SPECTRIX O.C. REPORT

Work Order # 86-12-057

Received: 12/12/86

01/22/87 12:47:29

REPORT TO
Keystone Env.Resources, Inc.
Water Quality Engineering
440 College Park Drive
Monroeville, PA 15146-1536
ATTEN Shannon Craig

PREPARED BY
Spectrix Corporation
3911 Fondren
Suite 100
Houston, Texas 77063-5821
ATTEN Sample Control
PHONE (713) 266-6800

CERTIFIED BY

CONTACT CRUZ

CLIENT KEYSTONE SAMPLES 10
COMPANY Keystone Company, Inc.
FACILITY

Please call the above number if you have any questions.
NOTE: ALL SAMPLES WILL BE RETAINED FOR 90 DAYS AND THEN DISCARDED. IF YOU WISH YOUR SAMPLES RETURNED TO YOUR FACILITY CALL SAMPLE CONTROL AT THE ABOVE NUMBER.

WORK ID Water
TAKEN Client
TRANS Client
TYPE Project 1573-73
P.O. # 14-5-50106
INVOICE under separate cover

SAMPLE IDENTIFICATION

01	LAB BLANK
02	CAV-OW02-001
03	CAV-OW08-001
04	CAV-OW09-001
05	CAV-OW14-001
06	SCK-MW04-001
07	SCK-MW10-001
08	SCK-MW13-001
09	SCK-MW22-001
10	TRIP BLANK

TEST CODES and NAMES used on this report

AG	Silver
AS	Arsenic
BE	Berulium
CD	Cadmium
CN SU	Cyanide in Water
CR	Chromium
CU	Copper
FE	Iron
HG	Mercury
NI	Nickel
PB	Lead
PEST W	EPA Pesticides/PCB's-Water
SB	Antimony
SE	Selenium
TL	Thallium
ZN	Zinc

1012286

LABORATORY: SPECTRIX-HOUSTON

LABORATORY NO: 86-12-057

CLIENT: SPECTRIX-MONROEVILLE

SITE: SOUTH CAVALCADE

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Inorganic Matrix Duplicate and Matrix Spike

004008

CHECKLIST

SECTION I - Support Information and QC Summaries

✓ Narrative

✓ Introduction to the Spectrix Organic Data Package

✓ Introduction to the Spectrix Inorganic Data Package

✓ Shipping Document, Chain-of-Custody

N/A Organic MS/MSD Data Summary Form

004009

SPECTRIX
NARRATIVE - ORGANIC ANALYSES

CLIENT: SPECTRIX - MONROEVILLE
LAB NO: 8612057

SITE: South Cavalcade

I. RECEIPT

A. DATE: 12/12/86
B. NO. OF SAMPLES: 9
C. SAMPLE TYPE: WATER
D. ANALYSIS REQUESTED: ATT organics following EPA CLP protocol
E. SHIPPING PROBLEMS: NONE
F. DOCUMENTATION PROBLEMS: NONE
G. QC DISTRIBUTION:

LEVEL	MATRIX	VOA	SV	PEST
LOW	WATER			
	SOIL			
MEDIUM	WATER			
	SOIL			

II. PREPARATION

A. ANALYTICAL LEVELS: Low level

B. EXTRACTION PROBLEMS: None

III. ANALYSIS

A. ANALYSIS PROBLEMS: Some samples were diluted due to the high concentration of organics.

B. SURROGATE RECOVERIES: Some surrogates were diluted out. The samples without dilution had surrogate recoveries within the range of method requirement.

IV. OTHER PROBLEMS None

Thomas F. Altern
Project Manager

-004010

004010

SPECTRIX-HOUSTON

NARRATIVE - INORGANIC ANALYSES

CLIENT: Spectrix-Monroeville
LAB NO: 86-12-057

SITE: South Cavalcade

I. RECEIPT

A. DATE: 12/12/86
B. NO. OF SAMPLES: Nine
C. SAMPLE TYPE: Water
D. ANALYSIS REQUESTED: Metals: Ag, As, Be, Cd, Cr, Cu, Fe, Hg, Ni, Pb, Sb, Se, Tl, Zn and CN

II. PREPARATION

A. REFERENCE METHOD: EPA CLP Protocol (SOW784)

B. ANALYTICAL LEVELS: Low level

C. DIGESTION PROBLEMS: None

III. ANALYSIS

A. REFERENCE METHOD: EPA CLP Protocol (SOW784)

B. ANALYSIS PROBLEMS: None

C. SPIKE RECOVERIES: None

IV. OTHER PROBLEMS None

Ken H. Ed
Department Supervisor

004011

INTRODUCTION TO THE SPECTRIX ORGANIC DATA PACKAGE

The purpose of this introduction is to clarify several technical report sheets contained in this report. Data sheets showing analytes and concentration are called Organic Analysis Data Sheets (OADS). OADS pages 1 and 2 contain Hazardous Substance List (HSL) compounds associated with Volatile Organics and Semi-Volatile Organics (Base/Neutral/Acids). OADS pages 4 and 5 contain Tentatively Identified Compounds (TIC) found in the Volatiles and Semi-Volatiles analyses. All concentrations listed on pages 1 and 2 are stated in UG/L or UG/KG. Header information listed on pages 1 and 2 includes client number, Spectrix internal sample number, dilution factor used, instrument used in the analysis, date received/date analyzed and other pertinent information. Soil OADS also contain listings for percent moisture and soil pH determined during the extraction process. The reporting section for pages 1 and 2 of the OADS lists individual HSL compounds and four possible listings of the concentrations found. These four possibilities are the actual concentration found, nothing detected at the detection limit as noted with a "U", a value detected but just below the detection limit noted with a "J" and a value also found in the blank noted with a "B". It is possible that a sample may contain a value just below the detection limit and also found in the blank. In this instance a "JB" would be seen after a listed detection limit. A "J" value reported indicates a trace level was found below a concentration where the quantitated value may be in question.

OADS pages 4 and 5 in general list compounds not on the HSL but also found in the GC/MS analysis. These compounds or "non-targeted compounds" are identified by comparing the peak spectra in question to a list of several thousands library spectra stored on the GC/MS magnetic disc. A measure to which the library spectra and the sample spectra are similar is the "purity". Purity is listed on the OADS as a number between 1 and 1000 where 1000 would be an extremely confident identification. OADS pages 4 and 5 list two sections: a header and data reporting section. The header contains client sample name, instrument ID, analyst and data file name. The data section shows cas #, compound name, scan #, purity of each compound and UG/L or UG/KG found. The cas #, or chemical abstract service number, is an identifying number related to the organic compound name and can help clarify differences between common names and IUPAC terminology. The scan # relates to the location of the compound in the run (i.e., retention time). The concentration listed is estimated based on the Internal Standard concentrated which is added to the sample prior to analysis. These estimated values are listed as a "J" and are not to be confused with "J" listed on OADS pages 1 and 2. Only purity values greater than 750 will show the name and cas #. Purity values less than 750 are considered unknowns and only a scan # and concentration are listed. Unknown compounds on the OADS pages 4 and 5 will also be listed on individual library search spectra sheets included in the data package. These raw data sheets show the top 4 matches to the unknown compounds so that best estimation of the compound's identity can be ascertained by you the data user. Additional manual identifications may be achieved at additional costs.

Quantitation report sheets are also found in this package. These data sheets depict raw header and analysis data important for record keeping purposes. The quantitation report also lists surrogate recoveries showing the % recovery of similar HSL compounds for Quality Control determinations. EPA % recovery acceptance levels are available upon request.

004012

INTRODUCTION TO THE SPECTRIX INORGANIC DATA PACKAGE

The inorganic portion of the data package is designed to serve two purposes, namely, explain the reporting format and describe the methods used in analysis of samples.

Inorganic Analytical Report

Metals are reported in micrograms per liter (ug/L) for aqueous samples and milligrams per kilogram dry weight (mg/Kg dry wt.) for non-aqueous samples. Non-aqueous samples have been calculated to their dry weight basis. Default units for each parameter are shown just below the individual test code. In situations where the reported units differs from the default unit, the reported units will be shown next to the reported value.

Example: The default units for BE_S is mg/Kg dry wt., which indicates that report will be in dry weight basis. Report that shows mg/Kg below a numerical value means that sample was not calculated to dry weight basis.

Percent solid of non-aqueous samples, if performed, will be reported as PSOLID in %.

Reporting for non-metallic elements follow same pattern as metals; ug/L or mg/L for aqueous samples and mg/Kg for non-aqueous samples. Here too, mg/Kg dry weight indicates that samples have been corrected for dry weight.

Methodology for Analysis of Inorganic Parameters

The analysis of metals in aqueous samples is performed according to EPA Contract Laboratory Program (CLP) Protocol Statement of Work (SOW) No. 785, "Inorganic Analysis of Multi-Media, Multi-Concentration Samples", July, 1985. Silver, beryllium, cadmium, chromium, copper, iron, nickel, and zinc are analyzed by ICP emission spectrometry. Antimony, arsenic, lead, selenium and thallium are determined by furnace - AA, and mercury is determined by manual cold vapor. All furnace - AA and ICP analyses are background corrected. L'vov platformed graphite tubes are used for all furnace - AA analyses and matrix modified where applicable.

The analysis of non-aqueous samples is done according to EPA CLP Protocol SOW No. 785. This is a modified version of methods in EPA manual "Test methods for Evaluating Solid Waste", EPA SW-846, July, 1982.

The EP Toxicity leaching procedure is performed according to methods published by EPA in "Test Methods for Evaluating Solid Wastes", EPA SW-846, July, 1982. Analysis of the leachates for metals is performed by the method for aqueous samples cited above.

004013

004014

CHAIN OF CUSTODY RECORD

Client/Project Name: Koppers Co Inc	Project Location: South Cavalcade Houston
Project No.: 1573-73	Field Logbook No.: Scott Barnes / KER #2
Sampler: (Signature) Scott Barnes David C Hails	Chain of Custody Tape No.: NA

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	BN&AE (1l amber)	CN (1l plastic)	Priority Metals & Fe. (1l plastic)	Pest./PCB (1l amber)			REMARKS
CAV-OW09-001	86/12/12	1200		Ground Water	2	1	1	1			Samples preserved in the field.
SCK-MW04-001	86/12/12	1217		" "	2	1	1	1			
SCK-MW22-001	86/12/12	1430		" "	2	1	1	1			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Scott Barnes	86/12/12	1643			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			LMF Cruz	12/2/86	16:43

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

SAMPLE COLLECTOR

KER

Environmental Research and Technology, Inc.
696 Virginia Road
Concord, MA 01742
617-369-8910

440 College Park Dr
Monroeville, PA 15146

ANALYTICAL LABORATORY

Spectrix Corp.
3911 Fondren Suite 100
Houston, TX 77063

ERT

№ 7358

004014

004015

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Koppers Co Inc	South Cavalcade, Houston
Project No. 1573-73	Field Logbook No. Scott Barnes KER #2
Sampler: (Signature) Scott Barnes	Chain of Custody Tape No. NA

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	BN+AE (1l amber)	CN (1l plastic)	Priority Metals + Fe (1l plastic)	Pest/PCB (1l amber)			REMARKS
SCK-MW10-001	86/12/12	0910		Ground water	2	1	1	1			All samples preserved in the field.
SCK-MW13-001	86/12/12	1420		" "	2	1	1	1			
CAV-00002-001	86/12/12	1330		" "	2	1	1	1			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Scott Barnes	86/12/12	1644			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			MF Cruz	12/12/86	16:44
Sample Disposal Method:	Disposed of by: (Signature)			Date	Time

SAMPLE COLLECTOR

KER

Environmental Research and Technology, Inc.
696 Virginia Road
Concord, MA 01742
617-369-8910

440 College Pk Dr
Monroeville, PA 15146

ANALYTICAL LABORATORY

Spectrix Corp
3911 Fondren Suite 100
Houston, TX 77063

ERT

№ 7360

1974-3-84

004015

004016

CHAIN OF CUSTODY RECORD

Client/Project Name: Koppers Co Inc	Project Location: South Cavalcade, Houston
Project No.: 1573-73	Field Logbook No.: Scott Barnes KER #2
Sampler: (Signature) Scott Barnes	Chain of Custody Tape No.: NA

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	BN&AE (1 l amber)	CN (1 l plastic)	Priority Metals & Fe (1 l plastic)	Pest/PCB (1 l amber)		VOA	REMARKS
CAV-OW08-001	86/12/12	1310		Ground Water	2	1	1	1		2	
CAV-OW14-001	86/12/12	1240		" "	2	1	1	1		2	
CAV-OW09-001	86/12/12	1200		" "						2	
SCK-MW04-001	86/12/12	1217		" "						2	
SCK-MW22-001	86/12/12	1430		" "						2	
CAV-OW02-001	86/12/12	1330		" "						2	
SCK-MW13-001	86/12/12	1420		" "						2	
SCK-MW10-001	86/12/12	0910		" "						2	

All samples preserved in the field

2 40ml VOA Trip Blanks

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Scott Barnes	86/12/12	1642			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			M F Cruz	12/12/86	16:45

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

SAMPLE COLLECTOR: KER

Environmental Research and Technology, Inc.
696 Virginia Road
Concord, MA 01742
617-369-8910

440 College Pk Dr
Monroeville, PA 15146

ANALYTICAL LABORATORY: Spectrix Corp
3911 Fondren Suite 100
Houston, TX 77063

ERT

№ 7361

004016

CHECKLIST

SECTION II - Sample Data Packets

Sample No: CAV-OW02-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004017

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: CAV-OW02-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205702
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: yph

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/18/86
DATE ANALYZED: 12/18/86

DATAFILE: 4U12057V02
DILUTION FACTOR: 1:100

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	1000 U
C015	BROMOMETHANE	1000 U
C020	VINYL CHLORIDE	1000 U
C025	CHLOROETHANE	1000 U
C030	METHYLENE CHLORIDE	500 U
C035	ACETONE	1000 U
C040	CARBON DISULFIDE	500 U
C045	1,1-DICHLOROETHENE	500 U
C050	1,1-DICHLOROETHANE	500 U
C055	TRANS-1,2-DICHLOROETHENE	500 U
C060	CHLOROFORM	500 U
C065	1,2-DICHLOROETHANE	500 U
C110	2-BUTANONE	1000 U
C115	1,1,1-TRICHLOROETHANE	500 U
C120	CARBON TETRACHLORIDE	500 U
C125	VINYL ACETATE	1000 U
C130	BROMODICHLOROMETHANE	500 U
C140	1,2-DICHLOROPROPANE	500 U
C145	TRANS-1,3-DICHLOROPROPENE	500 U
C150	TRICHLOROETHENE	500 U
C155	DIBROMOCHLOROMETHANE	500 U
C160	1,1,2-TRICHLOROETHANE	500 U
C165	BENZENE	500 U
C170	CIS-1,3-DICHLOROPROPENE	500 U
C175	2-CHLOROETHYLVINYLETHER	1000 U
C180	BROMOFORM	500 U
C210	2-HEXANONE	1000 U
C205	4-METHYL-2-PENTANONE	1000 U
C220	TETRACHLOROETHENE	500 U
C225	1,1,2,2-TETRACHLOROETHANE	500 U
C230	TOLUENE	500 U
C235	CHLOROBENZENE	500 U
C240	ETHYLBENZENE	500 U
C245	STYRENE	500 U
C250	TOTAL XYLENES	500 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004018

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: CAV-OW02-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205702
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/18/86
DATE ANALYZED: 01/13/87

DATAFILE: 4U12057C02A
DILUTION FACTOR: 100.0

CAS #	COMPOUND	UG/L
C315	PHENOL	1000 U
C325	BIS(2-CHLOROETHYL)ETHER	1000 U
C330	2-CHLOROPHENOL	1000 U
C335	1,3-DICHLOROBENZENE	1000 U
C340	1,4-DICHLOROBENZENE	1000 U
C345	BENZYL ALCOHOL	1000 U
C350	1,2-DICHLOROBENZENE	1000 U
C355	2-METHYLPHENOL	870 J
C360	BIS(2-CHLOROISOPROPYL)ETHER	1000 U
C365	4-METHYLPHENOL	990 J
C370	N-NITROSODIPROPYLAMINE	1000 U
C375	HEXACHLOROETHANE	1000 U
C410	NITROBENZENE	1000 U
C415	ISOPHORONE	1000 U
C420	2-NITROPHENOL	1000 U
C425	2,4-DIMETHYLPHENOL	4500
C430	BENZOIC ACID	5000 U
C435	BIS(2-CHLOROETHOXY)METHANE	1000 U
C440	2,4-DICHLOROPHENOL	1000 U
C445	1,2,4-TRICHLOROBENZENE	1000 U
C450	NAPHTHALENE	20000
C455	4-CHLOROANILINE	1000 U
C460	HEXACHLOROBUTADIENE	1000 U
C465	P-CHLORO-M-CRESOL	1000 U
C470	2-METHYLNAPHTHALENE	1200
C510	HEXACHLOROCYCLOPENTADIENE	1000 U
C515	2,4,6-TRICHLOROPHENOL	1000 U
C520	2,4,5-TRICHLOROPHENOL	5000 U
C525	2-CHLORONAPHTHALENE	1000 U
C530	2-NITROANILINE	5000 U
C535	DIMETHYL PHTHALATE	1000 U
C540	ACENAPHTHYLENE	1000 U
C545	3-NITROANILINE	5000 U
C550	ACENAPHTHENE	770 J
C555	2,4-DINITROPHENOL	5000 U
C560	4-NITROPHENOL	5000 U
C565	DIBENZOFURAN	450 J
C570	2,4-DINITROTOLUENE	1000 U
C575	2,6-DINITROTOLUENE	1000 U

004019

SPECTRIX DC # ---- 8

SAMPLE NUMBER: CAV-OW02-001

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C02A

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	1000 U
C585	4-CHLOROPHENYL PHENYL ETHER	1000 U
C590	FLUORENE	350 J
C595	4-NITROANILINE	5000 U
C610	4,6-DINITRO-2-METHYLPHENOL	5000 U
C615	N-NITROSODIPHENYLAMINE	1000 U
C625	4-BROMOPHENYL PHENYL ETHER	1000 U
C630	HEXACHLOROBENZENE	1000 U
C635	PENTACHLOROPHENOL	5000 U
C640	PHENANTHRENE	330 J
C645	ANTHRACENE	1000 U
C650	DI-N-BUTYL PHTHALATE	1000 U
C655	FLUORANTHENE	1000 U
C715	PYRENE	1000 U
C720	BUTYL BENZYL PHTHALATE	1000 U
C725	3,3'-DICHLOROBENZIDINE	2000 U
C730	BENZO(A)ANTHRACENE	1000 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	1000 U
C740	CHRYSENE	1000 U
C760	DI-N-OCTYL PHTHALATE	1000 U
C765	BENZO(B)FLUORANTHENE	1000 U
C770	BENZO(K)FLUORANTHENE	1000 U
C775	BENZO(A)PYRENE	1000 U
C780	INDENO(1,2,3-CD)PYRENE	1000 U
C785	DIBENZO(A,H)ANTHRACENE	1000 U
C790	BENZO(GHI)PERYLENE	1000 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004020

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-02A

DC No: KEYSTONE
SMO No: CAV-DW02-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/6/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 NA

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004021

INST ID: 4000 SPECTRIX DC # ----- 8

SAMPLE NUMBER: CAV-OW02-001

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: TTO DATAFILE: 4U12057V01

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004022

INST ID: 4530

SPECTRIX DC # ---- 8

SAMPLE: CAV-OW02-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION

QC REPORT NO.: ---

CASE NO.: ---

ANALYST: GU

DATAFILE: 4U12057C02A

B. TENTATIVELY IDENTIFIED COMPOUNDS

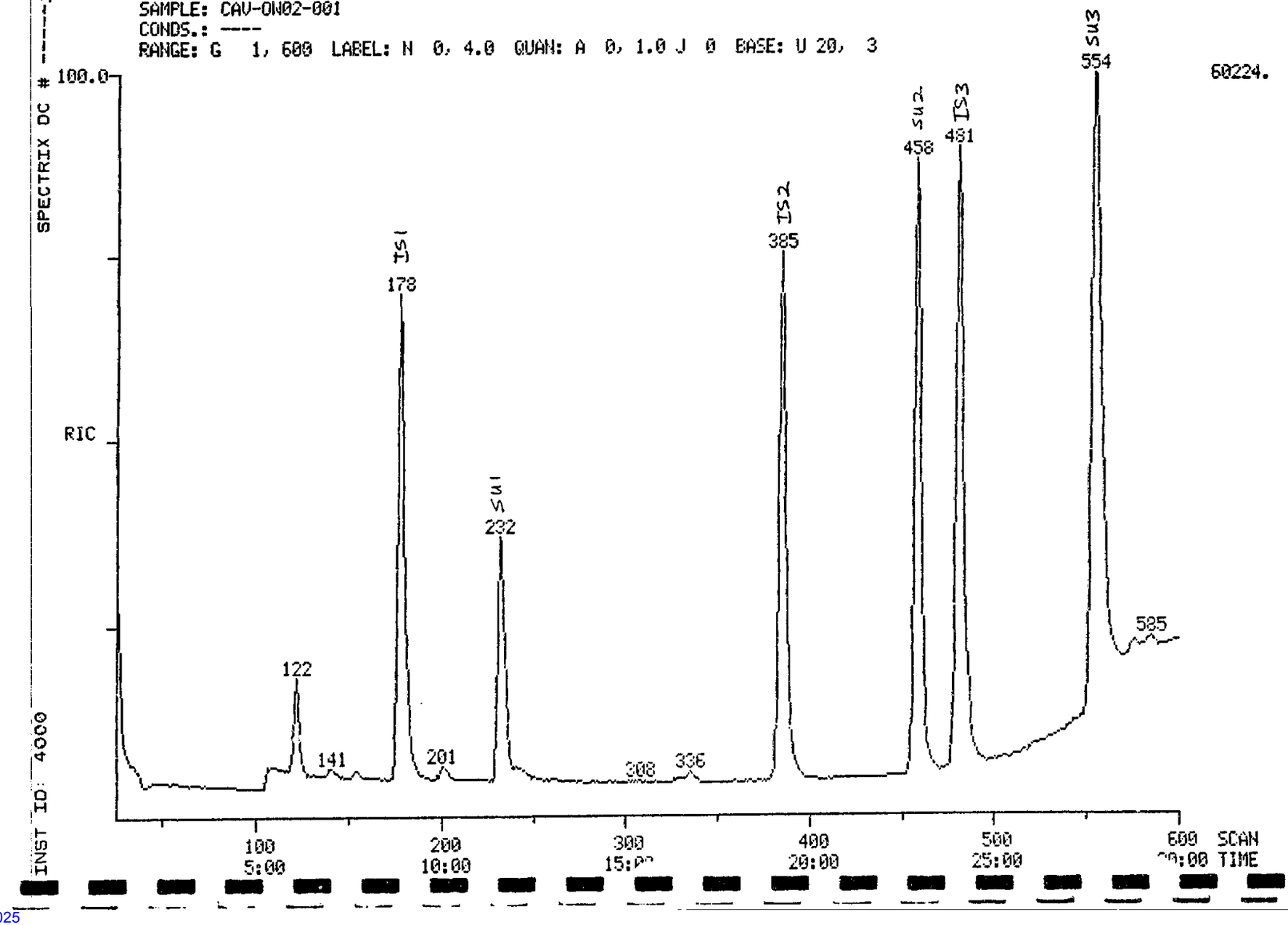
CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/L
271-89-6	BENZOFURAN	512	852	540 J
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	565	962	620 J
95-13-6	1H-INDENE	576	931	1100 J
526-75-0	PHENOL, 2,3-DIMETHYL-	655	850	710 J
498-81-7	CYCLOHEXANEMETHANOL, .ALPHA.,.ALPHA.,4-TR	700	846	1300 J
526-75-0	PHENOL, 2,3-DIMETHYL-	729	910	4100 J
95-15-8	BENZO[B]THIOPHENE	752	896	2700 J
527-60-6	PHENOL, 2,4,6-TRIMETHYL-	764	896	750 J
99-89-8	PHENOL, 4-(1-METHYLETHYL)-	791	856	1200 J
1515-95-3	BENZENE, 1-ETHYL-4-METHOXY-	801	886	1100 J
3855-26-3	PHENOL, 2-ETHYL-4-METHYL-	823	850	2100 J
527-60-6	PHENOL, 2,4,6-TRIMETHYL-	831	888	710 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	842		730 J
2471-83-2	1H-INDENE, 1-ETHYLIDENE-	875	773	1500 J
6351-10-6	1H-INDEN-1-OL, 2,3-DIHYDRO-	881	771	1000 J
197-34-8	PHENOL, 3,5-DIETHYL-	908	843	630 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	946		730 J
700-12-9	BENZENE, PENTAMETHYL-	1002	775	590 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1103		2200 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1214		1900 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004024

RIC
12/18/86 19:08:00
SAMPLE: CAV-OW02-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057V02-#1 SCANS 25 TO 600
CALI: 4U12057V02-#3



60224.

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID.	CAV-OW02-001		
FILENAME	4U12057V02	INST	4000
CLIENT	KEYSTONE	ANALYST	TTO
DATE INJECTED	12/18/86 19:08:00	VERIFIED BY	NDT
CALIB STD DATE	12-14-86	CORR. FACTOR	100.00

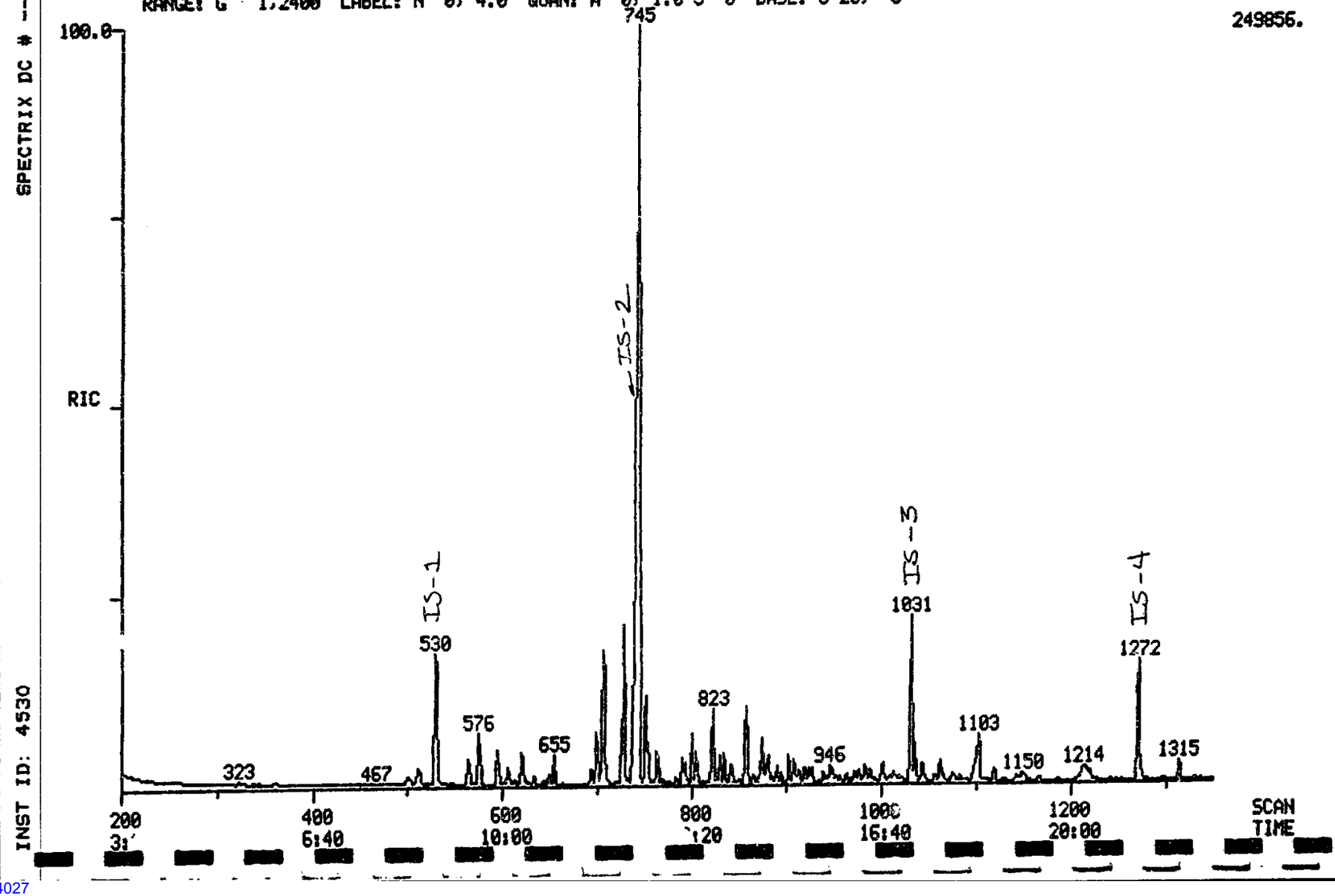
SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
178	CI01	BROMOCHLOROMETHANE	**IS1**	128	5000 UG/L	1.000	16894
385	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	5000 UG/L	1.000	76113
481	CI20	D5-CHLOROBENZENE	**IS3**	117	5000 UG/L	1.000	65904
232	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	92 %	1.303	22214
458	CS05	D8-TOLUENE	**SU2**	98	97 %	0.952	67369
554	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	104 %	1.152	50433
122	C030	METHYLENE CHLORIDE *		84	640 UG/L	0.685	4000

* BLANK CORRECTED ON DATA SHEET

004027

RIC
01/13/87 9:57:00
SAMPLE: CAV-OW02-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C02A #1 SCANS 200 TO 1350
CALI: 4U12057C02A #3



SPECTRIX DC # ----14

INST ID: 4530

004027

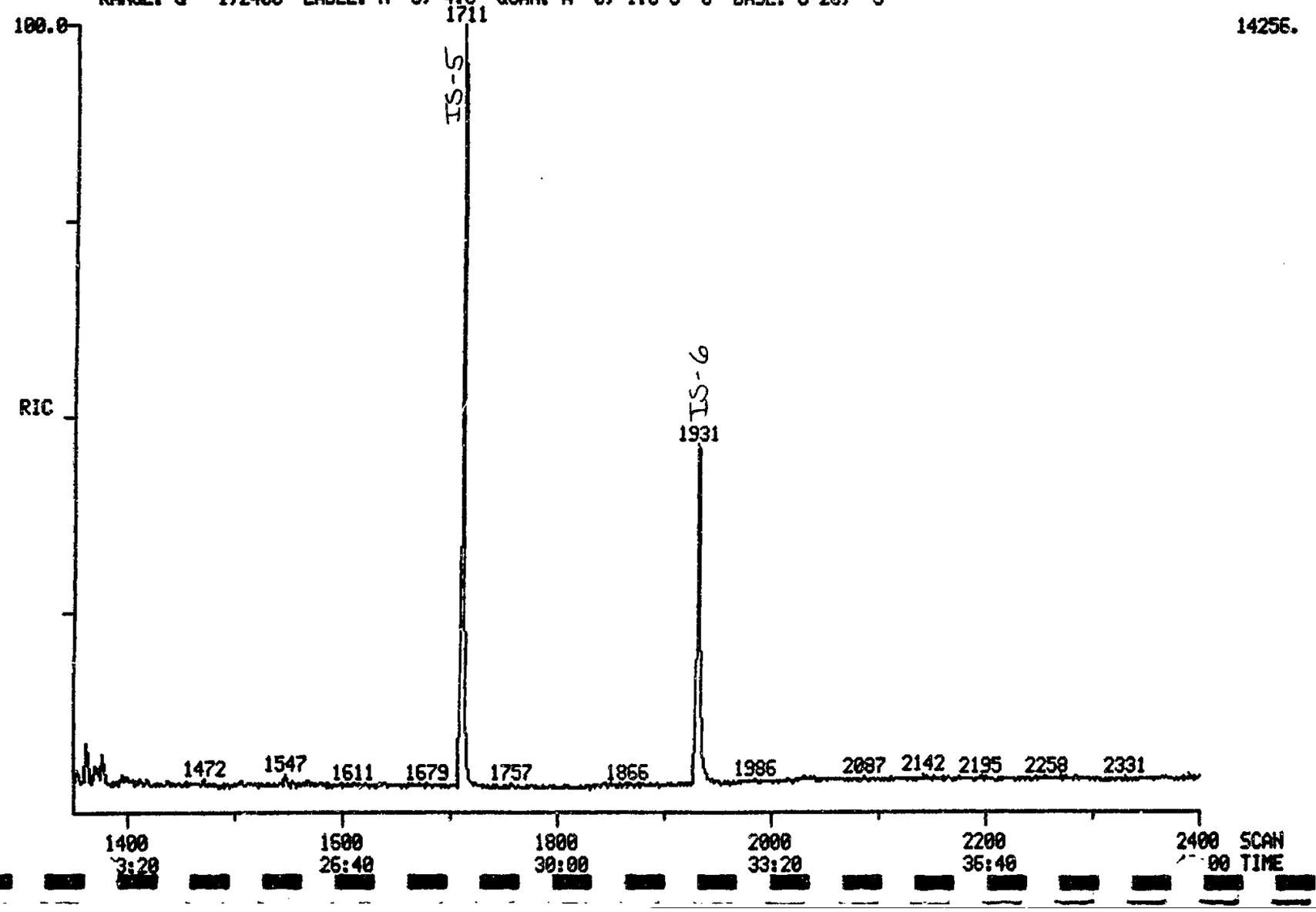
004028

RIC
01/13/87 9:57:00
SAMPLE: CAV-OW02-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C02A #1 SCANS 1350 TO 2400
CALI: 4U12057C02A #3

SPECTRIX DC # ----14

INST ID: 4530



004028

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. CAV-GW02-001

FILENAME 4U12057C02A INST ID. 4530

CLIENT KEYSTONE ANALYST GU

DATE INJECTED 01/13/87 9:57:00 VERIFIED BY YPH

CALIB STD DATE 01/08/87 CORR. FACTOR 100.00

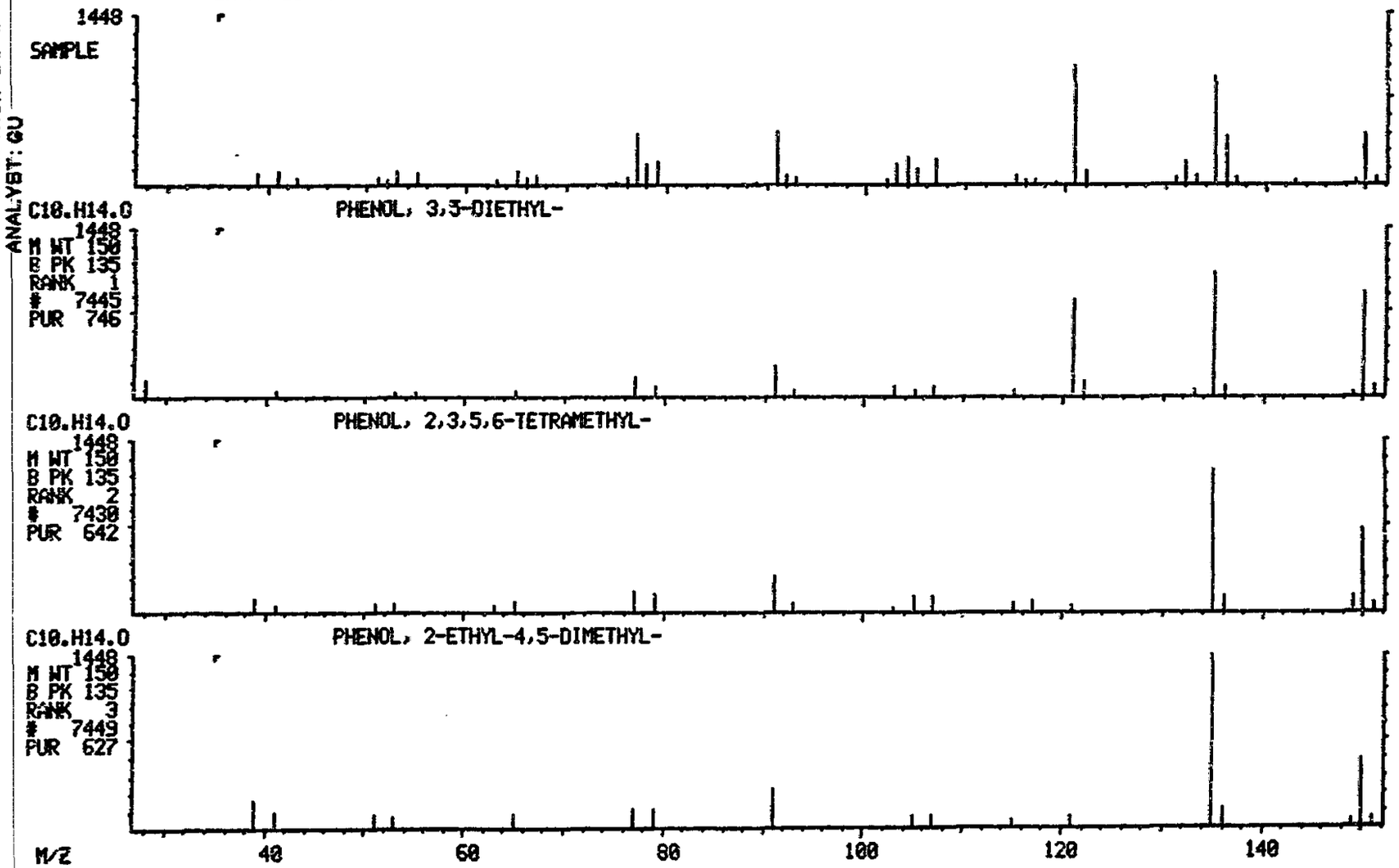
SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
530	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	4000 UG/L	1.000	21711
740	CI40	NAPHTHALENE-D8 ** IS2 **	136	4000 UG/L	1.000	76447
1031	CI50	ACENAPHTHENE-D10 ** IS3 **	164	4000 UG/L	1.000	38707
1272	CI60	PHENANTHRENE-D10 ** IS4 **	188	4000 UG/L	1.000	45724
1711	CI70	CHRYSENE-D12 ** IS5 **	240	4000 UG/L	1.000	21935
1931	CI75	PERYLENE-D12 ** IS6 **	264	4000 UG/L	1.000	13444
595	C355	2-METHYLPHENOL	108	874 UG/L	1.123	7028
621	C365	4-METHYLPHENOL	108	989 UG/L	1.172	7840
707	C425	2,4-DIMETHYLPHENOL	122	4452 UG/L	0.955	30734
745	C450	NAPHTHALENE	128	19958 UG/L	1.007	379140
858	C470	2-METHYLNAPHTHALENE	142	1196 UG/L	1.159	15280
1036	C550	ACENAPHTHENE	153	769 UG/L	1.005	6600
1062	C565	DIBENZOFURAN	168	451 UG/L	1.030	5398
1119	C590	FLUORENE	166	349 UG/L	1.085	3534
275	C640	PHENANTHRENE	178	326 UG/L	1.002	3580

* SURROGATES WERE DILUTED OUT

LIBRARY SEARCH
01/13/87 9:57:00 + 14:02
SAMPLE: CAV-OW02-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12057C02A # 842 BASE M/Z: 121
CALI: 4U12057C02A # 3 RIC: 5551.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530

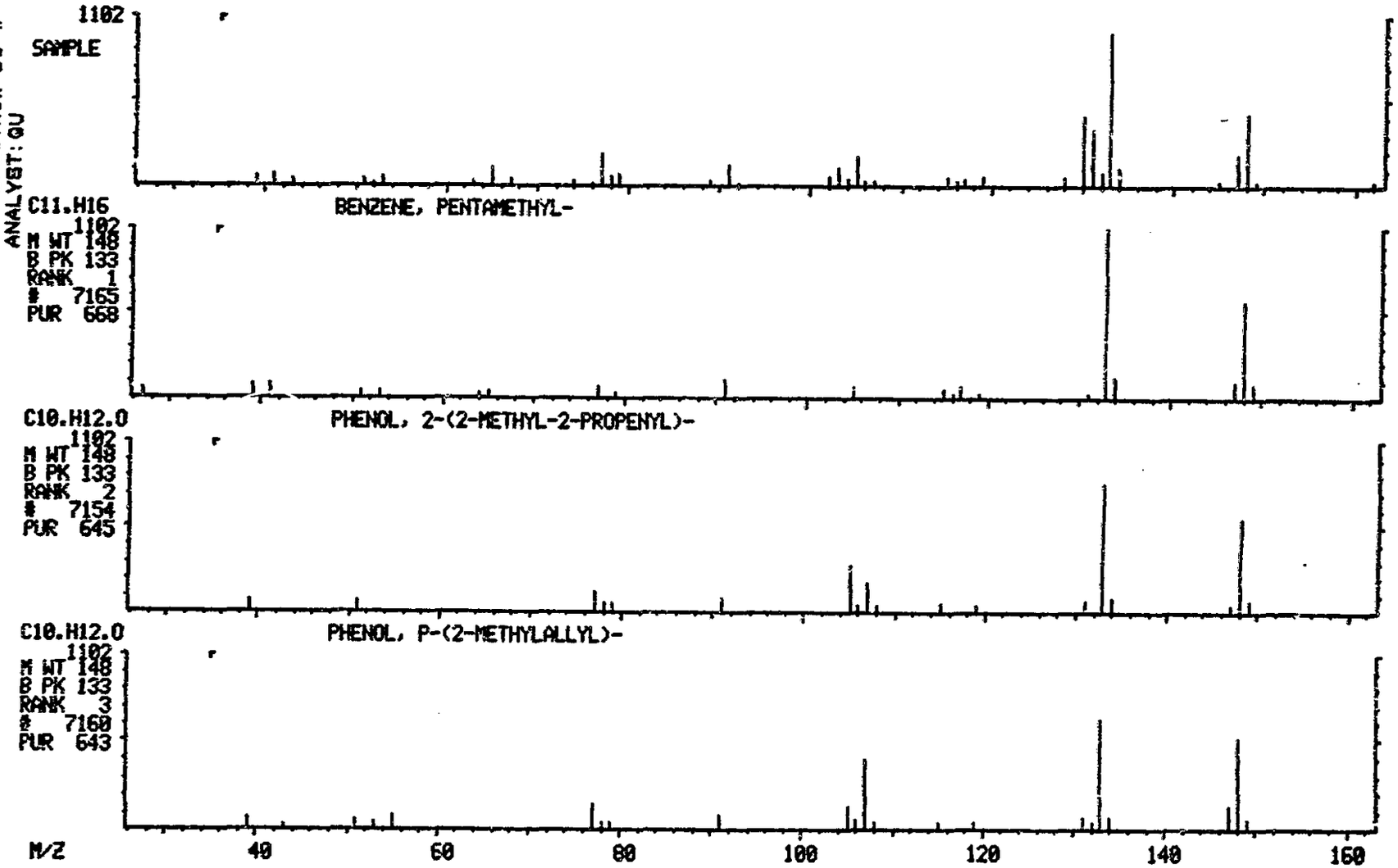


LIBRARY SEARCH
01/13/87 9:57:00 + 15:46
SAMPLE: CAV-OW02-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12057C02A # 946
CALI: 4U12057C02A # 3

BASE M/Z: 133
RIC: 4023.

SPECTRIX DC # ---19
ANALYST: QU
INST ID: 4530



004031

004031

LIBRARY SEARCH
01/13/87 9:57:00 + 18:23
SAMPLE: CAV-OW02-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12057C02A #1103
CALI: 4U12057C02A # 3

BASE M/Z: 147
RIC: 13183.

SPECTRIX DC # ----19
ANALYST: GU

1318
SAMPLE

C9.H9.O.N
1318
M WT 147
B PK 118
RANK 1
7103
PUR 651
1H-INDOLE-1-CARBOXALDEHYDE, 2,3-DIHYDRO-

C7.H5.O.N3
1318
M WT 147
B PK 147
RANK 2
7082
PUR 642
PYRIDO[3,2-D]PYRIMIDIN-4-OL

C7.H5.O.N3
1318
M WT 147
B PK 147
RANK 3
7080
PUR 629
PYRIDO[3,4-D]PYRIMIDIN-4(3H)-ONE

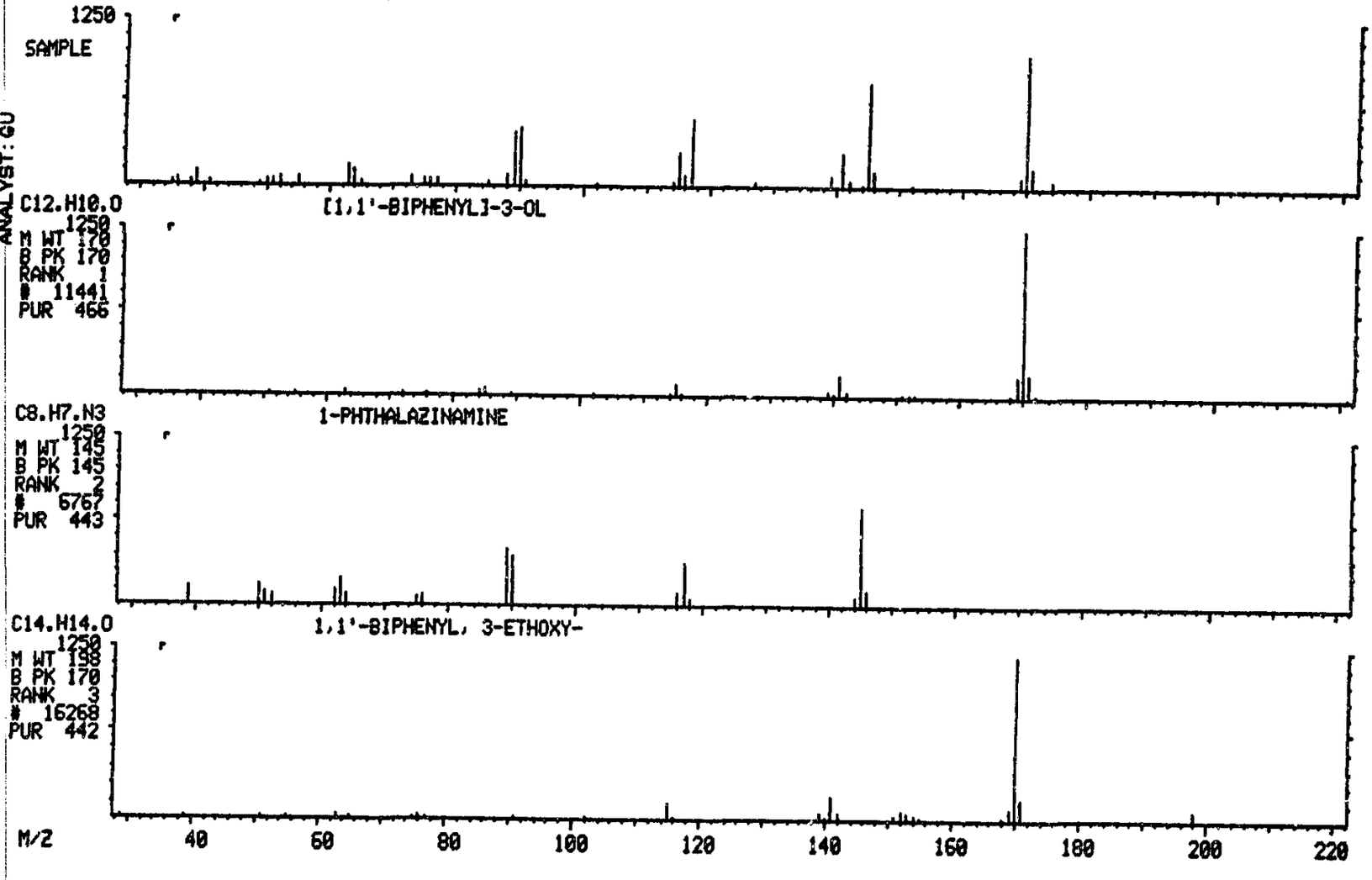
M/Z 40 60 80 100 120 140 160

INST ID: 4530

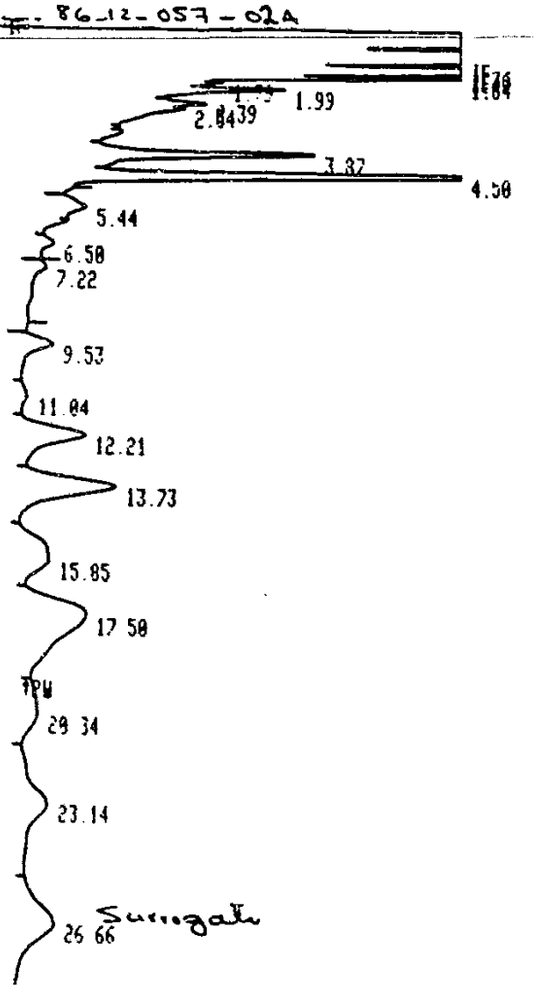
LIBRARY SEARCH
01/13/87 9:57:00 + 20:14
SAMPLE: CAV-OW02-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12057C02A #1214 BASE M/Z: 170
CALI: 4U12057C02A # 3 RIC: 3787.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530



86-12-057-02A NA.



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-OW02-0
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 187 °C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6008

004040

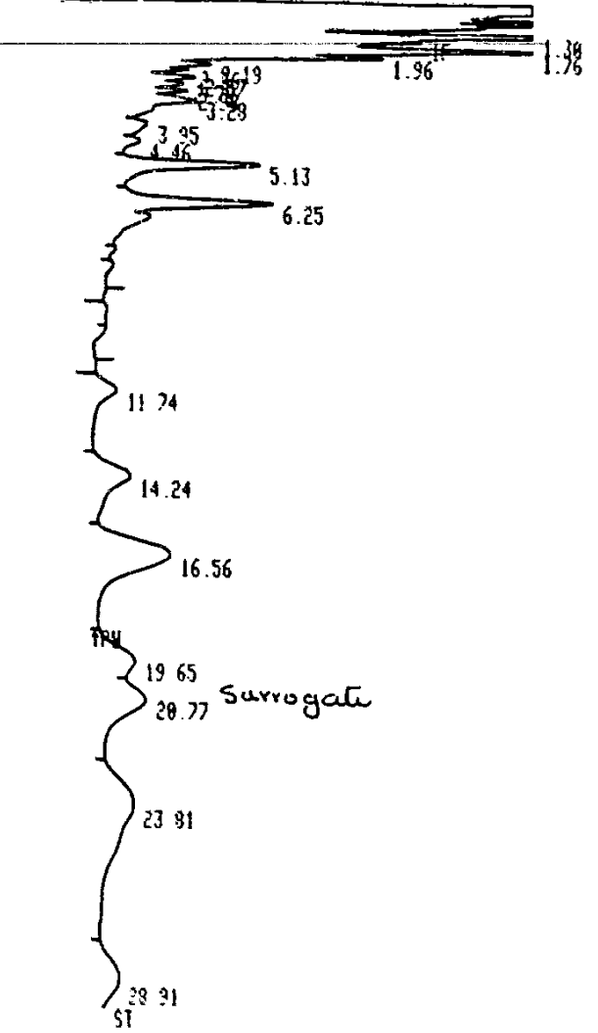
RUN # 19 JAN/06/87 22:03:20
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.36	95625	BV	0.086	14.044
1.47	141118	D VV	0.108	20.725
1.64	68691	D VP	0.083	10.088
1.79	3782	D PV	0.069	0.555
1.99	25849	D VP	0.116	3.796
2.39	13956	PV	0.145	2.050
2.54	10496	D VP	0.199	1.542
3.87	59027	PV	0.219	8.669
4.50	151073	VB	0.167	22.187
5.44	7664	BV	0.396	1.126
6.50	2883	PB	0.255	0.423
9.53	7094	BP	0.408	1.042
11.04	1595	PV	0.501	0.234
12.21	16672	VV	0.620	2.449
13.73	24977	VV	0.638	3.668
15.85	7959	VV	1.143	1.169
17.50	17589	VV	1.541	2.583
20.34	5220	VV	1.587	0.767
23.14	8089	VV	1.744	1.188
26.66	10097	VB	1.573	1.483
34.10	1451	I BH	1.320	0.213

86-12-057-02A

NA.



DC#_____-____-__

SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-0W02-0C

PESTICIDE FRACTION

1ST COLUMN QUANT.

1ST COLUMN ID

1.8m x 4mm ID x6mm

1.5% SP 2250

1.95% SP 2401

100/120 SUPELCOPORT

COLUMN TEMP. 203°C

VOLUME INJ. 1 µl

INSTRUMENT ID. 6QC

RUN # 102 JAN/12/87 14:11:14

WORKFILE ID: C

WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.30	282174	D BB	0.082	63.446
1.76	35226	VV	0.144	7.921
1.96	19581	D VP	0.102	4.403
2.19	3595	D PV	0.112	0.808
2.36	2620	D VP	0.088	0.589
2.57	4751	PV	0.142	1.068
2.78	3358	D VV	0.151	0.268
2.98	4944	VV	0.142	1.112
3.28	6706	VP	0.289	1.508
3.95	2064	PV	0.319	0.464
4.46	1827	VP	0.232	0.411
5.13	18062	PV	0.268	4.061
6.25	20450	VV	0.294	4.598
11.74	2920	BP	0.607	0.657
14.24	4869	PV	0.947	1.095
16.56	10136	VV	1.110	2.279
19.65	5453	VV	1.003	1.226
20.77	6905	VV	1.252	1.553
23.81	5256	VV	2.626	1.182
28.91	3347	I VP	1.444	0.753

Received: 12/12/86

SPECTRIX 0 4 0 C REPORT
Results by Sample

Work Order # 86-12-057

SAMPLE ID CAV-OW02-001 SAMPLE # 02 FRACTIONS: A
Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	69.4 ug/L	BE	<3 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	<9 ug/L
CU	<10 ug/L	FE	4580 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	<5 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	29 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: CAV-OW08-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004037

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: CAV-OW08-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205703
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V03
DILUTION FACTOR: 1.00

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	5 U
C035	ACETONE	10 U
C040	CARBON DISULFIDE	5 U
C045	1,1-DICHLOROETHENE	5 U
C050	1,1-DICHLOROETHANE	5 U
C055	TRANS-1,2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1,2-DICHLOROETHANE	5 U
C110	2-BUTANONE	10 U
C115	1,1,1-TRICHLOROETHANE	5 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	10 U
C130	BROMODICHLOROMETHANE	5 U
C140	1,2-DICHLOROPROPANE	5 U
C145	TRANS-1,3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1,1,2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1,3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	10 U
C180	BROMOFORM	5 U
C210	2-HEXANONE	10 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	5 U
C225	1,1,2,2-TETRACHLOROETHANE	5 U
C230	TOLUENE	5 U
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	5 U
C245	STYRENE	5 U
C250	TOTAL XYLENES	5 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004038

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: CAV-OW08-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205703
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ypm..

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86.

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/18/86
DATE ANALYZED: 01/12/87

DATAFILE: 4U12057C03
DILUTION FACTOR: 1.0

CAS #	COMPOUND	UG/L
C315	PHENOL	10 U
C325	BIS(2-CHLOROETHYL)ETHER	10 U
C330	2-CHLOROPHENOL	10 U
C335	1,3-DICHLOROBENZENE	10 U
C340	1,4-DICHLOROBENZENE	10 U
C345	BENZYL ALCOHOL	10 U
C350	1,2-DICHLOROBENZENE	10 U
C355	2-METHYLPHENOL	10 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	10 U
C365	4-METHYLPHENOL	10 U
C370	N-NITROSODIPROPYLAMINE	10 U
C375	HEXACHLOROETHANE	10 U
C410	NITROBENZENE	10 U
C415	ISOPHORONE	10 U
C420	2-NITROPHENOL	10 U
C425	2,4-DIMETHYLPHENOL	10 U
C430	BENZOIC ACID	50 U
C435	BIS(2-CHLOROETHOXY)METHANE	10 U
C440	2,4-DICHLOROPHENOL	10 U
C445	1,2,4-TRICHLOROBENZENE	10 U
C450	NAPHTHALENE	1 J
C455	4-CHLOROANILINE	10 U
C460	HEXACHLOROBUTADIENE	10 U
C465	P-CHLORO-M-CRESOL	10 U
C470	2-METHYLNAPHTHALENE	10 U
C510	HEXACHLOROCYCLOPENTADIENE	10 U
C515	2,4,6-TRICHLOROPHENOL	10 U
C520	2,4,5-TRICHLOROPHENOL	50 U
C525	2-CHLORONAPHTHALENE	10 U
C530	2-NITROANILINE	50 U
C535	DIMETHYL PHTHALATE	10 U
C540	ACENAPHTHYLENE	10 U
C545	3-NITROANILINE	50 U
C550	ACENAPHTHENE	10 U
C555	2,4-DINITROPHENOL	50 U
C560	4-NITROPHENOL	50 U
C563	DIBENZOFURAN	10 U
C570	2,4-DINITROTOLUENE	10 U
C575	2,6-DINITROTOLUENE	10 U

004039

SAMPLE NUMBER: CAV-GW02-001

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C03

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	10 U
C585	4-CHLOROPHENYL PHENYL ETHER	10 U
C590	FLUORENE	10 U
C595	4-NITROANILINE	50 U
C610	4,6-DINITRO-2-METHYLPHENOL	50 U
C615	N-NITROSODIPHENYLAMINE	10 U
C625	4-BROMOPHENYL PHENYL ETHER	10 U
C630	HEXACHLOROBENZENE	10 U
C635	PENTACHLOROPHENOL	50 U
C640	PHENANTHRENE	10 U
C645	ANTHRACENE	10 U
C650	DI-N-BUTYL PHTHALATE	10 U
C655	FLUORANTHENE	10 U
C715	PYRENE	10 U
C720	BUTYL BENZYL PHTHALATE	10 U
C725	3,3'-DICHLOROBENZIDINE	20 U
C730	BENZO(A)ANTHRACENE	10 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	4 J
C740	CHRYSENE	10 U
C760	DI-N-OCTYL PHTHALATE	10 U
C765	BENZO(B)FLUORANTHENE	10 U
C770	BENZO(K)FLUORANTHENE	10 U
C775	BENZO(A)PYRENE	10 U
C780	INDENO(1,2,3-CD)PYRENE	10 U
C785	DIBENZO(A,H)ANTHRACENE	10 U
C790	BENZO(GHI)PERYLENE	10 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004040

Lab Name: Spectrix
Case No: KEYSTONE
Lab No : 86-12-057-03A

DC No: KEYSTONE
SMO No: CAV-OW08-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/6/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.05 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.10 U
53494-70-5	ENDRIN KETONE	0.50 U
57-74-9	CHLORDANE	0.10 U
8001-35-2	TOXAPHENE	0.50 U
12674-11-2	AROCLOR-1016	1.0 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	0.50 U
11096-82-5	AROCLOR-1260	1.0 U
		1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 NA

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004041

INST ID: 4000 SPECTRIX DC # ------ 8

SAMPLE NUMBER: CAV-OW08-00

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: NOT DATAFILE: 4U12057V03

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004042

INST ID: 4530 SPECTRIX DC # ---- B

SAMPLE: CAV-GW08

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ---

GC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12057C03

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L	
110-12-3	2-HEXANONE, 5-METHYL-	* 296	926	15	
25144-05-2	CYCLOPENTANOL, 2-METHYL-, CIS-	337	893	10	
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	741		10	
4381-40-1	PROPANOIC ACID, 2-METHYL-, 1-(1,1-DIMETHY	1129	915	6	J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1210		10	J
112-24-9	ATRAZINE (ACN)	1249	785	9	J

004043

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

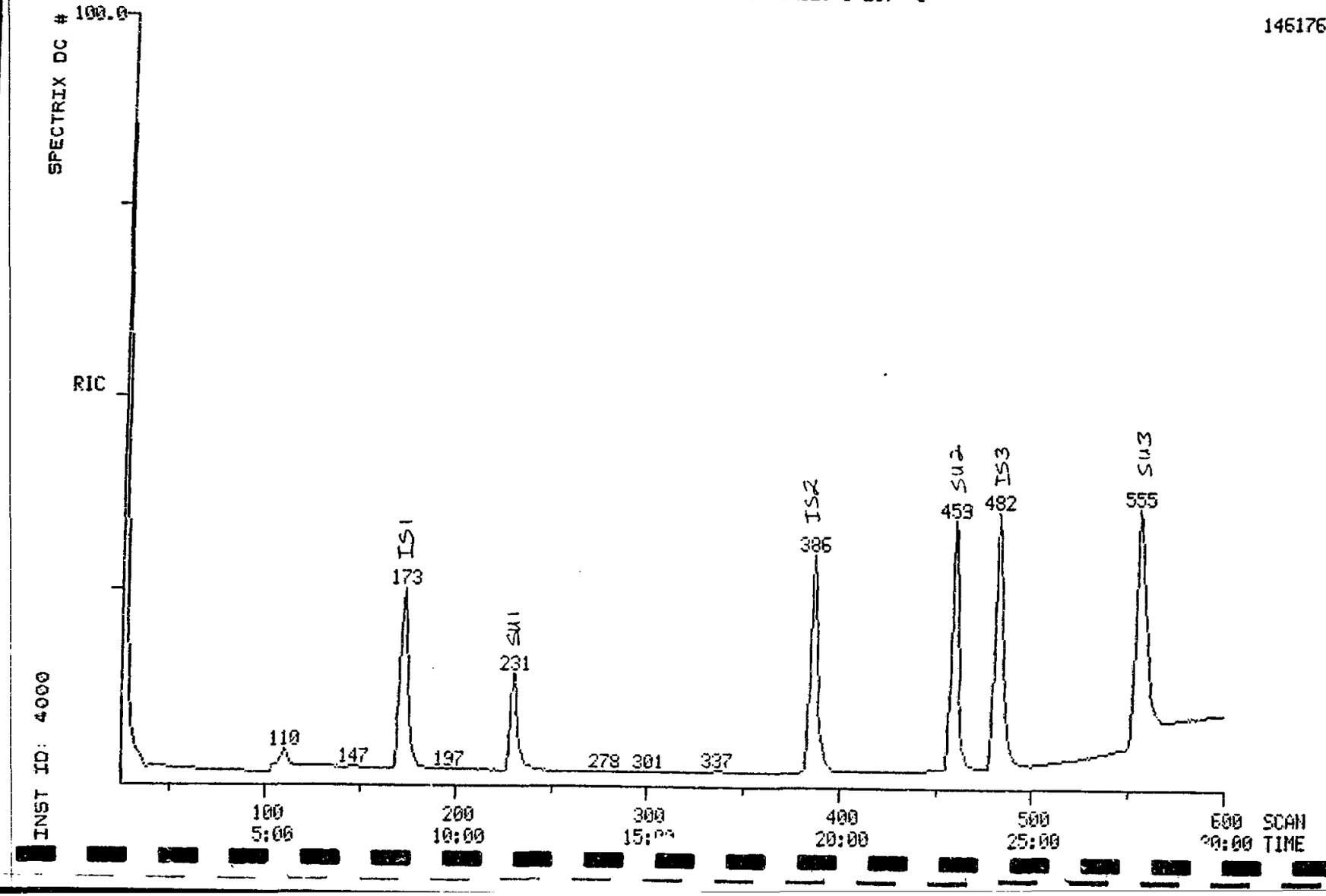
* ALSO FOUND IN BLANK

004044

RIC
12/19/86 10:40:00
SAMPLE: CAV-OW08-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057V03 #1 SCANS 25 TO 600
CALI: 4U12057V03 #3

146176.



004044

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID. CAV-OW08-001

FILENAME 4U12057V03

CLIENT KEYSTONE

DATE INJECTED 12/19/86 10:40:00

CALIB STD DATE 12-14-86

INST 4000

ANALYST NOT

VERIFIED BY NOT

CORR. FACTOR 1.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
173	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	15983
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	73509
482	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	63659
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	92 %	1.335	21750
459	CS05	D8-TOLUENE	**SU2**	98	99 %	0.952	64446
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	94 %	1.151	44052
110	C030	METHYLENE CHLORIDE *		84	3 UG/L	0.636	1768

* BLANK CORRECTED ON DATA SHEET

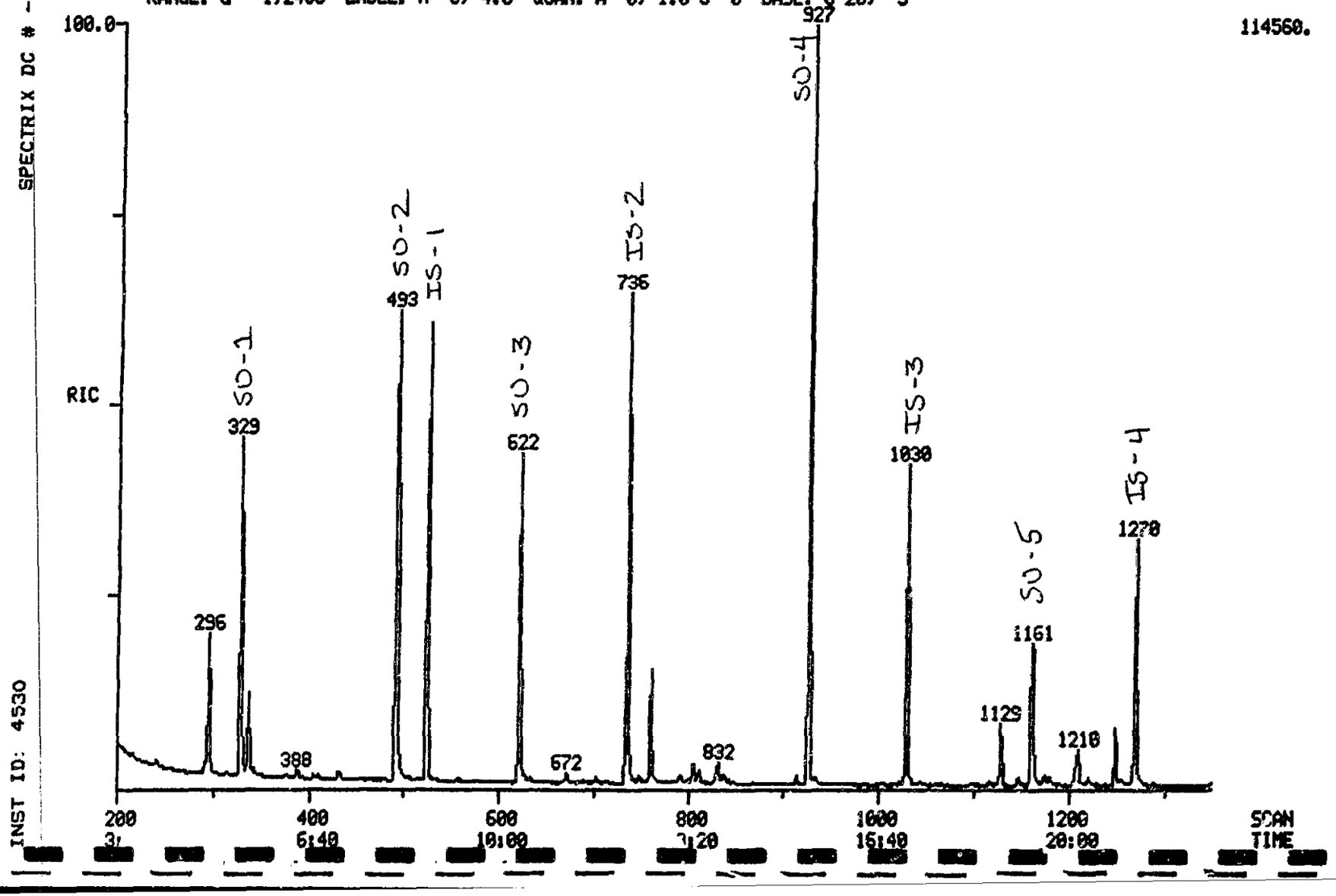
004046

RIC
01/12/87 16:58:00
SAMPLE: CAV-OW08-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C03 #1
CALI: 4U12057C03 #3

SCANS 200 TO 1350

114560.



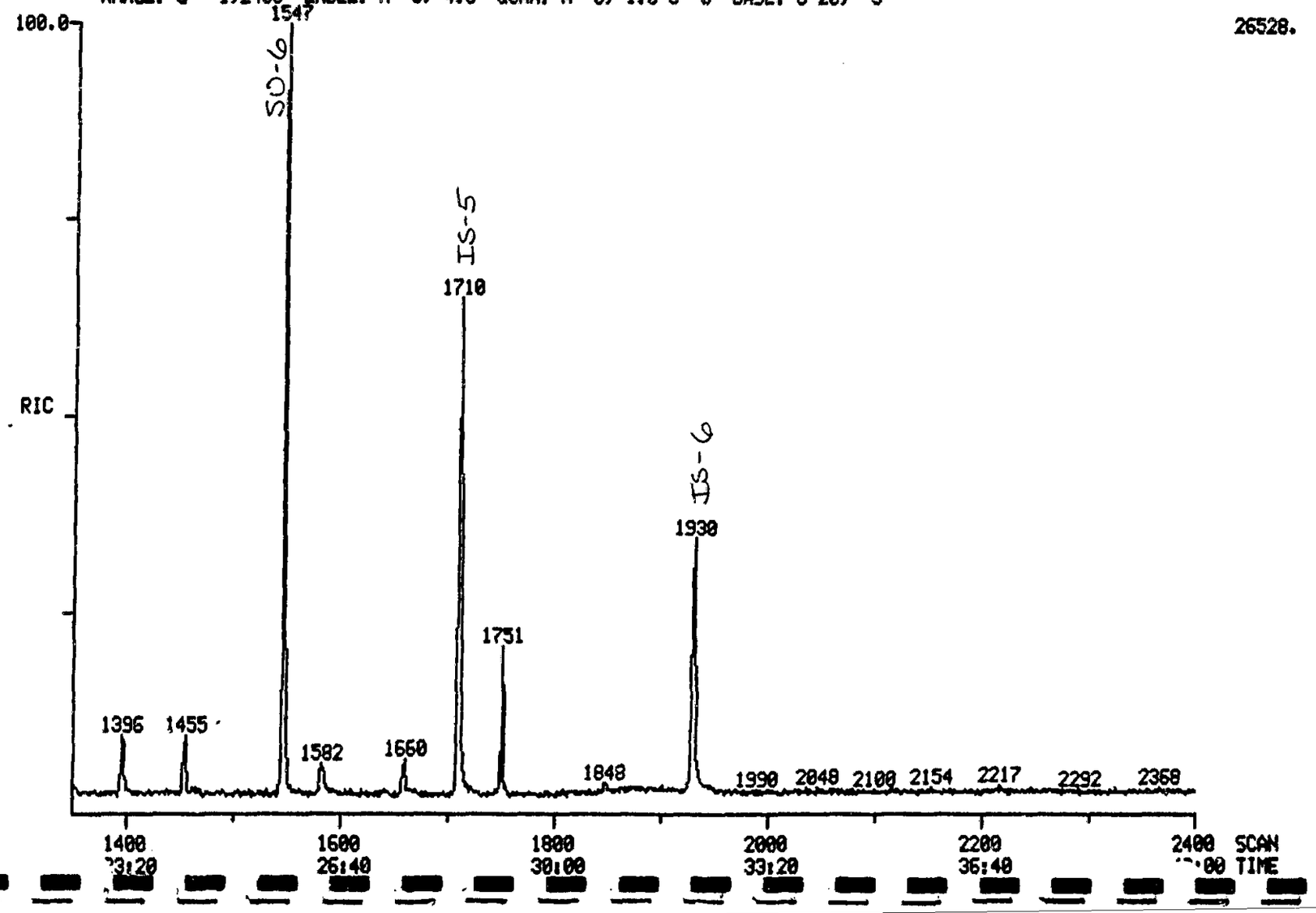
004046

004047

RIC
01/12/87 16:58:00
SAMPLE: CAV-OW08-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C03 #1
CALI: 4U12057C03 #3

SCANS 1350 TO 2400



SPECTRIX DC # ----14

INST ID: 4530

004047

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. CAV-OW08-001

FILENAME 4U12057C03 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

DATE INJECTED 01/12/87 16:58:00 VERIFIED BY JPH

CALIB STD DATE 01/08/87 CORR. FACTOR 1.00

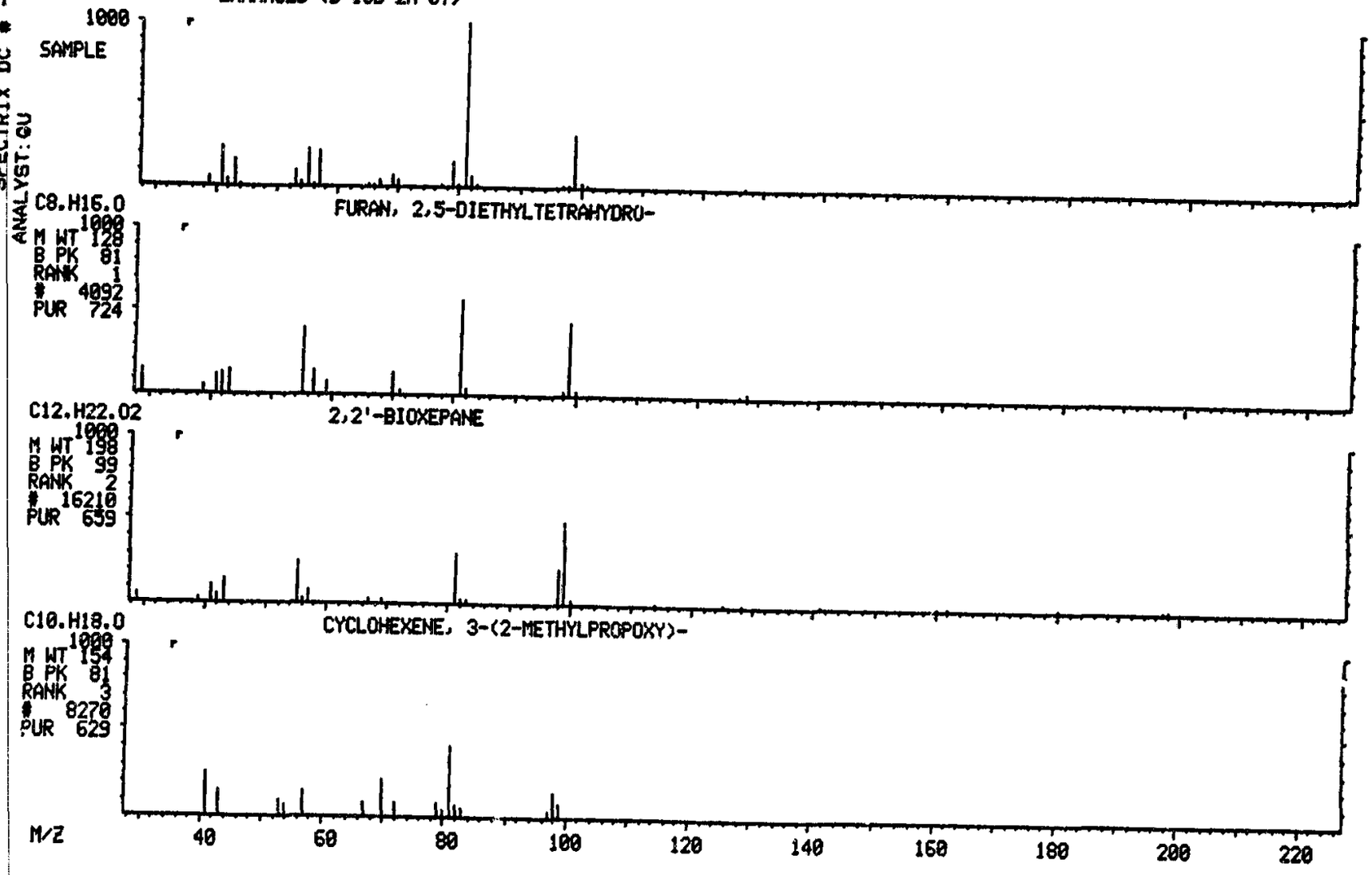
SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
525	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	40 UG/L	1.000	2011
736	CI40	NAPHTHALENE-D8 ** IS2 **	136	40 UG/L	1.000	7479
1030	CI50	ACENAPHTHENE-D10 ** IS3 **	164	40 UG/L	1.000	3593
1270	CI60	PHENANTHRENE-D10 ** IS4 **	188	40 UG/L	1.000	4322
1710	CI70	CHRYSENE-D12 ** IS5 **	240	40 UG/L	1.000	2619
1930	CI75	PERYLENE-D12 ** IS6 **	264	40 UG/L	1.000	1713
329	CS50	2-FLUOROPHENOL ** SU1 **	112	51 %	0.627	3609
493	CS45	PHENOL-D5 ** SU2 **	99	56 %	0.939	5885
1161	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	55 %	1.127	592
622	CS20	NITROBENZENE-D5 ** SU3 **	82	102 %	0.845	4463
927	CS25	2-FLUOROBIPHENYL ** SU4 **	172	98 %	0.900	9150
1547	CS30	TERPHENYL-D14 ** SU6 **	244	85 %	0.905	3031
739	C450	NAPHTHALENE	128	1 UG/L	1.004	192
1751	C735	BIS(2-ETHYLHEXYL)PHTHALATE	149	4 UG/L	1.024	282

LIBRARY SEARCH
01/12/87 16:58:00 + 12:41
SAMPLE: CAV-OW08-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12057C03 # 761
CALI: 4U12057C03 # 3

BASE M/Z: 81
RIC: 13167.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530

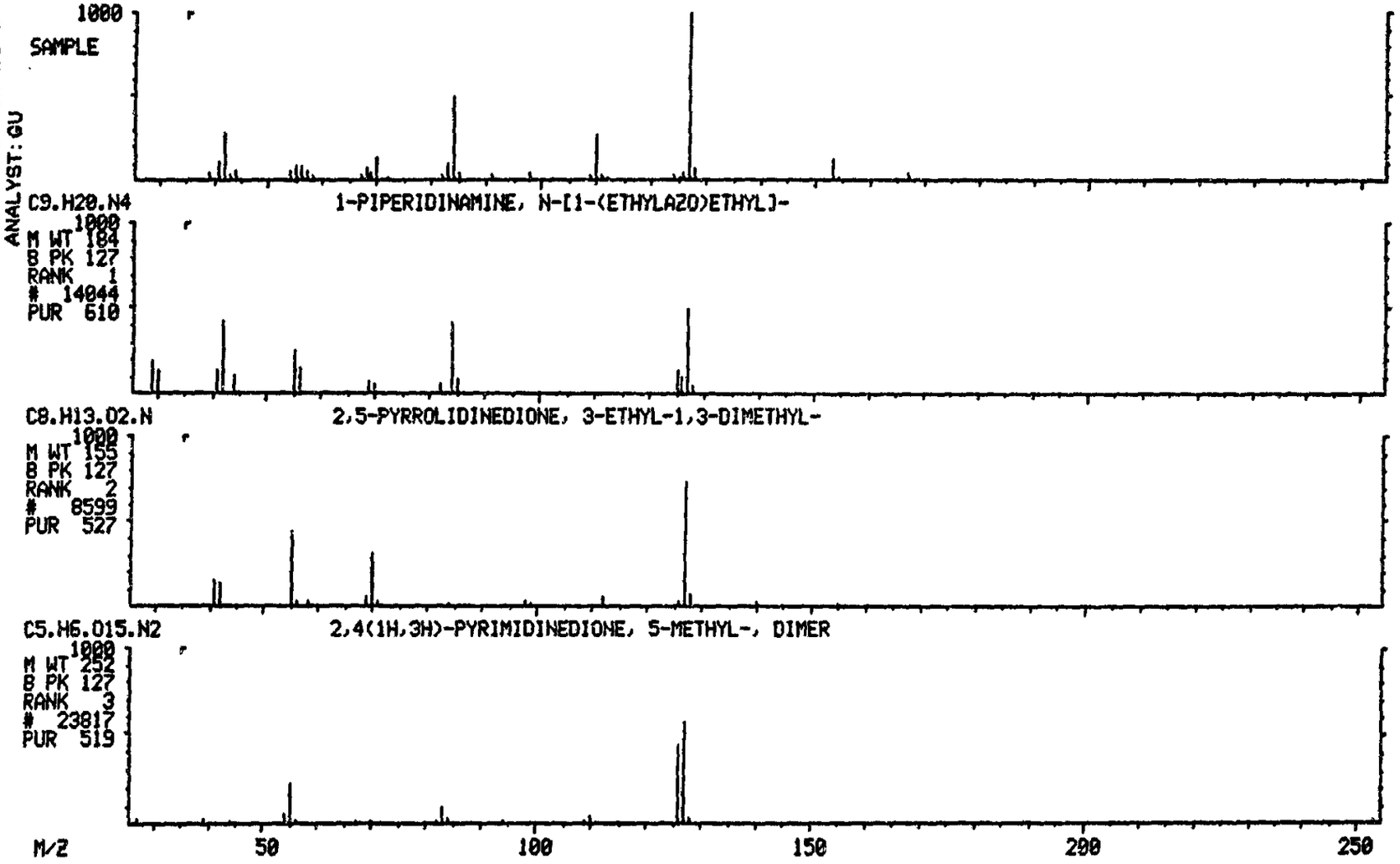


LIBRARY SEARCH
01/12/87 16:58:00 + 20:10
SAMPLE: CAV-OW08-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

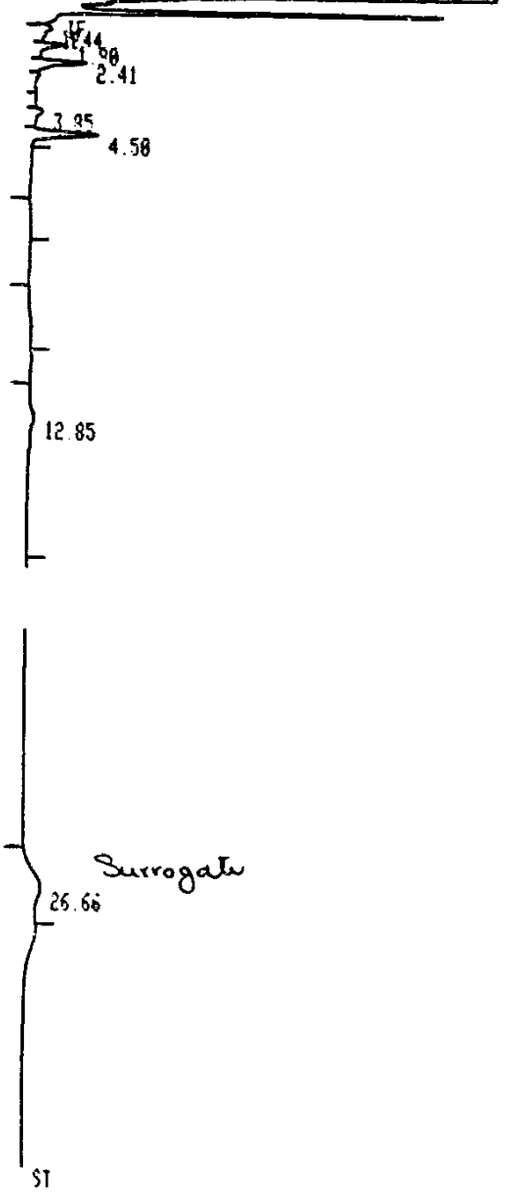
DATA: 4U12057C03 #1210
CALI: 4U12057C03 # 3

BASE M/Z: 127
RIC: 5215.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530



START 86-12-057-03A NA.



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-OW08-00
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 187 °C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6008

004051

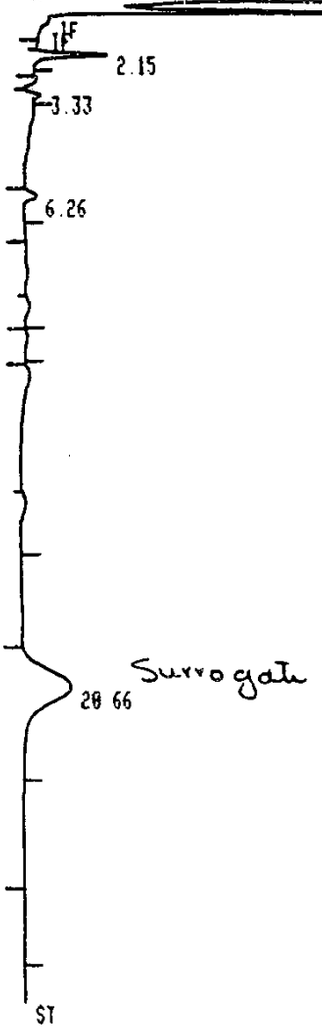
RUN # 20 JAN/06/87 22:39:37
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.44	1866	PP	0.201	4.176
1.90	6791	PP	0.120	15.198
2.41	12504	PP	0.137	27.984
3.85	2121	PV	0.233	4.747
4.50	17177	VB	0.173	38.442
12.85	1511	BB	0.764	3.382
26.66	2713	PB	0.898	6.072

START # 86-12-057-03A

NA



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-0W08-0
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6900

RUN # 103 JAN/12/87 14:42:31
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.15	9192	PB	0.142	48.995
3.33	1526	PB	0.178	8.134
6.26	1660	BB	0.228	8.848
20.66	6383	PB	1.172	34.023

TOTAL HGHT= 18761
MUL FACTOR= 1.0000E+00

SPECTRIX 00 REPORT

Work Order # 86-12-057

Received: 12/12/86

Results by Sample

SAMPLE ID CAV-DW08-001 SAMPLE # 03 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	22.2 ug/L	BE	<3 ug/L	CD	9 ug/L	CN_SU	<100 ug/L	CR	19 ug/L
CU	13 ug/L	FE	5340 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	27.8 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	48 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: CAV-OW09-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004054

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: CAV-0W09-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205704
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: YPH

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V04
DILUTION FACTOR: 1.00

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	5 U
C035	ACETONE	10 U
C040	CARBON DISULFIDE	5 U
C045	1,1-DICHLOROETHENE	5 U
C050	1,1-DICHLOROETHANE	5 U
C055	TRANS-1,2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1,2-DICHLOROETHANE	5 U
C110	2-BUTANONE	10 U
C115	1,1,1-TRICHLOROETHANE	5 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	10 U
C130	BROMODICHLOROMETHANE	5 U
C140	1,2-DICHLOROPROPANE	5 U
C145	TRANS-1,3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1,1,2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1,3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	10 U
C180	BROMOFORM	5 U
C210	2-HEXANONE	10 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	5 U
C225	1,1,2,2-TETRACHLOROETHANE	5 U
C230	TOLUENE	5 U
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	5 U
C245	STYRENE	5 U
C250	TOTAL XYLENES	5 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004055

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: CAV-OW09-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205704
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: YPM..

CASE NO.: ---
GC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86.

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: ....12/18/86.
DATE ANALYZED: 01/12/87

DATAFILE: 4U12057C04
DILUTION FACTOR: ..1.0.....

CAS #	COMPOUND	UG/L
C315	PHENOL	10 U
C325	BIS(2-CHLOROETHYL)ETHER	10 U
C330	2-CHLOROPHENOL	10 U
C335	1,3-DICHLOROBENZENE	10 U
C340	1,4-DICHLOROBENZENE	10 U
C345	BENZYL ALCOHOL	10 U
C350	1,2-DICHLOROBENZENE	10 U
C355	2-METHYLPHENOL	10 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	10 U
C365	4-METHYLPHENOL	10 U
C370	N-NITROSODIPROPYLAMINE	10 U
C375	HEXACHLOROETHANE	10 U
C410	NITROBENZENE	10 U
C415	ISOPHORONE	10 U
C420	2-NITROPHENOL	10 U
C425	2,4-DIMETHYLPHENOL	10 U
C430	BENZOIC ACID	50 U
C435	BIS(2-CHLOROETHOXY)METHANE	10 U
C440	2,4-DICHLOROPHENOL	10 U
C445	1,2,4-TRICHLOROBENZENE	10 U
C450	NAPHTHALENE	10 U
C455	4-CHLOROANILINE	10 U
C460	HEXACHLOROBUTADIENE	10 U
C465	P-CHLORO-M-CRESOL	10 U
C470	2-METHYLNAPHTHALENE	10 U
C510	HEXACHLOROCYCLOPENTADIENE	10 U
C515	2,4,6-TRICHLOROPHENOL	10 U
C520	2,4,5-TRICHLOROPHENOL	50 U
C525	2-CHLORONAPHTHALENE	10 U
C530	2-NITROANILINE	50 U
C535	DIMETHYL PHTHALATE	10 U
C540	ACENAPHTHYLENE	10 U
C545	3-NITROANILINE	50 U
C550	ACENAPHTHENE	10 U
C555	2,4-DINITROPHENOL	50 U
C560	4-NITROPHENOL	50 U
C565	DIBENZOFURAN	10 U
C570	2,4-DINITROTOLUENE	10 U
C575	2,6-DINITROTOLUENE	10 U

004056

SPECTRIX DC # ---- 8

SAMPLE NUMBER: CAV-OW09-001

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C04

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	10 U
C585	4-CHLOROPHENYL PHENYL ETHER	10 U
C590	FLUORENE	10 U
C595	4-NITROANILINE	50 U
C610	4,6-DINITRO-2-METHYLPHENOL	50 U
C615	N-NITROSODIPHENYLAMINE	10 U
C625	4-BROMOPHENYL PHENYL ETHER	10 U
C630	HEXACHLOROBENZENE	10 U
C635	PENTACHLOROPHENOL	50 U
C640	PHENANTHRENE	10 U
C645	ANTHRACENE	10 U
C650	DI-N-BUTYL PHTHALATE	10 U
C655	FLUORANTHENE	10 U
C715	PYRENE	10 U
C720	BUTYL BENZYL PHTHALATE	10 U
C725	3,3'-DICHLOROBENZIDINE	20 U
C730	BENZO(A)ANTHRACENE	10 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	2 J
C740	CHRYSENE	10 U
C760	DI-N-OCTYL PHTHALATE	10 U
C765	BENZO(B)FLUORANTHENE	10 U
C770	BENZO(K)FLUORANTHENE	10 U
C775	BENZO(A)PYRENE	10 U
C780	INDENO(1,2,3-CD)PYRENE	10 U
C785	DIBENZO(A,H)ANTHRACENE	10 U
C790	BENZO(GHI)PERYLENE	10 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004057

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-04A

DC No: KEYSTONE
SMO No: CAV-OW09-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/6/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 NA

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004053

INST ID: 4000 SPECTRIX DC # ----- 6

SAMPLE NUMBER: CAV-0W09-00

ORGANICS ANALYSIS DATA SHEET -- PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: NOT DATAFILE: 4U12057V04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004059

INST ID: 4530 SPECTRIX DC # ---- 8

SAMPLE: CAV-DW09 -001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ---

GC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12057C04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
110-12-3	2-HEXANONE, 5-METHYL-	*325	906	14 J
144-19-4	1,3-PENTANEDIOL, 2,2,4-TRIMETHYL-	706	917	8 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	764		28 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	834		7 J
74381-40-1	PROPANOIC ACID, 2-METHYL-, 1-(1,1-DIMETHY	1129	902	26 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1175		14 J
907-65-9	BENZENESULFONAMIDE, N-BUTYL-4-METHYL-	1221	777	11 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1583		24 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

* ALSO FOUND IN BLANK

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID.	CAV-OW09-001		
FILENAME	4U12057V04		
CLIENT	KEYSTONE	INST	4000
DATE INJECTED	12/19/86 11:21:00	ANALYST	NOT
CALIB STD DATE	12-14-86	VERIFIED BY	NOT
		CORR. FACTOR	1

SCAN#	VOA COMPOUNDS		M/E	AMOUNT	RRT
176 CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000
385 CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000
481 CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000
232 CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	92 %	1.318
459 CS05	D8-TOLUENE	**SU2**	98	99 %	0.954
555 CS10	P-BROMOFLUOROBENZENE	**SU3**	95	96 %	1.154
118 C030	METHYLENE CHLORIDE*		84	3 UG/L	0.670

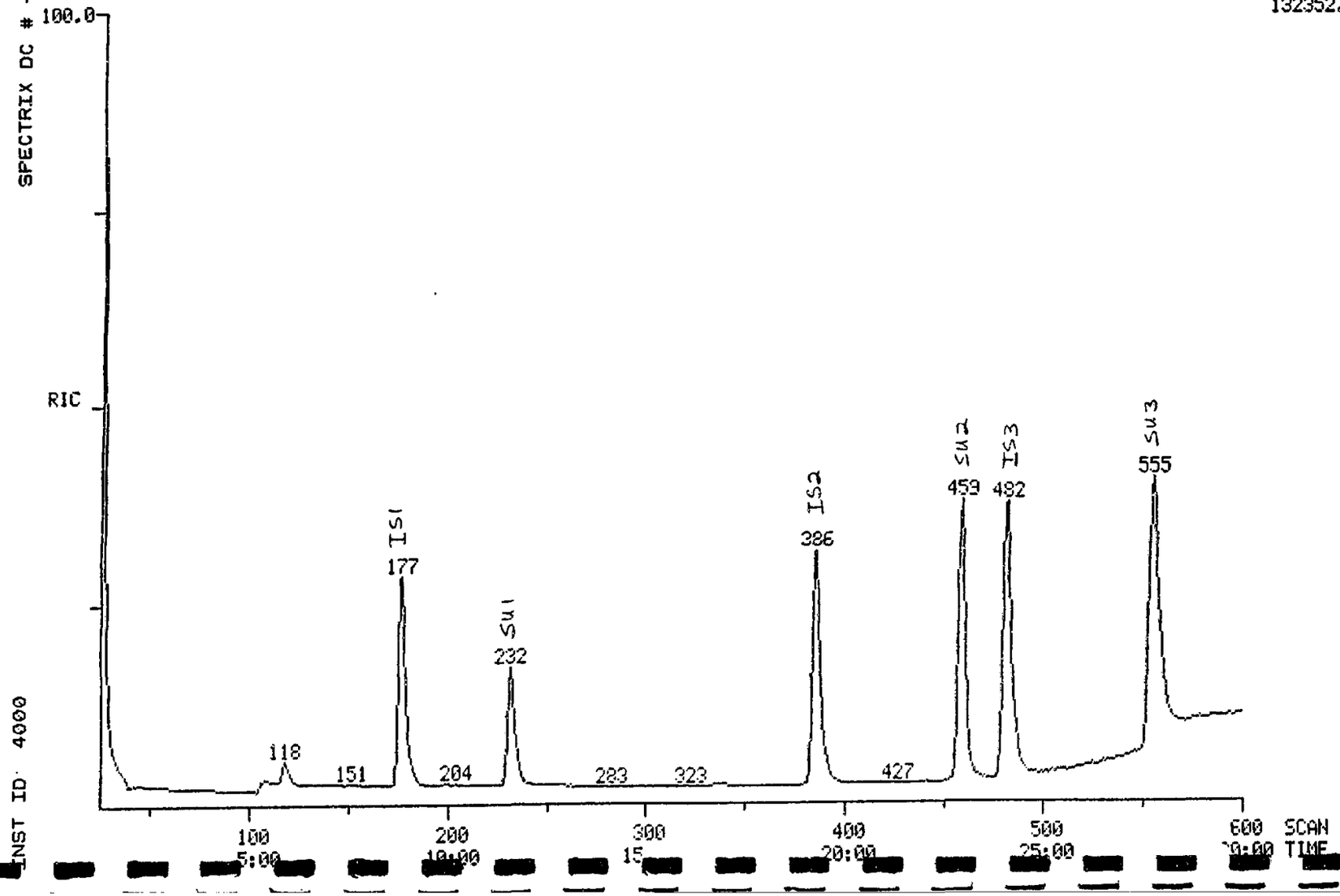
* BLANK CORRECTED ON DATA SHEET

004062

RIC
12/19/86 11:21:00
SAMPLE: CAV-OW03-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057V04 #1 SCANS 25 TO 600
CALI: 4U12057V04 #3

132352.



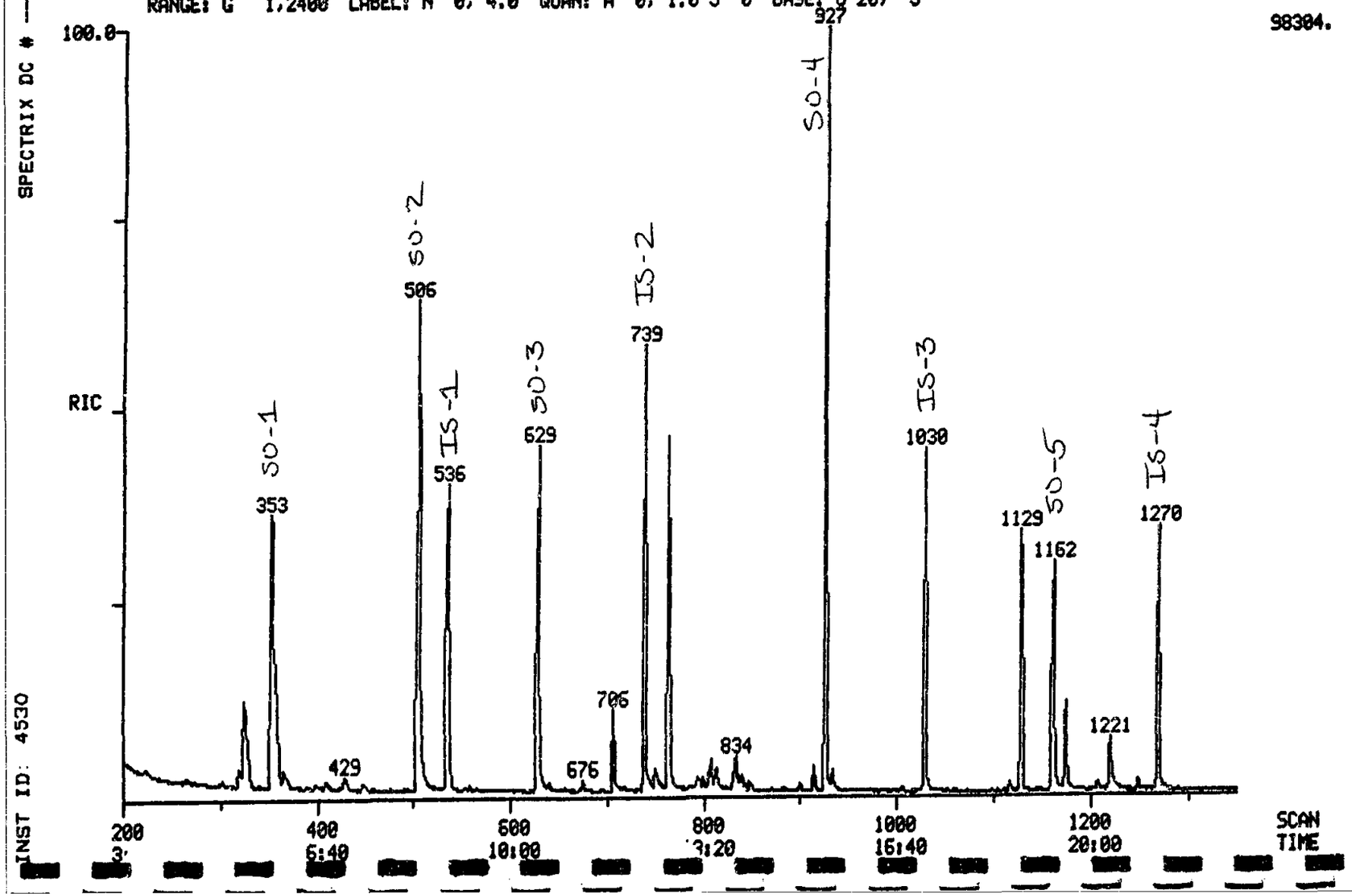
004062

RIC
01/12/87 18:18:00
SAMPLE: CAV-OW09-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C04 #1
CALI: 4U12057C04 #3

SCANS 200 TO 1350

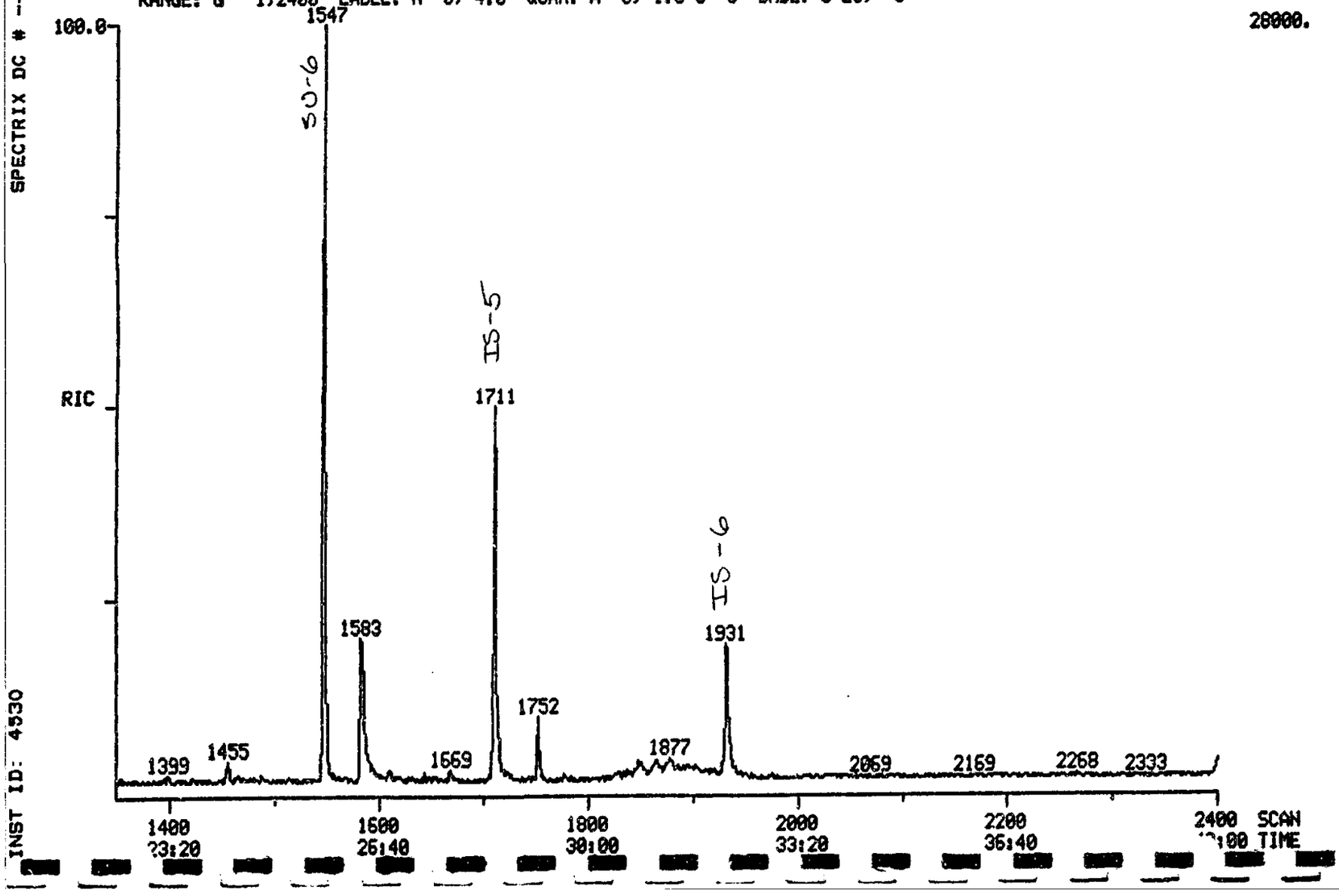
98304.



004063

RIC
01/12/87 18:18:00
SAMPLE: CAV-OW09-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C04 #1 SCANS 1350 TO 2400
CALI: 4U12057C04 #3



004064

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. CAV-OW09-001

FILENAME 4U12057C04 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

DATE INJECTED 01/12/87 18:18:00 VERIFIED BY yph

CALIB STD DATE 01/08/87 CORR. FACTOR 1.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
536	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	40 UG/L	1.000	17756
739	CI40	NAPHTHALENE-D8 ** IS2 **	136	40 UG/L	1.000	68101
1030	CI50	ACENAPHTHENE-D10 ** IS3 **	164	40 UG/L	1.000	32273
1270	CI60	PHENANTHRENE-D10 ** IS4 **	188	40 UG/L	1.000	40516
1711	CI70	CHRYSENE-D12 ** IS5 **	240	40 UG/L	1.000	49914
1931	CI75	PERYLENE-D12 ** IS6 **	264	40 UG/L	1.000	9934
353	CS50	2-FLUOROPHENOL ** SU1 **	112	72 %	0.659	45004
506	CS45	PHENOL-D5 ** SU2 **	99	79 %	0.944	72433
1161	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	77 %	1.127	7514
629	CS20	NITROBENZENE-D5 ** SU3 **	82	103 %	0.851	40804
927	CS25	2-FLUUOROBIPHENYL ** SU4 **	172	96 %	0.900	39972
1547	CS30	TERPHENYL-D14 ** SU6 **	244	113 %	0.904	30515
1752	C735	BIS(2-ETHYLHEXYL)PHTHALATE	149	2 UG/L	1.024	1247

406

LIBRARY SEARCH 990700

01/12/87 18:18:00 + 12:44

SAMPLE: CAV-OW09-901

CONDS.: ---

ENHANCED (S 15B 2N 0T)

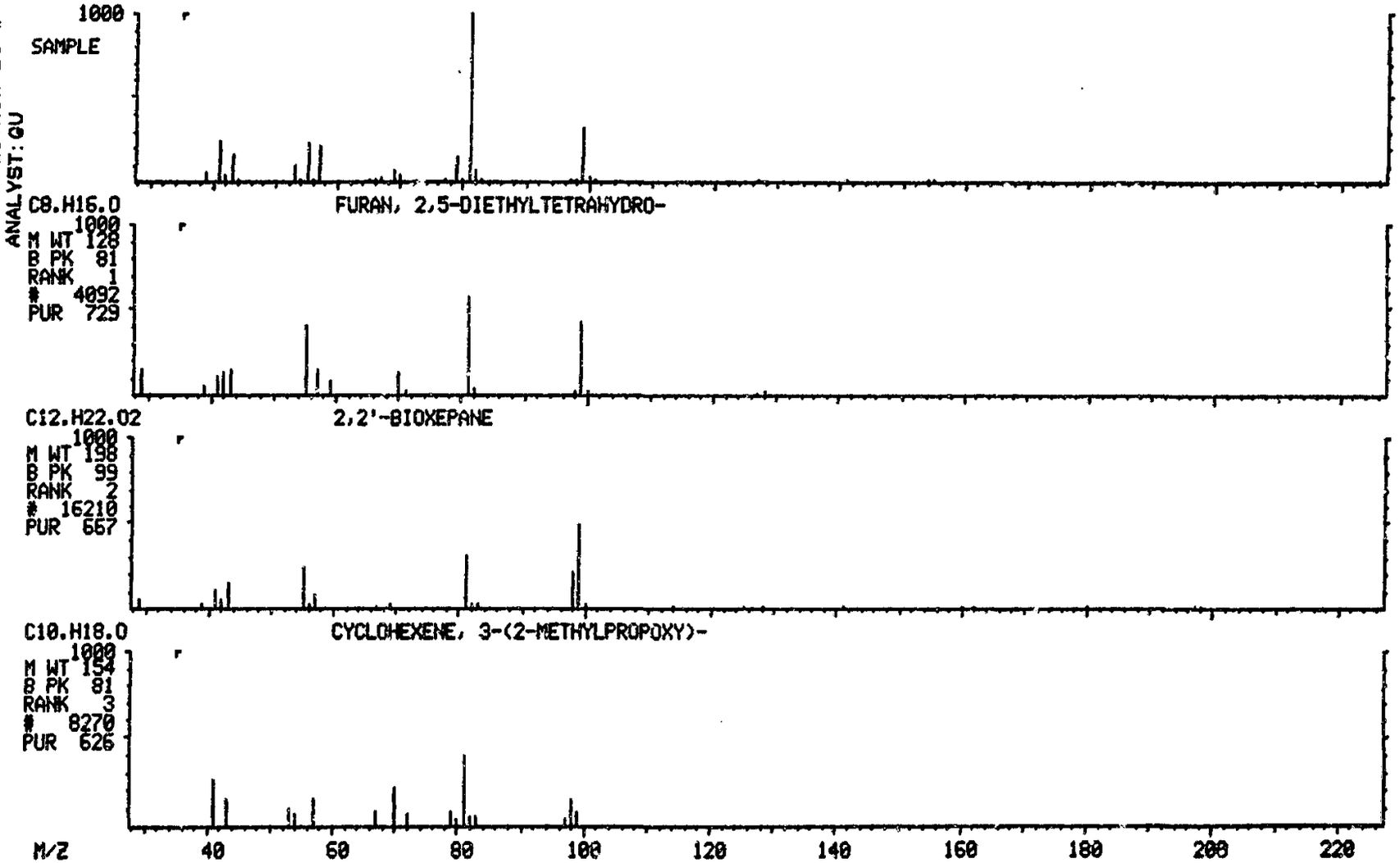
DATA: 4U12057C04 # 764 BASE M/Z: 81

CALI: 4U12057C04 # 3 RIC: 35583.

SPECTRIX DC # ----19

ANALYST: QU

INST ID: 4530

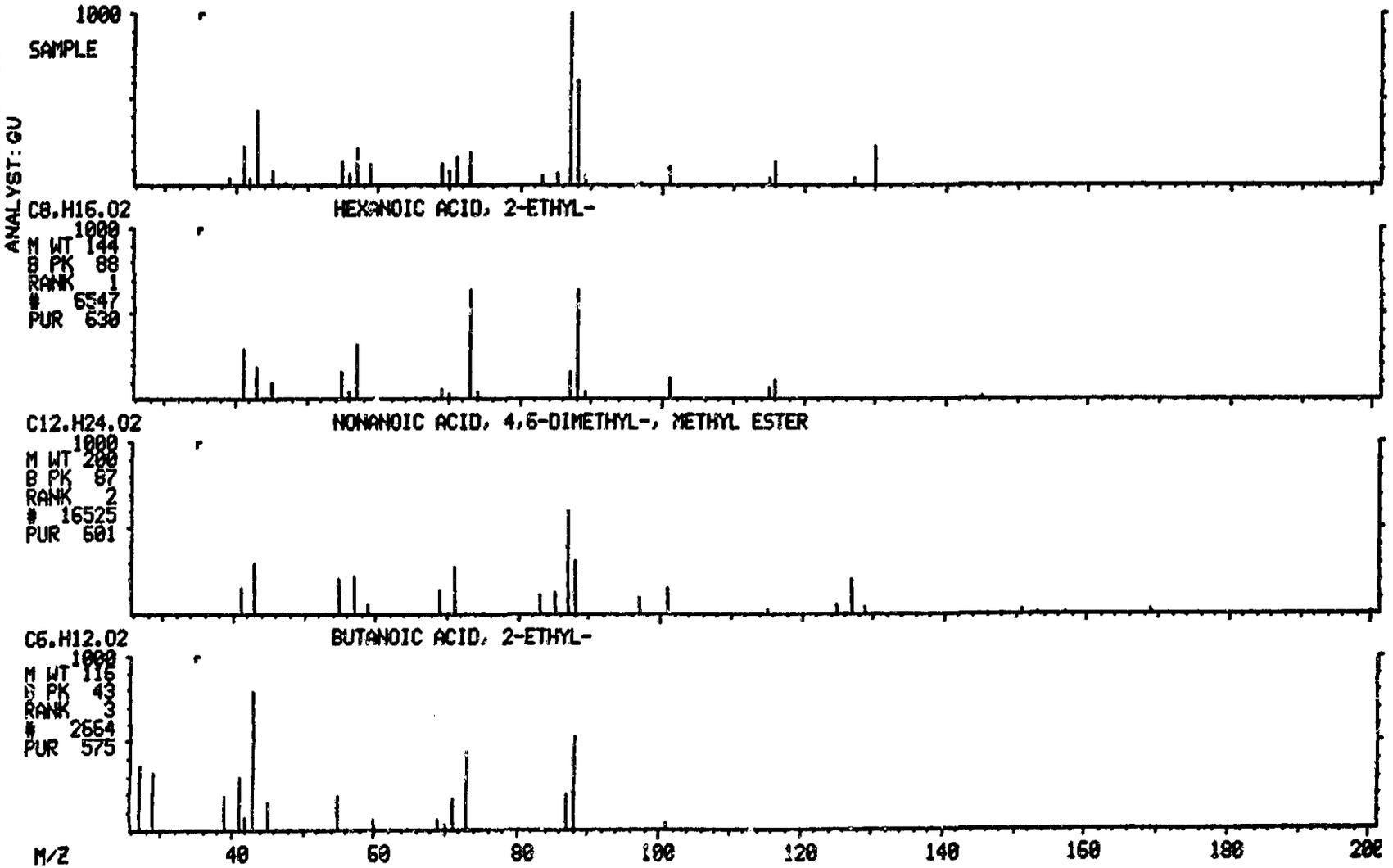


004066

LIBRARY SEARCH 004067
01/12/87 18:18:00 + 13:54
SAMPLE: CAV-OW09-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12857C04 # 834 BASE M/Z: 87
CALI: 4U12857C04 # 3 RIC: 2807.

SPECTRIX DC # ----19
ANALYST: GU



INST ID: 4530

004067

LIBRARY SEARCH 890400

01/12/87 18:18:00 + 19:35

SAMPLE: CAV-OW09-001

CONDS.: ---

ENHANCED (S 15B 2N 0T)

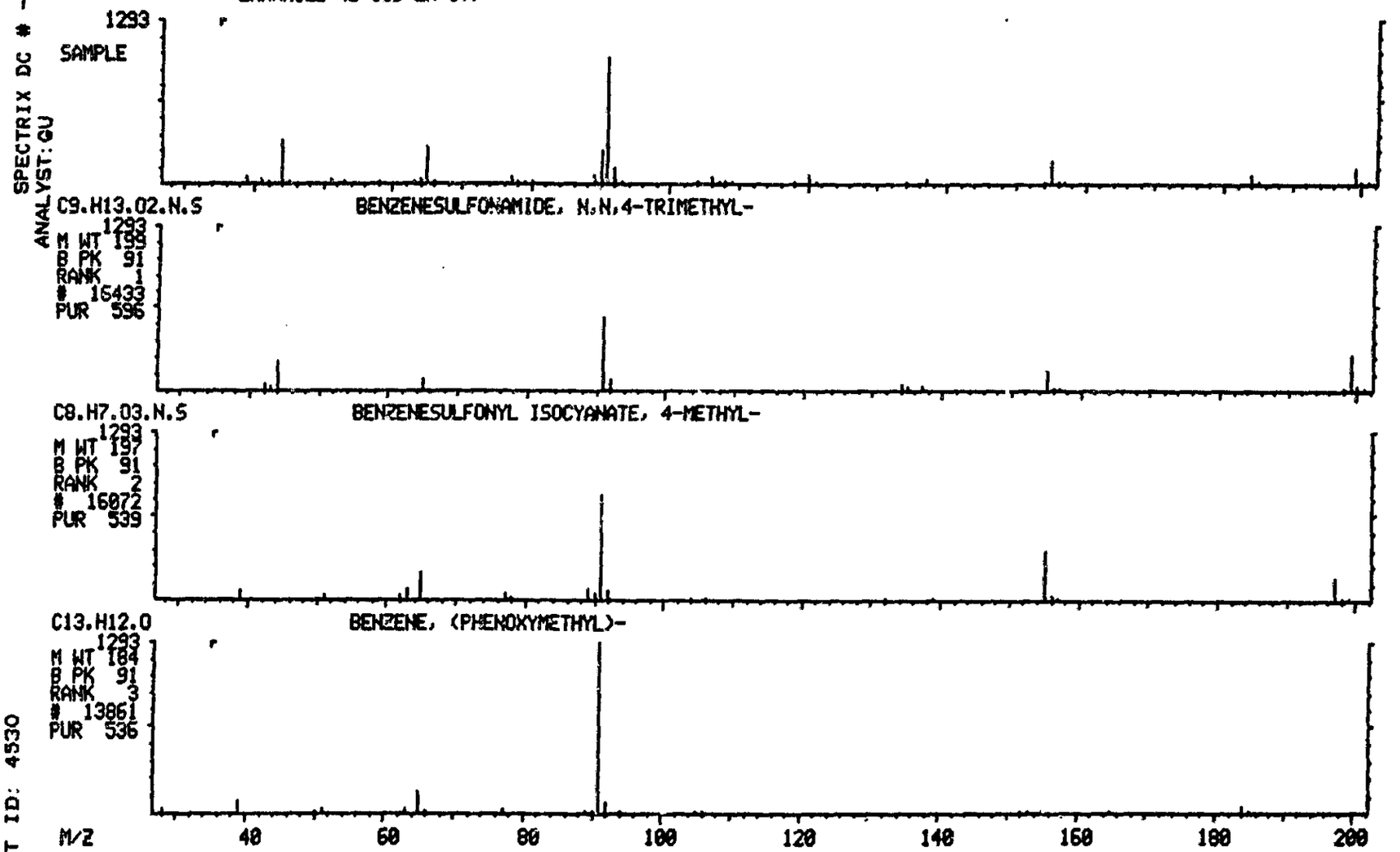
DATA: 4U12057C04 #1175 BASE M/Z: 91

CALI: 4U12057C04 # 3 RIC: 9151.

SPECTRIX DC # ----19

ANALYST: GU

INST ID: 4530



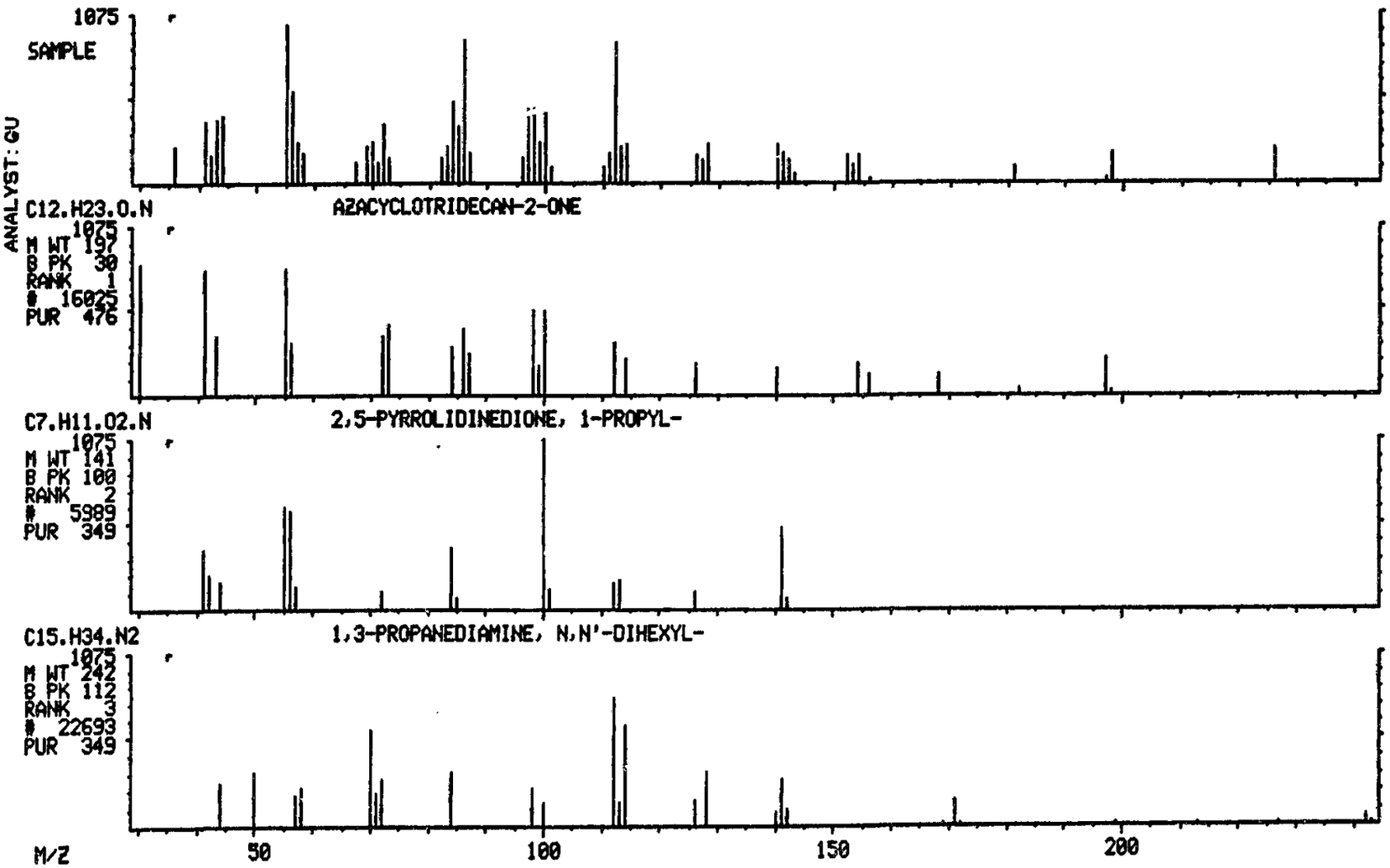
004068

LIBRARY SEARCH 690400
01/12/87 18:18:00 + 26:23
SAMPLE: CAV-OW09-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

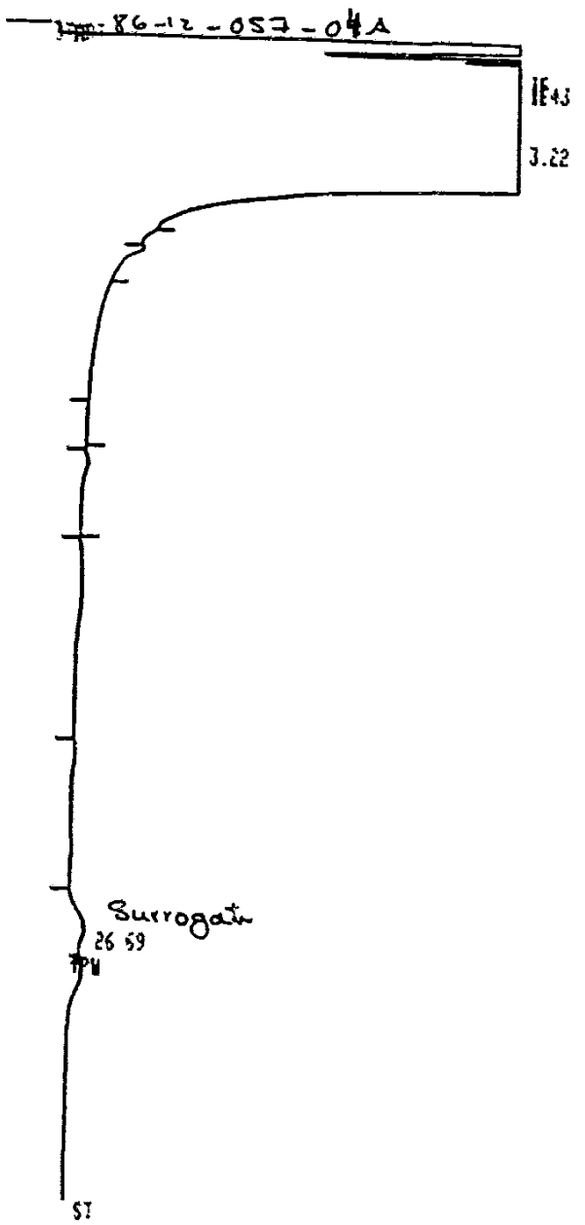
DATA: 4U12057C04 #1583
CALI: 4U12057C04 # 3

BASE M/Z: 55
RIC: 4223.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530



004069



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-0W09.00
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 187 °C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6000

RUN # 21 JAN/06/87 23:15:53
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.43	349835	D PV	0.091	9.394
3.22	3370120	VB	2.033	90.493
26.69	4204	BV	1.161	0.113

TOTAL HGHT= 3724200
MUL FACTOR= 1.0000E+00

86-12-057-04A

NA.

DC#_____-____-___

SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-0W09-0

PESTICIDE FRACTION

1ST COLUMN QUANT.

1ST COLUMN ID

1.8m x 4mm ID x6mm

1.5% SP 2250

1.95% SP 2401

100/120 SUPELCOPORT

COLUMN TEMP. 203°C

VOLUME INJ. 1µl

INSTRUMENT ID. 6000

RUN # 104 JAN/12/87 15:13:47

WORKFILE ID: C

WORKFILE NAME:

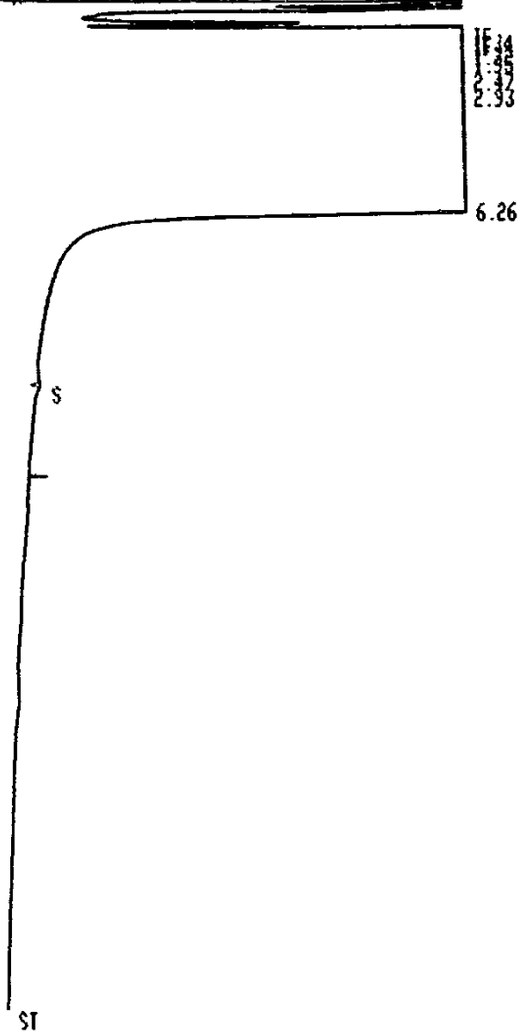
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.34	1016675	SPB	0.169	8.882
1.96	1509975	TBV	0.358	13.191
2.18	1354540	TVV	0.167	11.833
2.47	1928583	TVV	0.459	16.848
2.91	1358051	DTVV	0.866	11.864
4.19	781580	TVV	0.281	6.828
6.27	3496216	TVB	0.962	30.542
20.71	1533	BB	0.848	0.013

TOTAL HGHT= 1.1447E+07

MUL FACTOR= 1.0000E+00

STAK LIF 86-12-057-04A 1:2 NA.



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO CAV-0409-0
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. 1ul
INSTRUMENT ID. 6000

RUN # 105 JAN/12/87 15:45:04
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.34	332516	D BV	0.135	9.563
1.72	54260	D VV	0.152	1.561
1.95	143457	D VB	0.115	4.126
2.47	268530	BV	0.120	7.723
2.93	89016	VB	0.155	2.560
6.26	2589201	SBB	0.319	74.467

TOTAL HGHT= 3477000
MUL FACTOR= 1.0000E+00

Received: 12/12/86

SPECTRIX REPORT

Results by Sample

Work Order # 86-12-037

SAMPLE ID CAV-DW09-001 SAMPLE # 04 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	13.0 ug/L	BE	5 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	31 ug/L
CU	21 ug/L	FE	30400 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	39.9 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	99 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: CAV-OW14-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004074

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: CAV-OW14-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205705
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ypm

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V05A
DILUTION FACTOR: 1.00

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	5 U
C035	ACETONE	12
C040	CARBON DISULFIDE	5 U
C045	1,1-DICHLOROETHENE	5 U
C050	1,1-DICHLOROETHANE	5 U
C055	TRANS-1,2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1,2-DICHLOROETHANE	5 U
C110	2-BUTANONE	10 U
C115	1,1,1-TRICHLOROETHANE	5 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	10 U
C130	BROMODICHLOROMETHANE	5 U
C140	1,2-DICHLOROPROPANE	5 U
C145	TRANS-1,3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1,1,2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1,3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	10 U
C180	BROMOFORM	5 U
C210	2-HEXANONE	10 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	5 U
C225	1,1,2,2-TETRACHLOROETHANE	5 U
C230	TOLUENE	9
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	10
C245	STYRENE	5 U
C250	TOTAL XYLENES	37

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004075

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: CAV-OW14 -001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205705
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86..

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: ...12/18/86.
DATE ANALYZED: 01/12/87

DATAFILE: 4U12057C05
DILUTION FACTOR: .100:0...

CAS #	COMPOUND	UG/L
C315	PHENOL	1000 U
C325	BIS(2-CHLOROETHYL)ETHER	1000 U
C330	2-CHLOROPHENOL	1000 U
C335	1,3-DICHLOROBENZENE	1000 U
C340	1,4-DICHLOROBENZENE	1000 U
C345	BENZYL ALCOHOL	1000 U
C350	1,2-DICHLOROBENZENE	1000 U
C355	2-METHYLPHENOL	1000 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	1000 U
C365	4-METHYLPHENOL	1000 U
C370	N-NITROSODIPROPYLAMINE	1000 U
C375	HEXACHLOROETHANE	1000 U
C410	NITROBENZENE	1000 U
C415	ISOPHORONE	1000 U
C420	2-NITROPHENOL	1000 U
C425	2,4-DIMETHYLPHENOL	1000 U
C430	BENZOIC ACID	5000 U
C435	BIS(2-CHLOROETHOXY)METHANE	1000 U
C440	2,4-DICHLOROPHENOL	1000 U
C445	1,2,4-TRICHLOROBENZENE	1000 U
C450	NAPHTHALENE	8200
C455	4-CHLOROANILINE	1000 U
C460	HEXACHLOROBUTADIENE	1000 U
C465	P-CHLORO-M-CRESOL	1000 U
C470	2-METHYLNAPHTHALENE	350 J
C510	HEXACHLOROCYCLOPENTADIENE	1000 U
C515	2,4,6-TRICHLOROPHENOL	1000 U
C520	2,4,5-TRICHLOROPHENOL	5000 U
C525	2-CHLORONAPHTHALENE	1000 U
C530	2-NITROANILINE	5000 U
C535	DIMETHYL PHTHALATE	1000 U
C540	ACENAPHTHYLENE	1000 U
C545	3-NITROANILINE	5000 U
C550	ACENAPHTHENE	1000
C555	2,4-DINITROPHENOL	5000 U
C560	4-NITROPHENOL	5000 U
C565	DIBENZOFURAN	600 J
C570	2,4-DINITROTOLUENE	1000 U
C575	2,6-DINITROTOLUENE	1000 U

004076

SPECTRIX DC # ---- 8

SAMPLE NUMBER: CAV-OW14-OO

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C05

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	1000 U
C585	4-CHLOROPHENYL PHENYL ETHER	1000 U
C590	FLUORENE	610 J
C595	4-NITROANILINE	5000 U
C610	4,6-DINITRO-2-METHYLPHENOL	5000 U
C615	N-NITROSODIPHENYLAMINE	1000 U
C625	4-BROMOPHENYL PHENYL ETHER	1000 U
C630	HEXACHLOROBENZENE	1000 U
C635	PENTACHLOROPHENOL	5000 U
C640	PHENANTHRENE	650 J
C645	ANTHRACENE	130 J
C650	DI-N-BUTYL PHTHALATE	1000 U
C655	FLUORANTHENE	360 J
C715	PYRENE	230 J
C720	BUTYL BENZYL PHTHALATE	1000 U
C725	3,3'-DICHLOROBENZIDINE	2000 U
C730	BENZO(A)ANTHRACENE	1000 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	1000 U
C740	CHRYSENE	1000 U
C760	DI-N-OCTYL PHTHALATE	1000 U
C765	BENZO(B)FLUORANTHENE	1000 U
C770	BENZO(K)FLUORANTHENE	1000 U
C775	BENZO(A)PYRENE	1000 U
C780	INDENO(1,2,3-CD)PYRENE	1000 U
C785	DIBENZO(A,H)ANTHRACENE	1000 U
C790	BENZO(GHI)PERYLENE	1000 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004077

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-05A

DC No: KEYSTONE
SMO No: CAV-OW14-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/6/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000 N/A
2nd Column Inst. : 6000

U-UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004078

INST ID: 4000

SPECTRIX DC # ----- 8

SAMPLE NUMBER: CAV-OW14-00

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION

CASE NO.: ----

QC REPORT NO.: ----

ANALYST: CKT

DATAFILE: 4U12057V05A

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
	NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.			

UG/

004079

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

INST ID: 4530

SPECTRIX DC # ---- B

SAMPLE: CAV-OW14

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION

QC REPORT NO.: ---

CASE NO.: ---

ANALYST: GU

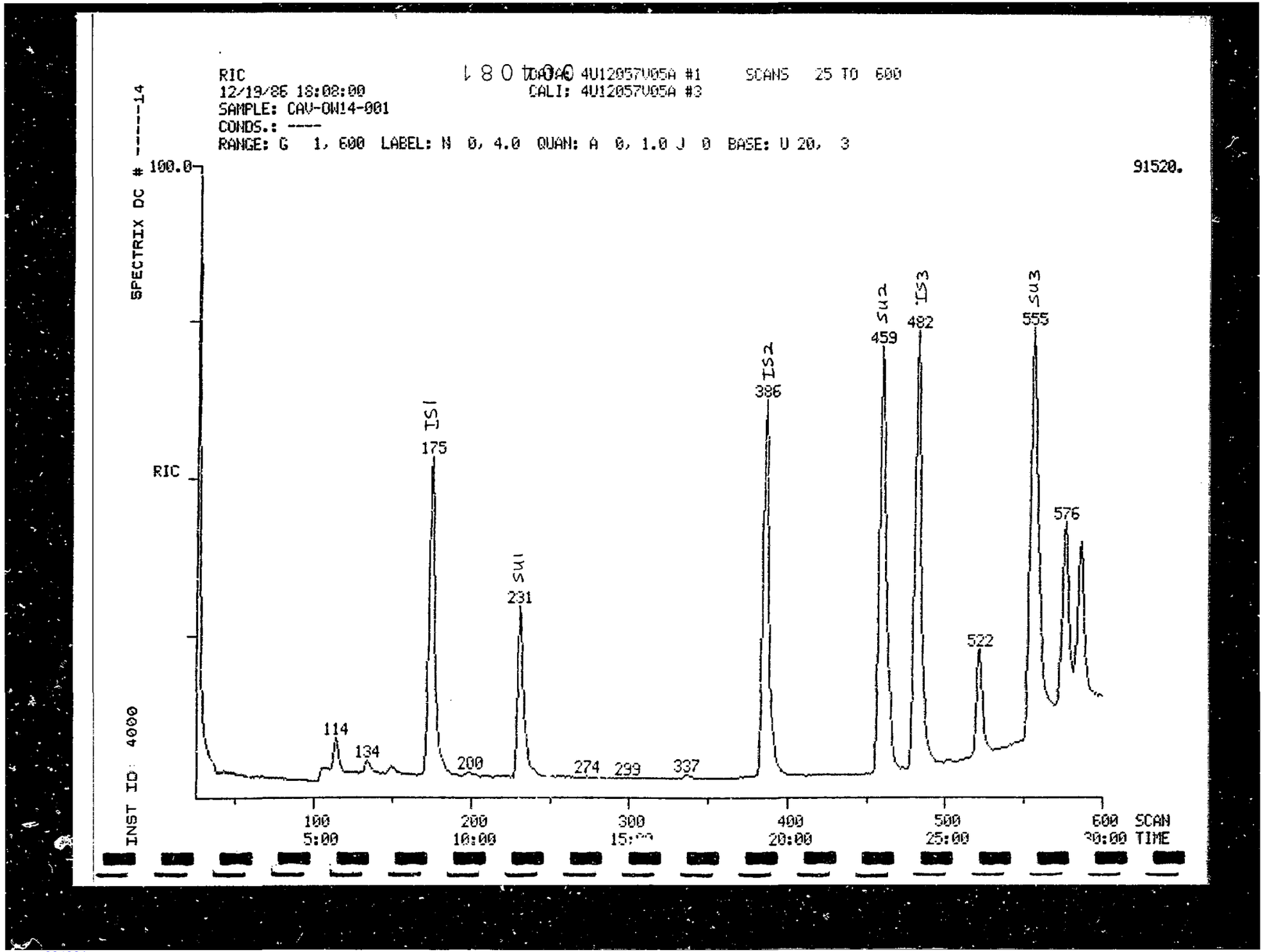
DATAFILE: 4U12057C05

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
95-15-8	BENZO[B]THIOPHENE	746	904	UG/L 450 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004080


RIC
12/19/86 18:08:00
SAMPLE: CAV-OW14-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: 4U12057V05A #1
CALI: 4U12057V05A #3
SCANS 25 TO 600
SPECTRIX DC # -----14
INST ID: 4000
100.0
RIC
91520.
114
134
IS1
175
200
SU1
231
274
299
337
IS2
386
SU2
459
IS3
482
522
SU3
555
576
100
5:00
200
10:00
300
400
20:00
500
25:00
600
30:00
SCAN
TIME

004081

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

AMPLE ID. CAV-OW14-001

FILENAME 4U12057V05A INST 4000

CLIENT KEYSTONE ANALYST CKT

DATE INJECTED 12/19/86 18:08:00 VERIFIED BY

CALIB STD DATE 12-14-86 CORR. FACTOR 1.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
174	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	22317
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	97764
482	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	83271
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	84 %	1.328	27673
459	CS05	D8-TOLUENE	**SU2**	98	98 %	0.952	82657
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	91 %	1.151	54897
114	C030	METHYLENE CHLORIDE *		84	3 UG/L	0.655	2809
134	C035	ACETONE		43	12 UG/L	0.770	4009
463	C230	TOLUENE		92	9 UG/L	0.961	13210
521	C240	ETHYLBENZENE		106	10 UG/L	1.081	7931
576	C250	TOTAL XYLENES		106	37 UG/L	1.195	34657

* BLANK CORRECTED ON DATA SHEET

RIC
01/12/87 19:10:00
SAMPLE: CAV-OW14-001
CONDS.: ---
RANGE: G 1.2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

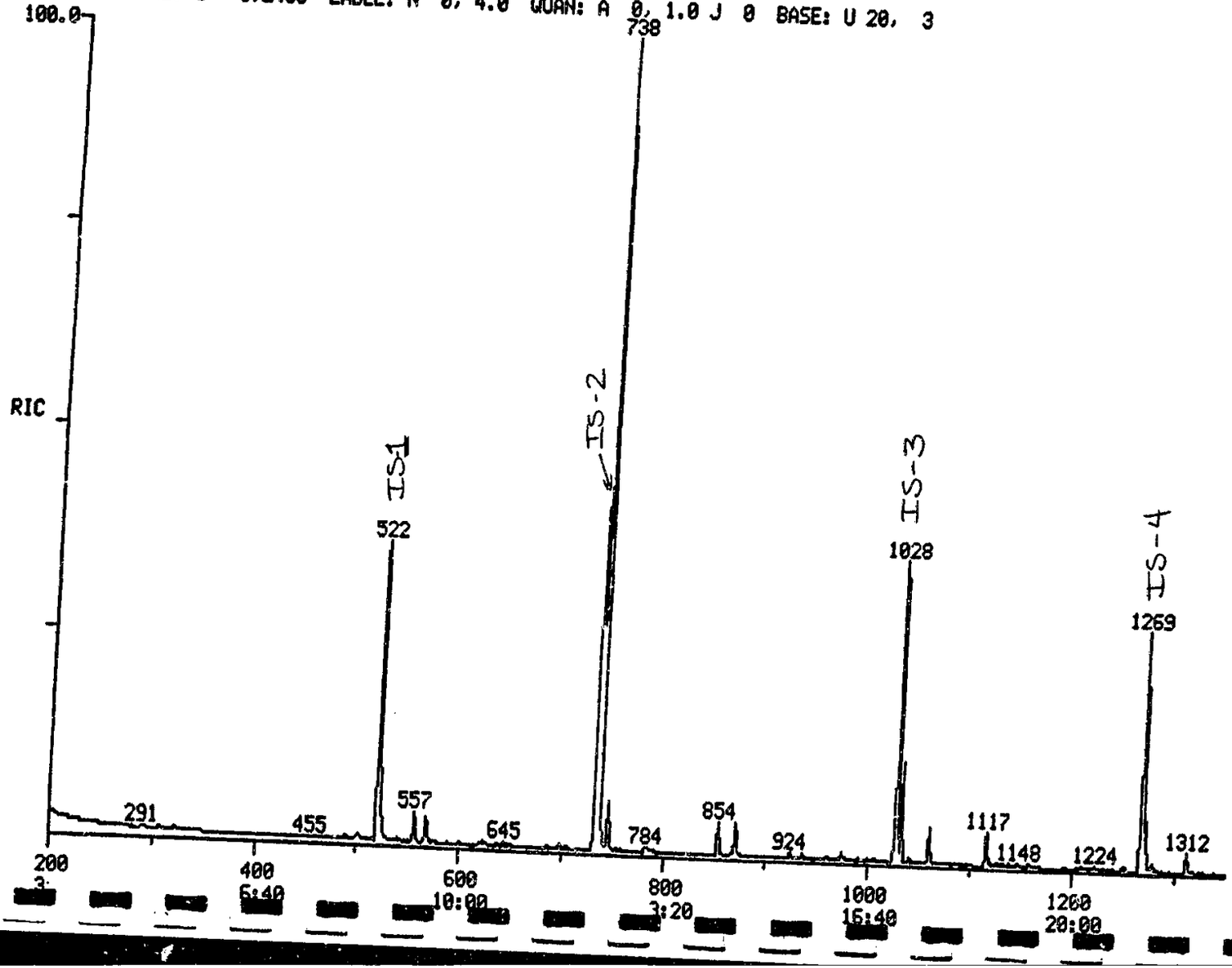
004083

DATA: 4U12057C05 #1
CALI: 4U12057C05 #3

SCANS 200 TO 1350

SPECTRIX DC # ----14

INST ID: 4530



004083

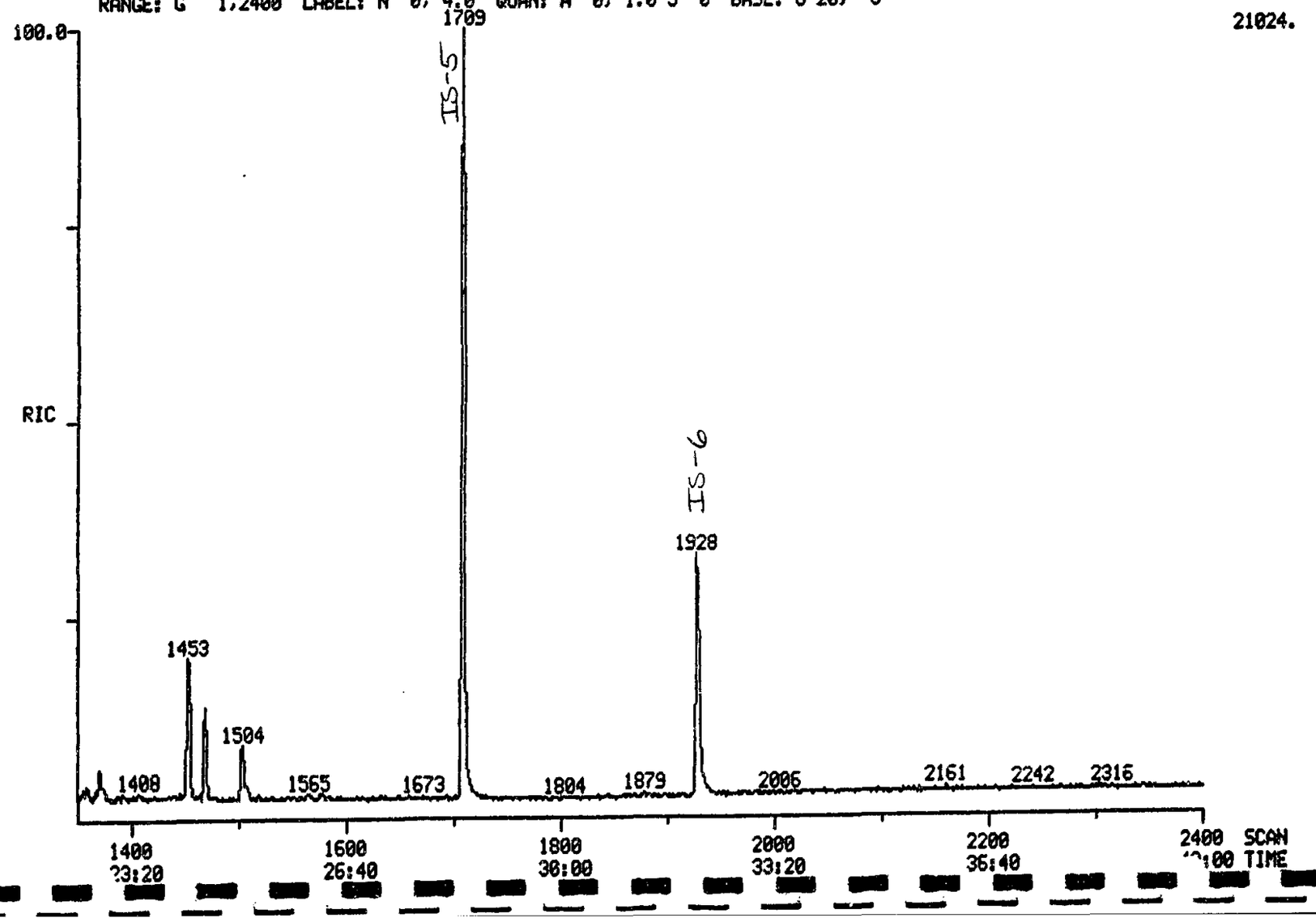
RIC
01/12/87 19:10:00
SAMPLE: CAV-OW14-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C05 #1
CALI: 4U12057C05 #3

SCANS 1350 TO 2400

SPECTRIX DC # ---14

INST ID: 4530



004084

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. CAV-OW14-001

FILENAME 4U12057C05 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

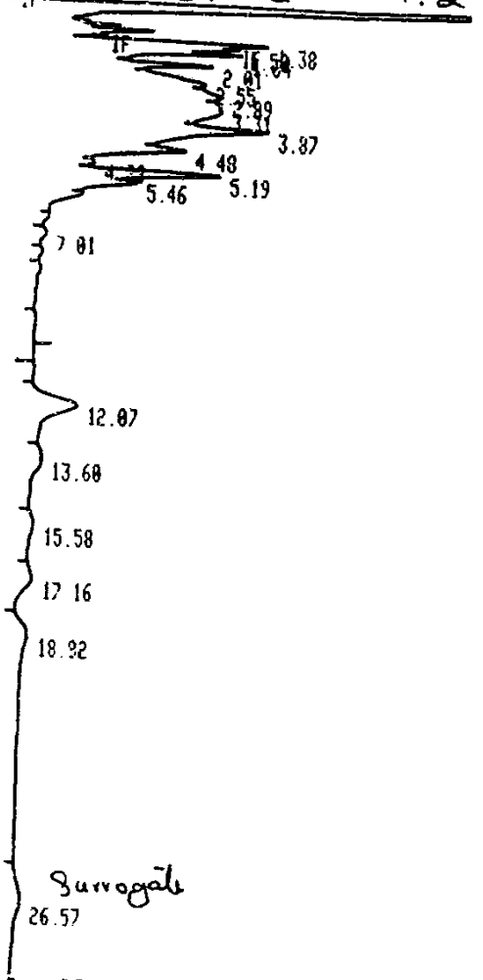
DATE INJECTED 01/12/87 19:10:00 VERIFIED BY MPH

CALIB STD DATE 01/08/87 CORR. FACTOR 100.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
521	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	4000 UG/L	1.000	22239
735	CI40	NAPHTHALENE-D8 ** IS2 **	136	4000 UG/L	1.000	86621
1028	CI50	ACENAPHTHENE-D10 ** IS3 **	164	4000 UG/L	1.000	40326
1269	CI60	PHENANTHRENE-D10 ** IS4 **	188	4000 UG/L	1.000	51504
1709	CI70	CHRYSENE-D12 ** IS5 **	240	4000 UG/L	1.000	29466
1928	CI75	PERYLENE-D12 ** IS6 **	264	4000 UG/L	1.000	14115
738	C450	NAPHTHALENE	128	8197 UG/L	1.004	173879
854	C470	2-METHYLNAPHTHALENE	142	354 UG/L	1.162	5086
1033	C550	ACENAPHTHENE	153	1046 UG/L	1.005	9940
1060	C565	DIBENZOFURAN	168	596 UG/L	1.031	7513
1117	C590	FLUORENE	166	611 UG/L	1.087	6512
1272	C640	PHENANTHRENE	178	652 UG/L	1.002	8154
1279	C645	ANTHRACENE	178	129 UG/L	1.008	1636
1469	C655	FLUORANTHENE	202	360 UG/L	1.158	3936
504	C715	PYRENE	202	226 UG/L	0.880	2606

* SURROGATES WERE DILUTED OUT

STAR 4: 86-12-057-05A 1:2 NA.



DC#_____
SPECTRIX HOUSTON
CASE NO. Keystone

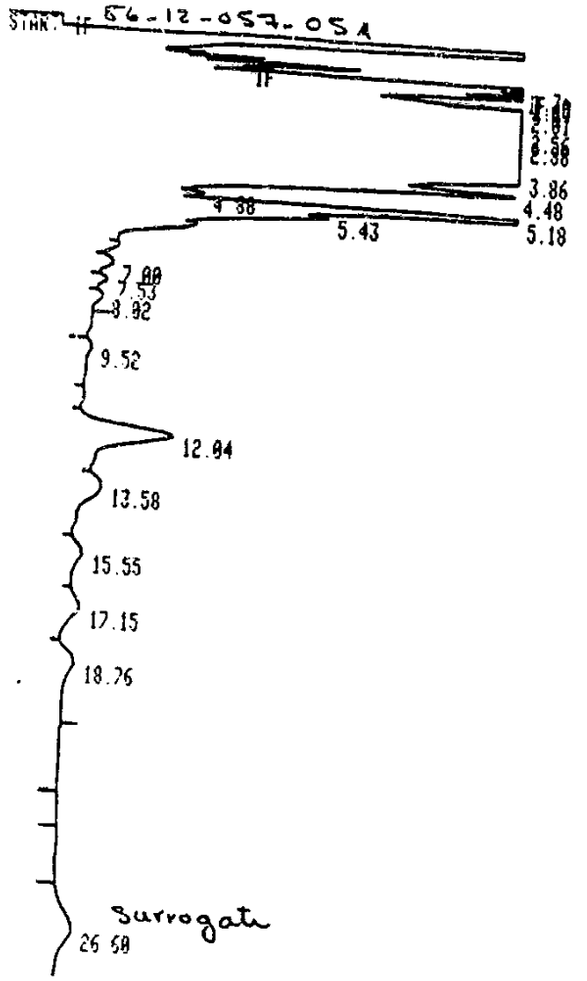
SAMPLE NO. CAY-OW14-001
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 187°C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6000

RUN # 22 JAN/06/87 23:52:10
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.38	47725	BV	0.119	10.149
1.50	40237	D VV	0.111	8.556
1.64	41289	D VV	0.163	8.780
2.01	34568	VV	0.170	7.351
2.55	33700	VV	0.372	7.166
2.89	38928	VV	0.355	8.278
3.31	39809	VV	0.646	8.465
3.87	53562	VV	0.435	11.390
4.48	33009	VV	0.284	7.019
4.88	9754	VV	0.193	2.074
5.19	43523	VV	0.227	9.255
5.46	22121	VV	0.264	4.704
7.01	1424	PP	0.291	0.303
12.07	12724	VV	0.735	2.706
13.60	4317	VV	1.223	0.918
15.58	3337	VV	1.132	0.710
17.16	3955	VP	0.947	0.841
18.82	3429	PV	2.981	0.729
26.57	2845	VP	1.955	0.605



RUN # 24 JAN/07/87 01:04:42
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.36	119160	PV	0.112	8.766
1.49	96196	D VV	0.118	7.076
1.64	94320	D VV	0.131	6.938
2.01	132167	VV	0.230	9.722
2.56	171808	VV	0.390	12.638
2.88	207840	VV	0.395	15.289
3.86	189434	VV	0.395	13.935
4.48	94725	VV	0.239	6.968
4.88	14911	VV	0.181	1.097
5.18	125500	VV	0.216	9.232
5.43	50780	D VV	0.231	3.735
7.00	2846	PP	0.301	0.209
7.53	2411	PV	0.228	0.177
8.02	2060	VB	0.280	0.152
9.52	1542	BV	0.619	0.113
12.04	25218	VV	0.693	1.855
13.58	7495	VV	0.994	0.551
15.55	4033	VV	0.891	0.297
17.15	4618	VP	0.897	0.340
18.76	3834	PB	0.866	0.282
26.60	4913	BB	1.396	0.361
34.67	3598	I BH	1.513	0.265

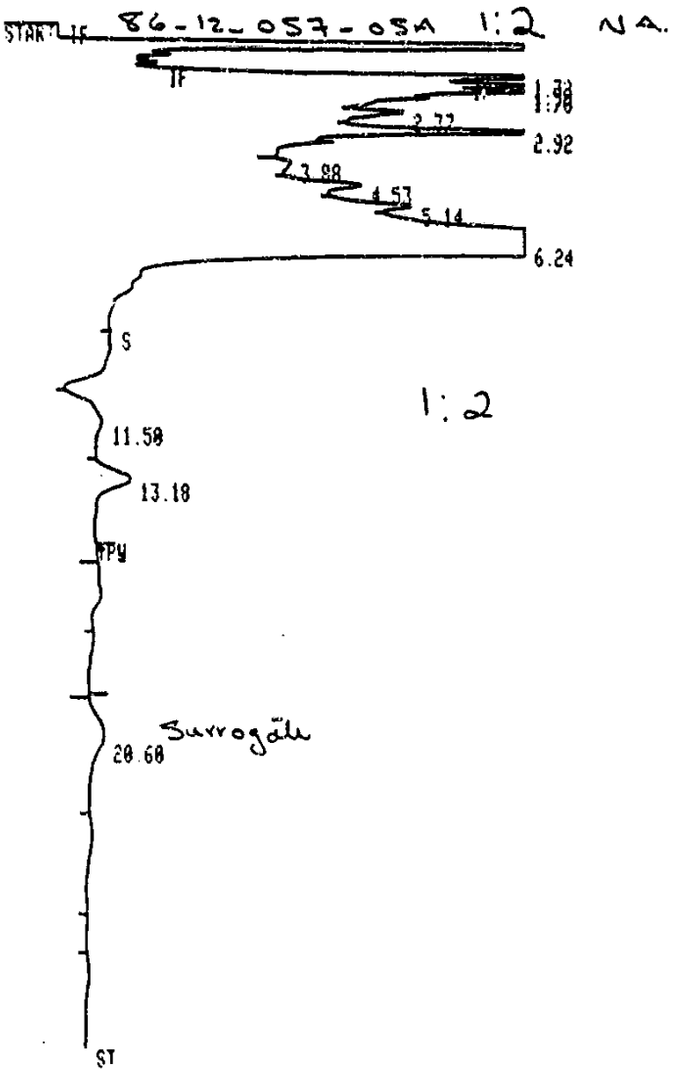
DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-OW14-001
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 187°C
VOLUME INJ. 1 ~~40~~
INSTRUMENT ID. 6000

004



DC#_____
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-0W14-00
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. 1µl
INSTRUMENT ID. 0600

RUN # 107 JAN/12/87 16:47:37
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.32	104703	D BV	0.121	5.018
1.58	50736	D VV	0.147	2.431
1.76	39326	D VV	0.172	1.885
2.37	15754	VV	0.297	0.755
2.92	47836	VB	0.176	2.292
3.88	1974	PV	0.302	0.095
4.53	11162	VV	0.343	0.535
5.14	17829	VH	0.373	0.854
6.24	1785215	SHB	0.281	85.550
11.50	3959	PV	1.306	0.190
13.18	6142	VB	0.910	0.294
20.60	2107	BV	1.373	0.101

Received: 12/12/86

SPECTRIX REPORT Work Order # 86-12-057

Results by Sample

SAMPLE ID CAV-OW14-001 SAMPLE # 05 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	83.0 ug/L	BE	6 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	68 ug/L
CU	14 ug/L	FE	39500 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	28.6 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	121 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-MW04-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004090

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: SCK-MW04-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205706
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: MPM

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V06

DILUTION FACTOR: 1:20

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	200 U
C015	BROMOMETHANE	200 U
C020	VINYL CHLORIDE	200 U
C025	CHLOROETHANE	200 U
C030	METHYLENE CHLORIDE	180
C035	ACETONE	200 U
C040	CARBON DISULFIDE	100 U
C045	1,1-DICHLOROETHENE	100 U
C050	1,1-DICHLOROETHANE	100 U
C055	TRANS-1,2-DICHLOROETHENE	100 U
C060	CHLOROFORM	100 U
C065	1,2-DICHLOROETHANE	100 U
C110	2-BUTANONE	200 U
C115	1,1,1-TRICHLOROETHANE	100 U
C120	CARBON TETRACHLORIDE	100 U
C125	VINYL ACETATE	200 U
C130	BROMODICHLOROMETHANE	100 U
C140	1,2-DICHLOROPROPANE	100 U
C145	TRANS-1,3-DICHLOROPROPENE	100 U
C150	TRICHLOROETHENE	100 U
C155	DIBROMOCHLOROMETHANE	100 U
C160	1,1,2-TRICHLOROETHANE	100 U
C165	BENZENE	50 J
C170	CIS-1,3-DICHLOROPROPENE	100 U
C175	2-CHLOROETHYLVINYLETHER	200 U
C180	BROMOFORM	100 U
C210	2-HEXANONE	200 U
C205	4-METHYL-2-PENTANONE	200 U
C220	TETRACHLOROETHENE	100 U
C225	1,1,2,2-TETRACHLOROETHANE	100 U
C230	TOLUENE	100 U
C235	CHLOROBENZENE	100 U
C240	ETHYLBENZENE	100 U
C245	STYRENE	100 U
C250	TOTAL XYLENES	100 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004091

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-MW04 -001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205706
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ---
GC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/18/86
DATE ANALYZED: 01/13/87

DATAFILE: 4U12057C06A
DILUTION FACTOR: 5.0

CAS #	COMPOUND	UG/L
C315	PHENOL	50 U
C325	BIS(2-CHLOROETHYL)ETHER	50 U
C330	2-CHLOROPHENOL	50 U
C335	1,3-DICHLOROBENZENE	50 U
C340	1,4-DICHLOROBENZENE	50 U
C345	BENZYL ALCOHOL	50 U
C350	1,2-DICHLOROBENZENE	50 U
C355	2-METHYLPHENOL	50 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	50 U
C365	4-METHYLPHENOL	50 U
C370	N-NITROSODIPROPYLAMINE	50 U
C375	HEXACHLOROETHANE	50 U
C410	NITROBENZENE	50 U
C415	ISOPHORONE	50 U
C420	2-NITROPHENOL	50 U
C425	2,4-DIMETHYLPHENOL	50 U
C430	BENZOIC ACID	250 U
C435	BIS(2-CHLOROETHOXY)METHANE	50 U
C440	2,4-DICHLOROPHENOL	50 U
C445	1,2,4-TRICHLOROBENZENE	50 U
C450	NAPHTHALENE	540
C455	4-CHLOROANILINE	50 U
C460	HEXACHLOROBUTADIENE	50 U
C465	P-CHLORO-M-CRESOL	50 U
C470	2-METHYLNAPHTHALENE	7 J
C510	HEXACHLOROCYCLOPENTADIENE	50 U
C515	2,4,6-TRICHLOROPHENOL	50 U
C520	2,4,5-TRICHLOROPHENOL	250 U
C525	2-CHLORONAPHTHALENE	50 U
C530	2-NITROANILINE	250 U
C535	DIMETHYL PHTHALATE	50 U
C540	ACENAPHTHYLENE	50 U
C545	3-NITROANILINE	250 U
C550	ACENAPHTHENE	150
C555	2,4-DINITROPHENOL	250 U
C560	4-NITROPHENOL	250 U
C565	DIBENZOFURAN	77
C570	2,4-DINITROTOLUENE	50 U
C575	2,6-DINITROTOLUENE	50 U

004092

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-MW04 -00

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C06A

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	50 U
C585	4-CHLOROPHENYL PHENYL ETHER	50 U
C590	FLUORENE	84
C595	4-NITROANILINE	250 U
C610	4,6-DINITRO-2-METHYLPHENOL	250 U
C615	N-NITROSODIPHENYLAMINE	50 U
C625	4-BROMOPHENYL PHENYL ETHER	50 U
C630	HEXACHLOROBENZENE	50 U
C635	PENTACHLOROPHENOL	250 U
C640	PHENANTHRENE	21 J
C645	ANTHRACENE	8 J
C650	DI-N-BUTYL PHTHALATE	50 U
C655	FLUORANTHENE	50 U
C715	PYRENE	50 U
C720	BUTYL BENZYL PHTHALATE	50 U
C725	3,3'-DICHLOROBENZIDINE	100 U
C730	BENZO(A)ANTHRACENE	50 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	50 U
C740	CHRYSENE	50 U
C760	DI-N-OCTYL PHTHALATE	50 U
C765	BENZO(B)FLUORANTHENE	50 U
C770	BENZO(K)FLUORANTHENE	50 U
C775	BENZO(A)PYRENE	50 U
C780	INDENO(1,2,3-CD)PYRENE	50 U
C785	DIBENZO(A,H)ANTHRACENE	50 U
C790	BENZO(GHI)PERYLENE	50 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004093

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-06A

DC No: KEYSTONE
SMO No: SCK-MW04-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/7/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-6	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 N.A.

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004094

INST ID: 4000 SPECTRIX DC # ----- 8

SAMPLE NUMBER: SCK-MW04-00

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: NOT DATAFILE: 4U12057V06

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
	NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.			

UG/

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

INST ID: 4530 SPECTRIX DC # ---- 8

SAMPLE: SCK-MW04-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

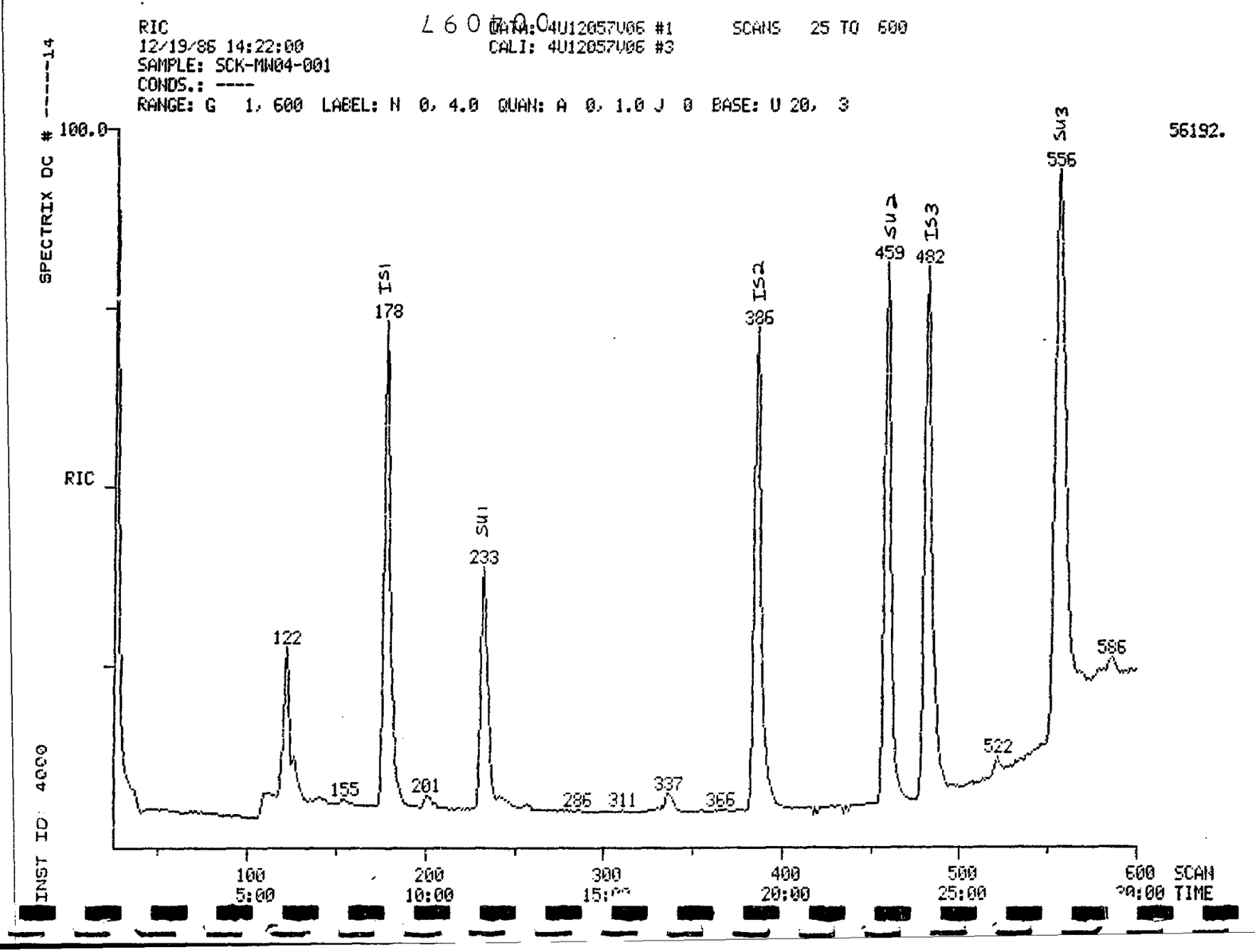
LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ---

GC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12057C06A

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	305		38 J
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	563	957	240 J
95-13-6	1H-INDENE	574	933	68 J
95-15-8	BENZO[B]THIOPHENE	750	917	27 J
2471-83-2	1H-INDENE, 1-ETHYLIDENE-	874	900	27 J
86-74-8	9H-CARBAZOLE	1315	885	36 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED


RIC
12/19/86 14:22:00
SAMPLE: SCK-MW04-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: 4U12057U06 #1
CALI: 4U12057U06 #3
SCANS 25 TO 600
56192.
SPECTRIX DC # -----14
INST ID 4000
100.0
RIC
122
155
IS1
178
201
SU1
233
285
311
337
356
IS2
386
SU2
459
IS3
482
522
SU3
556
586
100
5:00
200
10:00
300
400
20:00
500
25:00
600 SCAN
TIME

004097

SPECTRIX DC # ------14

VOA QUANTITATION REPORT

AMPLE ID.	SCK-MW04-001		
FILENAME	4U12057V06	INST	4000
CLIENT	KEYSTONE	ANALYST	NOT
DATE INJECTED	12/19/86 14:22:00	VERIFIED BY	NOT
CALIB STD DATE	12-14-86	CORR. FACTOR	20.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
178	CI01	BROMOCHLOROMETHANE	**IS1**	128	1000 UG/L	1.000	16386
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	1000 UG/L	1.000	69566
482	CI20	D5-CHLOROBENZENE	**IS3**	117	1000 UG/L	1.000	56241
233	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	86 %	1.309	20976
459	CS05	D8-TOLUENE	**SU2**	98	100 %	0.952	57685
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	92 %	1.151	37853
122	C030	METHYLENE CHLORIDE*		84	279 UG/L	0.685	8470
337	C165	BENZENE		78	50 UG/L	0.873	9403

* BLANK CORRECTED ON DATA SHEET

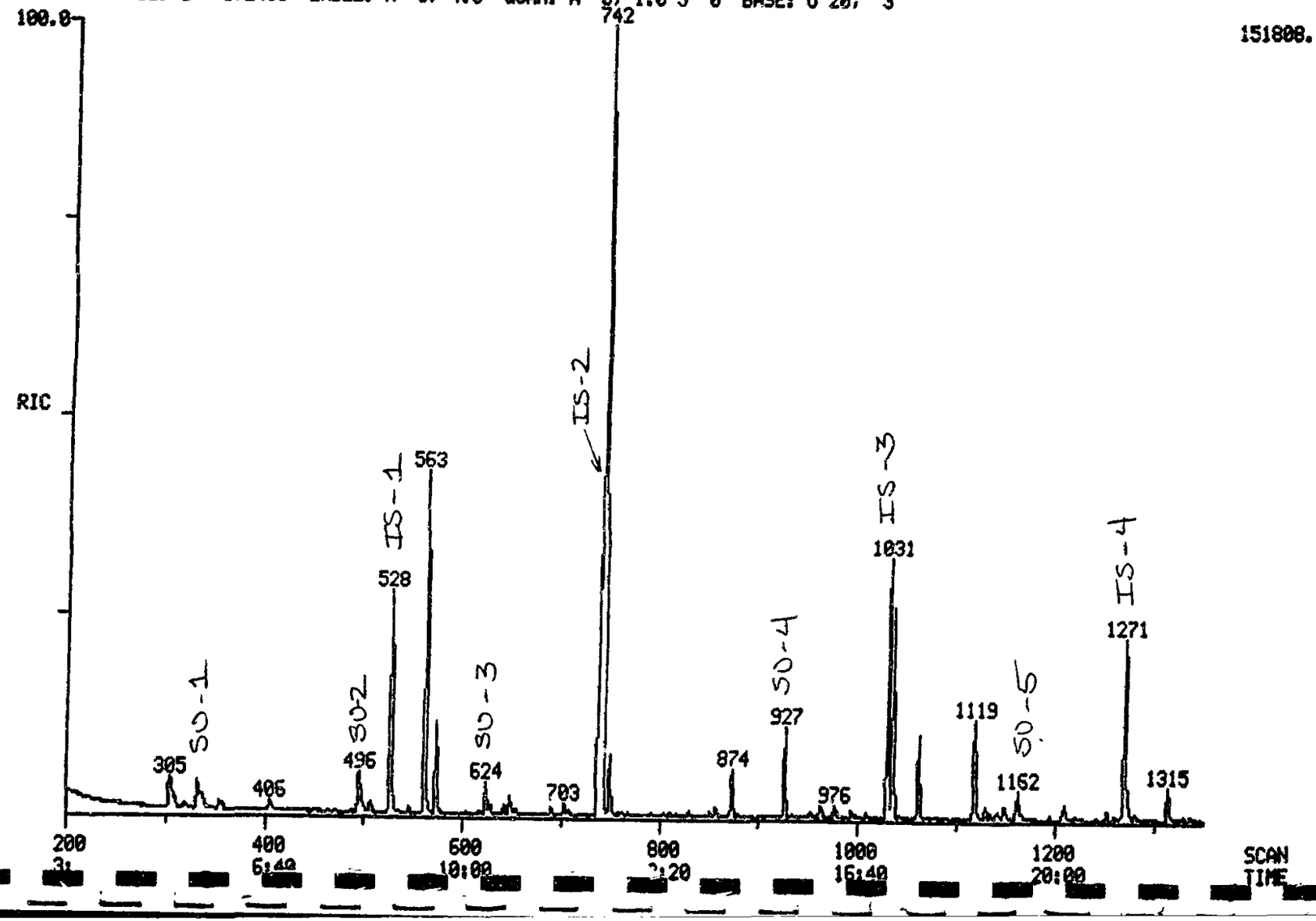
RIC
01/13/87 14:17:00
SAMPLE: SCK-MW04-001
CONDS.: ---
RANGE: G 1.2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

660700

DATA: 4U12057C06A #1 SCANS 200 TO 1350
CALI: 4U12057C06A #3

SPECTRIX DC # ----14

INST ID: 4830

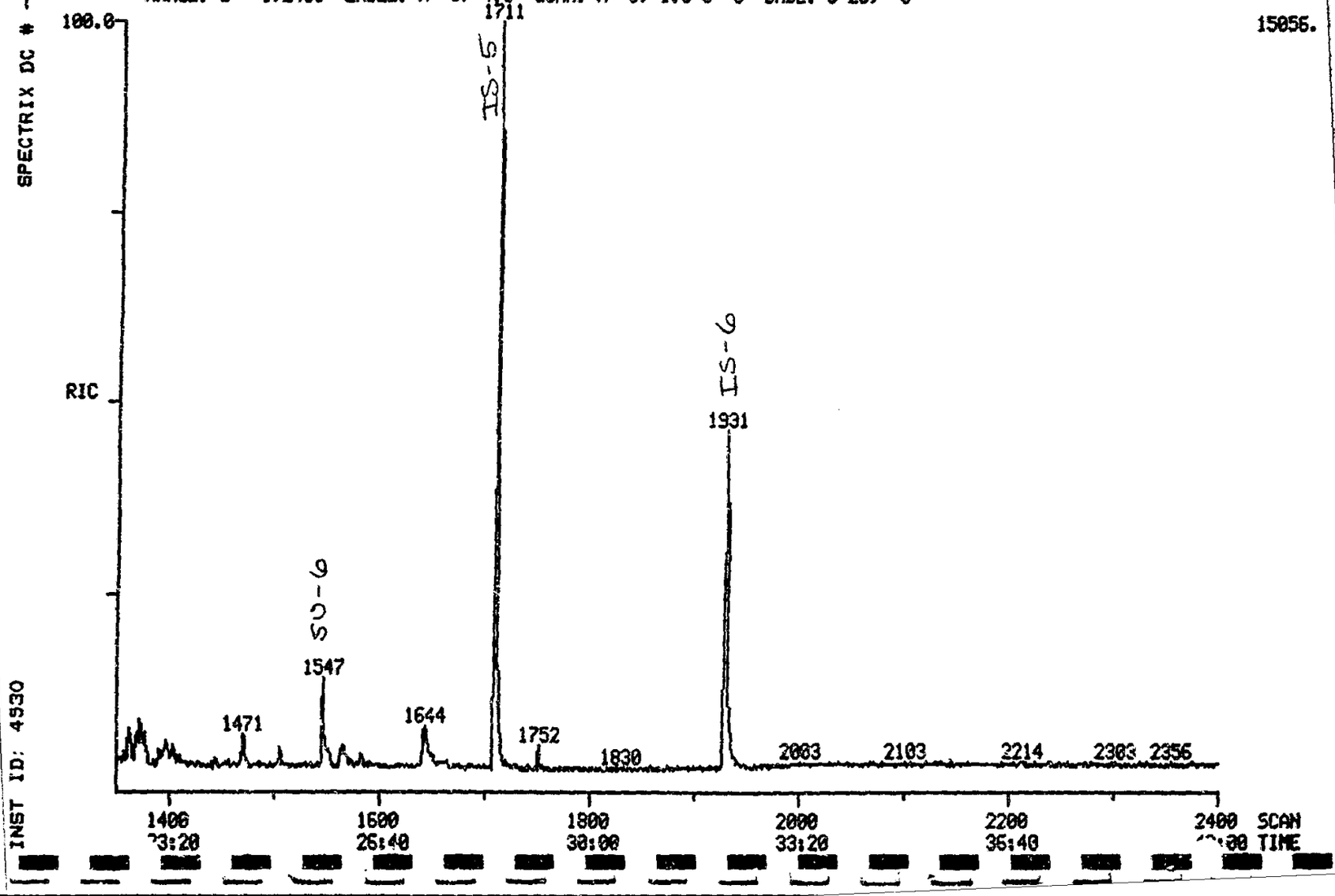


004099

RIC
01/13/87 14:17:00
SAMPLE: SCK-MW04-001
CONDS.: ---
RANGE: G 1.2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

004100

DATA: 4U12057C06A #1 SCANS 1350 TO 2400
CALI: 4U12057C06A #3



004100

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. SCK-MW04-001

FILENAME 4U12057C06A INST ID. 4530

CLIENT KEYSTONE ANALYST GU

DATE INJECTED 01/13/87 14:17:00 VERIFIED BY

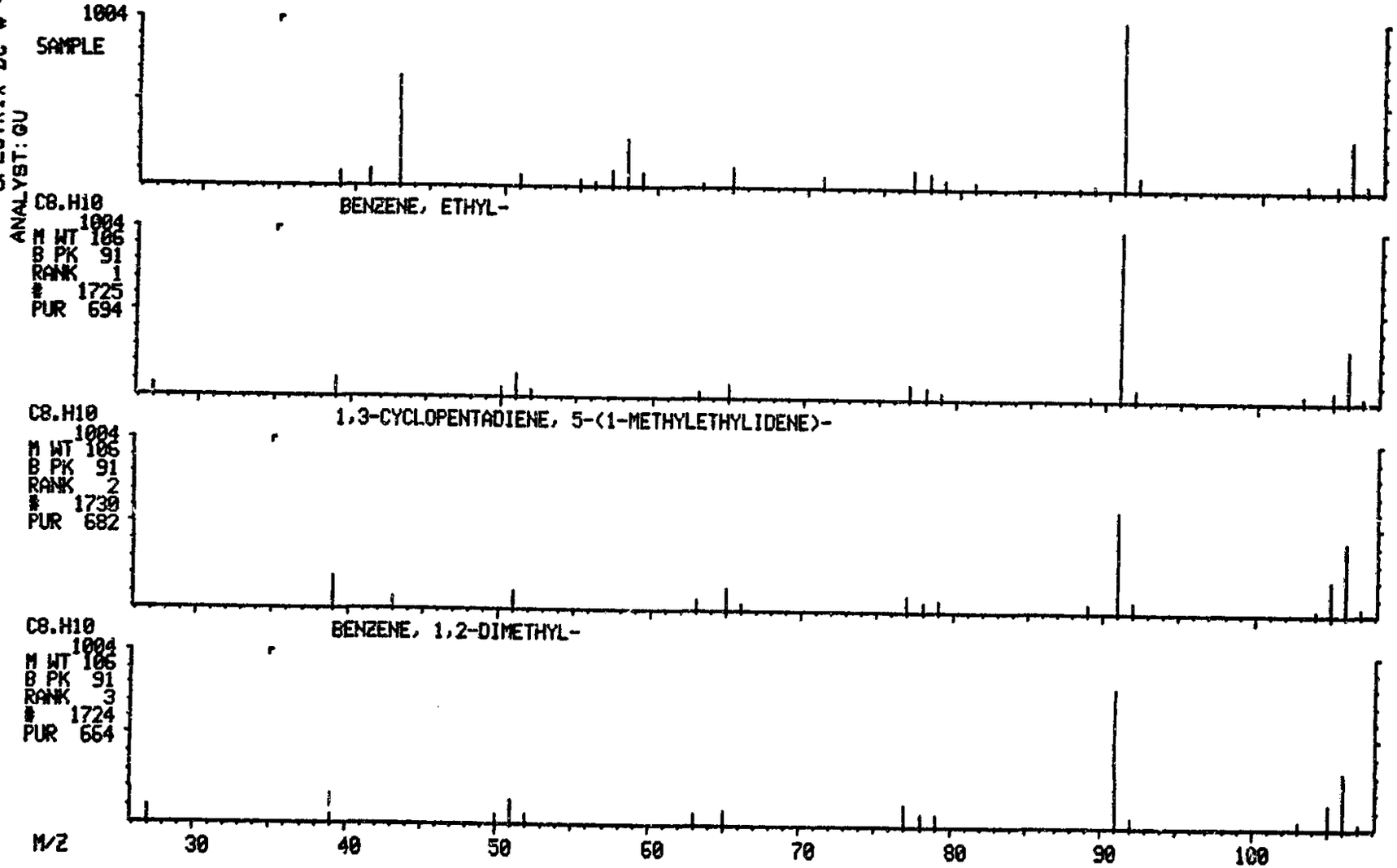
CALIB STD DATE 01/08/87 CORR. FACTOR 5.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
528	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	200 UG/L	1.000	1877
738	CI40	NAPHTHALENE-D8 ** IS2 **	136	200 UG/L	1.000	7005
1031	CI50	ACENAPHTHENE-D10 ** IS3 **	164	200 UG/L	1.000	3564
1271	CI60	PHENANTHRENE-D10 ** IS4 **	188	200 UG/L	1.000	4325
1711	CI70	CHRYSENE-D12 ** IS5 **	240	200 UG/L	1.000	2052
1931	CI75	PERYLENE-D12 ** IS6 **	264	200 UG/L	1.000	1316
333	CS50	2-FLUOROPHENOL ** SU1 **	112	60 %	0.631	750
495	CS45	PHENOL-D5 ** SU2 **	99	63 %	0.937	1167
1162	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	64 %	1.127	1131
624	CS20	NITROBENZENE-D5 ** SU3 **	82	79 %	0.846	642
927	CS25	2-FLUOROBIPHENYL ** SU4 **	172	75 %	0.899	1426
1547	CS30	TERPHENYL-D14 ** SU6 **	244	40 %	0.904	218
742	C450	NAPHTHALENE	128	543 UG/L	1.005	18919
857	C470	2-METHYLNAPHTHALENE	142	7 UG/L	1.161	155
036	C550	ACENAPHTHENE	153	154 UG/L	1.005	2437
1062	C565	DIBENZOFURAN	168	77 UG/L	1.030	1703
1119	C590	FLUORENE	166	84 UG/L	1.085	1574
1274	C640	PHENANTHRENE	178	21 UG/L	1.002	436
1282	C645	ANTHRACENE	178	8 UG/L	1.009	177

LIBRARY SEARCH 004102
01/13/87 14:17:00 + 5:05
SAMPLE: SCK-MW04-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

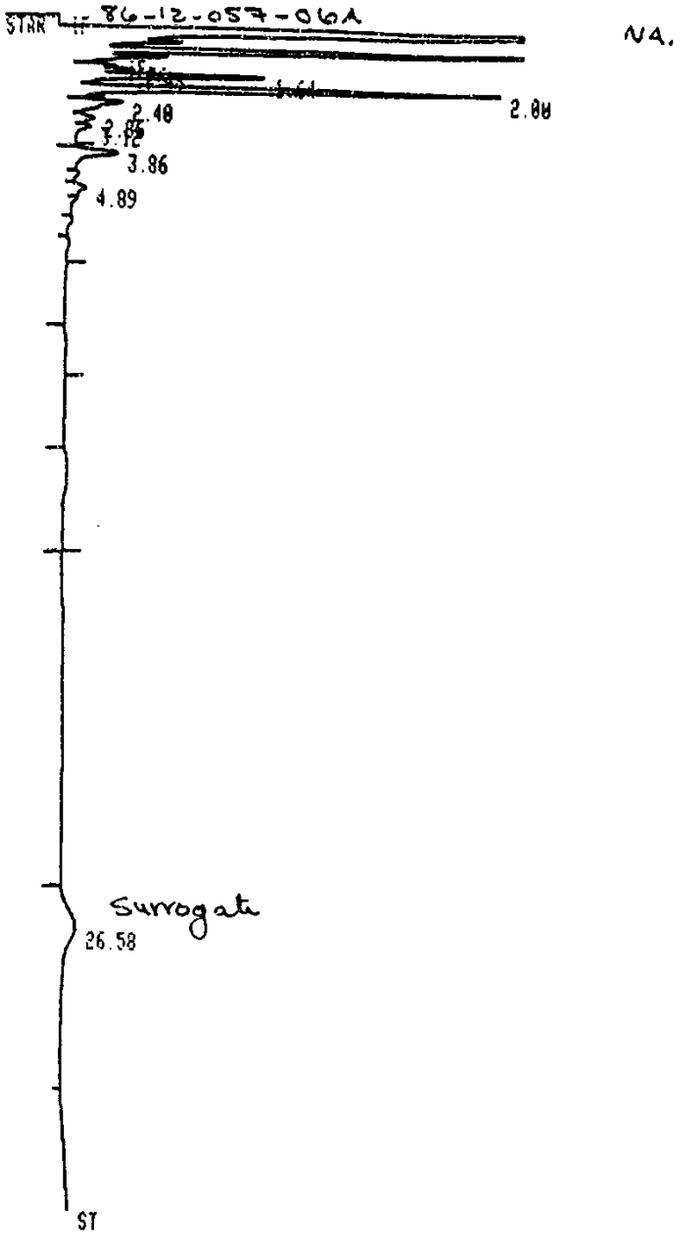
DATA: 4U12057C06A # 305 BASE M/Z: 91
CALI: 4U12057C06A # 3 RIC: 4751.

SPECTRIX DC # ----19
ANALYST: GU



INST ID: 4530

004102



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Sck-MW04-0
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

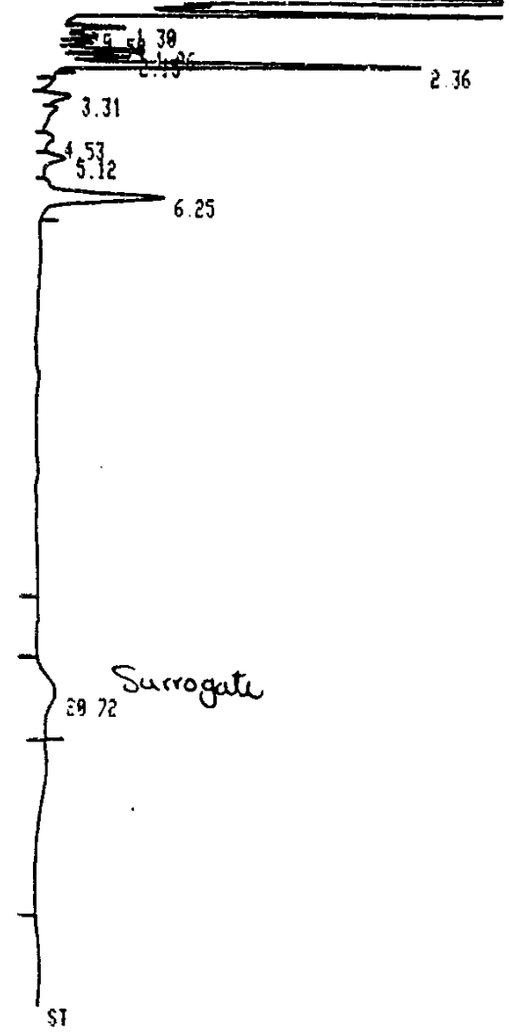
2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 137 °C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6000

004

RUN # 26 JAN/07/87 02:17:15
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.36	6677	BV	0.086	3.202
1.48	11376	D VV	0.115	5.455
1.64	46023	D VV	0.104	22.069
2.00	109196	D VB	0.105	52.362
2.40	9974	BP	0.167	4.783
2.86	3584	PV	0.151	1.719
3.12	2988	D VB	0.141	1.433
3.86	11264	BV	0.210	5.401
4.89	3471	VV	0.227	1.664
26.58	3988	PP	1.450	1.912



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. SCK-MW04-C
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. Nul
INSTRUMENT ID. 0600

RUN # 108 JAN/12/87 17:18:53
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1 30	6608	D BV	0.086	6.243
1.58	3220	D VV	0.090	3.042
1.76	3294	D VV	0.088	3.112
1.96	10316	D VV	0.100	9.746
2.15	8625	D VV	0.107	8.148
2.36	47364	VB	0.118	44.745
3.31	3623	PV	0.223	3.423
4.53	1665	VV	0.334	1.573
5.12	3102	VV	0.286	2.931
6.25	16050	VB	0.311	15.162
20 72	1987	PB	0.968	1.877

Received: 12/12/86

SPECTRIX REPORT Work Order # 86-12-057

Results by Sample

SAMPLE ID SCK-MW04-001 SAMPLE # 06 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	25.3 ug/L	BE	4 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	15 ug/L
CU	<10 ug/L	FE	7510 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	36.4 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	61 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-MW10-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004106

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: SCK-MW10-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205707
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: yom

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V07
DILUTION FACTOR: 1:5

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	50 U
C015	BROMOMETHANE	50 U
C020	VINYL CHLORIDE	50 U
C025	CHLOROETHANE	50 U
C030	METHYLENE CHLORIDE	25 U
C035	ACETONE	50 U
C040	CARBON DISULFIDE	25 U
C045	1,1-DICHLOROETHENE	25 U
C050	1,1-DICHLOROETHANE	25 U
C055	TRANS-1,2-DICHLOROETHENE	25 U
C060	CHLOROFORM	25 U
C065	1,2-DICHLOROETHANE	25 U
C110	2-BUTANONE	50 U
C115	1,1,1-TRICHLOROETHANE	25 U
C120	CARBON TETRACHLORIDE	25 U
C125	VINYL ACETATE	50 U
C130	BROMODICHLOROMETHANE	25 U
C140	1,2-DICHLOROPROPANE	25 U
C145	TRANS-1,3-DICHLOROPROPENE	25 U
C150	TRICHLOROETHENE	25 U
C155	DIBROMOCHLOROMETHANE	25 U
C160	1,1,2-TRICHLOROETHANE	25 U
C165	BENZENE	8 J
C170	CIS-1,3-DICHLOROPROPENE	25 U
C175	2-CHLOROETHYLVINYLETHER	50 U
C180	BROMOFORM	25 U
C210	2-HEXANONE	50 U
C205	4-METHYL-2-PENTANONE	50 U
C220	TETRACHLOROETHENE	25 U
C225	1,1,2,2-TETRACHLOROETHANE	25 U
C230	TOLUENE	25 U
C235	CHLOROBENZENE	25 U
C240	ETHYLBENZENE	25 U
C245	STYRENE	25 U
C250	TOTAL XYLENES	11 J

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004107

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-MW10-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205707
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ypm...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86..

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: ...12/18/86.
DATE ANALYZED: 01/13/87

DATAFILE: 4U12057C07A
DILUTION FACTOR: .20.0....

CAS #	COMPOUND	UG/L
C315	PHENOL	200 U
C325	BIS(2-CHLOROETHYL)ETHER	200 U
C330	2-CHLOROPHENOL	200 U
C335	1,3-DICHLOROBENZENE	200 U
C340	1,4-DICHLOROBENZENE	200 U
C345	BENZYL ALCOHOL	200 U
C350	1,2-DICHLOROBENZENE	200 U
C355	2-METHYLPHENOL	200 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	200 U
C365	4-METHYLPHENOL	200 U
C370	N-NITROSODIPROPYLAMINE	200 U
C375	HEXACHLOROETHANE	200 U
C410	NITROBENZENE	200 U
C415	ISOPHORONE	200 U
C420	2-NITROPHENOL	200 U
C425	2,4-DIMETHYLPHENOL	200 U
C430	BENZOIC ACID	1000 U
C435	BIS(2-CHLOROETHOXY)METHANE	200 U
C440	2,4-DICHLOROPHENOL	200 U
C445	1,2,4-TRICHLOROBENZENE	200 U
C450	NAPHTHALENE	3400
C455	4-CHLOROANILINE	200 U
C460	HEXACHLOROBUTADIENE	200 U
C465	P-CHLORO-M-CRESOL	200 U
C470	2-METHYLNAPHTHALENE	160 J
C510	HEXACHLOROCYCLOPENTADIENE	200 U
C515	2,4,6-TRICHLOROPHENOL	200 U
C520	2,4,5-TRICHLOROPHENOL	1000 U
C525	2-CHLORONAPHTHALENE	200 U
C530	2-NITROANILINE	1000 U
C535	DIMETHYL PHTHALATE	200 U
C540	ACENAPHTHYLENE	200 U
C545	3-NITROANILINE	1000 U
C550	ACENAPHTHENE	680
C555	2,4-DINITROPHENOL	1000 U
C560	4-NITROPHENOL	1000 U
C565	DIBENZOFURAN	340
C570	2,4-DINITROTOLUENE	200 U
C575	2,6-DINITROTOLUENE	200 U

004108

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-MW10-001

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C07A

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	200 U
C585	4-CHLOROPHENYL PHENYL ETHER	200 U
C590	FLUORENE	210
C595	4-NITROANILINE	1000 U
C610	4,6-DINITRO-2-METHYLPHENOL	1000 U
C615	N-NITROSODIPHENYLAMINE	200 U
C625	4-BROMOPHENYL PHENYL ETHER	200 U
C630	HEXACHLOROBENZENE	200 U
C635	PENTACHLOROPHENOL	1000 U
C640	PHENANTHRENE	410
C645	ANTHRACENE	50 J
C650	DI-N-BUTYL PHTHALATE	200 U
C655	FLUORANTHENE	56 J
C715	PYRENE	41 J
C720	BUTYL BENZYL PHTHALATE	200 U
C725	3,3'-DICHLOROBENZIDINE	400 U
C730	BENZO(A)ANTHRACENE	200 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	200 U
C740	CHRYSENE	200 U
C760	DI-N-OCTYL PHTHALATE	200 U
C765	BENZO(B)FLUORANTHENE	200 U
C770	BENZO(K)FLUORANTHENE	200 U
C775	BENZO(A)PYRENE	200 U
C780	INDENO(1,2,3-CD)PYRENE	200 U
C785	DIBENZO(A,H)ANTHRACENE	200 U
C790	BENZO(GHI)PERYLENE	200 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004109

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-07A

DC No: KEYSTONE
SMO No: SCK-MW10-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/7/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes ✓
Cont. Liquid Ext. _Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 NA.

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004110

INST ID: 4000 SPECTRIX DC # ----- 8

SAMPLE NUMBER: SCK-MW10-00/

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: NOT DATAFILE: 4U12057V07

8. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004111 UC/

INST ID: 4530 SPECTRIX DC # ---- 8

SAMPLE: SCK-MW10-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

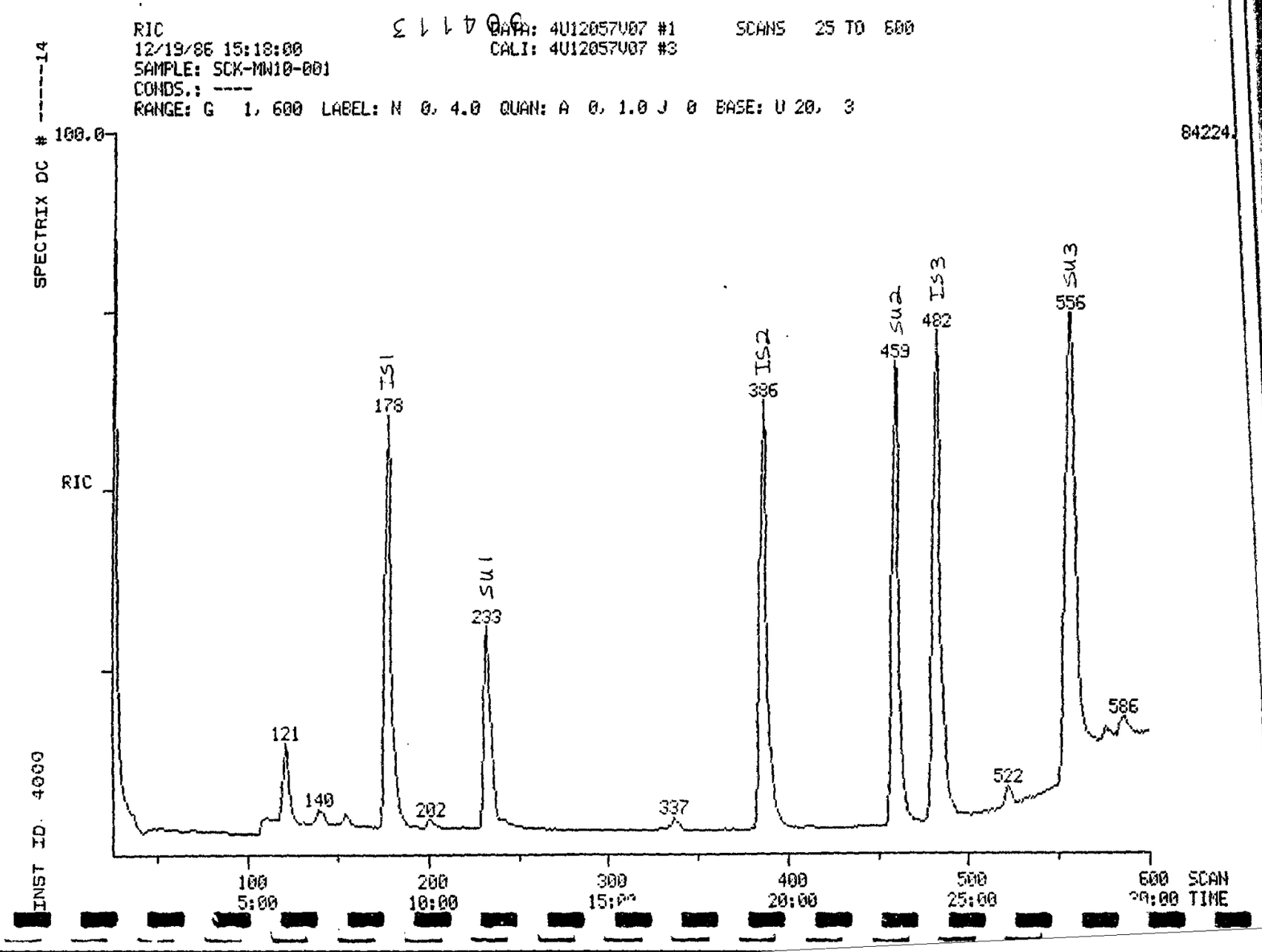
LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ---

GC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12057C07A

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L	
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	567	956	310	J
95-15-8	BENZO[B]THIOPHENE	752	914	250	J
2471-83-2	1H-INDENE, 1-ETHYLIDENE-	875	903	290	J
92-52-4	1,1'-BIPHENYL	940	929	220	J
581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	977	934	120	J
86-74-8	9H-CARBAZOLE	1316	909	82	J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED


RIC
12/19/86 15:18:00
SAMPLE: SCK-MW10-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: 4U12057V07 #1
CALI: 4U12057V07 #3
SCANS 25 TO 600
SPECTRIX DC # -----14
INST ID 4000
100.0
RIC
84224
121
140
IS1
178
202
SU1
233
337
IS2
386
SU2
459
IS3
482
522
SU3
556
586
100
5:00
200
10:00
300
400
20:00
500
25:00
600 SCAN
TIME

004113

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

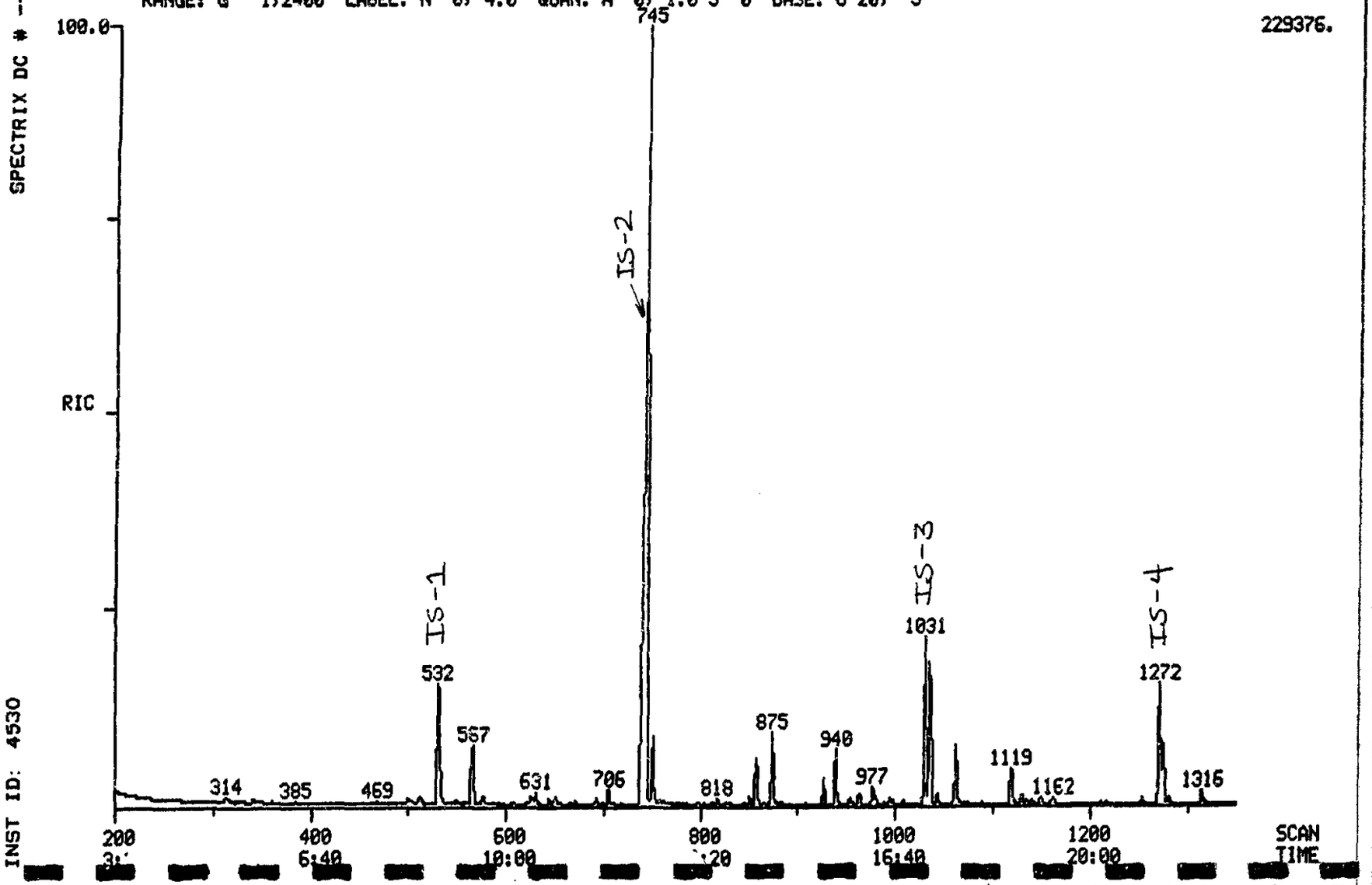
AMPLE ID.	SCK-MW10-001		
FILENAME	4U12057V07	INST	4000
CLIENT	KEYSTONE	ANALYST	NOT
DATE INJECTED	12/19/86 15:18:00	VERIFIED BY	NOT
CALIB STD DATE	12-14-86	CORR. FACTOR	5.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
178	CI01	BROMOCHLOROMETHANE	**IS1**	128	250 UG/L	1.000	20515
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	250 UG/L	1.000	90677
482	CI20	D5-CHLOROBENZENE	**IS3**	117	250 UG/L	1.000	76346
233	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	84 %	1.309	25596
459	CS05	D8-TOLUENE	**SU2**	98	96 %	0.952	75266
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	92 %	1.151	51795
121	C030	METHYLENE CHLORIDE *		84	34 UG/L	0.680	5214
337	C165	BENZENE		78	8 UG/L	0.873	3471
586	C250	TOTAL XYLENES		106	11 UG/L	1.216	1897

* BLANK CORRECTED ON DATA SHEET

RIC
01/13/87 11:43:00
SAMPLE: SCK-MW10-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C07A #1 SCANS 200 TO 1350
CALI: 4U12057C07A #3

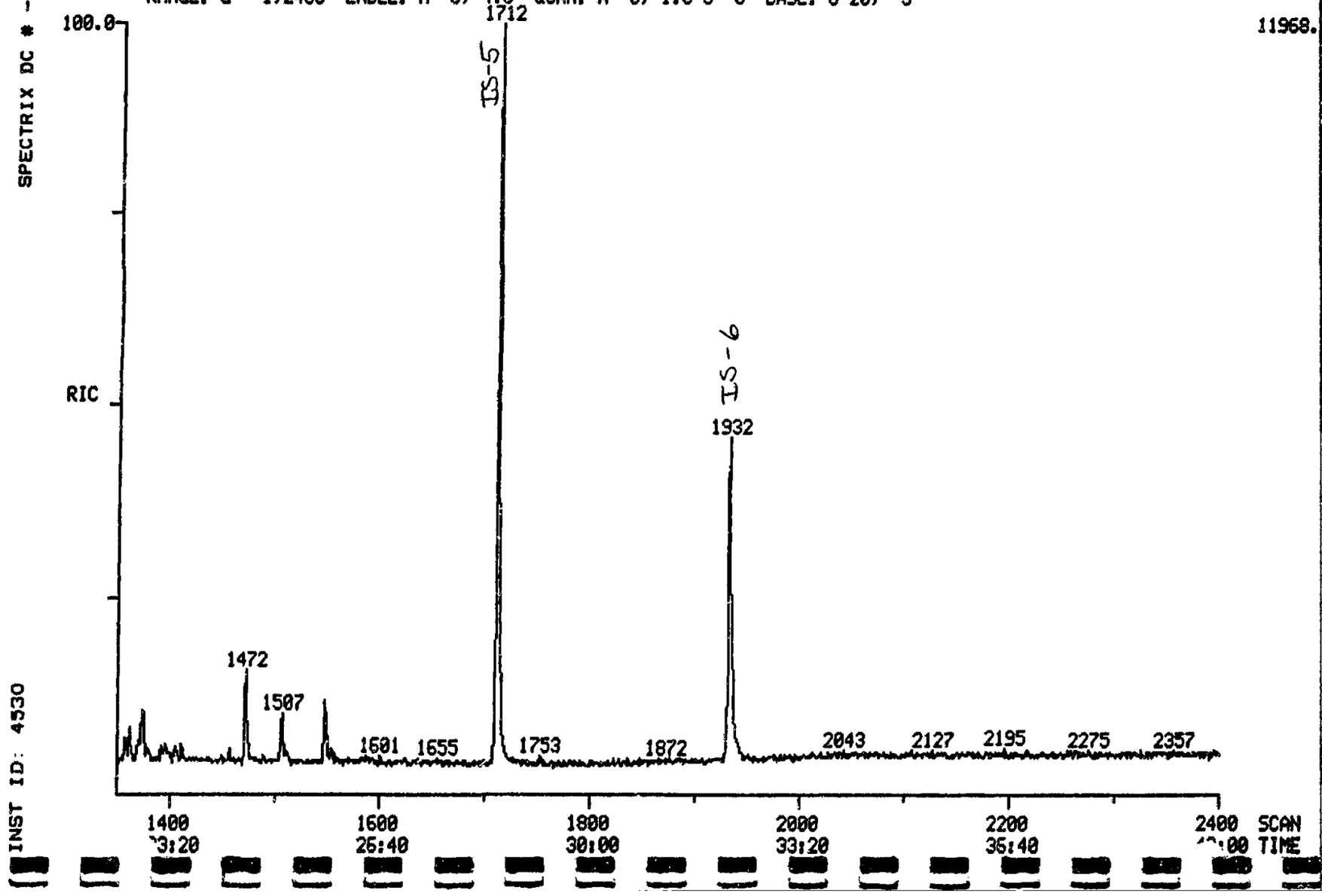


004115

004115

RIC
01/13/87 11:43:00
SAMPLE: SCK-MW10-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C07A #1 SCANS 1350 TO 2400
CALI: 4U12057C07A #3



004116

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. SCK-MW10-001

FILENAME 4U12057C07A

INST ID. 4530

CLIENT KEYSTONE

ANALYST GU

DATE INJECTED 01/13/87 11:43:00

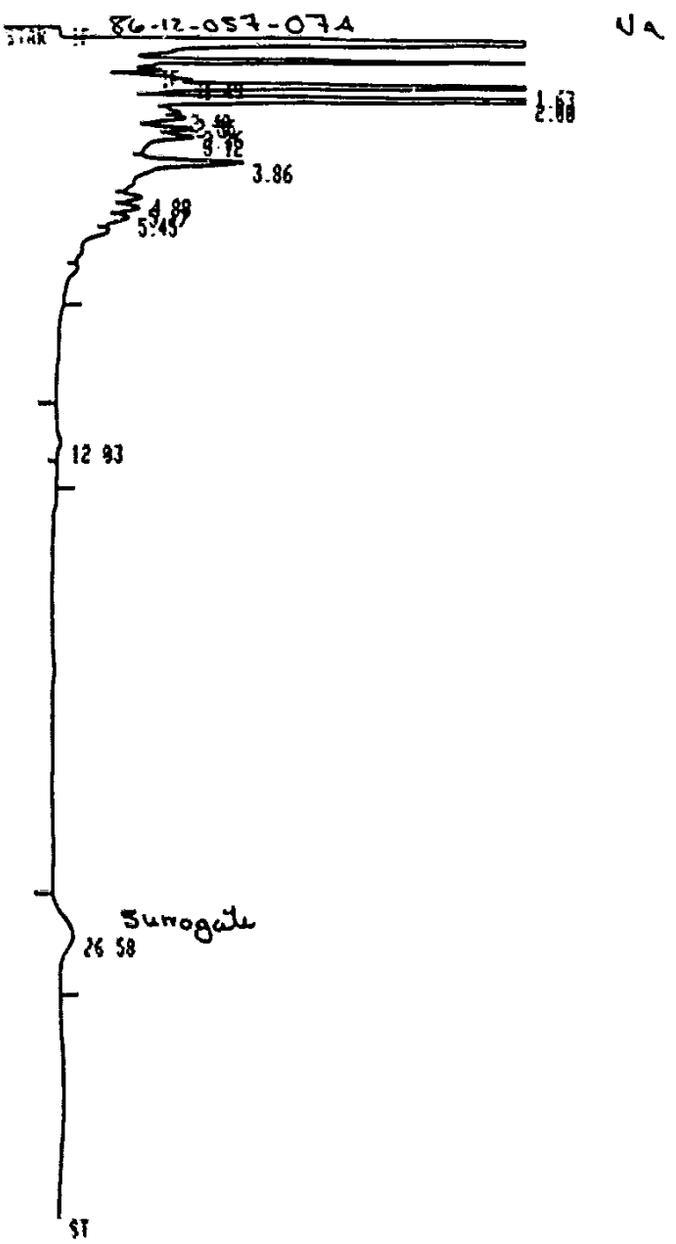
VERIFIED BY

CALIB STD DATE 01/08/87

CORR. FACTOR 20.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
532	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	800 UG/L	1.000	1829[illegible]
740	CI40	NAPHTHALENE-D8 ** IS2 **	136	800 UG/L	1.000	6908[illegible]
1031	CI50	ACENAPHTHENE-D10 ** IS3 **	164	800 UG/L	1.000	3488[illegible]
1272	CI60	PHENANTHRENE-D10 ** IS4 **	188	800 UG/L	1.000	4311[illegible]
1712	CI70	CHRYSENE-D12 ** IS5 **	240	800 UG/L	1.000	1725[illegible]
1932	CI75	PERYLENE-D12 ** IS6 **	264	800 UG/L	1.000	1078[illegible]
745	C450	NAPHTHALENE	128	3413 UG/L	1.007	27291[illegible]
858	C470	2-METHYLNAPHTHALENE	142	162 UG/L	1.159	4933[illegible]
1036	C550	ACENAPHTHENE	153	683 UG/L	1.005	8643[illegible]
1063	C565	DIBENZOFURAN	168	338 UG/L	1.031	1827[illegible]
1119	C590	FLUORENE	166	213 UG/L	1.085	969[illegible]
1275	C640	PHENANTHRENE	178	405 UG/L	1.002	2105[illegible]
1282	C645	ANTHRACENE	178	50 UG/L	1.008	263[illegible]
1472	C655	FLUORANTHENE	202	56 UG/L	1.157	238[illegible]
507	C715	PYRENE	202	41 UG/L	0.880	137[illegible]

* SURROGATES WERE DILUTED OUT



DC#_____-___-___
SPECTRIX HOUSTON
CASE NO. Keystone
SAMPLE NO. Sck-MW10-001
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 180°C
VOLUME INJ. 1 µL
INSTRUMENT ID. 6000

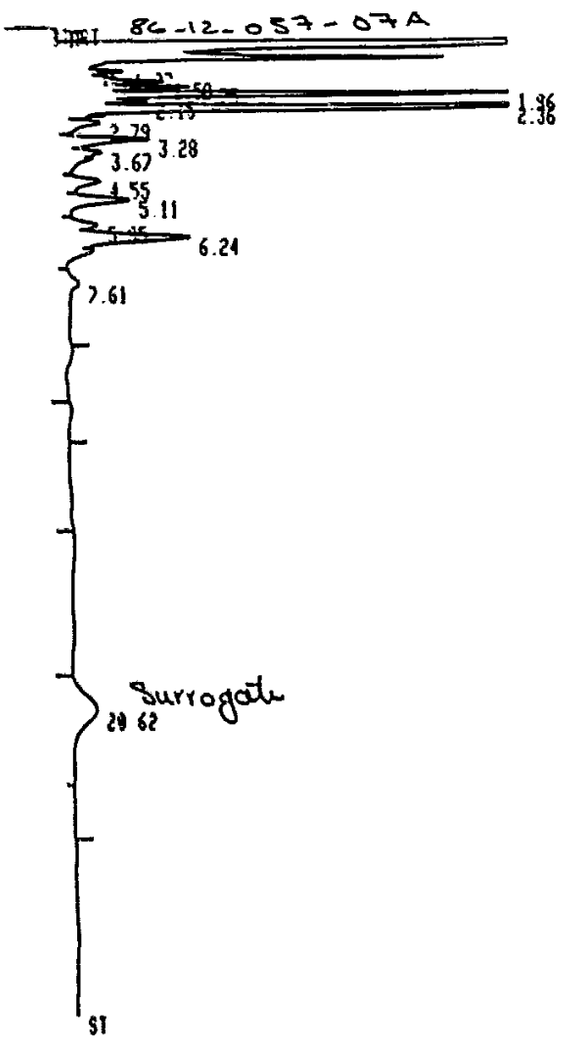
004

RUN # 27 JAN/07/87 02:53:31
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.49	13980	PV	0.166	1.839
1 63	280798	D VB	0.094	36.939
2.00	356380	D PV	0.100	46.882
2 40	8952	VV	0.187	1.178
2.55	10778	D VV	0.154	1.418
2.86	13967	VV	0.156	1.837
3.12	15021	VV	0.271	1.976
3.86	31093	VV	0.317	4.090
4.88	8121	VV	0.231	1.068
5.17	8467	VV	0.215	1.114
5.45	6713	VV	0.257	0.883
12.03	1234	PV	0.641	0.162
26.58	4666	PB	1.129	0.614

004119



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. SCK-MW10-00
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm C
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 253°C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6000
C

RUN # 109 JAN/12/87 17:50:10
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.27	3165	D BV	0.064	1.102
1.58	8928	VV	0.122	3.108
1.75	12682	D VV	0.118	4.415
1.96	57177	D VV	0.105	19.905
2.15	7300	D VV	0.105	2.541
2.36	141288	VB	0.115	49.186
2.79	2614	BP	0.166	0.910
3.28	10931	PV	0.206	3.805
3.67	4614	VV	0.180	1.606
4.55	4401	VV	0.303	1.532
5.11	8400	VV	0.258	2.924
5.85	4207	VV	0.259	1.465
6.24	16550	VV	0.294	5.762
7.61	1595	PB	0.454	0.555
20.62	3402	BV	1.035	1.184

Received: 12/12/86

SPECTRIX REPORT Work Order # 86-12-057

Results by Sample

004120

SAMPLE ID SCK-MW10-001 SAMPLE # 07 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	24.7 ug/L	BE	<3 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	<9 ug/L
CU	<10 ug/L	FE	2320 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	<5 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	29 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-MW13-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004121

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: SCK-MW13-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205708
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: YPM

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V08
DILUTION FACTOR: 1:50

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	500 U
C015	BROMOMETHANE	500 U
C020	VINYL CHLORIDE	500 U
C025	CHLOROETHANE	500 U
C030	METHYLENE CHLORIDE	250 U
C035	ACETONE	500 U
C040	CARBON DISULFIDE	250 U
C045	1,1-DICHLOROETHENE	250 U
C050	1,1-DICHLOROETHANE	250 U
C055	TRANS-1,2-DICHLOROETHENE	250 U
C060	CHLOROFORM	250 U
C065	1,2-DICHLOROETHANE	250 U
C110	2-BUTANONE	500 U
C115	1,1,1-TRICHLOROETHANE	250 U
C120	CARBON TETRACHLORIDE	250 U
C125	VINYL ACETATE	500 U
C130	BROMODICHLOROMETHANE	250 U
C140	1,2-DICHLOROPROPANE	250 U
C145	TRANS-1,3-DICHLOROPROPENE	250 U
C150	TRICHLOROETHENE	250 U
C155	DIBROMOCHLOROMETHANE	250 U
C160	1,1,2-TRICHLOROETHANE	250 U
C165	BENZENE	250 U
C170	CIS-1,3-DICHLOROPROPENE	250 U
C175	2-CHLOROETHYLVINYLETHER	500 U
C180	BROMOFORM	250 U
C210	2-HEXANONE	500 U
C205	4-METHYL-2-PENTANONE	500 U
C220	TETRACHLOROETHENE	250 U
C225	1,1,2,2-TETRACHLOROETHANE	250 U
C230	TOLUENE	250 U
C235	CHLOROBENZENE	250 U
C240	ETHYLBENZENE	250 U
C245	STYRENE	250 U
C250	TOTAL XYLENES	250 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004122

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-MW13-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205708
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: YPM

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/18/86
DATE ANALYZED: 01/13/87

DATAFILE: 4U12057C08
DILUTION FACTOR: 200.0

CAS #	COMPOUND	UG/L
C315	PHENOL	2000 U
C325	BIS(2-CHLOROETHYL)ETHER	2000 U
C330	2-CHLOROPHENOL	2000 U
C335	1,3-DICHLOROBENZENE	2000 U
C340	1,4-DICHLOROBENZENE	2000 U
C345	BENZYL ALCOHOL	2000 U
C350	1,2-DICHLOROBENZENE	2000 U
C355	2-METHYLPHENOL	1300 J
C360	BIS(2-CHLOROISOPROPYL)ETHER	2000 U
C365	4-METHYLPHENOL	1400 J
C370	N-NITROSODIPROPYLAMINE	2000 U
C375	HEXACHLOROETHANE	2000 U
C410	NITROBENZENE	2000 U
C415	ISOPHORONE	2000 U
C420	2-NITROPHENOL	2000 U
C425	2,4-DIMETHYLPHENOL	6300
C430	BENZOIC ACID	10000 U
C435	BIS(2-CHLOROETHOXY)METHANE	2000 U
C440	2,4-DICHLOROPHENOL	2000 U
C445	1,2,4-TRICHLOROBENZENE	2000 U
C450	NAPHTHALENE	26000
C455	4-CHLOROANILINE	2000 U
C460	HEXACHLOROBUTADIENE	2000 U
C465	P-CHLORO-M-CRESOL	2000 U
C470	2-METHYLNAPHTHALENE	1400 J
C510	HEXACHLOROCYCLOPENTADIENE	2000 U
C515	2,4,6-TRICHLOROPHENOL	2000 U
C520	2,4,5-TRICHLOROPHENOL	10000 U
C525	2-CHLORONAPHTHALENE	2000 U
C530	2-NITROANILINE	10000 U
C535	DIMETHYL PHTHALATE	2000 U
C540	ACENAPHTHYLENE	2000 U
C545	3-NITROANILINE	10000 U
C550	ACENAPHTHENE	940 J
C555	2,4-DINITROPHENOL	10000 U
C560	4-NITROPHENOL	10000 U
C565	DIBENZOFURAN	510 J
C570	2,4-DINITROTOLUENE	2000 U
C575	2,6-DINITROTOLUENE	2000 U

004123

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-MW13-001

MIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C08

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	2000 U
C585	4-CHLOROPHENYL PHENYL ETHER	2000 U
C590	FLUORENE	390 J
C595	4-NITROANILINE	10000 U
C610	4,6-DINITRO-2-METHYLPHENOL	10000 U
C615	N-NITROSODIPHENYLAMINE	2000 U
C625	4-BROMOPHENYL PHENYL ETHER	2000 U
C630	HEXACHLOROBENZENE	2000 U
C635	PENTACHLOROPHENOL	10000 U
C640	PHENANTHRENE	380 J
C645	ANTHRACENE	2000 U
C650	DI-N-BUTYL PHTHALATE	2000 U
C655	FLUORANTHENE	2000 U
C715	PYRENE	2000 U
C720	BUTYL BENZYL PHTHALATE	2000 U
C725	3,3'-DICHLOROBENZIDINE	4000 U
C730	BENZO(A)ANTHRACENE	2000 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	2000 U
C740	CHRYSENE	2000 U
C760	DI-N-OCTYL PHTHALATE	2000 U
C765	BENZO(B)FLUORANTHENE	2000 U
C770	BENZO(K)FLUORANTHENE	2000 U
C775	BENZO(A)PYRENE	2000 U
C780	INDENO(1,2,3-CD)PYRENE	2000 U
C785	DIBENZO(A,H)ANTHRACENE	2000 U
C790	BENZO(GHI)PERYLENE	2000 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004124

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-08A

DC No: KEYSTONE
SMO No: SCK-MW13-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/7/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : ~~6000~~ NA.

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004125

INST ID: 4000 SPECTRIX DC # ----- 8

SAMPLE NUMBER: SCK-MW13-00

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: NOT DATAFILE: 4U12057V08

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
	NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.			

UG/

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

INST ID: 4530 SPECTRIX DC # ---- 8

SAMPLE: SCK-MW13

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ---

SDC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12057C08

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L	
95-13-6	1H-INDENE	568	937	1400	J
498-81-7	CYCLOHEXANEMETHANOL, .ALPHA.,.ALPHA.,4-TR	696	858	1100	J
526-75-0	PHENOL, 2,3-DIMETHYL-	726	908	3900	J
95-15-8	BENZO[B]THIOPHENE	749	844	2800	J
99-89-8	PHENOL, 4-(1-METHYLETHYL)-	789	877	1100	J
1515-95-3	BENZENE, 1-ETHYL-4-METHOXY-	800	876	900	J
3855-26-3	PHENOL, 2-ETHYL-4-METHYL-	822	849	1800	J
2471-83-2	1H-INDENE, 1-ETHYLIDENE-	874	793	1100	J
6351-10-6	1H-INDEN-1-OL, 2,3-DIHYDRO-	880	755	880	J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	946		960	J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1101		2500	J

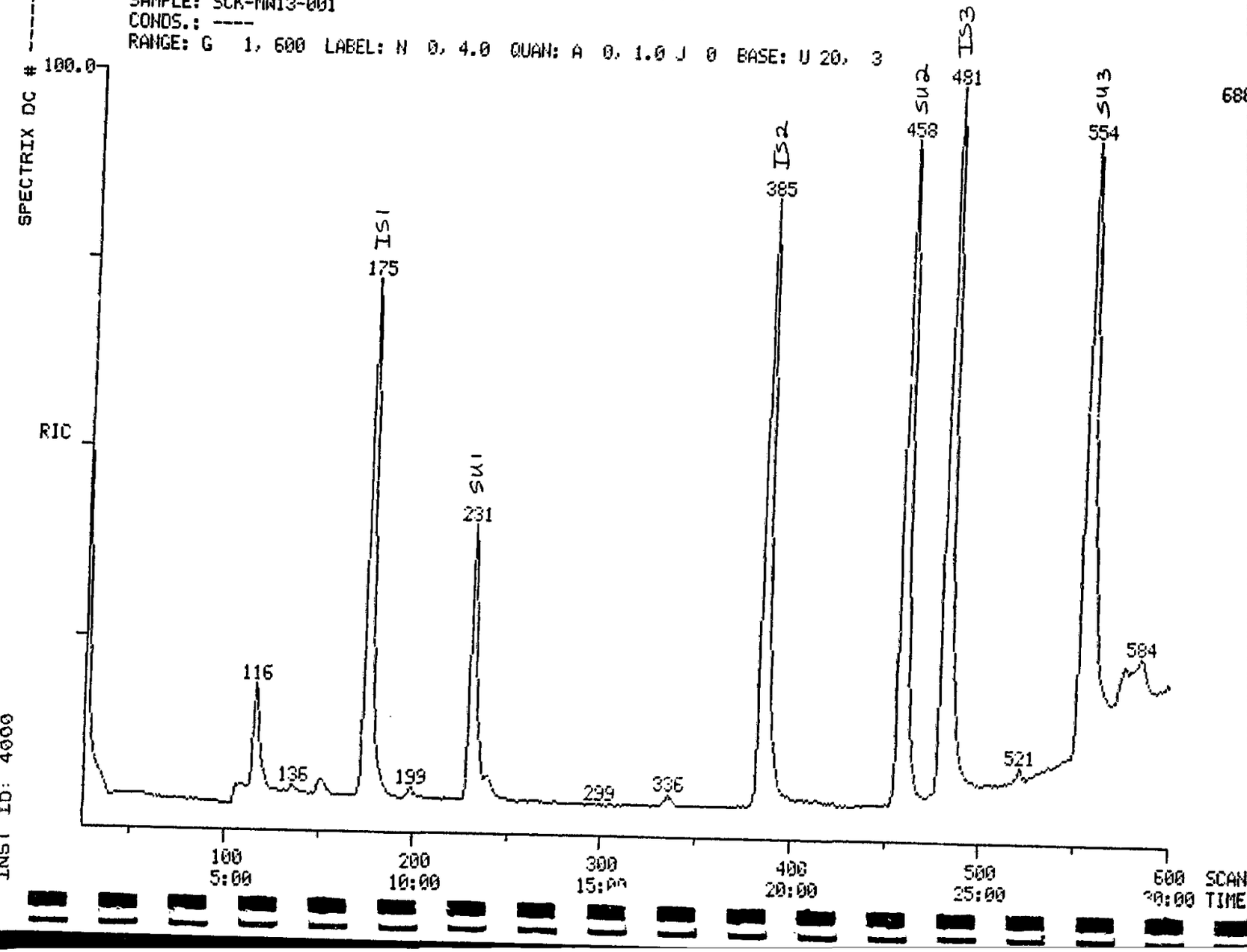
J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

RIC
12/19/86 15:59:00
SAMPLE: SCK-MW13-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057V08 #1
CALI: 4U12057V08 #3

SCANS 25 TO 600

004128



004128

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID.	SCK-MW13-001		
FILENAME	4U12057V08	INST	4000
CLIENT	KEYSTONE	ANALYST	NOT
DATE INJECTED	12/19/86 15:59:00	VERIFIED BY	NOT
CALIB STD DATE	12-14-86	CORR. FACTOR	50.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
175	CI01	BROMOCHLOROMETHANE	**IS1**	128	2500 UG/L	1.000	21001
385	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	2500 UG/L	1.000	97316
481	CI20	D5-CHLOROBENZENE	**IS3**	117	2500 UG/L	1.000	87826
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	88 %	1.320	27373
458	CS05	D8-TOLUENE	**SU2**	98	93 %	0.952	83949
554	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	86 %	1.152	55190
115	C030	METHYLENE CHLORIDE *		84	395 UG/L	0.663	6161

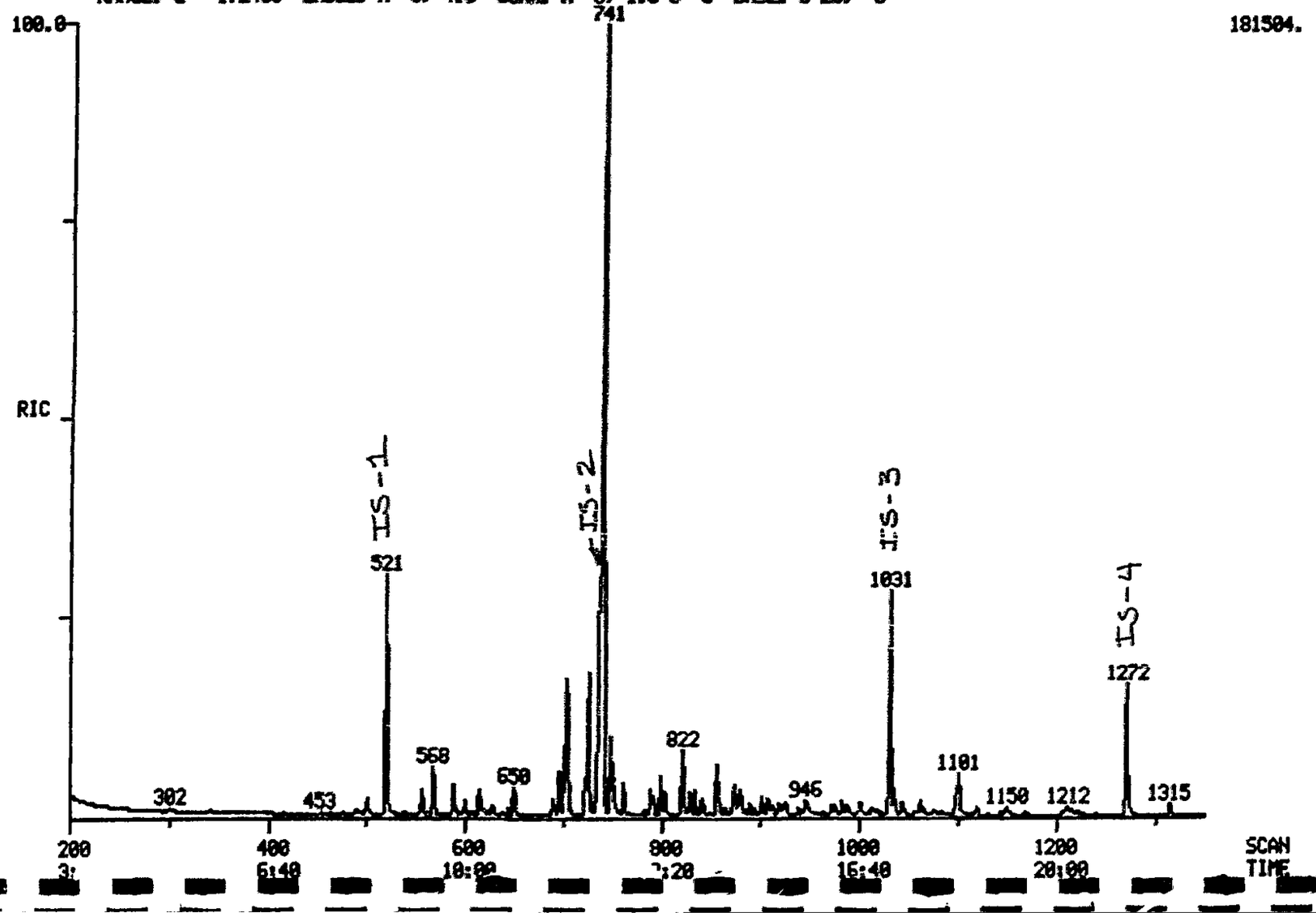
* BLANK CORRECTED ON DATA SHEET

RIC
01/13/87 12:33:00
SAMPLE: SCK-MW13-001
CONDS.: ---
RANGE: G 1.2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12857C08 #1 SCANS 200 TO 1350
CAL1: 4U12857C08 #3

SPECTRIX DC # ----14

INST ID: 4530

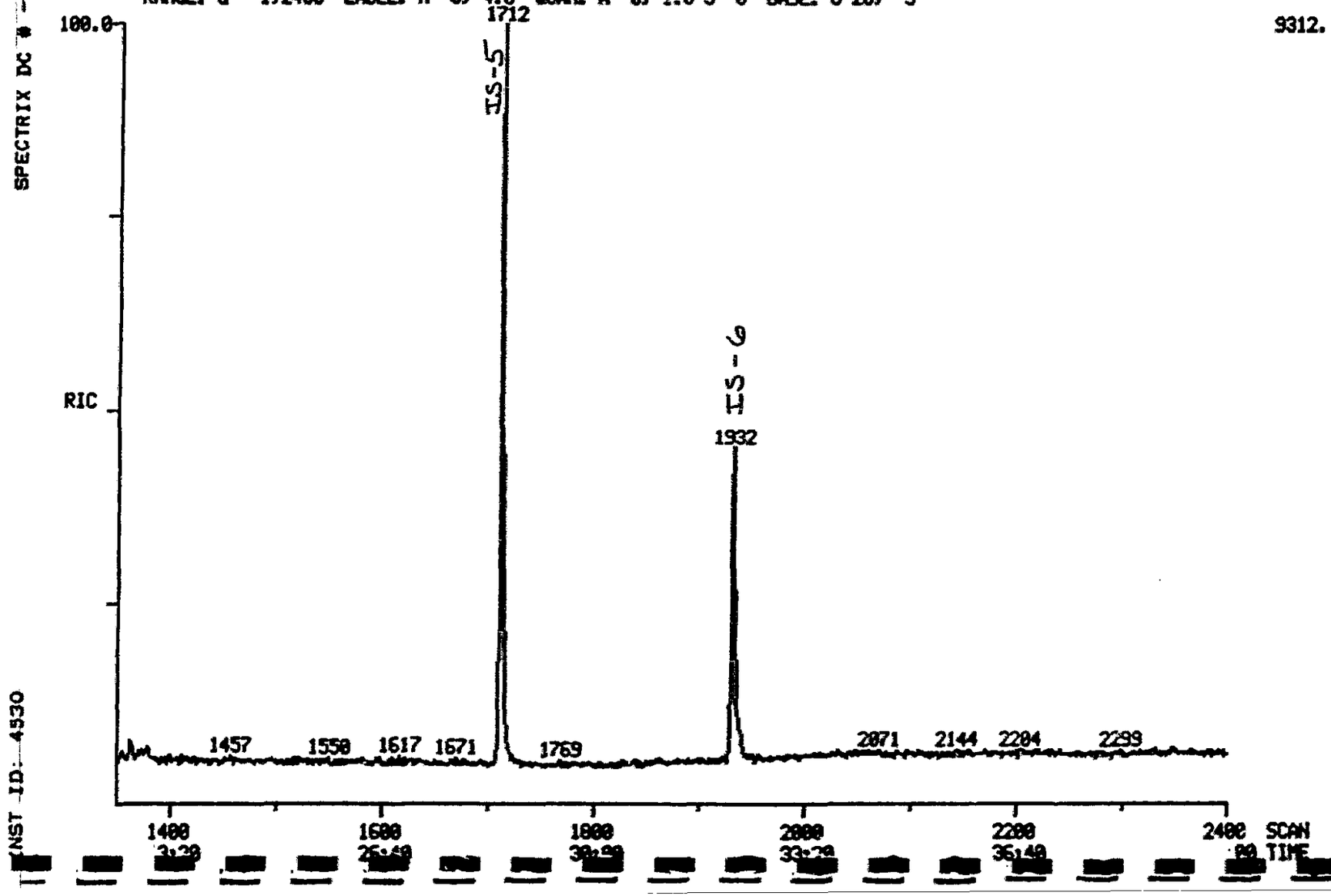


004130

RIC
01/13/87 12:33:00
SAMPLE: SCK-MW13-001
CONDS.: ——
RANGE: G 1.2400 LABEL: N 0. 4.0 QUAN: A 0. 1.0 J 0 BASE: U 20. 3

DATA: 4U12057C08 #1
CALI: 4U12057C08 #3

SCANS 1350 TO 2400



SPECTRIX DC # ——-14

INST ID: 4530

004131

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. SCK-MW13-001

:LENAME 4U12057C08 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

DATE INJECTED 01/13/87 12:33:00 VERIFIED BY

CALIB STD DATE 01/08/87 CORR. FACTOR 200.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
521	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	8000 UG/L	1.000	1977
737	CI40	NAPHTHALENE-D8 ** IS2 **	136	8000 UG/L	1.000	7132
1031	CI50	ACENAPHTHENE-D10 ** IS3 **	164	8000 UG/L	1.000	3376
1272	CI60	PHENANTHRENE-D10 ** IS4 **	188	8000 UG/L	1.000	3587
1712	CI70	CHRYSENE-D12 ** IS5 **	240	8000 UG/L	1.000	1468
1932	CI75	PERYLENE-D12 ** IS6 **	264	8000 UG/L	1.000	903
588	C355	2-METHYLPHENOL	108	1315 UG/L	1.129	481
615	C365	4-METHYLPHENOL	108	1435 UG/L	1.180	518
703	C425	2,4-DIMETHYLPHENOL	122	6258 UG/L	0.954	2015
741	C450	NAPHTHALENE	128	26013 UG/L	1.005	3054
857	C470	2-METHYLNAPHTHALENE	142	1372 UG/L	1.163	816
1035	C550	ACENAPHTHENE	153	943 UG/L	1.004	353
1062	C565	DIBENZOFURAN	168	510 UG/L	1.030	266
1119	C590	FLUORENE	166	391 UG/L	1.085	172
275	C640	PHENANTHRENE	178	380 UG/L	1.002	164

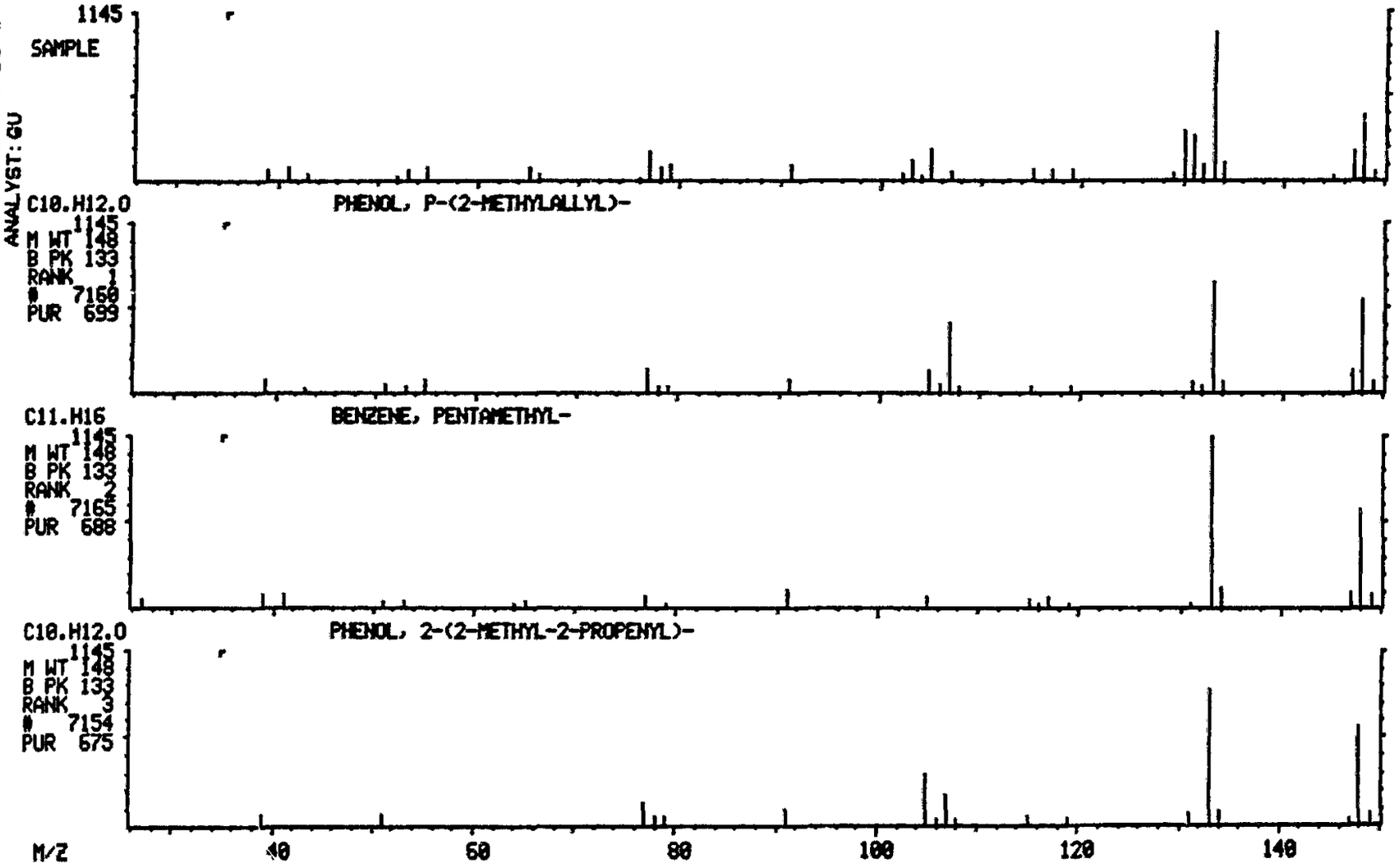
* SURROGATES WERE DILUTED OUT

004132

LIBRARY SEARCH 004133
01/13/87 12:33:00 + 15:46
SAMPLE: SCK-MW13-001
CONDS.: ---
ENHANCED (S 158 2N 0T)

DATA: 4U12057C08 # 946 BASE M/Z: 133
CALI: 4U12057C08 # 3 RIC: 2371.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530



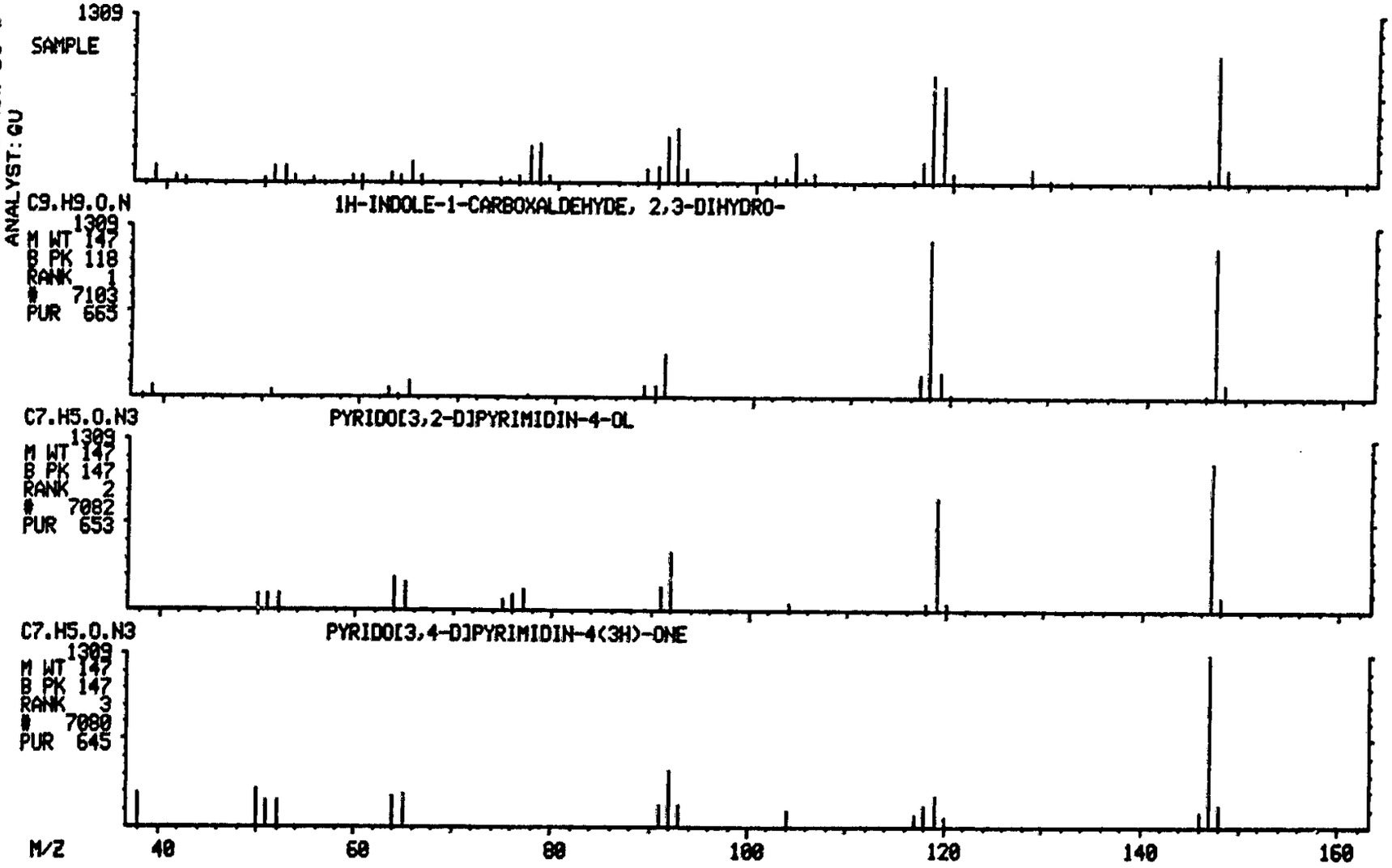
004133

LIBRARY SEARCH
01/13/87 12:33:00 + 18:21
SAMPLE: SCK-MW13-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

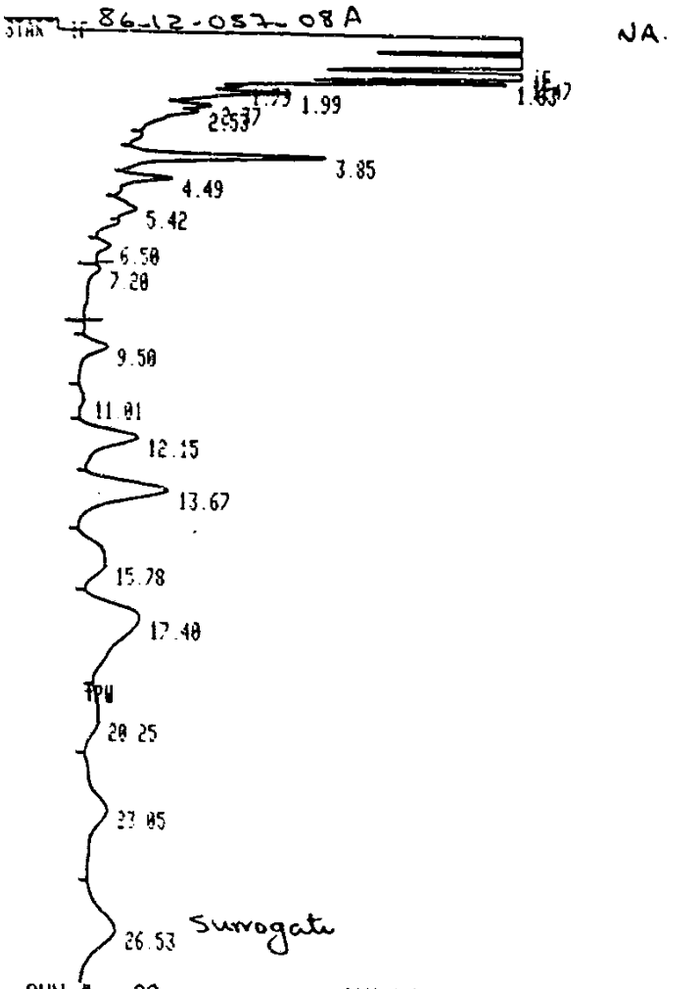
DATA: 4U12057C08 #1101
CALI: 4U12057C08 # 3

BASE M/Z: 147
RIC: 7727.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: 4530



004134



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. SCK-MW13-0
PESTICIDE FRACTION
2ND COLUMN CONFIRMATI

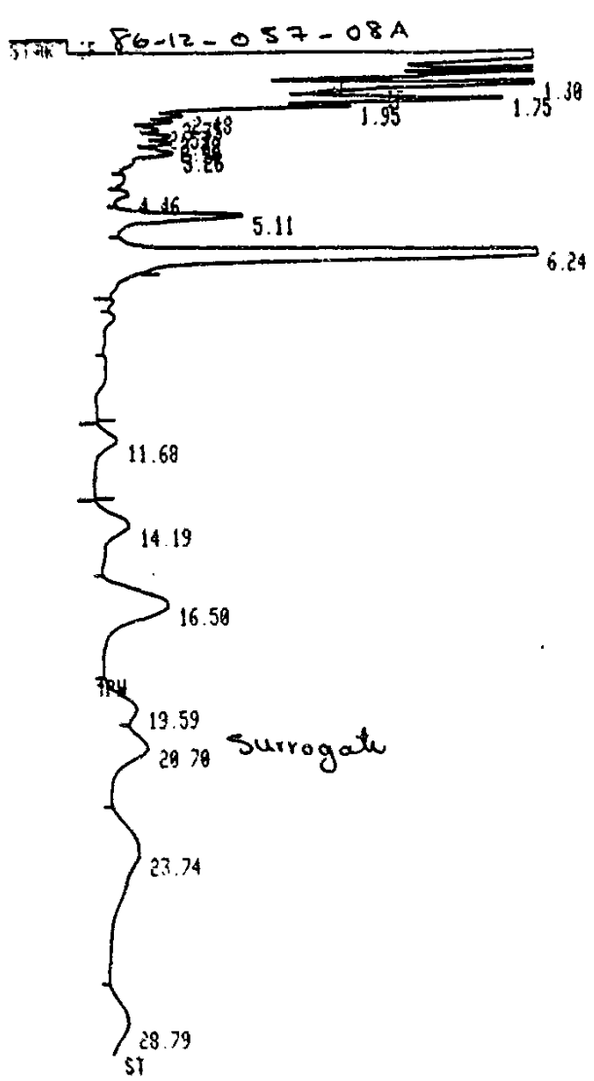
2ND COLUMN II C
1.8m x2mm ID x6mm OD
3% SP-2100
100/120 SUPELCOPORT
COLUMN TEMP. 187°C
VOLUME INJ. 1 µl
INSTRUMENT ID. 6000

004

RUN # 28 JAN/07/87 03:29:48
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.47	133222	BV	0.153	31.420
1.63	66244	D VP	0.084	15.623
1.79	3950	D PV	0.089	0.932
1.99	22807	D VP	0.132	5.379
2.37	9938	PV	0.137	2.344
2.53	8511	D VP	0.181	2.007
3.85	52838	PV	0.200	12.462
4.49	14525	VV	0.260	3.426
5.42	8345	VV	0.414	1.968
6.50	3741	PB	0.272	0.882
9.50	7080	VP	0.415	1.670
11.01	1521	PV	0.492	0.359
12.15	16184	VV	0.619	3.817
13.67	24106	VV	0.642	5.685
15.78	7577	VV	1.142	1.787
17.40	17097	VV	1.571	4.032
20.25	6032	VV	1.665	1.423
23.05	8312	VV	1.950	1.960
26.53	10703	VP	1.846	2.524
33.96	1271	I PP	1.333	0.300



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Sck-MW13-0
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm C
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. 1 ml
INSTRUMENT ID. 6000

RUN # 110 JAN/12/87 18:21:26
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.30	253576	D BB	0.084	53.110
1.75	31615	BV	0.139	6.622
1.95	18490	D VP	0.104	3.873
2.18	2646	D PV	0.105	0.554
2.35	2789	D VP	0.091	0.584
2.57	2291	PV	0.132	0.480
2.78	4260	VV	0.156	0.892
2.96	4673	D VV	0.154	0.979
3.26	5636	VP	0.274	1.180
4.46	1568	PP	0.210	0.328
5.11	16479	PP	0.244	3.452
6.24	99304	PB	0.263	20.799
11.68	2686	BB	0.507	0.563
14.19	4300	BV	0.919	0.901
16.50	9114	VV	1.091	1.909
19.59	4724	VV	0.983	0.989
20.70	6065	VV	1.231	1.270
23.74	4592	VV	2.457	0.962
28.79	2643	I VP	1.361	0.554

Received: 12/12/86

SPECTRIX REPORT Work Order # 86-12-057

Results by Sample

004137

SAMPLE ID SCK-MW13-001 SAMPLE # 08 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	97.9 ug/L	BE	<3 ug/L	CD	8 ug/L	CN_SU	<100 ug/L	CR	10 ug/L
CU	<10 ug/L	FE	5110 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	<5 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	29 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-MW22-001

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram and integrator print out

✓ Inorganic Analysis Data Sheets (IADS)

004138

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: SCK-MW22-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205709
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: YPM

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V09

DILUTION FACTOR: 1:1

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	40
C035	ACETONE	10 U
C040	CARBON DISULFIDE	5 U
C045	1,1-DICHLOROETHENE	5 U
C050	1,1-DICHLOROETHANE	5 U
C055	TRANS-1,2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1,2-DICHLOROETHANE	5 U
C110	2-BUTANONE	10 U
C115	1,1,1-TRICHLOROETHANE	5 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	10 U
C130	BROMODICHLOROMETHANE	5 U
C140	1,2-DICHLOROPROPANE	5 U
C145	TRANS-1,3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1,1,2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1,3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	10 U
C180	BROMOFORM	5 U
C210	2-HEXANONE	10 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	5 U
C225	1,1,2,2-TETRACHLOROETHANE	5 U
C230	TOLUENE	5 U
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	5 U
C245	STYRENE	5 U
C250	TOTAL XYLENES	5 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004139

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-MW22-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205709
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ypm...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86.

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: ...12/18/86.
DATE ANALYZED: 01/13/87

DATAFILE: 4U12057C09
DILUTION FACTOR: 1.0.....

CAS #	COMPOUND	UG/L
C315	PHENOL	10 U
C325	BIS(2-CHLOROETHYL)ETHER	10 U
C330	2-CHLOROPHENOL	10 U
C335	1,3-DICHLOROBENZENE	10 U
C340	1,4-DICHLOROBENZENE	10 U
C345	BENZYL ALCOHOL	10 U
C350	1,2-DICHLOROBENZENE	10 U
C355	2-METHYLPHENOL	10 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	10 U
C365	4-METHYLPHENOL	10 U
C370	N-NITROSODIPROPYLAMINE	10 U
C375	HEXACHLOROETHANE	10 U
C410	NITROBENZENE	10 U
C415	ISOPHORONE	10 U
C420	2-NITROPHENOL	10 U
C425	2,4-DIMETHYLPHENOL	10 U
C430	BENZOIC ACID	50 U
C435	BIS(2-CHLOROETHOXY)METHANE	10 U
C440	2,4-DICHLOROPHENOL	10 U
C445	1,2,4-TRICHLOROBENZENE	10 U
C450	NAPHTHALENE	10 U
C455	4-CHLOROANILINE	10 U
C460	HEXACHLOROBUTADIENE	10 U
C465	P-CHLORO-M-CRESOL	10 U
C470	2-METHYLNAPHTHALENE	10 U
C510	HEXACHLOROCYCLOPENTADIENE	10 U
C515	2,4,6-TRICHLOROPHENOL	10 U
C520	2,4,5-TRICHLOROPHENOL	50 U
C525	2-CHLORONAPHTHALENE	10 U
C530	2-NITROANILINE	50 U
C535	DIMETHYL PHTHALATE	10 U
C540	ACENAPHTHYLENE	10 U
C545	3-NITROANILINE	50 U
C550	ACENAPHTHENE	10 U
C555	2,4-DINITROPHENOL	50 U
C560	4-NITROPHENOL	50 U
C565	DIBENZOFURAN	10 U
C570	2,4-DINITROTOLUENE	10 U
C575	2,6-DINITROTOLUENE	10 U

004140

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-MW22-001

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12057C09

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	10 U
C585	4-CHLOROPHENYL PHENYL ETHER	10 U
C590	FLUORENE	10 U
C595	4-NITROANILINE	50 U
C610	4,6-DINITRO-2-METHYLPHENOL	50 U
C615	N-NITROSODIPHENYLAMINE	10 U
C625	4-BROMOPHENYL PHENYL ETHER	10 U
C630	HEXACHLOROBENZENE	10 U
C635	PENTACHLOROPHENOL	50 U
C640	PHENANTHRENE	10 U
C645	ANTHRACENE	10 U
C650	DI-N-BUTYL PHTHALATE	10 U
C655	FLUORANTHENE	10 U
C715	PYRENE	10 U
C720	BUTYL BENZYL PHTHALATE	10 U
C725	3,3'-DICHLOROBENZIDINE	20 U
C730	BENZO(A)ANTHRACENE	10 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	10 U
C740	CHRYSENE	10 U
C760	DI-N-OCTYL PHTHALATE	10 U
C765	BENZO(B)FLUORANTHENE	10 U
C770	BENZO(K)FLUORANTHENE	10 U
C775	BENZO(A)PYRENE	10 U
C780	INDENO(1,2,3-CD)PYRENE	10 U
C785	DIBENZO(A,H)ANTHRACENE	10 U
C790	BENZO(GHI)PERYLENE	10 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004141

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-09A

DC No: KEYSTONE
SMO No: SCK-MW22-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/7/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. ✓Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 NA.

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004142

INST ID 4000 SPECTRIX DC # ----- 8

SAMPLE NUMBER: SCK-MW22-001

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: CKT DATAFILE: 4U12057V09

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

UG/

004143

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

INST ID: 4530 SPECTRIX DC # ---- 8

SAMPLE: SCK-MW22

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ---

QC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12057C09

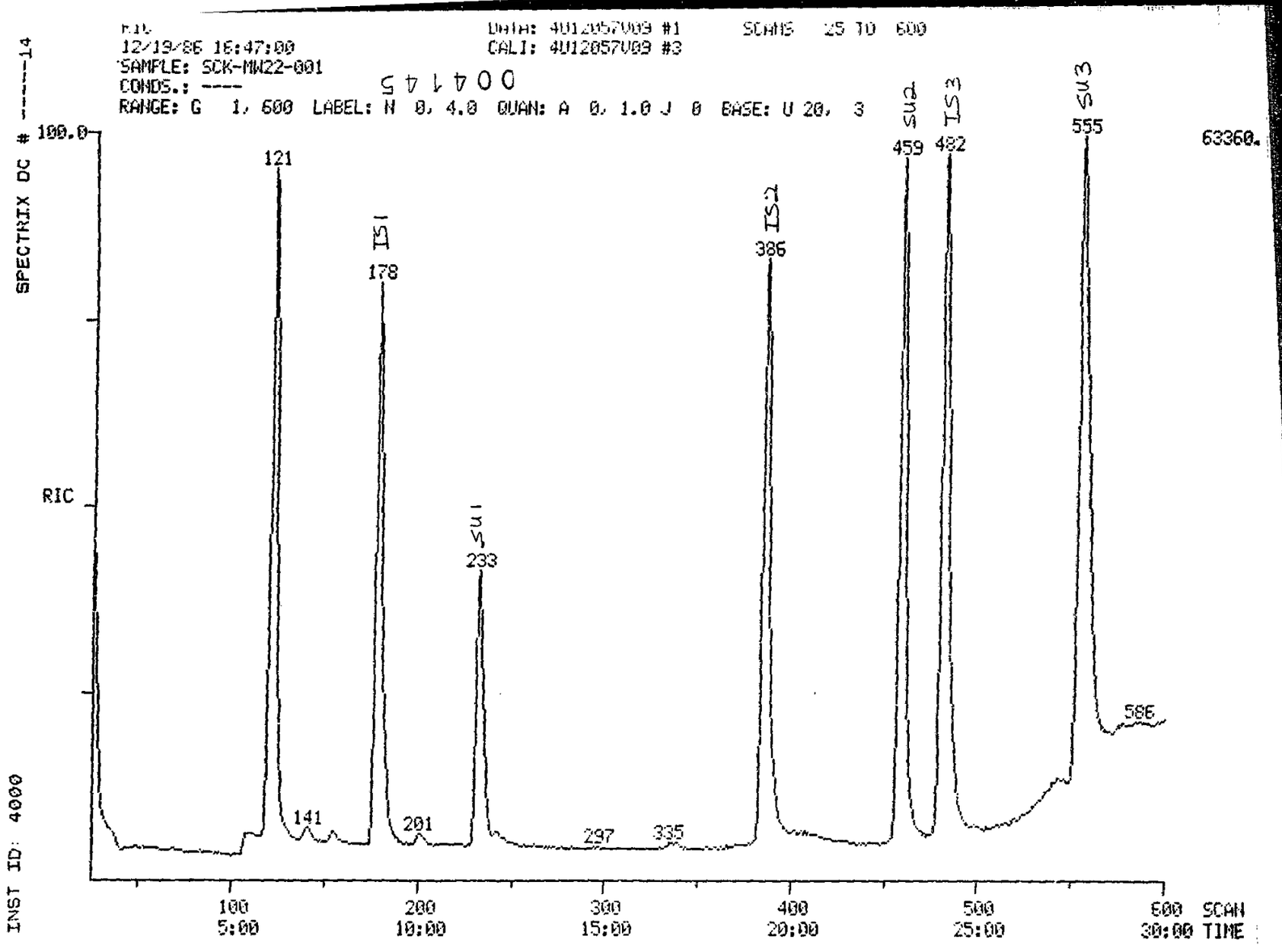
B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
110-12-3	2-HEXANONE, 5-METHYL-	* 289	936	13 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

* ALSO FOUND IN BLANK

004144


DATA: 4012057V09 #1
CALI: 4012057V09 #3
SCANS 25 TO 600
12/19/86 18:47:00
SAMPLE: SCK-MW22-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
004145
SPECTRIX DC # ------14
INST ID: 4000
RIC
100.0
63360.
121
141
IS1
178
201
SU1
233
297
335
IS2
386
SU2
459
IS3
482
SU3
555
586
100
5:00
200
10:00
300
15:00
400
20:00
500
25:00
600
30:00
SCAN
TIME

004145

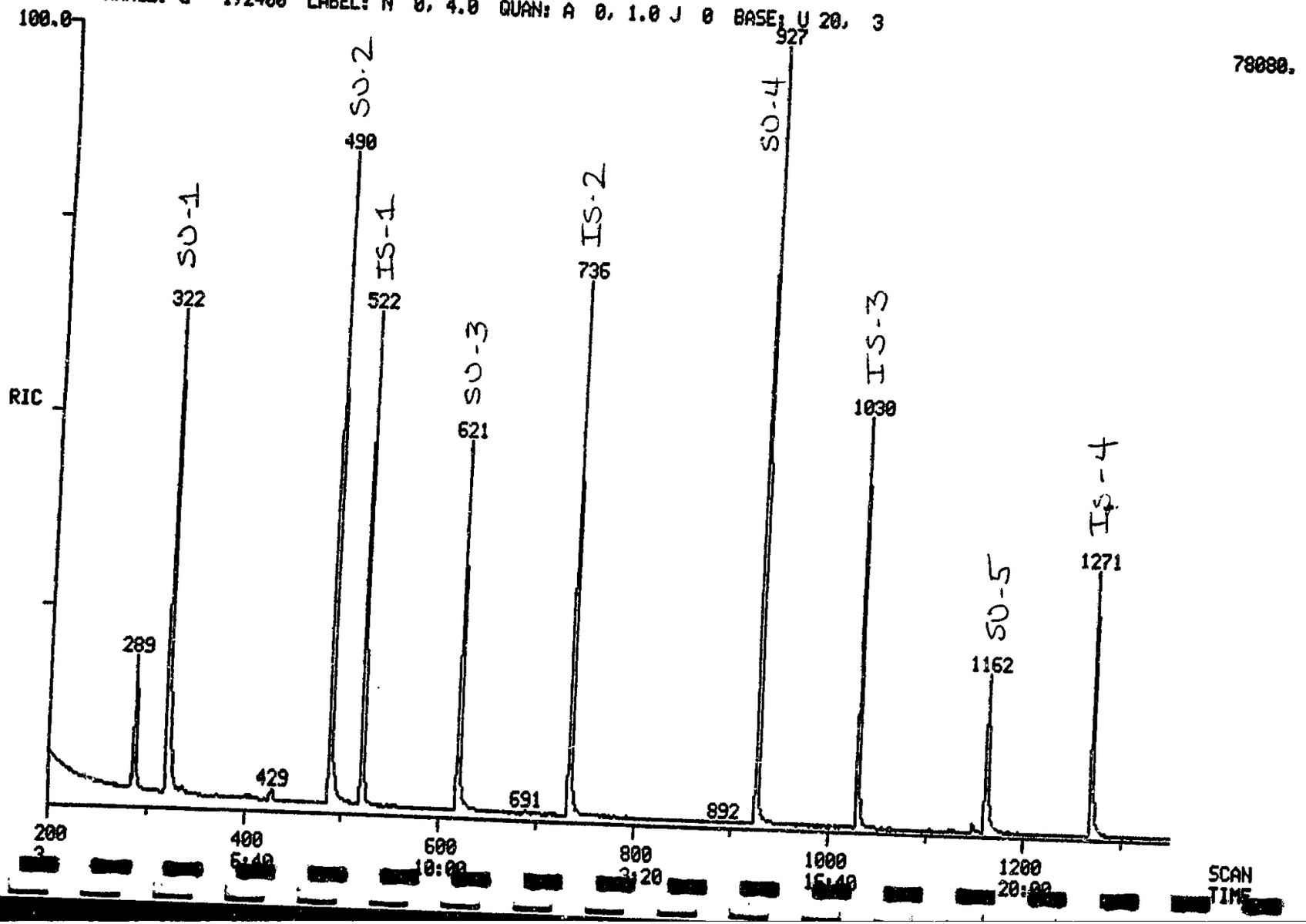
RIC
01/13/87 13:24:00
SAMPLE: SCK-MW22-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C09 #1
CALI: 4U12057C09 #3

SCANS 200 TO 1350

SPECTRIX DC # ----14

INST ID: 4530



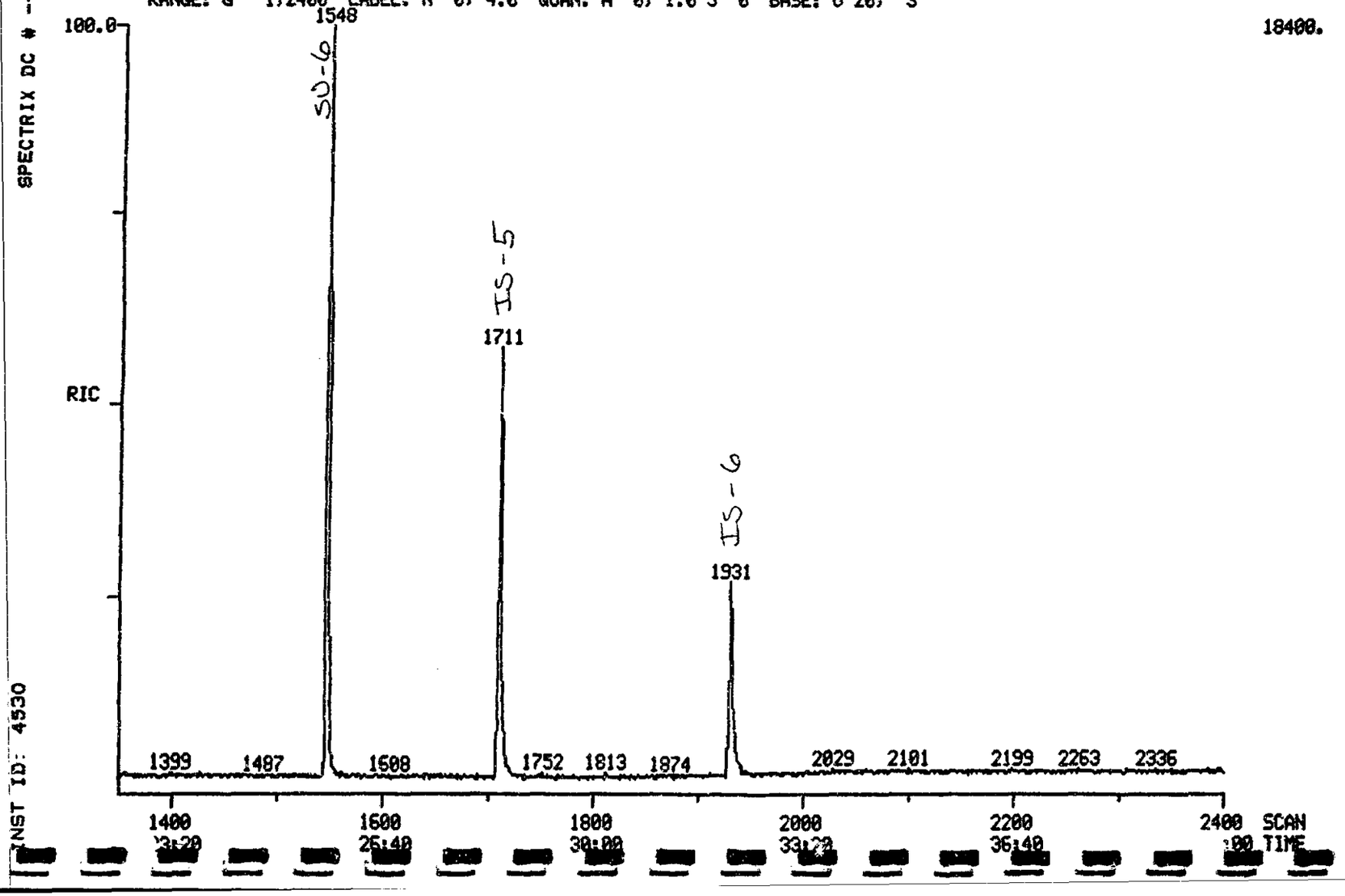
004146

004146

RIC
01/13/87 13:24:00
SAMPLE: SCK-MW22-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12057C09 #1
CALI: 4U12057C09 #3

SCANS 1350 TO 2400



004147

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. SCK-MW22-001

FILENAME 4U12057C09 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

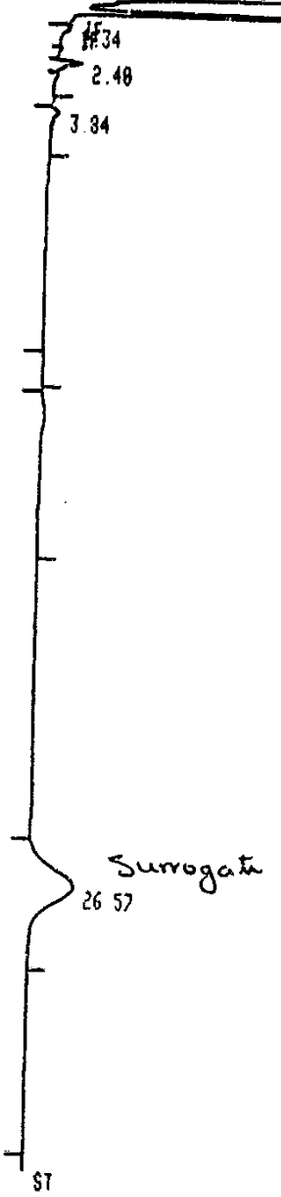
DATE INJECTED 01/13/87 13:24:00 VERIFIED BY YPM

CALIB STD DATE 01/08/87 CORR. FACTOR 1.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
322	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	40 UG/L	1.000	1606
736	CI40	NAPHTHALENE-D8 ** IS2 **	136	40 UG/L	1.000	5799
1030	CI50	ACENAPHTHENE-D10 ** IS3 **	164	40 UG/L	1.000	2969
1271	CI60	PHENANTHRENE-D10 ** IS4 **	188	40 UG/L	1.000	03421
1711	CI70	CHRYSENE-D12 ** IS5 **	240	40 UG/L	1.000	1624
1931	CI75	PERYLENE-D12 ** IS6 **	264	40 UG/L	1.000	1074
322	CS50	2-FLUOROPHENOL ** SU1 **	112	73 %	0.617	3907
490	CS45	PHENOL-D5 ** SU2 **	99	75 %	0.939	5928
1162	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	67 %	1.128	575
621	CS20	NITROBENZENE-D5 ** SU3 **	82	96 %	0.844	3219
927	CS25	2-FLUOROBIPHENYL ** SU4 **	172	96 %	0.900	7575
1547	CS30	TERPHENYL-D14 ** SU6 **	244	115 %	0.904	2468

004148

STRK # 86-12-057-09A NA.



DC#_____

SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Sck-MW22-0

PESTICIDE FRACTION

2ND COLUMN CONFIRMATI

2ND COLUMN II C

1.8m x2mm ID x6mm OD

3% SP-2100

100/120 SUPELCOPORT

COLUMN TEMP. 187 °C

VOLUME INJ. 1 µl

INSTRUMENT ID. 6000

RUN # 29 JAN/07/87 04:06:05

WORKFILE ID: C

WORKFILE NAME:

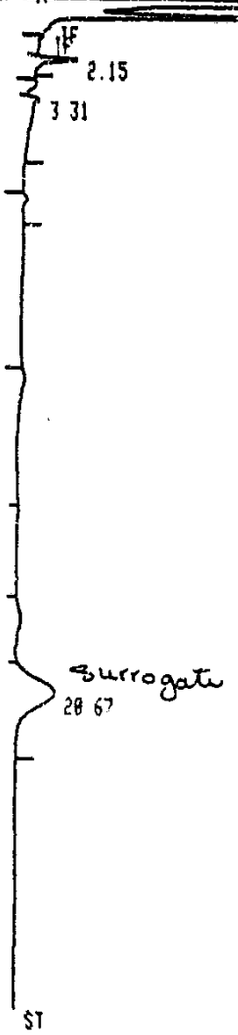
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1 34	1528	D PP	0.111	7.146
2.40	6498	PV	0.147	30.389
3.84	1740	BB	0.210	8.137
26.57	11617	BB	1.208	54.328

TOTAL HGHT= 21383

MUL FACTOR= 1.0000E+00

ARTLIF 86-12-057-09A NA.



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Sck-MW22-0
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. 1µl
INSTRUMENT ID. 6000

RUN # 111 JAN/12/87 18:52:43
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.15	5533	PB	0.142	45.072
3.31	1596	PB	0 615	13.001
20.67	5147	PB	0.964	41.927

TOTAL HGHT= 12276
MUL FACTOR= 1.0000E+00

Received: 12/12/86

SPECTRIX REPORT Work Order # 86-12-057

Results by Sample

004151

SAMPLE ID SCK-MW22-001 SAMPLE # 09 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	<10 ug/L	BE	<3 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	<9 ug/L
CU	<10 ug/L	FE	<30 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	<5 ug/L	SB	<44 ug/L
SE	<5 ug/L	TL	<10 ug/L	ZN	18 ug/L						

CHECKLIST

SECTION II - Sample Data Packets

Sample No: TRIP BLANK

✓ Organic Analysis Data Sheets (OADS)

- ✓ VOA
- NA SV
- NA Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- NA SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- NA SV chromatogram
- NA SV quantitation report (surrogates)
- NA Pest. chromatogram and integrator print out

N/A Inorganic Analysis Data Sheets (IADS)

004152

INST ID 4000

SPECTRIX DC # ----- 8

SAMPLE NUMBER: TRIP BLANK

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861205710
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: yph

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4U12057V10

DILUTION FACTOR: 1:1

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	10 U
C035	ACETONE	44
C040	CARBON DISULFIDE	10 U
C045	1,1-DICHLOROETHENE	5 U
C050	1,1-DICHLOROETHANE	5 U
C055	TRANS-1,2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1,2-DICHLOROETHANE	5 U
C110	2-BUTANONE	5 U
C115	1,1,1-TRICHLOROETHANE	10 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	5 U
C130	BROMODICHLOROMETHANE	10 U
C140	1,2-DICHLOROPROPANE	5 U
C145	TRANS-1,3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1,1,2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1,3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	5 U
C180	BROMOFORM	10 U
C210	2-HEXANONE	5 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	10 U
C225	1,1,2,2-TETRACHLOROETHANE	5 U
C230	TOLUENE	5 U
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	5 U
C245	STYRENE	5 U
C250	TOTAL XYLENES	5 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004153

INST ID: 4000

SPECTRIX DC #

SAMPLE NUMBER

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION

CASE

QC REPORT NO.: ----

ANALYST: CKT

DATAFILE:

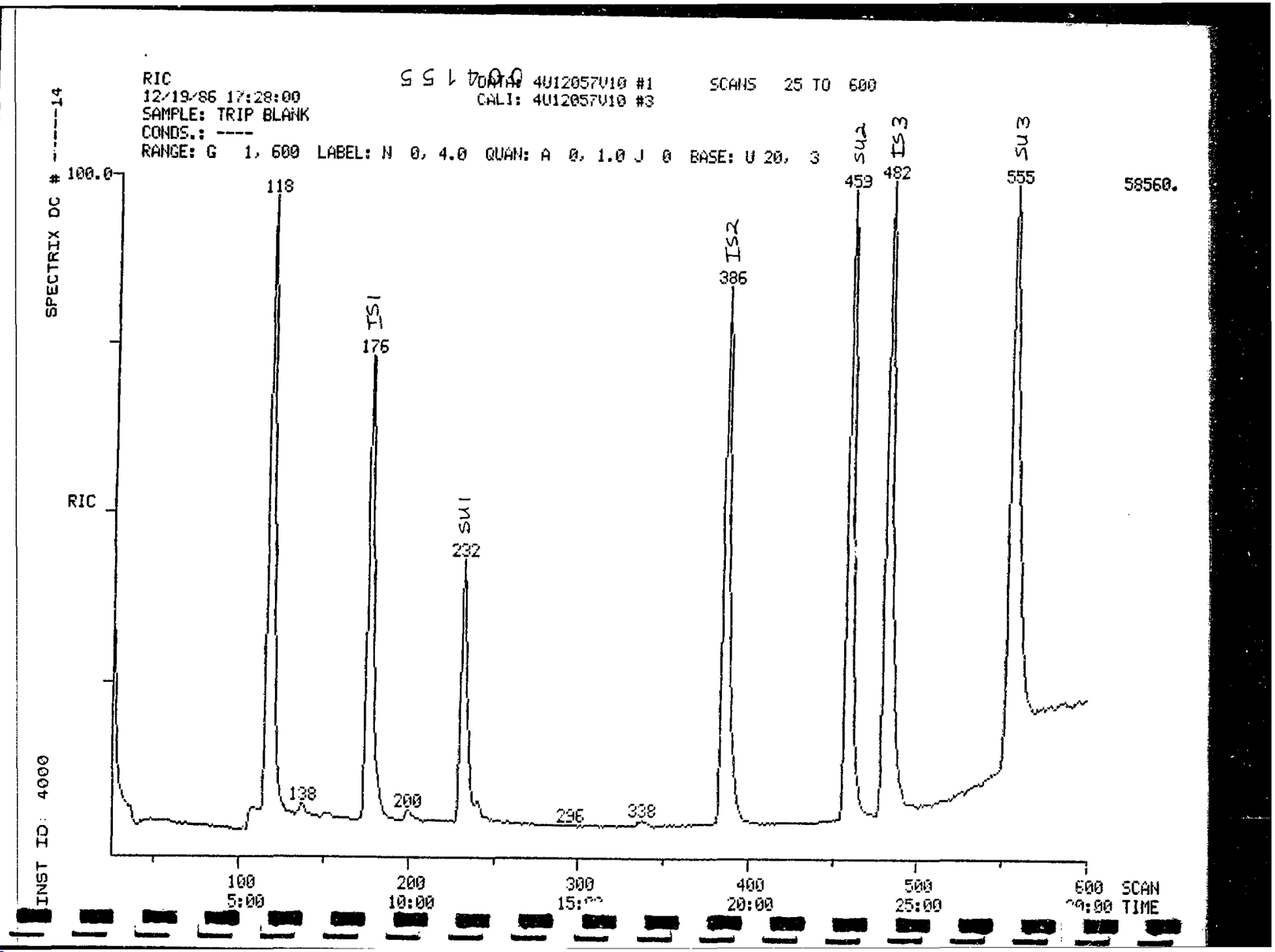
B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURI

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004154


RIC
12/19/86 17:28:00
SAMPLE: TRIP BLANK
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: 4U12057V10 #1
CALI: 4U12057V10 #3
SCANS 25 TO 600
SPECTRIX DC # -----14
INST ID: 4000
RIC
100.0
118
138
TS1
176
200
SU1
232
296
338
IS2
386
SU2
453
IS3
482
SU3
555
58560.
100
5:00
200
10:00
300
15:00
400
20:00
500
25:00
600
20:00
SCAN
TIME

004155

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

AMPLE ID.	TRIP BLANK		
FILENAME	4U12057V10	INST	4000
CLIENT	KEYSTONE	ANALYST	CKT
DATE INJECTED	12/19/86 17:28:00	VERIFIED BY	NOT
CALIB STD DATE	12-14-86	CORR. FACTOR	1.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
176	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	18271
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	83931
482	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	72575
232	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	91 %	1.318	34670
459	CS05	D8-TOLUENE	**SU2**	98	99 %	0.952	73790
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	94 %	1.151	50308
118	C030	METHYLENE CHLORIDE *		84	49 UG/L	0.670	33056

* BLANK CORRECTED ON DATA SHEET

CHECKLIST

SECTION III - Blanks

✓ OADS

- ✓ VOA
- ✓ SV
- ✓ Pest.

✓ Tentatively Identified Compounds

- ✓ VOA
- ✓ SV

✓ Raw Data

- ✓ VOA chromatogram
- ✓ VOA quantitation report (surrogates)
- ✓ SV chromatogram
- ✓ SV quantitation report (surrogates)
- ✓ Pest. chromatogram with integrator print out

✓ IADS

004157

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: LLW BLANK

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO : 86----
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: yph

CASE NO. : ----
QC REPORT NO. : ----
CONTRACT NO. : ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/18/86
DATE ANALYZED: 12/18/86

DATAFILE: 4B1218V01
DILUTION FACTOR: 1.00

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	5
C035	ACETONE	10 U
C040	CARBON DISULFIDE	5 U
C045	1,1-DICHLOROETHENE	5 U
C050	1,1-DICHLOROETHANE	5 U
C055	TRANS-1,2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1,2-DICHLOROETHANE	5 U
C110	2-BUTANONE	10 U
C115	1,1,1-TRICHLOROETHANE	5 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	10 U
C130	BROMODICHLOROMETHANE	5 U
C140	1,2-DICHLOROPROPANE	5 U
C145	TRANS-1,3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1,1,2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1,3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	10 U
C180	BROMOFORM	5 U
C210	2-HEXANONE	10 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	5 U
C225	1,1,2,2-TETRACHLOROETHANE	5 U
C230	TOLUENE	5 U
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	5 U
C245	STYRENE	5 U
C250	TOTAL XYLENES	5 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
U = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004158

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: LLW BLK

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 8612057
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/12/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/18/86
DATE ANALYZED: 01/16/87

DATAFILE: 4B12057C01
DILUTION FACTOR: 1.0

CAS #	COMPOUND	UG/L
C315	PHENOL	10 U
C325	BIS(2-CHLOROETHYL)ETHER	10 U
C330	2-CHLOROPHENOL	10 U
C335	1,3-DICHLOROBENZENE	10 U
C340	1,4-DICHLOROBENZENE	10 U
C345	BENZYL ALCOHOL	10 U
C350	1,2-DICHLOROBENZENE	10 U
C355	2-METHYLPHENOL	10 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	10 U
C365	4-METHYLPHENOL	10 U
C370	N-NITROSODIPROPYLAMINE	10 U
C375	HEXACHLOROETHANE	10 U
C410	NITROBENZENE	10 U
C415	ISOPHORONE	10 U
C420	2-NITROPHENOL	10 U
C425	2,4-DIMETHYLPHENOL	10 U
C430	BENZOIC ACID	50 U
C435	BIS(2-CHLOROETHOXY)METHANE	10 U
C440	2,4-DICHLOROPHENOL	10 U
C445	1,2,4-TRICHLOROBENZENE	10 U
C450	NAPHTHALENE	10 U
C455	4-CHLOROANILINE	10 U
C460	HEXACHLOROBUTADIENE	10 U
C465	P-CHLORO-M-CRESOL	10 U
C470	2-METHYLNAPHTHALENE	10 U
C510	HEXACHLOROCYCLOPENTADIENE	10 U
C515	2,4,6-TRICHLOROPHENOL	10 U
C520	2,4,5-TRICHLOROPHENOL	50 U
C525	2-CHLORONAPHTHALENE	10 U
C530	2-NITROANILINE	50 U
C535	DIMETHYL PHTHALATE	10 U
C540	ACENAPHTHYLENE	10 U
C545	3-NITROANILINE	50 U
C550	ACENAPHTHENE	10 U
C555	2,4-DINITROPHENOL	50 U
C560	4-NITROPHENOL	50 U
C565	DIBENZOFURAN	10 U
C570	2,4-DINITROTOLUENE	10 U
C575	2,6-DINITROTOLUENE	10 U

004159

SPECTRIX DC # ---- 8

SAMPLE NUMBER: LLW BLK

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4B12057C01

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	10 U
C585	4-CHLOROPHENYL PHENYL ETHER	10 U
C590	FLUORENE	10 U
C595	4-NITROANILINE	50 U
C610	4,6-DINITRO-2-METHYLPHENOL	50 U
C615	N-NITROSODIPHENYLAMINE	10 U
C625	4-BROMOPHENYL PHENYL ETHER	10 U
C630	HEXACHLOROBENZENE	10 U
C635	PENTACHLOROPHENOL	50 U
C640	PHENANTHRENE	10 U
C645	ANTHRACENE	10 U
C650	DI-N-BUTYL PHTHALATE	10 U
C655	FLUORANTHENE	10 U
C715	PYRENE	10 U
C720	BUTYL BENZYL PHTHALATE	10 U
C725	3,3'-DICHLOROBENZIDINE	20 U
C730	BENZO(A)ANTHRACENE	10 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	10 U
C740	CHRYSENE	10 U
C760	DI-N-OCTYL PHTHALATE	10 U
C765	BENZO(B)FLUORANTHENE	10 U
C770	BENZO(K)FLUORANTHENE	10 U
C775	BENZO(A)PYRENE	10 U
C780	INDENO(1,2,3-CD)PYRENE	10 U
C785	DIBENZO(A,H)ANTHRACENE	10 U
C790	BENZO(GHI)PERYLENE	10 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004160

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-057-01A

DC No: KEYSTONE
SMO No: L.BLANK LLW

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/18/86
Date Analyzed: 1/6/87
Dilution Factor: 1
Percent Moisture(decanted):

GPC Cleanup _Yes ✓No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. _Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.05 U
319-85-7	BETA-BHC	0.05 U
319-86-8	DELTA-BHC	0.05 U
58-89-9	GAMMA-BHC (LINDANE)	0.05 U
76-44-8	HEPTACHLOR	0.05 U
309-00-2	ALDRIN	0.05 U
1024-57-3	HEPTACHLOR EPOXIDE	0.05 U
959-98-8	ENDOSULFAN I	0.05 U
60-57-1	DIELDRIN	0.10 U
72-55-9	4,4'-DDE	0.10 U
72-20-8	ENDRIN	0.10 U
33213-65-9	ENDOSULFAN II	0.10 U
72-54-8	4,4'-DDD	0.10 U
7421-93-4	ENDRIN ALDEHYDE	0.10 U
1031-07-8	ENDOSULFAN SULFATE	0.10 U
50-29-3	4,4'-DDT	0.10 U
72-43-5	METHOXYCHLOR	0.50 U
53494-70-5	ENDRIN KETONE	0.10 U
57-74-9	CHLORDANE	0.50 U
8001-35-2	TOXAPHENE	1.0 U
12674-11-2	AROCLOR-1016	0.50 U
11104-28-2	AROCLOR-1221	0.50 U
11141-16-5	AROCLOR-1232	0.50 U
53469-21-9	AROCLOR-1242	0.50 U
12672-29-6	AROCLOR-1248	0.50 U
11097-69-1	AROCLOR-1254	1.0 U
11096-82-5	AROCLOR-1260	1.0 U

Vs = 500 = Volume of water extracted (ml)
Vt = 5000 = Volume of total extract (ul)
Vi = 1 = Volume of extract injected(ul)
1st Column Inst. : 6000
2nd Column Inst. : 6000 NA.

U=UNDETECTED AT THE LISTED DETECTION LIMIT.
J=COMPOUND IS PRESENT,BUT BELOW THE LISTED DETECTION LIMIT.
B=COMPOUND ALSO FOUND IN BLANK.

Form 1

004161

INST ID: 4000 SPECTRIX DC # ------ 8

SAMPLE NUMBER: LLW BLANK

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION CASE NO.: ----

QC REPORT NO.: ---- ANALYST: NOT DATAFILE: 4B1218V01

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

004162 UC/

INST ID: 4530

SPECTRIX DC # ---- 8

SAMPLE: LLW BLK

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION

DC REPORT NO.: ---

CASE NO.: ---

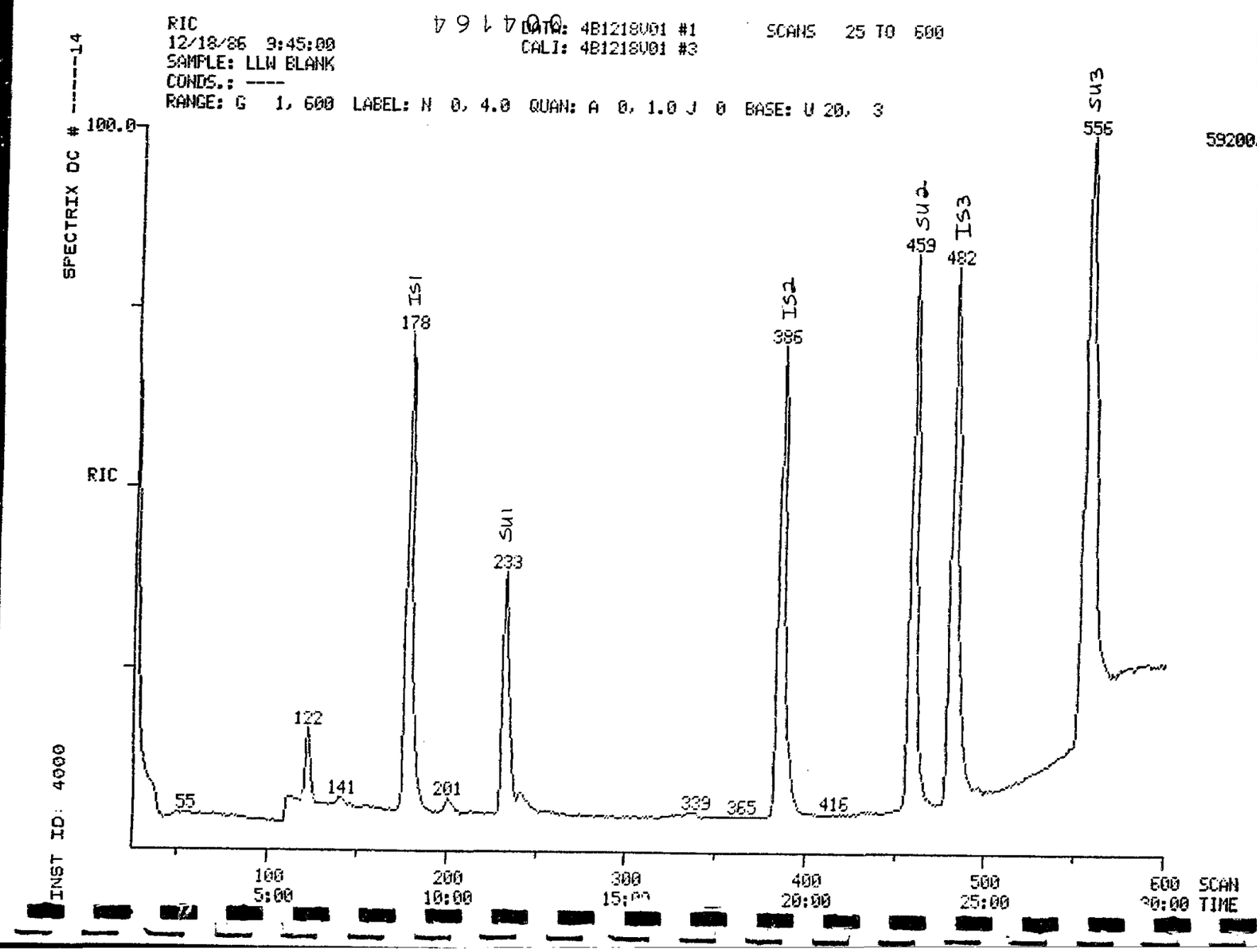
ANALYST: GU

DATAFILE: 4B12057C01

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
10-12-3	2-HEXANONE, 5-METHYL-	288	927	12 J
	UNKNOWN--DOESN'T MATCH ANY LIBRARY SPECTRA	1864		21 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1913		23 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED



004164

004164

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID.	LLW BLANK		
FILENAME	4B1218V01	INST	4000
CLIENT	KEYSTONE	ANALYST	NOT
DATE INJECTED	12/18/86 9:45:00	VERIFIED BY	NOT
CALIB STD DATE	12-14-86	CORR. FACTOR	1.00

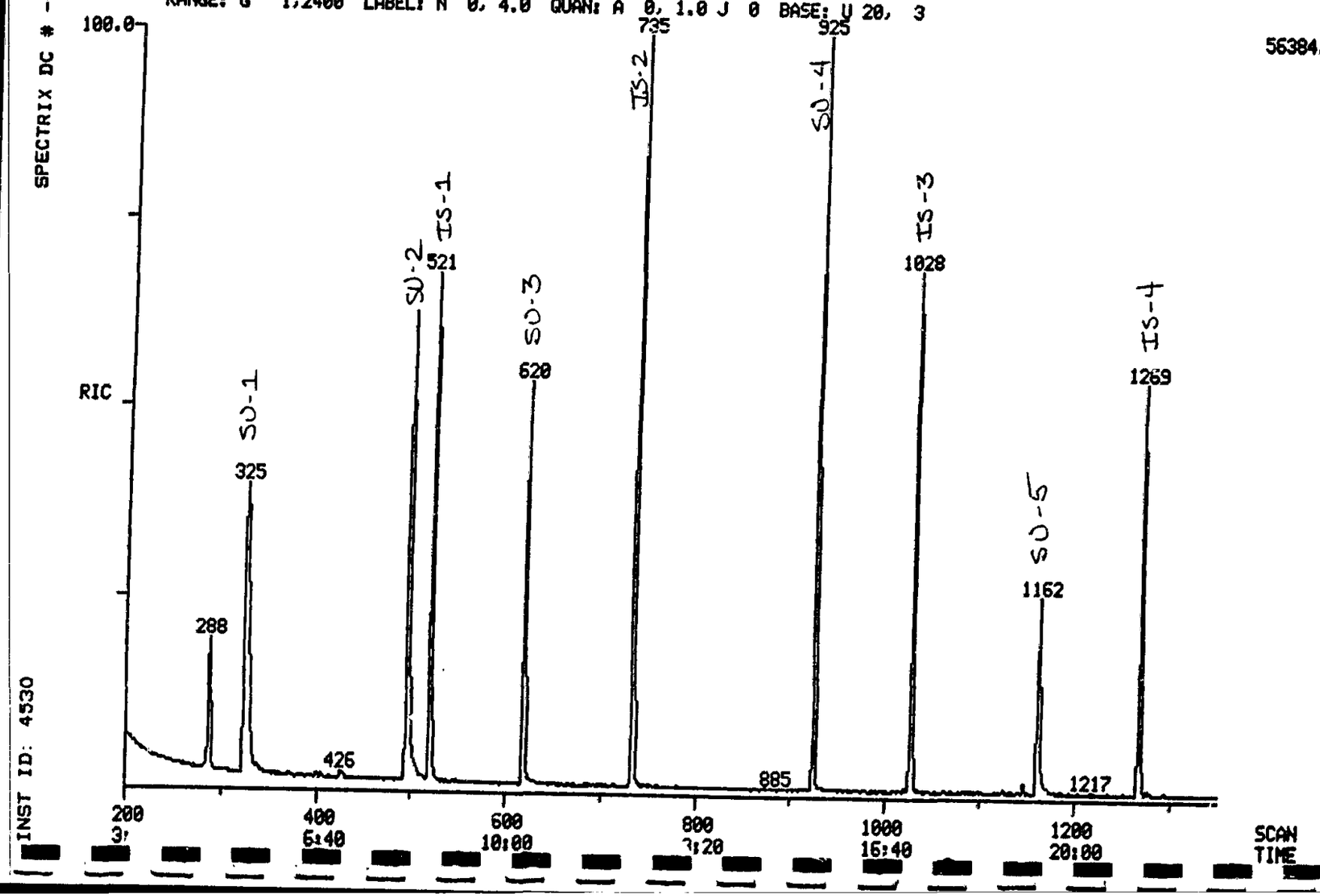
SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
178	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	16093
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	70854
482	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	58304
233	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	93 %	1.309	21452
459	CS05	D8-TOLUENE	**SU2**	98	99 %	0.952	61874
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	95 %	1.151	41461
122	C030	METHYLENE CHLORIDE		84	5 UG/L	0.685	<3106

RIC
01/16/87 14:49:00
SAMPLE: LLW BLK
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4B12057C01 #1
CALI: 4B12057C01 #3

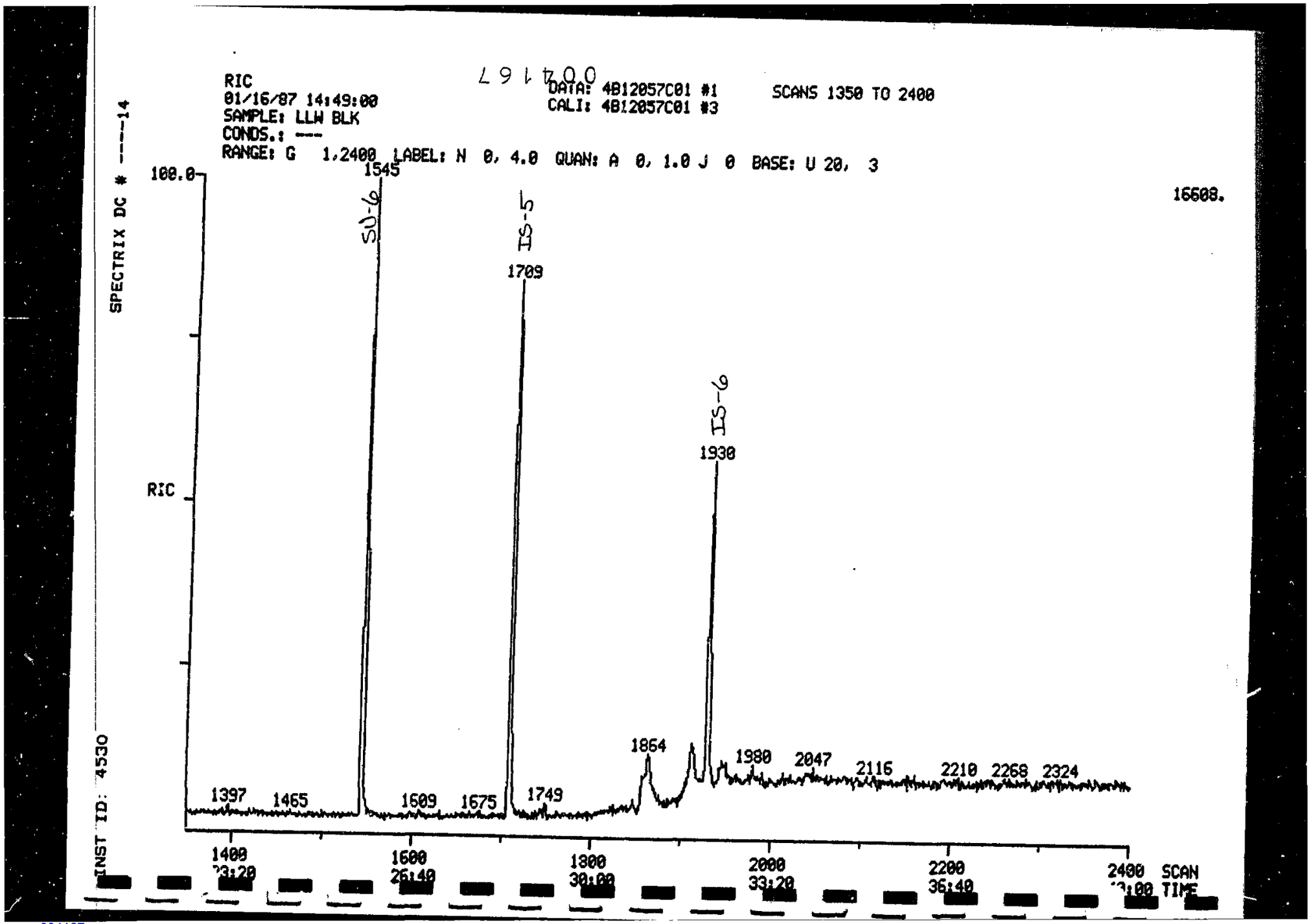
SCANS 200 TO 1350

004166



56384.

004166


RIC
01/16/87 14:49:00
SAMPLE: LLW BLK
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: 4B12057C01 #1
CALI: 4B12057C01 #3
SCANS 1350 TO 2400
SPECTRIX DC # ----14
INST ID: 4530
100.0
RIC
16608.
SU-6
1545
IS-5
1709
IS-6
1930
1397
1465
1609
1675
1749
1864
1980
2047
2116
2210
2268
2324
1400
23:20
1600
26:40
1800
30:00
2000
33:20
2200
36:40
2400
SCAN
TIME

004167

SPECTRIX DC # -----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. LLW BLK

ILENAME 4B12057C01 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

DATE INJECTED 01/16/87 14:49:00 VERIFIED BY

CALIB STD DATE 01/08/87 CORR. FACTOR 1.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
521	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	40 UG/L	1.000	1435
735	CI40	NAPHTHALENE-D8 ** IS2 **	136	40 UG/L	1.000	5598
1028	CI50	ACENAPHTHENE-D10 ** IS3 **	164	40 UG/L	1.000	2756
1269	CI60	PHENANTHRENE-D10 ** IS4 **	188	40 UG/L	1.000	3430
1709	CI70	CHRYSENE-D12 ** IS5 **	240	40 UG/L	1.000	1854
1930	CI75	PERYLENE-D12 ** IS6 **	264	40 UG/L	1.000	1321
325	CS50	2-FLUOROPHENOL ** SU1 **	112	90 %	0.624	3104
497	CS45	PHENOL-D5 ** SU2 **	99	67 %	0.954	4777
1162	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	65 %	1.130	491
620	CS20	NITROBENZENE-D5 ** SU3 **	82	72 %	0.844	2440
925	CS25	2-FLUUOROBIPHENYL ** SU4 **	172	68 %	0.900	4915
1545	CS30	TERPHENYL-D14 ** SU6 **	244	79 %	0.904	1856

LIBRARY SEARCH 004169
01/16/87 14:49:00 + 31:04
SAMPLE: LLW BLK
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4B12057C01 #1864
CALI: 4B12057C01 # 3

BASE M/Z: 296
RIC: 738.

SPECTRIX DC # ----19
ANALYST: GU
INST ID: -4530

3936
SAMPLE

C18.H20.O2.N2
3936
M WT 296
B PK 45
RANK 1
28751
PUR 354
ETHANONE, 2-METHOXY-1-[(2-METHOXY-1-PHENYLETHYLIDENE)HYDRAZONO]-1-PHE!

C18.H20.O2.N2
3936
M WT 296
B PK 91
RANK 2
28749
PUR 293
2-BENZIMIDAZOLINONE, 1-BENZYL-5-BUTOXY-

C21.H44
3936
M WT 296
B PK 57
RANK 3
28836
PUR 243
HENEICOSANE

M/Z 50 100 150 200 250

LIBRARY SEARCH 004170
01/16/87 14:49:00 + 31:53
SAMPLE: LLW BLK
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4B12057C01 #1913
CALI: 4B12057C01 # 3

BASE M/Z: 85
RIC: 940.

SPECTRIX DC # ----19
ANALYST: GU

1523
SAMPLE

C20.H40.O2 ETHANOL, 2-(9-OCTADECENYLOXY)-, (Z)-
1523
M WT 312
B PK 55
RANK 1
30354
PUR 422

C18.H32.O2 9,12-OCTADECADIENOIC ACID (Z,Z)-
1523
M WT 280
B PK 67
RANK 2
27116
PUR 417

C16.H32.O HEXADECANAL (ACN)
1523
M WT 240
B PK 57
RANK 3
22445
PUR 405

INST ID: 4530

M/Z 50 100 150 200 250 300

004170

INST ID 4000

SPECTRIX DC # ----- 8

SAMPLE NUMBER: LLW BLANK

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO. : 86----
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: yph

CASE NO. : ----
QC REPORT NO. : ----
CONTRACT NO. : ----
DATE SAMPLE RECEIVED: 12/12/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/19/86
DATE ANALYZED: 12/19/86

DATAFILE: 4B1219V01A

DILUTION FACTOR: 1.00

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	10 U
C015	BROMOMETHANE	10 U
C020	VINYL CHLORIDE	10 U
C025	CHLOROETHANE	10 U
C030	METHYLENE CHLORIDE	5
C035	ACETONE	10 U
C040	CARBON DISULFIDE	5 U
C045	1, 1-DICHLOROETHENE	5 U
C050	1, 1-DICHLOROETHANE	5 U
C055	TRANS-1, 2-DICHLOROETHENE	5 U
C060	CHLOROFORM	5 U
C065	1, 2-DICHLOROETHANE	5 U
C110	2-BUTANONE	10 U
C115	1, 1, 1-TRICHLOROETHANE	5 U
C120	CARBON TETRACHLORIDE	5 U
C125	VINYL ACETATE	10 U
C130	BROMODICHLOROMETHANE	5 U
C140	1, 2-DICHLOROPROPANE	5 U
C145	TRANS-1, 3-DICHLOROPROPENE	5 U
C150	TRICHLOROETHENE	5 U
C155	DIBROMOCHLOROMETHANE	5 U
C160	1, 1, 2-TRICHLOROETHANE	5 U
C165	BENZENE	5 U
C170	CIS-1, 3-DICHLOROPROPENE	5 U
C175	2-CHLOROETHYLVINYLETHER	5 U
C180	BROMOFORM	10 U
C210	2-HEXANONE	5 U
C205	4-METHYL-2-PENTANONE	10 U
C220	TETRACHLOROETHENE	10 U
C225	1, 1, 2, 2-TETRACHLOROETHANE	5 U
C230	TOLUENE	5 U
C235	CHLOROBENZENE	5 U
C240	ETHYLBENZENE	5 U
C245	STYRENE	5 U
C250	TOTAL XYLENES	5 U

U = UNDETECTED AT THE LISTED DETECTION LIMIT
J = COMPOUND IS PRESENT, BUT BELOW THE LISTED DETECTION LIMIT

004171

INST ID: 4000

SPECTRIX DC # ----- 8

SAMPLE NUMBER: LLW BLANK

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION

CASE NO.: ----

QC REPORT NO.: ----

ANALYST: NOT

DATAFILE: 4B1219V01A

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 10% OF NEAREST INT. STD.

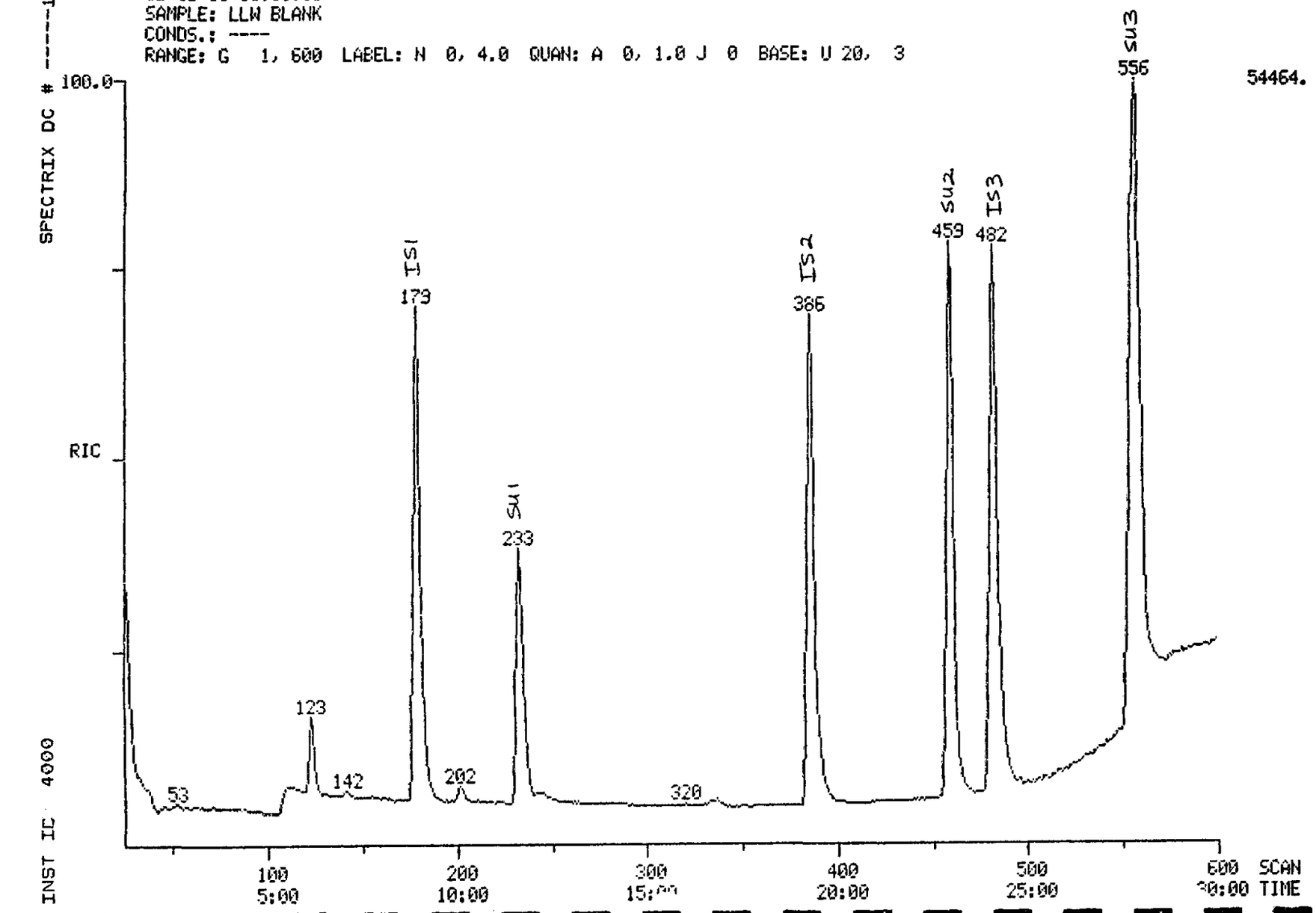
UG/

004172

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

RIC
12/19/85 10:00:00
SAMPLE: LLW BLANK
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4B1213V01A #1 SCANS 25 TO 600
CALI: 4B1213V01A #3



54464.

004173

SPECTRIX DC # -----14

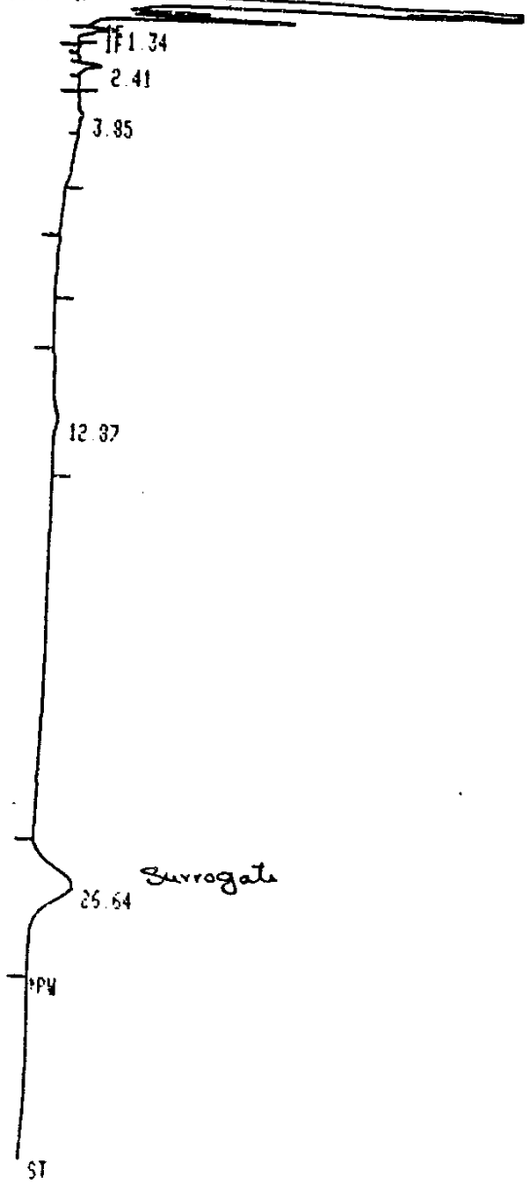
VOA QUANTITATION REPORT

SAMPLE ID.	LLW BLANK		
FILENAME	4B1219V01A	INST	4000
CLIENT	KEYSTONE	ANALYST	NOT
DATE INJECTED	12/19/86 10:00:00	VERIFIED BY	NOT
CALIB STD DATE	12-14-86	CORR. FACTOR	1.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
179	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	14734
386	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	63765
482	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	52138
233	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	90 %	1.302	19736
459	CS05	D8-TOLUENE	**SU2**	98	102 %	0.952	54633
555	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	95 %	1.151	36393
123	C030	METHYLENE CHLORIDE		84	5 UG/L	0.687	2909

004174

STRK # 86-12-057-01A NA.



DC#_____

SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Lab. Blank (u

PESTICIDE FRACTION

2ND COLUMN CONFIRMATI

2ND COLUMN II C

1.8m x2mm ID x6mm OD

3% SP-2100

100/120 SUPELCOPORT

COLUMN TEMP. 187 °C

VOLUME INJ. 1 µl

INSTRUMENT ID. 6600

RUN # 18 JAN/06/87 21:27:04

WORKFILE ID: C

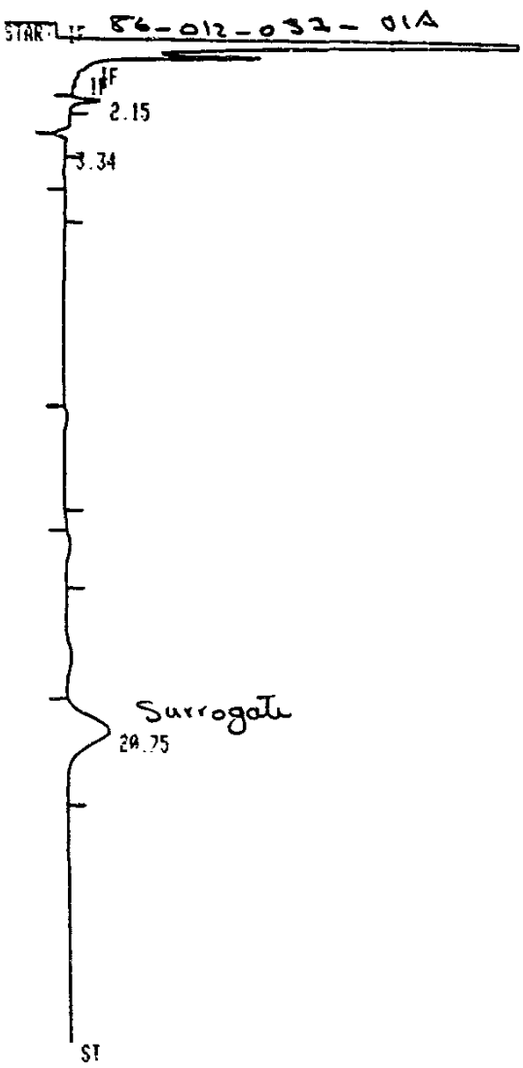
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.34	7927	D BB	0.089	27.958
2.41	5917	VV	0.140	20.869
3.85	2228	BV	0.664	7.858
12.87	1364	PB	0.997	4.811
26.64	10917	BB	1.165	38.504

TOTAL HGHT= 28353

MUL FACTOR= 1.0000E+00



DC#_____-____-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. L. Blank (u
PESTICIDE FRACTION
1ST COLUMN QUANT.

1ST COLUMN ID
1.8m x 4mm ID x6mm (
1.5% SP 2250
1.95% SP 2401
100/120 SUPELCOPORT

COLUMN TEMP. 203°C
VOLUME INJ. 1ml
INSTRUMENT ID. 5600

RUN # 101 JAN/12/87 13:39:58
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
2.15	3714	BB	0.133	35.517
3.34	1279	PB	0.297	12.231
20.75	5464	BB	0.966	52.252

TOTAL HGHT= 10457
MUL FACTOR= 1.0000E+00

Received: 12/12/86

SPECTRIX REPORT

Results by Sample

Work Order # 86-12-037

004177

SAMPLE ID LAB BLANK

SAMPLE # 01 FRACTIONS: A

Date & Time Collected 12/12/86 Category

AG	<10 ug/L	AS	<10 ug/L	BE	<3 ug/L	CD	<5 ug/L	CR	<9 ug/L	CU	<10 ug/L		
FE	<30 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	PB	<5 ug/L	SB	<44 ug/L	SE	<5 ug/L		
TL	<10 ug/L	ZN	<8 ug/L										

GC/MS Tuning and Mass Calibration

DECAFLUOROTRIPHENYLPHOSPHINE

ase Number:
inst ID: 4530
Lab ID: ES0112C01

Laboratory:
Sens Date: 01/12/87
Cali Date:

Contract:
Sens Time: 9:32:00
Analyst: GU

Data release authorized by:

M/E	Ion Abundance Criteria	Spec # 390	
51	30 to 60% of mass 198	46.34	
68	less than 2% of mass 69	0.00	(0.00) 1
69	mass 69 relative abundance	22.42	
70	less than 2% of mass 69	0.12	(0.56) 1
127	40 TO 60% of mass 198	55.38	
197	less than 1% of mass 198	0.00	
198	base peak, 100% relative abundance	100.00	
199	5 TO 9% of mass 198	6.34	
275	10 TO 30% of mass 198	21.52	
365	greater than 1% of mass 198	1.29	
441	less than mass 443	9.09	
442	greater than 40% of mass 198	75.61	
443	17 TO 23% of mass 442	14.47	(19.14) 2

1 - value in parenthesis is % of mass 69
2 - value in parenthesis is % of mass 442

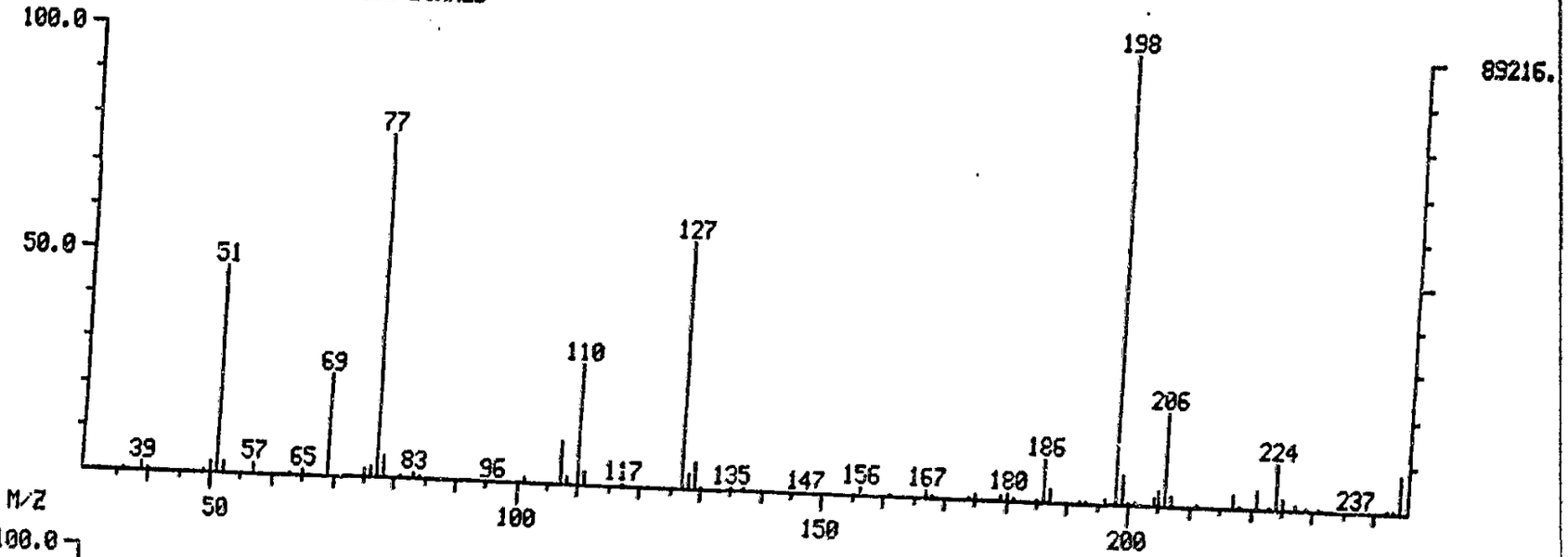
004178

MASS SPECTRUM
01/12/87 9:32:00 + 6:31
SAMPLE: DFTPP
CONDS.: ---
#390 TO #392 SUMMED

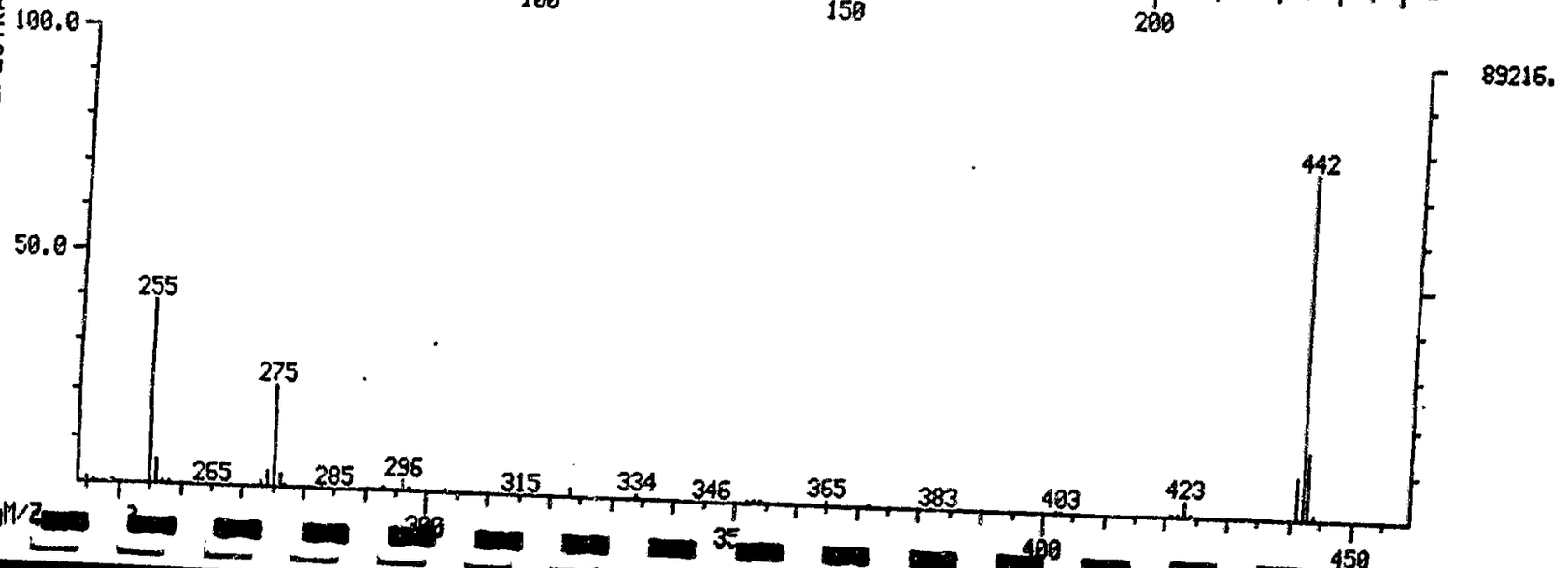
DATA: ES0112C01 #391
CALI: ES0112C01 #3

BASE M/Z: 198
RIC: 598016.

SPECTRIX DC # ----13



DFTPP SPECTRA



INST ID: 4530

004179

INST ID: 4530

SPECTRIX DC # ----15

DFTPP MASS LISTING

Mass List

01/12/87 9:32:00 + 6:31

Data: ES0112C01 # 391

Cali: ES0112C01 # 3

Base m/z: 198

RIC: 598016.

Sample: DFTPP

Conds.: ---

390 to #392 summed

36	0.00	0.	Minima	Min Inten:	250.
444			Maxima	# 0	
Mass	% RA	Inten.	Mass	% RA	Inten.
36?	0.66	586.	204	1.59	1422.
39?	1.72	1536.	205	3.73	3328.
40	0.56	500.	206	20.09	17920.
49	0.68	611.	207	2.47	2204.
50	2.37	2116.	211	0.72	639.
51	46.34	41344.	217	2.75	2452.
52	2.20	1962.	218	0.43	382.
57	2.11	1880.	221	4.28	3820.
63	0.33	298.	223	0.85	761.
65	1.31	1170.	224	9.77	8720.
69	22.42	20000.	225	2.37	2112.
75	1.56	1390.	227	1.23	1096.
76	2.18	1946.	229	0.60	539.
77	76.61	68352.	231	0.39	346.
78	4.77	4256.	242	0.42	374.
81	0.59	528.	243	0.45	400.
83	1.10	983.	244	8.13	7256.
84	0.39	349.	245	0.99	887.
101	0.98	878.	246	0.48	427.
107	9.42	8400.	249	0.29	263.
108	1.97	1762.	255	38.74	34560.
110	27.01	24096.	256	5.51	4912.
111	2.63	2344.	257	0.35	312.
117	0.32	288.	258	0.73	649.
127	55.38	49408.	273	1.24	1106.
128	3.66	3264.	274	3.70	3300.
129	5.94	5296.	275	21.52	19200.
130	0.42	374.	276	2.68	2388.
135	0.52	460.	277	0.84	746.
137	0.32	284.	293	0.30	268.
155	0.40	355.	296	2.56	2288.
156	1.50	1338.	297	0.32	285.
161	0.54	483.	303	0.40	361.
167	1.84	1638.	323	1.58	1410.
168	0.62	555.	334	0.88	787.
174	0.36	324.	352	0.42	375.
175	1.18	1052.	353	0.32	283.
179	0.94	843.	354	0.58	516.
180	1.49	1330.	365	1.29	1152.
181	0.75	671.	372	0.84	753.
185	0.52	468.	402	0.31	279.
186	9.11	8128.	403	0.49	440.
187	2.71	2416.	421	0.42	373.
192	0.34	305.	422	0.39	351.
193	0.55	494.	423	3.30	2940.
196	1.35	1204.	424	0.59	522.
198	100.00	89216.	441	9.09	8112.
199	6.34	5656.	442	75.61	67456.
200	0.39	346.	443	14.47	12912.
201	0.29	261.	444	1.29	1148.

004180

GC/MS Tuning and Mass Calibration

DECAFLUOROTRIPHENYLPHOSPHINE

ase Number:		Laboratory:		Contract:	
inst ID:	4530	Sens Date:	01/13/87	Sens Time:	8:37:00
Lab ID:	ES0113C01	Cali Date:		Analyst:	GU

Data release authorized by:

M/E	Ion Abundance Criteria	Spec # 399	
51	30 to 60% of mass 198	48.42	
68	less than 2% of mass 69	0.00	(0.00) 1
69	mass 69 relative abundance	23.20	
70	less than 2% of mass 69	0.16	(0.70) 1
127	40 TO 60% of mass 198	57.85	
197	less than 1% of mass 198	0.00	
198	base peak, 100% relative abundance	100.00	
199	5 TO 9% of mass 198	6.34	
275	10 TO 30% of mass 198	20.35	
365	greater than 1% of mass 198	1.34	
441	less than mass 443	9.38	
442	greater than 40% of mass 198	78.61	
443	17 TO 23% of mass 442	14.75	(18.76) 2

1 - value in parenthesis is % of mass 69
2 - value in parenthesis is % of mass 442

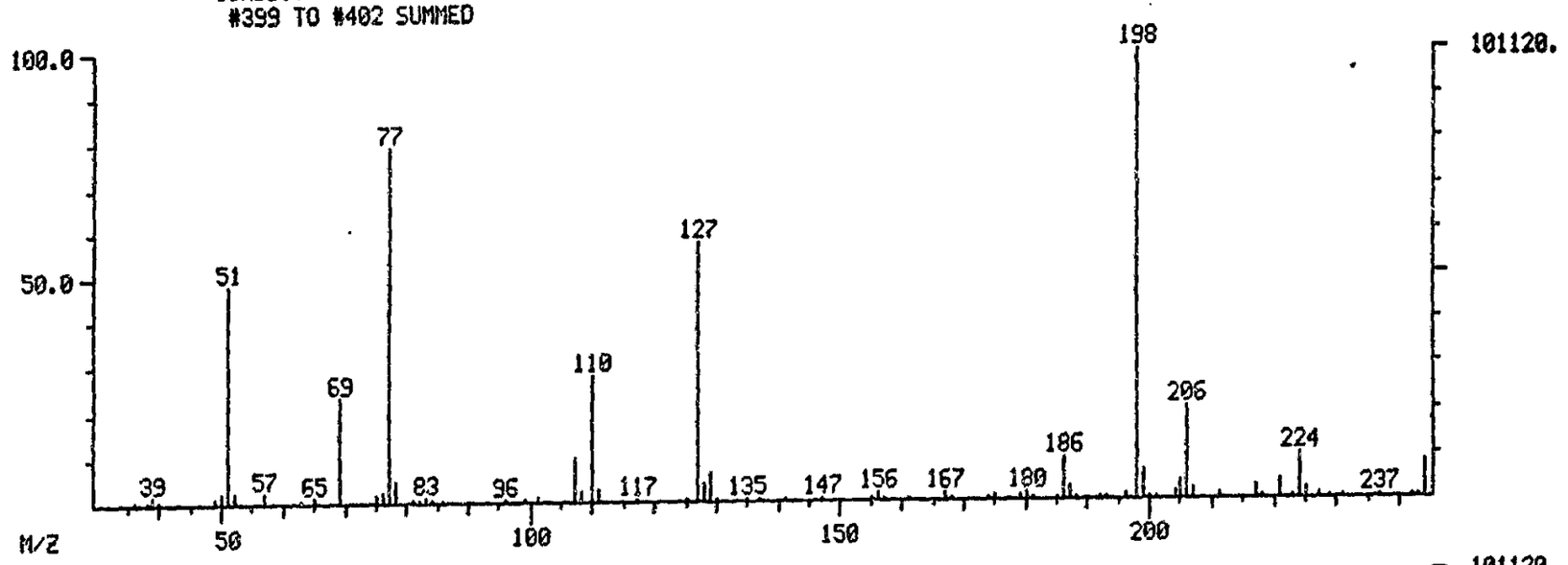
004181

MASS SPECTRUM
01/13/87 8:37:00 + 6:40
SAMPLE: DFTPP
CONDS.: ---
#399 TO #402 SUMMED

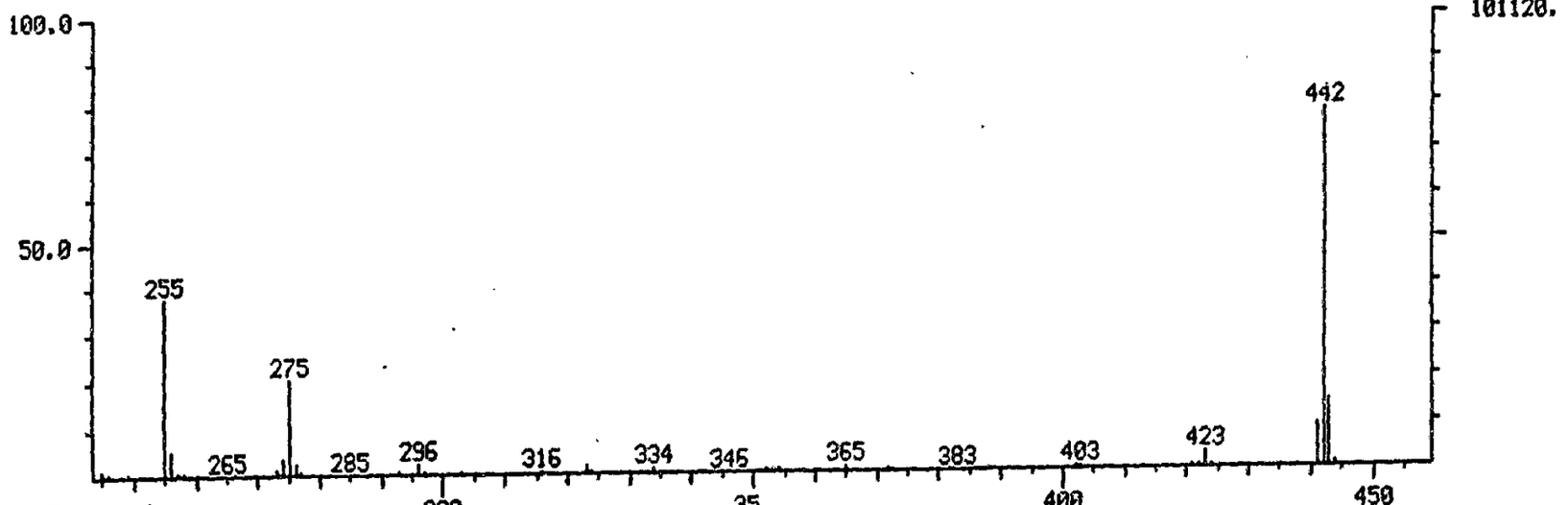
DATA: ES0113C01 #400
CALI: ES0113C01 #3

BASE M/Z: 198
RIC: 695296.

SPECTRIX DC # ----15



DFTPP SPECTRA



INST ID: 4530

004182

004182

INST ID: 4530

DFTPP MASS LISTING

SPECTRIX DC # ----15

Mass List

01/13/87 8:37:00 + 6:40

Data: ES0113C01 # 400

Cali: ES0113C01 # 3

Base m/z: 198

RIC: 695296.

Sample: DFTPP

Bonds.: ---

399 to #402 summed

36 0.00 0. Minima Min Inten: 340.

445 Maxima # 0

Mass	% RA	Inten.	Mass	% RA	Inten.
36?	0.81	821.	200	0.44	440.
39?	1.82	1842.	201	0.38	387.
40	0.70	704.	204	1.68	1702.
49	1.16	1172.	205	3.78	3824.
50	2.56	2584.	206	20.22	20448.
51	48.42	48960.	207	2.53	2556.
52	2.31	2340.	211	0.90	912.
57	2.25	2272.	217	2.85	2884.
63	0.42	424.	218	0.49	491.
65	1.43	1448.	221	4.29	4336.
69	23.20	23456.	223	0.86	867.
75	1.65	1666.	224	9.70	9808.
76	2.31	2332.	225	2.43	2456.
77	79.11	80000.	227	1.26	1278.
78	4.93	4984.	229	0.67	674.
81	0.68	688.	231	0.46	470.
83	1.23	1240.	242	0.47	480.
84	0.69	701.	243	0.49	500.
86	0.47	474.	244	7.94	8032.
101	1.12	1134.	245	1.01	1026.
107	9.86	9968.	246	0.52	526.
108	2.14	2160.	249	0.37	374.
110	27.94	28256.	255	37.59	38016.
111	2.88	2912.	256	5.35	5408.
117	0.41	412.	257	0.39	390.
127	57.85	58496.	258	0.76	767.
128	3.79	3832.	273	1.21	1220.
129	6.16	6232.	274	3.56	3604.
130	0.48	489.	275	20.35	20576.
135	0.60	606.	276	2.57	2600.
137	0.38	386.	277	0.84	854.
141	0.35	358.	293	0.34	340.
155	0.46	467.	296	2.51	2540.
156	1.61	1630.	303	0.47	475.
161	0.62	625.	323	1.52	1536.
167	1.90	1924.	334	0.89	905.
168	0.69	693.	352	0.45	456.
174	0.43	439.	354	0.60	603.
175	1.24	1250.	365	1.34	1350.
179	1.09	1104.	372	0.85	856.
180	1.58	1600.	402	0.36	364.
181	0.80	810.	403	0.50	503.
185	0.60	606.	421	0.52	522.
186	9.30	9408.	422	0.43	433.
187	2.76	2792.	423	3.39	3424.
192	0.41	414.	424	0.65	661.
193	0.62	623.	441	9.38	9488.
196	1.44	1458.	442	78.61	79488.
198	100.00	101120.	443	14.75	14912.
199	6.34	6416.	444	1.36	1372.

004183

GC/MS Tuning and Mass Calibration

DECAFLUOROTRIPHENYLPHOSPHINE

ase Number:
Inst ID: 4530
Lab ID: ES0116C01

Laboratory:
Sens Date: 01/16/87
Cali Date:

Contract:
Sens Time: 10:12:00
Analyst: GU

Data release authorized by:

M/E	Ion Abundance Criteria	Spec # 411	
51	30 to 60% of mass 198	46.44	
68	less than 2% of mass 69	0.05	(0.23) 1
69	mass 69 relative abundance	22.60	
70	less than 2% of mass 69	0.16	(0.70) 1
127	40 TO 60% of mass 198	59.73	
197	less than 1% of mass 198	0.00	
198	base peak, 100% relative abundance	100.00	
199	5 TO 9% of mass 198	6.19	
275	10 TO 30% of mass 198	19.76	
365	greater than 1% of mass 198	1.29	
441	less than mass 443	9.88	
442	greater than 40% of mass 198	80.82	
443	17 TO 23% of mass 442	15.50	(19.17) 2

1 - value in parenthesis is % of mass 69
2 - value in parenthesis is % of mass 442

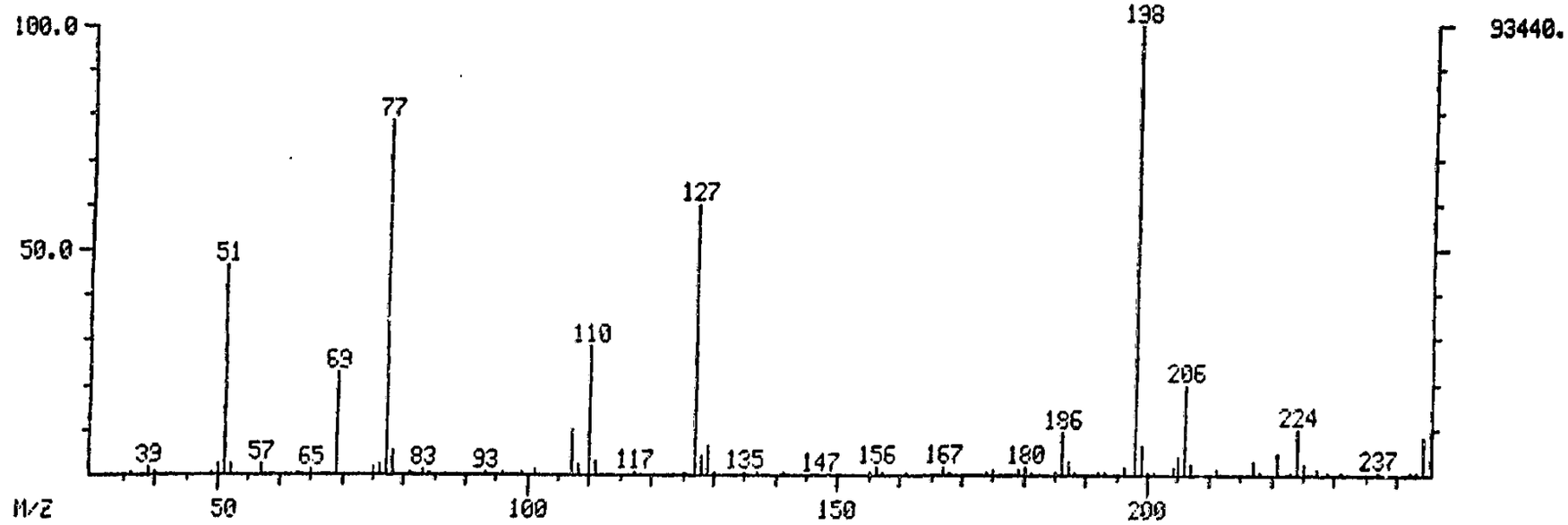
004184

MASS SPECTRUM
01/16/87 10:12:00 + 6:52
SAMPLE: DFTPP
CONDS.: ---
#411 TO #413 SUMMED

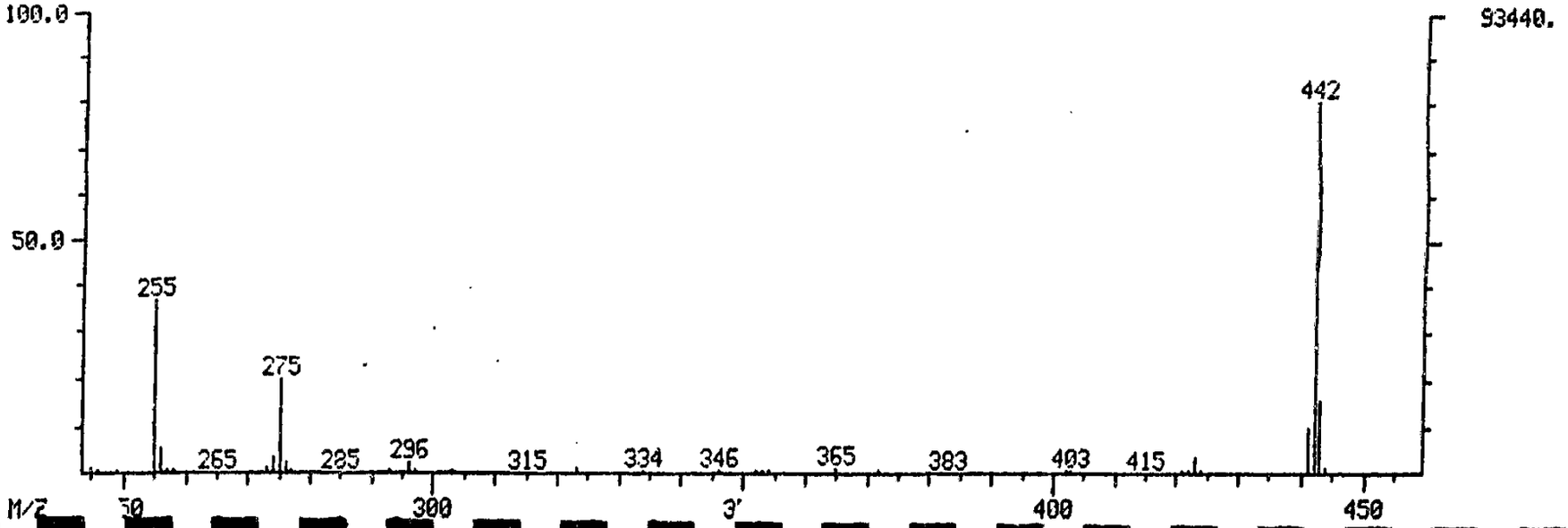
DATA: ES0116C01 #412
CALI: ES0116C01 #3

BASE M/Z: 198
RIC: 636928.

SPECTRIX DC # ----15



DFTPP SPECTRA



INST ID 4530

004185

Mass List
01/16/87 10:12:00 + 6:52
Sample: DFTPP
Conds.: ---
#411 to #413 summed

Data: ES0116C01 # 412
Cali: ES0116C01 # 3

Base m/z: 198
RIC: 636928.

36	0.00	0.	Minima	Min Inten:	321.
445			Maxima	# 0	
Mass	% RA	Inten.	Mass	% RA	Inten.
36?	0.63	590.	201	0.38	357.
39?	1.75	1636.	204	1.62	1512.
40	0.62	582.	205	3.94	3684.
49	0.54	505.	206	20.03	18720.
50	2.29	2140.	207	2.45	2292.
51	46.44	43392.	211	0.88	821.
52	2.20	2060.	217	2.92	2732.
57	2.16	2014.	218	0.45	424.
63	0.38	357.	221	4.50	4208.
65	1.42	1324.	223	0.86	807.
69	22.60	21120.	224	9.64	9008.
75	1.65	1542.	225	2.41	2248.
76	2.18	2034.	227	1.26	1174.
77	78.63	73472.	229	0.67	625.
78	5.06	4728.	231	0.45	421.
81	0.64	599.	237	0.36	338.
83	1.21	1134.	242	0.44	412.
84	0.38	351.	243	0.51	481.
101	1.08	1006.	244	7.85	7336.
107	9.95	9296.	245	0.98	914.
108	2.17	2032.	246	0.50	466.
110	28.36	26496.	249	0.38	353.
111	2.87	2680.	255	36.71	34304.
117	0.43	404.	256	5.04	4712.
127	59.73	55808.	257	0.36	340.
128	3.78	3536.	258	0.73	679.
129	6.40	5984.	273	1.16	1080.
130	0.49	459.	274	3.33	3108.
135	0.57	533.	275	19.76	18464.
137	0.36	336.	276	2.43	2272.
141	0.41	380.	277	0.80	751.
155	0.49	461.	296	2.43	2272.
156	1.61	1500.	297	0.36	339.
161	0.62	576.	303	0.45	424.
167	1.94	1814.	323	1.42	1328.
168	0.66	619.	334	0.82	767.
174	0.42	389.	352	0.43	398.
175	1.27	1190.	354	0.52	488.
179	1.04	971.	365	1.29	1202.
180	1.63	1526.	372	0.84	781.
181	0.81	757.	402	0.34	321.
185	0.55	518.	403	0.51	475.
186	9.16	8560.	421	0.48	448.
187	2.71	2536.	422	0.38	354.
192	0.42	396.	423	3.42	3200.
193	0.63	588.	424	0.64	598.
196	1.52	1418.	441	9.88	9232.
198	100.00	93440.	442	80.82	75520.
199	6.19	5784.	443	15.50	14480.
200	0.43	401.	444	1.44	1350.

004186

GC/MS Tuning and Mass Calibration

BROMOFLUOROBENZENE

'se Number:
ıst ID: 4000
Lab ID: ES1218V01

Laboratory:
Sens Date: 12/18/86
Cali Date:

Contract:
Sens Time: 8:01:00
Analyst: NOT

Data release authorized by:

m/z	Ion Abundance Criteria	Spec # 207		
50	15 to 40% of mass 95	32.75		
75	30 to 60% of mass 95	43.08		
95	base peak, 100% relative abundance	100.00		
96	5 to 9% of mass 95	7.25		
173	less than 1% of mass 95	0.00		
174	greater than 50% of mass 95	84.40		
175	5 to 9% of mass 174	6.91	(8.19) 1	
176	between 95% and 101% of mass 174	80.99	(95.96) 1	
177	5 to 9% of mass 176	5.59	(6.90) 2	

1 - value in parenthesis is % of mass 174
2 - value in parenthesis is % of mass 176

004187

INST ID: 4000

Mass List — BFB MASS LISTING — SPECTRIX DC # -----15

12/18/86 8:01:00 + 10:21 — Data: ES1218V01 # 207 — Base m/z: 95

Sample: BFB — Cali: ES1218V01 # 3 — RIC: 42496.

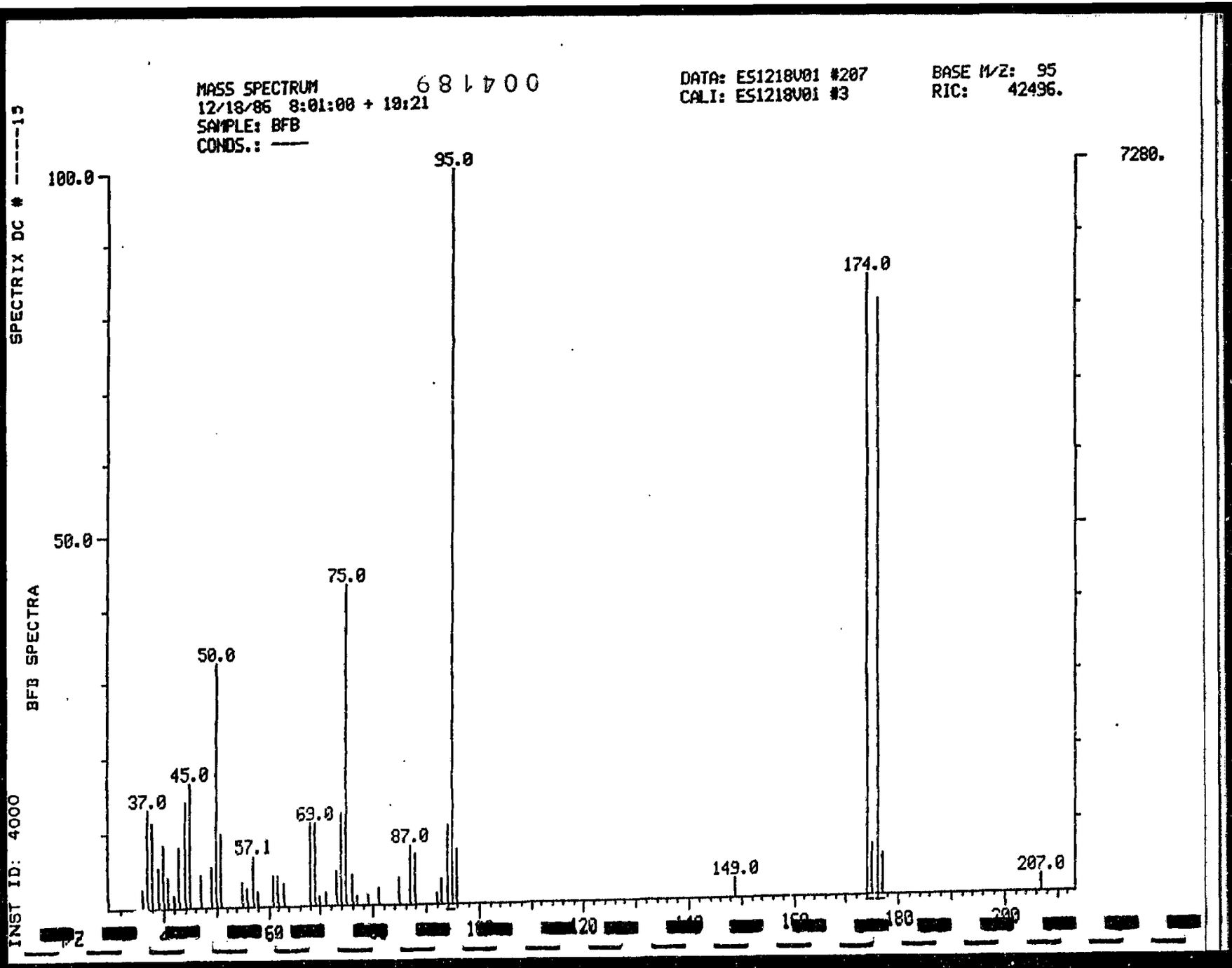
Bnds.: ----

36 — 0.00 — 0.00 — 0. Minima — Min Inten: 0.

207 — # 0 Maxima

Mass	% RA	% RIC	Inten.
35.97?	2.69	0.46	196.
36.99?	12.97	2.22	944.
37.98?	11.30	1.94	823.
39.01?	5.55	0.95	404.
39.95?	8.35	1.43	608.
41.02?	4.24	0.73	309.
42.02?	1.83	0.31	133.
43.04?	8.15	1.40	593.
43.99?	14.20	2.43	1034.
45.02?	16.51	2.83	1202.
47.02?	4.34	0.74	316.
49.01?	5.62	0.96	409.
50.01	32.75	5.61	2384.
51.02	9.57	1.64	697.
55.04	3.30	0.56	240.
56.04	2.71	0.46	197.
57.06	6.92	1.19	504.
58.07	2.17	0.37	158.
61.02	4.23	0.72	308.
62.05	4.07	0.70	296.
63.05	3.17	0.54	231.
68.02	10.88	1.86	792.
69.02	11.07	1.90	806.
70.05	1.40	0.24	102.
71.09	1.85	0.32	135.
73.02	4.60	0.79	335.
74.01	12.34	2.11	898.
75.02	43.08	7.38	3136.
76.03	4.08	0.70	297.
77.03	1.43	0.24	104.
78.91	1.52	0.26	111.
81.02	2.25	0.39	164.
84.99	3.72	0.64	271.
86.99	7.84	1.34	571.
87.97	6.84	1.17	498.
92.04	1.68	0.29	122.
93.02	3.39	0.58	247.
94.03 F	10.37	1.78	755.
95.02 F	100.00	17.13	7280.
96.02	7.25	1.24	528.
149.05	2.54	0.44	185.
173.95 F	84.40	14.46	6144.
174.95 F	6.91	1.18	503.
175.95 F	80.99	13.87	5896.
176.95 F	5.59	0.96	407.
207.03	2.49	0.43	181.

004188


MASS SPECTRUM
12/18/86 8:01:00 + 19:21
SAMPLE: BFB
CONDS.: ----
004189
DATA: ES1218V01 #207
CALI: ES1218V01 #3
BASE M/Z: 95
RIC: 42496.
SPECTRIX DC # -----15
BFB SPECTRA
INST ID: 4000
100.0
50.0
95.0
174.0
7280.
75.0
50.0
45.0
37.0
69.0
57.1
87.0
149.0
207.0
M/Z
60
120
180

004189

GC/MS Tuning and Mass Calibration

BROMOFLUOROBENZENE

ıse Number:		Laboratory:		Contract:	
.nst ID:	4000	Sens Date:	12/19/86	Sens Time:	6:48:00
Lab ID:	ES1219V01	Cali Date:		Analyst:	NOT

Data release authorized by:

m/z	Ion Abundance Criteria	Spec # 210	
50	15 to 40% of mass 95	32.51	
75	30 to 60% of mass 95	42.99	
95	base peak, 100% relative abundance	100.00	
96	5 to 9% of mass 95	7.44	
173	less than 1% of mass 95	0.00	
174	greater than 50% of mass 95	85.85	
175	5 to 9% of mass 174	7.09	(8.26) 1
176	between 95% and 101% of mass 174	82.11	(95.64) 1
177	5 to 9% of mass 176	5.31	(6.46) 2

1 - value in parenthesis is % of mass 174
2 - value in parenthesis is % of mass 176

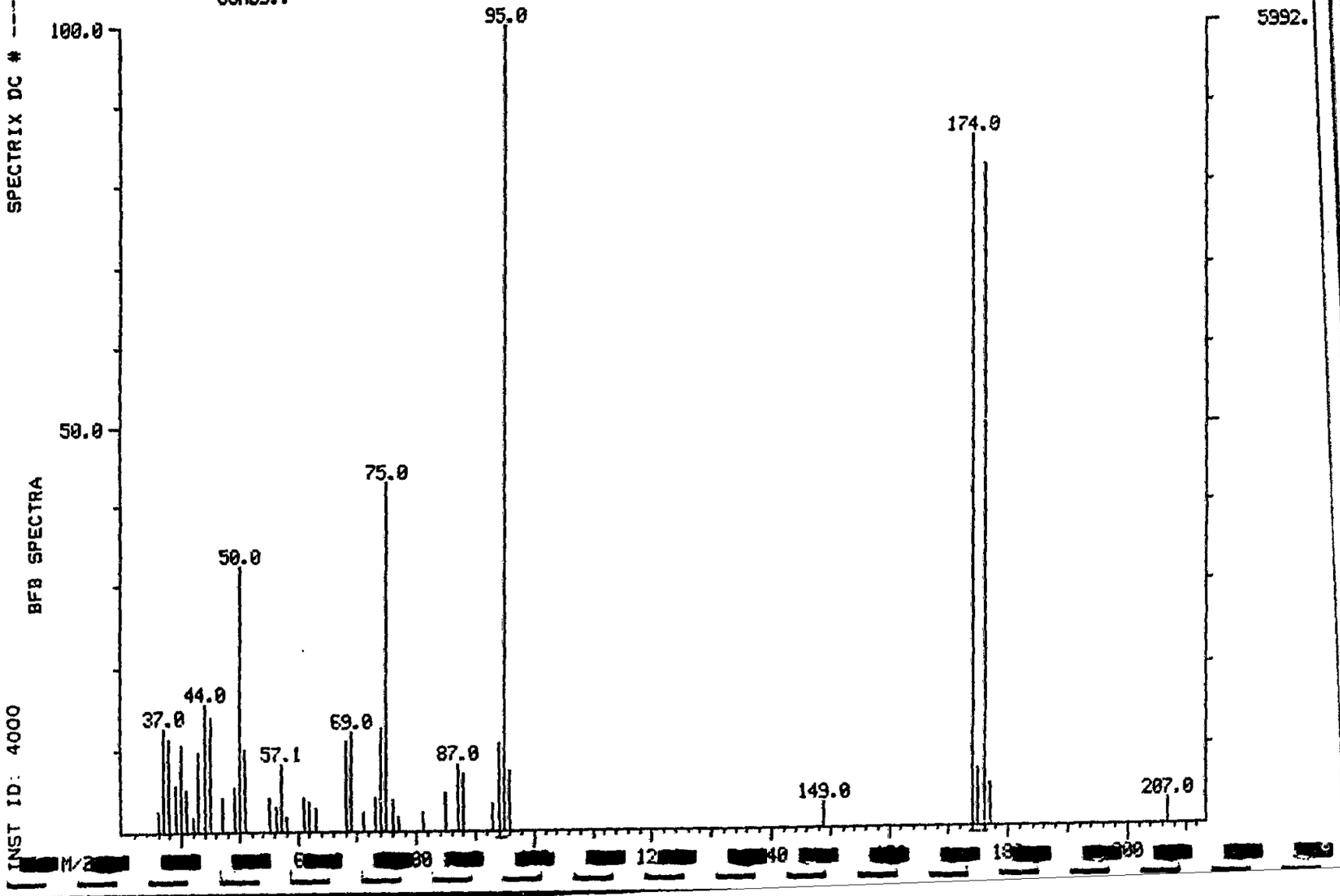
004190

004191

MASS SPECTRUM
12/19/86 6:48:00 + 10:30
SAMPLE: BFB
CONDS.: ----

DATA: ES1219V01 #210
CAL1: ES1219V01 #3

BASE M/Z: 95
RIC: 35328.



004191

INST ID: 4000

BFB MASS LISTING

SPECTRIX DC # -----15

Mass List

12/19/86 6:48:00 + 10:30

Data: ES1219V01 # 210

Cali: ES1219V01 # 3

Base m/z: 95

RIC: 35328.

Sample: BFB

Cmnds.: ----

36 0.00 0.00 0. Minima Min Inten: 0.

207 # 0 Maxima

Mass	% RA	% RIC	Inten.
35.96?	2.67	0.45	160.
36.98?	12.60	2.14	755.
37.97?	11.30	1.92	677.
39.00?	5.76	0.98	345.
39.93?	10.50	1.78	629.
41.02?	5.11	0.87	306.
42.02?	1.89	0.32	113.
43.03?	9.60	1.63	575.
43.98	15.49	2.63	928.
45.01	13.90	2.36	833.
47.02	4.14	0.70	248.
49.01	5.37	0.91	322.
50.01	32.51	5.51	1948.
51.02	9.86	1.67	591.
55.05	4.31	0.73	258.
56.05	3.07	0.52	184.
57.07	8.06	1.37	483.
58.06	1.92	0.33	115.
61.03	4.09	0.69	245.
62.04	3.69	0.63	221.
63.05	3.00	0.51	180.
68.02	10.98	1.86	658.
69.02	11.93	2.02	715.
71.09	2.39	0.40	143.
73.03	4.29	0.73	257.
74.02	12.47	2.11	747.
75.02	42.99	7.29	2576.
76.05	3.99	0.68	239.
77.02	1.80	0.31	108.
81.02	2.45	0.42	147.
84.98	4.72	0.80	283.
86.98	8.11	1.38	486.
87.97	6.94	1.18	416.
93.01	3.44	0.58	206.
94.02 F	10.76	1.83	645.
94.99 F	100.00	16.96	5992.
95.98	7.44	1.26	446.
149.03	3.04	0.52	182.
173.95 F	85.85	14.56	5144.
174.97 F	7.09	1.20	425.
175.95 F	82.11	13.93	4920.
176.97	5.31	0.90	318.
207.03	3.09	0.52	185.

004192