT VOL
BFB	50	9609	1ml
DFTPP	40	9140	5ml
SURR	25	9763	10ml
ABC	18	10221	

IFB Prep Jon

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
p-BFB	> B7792	1ml			A00107	FC 120, Subs 3, Subs 174, 1350	
QC3506V	> B7793						
QC3506VS	> B7794					10ml ABC	
QC3506VS	> B7795					3ml ABC (NG)	
QC3506VS	> B7796					30ml ABC	
QC3506VS	> B7797					5ml ABC	
QC3506VS	> B7798					5-Q ABC } BP 2nd	
H2221VS	> B7799	5/5ml					
H2221V	> B7800	↓					
H2222V	> B7801						
H2222VR	> B7802						
H2223V	> B7803						
[redacted]	[redacted]						
[redacted]	> [redacted]	↓					
BFB	> B7804	1ml				NG	
BFB	> B7805	1ml				OK 2nd AM 3/29	
QC3056VS	> B7806	5ml				[redacted] 5x1 ABC (NG)	
QC3056VS	> B7807	↓				10x1 ABC	
QC3056VS	> B7808					30x1 ABC	
QC3056VS	> B7809	↓				5x1 ABC	
H2224V	> B7810	5ml					
H2225V	> B7811	↓				3/29 0800 hrs.	
H2339V	> B7512	↓					
H2340V	> B7513	↓				301519	
H2341V	> B7514	↓			063		

301520

GC-MS ANALYSIS CUSTODY LOG

DATE 850329 SHIFT ___
FRACTION ___
INSTRUMENT ___
TUNE FILE ___
SEQUENCE FILE ___
METHOD FILE ___
IDFILE ___
ANALYST(S) J. Martin
SUPERVISOR [illegible]
BATCH #'s QV3056
Continued

(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
P-13F13	>87816	1			A00107		
QC3056V	>87817					86 ng Methylene Chloride	
QC3056V	>87818					OK	
(R)H2224V	>87819						
					064		

EXTRACTION LOG

Sample #	Log #	Sample weight (g)	Extract Vol (ml) BN	Extract Vol (ml) ACID	Comments
H2221	8684	50.99	1.0	1.0	
2222	|	50.38	1.0	1.0	
2223	|	50.20	1.0	1.0	
2224	|	50.65	1.0	1.0	
H2225	↓	50.18	1.0	1.0	
H2338	8765	50.82	1.0	1.0	
2339	|	52.18	1.0	1.0	
H2340	|	50.49	1.0	1.0	
H2341	↓	50.62	1.0	1.0	
G8385	8311	50.99		1.0	
QC2864		—	1.0	1.0	
#2221	S	50.22	1.0	1.0	
#2222	R	50.104	1.0	1.0	

QC Batch # 2864

Analysis: *

Matrix: SOIL

Turnaround: Norm.

Date: 4/3/85

Extraction Method:

sep funnel

cont. nucvs

soxhlet

other - Homogenizer

COMMENTS FOR EXTRACT.:

*

PP/T: H2221-25

PP/org: H2338-41

Spec SP: (PP/Acid only):

G8385

COMMENTS FOR GC/MS:

* 16 comp. @ 100 ug/ml
chlordane @ 200 ug/ml

301521

FRACTION	SPIKE Amt (ml)	Conc.	Lot #
BN	1.0	100 ug/ml	9817
ACID	1.0	100 ug/ml	9700
Pesticide -	1.0	*	10,190
chlor 1260	1.0	100 ug/ml	9713
Semi-Voa			

SURROGATE Amt. (ml)	Conc.	Lot #
1.0	BN: 50 ug/ml	10,195
	ACID: 100 ug/ml	

Set-up: J.M CAMPBELL 4/3/85 UPD/Supervisor: S McAuliffe 4/4/85

Conc.: Anjum Anwaruddin 4-4-85 065 spike/surr. verified: S McAuliffe 4/3/85

Conc.: [illegible] 4/11/85

GC-MS ANALYSIS CUSTODY LOG

301522

DATE 4/5/85 SHIFT 7p/11p
FRACTION Acid
INSTRUMENT F
TUNE FILE MTF001
SEQUENCE FILE NWCH
METHOD FILE DFTPP / ACIOF
IDFILE FACID
ANALYST(S) Wen-Hen Chi
SUPERVISOR David M. Speel
BATCH #'s

(PLEASE INITIAL) CBFACD

CURRENT CSOS STATUS		STANDARDS UPDATED	
ACQ	✓	DATE	4/5/85
HIP		BY	W.C.

STANDARD	CONC PPM	LOT NO.	LOT VOL

PEAC PLFACD PLFSRH

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
DNG DFTPP	>F8668	2					
SDNG DFTPP	>F8669						
SDNG DFTPP	>F8670						
Calib III	>F8671		1				
II	>F8672		2				
I	>F8673		3				
H>336AS	>F8674		4				
QC>867AS	>F8675		5				
QC>867A	>F8676		6				Y,+
H>332A	>F8677		1				Y
H>333A	>F8678		2				
H>334A	>F8679		3				
H>335A	>F8680		4				
H>336A	>F8681		5				
H>337A	>F8682		6				
H>337AR	>F8683		7				
G8914A	>F8684		8				
H1449A	>F8685		9				
H0>94	>F8686		10				
H0>9C	>F8687		11				
H1814	>F8688		12				
H181C	>F8689		13				
H1876	>F8690		14				
GC>36	>F8691		15		066		+
SDNG DFTPP	>F8692		16				

TSR 8-84

FILE

301523

GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT Days 1/2
FRACTION Acid
INSTRUMENT H
TUNE FILE
SEQUENCE FILE
METHOD FILE
IDFILE
ANALYST(S) [signature]
SUPERVISOR [signature]
BATCH #'s

(PLEASE INITIAL)

CURRENT CSOS 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
Calib III	>F8693		17				
H0957AS	>F8694		18				
QC2866A	>F8695		19				Y
H0957A	>F8696		20				Y
H0959A	>F8697		21				Y
H0960A	>F8698		22				Y
H0960AR	>F8699		23				
H0958	>F8700		24	1:52			Y
H2221AS	>F8701		25				
QC2864A	>F8702		26				Y
G8385A	>F8703		27				+
H2221A	>F8704		28				Y
H2222A	>F8705		29			Colour big difference. for Sample d Sample	
H2223A	>F8706		30				
H2225A	>F8707		31				
H2339A	>F8708		32				
H2224A	>F8709		33				
H2341A	>F8710		34	1:5			
H2340A	>F8711		35	1:5			
H2338A	>F8712		36	1:5			
H2222AR	>F8713		37	1:2			
					067		

301

301524

GC-MS ANALYSIS CUSTODY LOG

DATE 4/6/85 SHIFT ___
FRACTION B/N
INSTRUMENT I
TUNE FILE MTI001
SEQUENCE FILE ___
METHOD FILE BNPI
IDFILE IBNP
ANALYST(S) Wen-Yen Chi
SUPERVISOR David W. Speet
BATCH #'s RB2864

(PLEASE INITIAL)

CURRENT CSMS STATUS		STANDARDS UPDATED	
ACQ		DATE	4-6-85
DIP		BY	W.Y.

STANDARD	CONC PPM	LOT NO.	LOT VOL

NAME	DATA FILE	uL INJ	ALS #	DIL	TAPE #	SPECIALS (WRITE A-TYPE)	PLUS Y/N
SDNOT DFTPP	>I6441	2			I00167	7:00 4/6/85	
Calib III	>I6442	1	3				
II	>I6443		4				
I	>I6444		5				
IV	>I6445		6				
H >2218S	>I6446		7				
H2221B	>I6447		8				Y
H2225B	>I6448		9				Y
H2222B	>I6449		10				Y
H2222BR	>I6450		11				
H2223B	>I6451		12				Y
H2224B	>I6452		13				
H2341B	>I6453		14				
H2339B	>I6454		15				
H2338B	>I6455		16				
H2340B	>I6456	↓	17				↓
			18				
RC2864B	>I6458		7				

NCO

ETC ENVIRONMENTAL TESTING and CERTIFICATION

LL8684

Metals Analysis Custody Log

Samples H2221-H2225

	Chemist	Date
Hg Prep	Douglas L. Lilford	4/3/85
AA/ICAP Prep	Maura Jan McElwee	4/2/85

Lab Supervisor Maura Jan McElwee date 4/10/85

301525

8684

ETC ENVIRONMENTAL TESTING and CERTIFICATION

Request for Analysis

Name of Subcontractor: Chyen

ETC Sample Number(s) H2221 to H2225
H2224

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: 4/2/85
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 Hamilton 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

soils !

OTHERS

X-029

301526

Sample(s) Relinquished by: M. Jacobs

Date 322-85 Time 3:15 PM

Sample(s) Received by: Mark Kelly

Date 3/22/85 Time 3:15