RECRA ENVIRONMENTAL LABORATORIES

Division of Recra Research, Inc.

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
PRIORITY POLLUTANT ANALYSES

Prepared For:

CECOS International, Inc.
2321 Kenmore Avenue
Buffalo, NY 14207

Prepared By:

Recra Environmental Laboratories
4248 Ridge Lea Road
Amherst, NY 14226

Report Date: September 19, 1983

4248 Ridge Lea Road, Amherst, New York 14226

Telephone Sales (716) 838-6200
Laboratory (716) 692-7620

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

INTRODUCTION:

On August 26, 1983 samples were received at Recra Environmental Laboratories. A request was made by CECOS International, Inc. to have the samples analyzed for selected fractions of the Environmental Protection Agency decreed priority pollutants.

This report will address the results of those analyses.

METHODS:

Priority pollutant analyses were conducted according to Environmental Protection Agency (EPA) methodologies where applicable.

Organic priority pollutants are analyzed by Gas Chromatography/Mass Spectrometry (GC/MS). Pesticide priority pollutants were screened by Gas Chromatography.

RESULTS AND DISCUSSION:

Chloroform was detected in the Volatile field blank at 44 µg/l.

A request for broad spectrum analyses of the Base Neutral, Acid Phenolic and Volatile fractions was made. No broad spectrum information was obtained since computer identification is not made on peaks already determined to be priority pollutants, if the confidence level is less than 80% or if a computer match could not be found.

RESULTS AND DISCUSSION: (cont'd.)

Analyses for specific Pesticides/PCB's are based upon the matching of retention times between samples and standards on a single gas chromatographic column. Values reported as "less than" (<) indicate the working detection limit for the given sample and/or parameter.

Compounds reported as ND are "not detected". Compounds reported as BMDL are confirmed as being present in the sample at a level "below method detection limit".

Respectfully Submitted,

RECRA ENVIRONMENTAL LABORATORIES

Barbara J. Krajewski

Barbara J. Krajewski
GC/MS Analyst

BJK/df

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

ACID/PHENOLICS

COMPOUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION 1	2
2-chlorophenol	3.3	ND	ND
2,4-dichlorophenol	2.7	ND	ND
2,4-dimethylphenol	2.7	ND	ND
4,6-dinitro-o-cresol	24	ND	ND
2,4-dinitrophenol	42	ND	ND
2-nitrophenol	3.6	ND	ND
4-nitrophenol	2.4	ND	ND
p-chloro-m-cresol	3.0	ND	ND
pentachlorophenol	3.6	ND	ND
phenol	1.5	ND	ND
2,4,6-trichlorophenol	2.7	ND	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	8/22/83	8/22/83
Extraction Date	9/6/83	9/6/83
Analysis Date	9/14/83	9/14/83
Internal Standard (IS) - Level	20 ug/l	20 ug/l
deuterated phenanthrene - Recovery	130%	100%
Surrogate Standard (SS1) - Level	113 ug/l	113 ug/l
2-fluorophenol - Recovery	27%	20%
Surrogate Standard (SS2) - Level	120 ug/l	120 ug/l
pentafluorophenol - Recovery	43%	47%

FOR RECRA ENVIRONMENTAL LABORATORIES Barbara J. Kuzewski

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

ACID/PHENOLICS

COMPOUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION	
		3	4
2-chlorophenol	3.3	ND	ND
2,4-dichlorophenol	2.7	ND	ND
2,4-dimethylphenol	2.7	ND	ND
4,6-dinitro-o-cresol	24	ND	ND
2,4-dinitrophenol	42	ND	ND
2-nitrophenol	3.6	ND	ND
4-nitrophenol	2.4	ND	ND
p-chloro-m-cresol	3.0	ND	ND
pentachlorophenol	3.6	ND	ND
henol	1.5	ND	ND
2,4,6-trichlorophenol	2.7	ND	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	8/22/83	8/22/83
Extraction Date	9/6/83	9/6/83
Analysis Date	9/14/83	9/14/83
Internal Standard (IS) - Level	20 ug/l	20 ug/l
deuterated phenanthrene - Recovery	110%	120%
Surrogate Standard (SS1) - Level	113 ug/l	113 ug/l
2-fluorophenol - Recovery	33%	20%
Surrogate Standard (SS2) - Level	120 ug/l	120 ug/l
pentafluorophenol - Recovery	28%	44%

FOR RECRA ENVIRONMENTAL LABORATORIES Barbara J Kazewski

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES
I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

BASE/NEUTRALS

POUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION 1	2
enaphthene	1.9	ND	ND
enaphthylene	3.5	ND	ND
thracene	1.9	ND	ND
nzidine	44	ND	ND
nzo(a)anthracene	7.8	ND	ND
nzo(a)pyrene	2.5	ND	ND
nzo(b)fluoranthene	4.8	ND	ND
nzo(g,h,i)perylene	4.1	ND	ND
nzo(k)fluoranthene	2.5	ND	ND
s(2-chloroethoxy)methane	5.3	ND	ND
s(2-chloroethyl)ether	5.7	ND	ND
s(2-chloroisopropyl)ether	5.7	ND	ND
s(2-ethylhexyl)phthalate	2.5	ND	ND
bromophenylphenylether	1.9	ND	ND
tylbenzylphthalate	2.5	ND	ND
chloronaphthalene	1.9	ND	ND
chlorophenylphenylether	4.2	ND	ND
rysene	2.5	ND	ND
benzo(a,h)anthracene	2.5	ND	ND
2-dichlorobenzene	1.9	ND	ND
3-dichlorobenzene	1.9	ND	ND
4-dichlorobenzene	4.4	ND	ND
3'-dichlorobenzidine	16.5	ND	ND
ethylphthalate	22	ND	ND
imethylphthalate	1.6	ND	ND
i-n-butylphthalate	2.5	ND	ND

NECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

BASE/NEUTRALS

MPOUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION 1	2
5-dinitrotoluene	1.9	ND	ND
.-dinitrotoluene	5.7	ND	ND
-n-octylphthalate	2.5	ND	ND
2-diphenylhydrazine	25	ND	ND
uoranthene	2.2	ND	ND
ucrene	1.9	ND	ND
achlorobenzene	1.9	ND	ND
xachlorobutadiene	0.9	ND	ND
xachlorocyclopentadiene	25	ND	ND
chloroethane	1.6	ND	ND
eno (1,2,3-cd)pyrene	3.7	ND	ND
ophorone	2.2	ND	ND
ehthalene	1.6	ND	ND
trobenzene	1.9	ND	ND
nitrosodimethylamine	25	ND	ND
nitrosodi-n-propylamine	25	ND	ND
nitrosodiphenylamine	1.9	ND	ND
enanthrene	5.4	ND	ND
rene	1.9	ND	ND
2,4-trichlorobenzene	1.9	ND	ND

DITIONAL SAMPLE INFORMATION

mple Date	8/22/83	8/22/83
traction Date	9/6/83	9/6/83
lysis Date	9/14/83	9/14/83
ernal Standard - Level	20 ug/l	20 ug/l
terated phenanthrene - Recovery	130%	100%
rogate Standard (SS3) - Level	116 ug/l	116 ug/l
fluorobiphenyl - Recovery	40%	54%
rogate Standard (SS4) - Level	120 ug/l	120 ug/l
uorobiphenyl - Recovery	52%	59%

FOR RECRA ENVIRONMENTAL LABORATORIES Barbara J Krajewski

DATE 9/19/83

A ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

BASE/NEUTRALS

MPOUND	METHOD DETECTION LIMIT (µg/l)	SAMPLE IDENTIFICATION 3	4
enaphthene	1.9	ND	ND
enaphthylene	3.5	ND	ND
thracene	1.9	ND	ND
nzidine	44	ND	ND
nzo(a)anthracene	7.8	ND	ND
nzo(a)pyrene	2.5	ND	ND
nzo(b)fluoranthene	4.8	ND	ND
nzo(g,h,i)perylene	4.1	ND	ND
nzo(k)fluoranthene	2.5	ND	ND
s(2-chloroethoxy)methane	5.3	ND	ND
(2-chloroethyl)ether	5.7	ND	ND
s(2-chloroisopropyl)ether	5.7	ND	ND
s(2-ethylhexyl)phthalate	2.5	ND	ND
bromophenylphenylether	1.9	ND	ND
tylbenzylphthalate	2.5	ND	ND
chloronaphthalene	1.9	ND	ND
chlorophenylphenylether	4.2	ND	ND
rysene	2.5	ND	ND
benzo(a,h)anthracene	2.5	ND	ND
2-dichlorobenzene	1.9	ND	ND
3-dichlorobenzene	1.9	ND	ND
4-dichlorobenzene	4.4	ND	ND
3'-dichlorobenzidine	16.5	ND	ND
ethylphthalate	22	ND	ND
methylphthalate	1.6	ND	ND
-n-butylphthalate	2.5	ND	ND

ECRA ENVIRONMENTAL LABORATORIES
I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

BASE/NEUTRALS

COMPOUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION 3	4
2,6-dinitrotoluene	1.9	ND	ND
2,4-dinitrotoluene	5.7	ND	ND
di-n-octylphthalate	2.5	ND	ND
1,2-diphenylhydrazine	25	ND	ND
fluoranthene	2.2	ND	ND
fluorene	1.9	ND	ND
hexachlorobenzene	1.9	ND	ND
hexachlorobutadiene	0.9	ND	ND
hexachlorocyclopentadiene	25	ND	ND
hexachloroethane	1.6	ND	ND
indeno (1,2,3-cd)pyrene	3.7	ND	ND
isophorone	2.2	ND	ND
naphthalene	1.6	ND	ND
nitrobenzene	1.9	ND	ND
N-nitrosodimethylamine	25	ND	ND
N-nitrosodi-n-propylamine	25	ND	ND
N-nitrosodiphenylamine	1.9	ND	ND
phenanthrene	5.4	ND	ND
pyrene	1.9	ND	ND
1,2,4-trichlorobenzene	1.9	ND	ND

ADDITIONAL SAMPLE INFORMATION

Sample Date	8/22/83	8/22/83
Extraction Date	9/6/83	9/6/83
Analysis Date	9/14/83	9/14/83
Internal Standard - Level	20 ug/l	20 ug/l
deuterated phenanthrene - Recovery	110%	120%
Surrogate Standard (SS3) - Level	116 ug/l	116 ug/l
decafluorobiphenyl - Recovery	49%	53%
Surrogate Standard (SS4) - Level	120 ug/l	120 ug/l
2-fluorobiphenyl - Recovery	52%	62%

FOR RECRA ENVIRONMENTAL LABORATORIES Barbara J Kujawski

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

VOLATILES

OMPOUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION 1	2
rolein	400	ND	ND
rylonitrile	400	ND	ND
enzene	4.4	ND	ND
romodichloromethane	2.2	3.5 ug/l	ND
romoform	4.7	ND	ND
romomethane	10	ND	ND
arbon tetrachloride	2.8	ND	ND
hlorobenzene	6.0	ND	ND
hloroethane	10	ND	ND
-chloroethylvinyl ether	10	ND	ND
hloroform	1.6	17 ug/l	ND
hloromethane	10	ND	ND
ibromochloromethane	3.1	BMDL	ND
,1-dichloroethane	4.7	ND	ND
,2-dichloroethane	2.8	ND	ND
,1-dichloroethylene	2.8	ND	ND
rans-1,2-dichloroethylene	1.6	ND	ND
,2-dichloropropane	6.0	ND	ND
,3-dichloropropene	5.0	ND	ND
thylbenzene	7.2	ND	ND
ethylene chloride	2.8	ND	ND
,1,2,2-tetrachloroethane	6.9	ND	ND
etrachloroethylene	4.1	ND	ND

(Continued)

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

VOLATILES

COMPOUND	METHOD DETECTION LIMIT (ug/l)	SAMPLE IDENTIFICATION 1	2
toluene	6.0	ND	ND
1,1,1-trichloroethane	3.8	ND	ND
1,1,2-trichloroethane	5.0	ND	ND
trichloroethylene	1.9	ND	ND
vinyl chloride	10	ND	ND

ADDITIONAL SAMPLE INFORMATION		
Sample Date	8/22/83	8/22/83
Analysis Date	9/13/83	9/13/83
Internal Standard - Level	40 ug/l	40 ug/l
bromochloromethane - Recovery	94%	99%
Internal Standard - Level	40 ug/l	40 ug/l
2-bromo-1-chloropropane - Recovery	100%	110%
Internal Standard - Level	40 ug/l	40 ug/l
1,4-dichlorobutane - Recovery	94%	100%

FOR RECRA ENVIRONMENTAL LABORATORIES Barbara J Kozendi

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES
I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

VOLATILES

COMPOUND	METHOD DETECTION LIMIT (µg/l)	SAMPLE IDENTIFICATION	
		3	4
acrolein	400	ND	ND
acrylonitrile	400	ND	ND
benzene	4.4	ND	ND
bromodichloromethane	2.2	ND	ND
bromoform	4.7	ND	ND
bromomethane	10	ND	ND
carbon tetrachloride	2.8	ND	ND
chlorobenzene	6.0	ND	ND
chloroethane	10	ND	ND
chloroethylvinyl ether	10	ND	ND
chloroform	1.6	ND	ND
chloromethane	10	ND	ND
dibromochloromethane	3.1	ND	ND
1,1-dichloroethane	4.7	ND	ND
1,2-dichloroethane	2.8	ND	ND
1,1-dichloroethylene	2.8	ND	ND
trans-1,2-dichloroethylene	1.6	ND	ND
1,2-dichloropropane	6.0	ND	ND
1,3-dichloropropene	5.0	ND	ND
ethylbenzene	7.2	ND	ND
methylene chloride	2.8	ND	ND
1,1,2,2-tetrachloroethane	6.9	ND	ND
tetrachloroethylene	4.1	ND	ND

(Continued)

RECRA ENVIRONMENTAL LABORATORIES
I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES

Report Date: 9/19/83

VOLATILES

COMPOUND	METHOD DETECTION LIMIT (µg/l)	SAMPLE IDENTIFICATION 3	4
Toluene	6.0	ND	ND
1,1,1-trichloroethane	3.8	ND	ND
1,1,2-trichloroethane	5.0	ND	ND
Trichloroethylene	1.9	ND	ND
Vinyl chloride	10	ND	ND

ADDITIONAL SAMPLE INFORMATION		
Sample Date	8/22/83	8/22/83
Analysis Date	9/13/83	9/13/83
Internal Standard - Level	40 µg/l	40 µg/l
Bromochloromethane - Recovery	98%	89%
Internal Standard - Level	40 µg/l	40 µg/l
2-bromo-1-chloropropane - Recovery	100%	91%
Internal Standard - Level	40 µg/l	40 µg/l
1,4-dichlorobutane - Recovery	100%	92%

FOR RECRA ENVIRONMENTAL LABORATORIES Andrew J Kujawski

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES

I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

Report Date: 9/19/83

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION			
		1 (8/22/83)	2 (8/22/83)	3 (8/22/83)	4 (8/22/83)
2,4-D	mg/l	<0.5	<0.5	<0.5	<0.5
Dicamba	mg/l	<0.5	<0.5	<0.5	<0.5
2,4,5-T	mg/l	<0.5	<0.5	<0.5	<0.5
2,4,5-TP	mg/l	<0.5	<0.5	<0.5	<0.5

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Frazier

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.

Report Date: 9/19/83

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION			
		1 (8/22/83)	2 (8/22/83)	3 (8/22/83)	4 (8/22/83)
Total Cyanide	mg/l	<0.01	<0.01	<0.01	<0.01
Total Recoverable Phenolics	mg/l	<0.01	<0.01	<0.01	<0.01
Chloride	mg/l	750	1,940	3,620	3,200
Sulfate	mg/l	310	480	2,060	1,350
Bicarbonate Alkalinity	mg/l as $CaCO_3$	2,800	940	520	520

FOR RECRA ENVIRONMENTAL LABORATORIES R. V. Fann

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES
T. D. #83-546

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 9/19/83

REPLICATE VOLATILE ANALYSIS OF
SAMPLE 1

COMPOUND IDENTIFICATION	UNITS OF MEASURE	VALUE 1	VALUE 2	MEAN	STANDARD DEVIATION	PERCENT COEFFICIENT OF VARIATION
bromodichloromethane	ug/l	3.7	3.3	3.5	0.28	8.0
chloroform	ug/l	19	15	17	2.1	12
dibromochloromethane	ug/l	2.4	2.0	2.2	0.28	13

FOR RECRA ENVIRONMENTAL LABORATORIES Arthur J Kyriakides

DATE 9/9/83

RECRA ENVIRONMENTAL LABORATORIES
I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY/MASS SPECTROMETRY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 9/19/83

EXTRACTABLE RECOVERY ANALYSIS OF
METHOD BLANK

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
2-chlorophenol	100	33	33
1,3-dichlorobenzene	100	35	35
di-n-octylphthalate	100	35	35
fluoranthene	100	31	31
fluorene	100	34	34
naphthalene	100	30	30
nitrobenzene	100	32	32
pentachlorophenol	100	13	13
phenol	100	23	23

ADDITIONAL INFORMATION

Extraction Date	9/6/83
Analysis Date	9/14/83
Internal Standard (IS) - Level	20 ug/l
deuterated phenanthrene - Recovery	130%
Surrogate Standard (SS1) - Level	113 ug/l
2-fluorophenol - Recovery	36%
Surrogate Standard (SS2) - Level	120 ug/l
pentafluorophenol - Recovery	59%
Surrogate Standard (SS3) - Level	116 ug/l
decafluorobiphenyl - Recovery	48%
Surrogate Standard (SS4) - Level	120 ug/l
2-fluorobiphenyl - Recovery	57%

FOR RECRA ENVIRONMENTAL LABORATORIES Barbara J. Kopinski

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES
I.D. #83-846

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 9/19/83

PESTICIDE RECOVERY ANALYSIS OF
SAMPLE #3

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
Aldrin	0.27	0.27	100
γ-BHC	0.22	0.20	91
4,4'-DDE	0.26	0.32	120
β-Endosulfan	0.78	0.78	100
Endrin	0.24	0.24	100
Heptachlor	0.22	0.22	100

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Proctor

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
GAS CHROMATOGRAPHY
PRIORITY POLLUTANT ANALYSES
QUALITY CONTROL

Report Date: 9/19/83

PESTICIDE RECOVERY ANALYSIS OF
METHOD BLANK

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
Aldrin	0.27	0.18	67
γ-BHC	0.22	0.18	82
4,4'-DDE	0.26	0.26	100
β-Endosulfan	0.78	0.71	91
Endrin	0.24	0.24	100
Heptachlor	0.22	0.18	82

FOR RECRA ENVIRONMENTAL LABORATORIES Deborah J. Franco

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.
HIGH PERFORMANCE LIQUID CHROMATOGRAPHY
QUALITY CONTROL

Report Date: 9/19/83

HERBICIDE RECOVERY ANALYSIS OF
SAMPLE 1

COMPOUND IDENTIFICATION	ng OF SPIKE	ng RECOVERED	% RECOVERY
2,4-D	77	68	88
Dicamba	56	49	88
2,4,5-T	95	82	86
2,4,5-TP	110	110	110

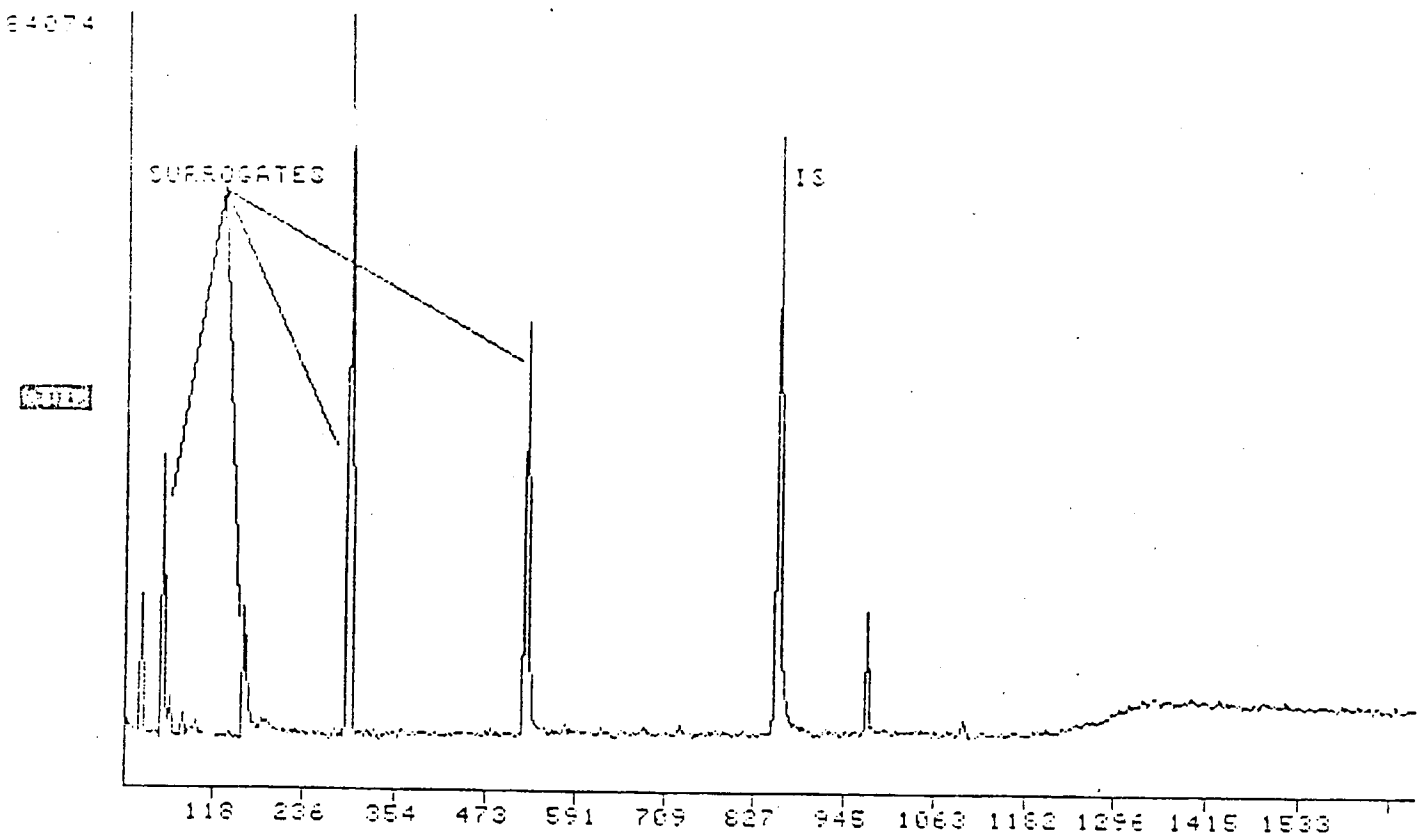
FOR RECRA ENVIRONMENTAL LABORATORIES Sharon J. Tracin

DATE 9/19/83

RECRA ENVIRONMENTAL LABORATORIES
T D #83-846

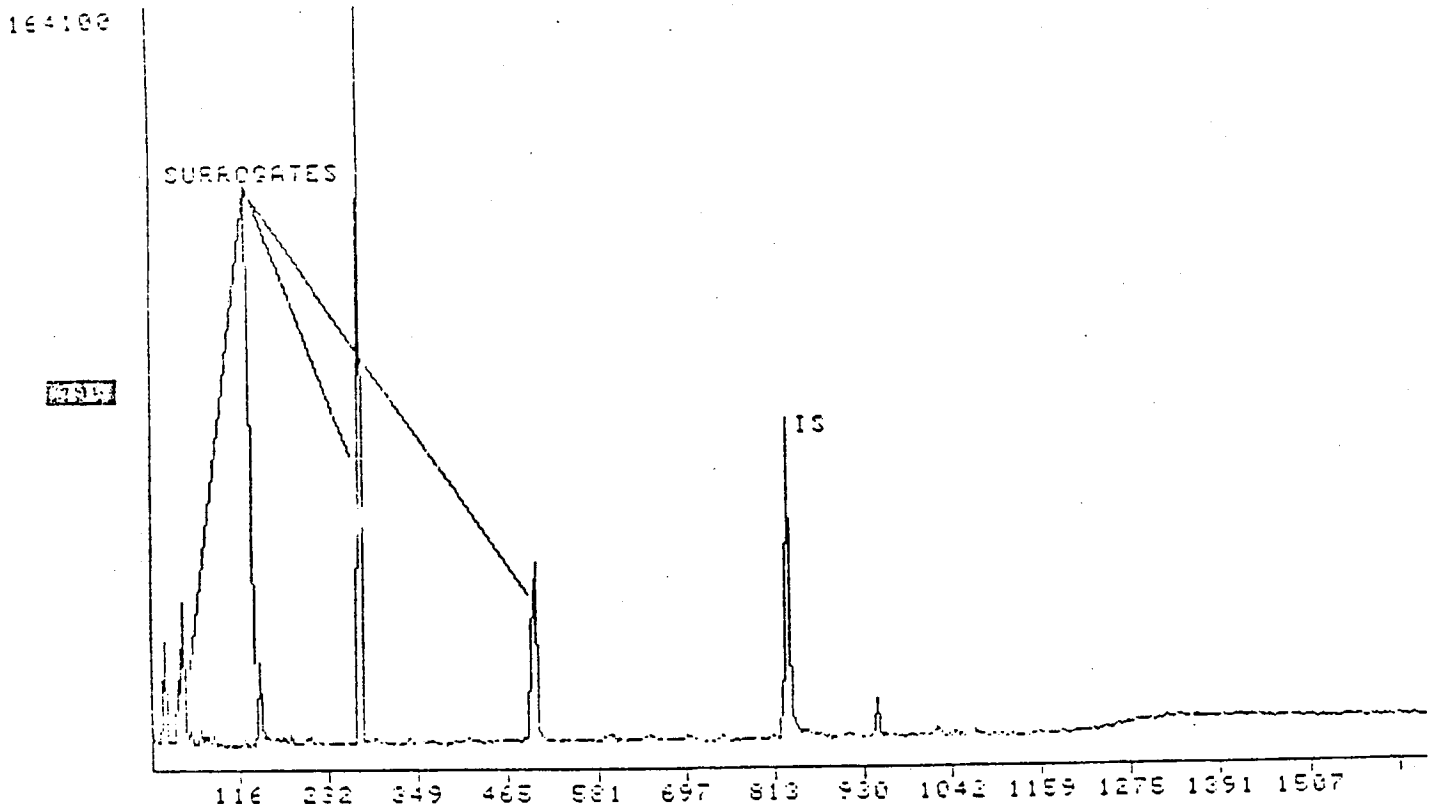
CONFIG BLANK JOB 246
DISC FF3605/06 BN/AP

DERN 23959



NAME #1 JOB 846
MISC FF6564/85 DN/AP

ARN 23663



4.0 LABELING AND CHAIN OF CUSTODY

4.1 Labeling

All sample containers have a label attached with the following information:

1) Project Number (Recra's)
2) Well Number
3) Date
4) Samplers Initials
5) Preservation (if any)

This label is further covered with a strip of clear plastic tape.

4.2 Chain of Custody

Upon the completion of sampling each day a chain of custody manifest was initiated. The information on this manifest included the following:

1) Well Number
2) Date of Sample Collection
3) Number and Types of Bottles
4) Chain of Custody Numbers on Bottles (if used)
5) Samplers Signature

For this sample, collect clear plastic tape was placed around the cap of each container. To open the container would destroy this tape indicating entry.

Numbered Chain of Custody tape was placed across the lids of the sealed (taped) coolers used to ship the samples. To open the coolers would destroy the tape indicating entry. All samples were received at Recra Environmental Laboratories with the tape intact.

TABLE I

WELL INFORMATION
CECOS PONCE, PUERTO RICO

Report Date DECEMBER 10, 1983

Sampling Date NOVEMBER 14-17, 1983

WELL	DATE/ TIME	TYPE OF CASING	*WATER LEVEL	*BOTTOM OF WELL	VOLUME OF STANDING WATER	ACTUAL VOLUME EVACUATED	METHOD OF EVACUATION	METHOD OF SAMPLING	+RECHARGE RATE
MW-1	11-14-83/ 1000	2" PVC	135' 6"	135' 6"	Dry	-	-	-	-
MW-2	11-15-83/ 1500	2" PVC	34' 11"	63' 8"	4.6	15.0	Bailer	Bailer	Continuous
MW-3	11-15-83/ 1210	2" PVC	53' 11"	88'	5.4	10.0	Bailer	Bailer	Slow
MW-4	11-16-83/ 1315	2" PVC	69' 7-1/2"	103' 6"	5.4	16.0	Bailer	Bailer	Continuous
MW-5	11-17-83/ 1000	2" PVC	61' 8-1/4"	66' 6"	1.1	1.1	Bailer	Bailer	Slow

* From top of casing.
\+ Recharge Rate determined by the following criteria:

Continuous - no drop in water level during evacuation.
Rapid - recharges within one (1) hour.
Slow - recharges within eight (8) hours.
Very slow - must return another day.

FOR RECRA RESEARCH, INC. George C. Howell

DATE DECEMBER 10, 1983

TABLE II

FIELD MEASUREMENTS
CROCOS PUNTA, PUERTO RICO

Report Date NOVEMBER [illegible] 1983

Sampling Date NOVEMBER 14-17 1983

WELL	DATE/ TIME	PH STANDARD UNITS	CONDUCTIVITY UMHOS/CM	TEMP °C
MW-1	11-14-83/ 1200	Dry	-	-
MW-2	11-15-83/ 1500	6.70	7,200	25
MW-3	11-15-83/ 1210	6.50	13,900	29
MW-4	11-16-83/ 1315	6.50	10,000	28
MW-5	11-17-83/ 1000	6.65	23,800	32

FOR RECRA RESEARCH, INC. [signature]

DATE DECEMBER 16 1983

ANALYTICAL RESULTS AND FIELD REPORT FOR JANUARY, 1984 SAMPLING

ANALYTICAL RESULTS

CECOS INTERNATIONAL, INC.

Report Date: 3/7/84

INTRODUCTION:

On January 12, 1984, samples were received at Recra Environmental Laboratories. A request was made by CECOS International, Inc. to have the samples analyzed for selected fractions of the Environmental Protection Agency decreed priority pollutants, RCRA Groundwater Monitoring parameters, and selected parameters of the Appendix VIII list.

This report will address the results of those analyses.

METHODS:

Analyses were conducted according to the following methodologies:

Pesticides/PCB's - Method 808
Semi-Volatile Chlorinated Hydrocarbons - Method 8120
Non-Halogenated Volatile Organics - Method 8015
Chlorinated Herbicides - Method 8150

The above listed methods can be found in the Test Methods for Evaluating Solid Waste, SW-846, Second Edition.

Priority Pollutant Volatiles - Method 624
Priority Pollutant Base/Neutrals and Acids - Method 625

Methods 624 and 625 can be found in the Methods for Organic Chemical Analysis of Municipal and Industrial Waste Water.

All analyses were performed by Gas Chromatography except for Method 624 and Method 625 analyses which were performed by Gas Chromatography/Mass Spectrometry (GC/MS).

RESULTS AND DISCUSSION:

Analyses for total organic halide, gross alpha & beta radiation, and

RESULTS AND DISCUSSION (CONT'D.):

total radium were subcontracted.

Due to the presence of methylene chloride in the Volatile field blank, the detection limit for that compound has been elevated.

No additional compounds of interest were detected in the Volatile field blank.

An attempt was made to confirm pesticides identified by Gas Chromatography at concentrations greater than 2 µg/l by Gas Chromatography/Mass Spectrometry. Confirmatory criteria were not met for any of the identified compounds.

Analyses performed by gas and liquid chromatography are based upon the matching of retention times between samples and standards on a single chromatographic column. Gas and liquid chromatographic values reported as "less than" (<) indicate the working detection limit for the given sample and/or parameter.

The term total soluble refers to samples that were filtered through a 3.45 micron filter prior to a vigorous acid digestion.

Compounds reported as ND are "not detected". Compounds reported as BDL are confirmed as being present in the sample at a level "below detection limit", and are not subject to reliable quantitation.

Respectfully Submitted,

RECRA ENVIRONMENTAL LABORATORIES

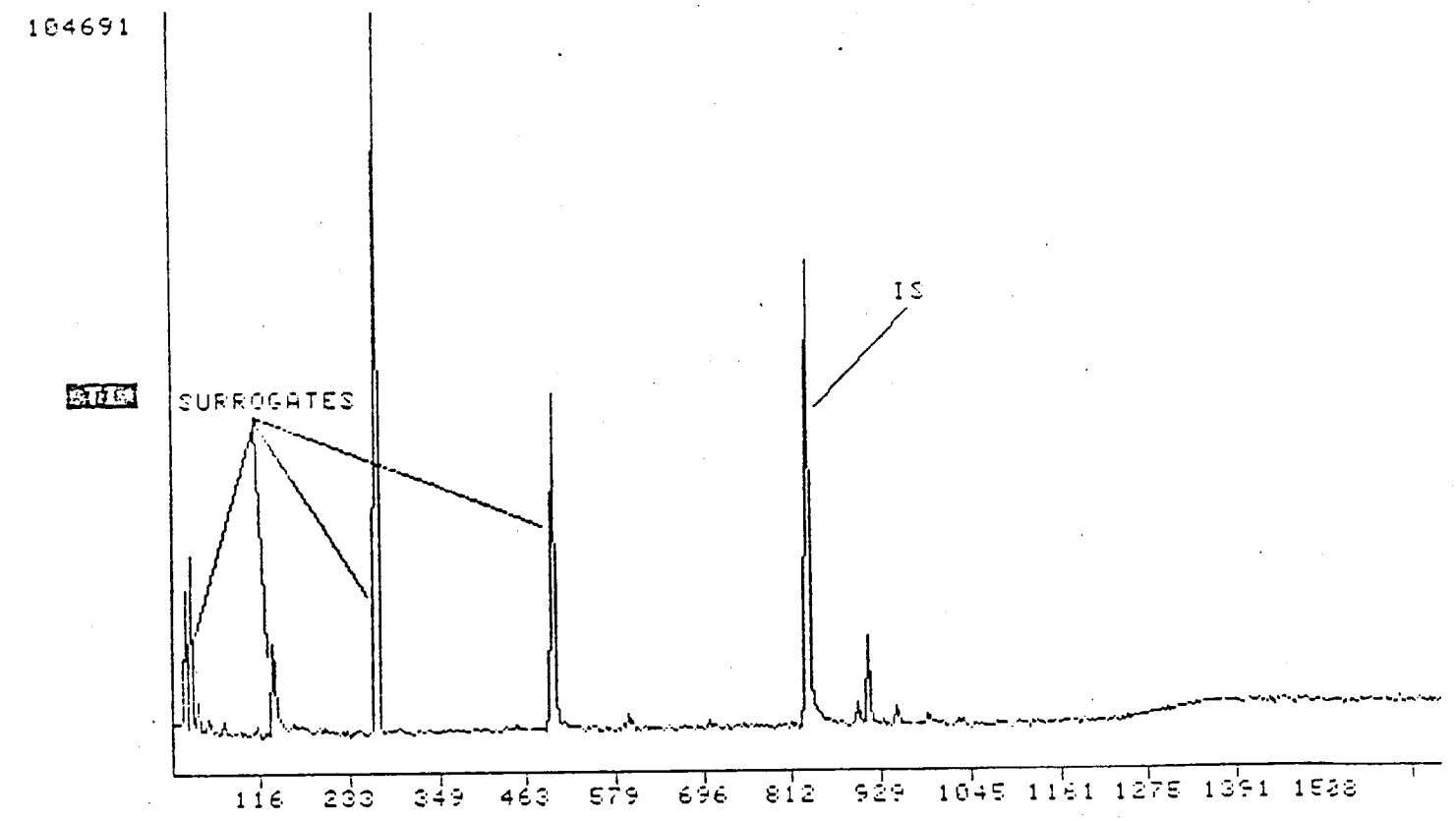
Barbara J. Krajewski

Barbara J. Krajewski
GC/MS Analyst

BJK/jah

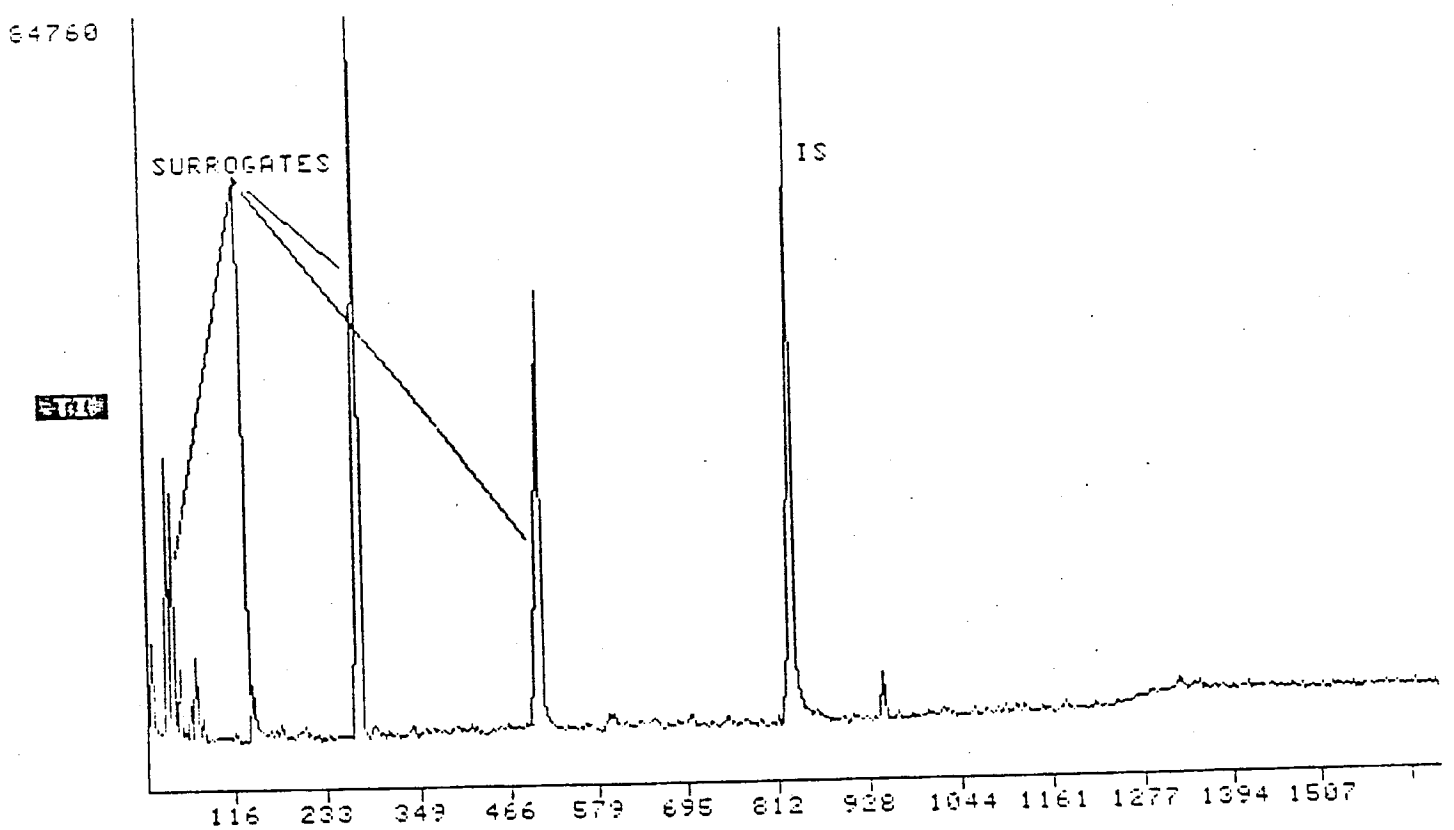
NAME =2 JOB 846
MISC PP8587/88 BN/AP

FRM 23669



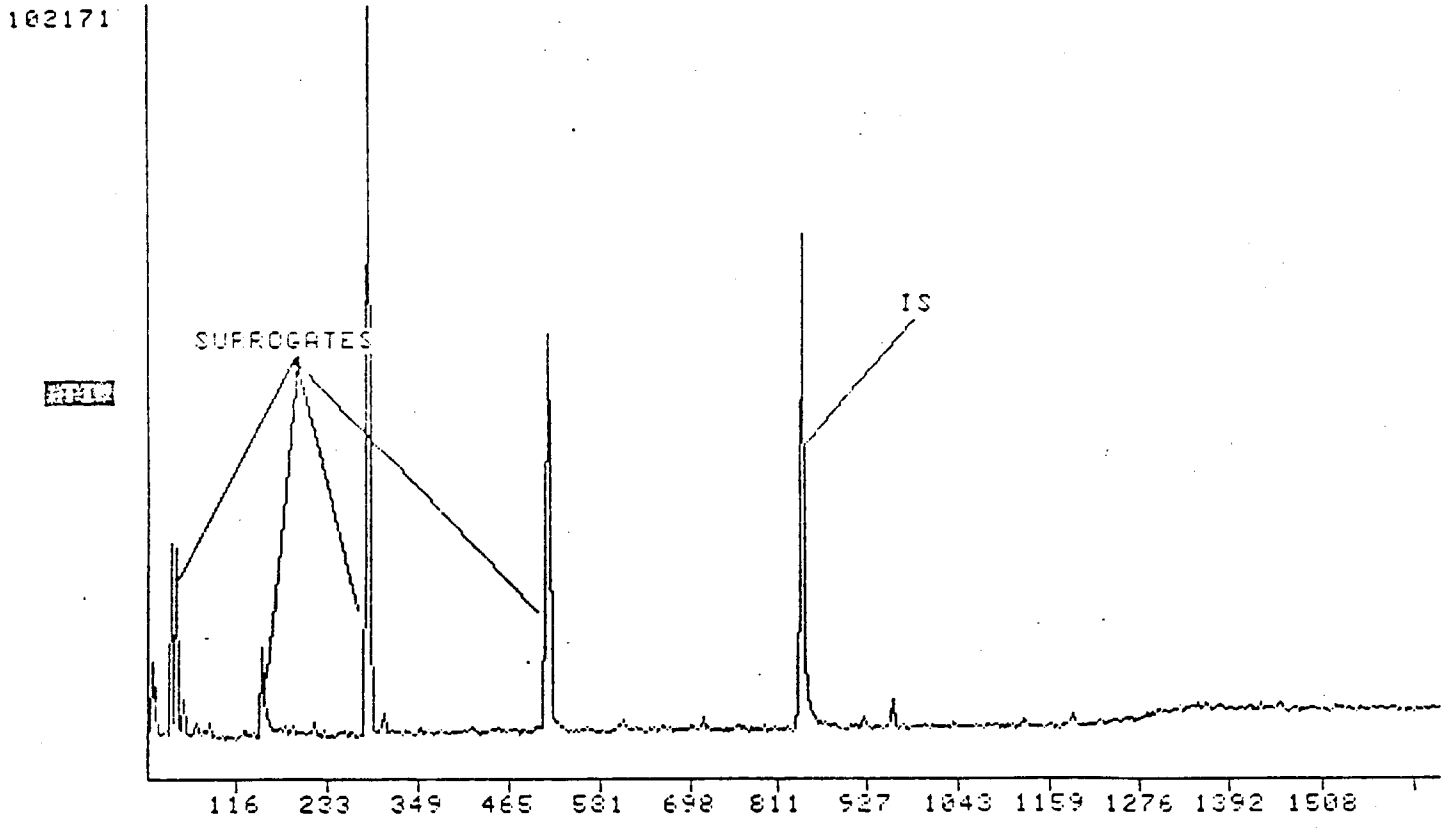
FRN 23665

NAME =3 JOB 846
MISC PP8590/91 BN/AP



NAME =4 JOB 846
MISC FP8593/94 BN/AP

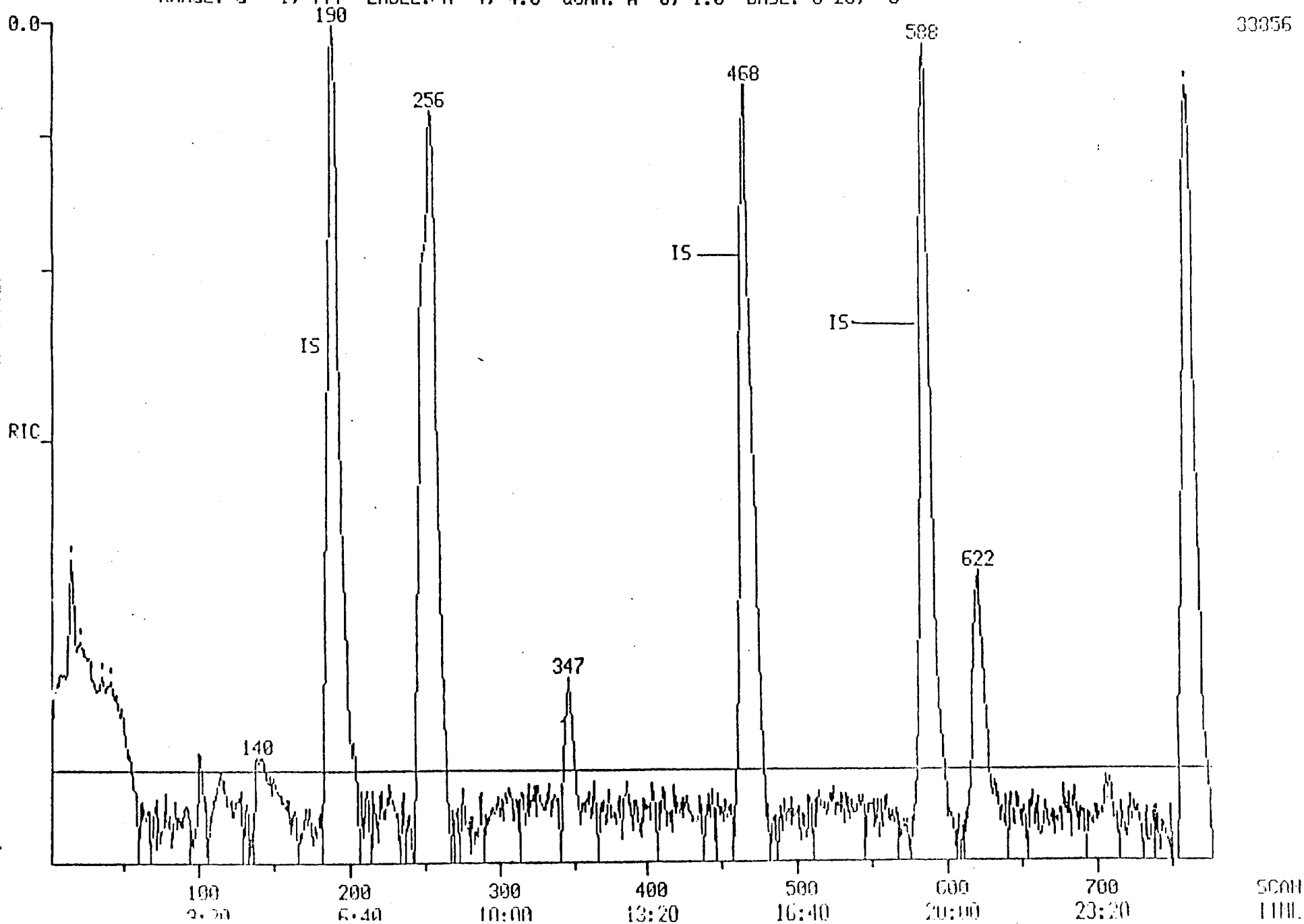
FRN 23666



RIC
09/13/83 11:55:00
SAMPLE: FIELD BLANK JOB 846 VOA
RANGE: G 1, 777 LABEL: N -4, 4.0 QUAN: A 0, 1.0 BASE: U 20, 3

DATA: 2673 #1
CALI: CAL913 #3

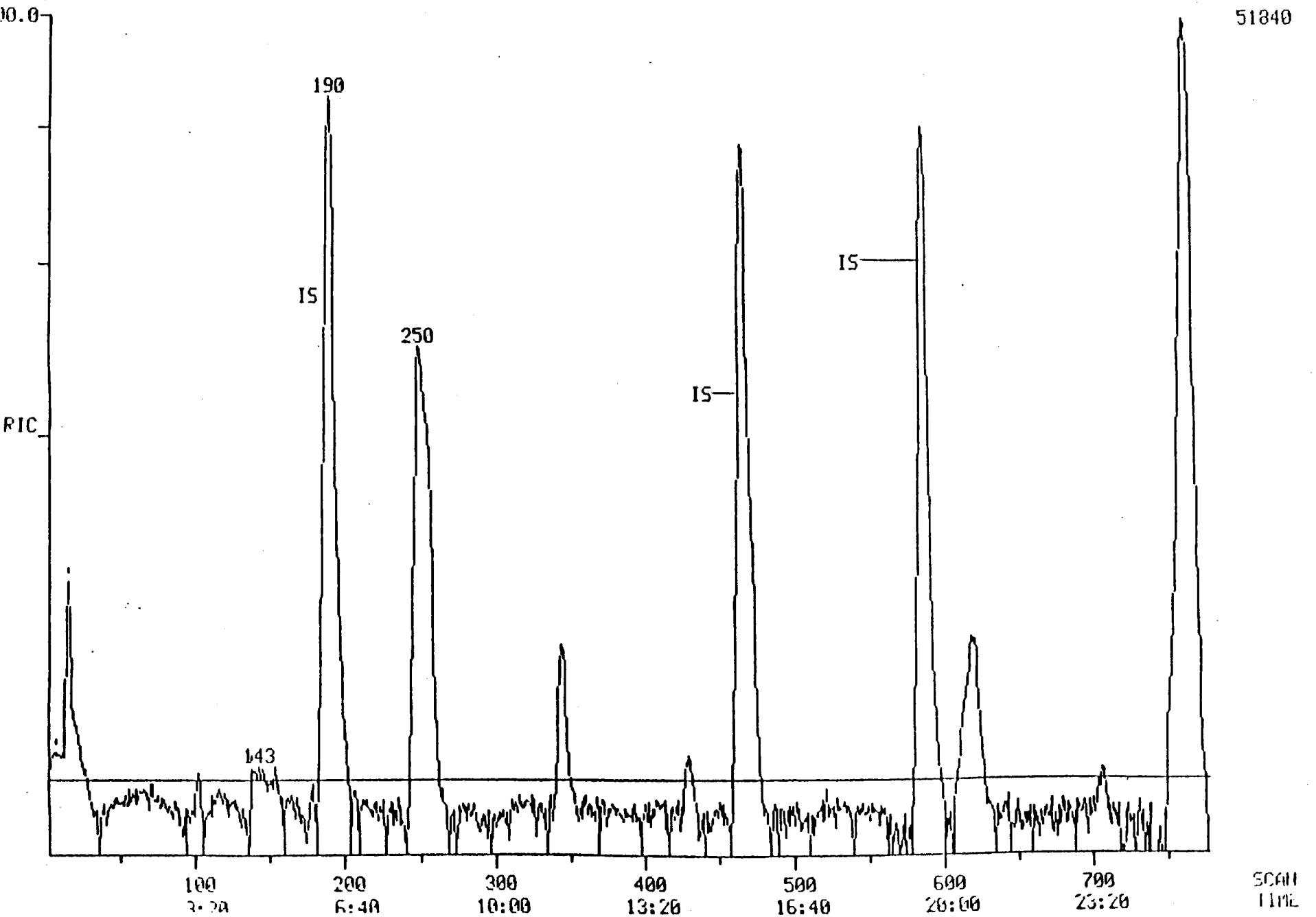
SCANS 1 TO 777



RIC
09/13/83 13:21:00
SAMPLE: SAMPLE #1 JOB 846 VOA
RANGE: G 1, 291 LABEL: N -4, 4.0 QUAN: A 0, 1.0 BASE: U 20, 3

DATA: 2674 #1
CALI: CAL913 #3

SCANS 1 TO 777

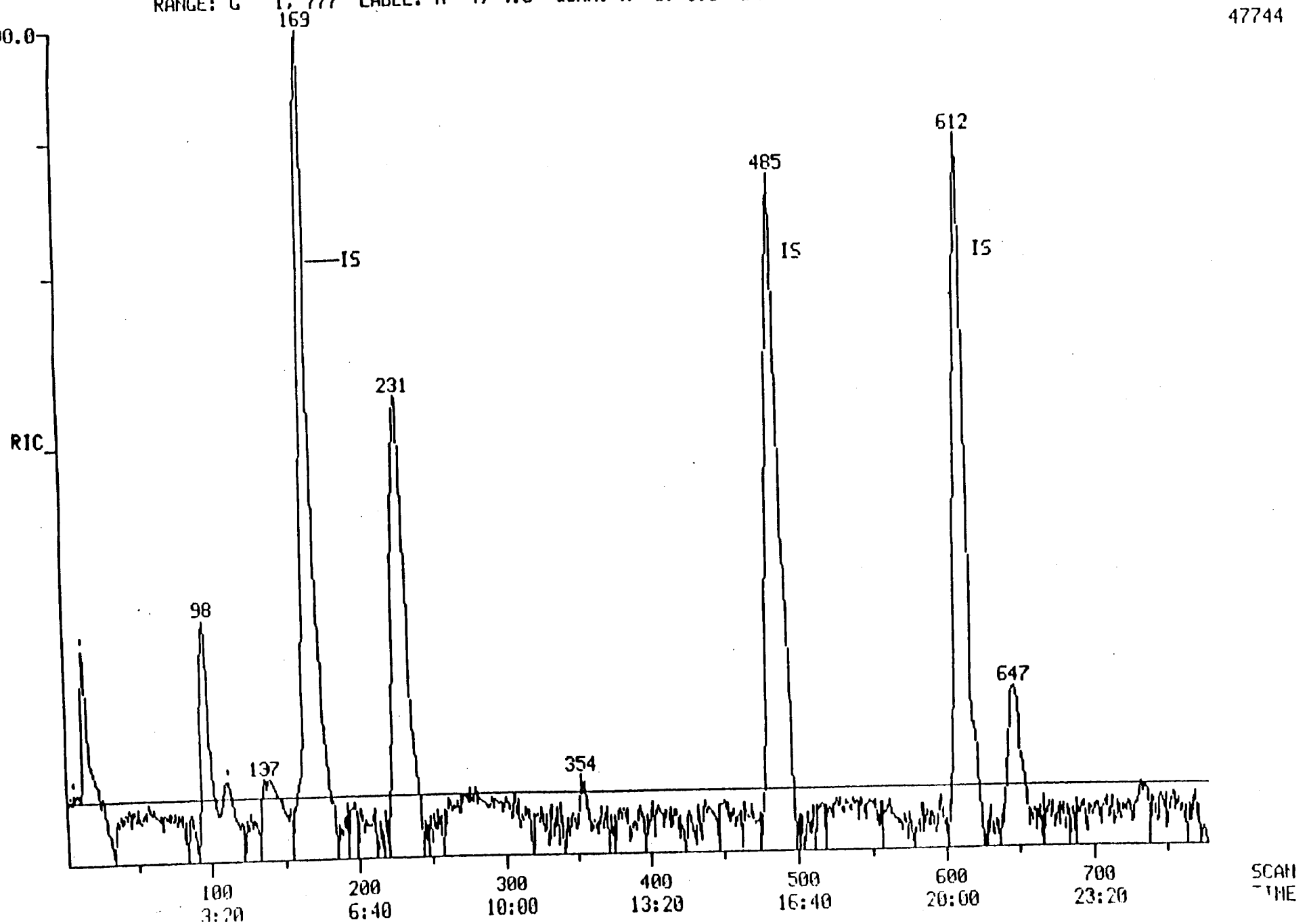


RIC
09/13/83 16:20:00
SAMPLE: D.I. WATER BLANK JOB 846 VOA
RANGE: G 1, 777 LABEL: N -4, 4.0 QUAN: A 0, 1.0 BASE: U 20, 3

DATA: 2677 #1
CALI: CAL913 #3

SCANS 1 TO 777

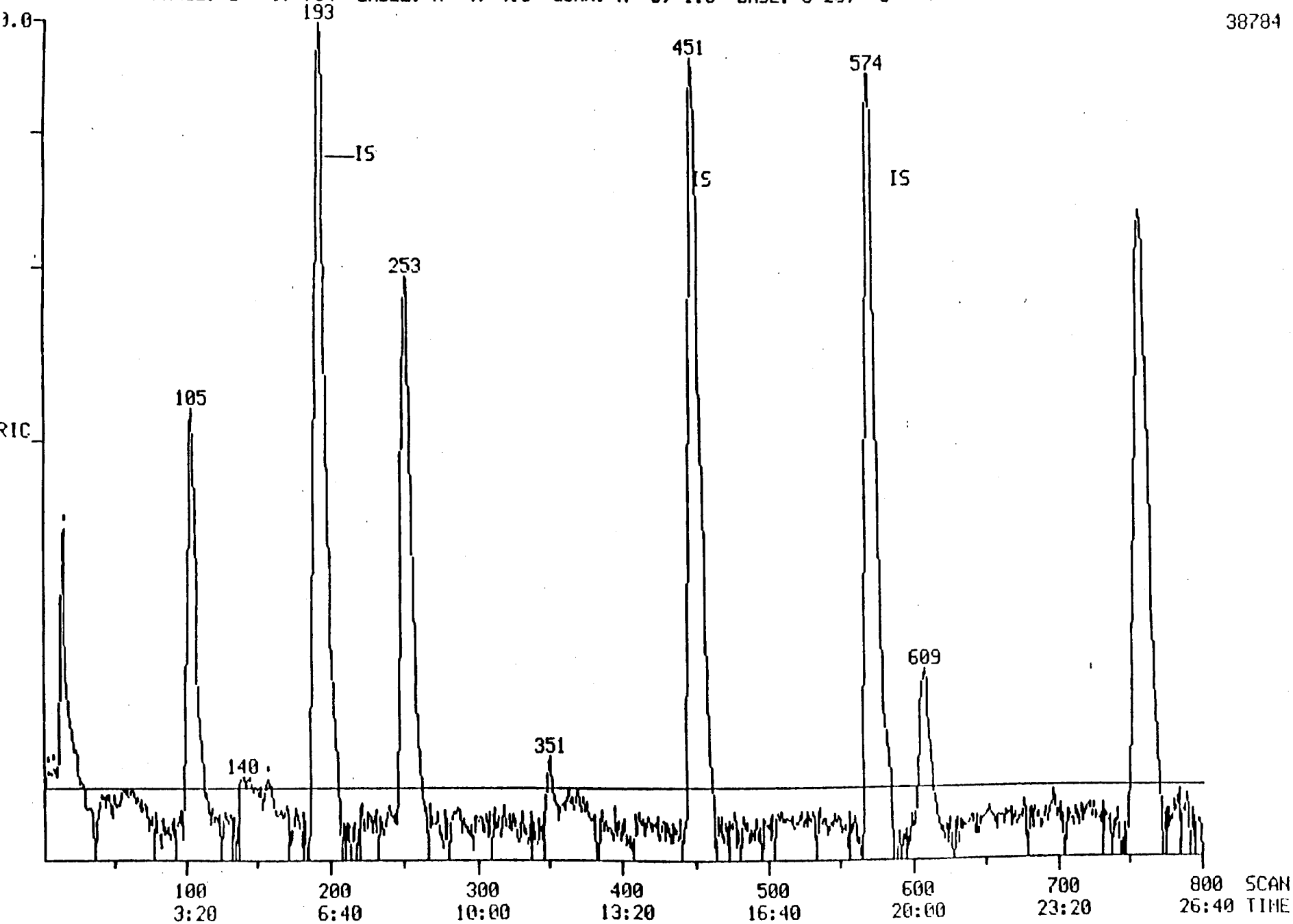
47744



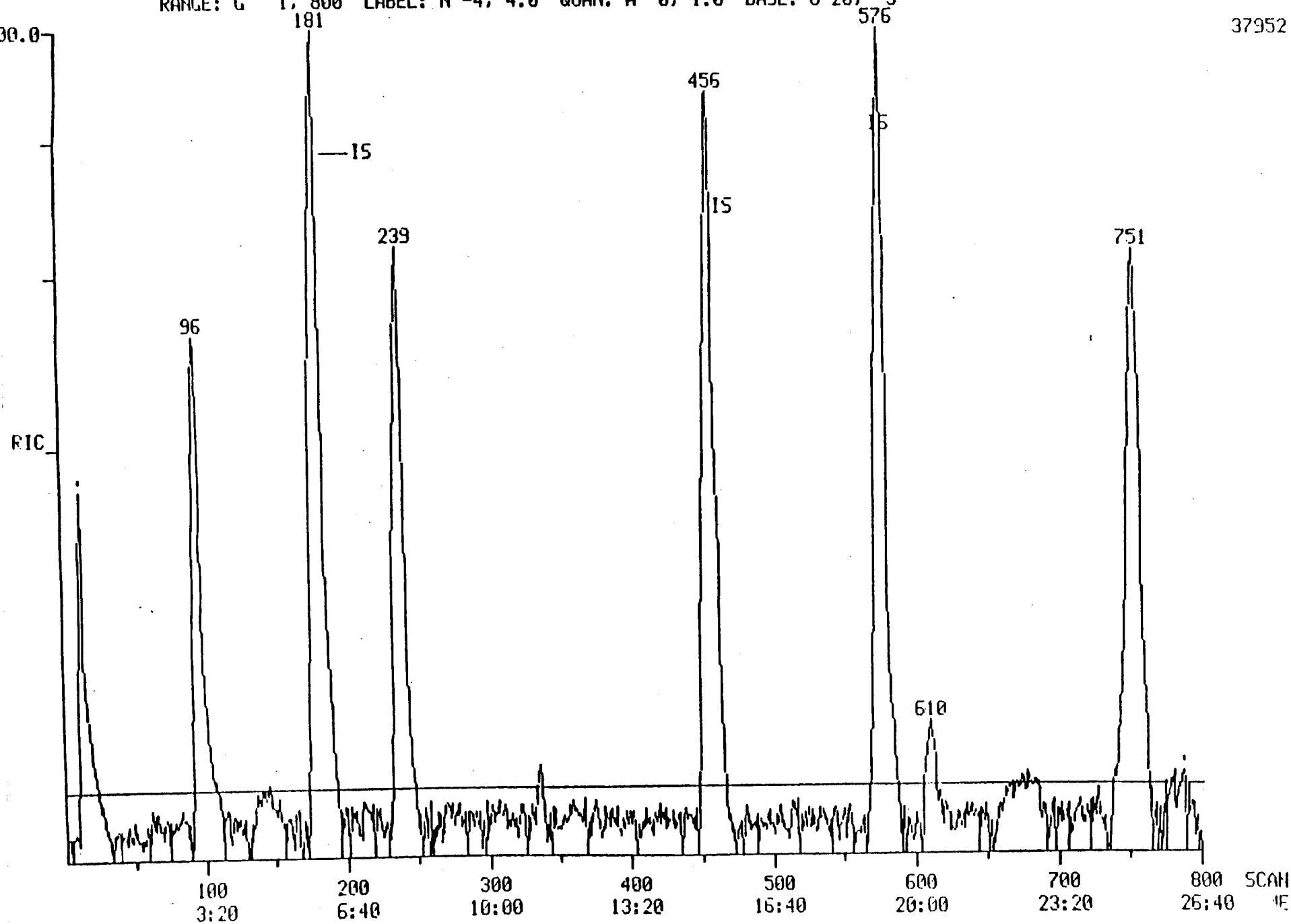
RIC
09/13/83 17:27:00
SAMPLE: #2 JOB 846 VOA
RANGE: G 1, 754 LABEL: N -4, 4.0 QUAN: A 0, 1.0 BASE: U 20, 3

DATA: 2678 #1
CALI: CAL913 #3

SCANS 1 TO 800



RIC
09/13/83 18:57:00
SAMPLE: #3 JOB 846 VOA
RANGE: G 1, 800 LABEL: N -4, 4.0 QUAN: A 0, 1.0 BASE: U 20, 3

DATA: 2680 #1
CALI: CAL913 #3

SCANS 1 TO 800