Received: 12/09/86

SPECTRIX REPORT

01/21/87 15:58:09

Work Order # 86-12-041

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

CLIENT KEYSTONE SAMPLES 7
COMPANY Keystone Company, Inc.
FACILITY

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

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

CERTIFIED BY

CONTACT CRUZ

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.

SAMPLE IDENTIFICATION

01 LAB BLANK (LLW)
02 CAV-OW10-001 (LLW)
03 CAV-OW11-001 (LLW)
04 SCK-MW17-001 (LLW)
05 SCK-P03-001 (LLW)
06 TRIP BLANK (LLW)
07 SCK-P02-001 (LLW)

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
NO3 SU	Nitrate as N
PB	Lead
PEST W	EPA Pesticides/PCB's-Water
SB	Antimony
SE	Selenium
TL	Thallium
ZN	Zinc

1012283

LABORATORY: SPECTRIX-HOUSTON

LABORATORY NO: 86-12-041

CLIENT: SPECTRIX-MONROEVILLE

SITE: SOUTH CAVALCADE

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Sample Numbers (Refer to Spectrix Work Order)

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Inorganic Matrix Duplicate and Matrix Spike

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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

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SPECTRIX
NARRATIVE - ORGANIC ANALYSES

CLIENT: SPECTRIX - MONROEVILLE
LAB NO: 8612041

SITE: South Cavalcade

I. RECEIPT

A. DATE: 12/09/86
B. NO. OF SAMPLES: 6
C. SAMPLE TYPE: WATER
D. ANALYSIS REQUESTED: Full 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: Most samples were diluted due to the high concentration of organics.

B. SURROGATE RECOVERIES: Most 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

003341

SPECTRIX-HOUSTON

NARRATIVE - INORGANIC ANALYSES

CLIENT: Spectrix-Monroeville SITE: South Cavalcade
LAB NO: 86-12-041

I. RECEIPT

A. DATE: 12/09/86
B. NO. OF SAMPLES: 6
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 U. Ed
Department Supervisor

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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.

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.

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Koppers Company, Inc.	South Cavalcade, Houston
Project No.	**Field Logbook No.**
1573-73	KER SCOTT BARNES No. 2
Sampler: (Signature)	**Chain of Custody Tape No.**
[illegible], Scott Barnes	

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	acid/base neutrals 2 l. amber bottles	pesticides + PCBs 1 l. amber bottle	cyanide 1 l. plastic	priority metals + Fe 1 l. plastic	nitrates 1 l. plastic		REMARKS
CAV-OW11-001	86/12/09	1350	ground water	water	✓	✓	✓	✓	✓		6 bottles
CAV OW10 001	86/12/09	1340	"	water	✓	✓	✓	✓	✓		6 bottles

Cooled; Hand carried

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Shannon K. Craig	86/12/09	1815			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			Mary F. Cruz	86/12/09	18:15

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

SAMPLE COLLECTOR

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

Keystone Environmental Resources, Inc.
440 College Park
Monroeville, PA

ANALYTICAL LABORATORY

Spectrix Corp
3911 Fondren, Suite 100
Houston, TX 77063

ERT

№ 7451

-84

003345

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CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Koppers Company, Inc.	South Cavalcade, Houston
Project No.	**Field Logbook No.**
1573-73	KER Scott Barnes No. 2
Sampler: (Signature)	**Chain of Custody Tape No.**
Scott Barnes Dawn Hall	N.A.

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	Acid/Base Neutral 8X1 amber glass	Pesticides & PBS 1 amber	Priority Metals Pesticides Lite	Cyanide Lite	Nitrate Lite	Plastic Lite	Cooled; Hand carried	REMARKS
SCK P03-001	86/12/09	1615		ground water	2	✓	✓	✓	✓			6 bottles
SCK MW17-001	"	1630		"	1	✓	✓	✓	✓			5 bottles

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Sharon K. Craig	86/12/09	1815			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			Mary F. Cruz	86/12/09	18:15
Sample Disposal Method:	Disposed of by: (Signature)			Date	Time

SAMPLE COLLECTOR

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

Keystone Environmental Resources
440 College Park
Monroeville, PA 15141

ANALYTICAL LABORATORY

Spectrix Corp.
3911 Fondren, Suite 100
Houston, TX 77063

ERT

№ 1464

1874-3-84

003346

003347

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Koppers Company, Inc.	South Cavalcade, Houston
Project No.	**Field Logbook No.**
1573-73	KEK Scott Barnes No. 2
Sampler: (Signature)	**Chain of Custody Tape No.**
Scott Barnes	N.A.

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	acid/base neutrals 2 x 1 liter amber bottles	Pesticides + PCB's 1 liter amber bottle	Priority metals + TPH 1 liter plastic	Nitrates 1 liter plastic	Cyanide 1 liter plastic	Volatiles 2 x 40 ml vials	REMARKS
SCK-P02-001	86/12/09	1330		groundwater	✓	✓	✓	✓	✓	✓	6 bottles + 2 vials
CAV-OW10-001	86/12/09	1340		" "						✓	2 vials
CAV OW11-001	86/12/09	1350		" "						✓	2 vials
SCK-MW17-001	86/12/09	1630		" "	①					✓	2 vials + 1 bottle
SCK P03 001	86/12/09	1615		" "						✓	2 vials
[illegible] OK SKC											

2 x 40 ml Trip Blank cooled Hand carried

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Shannon K. Craig	86/12/09	1815			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			MF Cruz	86/12/09	18:15

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

SAMPLE COLLECTOR

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

Environmental Resources
440 College Park
Monroeville, PA

ANALYTICAL LABORATORY

Spectrix Corp.
3911 Fondren
Suite 100
Houston, TX 77063

ERT

№ 1465

8-84

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CHECKLIST

SECTION II - Sample Data Packets

Sample No: CAV-OW10-001

✓ 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)

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SPECTRIX DC # ----- 8

NST ID 4000

SAMPLE NUMBER: CAV-OW10-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

BORATORY NAME: SPECTRIX
B SAMPLE ID NO.: 861204102
SAMPLE MATRIX: WATER
ATA RELEASE AUTHORIZED BY: yph

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/9/86

VOLATILES

ONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/13/86
ATE ANALYZED: 12/13/86

DATAFILE: 4U12041V02
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	140
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	290
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	620
C235	CHLOROBENZENE	100 U
C240	ETHYLBENZENE	270
C245	STYRENE	100 U
C250	TOTAL XYLENES	960

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

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SPECTRIX DC # ---- 8

-- 8
INST ID: 4530

SAMPLE NUMBER: CAV-OW10-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204102
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/9/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/13/86
DATE ANALYZED: 01/08/87

DATAFILE: 4U12041C02A
DILUTION FACTOR: 400

CAS #	COMPOUND	UG/L
C315	PHENOL	4000 U
C325	BIS(2-CHLOROETHYL)ETHER	4000 U
C330	2-CHLOROPHENOL	4000 U
C335	1,3-DICHLOROBENZENE	4000 U
C340	1,4-DICHLOROBENZENE	4000 U
C345	BENZYL ALCOHOL	4000 U
C350	1,2-DICHLOROBENZENE	4000 U
C355	2-METHYLPHENOL	2000 J
C360	BIS(2-CHLOROISOPROPYL)ETHER	4000 U
C365	4-METHYLPHENOL	1400 J
C370	N-NITROSODIPROPYLAMINE	4000 U
C375	HEXACHLOROETHANE	4000 U
C410	NITROBENZENE	4000 U
C415	ISOPHORONE	4000 U
C420	2-NITROPHENOL	4000 U
C425	2,4-DIMETHYLPHENOL	2700 J
C430	BENZOIC ACID	20000 U
C435	BIS(2-CHLOROETHOXY)METHANE	4000 U
C440	2,4-DICHLOROPHENOL	4000 U
C445	1,2,4-TRICHLOROBENZENE	4000 U
C450	NAPHTHALENE	66000
C455	4-CHLOROANILINE	4000 U
C460	HEXACHLOROBUTADIENE	4000 U
C465	P-CHLORO-M-CRESOL	4000 U
C470	2-METHYLNAPHTHALENE	6500
C510	HEXACHLOROCYCLOPENTADIENE	4000 U
C515	2,4,6-TRICHLOROPHENOL	4000 U
C520	2,4,5-TRICHLOROPHENOL	20000 U
C525	2-CHLORONAPHTHALENE	4000 U
C530	2-NITROANILINE	20000 U
C535	DIMETHYL PHTHALATE	4000 U
C540	ACENAPHTHYLENE	290 J
C545	3-NITROANILINE	20000 U
C550	ACENAPHTHENE	6100
C555	2,4-DINITROPHENOL	20000 U
C560	4-NITROPHENOL	20000 U
C565	DIBENZOFURAN	4700
C570	2,4-DINITROTOLUENE	4000 U
C575	2,6-DINITROTOLUENE	4000 U

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SPECTRIX DC # ---- 8

SAMPLE NUMBER: CAV-OW10-001

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12041C02A

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	4000 U
C585	4-CHLOROPHENYL PHENYL ETHER	4000 U
C590	FLUORENE	4800
C595	4-NITROANILINE	20000 U
C610	4,6-DINITRO-2-METHYLPHENOL	20000 U
C615	N-NITROSODIPHENYLAMINE	4000 U
C625	4-BROMOPHENYL PHENYL ETHER	4000 U
C630	HEXACHLOROBENZENE	4000 U
C635	PENTACHLOROPHENOL	20000 U
C640	PHENANTHRENE	12000
C645	ANTHRACENE	1700 J
C650	DI-N-BUTYL PHTHALATE	4000 U
C655	FLUORANTHENE	4300
C715	PYRENE	3100 J
C720	BUTYL BENZYL PHTHALATE	4000 U
C725	3,3'-DICHLOROBENZIDINE	8000 U
C730	BENZO(A)ANTHRACENE	670 J
C735	BIS(2-ETHYLHEXYL)PHTHALATE	4000 U
C740	CHRYSENE	620 J
C760	DI-N-OCTYL PHTHALATE	4000 U
C765	BENZO(B)FLUORANTHENE	4000 U
C770	BENZO(K)FLUORANTHENE	4000 U
C775	BENZO(A)PYRENE	4000 U
C780	INDENO(1,2,3-CD)PYRENE	4000 U
C785	DIBENZO(A,H)ANTHRACENE	4000 U
C790	BENZO(GHI)PERYLENE	4000 U

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

003351

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-041-02A

DC No: KEYSTONE
SMO No: CAV-OW10-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/11/86
Date Analyzed: 12/23/86
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 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

003352

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

SAMPLE NUMBER: CAV-OW10-601

ORGANICS ANALYSIS DATA SHEET - PAGE 4

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

C REPORT NO.: ---- ANALYST: CKT DATAFILE: 4U12041V02

B. TENTATIVELY IDENTIFIED COMPOUNDS

AS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
124-38-9	CARBON DIOXIDE (ACN) *	34	989	2300
124-38-9	CARBON DIOXIDE (ACN) *	43	979	460

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

* ALSO FOUND IN BLANK

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

SAMPLE: CAV-OW10-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

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

QC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12041C02A

B. TENTATIVELY IDENTIFIED COMPOUNDS

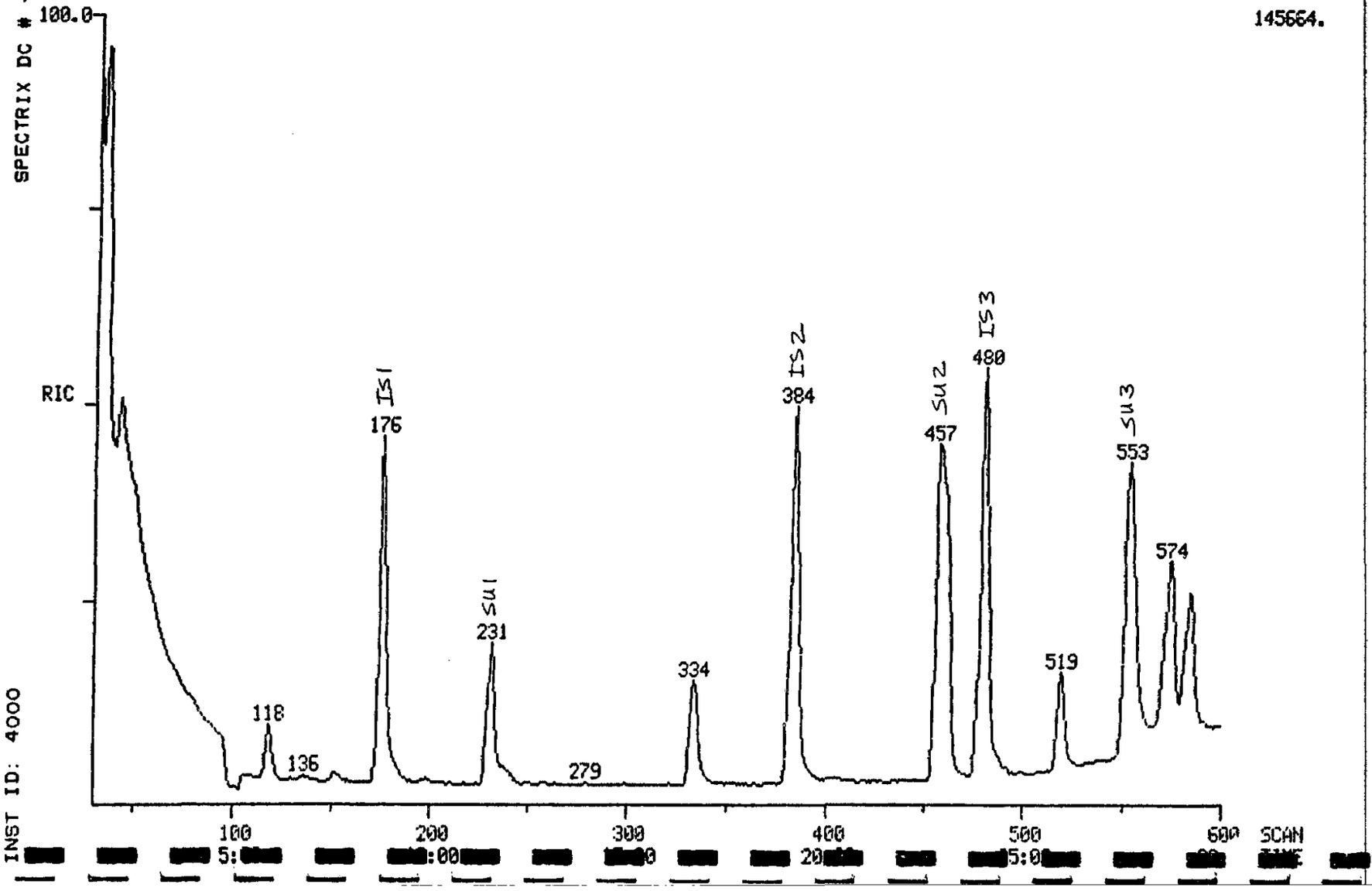
CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
08-38-3	BENZENE, 1,3-DIMETHYL-	340	947	1600 J
71-89-6	BENZOFURAN	519	900	2700 J
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	570	956	3700 J
95-13-6	1H-INDENE	580	944	5300 J
498-81-7	CYCLOHEXANEMETHANOL, .ALPHA.,.ALPHA.,4-TR	701	814	2400 J
0-75-0	PHENOL, 2,3-DIMETHYL-	729	906	2900 J
95-15-8	BENZO[B]THIOPHENE	752	894	4800 J
3855-26-3	PHENOL, 2-ETHYL-4-METHYL-	822	835	1600 J
471-83-2	1H-INDENE, 1-ETHYLIDENE-	874	908	3800 J
575-37-1	NAPHTHALENE, 1,7-DIMETHYL-	976	944	2300 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA*	1046		2000 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1212		3800 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1219		2400 J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1253		1700 J
86-74-8	9H-CARBAZOLE	1314	889	2800 J

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

* ALSO FOUND IN BLANK

RIC
12/13/86 12:01:00
SAMPLE: CAV-OW10-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041V02 #1 SCANS 30 TO 600
CALI: 4U12041V02 #3



SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID. CAV-OW10-001

.ENAME 4U12041V02 INST 4000

LIENT KEYSTONE ANALYST CKT

DATE INJECTED 12/13/86 12:01:00 VERIFIED BY

ALIB STD DATE 121486 CORR. FACTOR 20.00

CAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
176	CI01	BROMOCHLOROMETHANE	**IS1**	128	1000 UG/L	1.000	27478
384	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	1000 UG/L	1.000	118229
480	CI20	D5-CHLOROBENZENE	**IS3**	117	1000 UG/L	1.000	94645
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	93 %	1.313	26318
457	CS05	D8-TOLUENE	**SU2**	98	97 %	0.952	76362
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	99 %	1.152	48485
118	C030	METHYLENE CHLORIDE *		84	196 UG/L	0.670	6174
334	C165	BENZENE		78	292 UG/L	0.870	31309
461	C230	TOLUENE		92	622 UG/L	0.960	38461
519	C240	ETHYLBENZENE		106	270 UG/L	1.081	8662
574	C250	TOTAL XYLENES		106	958 UG/L	1.196	38062

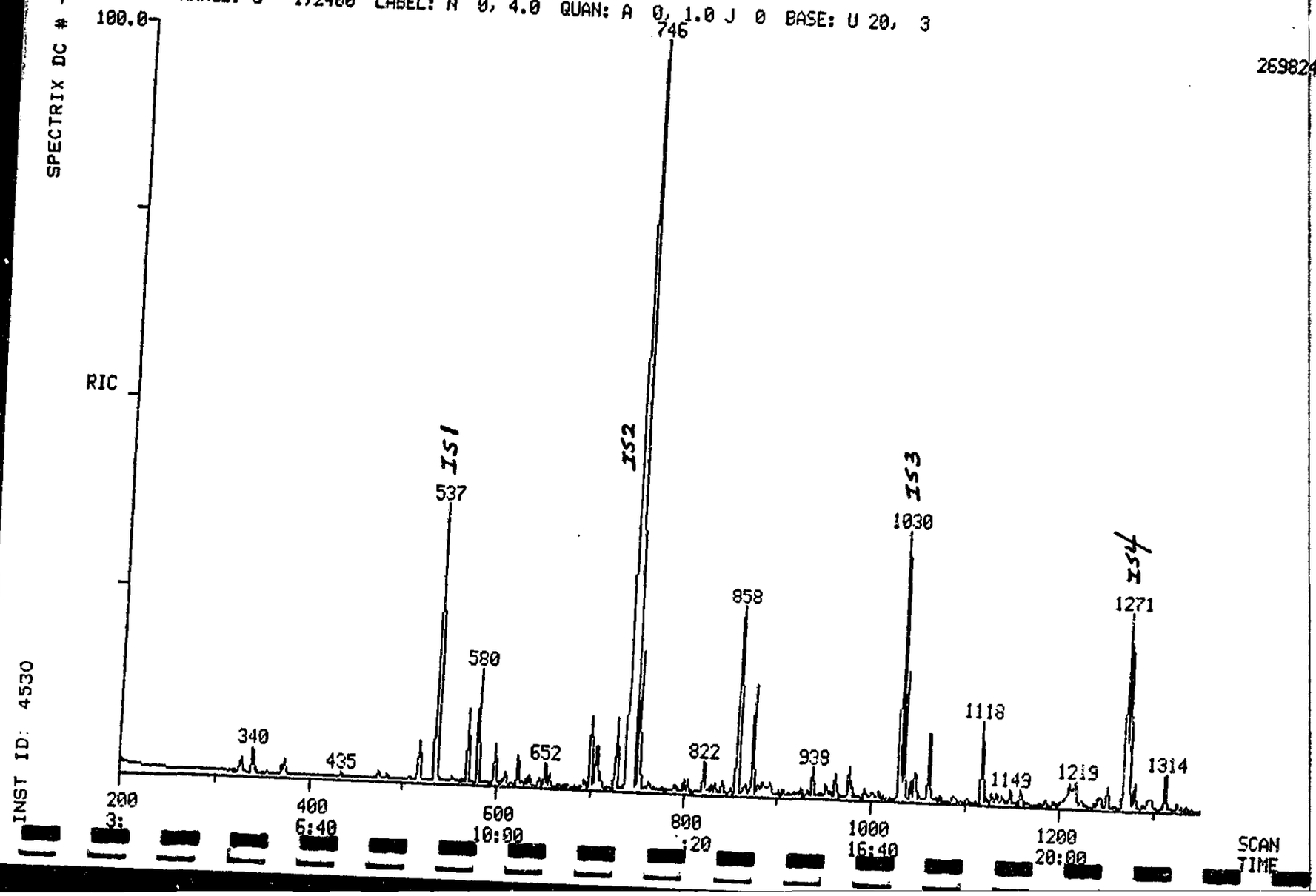
* BLANK CORRECTED ON DATA SHEET

003357

RIC
01/09/87 17:49:00
SAMPLE: CAV-OW10-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C02A #1
CALI: 4U12041C02A #3

SCANS 200 TO 1350



003357

003358

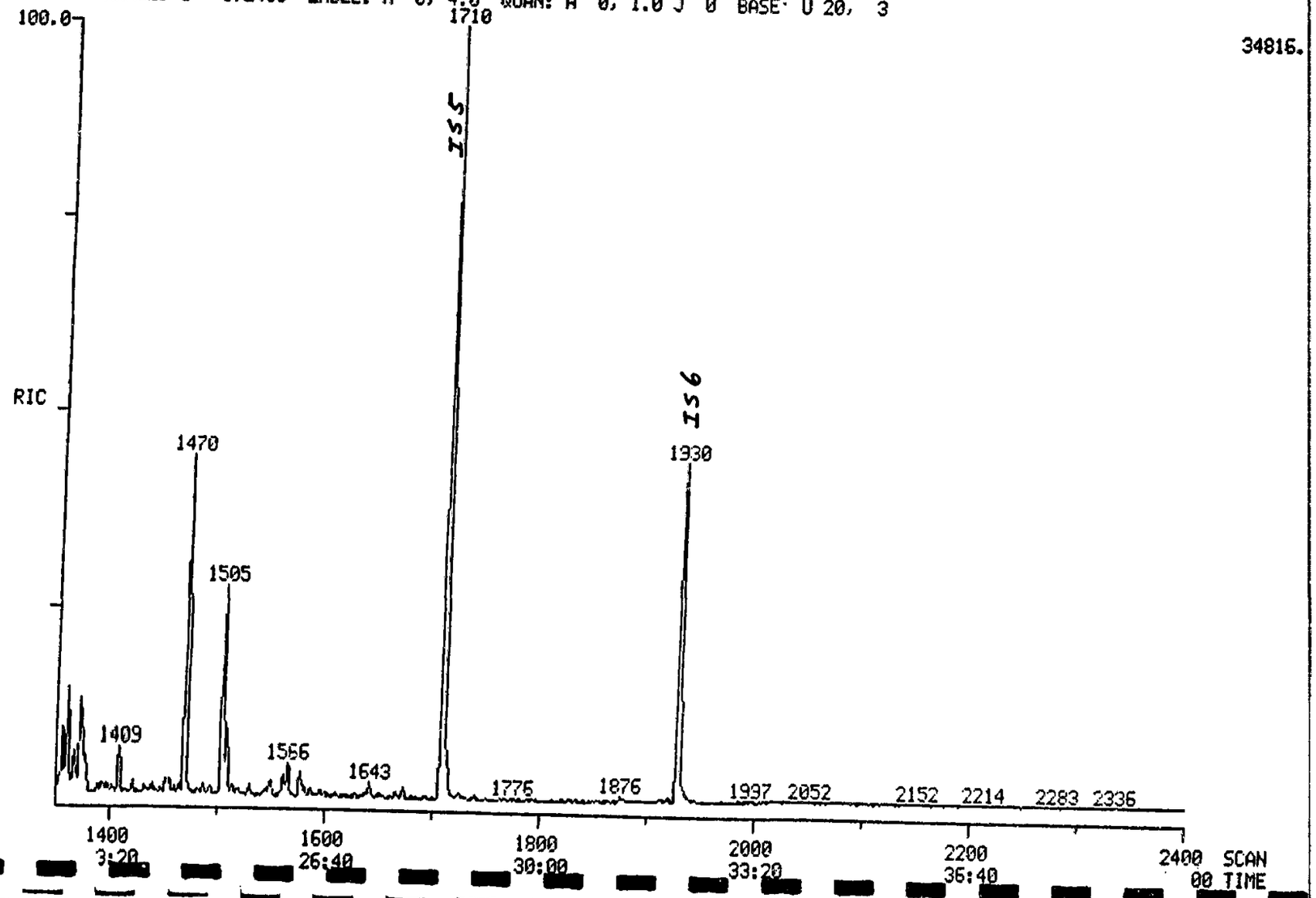
RIC
01/09/87 17:49:00
SAMPLE: CAV-OW10-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C02A #1
CALI: 4U12041C02A #3

SCANS 1350 TO 2400

SPECTRIX DC # ----14

INST ID: 4530



003358

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. CAV-OW10-001

FILENAME 4U12041C02A

CLIENT KEYSTONE

DATE INJECTED 01/09/87 17:49:00

CALIB STD DATE 01/08/87

INST ID. 4530

ANALYST GU

VERIFIED BY

CORR. FACTOR 400.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
536	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	16000 UG/L	1.000	36004
741	CI40	NAPHTHALENE-D8 ** IS2 **	136	16000 UG/L	1.000	136919
1030	CI50	ACENAPHTHENE-D10 ** IS3 **	164	16000 UG/L	1.000	70564
1271	CI60	PHENANTHRENE-D10 ** IS4 **	188	16000 UG/L	1.000	90041
1710	CI70	CHRYSENE-D12 ** IS5 **	240	16000 UG/L	1.000	47080
1930	CI75	PERYLENE-D12 ** IS6 **	264	16000 UG/L	1.000	25197
599	C355	2-METHYLPHENOL	108	2167 UG/L	1.118	7856
623	C365	4-METHYLPHENOL	108	1409 UG/L	1.162	4914
708	C425	2,4-DIMETHYLPHENOL	122	2705 UG/L	0.955	8453
746	C450	NAPHTHALENE	128	66389 UG/L	1.007	545657
858	C470	2-METHYLNAPHTHALENE	142	6493 UG/L	1.158	49548
1002	C540	ACENAPHTHYLENE	152	289 UG/L	0.973	2037
1035	C550	ACENAPHTHENE	153	6127 UG/L	1.005	24837
1061	C565	DIBENZOFURAN	168	4651 UG/L	1.030	25569
1124	C580	DIETHYL PHTHALATE *	149	252 UG/L	1.091	1072
1118	C590	FLUORENE	166	4835 UG/L	1.085	22257
1275	C640	PHENANTHRENE	178	12066 UG/L	1.003	65389
1281	C645	ANTHRACENE	178	1702 UG/L	1.008	9365
1470	C655	FLUORANTHENE	202	4309 UG/L	1.157	21837
1505	C715	PYRENE	202	3064 UG/L	0.880	13845
1708	C730	BENZO(A)ANTHRACENE	228	665 UG/L	0.999	2030
1713	C740	CHRYSENE	228	616 UG/L	1.002	1750

* BLANK CORRECTED ON DATA SHEET

** SURROGATES WERE DILUTED OUT

LIBRARY SEARCH
01/09/87 17:49:00 + 17:26
SAMPLE: CAV-OW10-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12041C02A #1046
CALI: 4U12041C02A # 3

BASE M/Z: 73
RIC: 8575.

SPECTRIX DC # ----19
ANALYST: GU

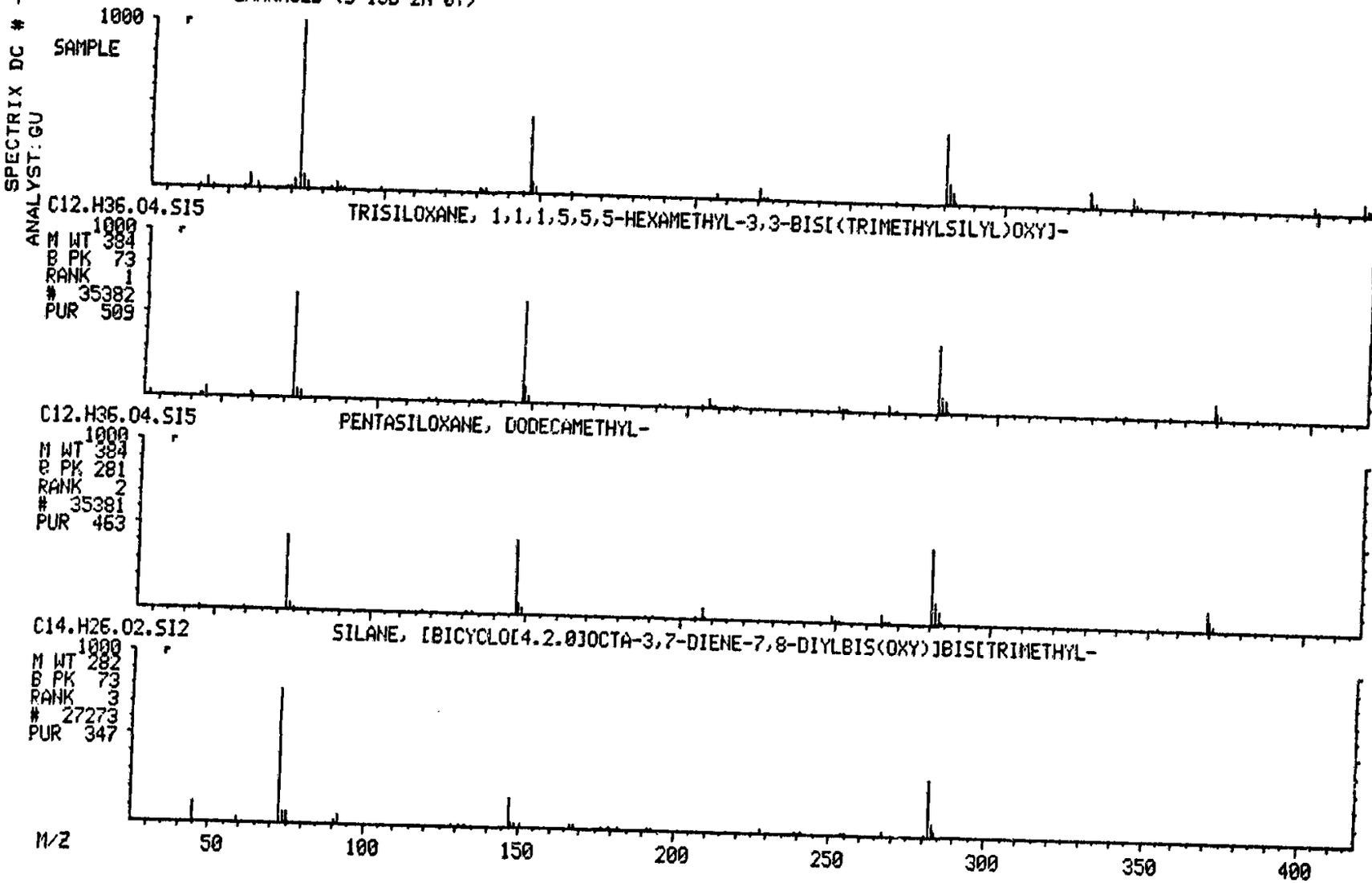
SAMPLE

C12.H36.04.SI5 TRISILOXANE, 1,1,1,5,5,5-HEXAMETHYL-3,3-BIS[(TRIMETHYLSILYL)OXY]-
M WT 384
B PK 73
RANK 1
35382
PUR 509

C12.H36.04.SI5 PENTASILOXANE, DODECAMETHYL-
M WT 384
B PK 281
RANK 2
35381
PUR 463

C14.H26.02.SI2 SILANE, [BICYCLO[4.2.0]OCTA-3,7-DIENE-7,8-DIYLBIS(OXY)]BIS[TRIMETHYL-
M WT 282
B PK 73
RANK 3
27273
PUR 347

INST ID: 4530



003361

LIBRARY SEARCH
01/09/87 17:49:00 + 20:12
SAMPLE: CAV-OW10-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12041C02A #1212 BASE M/Z: 170
CALI: 4U12041C02A # 3 RIC: 3159.

SPECTRIX DC # -----19
ANALYST: GU

1263
SAMPLE

C14.H12
1263
M WT 180
B PK 165
RANK 1
13177
PUR 427
9H-FLUORENE, 4-METHYL-

C14.H12
1263
M WT 180
B PK 165
RANK 2
13179
PUR 424
9H-FLUORENE, 9-METHYL-

C12.H10.O
1263
M WT 170
B PK 170
RANK 3
11441
PUR 412
[1,1'-BIPHENYL]-3-OL

INST ID: 4530

M/Z 40 60 80 100 120 140 160 180 200 220

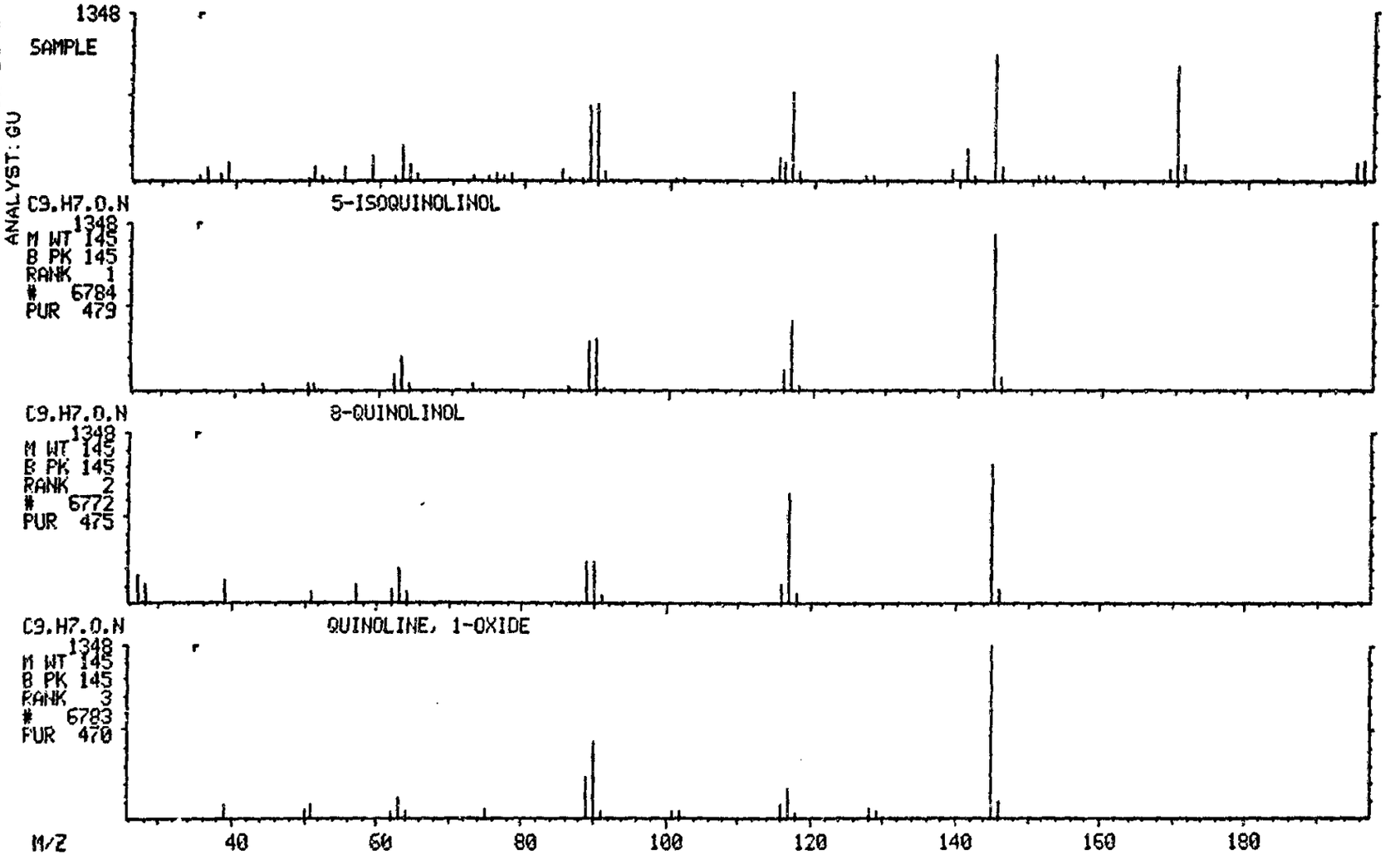
003361

003362

LIBRARY SEARCH
01/09/87 17:49:00 + 20:19
SAMPLE: CAV-OW10-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12041C02A #1219 BASE M/Z: 145
CALI: 4U12041C02A # 3 RIC: 4847.

SPECTRIX DC # ----19
ANALYST: GU



INST ID: 4530

003362

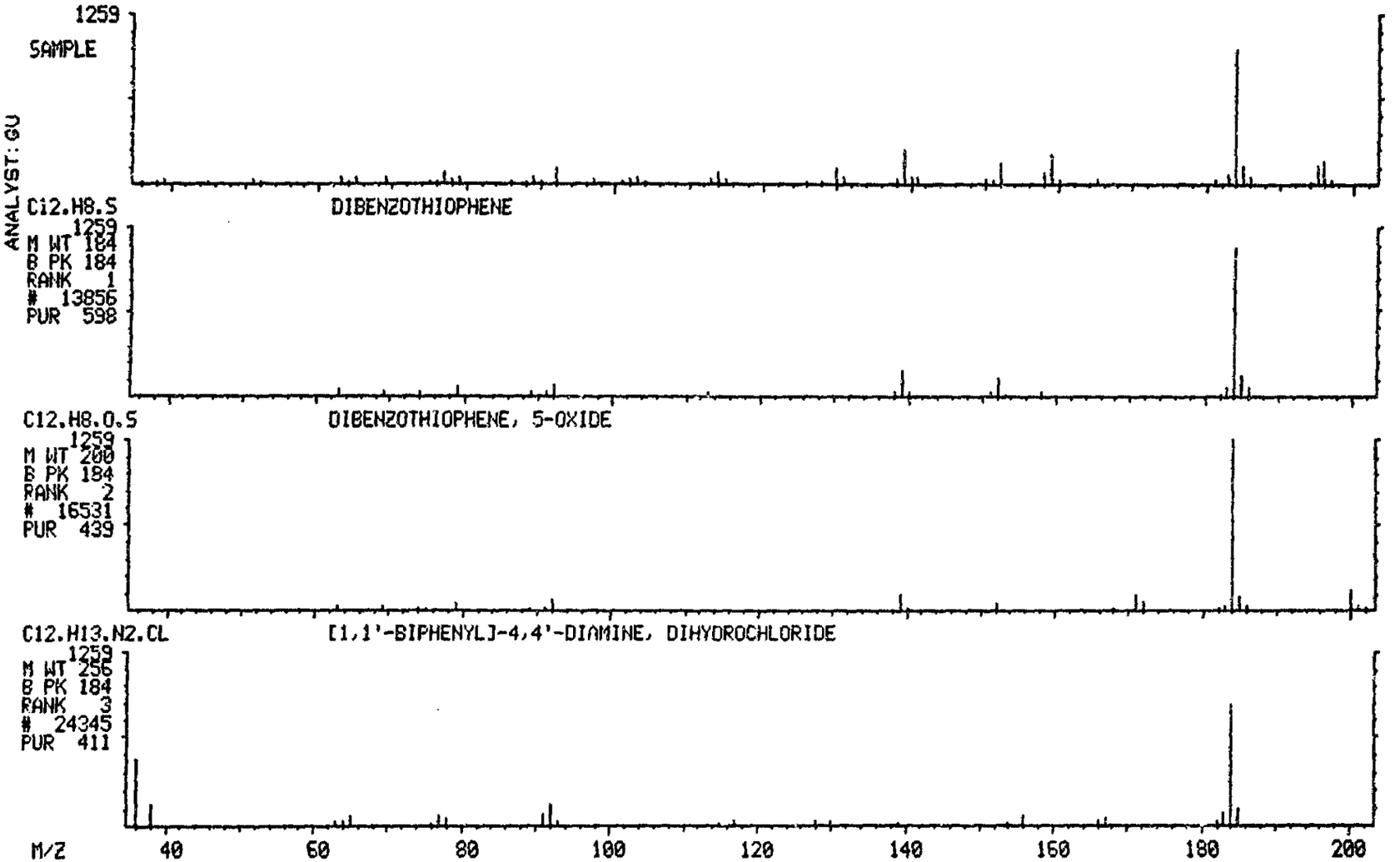
003363

LIBRARY SEARCH
01/09/87 17:49:00 + 20:53
SAMPLE: CAV-OW10-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12041C02A #1253
CALI: 4U12041C02A # 3

BASE M/Z: 184
RIC: 5991.

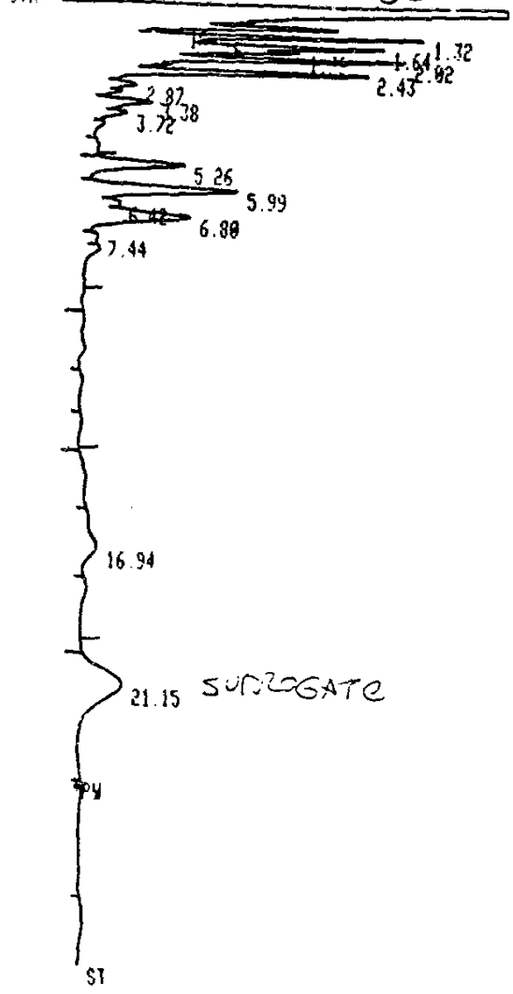
SPECTRIX DC # ----19
ANALYST: GU



INST ID: -4530

003363

86-12-041-02A R06



DC # N/A

SPECTRIX CORPORATION

CASE NO. Keystone

SAMPLE NO. CAV-OW10-001

PESTICIDE FRACTION

1st Column - 1D

1.8m X 4mm ID X 6mm OD

1.5% SP 2250

1.95% SP2401

100/120 Supelcoport

Column Temp. 203 °C

Volume Inj. 1.0 ul

Instrument ID VARIAN 6C

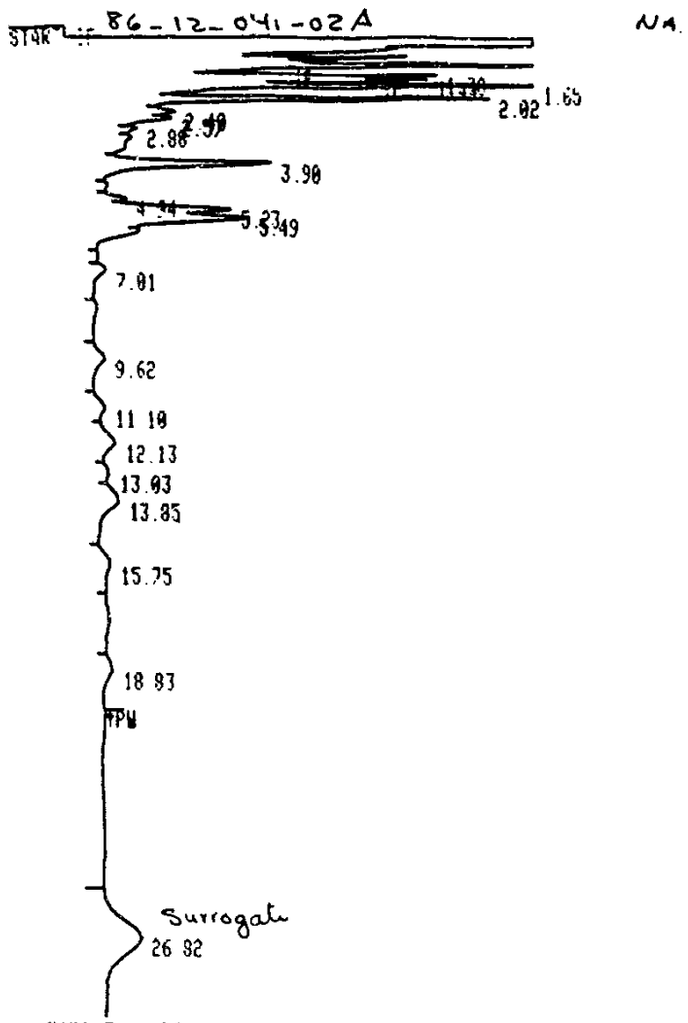
003364

RUN # 135 DEC/23/86 20:16:32
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.32	38415	D BV	0.105	16.001
1.64	33876	VV	0.135	14.111
1.79	22534	D VV	0.130	9.386
2.02	[illegible]	D VV	0.123	15.773
2.43		VV	0.129	14.086
2.87	[illegible]	VV	0.153	1.352
3.38	6423	PV	0.197	2.675
3.72	3253	VP	0.175	1.355
5.26	12403	BP	0.240	5.166
5.99	20386	PV	0.260	8.492
6.42	4297	VV	0.225	1.790
6.80	14175	VV	0.346	5.904
7.44	1559	VV	0.290	0.649
16.94	2187	VV	1.300	0.911
21.15	5636	BP	1.106	2.348

TOTAL HGHT= 240070
MUL FACTOR= 1.0000E+00



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-QW10-0
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

003

RUN # 12 JAN/06/87 17:49:24
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.38	61678	BV	0.097	11.865
1.49	60773	D VV	0.099	11.691
1.65	134650	D VP	0.100	25.902
2.02	85865	D PV	0.104	16.518
2.40	7287	VV	0.161	1.402
2.57	8483	D VP	0.146	1.632
2.88	2323	D PV	0.102	0.447
3.90	42327	PP	0.197	8.142
4.94	6088	VV	0.190	1.171
5.23	33659	VV	0.209	6.475
5.49	38706	VV	0.272	7.446
7.01	2678	VP	0.320	0.515
9.62	3169	PP	0.551	0.610
11.10	2885	PV	0.532	0.555
12.13	5241	VV	0.765	1.008
13.03	3457	VV	0.527	0.665
13.85	5627	VV	0.851	1.083
15.75	2957	VV	0.723	0.569
18.83	2429	VB	0.687	0.467
26.82	9554	BB	1.243	1.838

SPECTRUX 500 REPORT

Work Order # 86-12-041

Received: 12/09/86

Results by Sample

SAMPLE ID CAV-DW10-001 (LLW) SAMPLE # 02 FRACTIONS: A

Date & Time Collected 12/09/86 Category

AG	<10 ug/L	AS	34.8 ug/L	BE	<3 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	42 ug/L
CU	33 ug/L	FE	35500 ug/L	HG	<0.2 ug/L	NI	87 ug/L	NO3_SU	<100 ug/L	PB	257 ug/L
SB	67 ug/L	SE	<5 ug/L	TL	<10 ug/L	ZN	116 ug/L				

CHECKLIST

SECTION II - Sample Data Packets

Sample No: CAV-OW11-001

✓ 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)

003367

SPECTRIX DC # ----- 8

NST ID 4000

SAMPLE NUMBER: CAV-OW11-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

BORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204103
AMPLE MATRIX: WATER
ATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/9/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/13/86
ATE ANALYZED: 12/13/86

DATAFILE: 4U12041V03

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 J
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 J
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	590
C235	CHLOROBENZENE	500 U
C240	ETHYLBENZENE	500 J
C245	STYRENE	500 U
C250	TOTAL XYLENES	500 J

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

003368

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: CAV-OW11-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 8612041C3
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: ...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/9/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/13/86
DATE ANALYZED: 01/09/87

DATAFILE: 4U12041C03
DILUTION FACTOR: 50000

CAS #	COMPOUND	UG/L
C315	PHENOL	500000 U
C325	BIS(2-CHLOROETHYL)ETHER	500000 U
C330	2-CHLOROPHENOL	500000 U
C335	1,3-DICHLOROBENZENE	500000 U
C340	1,4-DICHLOROBENZENE	500000 U
C345	BENZYL ALCOHOL	500000 U
C350	1,2-DICHLOROBENZENE	500000 U
C355	2-METHYLPHENOL	500000 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	500000 U
C365	4-METHYLPHENOL	500000 U
C370	N-NITROSODIPROPYLAMINE	500000 U
C375	HEXACHLOROETHANE	500000 U
C410	NITROBENZENE	500000 U
C415	ISOPHORONE	500000 U
C420	2-NITROPHENOL	500000 U
C425	2,4-DIMETHYLPHENOL	500000 U
C430	BENZOIC ACID	2500000 U
C435	BIS(2-CHLOROETHOXY)METHANE	500000 U
C440	2,4-DICHLOROPHENOL	500000 U
C445	1,2,4-TRICHLOROBENZENE	500000 U
C450	NAPHTHALENE	7100000
C455	4-CHLOROANILINE	500000 U
C460	HEXACHLOROBUTADIENE	500000 U
C465	P-CHLORO-M-CRESOL	500000 U
C470	2-METHYLNAPHTHALENE	1300000
C510	HEXACHLOROCYCLOPENTADIENE	500000 U
C515	2,4,6-TRICHLOROPHENOL	500000 U
C520	2,4,5-TRICHLOROPHENOL	2500000 U
C525	2-CHLORONAPHTHALENE	500000 U
C530	2-NITROANILINE	2500000 U
C535	DIMETHYL PHTHALATE	500000 U
C540	ACENAPHTHYLENE	50000 J
C545	3-NITROANILINE	2500000 U
C550	ACENAPHTHENE	2600000
C555	2,4-DINITROPHENOL	2500000 U
C560	4-NITROPHENOL	2500000 U
C565	DIBENZOFURAN	1300000
C570	2,4-DINITROTOLUENE	500000 U
C575	2,6-DINITROTOLUENE	500000 U

003369

SPECTRIX DC # ---- 8

SAMPLE NUMBER: CAV-OW11-001

:MIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12041C03

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	500000 U
C585	4-CHLOROPHENYL PHENYL ETHER	500000 U
C590	FLUORENE	1800000
C595	4-NITROANILINE	2500000 U
C610	4,6-DINITRO-2-METHYLPHENOL	2500000 U
C615	N-NITROSODIPHENYLAMINE	500000 U
C625	4-BROMOPHENYL PHENYL ETHER	500000 U
C630	HEXACHLOROBENZENE	500000 U
C635	PENTACHLOROPHENOL	2500000 U
C640	PHENANTHRENE	4900000
C645	ANTHRACENE	550000
C650	DI-N-BUTYL PHTHALATE	500000 U
C655	FLUORANTHENE	2600000
C715	PYRENE	1900000
C720	BUTYL BENZYL PHTHALATE	500000 U
C725	3,3'-DICHLOROBENZIDINE	1000000 U
C730	BENZO(A)ANTHRACENE	500000
C735	BIS(2-ETHYLHEXYL)PHTHALATE	500000 U
C740	CHRYSENE	420000 J
C760	DI-N-OCTYL PHTHALATE	500000 U
C765	BENZO(B)FLUORANTHENE	500000 U
C770	BENZO(K)FLUORANTHENE	500000 U
C775	BENZO(A)PYRENE	170000 J
C780	INDENO(1,2,3-CD)PYRENE	500000 U
C785	DIBENZO(A,H)ANTHRACENE	500000 U
C790	BENZO(GHI)PERYLENE	500000 U

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

003370

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-041-03A

DC No: KEYSTONE
SMO No: CAV-OW11-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/11/86
Date Analyzed: 12/23/86
Dilution Factor: 5
Percent Moisture(decanted):

GPC Cleanup _Yes _No
Sep. Funnel Ext. _Yes
Cont. Liquid Ext. _Yes

CAS #	Compound	ug/L
319-84-6	ALPHA-BHC	0.25 U
319-85-7	BETA-BHC	0.25 U
319-86-8	DELTA-BHC	0.25 U
58-89-9	GAMMA-BHC (LINDANE)	0.25 U
76-44-8	HEPTACHLOR	0.25 U
309-00-2	ALDRIN	0.25 U
1024-57-3	HEPTACHLOR EPOXIDE	0.25 U
959-98-8	ENDOSULFAN I	0.25 U
60-57-1	DIELDRIN	0.50 U
72-55-9	4,4'-DDE	0.50 U
72-20-8	ENDRIN	0.50 U
33213-65-9	ENDOSULFAN II	0.50 U
72-54-8	4,4'-DDD	0.50 U
7421-93-4	ENDRIN ALDEHYDE	0.50 U
1031-07-8	ENDOSULFAN SULFATE	0.50 U
50-29-3	4,4'-DDT	0.50 U
72-43-5	METHOXYCHLOR	2.50 U
53494-70-5	ENDRIN KETONE	0.50 U
57-74-9	CHLORDANE	2.50 U
8001-35-2	TOXAPHENE	5.0 U
12674-11-2	AROCLOR-1016	2.50 U
11104-28-2	AROCLOR-1221	2.50 U
11141-16-5	AROCLOR-1232	2.50 U
53469-21-9	AROCLOR-1242	2.50 U
12672-29-6	AROCLOR-1248	2.50 U
11097-69-1	AROCLOR-1254	5.0 U
11096-82-5	AROCLOR-1260	5.0 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

003371

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

SAMPLE NUMBER: CAV-OW11-001

ORGANICS ANALYSIS DATA SHEET - PAGE 4

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

DC REPORT NO.: ---- ANALYST: TTO DATAFILE: 4U12041V03

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
124-38-9	CARBON DIOXIDE (ACN) *	43	1000	1800 J
124-38-9	CARBON DIOXIDE (ACN) *	48	979	2600 J

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

* ALSO FOUND IN BLANK

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

SAMPLE: CAV-OW11-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

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

QC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12041C03

B. TENTATIVELY IDENTIFIED COMPOUNDS

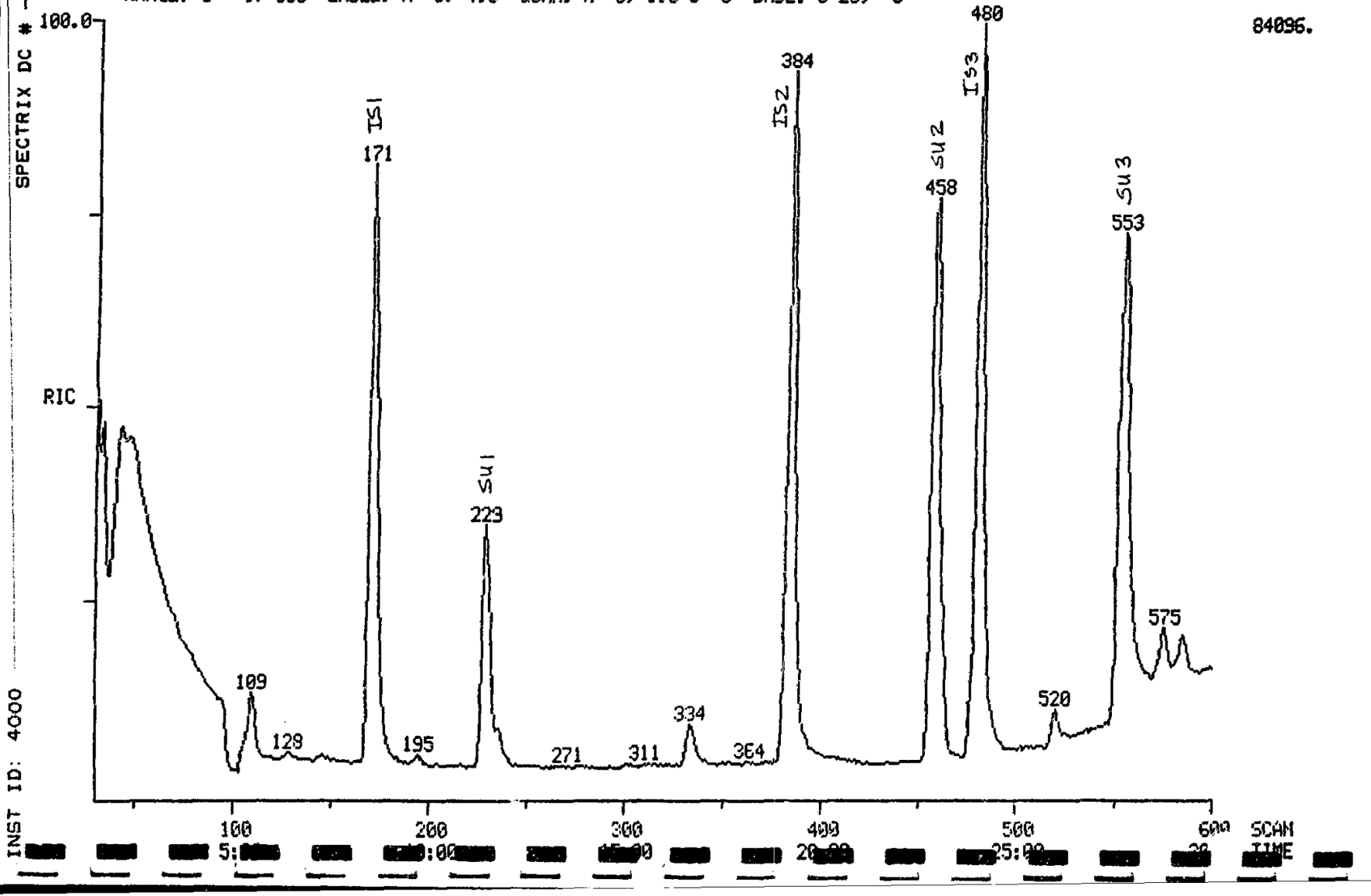
CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L	
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	559	956	550000	J
95-15-8	BENZO[B]THIOPHENE	750	915	230000	J
2471-83-2	1H-INDENE, 1-ETHYLIDENE-	875	915	680000	J
92-52-4	1,1'-BIPHENYL	940	925	430000	J
939-27-5	NAPHTHALENE, 2-ETHYL-	954	892	240000	J
581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	964	927	310000	J
581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	978	938	440000	J
644-08-6	1,1'-BIPHENYL, 4-METHYL-	1136	900	310000	J
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1151		230000	J
7320-53-8	DIBENZOFURAN, 4-METHYL-	1162	869	290000	J
132-65-0	DIBENZOTHIOPHENE	1255	801	420000	J
74410-42-7	D-GALACTITOL, 2-(ACETYLMETHYLAMINO)-2-DEO	1316	911	230000	J
1961-96-2	1H-INDENE, 1-PHENYL-	1359	934	220000	J
1961-96-2	1H-INDENE, 1-PHENYL-	1363	924	260000	J
203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRENE	1376	816	620000	J
238-84-6	11H-BENZO[A]FLUORENE	1569	877	350000	J

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

RIC
12/13/85 16:54:00
SAMPLE: CAV-OW11-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041V03 #1 SCANS 30 TO 600
CALI: 4U12041V03 #3

84096.



SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID. CAV-OW11-001

FILENAME 4U12041V03 INST 4000

CLIENT KEYSTONE ANALYST TTO

DATE INJECTED 12/13/86 16:54:00 VERIFIED BY

CALIB STD DATE 121486 CORR. FACTOR 100.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
171	CI01	BROMOCHLOROMETHANE	**IS1**	128	5000 UG/L	1.000	29148
384	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	5000 UG/L	1.000	123612
480	CI20	D5-CHLOROBENZENE	**IS3**	117	5000 UG/L	1.000	100136
229	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	96 %	1.339	28626
457	CS05	D8-TOLUENE	**SU2**	98	97 %	0.952	80638
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	96 %	1.152	50080
109	CO30	METHYLENE CHLORIDE *		84	632 UG/L	0.637	4223
128	CO35	ACETONE		43	545 UG/L	0.749	1327
236	C110	2-BUTANONE *		72	979 UG/L	0.615	1173
334	C165	BENZENE		78	332 UG/L	0.870	7431
461	C230	TOLUENE		92	591 UG/L	0.960	7731
520	C240	ETHYLBENZENE		106	268 UG/L	1.083	1819
584	C250	TOTAL XYLENES		106	370 UG/L	1.217	3110

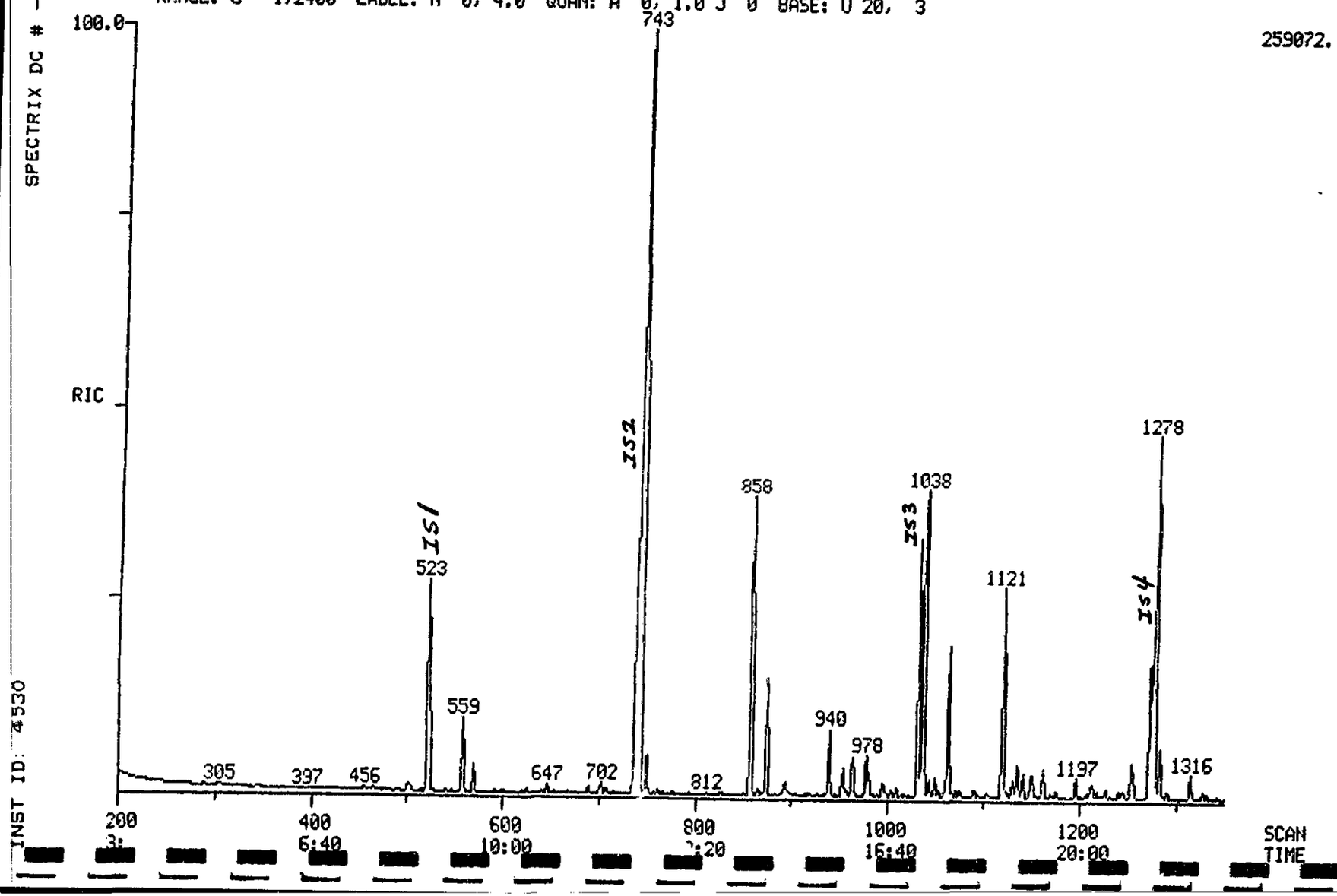
* BLANK CORRECTED ON DATA SHEET

003376

RIC
01/09/87 15:45:00
SAMPLE: CAV-OW11-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C03 #1
CALI: 4U12041C03 #3

SCANS 200 TO 1350



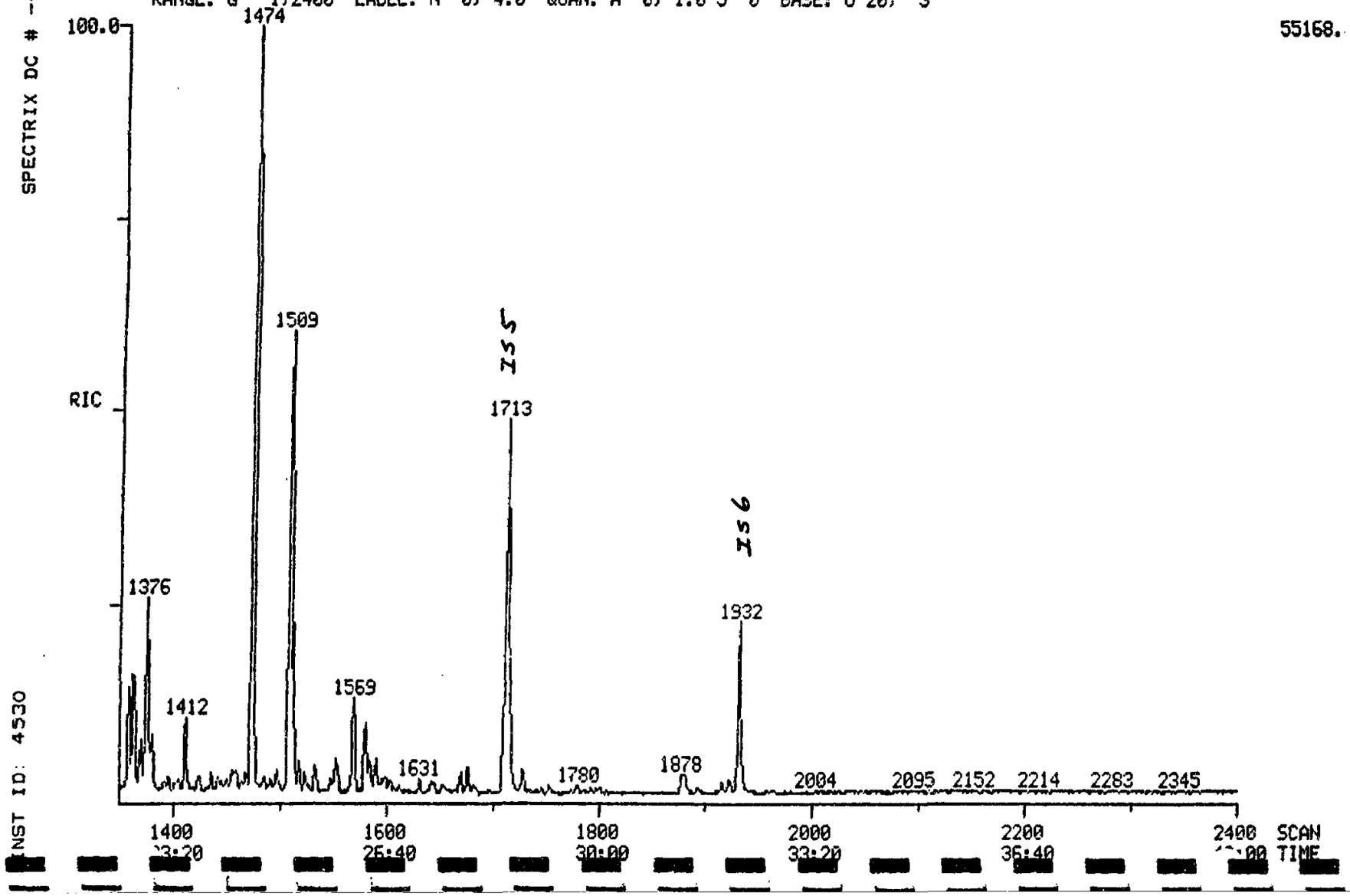
003376

003377

RIC
01/09/87 15:45:00
SAMPLE: CAV-OW11-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C03 #1
CALI: 4U12041C03 #3

SCANS 1350 TO 2400



SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. CAV-OW11-001

.LENAME 4U12041C03

CLIENT KEYSTONE

DATE INJECTED 01/09/87 15:45:00

CALIB STD DATE 01/08/87

INST ID. 4530

ANALYST GU

VERIFIED BY

CORR. FACTOR 50000.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
523	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	2000000 UG/L	1.000	3081
738	CI40	NAPHTHALENE-D8 ** IS2 **	136	2000000 UG/L	1.000	12069
1032	CI50	ACENAPHTHENE-D10 ** IS3 **	164	2000000 UG/L	1.000	5924
1273	CI60	PHENANTHRENE-D10 ** IS4 **	188	2000000 UG/L	1.000	6080
1713	CI70	CHRYSENE-D12 ** IS5 **	240	2000000 UG/L	1.000	3467
1932	CI75	PERYLENE-D12 ** IS6 **	264	2000000 UG/L	1.000	1928
743	C450	NAPHTHALENE	128	7131280 UG/L	1.007	41333
858	C470	2-METHYLNAPHTHALENE	142	1280532 UG/L	1.163	6890
1004	C540	ACENAPHTHYLENE	152	50177 UG/L	0.973	287
1038	C550	ACENAPHTHENE	153	2608512 UG/L	1.006	7102
1064	C565	DIBENZOFURAN	168	1344266 UG/L	1.031	4964
1121	C590	FLUORENE	166	1803057 UG/L	1.086	5577
1278	C640	PHENANTHRENE	178	4900695 UG/L	1.004	15951
1284	C645	ANTHRACENE	178	548172 UG/L	1.009	1812
174	C655	FLUORANTHENE	202	2595579 UG/L	1.158	7900
.509	C715	PYRENE	202	1949747 UG/L	0.881	5191
1710	C730	BENZO(A)ANTHRACENE	228	496186 UG/L	0.998	895
1716	C740	CHRYSENE	228	416407 UG/L	1.002	700
1923	C775	BENZO(A)PYRENE	252	165242 UG/L	0.995	165

* SURROGATES WERE DILUTED OUT

003379

LIBRARY SEARCH
01/09/87 15:45:00 + 19:11
SAMPLE: CAV-OW11-001
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4U12041C03 #1151 BASE M/Z: 182
CALI: 4U12041C03 # 3 RIC: 6871.

SPECTRIX DC # ----19
ANALYST: GU

1232
SAMPLE

C13.H10.0 DIBENZOFURAN, 4-METHYL-
1232
M WT 182
B PK 182
RANK 1
13519
PUR 746

C13.H10.0 [1,1'-BIPHENYL]-4-CARBOXALDEHYDE
1232
M WT 182
B PK 182
RANK 2
13518
PUR 745

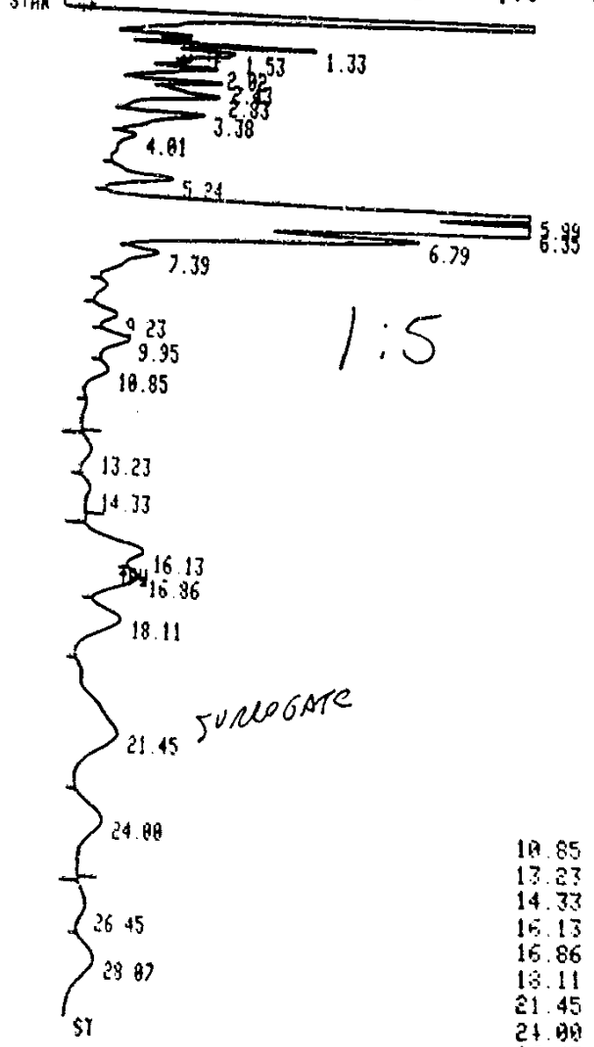
C8.H6.05 1,2-BENZENEDICARBOXYLIC ACID, 4-HYDROXY-
1232
M WT 182
B PK 181
RANK 3
13513
PUR 739

NST ID: 4530

M/Z 40 60 80 100 120 140 160 180

003379

86-12-041-03A 1:5 R06



DC # N/A

SPECTRIX CORPORATION

CASE NO. Keystone

SAMPLE NO. CAV-OW11-001 1:5

PESTICIDE FRACTION

1st Column - 1D

1.8m X 4mm ID X 6mm OD

1.5% SP 2250

1.95% SP2401

100/120 Supelcoport

Column Temp. 203 °C

Volume Inj. 1.0 ul

Instrument ID VARIAN 60

003380

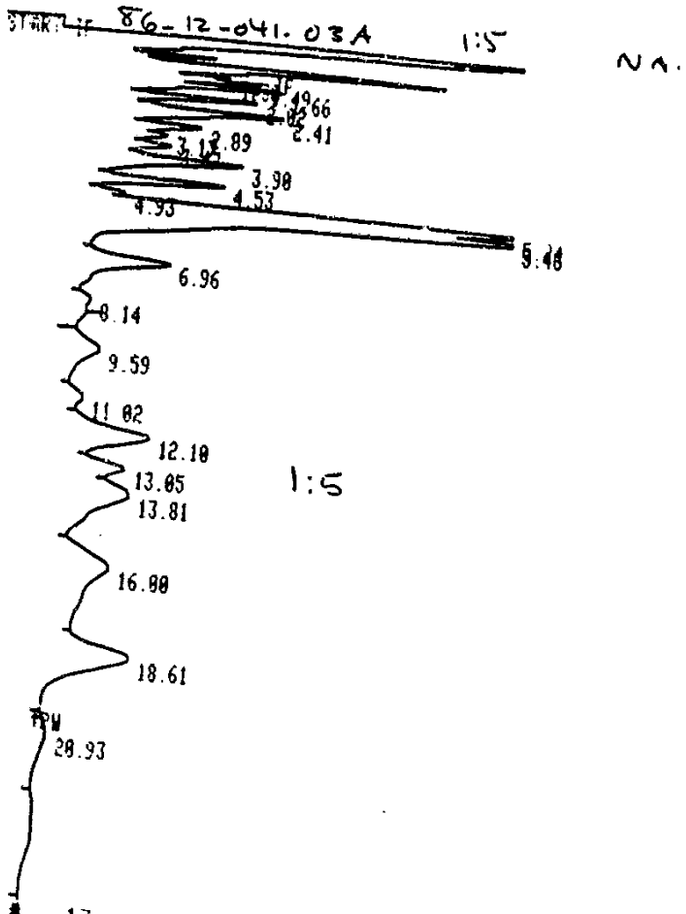
10.85	2838	VP	0.580	0.621
13.23	1318	BP	0.599	0.288
14.33	966	PB	0.497	0.211
16.13	7983	BV	0.689	1.746
16.86	7483 D	VV	0.717	1.637
18.11	5540	VP	0.805	1.212
21.45	5460	PP	1.512	1.194
24.00	3322	PB	0.998	0.727
26.45	1563	BV	0.996	0.342
28.07	3341 I	VP	1.306	0.731

RUN # 136
WORKFILE ID: C
WORKFILE NAME:

DEC/23/86 20 47:49

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.33	21917 D	PV	0.093	4.794
1.53	11651	VV	0.261	2.548
2.02	10489 D	VP	0.178	2.294
2.43	11972	PV	0.127	2.619
2.83	12090	VV	0.288	2.644
3.38	10738	VV	0.270	2.349
4.01	2509	VP	0.282	0.549
5.24	8589	PP	0.284	1.879
5.99	77660	PV	0.247	16.985
6.35	191209	VV	0.258	41.820
6.79	41916	VV	0.304	9.168
7.39	7971	VV	0.481	1.743
9.23	3355	VV	0.417	0.734
9.95	5337	VV	0.515	1.167



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. CAV-OW11-00
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. 600

RUN # 13
WORKFILE ID: C
WORKFILE NAME:

JAN/06/87 18:25:41

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.38	10938	BV	0.078	1.700
1.49	21932	D VV	0.107	3.410
1.66	31463	D VP	0.117	4.891
2.02	31501	PV	0.118	4.897
2.41	40251	VV	0.239	6.257
2.89	20015	VV	0.206	3.112
3.17	11907	VV	0.208	1.851
3.47	14083	VV	0.212	2.189
3.90	34550	VV	0.258	5.371
4.53	32130	VP	0.171	4.995
4.93	7062	PV	0.140	1.098
5.24	125135	VV	0.204	19.453
5.46	124083	VV	0.329	19.290
6.96	22377	VP	0.421	3.479
8.14	2306	PB	0.289	0.359
9.59	7168	BP	0.650	1.114
11.02	4212	PV	0.471	0.655
12.10	22296	VV	0.695	3.466
13.05	16682	VV	0.531	2.593
13.81	18600	VV	1.079	2.892
16.00	15309	VV	1.676	2.380
18.61	22791	VV	1.011	3.543
20.93	3076	VV	1.351	0.478
27.05	3390	PP	2.143	0.527

SPECTRUM REPORT

Work Order # 86-12-041

Received: 12/09/86

Results by Sample

SAMPLE ID CAV-OW11-001 (LLW) SAMPLE # 03 FRACTIONS: A

Date & Time Collected 12/09/86 Category

AG	<50 ug/L	AS	522 ug/L	BE	<15 ug/L	CD	<25 ug/L	CN_SU	<5000 ug/L	CR	<45 ug/L
CU	<50 ug/L	FE	10500 ug/L	HG	<0.2 ug/L	NI	395 ug/L	NO3_SU	N/A ug/L	PB	28.3 ug/L
SB	<220 ug/L	SE	<25 ug/L	TL	<50 ug/L	ZN	490 ug/L				

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-MW17-001

✓ 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)

003383

SPECTRIX DC # ----- 8

NST ID 4000

SAMPLE NUMBER: SCK-MW17-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

BORATORY NAME: SPECTRIX
SAMPLE ID NO.: 861204104
AMPLE MATRIX: WATER
ATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/9/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/13/86
ATE ANALYZED: 12/13/86

DATAFILE: 4U12041V04

DILUTION FACTOR: 1.0

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

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

003384

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-MW17-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204104
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: MPH

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/9/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/13/86
DATE ANALYZED: 01/09/87

DATAFILE: 4U12041C04
DILUTION FACTOR: 2

CAS #	COMPOUND	UG/L
C315	PHENOL	20 U
C325	BIS(2-CHLOROETHYL)ETHER	20 U
C330	2-CHLOROPHENOL	20 U
C335	1,3-DICHLOROBENZENE	20 U
C340	1,4-DICHLOROBENZENE	20 U
C345	BENZYL ALCOHOL	20 U
C350	1,2-DICHLOROBENZENE	20 U
C355	2-METHYLPHENOL	20 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	20 U
C365	4-METHYLPHENOL	20 U
C370	N-NITROSODIPROPYLAMINE	20 U
C375	HEXACHLOROETHANE	20 U
C410	NITROBENZENE	20 U
C415	ISOPHORONE	20 U
C420	2-NITROPHENOL	20 U
C425	2,4-DIMETHYLPHENOL	20 U
C430	BENZOIC ACID	100 U
C435	BIS(2-CHLOROETHOXY)METHANE	20 U
C440	2,4-DICHLOROPHENOL	20 U
C445	1,2,4-TRICHLOROBENZENE	20 U
C450	NAPHTHALENE	1 J
C455	4-CHLOROANILINE	20 U
C460	HEXACHLOROBUTADIENE	20 U
C465	P-CHLORO-M-CRESOL	20 U
C470	2-METHYLNAPHTHALENE	20 U
C510	HEXACHLOROCYCLOPENTADIENE	20 U
C515	2,4,6-TRICHLOROPHENOL	20 U
C520	2,4,5-TRICHLOROPHENOL	100 U
C525	2-CHLORONAPHTHALENE	20 U
C530	2-NITROANILINE	100 U
C535	DIMETHYL PHTHALATE	20 U
C540	ACENAPHTHYLENE	20 U
C545	3-NITROANILINE	100 U
C550	ACENAPHTHENE	20 U
C555	2,4-DINITROPHENOL	100 U
C560	4-NITROPHENOL	100 U
C565	DIBENZOFURAN	20 U
C570	2,4-DINITROTOLUENE	20 U
C575	2,6-DINITROTOLUENE	20 U

003385

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-MW17-001

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12041C04

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	20 U
C585	4-CHLOROPHENYL PHENYL ETHER	20 U
C590	FLUORENE	20 U
C595	4-NITROANILINE	100 U
C610	4,6-DINITRO-2-METHYLPHENOL	100 U
C615	N-NITROSODIPHENYLAMINE	20 U
C625	4-BROMOPHENYL PHENYL ETHER	20 U
C630	HEXACHLOROBENZENE	20 U
C635	PENTACHLOROPHENOL	100 U
C640	PHENANTHRENE	20 U
C645	ANTHRACENE	20 U
C650	DI-N-BUTYL PHTHALATE	20 U
C655	FLUORANTHENE	20 U
C715	PYRENE	20 U
C720	BUTYL BENZYL PHTHALATE	20 U
C725	3,3'-DICHLOROBENZIDINE	40 U
C730	BENZO(A)ANTHRACENE	20 U
C735	BIS(2-ETHYLHEXYL)PHTHALATE	20 U
C740	CHRYSENE	20 U
C760	DI-N-OCTYL PHTHALATE	20 U
C765	BENZO(B)FLUORANTHENE	20 U
C770	BENZO(K)FLUORANTHENE	20 U
C775	BENZO(A)PYRENE	20 U
C780	INDENO(1,2,3-CD)PYRENE	20 U
C785	DIBENZO(A,H)ANTHRACENE	20 U
C790	BENZO(GHI)PERYLENE	20 U

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

003386

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-041-04A

DC No: KEYSTONE
SMO No: SCK-MW17-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/11/86
Date Analyzed: 12/23/86
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

003387

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

SAMPLE NUMBER: SCK-MW17-001

ORGANICS ANALYSIS DATA SHEET - PAGE 4

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

QC REPORT NO.: ---- ANALYST: CKT DATAFILE: 4U12041V04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
124-38-9	CARBON DIOXIDE (ACN) *	34	968	20 J
124-38-9	CARBON DIOXIDE (ACN) *	48	977	34 J

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

* ALSO FOUND IN BLANK

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

SAMPLE: SCK-MW17-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

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

SDC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12041C04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES		SCAN#	PURITY	AMOUNT UG/L
110-12-3	2-HEXANONE, 5-METHYL-	*	333	929	24
540-97-6	CYCLOHEXASILOXANE, DODECAMETHYL-	*	890	867	15
540-97-6	CYCLOHEXASILOXANE, DODECAMETHYL-	*	895	869	8

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

* ALSO FOUND IN BLANK

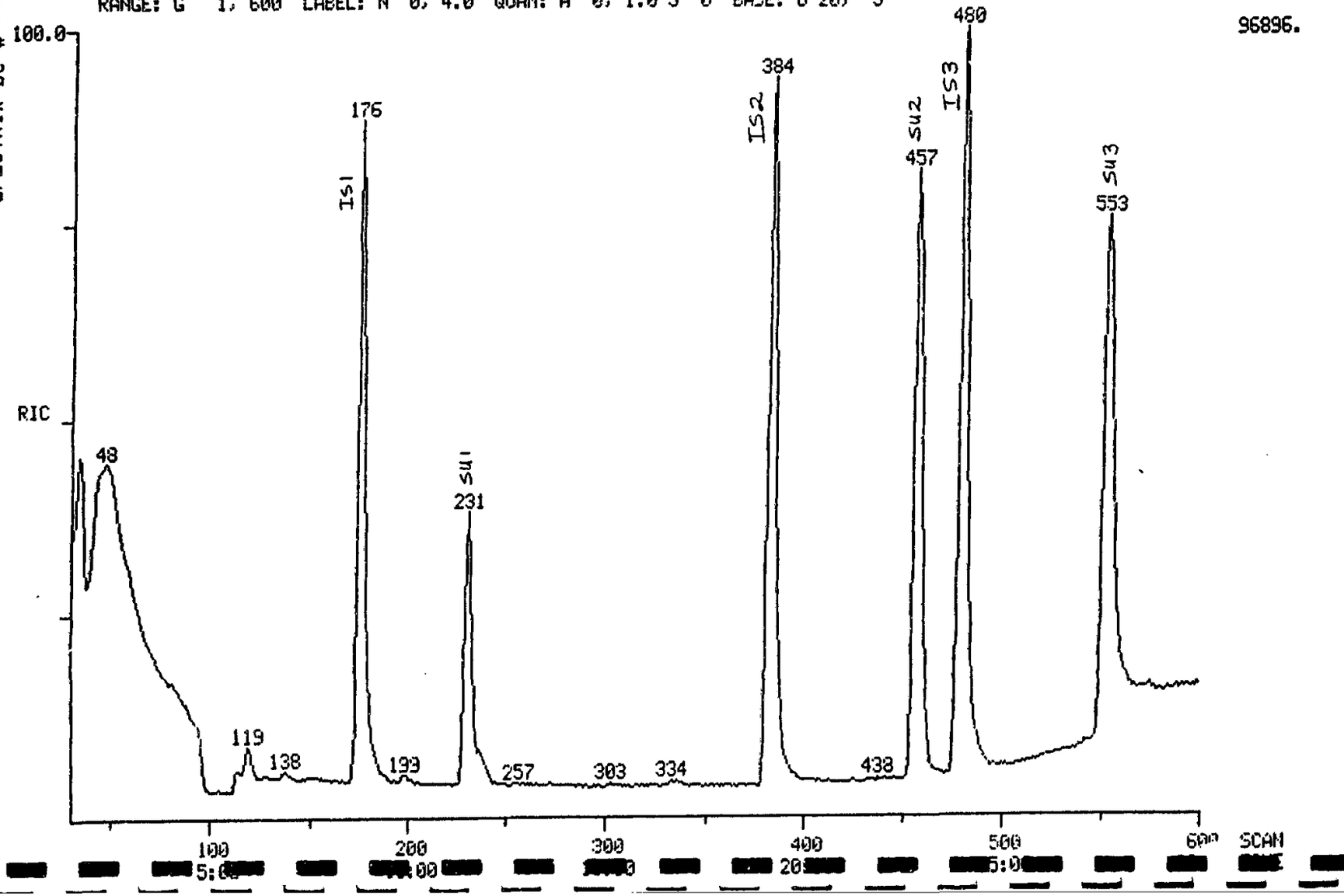
003390

RIC
12/13/86 13:03:00
SAMPLE: SCK-MW17-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041V04 #1 SCANS 30 TO 600
CALI: 4U12041V04 #3

SPECTRIX DC # -----14

INST ID: 4000



96896.

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

AMPLE ID. SCK-MW17-001

.ENAME 4U12041V04 INST 4000

LIENT KEYSTONE ANALYST CKT

DATE INJECTED 12/13/86 13:03:00 VERIFIED BY

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

CAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
176	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	34542
383	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	146666
479	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	120310
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	95 %	1.313	33604
457	CS05	D8-TOLUENE	**SU2**	98	99 %	0.954	98643
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	98 %	1.154	609510
119	CO30	METHYLENE CHLORIDE *		84	3 UG/L	0.676	2169
238	CI10	2-BUTANONE *		72	8 UG/L	0.621	1179

* BLANK CORRECTED ON DATA SHEET

003392

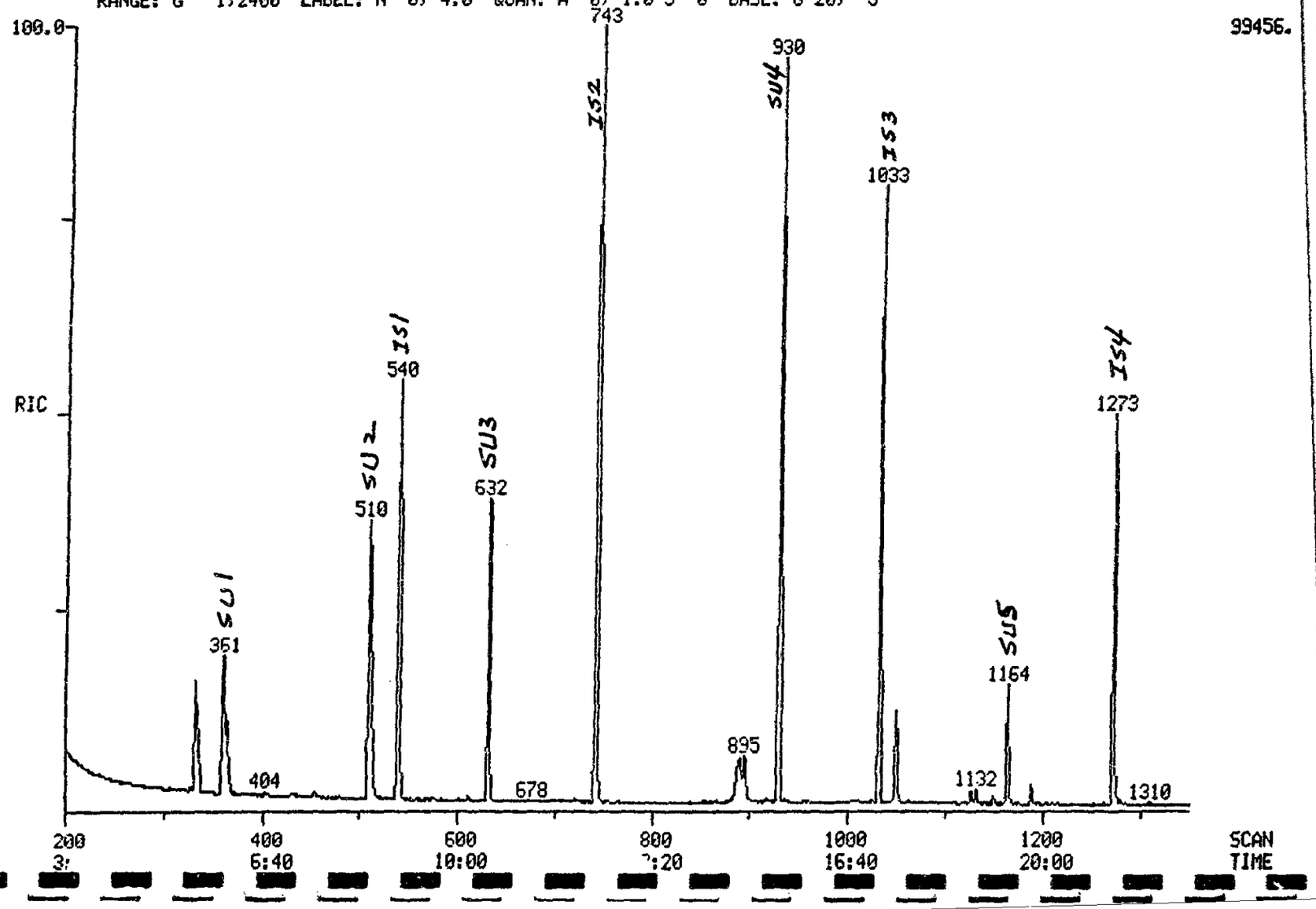
RIC
01/09/87 14:02:00
SAMPLE: SCK-MW17-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C04 #1
CALI: 4U12041C04 #3

SCANS 200 TO 1350

SPECTRIX DC # ----14

INST ID: 4530



003393

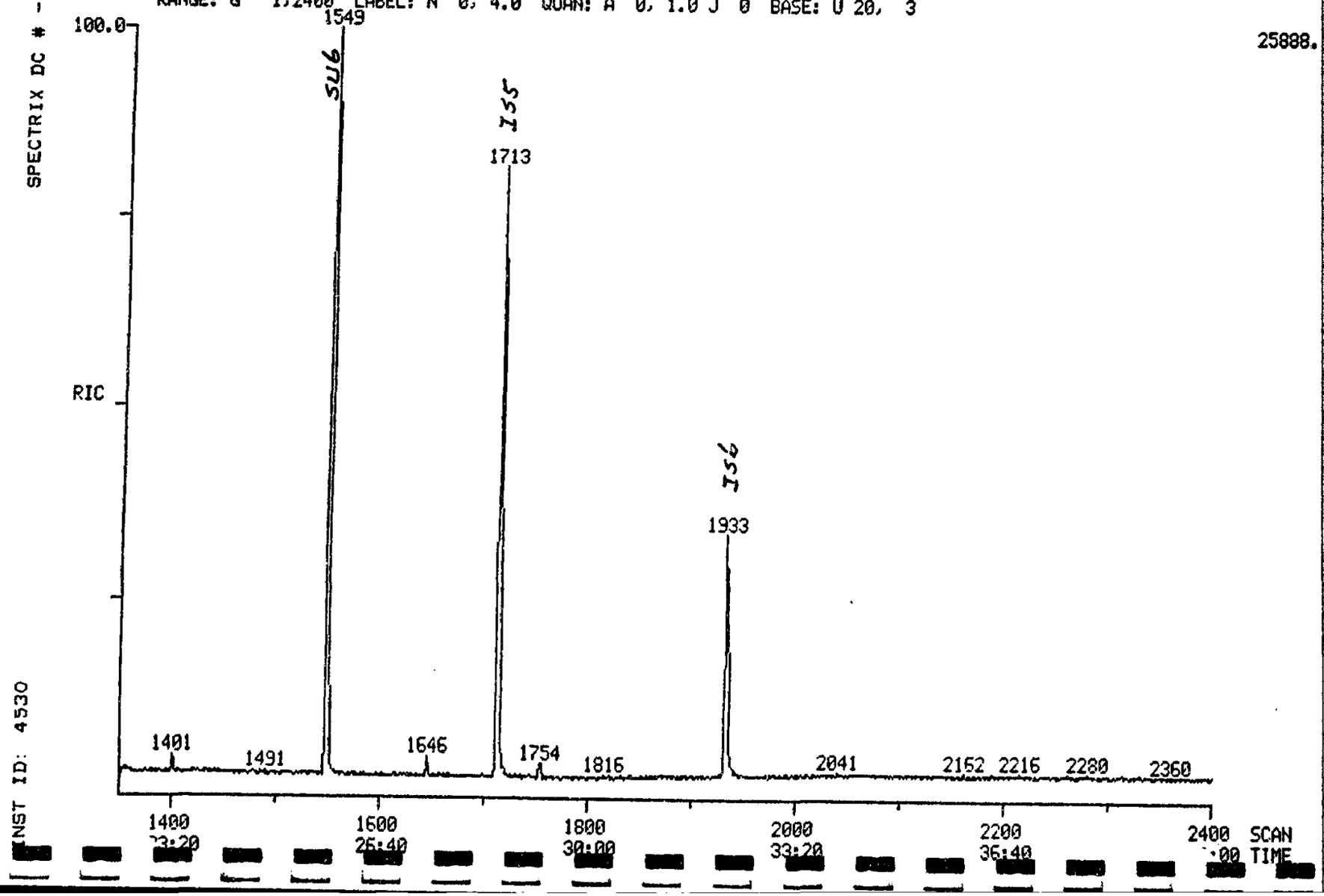
RIC
01/09/87 14:02:00
SAMPLE: SCK-MW17-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C04 #1
CALI: 4U12041C04 #3

SCANS 1350 TO 2400

SPECTRIX DC # ----14

INST ID: 4530



003393

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. SCK-MW17-001

.LENAME 4U12041C04 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

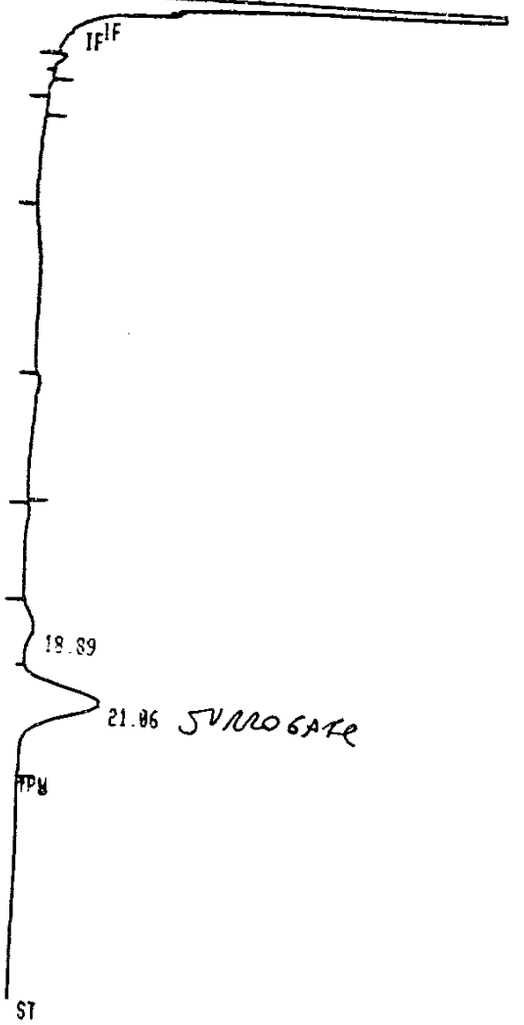
DATE INJECTED 01/09/87 14:02:00 VERIFIED BY JPH

CALIB STD DATE 01/08/87 CORR. FACTOR 2.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
540	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	80 UG/L	1.000	2425[illegible]
743	CI40	NAPHTHALENE-D8 ** IS2 **	136	80 UG/L	1.000	96171
1033	CI50	ACENAPHTHENE-D10 ** IS3 **	164	80 UG/L	1.000	47710
1273	CI60	PHENANTHRENE-D10 ** IS4 **	188	80 UG/L	1.000	57422
1713	CI70	CHRYSENE-D12 ** IS5 **	240	80 UG/L	1.000	276[illegible]
1933	CI75	PERYLENE-D12 ** IS6 **	264	80 UG/L	1.000	14[illegible]
360	CS50	2-FLUOROPHENOL ** SU1 **	112	58 %	0.667	23[illegible]
510	CS45	PHENOL-D5 ** SU2 **	99	72 %	0.944	412[illegible]
1164	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	53 %	1.127	34[illegible]
632	CS20	NITROBENZENE-D5 ** SU3 **	82	114 %	0.851	30[illegible]
930	CS25	2-FLUUOROBIPHENYL ** SU4 **	172	115 %	0.900	67[illegible]
1549	CS30	TERPHENYL-D14 ** SU6 **	244	152 %	0.904	280[illegible]
746	C450	NAPHTHALENE	128	1 UG/L	1.004	16[illegible]
1127	C580	DIETHYL PHTHALATE *	149	3 UG/L	1.091	18[illegible]

* BLANK CORRECTED ON DATA SHEET

START 86-12-041-04A ROC



DC # N/A

SPECTRIX CORPORATION

CASE NO. Keystone

SAMPLE NO. SEK-MW17-001

PESTICIDE FRACTION

1st Column - 1D

1.8m X 4mm ID X 6mm OD

1.5% SP 2250

1.95% SP2401

100/120 Supelcoport

Column Temp. 203 °C

Volume Inj. 1.0 ul

Instrument ID VARIAN 60

003395

RUN # 138
WORKFILE ID: C
WORKFILE NAME:

DEC/23/86 21:50:22

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
18.89	1553	BV	1.004	13.277
21.06	10144	VB	1.020	86.723

TOTAL HGHT= 11697
MUL FACTOR= 1.0000E+00

Received: 12/09/86

SPECTRIX 500 REPORT
Results by Sample

Work Order # 86-12-041

SAMPLE ID SCK-MW17-001 (LLW) SAMPLE # 04 FRACTIONS: A
Date & Time Collected 12/09/86 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	38 ug/L	NO3_SU	<100 ug/L	PB	<5 ug/L
SB	<44 ug/L	SE	<5 ug/L	TL	<10 ug/L	ZN	27 ug/L				

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-P03-001

✓ 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)

003397

SPECTRIX DC # ----- 8

INST ID 4000

SAMPLE NUMBER: SCK-P03-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204105
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ----
GC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/9/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/13/86
DATE ANALYZED: 12/13/86

DATAFILE: 4U12041V05

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 J
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	800
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	740
C235	CHLOROBENZENE	500 U
C240	ETHYLBENZENE	500 U
C245	STYRENE	500 U
C250	TOTAL XYLENES	500 J

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

003398

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-P03-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204105
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: yppm...

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/9/86...

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: ...12/13/86.
DATE ANALYZED: 01/09/87

DATAFILE: 4U12041C05
DILUTION FACTOR: .1000....

CAS #	COMPOUND	UG/L
C315	PHENOL	10000 U
C325	BIS(2-CHLOROETHYL)ETHER	10000 U
C330	2-CHLOROPHENOL	10000 U
C335	1,3-DICHLOROBENZENE	10000 U
C340	1,4-DICHLOROBENZENE	10000 U
C345	BENZYL ALCOHOL	10000 U
C350	1,2-DICHLOROBENZENE	10000 U
C355	2-METHYLPHENOL	10000 U
C360	BIS(2-CHLOROISOPROPYL)ETHER	10000 U
C365	4-METHYLPHENOL	10000 U
C370	N-NITROSODIPROPYLAMINE	10000 U
C375	HEXACHLOROETHANE	10000 U
C410	NITROBENZENE	10000 U
C415	ISOPHORONE	10000 U
C420	2-NITROPHENOL	10000 U
C425	2,4-DIMETHYLPHENOL	10000 U
C430	BENZOIC ACID	50000 U
C435	BIS(2-CHLOROETHOXY)METHANE	10000 U
C440	2,4-DICHLOROPHENOL	10000 U
C445	1,2,4-TRICHLOROBENZENE	10000 U
C450	NAPHTHALENE	140000
C455	4-CHLOROANILINE	10000 U
C460	HEXACHLOROBUTADIENE	10000 U
C465	P-CHLORO-M-CRESOL	10000 U
C470	2-METHYLNAPHTHALENE	19000
C510	HEXACHLOROCYCLOPENTADIENE	10000 U
C515	2,4,6-TRICHLOROPHENOL	10000 U
C520	2,4,5-TRICHLOROPHENOL	50000 U
C525	2-CHLORONAPHTHALENE	10000 U
C530	2-NITROANILINE	50000 U
C535	DIMETHYL PHTHALATE	10000 U
C540	ACENAPHTHYLENE	10000 U
C545	3-NITROANILINE	50000 U
C550	ACENAPHTHENE	26000
C555	2,4-DINITROPHENOL	50000 U
C560	4-NITROPHENOL	50000 U
C565	DIBENZOFURAN	18000
C570	2,4-DINITROTOLUENE	10000 U
C575	2,6-DINITROTOLUENE	10000 U

003399

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-P03-001

EMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12041C05

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	10000 U
C585	4-CHLOROPHENYL PHENYL ETHER	10000 U
C590	FLUORENE	19000
C595	4-NITROANILINE	50000 U
C610	4,6-DINITRO-2-METHYLPHENOL	50000 U
C615	N-NITROSODIPHENYLAMINE	10000 U
C625	4-BROMOPHENYL PHENYL ETHER	10000 U
C630	HEXACHLOROBENZENE	10000 U
C635	PENTACHLOROPHENOL	50000 U
C640	PHENANTHRENE	58000
C645	ANTHRACENE	8300 J
C650	DI-N-BUTYL PHTHALATE	10000 U
C655	FLUORANTHENE	26000
C715	PYRENE	19000
C720	BUTYL BENZYL PHTHALATE	10000 U
C725	3,3'-DICHLOROBENZIDINE	20000 U
C730	BENZO(A)ANTHRACENE	5000 J
C735	BIS(2-ETHYLHEXYL)PHTHALATE	10000 U
C740	CHRYSENE	4900 J
C760	DI-N-OCTYL PHTHALATE	10000 U
C765	BENZO(B)FLUORANTHENE	2200 J
C770	BENZO(K)FLUORANTHENE	2600 J
C775	BENZO(A)PYRENE	2600 J
C780	INDENO(1,2,3-CD)PYRENE	10000 U
C785	DIBENZO(A,H)ANTHRACENE	10000 U
C790	BENZO(GHI)PERYLENE	10000 U

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

003400

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-041-05A

DC No: KEYSTONE
SMO No: SCK-P03-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/11/86
Date Analyzed: 12/23/86
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

003401

INST ID: 4000

SPECTRIX DC # ------ 8

SAMPLE NUMBER: SCK-P03-001

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION

CASE NO.: ----

GC REPORT NO.: ----

ANALYST: TTO

DATAFILE: 4U12041V05

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
124-38-9	CARBON DIOXIDE (ACN) *	49	970	3200 UG/L

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

* ALSO FOUND IN BLANK

SAMPLE: SCK-P03-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

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

QC REPORT NO.: --- ANALYST: GU DATAFILE: 4U12041C05

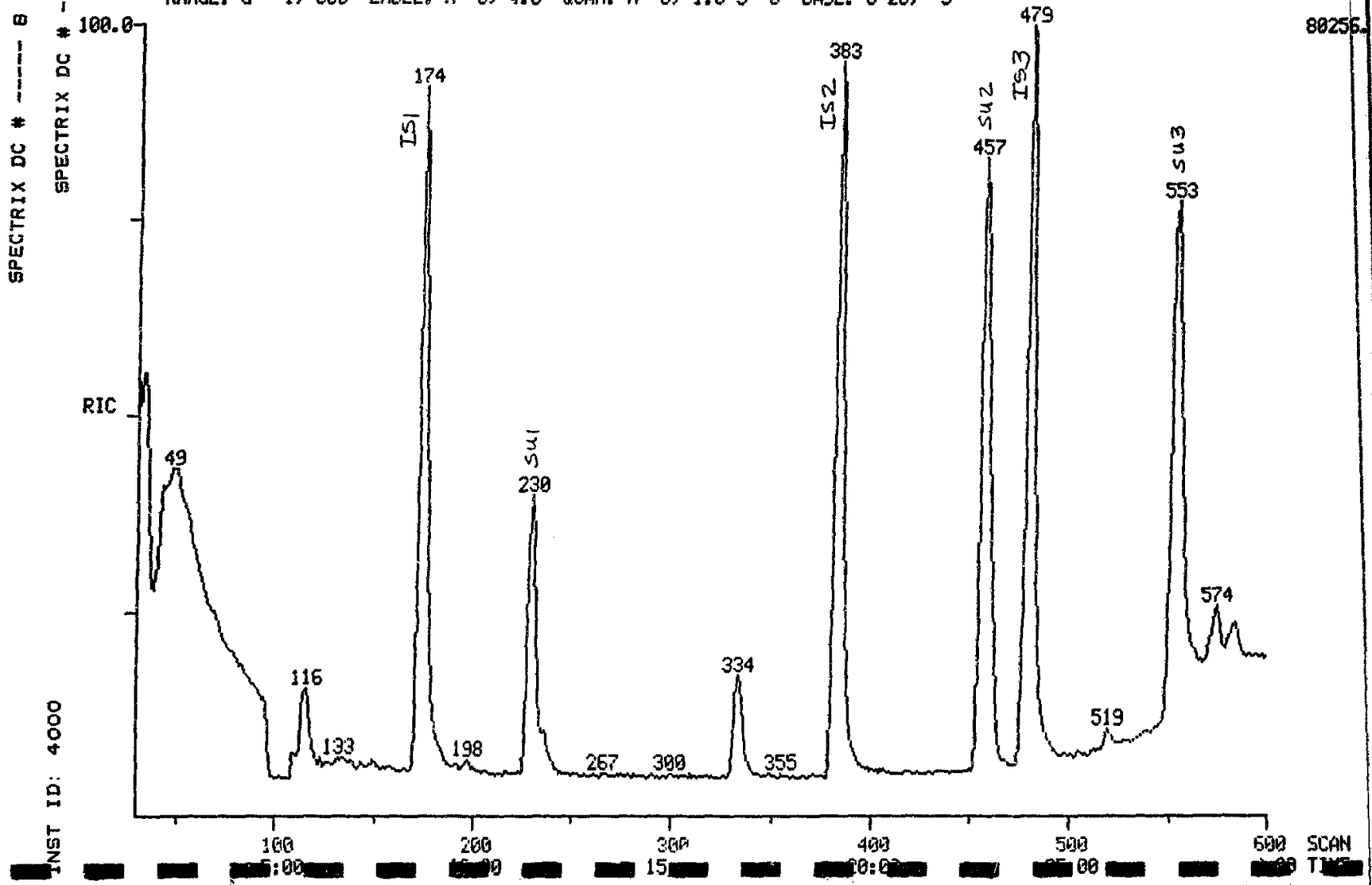
B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	560	962	5700 J
95-13-6	1H-INDENE	571	946	7800 J
95-15-8	BENZO[B]THIOPHENE	749	925	6900 J
2471-83-2	1H-INDENE, 1-ETHYLIDENE-	874	917	9600 J
92-52-4	1,1'-BIPHENYL	939	932	5900 J
81-40-8	NAPHTHALENE, 2,3-DIMETHYL-	977	936	5500 J
132-65-0	DIBENZOTHIOPHENE	1254	770	4700 J
86-74-8	9H-CARBAZOLE	1314	897	4500 J
203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRENE	1374	861	5800 J

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

RIC
12/13/86 16:15:00
SAMPLE: SCK-P03-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041V05 #1 SCANS 30 TO 600
CALI: 4U12041V05 #3



SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID. SCK-P03-001

FILENAME 4U12041V05 INST 4000

CLIENT KEYSTONE ANALYST TTO

DATE INJECTED 12/13/86 16:15:00 VERIFIED BY

CALIB STD DATE 121486 CORR. FACTOR 100.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
174	CI01	BROMOCHLOROMETHANE	**IS1**	128	5000 UG/L	1.000	29882
383	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	5000 UG/L	1.000	118884
479	CI20	D5-CHLOROBENZENE	**IS3**	117	5000 UG/L	1.000	98380
230	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	96 %	1.322	29553
457	CS05	D8-TOLUENE	**SU2**	98	98 %	0.954	79547
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	96 %	1.154	49112
116	C030	METHYLENE CHLORIDE *		84	658 UG/L	0.667	4506
134	C035	ACETONE		43	416 UG/L	0.770	1039
237	C110	2-BUTANONE *		72	1105 UG/L	0.619	1273
333	C165	BENZENE		78	798 UG/L	0.869	17187
460	C230	TOLUENE		92	736 UG/L	0.960	9454
583	C250	TOTAL XYLENES		106	347 UG/L	1.217	2861

* BLANK CORRECTED ON DATA SHEET

003406

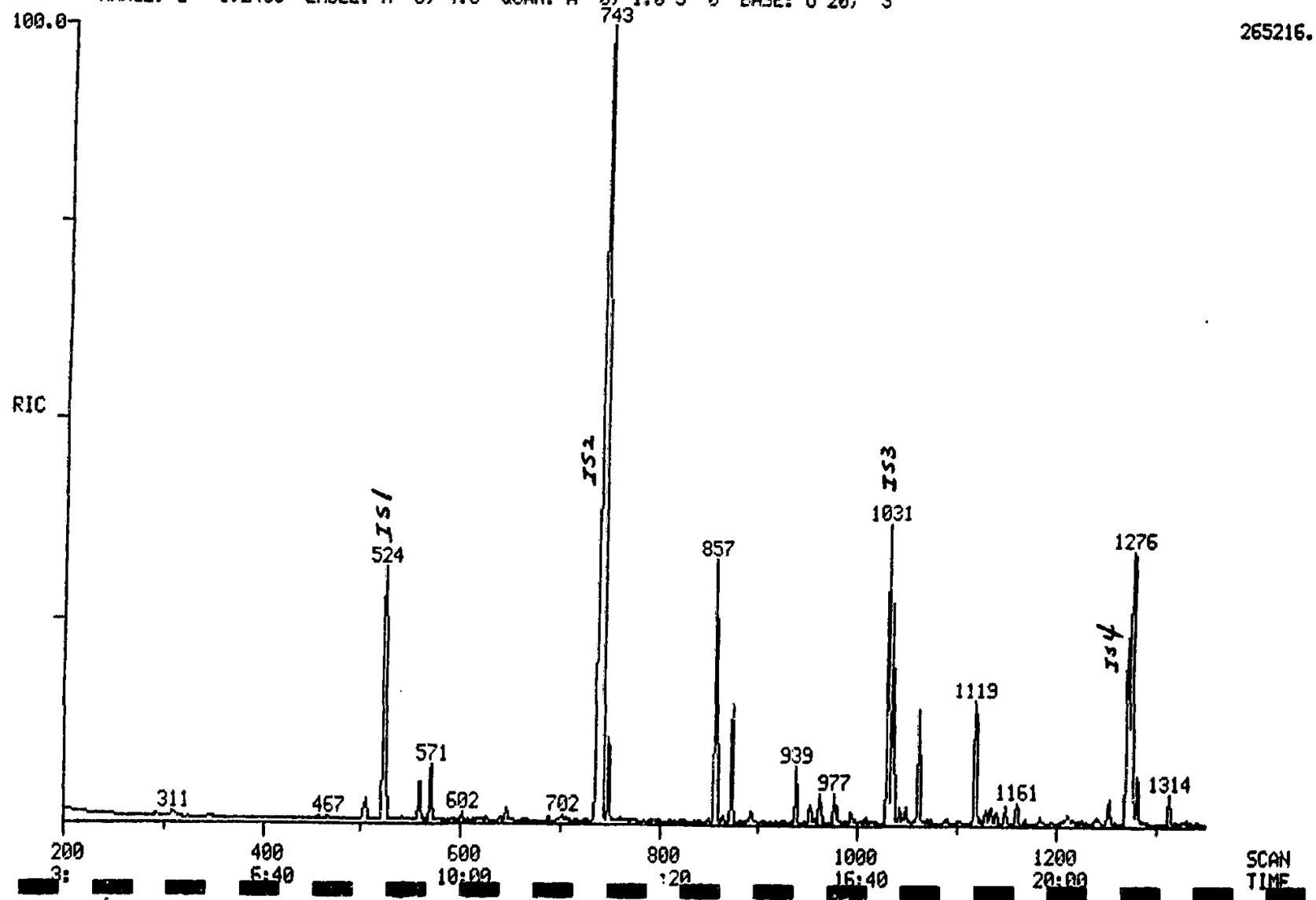
RIC
01/09/87 18:41:00
SAMPLE: SCK-P03-001
CONDS.: ---
RANGE: G 1.2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C05 #1
CALI: 4U12041C05 #3

SCANS 200 TO 1350

SPECTRIX DC # ----14

INST ID: 4530



003406

003407

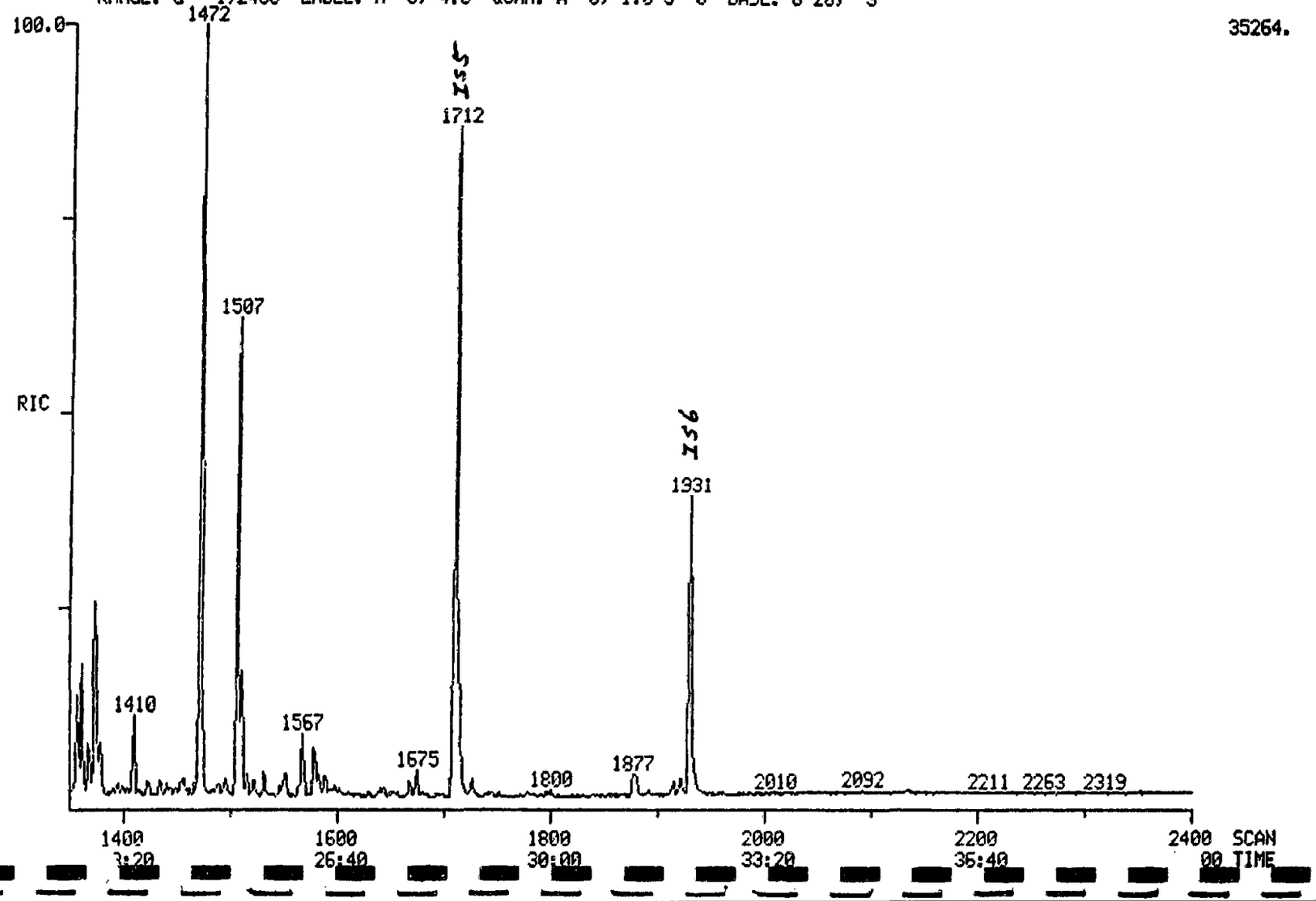
RIC
01/09/87 18:41:00
SAMPLE: SCK-P03-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C05 #1
CALI: 4U12041C05 #3

SCANS 1350 TO 2400

SPECTRIX DC # ----14

INST ID: 4530



35264.

003407

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID SCK-P03-001

FILENAME 4U12041C05 INST ID. 4530

CLIENT KEYSTONE ANALYST GU

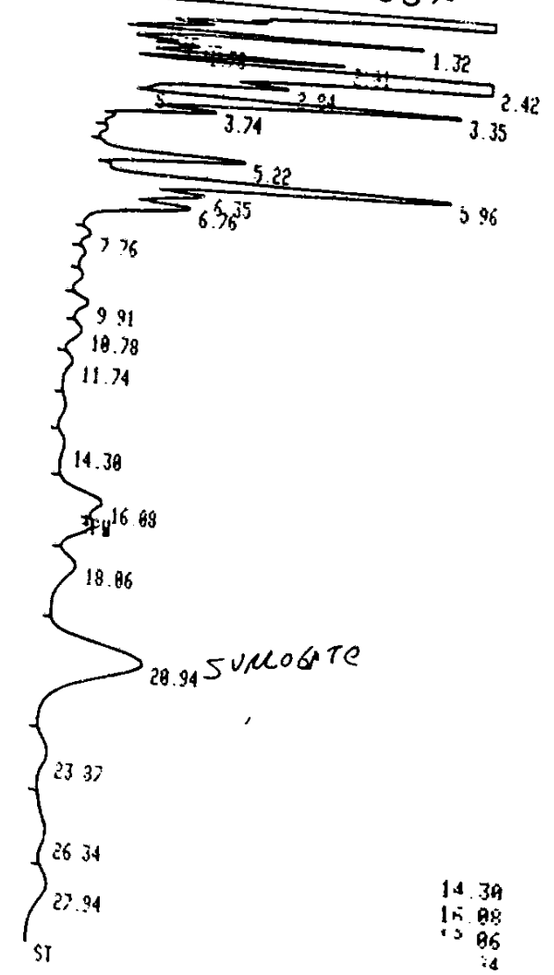
DATE INJECTED 01/09/87 18:41:00 VERIFIED BY

CALIB STD DATE 01/08/87 CORR. FACTOR 1000.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
524	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	40000 UG/L	1.000	3511
738	CI40	NAPHTHALENE-D8 ** IS2 **	136	40000 UG/L	1.000	13828
1031	CI50	ACENAPHTHENE-D10 ** IS3 **	164	40000 UG/L	1.000	6784
1272	CI60	PHENANTHRENE-D10 ** IS4 **	188	40000 UG/L	1.000	8604
1712	CI70	CHRYSENE-D12 ** IS5 **	240	40000 UG/L	1.000	4208
1931	CI75	PERYLENE-D12 ** IS6 **	264	40000 UG/L	1.000	2328
743	C450	NAPHTHALENE	128	142377 UG/L	1.007	47273
857	C470	2-METHYLNAPHTHALENE	142	19483 UG/L	1.161	6006
1036	C550	ACENAPHTHENE	153	25876 UG/L	1.005	4033
1063	C565	DIBENZOFURAN	168	18030 UG/L	1.031	3812
1119	C590	FLUORENE	166	18545 UG/L	1.085	3280
1276	C640	PHENANTHRENE	178	58297 UG/L	1.003	12075
1282	C645	ANTHRACENE	178	8315 UG/L	1.008	1749
1472	C655	FLUORANTHENE	202	25557 UG/L	1.157	4950
1507	C715	PYRENE	202	19047 UG/L	0.880	3078
709	C730	BENZO(A)ANTHRACENE	228	5027 UG/L	0.998	550
1715	C740	CHRYSENE	228	4905 UG/L	1.002	500
1877	C765	BENZO(B)FLUORANTHENE	252	2220 UG/L	0.972	152
1879	C770	BENZO(K)FLUORANTHENE	252	2623 UG/L	0.973	219
1921	C775	BENZO(A)PYRENE	252	2604 UG/L	0.995	157

* SURROGATES WERE DILUTED OUT

86-12-041-05A R06



DC # N/A

SPECTRIX CORPORATION

CASE NO. Keystone

SAMPLE NO. SCK-P03-001

PESTICIDE FRACTION

1st Column - 1D

1.8m X 4mm ID X 6mm OD

1.5% SP 2250

1.95% SP2401

100/120 Supelcoport

Column Temp. 203 °C

Volume Inj. 1.0 ul

Instrument ID VARIAN 6C

003409

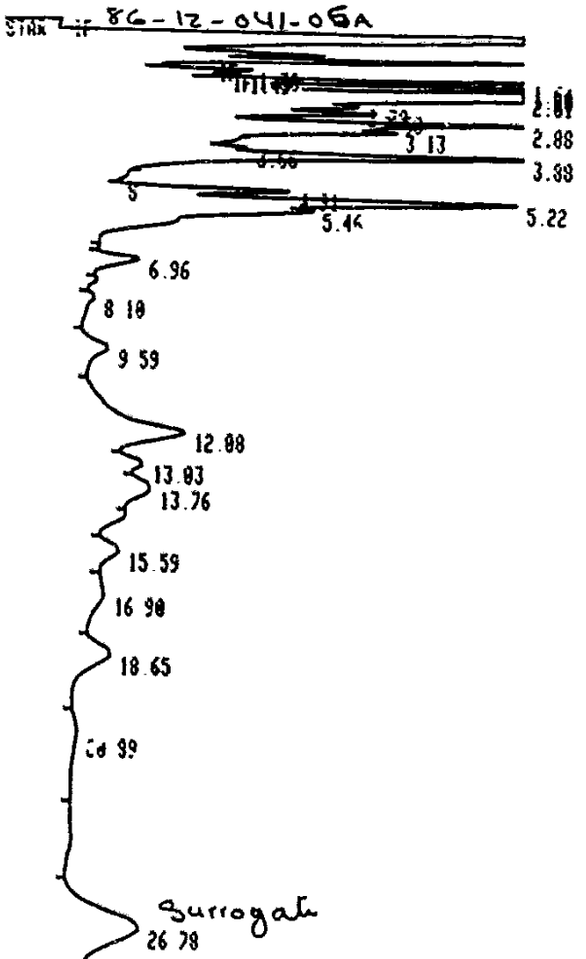
14.30	1155	PV	0.792	0.040
16.08	6714	VV	0.790	0.232
18.06	3782	VV	1.075	0.131
[illegible]	14017	VP	1.264	0.484
[illegible]	1672	PV	1.003	0.058
26.34	2124	VV	1.478	0.073
27.94	2720 I	VP	1.393	0.094

RUN # 139
WORKFILE ID: C
WORKFILE NAME:

DEC/23/86 22:21:38

HEIGHT% RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.32	40341	D BV	0.108	1.392
1.63	5718	VV	0.103	0.197
1.78	8893	VV	0.159	0.307
2.01	29654	D VH	0.108	1.023
2.42	2603560	SHB	0.141	89.827
2.84	10676	DTBB	0.125	0.368
3.35	45346	BV	0.210	1.565
3.74	13239	VP	0.162	0.457
5.22	20962	PV	0.247	0.723
5.96	50446	VV	0.271	1.741
6.35	16167	VV	0.289	0.558
6.76	14425	VP	0.337	0.498
7.76	1270	PV	0.298	0.044
9.91	2427	PV	0.447	0.084
10.78	1945	VP	0.558	0.067
11.74	1155	PV	0.471	0.040

STRX # 86-12-041-06A NA.



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. keystone

SAMPLE NO. Sck-P03-00
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

003410

RUN # 14 JAN/06/87 19:01:57
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.38	23981	BV	0.093	0.629
1.49	20462	D VV	0.088	0.537
1.64	132795	D VV	0.092	3.485
1.80	198370	D VH	0.093	5.206
2.01	2813274	SHB	0.151	73.828
2.38	9556	DTBP	0.099	0.251
2.58	25378	DTPP	0.111	0.666
2.88	78415	TPV	0.177	2.058
3.13	47551	DTVV	0.168	1.248
3.66	17583	TVV	0.115	0.461
3.88	99802	TVB	0.207	2.619
4.91	45751	BV	0.188	1.201
5.22	107817	VV	0.224	2.829
5.46	53640	D VP	0.345	1.408
6.96	11657	VV	0.324	0.306
8.10	2144	PP	0.407	0.056
9.59	7190	PV	0.644	0.189
12.08	27576	VV	0.948	0.724
13.03	16937	VV	0.563	0.445
13.76	19127	VV	0.874	0.502
15.59	11478	VV	0.828	0.301
16.90	8054	VV	1.417	0.211
18.65	10275	VV	0.939	0.270
20.89	2109	VV	1.527	0.055
26.78	19679	PB	1.563	0.516

 SPECTRIX ≤ O C REPORT Work Order # 86-12-041

Received: 12/09/86

Results by Sample

SAMPLE ID SCK-P03-001 (LLW) SAMPLE # 05 FRACTIONS: A

Date & Time Collected 12/09/86 Category

AG	<10 ug/L	AS	28.7 ug/L	BE	<3 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	21 ug/L
CU	11 ug/L	FE	20100 ug/L	HG	<0.2 ug/L	NI	<29 ug/L	NO3_SU	<100 ug/L	PB	18.2 ug/L
SB	<44 ug/L	SE	<5 ug/L	TL	<10 ug/L	ZN	63 ug/L				

CHECKLIST

SECTION II - Sample Data Packets

Sample No: SCK-P02-001

✓ 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)

003412

SPECTRIX DC # ----- 8

NST ID 400C

SAMPLE NUMBER: SCK-P02-001

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

BORATORY NAME: SPECTRIX
B SAMPLE ID NO.: 861204107
AMPLE MATRIX: WATER
ATA RELEASE AUTHORIZED BY: yph

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/9/86

VOLATILES

CONCENTRATION: LOW
ATE EXTRACTED/PREPARED: 12/13/86
ATE ANALYZED: 12/13/86

DATAFILE: 4U12041V07

DILUTION FACTOR: 20.0

CAS #	COMPOUND	UG/L
C010	CHLOROMETHANE	200 U
C015	BROMOMETHANE	200 U
C020	VINYL CHLORIDE	200 U
C025	CHLOROETHANE	200 U
C030	METHYLENE CHLORIDE	100 U
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	70 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	33 J
C235	CHLOROBENZENE	100 U
C240	ETHYLBENZENE	85 J
C245	STYRENE	100 U
C250	TOTAL XYLENES	85 J

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

003413

INST ID: 4530

SPECTRIX DC # ---- 8
SAMPLE NUMBER: SCK-P02-001

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204107
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/9/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/13/86
DATE ANALYZED: 01/11/87

DATAFILE: 4U12041C07A
DILUTION FACTOR: 20

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	6100
C455	4-CHLOROANILINE	200 U
C460	HEXACHLOROBUTADIENE	200 U
C465	P-CHLORO-M-CRESOL	200 U
C470	2-METHYLNAPHTHALENE	400
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	17 J
C545	3-NITROANILINE	1000 U
C550	ACENAPHTHENE	1200
C555	2,4-DINITROPHENOL	1000 U
C560	4-NITROPHENOL	1000 U
C565	DIBENZOFURAN	620
C570	2,4-DINITROTOLUENE	200 U
C575	2,6-DINITROTOLUENE	200 U

003414

SPECTRIX DC # ---- 8

SAMPLE NUMBER: SCK-P02-001

:MIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4U12041C07A

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	200 U
C585	4-CHLOROPHENYL PHENYL ETHER	200 U
C590	FLUORENE	440
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	990
C645	ANTHRACENE	110 J
C650	DI-N-BUTYL PHTHALATE	200 U
C655	FLUORANTHENE	130 J
C715	PYRENE	140 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

003415

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-041-07A

DC No: KEYSTONE
SMO No: SCK-P02-001

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/11/86
Date Analyzed: 12/24/86
Dilution Factor: 1 NA.
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

003416

INST ID: 4000

SPECTRIX DC # ----- 8

SAMPLE NUMBER: SCK-P02-001

ORGANICS ANALYSIS DATA SHEET - PAGE 4

LABORATORY NAME: SPECTRIX CORPORATION

CASE NO.: ----

C REPORT NO.: ----

ANALYST: CKT

DATAFILE: 4U12041V07

B. TENTATIVELY IDENTIFIED COMPOUNDS

AS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
124-38-9	CARBON DIOXIDE (ACN) *	43	945	420
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	96		200

003417

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

* ALSO FOUND IN BLANK

INST ID: 4530

SPECTRIX DC # ---- 5

SAMPLE: SCK-P02-001

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: SPECTRIX CORPORATION

GC REPORT NO.: ---

CASE NO.: ---

ANALYST: GU

DATAFILE: 4U12041C07A

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
100-41-4	BENZENE, ETHYL-			UG/L
99-51-0	BENZENEACETIC ACID, 2-CARBOXY-	305	809	100
611-15-4	BENZENE, 1-ETHENYL-2-METHYL-	509	901	250
95-13-6	1H-INDENE	562	958	480 J
95-15-8	BENZO[B]THIOPHENE	573	940	150 J
71-83-2	1H-INDENE, 1-ETHYLIDENE-	750	909	260 J
92-52-4	1,1'-BIPHENYL	873	917	350 J
939-27-5	NAPHTHALENE, 2-ETHYL-	938	929	270 J
581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	952	901	87 J
581-40-8	NAPHTHALENE, 2,3-DIMETHYL-	962	882	170 J
571-58-4	NAPHTHALENE, 1,4-DIMETHYL-	976	935	300 J
86-53-3	1-NAPHTHALENECARBONITRILE	993	935	88 J
86-74-8	9H-CARBAZOLE	1042	787	120 J
		1313	894	290 J

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

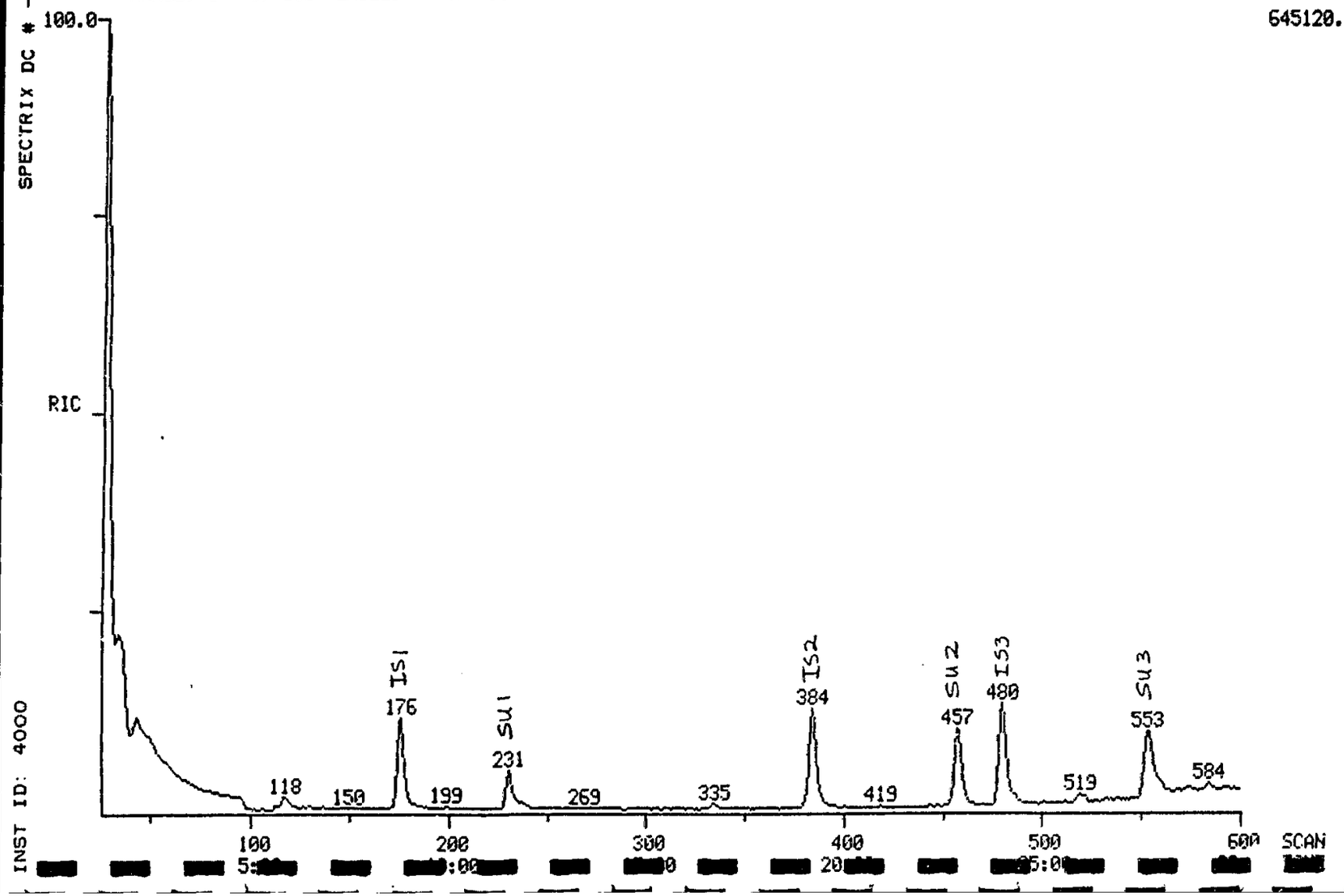
003418

003419

RIC
12/13/86 15:35:00
SAMPLE: SCK-P02-001
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041V07 #1 SCANS 25 TO 600
CALI: 4U12041V07 #3

645120.



003419

SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID. SCK-P02-001

FILENAME 4U12041V07

CLIENT KEYSTONE

DATE INJECTED 12/13/86 15:35:00

CALIB STD DATE 12-14-86

INST 4000

ANALYST CKT

VERIFIED BY

CORR. FACTOR 20.00

SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
175	CI01	BROMOCHLOROMETHANE	**IS1**	128	1000 UG/L	1.000	31135
384	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	1000 UG/L	1.000	124832
480	CI20	D5-CHLOROBENZENE	**IS3**	117	1000 UG/L	1.000	98441
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	98 %	1.320	31318
457	CS05	D8-TOLUENE	**SU2**	98	101 %	0.952	82159
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	93 %	1.152	47396
117	C030	METHYLENE CHLORIDE *		84	129 UG/L	0.669	4601
238	C110	2-BUTANONE *		72	221 UG/L	0.620	1335
335	C165	BENZENE		78	70 UG/L	0.872	7865
461	C230	TOLUENE		92	33 UG/L	0.960	2120
519	C240	ETHYLBENZENE		106	85 UG/L	1.081	2823
584	C250	TOTAL XYLENES		106	85 UG/L	1.217	3502

* BLANK CORRECTED ON DATA SHEET

003421

LIBRARY SEARCH
12/13/86 15:35:00 + 4:48
SAMPLE: SCK-P02-001
CONDS.: ----
ENHANCED (S 15B 2N 0T)

DATA: 4U12041U07 # 96
CALI: 4U12041U07 # 3

BASE M/Z: 59
RIC: 243.

SPECTRIK DC # -----19
ANALYST: CKT

1464
SAMPLE

C6.H16.N2
1464
M WT 116
B PK 59
RANK 1
2752
PUR 477
HYDRAZINE, 2-BUTYL-1,1-DIMETHYL-

C7.H18.N2
1464
M WT 130
B PK 59
RANK 2
4392
PUR 447
HYDRAZINE, 1,1-DIMETHYL-2-PENTYL-

C7.H18.SI
1464
M WT 130
B PK 73
RANK 3
4396
PUR 435
SILANE, BUTYLTRIMETHYL-

INST ID: 4000

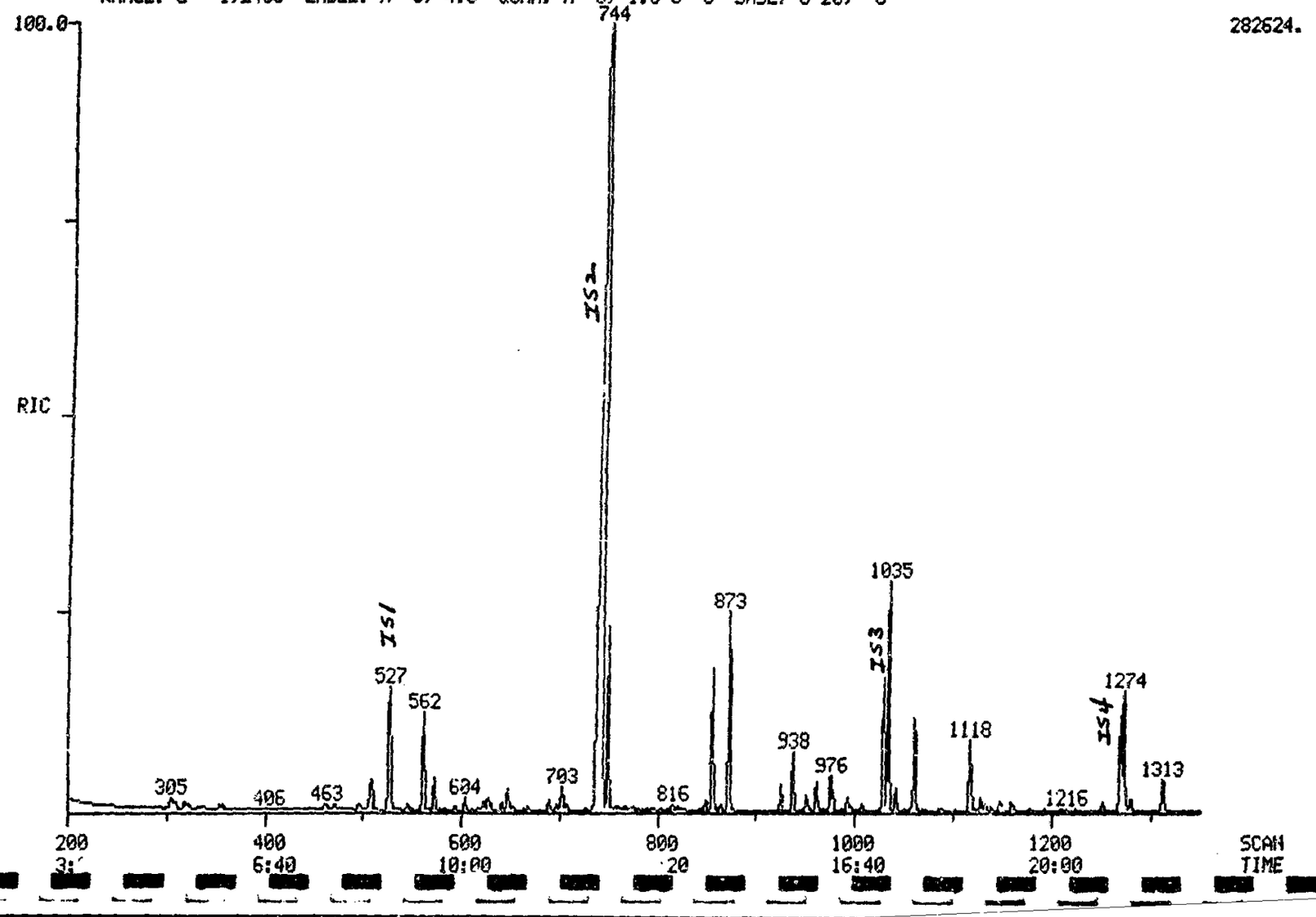
M/Z
40 60 80 100 120

003421

003422

RIC
01/11/87 13:55:00
SAMPLE: SCK-P02-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4U12041C07A #1 SCANS 200 TO 1350
CALI: 4U12041C07A #3



003422

003423

RIC
01/11/87 13:55:00
SAMPLE: SCK-P02-001
CONDS.: ---
RANGE: G 1,2400 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

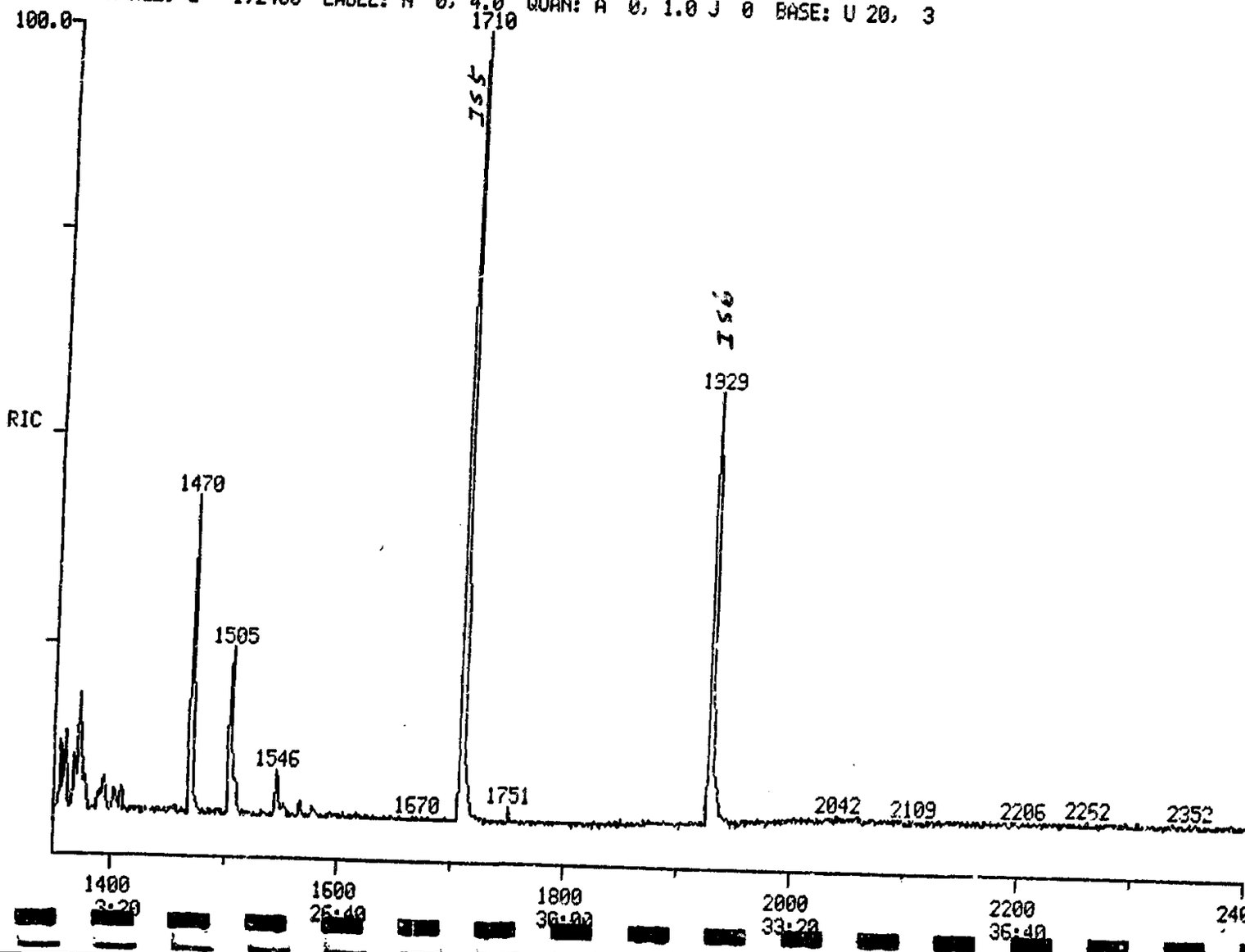
DATA: 4U12041C07A #1
CALI: 4U12041C07A #3

SCANS 1350 TO 2400

SPECTRIX DC # ----14

INST ID: 4530

10448.



SPECTRIX DC # -----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. SCK-P02-001

ILENAME 4U12041C07A

INST ID. 4530

CLIENT KEYSTONE

ANALYST GU

DATE INJECTED 01/11/87 13:55:00

VERIFIED BY yph

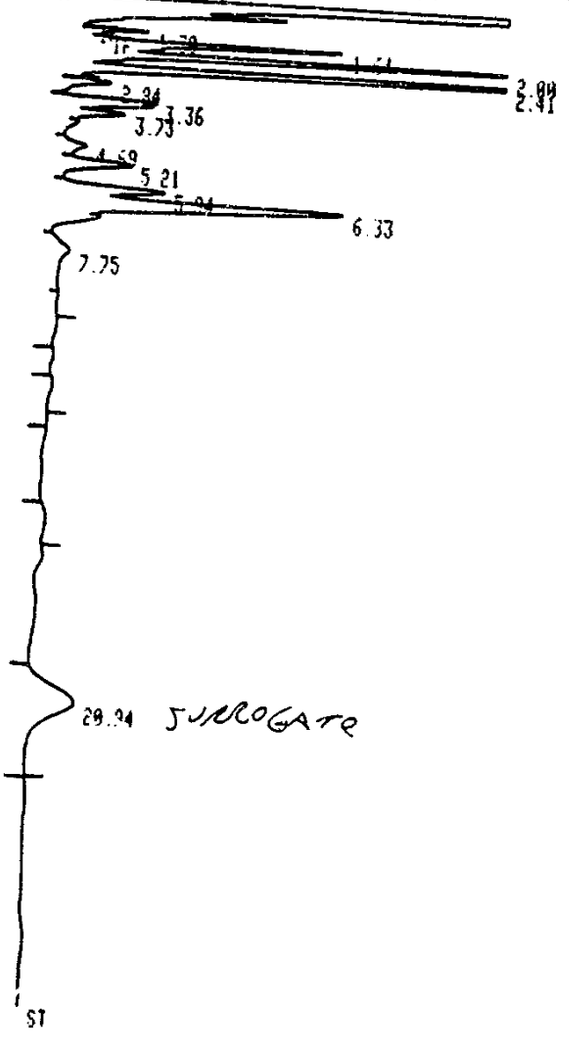
CALIB STD DATE 01/08/87

CORR. FACTOR 20.00

SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
527	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	800 UG/L	1.000	20829
738	CI40	NAPHTHALENE-D8 ** IS2 **	136	800 UG/L	1.000	78449
1029	CI50	ACENAPHTHENE-D10 ** IS3 **	164	800 UG/L	1.000	36511
1270	CI60	PHENANTHRENE-D10 ** IS4 **	188	800 UG/L	1.000	40427
1710	CI70	CHRYSENE-D12 ** IS5 **	240	800 UG/L	1.000	16890
1929	CI75	PERYLENE-D12 ** IS6 **	264	800 UG/L	1.000	10686
744	C450	NAPHTHALENE	128	6150 UG/L	1.008	577167
856	C470	2-METHYLNAPHTHALENE	142	405 UG/L	1.160	35600
1002	C540	ACENAPHTHYLENE	152	17 UG/L	0.974	1230
1035	C550	ACENAPHTHENE	153	1191 UG/L	1.006	50021
1061	C565	DIBENZOFURAN	168	622 UG/L	1.031	35680
1118	C590	FLUORENE	166	443 UG/L	1.086	21068
1274	C640	PHENANTHRENE	178	987 UG/L	1.003	48019
1280	C645	ANTHRACENE	178	109 UG/L	1.008	5275
470	C655	FLUORANTHENE	202	132 UG/L	1.157	6065
505	C715	PYRENE	202	142 UG/L	0.880	3779

* SURROGATES WERE DILUTED OUT

86-12-041-07A R06



DC # N/A

SPECTRIX CORPORATION

CASE NO. Keystone

SAMPLE NO. SEK-P02-001

PESTICIDE FRACTION

1st Column - 1D

1.8m X 4mm ID X 6mm OD

1.5% SP 2250

1.95% SP2401

100/120 Supelcoport

Column Temp. 203 °C

Volume Inj. 1.0 ul

Instrument ID VARIAN 600

003425

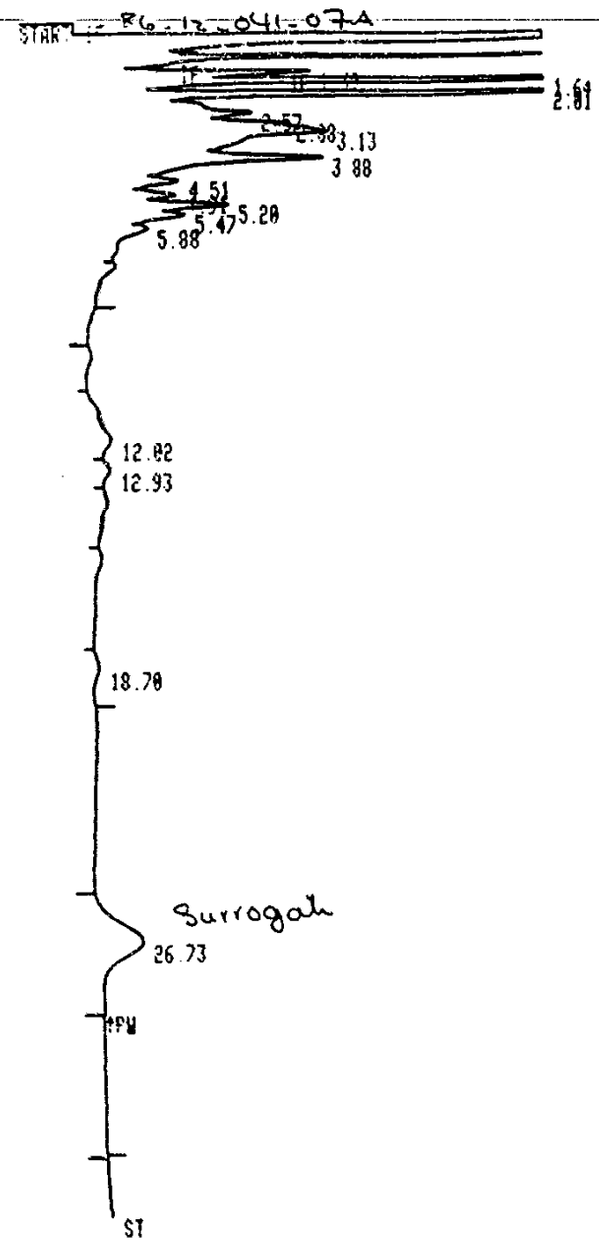
RUN # 143
WORKFILE ID: C
WORKFILE NAME:

DEC/24/86 00:26:44

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.30	7605	D BV	0.113	2.524
1.64	33853	VV	0.166	11.236
2.00	67261	D VV	0.122	22.324
2.41	92318	VB	0.121	30.640
2.84	4827	BP	0.165	1.602
3.36	12460	PV	0.136	4.135
3.73	8553	VV	0.187	2.839
4.69	3765	VV	0.367	1.250
5.21	9745	VV	0.289	3.234
5.94	14508	VV	0.258	4.815
6.33	38208	VV	0.290	12.681
7.75	2184	PV	0.622	0.725
20.94	6013	PB	1.006	1.996

TOTAL HGHT= 301300
MUL FACTOR= 1.0000E+00



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Sck-p02-0c
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 # 15 JAN/06/87 19:38:14
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.39	43712	PV	0.166	4.963
1.64	323694	D VV	0.099	36.752
2.01	230495	D VV	0.107	26.170
2.57	30379	VV	0.348	3.449
2.88	40327	VV	0.173	4.579
3.13	51507	VV	0.508	5.848
3.88	51704	VV	0.334	5.871
4.51	14656	VV	0.260	1.664
4.91	14780	VV	0.230	1.678
5.20	28862	VV	0.235	3.277
5.47	18000	VV	0.277	2.044
5.88	9138	VV	0.475	1.038
12.02	5593	PV	1.124	0.635
12.93	5134	VV	0.681	0.583
18.70	1300	VB	0.542	0.148
26.73	11463	BB	1.182	1.302

Received: 12/09/86

SPECTRIX 500 REPORT
Results by Sample

Work Order # 86-12-041

SAMPLE ID SCK-PD2-001 (LLW) SAMPLE # 07 FRACTIONS: A
Date & Time Collected 12/09/86 Category

AG	<10 ug/L	AS	29.5 ug/L	BE	<3 ug/L	CD	<5 ug/L	CN_SU	<100 ug/L	CR	<9 ug/L
CU	<10 ug/L	FE	7380 ug/L	HG	<0.2 ug/L	NI	64 ug/L	NO3_SU	<100 ug/L	PB	<5 ug/L
SB	<44 ug/L	SE	<5 ug/L	TL	<10 ug/L	ZN	33 ug/L				

CHECKLIST

SECTION II - Sample Data Packets

Sample No: Trip Blank

✓ Organic Analysis Data Sheets (OADS)

✓ VOA
N/A SV
N/A Pest.

✓ Tentatively Identified Compounds

✓ VOA
N/A SV

✓ Raw Data

✓ VOA chromatogram
✓ VOA quantitation report (surrogates)
N/A SV chromatogram
N/A SV quantitation report (surrogates)
N/A Pest. chromatogram and integrator print out

N/A Inorganic Analysis Data Sheets (IADS)

003428

SPECTRIX DC # ----- 8

NST ID 4000

SAMPLE NUMBER: TRIP BLANK

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

BORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 861204106
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: MPH

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/4/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/13/86
DATE ANALYZED: 12/13/86

DATAFILE: 4U12041V06

DILUTION FACTOR: 10

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

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

003429

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

SAMPLE NUMBER: TRIP BLANK

ORGANICS ANALYSIS DATA SHEET - PAGE 4

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

DC REPORT NO.: ---- ANALYST: CKT DATAFILE: 4U12041V06

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
124-38-9	CARBON DIOXIDE (ACN) *	34	967	15
124-38-9	CARBON DIOXIDE (ACN) *	49	966	18
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	96		7

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

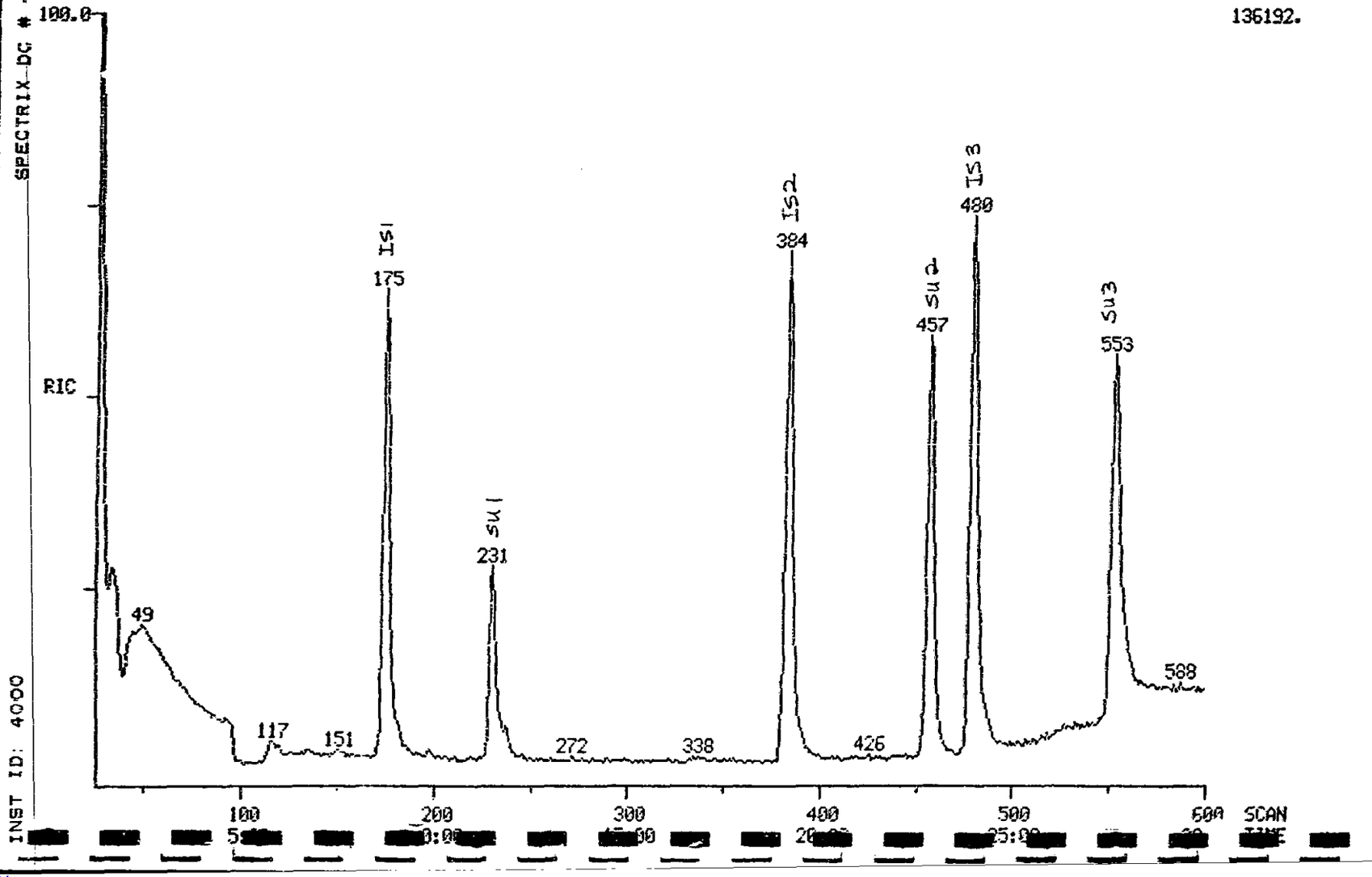
* ALSO FOUND IN BLANK

003431

RIC
12/13/86 14:10:00
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: 4U12041V06 #1 SCANS 25 TO 600
CALI: 4U12041V06 #3

136192.



003431

SPECTRIX DC # ------14

VOA QUANTITATION REPORT

AMPLE ID.	TRIP BLANK		
.ENAME	4U12041V06	INST	4000
LIENT	KEYSTONE	ANALYST	CKT
DATE INJECTED	12/13/86 14:10:00	VERIFIED BY	YPH
ALIB STD DATE	12-14-86	CORR. FACTOR	1.00

CAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
175	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	35698
384	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	144699
480	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	116200
231	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	96 %	1.320	35225
457	CS05	D8-TOLUENE	**SU2**	98	104 %	0.952	99739
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	100 %	1.152	60454
237	CI10	2-BUTANONE *		72	12 UG/L	0.617	1745

* BLANK CORRECTED ON DATA SHEET

003432

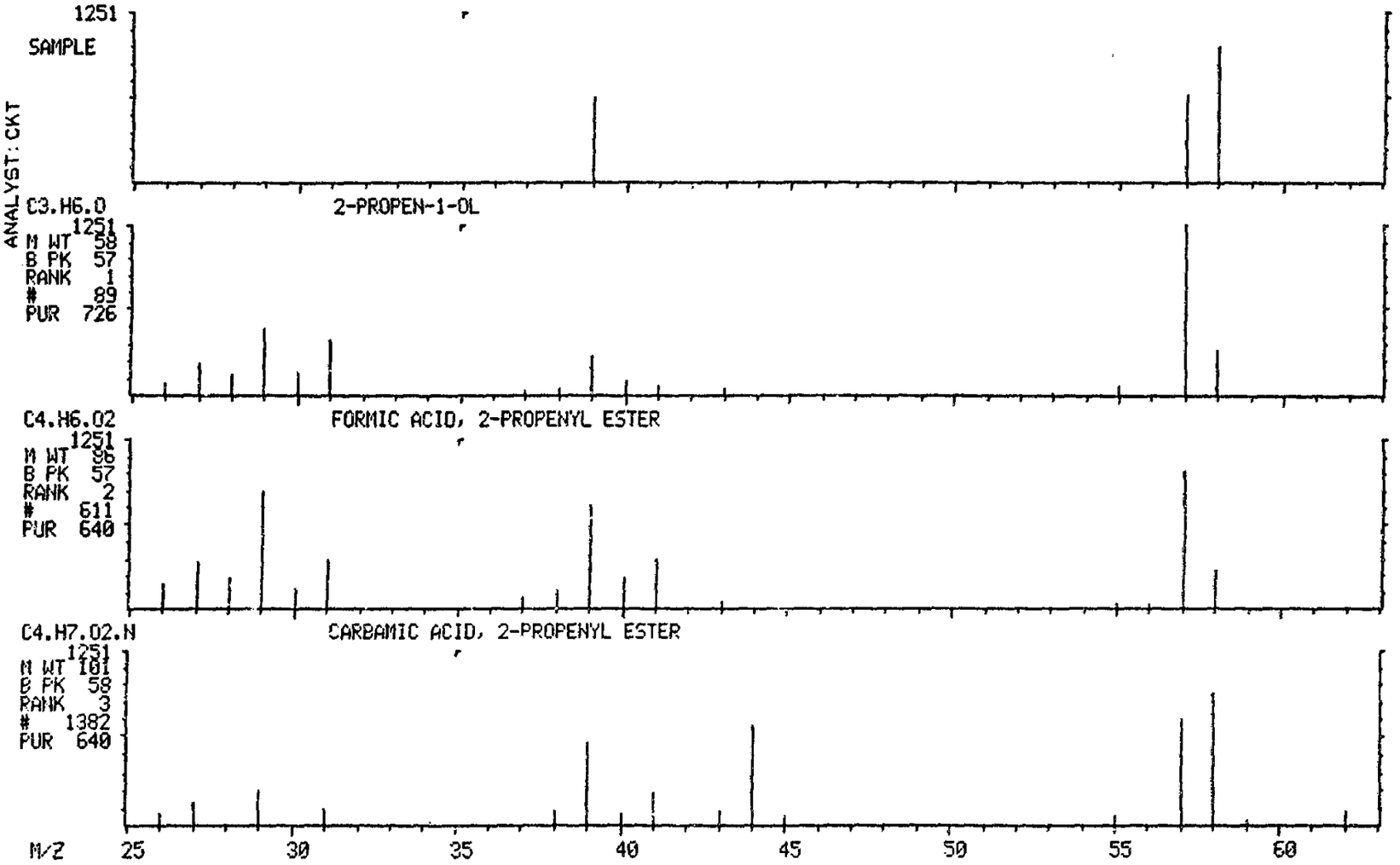
003433

LIBRARY SEARCH
12/13/86 14:10:00 + 4:48
SAMPLE: TRIP BLANK
CONDS.: ----
ENHANCED (S 15B 2N 0T)

DATA: 4U12041V06 # 96
CALI: 4U12041V06 # 3

BASE M/Z: 58
RIC: 132.

SPECTRIX DC # -----19
ANALYST: CKT
INST ID: 4000



003433

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

003434

SPECTRIX DC # ----- 8

NST ID 4000

SAMPLE NUMBER: LAB BLANK

ORGANICS ANALYSIS DATA SHEET (PAGE 1)

ORATORY NAME: SPECTRIX
J SAMPLE ID NO.: 8612041
AMPLE MATRIX: WATER
ATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ----
QC REPORT NO.: ----
CONTRACT NO.: ----
DATE SAMPLE RECEIVED: 12/9/86

VOLATILES

CONCENTRATION: LOW
DATE EXTRACTED/PREPARED: 12/13/86
ATE ANALYZED: 12/13/86

DATAFILE: 4B1213V01

DILUTION FACTOR: 1.0

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 J
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 J
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

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

003435

INST ID 4530

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

ORGANICS ANALYSIS DATA SHEET - PAGE 2

LABORATORY NAME: SPECTRIX
LAB SAMPLE ID NO.: 8612041
SAMPLE MATRIX: WATER
DATA RELEASE AUTHORIZED BY: [illegible]

CASE NO.: ---
QC REPORT NO.: ---
CONTRACT NO.: ---
DATE SAMPLE RECEIVED: 12/9/86

SEMIVOLATILES

CONCENTRATION: LOW
DATE EXTRACTED: 12/13/86
DATE ANALYZED: 01/09/87

DATAFILE: 4B12041C01
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 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
C565	DIBENZOFURAN	10 U
C570	2,4-DINITROTOLUENE	10 U
C575	2,6-DINITROTOLUENE	10 U

003436

SPECTRIX DC # ---- 8

SAMPLE NUMBER: LLW BLK

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET, CONTINUED

DATAFILE: 4B12041C01

CAS #	COMPOUND	UG/L
C580	DIETHYL PHTHALATE	1 J
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

003437

Lab Name: Spectrix
Case No: KEYSTONE
Lab No.: 86-12-041-01A

DC No: KEYSTONE
SMO No: L.BLANK LLW

ORGANICS ANALYSIS DATA SHEET
(page 3)

Pesticide/PCBs

Conc: Low
Date Extracted: 12/11/86
Date Analyzed: 12/23/86
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

003438

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

SAMPLE NUMBER: LAB BLANK

ORGANICS ANALYSIS DATA SHEET - PAGE 4

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

QC REPORT NO.: ---- ANALYST: CKT DATAFILE: 4B1213V01

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
24-38-9	CARBON DIOXIDE (ACN)	48	949	18.
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	96		9.

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

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

SAMPLE: LLW BLK

ORGANICS ANALYSIS DATA SHEET - PAGE 5

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

QC REPORT NO.: --- ANALYST: GU DATAFILE: 4B12041C01

B. TENTATIVELY IDENTIFIED COMPOUNDS

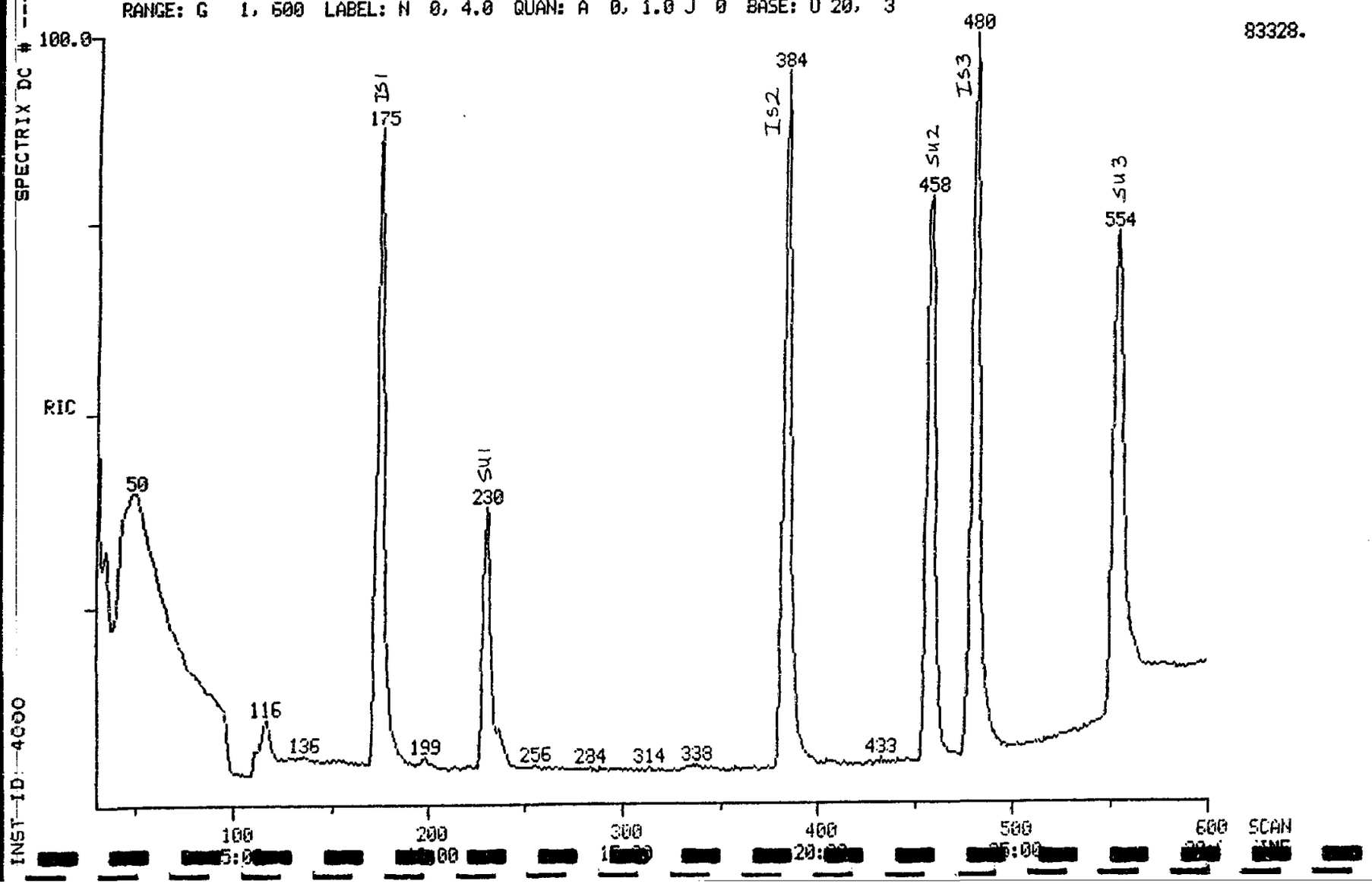
CAS #	SEMIVOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG/L
10-12-3	2-HEXANONE, 5-METHYL-	333	927	62
540-97-6	CYCLOHEXASILOXANE, DODECAMETHYL-	882	854	5
540-97-6	CYCLOHEXASILOXANE, DODECAMETHYL-	895	843	4
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	1047		7 J
71899-38-2	9-EICOSYNE	1464	805	73 J
5675-51-4	1,12-DODECANEDIOL	1502	770	6 J

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

RIC
12/13/86 10:40:00
SAMPLE: LAB BLANK
CONDS.: ----
RANGE: G 1, 600 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 4B1213V01 #1 SCANS 30 TO 600
CALI: 4B1213V01 #3

83328.



SPECTRIX DC # -----14

VOA QUANTITATION REPORT

SAMPLE ID. LAB BLANK

FILENAME 4B1213V01

CLIENT KEYSTONE

DATE INJECTED 12/13/86 10:40:00

CALIB STD DATE 12-14-86

INST 4000

ANALYST CKT

VERIFIED BY

CORR. FACTOR 1.00

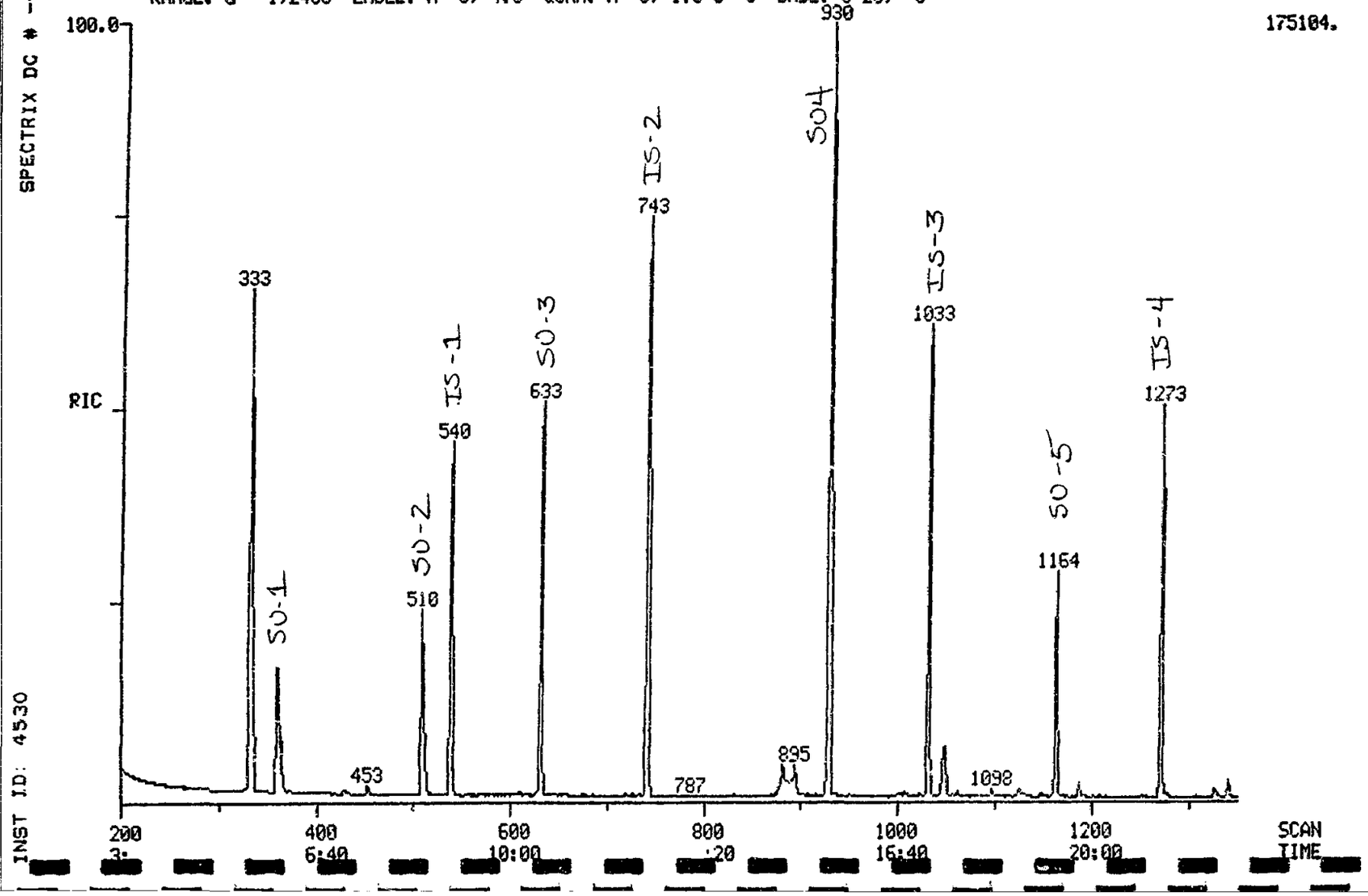
SCAN#		VOA COMPOUNDS		M/E	AMOUNT	RRT	AREA
174	CI01	BROMOCHLOROMETHANE	**IS1**	128	50 UG/L	1.000	30379
384	CI10	1,4-DIFLUOROBENZENE	**IS2**	114	50 UG/L	1.000	125463
480	CI20	D5-CHLOROBENZENE	**IS3**	117	50 UG/L	1.000	100443
230	CS15	D4-1,2-DICHLOROETHANE	**SU1**	65	96 %	1.322	298052
457	CS05	D8-TOLUENE	**SU2**	98	99 %	0.952	82044
553	CS10	P-BROMOFLUOROBENZENE	**SU3**	95	95 %	1.152	49680
116	CO30	METHYLENE CHLORIDE		84	3 UG/L	0.667	2385
237	CI10	2-BUTANONE		72	10 UG/L	0.617	1211

003442

003443

RIC
01/09/87 11:54:00
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: 4B12041C01 #1 SCANS 200 TO 1350
CALI: 4B12041C01 #3



003443

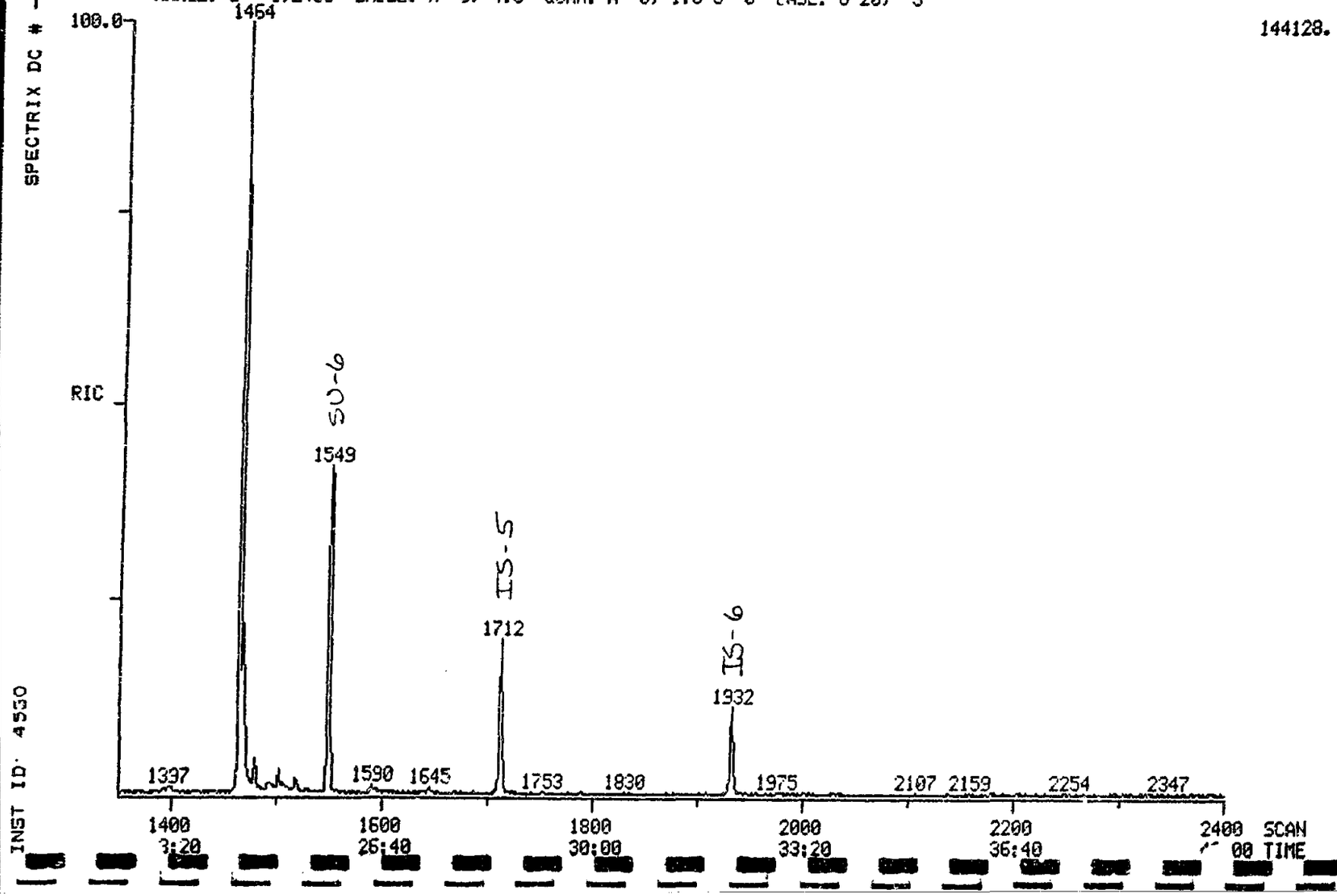
003444

RIC
01/09/87 11:54:00
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: 4B12041C01 #1
CALI: 4B12041C01 #3

SCANS 1350 TO 2400

144128.



003444

SPECTRIX DC # ----14

SEMIVOLATILE WATER REPORT

SAMPLE ID. LLW BLK

:LENAME 4B12041C01

CLIENT KEYSTONE

DATE INJECTED 01/09/87 11:54:00

CALIB STD DATE 01/08/87

INST ID. 4530

ANALYST GU

VERIFIED BY

CORR. FACTOR 1.00

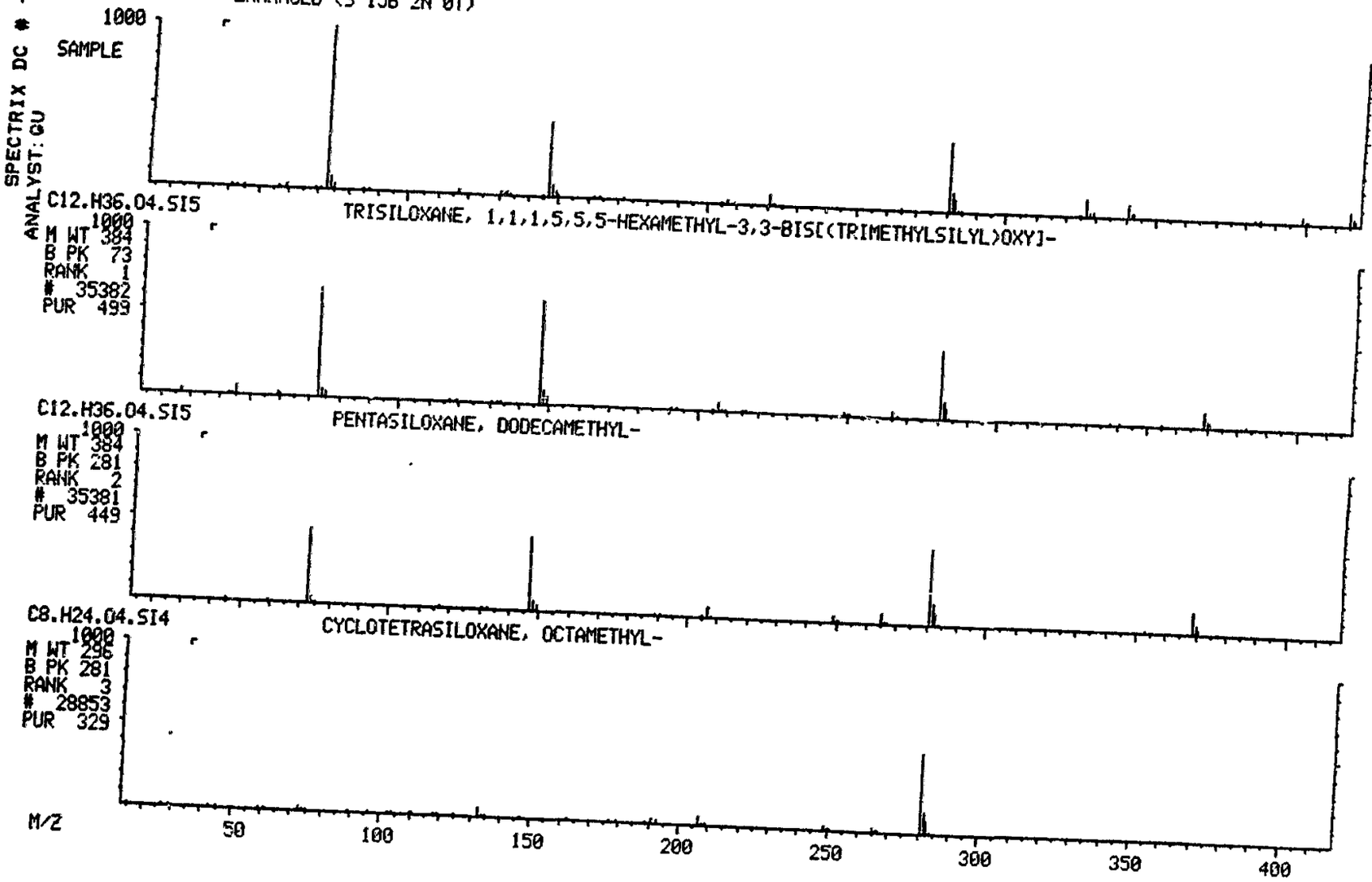
SCAN#		SEMIVOLATILE COMPOUNDS	M/E	AMOUNT	RRT	AREA
540	CI30	1,4-DICHLOROBENZEND-D4 ** IS1 **	152	40 UG/L	1.000	3599
743	CI40	NAPHTHALENE-D8 ** IS2 **	136	40 UG/L	1.000	14708
1033	CI50	ACENAPHTHENE-D10 ** IS3 **	164	40 UG/L	1.000	7625
1273	CI60	PHENANTHRENE-D10 ** IS4 **	188	40 UG/L	1.000	9905
1712	CI70	CHRYSENE-D12 ** IS5 **	240	40 UG/L	1.000	4149
1932	CI75	PERYLENE-D12 ** IS6 **	264	40 UG/L	1.000	2649
360	CS50	2-FLUOROPHENOL ** SU1 **	112	29 %	0.667	3493
510	CS45	PHENOL-D5 ** SU2 **	99	25 %	0.944	430
1164	CS55	2,4,6-TRIBROMOPHENOL ** SU5 **	330	58 %	1.127	12
633	CS20	NITROBENZENE-D5 ** SU3 **	82	99 %	0.852	81
930	CS25	2-FLUOROBIPHENYL ** SU4 **	172	90 %	0.900	16851
1549	CS30	TERPHENYL-D14 ** SU6 **	244	140 %	0.905	7776
1127	CS80	DIETHYL PHTHALATE	149	1 UG/L	1.091	244

LIBRARY SEARCH
01/09/87 11:54:00 + 17:27
SAMPLE: LLW BLK
CONDS.: ---
ENHANCED (S 15B 2N 0T)

DATA: 4B12041C01 #1047
CALI: 4B12041C01 # 3

BASE M/Z: 73
RIC: 9439.

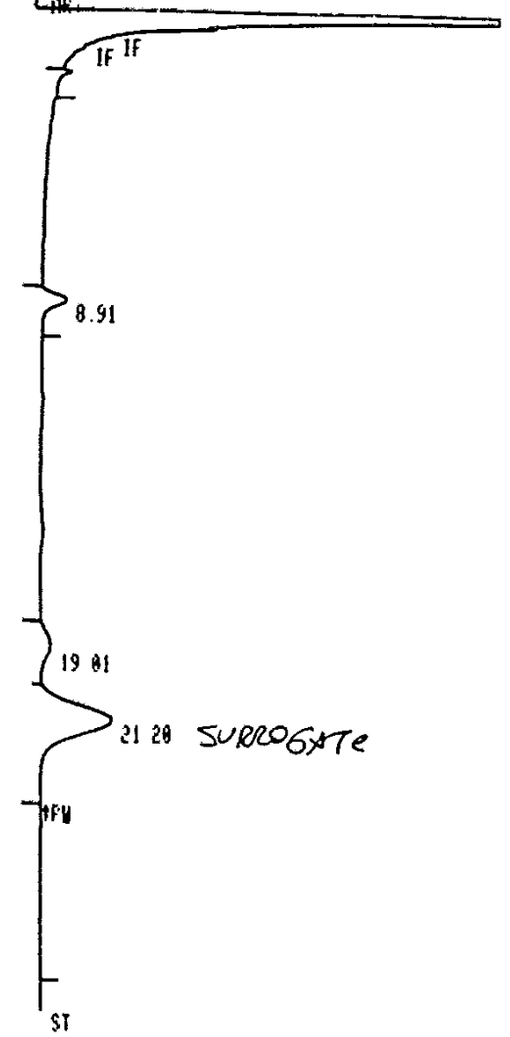
SPECTRIX DC # ----19
ANALYST: GU



INST ID: 4530

003446

86-12-041-01A R06



DC # N/A

SPECTRIX CORPORATION

CASE NO. Keystone

SAMPLE NO. LAB BLANK

PESTICIDE FRACTION

1st Column - 1D

1.8m X 4mm ID X 6mm OD

1.5% SP 2250

1.95% SP2401

100/120 Supelcoport

Column Temp. 203 °C

Volume Inj. 1.0 ul

Instrument ID VARIAN 6c

003447

RUN # 134 DEC/23/86 19:45:16
WORKFILE ID: C
WORKFILE NAME:

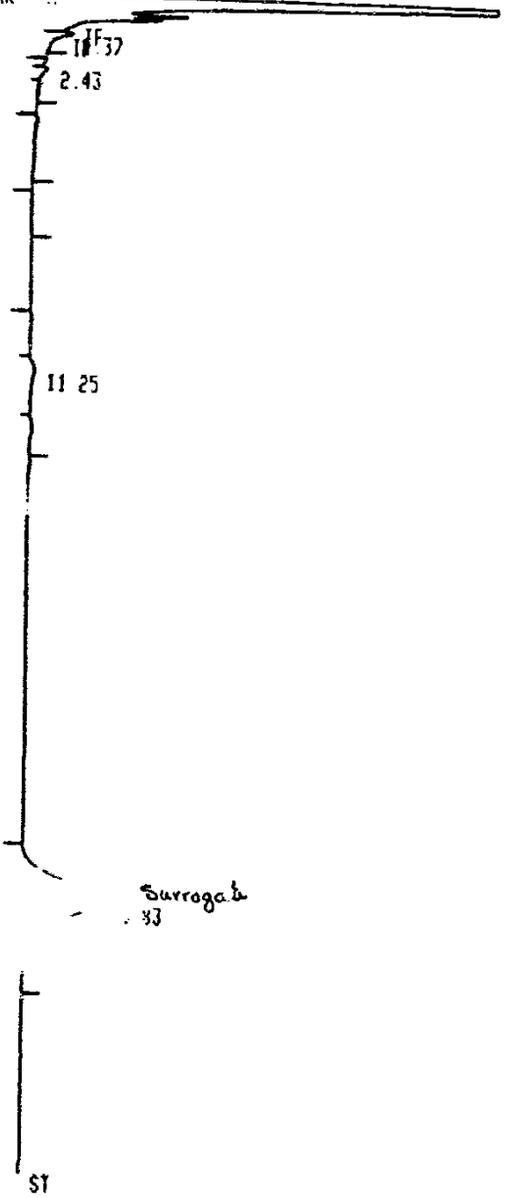
HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
8.91	3260	PB	0.437	23.251
19.01	1383	BV	0.886	9.864
21.20	9378	VB	0.991	66.885

TOTAL HGHT= 14021
MUL FACTOR= 1.0000E+00

TAR # 86-12-041-01A

NA



DC#_____-___-___
SPECTRIX HOUSTON

CASE NO. Keystone

SAMPLE NO. Lab. Blank.
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

0034

RUN # 11 JAN/06/87 17:13:08
WORKFILE ID: C
WORKFILE NAME:

HEIGHT%

RT	HEIGHT	TYPE	AR/HT	HEIGHT%
1.37	3185	D BB	0.007	12.090
2.43	1556	PP	0.137	5.907
11.25	1329	PV	0.648	5.045
26 83	20273	PB	1 230	76.958

TOTAL HGHT= 26343
FUL FACTOR= 1.0000E+00

Received: 12/09/86

SPECTRIX REPORT

Results by Sample

Work Order # 86-12-041

SAMPLE ID LAB BLANK (LLW) SAMPLE # 01 FRACTIONS: A

Date & Time Collected not specified 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

BROMOFLUOROBENZENE

Case Number:
Inst ID: 4000
Lab ID: ES1213V01

Laboratory:
Sens Date: 12/13/86
Cali Date:

Contract:
Sens Time: 9:03:00
Analyst: CKT

Data release authorized by:

m/z	Ion Abundance Criteria	Spec # 206	
50	15 to 40% of mass 95	32.75	
75	30 to 60% of mass 95	43.05	
95	base peak, 100% relative abundance	100.00	
96	5 to 9% of mass 95	8.01	
173	less than 1% of mass 95	0.00	
174	greater than 50% of mass 95	84.39	
175	5 to 9% of mass 174	7.27	(8.62) 1
176	between 95% and 101% of mass 174	80.36	(95.22) 1
177	5 to 9% of mass 176	6.01	(7.48) 2

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

003450

Mass List
12/13/86 9:03:00 + 10:18
Sample: BFB
Conds.: ----

Data: ES1213V01 # 206
Cali: ES1213V01 # 3

Base m/z: 95
RIC: 44928.

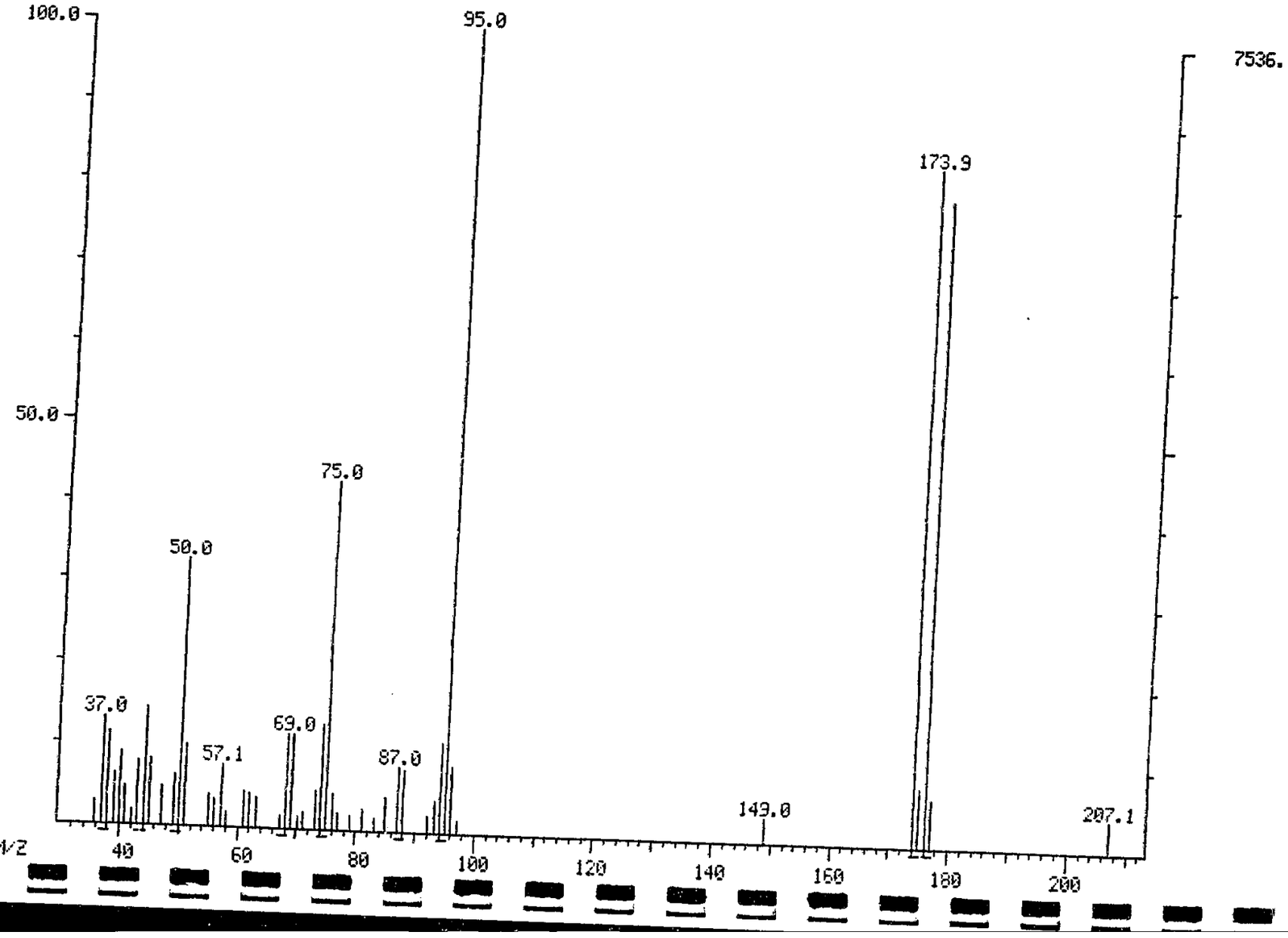
36	0.00	0.00	0.	Minima	Min Inten: 0.
207			# 0	Maxima	
Mass	% RA	% RIC	Inten.		
35.93?	2.93	0.49	221.		
36.96?F	13.07	2.19	985.		
37.96?F	11.36	1.91	856.		
38.99?	6.17	1.03	465.		
39.93?	8.90	1.49	671.		
40.99?	4.80	0.81	362.		
42.00?	1.87	0.31	141.		
43.02?F	7.88	1.32	594.		
43.98 F	14.52	2.44	1094.		
45.01	8.01	1.34	604.		
47.01	4.76	0.80	359.		
49.02 F	6.40	1.07	482.		
50.02 F	32.75	5.49	2468.		
51.04	9.87	1.66	744.		
55.06	4.01	0.67	302.		
56.04	3.29	0.55	248.		
57.06	7.47	1.25	563.		
58.06	1.75	0.29	132.		
61.02	4.46	0.75	336.		
62.04	4.23	0.71	319.		
63.04	3.66	0.61	276.		
67.10 F	1.55	0.26	117.		
68.02 F	11.45	1.92	863.		
69.02	11.53	1.93	869.		
70.05	1.66	0.28	125.		
71.07	2.14	0.36	161.		
73.03	4.60	0.77	347.		
74.01 F	12.90	2.16	972.		
75.00 F	43.05	7.22	3244.		
76.01	4.37	0.73	329.		
77.02	2.06	0.34	155.		
78.94	1.73	0.29	130.		
80.98	2.67	0.45	201.		
83.12	1.46	0.24	110.		
84.99	4.21	0.71	317.		
87.02 F	7.86	1.32	592.		
88.02 F	7.68	1.29	579.		
92.11	2.15	0.36	162.		
93.08	3.97	0.67	299.		
94.05 F	11.05	1.85	833.		
95.02 F	100.00	16.77	7536.		
95.99	8.01	1.34	604.		
97.05	1.63	0.27	123.		
149.03	3.11	0.52	234.		
173.94 F	84.39	14.16	6360.		
174.98 F	7.27	1.22	548.		
175.95 F	80.36	13.48	6056.		
176.98 F	6.01	1.01	453.		
207.06	3.86	0.65	291.		

003451

MASS SPECTRUM
12/13/86 9:03:00 + 10:18
SAMPLE: BFB
CONDS.: ----

DATA: ES1213V01 #206
CALI: ES1213V01 #3

BASE M/Z: 95
RIC: 44928.



GC/MS Tuning and Mass Calibration

DECAFLUOROTRIPHENYLPHOSPHINE

Case Number:
Inst ID: 4530
Lab ID: ES0109C01

Laboratory:
Sens Date: 01/09/87
Cali Date:

Contract:
Sens Time: 8:00:00
Analyst: GU

Data release authorized by: GU

M/E	Ion Abundance Criteria	Spec # 395	
51	30 to 60% of mass 198	47.51	
68	less than 2% of mass 69	0.00	(0.00) 1
69	mass 69 relative abundance	22.28	
70	less than 2% of mass 69	0.17	(0.77) 1
127	40 TO 60% of mass 198	54.92	
197	less than 1% of mass 198	0.00	
198	base peak, 100% relative abundance	100.00	
199	5 TO 9% of mass 198	6.20	
275	10 TO 30% of mass 198	21.80	
365	greater than 1% of mass 198	1.50	
441	less than mass 443	10.93	
442	greater than 40% of mass 198	91.32	
443	17 TO 23% of mass 442	16.64	(18.22) 2

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

003453

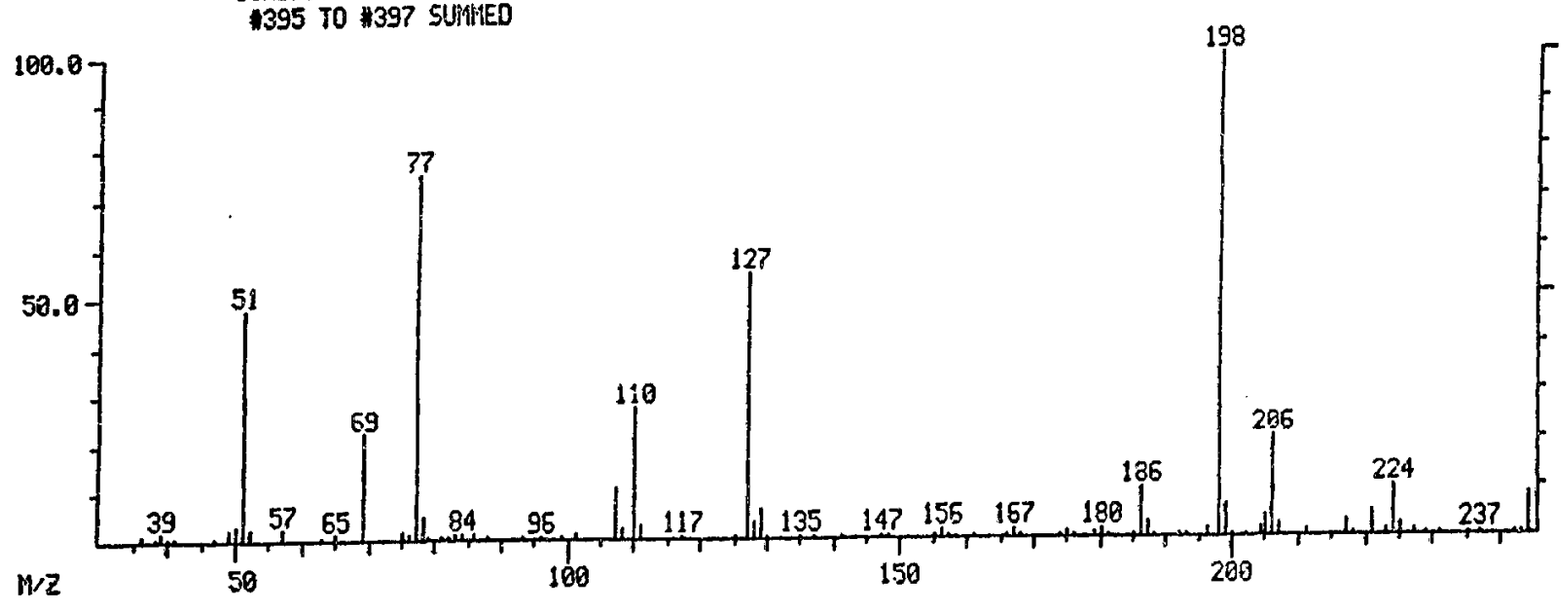
003454

MASS SPECTRUM
01/09/87 8:00:00 + 6:36
SAMPLE: DFTPP
CONDS.: ---
#395 TO #397 SUMMED

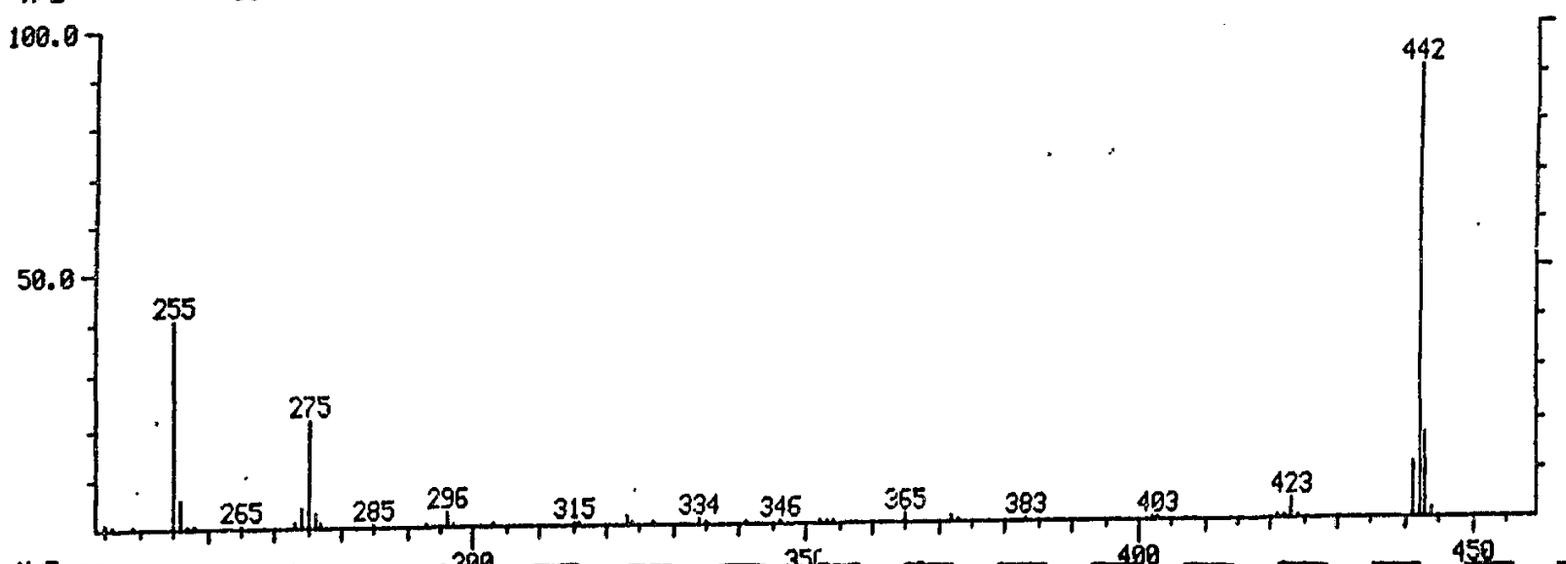
DATA: ES0109C01 #396
CALI: ES0109C01 #3

BASE M/Z: 198
RIC: 435712.

SPECTRIX DC # ----13



DFTPP SPECTRA



INST ID: 4530

003454

INST ID: 4530

DFTPP MASS LISTING

SPECTRIX DC # ----15

ass List
01/09/87 8:00:00 + 6:36
Sample: DFTPP
onds.: ---
#395 to #397 summed

Data: ES0109C01 # 396
Cali: ES0109C01 # 3

Base m/z: 198
RIC: 435712.

36 0.00 0. Minima Min Inten: 254.
445 Maxima # 0

Mass	% RA	Inten.	Mass	% RA	Inten.
36?	1.09	658.	199	6.20	3752.
38?	0.45	271.	200	0.49	298.
39?	1.92	1160.	204	1.85	1120.
40	0.85	512.	205	3.97	2400.
47	0.42	257.	206	20.26	12256.
49	2.30	1394.	207	2.51	1520.
50	2.66	1608.	211	0.93	565.
51	47.51	28736.	217	2.97	1796.
52	2.27	1374.	218	0.51	308.
57	2.24	1356.	221	4.38	2652.
63	0.44	268.	223	0.91	553.
65	1.44	869.	224	10.01	6056.
69	22.28	13472.	225	2.54	1534.
75	1.70	1026.	227	1.42	856.
76	1.44	873.	229	0.72	437.
77	75.03	45376.	231	0.50	302.
78	4.80	2904.	242	0.48	292.
81	0.72	438.	243	0.54	328.
83	1.20	725.	244	8.10	4896.
84	1.28	777.	245	1.04	628.
86	0.91	551.	246	0.58	349.
101	1.17	708.	249	0.46	278.
107	10.19	6160.	255	40.58	24544.
108	2.06	1248.	256	5.70	3448.
110	27.20	16448.	257	0.44	264.
111	2.82	1706.	258	0.86	519.
117	0.43	259.	273	1.35	819.
127	54.92	33216.	274	4.03	2436.
128	3.54	2140.	275	21.80	13184.
129	6.07	3672.	276	2.75	1664.
130	0.48	289.	277	0.97	589.
135	0.63	379.	296	2.79	1686.
137	0.42	257.	297	0.45	272.
155	0.50	301.	303	0.52	313.
156	1.63	983.	323	1.88	1138.
161	0.65	393.	334	1.06	641.
167	2.02	1222.	352	0.55	333.
168	0.71	430.	354	0.75	454.
174	0.46	276.	365	1.50	905.
175	1.31	791.	372	1.01	610.
179	1.04	631.	402	0.49	296.
180	1.67	1008.	403	0.60	365.
181	0.79	479.	421	0.61	370.
185	0.66	399.	422	0.54	327.
186	9.84	5952.	423	3.96	2392.
187	2.89	1748.	424	0.74	448.
192	0.48	290.	441	10.93	6608.
193	0.66	397.	442	91.32	55232.
196	1.46	880.	443	16.64	10064.
198	100.00	60480.	444	1.57	951.

003455

GC/MS Tuning and Mass Calibration

DECAFLUOROTRIPHENYLPHOSPHINE

ase Number:
Inst ID: 4530
Lab ID: ES0111C01

Laboratory:
Sens Date: 01/11/87
Cali Date:

Contract:
Sens Time: 10:47:00
Analyst: GU

Data release authorized by: GU

M/E	Ion Abundance Criteria	Spec # 395	
51	30 to 60% of mass 198	47.42	
68	less than 2% of mass 69	0.00	(0.00) 1
69	mass 69 relative abundance	22.54	
70	less than 2% of mass 69	0.18	(0.79) 1
127	40 TO 60% of mass 198	55.75	
197	less than 1% of mass 198	0.00	
198	base peak, 100% relative abundance	100.00	
199	5 TO 9% of mass 198	6.12	
275	10 TO 30% of mass 198	22.05	
365	greater than 1% of mass 198	1.58	
441	less than mass 443	11.58	
442	greater than 40% of mass 198	93.15	
443	17 TO 23% of mass 442	17.46	(18.74) 2

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

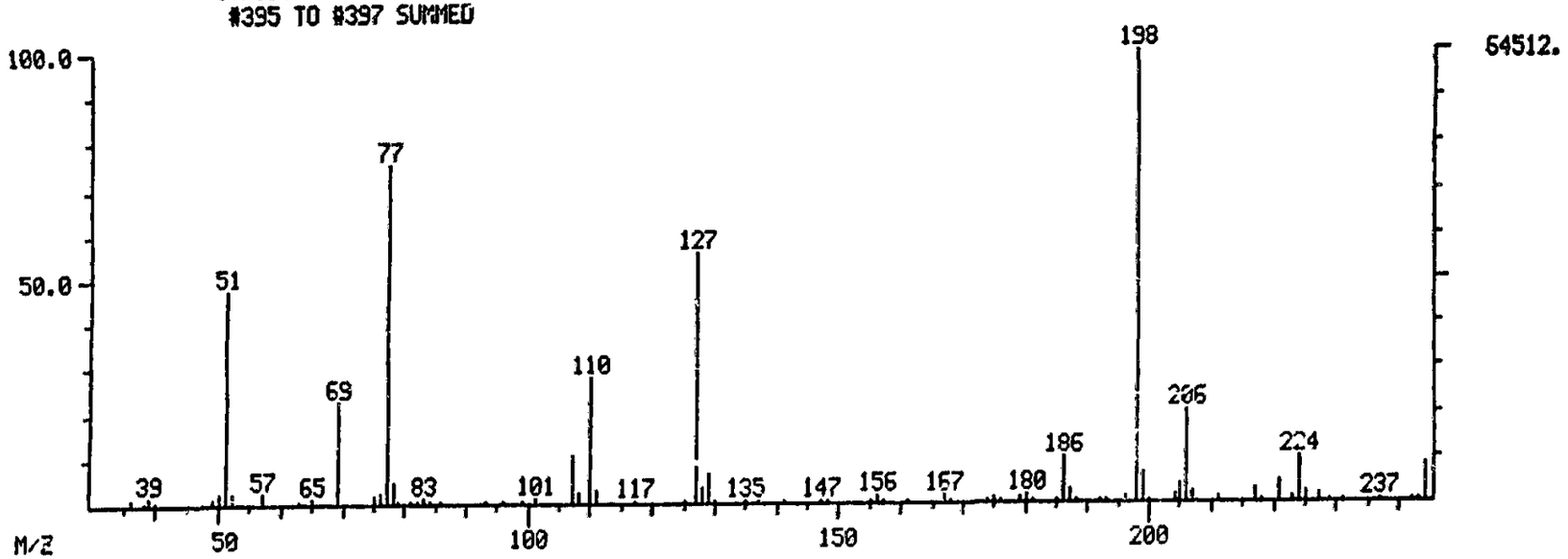
003456

MASS SPECTRUM
01/11/87 10:47:00 + 6:36
SAMPLE: DFTPP
CONDS.: ---
#395 TO #397 SUMMED

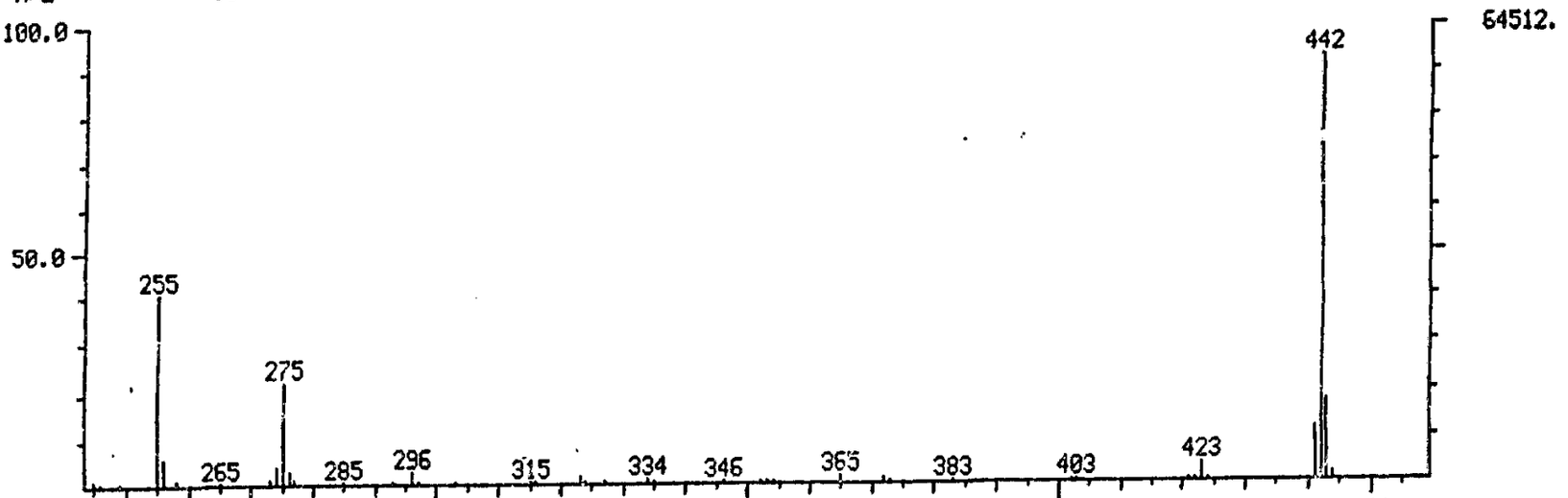
DATA: ES0111C01 #396
CALI: ES0111C01 #3

BASE M/Z: 198
RIC: 462336.

SPECTRIX DC # ----15



DFTPP SPECTRA



INST ID: 4530

INST ID: 4530

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

01/11/87 10:47:00 + 6:36 — Data: ES0111C01 # 396 — Base m/z: 198

Sample: DFTPP — Cali: ES0111C01 # 3 — RIC: 462336.

Cmnds.: ---

395 to #397 summed

36 0.00 0. Minima Min Inten: 243.

445 Maxima # 0

Mass	% RA	Inten.	Mass	% RA	Inten.
36?	0.91	586.	200	0.43	279.
39?	1.93	1244.	204	1.79	1152.
40	0.68	436.	205	3.79	2448.
49	0.94	605.	206	20.26	13072.
50	2.59	1674.	207	2.46	1584.
51	47.42	30592.	211	0.90	579.
52	2.25	1452.	217	2.86	1846.
57	2.25	1454.	218	0.46	295.
63	0.42	269.	221	4.44	2864.
65	1.39	896.	223	0.91	585.
69	22.54	14544.	224	9.91	6392.
75	1.75	1130.	225	2.45	1578.
76	2.25	1454.	227	1.48	955.
77	75.30	48576.	229	0.74	475.
78	4.88	3148.	231	0.51	329.
81	0.71	461.	242	0.48	310.
83	1.16	751.	243	0.52	333.
84	0.56	360.	244	8.20	5288.
86	0.38	246.	245	1.03	665.
101	1.20	776.	246	0.54	346.
107	10.40	6712.	249	0.38	248.
108	2.10	1354.	255	40.43	26080.
110	27.68	17856.	256	5.54	3572.
111	2.86	1846.	258	0.95	611.
117	0.47	303.	273	1.31	847.
127	55.75	35968.	274	3.91	2520.
128	3.58	2308.	275	22.05	14224.
129	6.14	3964.	276	2.76	1778.
130	0.48	311.	277	0.93	603.
135	0.62	400.	293	0.49	317.
137	0.42	271.	296	2.78	1792.
141	0.40	258.	297	0.39	254.
155	0.53	339.	303	0.52	336.
156	1.65	1066.	323	1.89	1220.
161	0.64	416.	334	1.10	712.
167	2.00	1290.	352	0.56	361.
168	0.71	459.	353	0.41	262.
174	0.45	290.	354	0.74	477.
175	1.26	815.	365	1.58	1022.
179	1.10	707.	372	1.04	668.
180	1.62	1048.	402	0.46	295.
181	0.78	502.	403	0.65	422.
185	0.60	387.	421	0.62	397.
186	9.80	6320	422	0.51	327.
187	2.77	1784.	423	4.14	2668.
192	0.47	300.	424	0.75	482.
193	0.65	420.	441	11.58	7472.
196	1.45	936.	442	93.15	60096.
198	100.00	64512.	443	17.46	11264.
199	6.12	3948.	444	1.52	978.

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