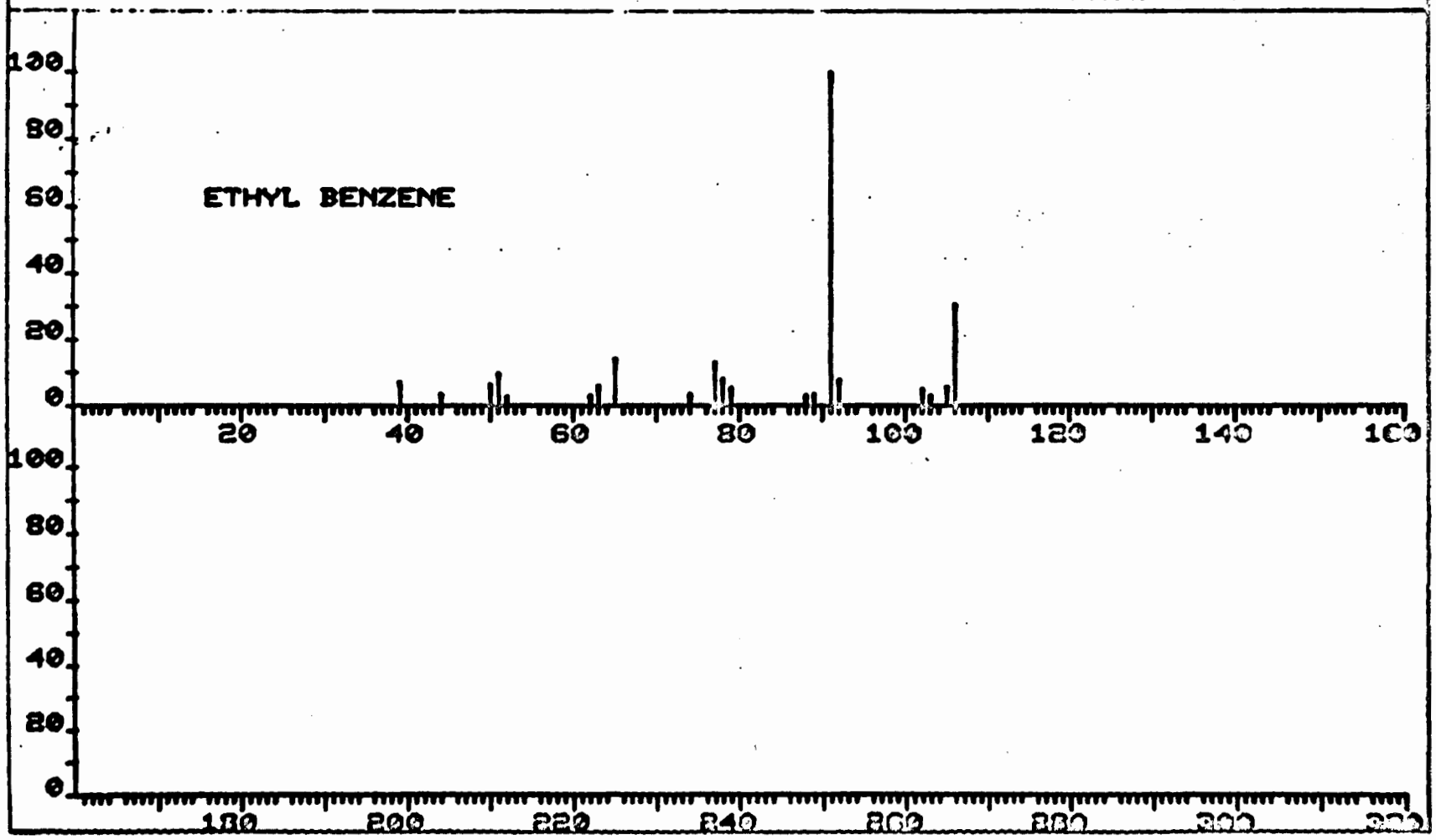
FRN 5473 SPECTRUM 712 RETENTION TIME 28.3

LARGST 4: 91.0,100.0 106.1, 30.4 66.0, 14.1 77.0, 13.0

LAST 4: 102.2, 4.9 103.1, 2.8 105.2, 5.4 106.1, 30.4

PAGE 1 Y = 1.00



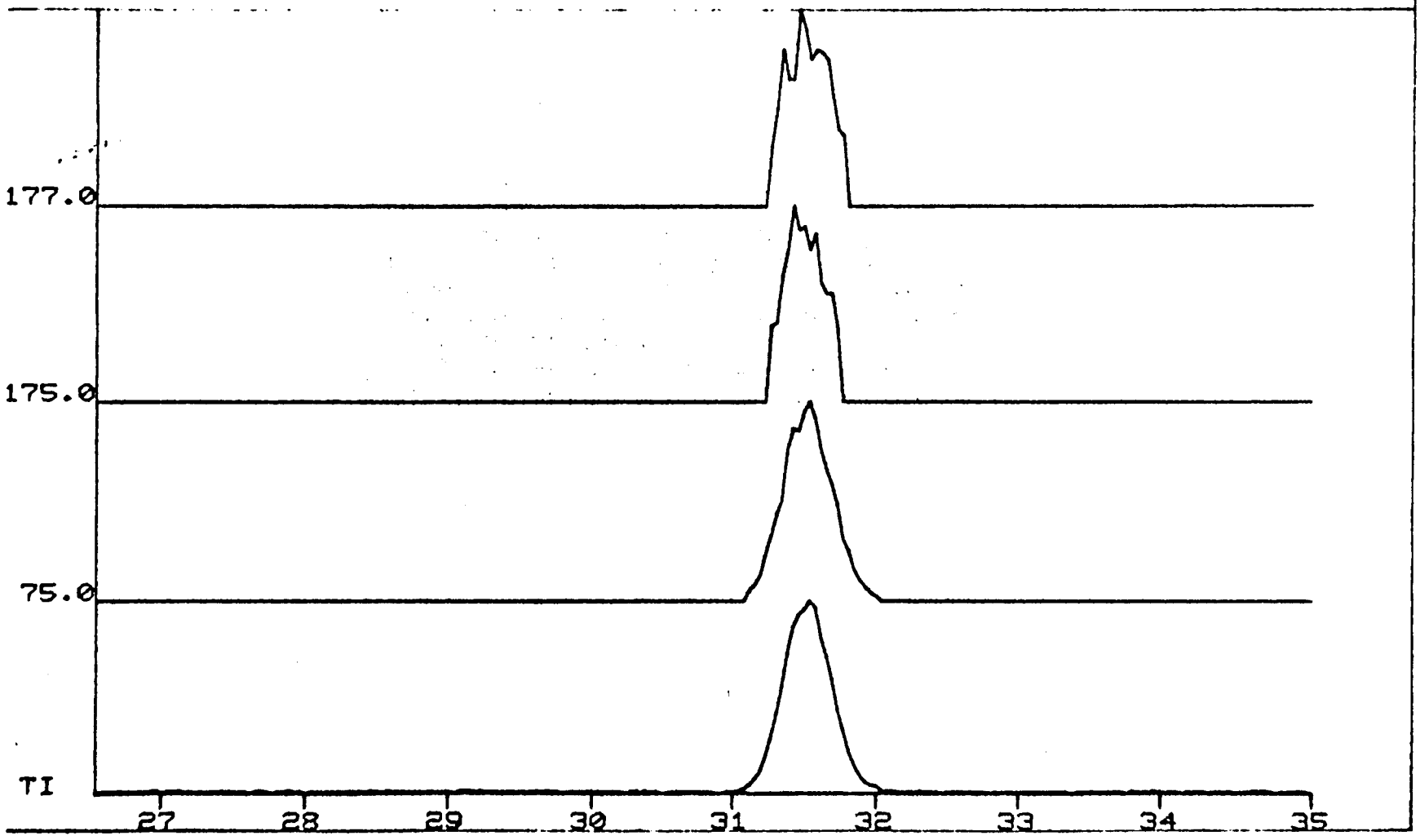
ORIGINAL (Red)

53

** SPECTRUM DISPLAY/EDIT **

UOAH2OBLANK 5ML 1ULQC#9 G=7L 3.15
SFT1%SP1000 9JUL82 45-220@8/MIN

FRN 5472
1ST SC/PG: 667
X= 1.00 Y= 1.00



ORIGINAL (Page)

54

FRN 5472 SPECTRUM 796 RET. TIME = 31.5

MASS	ABUND	MASS	ABUND
37	4.8	92	3.1
38	4.5	93	4.9
39	1.9	94	12.0
44	1.4	95	100.0
		96	7.8
49	4.1		
50	22.8	119	1.5
51	3.9		
56	1.9	174	71.7
57	2.9	175	4.1
61	5.0	176	70.5
		177	3.9
62	4.0		
63	3.4	207	8.7
68	11.0	208	1.5
69	11.0	>PAUSE	
73	4.6		
74	16.2		
75	55.2		
76	3.9		
79	3.5		
81	3.0		
82	1.6		
87	2.5		
88	3.0		

ORIGINAL (Red)

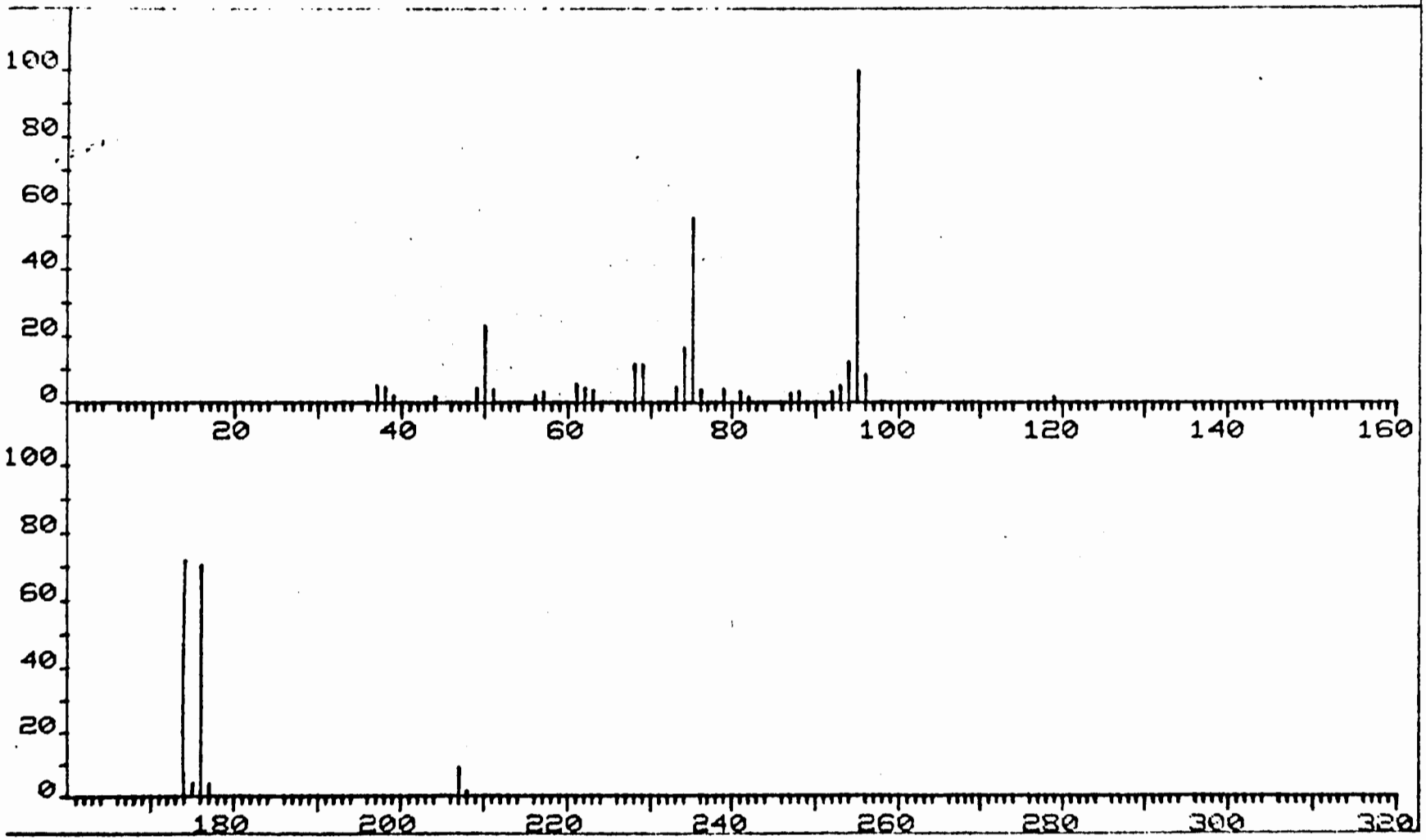
55

FRN 5472 SPECTRUM 796 RETENTION TIME 31.5

LARGST 4: 95.0, 100.0 174.1, 71.7 176.0, 70.5 75.0, 55.2

LAST 4: 176.0, 70.5 177.0, 3.9 207.2, 8.7 208.2, 1.5

PAGE 1 Y = 1.00



56

ORIGINAL (PAGE TWO)

** SPECTRUM DISPLAY/EDIT **

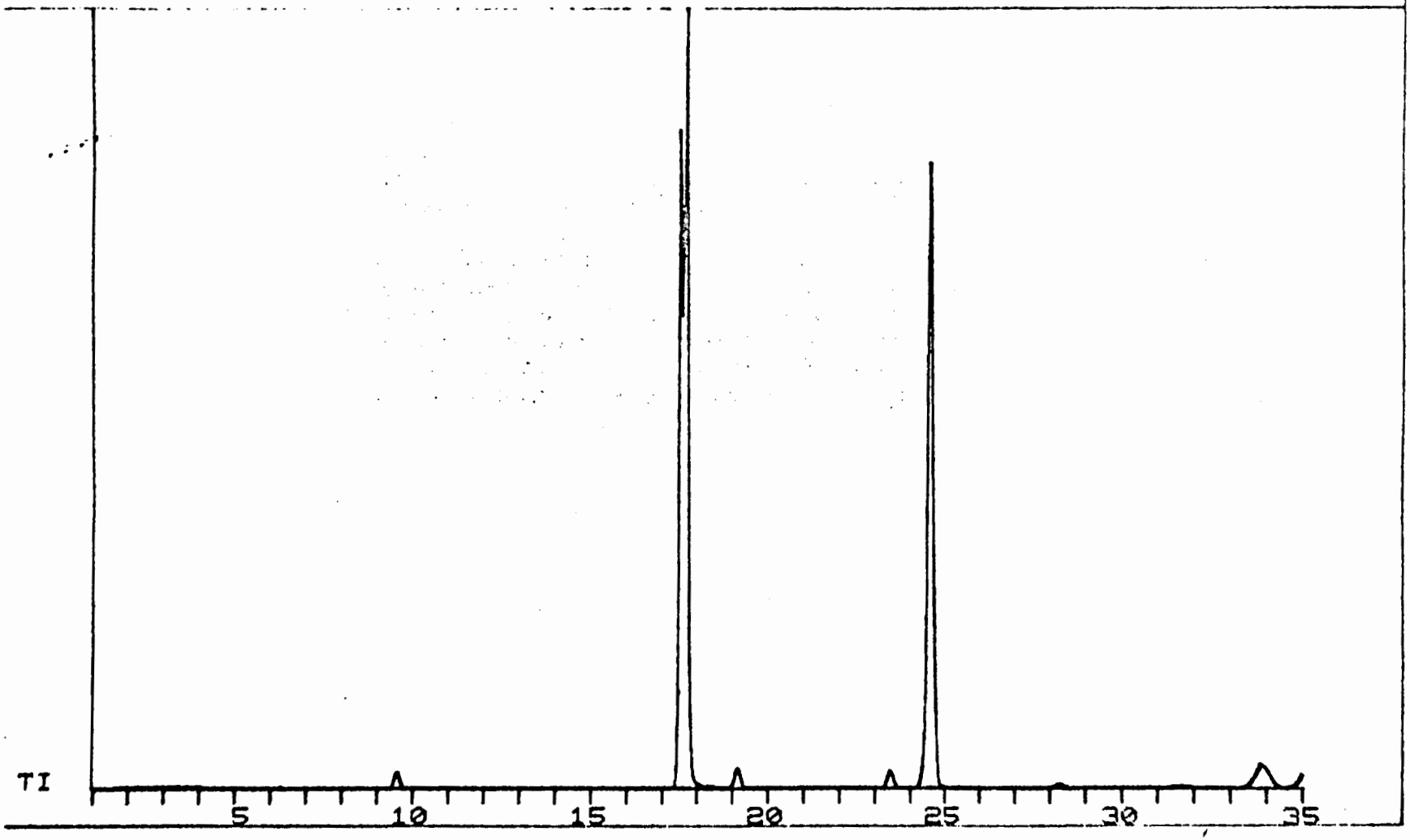
EPA SAS VOA 25-449 0.46G 1ULQC#9 G=7L 3,15

SFT1%SP1000 9JUL82 45-220@8/MIN

FRN 5475

1ST SC/PG: 1

X= .25 Y= 1.00

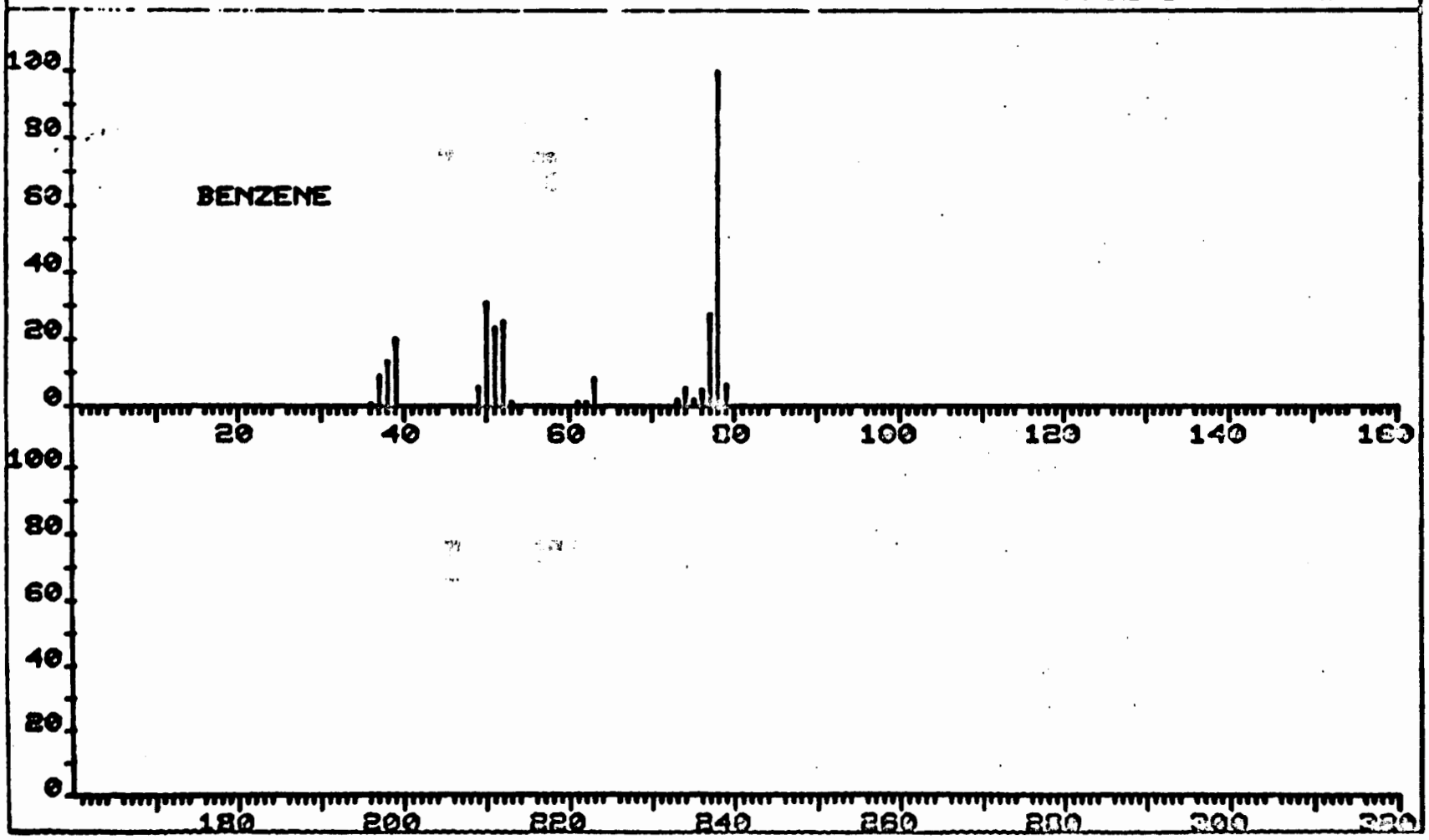


57

FRN 6475 SPECTRUM 432 RETENTION TIME 17.6

LARGST 4:	78.0,100.0	50.0, 30.8	77.0, 27.4	51.0, 25.3
LAST 4:	76.0, 5.0	77.0, 27.4	78.0,100.0	79.0, 0.2

PAGE 1 Y = 1.00

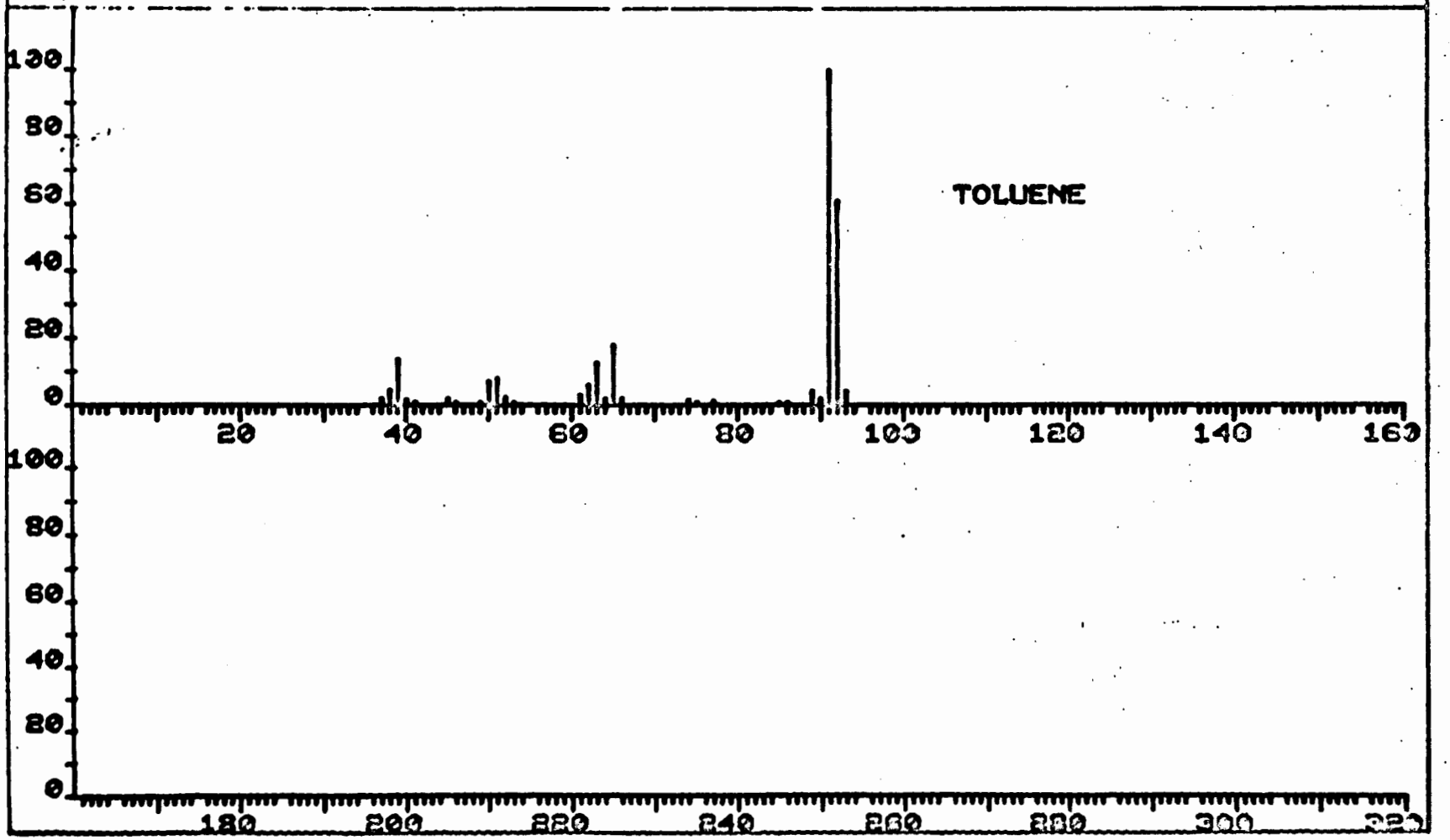


58

FRN 5475 SPECTRUM 613 RETENTION TIME 24.8

LARGST 4:	91.0,100.0	92.0, 61.1	65.0, 17.8	39.0, 13.7
LAST 4:	90.0, 1.9	91.0,100.0	92.0, 61.1	93.1, 4.1

PAGE 1 Y = 1.00

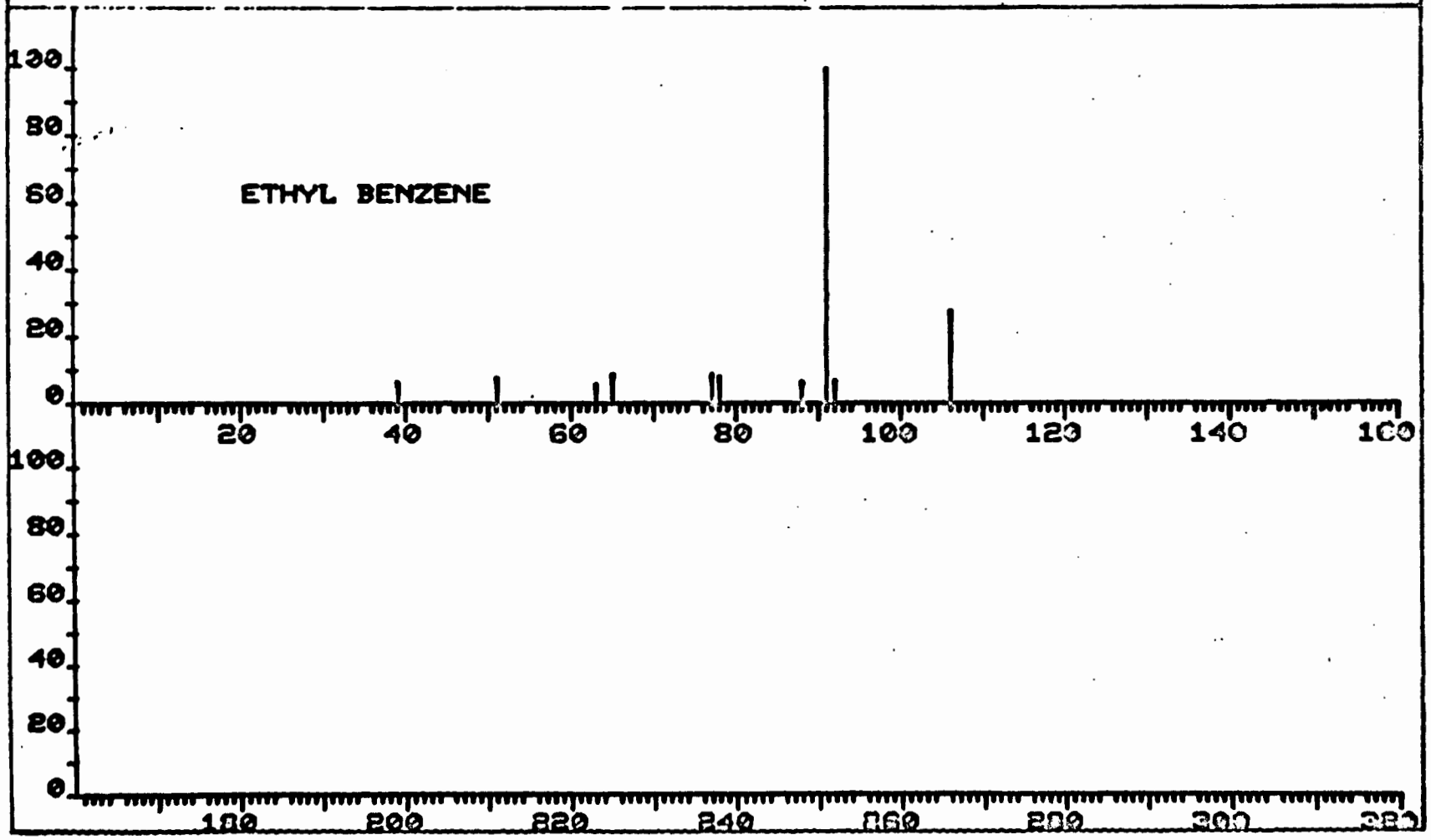


FRN 6475 SPECTRUM 710 RETENTION TIME 28.3

LARGST 4: 91.0,100.0 106.1, 27.3 65.0, 8.6 77.2, 8.6

LAST 4: 88.0, 6.3 91.0,100.0 92.1, 6.7 106.1, 27.3

PAGE 1 Y = 1.00

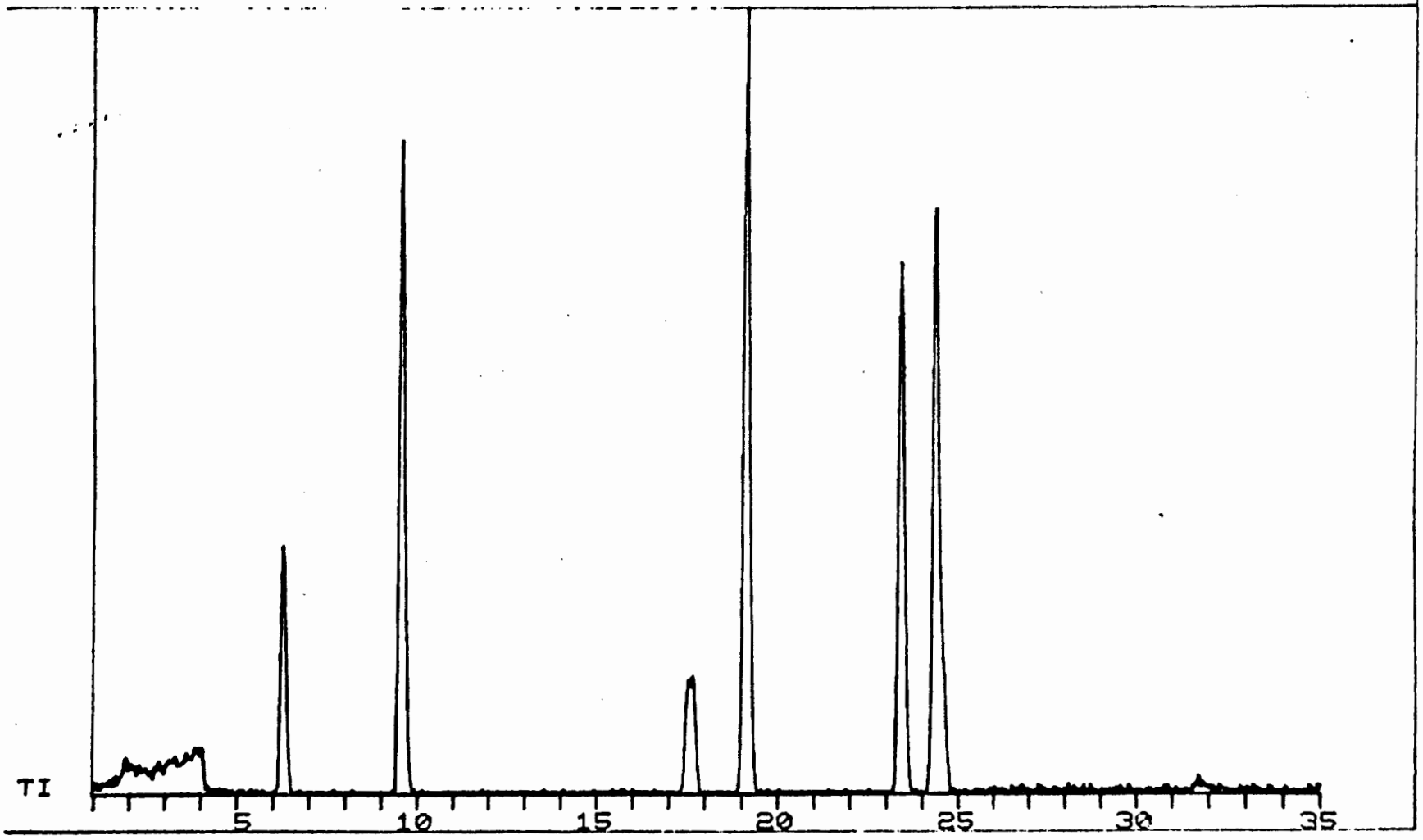


60

** SPECTRUM DISPLAY/EDIT **

EPA SAS VOA 25-450 5ML 1ULQC#9 G-7L 3,15
SFT1%SP1000 9JUL82 1150HR 45-220@8/MIN

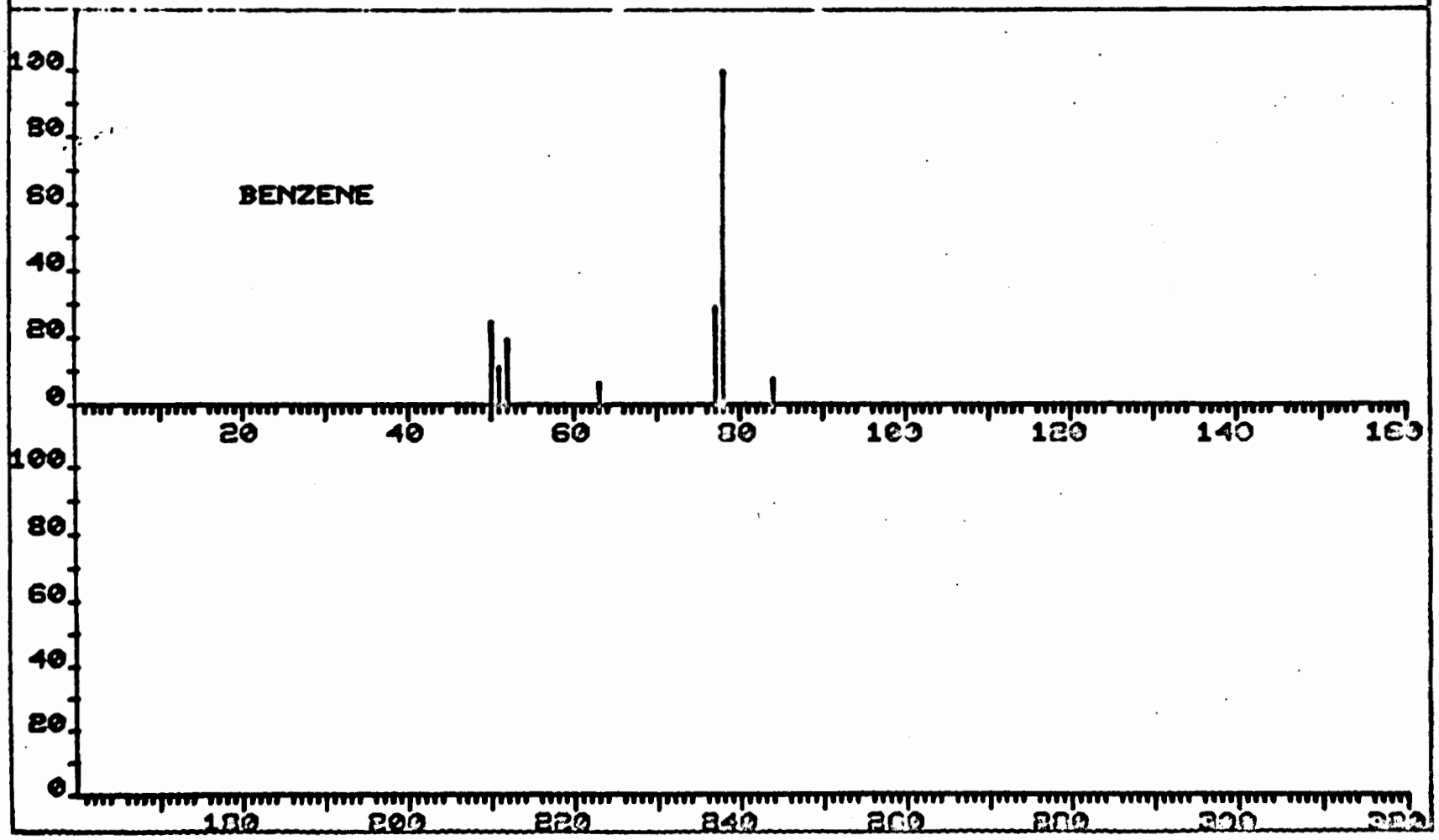
FRN 5474
1ST SC/PG: 1
X= .25 Y= 1.00



FRN 5474 SPECTRUM 435 RETENTION TIME 17.7

LARGST 4:	78.1,100.0	77.0, 28.8	50.0, 24.5	52.0, 19.4
LAST 4:	62.9, 6.1	77.0, 28.8	78.1,100.0	84.1, 7.8

PAGE 1 Y = 1.00

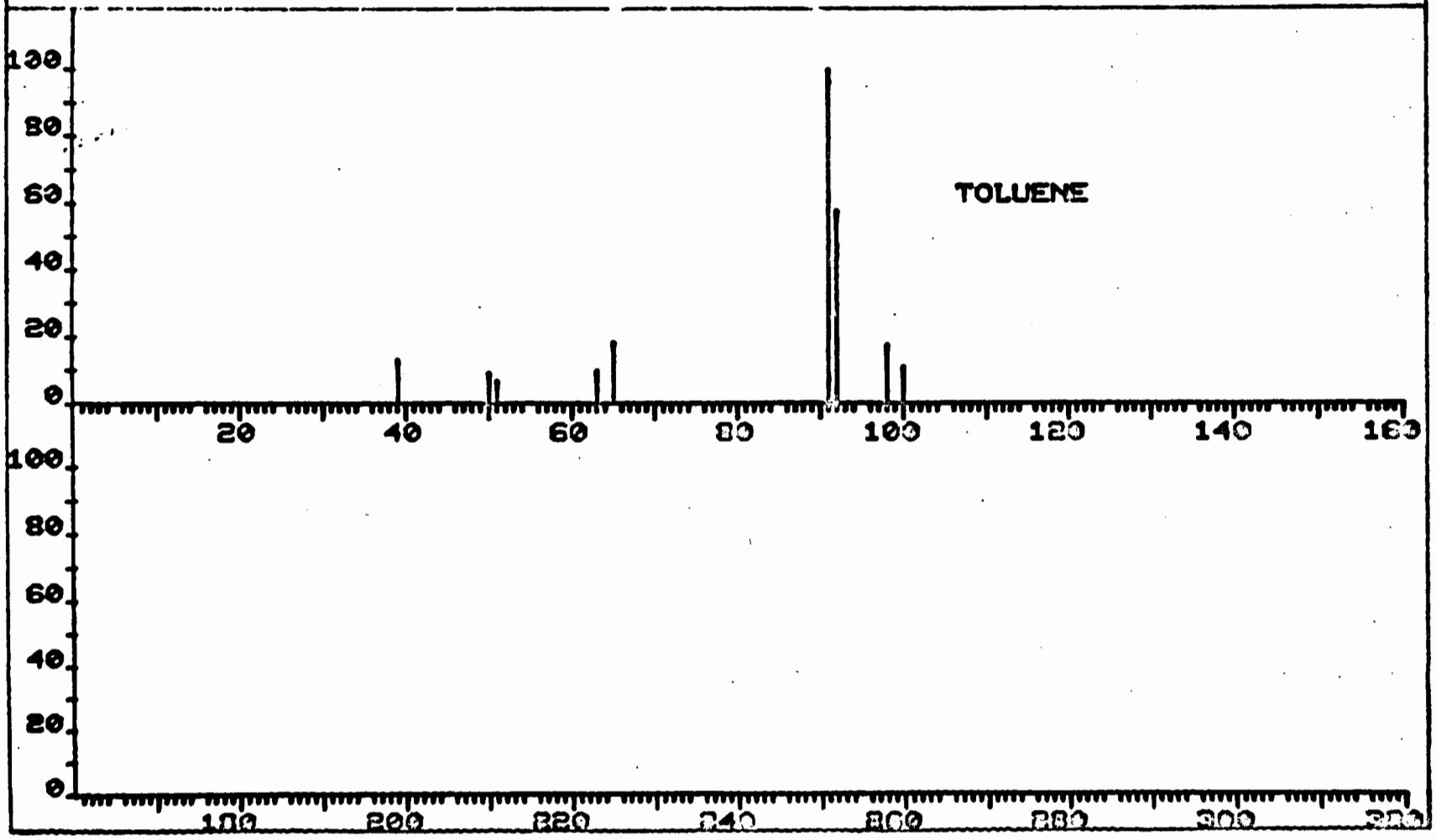


62

FRN 5474 SPECTRUM 615 RETENTION TIME 24.6

LARGST 4:	91.0,100.0	92.1, 58.0	65.0, 10.8	98.1, 17.4
LAST 4:	91.0,100.0	92.1, 58.0	98.1, 17.4	100.1, 10.8

PAGE 1 Y = 1.00



63

ERCO | Energy Resources Co. Inc.

One Alewife Place
Cambridge, Massachusetts 02138
(617) 661-3111 TWX 710-320-0721

Denver, Colorado
Houston, Texas
La Jolla, California
Midland, Texas
Oklahoma City, Oklahoma

Paris, France
Walnut Creek, California
Washington, D.C.
Zurich, Switzerland

Pittsburgh Steel WV50

SAS 195C

August 24, 1982

RECEIVED
SEP 9 1982
ecology and environment, inc.
Philadelphia

Mr. George Brilis
EPA/EMSL
949 East Harmon Avenue
Lab Building #1
Las Vegas, NV 89109

Dear George:

As requested, I have enclosed QA information for SAS 195C which was inadvertently omitted from the original package. This package includes:

- Fused-silica calibration
- Sensitivity mix
- Response factors
- Pesticide and TCDD documentation

Because we were supplied with some initial screening data, screens for these samples were not performed. If you require any further information, please do not hesitate to call. Sorry for the inconvenience.

Sincerely,

Dallas Wait

A. Dallas Wait, Ph.D.
Senior Organic Chemist

ADW/mba
Encl.
cc: Linda Hass, VIAR & Co.
Linda Boornazian, EPA Region 3

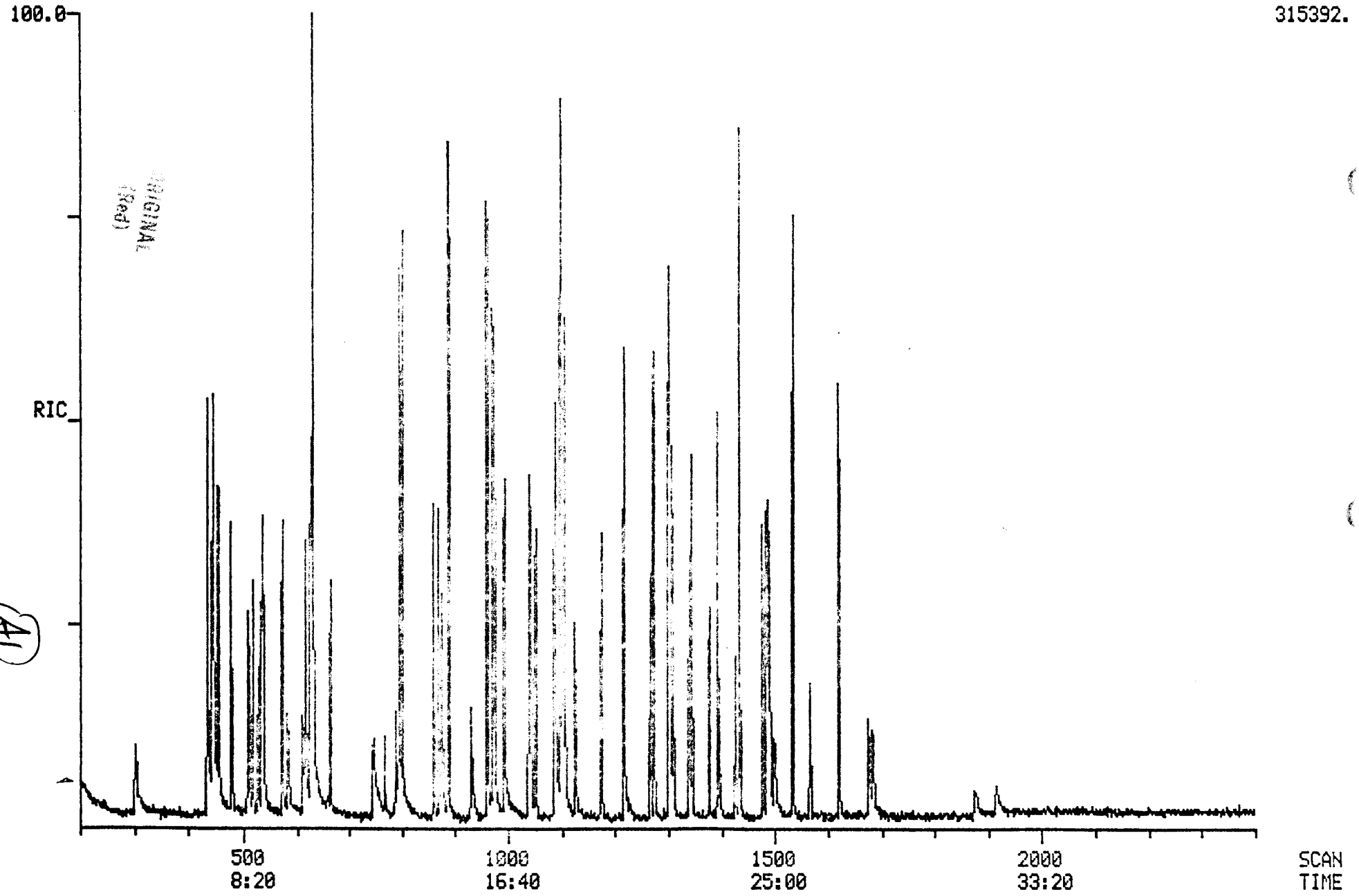
ORIGINAL
(Red)

An Equal Opportunity Employer M/F

RIC
07/22/82 10:04:00
SAMPLE: 50NG STD BNAP
CONDS.: 30(4)-270(10)/10
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: SD072282 #1
CALI: C072282 #3

SCANS 200 TO 2400



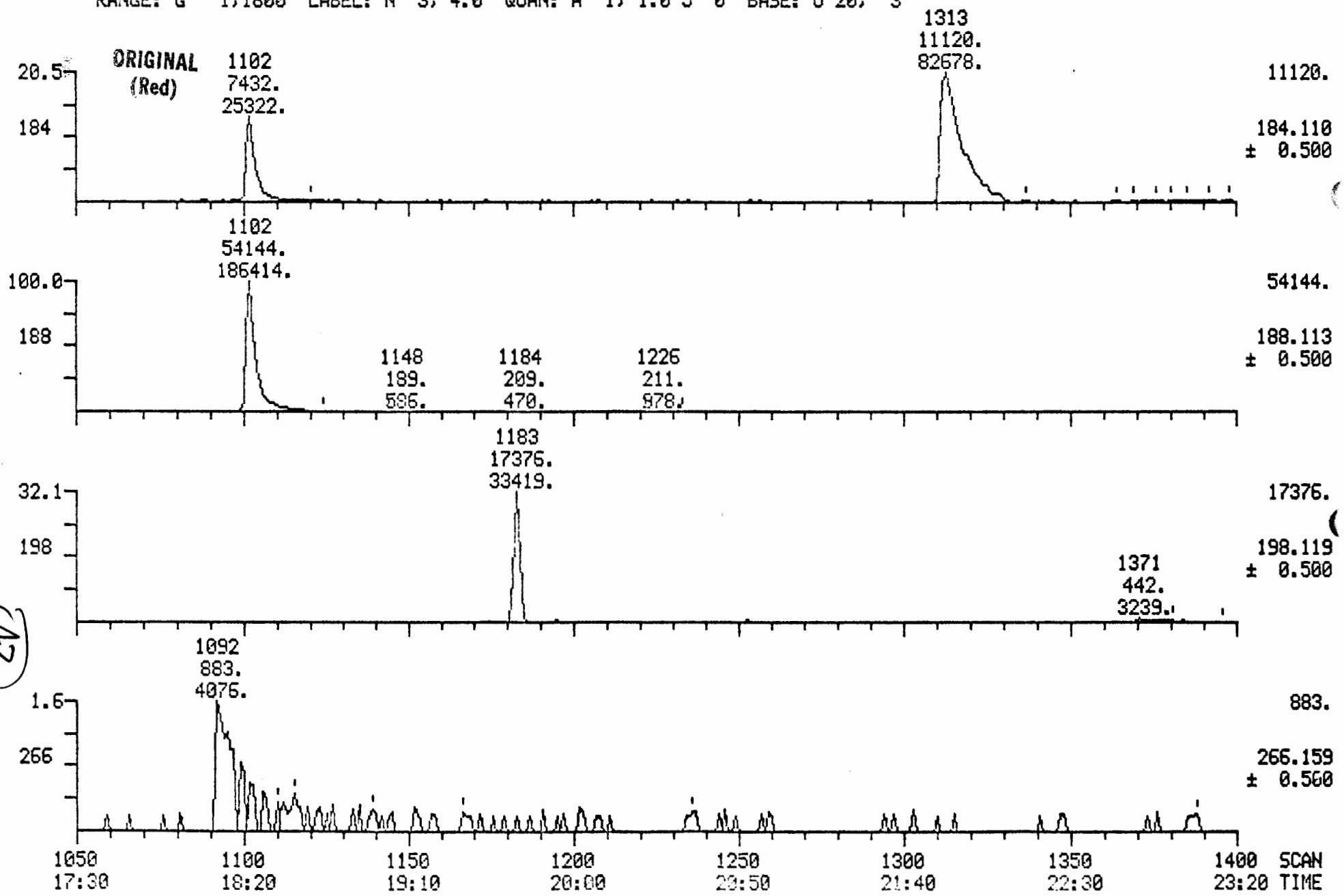
ORIGINAL (Red)

41

MASS CHROMATOGRAMS
07/22/82 15:44:00
SAMPLE: SENSITIVITY MIX
CONDS.: 30(4)-270(10)/10
RANGE: G 1,1800 LABEL: N 3, 4.0 QUAN: A 1, 1.0 J 0 BASE: U 20, 3

DATA: S072282A #1
CALI: C072282 #3

SCANS 1050 TO 1400



(42)

SD 072282

50 NG/UL DAILY STANDARD RRF'S

	NAME			
IS	D3-PHENOL***			
61B	N-NITROSODIMETHYLAMINE	0.649	0.000	0.000
	2-CHLOROETHYLVINYLETHER	0.113	0.000	0.000
65A	PHENOL	1.157	0.000	0.000
18B	BIS(2-CHLOROETHYL)ETHER	1.171	0.000	0.000
24A	2-CHLOROPHENOL	0.850	0.000	0.000
26B	1,3-DICHLOROBENZENE	0.778	0.000	0.000
27B	1,4-DICHLOROBENZENE	0.977	0.000	0.000
25B	1,2-DICHLOROBENZENE	0.814	0.000	0.000
42B	BIS(2-CHLOROISOPROPYL)ETHER	0.250	0.000	0.000
12B	HEXACHLOROETHANE	0.396	0.000	0.000
IS	D8-NAPHTHALENE***			
63B	N-NITROSO-DI-N-PROPYLAMINE	0.336	0.000	0.000
56B	NITROBENZENE	0.185	0.000	0.000
54B	ISOPHORONE	0.838	0.000	0.000
57A	2-NITROPHENOL	0.169	0.000	0.000
34A	2,4-DIMETHYLPHENOL	0.210	0.000	0.000
43B	BIS(2-CHLOROETHOXY)METHANE	0.498	0.000	0.000
31A	2,4-DICHLOROPHENOL	0.171	0.000	0.000
8B	1,2,4-TRICHLOROBENZENE	0.299	0.000	0.000
55B	NAPHTHALENE	1.270	0.000	0.000
52B	HEXACHLOROBUTADIENE	0.104	0.000	0.000
22A	P-CHLORO-M-CRESOL	0.207	0.000	0.000
53B	HEXACHLOROCYCLOPENTADIENE	0.043	0.000	0.000
21A	2,4,6-TRICHLOROPHENOL	0.116	0.000	0.000
20B	2-CHLORONAPHTHALENE	0.716	0.000	0.000
77B	ACENAPHTHYLENE	0.561	0.000	0.000
1B	DIMETHYLPHTHALATE	0.722	0.000	0.000
6B	2,6-DINITROTOLUENE	0.106	0.000	0.000
IS	D10-ANTHRACENE			
1B	ACENAPHTHENE	0.727	0.000	0.000
59A	2,4-DINITROPHENOL	0.000	0.000	0.000
58A	4-NITROPHENOL	0.000	0.000	0.000
35B	2,4-DINITROTOLUENE	0.184	0.000	0.000
80B	FLUORENE	0.874	0.000	0.000
70B	DIETHYLPHTHALATE	0.868	0.000	0.000
40B	4-CHLOROPHENYLPHENYLETHER	0.373	0.000	0.000
60A	4,6-DINITRO-O-CRESOL	0.013	0.000	0.000
62B	N-NITROSODIPHENYLAMINE	0.520	0.000	0.000
37B	1,2-DIPHENYLHYDRAZINE	0.326	0.000	0.000
41B	4-BROMOPHENYLPHENYLETHER	0.180	0.000	0.000
102P	ALPHA-BHC	0.130	0.000	0.000
9B	HEXACHLOROBENZENE	0.181	0.000	0.000
64A	PENTACHLOROPHENOL	0.056	0.000	0.000
	BETA-BHC	0.207	0.000	0.000
104P	GAMMA-BHC	0.207	0.000	0.000
81B	PHENANTHRENE	1.157	0.000	0.000
78B	ANTHRACENE	0.942	0.000	0.000
105P	DELTA-BHC	0.089	0.000	0.000
100P	HEPTACHLOR	0.074	0.000	0.000
68B	DI-N-BUTYLPHTHALATE	1.536	0.000	0.000
99P	ALDRIN	0.009	0.000	0.000
101P	HEPTACHLOR EPOXIDE	0.132	0.000	0.000
39B	FLUORANTHENE	0.979	0.000	0.000
5B	BENZIDINE	0.000	0.000	0.000
IS	D12-CHRYSENE***			
84B	PYRENE	1.963	0.000	0.000
95P	ALPHA-ENDOSULFAN	0.062	0.000	0.000
93P	4,4'-DDE	0.359	0.000	0.000
90P	DIELDRIN	0.582	0.000	0.000
96P	BETA-ENDOSULFAN	0.062	0.000	0.000
94P	4,4'-DDD	0.748	0.000	0.000
98P	ENDRIN	0.022	0.000	0.000
99P	ENDRIN ALDEHYDE	0.003	0.000	0.000
97P	ENDOSULFAN SULFATE	0.080	0.000	0.000
67B	BUTYLBENZYLPHTHALATE	1.109	0.000	0.000
92P	4,4'-DDT	0.354	0.000	0.000
72B	BENZO(A)ANTHRACENE	1.090	0.000	0.000
28B	3,3'-DICHLOROBENZEDINE	0.023	0.000	0.000
76B	CHRYSENE	1.155	0.000	0.000
66B	BIS(2-ETHYLHEXYL)PHTHALATE	0.545	0.000	0.000
IS	D12-PERYLENE***			
69B	DI-N-OCTYL PHTHALATE	3.797	0.000	0.000
74B	BENZO(B)FLUORANTHENE	0.000	0.000	0.000
75B	BENZO(K)FLUORANTHENE	0.000	0.000	0.000
	BENZO(E)PYRENE	0.000	0.000	0.000
73B	BENZO(A)PYRENE	0.974	0.000	0.000
83B	INDENO(1,2,3-CD)PYRENE	0.401	0.000	0.000
82B	DIBENZO(A,H)ANTHRACENE	0.485	0.000	0.000
79B	BENZO(GHI)PERYLENE	0.401	0.000	0.000

ORIGINAL (Red)

A3

CALIBRATION STD. JULY 14, 1982

	NAME	20 PPB	100 PPB	200 PPB	VO
	IS D3-PHENOL***				
61B	N-NITROSODIMETHYLAMINE	0.608	0.028	0.456	0.364
	2-CHLOROETHYLVINYLETHER	0.000	0.000	0.000	0.000
65A	PHENOL	1.474	0.800	1.262	1.179
18B	BIS(2-CHLOROETHYL)ETHER	1.542	0.661	0.981	1.061
24A	2-CHLOROPHENOL	1.004	0.554	0.704	0.754
26B	1,3-DICHLOROBENZENE	1.190	0.490	0.736	0.805
27B	1,4-DICHLOROBENZENE	1.713	0.642	0.995	1.117
25B	1,2-DICHLOROBENZENE	1.312	0.508	0.775	0.865
42B	BIS(2-CHLOROISOPROPYL)ETHER	0.392	0.174	0.262	0.276
12B	HEXACHLOROETHANE	0.553	0.256	0.374	0.394
	IS D8-NAPHTHALENE***				
63B	N-NITROSO-DI-N-PROPYLAMINE	0.330	0.219	0.411	0.320
56B	NITROBENZENE	0.140	0.113	0.207	0.153
54B	ISOPHORONE	0.879	0.549	0.783	0.737
57A	2-NITROPHENOL	0.156	0.151	0.243	0.183
34A	2,4-DIMETHYLPHENOL	0.105	0.151	0.288	0.181
43B	BIS(2-CHLOROETHOXY)METHANE	0.490	0.326	0.526	0.447
31A	2,4-DICHLOROPHENOL	0.142	0.179	0.249	0.190
8B	1,2,4-TRICHLOROBENZENE	0.355	0.201	0.318	0.291
55B	NAPHTHALENE	1.407	0.799	1.197	1.134
52B	HEXACHLOROBUTADIENE	0.151	0.086	0.133	0.123
22A	P-CHLORO-M-CRESOL	0.200	0.205	0.322	0.242
53B	HEXACHLOROCYCLOPENTADIENE	0.017	0.042	0.084	0.048
21A	2,4,6-TRICHLOROPHENOL	0.205	0.153	0.252	0.203
20B	2-CHLORONAPHTHALENE	0.847	0.503	0.876	0.742
77B	ACENAPHTHYLENE	0.678	0.434	0.742	0.618
71B	DIMETHYLPHTHALATE	0.935	0.695	1.135	0.922
76B	2,6-DINITROTOLUENE	0.148	0.114	0.177	0.146
	IS* D10-ANTHRACENE				
1B	ACENAPHTHENE	0.636	0.293	0.473	0.467
59A	2,4-DINITROPHENOL	0.000	0.064	0.112	0.059
58A	4-NITROPHENOL	0.000	0.089	0.150	0.080
35B	2,4-DINITROTOLUENE	0.170	0.110	0.197	0.159
80B	FLUORENE	0.806	0.386	0.690	0.627
70B	DIETHYLPHTHALATE	0.808	0.418	0.732	0.653
40B	4-CHLOROPHENYLPHENYLETHER	0.389	0.200	0.342	0.310
60A	4,6-DINITRO-O-CRESOL	0.080	0.092	0.143	0.105
62B	N-NITROSODIPHENYLAMINE	0.518	0.283	0.449	0.416
37B	1,2-DIPHENYLHYDRAZINE	0.000	0.000	0.000	0.000
41B	4-BROMOPHENYLPHENYLETHER	0.222	0.126	0.200	0.183
102P	ALPHA-BHC	0.137	0.081	0.125	0.114
9B	HEXACHLOROBENZENE	0.269	0.144	0.223	0.212
64A	PENTACHLOROPHENOL	0.106	0.082	0.133	0.107
	BETA-BHC	0.197	0.104	0.187	0.163
104P	GAMMA-BHC	0.197	0.104	0.187	0.163
81B	PHENANTHRENE	1.222	0.698	0.952	0.958
78B	ANTHRACENE	0.972	0.527	0.968	0.822
105P	DELTA-BHC	0.109	0.064	0.103	0.092
100P	HEPTACHLOR	0.103	0.061	0.088	0.084
68B	DI-N-BUTYLPHTHALATE	1.504	0.816	1.230	1.183
89P	ALDRIN	0.000	0.003	0.002	0.001
101P	HEPTACHLOR EPOXIDE	0.140	0.069	0.098	0.102
39B	FLUORANTHENE	1.383	0.634	0.976	0.998
5B	BENZIDINE	0.000	0.000	0.000	0.000
	IS D12-CHRYSENE***				
84B	PYRENE	1.447	0.894	1.014	1.119
95P	ALPHA-ENDOSULFAN	0.032	0.025	0.044	0.034
93P	4,4'-DDE	0.265	0.172	0.287	0.241
90P	DIELDRIN	0.318	0.199	0.366	0.294
96P	BETA-ENDOSULFAN	0.037	0.028	0.045	0.037
94P	4,4'-DDD	0.538	0.364	0.629	0.510
98P	ENDRIN	0.010	0.015	0.017	0.014
99P	ENDRIN ALDEHYDE	0.000	0.000	0.000	0.000
97P	ENDOSULFAN SULFATE	0.074	0.055	0.085	0.071
67B	BUTYLBENZYLPHTHALATE	0.727	0.430	0.585	0.580
92P	4,4'-DDT	0.377	0.258	0.155	0.263
72B	BENZO(A)ANTHRACENE	1.241	0.770	1.157	1.056
28B	3,3'-DICHLOROBENZEDINE	0.020	0.014	0.023	0.019
76B	CHRYSENE	1.363	0.725	1.282	1.123
66B	BIS(2-ETHYLHEXYL)PHTHALATE	0.404	0.256	0.389	0.349
	IS D12-PERYLENE***				
69B	DI-N-OCTYL PHTHALATE	2.776	2.562	2.023	2.453
74B	BENZO(B)FLUORANTHENE	0.000	0.000	0.000	0.000
75B	BENZO(K)FLUORANTHENE	0.000	0.000	0.000	0.000
	BENZO(E)PYRENE	0.000	0.000	0.000	0.000
73B	BENZO(A)PYRENE	1.135	0.968	0.955	1.019
83B	INDENO(1,2,3-CD)PYRENE	0.000	0.000	0.000	0.000
82B	DIBENZO(A,H)ANTHRACENE	0.616	0.623	0.780	0.673
79B	BENZO(GHI)PERYLENE	0.666	0.635	0.804	0.702

ORIGINAL
(Red)

A8

RESULTS OF STANDARD ANALYSES

#	CAS #	VOLATILE COMPOUNDS	Standard Conc. (ppb)	Standard Date RR	Standard Date CC Date 7/9/82 CCC*	Standard Date RR	Standard Date CC Date CCC*	Standard Date RR	Standard Date CC Date CCC*	Standard Date RR	Standard Date CC Date CCC*	Standard Date RR	Standard Date CC Date CCC*
)	107-02-8	acrolein											
)	107-13-1	acrylonitrile											
)	71-43-2	benzene		1.89									
)	56-23-5	carbon tetrachloride		3.26									
)	108-90-7	chlorobenzene		2.30									
)	107-06-2	1,2-dichloroethane		1.90									
)	-55-6	1,1,1-trichloroethane		2.96									
)	5-34-3	1,1-dichloroethane		1.46									
)	79-00-5	1,1,2-trichloroethane		0.79									
)	79-34-5	1,1,2,2-tetrachloroethane		0.87									
)	75-00-3	chloroethane		0.30									
)	110-75-8	2-chloroethylvinyl ether											
)	67-66-3	chloroform		2.42									
)	75-35-4	1,1-dichloroethene		0.78									
)	156-60-5	trans-1,2-dichloroethene		1.05									
)	78-87-5	1,2-dichloropropane		0.60									
)	10061-02-6	trans-1,3-dichloropropene		0.83									
)	100-41-4	ethylbenzene		1.05									
	10061-01-05	cis-1,3-dichloropropene		0.59									
)	75-09-2	methylene chloride		1.18									
)	-87-3	chloromethane		0.43									
)	74-83-9	bromomethane		0.71									
)	75-25-2	bromoform		0.72									
)	75-27-4	bromodichloromethane		2.68									
)	75-69-4	fluorotrichloromethane		1.69									
)	75-71-8	dichlorodifluoromethane											
)	124-48-1	chlorodibromomethane		0.91									
)	127-18-4	tetrachloroethene		0.89									
)	108-88-3	toluene		1.46									
)	79-01-6	trichloroethene		0.95									
)	75-01-4	vinyl chloride		0.48									

ibration Curve Check (CCC) Key: - = No significant drift from calibration curve.

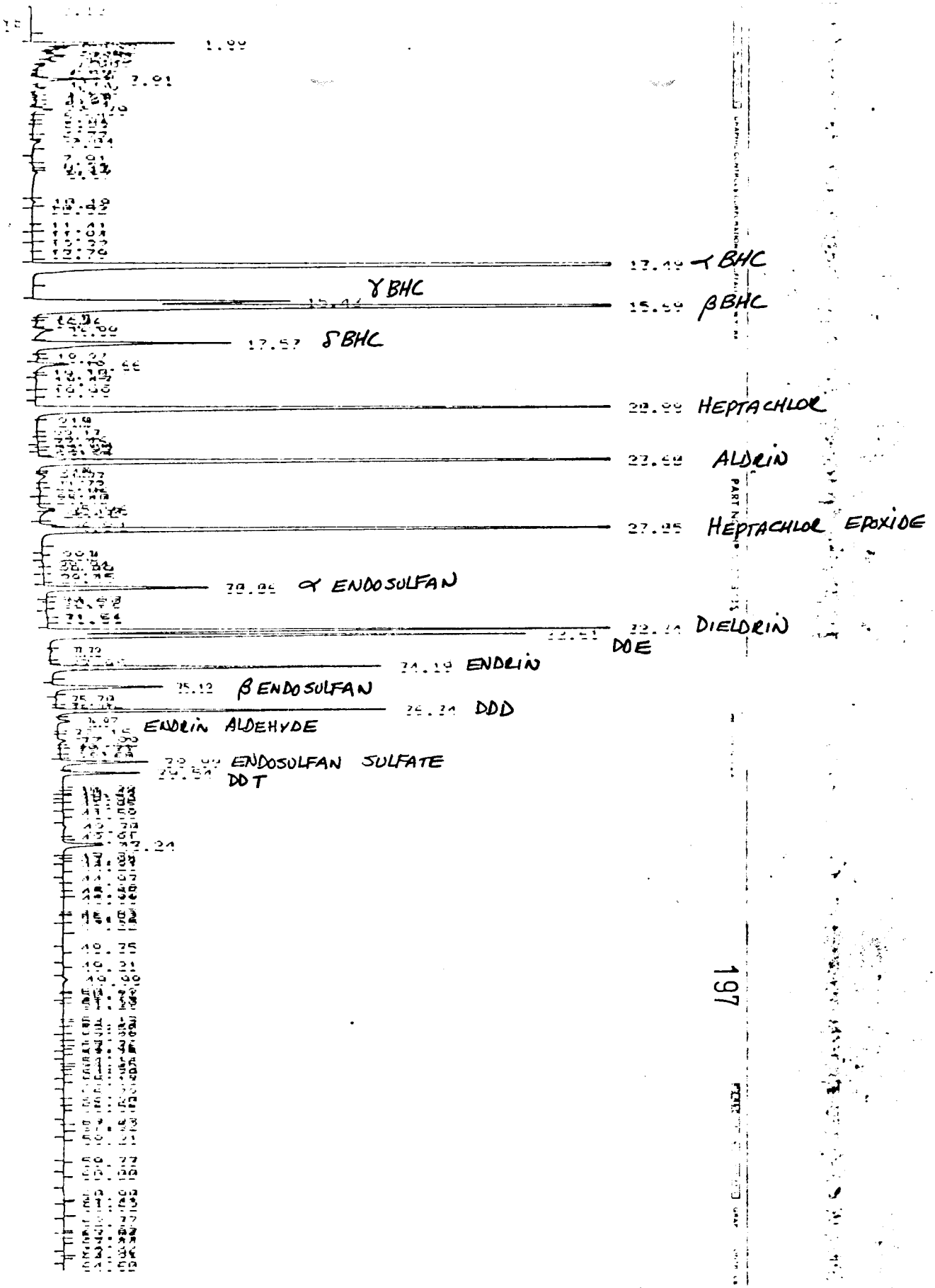
+ = Significant drift from calibration curve; reconstruct calibration curve.

2/81)

Form IV (continued)

ORIGINAL

A5



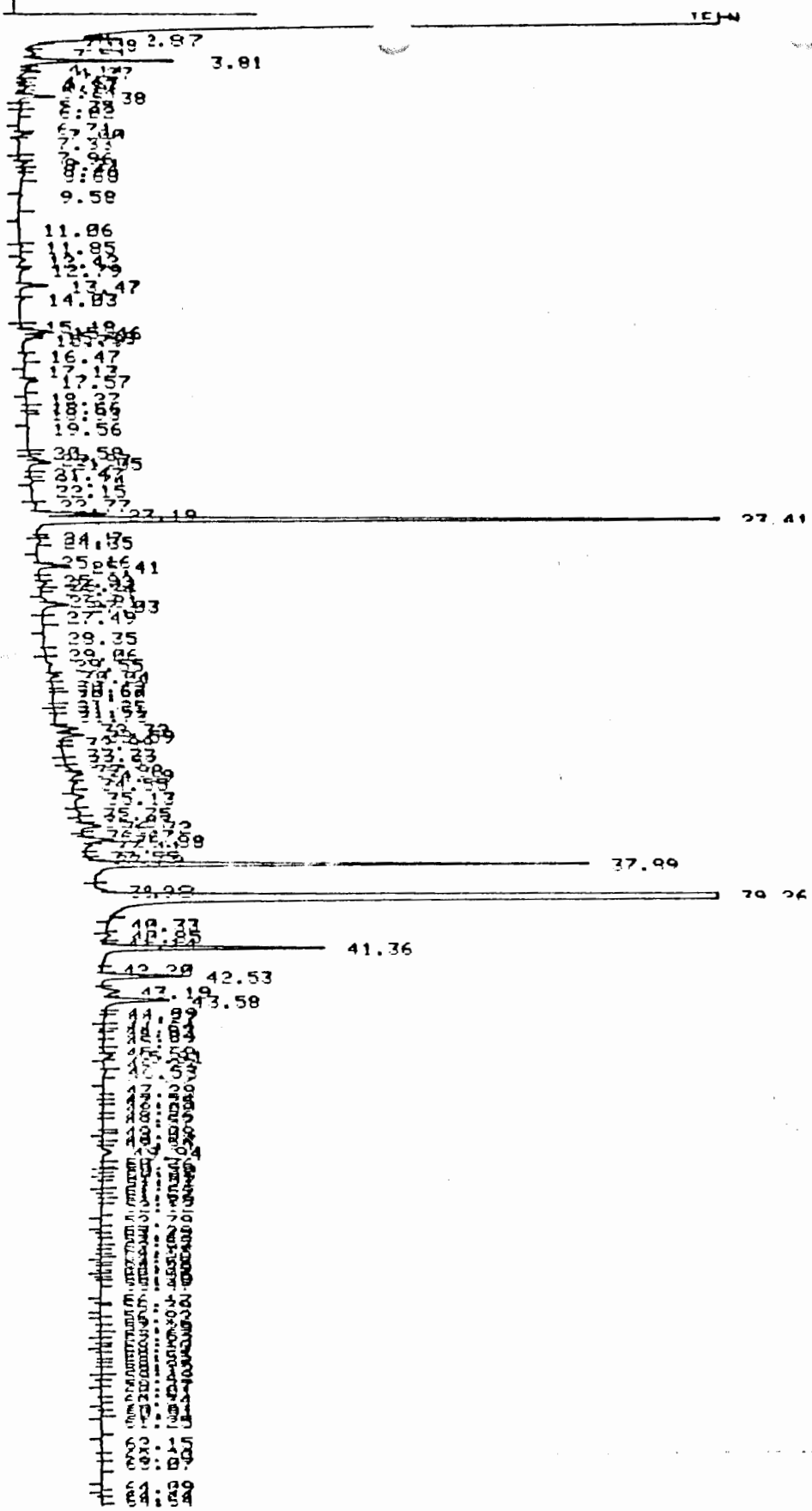
RT	AREA	AREA %
1.99	42754	1.255
2.91	5259	0.154
7.00	2029	0.059
7.91	19248	0.565
8.22	2149	0.063
9.74	7752	0.227

ORIGINAL

4-8822

CASE# 195C

A6



040

041

RUN # 26 AUG/28/82 TIME 11:39:39
:35-29-1.0 BOTTLE 1
EA %

RT	AREA	AREA %
1.95	17050000	95.706
2.97	2572	0.014
3.91	9116	0.051
5.79	2348	0.013
37.19	7651	0.020

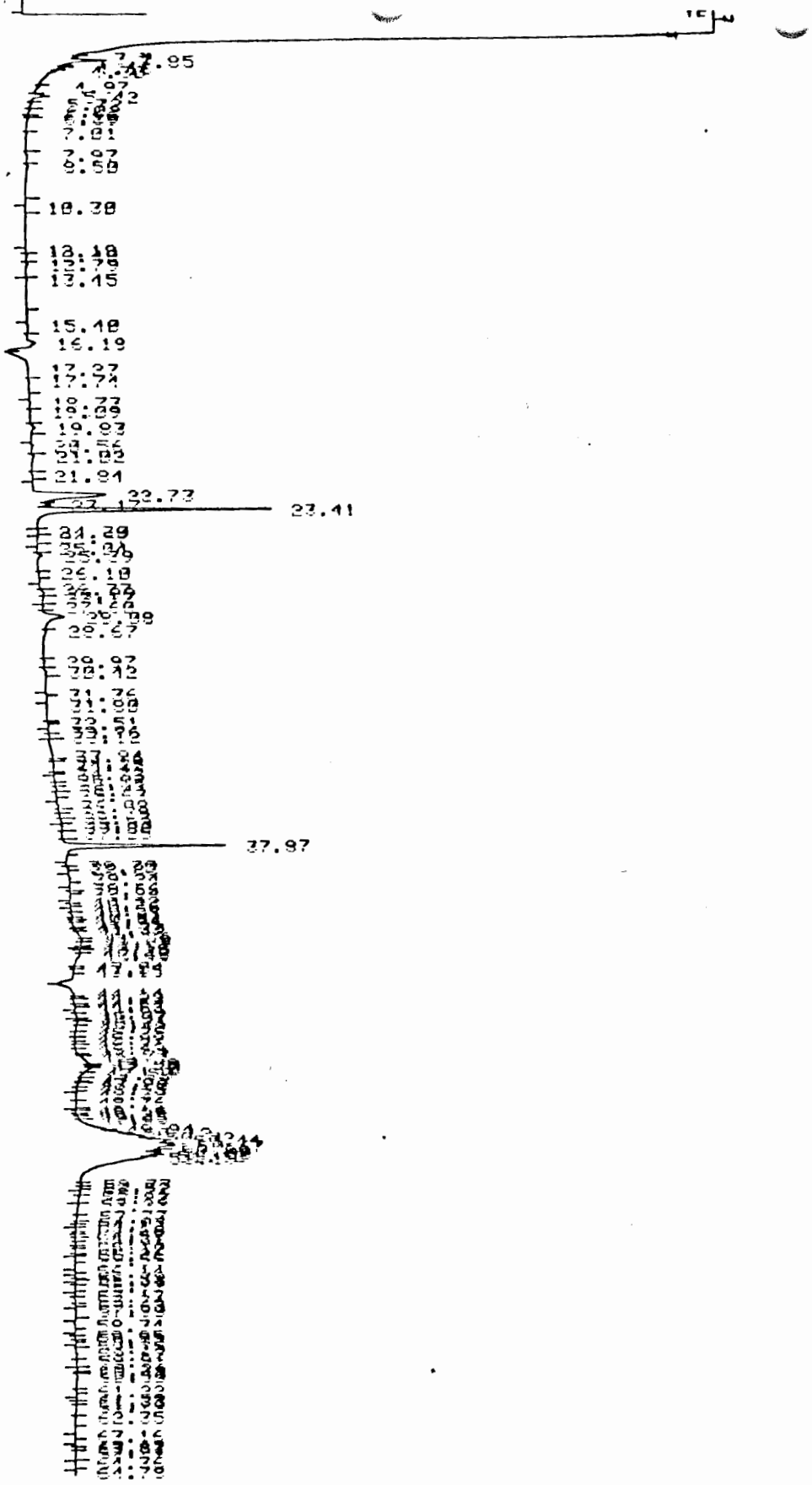
ORIGINAL

SE-54
1,2,3,4 TCDD
&
Methoxychlor

CASE # 195C

A7

ATTN 2↑ 7
STARTE
OB



HP RUN # 12 AUG/19/93 TIME 03:01:31
ID:20-019-1-1 BOTTLE 12
AREA %

ORIGINAL

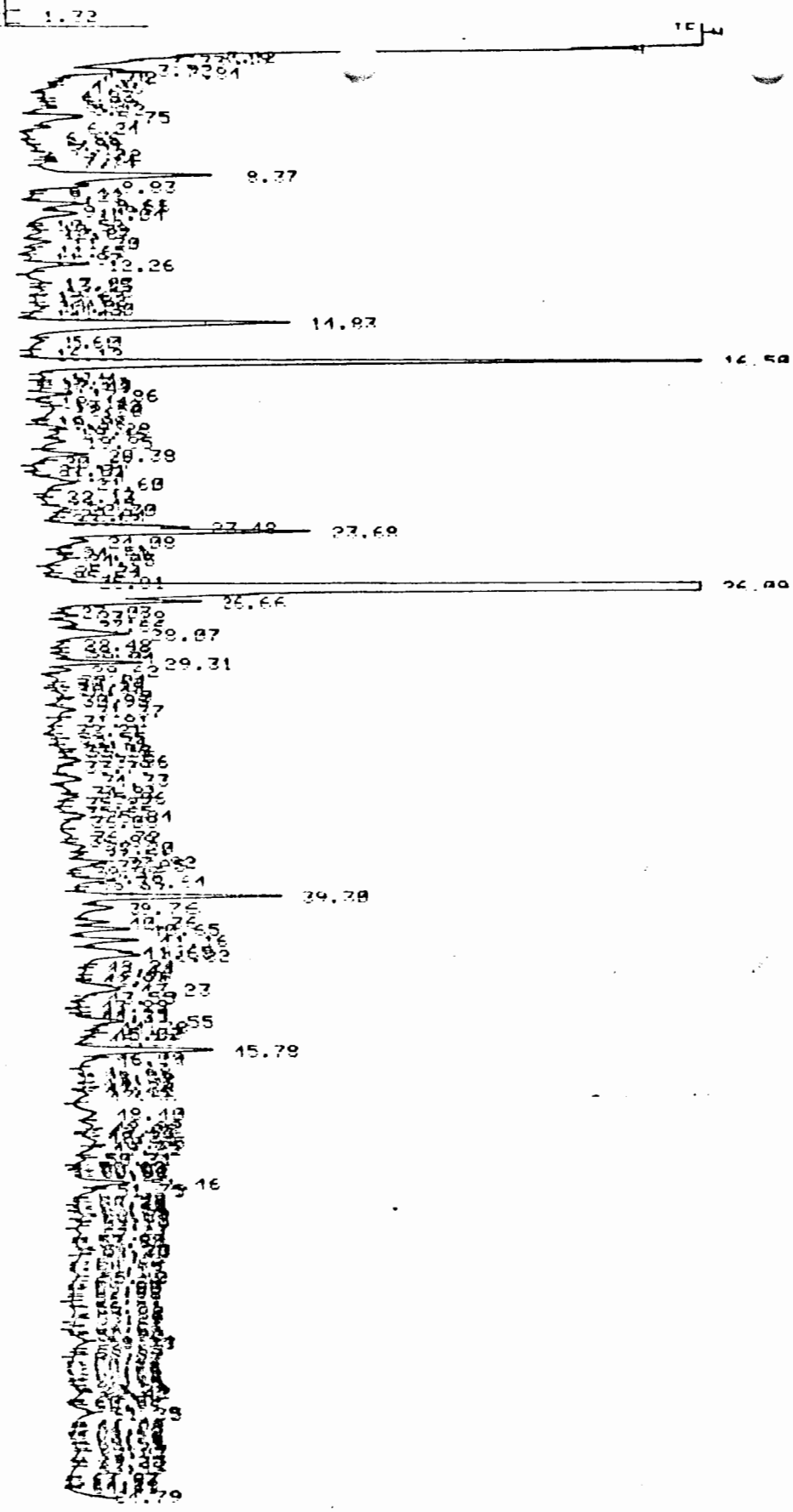
RT	AREA	AREA %
1.94	33710000	99.670
7.95	7926	0.011
5.42	2751	0.007
[illegible]	[illegible]	0.006

SE-54

C1596
CASE # 195C

A8

015



HP RUN # 18 AUG/19/93 TIME 07:39:03
ID:29-919-1-1 BOTTLE 18
AREA %

RT	AREA	AREA %
1.05	32478888	98.621
2.99	4029	0.011
3.94	7754	0.023
5.75	15670	0.044
6.24	2164	0.006
7.42	2214	0.006
8.37	16799	0.171

ORIGINAL
(Red)

SE 54

25-449 1/150
C1475
CASE# 195C

A9

P3

012

PART NO HP 5080-8725

F3-8201-10
Wheeling Pittsburgh Steel
E. Penn

INORGANICS QUALITY ASSURANCE

RMA Q.C. REPORT # 118

Reg 3 FIT
8201 Rt. 130
PENNSAUKEN, NJ
08110

Q. C. Report Key:

RECEIVED
JUL 19 1982
ecology and environment, inc.
Philadelphia

Cases(s): SAS 195C

Sample #: MC9064
MC9185

RECEIVED
JUL 19 1982
ecology a
environment,
Philadelph

Contract Required Detection Limits

Task 1:

(mg/l)		(mg/kg)
0.010	Ag	1
0.200	Al	20
0.100	B	10
0.100	Ba	10
0.005	Be	0.5
0.010	Cr	1
0.050	Co	5
0.050	Cu	5
0.050	Fe	5
0.010	Mn	1
0.040	Ni	4
0.200	V	20
0.010	Zn	1

Task 2:

(mg/l)		(mg/kg)
0.010	As	1
0.001	Cd	0.1
0.0002	Hg	0.02
0.005	Pb	0.5
0.020	Sb	2
0.002	Se	0.2
0.020	Sn	2
0.010	Tl	1

Task 3:

(mg/l)		(mg/kg)
0.1	NH_3	10
0.01	CN^{-1}	1
0.05	S^{-2}	5

Footnotes:

(1) Detection limit raised due to sample matrix interference.
(2) Sample interference precluded analysis.
(3) Detection limit raised due to small volume of sample, necessitating dilution prior to analysis.

ORIGINAL
(Red)

RMA Quality Control Repo. # 118 Case(s) SAS 19 _____ No. of Samples 2 Date 7/14/82

Circle One: mg/l or mg/kg		Task 1 Ag	Al	B	Ba	Be	Co	Cr	Cu	Fe	Mn	Ni	V	Zn	Task 2 As	Cd	Hg	Pb	Sb	Se	Sn	Tl	Task 3 Cn	NH_3	S^-	
Reference Std	Found	.25	.30	.29	.25	.11	.10	.075	.21	.13	.20	.21	.22	.15	.028	.11	.0019	.16	.052	.052	.18	.032	.070			
Source: ERA 9501	True	.25	.32	.29	.25	.11	.10	.075	.21	.13	.20	.21	.23	.15	.031	.10	.0020	.16	.054	.051	.19	.033	.069	3.9		
	% Recovery	100	94	100	100	100	100	100	100	100	100	100	96	100	90	110	95	100	96	102	95	97	101			
PREP BLANK	Result	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Duplicate Sample No. MC9064	Sample Result	ND	160	ND	ND	ND	ND	ND	ND	54	40	ND	ND	4.5	1.8	ND	ND	8.5	ND	ND	ND	ND	62			
	Duplicate Result	ND	210	ND	ND	ND	ND	ND	ND	72	52	ND	ND	7.0	1.8	ND	ND	7.5	ND	ND	ND	ND	63			
	RPD %	—	27	—	—	—	—	—	—	28	26	—	—	43	0	—	—	12	—	—	—	—	1.6			
Spiked Sample No. MC9064	Dilution Factor	100	100	100	100	100	100	100	100	1000	100	100	100	100	100	100	100	100	100	100	100	100	200			
	Sample Result	<.01	1.6	<.1	<.1	<.005	<.05	<.01	<.05	.54	.40	<.04	.004	.045	.018	<.001	<.002	.085	<.002	<.002	<.002	<.002	.31			
	Spike Result	.47	2.1	.42	.50	.49	.48	.48	.50	1.0	.86	.51	.025	.57	.039	.48	.0010	.57	.021	.021	.21	.020	.78			
	Spike Added	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50	.020	.50	.020	.50	.0010	.50	.020	.020	.020	.020	.10			
	% Recovery	94	100	84	100	98	96	96	100	92	92	102	105	94	105	96	100	98	105	105	105	100	78			
Reagent Blank	Conc 1	.00	.00	X	.00	.00	.00	.00	.00	.00	.00	.00	.000	.00	.000	.00	.00	.00	.000	.000	.000	.000	X	X	X	
	Conc 2	.00	.00	X	.00	.00	.00	.00	.00	.00	.00	.00	.000	.00	.000	.00	.00	.00	.000	.000	.000	.000	X	X	X	
Sensitivity	Std 1 Conc	.50	.50	.30	.50	.50	.50	.50	.50	.50	.50	.50	.050	.50	.050	.25	.0005	.50	.050	.050	.050	.050	X	X	X	
	Std 1 Abs	.095	.064	.080	.020	.102	.061	.077	.065	.061	.101	.060	.095	.094	.187	.160	.037	.025	.176	.141	.058	.151	X	X	X	
	Std 2 Conc	1.0	1.0	.50	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.10	1.0	.10	.50	.001	1.0	.10	.10	.10	.10	X	X	X	
	Std 2 Abs	.190	.008	.120	.039	.203	.120	.153	.130	.122	.202	.120	.191	.188	.365	.320	.074	.049	.350	.280	.175	.301	X	X	X	
	Std 3 Conc	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.	2.0	2.0	X	2.0	X	1.0	.002	2.0	X	X	X	X	X	X	X	
	Std 3 Abs	.380	.016	.268	.078	.405	.241	.305	.258	.243	.403	.239	X	.375	X	.639	.145	.097	X	X	X	X	X	X	X	
Concentration Calibration Check	Found	1.0	1.0	X	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.10	1.0	.10	1.0	.001	1.0	.10	.099	.10	.10	X	X	X	
	True	1.0	1.0	X	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	.10	1.0	.10	1.0	.001	1.0	.10	.10	.10	.10	X	X	X	

ORIGINAL (Red)

U. S. ENVIRONMENT PROTECTION AGENCY - HWI Se le Management Office

114 North Columbus Street - Alexandria, Virginia 22314

ORIGINAL (Red)

Laboratory Name ROCKY MOUNTAIN ANALYTICAL Case No. SAB 195C QC Report No. 118

TASK 1. Units mg/l or mg/kg (circle one)

EPA Sample No.	RMA Sample No.	Ag	Al	B	Ba	Be	Cr	Co	Cu	Fe	Mn	Ni	V	Zn				
MC9064	5027-01	ND	160	ND	ND	ND	ND	ND	ND	54	40	ND	ND	4.5				
MC9185	02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND				

TASK 2. Units mg/l or mg/kg (circle one)

EPA Sample No.	RMA Sample No.	As	Cd	Hg	Pb	Sb	Se	Sn	Tl
MC9064	5027-01	1.8	ND	ND	8.5	ND	ND	ND	ND
MC9185	02	ND	ND	ND	ND	ND	ND	ND	ND

TASK 3. Units mg/l or mg/kg (circle one)

CN	NH_3	S
62	N	
ND		A

Case# 1121 Wheeling Pittsburgh Steel

WCTS WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY WV 50

Mahan Run - Dennis

SAMPLE ID	C1492	SAMPLE ID	C1492
LAB ID	23884A2	LAB ID	23884B2
DATE EXTRACTED	6-19-82	DATE EXTRACTED	6-18-82
DATE INJECTED	7-22-82	DATE INJECTED	6-17-82
STD ID	PHEN430 SENS271	STD ID	BENZ597 BNSTD591
CONC FACTOR	1000	CONC FACTOR	1000

RECEIVED JUL 28 1982 ecology and environment, inc. Philadelphia

F3-8-0/10 E. Dennis

Acid Compounds		ug/l
21A	2,4,6-trichlorophenol	ND
22A	p-chloro-m-cresol	ND
24A	2-chlorophenol	ND
31A	2,4-dichlorophenol	ND
34A	2,4-dimethylphenol	ND
57A	2-nitrophenol	ND
58A	4-nitrophenol	ND
59A	2,4-dinitrophenol	ND
60A	4,6-dinitro-o-cresol	ND
64A	pentachlorophenol	ND
65A	phenol	ND

Base/Neutral Compounds		
1B	acenaphthene	ND
5B	benzidine	ND
8B	1,2,4-trichlorobenzene	ND
9B	hexachlorobenzene	ND
12B	hexachloroethane	ND
18B	bis(2-chloroethyl)ether	ND
20B	2-chloronapthalene	ND
25B	1,2-dichlorobenzene	ND
26B	1,3-dichlorobenzene	ND
27B	1,4-dichlorobenzene	ND
28B	3,3'-dichlorobenzidine	ND
35B	2,4-dinitrotoluene	ND
36B	2,6-dinitrotoluene	ND
37B	1,2-diphenylhydrazine (as azobenzene)	ND
39B	fluoranthene	ND
40B	4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds		ug/l
41B	4-bromophenyl phenyl ether	ND
42B	bis(2-chloroisopropyl) ether	ND
43B	bis (2-chloroethoxy) methane	ND
52B	hexachlorobutadiene	ND
53B	hexachlorocyclopentadiene	ND
54B	isophorone	ND
55B	naphthalene	ND
56B	nitrobenzene	ND
61B	N-nitrosodimethylamine	ND
62B	N-nitrosodiphenylamine	ND
63B	N-nitrosodi-n-propylamine	ND
66B	bis (2-ethylhexyl) phthalate	ND
67B	butyl benzyl phthalate	ND
68B	di-n-butyl phthalate	ND
69B	di-n-octyl phthalate	ND
70B	diethyl phthalate	ND
71B	dimethyl phthalate	ND
72B	benzo(a) anthracene	ND
73B	benzo(a)pyrene	ND
74B	3,4-benzofluoranthene	ND
75B	benzo(k)fluoranthene	ND
76B	chrysene	ND
77B	acenaphthylene	ND
78B	anthracene	ND
79B	benzo(ghi)perylene	ND
80B	fluorene	ND
81B	phenanthrene	ND
82B	dibenzo(a,h)anthracene	ND
83B	indeno(1,2,3-cd)pyrene	ND
84B	pyrene	ND
129B	2,3,7,8-tetrachlorodibenzo-p-dioxin	ND

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY _____

SAMPLE ID C1492
LAB ID 23884V3
DATE INJECTED 6-25-82
STD ID BFB204 VOA342
CONC. FACTOR -------

SAMPLE ID C1492
LAB ID TRACE #7498
DATE EXTRACTED 6-19-82
DATE INJECTED 7-3-82
STD ID TRACE #7495
CONC. FACTOR 100

Volatiles		ug/l
2V	acrolein	ND
3V	acrylonitrile	ND
4V	benzene	ND
6V	carbon tetrachloride	ND
7V	chlorobenzene	ND
10V	1,2-dichloroethane	ND
11V	1,1,1-trichloroethane	ND
13V	1,1-dichloroethane	ND
14V	1,1,2-trichloroethane	ND
15V	1,1,2,2-tetrachloroethane	ND
16V	chloroethane	ND
17V	bis(chloromethyl) ether	ND
19V	2-chloroethylvinyl ether	ND
23V	chloroform	ND
29V	1,1-dichloroethylene	ND
30V	1,2-trans-dichloroethylene	ND
32V	1,2-dichloropropane	ND
33V	1,3-dichloropropylene	ND
38V	ethylbenzene	ND
44V	methylene chloride	*
45V	methyl chloride	ND
46V	methyl bromide	ND
47V	bromoform	ND
48V	dichlorobromomethane	ND
49V	trichlorofluoromethane	ND
50V	dichlorodifluoromethane	ND
51V	chlorodibromomethane	ND
85V	tetrachloroethylene	*
86V	toluene	ND
87V	trichloroethylene	ND
88V	vinyl chloride	ND

Pesticides		ug/l
89P	aldrin	ND
90P	dieldrin	ND
91P	chlordane	ND
92P	4,4'-DDT	ND
93P	4,4'-DDE	ND
94P	4,4'-DDD	ND
95P	alpha-endosulfan	ND
96P	beta-endosulfan	ND
97P	endosulfan sulfate	ND
98P	endrin	ND
99P	endrin aldehyde	ND
100P	heptachlor	ND
101P	heptachlor epoxide	ND
102P	alpha-BHC	ND
103P	beta-BHC	ND
104P	gamma-BHC	ND
105P	delta-BHC	ND
106P	PCB-1242	ND
107P	PCB-1254	ND
108P	PCB-1221	ND
109P	PCB-1232	ND
110P	PCB-1248	ND
111P	PCB-1260	ND
112P	PCB-1016	ND
113P	toxaphene	ND

* = Less than 10 ug/l
(pesticides less than 5 ug/l)
ND = Not detected
** = Not confirmed by GCMS

ORIGINAL (Red)

WEST COAST TECHNICAL SERVICE INC.

Organics Analysis Data Sheet
Page 3

QC Report No: 6077-12

Sample Number
C1492

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. ug/l)	(Surrogates only) Spike Added (ug/l)	% Recovery
Benzene - d6	VOA	49	50	98
1-Chloro-2-Bromopropane	VOA	45	50	90
Toluene - d8	VOA	49	50	98
2-Fluorophenol	ACID	67	106	63
Phenol - d5	ACID	59	105	56
Nitrobenzene - d5	B/N	88	104	85
2-Fluorobiphenyl	B/N	86	101	85
Naphthalene - d8	B/N	72	102	71

B. TENTATIVELY IDENTIFIED COMPOUNDS

	CAS #	COMPOUND NAME	FRACTION	% Maximum Score Attained Mass Matching Routine: FIT (Specify)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13				
14.				
15.				
16.				
17.				
18.				
19.				

Sample No: C1406
Lab Standard ID: BENZ595 BNSTD589

U.S. ENVIRONMENTAL PROTECTION AGENCY
HWI SAMPLE MANAGEMENT OFFICE

Lab Name: WEST COAST TECHNICAL SERVICE
Report No: 6077-12
Page 4 of 5

Dawn Tr

QUALITY CONTROL REPORT
A. MATRIX SPIKE ANALYSIS

COMPOUND (including surrogates)					CONCENTRATION (ug/l)			
P.	P.	#		COMPOUND NAME	Sample Result (SR)	Spiked Sample Result (SSR)	Spike Added (SA)	% Recovery*
		8	B	1,2,4-TRICHLOROBENZENE	ND	42	50	82
		1	B	ACENAPHTHENE	ND	36	52	70
	3	6	B	2,6-DIHITROTOLUENE	ND	50	54	93
	)	8	B	DI-n-BUTYLPHTHALATE	2	12	51	24
	8	4	B	PYRENE	ND	0	52	0
	6	3	B	n-NITROSODI-n-PROPYLAMINE	ND	5.7	52	11
	2	7	B	p-DICHLOROBENZENE	ND	34	52	65
				NITROBENZENE-d5	ND	124	104	119
				2-FLUOROBIPHENYL	ND	93	102	91
				NAPHTHALENE-d8	ND	97	101	96
	6	4	A	PENTACHLOROPHENOL	ND	3	54	6
	2	2	A	4-CHLORO-3-METHYLPHENOL	ND	7	52	13
	)	5	A	PHENOL	ND	49	51	96
	2	4	A	2-CHLOROPHENOL	ND	44	51	86
	5	8	A	4-NITROPHENOL	ND	ND	52	0
				PHENOL-d6	6	8	10	80
				2-FLUOROPHENOL	86	91	115	79

This QC Report also covers the following sample numbers: C1406-C1413, C1492-C1494, F1510-F1511, C1387-C1391, C1433-C1434

ORIGINAL (Red)

$$* \text{ Recovery} = \frac{(SSR-SR)}{(SA)} \times 100$$

Sample No: C1400
Lab Standard ID: BENZ595 BNSID589

U.S. ENVIRONMENTAL PROTECTION AGENCY
HWI SAMPLE MANAGEMENT OFFICE

Lab Name: WEST COAST TECHNICAL SERVICE,
Report No: 6077-12

QUALITY CONTROL REPORT
B. DUPLICATE ANALYSIS

COMPOUND (including surrogates)					CONCENTRATION (ug/l)		Relative Percent Difference (RPD)*
P.	P.	#		COMPOUND NAME	Aliquot 1 (D_1)	Aliquot 2 (D_2)	
	7	0	B	DIETHYL PHTHALATE	1	0	200
	6	8	B	DI-n-BUTYL PHTHALATE	2	2	0
				NITROBENZENE-d5	105	119	13
				2-FLUOROBIPHENYL	97	96	1
				NAPHTHALENE-d8	98	99	1
				2-FLUOROPHENOL	88	86	2
				PHENOL-d5	7	6	15

This QC Report also covers the following sample numbers: C1406-C1413, C1492-C1494, F1510-F1511, C1387-C1391, C1433-C1434

$$*RPD = \frac{(D_1 - D_2)}{\left[(D_1 + D_2)/2\right]} \times 100$$

ORIGINAL (Red)

Sample No: C1407 DUPLICATE
Lab Standard ID: BFB201 VOA335
TRACE #7450

U.S. ENVIRONMENTAL PROTECTION AGENCY
HWI SAMPLE MANAGEMENT OFFICE

Lab Name: WEST COAST TECHNICAL SERVICE, I
Report No: 6077-12

QUALITY CONTROL REPORT
B. DUPLICATE ANALYSIS

COMPOUND (including surrogates)					CONCENTRATION (ug/l)		Relative Percent Difference (RPD)*
P.	P.	#		COMPOUND NAME	Aliquot 1 (D_1)	Aliquot 2 (D_2)	
	4	4	V	METHYLENE CHLORIDE	13	14	7.4
				BENZENE d-6	46	45	2.2
				1-CHLORO-2-BROMOPROPANE	46	45	2.2
				TOLUENE d-8	45	45	0
				NO PESTICIDES DETECTED			

This QC Report also covers the following sample numbers: C1406-C1413, C1492-C1494, F1510-F1511, C1387-C1391, C1433-C1434

$$*RPD = \frac{(D_1 - D_2)}{[(D_1 + D_2)/2]} \times 100$$

Sample No: C1407 QC
Lab Standard ID: BFB201 VOA335

TRACE #7457 (PEST QA STD)
TRACE #7462

U.S. ENVIRONMENTAL PROTECTION AGENCY
HWI SAMPLE MANAGEMENT OFFICE

Lab Name: WEST COAST TECHNICAL SERVIC
Report No: 6077-12

QUALITY CONTROL REPORT
A. MATRIX SPIKE ANALYSIS

COMPOUND (including surrogates)					CONCENTRATION (ug/l)			
P.	P.	#		COMPOUND NAME	Sample Result (SR)	Spiked Sample Result (SSR)	Spike Added (SA)	% Recovery*
		4	V	BENZENE	ND	29	25	116
	8	6	V	TOLUENE	ND	23	25	92
		7	V	CHLOROBENZENE	ND	22	25	88
				BENZENE d-6	47	45	50	92
				1-CHLORO-2-BROMOPROPANE	46	46	50	92
				TOLUENE d-8	45	45	50	90
1	0	0	P	HEPTACHLOR	ND	2.1	5.0	42
	8	9	P	ALDRIN	ND	3.9	5.3	74
	9	0	P	DIELDRIN	ND	4.8	5.0	96
	9	2	P	4,4'-DDT	ND	3.5	5.0	70

This QC Report also covers the following sample numbers: C1406-C1413, C1492-C1494, F1510-F1511, C1387-C1391, C1433-C1434

$$* \text{ Recovery} = \frac{(SSR-SR)}{(SA)} \times 100$$

WEST COAST CHNICAL SERVICE INC. INDUSTRIAL CATEGORY

Mahan Run - Upstream

SAMPLE ID	C1493	SAMPLE ID	C1493
LAB ID	23884A3	LAB ID	23884B3
DATE EXTRACTED	6-19-82	DATE EXTRACTED	6-18-82
DATE INJECTED	7-22-82	DATE INJECTED	7-17-82
STD ID	PHEN430 SENS271	STD ID	BENZ597 BNSTD591
CONC FACTOR	1000	CONC FACTOR	1000

Acid Compounds		ug/l
21A	2,4,6-trichlorophenol	ND
22A	p-chloro-m-cresol	ND
24A	2-chlorophenol	ND
31A	2,4-dichlorophenol	ND
34A	2,4-dimethylphenol	ND
57A	2-nitrophenol	ND
58A	4-nitrophenol	ND
59A	2,4-dinitrophenol	ND
60A	4,6-dinitro-o-cresol	ND
64A	pentachlorophenol	ND
65A	phenol	ND

Base/Neutral Compounds		
1B	acenaphthene	ND
5B	benzidine	ND
8B	1,2,4-trichlorobenzene	ND
9B	hexachlorobenzene	ND
12B	hexachloroethane	ND
18B	bis(2-chloroethyl)ether	ND
20B	2-chloronapthalene	ND
25B	1,2-dichlorobenzene	ND
26B	1,3-dichlorobenzene	ND
27B	1,4-dichlorobenzene	ND
28B	3,3'-dichlorobenzidine	ND
35B	2,4-dinitrotoluene	ND
36B	2,6-dinitrotoluene	ND
37B	1,2-diphenylhydrazine (as azobenzene)	ND
39B	fluoranthene	ND
40B	4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds		ug/l
41B	4-bromophenyl phenyl ether	ND
42B	bis(2-chloroisopropyl) ether	ND
43B	bis (2-chloroethoxy) methane	ND
52B	hexachlorobutadiene	ND
53B	hexachlorocyclopentadiene	ND
54B	isophorone	ND
55B	naphthalene	ND
56B	nitrobenzene	ND
61B	N-nitrosodimethylamine	ND
62B	N-nitrosodiphenylamine	ND
63B	N-nitrosodi-n-propylamine	ND
66B	bis (2-ethylhexyl) phthalate	ND
67B	butyl benzyl phthalate	ND
68B	di-n-butyl phthalate	ND
69B	di-n-octyl phthalate	ND
70B	diethyl phthalate	ND
71B	dimethyl phthalate	ND
72B	benzo(a) anthracene	ND
73B	benzo(a)pyrene	ND
74B	3,4-benzofluoranthene	ND
75B	benzo(k)fluoranthene	ND
76B	chrysene	ND
77B	acenaphthylene	ND
78B	anthracene	ND
79B	benzo(ghi)perylene	ND
80B	fluorene	ND
81B	phenanthrene	ND
82B	dibenzo(a,h)anthracene	ND
83B	indeno(1,2,3-cd)pyrene	ND
84B	pyrene	ND
129B	2,3,7,8-tetrachlorodibenzo-p-dioxin	ND

ORIGINAL (Red)

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY _____

SAMPLE ID C1493
LAB ID 23884V4
DATE INJECTED 6-25-82
STD ID BFB204 VOA342
CONC. FACTOR ------

SAMPLE ID C1493
LAB ID TRACE #7499
DATE EXTRACTED 6-19-82
DATE INJECTED 7-3-82
STD ID TRACE #7495
CONC. FACTOR 100

Volatiles		ug/l
2V	acrolein	ND
3V	acrylonitrile	ND
4V	benzene	ND
6V	carbon tetrachloride	ND
7V	chlorobenzene	ND
10V	1,2-dichloroethane	ND
11V	1,1,1-trichloroethane	ND
13V	1,1-dichloroethane	ND
14V	1,1,2-trichloroethane	ND
15V	1,1,2,2-tetrachloroethane	ND
16V	chloroethane	ND
17V	bis(chloromethyl) ether	ND
19V	2-chloroethylvinyl ether	ND
23V	chloroform	ND
29V	1,1-dichloroethylene	ND
30V	1,2-trans-dichloroethylene	ND
32V	1,2-dichloropropane	ND
33V	1,3-dichloropropylene	ND
38V	ethylbenzene	ND
44V	methylene chloride	*
45V	methyl chloride	ND
46V	methyl bromide	ND
47V	bromoform	ND
48V	dichlorobromomethane	ND
49V	trichlorofluoromethane	ND
50V	dichlorodifluoromethane	ND
51V	chlorodibromomethane	ND
85V	tetrachloroethylene	ND
86V	toluene	ND
87V	trichloroethylene	ND
88V	vinyl chloride	ND

Pesticides		ug/l
89P	aldrin	ND
90P	dieldrin	ND
91P	chlordane	ND
92P	4,4'-DDT	ND
93P	4,4'-DDE	ND
94P	4,4'-DDD	ND
95P	alpha-endosulfan	ND
96P	beta-endosulfan	ND
97P	endosulfan sulfate	ND
98P	endrin	ND
99P	endrin aldehyde	ND
100P	heptachlor	ND
101P	heptachlor epoxide	ND
102P	alpha-BHC	ND
103P	beta-BHC	ND
104P	gamma-BHC	ND
105P	delta-BHC	ND
106P	PCB-1242	ND
107P	PCB-1254	ND
108P	PCB-1221	ND
109P	PCB-1232	ND
110P	PCB-1248	ND
111P	PCB-1260	ND
112P	PCB-1016	ND
113P	toxaphene	ND

* = Less than 10 ug/l
(pesticides less than 5 ug/l)
ND = Not detected
** = Not confirmed by GCMS

WEST COAST TECHNICAL SERVICE INC.

Organics Analysis Data Sheet
Page 3

QC Report No: 6077-12

Sample Number
C1493

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. ug/l)	(Surrogates only) Spike Added (ug/l)	% Recovery
Benzene - d6	VOA	51	50	102
1-Chloro-2-Bromopropane	VOA	46	50	92
Toluene - d8	VOA	50	50	100
2-Fluorophenol	ACID	83	106	78
Phenol - d5	ACID	57	105	54
Nitrobenzene - d5	B/N	81	104	78
2-Fluorobiphenyl	B/N	80	101	79
Naphthalene - d8	B/N	70	102	69

B. TENTATIVELY IDENTIFIED COMPOUNDS

	CAS #	COMPOUND NAME	FRACTION	% Maximum Score Attained Mass Matching Routine: FIT (Specify)
1.		UNKNOWN	ACID #211	NO GOOD FIT
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13				
14.				
15.				
16.				
17.				
18.				
19.				

ORIGINAL (Red)

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY _____

Sample Blank

SAMPLE ID	C1494	SAMPLE ID	C1494
LAB ID	23884A4	LAB ID	23884B4
DATE EXTRACTED	6-19-82	DATE EXTRACTED	6-18-82
DATE INJECTED	7-22-82	DATE INJECTED	7-17-82
STD ID	BENZ271 PHEN430	STD ID	BENZ597 BNSTD591
CONC FACTOR	1000	CONC FACTOR	1000

Acid Compounds		ug/l
21A	2,4,6-trichlorophenol	ND
22A	p-chloro-m-cresol	ND
24A	2-chlorophenol	ND
31A	2,4-dichlorophenol	ND
34A	2,4-dimethylphenol	ND
57A	2-nitrophenol	ND
58A	4-nitrophenol	ND
59A	2,4-dinitrophenol	ND
60A	4,6-dinitro-o-cresol	ND
64A	pentachlorophenol	ND
65A	phenol	*

Base/Neutral Compounds		
1B	acenaphthene	ND
5B	benzidine	ND
8B	1,2,4-trichlorobenzene	ND
9B	hexachlorobenzene	ND
12B	hexachloroethane	ND
18B	bis(2-chloroethyl)ether	ND
20B	2-chloronapthalene	ND
25B	1,2-dichlorobenzene	ND
26B	1,3-dichlorobenzene	ND
27B	1,4-dichlorobenzene	ND
28B	3,3'-dichlorobenzidine	ND
35B	2,4-dinitrotoluene	ND
36B	2,6-dinitrotoluene	ND
37B	1,2-diphenylhydrazine (as azobenzene)	ND
39B	fluoranthene	ND
40B	4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds		ug/l
41B	4-bromophenyl phenyl ether	ND
42B	bis(2-chloroisopropyl) ether	ND
43B	bis (2-chloroethoxy) methane	ND
52B	hexachlorobutadiene	ND
53B	hexachlorocyclopentadiene	ND
54B	isophorone	ND
55B	naphthalene	ND
56B	nitrobenzene	ND
61B	N-nitrosodimethylamine	ND
62B	N-nitrosodiphenylamine	ND
63B	N-nitrosodi-n-propylamine	ND
66B	bis (2-ethylhexyl) phthalate	ND
67B	butyl benzyl phthalate	ND
68B	di-n-butyl phthalate	ND
69B	di-n-octyl phthalate	ND
70B	diethyl phthalate	ND
71B	dimethyl phthalate	ND
72B	benzo(a) anthracene	ND
73B	benzo(a)pyrene	ND
74B	3,4-benzofluoranthene	ND
75B	benzo(k)fluoranthene	ND
76B	chrysene	ND
77B	acenaphthylene	ND
78B	anthracene	ND
79B	benzo(ghi)perylene	ND
80B	fluorene	ND
81B	phenanthrene	ND
82B	dibenzo(a,h)anthracene	ND
83B	indeno(1,2,3-cd)pyrene	ND
84B	pyrene	ND
129B	2,3,7,8-tetrachlorodibenzo-p-dioxin	ND

ORIGINAL (Red)

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY _____

SAMPLE ID C1494
LAB ID 23884V5
DATE INJECTED 6-25-82
STD ID BFB204 VOA342
CONC. FACTOR -------

SAMPLE ID C1494
LAB ID TRACE #7500
DATE EXTRACTED 6-19-82
DATE INJECTED 7-3-82
STD ID TRACE #7495
CONC. FACTOR 100

Volatiles		ug/l
2V	acrolein	ND
3V	acrylonitrile	ND
4V	benzene	ND
6V	carbon tetrachloride	ND
7V	chlorobenzene	ND
10V	1,2-dichloroethane	ND
11V	1,1,1-trichloroethane	ND
13V	1,1-dichloroethane	ND
14V	1,1,2-trichloroethane	ND
15V	1,1,2,2-tetrachloroethane	ND
16V	chloroethane	ND
17V	bis(chloromethyl) ether	ND
19V	2-chloroethylvinyl ether	ND
23V	chloroform	*
29V	1,1-dichloroethylene	ND
30V	1,2-trans-dichloroethylene	ND
32V	1,2-dichloropropane	ND
33V	1,3-dichloropropylene	ND
38V	ethylbenzene	ND
44V	methylene chloride	ND
45V	methyl chloride	ND
46V	methyl bromide	ND
47V	bromoform	ND
48V	dichlorobromomethane	ND
49V	trichlorofluoromethane	ND
50V	dichlorodifluoromethane	ND
51V	chlorodibromomethane	ND
85V	tetrachloroethylene	ND
86V	toluene	ND
87V	trichloroethylene	ND
88V	vinyl chloride	ND

Pesticides		ug/l
89P	aldrin	ND
90P	dieldrin	ND
91P	chlordane	ND
92P	4,4'-DDT	ND
93P	4,4'-DDE	ND
94P	4,4'-DDD	ND
95P	alpha-endosulfan	ND
96P	beta-endosulfan	ND
97P	endosulfan sulfate	ND
98P	endrin	ND
99P	endrin aldehyde	ND
100P	heptachlor	ND
101P	heptachlor epoxide	ND
102P	alpha-BHC	ND
103P	beta-BHC	ND
104P	gamma-BHC	ND
105P	delta-BHC	ND
106P	PCB-1242	ND
107P	PCB-1254	ND
108P	PCB-1221	ND
109P	PCB-1232	ND
110P	PCB-1248	ND
111P	PCB-1260	ND
112P	PCB-1016	ND
113P	toxaphene	ND

* = Less than 10 ug/l
(pesticides less than 5 ug/l)
ND = Not detected
** = Not confirmed by GCMS

WEST COAST TECHNICAL SERVICE INC.

Organics Analysis Data Sheet
Page 3

QC Report No: 6077-12

Sample Number
C1494

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc. ug/l)	(Surrogates only) Spike Added (ug/l)	% Recovery
Benzene - d6	VOA	49	50	98
1-Chloro-2-Bromopropane	VOA	45	50	90
Toluene - d8	VOA	49	50	98
2-Fluorophenol	ACID	84	106	79
Phenol - d5	ACID	51	105	49
Nitrobenzene - d5	B/N	85	104	82
2-Fluorobiphenyl	B/N	86	101	85
Naphthalene - d8	B/N	76	102	75

B. TENTATIVELY IDENTIFIED COMPOUNDS

	CAS #	COMPOUND NAME	FRACTION	% Maximum Score Attained Mass Matching Routine: FIT (Specify)
1.		UNKNOWN	ACID #129	NO GOOD FIT
2.		UNKNOWN	ACID #239	NO GOOD FIT
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13				
14.				
15.				
16.				
17.				
18.				
19.				

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY _____

SAMPLE ID LAB BLANK
LAB ID 23884V2
DATE INJECTED 6-25-82
STD ID BFB204 VOA342
CONC. FACTOR ------

SAMPLE ID METHOD BLANK
LAB ID TRACE #7497
DATE EXTRACTED 6-19-82
DATE INJECTED 7-3-82
STD ID TRACE #7495
CONC. FACTOR 100

Volatiles		ug/l
2V	acrolein	ND
3V	acrylonitrile	ND
4V	benzene	ND
6V	carbon tetrachloride	ND
7V	chlorobenzene	ND
10V	1,2-dichloroethane	ND
11V	1,1,1-trichloroethane	ND
13V	1,1-dichloroethane	ND
14V	1,1,2-trichloroethane	ND
15V	1,1,2,2-tetrachloroethane	ND
16V	chloroethane	ND
17V	bis(chloromethyl) ether	ND
19V	2-chloroethylvinyl ether	ND
23V	chloroform	ND
29V	1,1-dichloroethylene	ND
30V	1,2-trans-dichloroethylene	ND
32V	1,2-dichloropropane	ND
33V	1,3-dichloropropylene	ND
38V	ethylbenzene	ND
44V	methylene chloride	*
45V	methyl chloride	ND
46V	methyl bromide	ND
47V	bromoform	ND
48V	dichlorobromomethane	ND
49V	trichlorofluoromethane	ND
50V	dichlorodifluoromethane	ND
51V	chlorodibromomethane	ND
85V	tetrachloroethylene	*
86V	toluene	ND
87V	trichloroethylene	ND
88V	vinyl chloride	ND

Pesticides		ug/l
89P	aldrin	ND
90P	dieldrin	ND
91P	chlordane	ND
92P	4,4'-DDT	ND
93P	4,4'-DDE	ND
94P	4,4'-DDD	ND
95P	alpha-endosulfan	ND
96P	beta-endosulfan	ND
97P	endosulfan sulfate	ND
98P	endrin	ND
99P	endrin aldehyde	ND
100P	heptachlor	ND
101P	heptachlor epoxide	ND
102P	alpha-BHC	ND
103P	beta-BHC	ND
104P	gamma-BHC	ND
105P	delta-BHC	ND
106P	PCB-1242	ND
107P	PCB-1254	ND
108P	PCB-1221	ND
109P	PCB-1232	ND
110P	PCB-1248	ND
111P	PCB-1260	ND
112P	PCB-1016	ND
113P	toxaphene	ND

* = Less than 10 ug/l
(pesticides less than 5 ug/l)
ND = Not detected
** = Not confirmed by GCMS

WEST COAST TECHNICAL SERVICE INC. INDUSTRIAL CATEGORY _____

SAMPLE ID	METHOD BLANK	SAMPLE ID	METHOD BLANK
LAB ID	23884A1	LAB ID	23884B1
DATE EXTRACTED	6-19-82	DATE EXTRACTED	6-18-82
DATE INJECTED	7-22-82	DATE INJECTED	7-17-82
STD ID	SENS271 PHEN430	STD ID	BENZ597 BNSTD591
CONC FACTOR	1000	CONC FACTOR	1000

Acid Compounds		ug/l
21A	2,4,6-trichlorophenol	ND
22A	p-chloro-m-cresol	ND
24A	2-chlorophenol	ND
31A	2,4-dichlorophenol	ND
34A	2,4-dimethylphenol	ND
57A	2-nitrophenol	ND
58A	4-nitrophenol	ND
59A	2,4-dinitrophenol	ND
60A	4,6-dinitro-o-cresol	ND
64A	pentachlorophenol	ND
65A	phenol	ND

Base/Neutral Compounds		
1B	acenaphthene	ND
5B	benzidine	ND
8B	1,2,4-trichlorobenzene	ND
9B	hexachlorobenzene	ND
12B	hexachloroethane	ND
18B	bis(2-chloroethyl)ether	ND
20B	2-chloronapthalene	ND
25B	1,2-dichlorobenzene	ND
26B	1,3-dichlorobenzene	ND
27B	1,4-dichlorobenzene	ND
28B	3,3'-dichlorobenzidine	ND
35B	2,4-dinitrotoluene	ND
36B	2,6-dinitrotoluene	ND
37B	1,2-diphenylhydrazine (as azobenzene)	ND
39B	fluoranthene	ND
40B	4-chlorophenyl phenyl ether	ND

Base/Neutral Compounds		ug/l
41B	4-bromophenyl phenyl ether	ND
42B	bis(2-chloroisopropyl) ether	ND
43B	bis (2-chloroethoxy) methane	ND
52B	hexachlorobutadiene	ND
53B	hexachlorocyclopentadiene	ND
54B	isophorone	ND
55B	naphthalene	ND
56B	nitrobenzene	ND
61B	N-nitrosodimethylamine	ND
62B	N-nitrosodiphenylamine	ND
63B	N-nitrosodi-n-propylamine	ND
66B	bis (2-ethylhexyl) phthalate	ND
67B	butyl benzyl phthalate	ND
68B	di-n-butyl phthalate	*
69B	di-n-octyl phthalate	ND
70B	diethyl phthalate	ND
71B	dimethyl phthalate	ND
72B	benzo(a) anthracene	ND
73B	benzo(a)pyrene	ND
74B	3,4-benzofluoranthene	ND
75B	benzo(k)fluoranthene	ND
76B	chrysene	ND
77B	acenaphthylene	ND
78B	anthracene	ND
79B	benzo(ghi)perylene	ND
80B	fluorene	ND
81B	phenanthrene	ND
82B	dibenzo(a,h)anthracene	ND
83B	indeno(1,2,3-cd)pyrene	ND
84B	pyrene	ND
129B	2,3,7,8-tetrachlorodibenzo-p-dioxin	ND

WEST COAST TECHNICAL SERVICE INC.

ORGANICS ANALYSIS DATA SHEET - Page 3

QC Report No: 6077-12

Sample Number
METHOD BLANK

A. SURROGATE SPIKE RESULTS

COMPOUND	Fraction	Conc.(ug/l)	(Surrogates only) Spike Added (ug/l)	% Recovery
Benzene - d6	VOA	52	50	104
1-Chloro-2-Bromopropane	VOA	50	50	100
Toluene - d8	VOA	52	50	104
2-Fluorophenol	ACID	71	106	67
Phenol - d5	ACID	42	105	40
Nitrobenzene - d5	B/N	90	104	87
2-Fluorobiphenyl	B/N	86	101	85
Naphthalene-D8	B/N	71	102	70

B. TENTATIVELY IDENTIFIED COMPOUNDS

	CAS #	COMPOUND NAME	FRACTION	% Maximum Score Attained Mass Matching Routine: FIT (specify)
1.		UNKNOWN	ACID #125	NO GOOD FIT
2.		UNKNOWN	ACID #235	NO GOOD FIT
3.				
4.				
5.				
6.				
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9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				

PAUL A. TAYLOR, Ph.D.
PRESIDENT

CHARLES J. SODERQUIST, Ph.D
VICE PRESIDENT

F-8201-10
E. Dennis

W Reeling Pittsburgh Steel
WV-50

ANTHONY S. WONG, Ph.D.
VICE PRESIDENT

RUBY A. ULRICH
SECRETARY/TREASURER

California Analytical Laboratories, Inc.

5895 POWER INN ROAD
SACRAMENTO, CALIFORNIA 95824
(916) 381-5105

Cal Lab ID B621-B623
Received:June 18,1982
Contract 68-01-6503
QC Report 33 C

September 2, 1982

RECEIVED
SEP 9 1982
ecology and environment, inc.
Philadelphia

Dr. Fred Haeberer
US. EPA
401 M Street
Washington, DC 20460

Dear Dr. Haeberer:

Enclosed please find data and quality assurance summary sheets for samples and QA/QC comprising case 1121 of contract 68-01-6503. These samples were received June 18, 1982 and logged under Cal Lab numbers B621 through B623.

Cal Lab Number	Sample Identification	Task
B621	MC 9081 LOW WATER	1&2 + CN
B622	MC 9082 LOW WATER	1&2 + CN
B623	MC 9083 LOW WATER	1&2 + CN

Data Review: No unusual problems were noted with these samples.

PLEASE NOTE that the data is late due to repeated minor machine failures .

Cal Labs has taken several steps to alleviate this problem. The carbon rod with which we have had problems was replaced with a Varian GTA-95 carbon furnace on July 29, 1982. We have placed our atomic absorption under a service contract.

Should the above measures prove to be inadequate, we will add additional resources to our inorganics department.

If you have any questions, please do not hesitate to have SMO contact us.

Sincerely yours,

Anthony S. Wong, PhD
Vice Prisident
Research and Analytical Services

Mark Masino
Director of Inorganic Services

ORIGINAL (Red)

Wheeling Pittsburgh Steel
WV-50

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 – Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

Sample No.
MC9081

bjm

INORGANICS ANALYSIS DATA SHEET

MAHAN FUEL - DOWNSTREAM

LABORATORY NAME CAL LABS
CASE NO. 1121
LAB SAMPLE ID. NO. B621
QC REPORT NO. 33C

TASK 1 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)			ug/l or mg/k (circle one)
1.	Aluminum	1500	11.	Manganese	240
2.	Chromium	<10	12.	Zinc	63
3.	Barium	470	13.	Boron	<100
4.	Beryllium	<5	14.	Vanadium	<20
5.	Cadmium	1.8			
6.	Cobalt	<50			mg/l or mg/k (circle one)
7.	Copper	<50			
8.	Iron	2400	15.	Calcium	
9.	Lead	<5	16.	Magnesium	
10.	Nickel	<40	17.	Sodium	

TASK 2 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)			ug/l or mg/k (circle one)
1.	Arsenic	<10	5.	Mercury	<0.2
2.	Antimony	<20	6.	Tin	<20
3.	Selenium	<2	7.	Silver	<10
4.	Thallium	<10			

TASK 3 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)
1.	Ammonia	NR
2.	Cyanide	<10
3.	Sulfide	NR

COMMENTS: low water

ORIGINAL (Red)

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 — Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

Sample No.
MC9082

lym

INORGANICS ANALYSIS DATA SHEET

LABORATORY NAME CAL LABS
CASE NO. 1121
LAB SAMPLE ID. NO. B622
QC REPORT NO. 33C

TASK 1 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)			ug/l or mg/k (circle one)
1.	Aluminum	1200	11.	Manganese	110
2.	Chromium	<10	12.	Zinc	<10
3.	Barium	<100	13.	Boron	160
4.	Beryllium	<5	14.	Vanadium	<200
5.	Cadmium	1.1			
6.	Cobalt	<50			mg/l or mg/k (circle one)
7.	Copper	<50			
8.	Iron	1300	~~15.~~	~~Calcium~~	
9.	Lead	7.8	~~16.~~	~~Magnesium~~	
10.	Nickel	<40	~~17.~~	~~Sodium~~	

TASK 2 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)			ug/l or mg/k (circle one)
1.	Arsenic	<10	5.	Mercury	< 0.2
2.	Antimony	<20	6.	Tin	<20
3.	Selenium	3.0	7.	Silver	<10 ~~<10~~
4.	Thallium	<10			

TASK 3 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)
1.	Ammonia	NR
2.	Cyanide	<10
3.	Sulfide	NR

COMMENTS: low water

ORIGINAL (Red)

US ENVIRONMENTAL PROTECTION AGENCY
HWI Sample Management Office
P.O. Box 818 – Alexandria, Virginia 22313
703/557-2490 FTS 8-557-2490

Sample No.
MC9083

bjm

INORGANICS ANALYSIS DATA SHEET

SAMPLE BLANK

LABORATORY NAME CAL LABS CASE NO. 1121

LAB SAMPLE ID. NO. B623 QC REPORT NO. 33c

TASK 1 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)			ug/l or mg/k (circle one)
1.	Aluminum	<200	11.	Manganese	<15
2.	Chromium	12	12.	Zinc	57
3.	Barium	<100	13.	Boron	<100
4.	Beryllium	<5	14.	Vanadium	<20
5.	Cadmium	<1			
6.	Cobalt	<50			mg/l or mg/k (circle one)
7.	Copper	<50			
8.	Iron	<50	15.	Calcium	
9.	Lead	<5	16.	Magnesium	
10.	Nickel	<40	17.	Sodium	

TASK 2 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)			ug/l or mg/k (circle one)
1.	Arsenic	<10	5.	Mercury	<0.2
2.	Antimony	<20	6.	Tin	<20
3.	Selenium	<2	7.	Silver	<10
4.	Thallium	<10 ~~<10~~ bjm			

TASK 3 (Elements to be identified and measured.)

		ug/l or mg/kg (circle one)
1.	Ammonia	NR
2.	Cyanide	<10
3.	Sulfide	NR

COMMENTS: low water

ORIGINAL (Red)

INORGANICS QUALITY ASSURANCE

TASK I INDUCTIVELY COUPLED PLASMA

CASE # 1121 QC REPORT # 33C

OF SAMPLES 3 DATE 9/1/82

LAB CAL ANALYTICAL BATCH # B621-3

			Al(µg/L)	Cr(µg/L)	Ba(µg/L)	Be(µg/L)	Cd(µg/L)	Co(µg/L)	Cu(µg/L)	Fe(µg/L)	Pb(µg/L)
I INITIAL CALIBRATION VERIFICATION	REFERENCE STANDARD EPA SOURCE WP 475	FOUND	340	149	146	148	7.8	490	248	555	25.1
		TRUE	350	150	142	150	7.5	500	250	600	25
		% RECOVERY	97%	99%	103%	99%	104%	98%	99%	93%	100%
	BLANK VALUE	RESULTS	<100	<5	<50	<2.5	<0.5	<25	<25	<25	<2.5
II CONTINUING CALIBRATION VERIFICATION	PREPARATION BLANK 1	RESULTS	<100	<5	<50	<2.5	<0.5	<25	<25	<25	<2.5
	PREPARATION BLANK 2	RESULTS	—								
	STANDARD SOLUTION 1 SOURCE SPEX	FOUND	1930	99.9	1980	49.9	4.3	298	92.7	181	27
		TRUE	2000	100	2000	50	4.0	300	100	200	25
		% RECOVERY	97%	100%	99%	100%	108%	99%	93%	91%	108%
	STANDARD SOLUTION 2 SOURCE SPEX	FOUND	2000	91.9	925	48.9	4.7	300	99.9	~~199~~ 200	23
		TRUE	2000	100	1000	50	5.0	300	100	200	25
		% RECOVERY	100%	92%	93%	98%	94%	100%	100%	100%	92%
	STANDARD SOLUTION 3 SOURCE SPEX	FOUND	2000	97.9	925	49.9	4.8	298	96.4	200	23
		TRUE	2000	100	1000	50	5.0	300	100	200	25
		% RECOVERY	100%	98%	93%	100%	96%	99%	96%	100%	92%
	STANDARD SOLUTION 4 SOURCE SPEX	FOUND	2000					298	94.5	200	
		TRUE	2000	NR	NR	NR	NR	300	100	200	NR
		% RECOVERY	100%					99%	95%	100%	
III DUPLICATE SAMPLE RESULTS	DUPLICATE 1 SAMPLE NO B622 MC9082	SAMPLE RESULT	1158 ~~7.8~~	<10	<100	<5	1.1	<50 (23.5)	~~1262~~ <50	1262	7.8
		DUPLICATE RESULT	1158	<10	<100	<5	1.2	<50 (23.5)	~~1262~~ <50	1262	7.8
		RPD %	0%	0%	0%	0%	8.7%	0%	0%	0%	0
	DUPLICATE 2 SAMPLE NO. _____	SAMPLE RESULT									
		DUPLICATE RESULT									
		RPD %									
IV SPIKED SAMPLE RESULTS	SPIKE 1 SAMPLE NO B622 MC9082	SAMPLE RESULT	1158	<10	<100	<5	1.1	<50 (23.5)	~~1262~~ <50	1262	7.8
		SPIKE RESULT	2968	95.9	717	52.6	5.0	70	~~1486~~ 499	1486	27.3
		SPIKE ADDED	1800	100	500	50	3.0	50	509 ~~100~~	100	20
		% RECOVERY	100%	96%	143	105%	130%	93%	~~224%~~ 100%	224%	98%
	SPIKE 2 SAMPLE NO _____	SAMPLE RESULT									
		SPIKE RESULT									
		SPIKE ADDED									
		% RECOVERY									

ORIGINAL (Red)

INORGANICS QUALITY ASSURANCE

ORIGINAL (Red)

CASE #: 1121
OF SAMPLES: 3
LAB: CAL ANALYTICAL

QC REPORT #: 33C
DATE: 9/1/82
BATCH #: B621-3

TASK I (CONTINUED) INDUCTIVELY COUPLED PLASMA

			Ni(µg/L)	Mn(µg/L)	Zn(µg/L)	V(µg/L)	Ca(µg/L)	Mg(µg/L)	Na(µg/L)	B(µg/L)
I. INITIAL CALIBRATION VERIFICATION	REFERENCE STANDARD EPA SOURCE: WP475	FOUND	233	56.5	58.7	746				1000
		TRUE	250	55	60	750				1000
		% RECOVERY	93%	103%	98%	99%				100%
	BLANK VALUE	RESULTS	<20	<7.5	<5	<100				<50
II. CONTINUING CALIBRATION VERIFICATION	PREPARATION BLANK 1	RESULTS	<20	<7.5	<5	<100				<50
	PREPARATION BLANK 2	RESULTS	—	—	—					—
	STANDARD SOLUTION 1 SOURCE: SPEX	FOUND	198	300	274	1000				1000
		TRUE	200	300	300	1000				1000
		% RECOVERY	99%	100%	91%	100%				100%
	STANDARD SOLUTION 2 SOURCE: SPEX	FOUND	203	290	300	1000				1010
		TRUE	200	300	300	1000				1000
		% RECOVERY	102%	97%	100%	100%				101%
	STANDARD SOLUTION 3 SOURCE: SPEX	FOUND	200	290	287	1000				1090
		TRUE	200	300	300	1000		NR		1000
		% RECOVERY	100%	97%	96%	100%				109%
	STANDARD SOLUTION 4 SOURCE: SPEX	FOUND	200	285						1000
		TRUE	200	300	NR	NR				1000
		% RECOVERY	100%	95%						100%
III. DUPLICATE SAMPLE RESULTS	DUPLICATE 1 SAMPLE NO B622 MC9082	SAMPLE RESULT	(21.3)<40	110	<10	<200				160
		DUPLICATE RESULT	(10.6)<40	110	16	<200				150
		RPD %	~~167%~~ 0%	0%	200%	0%				6.5%
	DUPLICATE 2 SAMPLE NO ____	SAMPLE RESULT								
		DUPLICATE RESULT								
		RPD %								
IV. SPIKED SAMPLE RESULTS	SPIKE 1 SAMPLE NO B622 MC9082	SAMPLE RESULT	(21.3)<40	110	<10	<200				160
		SPIKE RESULT	403	221	107	1933				535
		SPIKE ADDED	400	100	100	2000				400
		% RECOVERY	100%	110%	107%	97%				94%
	SPIKE 2 SAMPLE NO ____	SAMPLE RESULT								
		SPIKE RESULT								
		SPIKE ADDED								
		% RECOVERY								

INORGANICS QUALITY ASSURANCE

CASE # 1121
OF SAMPLES 3
LAB CAL ANALYTICAL

DC REPORT # 33 C
DATE 9/1/82
BATCH # B621-3

TASK II/FLAMELESS ATOMIC ABSORPTION

ORIGINAL (Red)

			Ag(µg/L)	As(µg/L)	Sb(µg/L)	Se(µg/L)	Sn(µg/L)	Tl(µg/L)
I INITIAL CALIBRATION VERIFICATION	REFERENCE STANDARD EPA SOURCE WP475	FOUND	22.6	22	96.5	21	25.2	19.2
		TRUE	24	22	97.5	20	25	20
		% RECOVERY	94%	100%	99%	105%	101%	96%
	BLANK VALUE	RESULTS	<5	<5	<10	<1	<10	<5
II CONTINUING CALIBRATION VERIFICATION	PREPARATION BLANK 1	RESULTS	<5	<5	<10	<1	<10	<5
	PREPARATION BLANK 2	RESULTS	—	—	—			—
	STANDARD SOLUTION 1 SOURCE SPEX	FOUND	99.9	41	19.9	19	20.4	42
		TRUE	100	40	20	20	20	40
		% RECOVERY	100%	103%	100%	95%	102%	105%
	STANDARD SOLUTION 2 SOURCE SPEX	FOUND	97.8	41	18.9	18	20.8	39.8
		TRUE	100	40	20	20	20	40
		% RECOVERY	98%	103%	95%	90%	104%	100%
	STANDARD SOLUTION 3 SOURCE SPEX	FOUND	97.8	41	20.5	10	22	40.8
		TRUE	100	40	20	10	bm ~~100~~ 20	40
		% RECOVERY	98%	103%	103%	100%	110%	102%
	STANDARD SOLUTION 4 SOURCE SPEX	FOUND	95.2					
		TRUE	100	NR	NR	NR	NR	NR
		% RECOVERY	95%					
III DUPLICATE SAMPLE RESULTS	DUPLICATE 1 SAMPLE NO B622 MC9082	SAMPLE RESULT	<10	<10	<20	3.0	<20	<10
		DUPLICATE RESULT	<10	<10	<20	3.2	<20	<10
		RPD %	0%	0%	0%	10%	0%	0%
	DUPLICATE 2 SAMPLE NO _____	SAMPLE RESULT						
		DUPLICATE RESULT						
		RPD %						
IV SPIKED SAMPLE RESULTS	SPIKE 1 SAMPLE NO B622 MC9082	SAMPLE RESULT	<10	<10	<20	3.0	<20	<10
		SPIKE RESULT	99.9	101	186	10	220	116
		SPIKE ADDED	100	100	200	7.0	200	100
		% RECOVERY	100%	100%	93%	100%	100%	116%
	SPIKE 2 SAMPLE NO _____	SAMPLE RESULT						
		SPIKE RESULT						
		SPIKE ADDED						
		% RECOVERY						

INORGANICS QUALITY ASSURANCE

CASE # : 1121
OF SAMPLES: 3
LAB: CALIF. ANALYTICAL LAB.

QC REPORT # : 33C
DATE: 9/1/82
BATCH # : B621-3

TASK II/COLD VAPOR ATOMIC ABSORPTION

			Hg (µg/l)
I. INITIAL CALIBRATION VERIFICATION	REFERENCE STANDARD SOURCE: BANCO	FOUND	1.0
		TRUE	1.0
		% RECOVERY	100%
	BLANK VALUE	RESULTS	<0.1
II. CONTINUING CALIBRATION VERIFICATION	PREPARATION BLANK 1	RESULTS	<0.1
	PREPARATION BLANK 2	RESULTS	—
	STANDARD SOLUTION 1 SOURCE: SPEX	FOUND	1.0
		TRUE	1.0
		% RECOVERY	100%
	STANDARD SOLUTION 2 SOURCE: SPEX	FOUND	1.0
		TRUE	1.0
		% RECOVERY	100%
	STANDARD SOLUTION 3 SOURCE: SPEX	FOUND	1.0
		TRUE	1.0
		% RECOVERY	100%
	STANDARD SOLUTION 4 SOURCE: —	FOUND	
		TRUE	NR
		% RECOVERY	
III. DUPLICATE SAMPLE RESULTS	DUPLICATE 1 SAMPLE NO. B622 MC9082	SAMPLE RESULT	<0.2
		DUPLICATE RESULT	<0.2
		RPD %	0%
	DUPLICATE 2 SAMPLE NO.	SAMPLE RESULT	
		DUPLICATE RESULT	NR
		RPD %	
IV. SPIKED SAMPLE RESULTS	SPIKE 1 SAMPLE NO. B622 MC9082	SAMPLE RESULT	<0.2
		SPIKE RESULT	4.9
		SPIKE ADDED	5.0
		% RECOVERY	98%
	SPIKE 2 SAMPLE NO.	SAMPLE RESULT	
		SPIKE RESULT	NR
		SPIKE ADDED	

ORIGINAL (Red)

INORGANICS QUALITY ASSURAN

CASE # : 1121

OF SAMPLES: 3

LAB: Cal Labs

QC REPORT # : 33C

DATE: 9/1/82

BATCH # : B621-3

TASK III/CYANIDE

			CYANIDE (mg/l)
I. INITIAL CALIBRATION VERIFICATION	REFERENCE STANDARD SOURCE: EPA	FOUND	110
		TRUE	100
		% RECOVERY	110%
	BLANK VALUE	RESULTS	<5
II. CONTINUING CALIBRATION VERIFICATION	PREPARATION BLANK 1	RESULTS	<5
	PREPARATION BLANK 2	RESULTS	—
	STANDARD SOLUTION 1 SOURCE: Mallinckrodt	FOUND	109
		TRUE	100
		% RECOVERY	109%
	STANDARD SOLUTION 2 SOURCE:	FOUND	
		TRUE	NR
		% RECOVERY	
	STANDARD SOLUTION 3 SOURCE:	FOUND	
		TRUE	NR
		% RECOVERY	
	STANDARD SOLUTION 4 SOURCE:	FOUND	
		TRUE	NR
		% RECOVERY	
III. DUPLICATE SAMPLE RESULTS	DUPLICATE 1 SAMPLE NO. B622 MC9082	SAMPLE RESULT	<10
		DUPLICATE RESULT	<10
		RPD %	0%
	DUPLICATE 2 SAMPLE NO.	SAMPLE RESULT	
		DUPLICATE RESULT	
		RPD %	
IV. SPIKED SAMPLE RESULTS	SPIKE 1 SAMPLE NO. B622 MC9082	SAMPLE RESULT	<10
		SPIKE RESULT	93
		SPIKE ADDED	100
		% RECOVERY	93%
	SPIKE 2 SAMPLE NO.	SAMPLE RESULT	
		SPIKE RESULT	
		SPIKE ADDED	
		% RECOVERY	

APPENDIX B