file WA 2411
RDT WA 6906
7.12.88
6b

REGIONAL QUALITY ASSURANCE MANAGEMENT OFFICE

Routing and Transmittal Slip Date: 7-12-88

To	Location
1. Marcia Bailey	(HW-114)
2.	
3	

	Action	✓	File		Note and Return
	Approval		For Clearance		Per Converation
✓	As Requested		For Correction		Prepare Reply
	Circulate	✓	For Your Info.		See Me
	Comment		Investigate		Signature
✓	Coordination		Justify		

REMARKS

Attached are copies of sample data results received

under project name: _____

project code: HWD-084B

RECEIVED
JUL 22 1988
RELEASE WA

Copy of data also sent to: (N/A)

From: Arthur Dan Baker III
Arthur Dan Baker, III, QA Management Office
ESD, EPA Region 10, Seattle Wa.

Mail Code: ES-096
Phone No.: 206-442-1692

USEPA RCRA
3058189

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JUL 13 1988
WASTE MANAGEMENT BRANCH

LIST OF RESULT QUALIFIERS FOR NON NUMERIC RESULTS

A result qualifier indicates the reason the analysis did not produce a numerical result.

Qualifier	Full name	Definition
FPS	Failed Preliminary Screening	A preliminary screening of the sample for the subject parameter was conducted.
NSQ	Not Sufficient Quantity	There was not a sufficient quantity of the sample to conduct an analysis to determine the concentration of the subject parameter.
LAC	Laboratory Accident	There was an accident in the laboratory that either destroyed the sample or rendered it not suitable for analysis.
FAC	Field Accident	There was an accident in the field that either destroyed the sample or rendered it not suitable for analysis.
ISP	Improper Sample Preservation	Due to improper preservation of the sample it was rendered not suitable for analysis.
NAI	Not Analyzed Due to Interference	Because of uncontrolled interference the analysis for the subject parameter was not conducted.
NAR	No Analysis Result	There is no analysis result. Reason is unspecified.
PNO	Present But Not Quantified	The subject parameter was present in the sample but no quantifiable result could be determined.
CAN	Cancelled	The analysis of this parameter was cancelled and not performed.
FOC	Failed Quality Control	The analysis result is unusable because quality control limits were exceeded when the analysis was conducted.
BDL	Below Detectable Limits	There was not a sufficient concentration of the parameter in the sample to exceed the lower detection limit in force at the time the analysis was performed.
E	Exponent	Used to report results with large values. The value is equal to the number before E times 10 to the power of the number after E.
UND	Undetected	Indicates material was analyzed for but not detected.

List of Remark Codes

B	Analyte is found in the blank as well as the sample, indicates possible/probable blank contamination.
J	Estimated value; value not accurate.
M	Presence of material verified but not quantified.
U	Compound was analyzed for but not detected. The number is the minimum detection limit.
UJ	Compound was analyzed for but not detected. The number is the estimated minimum detection limit.
C	The value is one of, or the sum of both, Benzo(b) Fluoranthene and Benzo(k)Fluoranthene.
dr, wt	Result is calculated on a dry weight or wet weight basis.

EPA Region X Lab Management System
Sample/Project Analysis Results

Project: HWD-084B RIDGEFIELD BRICK & TILE Officer: MLB Account: AGDD3A

Sample No: 88 223010 Begin Sample Date: 88/05/23 12:30 Source: Landfill Surface Run Depth: QA Code:

Laboratory: RX Description: TD-01

Poly Arom Hydrocrbn	Water-Total Result	Units
Benzo(a)pyrene	50U	ng/l
Dibenzo(a,h)anthracene	200U	ng/l
Benzo(a)anthracene	50U	ng/l
Acenaphthene	5700U	ng/l
Phenanthrene	400	ng/l
Fluorene	800	ng/l
Naphthalene	1500	ng/l
Anthracene	40	ng/l
Pyrene	300UB	ng/l
Benzo(ghi)perylene	200U	ng/l
Indeno(1,2,3-cd)pyrene	90U	ng/l
Benzo(b)fluoranthene	30U	ng/l
Fluoranthene	100	ng/l
Benzo(k)fluoranthene	10U	ng/l
Acenaphthylene	5700U	ng/l
Chrysene	50U	ng/l

Chlorophenols (GC)	Water-Total Result	Units
Pentachlorophenol	0.14	ug/l
2,4,6-Trichlorophenol	0.002U	ug/l
2,4,5-Trichlorophenol	0.002U	ug/l
2,3,4,5-Tetrachlorophen	0.054	ug/l
Spike Dinoseb	47	% Recov

(Sample Complete)

Project: HWD-084B RIDGEFIELD BRICK & TILE Officer: MLB Account: AGDD3A

Sample No: 88 223011 Begin Sample Date: 88/05/23 12:37 Source: Landfill Surface Run Depth: QA Code:

Laboratory: RX Description: TD-02

Poly Arom Hydrocrbn	Water-Total Result	Units
Benzo(a)pyrene	70U	ng/l
Dibenzo(a,h)anthracene	300U	ng/l
Benzo(a)anthracene	70U	ng/l
Acenaphthene	9000U	ng/l
Phenanthrene	500	ng/l
Fluorene	900	ng/l
Naphthalene	1800	ng/l
Anthracene	40	ng/l
Pyrene	400UB	ng/l
Benzo(ghi)perylene	300U	ng/l
Indeno(1,2,3-cd)pyrene	100U	ng/l
Benzo(b)fluoranthene	40U	ng/l
Fluoranthene	100J	ng/l
Benzo(k)fluoranthene	10U	ng/l
Acenaphthylene	9000U	ng/l
Chrysene	70U	ng/l

Poly Arom Hydrocrbn Matrix Spike #1	Water-Total Result	Units
Benzo(a)pyrene	76	% Recov
Dibenzo(a,h)anthracene	32	% Recov
Benzo(a)anthracene	86	% Recov
Acenaphthene	72	% Recov
Phenanthrene	67	% Recov
Fluorene	58	% Recov
Naphthalene	48	% Recov
Anthracene	52	% Recov
Pyrene	80	% Recov
Benzo(ghi)perylene	66	% Recov
Indeno(1,2,3-cd)pyrene	86	% Recov
Benzo(b)fluoranthene	88	% Recov
Fluoranthene	89	% Recov
Benzo(k)fluoranthene	72	% Recov
Acenaphthylene	70	% Recov
Chrysene	80	% Recov

Poly Arom Hydrocrbn Matrix Spike #2	Water-Total Result	Units
Benzo(a)pyrene	78	% Recov
Dibenzo(a,h)anthracene	28	% Recov
Benzo(a)anthracene	86	% Recov

Poly Arom Hydrocrbn — *** Continued ***

Matrix Spike #2	Result	Units
Acenaphthene	UND	% Recov
Phenanthrene	34	% Recov
Fluorene	21	% Recov
Naphthalene	UND	% Recov
Anthracene	42	% Recov
Pyrene	70	% Recov
Benzo(ghi)perylene	60	% Recov
Indeno(1,2,3-cd)pyrene	86	% Recov
Benzo(b)fluoranthene	90	% Recov
Fluoranthene	73	% Recov
Benzo(k)fluoranthene	72	% Recov
Acenaphthylene	UND	% Recov
Chrysene	80	% Recov

Chlorophenols (GC)	Water-Total Result	Units
Pentachlorophenol	0.73	ug/l
2,4,6-Trichlorophenol	0.003U	ug/l
2,4,5-Trichlorophenol	0.072M	ug/l
2,3,4,5-Tetrachlorophen	0.37	ug/l
Spike Dinoseb	79	% Recov

Chlorophenols (GC) Matrix Spike #1	Water-Total Result	Units
Pentachlorophenol	0.051	ug/l
2,4,6-Trichlorophenol	0.018U	ug/l
2,4,5-Trichlorophenol	0.018U	ug/l
2,3,4,5-Tetrachlorophen	0.030	ug/l
Spike Dinoseb	41	% Recov

Chlorophenols (GC) Matrix Spike #2	Water-Total Result	Units
Pentachlorophenol	0.081	ug/l
2,4,6-Trichlorophenol	0.018U	ug/l
2,4,5-Trichlorophenol	0.018U	ug/l
2,3,4,5-Tetrachlorophen	0.018U	ug/l
Spike Dinoseb	44	% Recov

(Sample Complete)

Project: HWD-084B RIDGEFIELD BRICK & TILE Officer: MLB Account: AGDD3A

Sample No: 88 223012 Begin Sample Date: 88/05/23 12:48 Source: Landfill Surface Run Depth: QA Code:

Laboratory: RX Description: TD-03

Poly Arom Hydrocrbn	Water-Total Result	Units
Benzo(a)pyrene	50U	ng/l
Dibenzo(a,h)anthracene	200U	ng/l
Benzo(a)anthracene	50U	ng/l
Acenaphthene	5700U	ng/l
Phenanthrene	400	ng/l
Fluorene	500	ng/l
Naphthalene	3300U	ng/l
Anthracene	40	ng/l
Pyrene	300UB	ng/l
Benzo(ghi)perylene	200U	ng/l
Indeno(1,2,3-cd)pyrene	100U	ng/l
Benzo(b)fluoranthene	30U	ng/l
Fluoranthene	100	ng/l
Benzo(k)fluoranthene	10U	ng/l
Acenaphthylene	5700U	ng/l
Chrysene	50U	ng/l

Chlorophenols (GC)	Water-Total Result	Units
Pentachlorophenol	0.082	ug/l
2,4,6-Trichlorophenol	0.002U	ug/l
2,4,5-Trichlorophenol	0.002U	ug/l
2,3,4,5-Tetrachlorophen	0.022	ug/l
Spike Dinoseb	99	% Recov

(Sample Complete)

Project: HWD-084B RIDGEFIELD BRICK & TILE Officer: MLB Account: AGDD3A

Sample No: 88 223013 Begin Sample Date: 88/05/23 13:23 Source: Landfill Surface Run Depth: QA Code:

Laboratory: RX Description: TD-04

Poly Arom Hydrocrbn	Water-Total Result	Units
Benzo(a)pyrene	50U	ng/l
Dibenzo(a,h)anthracene	200U	ng/l
Benzo(a)anthracene	50U	ng/l
Acenaphthene	6000U	ng/l
Phenanthrene	200	ng/l
Fluorene	700U	ng/l
Naphthalene	3500U	ng/l
Anthracene	20	ng/l
Pyrene	300UB	ng/l
Benzo(ghi)perylene	200U	ng/l
Indeno(1,2,3-cd)pyrene	100U	ng/l
Benzo(b)fluoranthene	30U	ng/l
Fluoranthene	100U	ng/l
Benzo(k)fluoranthene	10U	ng/l
Acenaphthylene	6000U	ng/l
Chrysene	50U	ng/l

Chlorophenols (GC)	Water-Total Result	Units
Pentachlorophenol	0.22	ug/l
2,4,6-Trichlorophenol	0.002U	ug/l
2,4,5-Trichlorophenol	0.002U	ug/l
2,3,4,5-Tetrachlorophen	0.029	ug/l
Spike Dinoseb	79	% Recov

(Sample Complete)

Project: HWD-084B RIDGEFIELD BRICK & TILE Officer: MLB Account: AGDD3A

Sample No: 88 223014 Begin Sample Date: 88/05/23 14:03 Source: Landfill Surface Run Depth: QA Code:

Laboratory: RX Description: TD-05

Poly Arom Hydrocrbn	Water-Total Result	Units
Benzo(a)pyrene	50U	ng/l
Dibenzo(a,h)anthracene	200U	ng/l
Benzo(a)anthracene	50U	ng/l
Acenaphthene	6600U	ng/l
Phenanthrene	50U	ng/l
Fluorene	800U	ng/l
Naphthalene	3800U	ng/l
Anthracene	10U	ng/l
Pyrene	300UB	ng/l
Benzo(ghi)perylene	200U	ng/l
Indeno(1,2,3-cd)pyrene	100U	ng/l
Benzo(b)fluoranthene	30U	ng/l
Fluoranthene	100U	ng/l
Benzo(k)fluoranthene	10U	ng/l
Acenaphthylene	6600U	ng/l
Chrysene	50U	ng/l

Chlorophenols (GC)	Water-Total Result	Units
Pentachlorophenol	0.0034	ug/l
2,4,6-Trichlorophenol	0.002U	ug/l
2,4,5-Trichlorophenol	0.002U	ug/l
2,3,4,5-Tetrachlorophen	0.002U	ug/l
Spike Dinoseb	51	% Recov

(Sample Complete)

Project: HWD-084B RIDGEFIELD BRICK & TILE Officer: MLB Account: AGDD3A

Blank ID: BN8148W

Poly Arom Hydrocrbn Blank #1	Water-Total Result	Units
Benzo(a)pyrene	300U	ng/l
Dibenzo(a,h)anthracene	1000U	ng/l
Benzo(a)anthracene	300U	ng/l
Acenaphthene	27,000U	ng/l
Phenanthrene	300U	ng/l
Fluorene	3200U	ng/l
Naphthalene	16,000U	ng/l
Anthracene	50U	ng/l
Pyrene	NAI	ng/l
Benzo(ghi)perylene	1000U	ng/l
Indeno(1,2,3-cd)pyrene	500U	ng/l
Benzo(b)fluoranthene	100U	ng/l
Fluoranthene	500U	ng/l
Benzo(k)fluoranthene	50U	ng/l
Acenaphthylene	27,000U	ng/l
Chrysene	300U	ng/l

Chlorophenols (GC) Blank #1	Water-Total Result	Units
Pentachlorophenol	UND	ug/l
2,4,6-Trichlorophenol	UND	ug/l
2,4,5-Trichlorophenol	UND	ug/l
2,3,4,5-Tetrachlorophen	UND	ug/l
Spike Dinoseb	59	% Recov

(Sample Complete)

Project: HWD-084B

RIDGEFIELD BRICK & TILE

Officer: MLB Account: AGDD3A

Blank ID: BN8148WJ

Poly Arom Hydrocrbn Blank #2	Water-Total Result	Units
Benzo(a)pyrene	200U	ng/l
Dibenzo(a,h)anthracene	900U	ng/l
Benzo(a)anthracene	200U	ng/l
Acenaphthene	26,000U	ng/l
Phenanthrene	200U	ng/l
Fluorene	3000U	ng/l
Naphthalene	15,000U	ng/l
Anthracene	40U	ng/l
Pyrene	NIA	ng/l
Benzo(ghi)perylene	900U	ng/l
Indeno(1,2,3-cd)pyrene	400U	ng/l
Benzo(b)fluoranthene	100U	ng/l
Fluoranthene	400U	ng/l
Benzo(k)fluoranthene	40U	ng/l
Acenaphthylene	26,000U	ng/l
Chrysene	200U	ng/l

(Sample Complete)

Project: HWD-084B

RIDGEFIELD BRICK & TILE

Officer: MLB Account: AGDD3A

Blank ID: BN8148WJ

Chlorophenols (GC) Blank #2	Water-Total Result	Units
Pentachlorophenol	UND	ug/l
2,4,6-Trichlorophenol	UND	ug/l
2,4,5-Trichlorophenol	UND	ug/l
2,3,4,5-Tetrachlorophen	UND	ug/l
Spike Dinoseb	77	% Recov

(Sample Complete)

ROUTING AND TRANSMITTAL SLIP

Date

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. John Pirgin		
2. Tetra-Tech		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

Case Number 9688

Ridgefield Brick + Tile

3621-17-06

RECEIVED
JUN 21 1988
BELLEVUE, WA

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
	Phone No.

5041-102

☆ U.S. Government Printing Office: 1987-181-246/60000

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

DOCUMENT INVENTORY

Case No.9688

#9688-10-01

DOCUMENT CONTROL #	DOCUMENT TYPE	# PAGES
9688-10-01	Case File Document Inventory Sheet	1
9688-10-02	Chain-of-Custody Records	3
9688-10-03	Sample Tags	2
9688-10-04	Airbill	1
9688-10-05	Inorganics Traffic Report	5
9688-10-06	Inorganics Analysis Data Summaries and QA/QC Data Reports	18
9688-10-07	Instrument Logbook Pages	2
9688-10-08	Sample Preparation Logbook Sheets	3
9688-10-09	Calibration And Spiking Standards Preparation Logbook Pages	6
9688-10-10	ICAP Raw Data	12
9688-10-11	Furnace AA Raw Data / Hg Raw Data and Associated Calculations	24

FIELD SAMPLE DATA AND CHAIN OF CUSTODY SHEET

EPA Region 10
1200 Sixth Avenue
Seattle WA 98101

Case No.: 9688
Project Code: HWD084B Account: AGDD3A
Name/Location
(EPA Lab Only, Leave Blank for Contract Lab)
Proj. Off.: Marcia Bailey Tel.# 206-442-0834

☒ Enforcement/Custody
☐ Data Confidential
☐ Possible Toxic/Hazardous
☐ Data for Storet

Miscellaneous:

Sampling Crew: Brian O'Neal, Kurt Schmierer

Recorder: Brian L O'Neal
(Signatures Required)

968810 02

SOURCE CODE	Oil	Water	Sediment	Tissue	Prsrvd(Y/N)	Qt. Cubit	Gal. Cubit	16 oz.	8 oz.	120 ml.	40 ml.	Other	LAB NUMBER Yr Wk Seq	STORET STATION NUMBER	SAMPLING DATE & TIME Yr Mo Dy Time	TRAFFIC REPORT NUMBERS Org.	Inorg.	SAMPLER'S INITIALS	STATION DESCRIPTION
38	X				X								8822 3010		8805 23 1231	MB-0	MJB367	BLO	TD-01
38	X				X								8822 3011		8805 23 1238	Volin#	MJB368	BLO	TD-02
38	X				X								8822 3012		8805 23 1249	Volin#	MJB369	BLO	TD-03
38	X				X								8822 3013		8805 23 1324		MJB370	BLO	TD-04
38	X				X								8822 3014		8805 23 1404		MJB371	BLO	TD-05

these three samples are triplicates to be used for MS/MSD analyses

1 each

LAB NUMBER Yr	Wk	Seq	DEPTH	Units	Type	COL MTD CD	QA CODE	TEMP DEG C	pH	CNDCTVTY umho/cm	COMPOSITE ONLY ENDING DATE Mo	Dy	Time	Type	Freq

CONDITION OF SAMPLES UPON RECEIPT AT LAB:

CUSTODY SEALS INTACT: ☐yes ☐no ☐none

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
Brian L O'Neal		
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY MOBILE LAB FOR FIELD ANALYSIS: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
Brian L. O'Neal 5/23/88	G. Hallet	5-25-88 9:34am

METHOD OF SHIPMENT
FED-EX AIRBILL # 2254967875

Laboratory Copy White — Project Officer Copy Yellow — Field or Office Copy Pink GPO 592-537

SAMPL[illegible]ITROL RECORD

968810 02

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
F49090-1-3	[illegible]	6-8-88 10:15	prep metals & Hg	6/8/88 [illegible] 3:45PM

DATE: 5-25-99

SAMPLE CUSTODIAN SIGNATURE: [signature]

DOCUMENT CONTROL #

CIRCLE THE APPROPRIATE RESPONSE

968810 02

1. Custody Seal — present/absent; intact/not intact
2. Chain-of-Custody — present/absent
3. Sample Tags — present/absent
   Sample Tag Numbers — listed/not listed on chain-of-custody
4. SMO Forms — present/absent

CASE NUMBER #9688

AIRBILL NUMBER 2254967875

DATE RECEIVED	TIME RECEIVED	CHAIN-OF-CUSTODY RECORD NUMBER	SMO SAMPLE NUMBERS	CORRESPONDING SAMPLE TAG NUMBERS	CORRESPONDING ASSIGNED LAB NUMBERS	DOES INFORMATION ON CUSTODY RECORDS, TRAFFIC REPORTS, AND SAMPLE TAGS AGREE?	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
5/25/88	9:30AM	none	MJB 367	10-19917, 10-19922, 10-19923	F49090-1	Change MJB 368 + 369 to #367 per MJB SMO	Intact
"	"	"	MJB 370	10-19924	F49090-2	yes	"
"	"	"	MJB 371	10-19929	F49090-3	"	"

☆ GPO 1984 593-479

Project Code	Station No	Month/Day/Year	Time	Designate: Grab	Designate: Comp	Samplers (Signatures)	Station Location
HWD084B	TD-04	5/23/88	13:21	X		Brian L Mead	RST LANDFILL RIDGEFIELD, WA

Preservative: Yes ☒ No ☐

ANALYSES	
BOD Anions Solids (TSS) (TDS) (SS)	
COD, TOC, Nutrients	
Phenolics	
Mercury	
Metals	X
Cyanide	
Oil and Grease	
Organics GC/MS	
Priority Pollutants	
Volatile Organics	
Pesticides	
Mutagenicity	
Bacteriology	

Remarks: PRESERVED w/ HNO_3
EPA SAMPLE #– 88223013

Tag No.	Lab Sample No.
10-19926	MJB370

☆ GPO 1984 593-479

Project Code	Station No.	Month/Day/Year	Time	Designate: Grab	Designate: Comp	Samplers (Signatures)	Station Location
HWD084B	TD-05	5/23/88	14:03	X		Brian L Mead	RST LANDFILL RIDGEFIELD, WA

Preservative: Yes ☒ No ☐

ANALYSES	
BOD Anions Solids (TSS) (TDS) (SS)	
COD, TOC, Nutrients	
Phenolics	
Mercury	
Metals	X
Cyanide	
Oil and Grease	
Organics GC/MS	
Priority Pollutants	
Volatile Organics	
Pesticides	
Mutagenicity	
Bacteriology	

Remarks: PRESERVED w/ HNO_3
EPA SAMPLE #– 88223014

Tag No.	Lab Sample No.
10-19929	MJB371

968810 03

☆ GPO 1984 593-479

Designate: Grab ☒ Comp

Time: 12:29

Month/Day/Year: 5/23/88

Station No: TD-01

Project Code: HUD084B

Samplers (Signatures): Brian L. O'Neal

Station Location: RBT LANDFILL RIDGEFIELD, WA

Preservative: Yes ☒ No ☐

ANALYSES	
BOD Anions Solids (TSS) (TDS) (SS)	
COD, TOC, Nutrients	
Phenolics	
Mercury	
Metals	X
Cyanide	
Oil and Grease	
Organics GC/MS	
Priority Pollutants	
Volatile Organics	
Pesticides	
Mutagenicity	
Bacteriology	

Remarks: PRESERVED W/ HNO3 EPA SAMPLE # - 88223010

Tag No. 10-19917 Lab Sample No. MJB367

☆ GPO 1984 593-479

968810 03

Designate: Grab ☒ Comp.

Time: 12:37

Month/Day/Year: 5/23/88

Station No: TD-02

Project Code: HUD084B

Samplers (Signatures): Brian L. O'Neal

Station Location: RBT LANDFILL RIDGEFIELD, WA

Preservative: Yes ☒ No ☐

ANALYSES	
BOD Anions Solids (TSS) (TDS) (SS)	
COD, TOC, Nutrients	
Phenolics	
Mercury	
Metals	X
Cyanide	
Oil and Grease	
Organics GC/MS	
Priority Pollutants	
Volatile Organics	
Pesticides	
Mutagenicity	
Bacteriology	
MATRIX SPIKE	

Remarks: PRESERVED W/ HNO3 EPA SAMPLE # - 88223011

Tag No. 10-19920 Lab Sample No. MJB368

☆ GPO 1984 593-479

Designate: Grab ☒ Comp

Time: 12:48

Month/Day/Year: 5/23/88

Station No: TD-03

Project Code: HUD084B

Samplers (Signatures): Brian L. O'Neal

Station Location: RBT LANDFILL RIDGEFIELD, WA

Preservative: Yes ☒ No ☐

ANALYSES	
BOD Anions Solids (TSS) (TDS) (SS)	
COD, TOC, Nutrients	
Phenolics	
Mercury	
Metals	X
Cyanide	
Oil and Grease	
Organics GC/MS	
Priority Pollutants	
Volatile Organics	
Pesticides	
Mutagenicity	
Bacteriology	
MATRIX SPIKE DUPE	

Remarks: PRESERVED W/ HNO3 EPA SAMPLE # - 88223012

Tag No. 10-19923 Lab Sample No. MJB369

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL NUMBER 2254967675

54 63158M

DATE 5/24/88

968810 04

F

00

AIRBILL NUMBER 2254967675

From (Your Name): Brian ONeal

Your Phone Number (Very Important): (206) 822-9596

Company: TETRA TECH INC

Department/Floor No.:

Street Address: 11820 NE NORTHUP WAY STE E100

City: BELLEVUE State: WA ZIP ® Zip Code Required For Correct Invoicing: 98005 1926

To (Recipient's Name): ALI, INC.

Recipient's Phone Number (Very Important): (714) 771-69

Company:

Department/Floor No.:

Exact Street Address (Use of P.O. Boxes or P.O. ® Zip Codes Will Delay Delivery And Result in Extra Charge.): 806 N. Batavia

City: Orange State: CA

ZIP Street Address Zip Required (No P.O. Box ® Zip Code): 92668

3 YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.): RIDGEFIELD TC-3621-17-06

PAYMENT: [X] Bill Sender [ ] Bill Recipient's FedEx Acct. No. [ ] Bill 3rd Party FedEx Acct. No. [ ] Bill Credit Card [ ] Cash

4 SERVICES CHECK ONLY ONE BOX

1 [X] PRIORITY 1 Overnight Delivery Using Your Packaging

6 [ ] OVERNIGHT LETTER (Our Packaging) 9½" x 12½"

OVERNIGHT DELIVERY USING OUR PACKAGING

2 [ ] Courier-Pak Overnight Envelope 12"x 15½"

3 [ ] Overnight Box 12½"x 17½"x 3" A [ ]

4 [ ] Overnight Tube 38"x 6"x 6" B [ ]

5 [ ] STANDARD AIR Delivery not later than second business day

SERVICE COMMITMENT

PRIORITY 1 - Delivery is scheduled early next business morning in most locations. It may take two or more business days if the destination is outside our primary service areas

STANDARD AIR - Delivery is generally next business day or not later than second business day. It may take three or more business days if the destination is outside our primary service areas.

DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED

1 [ ] HOLD FOR PICK-UP (Fill in Section H at right)

2 [X] DELIVER WEEKDAY

3 DELIVER SATURDAY (Extra charge) [ ]

4 [ ] RESTRICTED ARTICLES SERVICE (P-1 and Standard Air Packages only. Extra charge)

5 [ ] CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge) (Do Not Complete Section 5)

6 [ ] DRY ICE _____ Lbs

7 [ ] OTHER SPECIAL SERVICE _____

8 [ ]

9 [ ] SATURDAY PICK-UP (Extra charge)

10 [ ]

PACKAGES	WEIGHT	YOUR DECLARED VALUE	
	LBS		
	LBS		
	LBS		
	LBS		
Total 1	Total 33	Total	

Received At: [X] 1 Regular Stop [ ] 2 On-Call Stop [ ] 3 Drop Box [ ] 4 B.S.C. [ ] 5 Station

Federal Express Corp. Employee No.: 4766

Date/Time For Federal Express Use: 5-24 1652

5 Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

Release Signature: Brian J O'Neal

H HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS LOCATION: Street Address (See Service Guide or Call 800-238-5355)

City State

ZIP ® Zip Code of Street Address Required

Emp. No. Date

[ ] Cash Received

[ ] Return Shipment

[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold

Street Address

City State Zip

Received By: X

Date/Time Received: 5-25-88 9:30Am

FedEx Employee Number

Federal Express Use

Base Charges

Declared Value Charge

Origin Agent Charge

Other

Total Charges

PART # 106001 FEC-S-751-1000 REVISION DATE 7/86 PRINTED U.S.A. NCR

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313—703 557-2490 • FTS 557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MJB 370

(1) **Case Number:** 9688
Sample Site Name/Code:

(2) **SAMPLE CONCENTRATION**
(Check One)
X Low Concentration
___ Medium Concentration

(3) **SAMPLE MATRIX**
(Check One)
X Water
___ Soil/Sediment

(4) **Ship To:** ALI
806 N. BATAVIA
Orange, CA
Attn: 92668
Transfer Ship To:

(5) **Sampling Office:** 10
Sampling Personnel:
(Name) Brian Odeal
(Phone) 206-892-9596
Sampling Date:
(Begin) 5/23/88 (End) 5/23/88

(6) **Shipping Information:**
Name Of Carrier:
FED-EX
Date Shipped: 2754967875
Airbill Number: 5/24/88

(9) **ANALYSIS LAB:**
Recd by: [illegible]
Date Recd: [illegible]

(10) **Sample Condition On Receipt:**
(eg. broken, leakage, chain of custody, etc.)
Good

968810 05

(7) **Sample Description:**
(Check One)
___ Surface Water
___ Ground Water
X Leachate
___ Mixed Media
___ Solids
___ Other _____
(specify)
MATCHES ORGANIC SAMPLE NO. 36809

(8) **Mark Volume Level On Sample Bottle**
Check Analysis required
X Total Metals
___ Cyanide
EPA # 8622 3013

LAB FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
PO Box 818, Alexandria, VA 22313—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MJB 367

(1) **Case Number:** 9688
Sample Site Name/Code:

(2) **SAMPLE CONCENTRATION**
(Check One)
X Low Concentration
___ Medium Concentration

(3) **SAMPLE MATRIX**
(Check One)
X Water
___ Soil/Sediment

(4) **Ship To:**
ALI
806 N. Batavia
Orange, CA
Attn: 92668

Transfer Ship To:

(5) **Sampling Office:** 10
Sampling Personnel:
(Name) Brian ONeal
(Phone) 206-822-9596
Sampling Date:
(Begin) 5/23/88 (End) 5/23/88

(6) **Shipping Information:**
Name Of Carrier:
FED-EX
Date Shipped: 5/24/88
Airbill Number: 2254967875

(9) **ANALYSIS LAB:**
Recd by: [illegible]
Date Recd: 5-25-88

(7) **Sample Description:**
(Check One)
___ Surface Water
___ Ground Water
X Leachate
___ Mixed Media
___ Solids
___ Other ___ (specify)
MATCHES ORGANIC SAMPLE NO. JC812

(8) **Mark Volume Level On Sample Bottle**
Check Analysis required
✓ Total Metals
___ Cyanide
EPA # 86223010

(10) **Sample Condition On Receipt:**
(eg. broken, leakage, chain of custody, etc.)
GOOD

968810 05

LAB FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office

P.O. Box 818, Alexandria, VA 22313 – 703 / 557-2490 • FTS / 557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MJB 371

(1) Case Number: 96088
Sample Site Name/Code:

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
ALI
8006 N. Batavia
Orange, CA 92668
Attn:

Transfer
Ship To:

(5) Sampling Office: 10

Sampling Personnel:
(Name) Brian O'Neal
(Phone) 206-822-9596
Sampling Date:
(Begin) 5/17/88 (End) 5/20/88

(6) Shipping Information:
Name Of Carrier:
FED-EX
Date Shipped: 5/24/88
Airbill Number: ~~8822230~~ PLO
2754967875

(9) ANALYSIS LAB:
Recd by: [illegible]
Date Recd: 5-25-88

(10) Sample Condition On Receipt:
(eg. broken, leakage, chain of custody, etc.)
Good

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
X Leachate
___ Mixed Media
___ Solids
___ Other ___ (specify)
MATCHES ORGANIC SAMPLE NO. X84

(8) Mark Volume Level On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide
EPA # 88223014

968810 05

LAB FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313 – 703 557-2490 · FTS 557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MJB 369

(1) Case Number: 96088
Sample Site Name/Code:

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
ALI
806 N. Batavia
Orange, CA 92668
Attn:

Transfer
Ship To:

(5) Sampling Office: 10
Sampling Personnel:
(Name) Brian ONeal
(Phone) 206-822-9546
Sampling Date:
(Begin) 5/23/88 (End) 5/23/88

(6) Shipping Information:
Name Of Carrier: FED-EX
Date Shipped: 5/24/88
Airbill Number: 2254967875

(9) ANALYSIS LAB:
Recd by:
Date Recd: 5/25/88

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
X Leachate
___ Mixed Media
___ Solids
___ Other ___
(specify)
MATCHES ORGANIC SAMPLE NO: 880

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide
EPA # 88223012

(10)
Sample Condition
On Receipt:
(eg. broken, leakage, chain of custody, etc.)
Void # 369
968810 05

LAB FILE COPY

U.S. ENVIRONMENTAL PROTECTION AGENCY HWI Sample Management Office
P.O. Box 818, Alexandria, VA 22313—703/557-2490 • FTS/557-2490

INORGANICS TRAFFIC REPORT

Sample Number
MJB 368

(1) Case Number: 9688
Sample Site Name/Code:

(2) SAMPLE CONCENTRATION
(Check One)
X Low Concentration
___ Medium Concentration

(3) SAMPLE MATRIX
(Check One)
X Water
___ Soil/Sediment

(4) Ship To:
ALI
806 N. Batavia
Orange, CA
Attn: 92660?

Transfer
Ship To:

(5) Sampling Office: RO
Sampling Personnel:
(Name) Brian ONeal
(Phone) 206-822-9596
Sampling Date:
(Begin) 5/23/88 (End) 5/23/88

(6) Shipping Information:
Name Of Carrier:
FED-EX
Date Shipped: 5/24/88
Airbill Number: 2254967875

(9) ANALYSIS LAB:
Recd by: [illegible]
Date Recd: [illegible]

(7) Sample Description:
(Check One)
___ Surface Water
___ Ground Water
X Leachate
___ Mixed Media
___ Solids
___ Other ___ (specify)
MATCHES ORGANIC SAMPLE NO. JC 816

(8) Mark Volume Level
On Sample Bottle
Check Analysis required
X Total Metals
___ Cyanide
EPA # 8822 3011

(10)
Sample Condition
On Receipt:
(eg. broken, leakage, chain of custody, etc.)
VOID M 368
[illegible]
968810 05

LAB FILE COPY

U.S.EPA Contract Laboratory Program 968810 06
Sample Management Office
P.O. Box 818-Alexandria,VA 22313
703/557-2490 FTS: 8-557-2490

Date: 06/14/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name ASSOCIATED LABORATORIES Case No. 9688
SOW No. 785 Q.C. Report No. 79

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MJB367	F49090-1		
MJB370	F49090-2		
MJB371	F49090-3		

Comments:

ICP interelement and background corrections applied? Yes X No _.
If yes, corrections applied before X or after _ generation of raw data

footnotes:

NR - Not required by contract at this time
Form I:
Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P(for ICP), A(for Flame AA) or F(for Furnace AA)
U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value(e.g., 10U).
E - Indicate a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.
s - Indicates value determined by Method of Standard Addition.
N - Indicates spike sample recovery is not within control limits.
* - Indicates duplicate analysis is not within control limits.
+ - Indicates the correlation coefficient for method of standard addition is less than 0.995
M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

FORM I

U.S. EPA Contract Laboratory Program
Sample Management Office
P,O, Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

968810 06

EPA Sample No.

MJB367

Date 06/13/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME ASSOCIATED LABORATORIES

CASE NO. 9688

SOW NO. 785

Lab Receipt Date 05/25/88

LAB SAMPLE ID. NO. F49090-1

QC REPORT NO. 79

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	Aluminum	61U	P	13.	Magnesium	12400	P
2.	Antimony	23U	P	14.	Manganese	4760	P
3.	Arsenic	3.4U	F	15.	Mercury	0.20 U	CV
4.	Barium	[58]	P	16.	Nickel	13U	P
5.	Beryllium	3.9U	P	17.	Potassium	[1400]	P
6.	Cadmium	4.0U	P	18.	Selenium	6.0U (N)	F
7.	Calcium	28400	P	19.	Silver	6.4U	P
8.	Chromium	7.9U	P	20.	Sodium	20000	P
9.	Cobalt	[9.5]	P	21.	Thallium	.70U (N)	F
10.	Copper	25U	P	22.	Vanadium	8.8U	P
11.	Iron	76600	P	23.	Zinc	[19]	P
12.	Lead	12U (N)	F		Percent Solids (%)		

Cyanide NR

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

CLEAR WATER

Lab Manager Ed Behare

FORM I

U.S. EPA Contract Laboratory Program
Sample Management Office
P,O, Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MJB370

968810 06

Date 06/13/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

SOW NO. 785 Lab Receipt Date 05/25/88

LAB SAMPLE ID. NO. F49090-2 QC REPORT NO. 79

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	Aluminum	61U	P	13.	Magnesium	10200	P
2.	Antimony	23U	P	14.	Manganese	3270	P
3.	Arsenic	[6.0]	F	15.	Mercury	0.30	CV
4.	Barium	[61]	P	16.	Nickel	[24]	P
5.	Beryllium	3.9U	P	17.	Potassium	[1140]	P
6.	Cadmium	4.0U	P	18.	Selenium	6.0U (N)	F
7.	Calcium	24300	P	19.	Silver	6.4U	P
8.	Chromium	24	P	20.	Sodium	17800	P
9.	Cobalt	[13]	P	21.	Thallium	.70U (N)	F
10.	Copper	25U	P	22.	Vanadium	8.8U	P
11.	Iron	7430	P	23.	Zinc	33	P
12.	Lead	6.1 (N), S	F		Percent Solids (%)		
	Cyanide	NR					

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

CLEAR WATER

Lab Manager Ed Behare

by TMC

FORM I

U.S. EPA Contract Laboratory Program
Sample Management Office
P,O, Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

EPA Sample No.

MJB371

968810 06

Date 06/13/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

SOW NO. 785 Lab Receipt Date 05/25/88

LAB SAMPLE ID. NO. F49090-3 QC REPORT NO. 79

Elements Identified and Measured

Concentration: Low X Medium ____

Matrix: Water X Soil ____ Sludge ____ Other ____

ug/L

1.	Aluminum	61U	P	13.	Magnesium	[49]	P
2.	Antimony	23U	P	14.	Manganese	7.8U	P
3.	Arsenic	3.4U	F	15.	Mercury	0.20 U	CV
4.	Barium	2.3U	P	16.	Nickel	13U	P
5.	Beryllium	3.9U	P	17.	Potassium	528U	P
6.	Cadmium	4.0U	P	18.	Selenium	.60U (N)	F
7.	Calcium	[152]	P	19.	Silver	6.4U	P
8.	Chromium	7.9U	P	20.	Sodium	[315]	P
9.	Cobalt	8.9U	P	21.	Thallium	.70U (N)	F
10.	Copper	25U	P	22.	Vanadium	8.8U	P
11.	Iron	[88]	P	23.	Zinc	8.7U	P
12.	Lead	5.2 (N)	F		Percent Solids (%)		

Cyanide NR

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

CLEAR WATER

Lab Manager Ed Bellows

FORM II-A 968810 06

Q. C. Report No. 79

INITIAL AND CONTINUING CALIBRATION VERIFICATION[3]

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

SOW NO. 785

DATE 06/13/88 UNITS: ug/L

Compound	Initial Calib.[1]			Continuing Calibration[2]					
Metals:	True Value	Found	%R	True Value	Found	%R	Found	%R	Method[4]
1. Aluminum	1980	1956	99	1980	1962	99	1972	100	P
2. Antimony	1010	1026	102	1010	1016	101	1006	100	P
3. Arsenic	47	45.25	96	47	46.50	99	44.00	94	F
4. Barium	1980	1963	99	1980	1976	100	1952	99	P
5. Beryllium	481	511.1	106	481	506.3	105	498.1	104	P
6. Cadmium	489	492.7	101	489	485.8	99	476.4	97	P
7. Calcium	49800	51450	103	49800	50690	102	50450	101	P
8. Chromium	506	511.1	101	506	501.7	99	504.1	100	P
9. Cobalt	474	483.8	102	474	482.9	102	477.8	101	P
10. Copper	542	520.2	96	542	518.1	96	511.1	94	P
11. Iron	1990	2004	101	1990	1968	99	1963	99	P
12. Lead	97.9	97.50	100	97.9	103.0	105	107.5	110	F
13. Magnesium	25000	25420	102	25000	25130	101	24730	99	P
14. Manganese	513	515.3	100	513	503.4	98	495.3	97	P
15. Mercury	5.2	5.40	104	5.2	5.20	100			CV
16. Nickel	496	468.6	94	496	468.4	94	462.2	93	P
17. Potassium	50200	52100	104	50200	52170	104	50970	102	P
18. Selenium	104	103.0	99	104	104.5	100	104.0	100	F
19. Silver	509	506.5	100	509	500.9	98	493.9	97	P
20. Sodium	50700	51920	102	50700	52580	104	51210	101	P
21. Thallium	97.3	98.50	101	97.3	98.50	101	101.5	104	F
22. Vanadium	511	516.7	101	511	509.0	100	509.0	100	P
23. Zinc	3100	2948	95	3100	2893	93	2880	93	P
Other:									
Cyanide	NR		NR	NR		NR		NR	

[1]Initial Calibration Source EPA [2]Continuing Calibration Source EPA

[3]Control Limits: Mercury and Tin 80-120; Other Metals 90-110; Cyanide 85-115

[4]Indicate Analytical Method Used: P - ICP; A - Flame AA; F - Furnace AA

FORM II-B

Q. C. Report No. 79 968810 06

INITIAL AND CONTINUING CALIBRATION VERIFICATION[3]

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

SOW NO. 785

DATE 06/13/88 UNITS: ug/L

Compound	Initial Calib.[1]			Continuing Calibration[2]					
Metals:	True Value	Found	%R	True Value	Found	%R	Found	%R	Method[4]
1. Aluminum				1980					P
2. Antimony				1010					P
3. Arsenic				47	47.00	100			F
4. Barium				1980					P
5. Beryllium				481					P
6. Cadmium				489					P
7. Calcium				49800					P
8. Chromium				506					P
9. Cobalt				474					P
10. Copper				542					P
11. Iron				1990					P
12. Lead				97.9	104.5	107	101.5	104	F
13. Magnesium				25000					P
14. Manganese				513					P
15. Mercury				5.2					CV
16. Nickel				496					P
17. Potassium				50200					P
18. Selenium				104	102.5	99	95.00	91	F
19. Silver				509					P
20. Sodium				50700					P
21. Thallium				97.3	[illegible].50	101			F
22. Vanadium				511					P
23. Zinc				3100					P
Other:									
Cyanide				NR		NR		NR	

[1]Initial Calibration Source EPA [2]Continuing Calibration Source EPA

[3]Control Limits: Mercury and Tin 80-120; Other Metals 90-110; Cyanide 85-115

[4]Indicate Analytical Method Used: P - ICP; A - Flame AA; F - Furnace AA

FORM II-C 968810 06

Q. C. Report No. 79

INITIAL AND CONTINUING CALIBRATION VERIFICATION[3]

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

SOW NO. 785

DATE 06/13/88 UNITS: ug/L

Compound	Initial Calib.[1]			Continuing Calibration[2]					
Metals:	True Value	Found	%R	True Value	Found	%R	Found	%R	Method[4]
1. Aluminum				1980					P
2. Antimony				1010					P
3. Arsenic				47					F
4. Barium				1980					P
5. Beryllium				481					P
6. Cadmium				489					P
7. Calcium				49800					P
8. Chromium				506					P
9. Cobalt				474					P
10. Copper				542					P
11. Iron				1990					P
12. Lead				97.9	92.50	94			F
13. Magnesium				25000					P
14. Manganese				513					P
15. Mercury				5.2					CV
16. Nickel				496					P
17. Potassium				50200					P
18. Selenium				104	104.5	100	102.0	98	F
19. Silver				509					P
20. Sodium				50700					P
21. Thallium				97.3					F
22. Vanadium				511					P
23. Zinc				3100					P
Other:									
Cyanide				NR		NR		NR	

[1]Initial Calibration Source EPA [2]Continuing Calibration Source EPA

[3]Control Limits: Mercury and Tin 80-120; Other Metals 90-110; Cyanide 85-115

[4]Indicate Analytical Method Used: P - ICP; A - Flame AA; F - Furnace AA

968810 06

Form II

Q. C. Report No. 79

INITIAL AND CONTINUING CALIBRATION VERIFICATION[3]

LAB NAME ASSOCIATED LABS

CASE NO. 9688

SOW NO. 785

DATE 06/14/88

UNITS µg/L

Compound	Initial Calib.[1]			Continuing Calibration[2]					
Metals:	True Value	Found	%R	True Value	Found	%R	Found	%R	Method[4]
1. Aluminum									
2. Antimony									
3. Arsenic									
4. Barium									
5. Beryllium									
6. Cadmium									
7. Calcium									
8. Chromium									
9. Cobalt									
10. Copper									
11. Iron									
12. Lead	97.9	104.35	107	97.9	102.55	105			F
13. Magnesium									
14. Manganese									
15. Mercury									
16. Nickel									
17. Potassium									
18. Selenium									
19. Silver									
20. Sodium									
21. Thallium									
22. Vanadium									
23. Zinc									
Other:									
Cyanide	NR		NR			NR			

1 Initial Calibration Source EPA 2 Continuing Calibration Source EPA

3 Control Limits: Mercury and Tin 80-120; Other Metals 90-110; Cyanide 85-115

4 Indicate Analytical Method Used: P - ICP; A - Flame AA; F - Furnace AA

FORM III

Q. C. Report No. 79 968810 06

BLANKS

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

DATE 06/13/88 UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank[1] Matrix: Water 1	Matrix: Soil 2
Metals:							
1. Aluminum	60.6U	60.6U	60.6U			60.6U	
2. Antimony	23.2U	23.2U	23.2U			23.2U	
3. Arsenic	3.4U	3.4U	3.4U	3.4U		3.4U	
4. Barium	2.3U	2.3U	2.3U			2.3U	
5. Beryllium	3.9U	3.9U	3.9U			3.9U	
6. Cadmium	4.0U	4.0U	4.0U			4.0U	
7. Calcium	[17.1]	13.6U	[14.0]		13.6	[162.4]	
8. Chromium	7.9U	7.9U	7.9U			7.9U	
9. Cobalt	8.9U	8.9U	8.9U			8.9U	
10. Copper	24.8U	24.8U	24.8U			24.8U	
11. Iron	12.1U	12.1U	12.1U		12.1	[96.5]	
12. Lead	1.2U	1.2U	1.2U	1.2U	1.2U	1.2U	
13. Magnesium	41.2U	41.2U	41.2U			41.2U	
14. Manganese	7.8U	7.8U	7.8U			7.8U	
15. Mercury	0.2U	0.2U				0.2U	
16. Nickel	13.3U	13.3U	13.3U			13.3U	
17. Potassium	528.4U	528.4U	528.4U			528.4U	
18. Selenium	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	
19. Silver	6.4U	6.4U	6.4U			6.4U	
20. Sodium	56.4U	56.4U	56.4U		56.4	[352.8]	
21. Thallium	0.7U	0.7U	0.7U	0.7U		0.7U	
22. Vanadium	8.8U	8.8U	8.8U			8.8U	
23. Zinc	8.7U	8.7U	8.7U			8.7U	
Other:							
Cyanide	NR	NR	NR	NR	NR	NR	

[1] Reporting Units: aqueous, ug/L; solid, mg/Kg

FORM III

Q. C. Report No. 79 968810 06

BLANKS

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

DATE 06/13/88 UNITS ug/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 5	6	7	8	Preparation Blank[1] Matrix: Water 1	Matrix: Soil 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic							
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead		1.2U					
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium		0.6U	0.6U				
19. Silver							
20. Sodium							
21. Thallium							
22. Vanadium							
23. Zinc							
Other:							
Cyanide		NR	NR				

[1] Reporting Units: aqueous, ug/L; solid, mg/Kg

Form III

Q. C. Report No. 79 968810 06

BLANKS

LAB NAME ASSOCIATED LABS CASE NO. 9688

DATE 06/14/88 UNITS µg/L

Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank[1] Matrix: 1	Matrix: 2
Metals:							
1. Aluminum							
2. Antimony							
3. Arsenic							
4. Barium							
5. Beryllium							
6. Cadmium							
7. Calcium							
8. Chromium							
9. Cobalt							
10. Copper							
11. Iron							
12. Lead	1.2 U	1.2 U					
13. Magnesium							
14. Manganese							
15. Mercury							
16. Nickel							
17. Potassium							
18. Selenium							
19. Silver							
20. Sodium							
21. Thallium							
22. Vanadium							
23. Zinc							
Other:							
Cyanide	NR	NR					

[1] Reporting Units: aqueous, ug/L; solid, mg/kg

FORM IV

968810 06

Q. C. Report No. 79

ICP INTERFERENCE CHECK SAMPLE

LAB NAME ASSOCIATED LABORATORIES

CASE NO. 9688

Check Sample I.D. ICS-AB

DATE 06/13/88

Check Sample Source EPA

Units: ug/L

Compound	Control Limits[1] Mean	Control Limits[1] Std. Dev.	True[2]	Initial Observed	%R	Final Observed	%R
Metals:							
1. Aluminum			508000	501700	99	494300	97
2. Antimony				23 U	NR	23 U	NR
3. Arsenic							
4. Barium			483	429	89	430	89
5. Beryllium			474	490	103	486	103
6. Cadmium			909	880	97	875	96
7. Calcium			516000	471100	91	467800	91
8. Chromium			513	468	91	469	91
9. Cobalt			478	443	93	440	92
10. Copper			534	488	91	489	92
11. Iron			203000	167100	82	164400	81
12. Lead			4850				
13. Magnesium			509000	477600	94	468800	92
14. Manganese			531	472	89	473	89
15. Mercury							
16. Nickel			916	805	88	798	87
17. Potassium				528 U	NR	528 U	NR
18. Selenium							
19. Silver			993	925	93	915	92
20. Sodium				498	NR	507	NR
21. Thallium							
22. Vanadium			475	410	86	409	86
23. Zinc			973	870	89	857	88
Other:							
Cyanide					NR		NR

[1] Mean value based on n = NR

[2] True value of EPA ICP Interference Check Sample or contractor standard.

FORM V

Q. C. Report No. 79 968810 06

SPIKE SAMPLE RECOVERY

LAB NAME ASSOCIATED LABORATORIES

CASE NO. 9688

EPA Sample No. MJB367

DATE 06/13/88

Lab Sample ID No. F49090-1

Units uG/L

Matrix WATER

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]	
Metals:						
1. Aluminum	75-125	1727.00	60.60 U	2000	86	
2. Antimony	''	491.50	23.20 U	500	98	
3. Arsenic	''	23.00	3.40 U	20	115	
4. Barium	''	2035.00	[58.40]	2000	99	
5. Beryllium	''	51.30	3.90 U	50	103	
6. Cadmium	''	51.20	4.00 U	50	102	
7. Calcium	''	28110.0	28350.0		NR	
8. Chromium	''	197.30	7.90 U	200	99	
9. Cobalt	''	493.90	9.50	500	97	
10. Copper	''	245.60	24.80 U	250	98	
11. Iron	''	76710.00	76570.00	1000	14	
12. Lead	''	8.10	12.00 U	20	41	N
13. Magnesium	''	12230.0	12350.0		NR	
14. Manganese	''	4920.00	4756.00	200	82	
15. Mercury	''	0.9	0.2 U	1	90	
16. Nickel	''	399.00	13.30 U	400	100	
17. Potassium	''	1362.0	[1404.0]		NR	
18. Selenium	''	1.40	0.60 U	10	14	N
19. Silver	''	53.20	6.40 U	50	106	
20. Sodium	''	19810.0	19970.0		NR	
21. Thallium	''	11.90	0.70 U	50	24	N
22. Vanadium	''	473.90	8.80 U	500	95	
23. Zinc	''	212.80	[19.10]	200	97	
Other:						
Cyanide					NR	

[1] %R = [(SSR - SR)/SA] x 100
'N' = Out of control
'NR' = Not required

FORM VI

Q. C. Report No. 79 968810 06

DUPLICATES

LAB NAME ASSOCIATED LABORATORIES

CASE NO. 9688

EPA Sample No. MJB367

DATE 06/13/88

Lab Sample ID No. F49090-1

Units uG/L

Matrix WATER

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum	200	60.60 U	60.60 U	NC
2. Antimony	60	23.20 U	23.20 U	NC
3. Arsenic	10	3.40 U	3.40 U	NC
4. Barium	200	[58.40]	[60.30]	NC
5. Beryllium	5	3.90 U	3.90 U	NC
6. Cadmium	5	4.00 U	4.00 U	NC
7. Calcium		28350.0	28030.0	1
8. Chromium	10	7.90 U	7.90 U	NC
9. Cobalt	50	[9.50]	8.90 U	NC
10. Copper	25	24.80 U	24.80 U	NC
11. Iron		76570.00	75740.00	1
12. Lead	5	12.00 U	12.00 U	NC
13. Magnesium	5000	12350.0	12160.0	2
14. Manganese		4756.00	4710.00	1
15. Mercury		0.20 U	0.20 U	NC
16. Nickel	40	13.30 U	13.30 U	NC
17. Potassium	5000	[1404.0]	[1385.0]	NC
18. Selenium	5	6.00 U	6.00 U	NC
19. Silver	10	6.40 U	6.40 U	NC
20. Sodium	5000	19970.0	19600.0	2
21. Thallium	10	0.70 U	0.70 U	NC
22. Vanadium	50	8.80 U	8.80 U	NC
23. Zinc	20	[19.10]	[19.70]	NC
Other:				
Cyanide				NR

[1] To be added at a later date.

[2] RPD = [|S - D|/((S + D)/2] x 100

'*' = Out of control

'NC' = Non calculable RPD due to value(s) less than CRDL

FORM VII

Q. C. Report No. 79 968810 06

INSTRUMENT DETECTION LIMITS AND

LABORATORY CONTROL SAMPLE

LAB NAME ASSOCIATED LABORATORIES CASE NO. 9688

DATE 06/13/88 LCS NO. ICV1-5

Compound	Required Detection Limits (CRDL)-ug/L	Instrument Detection Limits (IDL)-ug/L ICP/AA ICAP9000	Furnace VARIAN40Z	Lab Control Sample uG/L True	Found	%R
Metals:						
1. Aluminum	200	60.6		1980	1917.0	97
2. Antimony	60	23.2		1010	1005.0	100
3. Arsenic	10		3.4	47	45.8	97
4. Barium	200	2.3		1980	1908.0	96
5. Beryllium	5	3.9		481	480.5	100
6. Cadmium	5	4		489	476.9	98
7. Calcium	5000	13.6		49800	49620.0	100
8. Chromium	10	7.9		506	484.0	96
9. Cobalt	50	8.9		474	469.0	99
10. Copper	25	24.8		542	516.7	95
11. Iron	100	12.1		1990	2016.0	101
12. Lead	5		1.2	97.9	93.5	96
13. Magnesium	5000	41.2		25000	24560.0	98
14. Manganese	15	7.8		513	493.8	96
15. Mercury	0.2	*	0.2	NR		
16. Nickel	40	13.3		496	457.9	92
17. Potassium	5000	528.4		50200	50280.0	100
18. Selenium	5		0.6	104	103.5	100
19. Silver	10	6.4		509	485.9	95
20. Sodium	5000	56.4		50700	50570.0	100
21. Thallium	10		0.7	97.3	87.0	89
22. Vanadium	50	8.[illegible]		511	495.4	97
23. Zinc	20	8.7		3100	2874.0	93
Other:						
Cyanide	10	NR	NR			NR

NR = Not Required

* = CV

Form VIII

Q.C. Report No. 79

968810 06

STANDARD ADDITION RESULTS

LAB NAME ASSOCIATED LABS

CASE NO. 9688

DATE 06/04/88

UNITS ug/L

EPA Sample #	Element	0 ADD ABS.	1 ADD CON.	1 ADD ABS[1]	2 ADD CON.	2 ADD ABS.[1]	3 ADD CON.	3 ADD ABS.[1]	FINAL CON.[2]	r*
MJB370	Pb	0.034	10.00	0.092	20.00	0.151	30.00	0.204	6.09	1.000

1 CON is the concentration added, ABS. is the instrument readout in absorbance or concentration.

2 Concentration as determined by MSA

*"r" is the correlation coefficient.

+ - correlation coefficient is outside of control window of 0.995.

FORM IX

Q. C. Report No. 79 968810 06

ICP SERIAL DILUTIONS

LAB NAME ASSOCIATED LABORATORIES

CASE NO. 9688

EPA Sample No. MJB367

DATE 06/13/88

Lab Sample ID No. F49090-1

Units: ug/L

Matrix WATER

Compound	Initial Sample Concentration(I)	Serial Dilution[1] Result(S)	%Difference[2]
Metals:			
1. Aluminum	60.60 U	303.00 U	NR
2. Antimony	23.20 U	116.00 U	NR
3. Arsenic			NA
4. Barium	[58.40]	[58.50]	0
5. Beryllium	3.90 U	19.50 U	NR
6. Cadmium	4.00 U	20.00 U	NR
7. Calcium	28350.0	28095.0	1
8. Chromium	7.90 U	39.50 U	NR
9. Cobalt	[9.50]	44.50 U	NR
10. Copper	24.80 U	124.00 U	NR
11. Iron	76570.00	76850.00	0
12. Lead			NA
13. Magnesium	12350.0	12265.0	1
14. Manganese	4756.00	4748.50	0
15. Nickel	13.30 U	66.50 U	NR
16. Potassium	[1404.0]	2642.0 U	NR
17. Selenium			NA
18. Silver	6.40 U	32.00 U	NR
19. Sodium	19970.0	20590.0	3
20. Thallium			NA
21. Vanadium	8.80 U	44.00 U	NR
22. Zinc	[19.10]	82.50	NR
Other:			

[1] Diluted sample concentration corrected for 1:4 dilution (see Exhibit D)
[2] Percent Difference = |I - S|/I x 100
'NR' - Not Required, initial sample concentration less than 10 times IDL
'NA' - Not Applicable, analyte not determined by ICP

Form X

968810 06

QC Report No. 179

HOLDING TIMES

LAB NAME ASSOCIATED LABS

DATE 06/13/88 CASE NO. 9688

EPA Sample No.	Matrix	Date Received	Mercury Prep Date	Mercury Holding Time (Days)	CN Prep Date	CN Holding Time (Days)
MJB367	Water	05/25/88	06/08/88	14		
MJB370	Water	05/25/88	06/08/88	14		
MJB371	Water	05/25/88	06/08/88	14.		

DATE	TIME ON/OFF	PROFILE	COMMENTS
6/8/88	7:30 AM	463	
6/9/88	7:30 AM	461	Run case EPA 9688
6/10/88	7:30 AM	463	
6/13/88	7:30 AM	459	968810 07
6/14/88	7:30 AM	460	
6/15/88	7:30 AM	461	
6/16/88	7:30 AM	463	
	11:30 AM	455	
	1 30 PM	449	

AA INSTRUMENT OPERATIONS LOGSHEET 968810 07

RUN NUMBER	SAMPLE(S) NUMBER(S)	DATE	ANALYST	ELEMENT	OPTIMIZING STANDARD	ABSORBANCE OF OPTIMIZING STANDARD	LAMP SERIAL NUMBER
VARIAN 40E	EPA code 9688	6-9-87	[illegible]	As Tl	10ug/l As	Abs 0.050	EDL lamp
					10ug/l Tl	Abs 0.057	
Varian 40Z	EPA code 9688	6-10-87	[illegible]	Se Pb	5ug/l Pb	Abs 0.052	
					5ug/l Se	Abs 0.048	
		6-13-88	[illegible]	Pb	10ug/l	Abs 0.061	
	F49572			Pb			
	F49571			Pb			
	F49570			Pb			
	F49535			Pb			
	F49530			Pb			
	F49438			Be Se Pb Tl	10ug/l Be	Abs 0.048	
	F49518			Pb Be	10ug/l Pb	Abs 0.054	
	F49554			Pb	10ug/l Se	Abs 0.052	

Figure #6

LAB REPORT

_FSB

F49090

Environmental Protection Agncy (1794)
SMO Office
P.O. Box 818
Alexandra, VA 22313

05/25/1988

EPA

968810 08

Water

Case # 9688

As Submitted

Total Metals

ALL LOW CONCENTRATE

3 bottles) MJB 367-MS/MSD

2) MJB 370

3) MJB 371

05/31/1988 14:56:59 opr:carol

Lab: _CHEM

968810 08

ASSOCIATED LABORATORIES

EPA CLP SAMPLE PREPARATION ONLY

EPA Case No. 9688 Date 06/08/88

Lab Sheet No. F49090 Signature [illegible]

Sample Matrix: Water ✓ Soil ____ Preparation for: Furnace ____ ICP ✓

Final Acid Concentration: (HCL) ____ / (HNO3) ____

Comments: ____

Sample Number	Initial Wt./Vol.	Final Volume	Sample pH	Sample Appearance / Spikes Added
1	100 ml	100 ml	1	clear water
1 Dup				
1 SPIKE				1 ml of SPIKE 1,2,3
2			1	clear water
3			1	clear water
Blank				
LCS	✓	✓		10 ml of ICV 1 (0487) 10 ml of ICV 3 (0387)
Threekid	1.0868g	200 ml		

ASSOCIATED LABORATORIES 968810 08

EPA CLP SAMPLE PREPARATION ONLY

EPA Case No. 9688 Date 06-08-88

Lab Sheet No. F49090 Signature Aurelian

Sample Matrix: Water ✓ Preparation for: Furnace ✓
Soil ICP

Final Acid Concentration: (HCL) _____ / (HNO3) _____

Comments: _____

Sample Number	Initial Wt./Vol.	Final Volume	Sample pH	Sample Appearance / Spikes Added
1	100ml	100ml	1	
1D				
1SPIKE				2ml of 1m AgPb 1ml of 1m Se 5ml of 1m Tl
2			1	
3			1	
Blank				
LCS	10ml HNO4 5ml HNO2			
Threshold	1.0891g	200ml		

EPA = SPIKE N° 1

968810 09

8/19/87

20 ml Al "1000 ppm" "SPEX" Lot N° 2-67-EP
20 ml Ba, 1000 ppm "SPEX" Lot N° 1086 MP

in 100 ml

5 ml HCl
1 ml HNO_3

Dejana

EPA - SPIKE N° 2

8/19/87

10 ml	of Fe	1000 ppm	"SPEX"	Lot N°	2-67-EP
5 ml	of Co	—	—	—	1086 MP
5 ml	Sb	—	—	—	1086 MP
5 ml	V	—	—	—	1086 MP
4 ml	Ni	—	—	—	1086 MP
2.5 ml	Cu	—	—	—	1086 MP
2.0 ml	Cr	—	—	—	1086 MP
2.0 ml	Mn	—	—	—	2-67-EP
2.0 ml	Zn	—	—	—	1086 MP
0.5 ml	Be	—	—	—	1086 MP
0.5 ml	Cd	—	—	—	1086 MP

1 ml HNO_3
5 ml HCl

In 100 ml

Dejana

EPA - SPIKE N° 4

8/19/87

20 ml 1000 ppm "SPEX" Ba Lot N° 1086 MP

3 ml	1000 ppm	"SPEX"	Mn	Lot N°	2-67-EP
1 ml	1000 ppm	"SPEX"	Ni	—	1086 MP
3 ml	1000 ppm	"SPEX"	Zn	—	1086 MP

"Ag 10" 968810 09 5/26/88

0.5 ml 1000 ppm Ag "SPEX" LOT N° 3-58-EP
In 500 ml
1 ml HNO_3 Dejane

"3 MET 100" 5/26/88

50 ml OF 1000 ppm "SPEX" FOR
Mg 3-100-EP
K, Na, Ca - LOT N° 3-58-EP
25 ml HCl
5 ml HNO_3 In 500 ml Dejane

AB 5/27/88

10 ml OF SOL A (0387)
10 ml OF SOL B In 100 ml
2 ml HNO_3 Dejane

AB 1/10 5/27/88

1 ml OF SOL A (0387) In 100 ml
1 ml OF SOL B Dejane
2 ml HNO_3

ICV 1 & 3 5/27/88

10 ml OF ICV 1 (0487)
10 ml OF ICV 3 (0787) In 100 ml
2 ml HNO_3 Dejane

968810 09

"AlFeMn" 6/1/88

20 ml of 1000 ppm "SPEX" for
Al, Fe, Mn lot N° 3-58-EP
2 ml HNO_3 in 200 ml
10 ml HCl

Dejan

"Ag 10" 6/1/88

0.5 ml of 1000 ppm "SPEX" Ag lot N° 3-58-EP
1 ml HNO_3 in 50 ml

Dejan

"13 Elm std" 6/2/88

5 ml of 1000 ppm "SPEX" lot N° 3-58-EP for
Sb, Ba, Be, Cd, Cr, Co, Cu, Zn, Al,
Fe, Mn, Ni, V
5 ml HNO_3
25 ml HCl

Dejan

"Ag 10" 6/2/88

0.5 ml "SPEX" 1000 ppm Ag lot N° 3-58-EP
in 50 ml
1 ml HNO_3

Dejan

968810 09

"Ag 10"

6/8/88

0.5 ml of 1000 ppm Ag "SPEX" Lot N° 3-58 EP
in 50 ml
1 ml HNO_3

Jefam

"Bi 10" (9.96 ppm)

6/8/88

0.5 ml of 996 µg/ml "SPEX" LOT N° 1-42-BT
0.5 ml HNO_3
2.5 ml HCl
in 50 ml

Jefam

EPA SPICE N° 3

6/8/88

0.5 ml of 1000 ppm Ag "SPEX" Lot N° 3-58-EP
in 100 ml
2 ml HNO_3

Jefam

968810 09

ICV 1 & 3 6/9/88

10 ml of ICV 1 (0487)
10 ml of ICV3 (0787) in 100 ml
2 ml HNO_3

Dejaun

AB 6/9/88

10 ml of SOL A
— " — SOL B (0387) in 100 ml
2 ml HNO_3

Dejaun

AB 1/10 6/9/88

1 ml of SOLUTION A (0387) in 100 ml
1 ml of SOLUTION B
2 ml HNO_3

Dejaun

2 x CRDL 6/9/88

10 ml of 3MET 100
1 ml of 100 x 2 x CRDL in 100 ml
5 ml HCl
1 ml HNO_3

Dejaun

"Ag 10" 6/9/88

0.5 ml of 1000 ppm "SPEX" Ag Lot N° 3-58-EP
in 50 ml

1 ml HNO_3

Dejaun

6-6-88

968810 09

Std As & Tl

10 ml of Std. 100 ppm dilution 100 ml → 10 ppm.

10 ml " 10 ppm " " → 1 ppm.

10 ml " 1 ppm " " → 100 ppb

10 ml " 100 ppb " " → 10 ppb

20 ml " " " " → 20 ppb

40 ml " " " " → 40 ppb

0.5% HNO_3

6-10-88

Std Sc & Pb

10 ml of Std 100 ppm dilution 100 ml → 10 ppm.

10 ml " 10 ppm " " → 1 ppm

10 ml " 1 ppm " " → 100 ppb

5 ml " 100 ppb " " → 5 ppb

20 ml " " " " → 20 ppb

40 ml " " " " → 40 ppb

0.5% HNO_3

EPA - CLP Sample Analysis Sequence for ICP

Case No: 9688

Lab No: F49090

EPA 9688

Date: 6/9/88

968810 10

EPA Sample	Lab Number	Tests		EPA Sample	Lab Number	Tests	
ICV1	ICV1	Q + -	✓	CCV3	CCV3	Q + -	✓
ICB	ICB		✓	CB3	CB 3		✓
AB	AB	L + -	✓	S13			
AB 1/10	AB 1/10		✓	S14			
2xCRDL	2xCRDL		✓	S15			
LCS	LCS	Q + -	✓	S16			
PB (S or W)	PBW		✓	S17			
S1	90-1		✓	S18			
S1Dup	90-1D		✓	S19			
S1-Spk	90-1SPK		✓	2xCRDL			
S1-1/5	90-1 1/5		✓	AB		L + -	
S2	90-2		✓	AB 1/10			
CCV2	CCV2	Q + -	✓	CCV4		Q + -	
CB2	CB2		✓	CB4			
S3	90-3		✓				
S4	TKM		✓				
S5	TKM 1/10		✓				
S6							
S7							
S8							
S9							
S10	2X CRDL		✓				
S11	AB		✓				
S12	AB 1/10		✓				

* show (-) values
* 2 exposures

ACT NAME : EPABKG TIME:09-JUN-88 10:38 STANDARD NAME : BLANK

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.4580	-.2690	.0040	-.0280	1.314	.0380	.0280	.1000	.0460
EXP# 2	1000	.4590	-.1940	.0025	-.0280	1.314	.0360	.0200	.1020	.0420
EXP# 3	1000	.4660	-.2200	.0025	-.0280	1.320	.0370	.0280	.0970	.0430
EXP# 4	1000	.4700	-.2520	.0025	-.0290	1.322	.0380	.0260	.1010	.0410
AVERAGE	1000	.4633	-.2338	.0029	-.0283	1.318	.0373	.0255	.1000	.0430
STD.DEV	.0000	.0057	.0334	.0007	.0005	.0041	.0010	.0038	.0022	.0022
% R.S.D	.0000	1.238	14.28	26.09	1.770	.3129	2.570	14.85	2.160	5.024

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.0550	1.168	.0120	.0110	.0340	-.0125	.2645	.0060	.2255
EXP# 2	.0590	1.170	.0150	.0110	.0340	-.0290	.2735	.0060	.2250
EXP# 3	.0550	1.188	.0160	.0130	.0320	-.0170	.3230	.0050	.2230
EXP# 4	.0550	1.180	.0200	.0110	.0420	-.0280	.2895	.0060	.2280
AVERAGE	.0560	1.177	.0158	.0115	.0355	-.0216	.2876	.0058	.2254
STD.DEV	.0020	.0093	.0033	.0010	.0044	.0082	.0257	.0005	.0021
% R.S.D	3.571	.7898	20.98	8.696	12.49	37.73	8.953	8.696	.9125

ACT NAME : EPABKG TIME:09-JUN-88 10:42 STANDARD NAME : 13ELM

	I.S.	BA	BE	CD	CO	CR	CU	NI	SB	V
EXP# 1	1000	27.46	29.86	19.66	21.56	34.79	21.20	24.13	53.34	14.25
EXP# 2	1000	27.97	30.08	19.71	21.69	34.96	21.53	24.38	53.81	14.39
EXP# 3	1000	28.26	30.24	19.73	21.79	35.21	21.76	24.62	54.62	14.51
EXP# 4	1000	27.72	30.02	19.70	21.76	34.95	21.38	24.41	54.33	14.34
AVERAGE	1000	27.85	30.05	19.70	21.70	34.97	21.47	24.39	54.03	14.37
STD.DEV	.0000	.3430	.1574	.0300	.1041	.1724	.2347	.2043	.5670	.1064
% R.S.D	.0000	1.232	.5238	.1524	.4796	.4929	1.093	.8379	1.050	.7403

	ZN
EXP# 1	38.26
EXP# 2	38.37
EXP# 3	38.54
EXP# 4	38.48
AVERAGE	38.41
STD.DEV	.1223
% R.S.D	.3184

ACT NAME : EPABKG TIME:09-JUN-88 10:46 STANDARD NAME : AG10

	I.S.	AG
EXP# 1	1000	29.04
EXP# 2	1000	29.04
EXP# 3	1000	28.73
EXP# 4	1000	29.19
AVERAGE	1000	29.00
STD.DEV	.0000	.1925
% R.S.D	.0000	.6638

ACT NAME : EPABKG TIME:09-JUN-88 10:52 STANDARD NAME : 3MET100

	I.S.	CA	K	MG	NA
EXP# 1	1000	261.3	14.22	27.23	132.2
EXP# 2	1000	260.1	14.26	27.19	132.2
EXP# 3	1000	262.8	14.27	27.47	133.0
EXP# 4	1000	262.8	14.40	27.45	133.9
AVERAGE	1000	261.8	14.28	27.34	132.8
STD.DEV	.0000	1.296	.0780	.1455	.7955
% R.S.D	.0000	.4952	.5461	.5324	.5989

968810 10

ACT NAME : EPABKG TIME:09-JUN-88 10:58 STANDARD NAME : ALFE100

	I.S.	AL	FE	MN
EXP# 1	1000	280.0	284.5	129.9
EXP# 2	1000	283.2	285.9	130.6
EXP# 3	1000	284.1	287.4	131.4
EXP# 4	1000	281.1	285.4	130.3
AVERAGE	1000	282.1	285.8	130.5
STD.DEV	.0000	1.901	1.214	.6426
% R.S.D	.0000	.6738	.4249	.4923

ELEMENT	SLOPE	INTERCEPT
AG	.35040384	-.162324579
AL	.354185409	.0827908393
BA	.359077709	-1.03234841E-03
BE	.332482732	9.39263717E-03
CA	.383935745	-.505835343
CD	.508562928	-.0189439691
CO	.461408912	-.0117659273
CR	.28675274	-.028675274
CU	.46674718	-.0200701288
FE	.349958399	-.0195976703
K	7.6287834	-8.97526367
MG	3.66040585	-.0576513921
MN	.766189586	-8.81118023E-03
NA	.753009213	-.0267318271
NI	.409724819	8.8602992E-03
SB	.18608849	-.0535237019
V	.696100099	-4.00257557E-03
ZN	.261863222	-.0590174237

968810 10

ACT NAME : EPABKG TIME : 09-JUN-88 11:05 SAMPLE NAME: SAMPLE1 Init calib.
ICV1

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.5065	1.964	1.979	.5141	51.63	.4906	.4810	.5116	.5204
EXP# 2	1000	.5065	1.947	1.948	.5081	51.26	.4947	.4866	.5107	.5200
AVERAGE	1000	.5065	1.956	1.963	.5111	51.45	.4927	.4838	.5111	.5202

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	2.015	52.79	25.60	.5183	52.63	.4690	1.051	.5209	2.956
EXP# 2	1.993	51.41	25.24	.5122	51.21	.4682	1.000	.5125	2.941
AVERAGE	2.004	52.10	25.42	.5153	51.92	.4686	1.026	.5167	2.948

ACT NAME : EPABKG TIME : 09-JUN-88 11:07 SAMPLE NAME: SAMPLE2 ICB
ICB

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0031	.0133	-.0001	.0001	.0202	-.0001	.0030	.0006	.0023
EXP# 2	1000	-.0004	-.0214	-.0001	-.0006	.0140	-.0006	.0016	-.0040	.0005
AVERAGE	1000	.0013	-.0040	-.0001	-.0002	.0171	-.0004	.0023	-.0017	.0014

ACT NAME : EPABKG TIME : 09-JUN-88 11:07 SAMPLE NAME: SAMPLE2
ICB

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.0045	.1335	.0192	.0050	.0124	.0085	.0190	.0002	.0025
EXP# 2	.0031	-.0496	.0082	.0034	.0064	-.0071	.0028	-.0012	.0021
AVERAGE	.0038	.0420	.0137	.0042	.0094	.0007	.0109	-.0005	.0023

ACT NAME : EPABKG TIME : 09-JUN-88 11:09 SAMPLE NAME: SAMPLE3 AB Interference
AB

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.9252	464.6	.4303	.4902	470.9	.8822	.4404	.4677	.4894
EXP# 2	1000	.9238	462.3	.4282	.4902	471.3	.8771	.4460	.4691	.4873
AVERAGE	1000	.9245	463.4	.4292	.4902	471.1	.8797	.4432	.4684	.4883

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	167.3	-.5683	477.5	.4724	.4974	.8033	-.3033	.4109	.8703
EXP# 2	166.9	-.4768	477.7	.4716	.4989	.8058	-.3746	.4095	.8701
AVERAGE	167.1	-.5226	477.6	.4720	.4981	.8045	-.3390	.4102	.8702

ACT NAME : EPABKG TIME : 09-JUN-88 11:12 SAMPLE NAME: SAMPLE4 AB 1/10
AB1/10

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.1126	49.92	.0455	.0513	52.44	.1011	.0519	.0539	.0467
EXP# 2	1000	.1084	50.43	.0455	.0529	52.65	.1021	.0547	.0528	.0492
AVERAGE	1000	.1105	50.17	.0455	.0521	52.55	.1016	.0533	.0533	.0480

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	19.97	.0420	51.13	.0571	.0757	.0988	.0032	.0440	.0999
EXP# 2	20.06	.0725	51.39	.0540	.0712	.0982	.0021	.0475	.1011
AVERAGE	20.01	.0572	51.26	.0555	.0734	.0985	.0026	.0458	.1005

ACT NAME : EPABKG TIME : 09-JUN-88 11:16 SAMPLE NAME: SAMPLE5 2x CRDL
2xCRDL

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0237	.4161	.3907	.0081	10.49	.0106	.0976	.0184	.0499
EXP# 2	1000	.0251	.4058	.3910	.0087	10.48	.0085	.0990	.0184	.0490
AVERAGE	1000	.0244	.4110	.3909	.0084	10.48	.0095	.0983	.0184	.0495

ACT NAME : EPABKG TIME : 09-JUN-88 11:16 SAMPLE NAME: SAMPLE5
2xCRDL

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.2044	10.25	10.30	.0303	10.39	.0769	.1121	.0983	.0518
EXP# 2	.2089	10.10	10.23	.0310	10.20	.0783	.1275	.0976	.0531
AVERAGE	.2067	10.17	10.27	.0306	10.29	.0776	.1198	.0980	.0524

ACT NAME : EPABKG TIME : 09-JUN-88 11:19 SAMPLE NAME: SAMPLE6 LCS
LSC

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.4848	1.923	1.912	.4809	49.56	.4754	.4663	.4820	.5176
EXP# 2	1000	.4869	1.912	1.904	.4802	49.67	.4784	.4718	.4860	.5158
AVERAGE	1000	.4859	1.917	1.908	.4805	49.62	.4769	.4690	.4840	.5167

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	2.013	50.27	24.60	.4938	50.70	.4567	.9967	.4958	2.872
EXP# 2	2.019	50.29	24.52	.4938	50.44	.4591	1.012	.4951	2.876
AVERAGE	2.016	50.28	24.56	.4938	50.57	.4579	1.005	.4954	2.874

ACT NAME : EPABKG TIME : 09-JUN-88 11:23 SAMPLE NAME: SAMPLE7 PBW method blank
PBW

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0003	.0255	.0006	-.0009	.1634	.0004	.0016	.0006	.0042
EXP# 2	1000	-.0004	-.0241	.0004	-.0012	.1614	-.0011	.0016	.0017	.0049
AVERAGE	1000	-.0001	.0007	.0005	-.0011	.1624	-.0004	.0016	.0011	.0046

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.0976	-.0191	.0339	.0004	.3603	-.0006	.0026	-.0026	.0023
EXP# 2	.0954	.0114	.0448	.0019	.3453	.0070	.0151	-.0026	.0054
AVERAGE	.0965	-.0038	.0393	.0011	.3528	.0032	.0088	-.0026	.0038

ACT NAME : EPABKG TIME : 09-JUN-88 11:25 SAMPLE NAME: SAMPLE8 90-1 S1
90-1

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0041	-.3067	.0584	.0007	28.49	-.0011	.0113	.0069	-.0000
EXP# 2	1000	.0049	-.3187	.0585	.0001	28.20	-.0006	.0076	-.0029	-.0000
AVERAGE	1000	.0045	-.3127	.0584	.0004	28.35	-.0009	.0095	.0020	-.0000

ACT NAME : EPABKG TIME : 09-JUN-88 11:25 SAMPLE NAME: SAMPLE8
90-1

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	76.76	1.423	12.36	4.765	20.14	.0015	.0072	-.0172	.0209
EXP# 2	76.38	1.385	12.34	4.748	19.81	-.0108	.0097	-.0214	.0174
AVERAGE	76.57	1.404	12.35	4.756	19.97	-.0047	.0084	-.0193	.0191

ACT NAME : EPABKG TIME : 09-JUN-88 11:28 SAMPLE NAME: SAMPLE9 90-1 D S1 dup
90-1D

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0035	-.3145	.0600	.0007	28.03	.0004	.0067	.0011	-.0026
EXP# 2	1000	.0035	-.2982	.0607	.0017	28.04	-.0011	.0012	-.0023	-.0023
AVERAGE	1000	.0035	-.3063	.0603	.0012	28.03	-.0004	.0039	-.0006	-.0025

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	75.74	1.430	12.15	4.707	19.55	-.0022	.0094	-.0207	.0206
EXP# 2	75.74	1.339	12.16	4.712	19.64	-.0096	.0143	-.0235	.0189
AVERAGE	75.74	1.385	12.16	4.710	19.60	-.0059	.0118	-.0221	.0197

ACT NAME : EPABKG TIME : 09-JUN-88 11:30 SAMPLE NAME: SAMPLE10 90-1 spk S1 spk
90-1SPK

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0532	1.684	2.025	.0506	28.15	.0523	.4939	.1967	.2455
EXP# 2	1000	.0532	1.771	2.045	.0520	28.07	.0502	.4939	.1979	.2457
AVERAGE	1000	.0532	1.727	2.035	.0513	28.11	.0512	.4939	.1973	.2456

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	76.70	1.400	12.21	4.924	19.60	.3963	.4924	.4742	.2138
EXP# 2	76.72	1.324	12.25	4.916	20.02	.4018	.4906	.4735	.2117
AVERAGE	76.71	1.362	12.23	4.920	19.81	.3990	.4915	.4739	.2128

ACT NAME : EPABKG TIME : 09-JUN-88 11:34 SAMPLE NAME: SAMPLE11 9-1 1/5
90-11/5

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	-.0038	-.0542	.0117	-.0012	5.616	-.0017	.0062	-.0023	-.0012
EXP# 2	1000	-.0020	-.0639	.0117	-.0012	5.623	-.0006	.0039	-.0011	-.0005
AVERAGE	1000	-.0029	-.0590	.0117	-.0012	5.619	-.0011	.0051	-.0017	-.0008

ACT NAME : EPABKG TIME : 09-JUN-88 11:34 SAMPLE NAME: SAMPLE11
90-11/5

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	15.36	-.0801	2.453	.9474	4.116	-.0063	-.0036	-.0054	.0169
EXP# 2	15.38	-.0648	2.453	.9520	4.121	-.0161	.0099	-.0068	.0161
AVERAGE	15.37	-.0725	2.453	.9497	4.118	-.0112	.0031	-.0061	.0165

ACT NAME : EPABKG TIME : 09-JUN-88 11:40 SAMPLE NAME: SAMPLE12 9-2
90-2

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	-.0006	.0681	.0614	-.0019	24.31	-.0006	.0122	.0235	.0093
EXP# 2	1000	.0029	.0514	.0610	-.0019	24.25	.0004	.0127	.0252	.0121
AVERAGE	1000	.0011	.0598	.0612	-.0019	24.28	-.0001	.0125	.0244	.0107

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	7.458	1.018	10.30	3.292	17.95	.0244	-.0040	-.0026	.0328
EXP# 2	7.411	1.263	10.17	3.253	17.55	.0236	.0161	-.0012	.0341
AVERAGE	7.434	1.141	10.24	3.272	17.75	.0240	.0061	-.0019	.0334

ACT NAME : EPABKG TIME : 09-JUN-88 11:43 SAMPLE NAME: SAMPLE13 CCV2
CCV2

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.5023	1.972	1.962	.5051	50.82	.4861	.4838	.5027	.5139
EXP# 2	1000	.4995	1.953	1.990	.5075	50.55	.4856	.4819	.5007	.5223
AVERAGE	1000	.5009	1.962	1.976	.5063	50.69	.4858	.4829	.5017	.5181

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	1.973	51.90	24.98	.5045	51.97	.4714	1.025	.5069	2.898
EXP# 2	1.964	52.44	25.27	.5022	53.18	.4653	1.008	.5111	2.887
AVERAGE	1.968	52.17	25.13	.5034	52.58	.4684	1.016	.5090	2.893

ACT NAME : EPABKG TIME : 09-JUN-88 11:46 SAMPLE NAME: SAMPLE14 CVB2
CB2

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0010	.0127	-.0010	-.0026	.0171	.0009	.0058	.0075	-.0042
EXP# 2	1000	.0017	-.0164	-.0010	-.0026	.0094	-.0006	.0076	.0060	-.0047
AVERAGE	1000	.0013	-.0019	-.0010	-.0026	.0132	.0001	.0067	.0067	-.0044

ACT NAME : EPABKG TIME : 09-JUN-88 11:46 SAMPLE NAME: SAMPLE14
CB2

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.0014	-.0496	.0229	.0019	.0109	-.0067	.0280	.0016	.0038
EXP# 2	.0007	-.1411	.0156	.0004	.0064	-.0116	.0121	-.0012	.0030
AVERAGE	.0010	-.0954	.0192	.0011	.0087	-.0092	.0201	.0002	.0034

968810 10

ACT NAME : EPABKG TIME : 09-JUN-88 11:49 SAMPLE NAME: SAMPLE15 90-3
90-3

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0017	-.0071	.0009	-.0019	.1530	.0014	.0048	.0069	.0033
EXP# 2	1000	-.0004	.0277	.0004	-.0019	.1511	.0004	.0002	-.0003	.0028
AVERAGE	1000	.0006	.0103	.0007	-.0019	.1520	.0009	.0025	.0033	.0030

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.0899	-.2174	.0595	.0034	.3129	-.0096	.0167	-.0012	.0075
EXP# 2	.0850	-.3242	.0375	.0019	.3166	-.0120	.0076	-.0054	.0044
AVERAGE	.0875	-.2708	.0485	.0027	.3148	-.0108	.0121	-.0033	.0059

ACT NAME : EPABKG TIME : 09-JUN-88 11:52 SAMPLE NAME: SAMPLE16 TKM
TKM

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0914	103.7	2.327	-.0069	57.91	.0319	.0408	.0430	1.408
EXP# 2	1000	.0900	103.9	2.319	-.0072	58.17	.0278	.0418	.0476	1.403
AVERAGE	1000	.0907	103.8	2.323	-.0071	58.04	.0299	.0413	.0453	1.405

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	70.28	50.79	83.00	419.8	21.07	.0929	.0116	.0614	2.203
EXP# 2	70.30	50.82	82.92	419.0	21.05	.0984	.0153	.0600	2.208
AVERAGE	70.29	50.80	82.96	419.4	21.06	.0956	.0135	.0607	2.205

ACT NAME : EPABKG TIME : 09-JUN-88 11:55 SAMPLE NAME: SAMPLE17 TKM 1/2
TKM1/10

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0084	10.59	.2402	-.0032	6.241	.0044	.0048	.0075	.1452
EXP# 2	1000	.0070	10.77	.2416	-.0029	6.221	.0044	.0127	.0097	.1484
AVERAGE	1000	.0077	10.68	.2409	-.0031	6.231	.0044	.0088	.0086	.1468

ACT NAME : EPABKG TIME : 09-JUN-88 11:55 SAMPLE NAME: SAMPLE17
TKM1/10

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	7.723	4.894	8.577	47.82	2.165	.0052	.0177	.0050	.2540
EXP# 2	7.728	4.985	8.610	47.96	2.190	.0074	.0103	.0044	.2497
AVERAGE	7.726	4.940	8.594	47.89	2.177	.0063	.0140	.0047	.2519

ACT NAME : EPABKG TIME : 09-JUN-88 11:57 SAMPLE NAME: SAMPLE18 2x CRDL
2xCRDL

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.0230	.4066	.3864	.0084	10.41	.0095	.0971	.0201	.0462
EXP# 2	1000	.0237	.3885	.3928	.0074	10.41	.0085	.1008	.0206	.0462
AVERAGE	1000	.0234	.3975	.3896	.0079	10.41	.0090	.0990	.0204	.0462

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.2030	9.883	10.02	.0609	10.04	.0642	.1240	.0962	.0531
EXP# 2	.1997	9.990	10.15	.0563	10.27	.0697	.1312	.0921	.0497
AVERAGE	.2013	9.936	10.09	.0586	10.16	.0669	.1276	.0941	.0514

ACT NAME : EPABKG TIME : 09-JUN-88 11:59 SAMPLE NAME: SAMPLE19 NE
AB

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.9186	462.3	.4321	.4872	468.4	.8751	.4367	.4697	.4920
EXP# 2	1000	.9113	459.6	.4270	.4852	467.1	.8746	.4432	.4688	.4854
AVERAGE	1000	.9150	460.9	.4296	.4862	467.8	.8749	.4400	.4693	.4887

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	164.7	-.6904	471.8	.4754	.5102	.8004	-.3056	.4095	.8593
EXP# 2	164.1	-.5378	465.9	.4708	.5034	.7957	-.3052	.4081	.8550
AVERAGE	164.4	-.6141	468.8	.4731	.5068	.7981	-.3054	.4088	.8572

ACT NAME : EPABKG TIME : 09-JUN-88 12:02 SAMPLE NAME: SAMPLE20 AB 1/10
AB1/10

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.1049	49.37	.0448	.0513	51.75	.0960	.0519	.0556	.0476
EXP# 2	1000	.1056	49.48	.0452	.0500	51.97	.0990	.0478	.0579	.0471
AVERAGE	1000	.1053	49.43	.0450	.0506	51.86	.0975	.0498	.0568	.0474

ACT NAME : EPABKG TIME : 09-JUN-88 12:02 SAMPLE NAME: SAMPLE20

AB1/10

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	19.62	-.1259	49.91	.0601	.0697	.0851	.0143	.0447	.0973
EXP# 2	19.65	-.0954	50.32	.0601	.0681	.0875	.0294	.0475	.1005
AVERAGE	19.63	-.1106	50.12	.0601	.0689	.0863	.0219	.0461	.0989

968810 10

ACT NAME : EPABKG TIME : 09-JUN-88 12:05 SAMPLE NAME: SAMPLE21 CCV3

CCV3

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	.4939	1.976	1.955	.4968	50.37	.4723	.4792	.5050	.5139
EXP# 2	1000	.4939	1.968	1.949	.4995	50.52	.4805	.4764	.5033	.5083
AVERAGE	1000	.4939	1.972	1.952	.4981	50.45	.4764	.4778	.5041	.5111

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	1.962	51.50	24.76	.4953	51.66	.4551	1.017	.5083	2.880
EXP# 2	1.964	50.44	24.71	.4953	50.77	.4694	.9946	.5097	2.880
AVERAGE	1.963	50.97	24.73	.4953	51.21	.4622	1.006	.5090	2.880

ACT NAME : EPABKG TIME : 09-JUN-88 12:07 SAMPLE NAME: SAMPLE22 CB3

CB3

	I.S.	AG	AL	BA	BE	CA	CD	CO	CR	CU
EXP# 1	1000	-.0011	.0176	-.0007	-.0012	.0202	.0004	.0062	.0011	-.0019
EXP# 2	1000	-.0039	-.0108	-.0007	-.0026	.0079	.0014	.0048	-.0017	-.0042
AVERAGE	1000	-.0025	.0034	-.0007	-.0019	.0140	.0009	.0055	-.0003	-.0030

	FE	K	MG	MN	NA	NI	SB	V	ZN
EXP# 1	.0077	-.2479	.0229	.0019	.0124	-.0047	.0167	-.0005	.0044
EXP# 2	.0066	-.4158	.0192	.0019	.0139	-.0129	.0156	-.0033	.0029
AVERAGE	.0072	-.3319	.0210	.0019	.0132	-.0088	.0162	-.0019	.0036

968810 11

FURNACE WORKSHEET FOR: ARSENIC CRDL= 10.00 SPIKE= 20.00 PSOILSPK= 40.00 SA= 20.00
ANALYST: IDL= 3.40 ICV= 47.00 PWATSPK= 20.00
DATE: 06/09/88
CASE# 9688

SAMPLE ID	SPL.WT.	%SOLIDS	D.F.	AVE-CONC	%RSD	PD%R	ICV%R	RESULTS mg/kg	RESULTS ug/L	DUP/RPD	PREDIG%R
ICB			1.00	-0.20	NA				3.40 U		
ICV			2.50	18.10	2.70		96.28		45.25		
PB/WATER			1.00	-0.10	NA				3.40 U		
90-1			1.00	1.10	NA				3.40 U		
90-1D			1.00	1.50	NA				3.40 U	NC	
90-2			1.00	6.00	NA				6.00		
90-3			1.00	0.10	NA				3.40 U		
CCB1			1.00	-0.10	NA				3.40 U		
CCV1			2.50	18.60	1.40		98.94		46.50		
PB/WATER+SPK			1.00	19.40	14.70	97.00					
90-1+SPK			1.00	24.70	1.70	123.50					
90-1D+SPK			1.00	20.20	9.30	101.00					
90-1 SPK			1.00	23.00	1.00				23.00		115.00
90-3+SPK			1.00	18.60	0.70	93.00					
CCB2			1.00	-0.10	NA				3.40 U		
CCV2			2.50	17.60	8.40		93.62		44.00		
90-2+SPK			1.00	24.40	16.80	92.00					
TKM 1/200	1.0891	97.10	200.00	14.40	3.00			544.67			
LCS			2.50	18.30	0.90		97.34		45.75		
LCS+SPK			2.50	39.10	9.70	104.00					
CCB3			1.00	-0.10	NA				3.40 U		
CCV3			2.50	18.80	11.90		100.00		47.00		

968810 11

Varian SpectrAA 30/40 Zeeman Report

Associated Laboratories
806 North Batavia
Orange, CA 92668 714 771-6900

OPERATOR MIKE TRINH
DATE 6-09-88
BATCH F49090-CASE9688

PROGRAM 2 As SOIL-H2O SAMPLE

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS		
BLANK	0.0		0.003	0.003	0.004	(CW2 0887) 20/50
STANDARD 1	10.0	2.4	0.050	0.051	0.049	
STANDARD 2	20.0	9.2	0.116	0.108	0.123	
STANDARD 3	40.0	0.1	0.210	0.210	0.210	
ICB	-0.2	99.9	-0.001	0.000	-0.002	
ICV	18.1	2.7	0.102	0.100	0.104	
B	-0.1	96.8	-0.001	-0.001	-0.000	
90-1	1.1	23.9	0.006	0.007	0.005	1.1 ug/L → 105
90-1D	1.5	20.8	0.007	0.009	0.006	
90-2	6.0	12.0	0.030	0.028	0.033	6.0
90-3	0.1	99.9	0.001	-0.001	0.002	0.1 → 105
~~ICB~~ CCB	-0.1	0.0	-0.001	-0.001	-0.001	

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~~[illegible]~~ CCV	18.6	1.4	0.106	0.107	0.105
[illegible]-SP	19.4	14.7	0.111	0.123	0.100
PO-12P	24.7	1.7	0.142	0.135	0.141
PO-10SP	20.2	9.3	0.117	0.1[illegible]	0.125
PPO-1SP	23.0	1.0	0.131	0.1[illegible]	0.132
PO-3SP	18.6	0.7	0.105	0.102	0.105
~~[illegible]~~ CCB	-0.1	79.6	-0.001	-0.000	-0.001
~~[illegible]~~ CCV	17.6	8.4	0.098	0.095	0.104
PO-28P	24.4	16.8	0.138	0.122	0.155
3-KID 1/200	14.4	3.0	0.077	0.078	0.075
LCS	18.3	0.9	0.103	0.104	0.102
LCS-SP	39.1	9.7	0.206	0.220	0.192
~~[illegible]~~ CCB	-0.1	45.3	-0.001	-0.001	-0.000
~~[illegible]~~ CCV	18.8	11.9	0.107	0.098	0.116

MIT
6-13-88

968810 11

FURNACE WORKSHEET FOR: LEAD CRDL= 5.00 SPIKE= 10.00 PSOILSPK= 50.00 SA= 20.00
ANALYST: IDL= 1.20 ICV= 97.90 PWATSPK= 20.00
DATE: 06/10/88
CASE# 9688

SAMPLE ID	SPL.WT.	%SOLIDS	D.F.	AVE-CONC	%RSD	PD%R	ICV%R	RESULTS mg/kg	RESULTS ug/L	DUP/RPD	PREDIG%R
ICB			1.00	0.10	NA				1.20 U		
ICV			5.00	19.50	2.00		99.59		97.50		
PB/WATER			1.00	0.10	NA				1.20 U		
90-1			1.00	13.70	11.60						
90-1D			1.00	10.20	0.70						
90-2			1.00	4.70	NA				4.7		
90-3			1.00	5.20	2.10				5.20		
CCB1			1.00	1.00	NA				1.20 U		
CCV1			5.00	20.60	2.50		105.21		103.00		
PB/WATER+SPK			1.00	10.60	1.40	106.00					
90-1+SPK			1.00	8.90	0.60	-48.00					
90-1D+SPK			1.00	8.00	0.60	-22.00					
90-1 SPK			1.00	8.10	2.10				8.10		40.50
90-2+SPK			1.00	10.00	1.70	53.00 MSA					
CCB2			1.00	0.10	NA				1.20 U		
CCV2			5.00	21.50	1.20		109.81		107.50		
CCB3			1.00	0.10	NA				1.20 U		
CCV3			5.00	20.90	0.50		106.74		104.50		
90-3+SPK			1.00	14.70	17.90	95.00					
LCS			5.00	18.70	2.60		95.51		93.50		
LCS+SPK			5.00	29.30	1.40	106.00					
90-1 1/10			10.00	0.10	NA				12.00 U		
90-1D 1/10			10.00	0.20	NA				12.00 U	NC	
CCB~~3~~4			1.00	0.10	NA				1.20 U		
CCV~~3~~4			5.00	20.30	0.40		103.68		101.50		
90-1+SPK1/10			10.00	8.80	0.60	88.00					
90-1D+SPK1/10			10.00	9.00	0.60	90.00					
TKM	1.0891	97.10	2500	11.90	0.60			5626.39			
CCB~~4~~5			1.00	0.20	NA				1.20 U		
CCV~~4~~5			5.00	18.50	0.90		94.48		92.50		

HTT

PROGRAM 6 Pb SOIL-H2O SAMPLE 968810 11

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
BLANK	0.0		0.007	0.007	0.007
STANDARD 1	5.0	1.8	0.048	0.047	0.049
STANDARD 2	20.0	1.9	0.191	0.188	0.194
STANDARD 3	40.0	1.1	0.355	0.353	0.358
ICB	0.1	99.9	0.001	0.000	0.001
ICV	19.5	2.0	0.186	0.183	0.188
B	0.1	43.4	0.001	0.001	0.001
90-1	13.7	11.6	0.131	0.120	0.142
90-1D	10.2	0.7	0.098	0.097	0.098
90-2	4.7	5.0	0.045	0.043	0.046
90-3	5.2	2.1	0.050	0.049	0.051
~~ICB~~ CCB	1.0	6.3	0.009	0.010	0.009
~~ICV~~ CCV	20.6	2.5	0.196	0.200	0.193
B-SP	10.6	1.4	0.102	0.103	0.101
90-1SP	8.9	0.6	0.085	0.085	0.085
90-1DSP	8.0	0.6	0.077	0.077	0.077
F90-1SP	8.1	2.1	0.078	0.079	0.077
90-2SP	10.0	1.7	0.096	0.095	0.097
~~ICB~~ CCB MTT	0.1	16.7	0.001	0.001	0.001
~~ICV~~ CCV	21.5	1.2	0.205	0.207	0.203
90-3SP	13.2	0.6	0.127	0.126	0.127
3-MID	13.0	0.9	0.124	0.124	0.125
LCS	25.5	3.4	0.240	0.241	0.239
LCS-SP	31.1	0.8	0.287	0.286	0.289
ICB	0.1	0.0	0.001	0.001	0.001
ICV	20.3	2.7	0.194	0.197	0.190

2ml H(10/10)
(0387)

Varian SpectrAA 30/40 Zeeman Report

Associated Laboratories
806 North Batavia
Orange, CA 92668 714 771-6900

OPERATOR MIKE TRINH
DATE 6-10-88
BATCH F49090-CASE9688

968810 11

PROGRAM 1 Pb SOIL-H2O SAMPLE

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
BLANK	0.0		0.007	0.006	0.007
STANDARD 1	5.0	14.0	0.056	0.061	0.050
STANDARD 2	20.0	0.0	0.175	0.175	0.175
STANDARD 3	40.0	0.3	0.342	0.343	0.342
MST/6-13-88					
CCB ~~ICB~~	0.1	71.8	0.001	0.001	0.002
CCV ~~ICV~~ 10/50	20.9	0.5	0.183	0.183	0.182
90-3SP	14.7	17.9	0.139	0.122	0.157
LCS 10/50	18.7	2.6	0.167	0.170	0.164
LCS-SP 10/50	29.3	1.4	0.254	0.251	0.257
90-1-1/10	0.1	84.4	0.001	0.002	0.000
90-1D1/10	0.2	99.9	0.002	0.003	0.000
CCB	0.1	6.5	0.002	0.002	0.002
CCV	20.3	0.4	0.178	0.177	0.178

2ml H (0.387) 10/50

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
90-1017105P	9.0	0.6	0.093	0.094	0.095
2-910 1/20/2/25	11.9	0.6	0.118	0.117	0.118
CCS	0.2	4.8	0.002	0.002	0.002
CCV	16.5	0.9	0.166	0.167	0.165

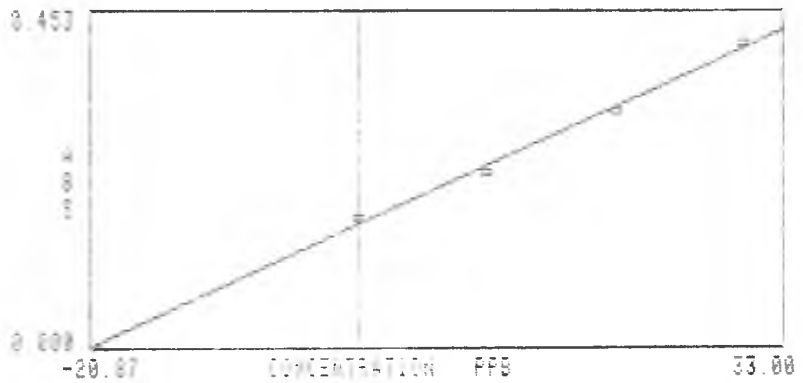
968810 11

968810 11

EPA code 9088
ZCN_4(0387) 10/SU.
6-10-87
ch

BLANK	0.00		-0.002	-0.002
ADDITION 1	10.00	0.0	0.238	0.238
ADDITION 2	20.00	0.0	0.322	0.322
ADDITION 3	30.00	0.0	0.411	0.411
ICV	20.87	0.0	0.173	0.173

Slope = 0.008
y = 0.166
CC = 0.998



SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS
BLANK	0.00		-0.000	-0.000
ADDITION 1	10.00	0.0	0.088	0.088
ADDITION 2	20.00	0.0	0.187	0.187
ADDITION 3	30.00	0.0	0.288	0.288
ICB	-0.25	0.0	0.002	0.002

Slope = 0.010
y = -0.002
CC = 0.999

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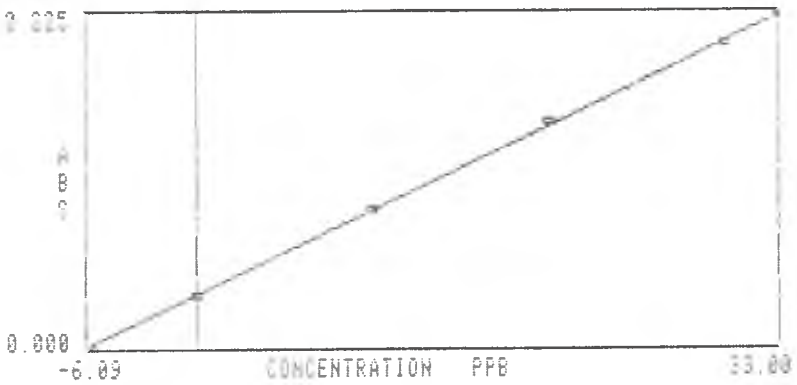
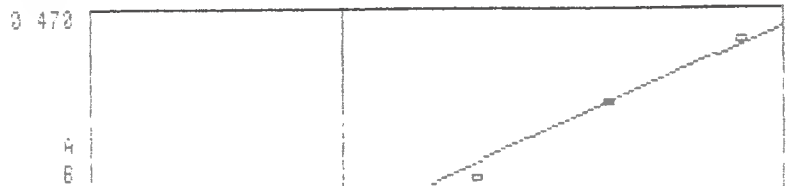
Slope = 0.006
y = 0.035
CC = 1.000

BLANK	0.00		0.001	0.001
ADDITION 1	10.00	0.0	0.092	0.092
ADDITION 2	20.00	0.0	0.151	0.151
ADDITION 3	30.00	0.0	0.204	0.204
90-2	6.09	0.0	0.034	0.034



Slope: 0.009
y = 0.167
CC = 0.990

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS
BLANK	0.00		-0.004	-0.004
ADDITION 1	10.00	0.0	0.226	0.226
ADDITION 2	20.00	0.0	0.335	0.335
ADDITION 3	30.00	0.0	0.428	0.428
ICV	16.69	0.0	0.176	0.176



Slope = 0.009
y = 0.003
CC = 1.000

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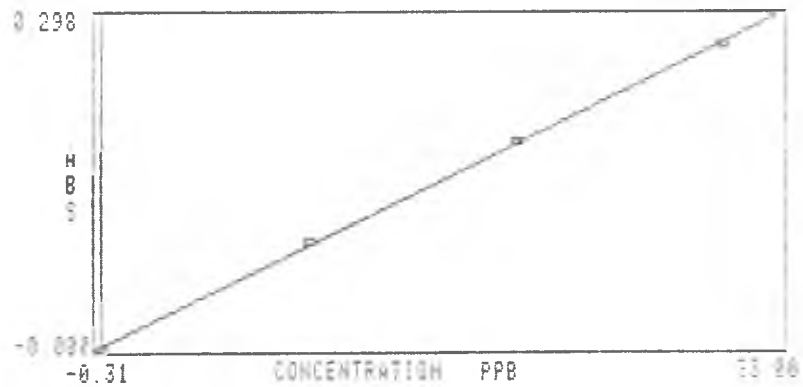
BLANK	0.00		0.001	0.001
ADDITION 1	10.00	0.0	0.096	0.096
ADDITION 2	20.00	0.0	0.185	0.185
ADDITION 3	30.00	0.0	0.271	0.271
ICB	0.31	0.0	-0.000	-0.000



BLANK	0.00		-0.001	-0.001
ADDITION 1	10.00	0.0	0.244	0.244
ADDITION 2	20.00	0.0	0.335	0.335
ADDITION 3	30.00	0.0	0.411	0.411
ICV	20.51	0.0	0.169	0.169

Slope = 0.008
y = 0.167
CC = 0.999

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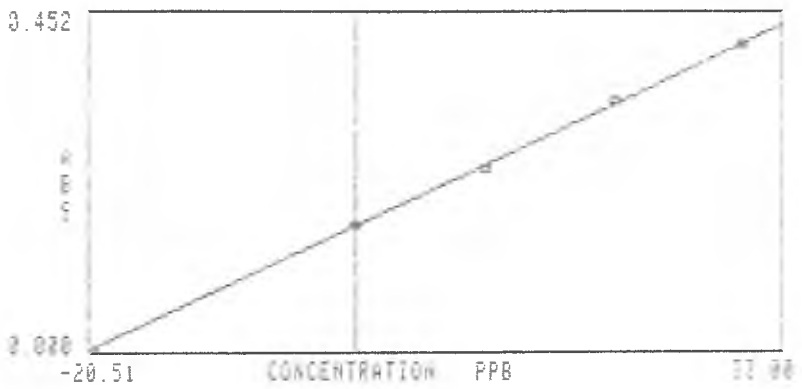


FURNACE WORKSHEET FOR: SELENIUM CRDL= 5.00 SPIKE= 10.00 PSOILSPK= 10.00 SA= 10.00
ANALYST: IDL= 0.60 ICV= 104.00 PWATSPK= 10.00
DATE: 06/10/88
CASE# 9688

968810 11

SAMPLE ID	SPL.WT.	%SOLIDS	D.F.	AVE-CONC	%RSD	PD%R	ICV%R	RESULTS mg/kg	RESULTS ug/L	DUP/RPD	PREDIG%R
ICB			1.00	-0.10	NA				0.60 U		
ICV			5.00	20.60	0.20		99.04		103.00		
PB/WATER			1.00	-0.20	NA				0.60 U		
90-1			1.00	-0.10	NA						
90-1D			1.00	-0.20	NA						
90-2			1.00	0.00	NA						
90-3			1.00	-0.20	NA				0.60 U		
CCB1			1.00	-0.10	NA				0.60 U		
CCV1			5.00	20.90	0.40		100.48		104.50		
PB/WATER+SPK			1.00	10.80	0.70	108.00					
90-1+SPK			1.00	1.60	NA						
90-1D+SPK			1.00	1.40	NA						
90-1 SPK			1.00	1.40	NA				1.40		14.00
90-2+SPK			1.00	0.70	NA						
CCB2			1.00	-0.40	NA				0.60 U		
CCV2			5.00	20.80	0.90		100.00		104.00		
90-3+SPK			1.00	10.50	0.90	105.00					
TKN	1.0891	97.10	1.00	13.00	2.60			2.46			
LCS			5.00	20.70	0.20		99.52		103.50		
LCS+SPK			5.00	30.40	3.10	97.00					
CCB3			1.00	-0.10	NA				0.60 U		
CCV3			5.00	20.50	3.00		98.56		102.50		
CCB4			1.00	-0.10	NA				0.60 U		
CCV4			5.00	19.00	0.90		91.35		95.00		
90-1 1/10			10.00	0.00	NA				6.00 U		
90-1D 1/10			10.00	0.10	NA				6.00 U	NC	
90-2 1/10			10.00	-0.10	NA				6.00 U		
90-1+SPK1/10			10.00	8.50	0.70	85.00					
90-1D+SPK1/10			10.00	9.00	1.20	90.00					
CCB5			1.00	-0.10	NA				0.60 U		
CCV5			5.00	20.90	1.60		100.48		104.50		
90-2+SPK1/10			10.00	9.20	2.40	92.00					
CCB6			1.00	-0.10	NA				0.60 U		
CCV6			5.00	20.40	2.00		98.08		102.00		

968810 11

Varian SpectrAA 30/40 Zeeman Report

Associated Laboratories
806 North Batavia
Orange, CA 92668 714 771-6900

OPERATOR MIKE TRINH
DATE 6-10-88
BATCH F49090-CASE9688

PROGRAM 5 Se SOIL-H2O SAMPLE

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
BLANK	0.0		0.011	0.012	0.009
STANDARD 1	5.0	0.6	0.047	0.047	0.047
STANDARD 2	20.0	2.9	0.195	0.191	0.199
STANDARD 3	40.0	1.6	0.364	0.360	0.368
ICB	-0.1	99.9	-0.000	0.000	-0.001
ICV	20.6	0.2	0.200	0.200	0.201
B	-0.2	35.0	-0.002	-0.001	-0.002
90-1	-0.1	18.3	-0.001	-0.001	-0.001
90-1D	-0.2	0.0	-0.002	-0.002	-0.002
90-2	-0.0	23.1	-0.000	-0.000	-0.001
90-3	-0.2	16.7	-0.002	-0.002	-0.002
ICB	-0.1	7.8	-0.001	-0.001	-0.001
ICV	20.9	0.4	0.204	0.204	0.203
B-SP	10.8	0.7	0.103	0.104	0.103
90-1SP	1.6	10.4	0.015	0.016	0.014
90-1DSP	1.4	12.5	0.013	0.014	0.012
P90-1SP	1.4	1.1	0.013	0.013	0.014
90-2SP	0.7	9.4	0.007	0.007	0.007
ICB	-0.4	11.9	-0.004	-0.003	-0.004
ICV	20.8	0.9	0.203	0.204	0.202
90-3SP	10.5	0.9	0.100	0.101	0.100
3-KID	13.0	2.6	0.124	0.122	0.127
LCS	20.7	0.3	0.202	0.202	0.201
LCS-SP	30.4	3.1	0.289	0.283	0.296
ICB	-0.1	54.3	-0.001	-0.002	-0.001
ICV	20.5	3.0	0.200	0.204	0.196

Varian SpectrAA 30/40 Zeeman Report

Associated Laboratories
806 North Batavia
Orange, CA 92668 714 771-6900

OPERATOR MIKE TRINH
DATE 6-10-88
BATCH F49090-CASE9688

968810 11

PROGRAM 4 Se SOIL-H2O SAMPLE

2CV2(0.987) 6/20

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS		
BLANK	0.0		0.006	0.006	0.006	
STANDARD 1	5.0	0.1	0.048	0.048	0.048	
STANDARD 2	20.0	1.7	0.202	0.205	0.200	
STANDARD 3	40.0	0.3	0.367	0.368	0.367	
ICB	-0.1	4.4	-0.001	-0.001	-0.001	
ICV	19.0	0.9	0.192	0.193	0.190	
90-1-1/10	-0.0	99.9	-0.000	-0.000	-0.001	
90-1D-1/10	0.1	99.9	0.001	0.001	-0.000	
90-2-1/10	-0.1	53.5	-0.001	-0.001	-0.002	✓
90-1-1/10SP	8.5	0.7	0.082	0.082	0.082	
90-1D-1/10SP	9.0	1.2	0.087	0.088	0.087	
ICB	-0.1	69.1	-0.001	-0.000	-0.001	
ICV	20.4	1.6	0.211	0.214	0.209	
90-2-1/10SP	9.2	2.4	0.089	0.090	0.087	
ICB	-0.1	0.0	-0.001	-0.001	-0.001	
ICV	20.4	2.0	0.206	0.205	0.209	

FURNACE WORKSHEET FOR: THALLIUM CRDL= 10.00 SPIKE= 20.00 PSOILSPK= 50.00 SA= 50.00
ANALYST: IDL= 0.70 ICV= 97.30 PWATSPK= 50.00
DATE: 06/09/88
CASE# 9688

968810 11

SAMPLE ID	SPL.WT.	%SOLIDS	D.F.	AVE-CONC	%RSD	PD%R	ICV%R	RESULTS mg/kg	RESULTS ug/L	DUP/RPD	PREDIG%R
ICB			1.00	-0.10	NA				0.70 U		
ICV			5.00	19.70	13.60		101.23		98.50		
PB/WATER			1.00	0.10	NA				0.70 U		
90-1			1.00	0.50	NA				0.70 U		
90-1D			1.00	0.70	NA				0.70	NC	
90-2			1.00	0.30	NA				0.70 U		
90-3			1.00	0.30	NA				0.70 U		
CCB1			1.00	0.00	NA				0.70 U		
CCV1			5.00	19.70	5.00		101.23		98.50		
PB/WATER+SPK			1.00	20.00	19.00	100.00					
90-1+SPK			1.00	8.70	NA	43.50					
90-1D+SPK			1.00	10.10	0.60	50.50					
90-1 SPK			1.00	11.90	16.60				11.90		23.80
90-2+SPK			1.00	9.10	NA	45.50					
CCB2			1.00	0.10	NA				0.70 U		
CCV2			5.00	18.20	25.50		~~92.53~~		~~91.00~~		
CCV2			5.00	20.30	2.20		104.32		101.50		
90-3+SPK			1.00	10.40	6.40	52.00					
TKM	1.0891	97.10	1.00	12.10	10.60			2.29			
LCS			5.00	17.40	3.10		89.41		87.00		
LCS+SPK			5.00	34.80	8.20	87.00					
CCB3			1.00	-0.20	NA				0.70 U		
CCV3			5.00	19.70	3.10		101.23		98.50		

UTT

Varian SpectrAA 10/40 Zeeman Report

Associated Laboratories
806 North Batavia
Orange, CA 92668 714 771-6900

OPERATOR MIKE TRINH
DATE 6-09-88
BATCH F49090-CASE9688

968810 11

PROGRAM 3 T1 SOIL-WATER SAMPLES

SAMPLE	CONC PPB	%RSD	MEAN ABS	READINGS	
BLANK	0.0		0.003	0.004	0.002
STANDARD 1	10.0	5.9	0.037	0.039	0.036
STANDARD 2	20.0	7.2	0.080	0.084	0.076
STANDARD 3	40.0	0.7	0.168	0.167	0.169
ICB	-0.1	99.9	-0.000	-0.000	-0.000
ICV	19.7	13.6	0.079	0.071	0.086
B	0.1	99.9	0.000	-0.000	0.001
90-1	0.5	28.0	0.002	0.002	0.002
90-10	0.7	9.5	0.002	0.002	0.003
90-2	0.3	22.3	0.001	0.001	0.001
90-3	0.3	41.9	0.001	0.001	0.001
CCB	0.0	62.8	0.000	0.000	0.000
CCV	19.7	5.9	0.078	0.081	0.075

daily w/w (0.387)

968810 11

B-5P	20.0	19.0	0.080	0.069	0.090
90-1SP	8.7	6.4	0.032	0.034	0.031
90-1DSP	10.1	0.6	0.038	0.038	0.038
P90-1SP	11.9	16.6	0.045	0.050	0.040
90-2SP	9.1	6.7	0.034	0.035	0.032
~~ICB~~ CCB	0.1	99.9	0.000	-0.000	0.001
X ~~ICV~~ CCV	18.2	25.5	0.072	0.085	0.059
~~ICV~~ CCV	20.3	2.2	0.081	0.080	0.082
90-3SP	10.4	6.4	0.039	0.037	0.041
3-KID	12.1	10.6	0.046	0.043	0.049
LCS	17.4	3.1	0.068	0.067	0.069
LCS-SP	34.8	8.2	0.144	0.153	0.136
~~ICB~~ CCB	-0.2	44.7	-0.001	-0.000	-0.001
~~ICV~~ CCV	19.7	3.1	0.079	0.080	0.077

MTT

MERCURY ANALYSIS WORKSHEET, EPA-CLP

EPA Case No. 9688 Date 6-8-88

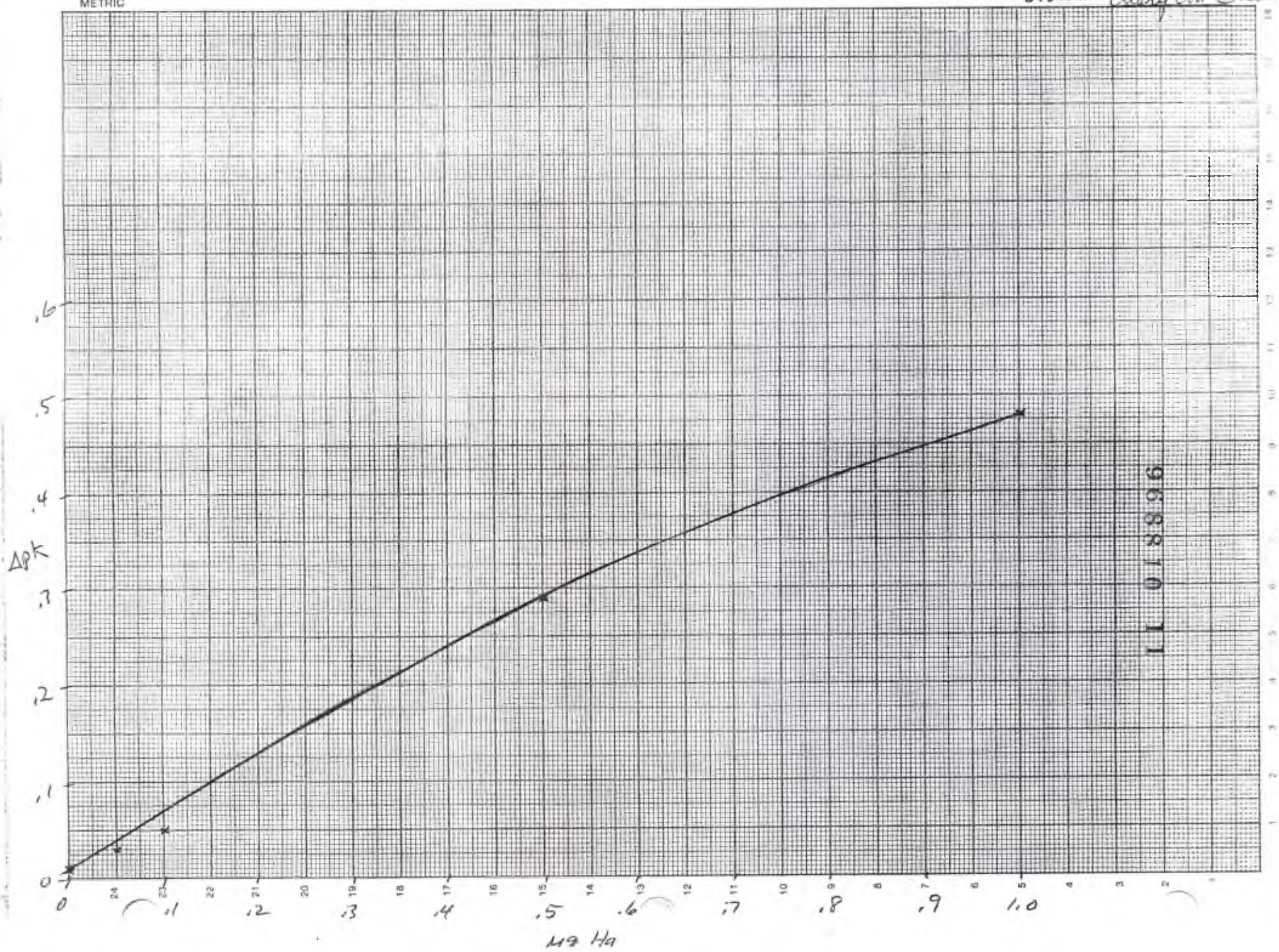
Lab Sheet No. 44090 968810 11 Signature [illegible]

Comments:

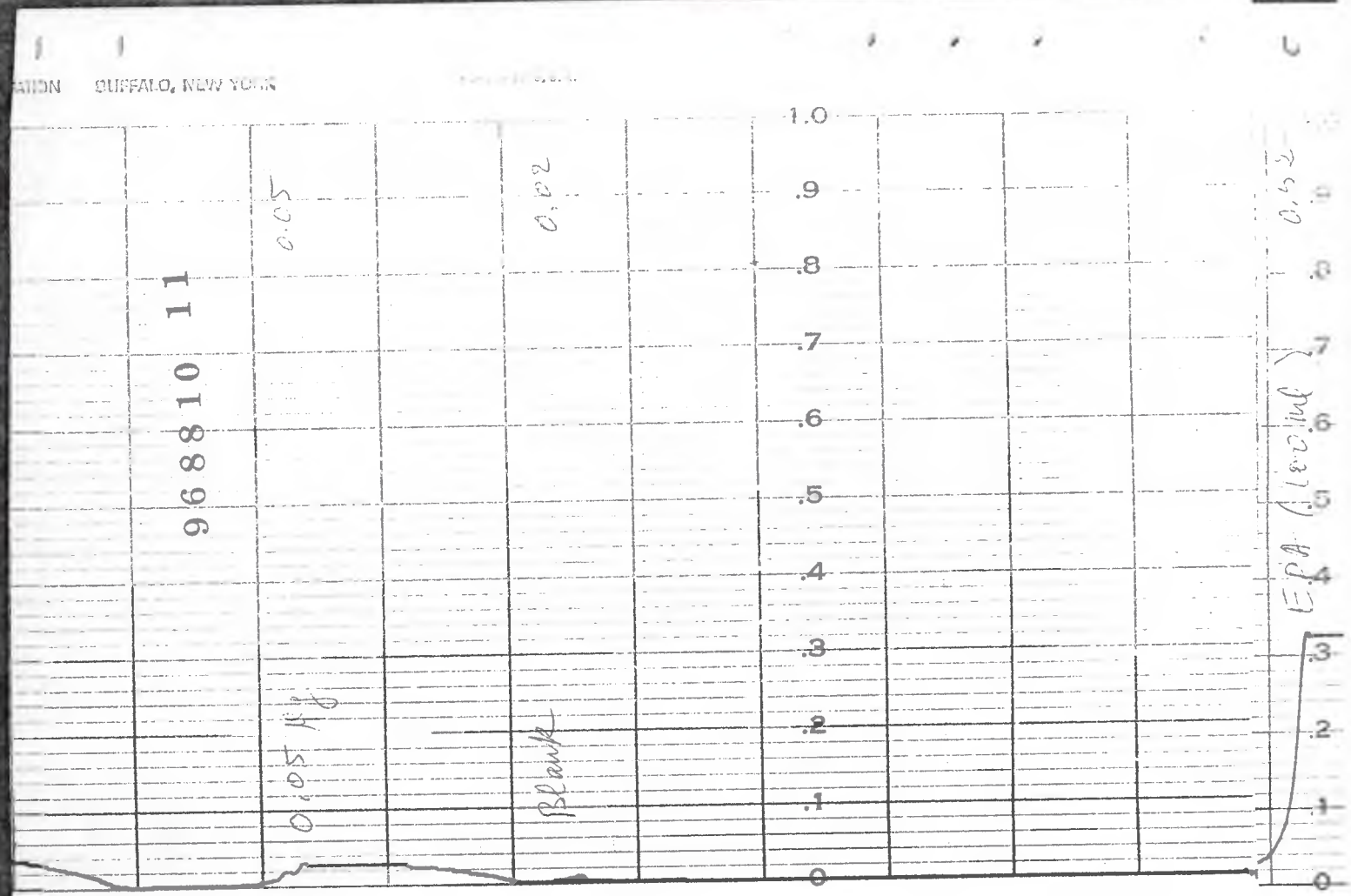
Sample Number	Initial Wt./Vol.	Final Volume	Peak Height	% Solid ~~ABS~~	µg HG	Result
Blank	100ml	100ml	0.01			
0.05		100	0.03			
0.10		100	0.05			
0.50		100	0.29			
1.0		100	0.48			
ICV	100	100	0.31		0.54	5.4 µg/L % R=104%
ICB	100	100	0.01		0.0	0.2 µg/L u
1	100	100	0.01		0.0	0.2 µg/L u
1 D	100	100	0.01		0.0	0.2 µg/L u
1 Spike	100ml 10µg	100	0.06		0.09	Sa=1 0.9 µg/L % R=90%
2	100	100	0.03		0.03	0.3 µg/L
3	100	100	0.02		0.02	0.2 µg/L u
MTT TKM	.0416g	100	0.40	97.1	0.76	~~7.6 Mg/kg~~ 18.8 Mg/kg
CCV	100ml	100	0.30		0.52	5.2 µg/L % R=100%
CCB	100	100	0.01		0.0	0.2 µg/L u

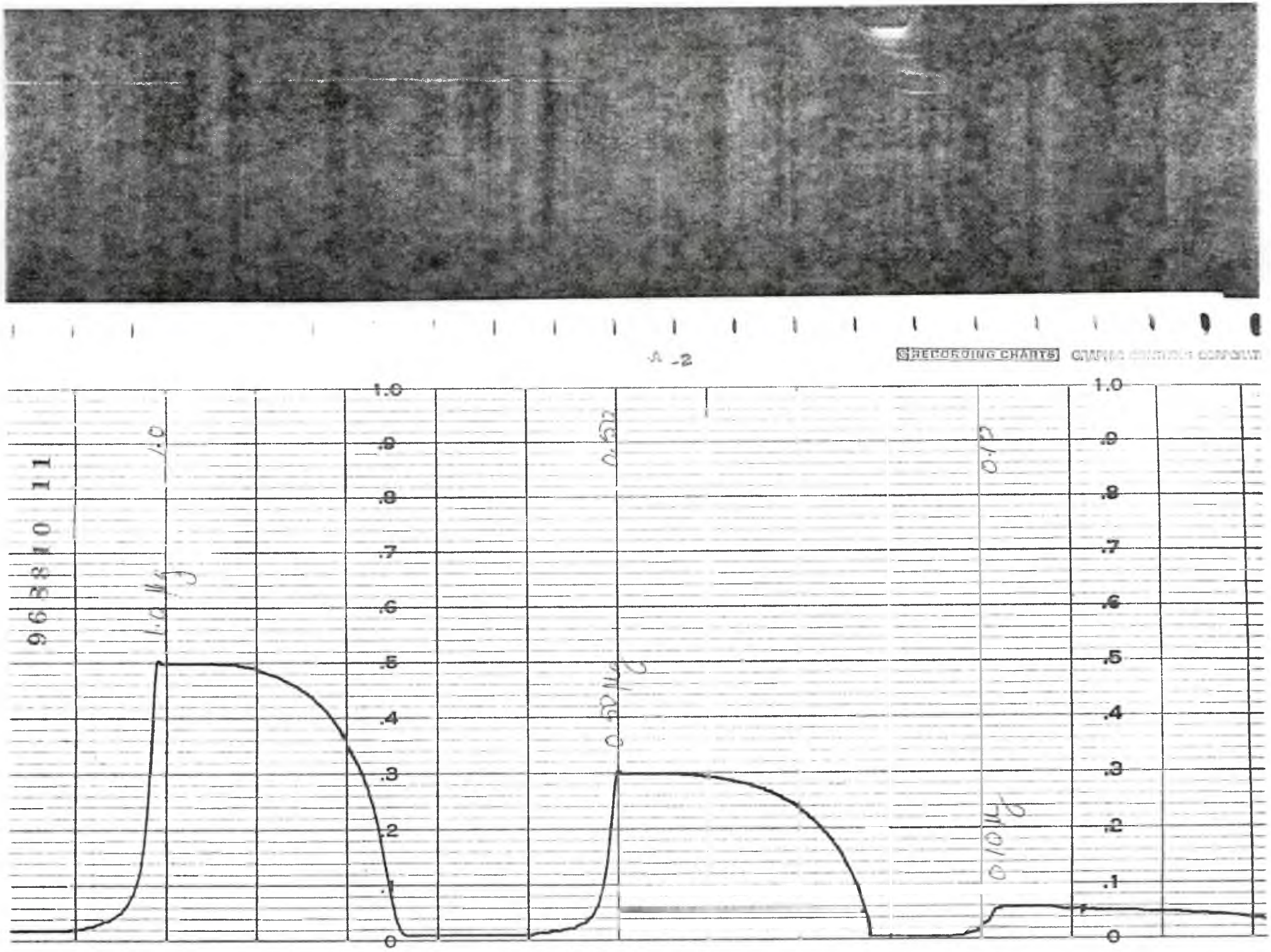
CASE # 9688
DATE 061
SIGNAT. Mary Ann Green

METRIC

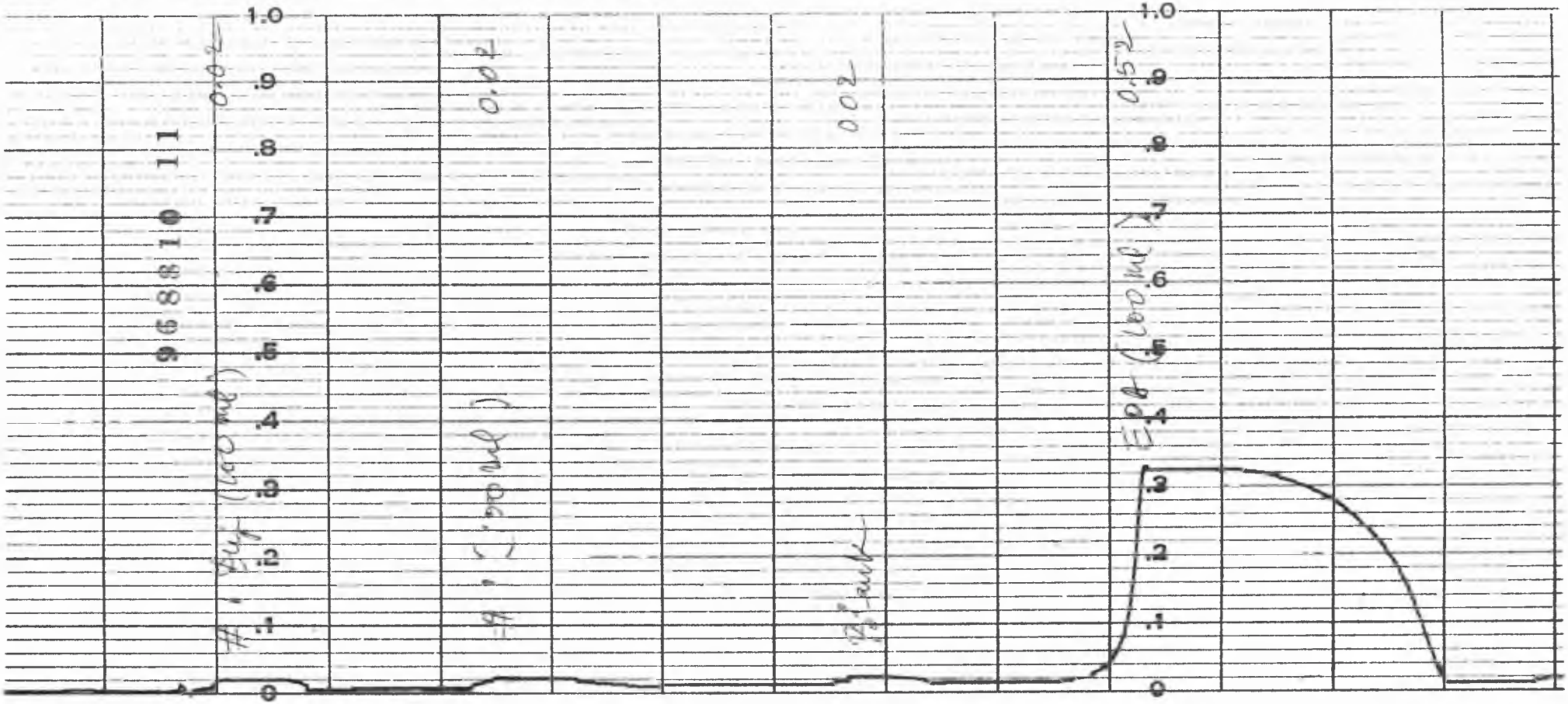


11 01 8 96


ATION BUFFALO, NEW YORK
968810 11
0.05
0.05 µg
0.02
Blank
0.05
EPA (1.8.81)
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
0


A-2
RECORDING CHARTS
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
0
0.7
1.0 Mg
0.52
0.30 Mg
0.10
0.10 Mg

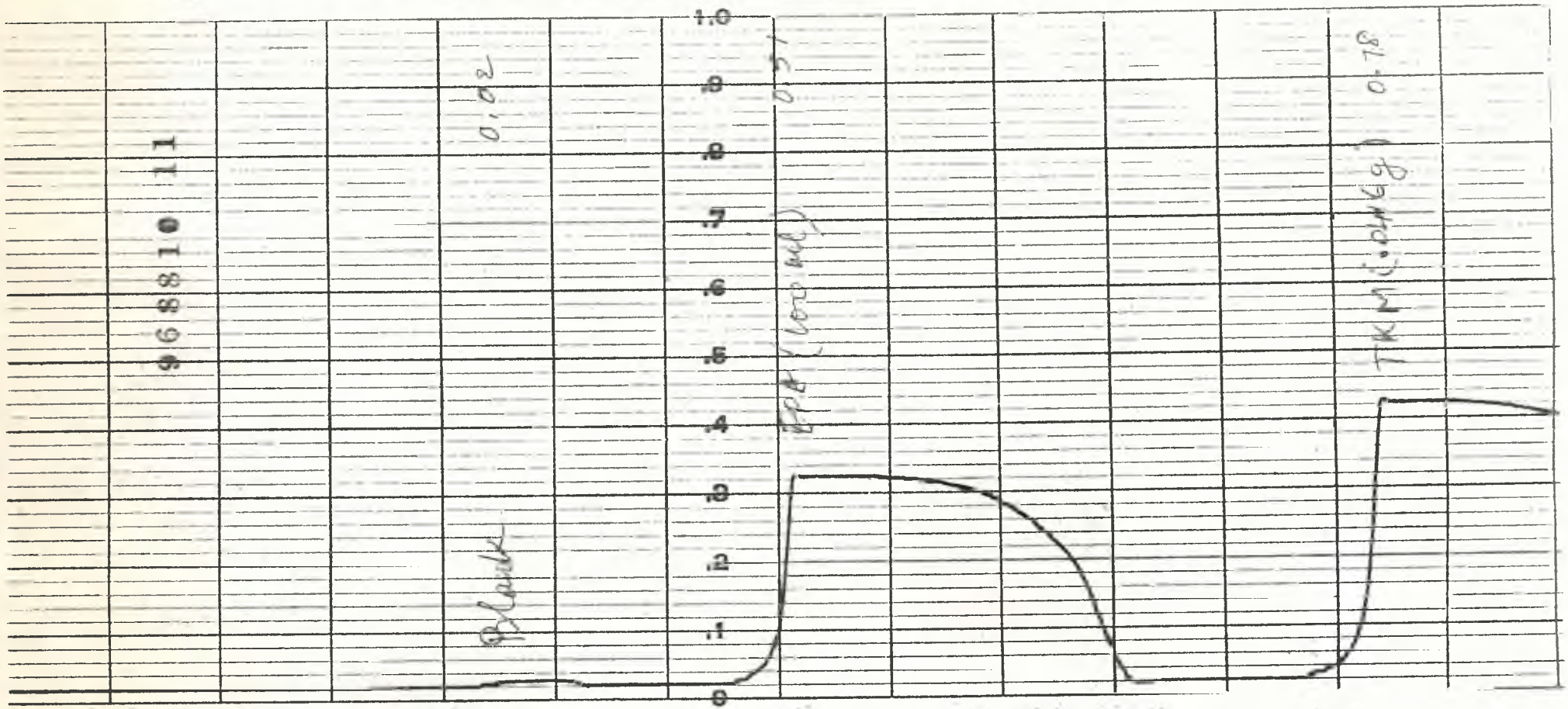
RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK



0
.1
.2
.3
.4
.5
.6
.7
.8
.9
1.0
968810 11
#3 (100 ml)
0.05
#2 (100 ml
0.055
#1 spike (100 ml +0.10 µg)
0.115

A -2

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK



ROUTING AND TRANSMITTAL SLIP

Date 7/6/88

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. John Virgin		
2.		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

Case No. 9688

Ridgefield Brick & Tile

RECEIVED

JUL 07 1988

BELLEVUE, WA

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FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Kelsey Ramey D17.0 Office	Phone No. 442-4323

5041-102

☆ U.S. Government Printing Office: 1987-181-246/60000

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
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ROUTING AND TRANSMITTAL SLIP

Date 7/11/88

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1. John Virgin		
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	Approval		For Clearance		Per Conversation
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	Coordination		Justify		

REMARKS

Case # 9688
Ridgefield Brick & Tile

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Kelsey Ramey (Q.A. Office)	Phone No. 442-4323

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OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

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COVER SHEET

LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check one) _____ Organcis CCS

✓ Inorganics CCS

Response materials sent to Organics CCS should be sent to the attention of Doris Ling, SMO.

Response materials sent to Inorganics CCS should be sent to the attention of Sa'ad Masri, SMO.

Laboratory Name ASSOCIATED LABS

Response Date 07/05/88

Date Screening Results Received at Laboratory 07/05/88

EPA Contract No. 68-01-7308

Case No. 9688

SDG No. _____

Sample Nos.* MJB367

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each Case.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

INORGANICS

LABORATORY RESPONSE TO RESULTS OF CCS

Criterion	Comments
FA	Form V, the Cobalt has been corrected. Resubmitted.

FORM V

Q. C. Report No. 79 968810 06

SPIKE SAMPLE RECOVERY

LAB NAME ASSOCIATED LABORATORIES

CASE NO. 9688

EPA Sample No. MJB367

DATE 06/13/88

Lab Sample ID No. F49090-1

Units uG/L

Matrix WATER

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]	
Metals:						
1. Aluminum	75-125	1727.00	60.60 U	2000	86	
2. Antimony	''	491.50	23.20 U	500	98	
3. Arsenic	''	23.00	3.40 U	20	115	
4. Barium	''	2035.00	[58.40]	2000	99	
5. Beryllium	''	51.30	3.90 U	50	103	
6. Cadmium	''	51.20	4.00 U	50	102	
7. Calcium	''	28110.0	28350.0		NR	
8. Chromium	''	197.30	7.90 U	200	99	
9. Cobalt	''	493.90	[9.50]	500	97	
10. Copper	''	245.60	24.80 U	250	98	
11. Iron	''	76710.00	76570.00	1000	14	
12. Lead	''	8.10	12.00 U	20	41	N
13. Magnesium	''	12230.0	12350.0		NR	
14. Manganese	''	4920.00	4756.00	200	82	
15. Mercury	''	0.9	0.2 U	1	90	
16. Nickel	''	399.00	13.30 U	400	100	
17. Potassium	''	1362.0	[1404.0]		NR	
18. Selenium	''	1.40	0.60 U	10	14	N
19. Silver	''	53.20	6.40 U	50	106	
20. Sodium	''	19810.0	19970.0		NR	
21. Thallium	''	11.90	0.70 U	50	24	N
22. Vanadium	''	473.90	8.80 U	500	95	
23. Zinc	''	212.80	[19.10]	200	97	
Other:						
Cyanide					NR	

[1] %R = [(SSR - SR)/SA] x 100
'N' = Out of control
'NR' = Not required

ROUTING AND TRANSMITTAL SLIP

Date 7/12/88

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. John Virgin		
2.		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

Case # 9688

Ridgefield Brick & Tile

RECEIVED
JUL 13 1988
BELLEVUE, WA

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FROM: (Name, org. symbol, Agency/Post)

Kelly Ramy

Room No.—Bldg.

Phone No. 442-4323

5041-102

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CONTRACT COMPLIANCE SCREENING SUMMARY FOR ORGANICS

CASE 096BB SAS NO: IDENT NO. JCB09-01 CCS DATE: 7/6/88 LOG NO. 96

LAB CODE: LAUCKS CONTRACT: 68-01-7406 SDG NO: JCB09 REGION 1 JUL 8 1988 SCREENED BY: YO

VOA

SAMPLE	A HOLD	B TUNE	C BLKS	D INITCALIB	E CONTCALIB	F SURR	G MS/MSD	H COMP
JCB09-01	Y							
	+	+	+	+	+	+	+	+
JCB10-01	Y							
	+	+	+	+	+	+	+	+
JCB14-01	Y							
	+	+	+	+	+	+	+	+
JCB10-08	Y							
	+	+	+	+	+	+	+	+
JCB10-09	Y							
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+

BNA

SAMPLE	A HOLD	A1 HOLD	B TUNE	C BLKS	D 1INITCALIB	E CONTCALIB	F SURR	G MS/MSD	H COMP
JCB09-01	NA								
	+	+	+	+	+	+	+	+	+
JCB10-01	NA								
	+	+	+	+	+	+	+	+	+
JCB14-01	NA								
	+	+	+	+	+	+	+	+	+
JCB10-08	NA								
	+	+	+	+	+	+	+	+	+
JCB10-09	NA								
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
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	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+

PESTICIDES

SAMPLE	A HOLD	A1 HOLD	B BLKS	C DDT	D RTW	E ANAL	F DEG	G DBC	H MS/MSD	I INITCALIB	J CONTCALIB	K COMP
JCB09-01	NA											
	+	+	+	+	+	+	+	+	+	+	+	+
JCB10-01	NA											
	+	+	+	+	+	+	+	+	+	+	+	+
JCB14-01	NA											
	+	+	+	+	+	+	+	+	+	+	+	+
JCB10-08	NA											
	+	+	+	+	+	+	+	+	+	+	+	+
JCB10-09	NA											
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+
	+	+	+	+	+	+	+	+	+	+	+	+

CODE: E = EXPLAIN, R = RESUBMIT, S = SUBMIT, N = NONCOMPLIANT, Y = ANALYZED, NA = NOT ANALYZED

TUESDAY, JUL 5, 1988

CONTRACT COMPLIANCE SCREENING FOR ORGANIC VOA Rev

CASE 09688 SAS NO: IDENT. NO.: JCB09-01 DATE 7/6/88 LDG NO 96

LAB CODE LAUCKS SDG NO: JCB09 SCREENED BY: YC

SAMPLE		SUR /IS	ANALYSIS	BLANK	TUNE	CALIBRATION INITIAL	CALIBRATION CONTINUING	HITS	CODE	PROBLEMS
JCB09-01	OLW	0	05/31/88	05/31/88	05/31/88	05/03/88	05/31/88	0		
05/25/88			12:59	12 14	10:47	05/03/88	11:35	0		
		0	1020J	1020J	1020J	1020J	1020J	0		
JCB10-01	OLW	0	05/31/88	05/31/88	05/31/88	05/03/88	05/31/88	2		
05/25/88			13:38	12:14	10:47	05/03/88	11:35	0		
		0	1020J	1020J	1020J	1020J	1020J	2		
JCB14-01	OLW	0	05/31/88	05/31/88	05/31/88	05/03/88	05/31/88	1		
05/25/88			14:14	12 14	10:47	05/03/88	11.35	0		
		0	1020J	1020J	1020J	1020J	1020J	1		
JCB10-08	OLW	0	05/31/88	05/31/88	05/31/88	05/03/88	05/31/88	3		
05/25/88			14:57	12.14	10:47	05/03/88	11:35			
		0	1020J	1020J	1020J	1020J	1020J			
JCB10-09	OLW	0	05/31/88	05/31/88	05/31/88	05/03/88	05/31/88	3		
05/25/88			15:40	12:14	10:47	05/03/88	11 35			
		0	1020J	1020J	1020J	1020J	1020J			

ROUTING AND TRANSMITTAL SLIP

Date 7/6/88

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. John Vingin		
2. (Tetra-Tech)		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

Case # 9688
Ridgefield Brick & Tile

RECEIVED
JUL 07 1988
BELLEVUE, WA

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Kelsey Ramey QA Office	Phone No. 442-4323

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

★ U.S. Government Printing Office: 1987-181-246/60000

CONTRACT COMPLIANCE SCREENING SUMMARY FOR INORGANICS

CASE: 09688 SAMPLES: 3 DATE MAILED 07/01/89

LAB CODE: ALI CONTRACT: 68-01-7308 SCREENER AH DATE SCREENED: 06/30/88

SDG NUMBER 79 REGION: 10 DATE RECEIVED: 06/18/88

SAMPLE NO.	A COVER PAGE	B DATA SHEET	CA CALIBRATION ICV/CCV	CB CRDL	D BLANK	E ICS	FA SPIKES PRE.	FB POST	G DUP.	H LCS	I MSA	J SER. DIL.	KA HOLDING HG	KB TIME CN	L IDL	M CORR. FACTR	N LIN. RANGE	R RAW DATA	T TR	DI-SK
MJB367-W																				
MJB367-1																				
MJB367-8							R													
MJB367-9																				
MJB370-1																				
MJB371-1																				

PROBLEM CODE: E = EXPLAIN, R = RESUBMIT, S = SUBMIT, N = NONCOMPLIANT

CONTRACT COMPLIANCE SCREENING FOR INORGANICS — WORKSHEET A - ICP — PAGE 2

CASE: 09688 CONTRACT: 68-01-7308 SAMPLES: 3 SDG_NO. 79 DATE: 6/30/88

LAB CODE: ALI REGION: 10 SCREENED BY: HC

SAMPLE NO.	C/M	SAMP WT.	DATE RECD.	DATE ANAL.	QC TYPE	ANALYSIS	TIME	PROBLEMS
MJB367-W	ILW	0.85	25MAY88					(FA) Resubmit form II, Co value requires brackets (See SOW 785, B-1)
MJB367-1	ILW	0.85	25MAY88					
MJB367-8	ILW	0.85	25MAY88					FA
MJB367-9	ILW	0.85	25MAY88					
MJB370-1	ILW	0.85	25MAY88					
MJB371-1	ILW	0.85	25MAY88					

CONTRACT COMPLIANCE SCREENING FOR INORGANICS WORKSHEET B - AA AND CN

CASE 09603 CONTRACT 68-01 7308 SAMPLES SDG_NO 79 DATE: 6/30/88

LAB CODE ALI REGION: 10 SCREENED BY: AC

SAMPLE	DATE	AS F	PB F	HG CV	SE F	TL F	CN C								PROBLEMS
MJB367-W	25MAY88														
MJB367-1	25MAY88														
MJB367-8	25MAY88														
MJB367-9	25MAY88														
MJB370-1	25MAY88														
MJB371-1	25MAY88														

ROUTING AND TRANSMITTAL SLIP

Date 7/19/88

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. John Virgin		
2.		
3.		
4.		
5.		

Action		File		Note and Return	
Approval		For Clearance		Per Conversation	
As Requested		For Correction		Prepare Reply	
Circulate		For Your Information		See Me	
Comment		Investigate		Signature	
Coordination		Justify			

REMARKS

Case 9688
Ridgefield Brick & Tile

RECEIVED
JUL 20 1988
BELLEVUE, WA

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Kelsey Raney

Room No.—Bldg.

Phone No. 442-4327

5041-102

☆ U.S. Government Printing Office: 1987-181-246/60000

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

S A M P L E M A N A G E M E N T O F F I C E

INORGANICS
RESOLUTION OF CONTRACT COMPLIANCE SCREENING (CCS) RESULTS

LABORATORY CODE : ALI CASE : 09688 RESPONSE RECEIPT DATE : 07/07/88

REGION : 10 SDG_NO.: 79 RECONCILIATION DATE : 07/11/88

RECONCILED BY : JD DATE MAILED : 07/15/88

ATTACHED ARE COPIES OF CCS SUMMARIES WHICH SHOW THE STATUS OF RELEVANT SAMPLES AFTER INCORPORATION OF LABORATORY RESPONSE TO SCREENING. PROBLEM CODES WHICH NO LONGER APPLY ARE MARKED WITH AN (X) CODE .

CRITERION	COMMENTS
	NONE

P.O. BOX 818, ALEXANDRIA, VIRGINIA 22313. PHONE : (703) 684-5678/FTS-8-557-2490

RECONCILED STATUS OF CCS RESULTS

RESPONSE RECEIVED DATE: 07/07/88

CONTRACT COMPLIANCE SCREENING SUMMARY FOR INORGANICS

CASE: 09688 CONTRACT: 68-01-7308 SAMPLES: 3 SDG_NO.: 79 DATE SCREENED: 06/30/88

LAB CODE: ALI REGION: 10 SCREENED BY: AC

SAMPLE NO.	A COVER PAGE	B DATA SHEET	CA CALIBRATION ICV/CCV	CB CRDL	D BLANK	E ICS	FA SPIKES PRE.	FB POST	G DUP.	H LCS	I MSA	J SER. DIL.	KA HOLDING HG	KB TIME CN	L IDL	M CORR. FACTR	N LIN. RANGE	R RAW DATA	T TR	DI-SK
MJB367-W																				
MJB367-1																				
MJB367-8							X													
MJB367-9																				
MJB370-1																				
MJB371-1																				

PROBLEM CODE: E = EXPLAIN, R = RESUBMIT, S = SUBMIT, N = NONCOMPLIANT, X = RECONCILED

LAUCKS TESTING LABORATORIES

SAMPLE DATA PACKET

CASE: 9688

June 30, 1988

No screens were performed for this case.

CASE NARRATIVE

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

Case No: 9688
SDG No: JC809
Contract No: 68-01-7406
Lab No.: 10034
Date of this report: June 29, 1988

GENERAL REMARKS FOR THIS CASE:

The following samples were analyzed under the above case and SDG numbers:

SMO Sample Number	LTL Sample Number	Analysis Request	Billable Initial Analysis	Billable Re-analysis
JC809	10034-1	VOA	YES	NO
JC810	10034-2	VOA	YES	NO
JC814	10034-3	VOA	YES	NO
JC810MS	10034-2MS	VOA	YES	NO
JC810MSD	10034-2MSD	VOA	YES	NO

Disk Deliverables:

The instructions for the disk deliverables are unclear about conventions for reporting results with signed results. These would include %RPD (Form III), %D (Form VII), %D Form VIII, and %D (Form IX). In the absence of further instruction, these values may be reported either as the absolute value or as the corresponding signed value, if negative. An unsigned value is either the absolute value or a positive value.

Calculated results reported on the forms and the disk deliverables may be the rounded result of calculations involving values of greater precision than values reported on the forms. Such values would include the %RPD on Form VI. The final result has been rounded to the appropriate number of significant figures in all cases.

GC/MS fractions:

Compounds may be called out as hits on the computerized printout. However, if they are not reported on the OADS report form, we have manually searched the mass spectral data and have eliminated the compounds as hits based on this search.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

Volatile fraction:

All volatile analyses were performed using a DB-624 megabore capillary. The elution order and retention times differ from those stated for packed column analysis in the contract. Below are listed the correct elution order and the internal standard with which each compound is associated.

Bromochloromethane(IS)	1,4-Difluorobenzene(IS)	d5-Chlorobenzene(IS)
Chloromethane	Benzene	4-Methyl-2-Pentanone
Vinyl Chloride	Trichloroethylene	Toluene
Bromomethane	1,2-Dichloropropane	d8-Toluene(SURR)
Chloroethane	Bromodichloromethane	Trans-1,3-Dichloropropene
1,1-Dichloroethylene	Cis-1,3-Dichloropropene	1,1,2-Trichloroethane
Acetone		Tetrachloroethylene
Carbon Disulfide		2-Hexanone
Methylene Chloride		Dibromochloromethane
Trans-1,2-Dichloroethylene		Chlorobenzene
1,1-Dichloroethane		Ethylbenzene
Vinyl Acetate		Styrene
Cis-1,2-Dichloroethylene		M,P-Xylene
2-Butanone		O-xylene
Chloroform		Bromoform
1,1,1-Trichloroethane		1,1,2,2-Tetrachloroethane
Carbon Tetrachloride		Bromofluorobenzene(SURR)
1,2-Dichloroethane		
d4-1,2-Dichloroethane(SURR)		

The analytes listed above were assigned to their respective internal standards on the basis of relative retention time. For all compounds except cis-1,3-dichloropropene, the RRTs fall between 0.8 and 1.2. Cis-1,2- dichloropropene was the only compound to fall outside of this range, and was assigned to the internal standard closest to its retention time.

Separation of cis- and trans- dichloroethylene isomers is achievable on a DB-624 megabore capillary column. These compounds have been found to coelute on the packed column which is specified in the statement of work. When these isomers are found in a sample, they will be reported as total 1,2 dichloroethylene.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

A holding blank was run in the same QC period with the samples from this case. The raw data was not submitted with the case. It will be held on file at Laucks should future review be necessary.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

REMARKS FOR THIS CASE:

All sample and shipment containers were received sealed and in good condition.

One sample was taken in triplicate and assigned 3 separate SMO sample numbers. Instructions on COC stated "triplicate samples to be used for matrix spike/matrix spike duplicate analyses." Jerry Muth at Region X specified that all three samples were to be considered one single sample. This sample will be identified as JC810 for analysis and reporting purposes.

VOA Fraction:

Methylene Chloride was detected in JC810MS and JC810MSD, while it was not found in the original sample JC810, this may be due to either contamination of the spiking compound or the sample bottle itself, since the one used for analysis of JC810 was different than that used for JC810MS/JC810MSD.

LAUCKS TESTING LABORATORIES
940 S. Harney
Seattle, WA 98108

RELEASE OF DATA

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signatures.

Respectfully submitted,

Charlene Nix
EPA Coordinator
6/30/88
(date)

Mike Nelson
Project Manager
6/30/88
(date)

CN/lrn

TRAFFIC REPORTS

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

ORGANICS TRAFFIC REPORT

Sample Number
JC 809

① Case Number: 91688

Sample Site Name/Code:

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

X Water
___ Soil/Sediment

④ Ship To:
Lauck's Lab
921 S. Harney
Seattle, WA 98108
Attn:

Transfer
Ship To:

⑤ Regional Office: 10

Sampling Personnel:
Brian L. O'Neal
(Name)
206-322-9596
(Phone)

Sampling Date:
5/23/88
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume	⑪ Analysis Lab: Rec'd by: C. Nix; Date Rec'd: 5/25/88; Sample Condition on Receipt (e.g., broken, no ice, Chain-of-Custody, etc.)
Water (Extractable)			
Water (VOA)	2	80ml	ok
Soil/Sediment (Extractable)			
Soil/Sediment (VOA)			
Other			
			SDG # JC809

⑦ Shipping Information

FED-EX
Name of Carrier

5/24/88
Date Shipped:

2254 967870
Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water ___ Solids
X Leachate ___ Other (specify) _____

⑨ Sample Location

TD-04

EPA # 88223013

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

LAB FILE COPY

010

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

ORGANICS TRAFFIC REPORT

Sample Number
JC 810

① Case Number: 9688

Sample Site Name/Code:

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

X Water
___ Soil/Sediment

④ Ship To:
Lovelace Lab
921 S. Harney
Seattle, WA 98108
Attn:

Transfer
Ship To:

⑤ Regional Office: 10

Sampling Personnel:
Brian L. O'Neal
(Name)
206-822-7596
(Phone)

Sampling Date:
5/23/88
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume	⑪ Analysis Lab: Rec'd by: C. Nix; Date Rec'd: 5/25/88; Sample Condition on Receipt (e.g., broken, no ice, Chain-of-Custody, etc.)
Water (Extractable)			
Water (VOA)	6	80ml	3 bottles had bubbles and 1 bottle had particles in it and the other was clear
Soil/Sediment (Extractable)			
Soil/Sediment (VOA)			
Other			
			SDG # JC 809

⑦ Shipping Information

FED-EX
Name of Carrier

5/24/88
Date Shipped:

2254967890
Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water ___ Solids
X Leachate ___ Other (specify) _____

⑨ Sample Location
TD-03
EPA # 88223012

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

011

LAB FILE COPY

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

ORGANICS TRAFFIC REPORT

Sample Number
JC 811

① **Case Number:** 9688X

Sample Site Name/Code:

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

X Water
___ Soil/Sediment

④ **Ship To:** Laucks Lab
921 S. Harney
Seattle WA 98108

Attn:

Transfer
Ship To:

⑤ **Regional Office:** 10

Sampling Personnel:
Brian L. O'Neal
(Name)
206-822-9596
(Phone)

Sampling Date:
5/23/88
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume	
Water (Extractable)			
Water (VOA)	2	80 ml	This sample has been combined w/ sample JC810 as per Jerry Muth - Please see attached Telephone conversation log for details
Soil/Sediment (Extractable)			
Soil/Sediment (VOA)			
Other			

⑪ **Analysis Lab:**
Rec'd by: C.N.
Date Rec'd: 5/25/88
Sample Condition on Receipt (e.g., broken, no ice, Chain-of-Custody, etc.)

⑦ **Shipping Information**

FED-EX
Name of Carrier

5/24/88
Date Shipped:

2254967890
Airbill Number:

⑧ **Sample Description**

___ Surface Water ___ Mixed Media
___ Ground Water ___ Solids
X Leachate ___ Other (specify) _____

⑨ **Sample Location**
TD-02
EPA # - 88223011

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

012

LAB FILE COPY

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

ORGANICS TRAFFIC REPORT

Sample Number
JC 812

① Case Number: 9688

Sample Site Name/Code:

② SAMPLE CONCENTRATION (Check One)

X Low Concentration
___ Medium Concentration

③ SAMPLE MATRIX (Check One)

X Water
___ Soil/Sediment

④ Ship To:
Laucks Lab
921 S. Harney
Seattle, WA 98108

Attn:

Transfer
Ship To:

⑤ Regional Office: 10

Sampling Personnel:
Brian L. O'Neal
(Name)
206-822-9596
(Phone)

Sampling Date:
5/23/88
(Begin) (End)

⑥ For each sample collected specify number of containers used and mark volume level on each bottle.

	Number of Containers	Approximate Total Volume	Sample Condition on Receipt (e.g., broken, no ice, Chain-of-Custody, etc.)
Water (Extractable)			
Water (VOA)	2	80ml	Bubbles in both bottles
Soil/Sediment (Extractable)			This sample has
Soil/Sediment (VOA)			been combined w/ sample JC810 per Jerry Huth -
Other			please see attached Telephone Conversation
			log for details

⑦ Shipping Information

FED-EX
Name of Carrier

5/24/88
Date Shipped:

2254967890
Airbill Number:

⑧ Sample Description

___ Surface Water ___ Mixed Media
___ Ground Water ___ Solids
X Leachate ___ Other (specify) _____

⑨ Sample Location
TD-01
EPA # 88223010

⑪ Analysis Lab:
Rec'd by: C. Nu
Date Rec'd: 5/25/88

⑩ Special Handling Instructions:
(e.g., safety precautions, hazardous nature)

013

LAB FILE COPY

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

ORGANICS TRAFFIC REPORT

Sample Number
JC 814

① **Case Number:** 094688

Sample Site Name/Code:

② **SAMPLE CONCENTRATION** (Check One)

X Low Concentration
___ Medium Concentration

③ **SAMPLE MATRIX** (Check One)

X Water
___ Soil/Sediment

④ **Ship To:** Lawks Lab
921 S. Harney
Seattle, WA 98107

Attn:

Transfer
Ship To:

⑤ **Regional Office:** 10

Sampling Personnel:
Brian L. Cable
(Name)
206-522-9576
(Phone)

Sampling Date:
5/24/88
(Begin) (End)

⑥ **For each sample collected specify number of containers used and mark volume level on each bottle.**

	Number of Containers	Approximate Total Volume	Sample Condition on Receipt (e.g., broken, no ice, Chain-of-Custody, etc.)
Water (Extractable)			
Water (VOA)	2	80ml	Bubbles in 1 bottle
Soil/Sediment (Extractable)			
Soil/Sediment (VOA)			
Other			
			SDG # JC809
			SDG = Final Sample

⑦ **Shipping Information**

FED-EX
Name of Carrier

5/24/88
Date Shipped:

2754967890
Airbill Number:

⑪ **Analysis Lab:**
Rec'd by: CNW
Date Rec'd: 5/25/88
Sample Condition on Receipt (e.g., broken, no ice, Chain-of-Custody, etc.)

⑧ **Sample Description**

___ Surface Water ___ Mixed Media
___ Ground Water ___ Solids
X Leachate ___ Other (specify) _____

⑨ **Sample Location**

TO-05
FM # - 88223014

⑩ **Special Handling Instructions:**
(e.g., safety precautions, hazardous nature)

014

LAB FILE COPY

VOLATILE

QC SUMMARY DATA

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No.: _____ SDG No.:JC809

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	VBLKJ1	103	98	97		0
02	JC809	108	101	104		0
03	JC810	100	96	99		0
04	JC814	100	95	99		0
05	JC810MS	105	102	102		0
06	JC810MSD	104	98	102		0
07						
08						
09						
10						
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27						
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29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No.: _____ SDG No.:JC809

Matrix Spike - EPA Sample No.: JC810

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.000	0.000	56.800	114	61-145
Trichloroethene	50.000	0.000	54.600	109	71-120
Benzene	50.000	0.000	44.900	90	76-127
Toluene	50.000	0.000	43.900	88	76-125
Chlorobenzene	50.000	0.000	51.700	103	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.000	59.900	120	5	14	61-145
Trichloroethene	50.000	53.200	106	3	14	71-120
Benzene	50.000	44.500	89	1	11	76-127
Toluene	50.000	44.000	88	0	13	76-125
Chlorobenzene	50.000	51.200	102	1	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD:0 out of 5 outside limits
Spike Recovery:0 out of 10 outside limits

Comments: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.: 9688 SAS No.: _____ SDG No.: JC809

Lab File ID: 0531VWBJ1 Lab Sample ID: B0531MVOWJ1

Date Analyzed: 05/31/88 Time Analyzed: 12:14

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: 1020J

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	JC809	10034-01	10034V01	12:59
02	JC810	10034-02	10034V02	13:38
03	JC814	10034-03	10034V03	14:14
04	JC810MS	10034-02MS	10034V02MS	14:57
05	JC810MSD	10034-02MSD	10034V02MSD	15:40
06				
07				
08				
09				
10				
11				
12				
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27				
28				
29				
30				

COMMENTS: _____

5A
VOLATILE ORGANIC GC/MS TUNING AND MASS
CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.: 9688 SAS No.: _____ SDG No.: JC809

Lab File ID: 0503BFBJ1 BFB Injection Date:05/03/88

Instrument ID: 1020J BFB Injection Time:11:10

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF mass 95	19.7
75	30.0 - 60.0% of mass 95	45.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.4
173	Less than 2.0% of mass 174	1.2 (1.8)1
174	Greater than 50.0% of mass 95	66.3
175	5.0 - 9.0% of mass 174	5.2 (7.9)1
176	Greater than 95.0%, but less than 101.0% of mass 174	65.2 (98.3)1
177	5.0 - 9.0 % of mass 176	4.8 (7.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	50 UG/L STD	0503V2J2	05/03/88	17:25
02	VSTD020	20 UG/L STD	0503V1J1	05/03/88	17:56
03	VSTD100	100 UG/L STD	0503V3J1	05/03/88	18:38
04	VSTD150	150 UG/L STD	0503V4J1	05/03/88	19:14
05	VSTD200	200 UG/L STD	0503V5J2	05/03/88	21:23
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.: 9688 SAS No.: _____ SDG No.: JC809

Lab File ID: 0531BFBJ2 BFB Injection Date: 05/31/88

Instrument ID: 1020J BFB Injection Time: 10:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% OF mass 95	15.8 _____
75	30.0 - 60.0% of mass 95	36.0 _____
95	Base peak, 100% relative abundance	100.0 _____
96	5.0 - 9.0% of mass 95	6.6 _____
173	Less than 2.0% of mass 174	0.4 (0.7)1
174	Greater than 50.0% of mass 95	59.7 _____
175	5.0 - 9.0% of mass 174	4.5 (7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	56.9 (95.4)1
177	5.0 - 9.0 % of mass 176	3.8 (6.6)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	50 UG/L STD	0531V2J1	05/31/88	11:35
02	VBLKJ1	B0531MVOWJ1	0531VWBJ1	05/31/88	12:14
03	JC809	10034-01	10034V01	05/31/88	12:59
04	JC810	10034-02	10034V02	05/31/88	13:38
05	JC814	10034-03	10034V03	05/31/88	14:14
06	JC810MS	10034-02MS	10034V02MS	05/31/88	14:57
07	JC810MSD	10034-02MSD	10034V02MSD	05/31/88	15:40
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

VOLATILE

SAMPLE DATA

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JC809

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-01

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V01

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
JC809

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No.: _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-01

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V01

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1.0

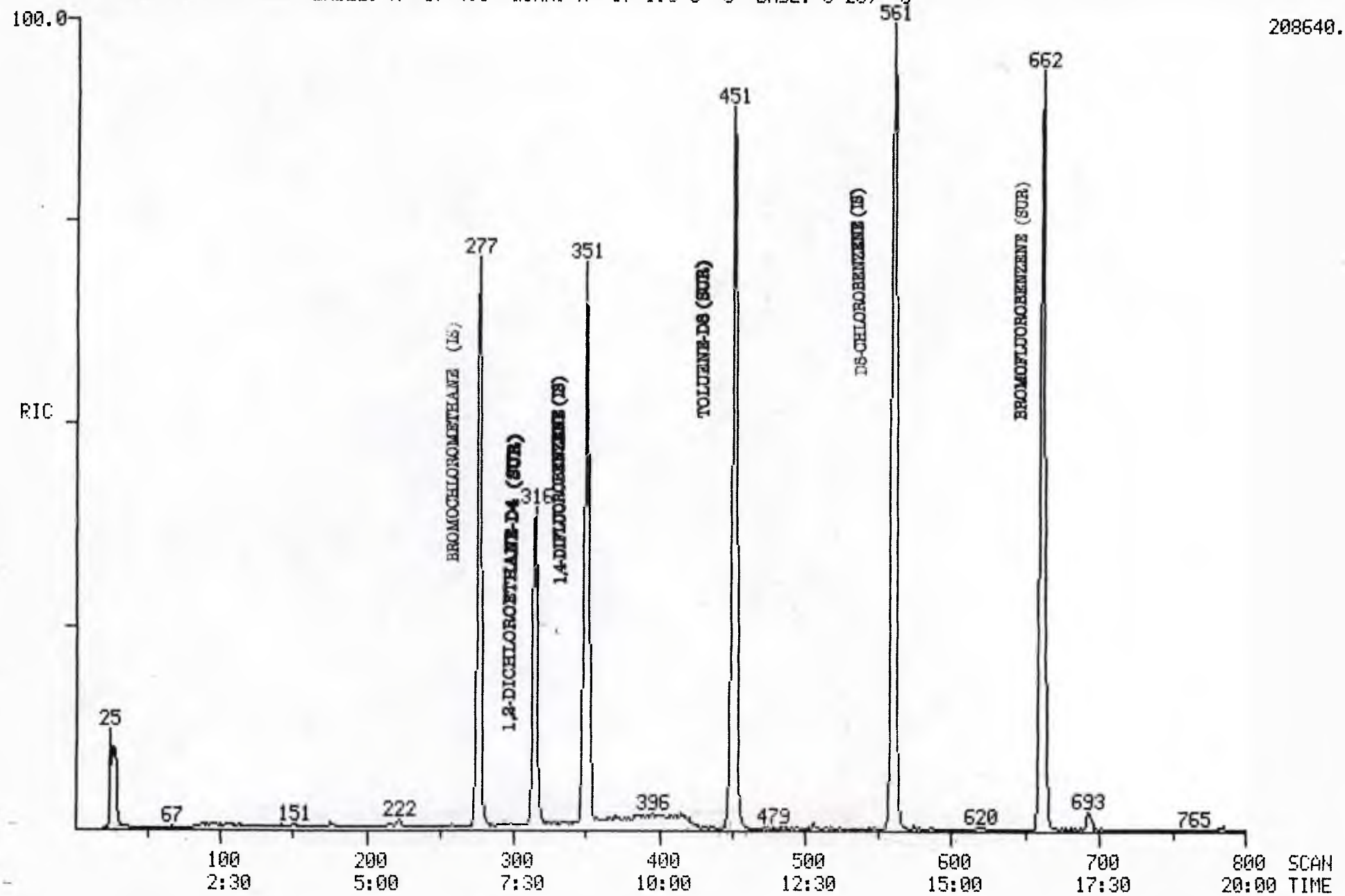
Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

RIC
05/31/88 12:59:00
SAMPLE: JC809 10034-1 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 10034V01 #250 SCANS 1 TO 800
CALI: CA053188A #4



Quantitation Report File: 10034V01

Data: 10034V01.TI
05/31/88 12:59:00
Sample: JC809 10034-1 5ML+IS/SS CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: EPA Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	277	6:55	1	1.000	A BB	67501.	50.000	NG/ML	16.08
2	NOT	FOUND								
3	NOT	FOUND								
4	NOT	FOUND								
5	NOT	FOUND								
6	NOT	FOUND								
7	NOT	FOUND								
~~8~~ NO	43	151	3:46	1	0.545	A BB	1093.	3.048	NG/ML	0.98
9	NOT	FOUND								
10	NOT	FOUND								
~~11~~ NO	63	222	5:33	1	0.801	A BB	3491.	1.467	NG/ML	0.47
12	NOT	FOUND								
13	NOT	FOUND								
14	NOT	FOUND								
15	NOT	FOUND								
16	NOT	FOUND								
17	NOT	FOUND								
18	65	316	7:54	1	1.141	A BB	99432.	52.086	NG/ML	16.75
19	114	351	8:46	19	1.000	A BB	203313.	50.000	NG/ML	16.08
20	NOT	FOUND								
21	NOT	FOUND								
22	NOT	FOUND								
23	NOT	FOUND								
24	NOT	FOUND								
25	117	561	14:01	25	1.000	A BB	279013.	50.000	NG/ML	16.08
26	NOT	FOUND								
27	NOT	FOUND								
28	98	451	11:16	25	0.804	A BB	280425.	53.985	NG/ML	17.36
29	NOT	FOUND								
30	NOT	FOUND								
31	NOT	FOUND								
32	NOT	FOUND								
33	NOT	FOUND								
34	NOT	FOUND								
35	NOT	FOUND								
36	NOT	FOUND								
37	NOT	FOUND								
38	NOT	FOUND								
39	NOT	FOUND								
40	95	662	16:33	25	1.180	A BB	193945.	50.310	NG/ML	16.18
41	NOT	FOUND								
42	NOT	FOUND								

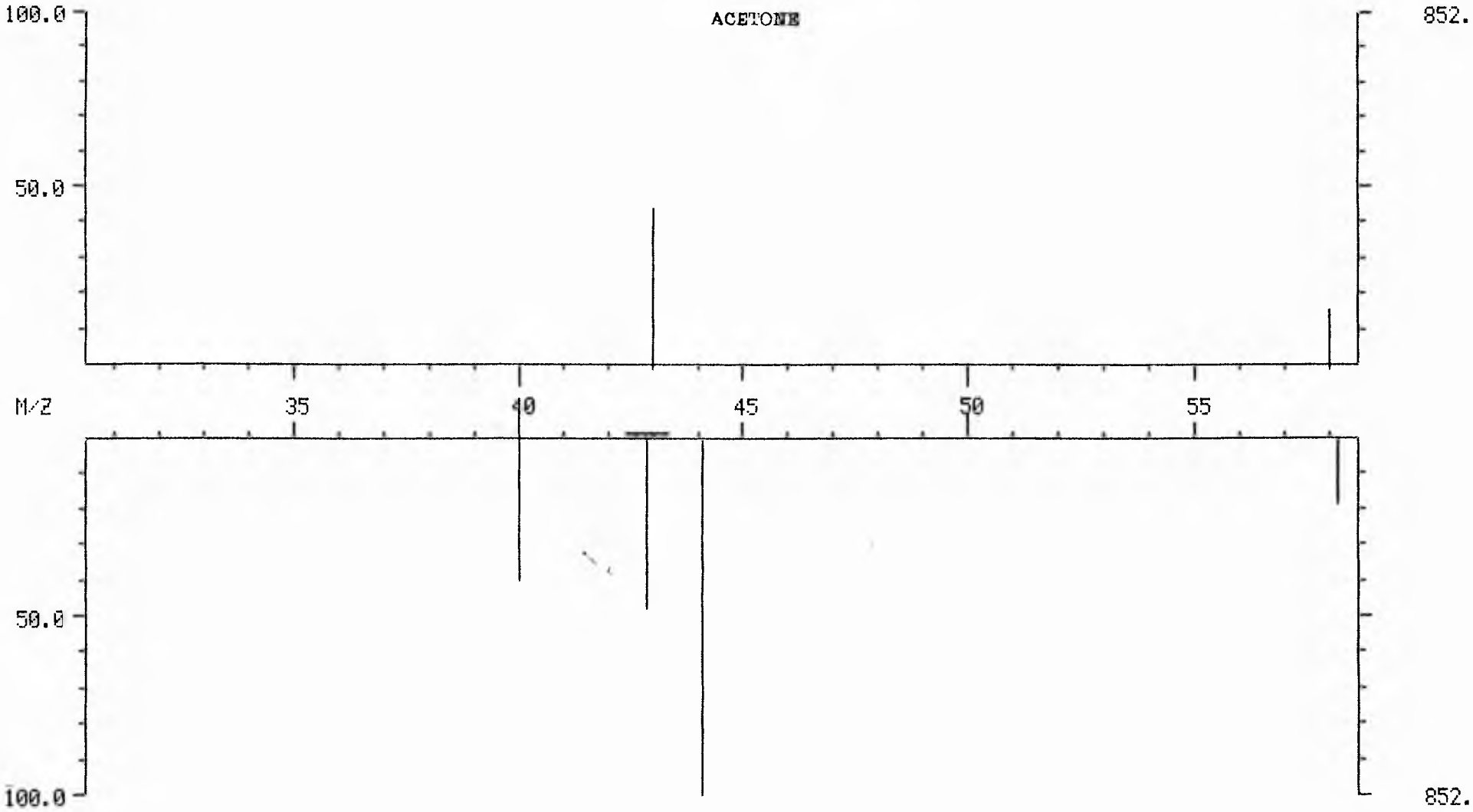
No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	1.01	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27		0.502						
7	3:34		0.520						
8	3:42	1.02	0.538	1.01	3.05	50.00	0.016	0.266	0.06
9	4:21		0.633						
10	4:48		0.698						
11	5:31	1.00	0.804	1.00	1.47	50.00	0.052	1.763	0.03
12	5:49		0.847						

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40		0.971						
14	7:09		1.040						
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	1.01	1.142	1.00	52.09	50.00	1.473	1.414	1.04
19	8:43	1.01	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52		0.903						
21	9:03		1.037						
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21		0.812						
28	11:13	1.00	0.803	1.00	53.99	50.00	1.005	0.931	1.08
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01		1.004						
35	14:21		1.027						
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	1.00	1.181	1.00	50.31	50.00	0.695	0.691	1.01
41	14:35		1.102						
42	6:15		0.728						

DUAL MASS SPECTRUM
05/31/88 12:59:00 + 3:46
SAMPLE: JC809 10034-1 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V01 #151
CALI: CA053188A #4

BASE M/Z: 43/ 44
RIC: 501./ 1765.

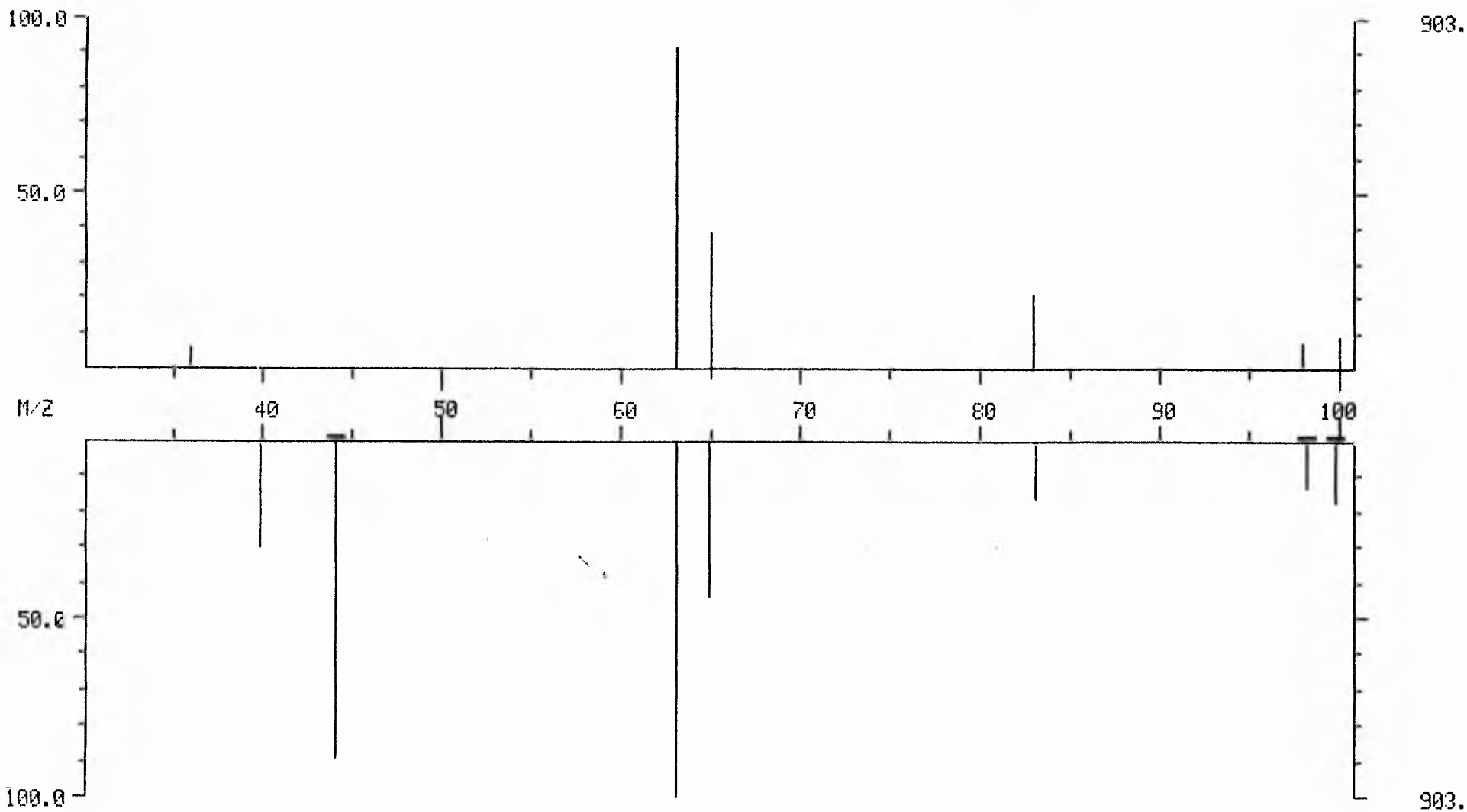


DUAL MASS SPECTRUM
05/31/88 12:59:00 + 5:33
SAMPLE: JC809 10034-1 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034U01 #222
CALI: CA053188A #4

BASE M/Z: 63/ 63
RIC: 1561./ 2799.

1,1-DICHLOROETHANE



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JC810

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-02

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V02

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	4	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	1	J
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
JC810

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No.: _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-02

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V02

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1.0

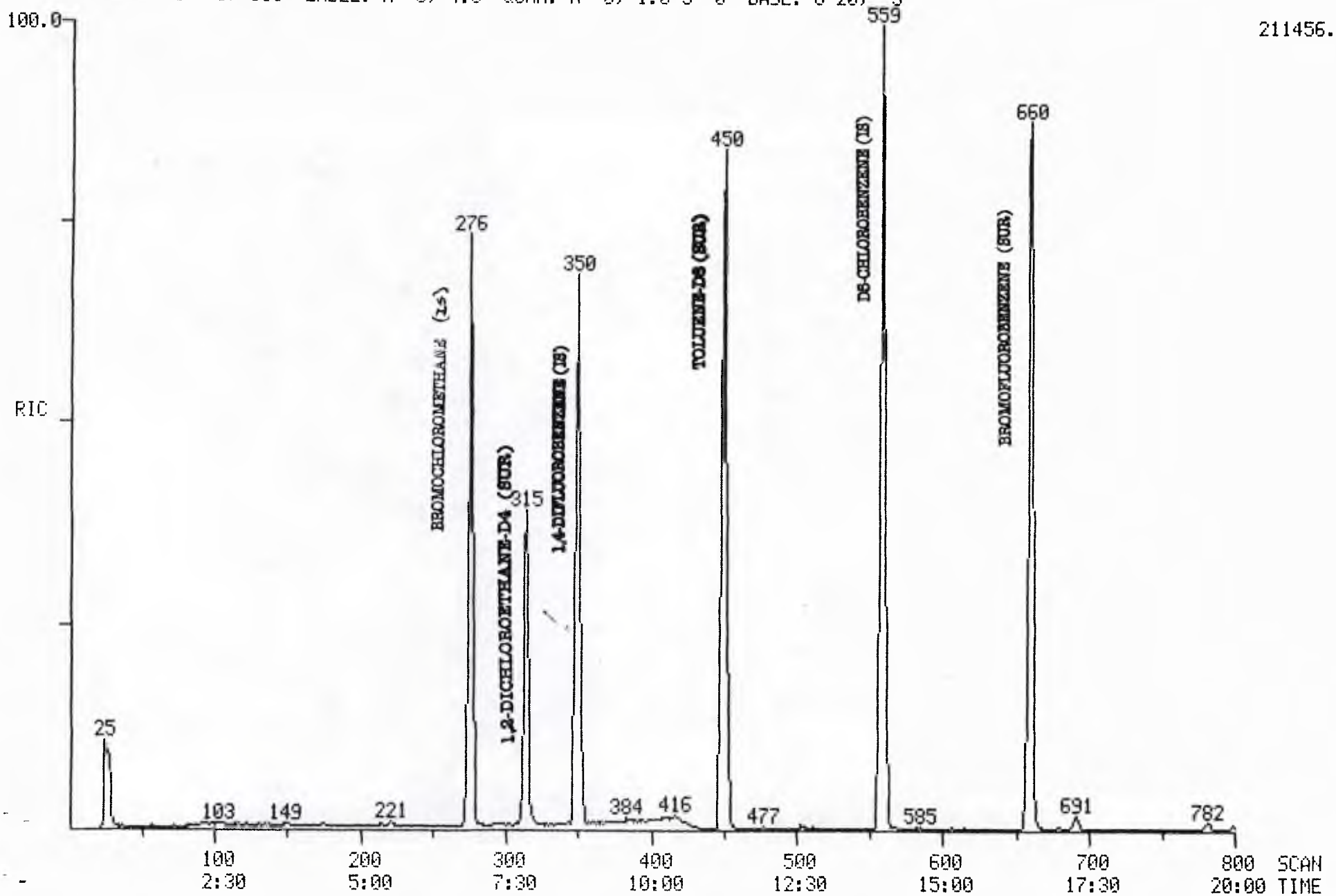
Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FORM I VOA-TIC 1/87 Rev.

RIC
05/31/88 13:38:00
DATA: 10034V02 #1 SCANS 1 TO 800
CALI: CA053188A #4
SAMPLE: JC810 10034-02 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 10034V02

Data: 10034V02.TI
05/31/88 13:38:00
Sample: JC810 10034-02 5ML+IS/SS CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.001
Submitted by: EPA Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
1	128	276	6:54	1	1.000	A BB	68733.	50.000 NG/ML	16.52
2	NOT FOUND								
3	NOT FOUND								
4	NOT FOUND								
5	NOT FOUND								
6	NOT FOUND								
7	NOT FOUND								
8	43	149	3:43	1	0.540	A BB	1496.	4.098 NG/ML	1.35
9	NOT FOUND								
10	NOT FOUND								
11	63	221	5:31	1	0.801	A BB	2665.	1.100 NG/ML	0.36
12	NOT FOUND								
13	NOT FOUND								
14	NOT FOUND								
15	NOT FOUND								
16	NOT FOUND								
17	NOT FOUND								
18	65	315	7:52	1	1.141	A BB	96023.	49.399 NG/ML	16.33
19	114	350	8:45	19	1.000	A BB	203155.	50.000 NG/ML	16.52
20	NOT FOUND								
21	NOT FOUND								
22	NOT FOUND								
23	NOT FOUND								
24	NOT FOUND								
25	117	559	13:58	25	1.000	A BB	282495.	50.000 NG/ML	16.52
26	NOT FOUND								
27	NOT FOUND								
28	98	450	11:15	25	0.805	A BB	262608.	49.932 NG/ML	16.50
29	NOT FOUND								
30	NOT FOUND								
31	NOT FOUND								
32	NOT FOUND								
33	NOT FOUND								
34	NOT FOUND								
35	NOT FOUND								
36	NOT FOUND								
37	NOT FOUND								
38	NOT FOUND								
39	NOT FOUND								
40	95	660	16:30	25	1.181	A BB	187568.	48.056 NG/ML	15.88
41	NOT FOUND								
42	NOT FOUND								

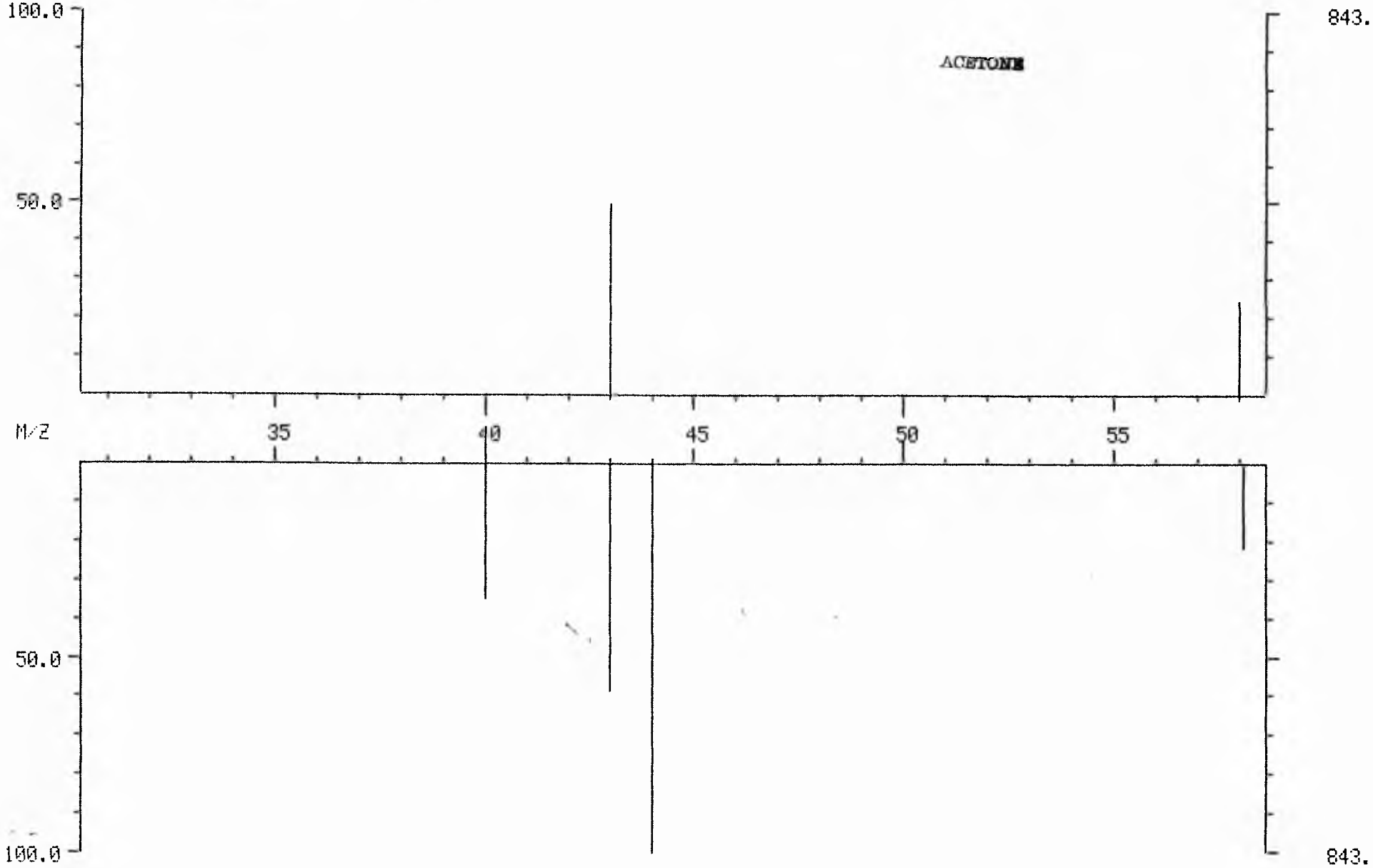
No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27		0.502						
7	3:34		0.520						
8	3:42	1.01	0.538	1.00	4.10	50.00	0.022	0.266	0.08
9	4:21		0.633						
10	4:48		0.698						
11	5:31	1.00	0.804	1.00	1.10	50.00	0.039	1.763	0.02
12	5:49		0.847						

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40		0.971						
14	7:09		1.040						
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	1.00	1.142	1.00	49.40	50.00	1.397	1.414	0.99
19	8:43	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52		0.903						
21	9:03		1.037						
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21		0.812						
28	11:13	1.00	0.803	1.00	49.93	50.00	0.930	0.931	1.00
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01		1.004						
35	14:21		1.027						
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	1.00	1.181	1.00	48.06	50.00	0.664	0.691	0.96
41	14:35		1.102						
42	6:15		0.728						

DUAL MASS SPECTRUM
05/31/88 13:38:00 + 3:43
SAMPLE: JC810 10034-02 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V02 #149
CALI: CA053188A #4

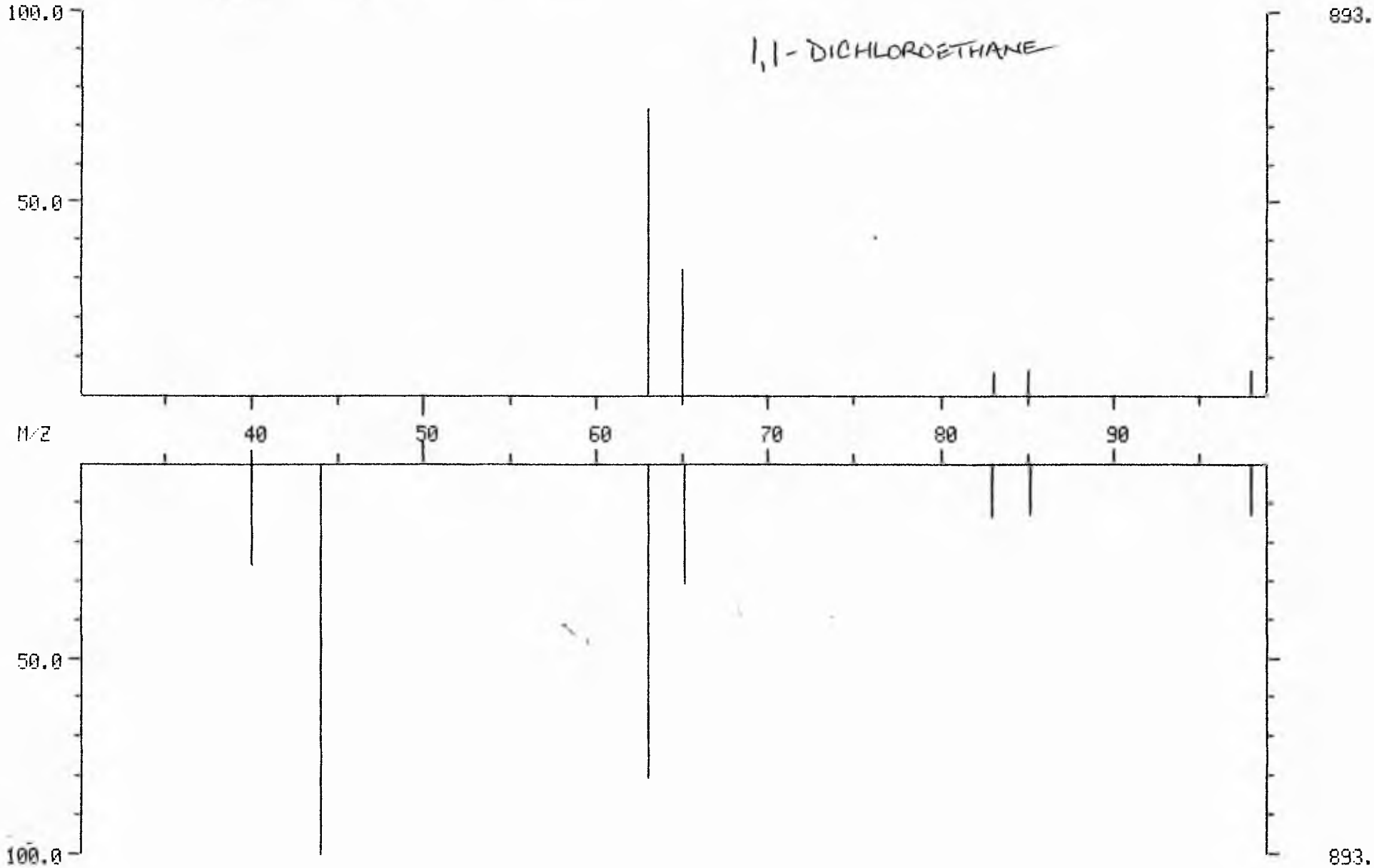
BASE M/Z: 43/ 44
RIC: 623./ 1817.



DUAL MASS SPECTRUM
05/31/88 13:38:00 + 5:31
SAMPLE: JC810 10034-02 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034U02 #221
CALI: CA053188A #4

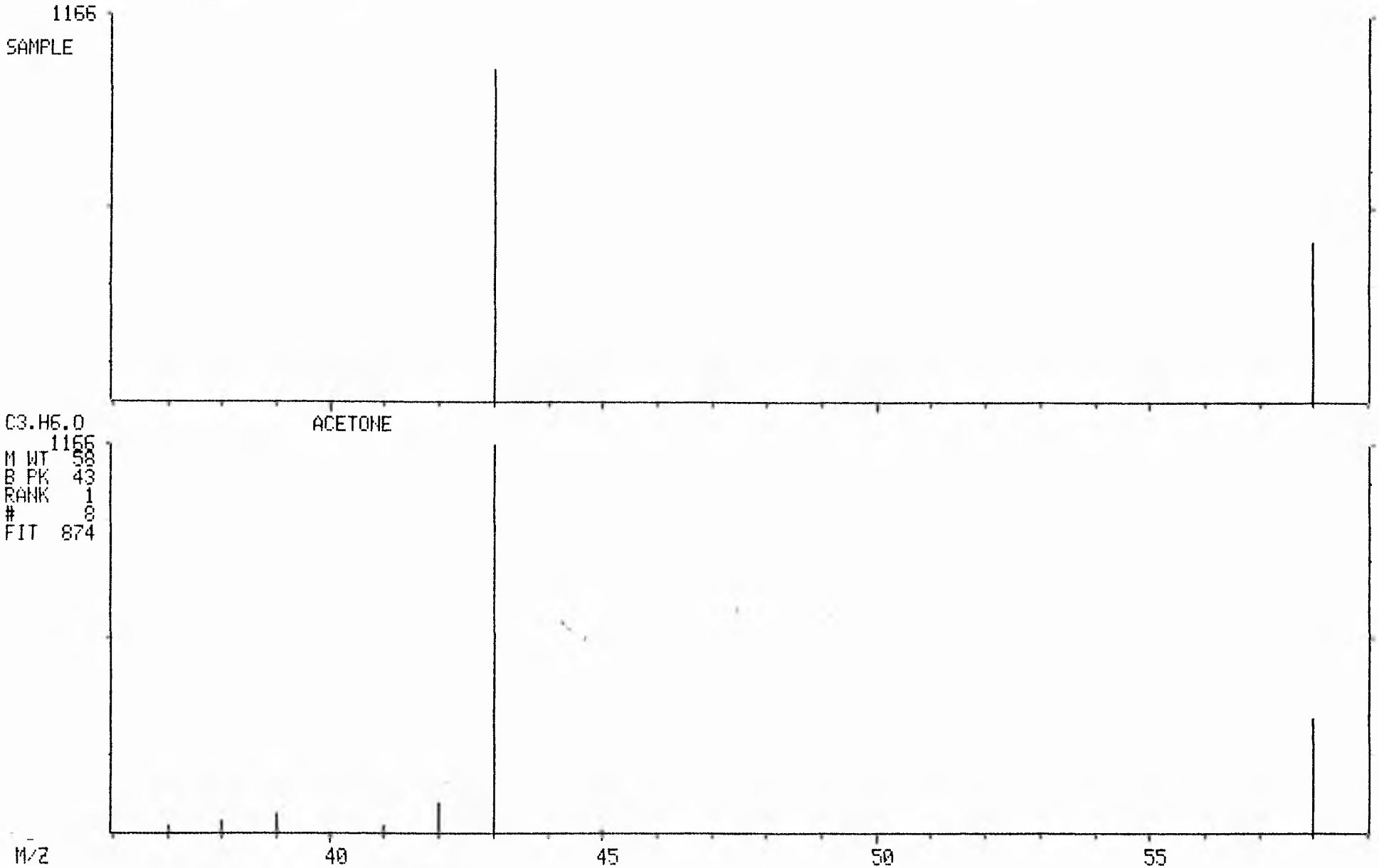
BASE M/Z: 63/ 44
RIC: 1123./ 2479.



LIBRARY SEARCH
05/31/88 13:38:00 + 3:43
SAMPLE: JC810 10034-02 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V02 # 149
CALI: CA053188A # 4

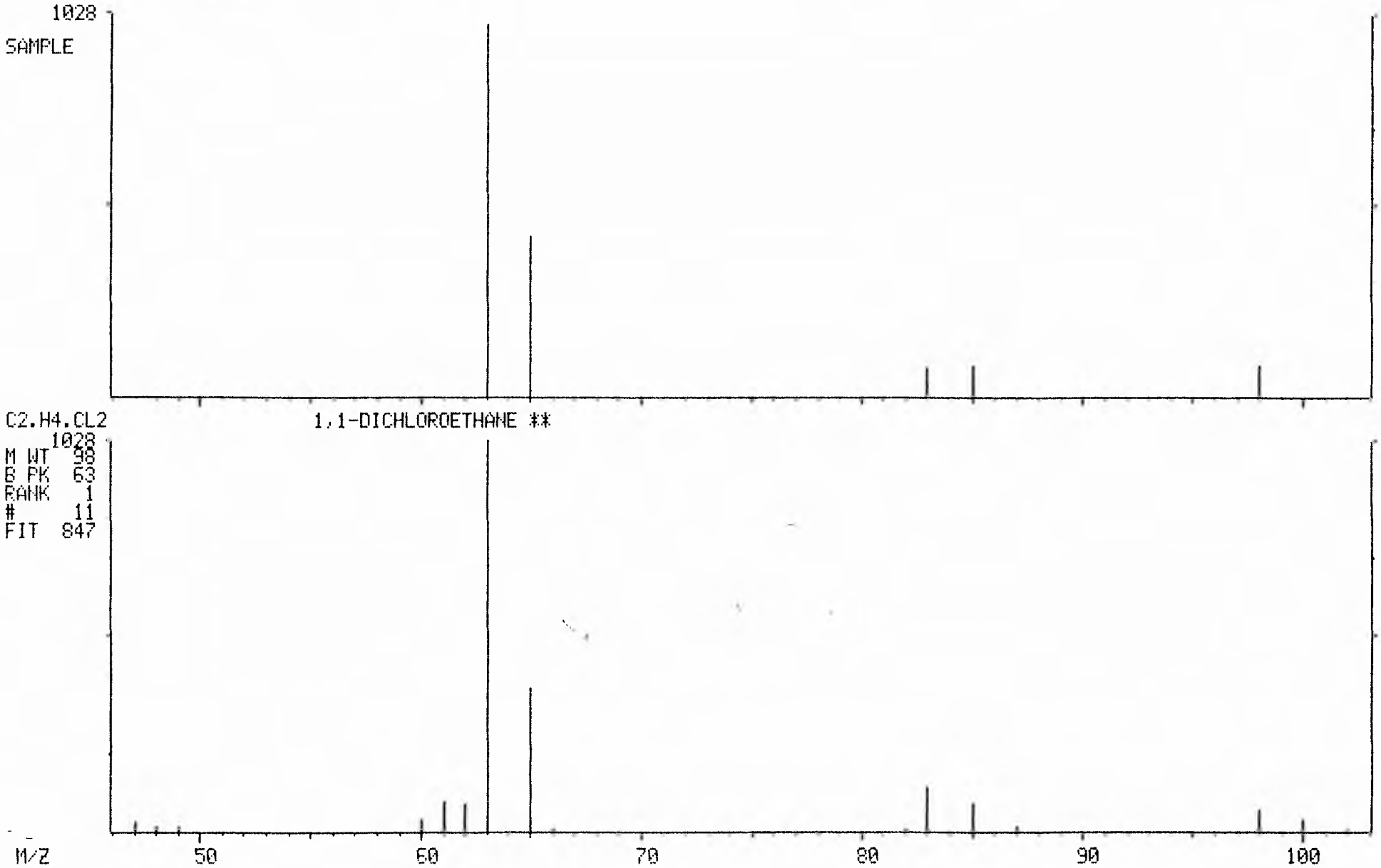
BASE M/Z: 43
RIC: 623.



LIBRARY SEARCH
05/31/88 13:38:00 + 5:31
SAMPLE: JC810 10034-02 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V02 # 221
CALI: CA053188A # 4

BASE M/Z: 63
RIC: 1123.



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JC814

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-03

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V03

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	8	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JC814

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No.: _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-03

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V03

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

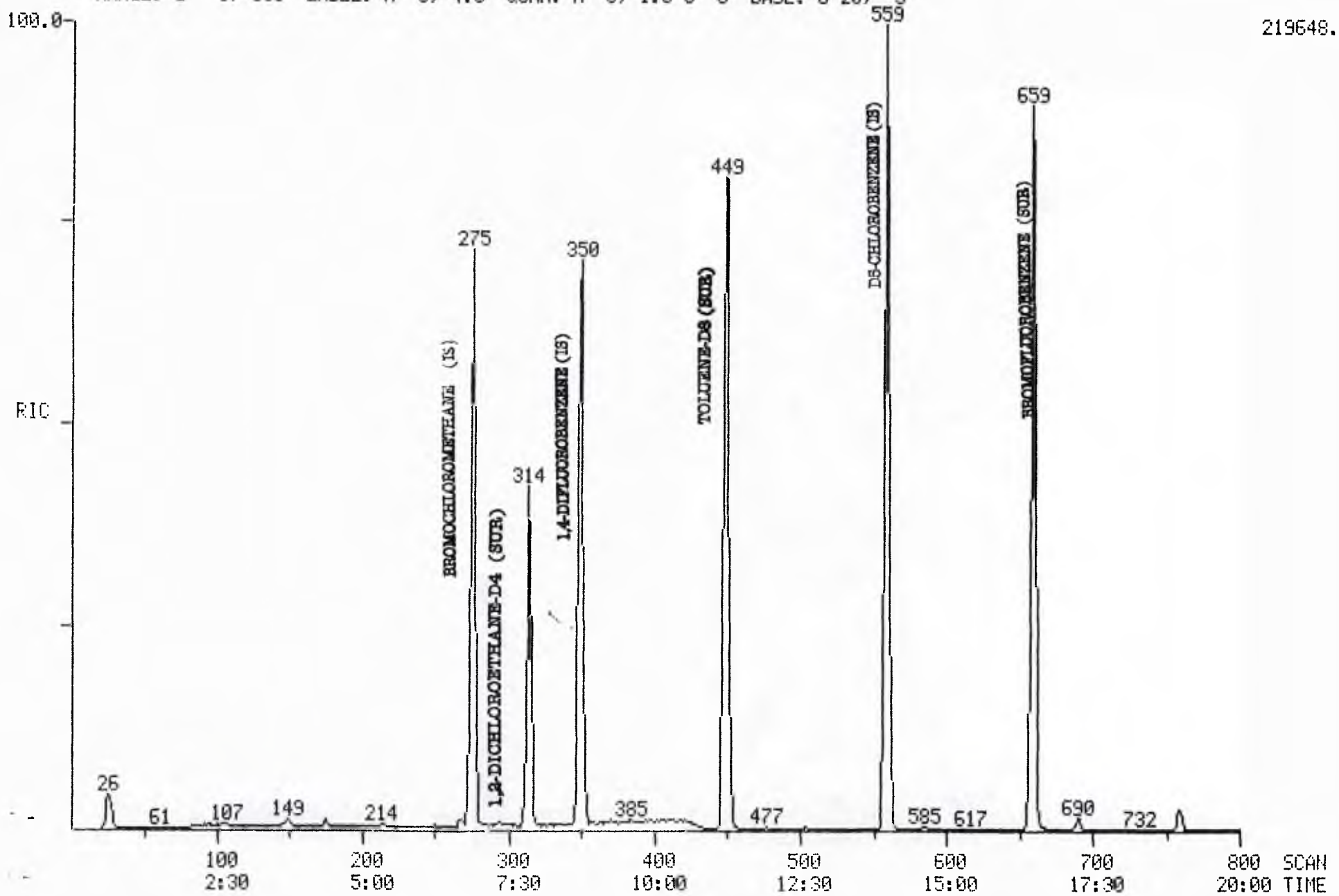
CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

RIC
05/31/88 14:14:00
SAMPLE: JC814 10034-03 5ML+IS/SS
CONDS.: INSTRUMENT: 1020J
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 10034V03 #1
CALI: CA053188A #4
CASE#9688
LAUCKS TESTING LABS

SCANS 1 TO 800



042

Quantitation Report File: 10034V03

Data: 10034V03.TI
05/31/88 14:14:00
Sample: JC814 10034-03 5ML+IS/SS CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: EPA Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
1	128	275	6:52	1	1.000	A BB	75511.	50.000 NG/ML	16.06
2	NOT FOUND								
3	NOT FOUND								
4	NOT FOUND								
5	NOT FOUND								
6	NOT FOUND								
7	NOT FOUND								
16 ~~8~~	43	149	3:43	1	0.542	A BB	2337.	5.827 NG/ML	1.87
16 ~~9~~	84	175	4:22	1	0.636	A BB	1405.	0.509 NG/ML	0.16
10	NOT FOUND								
11	NOT FOUND								
12	NOT FOUND								
13	72	267	6:40	1	0.971	A BB	1175.	7.599 NG/ML	2.44
14	NOT FOUND								
15	NOT FOUND								
16	NOT FOUND								
17	NOT FOUND								
18	65	314	7:51	1	1.142	A BB	105715.	49.503 NG/ML	15.90
19	114	350	8:45	19	1.000	A BB	220821.	50.000 NG/ML	16.06
20	NOT FOUND								
21	NOT FOUND								
22	NOT FOUND								
23	NOT FOUND								
24	NOT FOUND								
25	117	559	13:58	25	1.000	A BB	292747.	50.000 NG/ML	16.06
26	NOT FOUND								
27	NOT FOUND								
28	98	449	11:13	25	0.803	A BB	273057.	50.101 NG/ML	16.09
29	NOT FOUND								
30	NOT FOUND								
31	NOT FOUND								
32	NOT FOUND								
33	NOT FOUND								
34	NOT FOUND								
35	NOT FOUND								
36	NOT FOUND								
37	NOT FOUND								
38	NOT FOUND								
39	NOT FOUND								
40	95	659	16:28	25	1.179	A BB	192098.	47.493 NG/ML	15.25
16 ~~41~~	106	585	14:37	25	1.047	A BB	991.	0.356 NG/ML	0.11
42	NOT FOUND								

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27		0.502						
7	3:34		0.520						
8	3:42	1.01	0.538	1.01	5.83	50.00	0.031	0.266	0.12
9	4:21	1.01	0.633	1.01	0.51	50.00	0.019	1.827	0.01
10	4:48		0.698						
11	5:31		0.804						
12	5:49		0.847						

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40	1.00	0.971	1.00	7.60	50.00	0.016	0.102	0.15
14	7:09		1.040						
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	1.00	1.142	1.00	49.50	50.00	1.400	1.414	0.99
19	8:43	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52		0.903						
21	9:03		1.037						
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21		0.812						
28	11:13	1.00	0.803	1.00	50.10	50.00	0.933	0.931	1.00
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01		1.004						
35	14:21		1.027						
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	1.00	1.181	1.00	47.49	50.00	0.656	0.691	0.95
41	14:35	1.00	1.102	0.95	0.36	50.00	0.003	0.476	0.01
42	6:15		0.728						

Quantitation Report File: TEMP

Data: 10034V03.TI
05/31/88 14:14:00
Sample: JC814 10034-03 5ML+IS/SS CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: EPA Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	D5-CHLOROBENZENE (INTERNAL STD)
2	M,P-XYLENES
3	O-XYLENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
1	117	559	13:58	1	1.000	A BB	292747.	50.000 NG/ML	99.05
NO ~~2~~	106	585	14:37	1	1.047	A BB	991.	0.356 NG/ML	0.70
NO ~~3~~	106	617	15:25	1	1.104	A BB	351.	0.126 NG/ML	0.25

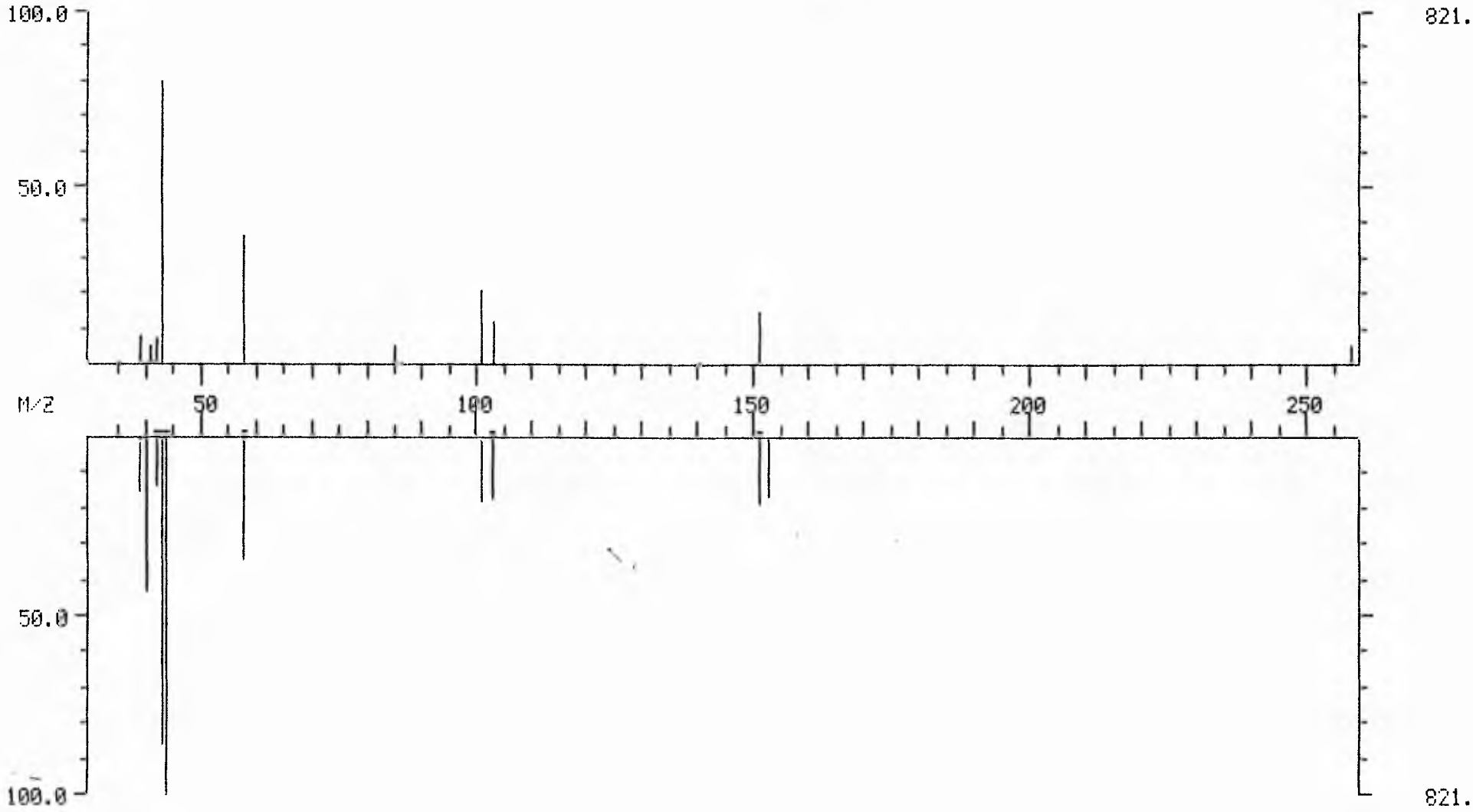
No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	14:35	1.00	1.102	0.95	0.36	50.00	0.003	0.476	0.01
3	15:24	1.00	1.102	1.00	0.13	50.00	0.001	0.476	0.00

DUAL MASS SPECTRUM
05/31/88 14:14:00 + 3:43
SAMPLE: JC814 10034-03 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V03 #149
CALI: CA053188A #4

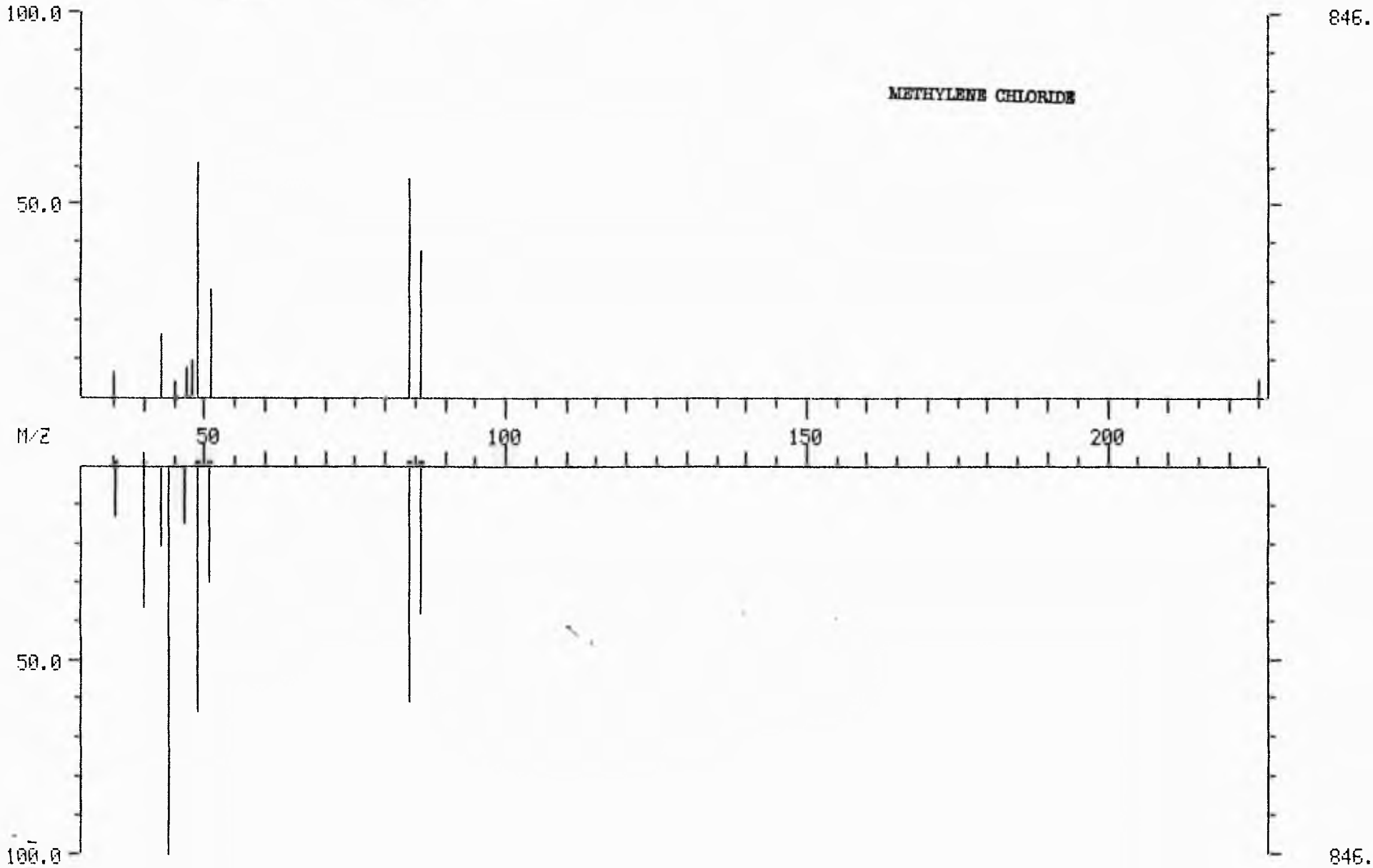
BASE M/Z: 43/ 44
RIC: 1587./ 2995.

ACETONE



DUAL MASS SPECTRUM
05/31/88 14:14:00 + 4:22
SAMPLE: JC814 10034-03 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

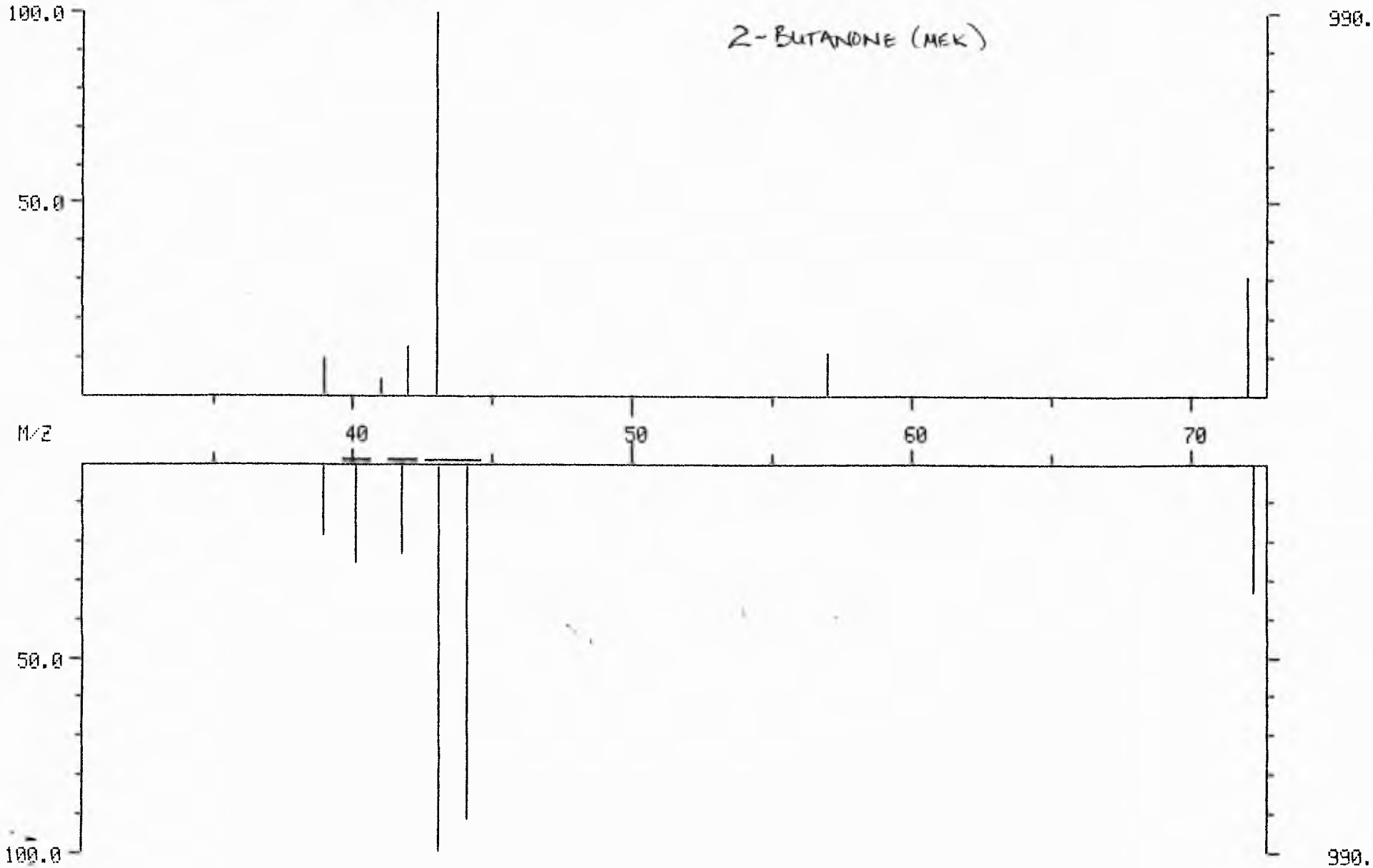
DATA: 10034V03 #175 BASE M/Z: 49/ 44
CALI: CA053188A #4 RIC: 1971./ 3199.



DUAL MASS SPECTRUM
05/31/88 14:14:00 + 6:40
SAMPLE: JC814 10034-03 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V03 #267
CALI: CA053188A #4

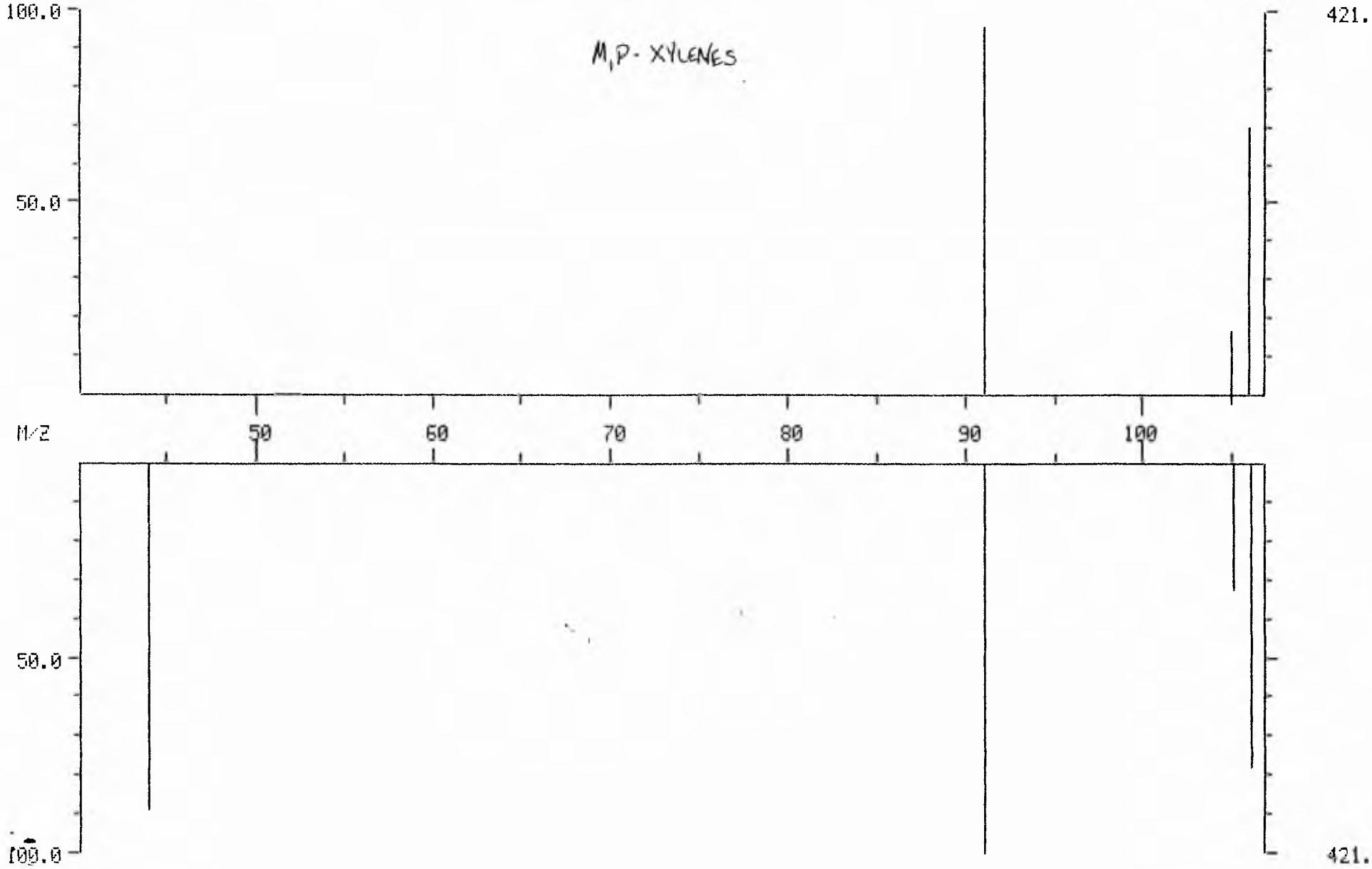
BASE M/Z: 43/ 43
RIC: 1665./ 2875.



DUAL MASS SPECTRUM
05/31/88 14:14:00 + 14:37
SAMPLE: JC814 10034-03 5ML+IS/SS CASE#3688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034U03 #585
CALI: CA053188A #4

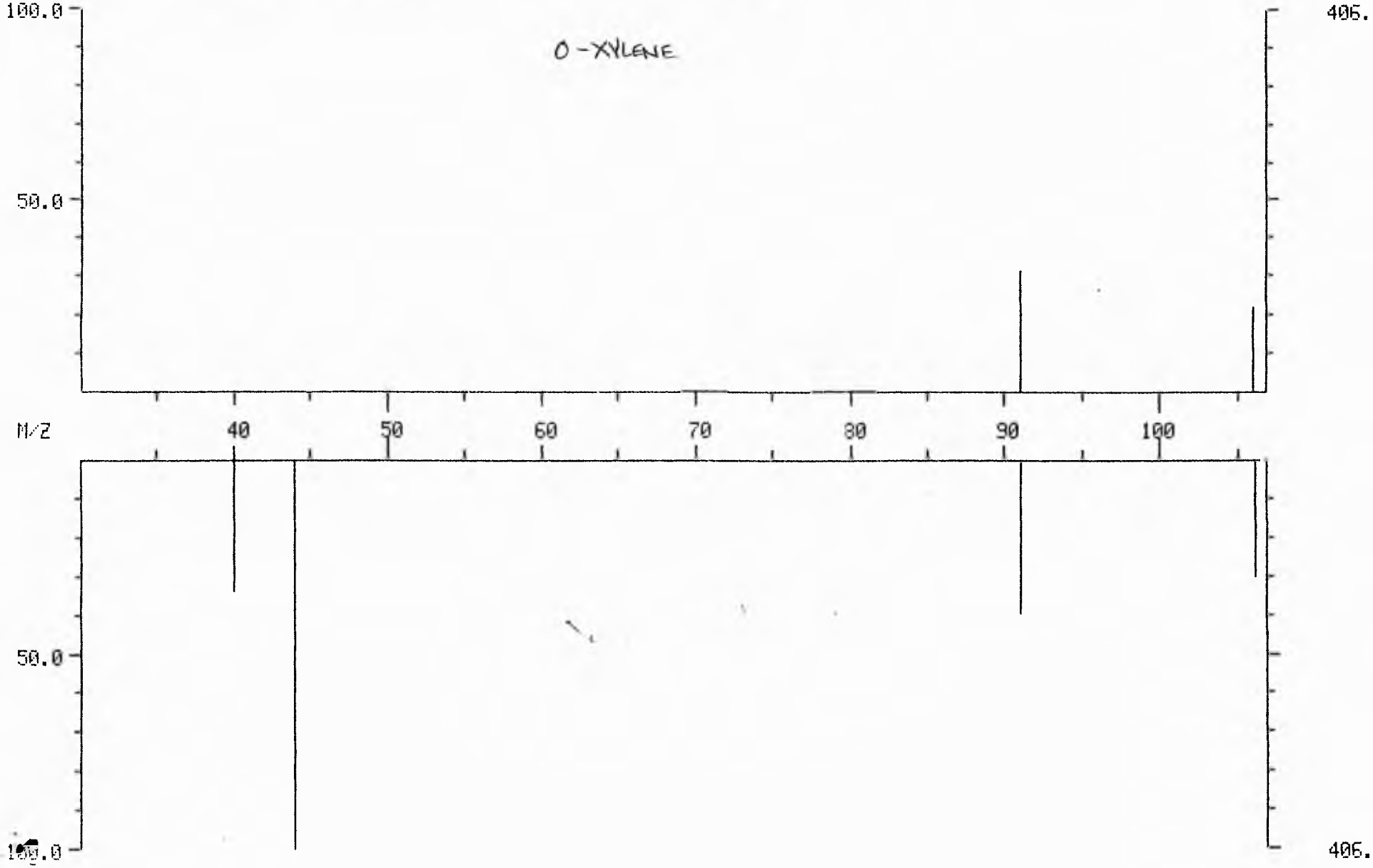
BASE M/Z: 91/ 91
RIC: 765./ 1263.



DUAL MASS SPECTRUM
05/31/88 14:14:00 + 15:25
SAMPLE: JC814 10034-03 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V03 #617
CALI: CA053188A #4

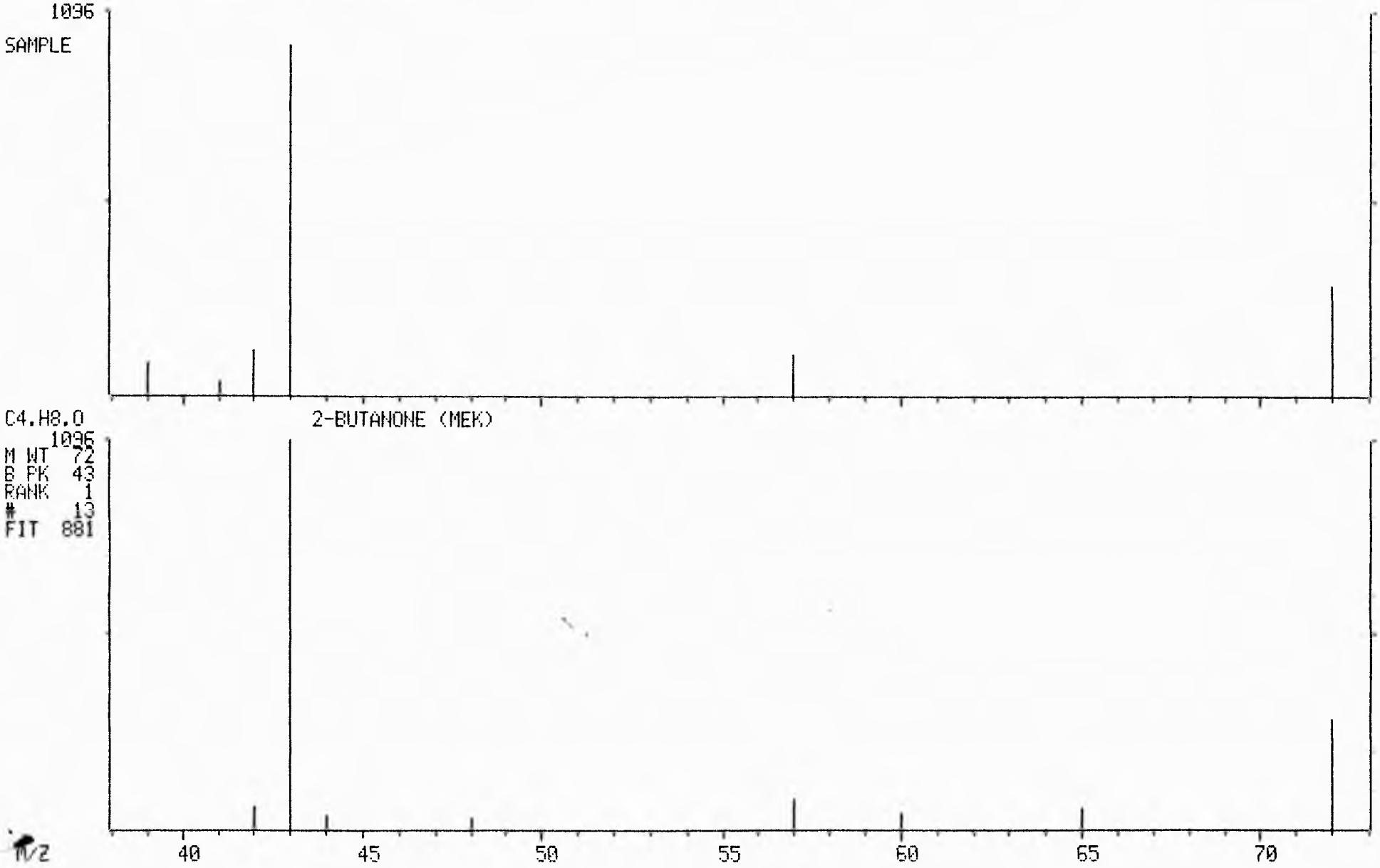
BASE M/Z: 91/ 44
RIC: 216./ 826.



LIBRARY SEARCH
05/31/88 14:14:00 + 6:40
SAMPLE: JC814 10034-03 5ML+IS/SS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034V03 # 267
CALI: CA053188A # 4

BASE M/Z: 43
RIC: 1665.



VOLATILE

STANDARDS DATA

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Instrument ID: 1020J Calibration Date(s):05/03/88 05/03/88

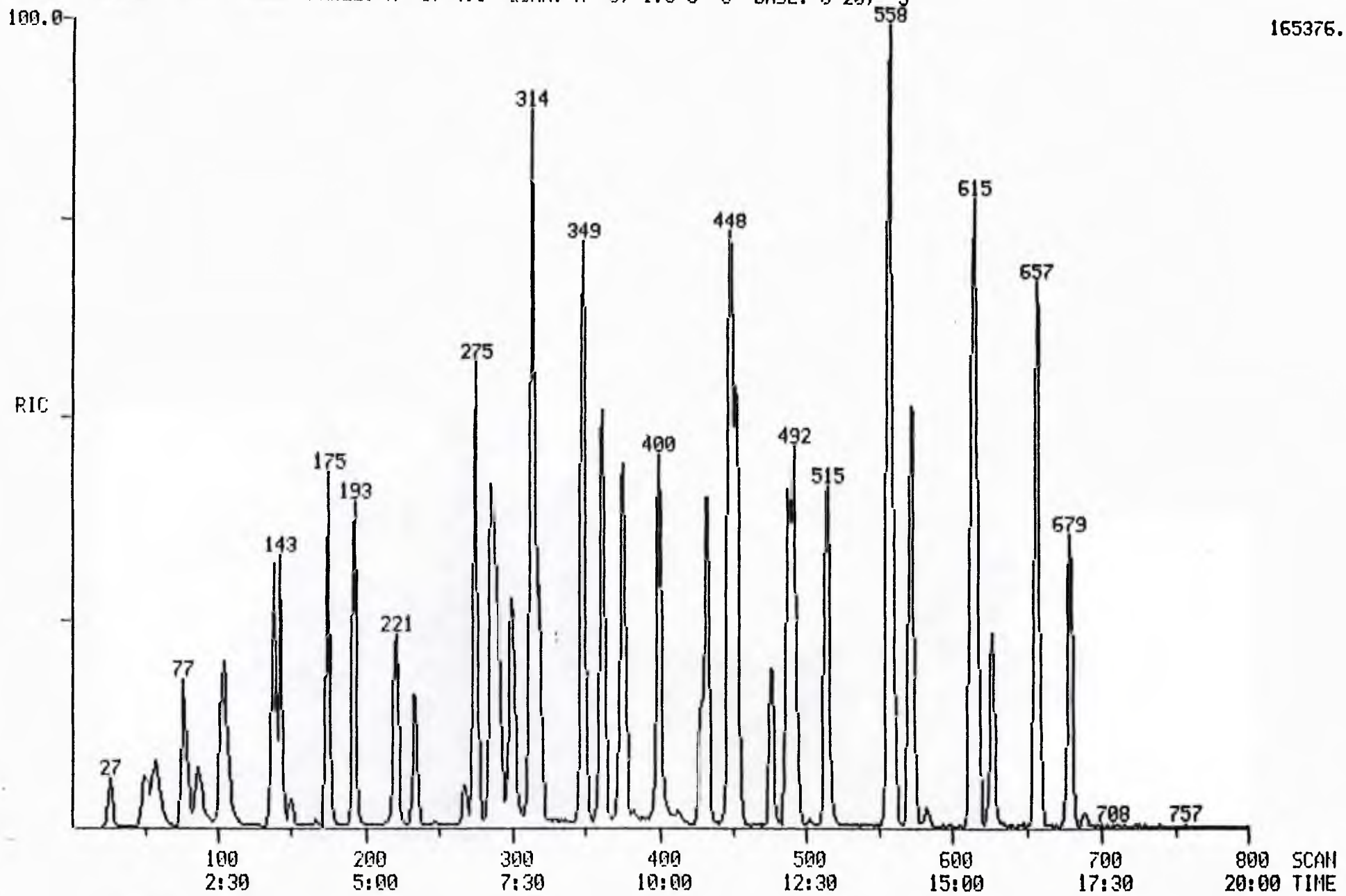
Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min $\overline{RRF}$ for SPCC(#) = 0.300 (0.250 for Bromoform) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF20 =0503V1J1 RRF50 =0503V2J2
RRF100=0503V3J1 RRF150=0503V4J1 RRF200=0503V5J2

COMPOUND	RRF20	RRF50	RRF100	RRF150	RRF200	$\overline{RRF}$	% RSD	
Chloromethane	#1.055	1.070	1.096	1.029	1.082	1.067	2.4	#
Bromomethane	1.225	1.167	1.117	1.106	1.117	1.146	4.3	
Vinyl Chloride	*1.047	1.062	1.051	1.049	1.042	1.050	0.7	*
Chloroethane	0.837	0.786	0.810	0.794	0.830	0.812	2.7	
Methylene Chloride	1.249	1.178	1.236	1.131	1.202	1.199	3.9	
Acetone	0.291	0.283	0.334	0.206	0.262	0.275	17.0	
Carbon Disulfide	2.534	2.865	3.139	3.165	3.059	2.952	8.9	
1,1-Dichloroethene	*0.962	0.969	1.017	1.021	0.991	0.992	2.7	*
1,1-Dichloroethane	#1.898	1.879	1.995	1.914	2.014	1.940	3.1	#
1,2-Dichloroethene (total)	1.076	1.079	1.156	1.151	1.157	1.124	3.8	
Chloroform	*2.245	2.283	2.284	2.161	2.280	2.251	2.3	*
1,2-Dichloroethane	1.705	1.746	1.618	1.584	1.615	1.654	4.1	
2-Butanone	0.134	0.122	0.119	0.090	0.103	0.113	15.1	
1,1,1-Trichloroethane	1.285	1.402	1.506	1.515	1.526	1.447	7.1	
Carbon Tetrachloride	1.194	1.325	1.383	1.405	1.403	1.342	6.6	
Vinyl Acetate	1.959	1.991	2.169	1.935	2.211	2.053	6.2	
Bromodichloromethane	0.456	0.482	0.516	0.506	0.542	0.500	6.6	
1,2-Dichloropropane	*0.338	0.346	0.347	0.334	0.351	0.343	2.1	*
cis-1,3-Dichloropropene	0.311	0.334	0.389	0.371	0.413	0.364	11.3	
Trichloroethene	0.293	0.294	0.302	0.294	0.305	0.297	1.9	
Dibromochloromethane	0.415	0.423	0.479	0.431	0.492	0.448	7.8	
1,1,2-Trichloroethane	0.319	0.311	0.318	0.286	0.317	0.310	4.5	
Benzene	0.808	0.822	0.837	0.832	0.838	0.827	1.5	
trans-1,3-Dichloropropene	0.283	0.309	0.367	0.340	0.381	0.336	12.0	
Bromoform	#0.250	0.251	0.288	0.262	0.305	0.271	8.9	#
4-Methyl-2-Pentanone	0.313	0.314	0.309	0.264	0.296	0.299	7.0	
2-Hexanone	0.189	0.203	0.212	0.173	0.205	0.197	7.9	
Tetrachloroethene	0.252	0.251	0.260	0.248	0.254	0.253	1.8	
1,1,2,2-Tetrachloroethane	#0.547	0.531	0.536	0.490	0.531	0.527	4.1	#
Toluene	*0.544	0.556	0.569	0.556	0.567	0.559	1.8	*
Chlorobenzene	#0.735	0.730	0.735	0.687	0.729	0.723	2.9	#
Ethylbenzene	*0.327	0.332	0.338	0.329	0.330	0.331	1.3	*
Styrene	0.718	0.737	0.766	0.712	0.767	0.740	3.5	
Xylene (total)	0.399	0.410	0.419	0.394	0.413	0.407	2.6	
Toluene-d8	1.060	1.095	1.063	1.078	1.042	1.067	1.9	
Bromofluorobenzene	0.711	0.724	0.688	0.700	0.670	0.699	3.0	
1,2-Dichloroethane-d4	1.838	2.007	1.901	2.084	2.056	1.977	5.3	

RIC
05/03/88 17:25:00
DATA: 0503V2J2 #1 SCANS 1 TO 800
CALI: CA050388A #3
SAMPLE: VSTD050 VOA STDS 50NG/ML +IS/SS
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 0503V2J2

Data: 0503V2J2.TI
05/03/88 17:25:00
Sample: VSTD050 VOA STDS 50NG/ML +IS/SS
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: CR Analyst: CR Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
1	128	275	6:52	1	1.000	A BB	36452.	50.000 NG/ML	2.56
2	50	50	1:15	1	0.182	A BB	39010.	49.452 NG/ML	2.53
3	62	58	1:27	1	0.211	A BB	38710.	50.939 NG/ML	2.61

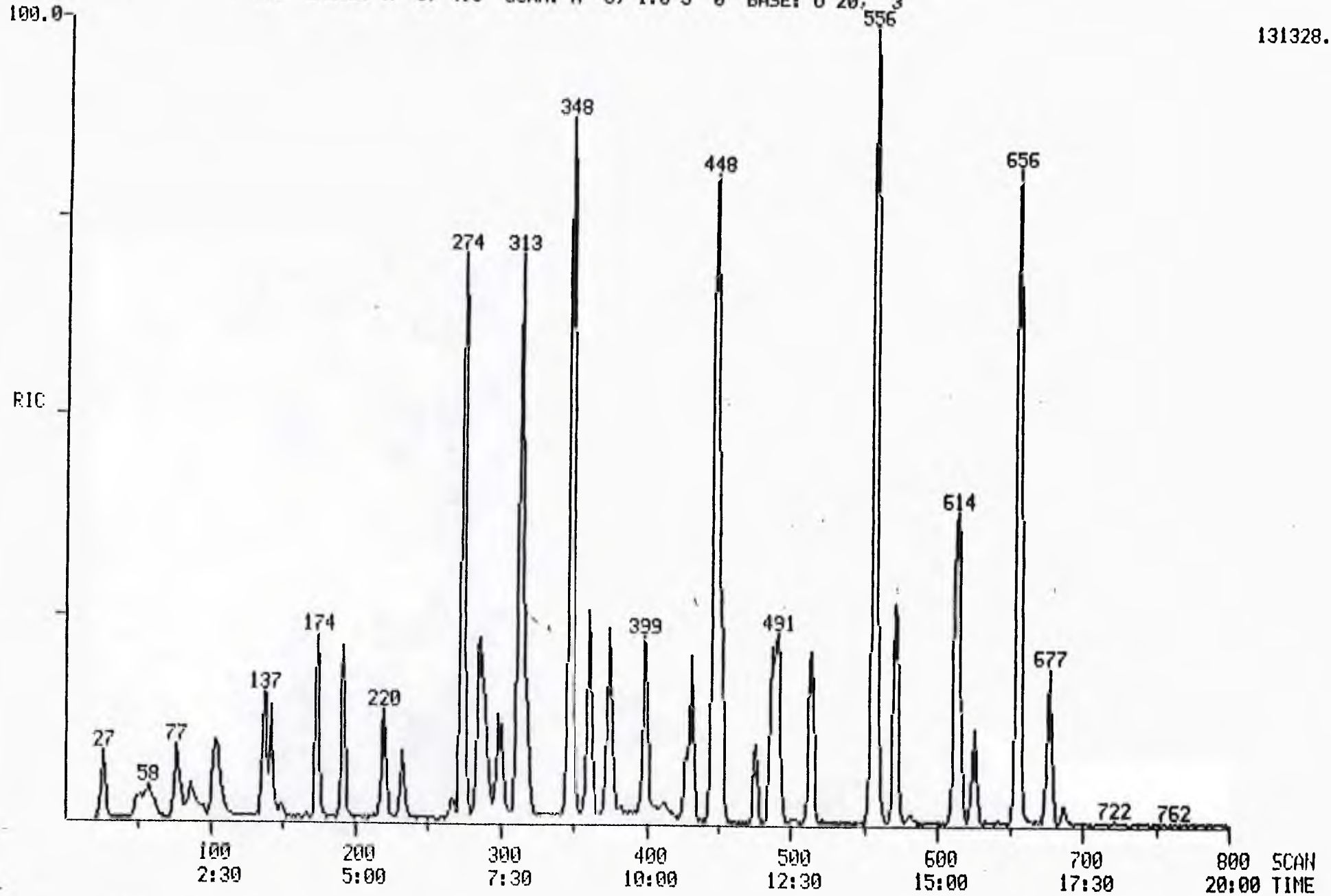
No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
4	94	77	1:55	1	0.280	A BB	42537.	52.234	NG/ML	2.67
5	64	87	2:10	1	0.316	A BB	28661.	47.339	NG/ML	2.42
6	96	138	3:27	1	0.502	A BB	35328.	48.900	NG/ML	2.50
7	76	143	3:34	1	0.520	A BB	104418.	46.829	NG/ML	2.40
8	43	150	3:45	1	0.545	A BB	10307.	53.970	NG/ML	2.76
9	84	175	4:22	1	0.636	A BB	42947.	48.996	NG/ML	2.51
10	96	193	4:49	1	0.702	A BB	39333.	46.646	NG/ML	2.39
11	63	221	5:31	1	0.804	A BB	68510.	46.668	NG/ML	2.39
12	43	233	5:49	1	0.847	A BB	72577.	45.023	NG/ML	2.31
13	72	267	6:40	1	0.971	A BB	4429.	58.890	NG/ML	3.02
14	83	286	7:09	1	1.040	A BB	83204.	50.055	NG/ML	2.56
15	97	290	7:15	1	1.055	A BB	51115.	45.952	NG/ML	2.35
16	117	300	7:30	1	1.091	A VB	48299.	47.226	NG/ML	2.42
17	62	319	7:58	1	1.160	A BB	63660.	54.071	NG/ML	2.77
18	65	314	7:51	1	1.142	A BB	73164.	48.815	NG/ML	2.50
19	114	349	8:43	19	1.000	A BB	165972.	50.000	NG/ML	2.56
20	78	314	7:51	19	0.900	A BB	136435.	49.059	NG/ML	2.51
21	130	362	9:03	19	1.037	A BB	48740.	48.211	NG/ML	2.47
22	63	376	9:24	19	1.077	A BB	57425.	49.327	NG/ML	2.53
23	83	400	10:00	19	1.146	A BB	79935.	44.462	NG/ML	2.28
24	75	432	10:48	19	1.238	A BB	68753.	50.099	NG/ML	2.57
25	117	557	13:55	25	1.000	A BB	128541.	50.000	NG/ML	2.56
26	43	450	11:15	25	0.808	A BB	40329.	53.073	NG/ML	2.72
27	92	453	11:19	25	0.813	A BB	71503.	49.087	NG/ML	2.51
28	98	448	11:12	25	0.804	A BB	140689.	52.540	NG/ML	2.69
29	75	476	11:54	25	0.855	A BB	30142.	30.793	NG/ML	1.58
30	97	488	12:12	25	0.876	A BB	39960.	48.960	NG/ML	2.51
31	164	492	12:18	25	0.883	A BB	32238.	49.350	NG/ML	2.53
32	43	514	12:51	25	0.923	A BB	26105.	49.415	NG/ML	2.53
33	129	515	12:52	25	0.925	A BB	54429.	43.017	NG/ML	2.20
34	112	559	13:58	25	1.004	A BB	93791.	50.044	NG/ML	2.56
35	106	572	14:18	25	1.027	A BV	42731.	50.440	NG/ML	2.58
36	104	616	15:24	25	1.106	A BB	94754.	48.084	NG/ML	2.46
37	106	614	15:21	25	1.102	A BB	52727.	49.703	NG/ML	2.54
38	173	627	15:40	25	1.126	A BB	32326.	41.243	NG/ML	2.11
39	83	679	16:58	25	1.219	A BB	68311.	50.020	NG/ML	2.56
40	95	657	16:25	25	1.180	A BB	93104.	54.062	NG/ML	2.77

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:51	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13	1.02	0.179	1.02	49.45	50.00	1.070	1.082	0.99
3	1:25	1.02	0.208	1.01	50.94	50.00	1.062	1.042	1.02
4	1:55	1.00	0.281	1.00	52.23	50.00	1.167	1.117	1.04
5	2:09	1.01	0.314	1.01	47.34	50.00	0.786	0.830	0.95
6	3:27	1.00	0.504	1.00	48.90	50.00	0.969	0.991	0.98
7	3:34	1.00	0.522	1.00	46.83	50.00	2.865	3.059	0.94
8	3:46	0.99	0.551	0.99	53.97	50.00	0.283	0.262	1.08
9	4:22	1.00	0.639	1.00	49.00	50.00	1.178	1.202	0.98
10	4:48	1.01	0.701	1.00	46.65	50.00	1.079	1.157	0.93
11	5:30	1.00	0.803	1.00	46.67	50.00	1.879	2.014	0.93
12	5:49	1.00	0.850	1.00	45.02	50.00	1.991	2.211	0.90
13	6:40	1.00	0.974	1.00	58.89	50.00	0.122	0.103	1.18
14	7:07	1.00	1.040	1.00	50.05	50.00	2.283	2.280	1.00
15	7:13	1.00	1.055	1.00	45.95	50.00	1.402	1.526	0.92
16	7:28	1.00	1.091	1.00	47.23	50.00	1.325	1.403	0.94
17	7:57	1.00	1.161	1.00	54.07	50.00	1.746	1.615	1.08

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R. Fac	R. Fac(L)	Ratio
18	7:49	1.00	1.142	1.00	48.82	50.00	2.007	2.056	0.98
19	8:42	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:51	1.00	0.902	1.00	49.06	50.00	0.822	0.838	0.98
21	9:01	1.00	1.037	1.00	48.21	50.00	0.294	0.305	0.96
22	9:22	1.00	1.078	1.00	49.33	50.00	0.346	0.351	0.99
23	9:58	1.00	1.147	1.00	44.46	50.00	0.482	0.542	0.89
24	10:48	1.00	1.241	1.00	50.10	62.00	0.334	0.413	0.81
25	13:54	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:13	1.00	0.808	1.00	53.07	50.00	0.314	0.296	1.06
27	11:18	1.00	0.813	1.00	49.09	50.00	0.556	0.567	0.98
28	11:10	1.00	0.804	1.00	52.54	50.00	1.095	1.042	1.05
29	11:54	1.00	0.856	1.00	30.79	38.00	0.309	0.381	0.81
30	12:10	1.00	0.876	1.00	48.96	50.00	0.311	0.317	0.98
31	12:16	1.00	0.883	1.00	49.35	50.00	0.251	0.254	0.99
32	12:49	1.00	0.923	1.00	49.42	50.00	0.203	0.205	0.99
33	12:49	1.00	0.923	1.00	43.02	50.00	0.423	0.492	0.86
34	13:57	1.00	1.004	1.00	50.04	50.00	0.730	0.729	1.00
35	14:16	1.00	1.027	1.00	50.44	50.00	0.332	0.330	1.01
36	15:22	1.00	1.106	1.00	48.08	50.00	0.737	0.767	0.96
37	15:19	1.00	1.103	1.00	49.70	50.00	0.410	0.413	0.99
38	15:39	1.00	1.126	1.00	41.24	50.00	0.251	0.305	0.82
39	16:55	1.00	1.218	1.00	50.02	50.00	0.531	0.531	1.00
40	16:24	1.00	1.180	1.00	54.06	50.00	0.724	0.670	1.08

RIC
05/03/88 17:56:00
DATA: 0503V1J1 #1 SCANS 1 TO 800
CALI: CA050388A #3
SAMPLE: VSTD020 VOA STDS 20NG/ML +IS/SS
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: H 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

131328.



Quantitation Report File: 0503V1J1

Data: 0503V1J1.TI
05/03/88 17:56:00
Sample: VSTD020 VOA STDS 20NG/ML +IS/SS
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: CR Analyst: CR Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	274	6:51	1	1.000	A BB	37282.	50.000	NG/ML	5.21
2	50	52	1:18	1	0.190	A BB	15740.	20.684	NG/ML	2.16
3	62	58	1:27	1	0.212	A BB	15618.	19.141	NG/ML	2.00

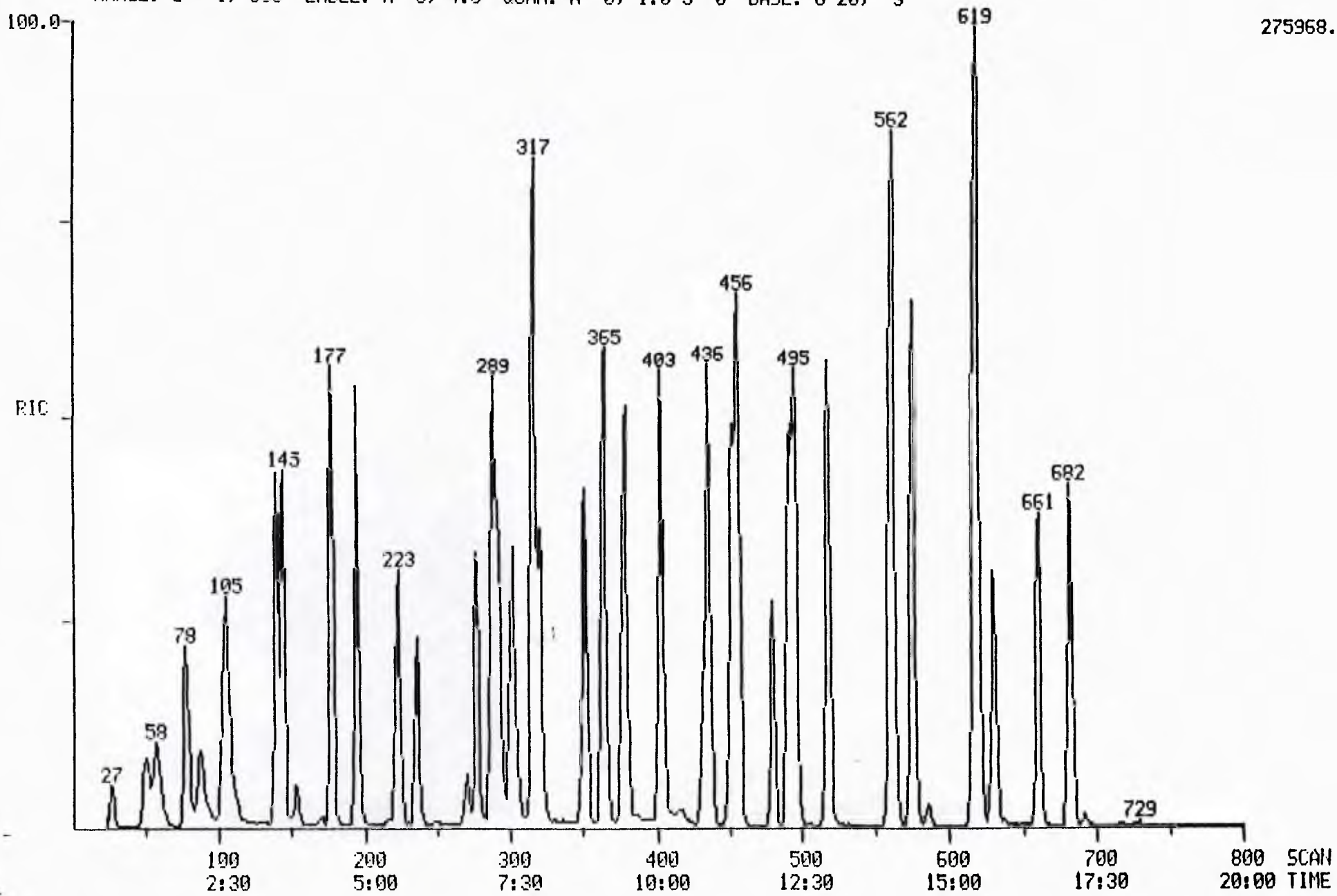
No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
4	94	77	1:55	1	0.281	A BB	18267.	16.791	NG/ML	1.75
5	64	86	2:09	1	0.314	A BB	12481.	22.887	NG/ML	2.39
6	96	137	3:25	1	0.500	A BB	14348.	16.923	NG/ML	1.76
7	76	142	3:33	1	0.518	A BB	37789.	17.262	NG/ML	1.80
8	43	149	3:43	1	0.544	A BB	4336.	19.327	NG/ML	2.02
9	84	174	4:21	1	0.635	A BB	18627.	18.374	NG/ML	1.92
10	96	192	4:48	1	0.701	A BB	16043.	15.563	NG/ML	1.62
11	63	220	5:30	1	0.803	A BB	28299.	20.514	NG/ML	2.14
12	43	233	5:49	1	0.850	A BB	29219.	18.936	NG/ML	1.97
13	72	266	6:39	1	0.971	A BB	1991.	27.700	NG/ML	2.89
14	83	285	7:07	1	1.040	A BB	33484.	21.807	NG/ML	2.27
15	97	289	7:13	1	1.055	A BB	19164.	14.761	NG/ML	1.54
16	117	299	7:28	1	1.091	A VB	17801.	17.332	NG/ML	1.81
17	62	318	7:57	1	1.161	A BB	25422.	19.476	NG/ML	2.03
18	65	313	7:49	1	1.142	A BB	68508.	54.657	NG/ML	5.70
19	114	348	8:42	19	1.000	A BB	165213.	50.000	NG/ML	5.21
20	78	314	7:51	19	0.902	A BB	53417.	16.420	NG/ML	1.71
21	130	361	9:01	19	1.037	A BB	19340.	17.490	NG/ML	1.82
22	63	375	9:22	19	1.078	A BB	22324.	19.997	NG/ML	2.09
23	83	399	9:58	19	1.147	A BB	30117.	11.878	NG/ML	1.24
24	75	432	10:48	19	1.241	A BB	25522.	10.806	NG/ML	1.13
25	117	556	13:54	25	1.000	A BB	127025.	50.000	NG/ML	5.21
26	43	449	11:13	25	0.808	A BB	15908.	29.558	NG/ML	3.08
27	92	452	11:18	25	0.813	A BB	27656.	20.351	NG/ML	2.12
28	98	447	11:10	25	0.804	A BB	134609.	58.925	NG/ML	6.14
29	75	476	11:54	25	0.856	A BB	10930.	15.036	NG/ML	1.57
30	97	487	12:10	25	0.876	A BB	16204.	23.287	NG/ML	2.43
31	164	491	12:16	25	0.883	A BB	12812.	14.793	NG/ML	1.54
32	43	514	12:51	25	0.924	A BB	9614.	28.114	NG/ML	2.93
33	129	514	12:51	25	0.924	A BB	21092.	15.804	NG/ML	1.65
34	112	558	13:57	25	1.004	A BB	37368.	21.277	NG/ML	2.22
35	106	571	14:16	25	1.027	A BB	16607.	17.791	NG/ML	1.86
36	104	615	15:22	25	1.106	A BB	36457.	19.514	NG/ML	2.03
37	106	612	15:18	25	1.101	A BB	20286.	19.397	NG/ML	2.02
38	173	625	15:37	25	1.124	A BB	12713.	11.401	NG/ML	1.19
39	83	677	16:55	25	1.218	A BB	27803.	21.406	NG/ML	2.23
40	95	656	16:24	25	1.180	A BV	90361.	53.687	NG/ML	5.60

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:54	0.99	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:15	1.04	0.181	1.05	20.68	20.00	1.055	1.021	1.03
3	1:27	1.00	0.210	1.01	19.14	20.00	1.047	1.094	0.96
4	1:55	1.00	0.279	1.01	16.79	20.00	1.225	1.459	0.84
5	2:12	0.98	0.319	0.98	22.89	20.00	0.837	0.731	1.14
6	3:28	0.99	0.504	0.99	16.92	20.00	0.962	1.137	0.85
7	3:36	0.99	0.522	0.99	17.26	20.00	2.534	2.936	0.86
8	3:45	0.99	0.543	1.00	19.33	20.00	0.291	0.301	0.97
9	4:24	0.99	0.638	1.00	18.37	20.00	1.249	1.360	0.92
10	4:51	0.99	0.703	1.00	15.56	20.00	1.076	1.383	0.78
11	5:33	0.99	0.804	1.00	20.51	20.00	1.898	1.850	1.03
12	5:52	0.99	0.851	1.00	18.94	20.00	1.959	2.069	0.95
13	6:42	0.99	0.971	1.00	27.70	20.00	0.134	0.096	1.39
14	7:10	0.99	1.040	1.00	21.81	20.00	2.245	2.059	1.09
15	7:16	0.99	1.054	1.00	14.76	20.00	1.285	1.741	0.74
16	7:31	0.99	1.091	1.00	17.33	20.00	1.194	1.377	0.87
17	8:00	0.99	1.159	1.00	19.48	20.00	1.705	1.751	0.97

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
18	7:52	0.99	1.141	1.00	54.66	50.00	1.838	1.681	1.09
19	8:45	0.99	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:54	0.99	0.903	1.00	16.42	20.00	0.808	0.985	0.82
21	9:04	0.99	1.037	1.00	17.49	20.00	0.293	0.335	0.87
22	9:25	0.99	1.077	1.00	20.00	20.00	0.338	0.338	1.00
23	10:03	0.99	1.149	1.00	11.88	20.00	0.456	0.767	0.59
24	10:51	1.00	1.240	1.00	10.81	24.80	0.311	0.715	0.44
25	13:58	0.99	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:18	0.99	0.809	1.00	29.56	20.00	0.313	0.212	1.48
27	11:21	1.00	0.812	1.00	20.35	20.00	0.544	0.535	1.02
28	11:15	0.99	0.805	1.00	58.93	50.00	1.060	0.899	1.18
29	11:57	1.00	0.855	1.00	15.04	15.20	0.283	0.286	0.99
30	12:15	0.99	0.877	1.00	23.29	20.00	0.319	0.274	1.16
31	12:21	0.99	0.884	1.00	14.79	20.00	0.252	0.341	0.74
32	12:54	1.00	0.923	1.00	28.11	20.00	0.189	0.135	1.41
33	12:54	1.00	0.923	1.00	15.80	20.00	0.415	0.525	0.79
34	14:01	0.99	1.004	1.00	21.28	20.00	0.735	0.691	1.06
35	14:21	0.99	1.027	1.00	17.79	20.00	0.327	0.367	0.89
36	15:27	1.00	1.106	1.00	19.51	20.00	0.718	0.735	0.98
37	15:22	1.00	1.100	1.00	19.40	20.00	0.399	0.412	0.97
38	15:42	1.00	1.123	1.00	11.40	20.00	0.250	0.439	0.57
39	17:00	1.00	1.216	1.00	21.41	20.00	0.547	0.511	1.07
40	16:28	1.00	1.179	1.00	53.69	50.00	0.711	0.663	1.07

RIC
05/03/88 18:38:00
SAMPLE: VSTD100 VOA STDS 100NG/ML +IS/SS
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 0503V3J1 #1 SCANS 1 TO 800
CALI: CA050388A #3



Quantitation Report File: 0503V3J1

Data: 0503V3J1.TI
05/03/88 18:38:00
Sample: VSTD100 VOA STDS 100NG/ML +IS/SS
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: CR Analyst: CR Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	277	6:55	1	1.000	A BB	38869.	50.000	NG/ML	1.28
2	50	51	1:16	1	0.184	A BB	85162.	103.793	NG/ML	2.65
3	62	58	1:27	1	0.209	A BB	81718.	100.373	NG/ML	2.56

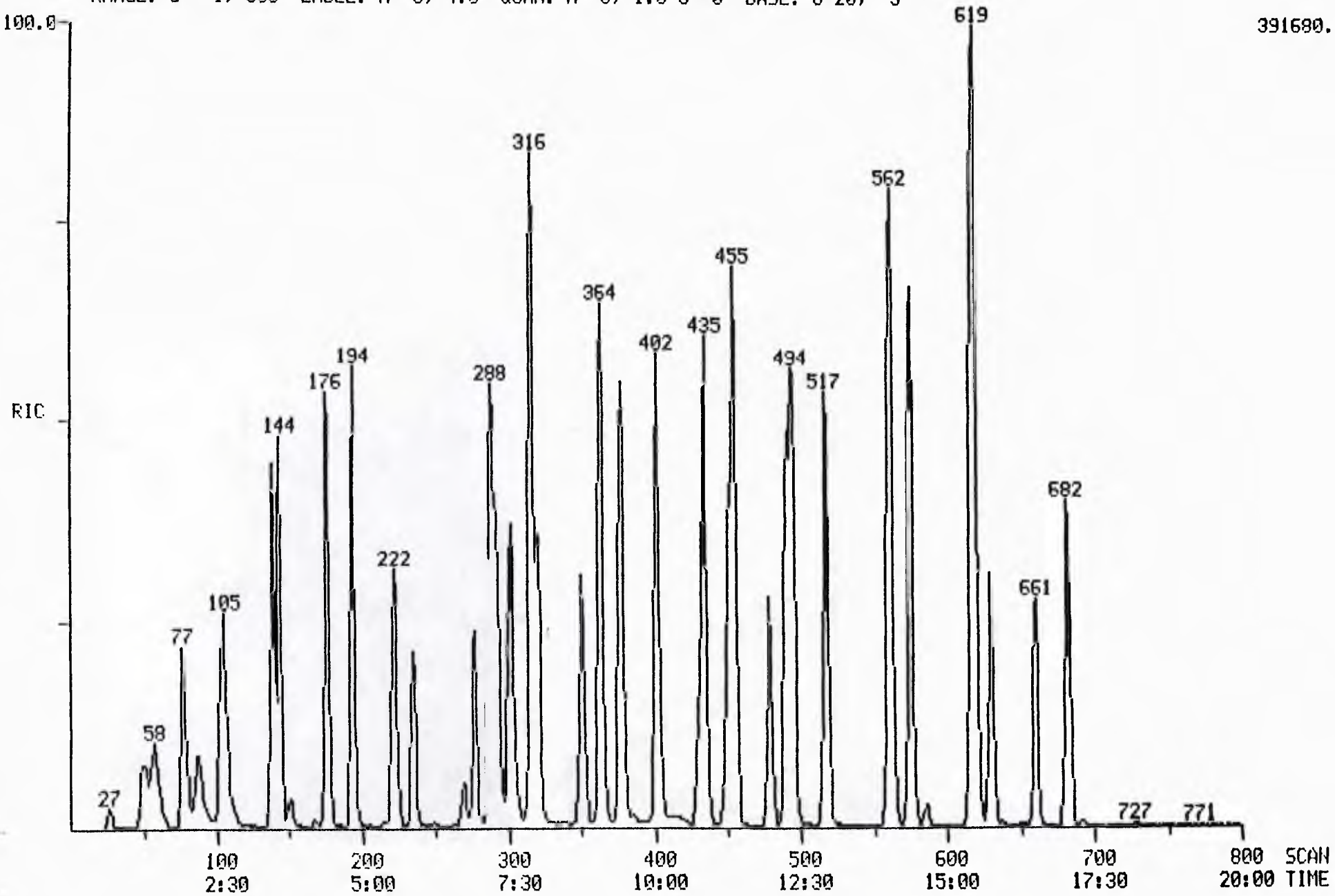
No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
4	94	78	1:57	1	0.282	A BB	86824.	91.180	NG/ML	2.33
5	64	88	2:12	1	0.318	A BB	62956.	96.764	NG/ML	2.47
6	96	140	3:30	1	0.505	A BB	79042.	105.680	NG/ML	2.70
7	76	145	3:37	1	0.523	A BB	244035.	123.883	NG/ML	3.16
8	43	153	3:49	1	0.552	A BB	25974.	114.915	NG/ML	2.93
9	84	177	4:25	1	0.639	A BB	96113.	98.984	NG/ML	2.53
10	96	195	4:52	1	0.704	A BB	89900.	107.498	NG/ML	2.74
11	63	223	5:34	1	0.805	A BB	155105.	105.143	NG/ML	2.68
12	43	236	5:54	1	0.852	A BB	168628.	110.711	NG/ML	2.83
13	72	270	6:45	1	0.975	A BB	9243.	89.057	NG/ML	2.27
14	83	289	7:13	1	1.043	A BB	177587.	101.742	NG/ML	2.60
15	97	292	7:18	1	1.054	A BB	117079.	117.198	NG/ML	2.99
16	117	303	7:34	1	1.094	A VB	107521.	115.871	NG/ML	2.96
17	62	321	8:01	1	1.159	A BB	125769.	94.905	NG/ML	2.42
18	65	316	7:54	1	1.141	A BB	73895.	51.730	NG/ML	1.32
19	114	352	8:48	19	1.000	A BB	167937.	50.000	NG/ML	1.28
20	78	317	7:55	19	0.901	A BB	281139.	103.555	NG/ML	2.64
21	130	364	9:06	19	1.034	A BB	101582.	103.345	NG/ML	2.64
22	63	379	9:28	19	1.077	A BB	116531.	102.706	NG/ML	2.62
23	83	403	10:04	19	1.145	A BB	173327.	113.235	NG/ML	2.89
24	75	436	10:54	19	1.239	A BB	162126.	154.984	NG/ML	3.96
25	117	561	14:01	25	1.000	A BB	128823.	50.000	NG/ML	1.28
26	43	453	11:19	25	0.807	A BB	79654.	98.746	NG/ML	2.52
27	92	456	11:24	25	0.813	A BB	146629.	104.558	NG/ML	2.67
28	98	451	11:16	25	0.804	A BB	136943.	50.157	NG/ML	1.28
29	75	480	12:00	25	0.856	A BB	71802.	98.459	NG/ML	2.51
30	97	491	12:16	25	0.875	A BB	81992.	99.787	NG/ML	2.55
31	164	495	12:22	25	0.882	A BB	66975.	103.091	NG/ML	2.63
32	43	518	12:57	25	0.923	A BB	54700.	112.204	NG/ML	2.87
33	129	518	12:57	25	0.923	A BB	123350.	115.331	NG/ML	2.94
34	112	563	14:04	25	1.004	A BB	189443.	99.978	NG/ML	2.55
35	106	576	14:24	25	1.027	A BV	87042.	103.363	NG/ML	2.64
36	104	620	15:30	25	1.105	A BB	197278.	106.715	NG/ML	2.72
37	106	617	15:25	25	1.100	A BB	108076.	105.065	NG/ML	2.68
38	173	630	15:45	25	1.123	A BB	74267.	115.206	NG/ML	2.94
39	83	682	17:03	25	1.216	A BB	138139.	97.983	NG/ML	2.50
40	95	661	16:31	25	1.178	A BB	88574.	48.327	NG/ML	1.23

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:51	1.01	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:18	0.98	0.190	0.97	103.79	100.00	1.095	1.055	1.04
3	1:27	1.00	0.212	0.99	100.37	100.00	1.051	1.047	1.00
4	1:55	1.01	0.281	1.00	91.18	100.00	1.117	1.225	0.91
5	2:09	1.02	0.314	1.01	96.76	100.00	0.810	0.837	0.97
6	3:25	1.02	0.500	1.01	105.68	100.00	1.017	0.962	1.06
7	3:33	1.02	0.518	1.01	123.88	100.00	3.139	2.534	1.24
8	3:43	1.03	0.544	1.02	114.91	100.00	0.334	0.291	1.15
9	4:21	1.02	0.635	1.01	98.98	100.00	1.236	1.249	0.99
10	4:48	1.02	0.701	1.00	107.50	100.00	1.156	1.076	1.07
11	5:30	1.01	0.803	1.00	105.14	100.00	1.995	1.898	1.05
12	5:49	1.01	0.850	1.00	110.71	100.00	2.169	1.959	1.11
13	6:39	1.02	0.971	1.00	89.06	100.00	0.119	0.134	0.89
14	7:07	1.01	1.040	1.00	101.74	100.00	2.284	2.245	1.02
15	7:13	1.01	1.055	1.00	117.20	100.00	1.506	1.285	1.17
16	7:28	1.01	1.091	1.00	115.87	100.00	1.383	1.194	1.16
17	7:57	1.01	1.161	1.00	94.91	100.00	1.618	1.705	0.95

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
18	7:49	1.01	1.142	1.00	51.73	50.00	1.901	1.838	1.03
19	8:42	1.01	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:51	1.01	0.902	1.00	103.55	100.00	0.837	0.808	1.04
21	9:01	1.01	1.037	1.00	103.34	100.00	0.302	0.293	1.03
22	9:22	1.01	1.078	1.00	102.71	100.00	0.347	0.338	1.03
23	9:58	1.01	1.147	1.00	113.24	100.00	0.516	0.456	1.13
24	10:48	1.01	1.241	1.00	154.98	124.00	0.389	0.311	1.25
25	13:54	1.01	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:13	1.01	0.808	1.00	98.75	100.00	0.309	0.313	0.99
27	11:18	1.01	0.813	1.00	104.56	100.00	0.569	0.544	1.05
28	11:10	1.01	0.804	1.00	50.16	50.00	1.063	1.060	1.00
29	11:54	1.01	0.856	1.00	98.46	76.00	0.367	0.283	1.30
30	12:10	1.01	0.876	1.00	99.79	100.00	0.318	0.319	1.00
31	12:16	1.01	0.883	1.00	103.09	100.00	0.260	0.252	1.03
32	12:51	1.01	0.924	1.00	112.20	100.00	0.212	0.189	1.12
33	12:51	1.01	0.924	1.00	115.33	100.00	0.479	0.415	1.15
34	13:57	1.01	1.004	1.00	99.98	100.00	0.735	0.735	1.00
35	14:16	1.01	1.027	1.00	103.36	100.00	0.338	0.327	1.03
36	15:22	1.01	1.106	1.00	106.71	100.00	0.766	0.718	1.07
37	15:18	1.01	1.101	1.00	105.07	100.00	0.419	0.399	1.05
38	15:37	1.01	1.124	1.00	115.21	100.00	0.288	0.250	1.15
39	16:55	1.01	1.218	1.00	97.98	100.00	0.536	0.547	0.98
40	16:24	1.01	1.180	1.00	48.33	50.00	0.688	0.711	0.97

RIC
05/03/88 19:14:00
SAMPLE: VSTD150 VOA STDS 150NG/ML +IS/SS
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 0503V4J1 #1 SCANS 1 TO 800
CALI: CA050388A #3



Quantitation Report File: 0503V4J1

Data: 0503V4J1.TI
05/03/88 19:14:00
Sample: VSTD150 VOA STDS 150NG/ML +IS/SS
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: CR Analyst: CR Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE

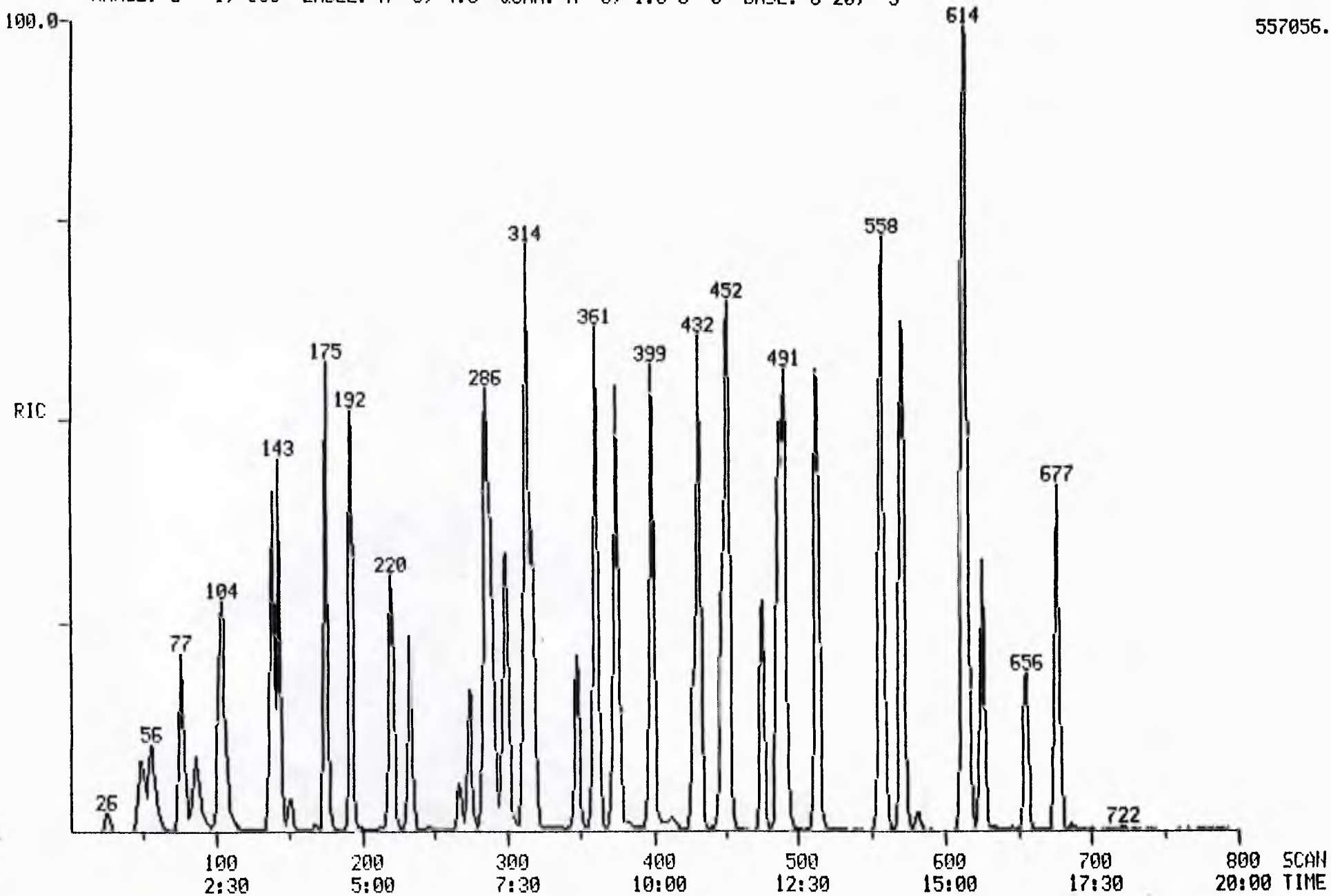
No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	276	6:54	1	1.000	A BB	38605.	50.000	NG/ML	0.99
2	50	51	1:16	1	0.185	A BB	119215.	140.944	NG/ML	2.78
3	62	58	1:27	1	0.210	A BB	121497.	149.695	NG/ML	2.95

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
4	94	77	1:55	1	0.279	A BV	128115.	148.566	NG/ML	2.93
5	64	87	2:10	1	0.315	A BB	91980.	147.101	NG/ML	2.90
6	96	139	3:28	1	0.504	A BB	118287.	150.674	NG/ML	2.97
7	76	144	3:36	1	0.522	A BV	366591.	151.248	NG/ML	2.98
8	43	151	3:46	1	0.547	A BB	23852.	92.458	NG/ML	1.82
9	84	176	4:24	1	0.638	A BB	131026.	137.257	NG/ML	2.70
10	96	194	4:51	1	0.703	A BB	133340.	149.335	NG/ML	2.94
11	63	222	5:33	1	0.804	A BB	221704.	143.916	NG/ML	2.84
12	43	235	5:52	1	0.851	A BV	224110.	133.811	NG/ML	2.64
13	72	269	6:43	1	0.975	A BB	10390.	113.178	NG/ML	2.23
14	83	288	7:12	1	1.043	A BV	250327.	141.924	NG/ML	2.80
15	97	292	7:18	1	1.058	A BB	175441.	150.873	NG/ML	2.97
16	117	302	7:33	1	1.094	A VB	162749.	152.400	NG/ML	3.00
17	62	321	8:01	1	1.163	A BB	183466.	146.873	NG/ML	2.89
18	65	316	7:54	1	1.145	A BB	80472.	54.823	NG/ML	1.08
19	114	351	8:46	19	1.000	A BV	169420.	50.000	NG/ML	0.99
20	78	316	7:54	19	0.900	A BV	422719.	149.043	NG/ML	2.94
21	130	364	9:06	19	1.037	A BB	149455.	145.840	NG/ML	2.87
22	63	378	9:27	19	1.077	A BB	169517.	144.196	NG/ML	2.84
23	83	402	10:03	19	1.145	A BB	257401.	147.206	NG/ML	2.90
24	75	435	10:52	19	1.239	A BV	234085.	177.470	NG/ML	3.50
25	117	560	14:00	25	1.000	A BB	130844.	50.000	NG/ML	0.99
26	43	452	11:18	25	0.807	A BB	103582.	128.031	NG/ML	2.52
27	92	455	11:22	25	0.813	A BB	218439.	146.673	NG/ML	2.89
28	98	450	11:15	25	0.804	A BB	140985.	50.681	NG/ML	1.00
29	75	479	11:58	25	0.855	A BB	101340.	105.608	NG/ML	2.08
30	97	491	12:16	25	0.877	A BB	112136.	134.652	NG/ML	2.65
31	164	494	12:21	25	0.882	A BB	97390.	143.166	NG/ML	2.82
32	43	517	12:55	25	0.923	A BV	68023.	122.436	NG/ML	2.41
33	129	517	12:55	25	0.923	A BB	169144.	135.007	NG/ML	2.66
34	112	562	14:03	25	1.004	A BB	269490.	140.057	NG/ML	2.76
35	106	576	14:24	25	1.029	A BV	128952.	145.861	NG/ML	2.87
36	104	620	15:30	25	1.107	A BB	279399.	139.439	NG/ML	2.75
37	106	617	15:25	25	1.102	A BB	154498.	140.745	NG/ML	2.77
38	173	630	15:45	25	1.125	A BB	102719.	136.174	NG/ML	2.68
39	83	682	17:03	25	1.218	A BB	192472.	137.180	NG/ML	2.70
40	95	661	16:31	25	1.180	A BB	91563.	50.889	NG/ML	1.00

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:55	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:16	1.00	0.184	1.00	140.94	150.00	1.029	1.095	0.94
3	1:27	1.00	0.209	1.00	149.70	150.00	1.049	1.051	1.00
4	1:57	0.99	0.282	0.99	148.57	150.00	1.106	1.117	0.99
5	2:12	0.99	0.318	0.99	147.10	150.00	0.794	0.810	0.98
6	3:30	0.99	0.505	1.00	150.67	150.00	1.021	1.017	1.00
7	3:37	0.99	0.523	1.00	151.25	150.00	3.165	3.139	1.01
8	3:49	0.99	0.552	0.99	92.46	150.00	0.206	0.334	0.62
9	4:25	0.99	0.639	1.00	137.26	150.00	1.131	1.236	0.92
10	4:52	0.99	0.704	1.00	149.33	150.00	1.151	1.156	1.00
11	5:34	1.00	0.805	1.00	143.92	150.00	1.914	1.995	0.96
12	5:54	1.00	0.852	1.00	133.81	150.00	1.935	2.169	0.89
13	6:45	1.00	0.975	1.00	113.18	150.00	0.090	0.119	0.75
14	7:13	1.00	1.043	1.00	141.92	150.00	2.161	2.284	0.95
15	7:18	1.00	1.054	1.00	150.87	150.00	1.515	1.506	1.01
16	7:34	1.00	1.094	1.00	152.40	150.00	1.405	1.383	1.02
17	8:01	1.00	1.159	1.00	146.87	150.00	1.584	1.618	0.98

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R. Fac	R. Fac(L)	Ratio
18	7:54	1.00	1.141	1.00	54.82	50.00	2.084	1.901	1.10
19	8:48	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:55	1.00	0.901	1.00	149.04	150.00	0.832	0.837	0.99
21	9:06	1.00	1.034	1.00	145.84	150.00	0.294	0.302	0.97
22	9:28	1.00	1.077	1.00	144.20	150.00	0.334	0.347	0.96
23	10:04	1.00	1.145	1.00	147.21	150.00	0.506	0.516	0.98
24	10:54	1.00	1.239	1.00	177.47	186.00	0.371	0.389	0.95
25	14:01	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:19	1.00	0.807	1.00	128.03	150.00	0.264	0.309	0.85
27	11:24	1.00	0.813	1.00	146.67	150.00	0.556	0.569	0.98
28	11:16	1.00	0.804	1.00	50.68	50.00	1.078	1.063	1.01
29	12:00	1.00	0.856	1.00	105.61	114.00	0.340	0.367	0.93
30	12:16	1.00	0.875	1.00	134.65	150.00	0.286	0.318	0.90
31	12:22	1.00	0.882	1.00	143.17	150.00	0.248	0.260	0.95
32	12:57	1.00	0.923	1.00	122.44	150.00	0.173	0.212	0.82
33	12:57	1.00	0.923	1.00	135.01	150.00	0.431	0.479	0.90
34	14:04	1.00	1.004	1.00	140.06	150.00	0.687	0.735	0.93
35	14:24	1.00	1.027	1.00	145.86	150.00	0.329	0.338	0.97
36	15:30	1.00	1.105	1.00	139.44	150.00	0.712	0.766	0.93
37	15:25	1.00	1.100	1.00	140.75	150.00	0.394	0.419	0.94
38	15:45	1.00	1.123	1.00	136.17	150.00	0.262	0.288	0.91
39	17:03	1.00	1.216	1.00	137.18	150.00	0.490	0.536	0.91
40	16:31	1.00	1.178	1.00	50.89	50.00	0.700	0.688	1.02

RIC
05/03/88 21:23:00
DATA: 0503V5J2 #1 SCANS 1 TO 800
CALI: CA050388A #3
SAMPLE: VSTD200 VOA STDS 200NG/ML +IS/SS
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 0503V5J2

Data: 0503V5J2.TI
05/03/88 21:23:00
Sample: VSTD200 VOA STDS 200NG/ML +IS/SS
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: CR Analyst: CR Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	274	6:51	1	1.000	A BB	39058.	50.000	NG/ML	0.66
2	50	49	1:13	1	0.179	A BB	169050.	210.237	NG/ML	2.79
3	62	57	1:25	1	0.208	A BB	162852.	198.725	NG/ML	2.63

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
4	94	77	1:55	1	0.281	A BV	174516.	201.958	NG/ML	2.68
5	64	86	2:09	1	0.314	A BB	129744.	209.131	NG/ML	2.77
6	96	138	3:27	1	0.504	A BB	154821.	194.052	NG/ML	2.57
7	76	143	3:34	1	0.522	A BV	477841.	193.253	NG/ML	2.56
8	43	151	3:46	1	0.551	A BB	40926.	254.389	NG/ML	3.37
9	84	175	4:22	1	0.639	A BB	187840.	212.547	NG/ML	2.82
10	96	192	4:48	1	0.701	A BB	180702.	200.922	NG/ML	2.66
11	63	220	5:30	1	0.803	A BB	314594.	210.379	NG/ML	2.79
12	43	233	5:49	1	0.850	A BV	345447.	228.531	NG/ML	3.03
13	72	267	6:40	1	0.974	A BB	16117.	229.982	NG/ML	3.05
14	83	285	7:07	1	1.040	A BV	356218.	210.976	NG/ML	2.80
15	97	289	7:13	1	1.055	A BB	238376.	201.445	NG/ML	2.67
16	117	299	7:28	1	1.091	A VB	219169.	199.657	NG/ML	2.65
17	62	318	7:57	1	1.161	A BB	252301.	203.886	NG/ML	2.70
18	65	313	7:49	1	1.142	A BB	80297.	49.313	NG/ML	0.65
19	114	348	8:42	19	1.000	A BB	167279.	50.000	NG/ML	0.66
20	78	314	7:51	19	0.902	A BB	560593.	201.470	NG/ML	2.67
21	130	361	9:01	19	1.037	A BB	203786.	207.147	NG/ML	2.75
22	63	375	9:22	19	1.078	A BB	234665.	210.305	NG/ML	2.79
23	83	399	9:58	19	1.147	A BB	362399.	213.890	NG/ML	2.84
24	75	432	10:48	19	1.241	A BB	343021.	276.047	NG/ML	3.66
25	117	556	13:54	25	1.000	A BB	131246.	50.000	NG/ML	0.66
26	43	449	11:13	25	0.808	A BB	155173.	224.022	NG/ML	2.97
27	92	452	11:18	25	0.813	A BB	297463.	203.639	NG/ML	2.70
28	98	447	11:10	25	0.804	A BB	136705.	48.334	NG/ML	0.64
29	75	476	11:54	25	0.856	A BB	151916.	170.371	NG/ML	2.26
30	97	487	12:10	25	0.876	A BB	166672.	222.268	NG/ML	2.95
31	164	491	12:16	25	0.883	A BB	133400.	204.833	NG/ML	2.72
32	43	513	12:49	25	0.923	A BB	107879.	237.159	NG/ML	3.14
33	129	513	12:49	25	0.923	A BB	258383.	228.437	NG/ML	3.03
34	112	558	13:57	25	1.004	A BB	382722.	212.373	NG/ML	2.82
35	106	571	14:16	25	1.027	A BV	172999.	200.620	NG/ML	2.66
36	104	615	15:22	25	1.106	A BB	402408.	215.378	NG/ML	2.86
37	106	613	15:19	25	1.103	A BB	216635.	209.684	NG/ML	2.78
38	173	626	15:39	25	1.126	A BB	160057.	233.014	NG/ML	3.09
39	83	677	16:55	25	1.218	A BB	278880.	216.675	NG/ML	2.87
40	95	656	16:24	25	1.180	A BB	87920.	47.864	NG/ML	0.63

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:54	0.99	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:16	0.96	0.185	0.97	210.24	200.00	1.082	1.029	1.05
3	1:27	0.98	0.210	0.99	198.73	200.00	1.042	1.049	0.99
4	1:55	1.00	0.279	1.01	201.96	200.00	1.117	1.106	1.01
5	2:10	0.99	0.315	1.00	209.13	200.00	0.830	0.794	1.05
6	3:28	0.99	0.504	1.00	194.05	200.00	0.991	1.021	0.97
7	3:36	0.99	0.522	1.00	193.25	200.00	3.059	3.165	0.97
8	3:46	1.00	0.547	1.01	254.39	200.00	0.262	0.206	1.27
9	4:24	0.99	0.638	1.00	212.55	200.00	1.202	1.131	1.06
10	4:51	0.99	0.703	1.00	200.92	200.00	1.157	1.151	1.00
11	5:33	0.99	0.804	1.00	210.38	200.00	2.014	1.914	1.05
12	5:52	0.99	0.851	1.00	228.53	200.00	2.211	1.935	1.14
13	6:43	0.99	0.975	1.00	229.98	200.00	0.103	0.090	1.15
14	7:12	0.99	1.043	1.00	210.98	200.00	2.280	2.161	1.05
15	7:18	0.99	1.058	1.00	201.44	200.00	1.526	1.515	1.01
16	7:33	0.99	1.094	1.00	199.66	200.00	1.403	1.405	1.00
17	8:01	0.99	1.163	1.00	203.89	200.00	1.615	1.584	1.02

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R. Fac	R. Fac(L)	Ratio
18	7:54	0.99	1.145	1.00	49.31	50.00	2.056	2.084	0.99
19	8:46	0.99	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:54	0.99	0.900	1.00	201.47	200.00	0.838	0.832	1.01
21	9:06	0.99	1.037	1.00	207.15	200.00	0.305	0.294	1.04
22	9:27	0.99	1.077	1.00	210.31	200.00	0.351	0.334	1.05
23	10:03	0.99	1.145	1.00	213.89	200.00	0.542	0.506	1.07
24	10:52	0.99	1.239	1.00	276.05	248.00	0.413	0.371	1.11
25	14:00	0.99	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:18	0.99	0.807	1.00	224.02	200.00	0.296	0.264	1.12
27	11:22	0.99	0.813	1.00	203.64	200.00	0.567	0.556	1.02
28	11:15	0.99	0.804	1.00	48.33	50.00	1.042	1.078	0.97
29	11:58	0.99	0.855	1.00	170.37	152.00	0.381	0.340	1.12
30	12:16	0.99	0.877	1.00	222.27	200.00	0.317	0.286	1.11
31	12:21	0.99	0.882	1.00	204.83	200.00	0.254	0.248	1.02
32	12:55	0.99	0.923	1.00	237.16	200.00	0.205	0.173	1.19
33	12:55	0.99	0.923	1.00	228.44	200.00	0.492	0.431	1.14
34	14:03	0.99	1.004	1.00	212.37	200.00	0.729	0.687	1.06
35	14:24	0.99	1.029	1.00	200.62	200.00	0.330	0.329	1.00
36	15:30	0.99	1.107	1.00	215.38	200.00	0.767	0.712	1.08
37	15:25	0.99	1.102	1.00	209.68	200.00	0.413	0.394	1.05
38	15:45	0.99	1.125	1.00	233.01	200.00	0.305	0.262	1.17
39	17:03	0.99	1.218	1.00	216.68	200.00	0.531	0.490	1.08
40	16:31	0.99	1.180	1.00	47.86	50.00	0.670	0.700	0.96

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Instrument ID: 1020J Calibration Date:05/31/88 Time:11:35

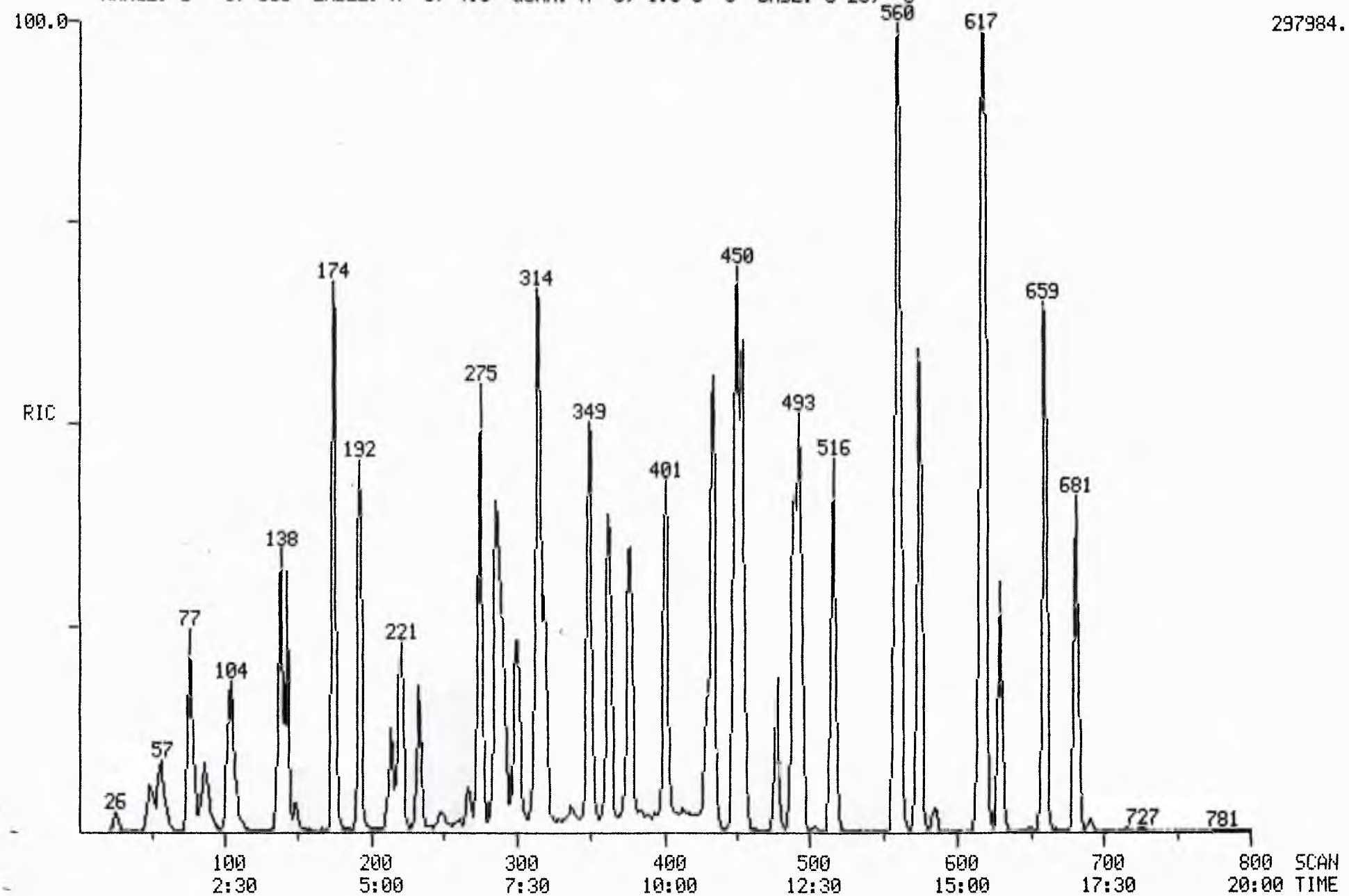
Lab File ID: 0531V2J1 Init. Calib. Date(s): 05/03/88 05/03/88

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF50 for SPCC(#) = 0.300 (0.250 for Bromoform) Max %D for CCC(*) = 25.0%

COMPOUND	RRF	RRF50	%D
Chloromethane	#1.067	0.787	26.2 #
Bromomethane	1.146	1.536	-34.0
Vinyl Chloride	*1.050	0.987	6.0 *
Chloroethane	0.812	0.846	-4.2
Methylene Chloride	1.199	1.827	-52.3
Acetone	0.275	0.266	3.5
Carbon Disulfide	2.952	2.380	19.4
1,1-Dichloroethene	*0.992	1.100	-10.9 *
1,1-Dichloroethane	#1.940	1.763	9.1 #
1,2-Dichloroethene (total)	1.124	1.279	-13.8
Chloroform	*2.251	1.939	13.8 *
1,2-Dichloroethane	1.654	1.463	11.5
2-Butanone	0.113	0.102	9.7
1,1,1-Trichloroethane	1.447	1.409	2.6
Carbon Tetrachloride	1.342	1.144	14.8
Vinyl Acetate	2.053	1.954	4.8
Bromodichloromethane	0.500	0.691	-38.2
1,2-Dichloropropane	*0.343	0.362	-5.7 *
cis-1,3-Dichloropropene	0.364	0.643	-76.7
Trichloroethene	0.297	0.327	-10.0
Dibromochloromethane	0.448	0.444	0.9
1,1,2-Trichloroethane	0.310	0.296	4.6
Benzene	0.827	0.950	-14.8
trans-1,3-Dichloropropene	0.336	0.255	23.9
Bromoform	#0.271	0.299	-10.3 #
4-Methyl-2-Pentanone	0.299	0.206	31.0
2-Hexanone	0.197	0.128	35.0
Tetrachloroethene	0.253	0.259	-2.2
1,1,2,2-Tetrachloroethane	#0.527	0.548	-3.9 #
Toluene	*0.559	0.556	0.5 *
Chlorobenzene	#0.723	0.725	-0.2 #
Ethylbenzene	*0.331	0.369	-11.4 *
Styrene	0.740	0.874	-18.2
Xylene (total)	0.407	0.476	-17.0
Toluene-d8	1.067	0.931	12.8
Bromofluorobenzene	0.699	0.691	1.1
1,2-Dichloroethane-d4	1.977	1.414	28.5

RIC
05/31/88 11:35:00
DATA: 0531V2J1 #1 SCANS 1 TO 800
CALI: CA053188A #4
SAMPLE: VSTD050 VOA LAB STD 50NG/ML EA + IS/SS
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 0531V2J1

Data: 0531V2J1.TI
05/31/88 11:35:00
Sample: VSTD050 VOA LAB STD 50NG/ML EA + IS/SS
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: MC Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from average of whole .RL

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	275	6:52	1	1.000	A BB	74322.	50.000	NG/ML	2.45
2	50	49	1:13	1	0.178	A BB	58487.	36.893	NG/ML	1.80
3	62	57	1:25	1	0.207	A BB	73392.	47.006	NG/ML	2.30

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
4	94	77	1:55	1	0.280	A BB	114183.	67.007	NG/ML	3.28
5	64	86	2:09	1	0.313	A BB	62841.	52.094	NG/ML	2.55
6	96	138	3:27	1	0.502	A BB	81759.	55.443	NG/ML	2.71
7	76	143	3:34	1	0.520	A BB	176888.	40.308	NG/ML	1.97
8	43	148	3:42	1	0.538	A BB	19739.	48.270	NG/ML	2.36
9	84	174	4:21	1	0.633	A BB	135813.	76.175	NG/ML	3.73
10	96	192	4:48	1	0.698	A BB	95057.	56.902	NG/ML	2.78
11	63	221	5:31	1	0.804	A BB	131036.	45.439	NG/ML	2.22
12	43	233	5:49	1	0.847	A BB	145259.	47.597	NG/ML	2.33
13	72	267	6:40	1	0.971	A BB	7610.	45.164	NG/ML	2.21
14	83	286	7:09	1	1.040	A BB	144124.	43.078	NG/ML	2.11
15	97	290	7:15	1	1.055	A BB	104704.	48.686	NG/ML	2.38
16	117	300	7:30	1	1.091	A VB	85000.	42.611	NG/ML	2.08
17	62	319	7:58	1	1.160	A BB	108707.	44.226	NG/ML	2.16
18	65	314	7:51	1	1.142	A BB	105095.	35.758	NG/ML	1.75
19	114	349	8:43	19	1.000	A BB	212018.	50.000	NG/ML	2.45
20	78	315	7:52	19	0.903	A BB	201368.	57.396	NG/ML	2.81
21	130	362	9:03	19	1.037	A BB	69395.	55.014	NG/ML	2.69
22	63	377	9:25	19	1.080	A BB	76841.	52.833	NG/ML	2.58
23	83	401	10:01	19	1.149	A BB	146554.	69.084	NG/ML	3.38
24	75	434	10:51	19	1.244	A BV	169060.	109.553	NG/ML	5.36
25	117	559	13:58	25	1.000	A BV	290490.	50.000	NG/ML	2.45
26	43	451	11:16	25	0.807	A BB	59923.	34.485	NG/ML	1.69
27	92	454	11:21	25	0.812	A BB	161454.	49.753	NG/ML	2.43
28	98	449	11:13	25	0.803	A BB	270408.	43.610	NG/ML	2.13
29	75	478	11:57	25	0.855	A BB	56407.	28.917	NG/ML	1.41
30	97	489	12:13	25	0.875	A BB	86004.	47.716	NG/ML	2.33
31	164	493	12:19	25	0.882	A BB	75129.	51.108	NG/ML	2.50
32	43	516	12:54	25	0.923	A BB	37163.	32.523	NG/ML	1.59
33	129	516	12:54	25	0.923	A BB	128956.	49.537	NG/ML	2.42
34	112	561	14:01	25	1.004	A BB	210592.	50.122	NG/ML	2.45
35	106	574	14:21	25	1.027	A BV	107096.	55.686	NG/ML	2.72
36	104	618	15:27	25	1.106	A BB	253933.	59.086	NG/ML	2.89
37	106	616	15:24	25	1.102	A BB	138343.	58.501	NG/ML	2.86
38	173	629	15:43	25	1.125	A BB	86928.	55.150	NG/ML	2.70
39	83	681	17:01	25	1.218	A BB	159148.	51.953	NG/ML	2.54
40	95	660	16:30	25	1.181	A BB	200680.	49.445	NG/ML	2.42

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13	1.00	0.178	1.00	36.89	50.00	0.787	1.067	0.74
3	1:25	1.00	0.207	1.00	47.01	50.00	0.987	1.050	0.94
4	1:55	1.00	0.280	1.00	67.01	50.00	1.536	1.146	1.34
5	2:09	1.00	0.313	1.00	52.09	50.00	0.846	0.812	1.04
6	3:27	1.00	0.502	1.00	55.44	50.00	1.100	0.992	1.11
7	3:34	1.00	0.520	1.00	40.31	50.00	2.380	2.952	0.81
8	3:42	1.00	0.538	1.00	48.27	50.00	0.266	0.275	0.97
9	4:21	1.00	0.633	1.00	76.17	50.00	1.827	1.199	1.52
10	4:48	1.00	0.698	1.00	56.90	50.00	1.279	1.124	1.14
11	5:31	1.00	0.804	1.00	45.44	50.00	1.763	1.940	0.91
12	5:49	1.00	0.847	1.00	47.60	50.00	1.954	2.053	0.95
13	6:40	1.00	0.971	1.00	45.16	50.00	0.102	0.113	0.90
14	7:09	1.00	1.040	1.00	43.08	50.00	1.939	2.251	0.86
15	7:15	1.00	1.055	1.00	48.69	50.00	1.409	1.447	0.97
16	7:30	1.00	1.091	1.00	42.61	50.00	1.144	1.342	0.85
17	7:58	1.00	1.160	1.00	44.23	50.00	1.463	1.654	0.88

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
18	7:51	1.00	1.142	1.00	35.76	50.00	1.414	1.977	0.72
19	8:43	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52	1.00	0.903	1.00	57.40	50.00	0.950	0.827	1.15
21	9:03	1.00	1.037	1.00	55.01	50.00	0.327	0.297	1.10
22	9:25	1.00	1.080	1.00	52.83	50.00	0.362	0.343	1.06
23	10:01	1.00	1.149	1.00	69.08	50.00	0.691	0.500	1.38
24	10:51	1.00	1.244	1.00	109.55	62.00	0.643	0.364	1.77
25	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16	1.00	0.807	1.00	34.48	50.00	0.206	0.299	0.69
27	11:21	1.00	0.812	1.00	49.75	50.00	0.556	0.559	1.00
28	11:13	1.00	0.803	1.00	43.61	50.00	0.931	1.067	0.87
29	11:57	1.00	0.855	1.00	28.92	38.00	0.255	0.336	0.76
30	12:13	1.00	0.875	1.00	47.72	50.00	0.296	0.310	0.95
31	12:19	1.00	0.882	1.00	51.11	50.00	0.259	0.253	1.02
32	12:54	1.00	0.923	1.00	32.52	50.00	0.128	0.197	0.65
33	12:54	1.00	0.923	1.00	49.54	50.00	0.444	0.448	0.99
34	14:01	1.00	1.004	1.00	50.12	50.00	0.725	0.723	1.00
35	14:21	1.00	1.027	1.00	55.69	50.00	0.369	0.331	1.11
36	15:27	1.00	1.106	1.00	59.09	50.00	0.874	0.740	1.18
37	15:24	1.00	1.102	1.00	58.50	50.00	0.476	0.407	1.17
38	15:43	1.00	1.125	1.00	55.15	50.00	0.299	0.271	1.10
39	17:01	1.00	1.218	1.00	51.95	50.00	0.548	0.527	1.04
40	16:30	1.00	1.181	1.00	49.45	50.00	0.691	0.699	0.99

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Lab File ID (Standard): 0531V2J1 Date Analyzed:05/31/88

Instrument ID: 1020J Time Analyzed:11:35

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

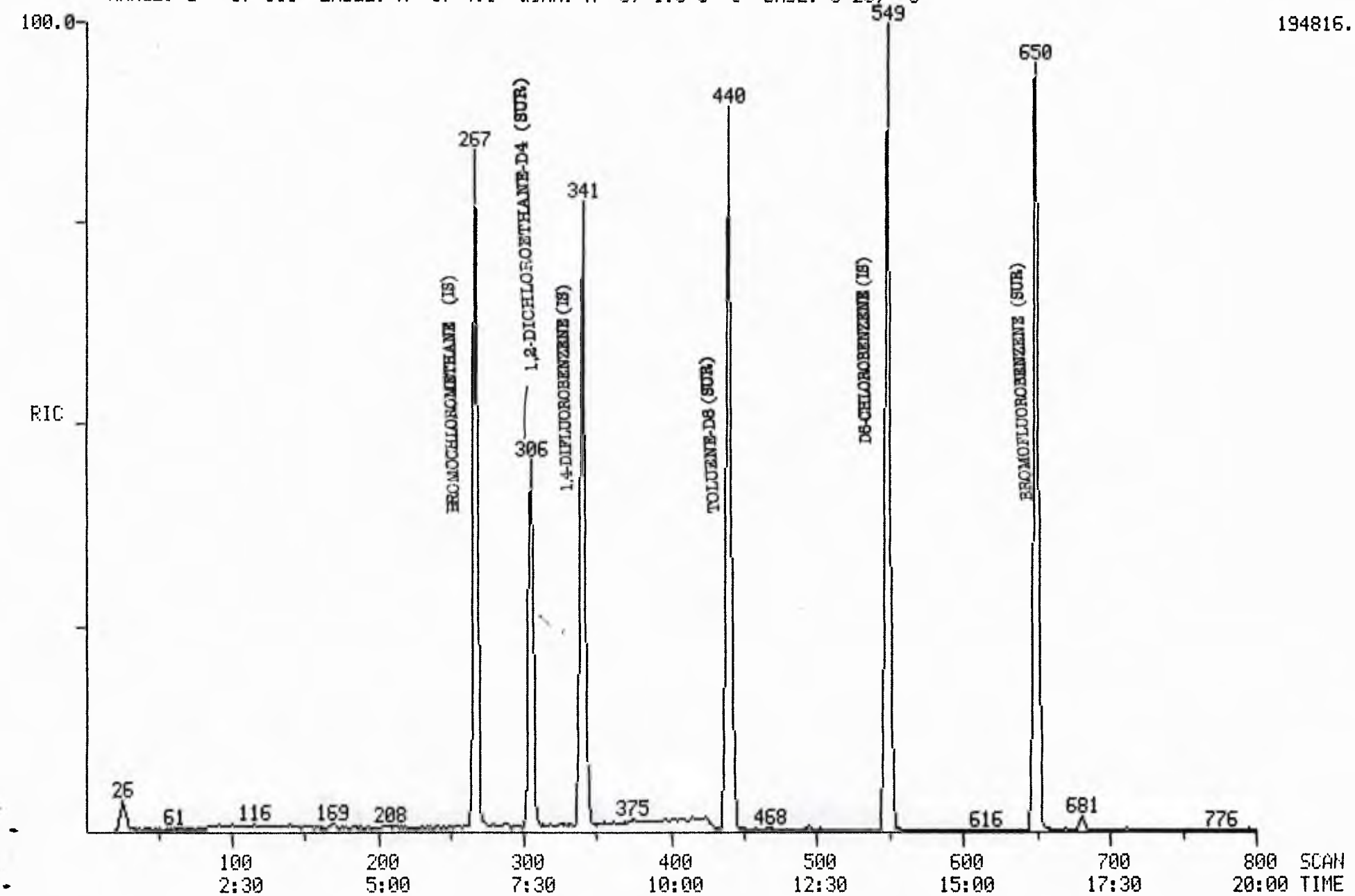
		IS1(BCM) AREA #	RT	IS2(DFB) AREA #	RT	IS3(CBZ) AREA #	RT
	12 HOUR STD	74322	6.87	212018	8.72	290490	13.97
	UPPER LIMIT	148644	7.37	424036	9.22	580980	14.47
	LOWER LIMIT	37161	6.37	106009	8.22	145245	13.47
	EPA SAMPLE NO.						
01	VBLKJ1	74243	6.90	212239	8.77	287147	14.00
02	JC809	67501	6.92	203313	8.77	279013	14.02
03	JC810	68733	6.90	203155	8.75	282495	13.97
04	JC814	75511	6.87	220821	8.75	292747	13.97
05	JC810MS	69029	6.87	197838	8.75	262203	13.95
06	JC810MSD	66611	6.72	201227	8.55	267811	13.75
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

RIC DATA: 10034VHB #1 SCANS 1 TO 800
05/31/88 17:02:00 CALI: CA053188A #4
SAMPLE: HOLDING BLANK,5ML +IS/SS ,CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 10034VHB

Data: 10034VHB.TI
05/31/88 17:02:00
Sample: HOLDING BLANK,5ML +IS/SS ,CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: LAUCKS Analyst: CR Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
1	128	267	6:40	1	1.000	A BB	70006.	50.000 NG/ML	16.17
2	NOT FOUND								
3	NOT FOUND								
4	NOT FOUND								
5	NOT FOUND								
6	NOT FOUND								
7	NOT FOUND								
8	43	145	3:37	1	0.543	A BB	1034.	2.781 NG/ML	0.90
9	NOT FOUND								
10	NOT FOUND								
11	NOT FOUND								
12	NOT FOUND								
13	NOT FOUND								
14	NOT FOUND								
15	NOT FOUND								
16	NOT FOUND								
17	NOT FOUND								
18	65	306	7:39	1	1.146	A BB	99558.	50.286 NG/ML	16.27
19	114	341	8:31	19	1.000	A BB	206720.	50.000 NG/ML	16.17
20	NOT FOUND								
21	NOT FOUND								
22	NOT FOUND								
23	NOT FOUND								
24	NOT FOUND								
25	117	549	13:43	25	1.000	A BB	257728.	50.000 NG/ML	16.17
26	NOT FOUND								
27	NOT FOUND								
28	98	440	11:00	25	0.801	A BB	256715.	53.502 NG/ML	17.31
29	NOT FOUND								
30	NOT FOUND								
31	NOT FOUND								
32	NOT FOUND								
33	NOT FOUND								
34	NOT FOUND								
35	NOT FOUND								
36	NOT FOUND								
37	NOT FOUND								
38	NOT FOUND								
39	NOT FOUND								
40	95	650	16:15	25	1.184	A BB	187177.	52.564 NG/ML	17.00
41	NOT FOUND								
42	NOT FOUND								

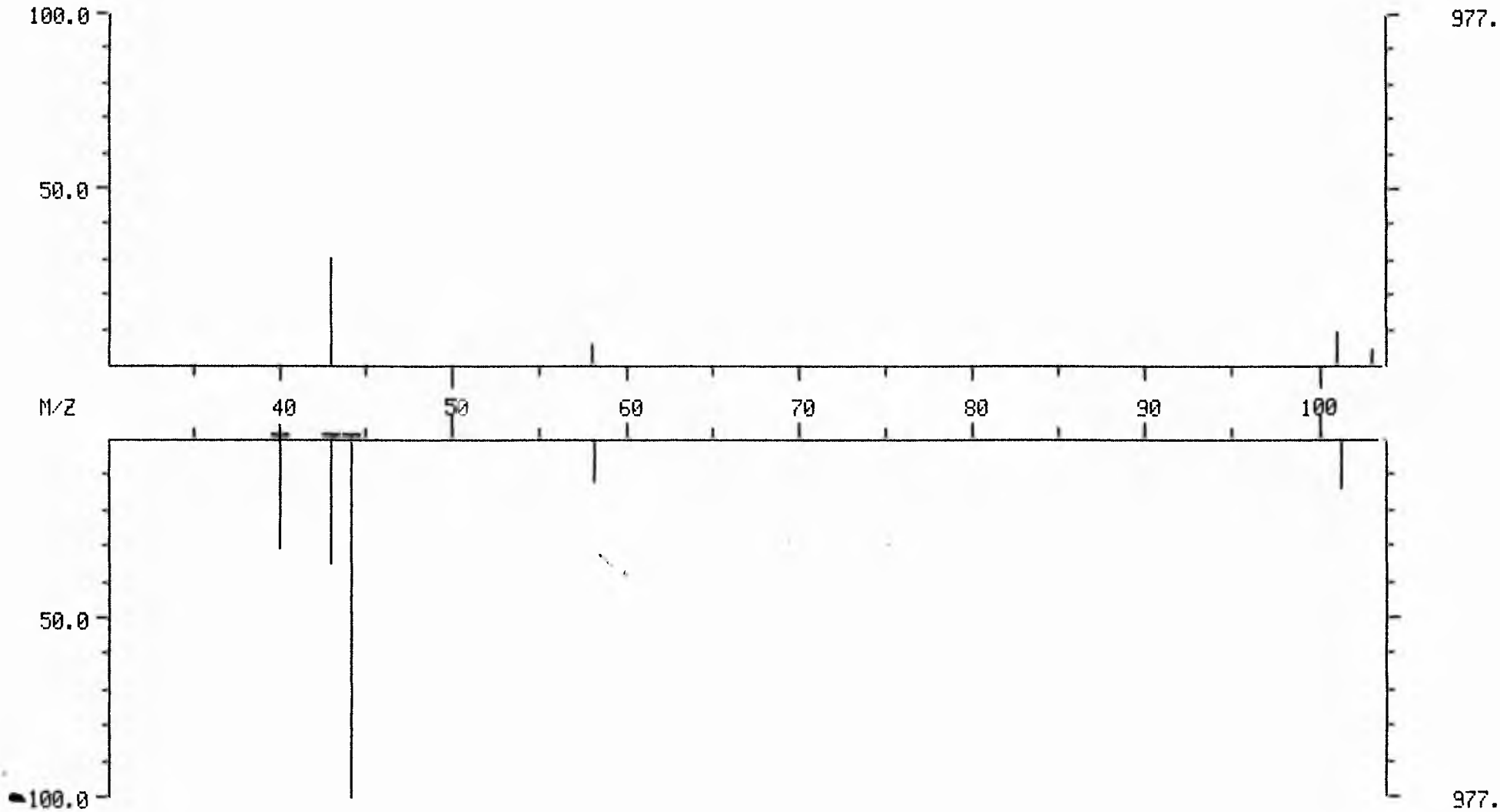
No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	0.97	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27		0.502						
7	3:34		0.520						
8	3:42	0.98	0.538	1.01	2.78	50.00	0.015	0.266	0.06
9	4:21		0.633						
10	4:48		0.698						
11	5:31		0.804						
12	5:49		0.847						

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40		0.971						
14	7:09		1.040						
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	0.97	1.142	1.00	50.29	50.00	1.422	1.414	1.01
19	8:43	0.98	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52		0.903						
21	9:03		1.037						
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	0.98	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21		0.812						
28	11:13	0.98	0.803	1.00	53.50	50.00	0.996	0.931	1.07
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01		1.004						
35	14:21		1.027						
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	0.98	1.181	1.00	52.56	50.00	0.726	0.691	1.05
41	14:35		1.102						
42	6:15		0.728						

DUAL MASS SPECTRUM
05/31/88 17:02:00 + 3:37
SAMPLE: HOLDING BLANK,5ML +IS/SS ,CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 10034VHB #145
CALI: CA053188A #4

BASE M/Z: 43/ 44
RIC: 478./ 1863.



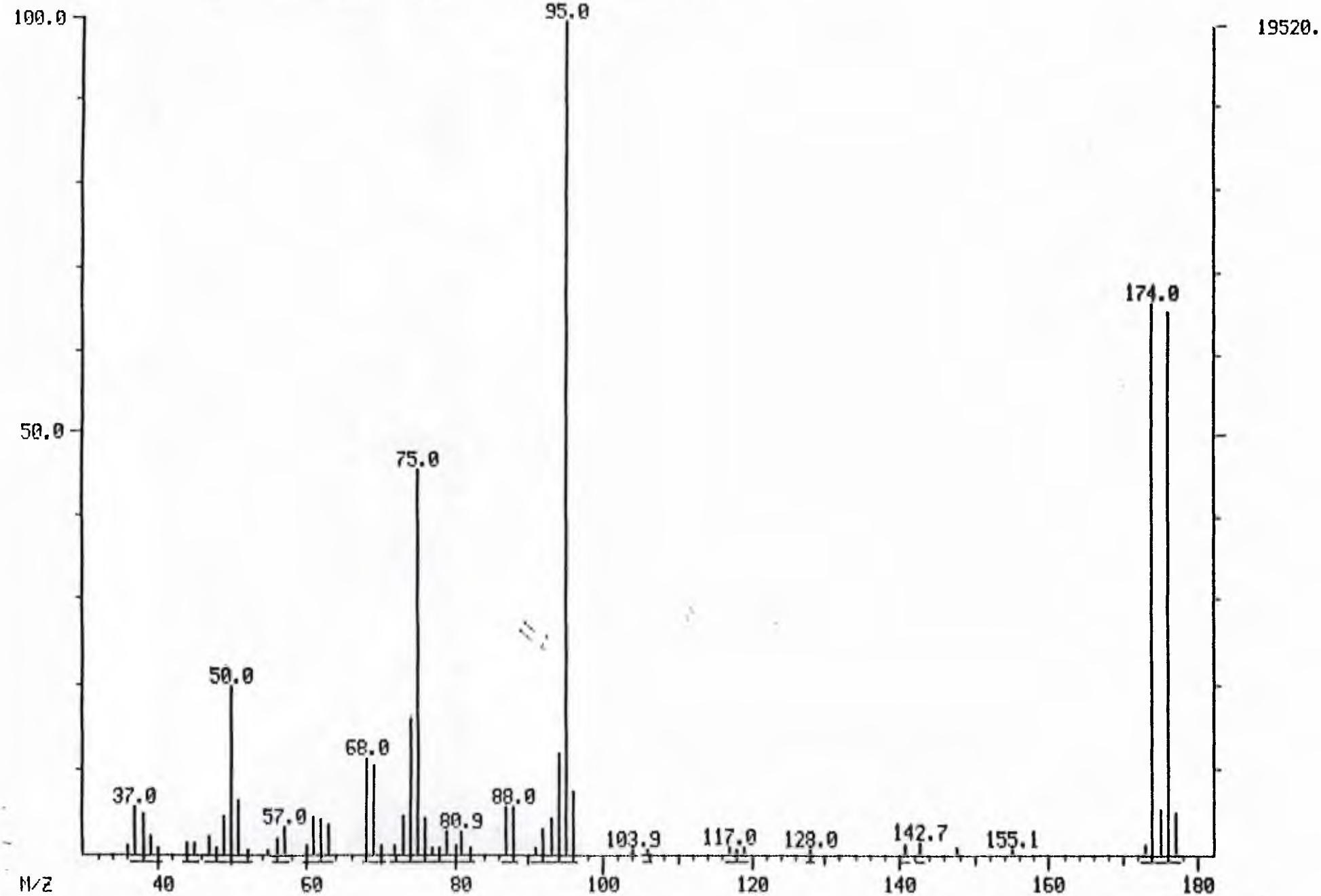
VOLATILE

RAW QC DATA

MASS SPECTRUM
05/03/88 11:10:00 + 7:40
SAMPLE: BFB CALIBRATION 50NG/5ML
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**

DATA: 0503BFBJ1 #307
CALI: CA050388A #3

BASE M/Z: 95
RIC: 90112.



Mass List
05/03/88 11:10:00 + 7:40
Sample: BFB CALIBRATION 50NG/5ML
Conds.: INSTRUMENT: 1020J

Data: 0503BFBJ1 # 307
Cali: CA050388A # 3

Base m/z: 95
RIC: 90112.

LAUCKS TESTING LABS

36 0.00 0.00 0. Minima Min inten: 0.
177 # 0 Maxima

Mass		% RA	% RIC	Inten.	Mass		% RA	% RIC	Inten.
35.98		1.12	0.24	219.	155.11		0.60	0.13	118.
37.01	F	5.58	1.21	1090.	172.77	F	1.17	0.25	229.
38.00	F	4.67	1.01	912.	173.98	F	66.31	14.36	12944.
39.02	F	2.11	0.46	412.	174.98	F	5.24	1.13	1022.
39.99	F	0.74	0.16	144.	175.97	F	65.16	14.12	12720.
43.88	F	1.37	0.30	267.	177.06	F	4.83	1.05	943.
45.03	F	1.33	0.29	260.					
46.87	F	2.04	0.44	399.					
47.97	F	0.89	0.19	173.					
49.00	F	4.32	0.94	844.					
50.02	F	19.67	4.26	3840.					
51.02	F	6.40	1.39	1250.					
52.07	F	0.57	0.12	112.					
54.88		0.62	0.14	122.					
56.02	F	1.85	0.40	361.					
57.02	F	3.14	0.68	612.					
59.98	F	1.12	0.24	218.					
61.02	F	4.48	0.97	874.					
62.03	F	4.22	0.91	823.					
63.02	F	3.35	0.73	654.					
67.97	F	11.15	2.41	2176.					
69.03	F	10.49	2.27	2048.					
70.05	F	1.16	0.25	227.					
71.78	F	1.12	0.24	218.					
73.02	F	4.52	0.98	882.					
74.03	F	15.68	3.40	3060.					
75.04	F	45.66	9.89	8912.					
76.04	F	4.24	0.92	827.					
77.02	F	0.91	0.20	177.					
77.99	F	0.76	0.16	148.					
78.92	F	2.56	0.55	500.					
79.96	F	0.98	0.21	191.					
80.95	F	2.74	0.59	535.					
82.14	F	0.91	0.20	177.					
86.97	F	5.52	1.20	1078.					
88.04	F	5.53	1.20	1080.					
90.96	F	0.66	0.14	129.					
92.02	F	2.93	0.63	571.					
93.04	F	4.18	0.91	816.					
94.05	F	11.70	2.53	2284.					
95.05	F	100.00	21.66	19520.					
96.05	F	7.40	1.60	1444.					
103.87		0.65	0.14	127.					
105.91	F	0.64	0.14	124.					
116.96	F	0.73	0.16	143.					
117.98	F	0.59	0.13	116.					
118.96	F	0.69	0.15	135.					
127.98	F	0.62	0.13	121.					
140.77	F	1.11	0.24	216.					
142.69	F	1.24	0.27	242.					
147.64		0.78	0.17	152.					

Mass List Data: 0531BFBJ2 # 308 Base m/z: 95
05/31/88 10:47:00 + 7:42 Cali: CA053188A # 4 RIC: 342528.
Sample: BFB CALIBRATION 50NG/5ML
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**

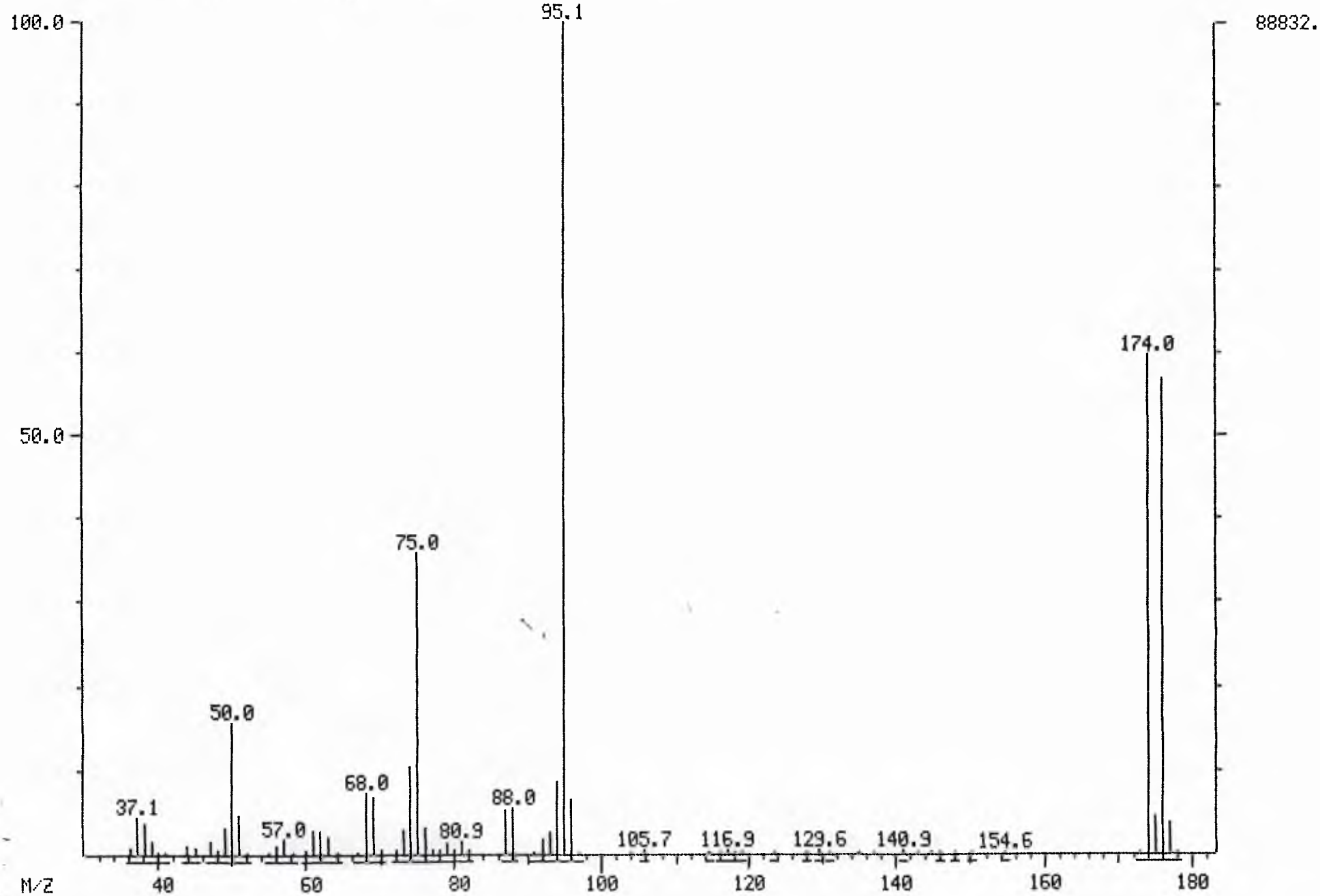
36 0.00 0.00 0. Minima Min inten: 0.
178 # 0 Maxima

Mass	% RA	% RIC	Inten.	Mass	% RA	% RIC	Inten.
36.07?F	0.77	0.20	688.	116.95 F	0.41	0.11	367.
37.05?F	4.38	1.14	3892.	117.95 F	0.23	0.06	208.
38.05?F	3.76	0.97	3336.	118.94 F	0.34	0.09	299.
39.06?F	1.52	0.39	1352.	123.52 F	0.14	0.04	123.
40.00?F	0.30	0.08	270.	127.97 F	0.36	0.09	320.
41.02?F	0.14	0.04	123.	129.61 F	0.45	0.12	397.
43.92?F	0.92	0.24	820.	131.22 F	0.22	0.06	193.
45.02?F	0.77	0.20	688.	134.95	0.19	0.05	165.
47.01?F	1.49	0.39	1324.	137.08	0.14	0.04	124.
47.98?F	0.54	0.14	479.	140.94 F	0.39	0.10	350.
49.04?F	3.13	0.81	2784.	142.98	0.39	0.10	346.
50.05?F	15.81	4.10	14048.	144.83	0.13	0.03	118.
51.05?F	4.61	1.20	4096.	145.97 F	0.17	0.04	147.
52.10?F	0.32	0.08	282.	147.97 F	0.25	0.06	219.
54.98?F	0.24	0.06	216.	150.14 F	0.14	0.04	125.
56.02?F	1.02	0.27	910.	154.62 F	0.36	0.09	323.
57.05?F	1.75	0.45	1556.	172.84 F	0.36	0.09	323.
58.15?F	0.14	0.04	121.	174.02 F	59.65	15.47	52992.
60.03?F	0.64	0.17	569.	175.02 F	4.46	1.16	3960.
61.03?F	2.94	0.76	2616.	176.02 F	56.92	14.76	50560.
62.04?F	2.78	0.72	2472.	177.03 F	3.76	0.98	3340.
63.05?F	2.14	0.56	1902.	178.14 F	0.22	0.06	196.
64.03?F	0.25	0.07	225.				
66.92?F	0.35	0.09	312.				
68.03?F	7.34	1.90	6520.				
69.04 F	6.74	1.75	5984.				
70.05 F	0.62	0.16	549.				
71.99 F	0.49	0.13	439.				
73.04 F	2.80	0.73	2488.				
74.04 F	10.45	2.71	9280.				
75.04 F	35.95	9.32	31936.				
76.04 F	3.22	0.83	2856.				
77.03 F	0.65	0.17	574.				
77.94 F	0.57	0.15	504.				
78.94 F	1.41	0.36	1250.				
79.96 F	0.59	0.15	528.				
80.94 F	1.48	0.38	1314.				
81.97 F	0.40	0.10	353.				
86.97 F	5.27	1.37	4680.				
88.02 F	5.49	1.42	4880.				
90.89 F	0.28	0.07	248.				
92.02 F	1.74	0.45	1546.				
93.03 F	2.67	0.69	2376.				
94.05 F	8.61	2.23	7648.				
95.06 F	100.00	25.93	88832.				
96.05 F	6.64	1.72	5896.				
97.09 F	0.31	0.08	279.				
104.05	0.32	0.08	288.				
105.71 F	0.45	0.12	401.				
114.55 F	0.14	0.04	122.				
115.85 F	0.29	0.07	255.				

MASS SPECTRUM
05/31/88 10:47:00 + 7:42
SAMPLE: BFB CALIBRATION 50NG/5ML
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**

DATA: 0531BFBJ2 #308
CALI: CA053188A #4

BASE M/Z: 95
RIC: 342528.



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKJ1

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: B0531MVOWJ1

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 0531VWBJ1

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKJ1

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No.: _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: B0531MVOWJ1

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 0531VWBJ1

Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
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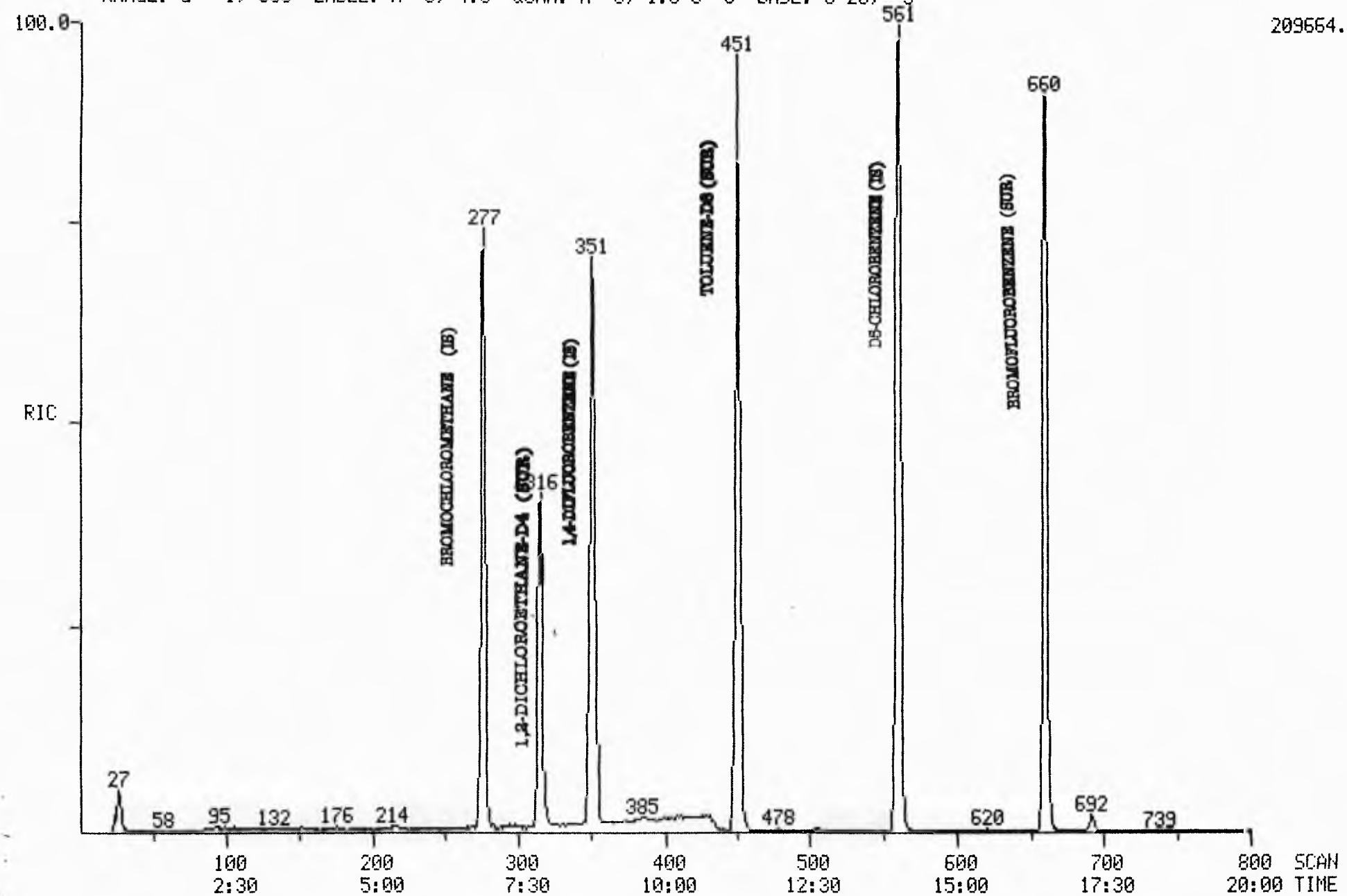
25.				
26.				
27.				
28.				
29.				
30.				

RIC
05/31/88 12:14:00
DATA: 0531VWBJ1 #250 SCANS 1 TO 800
CALI: CA053188A #4
SAMPLE: VBLKJ1 VOA METHOD BLANK 5ML PFW+IS/SS CASE#9688 LTL#10034
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 0531VWBJ1

Data: 0531VWBJ1.TI
05/31/88 12:14:00
Sample: VBLKJ1 VOA METHOD BLANK 5ML PFW+IS/SS CASE#9688 LTL#10034
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: LTL Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	276	6:54	1	1.000	A BB	74243.	50.000	NG/ML	16.57
2	NOT FOUND									
3	NOT FOUND									
4	NOT FOUND									
5	NOT FOUND									
6	NOT FOUND									
7	NOT FOUND									
No ~~8~~	43	150	3:45	1	0.543	A BB	1063.	2.696	NG/ML	0.89
9	NOT FOUND									
10	NOT FOUND									
11	NOT FOUND									
12	NOT FOUND									
13	NOT FOUND									
14	NOT FOUND									
15	NOT FOUND									
16	NOT FOUND									
17	NOT FOUND									
18	65	316	7:54	1	1.145	A BB	101681.	48.427	NG/ML	16.05
19	114	351	8:46	19	1.000	A BB	212239.	50.000	NG/ML	16.57
20	NOT FOUND									
21	NOT FOUND									
22	NOT FOUND									
23	NOT FOUND									
24	NOT FOUND									
25	117	560	14:00	25	1.000	A BB	287147.	50.000	NG/ML	16.57
26	NOT FOUND									
27	NOT FOUND									
28	98	451	11:16	25	0.805	A BB	275604.	51.554	NG/ML	17.09
29	NOT FOUND									
30	NOT FOUND									
31	NOT FOUND									
32	NOT FOUND									
33	NOT FOUND									
34	NOT FOUND									
35	NOT FOUND									
36	NOT FOUND									
37	NOT FOUND									
38	NOT FOUND									
39	NOT FOUND									
40	95	661	16:31	25	1.180	A BB	194653.	49.063	NG/ML	16.26
41	NOT FOUND									
42	NOT FOUND									

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27		0.502						
7	3:34		0.520						
8	3:42	1.01	0.538	1.01	2.70	50.00	0.014	0.266	0.05
9	4:21		0.633						
10	4:48		0.698						
11	5:31		0.804						
12	5:49		0.847						

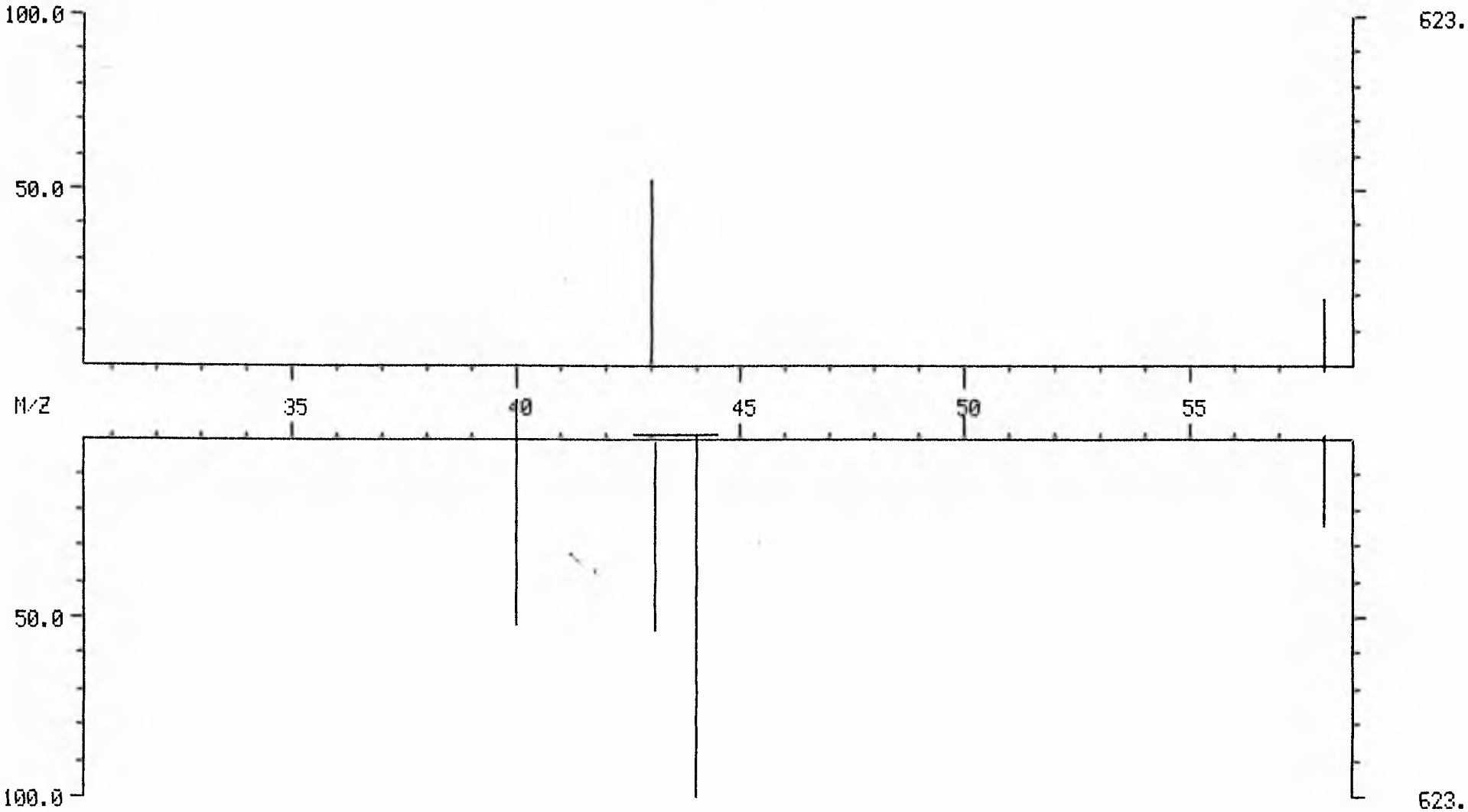
No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40		0.971						
14	7:09		1.040						
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	1.01	1.142	1.00	48.43	50.00	1.370	1.414	0.97
19	8:43	1.01	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52		0.903						
21	9:03		1.037						
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21		0.812						
28	11:13	1.00	0.803	1.00	51.55	50.00	0.960	0.931	1.03
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01		1.004						
35	14:21		1.027						
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	1.00	1.181	1.00	49.06	50.00	0.678	0.691	0.98
41	14:35		1.102						
42	6:15		0.728						

DUAL MASS SPECTRUM
05/31/88 12:14:00 + 3:45
SAMPLE: VBLKJ1 VOA METHOD BLANK 5ML PFW+IS/SS CASE#9688 LTL#10034
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
ENHANCED (S 15B 2N 0T)

DATA: 0531VWBJ1 #150
CALI: CA053188A #4

BASE M/Z: 43/ 44
RIC: 445./ 1435.

ACETONE



1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JC810MS

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-02MS

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V02MS

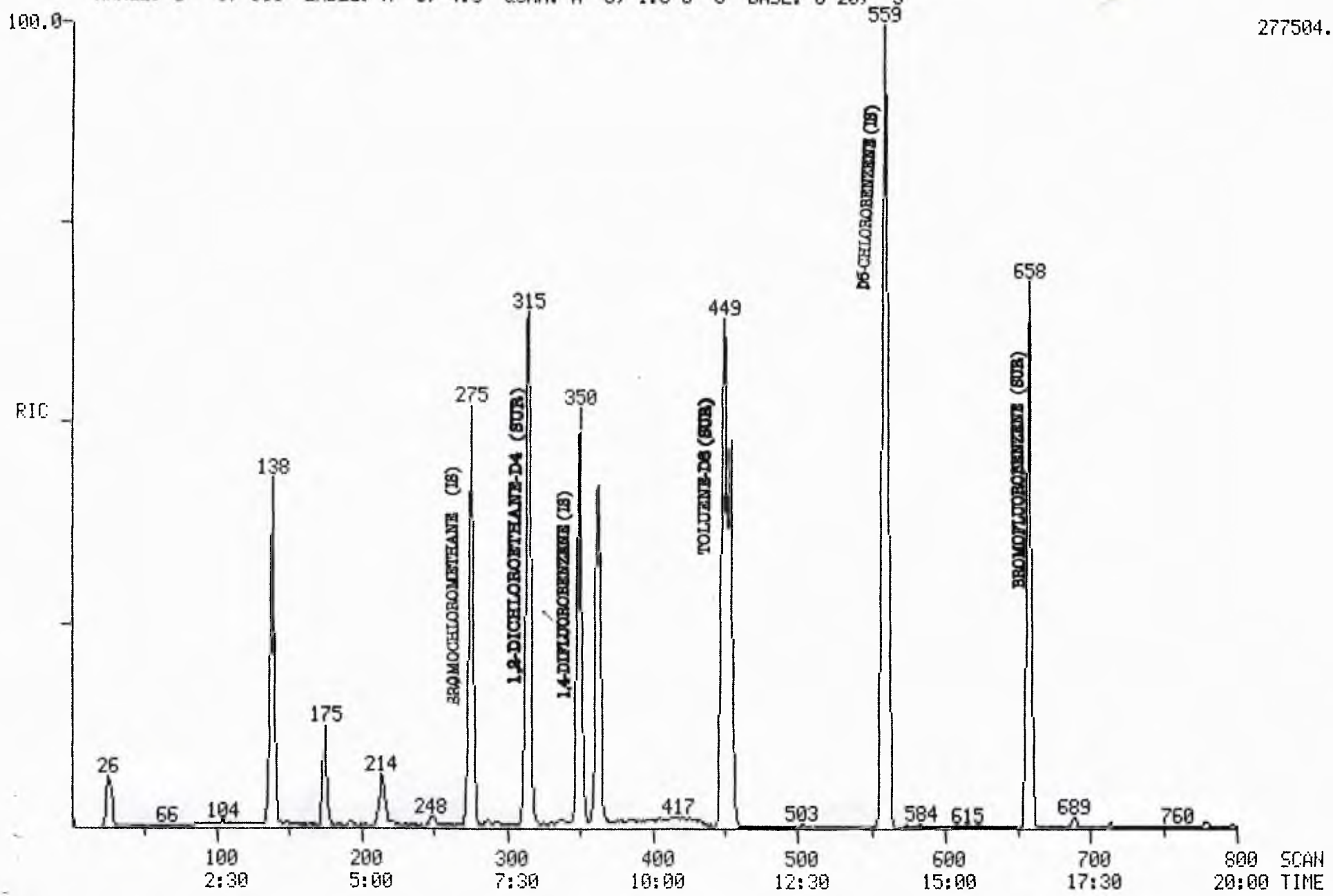
Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	
67-64-1	Acetone	5	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	1	J
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

RIC
05/31/88 14:57:00
DATA: 10034V02MS #1 SCANS 1 TO 800
CALI: CA053188A #4
SAMPLE: JC810 MATRIX SPIKE 10034-02MS 5ML+IS/SS/MS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 10034V02MS

Data: 10034V02MS.TI
05/31/88 14:57:00
Sample: JC810 MATRIX SPIKE 10034-02MS 5ML+IS/SS/MS CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: EPA Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	275	6:52	1	1.000	A BB	69029.	50.000	NG/ML	8.71
2	NOT FOUND									
3	NOT FOUND									
4	NOT FOUND									
5	NOT FOUND									
6	96	138	3:27	1	0.502	A BB	86188.	56.750	NG/ML	9.89
7	NOT FOUND									
8	43	149	3:43	1	0.542	A BB	1667.	4.546	NG/ML	0.79
9	84	175	4:22	1	0.636	A BB	25679.	10.179	NG/ML	1.77
10	NOT FOUND									
11	63	220	5:30	1	0.800	A BB	2518.	1.034	NG/ML	0.18
12	NOT FOUND									
13	NOT FOUND									
14	83	286	7:09	1	1.040	A BB	1491.	0.557	NG/ML	0.10
15	NOT FOUND									
16	NOT FOUND									
17	NOT FOUND									
18	65	314	7:51	1	1.142	A BB	99909.	51.177	NG/ML	8.92
19	114	350	8:45	19	1.000	A BB	197838.	50.000	NG/ML	8.71
20	78	315	7:52	19	0.900	A BB	168876.	44.938	NG/ML	7.83
21	130	362	9:03	19	1.034	A BB	70758.	54.636	NG/ML	9.52
22	NOT FOUND									
23	NOT FOUND									
24	NOT FOUND									
25	117	558	13:57	25	1.000	A BB	262203.	50.000	NG/ML	8.71
26	NOT FOUND									
27	92	454	11:21	25	0.814	A BB	127885.	43.877	NG/ML	7.65
28	98	449	11:13	25	0.805	A BB	256559.	52.557	NG/ML	9.16
29	NOT FOUND									
30	NOT FOUND									
31	NOT FOUND									
32	NOT FOUND									
33	NOT FOUND									
34	112	560	14:00	25	1.004	A BB	196380.	51.656	NG/ML	9.00
35	106	584	14:36	25	1.047	A BB	826.	0.427	NG/ML	0.07
36	NOT FOUND									
37	NOT FOUND									
38	NOT FOUND									
39	NOT FOUND									
40	95	658	16:27	25	1.179	A BB	185250.	51.135	NG/ML	8.91
41	106	584	14:36	25	1.047	A BB	826.	0.331	NG/ML	0.06
42	NOT FOUND									

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27	1.00	0.502	1.00	56.75	50.00	1.249	1.100	1.14
7	3:34		0.520						
8	3:42	1.01	0.538	1.01	4.55	50.00	0.024	0.266	0.09
9	4:21	1.01	0.633	1.01	10.18	50.00	0.372	1.827	0.20
10	4:48		0.698						
11	5:31	1.00	0.804	1.00	1.03	50.00	0.036	1.763	0.02
12	5:49		0.847						

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40		0.971						
14	7:09	1.00	1.040	1.00	0.56	50.00	0.022	1.939	0.01
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	1.00	1.142	1.00	51.18	50.00	1.447	1.414	1.02
19	8:43	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52	1.00	0.903	1.00	44.94	50.00	0.854	0.950	0.90
21	9:03	1.00	1.037	1.00	54.64	50.00	0.358	0.327	1.09
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	1.00	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21	1.00	0.812	1.00	43.88	50.00	0.488	0.556	0.88
28	11:13	1.00	0.803	1.00	52.56	50.00	0.978	0.931	1.05
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01	1.00	1.004	1.00	51.66	50.00	0.749	0.725	1.03
35	14:21	1.02	1.027	1.02	0.43	50.00	0.003	0.369	0.01
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	1.00	1.181	1.00	51.13	50.00	0.707	0.691	1.02
41	14:35	1.00	1.102	0.95	0.33	50.00	0.003	0.476	0.01
42	6:15		0.728						

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JC810MSD

Lab Name: Laucks Testing Labs Contract: 68-01-7406

Lab Code: LAUCKS Case No.:9688 SAS No. _____ SDG No.:JC809

Matrix: (soil/water)WATER Lab Sample ID: 10034-02MSD

Sample wt/vol: 5.0 (g/ml)ML Lab File ID: 10034V02MSD

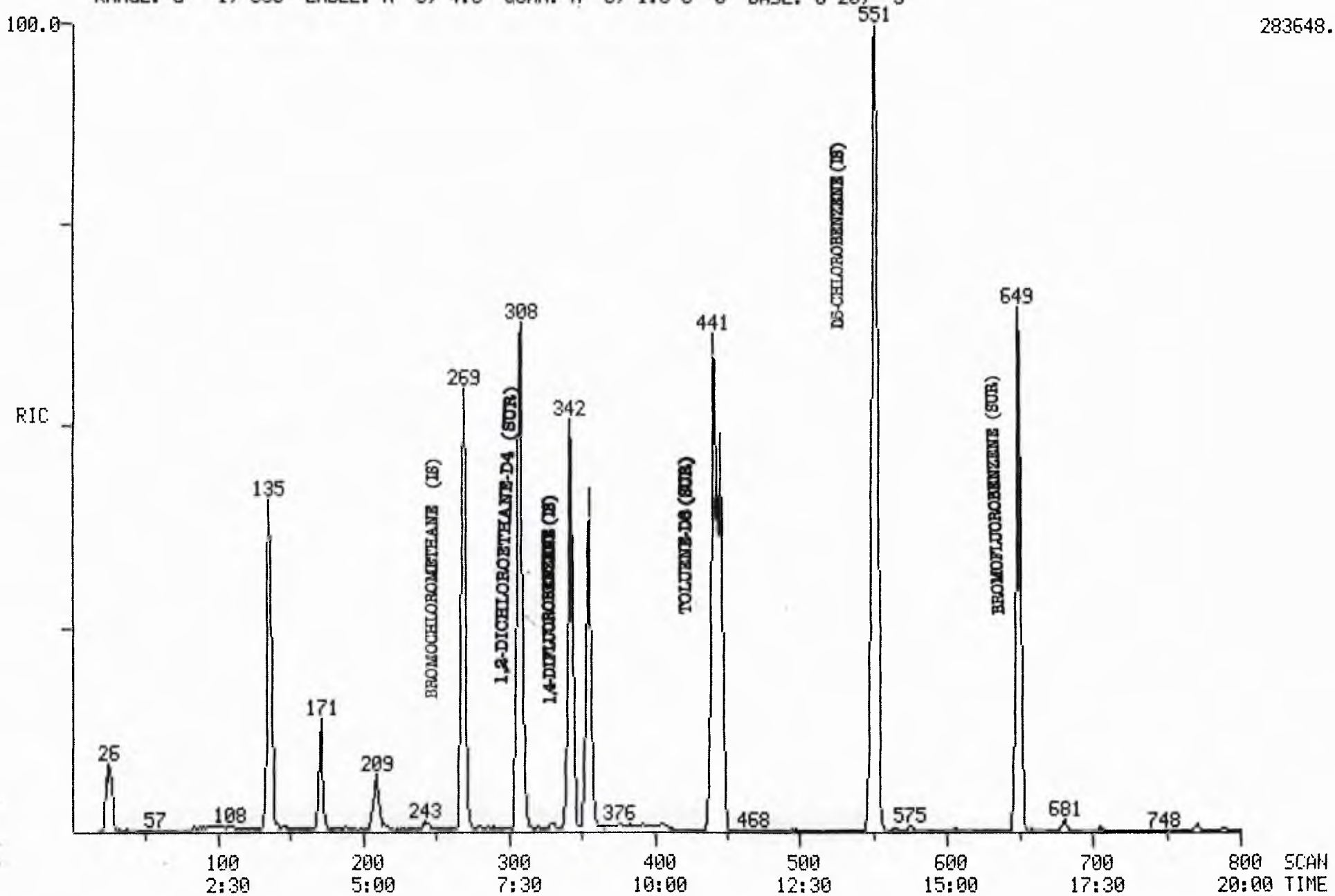
Level: (low/med) LOW Date Received: 05/25/88

% Moisture: not dec.__ Date Analyzed: 05/31/88

Column: (pack/cap) CAP Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	11	
67-64-1	Acetone	3	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	1	J
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

RIC
05/31/88 15:40:00
DATA: 10034V02MSD #250 SCANS 1 TO 800
CALI: CA053188A #4
SAMPLE: JC810 MATRIX SPK DUP 10034-2MSD 5ML+IS/SS/MS CASE#9688
CONDS.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
RANGE: G 1, 800 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3



Quantitation Report File: 10034V02MSD

Data: 10034V02MSD.TI
05/31/88 15:40:00
Sample: JC810 MATRIX SPK DUP 10034-2MSD 5ML+IS/SS/MS CASE#9688
Conds.: INSTRUMENT: 1020J **LAUCKS TESTING LABS**
Formula: Instrument: JUNIOR Weight: 0.000
Submitted by: EPA Analyst: MC Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)
Resp. fac. from Library Entry

No	Name
1	BROMOCHLOROMETHANE (INTERNAL STD)
2	CHLOROMETHANE **
3	VINYL CHLORIDE*
4	BROMOMETHANE
5	CHLOROETHANE
6	1,1-DICHLOROETHENE*
7	CARBON DISULFIDE
8	ACETONE
9	METHYLENE CHLORIDE
10	TRANS-1,2-DICHLOROETHENE
11	1,1-DICHLOROETHANE **
12	VINYL ACETATE
13	2-BUTANONE (MEK)
14	CHLOROFORM*
15	1,1,1-TRICHLOROETHANE
16	CARBON TETRACHLORIDE
17	1,2-DICHLOROETHANE
18	1,2-DICHLOROETHANE-D4
19	1,4-DIFLUOROBENZENE (INTERNAL STD)
20	BENZENE
21	TRICHLOROETHENE
22	1,2-DICHLOROPROPANE*
23	BROMODICHLOROMETHANE
24	CIS-1,3-DICHLOROPROPENE
25	D5-CHLOROBENZENE (INTERNAL STD)
26	4-METHYL-2-PENTANONE (MIK)
27	TOLUENE*
28	TOLUENE-D8
29	TRANS-1,3-DICHLOROPROPENE
30	1,1,2-TRICHLOROETHANE
31	TETRACHLOROETHENE
32	2-HEXANONE (MN-BK)
33	DIBROMOCHLOROMETHANE
34	CHLOROBENZENE **
35	ETHYLBENZENE*
36	STYRENE
37	O-XYLENE
38	BROMOFORM **
39	1,1,2,2-TETRACHLOROETHANE **
40	BROMOFLUOROBENZENE
41	M,P-XYLENES
42	CIS-1,2-DICHLOROETHENE

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
1	128	269	6:43	1	1.000	A BB	66611.	50.000	NG/ML	8.75
2	NOT FOUND									
3	NOT FOUND									
4	NOT FOUND									
5	NOT FOUND									
6	96	135	3:22	1	0.502	A BB	87777.	59.894	NG/ML	10.48
7	NOT FOUND									
8	43	146	3:39	1	0.543	A BB	1071.	3.027	NG/ML	0.53
9	84	171	4:16	1	0.636	A BB	25870.	10.627	NG/ML	1.86
10	NOT FOUND									
11	63	215	5:22	1	0.799	A BB	2580.	1.098	NG/ML	0.19
12	NOT FOUND									
13	NOT FOUND									
14	83	280	7:00	1	1.041	A BB	1545.	0.598	NG/ML	0.10
15	NOT FOUND									
16	NOT FOUND									
17	NOT FOUND									
18	65	307	7:40	1	1.141	A BB	96432.	51.190	NG/ML	8.96
19	114	342	8:33	19	1.000	A BB	201227.	50.000	NG/ML	8.75
20	78	308	7:42	19	0.901	A BB	170100.	44.501	NG/ML	7.79
21	130	355	8:52	19	1.038	A BB	70119.	53.231	NG/ML	9.31
22	NOT FOUND									
23	NOT FOUND									
24	NOT FOUND									
25	117	550	13:45	25	1.000	A BB	267811.	50.000	NG/ML	8.75
26	NOT FOUND									
27	92	446	11:09	25	0.811	A BB	130891.	43.968	NG/ML	7.69
28	98	441	11:01	25	0.802	A BB	258737.	51.893	NG/ML	9.08
29	NOT FOUND									
30	NOT FOUND									
31	NOT FOUND									
32	NOT FOUND									
33	NOT FOUND									
34	112	552	13:48	25	1.004	A BB	198730.	51.179	NG/ML	8.95
35	106	575	14:22	25	1.045	A BB	1460.	0.739	NG/ML	0.13
36	NOT FOUND									
37	NOT FOUND									
38	NOT FOUND									
39	NOT FOUND									
40	95	649	16:13	25	1.180	A BB	181560.	49.067	NG/ML	8.58
41	106	575	14:22	25	1.045	A BB	1460.	0.572	NG/ML	0.10
42	NOT FOUND									

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
1	6:52	0.98	1.000	1.00	50.00	50.00	1.000	1.000	1.00
2	1:13		0.178						
3	1:25		0.207						
4	1:55		0.280						
5	2:09		0.313						
6	3:27	0.98	0.502	1.00	59.89	50.00	1.318	1.100	1.20
7	3:34		0.520						
8	3:42	0.99	0.538	1.01	3.03	50.00	0.016	0.266	0.06
9	4:21	0.98	0.633	1.00	10.63	50.00	0.388	1.827	0.21
10	4:48		0.698						
11	5:31	0.97	0.804	0.99	1.10	50.00	0.039	1.763	0.02
12	5:49		0.847						

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
13	6:40		0.971						
14	7:09	0.98	1.040	1.00	0.60	50.00	0.023	1.939	0.01
15	7:15		1.055						
16	7:30		1.091						
17	7:58		1.160						
18	7:51	0.98	1.142	1.00	51.19	50.00	1.448	1.414	1.02
19	8:43	0.98	1.000	1.00	50.00	50.00	1.000	1.000	1.00
20	7:52	0.98	0.903	1.00	44.50	50.00	0.845	0.950	0.89
21	9:03	0.98	1.037	1.00	53.23	50.00	0.348	0.327	1.06
22	9:25		1.080						
23	10:01		1.149						
24	10:51		1.244						
25	13:58	0.98	1.000	1.00	50.00	50.00	1.000	1.000	1.00
26	11:16		0.807						
27	11:21	0.98	0.812	1.00	43.97	50.00	0.489	0.556	0.88
28	11:13	0.98	0.803	1.00	51.89	50.00	0.966	0.931	1.04
29	11:57		0.855						
30	12:13		0.875						
31	12:19		0.882						
32	12:54		0.923						
33	12:54		0.923						
34	14:01	0.98	1.004	1.00	51.18	50.00	0.742	0.725	1.02
35	14:21	1.00	1.027	1.02	0.74	50.00	0.005	0.369	0.01
36	15:27		1.106						
37	15:24		1.102						
38	15:43		1.125						
39	17:01		1.218						
40	16:30	0.98	1.181	1.00	49.07	50.00	0.678	0.691	0.98
41	14:35	0.99	1.102	0.95	0.57	50.00	0.005	0.476	0.01
42	6:15		0.728						