



Northeastern Analytical Corp.

ANALYTICAL REPORT

for

ROUX ASSOCIATES, INC.  
775 Park Avenue  
Suite 255  
Huntington, New York 11743

Attention: Mr. Joseph Duminuco

TEST REPORT NO. NAC91L-3336

PROJECT: UST Removal  
Sunnyside  
Queens, New York  
#05511Y

<u>Client Designation</u>	<u>NAC Designation</u>	<u>Date Sampled</u>	<u>Time Sampled</u>	<u>Sampled By</u>	<u>Matrix</u>
S-97, 4-6'	91L-3336-1	10-30-91	1220	Client	Solid
S-97, 6-8'	91L-3336-2	10-30-91	1030	Client	Solid
S-98, 4-6'	91L-3336-3	10-30-91	1230	Client	Solid

Laboratory Name: Northeastern Analytical Corp.

NJ Certification No: 03117

NY Certification No: 11022

Name: Paul P. Painter

Title: Laboratory Director

Name: June S. Baker

Title: Quality Assurance Manager

Date: November 22, 1991



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

## B. TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
A. Title Page	1
B. Table of Contents	2
C. Sample Analysis Request	3
D. Chain of Custody Documents	4 - 7
E. Methodology Review	8
F. Data Summary Package	
1. Non-Conformance Summary Report	9
2. Quality Control Summary	10 - 31
a. Volatile Organics by GC/MS	
3. Sample Data Package	32 - 93
a. Volatile Organics by GC/MS	
G. Standards Data Package	94 - 123
1. Volatile Organics by GC/MS	
H. Raw QC Data Package	124 - 160
1. Volatile Organics by GC/MS	



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

C. SAMPLE ANALYSIS REQUEST

- None Provided -



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

D. CHAIN OF CUSTODY DOCUMENTS



9/L-3336

### CHAIN OF CUSTODY

NO 00155

Ground-Water Consultants  
**ROUX ASSOCIATES INC**

PROJECT NAME  
**UST Remedial**

PROJECT LOCATION  
**Sunny side rd. Queens, NY**

SAMPLER(S)  
**A Grejny**

PROJECT NUMBER  
**055117**

DATE COLLECTED  
**12/30/97**

TIME COLLECTED  
**12:00**

SAMPLE DESIGNATION/LOCATION  
**S-97 (4'-6")**

DATE COLLECTED  
**"**

TIME COLLECTED  
**12:30**

SAMPLE DESIGNATION/LOCATION  
**S-97 (6'-8")**

DATE COLLECTED  
**"**

TIME COLLECTED  
**10:30**

SAMPLE DESIGNATION/LOCATION  
**S-98 (4'-6")**

DATE COLLECTED  
**"**

TIME COLLECTED  
**"**

SAMPLE DESIGNATION/LOCATION  
**"**

DATE COLLECTED  
**"**

TIME COLLECTED  
**"**

SAMPLE MATRIX  
**Locs (Method 8240) 2-40 ml 85% 15% water**

ANALYSES

TOTAL BOTTLES

PRESERVATION

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**12/31/97**

TIME  
**10:15**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

SEAL INTACT Y OR N  
**Y**

RECEIVED BY: (SIGNATURE)  
**[Signature]**

DATE  
**"**

TIME  
**"**

COMMENTS **THREE DAY (3) turnaround**

DELIVERY METHOD  
**FED. EX.**

ANALYTICAL LABORATORY  
**N.A.C.**







NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

00' 8

E. METHODOLOGY REVIEW

. Purgeables by GC/MS

Method 8240 - This is a purge and trap gas chromatograph/mass spectrometer (GC/MS) method. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Test Methods for Evaluating Solid Waste, SW846, 3rd Edition, November, 1986.

An HP5890/5970 GC/MS was used with a packed column of 1% SP-1000 on Carbopack B.

Method detection limits are as stated.



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE

1. Non-Conformance Summary Report

None.



NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary

a. Volatile Organics by GC/MS

1. Tune Summary

0 1:

NORTHEASTERN ANALYTICAL CORPORATION

BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT B

LAB FILE ID:>C0899

DATE:10/15/91

TIME:07:59

This Performance tune applies to the following Samples, Blanks  
and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HEATED HSL CAL CHK	>C0900	10/15/91 08:56
HEATED HSL CAL CHK	>C0901	10/15/91 09:46
HEATED HSL CAL CHK	>C0902	10/15/91 10:37
HEATED HSL CAL CHK	>C0903	10/15/91 11:35
HEATED HSL CAL CHK	>C0904	10/15/91 12:33

## NORTHEASTERN ANALYTICAL CORPORATION

0 12

## BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT B

LAB FILE ID:&gt;C1241

DATE:11/01/91

TIME:08:10

This Performance tune applies to the following Samples, Blanks  
and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HEATED HSL CAL CHK	>C1244	11/01/91 10:56
METHOD BLANK	>C1245	11/01/91 12:00
91L-3336-1	>C1246	11/01/91 13:24
91L-3336-3	>C1247	11/01/91 14:25
91L-3336-2	>C1248	11/01/91 15:52

## NORTHEASTERN ANALYTICAL CORPORATION

## BFB GC/MS TUNE SUMMARY SHEET

INSTRUMENT B

LAB FILE ID:&gt;C1272

DATE:11/04/91

TIME:20:57

This Performance tune applies to the following Samples, Blanks  
and Standards.

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
HEATED HSL CAL CHK	>C1273	11/04/91 21:23
METHOD BLANK	>C1274	11/04/91 22:27
91L-3279-10MS S-135	>C1276	11/05/91 00:18
91L-3279-10MSD S-135	>C1277	11/05/91 01:07

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

2. Surrogate Recovery Summary

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE SOIL SURROGATE SPIKE PERCENT RECOVERY

0 15

\* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (81-117)	BROMOFLOURO BENZENE (74-121)	1,2-DICHLORO ETHENE (70-121)
>C1246	11/01/91	91L-3336-1	102	108	100
>C1248	11/01/91	91L-3336-2	103	111	99
>C1247	11/01/91	91L-3336-3	98	106	96

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

DATA FILE	DATE	* SAMPLE ID	INDICATES RECOVERY OUTSIDE OF RANGE		
			TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>C1245	11/01/91	METHOD BLANK	103	107	103



NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE AQUEOUS SURROGATE SPIKE PERCENT RECOVERY

\* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (88-110)	BROMOFLOURO BENZENE (86-115)	1,2-DICHLORO ETHENE (76-114)
>C1274	11/04/91	METHOD BLANK	101	92	112

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE SOIL SURROGATE SPIKE PERCENT RECOVERY

\* INDICATES RECOVERY OUTSIDE OF RANGE

DATA FILE	DATE	SAMPLE ID	TOLUENE-d8 (81-117)	BROMOFLOURO BENZENE (74-121)	1,2-DICHLORO ETHENE (70-121)
>C1276	11/05/91	91L-3279-10MS	111	93	118
>C1277	11/05/91	91L-3279-10MSD	115	94	117



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

3. Method Blank Summary

0 20

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:>C1245

MATRIX:AQUEOUS

LEVEL:LOW

DATE ANALYZED:11/01/91

TIME ANALYZED:12:00

This method blank applies to the following Samples, MS and MSD

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
91L-3336-1	>C1246	11/01/91 13:24
91L-3336-3	>C1247	11/01/91 14:25
91L-3336-2	>C1248	11/01/91 15:52

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE METHOD BLANK SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:&gt;C1274

MATRIX:AQUEOUS

LEVEL:LOW

DATE ANALYZED:11/04/91

TIME ANALYZED:22:27

This method blank applies to the following Samples, MS and MSD

LAB SAMPLE ID	LAB FILE ID	INJECT DATE AND TIME
91L-3279-10MS	>C1276	11/05/91 00:18
91L-3279-10MSD	>C1277	11/05/91 01:07



NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

4. Matrix Spike/Matrix Spike Duplicate Summary

NORTHEASTERN ANALYTICAL CORPORATION  
SOIL VOLATILE MATRIX SPIKE AND MATRIX SPIKE DUPLICATE

SAMPLE NAME:91L-3279-10

ANALYSIS DATE:11/05/91

BATCH NO:135

COMPOUND	SPIKE ADDED	MS CONC	MSD CONC	SAM CONC	MS% REC	MSD% REC	RPD
1,1-Dichloroethene	50	44	43	ND	88	86	2
Trichloroethene	50	48	47	ND	96	94	2
Benzene	50	56	55	ND	112	110	2
Toluene	50	52	52	ND	104	104	0
Chlorobenzene	50	51	51	ND	102	102	0

UNITS OF CONCENTRATION ARE UG/KG

QC LIMITS	%REC	RPD
1,1-Dichloroethene	59-172	22
Trichloroethene	59-137	24
Benzene	60-133	21
Toluene	60-139	21
Chlorobenzene	66-142	21

\* INDICATES RECOVERY OUTSIDE OF LIMITS

RPD: 0 OUT OF 5 OUTSIDE OF LIMITS  
SPIKE RECOVERY: 0 OUT OF 10 OUTSIDE OF LIMITS



NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

2. Quality Control Summary (Continued)

a. Volatile Organics by GC/MS (Continued)

4. Internal Standard Area Summary



NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

0

25

LAB SAMPLE ID:91L-3336-1

INSTRUMENT ID:C

SAMPLE FILE ID:>C1246

STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91

TIME ANALYZED:13:24

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	104	104	34060	42570	85140	21285
1,4-Difluorobenzene	240	241	126898	162210	324420	81105
Chlorobenzene-d5	305	306	100714	123455	246910	61728

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2

01 20

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3336-2

INSTRUMENT ID:C

SAMPLE FILE ID:>C1248

STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91

TIME ANALYZED:15:52

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	104	104	45614	42570	85140	21285
1,4-Difluorobenzene	240	241	170593	162210	324420	81105
Chlorobenzene-d5	306	306	132305	123455	246910	61728

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3336-3

INSTRUMENT ID:C

SAMPLE FILE ID:>C1247

STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91

TIME ANALYZED:14:25

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	105	104	46305	42570	85140	21285
1,4-Difluorobenzene	240	241	169412	162210	324420	81105
Chlorobenzene-d5	306	306	129150	123455	246910	61728

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

0 2

LAB SAMPLE ID:METHOD BLANK

INSTRUMENT ID:C

SAMPLE FILE ID:>C1245

STANDARD FILE ID:>C1244

DATE ANALYZED:11/01/91

TIME ANALYZED:12:00

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	104	104	39547	42570	85140	21285
1,4-Difluorobenzene	241	241	149408	162210	324420	81105
Chlorobenzene-d5	306	306	116854	123455	246910	61728

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:METHOD BLANK  
SAMPLE FILE ID:>C1274  
DATE ANALYZED:11/04/91

INSTRUMENT ID:C  
STANDARD FILE ID:>C1273  
TIME ANALYZED:22:27

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	104	104	43226	44014	88028	22007
1,4-Difluorobenzene	241	240	161158	158922	317844	79461
Chlorobenzene-d5	306	305	125489	125812	251624	62906

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3279-10MS S-135

INSTRUMENT ID:C

SAMPLE FILE ID:>C1276

STANDARD FILE ID:>C1273

DATE ANALYZED:11/05/91

TIME ANALYZED:00:18

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	104	104	34354	44014	88028	22007
1,4-Difluorobenzene	241	240	122380	158922	317844	79461
Chlorobenzene-d5	306	305	89924	125812	251624	62906

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE INTERNAL STANDARD SUMMARY SHEET

LAB SAMPLE ID:91L-3279-10MSD S-135

INSTRUMENT ID:C

SAMPLE FILE ID:&gt;C1277

STANDARD FILE ID:&gt;C1273

DATE ANALYZED:11/05/91

TIME ANALYZED:01:07

INTERNAL STANDARD	SAM SCAN	STD SCAN	SAMPLE AREA	STAND AREA	UPPER LIMIT	LOWER LIMIT
Bromochloromethane	104	104	33821	44014	88028	22007
1,4-Difluorobenzene	241	240	118158	158922	317844	79461
Chlorobenzene-d5	306	305	88272	125812	251624	62906

UPPER LIMIT=STAND AREA X 2  
LOWER LIMIT=STAND AREA/2



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package

a. Volatile Organics by GC/MS

1. Sample Result Summary and Method Detection Limit



NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:91L-3336-1

LAB FILE ID:&gt;C1246

DATE RECEIVED:10/30/91

DATE ANALYZED:911101

SAMPLE WT/VOL:5.0G/5.0ML

LEVEL:LOW

DRY WT %:90.77

CAS NO.		MDL	CONC. UG/KG
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	6	2 J
107-02-8	Acrolein	22	U
107-13-1	Acrylonitrile	22	U
67-64-1	Acetone	11	U
75-69-4	Trichlorofluoromethane	6	U
75-35-4	1,1-Dichloroethene	6	U
75-34-3	1,1-Dichloroethane	6	U
156-60-5	Trans-1,2-Dichloroethene	6	U
67-66-3	Chloroform	6	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	6	U
56-23-5	Carbon Tetrachloride	6	U
75-27-4	Bromodichloromethane	6	U
78-87-5	1,2-Dichloropropane	6	U
10061-01-5	cis-1,3-Dichloropropene	6	U
79-01-6	Trichloroethene	6	U
124-48-1	Dibromochloromethane	6	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	6	U
10061-02-6	trans-1,3-Dichloropropene	6	U
110-75-8	2-Chloroethylvinylether	11	U
75-25-2	Bromoform	6	U
127-18-4	Tetrachloroethene	6	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	6	U
1330-02-7	m&p Xylenes	11	U
110-75-8	O-Xylenes	6	U

U; Not Detected

J; below the limits of reliable quantitation

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:91L-3336-2

LAB FILE ID:&gt;C1248

DATE RECEIVED:10/30/91

DATE ANALYZED:911101

SAMPLE WT/VOL:10UL OF A 1G/10ML

LEVEL:MEDIUM

DRY WT %:87.00

CAS NO.		MDL	CONC. UG/KG
74-87-3	Chloromethane	57000	U
74-83-9	Bromomethane	57000	U
75-01-4	Vinyl Chloride	57000	U
75-00-3	Chloroethane	57000	U
75-09-2	Methylene Chloride	29000	U
107-02-8	Acrolein	110000	U
107-13-1	Acrylonitrile	110000	U
67-64-1	Acetone	57000	U
75-69-4	Trichlorofluoromethane	29000	U
75-35-4	1,1-Dichloroethene	29000	U
75-34-3	1,1-Dichloroethane	29000	U
156-60-5	Trans-1,2-Dichloroethene	29000	U
67-66-3	Chloroform	29000	6500 J
107-06-2	1,2-Dichloroethane	29000	U
78-93-3	2-Butanone	57000	U
71-55-6	1,1,1-Trichloroethane	29000	U
56-23-5	Carbon Tetrachloride	29000	U
75-27-4	Bromodichloromethane	29000	U
78-87-5	1,2-Dichloropropane	29000	U
10061-01-5	cis-1,3-Dichloropropene	29000	U
79-01-6	Trichloroethene	29000	U
124-48-1	Dibromochloromethane	29000	U
79-00-5	1,1,2-Trichloroethane	29000	U
71-43-2	Benzene	29000	U
10061-02-6	trans-1,3-Dichloropropene	29000	U
110-75-8	2-Chloroethylvinylether	57000	U
75-25-2	Bromoform	29000	U
127-18-4	Tetrachloroethene	29000	U
79-34-5	1,1,2,2-Tetrachloroethane	29000	U
108-88-3	Toluene	29000	U
108-90-7	Chlorobenzene	29000	U
100-41-4	Ethylbenzene	29000	27000 J
1330-02-7	m&p Xylenes	57000	220000
110-75-8	O-Xylenes	29000	29000

U; Not Detected

J; below the limits of reliable quantitation

REVISED

## NORTHEASTERN ANALYTICAL CORPORATION

## VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:91L-3336-3

LAB FILE ID:&gt;C1247

DATE RECEIVED:10/30/91

DATE ANALYZED:911101

SAMPLE WT/VOL:100UL OF A 4G/10ML

LEVEL:MEDIUM

DRY WT %:91.11

CAS NO.		MDL	CONC. UG/KG
74-87-3	Chloromethane	1400	U
74-83-9	Bromomethane	1400	U
75-01-4	Vinyl Chloride	1400	U
75-00-3	Chloroethane	1400	U
75-09-2	Methylene Chloride	690	U
107-02-8	Acrolein	2700	U
107-13-1	Acrylonitrile	2700	U
67-64-1	Acetone	1400	U
75-69-4	Trichlorofluoromethane	690	U
75-35-4	1,1-Dichloroethene	690	U
75-34-3	1,1-Dichloroethane	690	U
156-60-5	Trans-1,2-Dichloroethene	690	U
67-66-3	Chloroform	690	U
107-06-2	1,2-Dichloroethane	690	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	690	U
56-23-5	Carbon Tetrachloride	690	U
75-27-4	Bromodichloromethane	690	U
78-87-5	1,2-Dichloropropane	690	U
10061-01-5	cis-1,3-Dichloropropene	690	U
79-01-6	Trichloroethene	690	U
124-48-1	Dibromochloromethane	690	U
79-00-5	1,1,2-Trichloroethane	690	U
71-43-2	Benzene	690	U
10061-02-6	trans-1,3-Dichloropropene	690	U
110-75-8	2-Chloroethylvinylether	1400	U
75-25-2	Bromoform	690	U
127-18-4	Tetrachloroethene	690	U
79-34-5	1,1,2,2-Tetrachloroethane	690	U
108-88-3	Toluene	690	U
108-90-7	Chlorobenzene	690	U
100-41-4	Ethylbenzene	690	U
1330-02-7	m&p Xylenes	1400	U
110-75-8	O-Xylenes	690	U

U; Not Detected

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

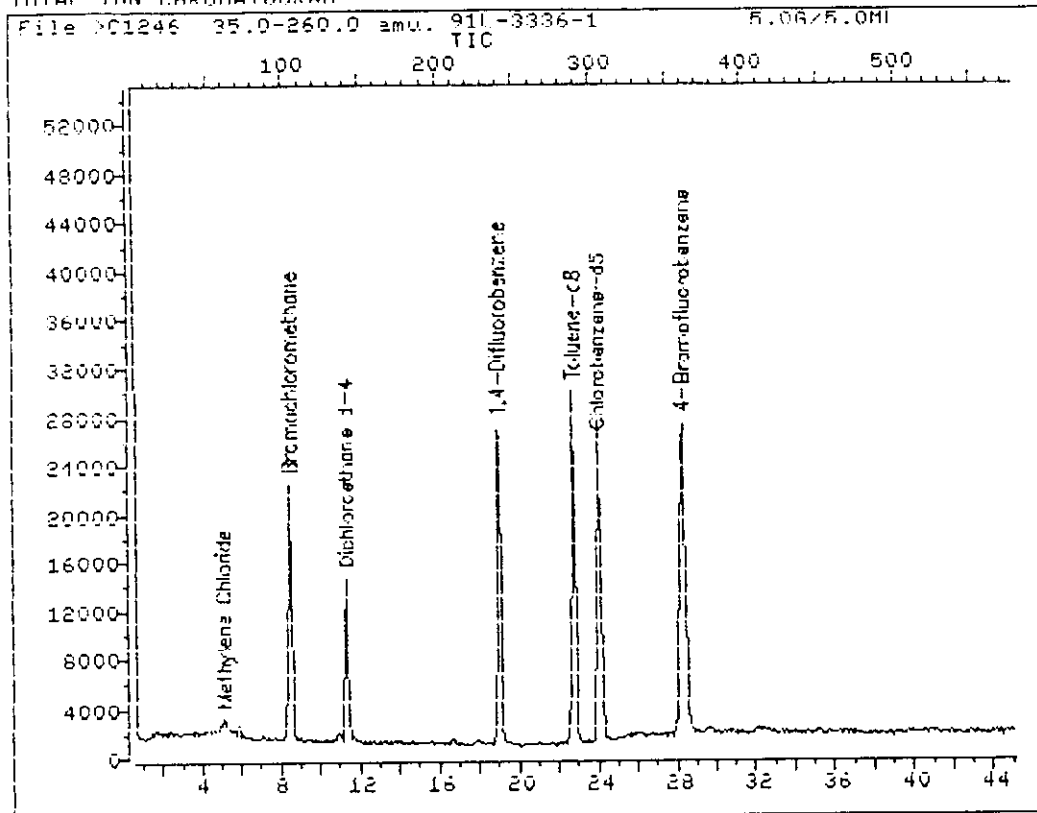
3. Sample Data Package (Continued)

a. Volatile Organics by GC/MS (Continued)

2. Sample Chromatograms, Quantitation Reports and  
Mass Spectra



## TOTAL ION CHROMATOGRAM



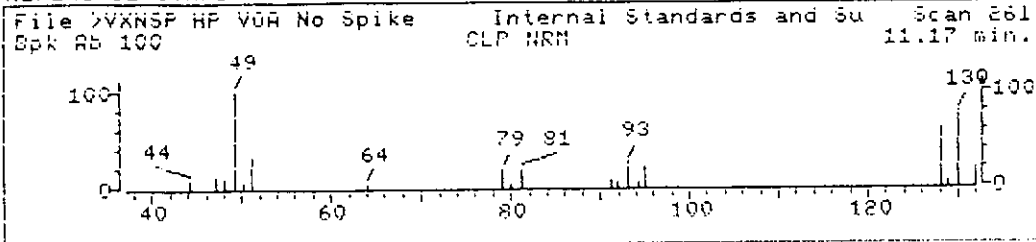
Data File: >C1246::D2  
Name: 91L-3336-1  
Misc: 5.06/5.0ML

Quant Output File: >C1246::D3

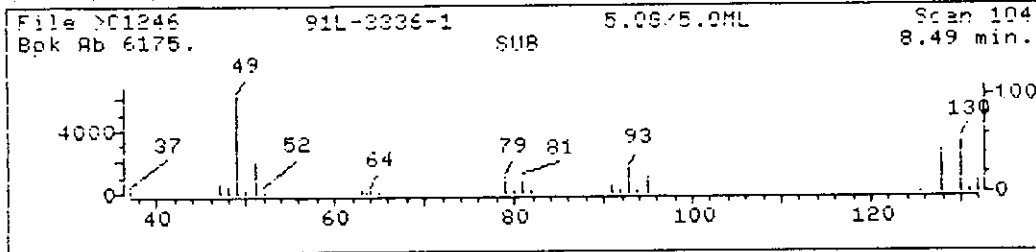
Id File: IDSCDC::QT  
Title: HP UOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:36

Operator ID: MALOS  
Quant Time: 911101 14:12  
Injected at: 911101 13:24

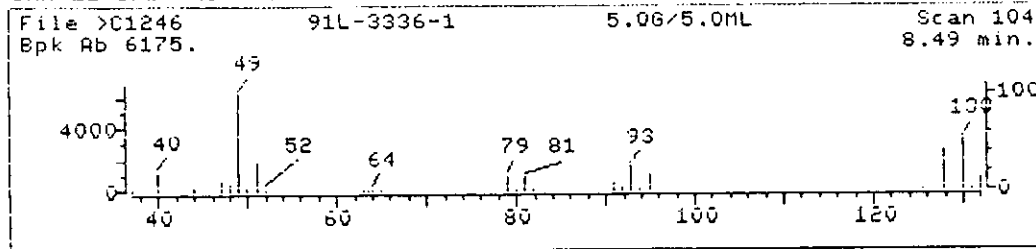
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

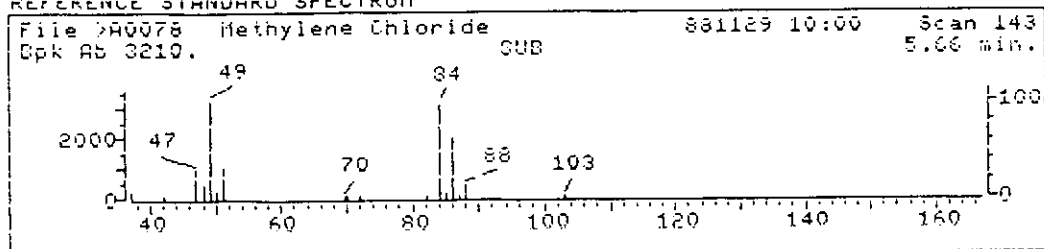


Data File: >C1246::D2  
 Name: 91L-3336-1  
 Misc: 5.06/5.0ML  
 Quant Time: 911101 14:12  
 Injected at: 911101 13:24

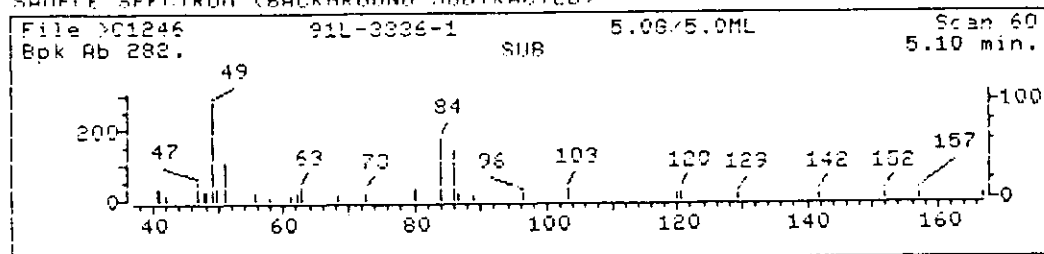
Quant Output File: ^C1246::D3  
 Quant ID File: 10SCCC::Q1  
 Last Calibration: 911015 13:36

Compound No: 1 (ISTD)  
 Compound Name: Bromochloromethane  
 Scan Number: 104  
 Retention Time: 8.49 min.  
 Quant Ion: 128.0  
 Area: 34060  
 Concentration: 50.00 UG/KG  
 q-value: 76

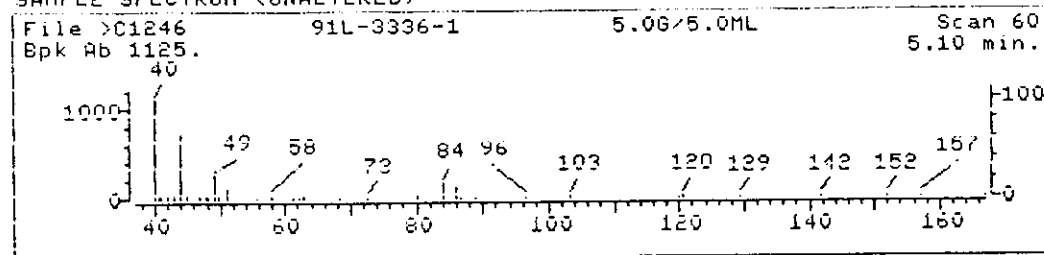
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1246::D2  
 Name: 91L-3336-1  
 Misc: 5.06/5.0ML  
 Quant Time: 911101 14:12  
 Injected at: 911101 13:24

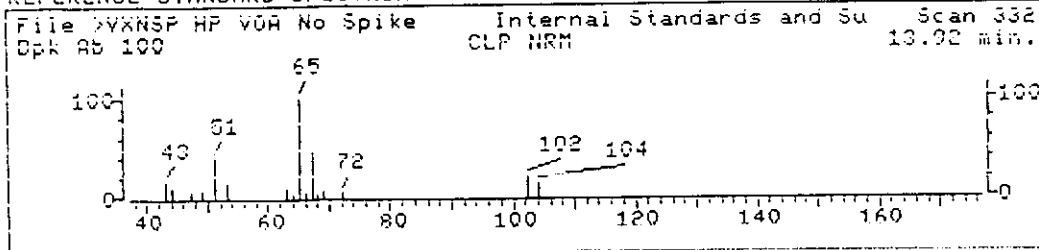
Quant Output File: >C1246::D3

Quant ID File: IDSCDD::WT  
 Last Calibration: 911015 13:36

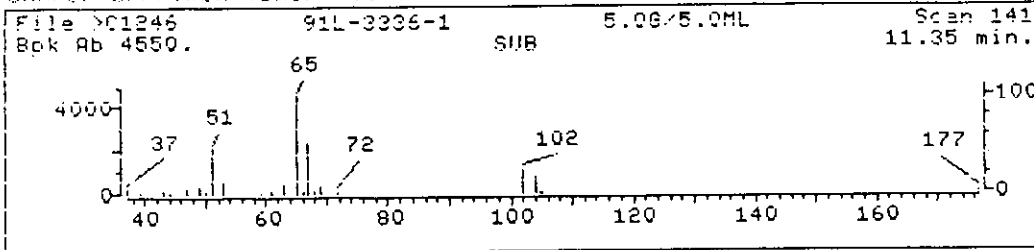
Compound No: 6  
 Compound Name: Methylene Chloride  
 Scan Number: 60  
 Retention Time: 5.10 min.  
 Quant Ion: 84.0  
 Area: 2705  
 Concentration: 2.20 UG/KG  
 q-value: 90



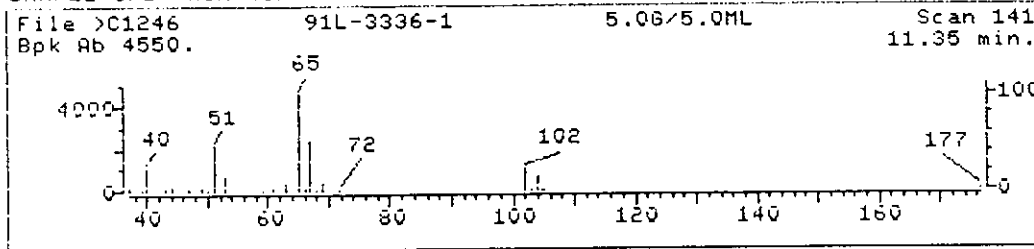
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1246::D2

Quant Output File: >C1246::D3

Name: 91L-3336-1

Misc: 5.00/5.0ML

Quant Time: 911101 14:12

Quant ID File: IDSCDD::QT

Injected at: 911101 13:24

Last Calibration: 911015 13:36

Compound No: 17

Compound Name: 1,2-Dichloroethane-d4

Scan Number: 141

Retention Time: 11.35 min.

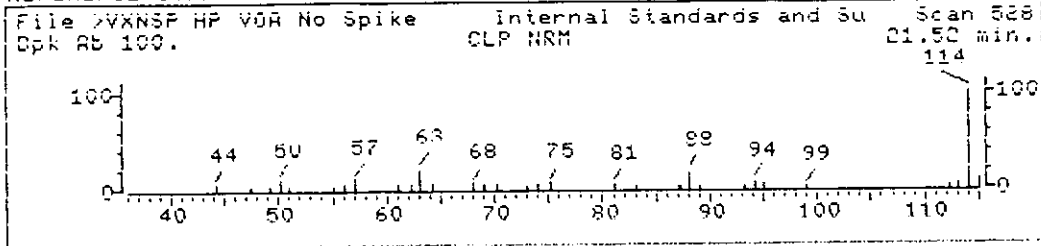
Quant Ion: 65.0

Area: 53472

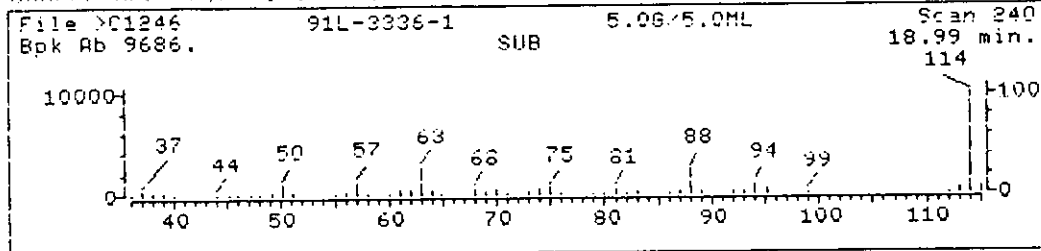
Concentration: 49.90 UG/KG

q-value: 96

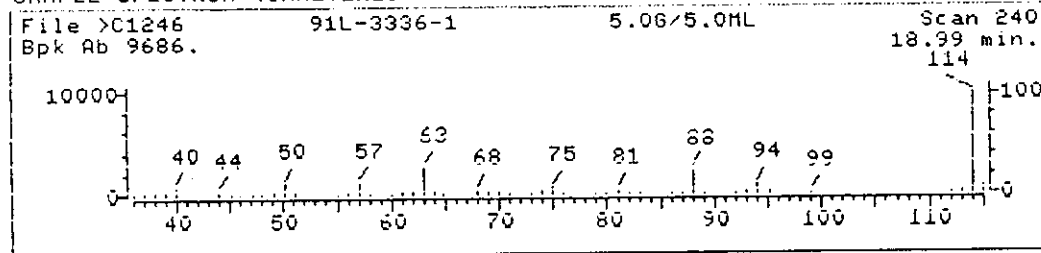
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



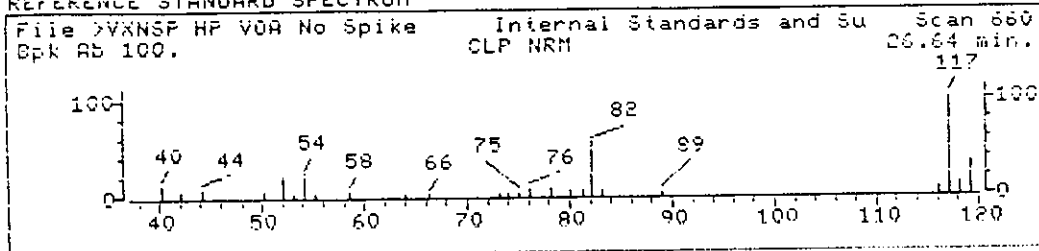
Data File: >C1246::D2  
 Name: 91L-3336-1  
 Misc: 5.UG/5.0ML  
 Quant Time: 911101 14:12  
 Injected at: 911101 13:24

Quant Output File: ^C1246::U3

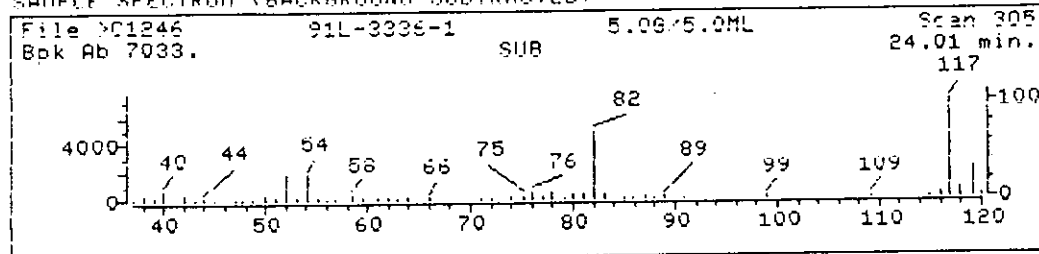
Quant ID File: IDSC00::QT  
 Last Calibration: 911015 13:36

Compound No: 27 (ISTD)  
 Compound Name: 1,4-Difluorobenzene  
 Scan Number: 240  
 Retention time: 18.99 min.  
 Quant Ion: 114.0  
 Area: 126898  
 Concentration: 50.00 UG/KG  
 q-value: 69

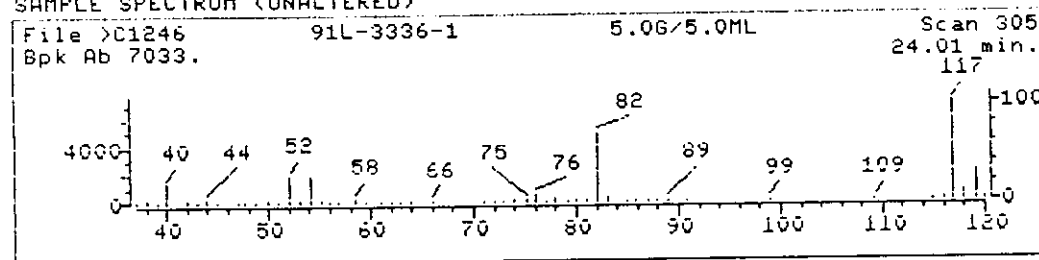
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

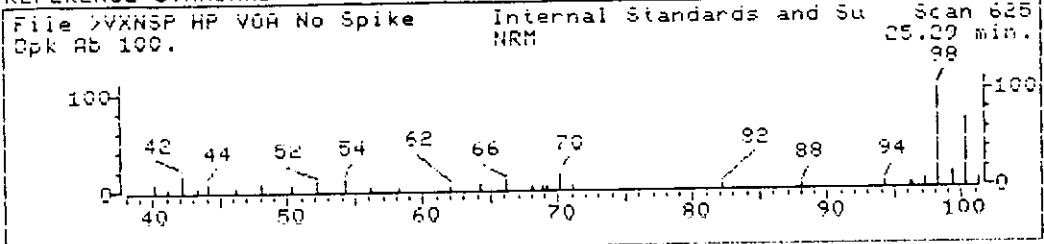


Data File: >C1246::D2  
 Name: 91L-3336-1  
 Misc: 5.0G/5.0ML  
 Quant Time: 911101 14:12  
 Injected at: 911101 13:24

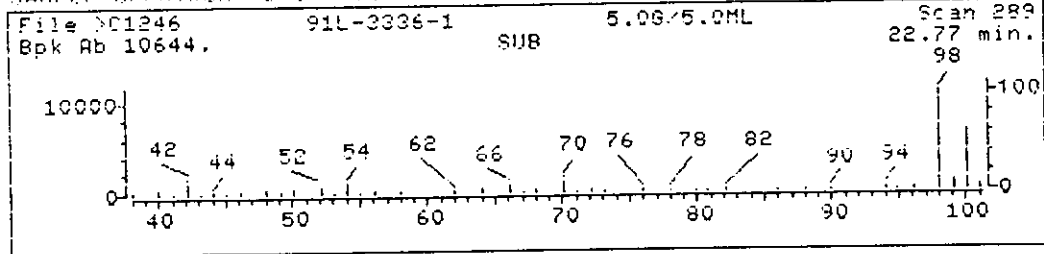
Quant Output File: >C1246::D3  
 Quant ID File: IDSCCC::QT  
 Last Calibration: 911015 13:36

Compound No: 38 (ISTD)  
 Compound Name: Chlorobenzene-d5  
 Scan Number: 305  
 Retention Time: 24.01 min.  
 Quant Ion: 117.0  
 Area: 100714  
 Concentration: 50.00 UG/KG  
 q-value: 99

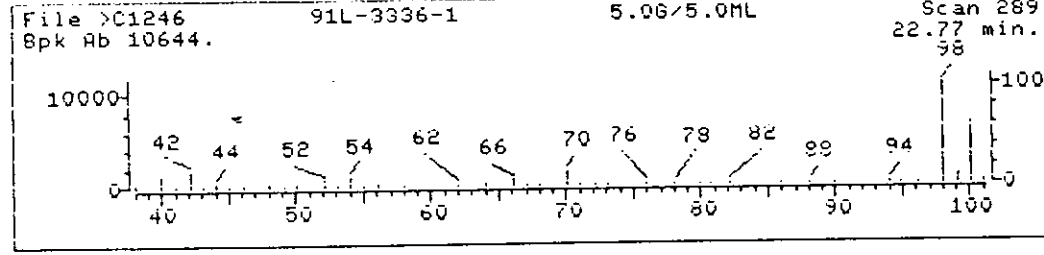
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

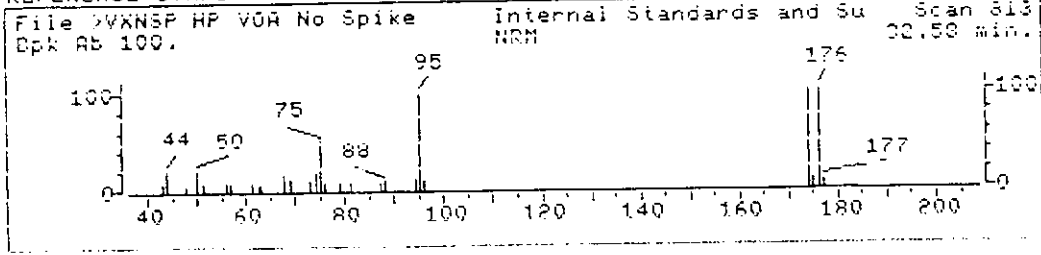


Data File: >C1246::D2  
 Name: 91L-3336-1  
 Misc: 5.06/5.0ML  
 Quant Time: 911101 14:12  
 Injected at: 911101 13:24

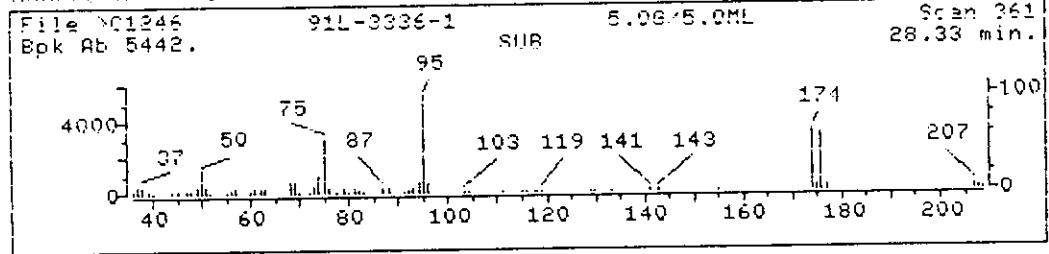
Quant Output File: >C1246::D3  
 Quant ID File: 105000::QT  
 Last Calibration: 911015 13:36

Compound No: 44  
 Compound Name: Toluene-d8  
 Scan Number: 289  
 Retention Time: 22.77 min.  
 Quant Ion: 98.0  
 Area: 128910  
 Concentration: 50.93 UG/KG  
 q-value: 98

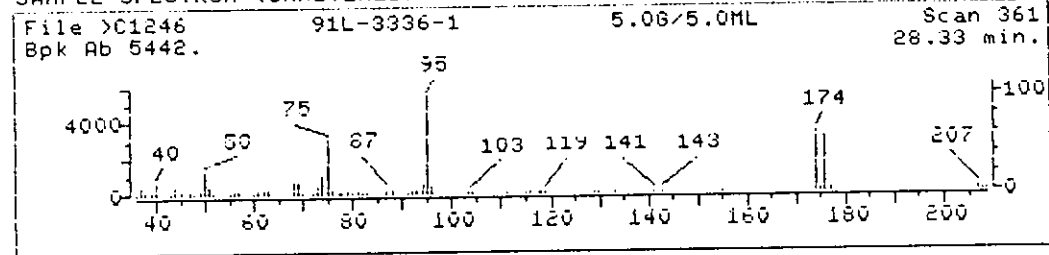
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1246::D2  
 Name: 91L-3336-1  
 Misc: 5.00/5.0ML  
 Quant Time: 911101 14:12  
 Injected at: 911101 13:24

Quant Output File: ^C1246::D3  
 Quant ID File: 10SCCC::QT  
 Last Calibration: 911015 13:36

Compound No: 50  
 Compound Name: Bromofluorobenzene  
 Scan Number: 361  
 Retention Time: 28.33 min.  
 Quant Ion: 95.0  
 Area: 106130  
 Concentration: 53.97 UG/KG  
 q-value: 95

## QUANT REPORT

Operator ID: MALOS  
 Output File: ^C1248::D1  
 Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 1G/10ML

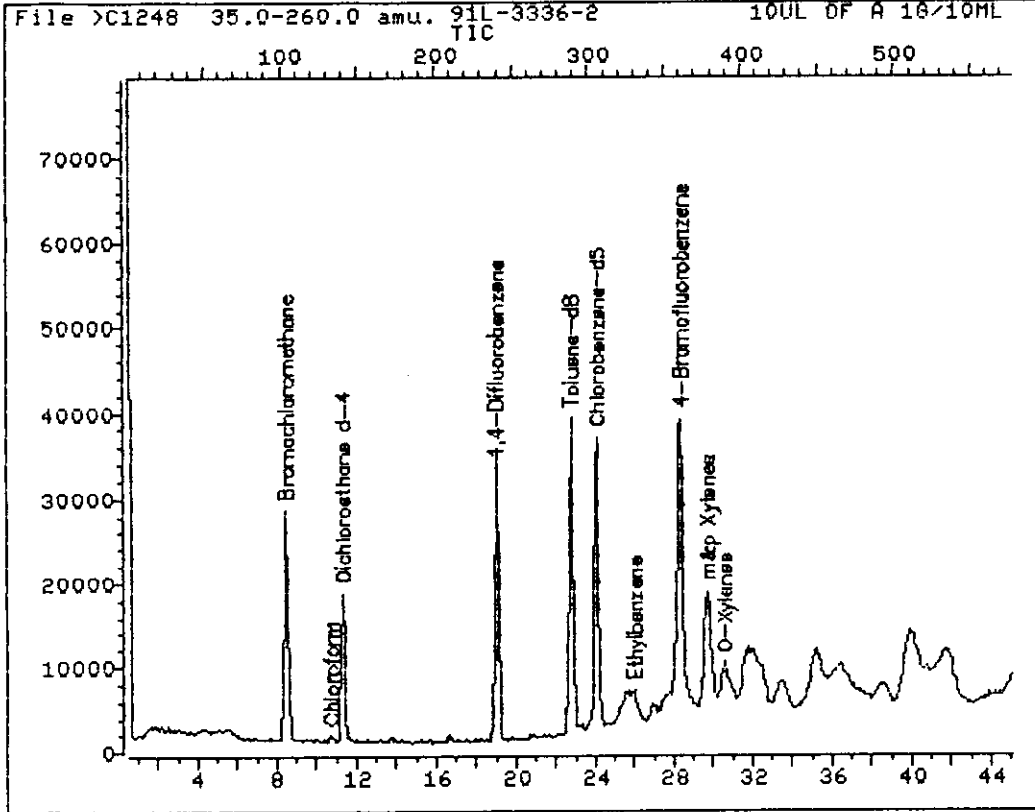
Quant Rev: 6      Quant Time: 911101 16:39  
                   Injected at: 911101 15:52  
                   Dilution Factor: 5000.000

ID File: IDSCCC::QT  
 Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:36

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.50	104	45614	50.00	UG/KG	85
16) Chloroform	10.73	133	2917	5655.48	UG/KG	99
17) 1,2-Dichloroethane-d4	11.35	141	70763	246560.9	UG/KG	95
27) *1,4-Difluorobenzene	18.99	240	170593	50.00	UG/KG	68
38) *Chlorobenzene-d5	24.09	306	132305	50.00	UG/KG	95
44) Toluene-d8	22.78	289	171549	257952.8	UG/KG	97
46) Ethylbenzene	26.02	331	5658	23473.85	UG/KG	99
48) m&p Xylenes	29.73	379	26928	192697.7	UG/KG	98
49) O-Xylenes	30.58	390	13393	25134.68	UG/KG	92
50) Bromofluorobenzene	28.34	361	142986	276759.8	UG/KG	97

\* Compound is ISTD

TOTAL ION CHROMATOGRAM



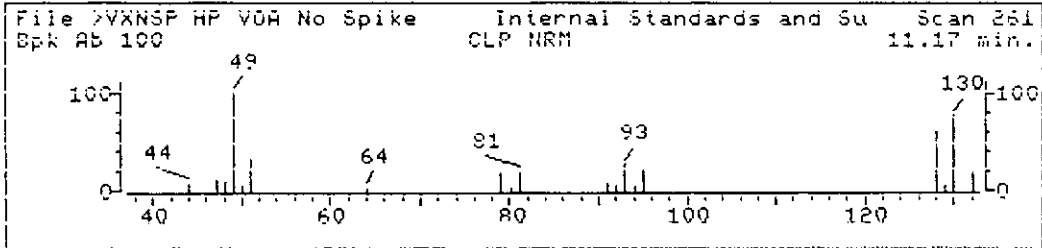
Data File: >C1248  
Name: 91L-3336-2  
Misc: 10UL OF A 1G/10ML

Quant Output File: ^C1248::D1

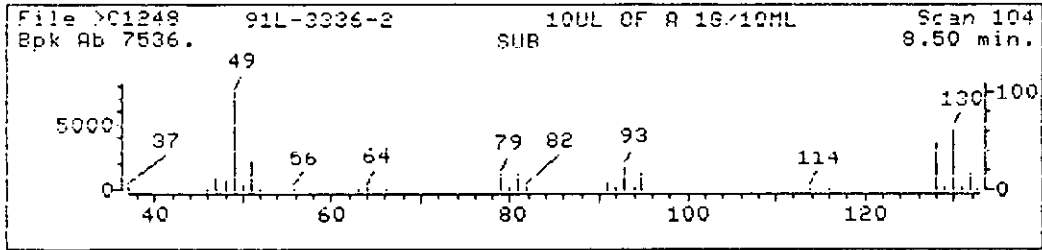
Id File: IDSCCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:36

Operator ID: MALOS  
Quant Time: 911101 16:39  
Injected at: 911101 15:52

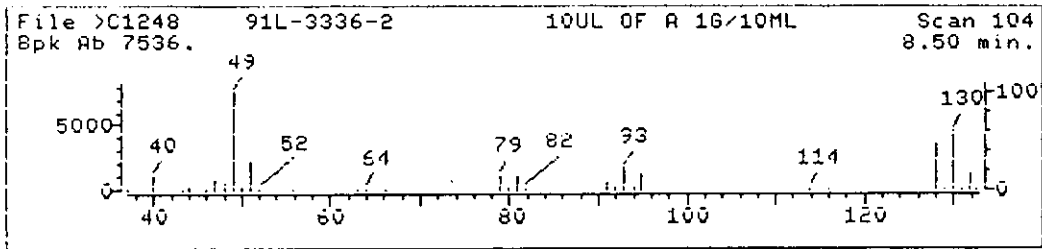
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 1G/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

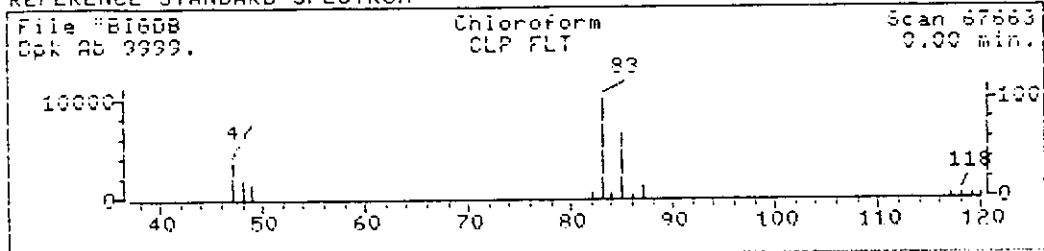
Quant Output File: ^C1248::D1

Quant ID File: IDSCCC::QT  
 Last Calibration: 911015 13:36

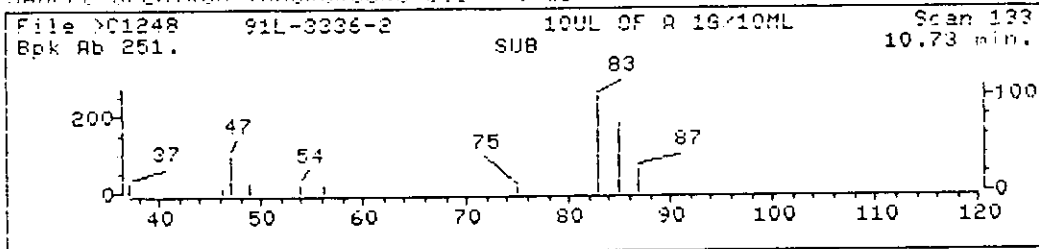
Compound No: 1 (ISTD)  
 Compound Name: Bromochloromethane  
 Scan Number: 104  
 Retention Time: 8.50 min.  
 Quant Ion: 128.0  
 Area: 45614  
 Concentration: 50.00 UG/KG  
 q-value: 85



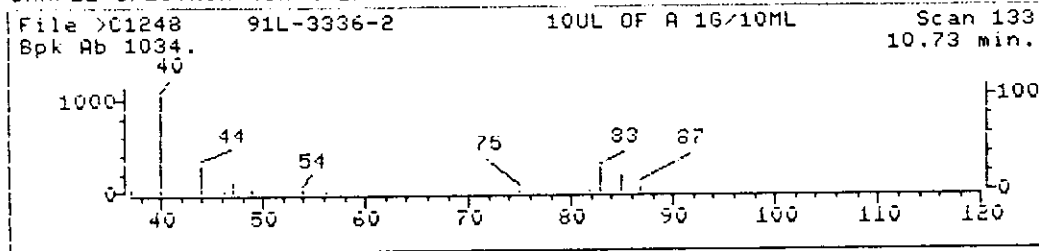
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

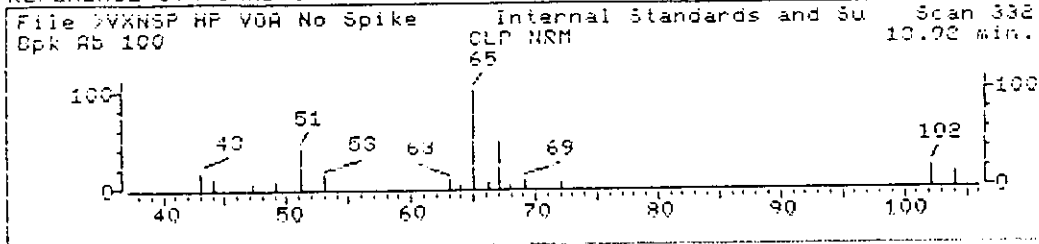


Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 1G/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

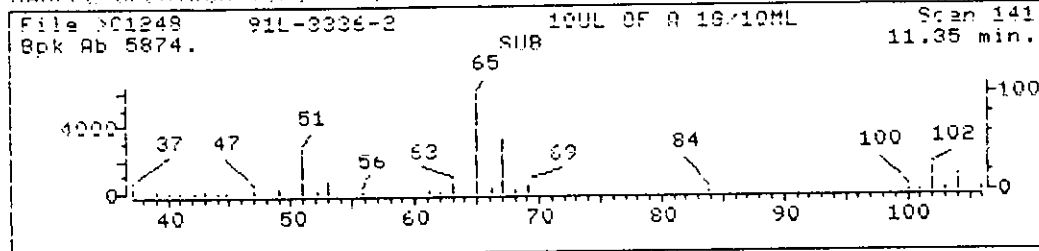
Quant Output File: ^C1248::D1  
 Quant ID File: 1DSCCC::QT  
 Last Calibration: 911015 13:56

Compound No: 16  
 Compound Name: Chloroform  
 Scan Number: 133  
 Retention Time: 10.73 min.  
 Quant Ion: 83.0  
 Area: 2917  
 Concentration: 5655.48 UG/KG  
 q-value: 99

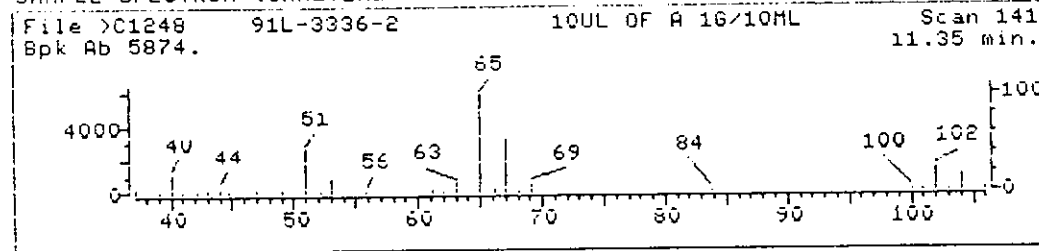
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

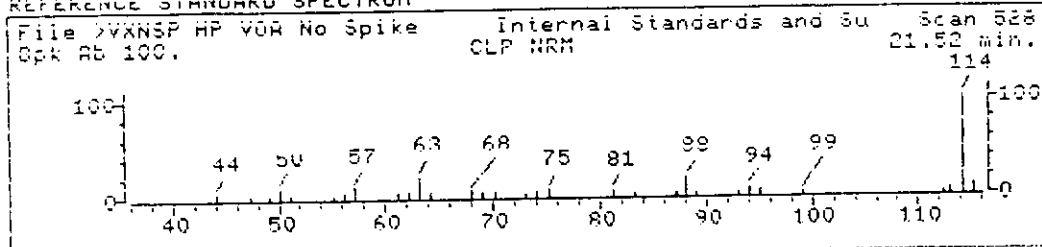


Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 16/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

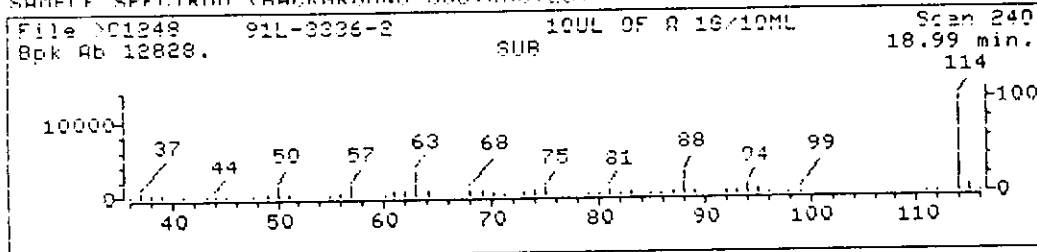
Quant Output File: ^C1248::D1  
 Quant ID File: IDSCCC::QT  
 Last Calibration: 911015 13:56

Compound No: 17  
 Compound Name: 1,2-Dichloroethane-d4  
 Scan Number: 141  
 Retention Time: 11.35 min.  
 Quant Ion: 65.0  
 Area: 20763  
 Concentration: 246560.9 UG/KG  
 q-value: 95

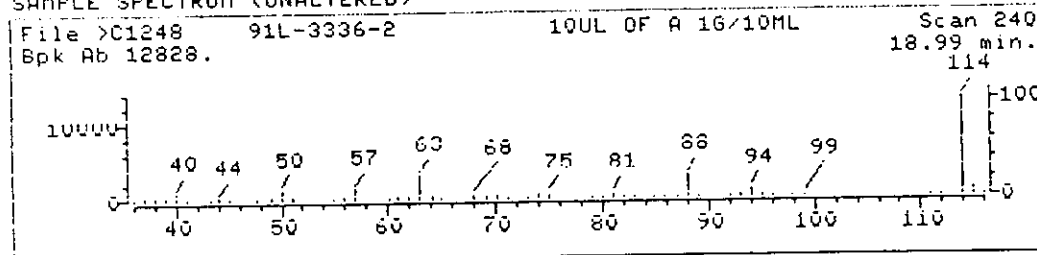
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)

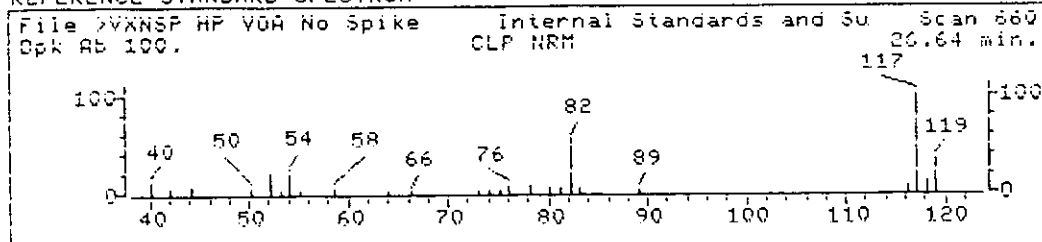


Data File: >C1248::D2  
Name: 91L-3336-2  
Misc: 10UL OF A 1G/10ML  
Quant Time: 911101 16:39  
Injected at: 911101 15:52

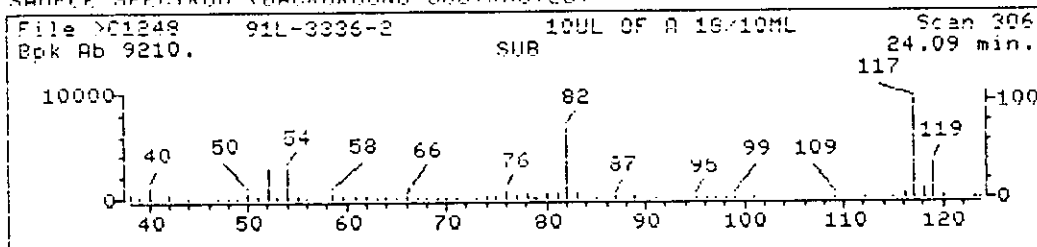
Quant Output File: ^C1248::D1  
Quant ID File: IDSC00::QT  
Last Calibration: 911015 13:36

Compound No: 27 (ISTD)  
Compound Name: 1,4-Difluorobenzene  
Scan Number: 240  
Retention Time: 18.99 min.  
Quant Ion: 114.0  
Area: 170593  
Concentration: 50.00 UG/KG  
q-value: 68

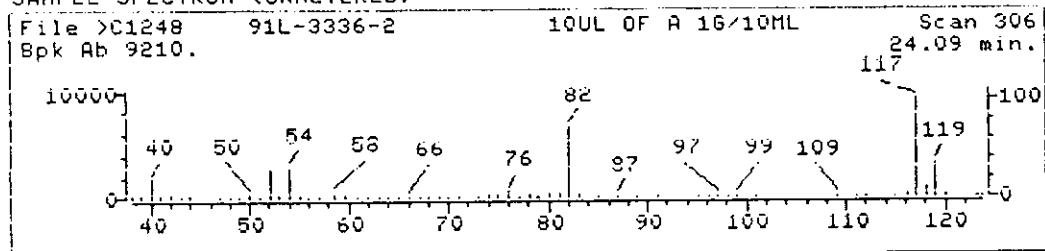
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)



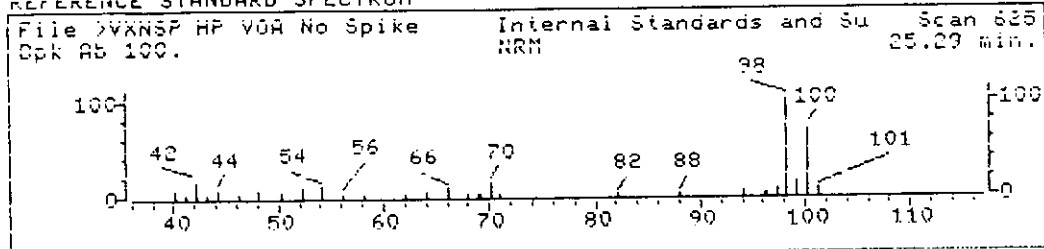
Data File: >C1248::D2  
Name: 91L-3336-2  
Misc: 10UL OF A 16/10ML  
Quant Time: 911101 16:39  
Injected at: 911101 15:52

Quant Output File: >C1248::D1

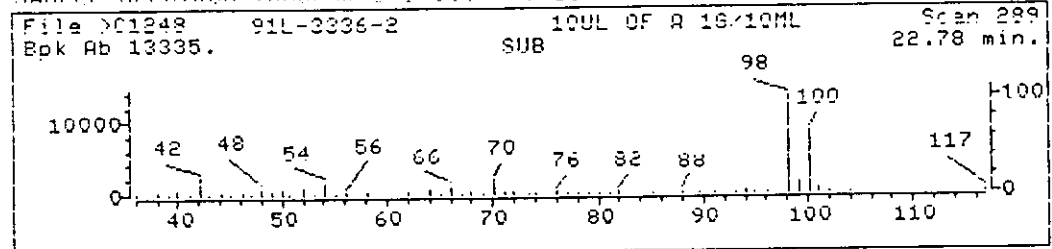
Quant ID File: IDSCDC::QT  
Last Calibration: 911015 13:36

Compound No: 38 (ISTD)  
Compound Name: Chlorobenzene-d5  
Scan Number: 306  
Retention Time: 24.09 min.  
Quant Ion: 117.0  
Area: 132305  
Concentration: 50.00 UG/KG  
q-value: 95

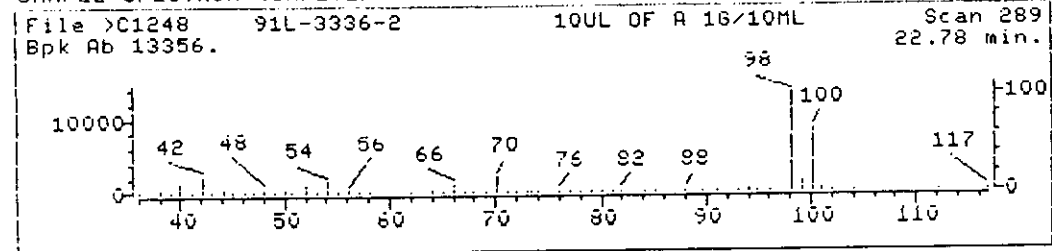
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

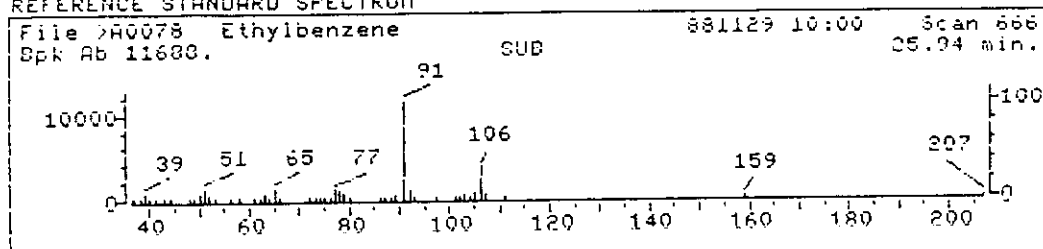


Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 1G/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

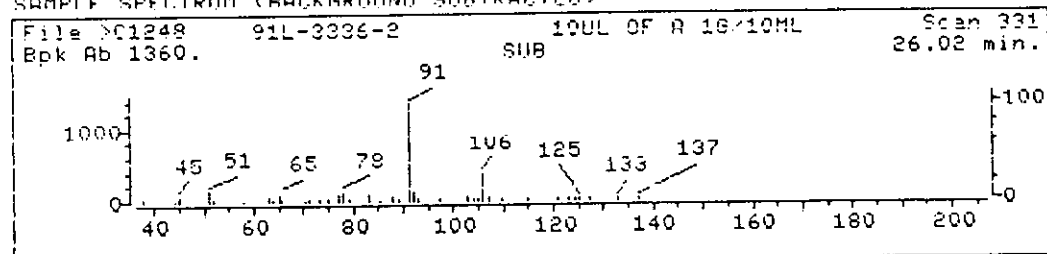
Quant Output File: >C1248::D1  
 Quant ID File: IDSCCC::QT  
 Last Calibration: 911015 13:36

Compound No: 44  
 Compound Name: toluene-d8  
 Scan Number: 289  
 Retention Time: 22.78 min.  
 Quant Ion: 98.0  
 Area: 171549  
 Concentration: 257952.8 UG/KG  
 q-value: 97

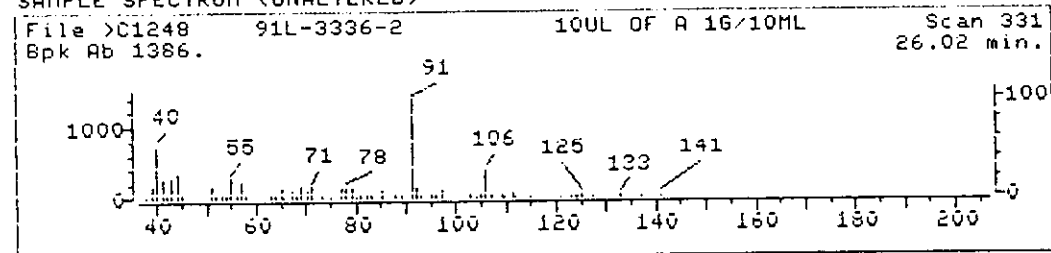
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 1G/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

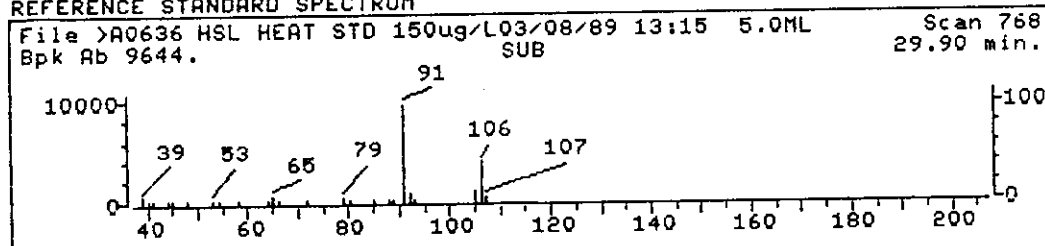
Quant Output File: ^C1248::D1

Quant ID File: 10SC000::QT  
 Last Calibration: 911015 13:56

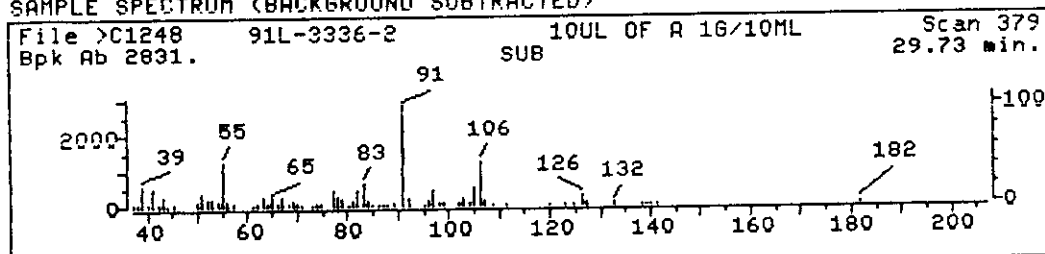
Compound No: 46  
 Compound Name: Ethylbenzene  
 Scan Number: 331  
 Retention Time: 26.02 min.  
 Quant Ion: 106.0  
 Area: 5658  
 Concentration: 23473.85 UG/KG  
 q-value: 99

054 A

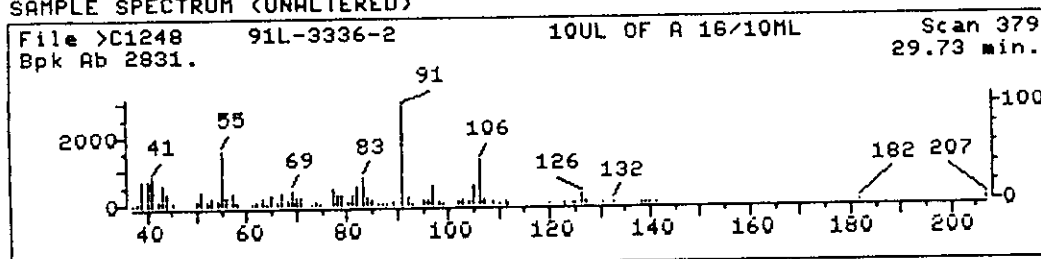
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



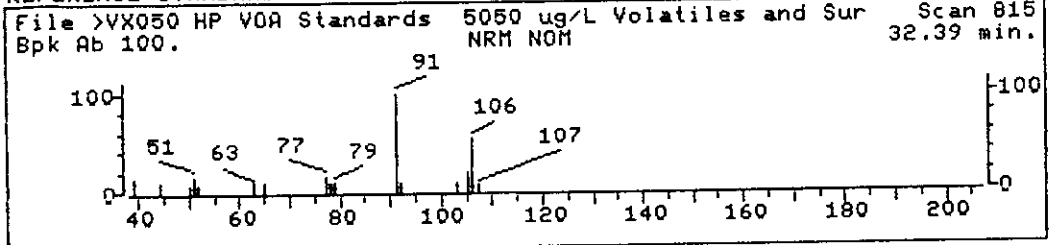
Data File: >C1248  
Name: 91L-3336-2  
Misc: 10UL OF A 1G/10ML  
Quant Time: 911101 16:39  
Injected at: 911101 15:52

Quant Output File: ^C1248::D1

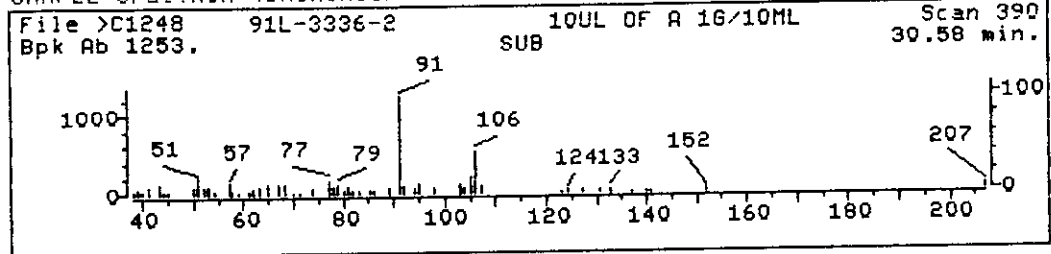
Quant ID File: IDSCCC::QT  
Last Calibration: 911015 13:36

Compound No: 48  
Compound Name: m&p Xylenes  
Scan Number: 379  
Retention Time: 29.73 min.  
Quant Ion: 106.0  
Area: 26928  
Concentration: 192697.7 UG/KG  
q-value: 98

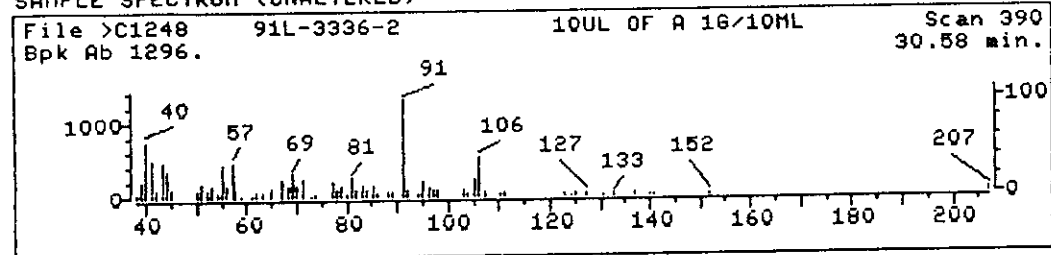
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



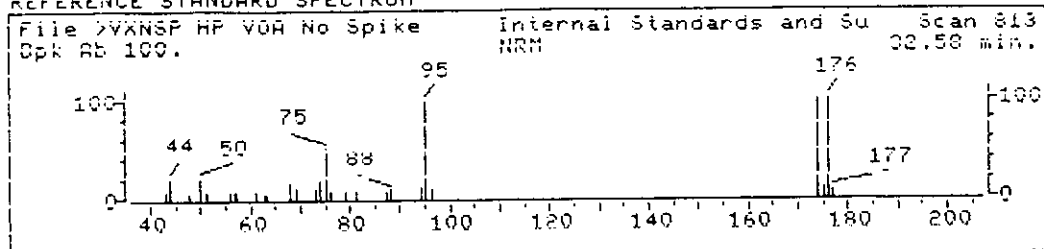
Data File: >C1248  
 Name: 91L-3336-2  
 Misc: 10UL OF A 1G/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

Quant Output File: ^C1248::D1  
 Quant ID File: IDSCCC::QT  
 Last Calibration: 911015 13:36

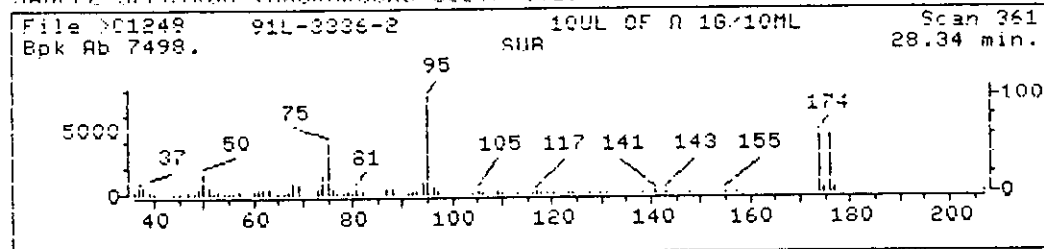
Compound No: 49  
 Compound Name: O-Xylenes  
 Scan Number: 390  
 Retention Time: 30.58 min.  
 Quant Ion: 106.0  
 Area: 13393  
 Concentration: 25134.68 UG/KG  
 q-value: 92



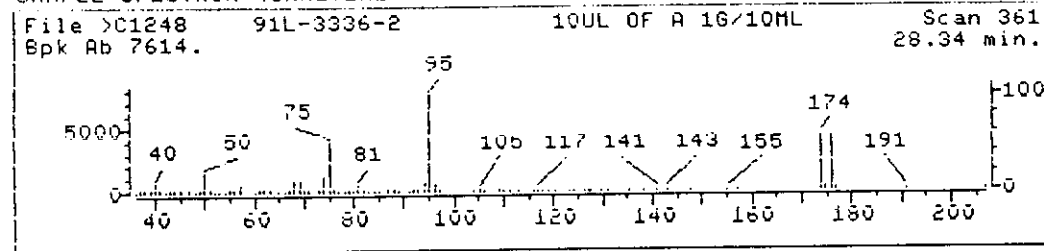
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1248::D2  
 Name: 91L-3336-2  
 Misc: 10UL OF A 16/10ML  
 Quant Time: 911101 16:39  
 Injected at: 911101 15:52

Quant Output File: ^C1248::D1  
 Quant ID File: IDSCDD::QT  
 Last Calibration: 911015 13:36

Compound No: 50  
 Compound Name: Bromofluorobenzene  
 Scan Number: 361  
 Retention Time: 28.34 min.  
 Quant Ion: 95.0  
 Area: 142986  
 Concentration: 276759.8 UG/KG  
 q-value: 97

QUANT REPORT

Operator ID: MALUS  
Output File: <D1247::D4  
Data File: >D1247::D2  
Name: 91L-3336-3  
Misc: 100UL OF A 4G/10ML

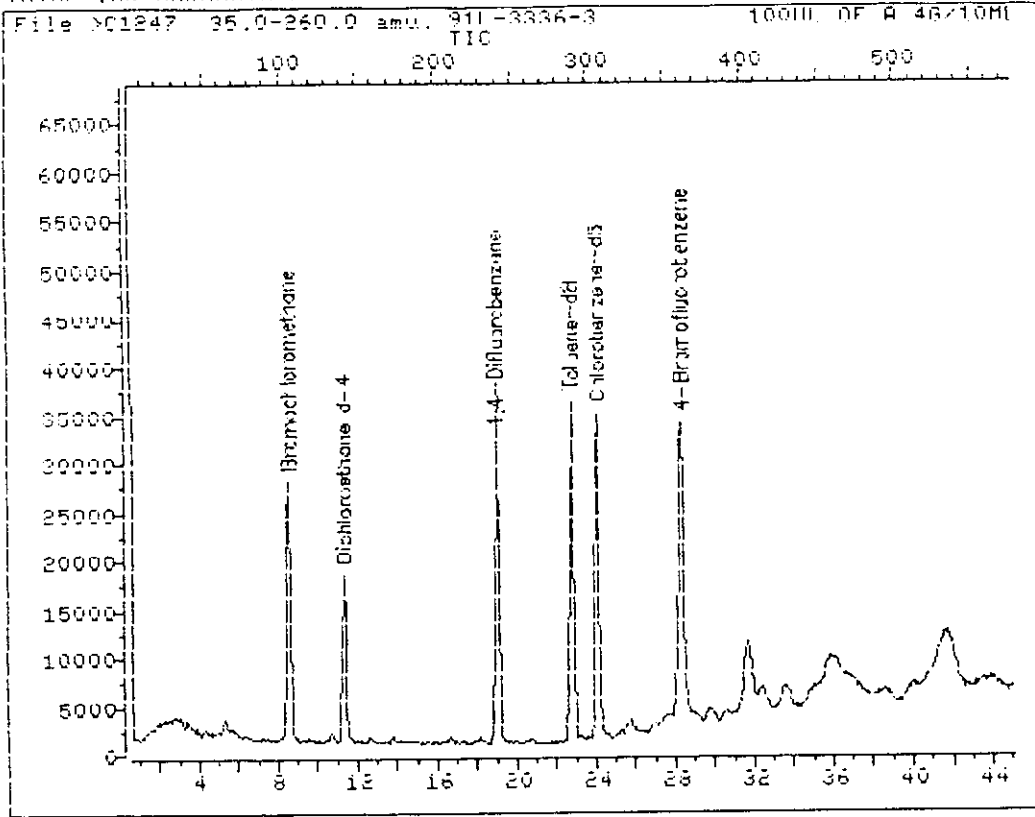
Quant Rev: 6      Quant time: 911101 15:12  
                  Injected at: 911101 14:25  
Dilution Factor: 125.0000

ID File: 105000::Q1  
Title: HP QUA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:36

Compound	R. T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.57	105	46305	50.00	UG/KG	77
17) 1,2-Dichloroethane-d4	11.35	141	69942	6001.59	UG/KG	75
27) *1,4-Difluorobenzene	18.99	240	169412	50.00	UG/KG	67
38) *Chlorobenzene-d5	24.09	306	129150	50.00	UG/KG	99
44) Toluene-d8	22.78	289	159535	6143.70	UG/KG	97
50) Bromofluorobenzene	28.33	361	133322	6608.96	UG/KG	96

\* Compound is ISID

TOTAL ION CHROMATOGRAM



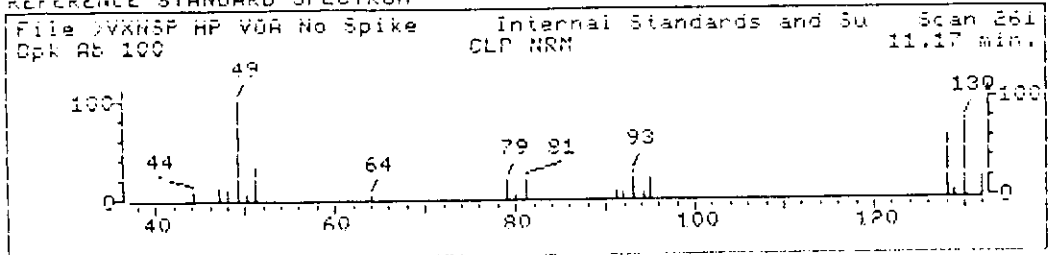
Data File: >C1247::D2  
 Name: 91L-3336-3  
 Misc: 1000L OF A 46/10ML

Quant Output File: ^C1247::D4

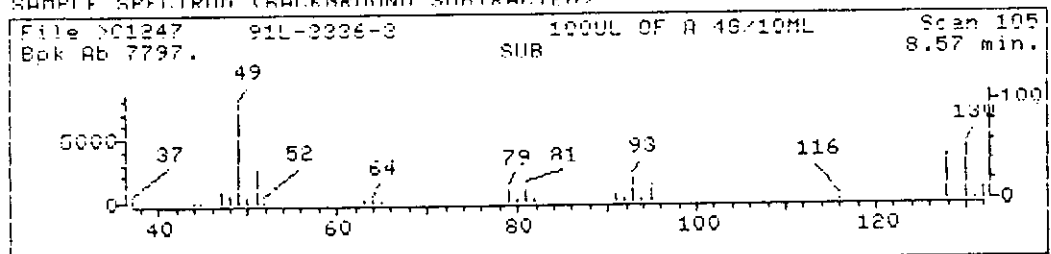
Id File: IDSC00::QT  
 Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:36

Operator ID: MALUS  
 Quant Time: 911101 15:12  
 Injected at: 911101 14:25

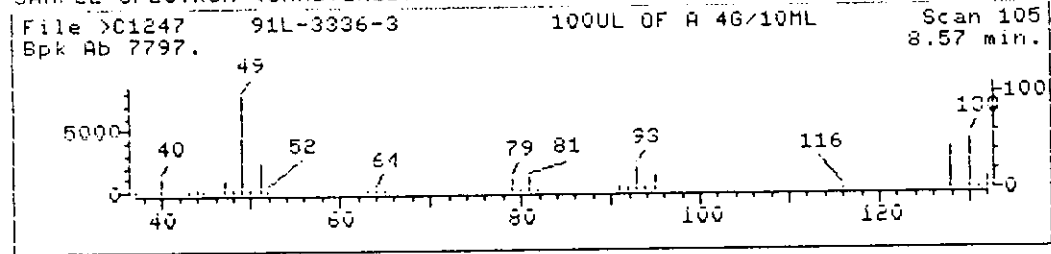
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)

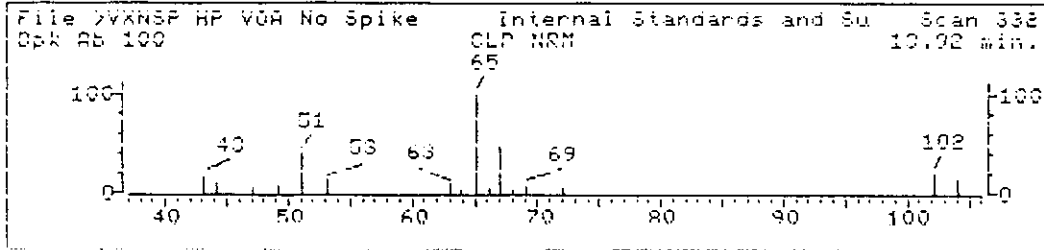


Data File: >C1247::D2  
 Name: 91L-3336-3  
 Misc: 100UL OF A 4G/10ML  
 Quant Time: 911101 15:12  
 Injected at: 911101 14:25

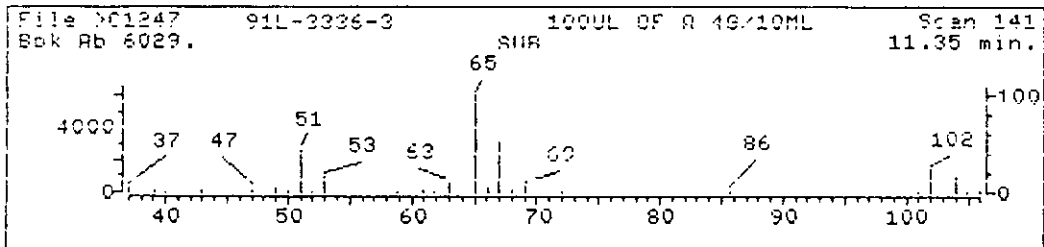
Quant Output File: ^C1247::D4  
 Quant ID File: IDSC00::Q1  
 Last Calibration: 911015 13:36

Compound No: 1 (ISTD)  
 Compound Name: Bromochloromethane  
 Scan Number: 105  
 Retention Time: 8.57 min.  
 Quant Ion: 128.0  
 Area: 46305  
 Concentration: 50.00 UG/KG  
 q-value: 77

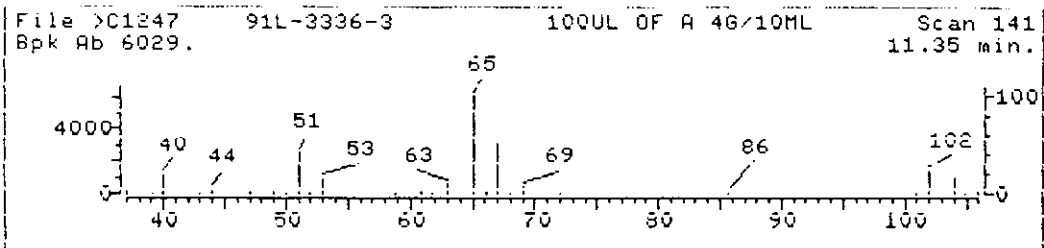
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



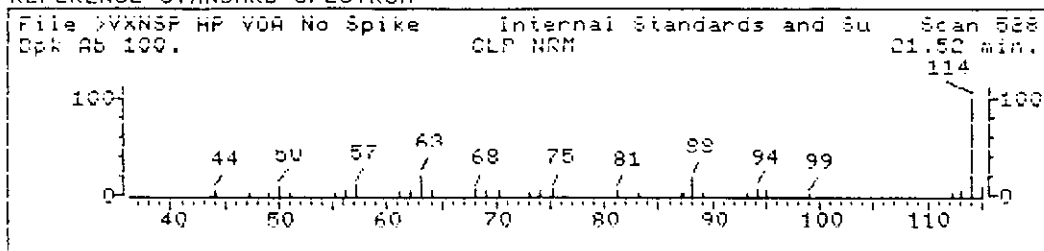
SAMPLE SPECTRUM (UNALTERED)



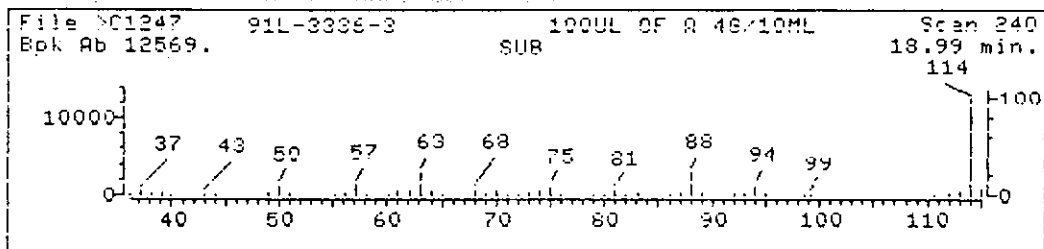
Data File: >C1247::D2 Quant Output File: ^C1247::D4  
 Name: 91L-3336-3  
 Misc: 100UL OF A 4G/10ML  
 Quant Time: 911101 15:12 Quant ID File: IDSC000::Q1  
 Injected at: 911101 14:25 Last Calibration: 911015 13:36

Compound No: 1/  
 Compound Name: 1,2-Dichloroethane-d4  
 Scan Number: 141  
 Retention Time: 11.35 min.  
 Quant Ion: 65.0  
 Area: 69942  
 Concentration: 6001.59 UG/KG  
 q-value: 95

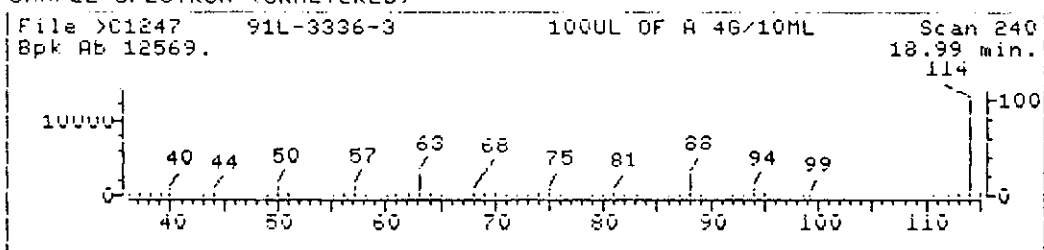
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



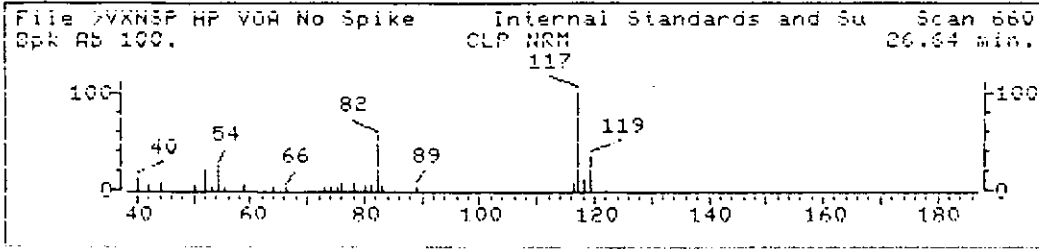
SAMPLE SPECTRUM (UNALTERED)



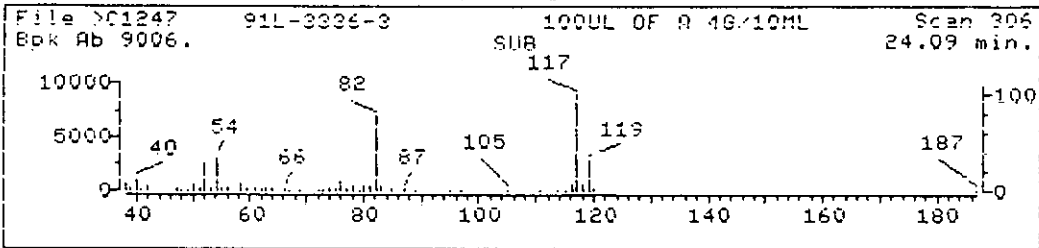
Data File: >C1247::D2 Quant Output File: >C1247::D4  
 Name: 91L-3336-3  
 Misc: 100UL OF A 4G/10ML  
 Quant Time: 911101 15:12 Quant ID File: IDSC000::Q1  
 Injected at: 911101 14:25 Last Calibration: 911015 13:36

Compound No: 27 (ISTD)  
 Compound Name: 1,4-Difluorobenzene  
 Scan Number: 240  
 Retention Time: 18.99 min.  
 Quant Ion: 114.0  
 Area: 169412  
 Concentration: 50.00 UG/KG  
 q-value: 67

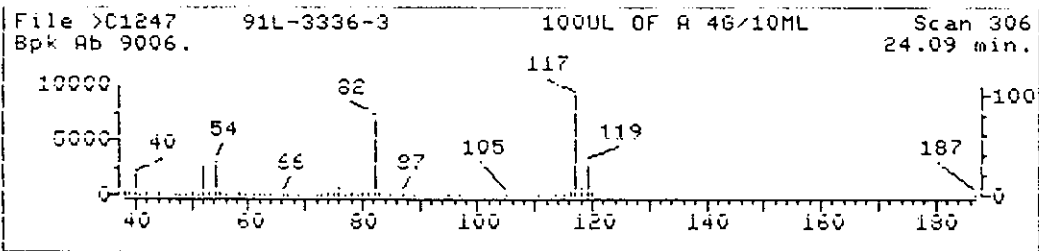
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



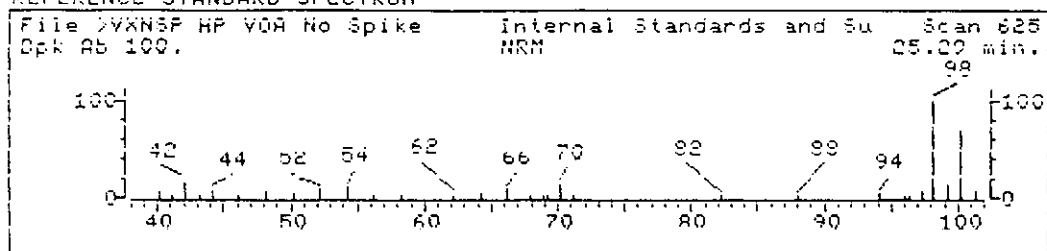
Data File: >C1247::D2  
 Name: 91L-3336-3  
 Misc: 100UL OF A 4G/10ML  
 Quant Time: 911101 15:12  
 Injected at: 911101 14:25

Quant Output File: >C1247::D4

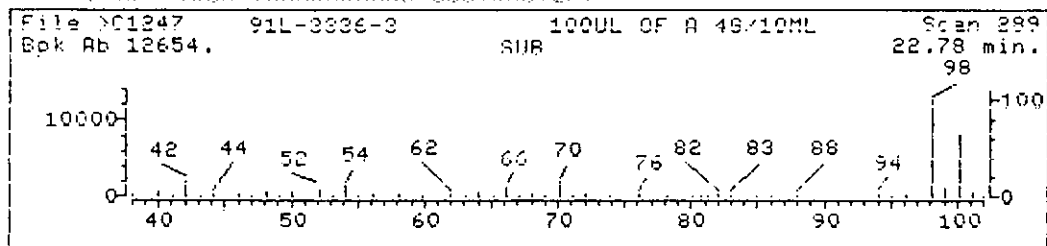
Quant ID File: IDSCCC::QT  
 Last Calibration: 911015 13:36

Compound No: 38 (ISID)  
 Compound Name: Chlorobenzene-d5  
 Scan Number: 306  
 Retention Time: 24.09 min.  
 Quant Ion: 117.0  
 Area: 129150  
 Concentration: 50.00 UG/KG  
 q-value: 99

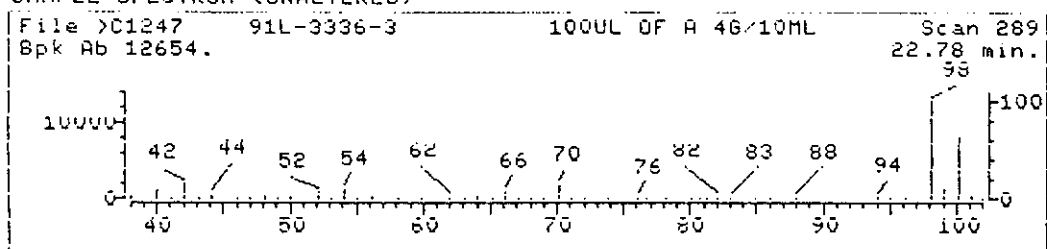
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)



Data File: >C1247::D2  
Name: 91L-3336-3  
Misc: 100UL OF A 4G/10ML  
Quant time: 911101 15:12  
Injected at: 911101 14:25

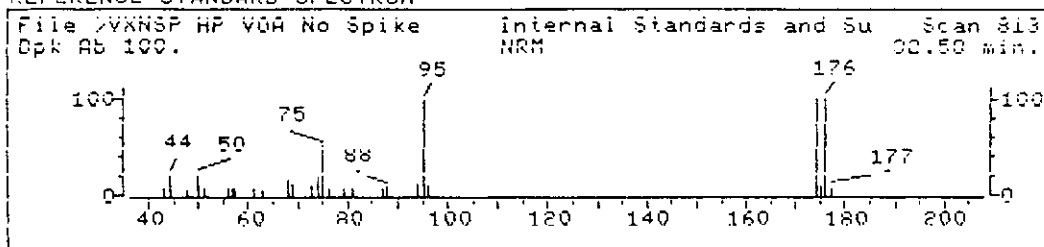
Quant Output File: ^C1247::D4

Quant ID File: 10S000::Q1  
Last Calibration: 911015 13:36

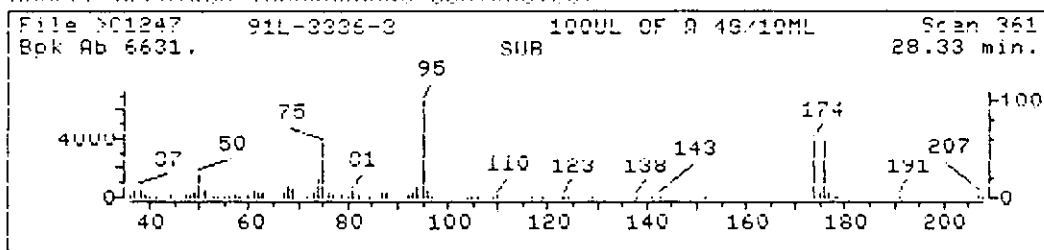
Compound No: 44  
Compound Name: toluene-d8  
Scan Number: 289  
Retention Time: 22.78 min.  
Quant Ion: 98.0  
Area: 159535  
Concentration: 6143.70 UG/KG  
q-value: 97



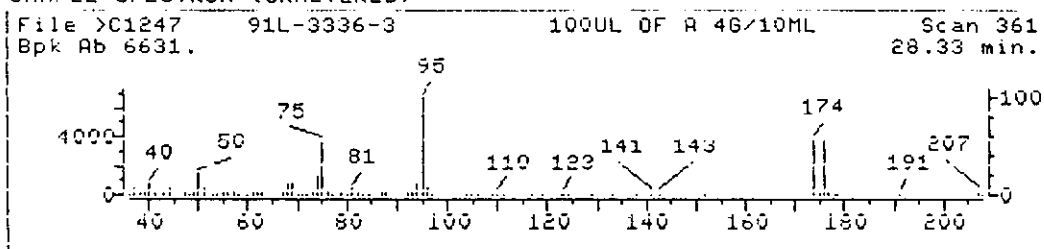
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1247::D2 Quant Output File: ^C1247::D4  
 Name: 91L-3336-3  
 Misc: 100UL OF A 4G/10ML  
 Quant Time: 911101 15:12 Quant ID File: 105000::Q1  
 Injected at: 911101 14:25 Last Calibration: 911015 13:36

Compound No: 50  
 Compound Name: Bromofluorobenzene  
 Scan Number: 361  
 Retention Time: 28.33 min.  
 Quant Ion: 95.0  
 Area: 133322  
 Concentration: 6608.96 UG/KG  
 q-value: 76



NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

F. DATA SUMMARY PACKAGE (Continued)

3. Sample Data Package (Continued)

a. Volatile Organics by GC/MS (Continued)

3. Library Searches for Non-Target Compounds

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:91L-3336-1

LAB FILE ID:>C1246

DATE RECEIVED:10/30/91

DATE ANALYZED:911101

SAMPLE WT/VOL:5.0G/5.0ML

LEVEL:LOW

DRY WT: .9077

COMPOUND

RET TIME(MIN)

CONC

---

NONE FOUND

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: 91L-3336-1  
 SAMPLE DATA FILE: >C1246

5.0G/5.0ML

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	5.10	60	14450	TC
2	8.49	104	275893	IS
3	11.35	141	180646	SS
4	17.91	226	8335	<10%
5	18.99	240	340628	IS
6	22.77	289	366947	SS
7	24.09	306	376525	IS
8	26.09	332	9254	<10%
9	28.33	361	516379	SS
10	29.72	379	12590	<10%
11	32.19	411	8834	<10%

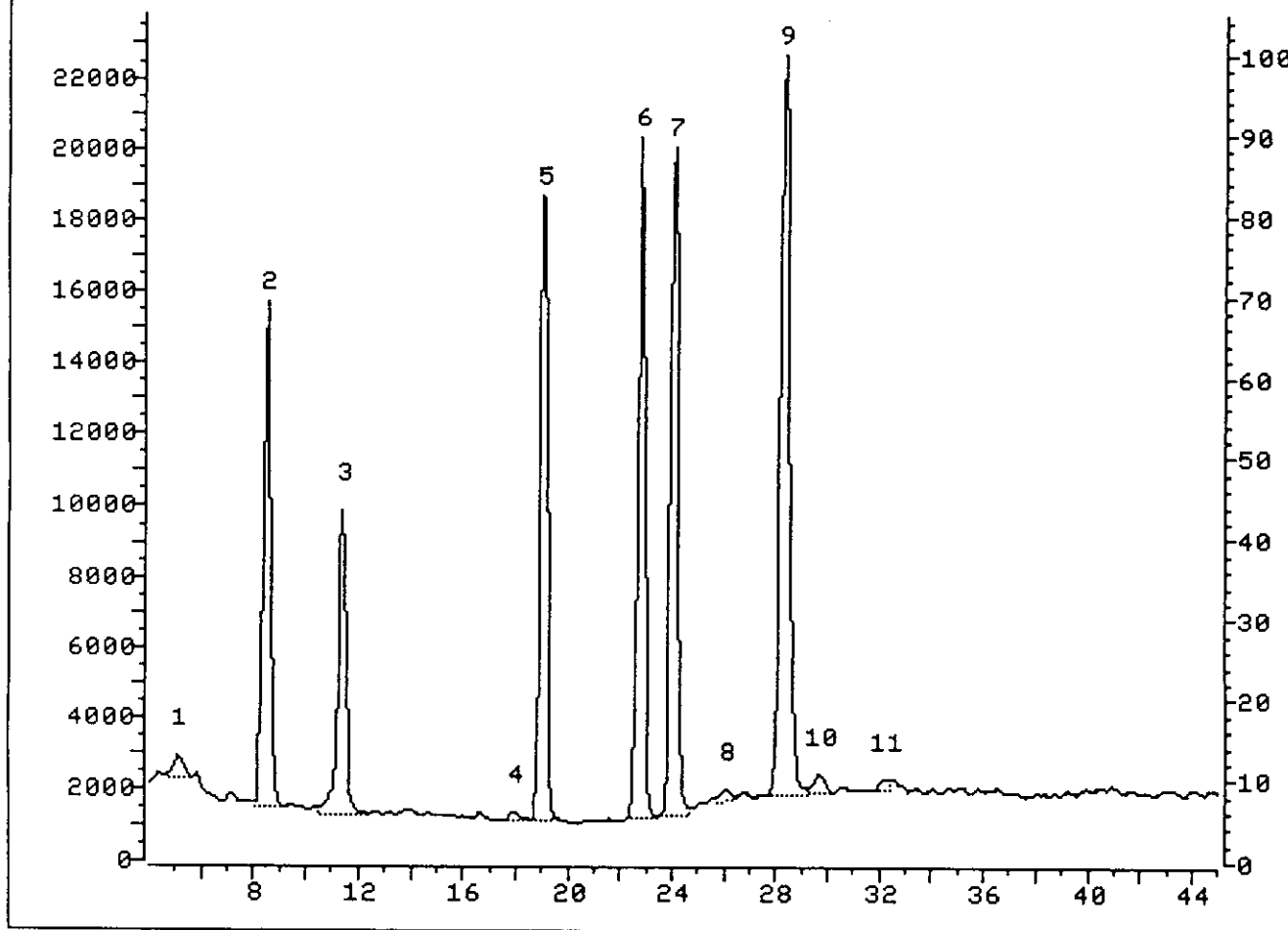
IS = INTERNAL STANDARD

SS = SURROGATE

TC = TARGET COMPOUND

UK = UNKNOWN

<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD



NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE UNKNOWN IDENTIFICATION

069

LAB SAMPLE ID:91L-3336-2

LAB FILE ID:>C1248

DATE RECEIVED:10/30/91

DATE ANALYZED:911101

SAMPLE WT/VOL:10UL OF A 1G/1

LEVEL:MED

DRY WT:.8700

COMPOUND	RET TIME	CONC
1.Unknown	25.87	110000 UG/KG J
2.Unknown	31.81	220000 UG/KG J
3.Unknown	33.51	62000 UG/KG J
4.Unknown Aromatic	35.21	190000 UG/KG J
5.ethyl-methyl Benzene Isomer	36.37	140000 UG/KG J
6.Unknown	38.53	43000 UG/KG J
7.methyl(methylethyl) Benzene Isomer	39.92	290000 UG/KG J
8.Unknown	41.70	230000 UG/KG J
9.Unknown	44.25	29000 UG/KG J

J; Estimated Concentration

## SAMPLE INTEGRATION SUMMARY

069

SAMPLE NAME AND AMT: 91L-3336-2  
SAMPLE DATA FILE: >C1248

10UL OF A

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	8.50	104	349336	IS
2	11.35	141	215294	SS
3	19.07	241	454997	IS
4	22.78	289	511591	SS
5	24.09	306	499115	IS
6	25.87	329	196973	UK
7	27.02	344	42377	<10%
8	28.34	361	795866	SS
9	29.73	379	319559	TC
10	30.58	390	94232	TC
11	31.81	406	384017	UK
12	33.51	428	107130	UK
13	35.21	450	324998	UK
14	36.37	465	235087	UK
15	38.53	493	74934	UK
16	39.92	511	501822	UK
17	41.70	534	405058	UK
18	44.25	567	51062	UK

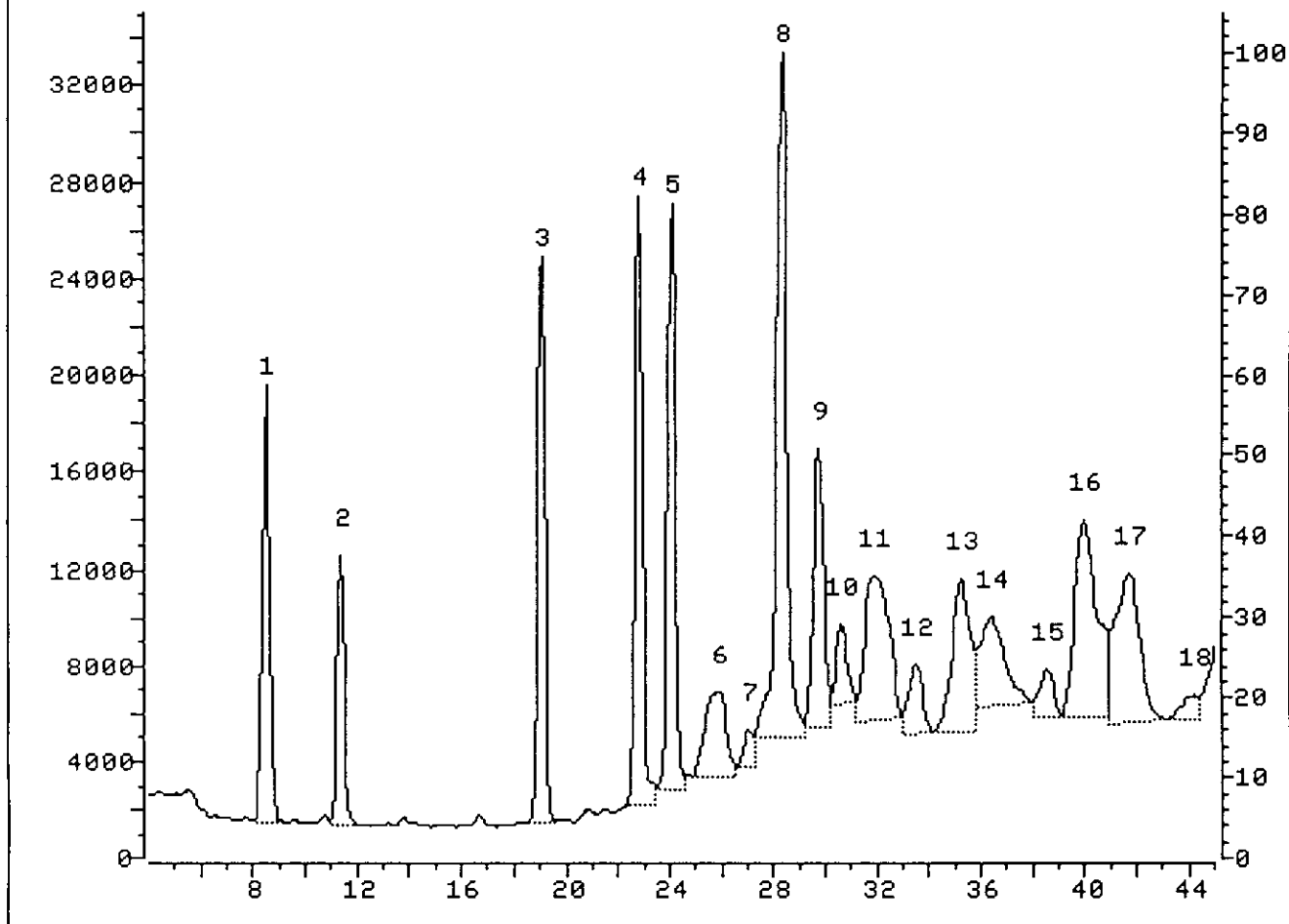
IS = INTERNAL STANDARD

SS = SURROGATE

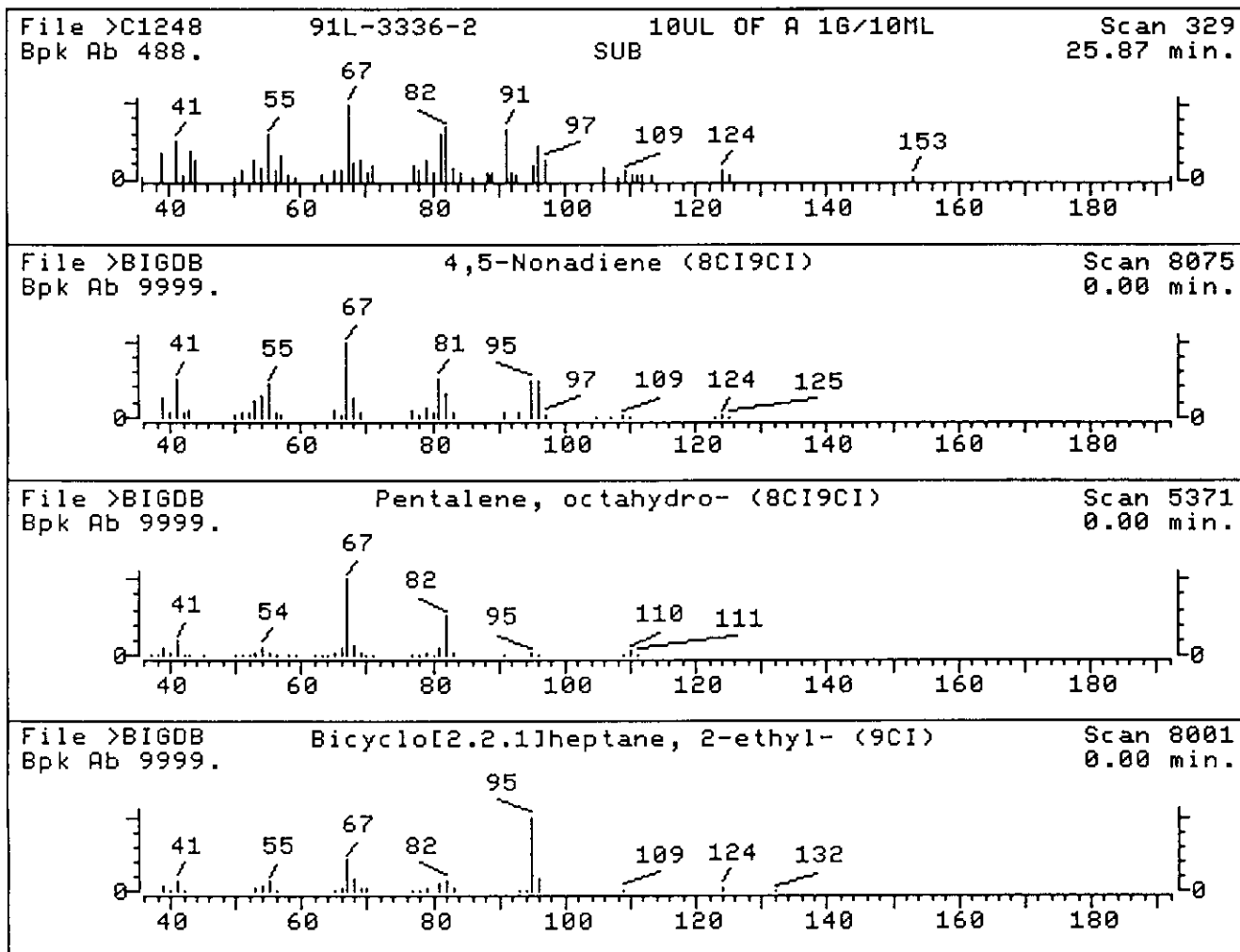
TC = TARGET COMPOUND

UK = UNKNOWN

&lt;10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD





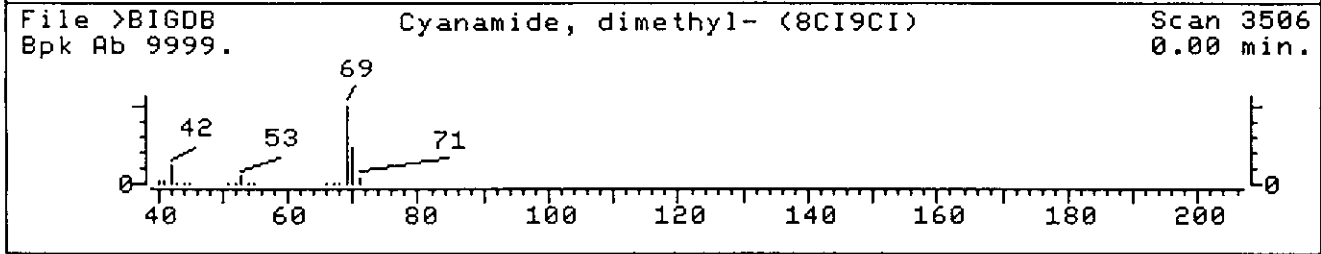
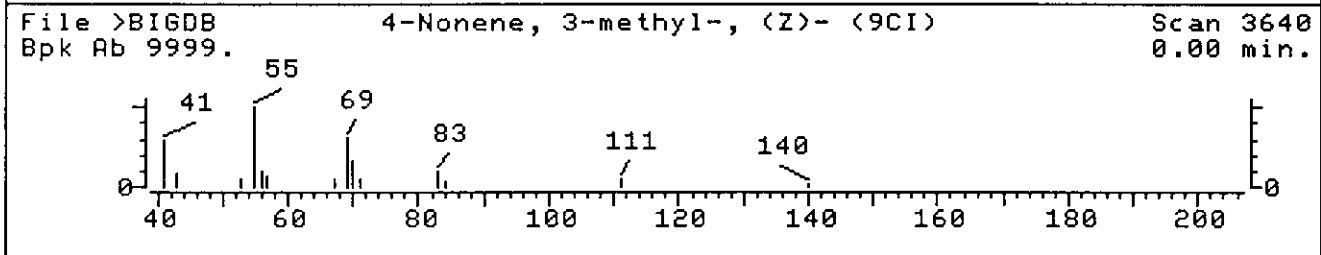
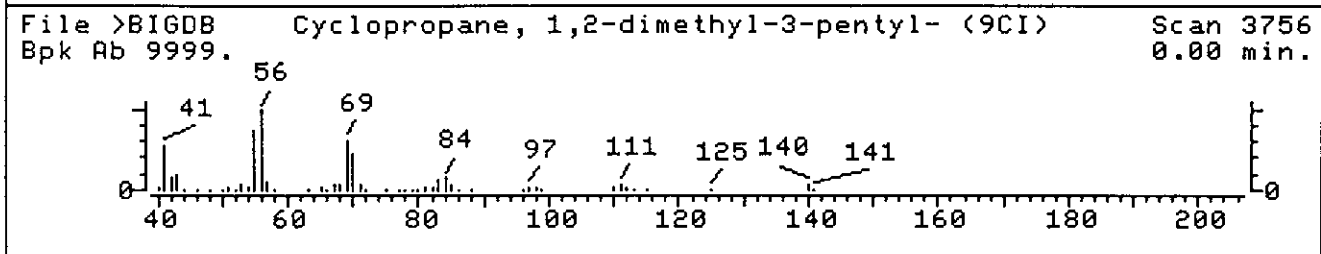
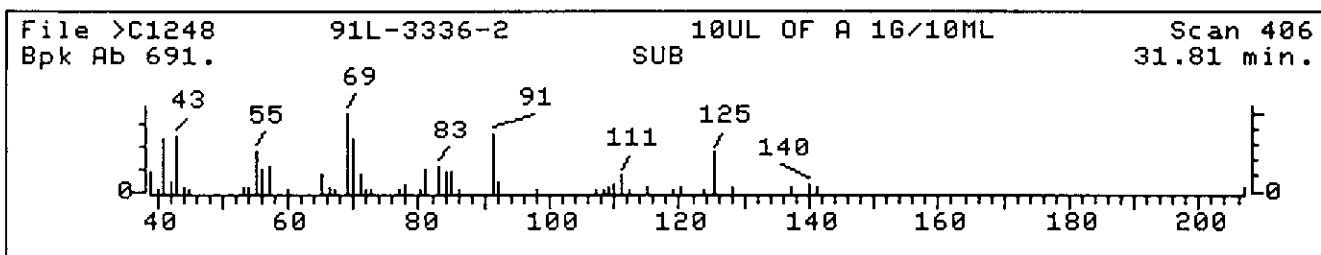


- |   |           |
|---|-----------|
| 1. 4,5-Nonadiene (8CI9CI)                   | 124 C9H16 |
| 2. Pentalene, octahydro- (8CI9CI)           | 110 C8H14 |
| 3. Bicyclo[2.2.1]heptane, 2-ethyl- (9CI)    | 124 C9H16 |
| 4. Pentalene, octahydro-2-methyl- (8CI9CI)  | 124 C9H16 |
| 5. 1,3-Pentadiene, 3-methyl-, (Z)- (8CI9CI) | 82 C6H10  |

Sample file: >C1248 Spectrum #: 329  
Search speed: 1 Tilting option: S No. of ion ranges searched: 60

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	55*	821749	8075	"BIGDB	52	56	2	0	91	25	22	27
2.	51*	694724	5371	"BIGDB	37	51	0	0	94	39	19	42
3.	34*	2146410	8001	"BIGDB	34	56	2	0	212	31	12	17
4.	32*	3868642	8124	"BIGDB	42	69	0	0	57	54	9	44
5.	31*	2787453	5302	"BIGDB	42	50	2	0	100	45	12	22

CORRECTED TOTAL ION AREA OF UNKNOWN = 196973  
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
DRY WT. = 87.00%  
SEMI QUANTITATION OF UNKNOWN = 110000 UG/KG



- 1. Cyclopropane, 1,2-dimethyl-3-pentyl- (9CI) 140 C10H20
- 2. 4-Nonene, 3-methyl-, (Z)- (9CI) 140 C10H20
- 3. Cyanamide, dimethyl- (8CI9CI) 70 C3H6N2
- 4. Cyclopropane, 1,2-dimethyl-1-pentyl- (9CI) 140 C10H20
- 5. Cyclopentane, (2-methylbutyl)- (9CI) 140 C10H20

Sample file: >C1248 Spectrum #: 406  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 63

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV	
1.	30*	62238055	3756	"BIGDB	27	74	3	0	147	33	12	13
2.	26*	63830693	3640	"BIGDB	31	70	2	0	113	41	8	14
3.	25*	1467794	3506	"BIGDB	24	59	3	0	100	50	7	12
4.	25*	62238044	5836	"BIGDB	29	73	3	0	72	46	7	13
5.	25*	53366384	10645	"BIGDB	29	83	3	0	73	46	7	13

CORRECTED TOTAL ION AREA OF UNKNOWN = 384017  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
 DRY WT. = 87.00%  
 SEMI QUANTITATION OF UNKNOWN = 220000 UG/KG

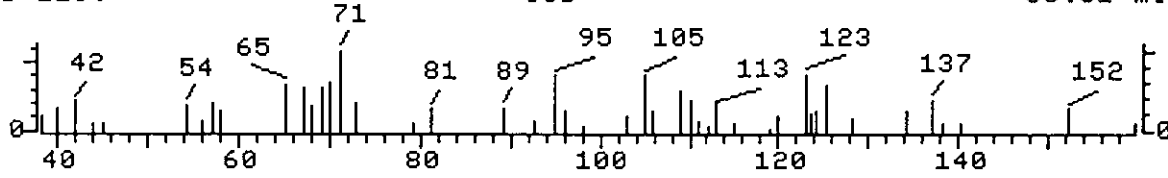
File >C1248  
Bpk Ab 116.

91L-3336-2

10UL OF A 1G/10ML  
SUB

Scan 428  
33.51 min.

073



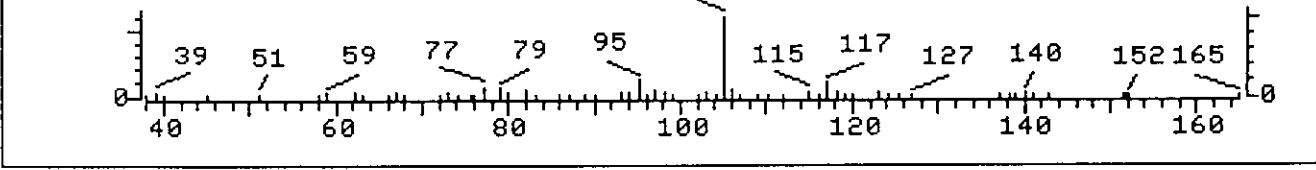
Sample file: >C1248      Spectrum #:            428

No data base entries were retrieved.

CORRECTED TOTAL ION AREA OF UNKNOWN =        107130  
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD =        499115  
CONCENTRATION OF INTERNAL STD = 50 UG/KG    DILUTION FACTOR =            5000  
DRY WT. = 87.00%  
SEMI QUANTITATION OF UNKNOWN =            62000 UG/KG

File >C1248 91L-3336-2 10UL OF A 1G/10ML Scan 450  
Bpk Ab 1209. SUB 105 35.21 min.

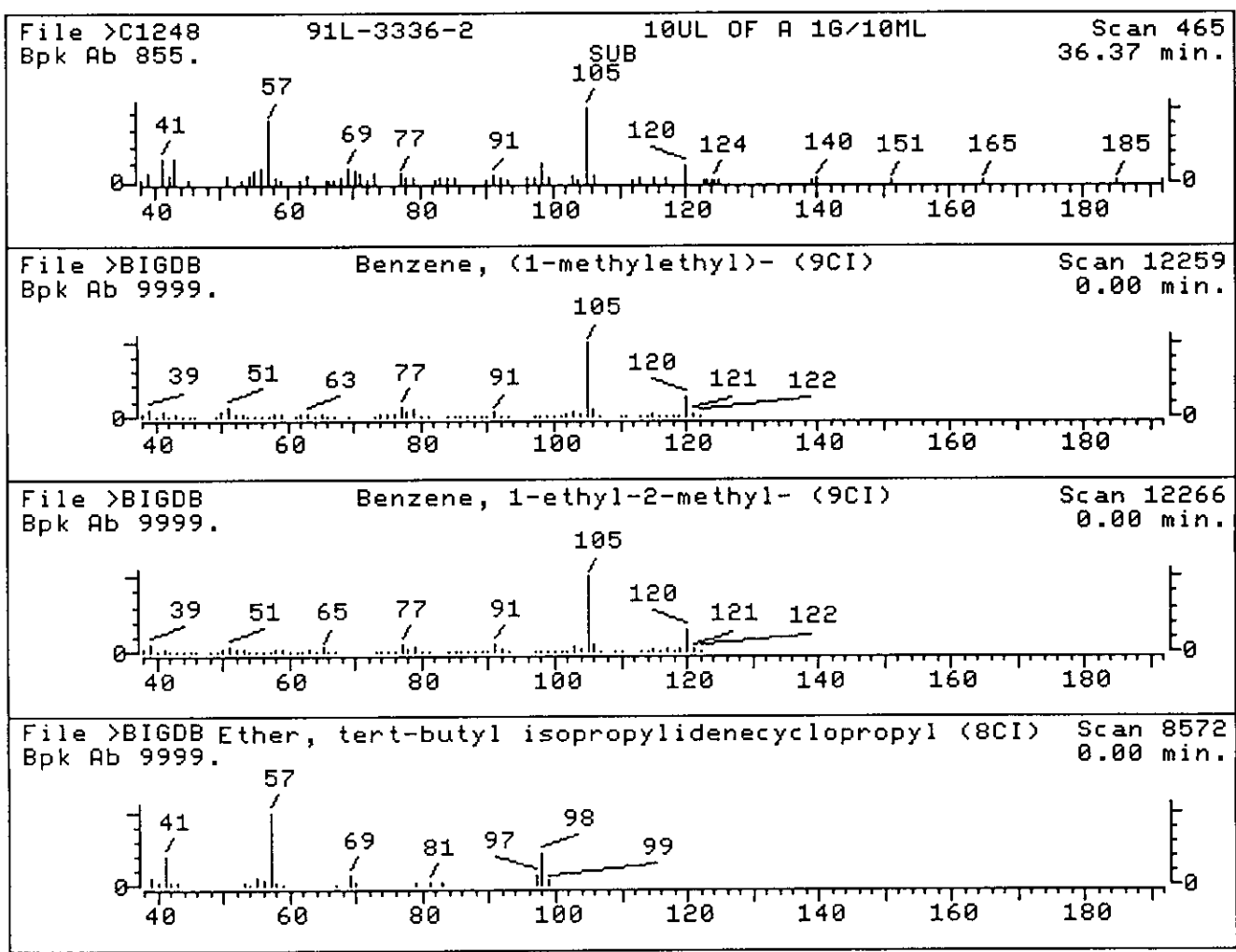
074



Sample file: >C1248 Spectrum #: 450

No data base entries were retrieved.

CORRECTED TOTAL ION AREA OF UNKNOWN = 324998  
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
DRY WT. = 87.00%  
SEMI QUANTITATION OF UNKNOWN = 190000 UG/KG

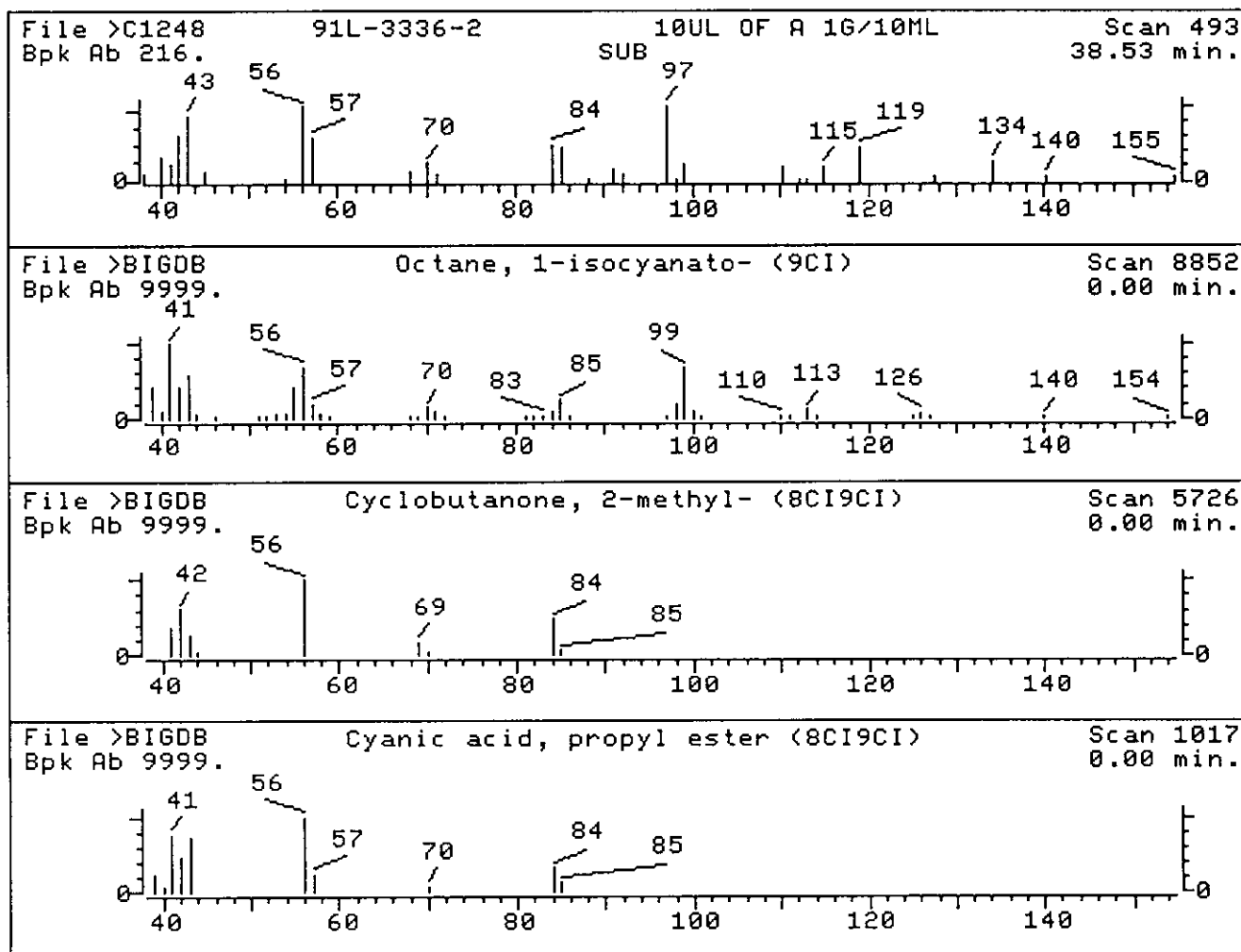


- 1. Benzene, (1-methylethyl)- (9CI) 120 C9H12
- 2. Benzene, 1-ethyl-2-methyl- (9CI) 120 C9H12
- 3. Ether, tert-butyl isopropylidencyclopropyl (8CI) 154 C10H18O
- 4. Heptane, 4-(1-methylethyl)- (9CI) 142 C10H22
- 5. Furazan, dimethyl- (8CI9CI) 98 C4H6N2O

Sample file: >C1248      Spectrum #: 465  
 Search speed: 1      Tilting option: S      No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	24*	98828	12259	"BIGDB	48	39	2	0	80	55	7	28
2.	21*	611143	12266	"BIGDB	53	32	2	0	75	56	5	36
3.	20	24524569	8572	"BIGDB	42	45	2	0	58	53	5	14
4.	20	52896874	8582	"BIGDB	40	43	1	0	72	52	5	14
5.	20*	4975217	8507	"BIGDB	31	60	2	0	101	54	5	15

CORRECTED TOTAL ION AREA OF UNKNOWN = 235087  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG      DILUTION FACTOR = 5000  
 DRY WT. = 87.00%  
 SEMI QUANTITATION OF UNKNOWN = 140000 UG/KG

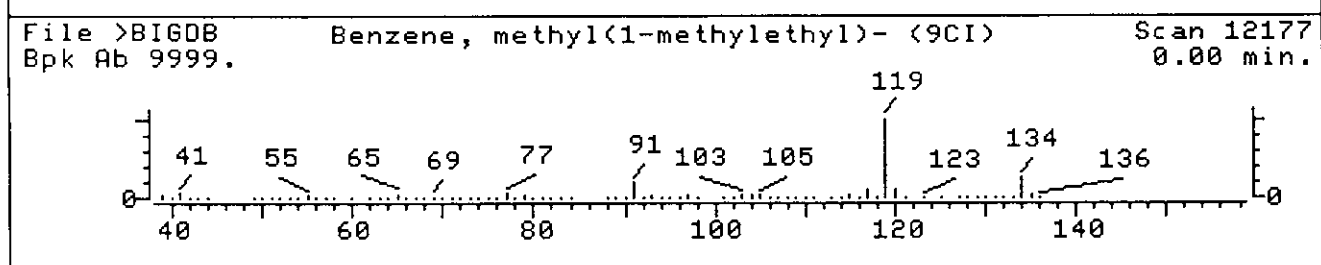
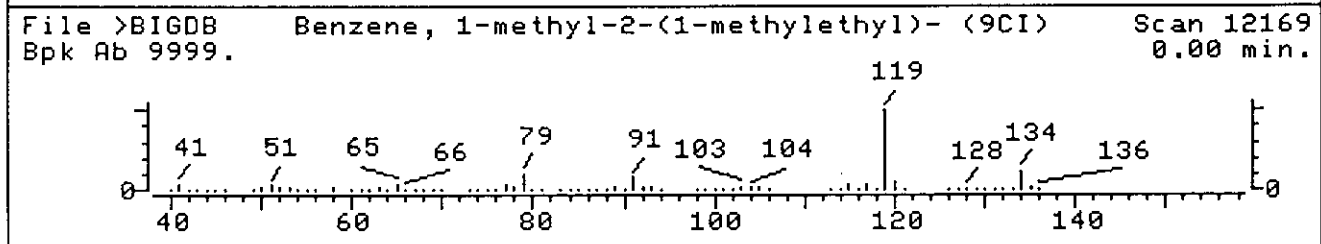
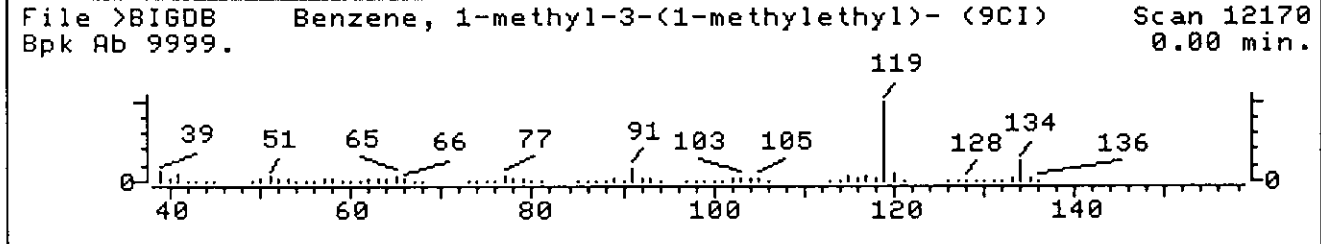
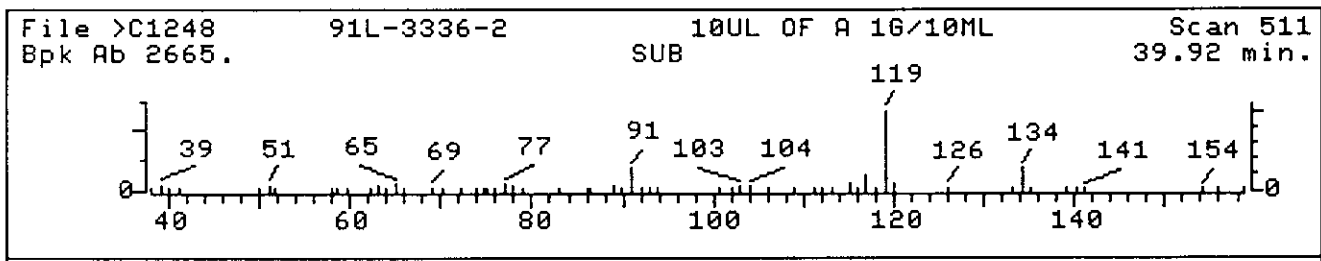


- |                                       |             |
|---------------------------------------|-------------|
| 1. Octane, 1-isocyanato- (9CI)        | 155 C9H17NO |
| 2. Cyclobutanone, 2-methyl- (8CI9CI)  | 84 C5H8O    |
| 3. Cyanic acid, propyl ester (8CI9CI) | 85 C4H7NO   |
| 4. Cyanic acid, sec-butyl ester (8CI) | 99 C5H9NO   |

Sample file: >C1248 Spectrum #: 493  
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV	
1.	15*	3158267	8852	"BIGDB	24	93	3	0	144	58	3	12
2.	11*	1517153	5726	"BIGDB	26	36	3	0	98	65	2	13
3.	11*	1768361	1017	"BIGDB	36	69	2	0	98	63	2	14
4.	11*	1873138	3605	"BIGDB	24	68	3	0	177	65	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN = 74934  
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
DRY WT. = 87.00%  
SEMI QUANTITATION OF UNKNOWN = 43000 UG/KG

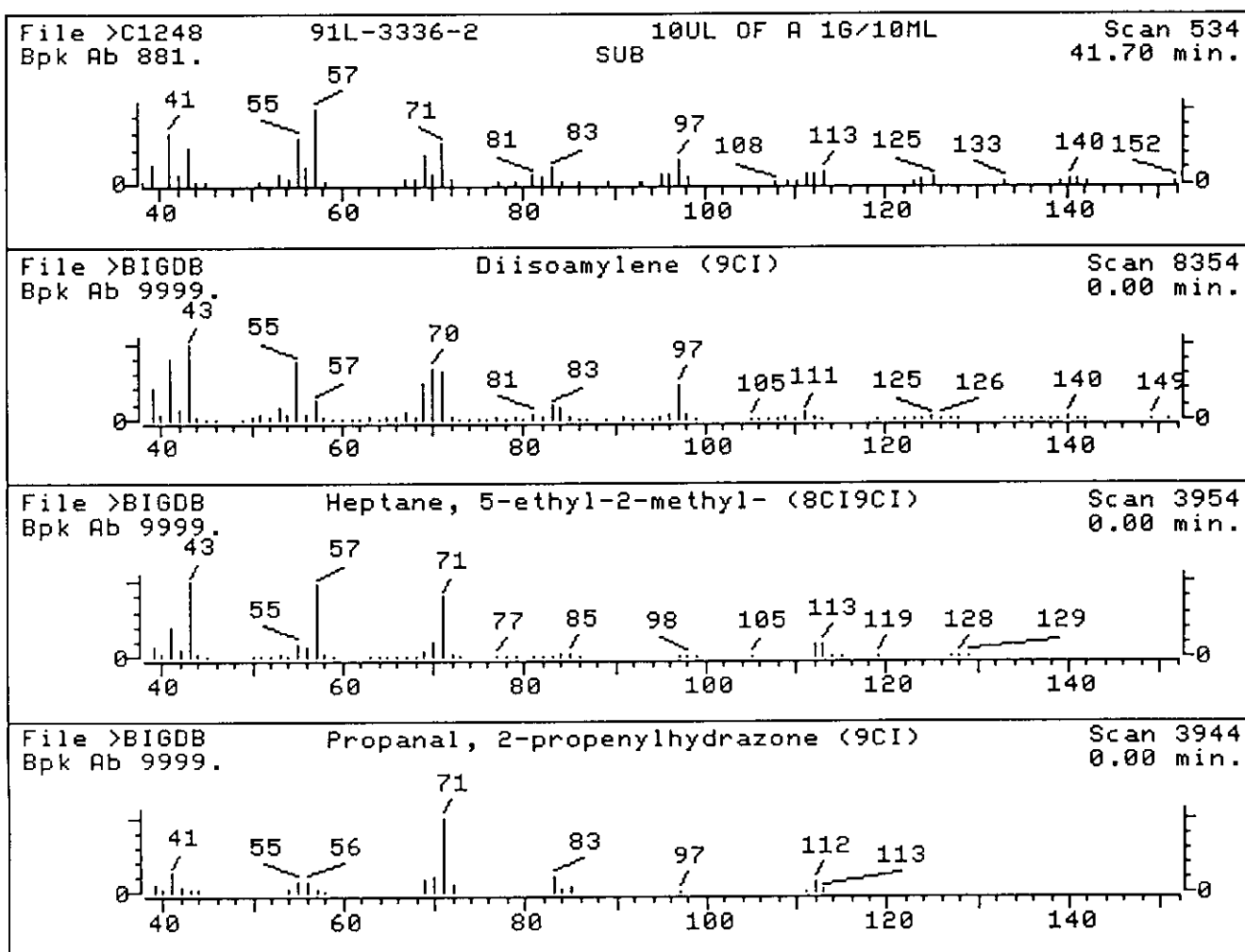


- |   |            |
|---|------------|
| 1. Benzene, 1-methyl-3-(1-methylethyl)- (9CI) | 134 C10H14 |
| 2. Benzene, 1-methyl-2-(1-methylethyl)- (9CI) | 134 C10H14 |
| 3. Benzene, methyl(1-methylethyl)- (9CI)      | 134 C10H14 |
| 4. Benzene, 4-ethyl-1,2-dimethyl- (9CI)       | 134 C10H14 |
| 5. Benzene, 2-ethyl-1,4-dimethyl- (9CI)       | 134 C10H14 |

Sample file: >C1248 Spectrum #: 511  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	83*	535773	12170	"BIGDB	65	24	0	0	79	15	51	78
2.	76*	527844	12169	"BIGDB	60	32	1	0	80	15	40	56
3.	74*	25155151	12177	"BIGDB	58	32	2	0	100	13	39	44
4.	58*	934805	12173	"BIGDB	42	51	2	0	90	16	25	22
5.	58*	1758889	12181	"BIGDB	56	38	2	-2	71	18	25	25

CORRECTED TOTAL ION AREA OF UNKNOWN = 501822  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
 DRY WT. = 87.00%  
 SEMI QUANTITATION OF UNKNOWN = 290000 UG/KG



- |  |             |
|--|-------------|
| 1. Diisoamylene (9CI)                  | 140 C10H20  |
| 2. Heptane, 5-ethyl-2-methyl- (8CI9CI) | 142 C10H22  |
| 3. Propanal, 2-propenylhydrazone (9CI) | 112 C6H12N2 |
| 4. 5-Octen-4-one, 7-methyl- (8CI9CI)   | 140 C9H16O  |
| 5. Octane, 3,6-dimethyl- (8CI9CI)      | 142 C10H22  |

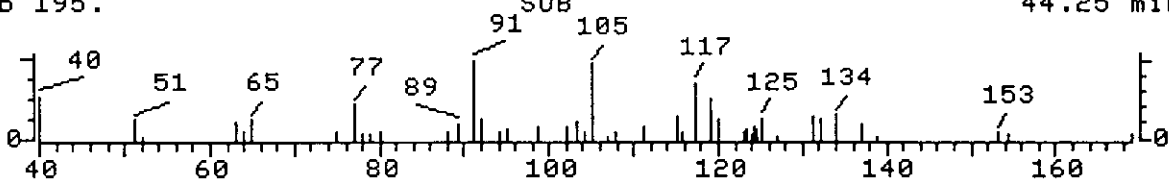
Sample file: >C1248 Spectrum #: 534  
Search speed: 1 Tilting option: S No. of ion ranges searched: 62

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	30*	54063091	8354	"BIGDB	45	62	3	0	79	33	12	13
2.	25	13475780	3954	"BIGDB	45	41	2	0	45	50	7	15
3.	20*	19031788	3944	"BIGDB	32	52	1	0	41	52	5	17
4.	18*	32064781	8352	"BIGDB	41	42	1	0	93	60	4	23
5.	15*	15869940	11043	"BIGDB	34	55	2	0	86	56	3	17

CORRECTED TOTAL ION AREA OF UNKNOWN = 405058  
CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
DRY WT. = 87.00%  
SEMI QUANTITATION OF UNKNOWN = 230000 UG/KG

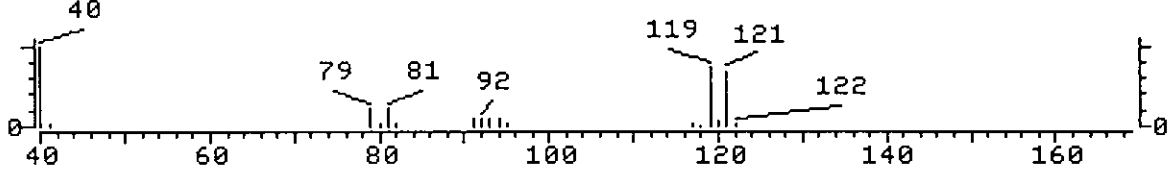


File >C1248 91L-3336-2 10UL OF A 1G/10ML Scan 567  
 Bpk Ab 195. SUB 44.25 min.



079

File >BIGDB Bromoacetonitrile Scan 12154  
 Bpk Ab 9999. 0.00 min.



1. Bromoacetonitrile

119 C2H2BrN

Sample file: >C1248 Spectrum #: 567  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 64

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	11*	590170	12154	"BIGDB	24	67	3	0	53	65	2 12

CORRECTED TOTAL ION AREA OF UNKNOWN = 51062  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 499115  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 5000  
 DRY WT. = 87.00%  
 SEMI QUANTITATION OF UNKNOWN = 29000 UG/KG

Pages 80 and 81 intentionally left blank.

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:91L-3336-3  
DATE RECEIVED:10/30/91  
SAMPLE WT/VOL:100UL OF A 4G/  
DRY WT:.9111

LAB FILE ID:>C1247  
DATE ANALYZED:911101  
LEVEL:MED

COMPOUND	RET TIME	CONC
1.Unknown Cycloalkane	25.79	990 UG/KG J
2.Unknown	31.66	3400 UG/KG J
3.Unknown	32.35	950 UG/KG J
4.Unknown	33.59	1100 UG/KG J
5.Unknown Aromatic	35.90	8500 UG/KG J
6.Unknown	38.53	850 UG/KG J
7.Unknown	40.07	1000 UG/KG J
8.Unknown	41.70	6700 UG/KG J
9.Unknown	43.55	710 UG/KG J

J; Estimated Concentration

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: 91L-3336-3  
 SAMPLE DATA FILE: >C1247

100UL OF A

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	5.33	63	25015	<10%
2	8.57	105	354125	IS
3	11.35	141	213637	SS
4	19.07	241	454369	IS
5	22.78	289	456236	SS
6	24.09	306	467059	IS
7	25.79	328	67398	UK
8	28.33	361	587577	SS
9	29.80	380	34782	<10%
10	30.65	391	30390	<10%
11	31.66	404	229490	UK
12	32.35	413	64711	UK
13	33.59	429	74129	UK
14	35.90	459	576111	UK
15	38.53	493	57784	UK
16	40.07	513	69716	UK
17	41.70	534	453098	UK
18	43.55	558	48503	UK
19	44.01	564	43135	<10%

IS = INTERNAL STANDARD

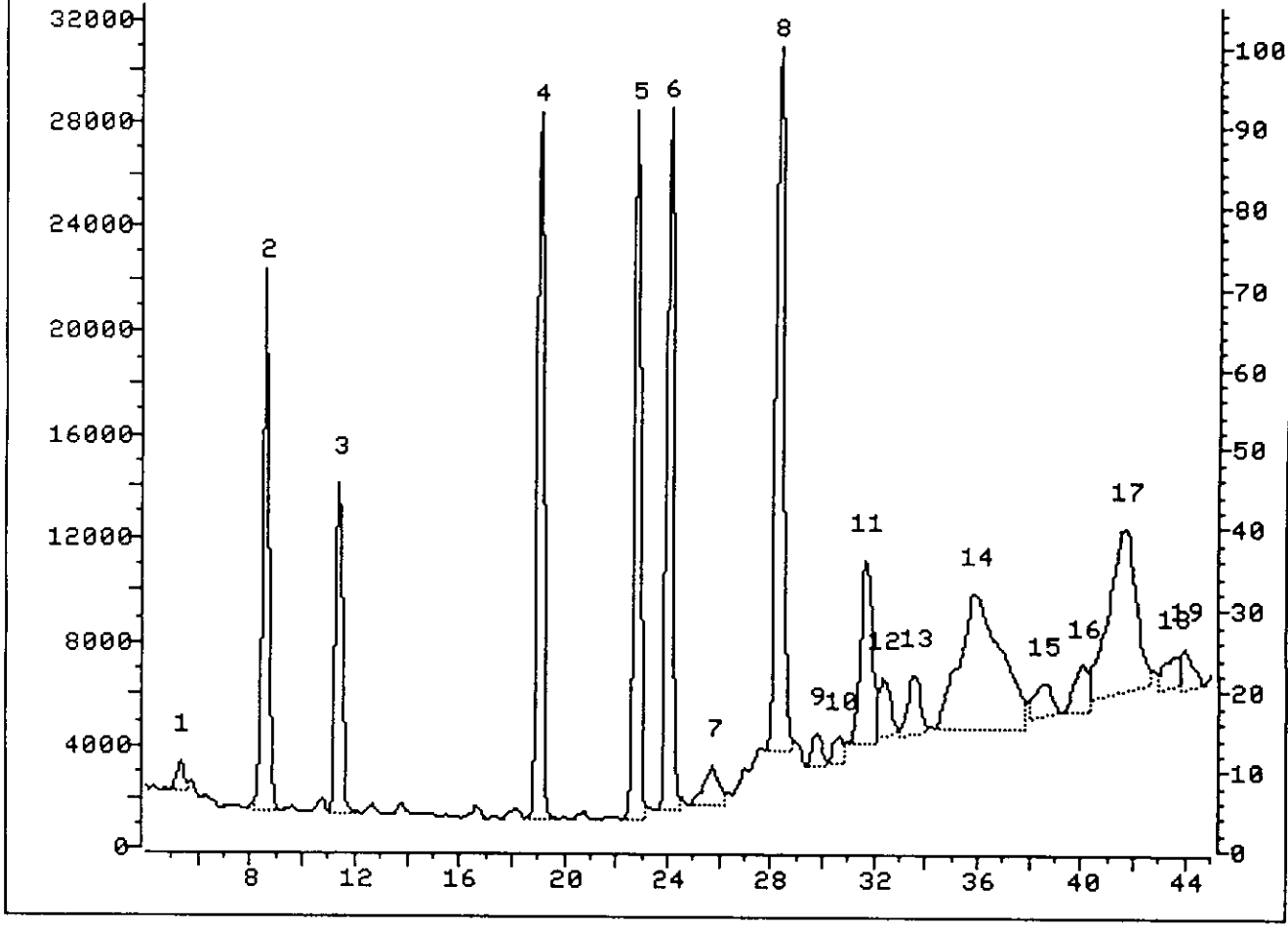
SS = SURROGATE

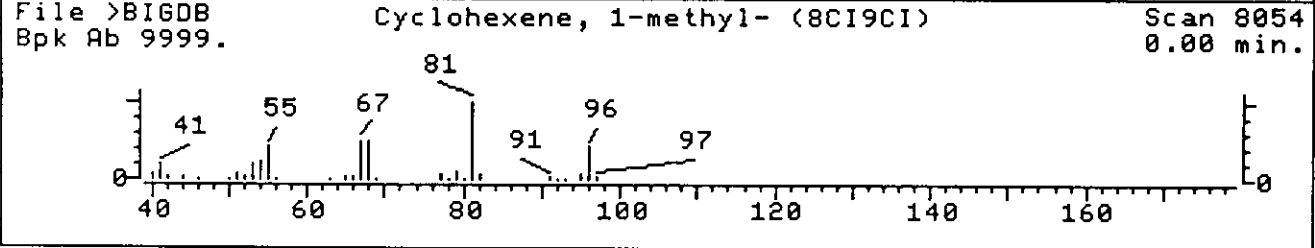
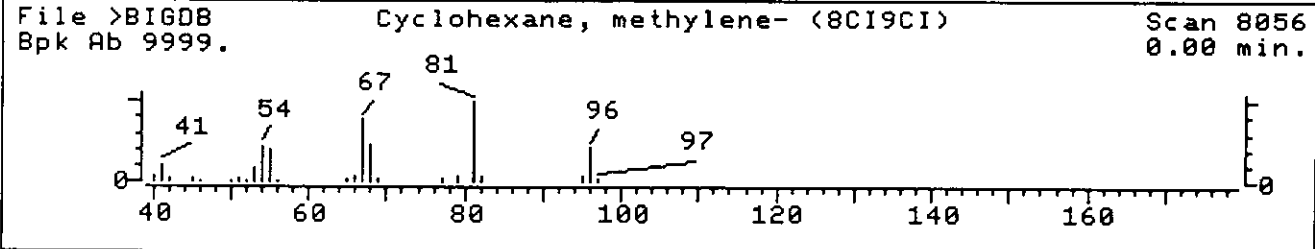
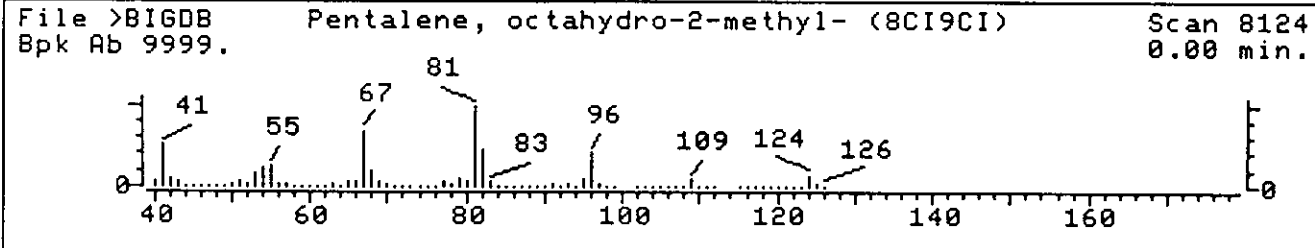
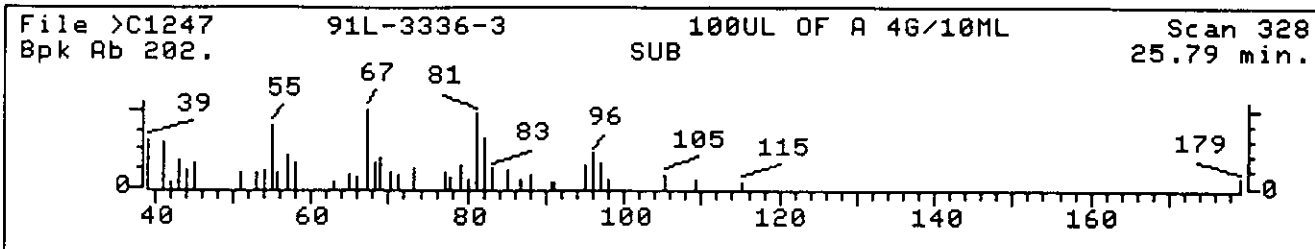
TC = TARGET COMPOUND

UK = UNKNOWN

<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD

File >C1247 35.0-260.0 amu. 91L-3336-3 100UL OF A 46/10ML  
SMT TIC



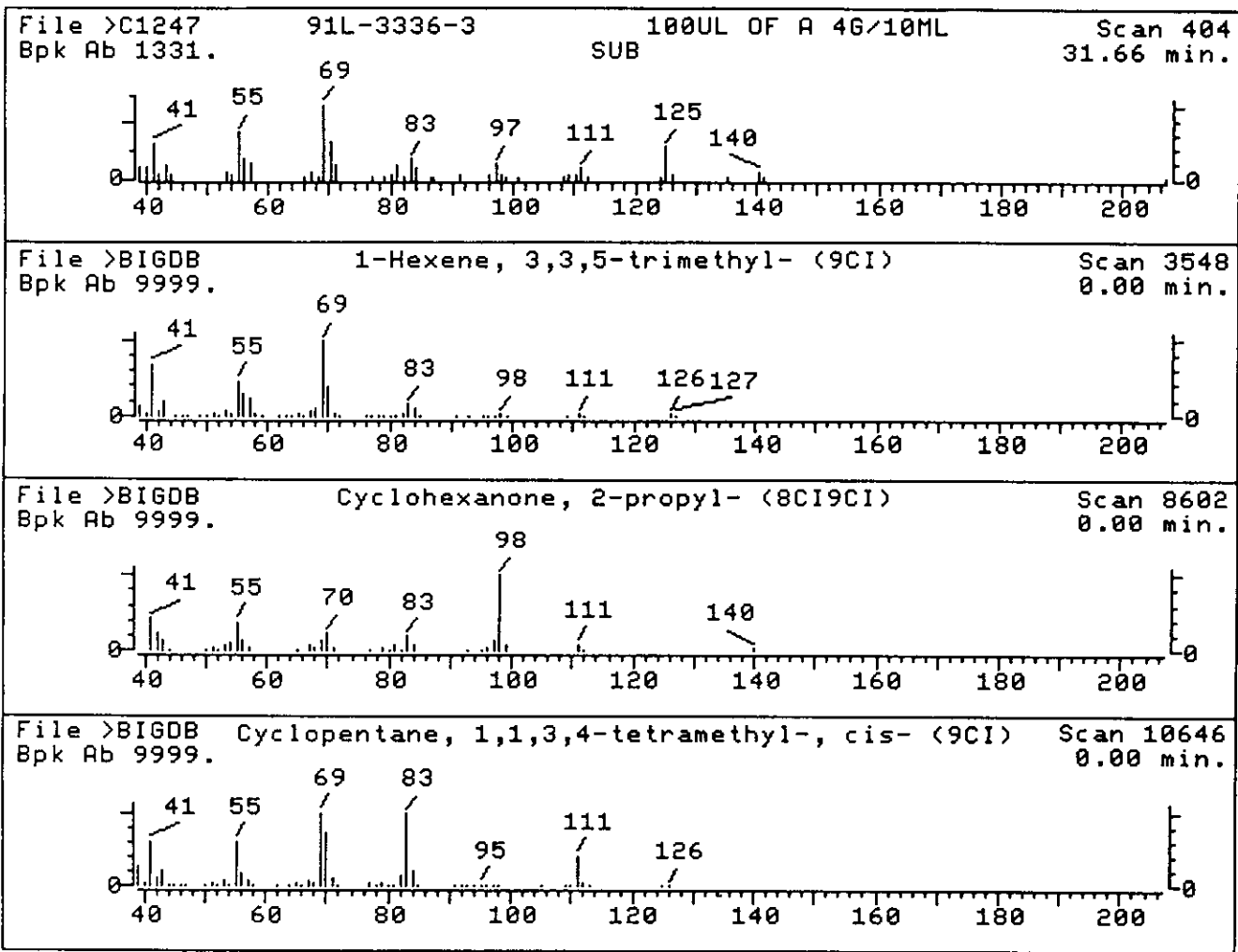


- 1. Pentalene, octahydro-2-methyl- (8CI9CI) 124 C9H16
- 2. Cyclohexane, methylene- (8CI9CI) 96 C7H12
- 3. Cyclohexene, 1-methyl- (8CI9CI) 96 C7H12
- 4. 1,4-Hexadiene, 4-methyl- (8CI9CI) 96 C7H12
- 5. 1,4-Hexadiene, 2-methyl- (8CI9CI) 96 C7H12

Sample file: >C1247 Spectrum #: 328  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 63

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV	
1.	58	3868642	8124	"BIGDB	76	35	2	1	99	19	25	21
2.	26*	1192376	8056	"BIGDB	26	78	2	0	70	41	8	14
3.	25*	591491	8054	"BIGDB	33	72	2	0	87	47	7	14
4.	24*	1116901	8079	"BIGDB	45	62	1	0	95	53	7	21
5.	24*	1119148	8080	"BIGDB	45	64	1	0	92	54	7	21

CORRECTED TOTAL ION AREA OF UNKNOWN = 67398  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 990 UG/KG

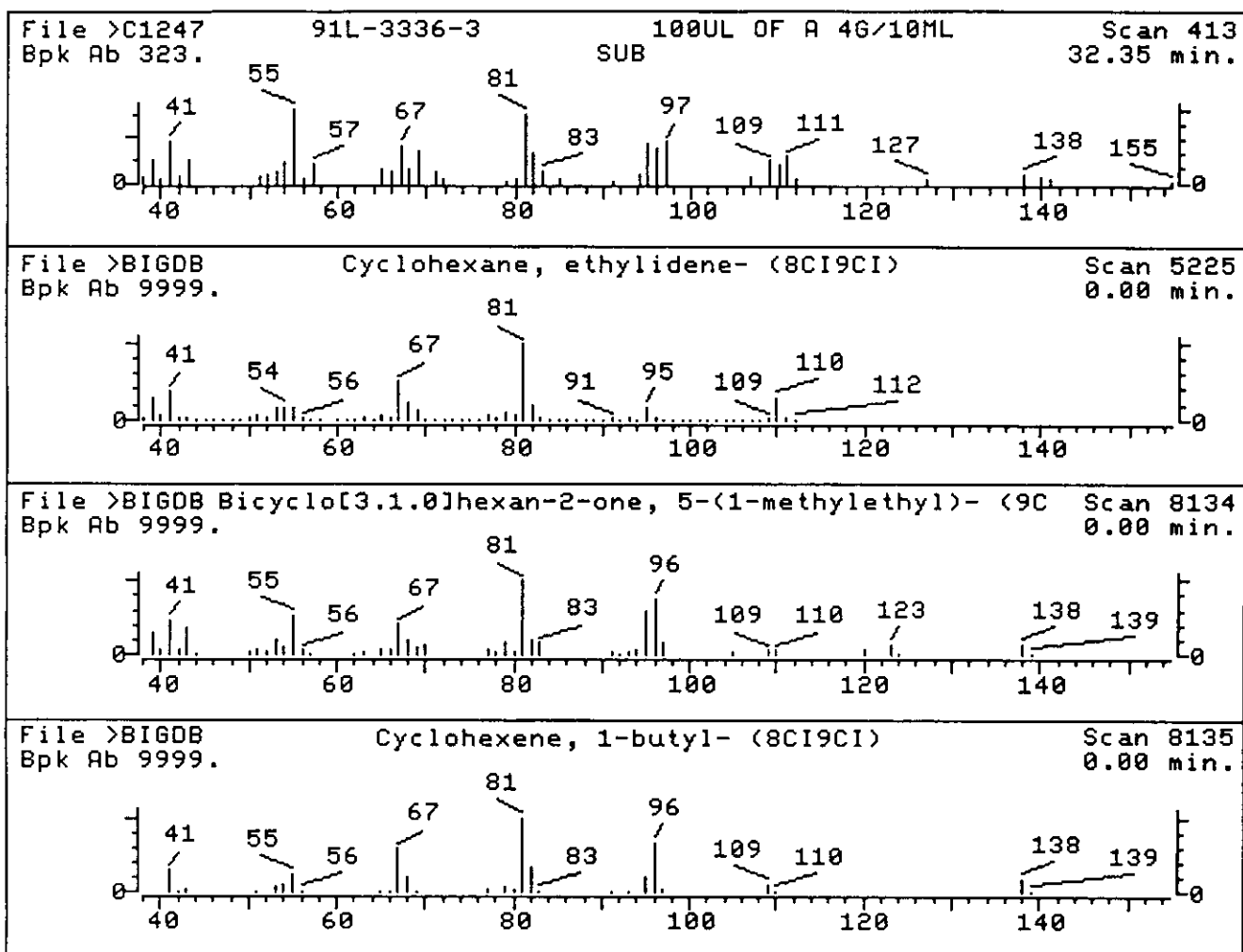


- 1. 1-Hexene, 3,3,5-trimethyl- (9CI) 126 C9H18
- 2. Cyclohexanone, 2-propyl- (8CI9CI) 140 C9H16O
- 3. Cyclopentane, 1,1,3,4-tetramethyl-, cis- (9CI) 126 C9H18
- 4. Cyclohexanone, 2-(1-methylheptyl)- (9CI) 210 C14H26O
- 5. 3-Nonene, 3-methyl-, (E)- (9CI) 140 C10H20

Sample file: >C1247 Spectrum #: 404  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 63

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV	
1.	43*	13427435	3548	"BIGDB	47	46	1	0	94	36	17	32
2.	29*	94655	8602	"BIGDB	45	52	2	1	160	45	8	17
3.	27*	53907601	10646	"BIGDB	38	70	3	0	71	39	10	13
4.	25	54549905	8626	"BIGDB	41	48	2	0	308	50	7	12
5.	25*	69405421	3763	"BIGDB	39	50	2	0	100	48	7	19

CORRECTED TOTAL ION AREA OF UNKNOWN = 229490  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 3400 UG/KG



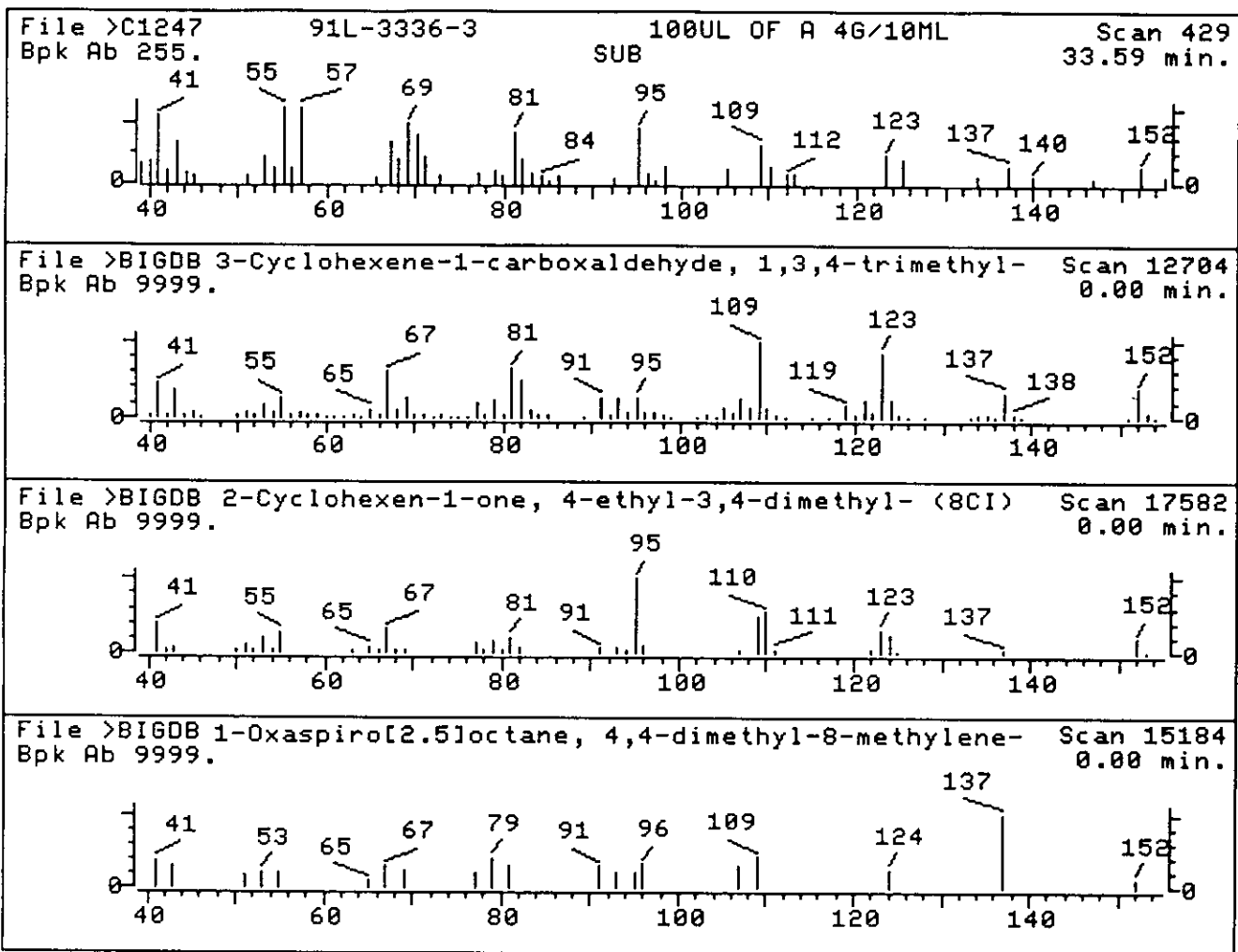
- |  |            |
|--|------------|
| 1. Cyclohexane, ethylidene- (8CI9CI)                   | 110 C8H14  |
| 2. Bicyclo[3.1.0]hexan-2-one, 5-(1-methylethyl)- (9CI) | 138 C9H14O |
| 3. Cyclohexene, 1-butyl- (8CI9CI)                      | 138 C10H18 |
| 4. Pentalene, octahydro-2,5-dimethyl- (8CI)            | 138 C10H18 |
| 5. Cyclohexene, 3-(2-methylpropyl)- (9CI)              | 138 C10H18 |

Sample file: >C1247 Spectrum #: 413  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 62

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	35*	1003641	5225	"BIGDB	46	59	0	0	83	55	10 54
2.	27*	513202	8134	"BIGDB	35	80	3	0	63	36	10 13
3.	26*	3282539	8135	"BIGDB	34	71	2	0	65	45	8 14
4.	25*	28588558	8143	"BIGDB	36	64	2	0	93	48	7 14
5.	25*	4104567	5429	"BIGDB	41	70	3	0	83	45	8 13

CORRECTED TOTAL ION AREA OF UNKNOWN = 64711  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 950 UG/KG



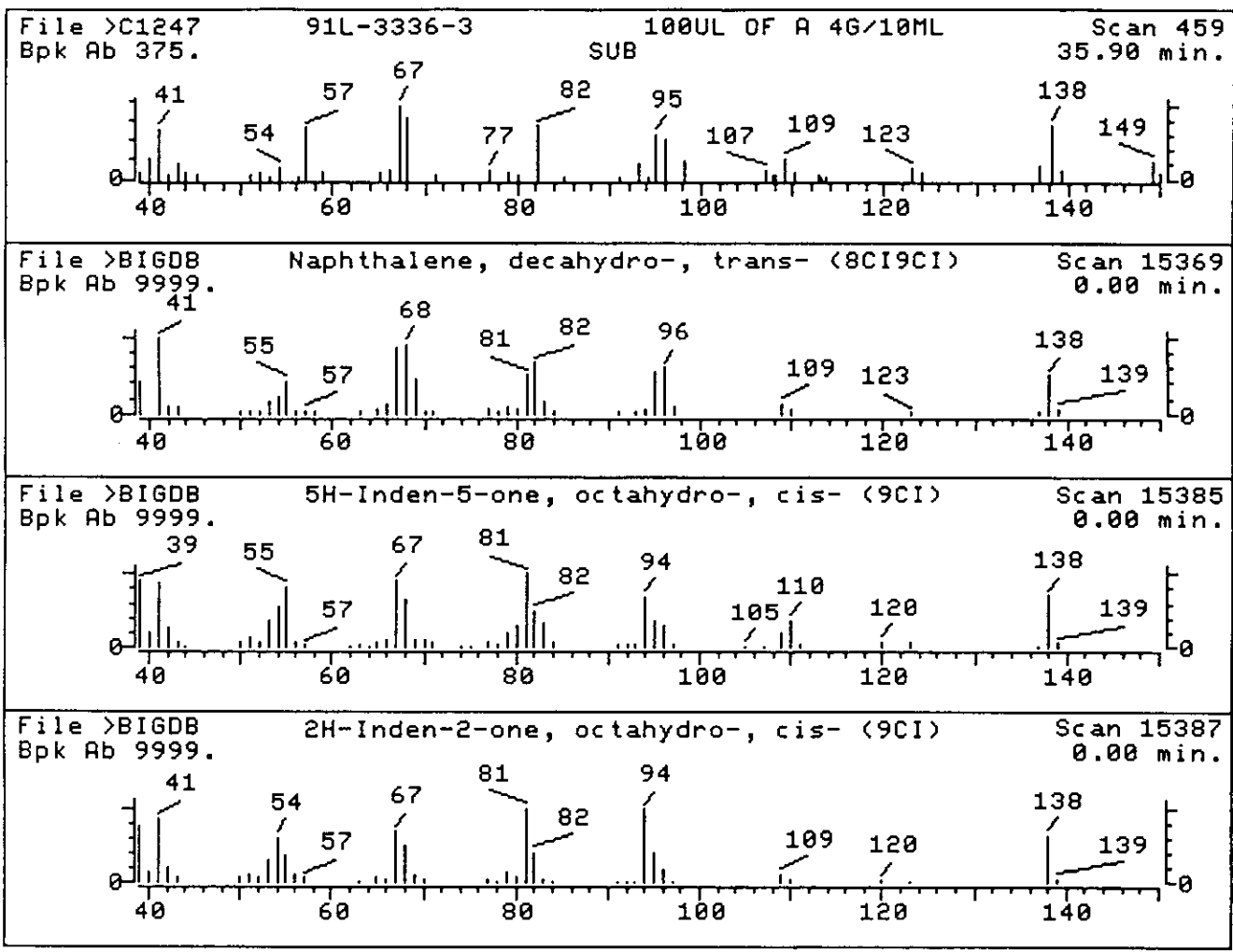


1. 3-Cyclohexene-1-carboxaldehyde, 1,3,4-trimethyl- (9C 152 C10H16O
2. 2-Cyclohexen-1-one, 4-ethyl-3,4-dimethyl- (8CI) 152 C10H16O
3. 1-Oxaspiro[2.5]octane, 4,4-dimethyl-8-methylene- (9C 152 C10H16O

Sample file: >C1247 Spectrum #: 429  
Search speed: 1 Tilting option: S No. of ion ranges searched: 63

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	40702269	12704	"BIGDB	43	85	3	0	51	52	5 13
2.	15*	17622467	17582	"BIGDB	44	71	3	0	72	57	3 13
3.	11*	54345561	15184	"BIGDB	23	99	3	0	122	63	2 12

CORRECTED TOTAL ION AREA OF UNKNOWN = 74129  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 1100 UG/KG

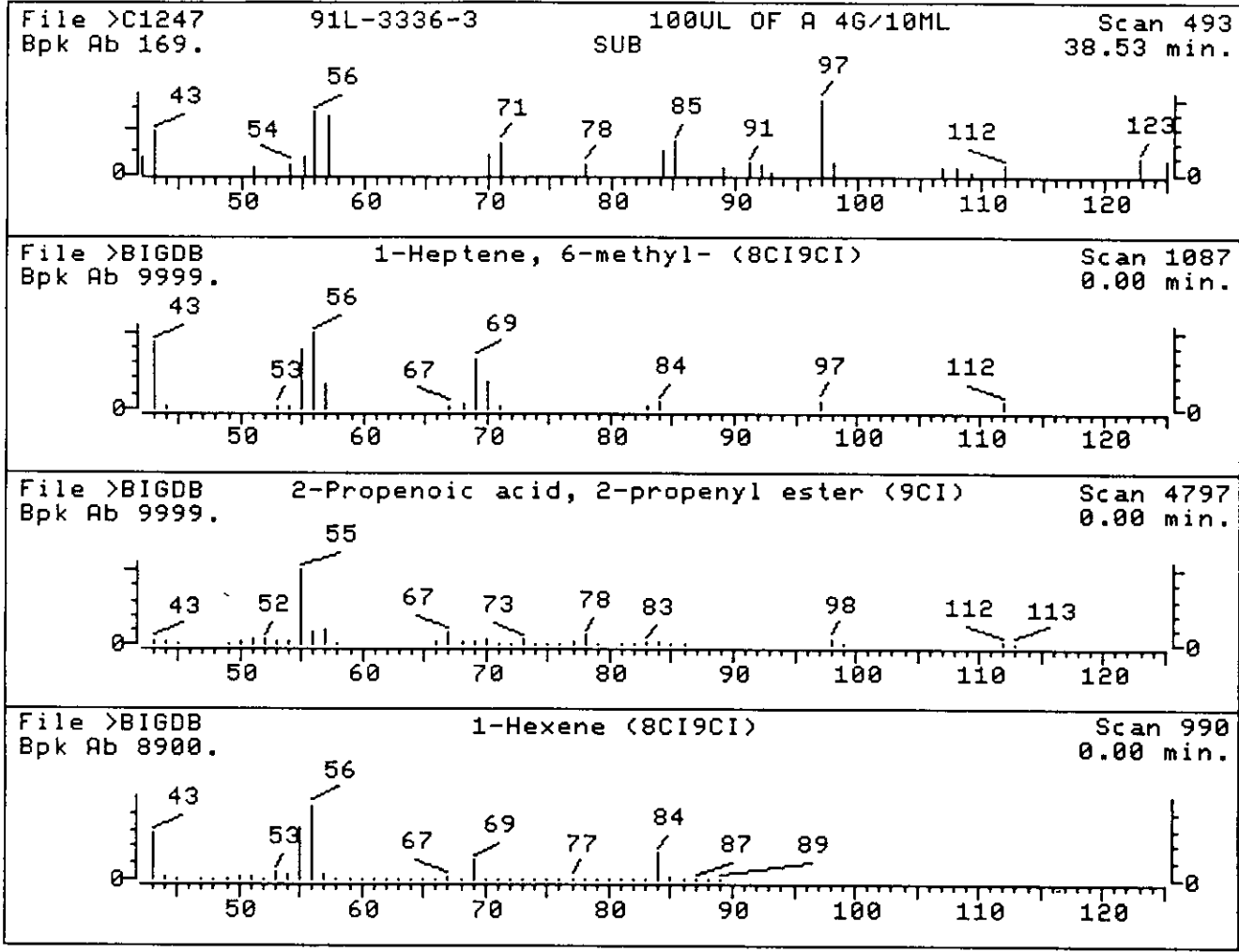


- |   |            |
|---|------------|
| 1. Naphthalene, decahydro-, trans- (8CI9CI) | 138 C10H18 |
| 2. 5H-Inden-5-one, octahydro-, cis- (9CI)   | 138 C9H14O |
| 3. 2H-Inden-2-one, octahydro-, cis- (9CI)   | 138 C9H14O |
| 4. 5H-Inden-5-one, octahydro-, trans- (9CI) | 138 C9H14O |
| 5. 2H-Inden-2-one, octahydro-, trans- (9CI) | 138 C9H14O |

Sample file: >C1247 Spectrum #: 459  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 63

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV	
1.	66*	493027	15369	"BIGDB	87	35	3	-3	64	18	31	43
2.	52*	4668911	15385	"BIGDB	44	94	3	0	104	20	20	13
3.	42*	5689043	15387	"BIGDB	56	73	3	1	145	22	17	13
4.	42*	4668819	15384	"BIGDB	41	86	3	0	114	21	17	13
5.	36*	16484176	15398	"BIGDB	43	92	3	0	96	27	14	13

CORRECTED TOTAL ION AREA OF UNKNOWN = 576111  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 8500 UG/KG

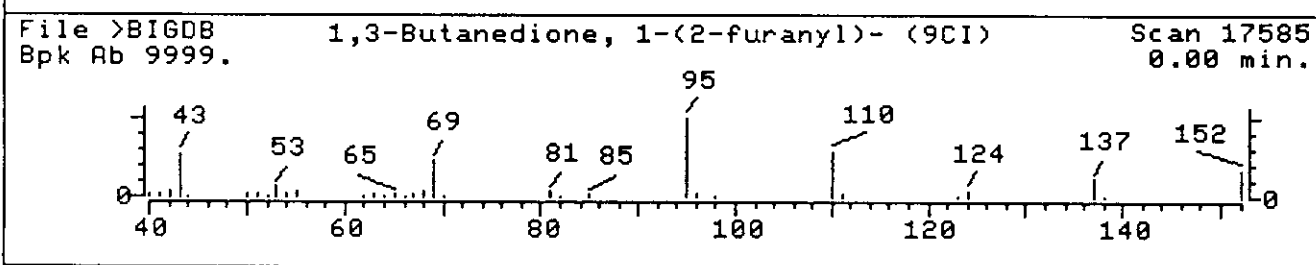
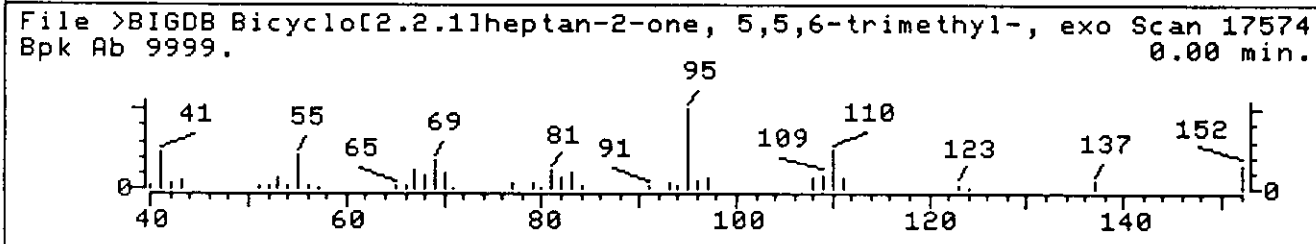
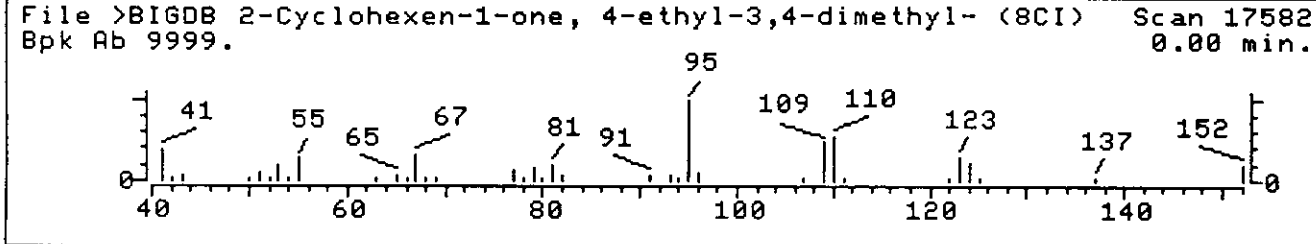
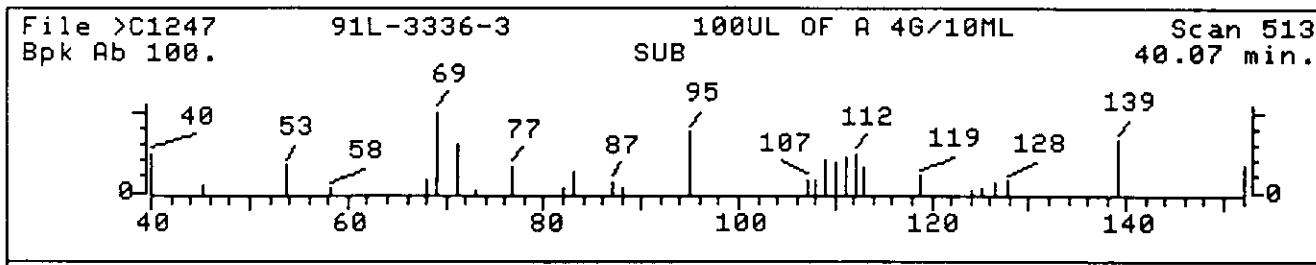


- 1. 1-Heptene, 6-methyl- (8CI9CI) 112 C8H16
- 2. 2-Propenoic acid, 2-propenyl ester (9CI) 112 C6H8O2
- 3. 1-Hexene (8CI9CI) 84 C6H12
- 4. Aziridine, 2,2-dimethyl- (8CI9CI) 71 C4H9N
- 5. Cyclobutanone, 3,3-dimethyl- (8CI9CI) 98 C6H10O

Sample file: >C1247 Spectrum #: 493  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 65

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	27*	5026766	1087	"BIGDB	36	60	3	0	66	39	10 13
2.	26*	999553	4797	"BIGDB	22	69	3	0	404	36	10 12
3.	25*	592416	990	"BIGDB	27	73	3	0	91	45	8 13
4.	20*	2658244	973	"BIGDB	29	80	2	0	86	51	5 14
5.	15*	1192332	1048	"BIGDB	21	57	2	0	81	56	3 13

CORRECTED TOTAL ION AREA OF UNKNOWN = 57784  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 850 UG/KG

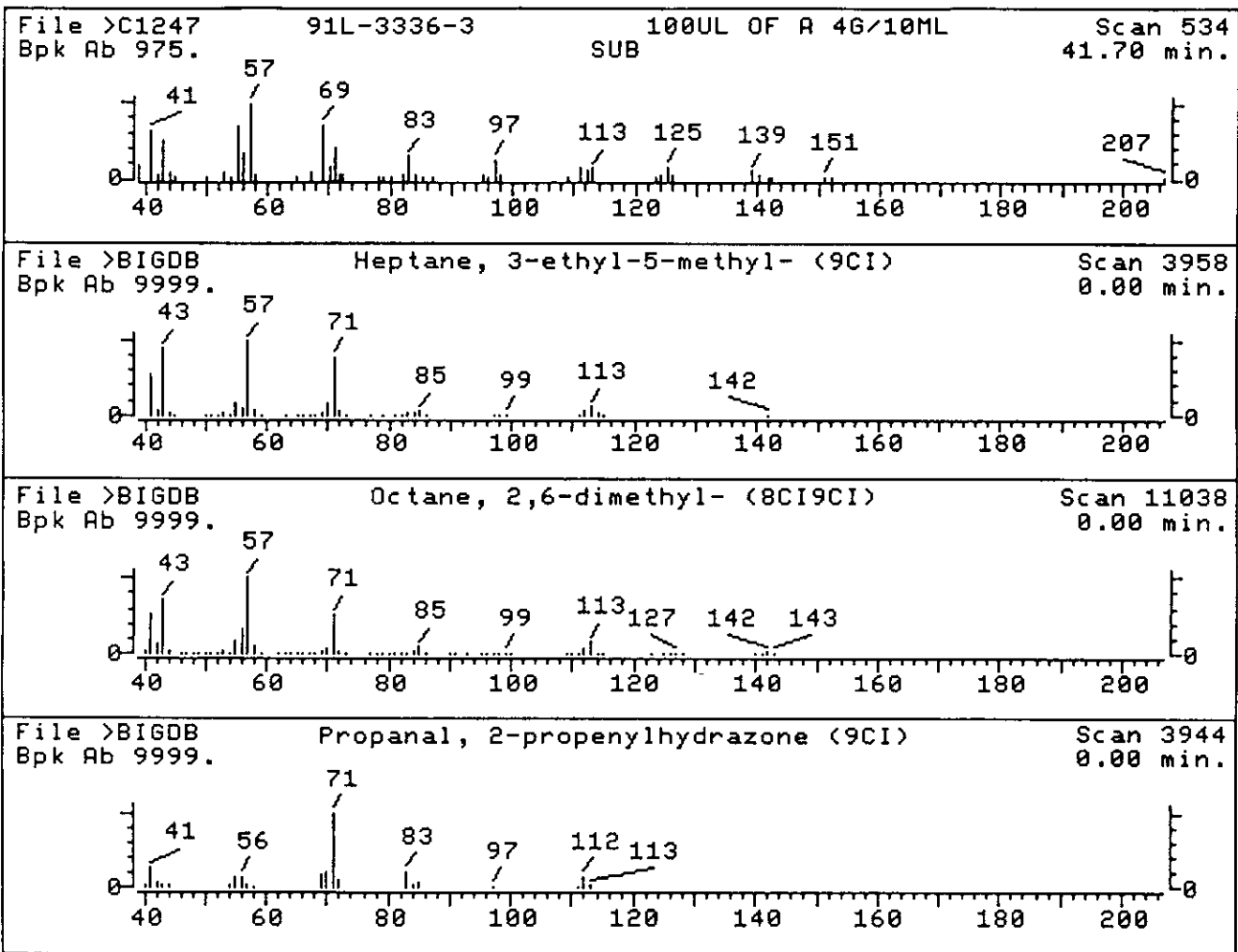


1. 2-Cyclohexen-1-one, 4-ethyl-3,4-dimethyl- (8CI) 152 C10H16O
2. Bicyclo[2.2.1]heptan-2-one, 5,5,6-trimethyl-, exo- (9CI) 152 C10H16O
3. 1,3-Butanedione, 1-(2-furanyl)- (9CI) 152 C8H8O3
4. 3-Oxatricyclo[4.1.1.0<sup>2,4</sup>]octane, 2,7,7-trimethyl- (9CI) 152 C10H16O

Sample file: >C1247 Spectrum #: 513  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 64

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	20*	17622467	17582	"BIGDB	28	87	3	0	70	53	5	13
2.	15*	3649863	17574	"BIGDB	35	82	3	0	76	58	3	13
3.	11*	25790356	17585	"BIGDB	27	74	3	0	68	61	2	13
4.	11*	1686142	10283	"BIGDB	24	94	3	0	124	64	2	12

CORRECTED TOTAL ION AREA OF UNKNOWN = 69716  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 1000 UG/KG

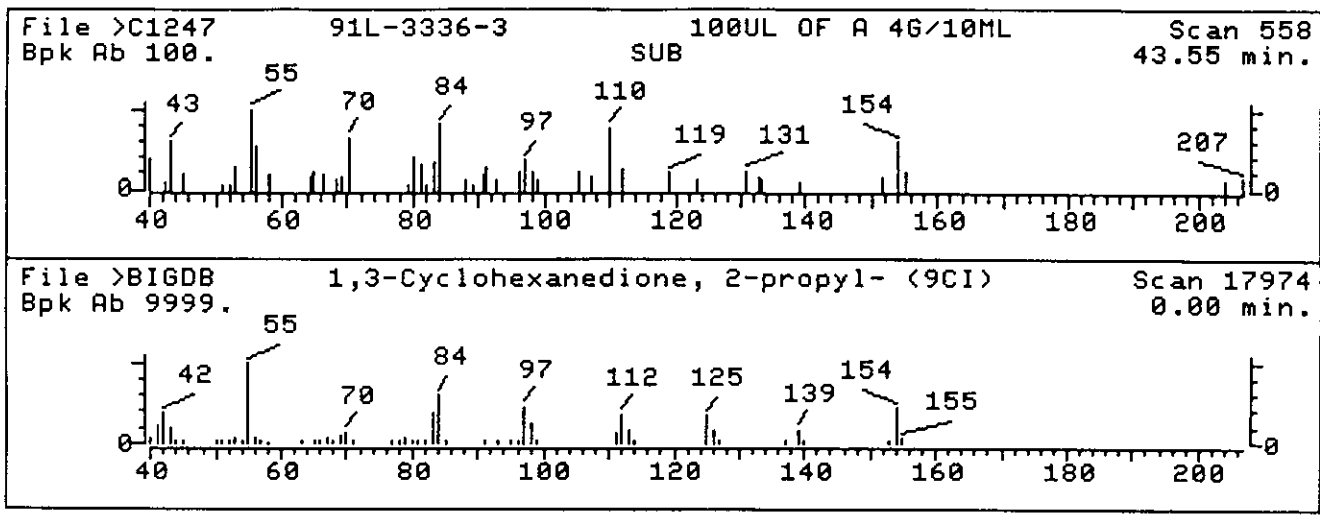


- 1. Heptane, 3-ethyl-5-methyl- (9CI) 142 C10H22
- 2. Octane, 2,6-dimethyl- (8CI9CI) 142 C10H22
- 3. Propanal, 2-propenylhydrazone (9CI) 112 C6H12N2
- 4. Diisoamylene (9CI) 140 C10H20
- 5. Octane, 3,6-dimethyl- (8CI9CI) 142 C10H22

Sample file: >C1247 Spectrum #: 534  
 Search speed: 1 Tilting option: S No. of ion ranges searched: 63

	Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	32*	52896909	3958	"BIGDB	44	50	0	0	52	55	9	49
2.	30*	2051301	11038	"BIGDB	46	49	2	0	80	48	10	23
3.	28*	19031788	3944	"BIGDB	33	51	0	0	41	53	8	30
4.	27*	54063091	8354	"BIGDB	32	60	2	0	43	44	8	15
5.	26*	15869940	11043	"BIGDB	49	40	0	0	70	57	7	59

CORRECTED TOTAL ION AREA OF UNKNOWN = 453098  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 6700 UG/KG



1. 1,3-Cyclohexanedione, 2-propyl- (9CI)

154 C9H14O2

Sample file: >C1247      Spectrum #:      558  
 Search speed: 1      Tilting option: S      No. of ion ranges searched: 64

Prob.	CAS #	CON #	ROOT	K	DK	#FLG	TILT	%	CON	C_I	R_IV
1.	15*	54244734	17974	"BIGDB	25	98	3	0	100	56	3 13

CORRECTED TOTAL ION AREA OF UNKNOWN = 48503  
 CORRECTED TOTAL ION AREA OF INTERNAL STANDARD = 467059  
 CONCENTRATION OF INTERNAL STD = 50 UG/KG      DILUTION FACTOR = 125  
 DRY WT. = 91.11%  
 SEMI QUANTITATION OF UNKNOWN = 710 UG/KG



NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

G. STANDARDS DATA PACKAGE

1. Volatile Organics by GC/MS

a. Initial Calibration Data

Calibration Report

Title: HP VOA Standards for 5 Point Calibration Curve  
 Calibrated: 911015 13:34

Compound	Files: >C0904 >C0900 >C0901 >C0902 >C0903					RRT	RF	% RSD
	RF	RF	RF	RF	RF			
	20.00	50.00	100.00	150.00	200.00			
Chloromethane	.88207	.83445	.83504	.82685	.83503	.136	.84269	2.645
Bromomethane	1.08738	.98856	.90423	.83722	.82010	.212	.92750	11.996
Vinyl Chloride	.98855	.90626	.85104	.68352	.55797	.276	.79747	21.860
Chloroethane	.73459	.70515	.64252	.59084	.51683	.369	.63799	13.747
Methylene Chloride	1.94959	1.91225	1.80013	1.67001	1.68645	.600	1.80368	7.051
Acrolein	.23968	.27066	.25458	.23252	.24129	.707	.24775	6.089
Acrylonitrile	.49014	.46112	.50535	.51769	.53302	.775	.50146	5.489
Acetone	.52386	.62197	.53374	.53261	.56501	.705	.55544	7.261
Carbon Disulfide	2.92637	2.64989	2.68521	2.65748	2.65917	.764	2.71562	4.366
Trichlorofluoromethane	3.25061	3.07344	3.06472	2.99950	2.93585	.841	3.06483	3.843 (Conc=20.0, 50.0, 100.0, 150.0, 200.0)
1,1-Dichloroethene	1.52387	1.37182	1.32923	1.35538	1.33794	.936	1.38365	5.788
1,1-Dichloroethane	2.76552	2.49351	2.48467	2.51976	2.38493	1.095	2.52968	5.591
t-Butyl Alcohol	.49059	.49569	.51162	.42429	.46031	1.222	.47650	7.261
Trans-1,2-Dichloroethene	1.51759	1.43487	1.35085	1.38990	1.41710	1.183	1.42206	4.366
Chloroform	3.04434	2.82066	2.74356	2.81257	2.71332	1.266	2.82689	4.591
1,2-Dichloroethane-d4	1.75299	1.55633	1.49550	1.53563	1.52447	1.343	1.57298	6.548 (Conc=20.0, 50.0, 100.0, 150.0, 200.0)
1,2-Dichloroethane	1.78033	1.62255	1.57573	1.60186	1.58233	1.357	1.63256	5.182
2-Butanone	1.06580	1.02715	1.14725	1.14767	1.24524	1.350	1.12662	7.496
1,4-Dioxane	.04839	.04932	.03694	.03357	.03593	1.533	.04083	18.214 (Conc=80.0, 200.0, 400.0, 600.0, 800.0)
Methyl t-Butyl Ether	2.17009	1.80877	1.73491	1.74561	1.65530	1.477	1.82294	11.058
1,1,1-Trichloroethane	2.41777	2.33433	2.25647	2.28412	2.26852	1.502	2.31224	2.855
Carbon Tetrachloride	2.27579	2.22512	2.13034	2.17617	2.16223	1.548	2.19393	2.602
Vinyl Acetate	2.43486	2.66310	2.35377	2.32530	2.64357	1.579	2.48412	6.431
Bromodichloromethane	2.94908	2.79911	2.71944	2.73064	2.72638	1.632	2.78493	3.491
Cyclohexane	2.16114	1.84410	1.78114	1.81751	1.79011	1.541	1.87880	8.503
1,2-Dichloropropane	.41785	.37883	.35437	.38491	.34775	.793	.37674	7.392
cis-1,3-Dichloropropene	.61388	.57246	.52853	.57625	.51286	.809	.56080	7.206 (Conc=32.0, 81.0, 162.0, 243.0, 324.0)
Trichloroethene	.42299	.40329	.39250	.43947	.38856	.837	.40936	5.248
Dibromochloromethane	.47077	.43997	.43018	.46418	.43390	.875	.44780	4.119
1,1,2-Trichloroethane	.40788	.34704	.33324	.34810	.33168	.880	.35359	8.848
Benzene	.99027	.93814	.83693	.86101	.77254	.860	.87978	9.729
trans-1,3-Dichloropropene	.50319	.48719	.48302	.52066	.50016	.879	.49884	2.978 (Conc=8.0, 19.0, 38.0, 57.0, 76.0)
Ethylene Dibromide	.63133	.59525	.56566	.59880	.57540	.924	.59329	4.268
2-Chloroethylvinylether	.23474	.18130	.21517	.23735	.25620	.935	.22495	12.626
Bromoform	.51326	.48273	.46844	.48859	.46785	1.021	.48417	3.839
2-Hexanone	.57910	.49924	.56565	.57355	.62133	.889	.56777	7.743
4-Methyl-2-Pentanone	.70414	.70544	.71587	.73912	.74733	.824	.72238	2.738
Tetrachloroethene	.41148	.38746	.38621	.40606	.40986	.905	.40021	3.093
1,1,2,2-Tetrachloroethane	1.12667	1.07736	.95094	.98591	1.00531	.909	1.02924	6.937

RF - Response Factor (Subscript is amount in ug/L)

RRT - Average Relative Retention Time (RT Std/RT Istd)

RF - Average Response Factor

%RSD - Percent Relative Standard Deviation

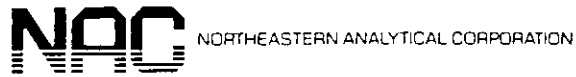


Calibration Report

Title: HP VOA Standards for 5 Point Calibration Curve  
 Calibrated: 911015 13:34

Compound	Files: >C0904 >C0900 >C0901 >C0902 >C0903					$\overline{RRT}$	$\overline{RF}$	% RSD
	RF	RF	RF	RF	RF			
Toluene	.78314	.71852	.65959	.67694	.63369	.956	.69438	8.416
Toluene-d8	1.38432	1.23335	1.19598	1.24152	1.22804	.947	1.25664	5.844 (Conc=20.0, 50.0, 100.0, 150.0, 200.0)
Chlorobenzene	.99339	.90212	.91501	.96727	.93947	1.005	.94345	3.964
Ethylbenzene	.49362	.43813	.42547	.45852	.46152	1.083	.45545	5.707
Styrene	.88850	.84203	.85067	.94307	.92345	1.227	.88954	4.959
m&p Xylenes	.27904	.25544	.24705	.27465	.26408	1.237	.26405	5.011 (Conc=40.0, 100.0, 200.0, 300.0, 400.0)
O-Xylenes	1.04574	.95936	.94371	1.06119	1.02429	1.272	1.00686	5.211
Bromofluorobenzene	1.08018	.90072	.91714	.98617	.99695	1.177	.97623	7.338 (Conc=20.0, 50.0, 100.0, 150.0, 200.0)
1,3-Dichlorobenzene	.83543	.87470	.82086	.96082	.94134	1.408	.88663	7.041
1,2 & 1,4-Dichlorobenzenes	.90680	.90462	.83271	.98085	.97703	1.466	.92040	6.650 (Conc=40.0, 100.0, 200.0, 300.0, 400.0)

- 
- RF - Response Factor (Subscript is amount in ug/L)
  - $\overline{RRT}$  - Average Relative Retention Time (RT Std/RT Istd)
  - $\overline{RF}$  - Average Response Factor
  - %RSD - Percent Relative Standard Deviation



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

- G. STANDARDS DATA PACKAGE (Continued)
  - 1. Volatile Organics by GC/MS (Continued)
    - b. Continuing Calibration Data

Calibration Check Report

Title: HP UVA Standards For 5 Point Calibration Curve  
Calibrated: 911019 13:34

Check Standard Data File: >C1273  
Injection Time: 911104 21:23

Compound	$\bar{RF}$	RF	%Diff	Calib Meth
Chloromethane	.84269	.42296	49.81	Average
Bromomethane	.72750	1.05301	13.53	Average
Vinyl Chloride	.79747	.76162	4.50	Average
Chloroethane	.63799	.70212	10.84	Average
Methylene Chloride	1.80368	1.79850	.29	Average
Acrolein	.24775	.22204	10.37	Average
Acrylonitrile	.50146	.53008	5.71	Average
Acetone	.55544	.53946	2.88	Average
Carbon Disulfide	2.71562	2.30236	15.22	Average
Trichlorofluoromethane	3.06483	3.23911	5.69	Average (Conc=50.00)
1,1-Dichloroethene	1.38365	1.30349	5.79	Average
1,1-Dichloroethane	2.52968	2.62017	3.58	Average
t-Butyl Alcohol	.47650	.47626	.05	Average
trans-1,2-Dichloroethene	1.42206	1.32658	6.71	Average
Chloroform	2.82689	2.93348	3.77	Average
1,2-Dichloroethane-d4	1.57298	1.69144	7.53	Average
1,2-Dichloroethane	1.63256	1.91114	17.06	Average
2-Butanone	1.12662	1.17703	4.47	Average
1,4-Dioxane	.04083	.02826	30.78	Average (Conc=200.00)
Methyl t-Butyl Ether	1.82294	1.79631	1.46	Average
1,1,1-Trichloroethane	2.31224	2.30724	.22	Average
Carbon tetrachloride	2.19393	2.28986	4.37	Average
Vinyl Acetate	2.48412	2.45722	1.08	Average
Bromodichloromethane	2.78493	2.84105	2.02	Average
Cyclohexane	1.87880	1.88133	.13	Average
1,2-Dichloropropane	.37674	.41724	10.75	Average
cis-1,3-Dichloropropene	.56080	.61170	9.08	Average (Conc=81.00)
Trichloroethene	.40936	.46464	13.50	Average
Dibromochloromethane	.44780	.51334	14.64	Average
1,1,2-Trichloroethane	.35359	.38545	9.01	Average
Benzene	.87978	.97837	11.21	Average
trans-1,3-Dichloropropene	.49884	.51195	2.63	Average (Conc=19.00)
Ethylene Dibromide	.59329	.63008	6.20	Average
2-Chloroethylvinylether	.22495	.26826	19.25	Average
Bromoform	.48417	.57458	18.67	Average
2-Hexanone	.56777	.64275	13.21	Average
4-Methyl-2-Pentanone	.72238	.88766	22.88	Average
tetrachloroethene	.40021	.47822	19.49	Average
1,1,2,2-Tetrachloroethane	1.02924	1.05530	2.53	Average
Toluene	.69438	.76280	9.85	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\bar{RF}$  - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

Calibration Check Report

Title: HP UUA Standards for 5 Point Calibration Curve  
 Calibrated: 911015 13:34

Check Standard Data File: >U1273  
 Injection Time: 911104 21:25

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
Toluene-d8	1.25664	1.24196	1.17	Average
Chlorobenzene	.94345	1.02794	8.96	Average
Ethylbenzene	.45545	.49512	8.71	Average
Styrene	.88954	.96826	8.85	Average
m&p Xylenes	.26405	.28884	9.39	Average (Conc=100.00)
O-Xylenes	1.00686	1.15778	15.00	Average
Bromofluorobenzene	.97623	.90098	7.71	Average
1,3-Dichlorobenzene	.88663	1.00210	13.02	Average (Conc=50.00)
1,2 & 1,4-Dichlorobenzenes	.92040	1.05524	14.65	Average (Conc=100.00)

-----  
 RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$  - Average Response Factor from Initial Calibration

%Diff - % Difference from original average of curve

Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve  
Calibrated: 911015 13:34

Check Standard Data File: >C1244  
Injection Time: 911101 10:56

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
Chloromethane	.84269	.50451	40.13	Average
Bromomethane	.92750	.97818	5.46	Average
Vinyl Chloride	.79747	.86180	8.07	Average
Chloroethane	.63799	.69678	9.22	Average
Methylene Chloride	1.80368	1.50540	16.54	Average
Acrolein	.24775	.22805	7.95	Average
Acrylonitrile	.50146	.57731	15.12	Average
Acetone	.55544	.61680	11.05	Average
Carbon Disulfide	2.71562	2.39277	11.89	Average
Trichlorofluoromethane	3.06483	3.09479	.98	Average (Conc=50.00)
1,1-Dichloroethene	1.38365	1.27761	7.66	Average
1,1-Dichloroethane	2.52968	2.74444	8.49	Average
t-Butyl Alcohol	.47650	.46101	3.25	Average
Trans-1,2-Dichloroethene	1.42206	1.33073	6.42	Average
Chloroform	2.82689	3.03930	7.51	Average
1,2-Dichloroethane-d4	1.57298	1.55736	.99	Average
1,2-Dichloroethane	1.63256	2.00724	22.95	Average
2-Butanone	1.12662	1.40125	24.38	Average
1,4-Dioxane	.04083	.03600	11.83	Average (Conc=200.00)
Methyl t-Butyl Ether	1.82294	1.76934	2.94	Average
1,1,1-Trichloroethane	2.31224	2.22814	3.64	Average
Carbon Tetrachloride	2.19393	2.27296	3.60	Average
Vinyl Acetate	2.48412	2.86641	15.39	Average
Bromodichloromethane	2.78493	2.89892	4.09	Average
Cyclohexane	1.87880	2.09220	11.36	Average
1,2-Dichloropropane	.37674	.41665	10.59	Average
cis-1,3-Dichloropropene	.56080	.62083	10.70	Average (Conc=81.00)
Trichloroethene	.40936	.43041	5.14	Average
Dibromochloromethane	.44780	.47590	6.27	Average
1,1,2-Trichloroethane	.35359	.37689	6.59	Average
Benzene	.87978	.98297	11.73	Average
trans-1,3-Dichloropropene	.49884	.46835	6.11	Average (Conc=19.00)
Ethylene Dibromide	.59329	.59853	.88	Average
2-Chloroethylvinylether	.22495	.28040	24.65	Average
Bromoform	.48417	.50464	4.23	Average
2-Hexanone	.56777	.72521	27.73	Average
4-Methyl-2-Pentanone	.72238	1.00320	38.87	Average
Tetrachloroethene	.40021	.45248	13.06	Average
1,1,2,2-Tetrachloroethane	1.02924	1.08234	5.16	Average
Toluene	.69438	.76067	9.55	Average

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$  - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve

## Calibration Check Report

Title: HP VOA Standards for 5 Point Calibration Curve  
 Calibrated: 911015 13:34

Check Standard Data File: >C1244  
 Injection Time: 911101 10:56

Compound	$\overline{RF}$	RF	%Diff	Calib Meth
Toluene-d8	1.25664	1.20846	3.83	Average
Chlorobenzene	.94345	.98642	4.55	Average
Ethylbenzene	.45545	.47649	4.62	Average
Styrene	.88954	.95650	7.53	Average
m&p Xylenes	.26405	.28003	6.05	Average (Conc=100.00)
O-Xylenes	1.00686	1.10374	9.62	Average
Bromofluorobenzene	.97623	.95189	2.49	Average
1,3-Dichlorobenzene	.88663	.95599	7.82	Average (Conc=50.00)
1,2 & 1,4-Dichlorobenzenes	.92040	.99492	8.10	Average (Conc=100.00)

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$  - Average Response Factor from Initial Calibration

%Diff - % Difference from original average or curve



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

G. STANDARDS DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

c. Chromatograms and Quantitation Reports  
of Standards

## QUANT REPORT

Operator ID: MALUS  
 Output File: ^C0904::D2  
 Data File: >C0904::D4  
 Name: HEATED HSL CAL CHK  
 Misc: 20 UG/L

Quant Rev: 6      Quant Time: 911015 13:21  
 Injected at: 911015 12:33  
 Dilution Factor: 1.00000

ID File: ID\_CCC::QT

Title: HP VOA Standards for 5 Point Calibration Curve Rev. E

Last Calibration: 910928 20:40

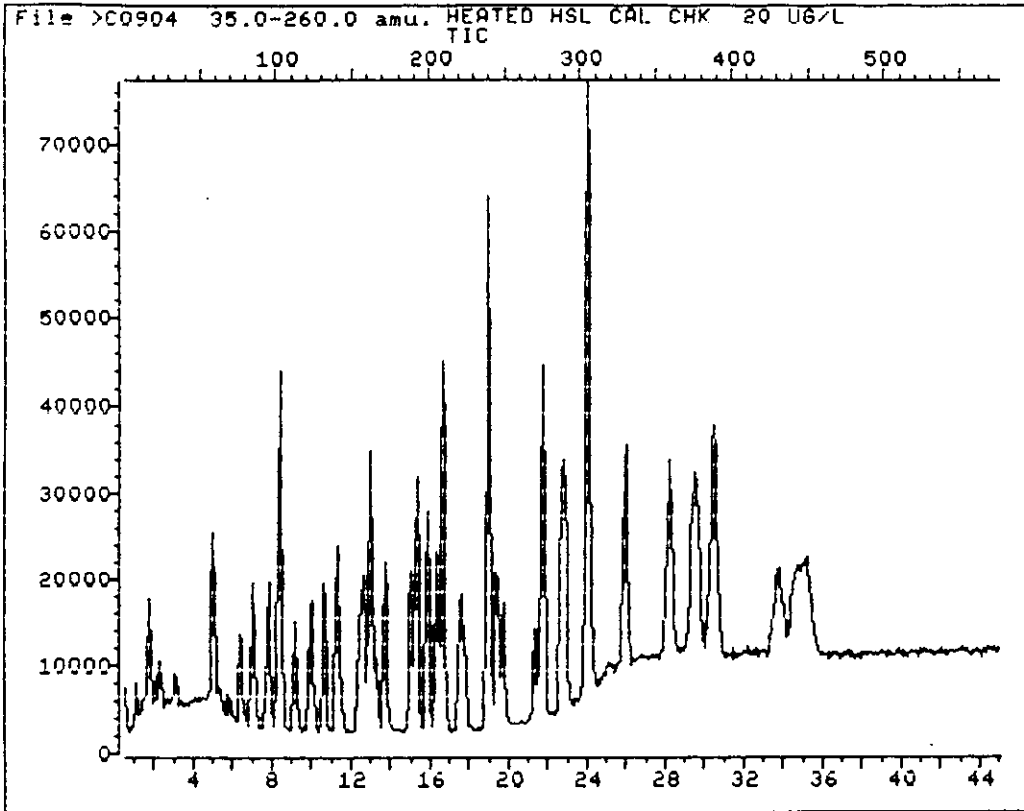
	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.41	103	72877	50.00	ug/L	92
2)	Chloromethane	1.15	9	25713	20.07	ug/L	95
3)	Bromomethane	1.77	17	31698	20.32	ug/L	94
4)	Vinyl Chloride	2.31	24	28817	21.52	ug/L	94
5)	Chloroethane	3.08	34	21414	18.23	ug/L	97
6)	Methylene Chloride	5.02	59	56852	22.85	ug/L	68
7)	Acrolein	5.94	71	6987	24.23	ug/L	48
8)	Acrylonitrile	6.41	77	14288	14.62	ug/L	89
9)	Acetone	5.79	69	15271	17.91	ug/L	96
10)	Carbon Disulfide	6.48	78	85306	18.84	ug/L	100
11)	Trichlorofluoromethane	7.10	86	94758	24.58	ug/L	96
12)	1,1-Dichloroethene	7.87	96	44422	23.02	ug/L	87
13)	1,1-Dichloroethane	9.26	114	80617	20.02	ug/L	91
14)	t-Butyl Alcohol	10.19	126	14301M	19.58	ug/L	
15)	Trans-1,2-Dichloroethene	9.96	123	44239	20.64	ug/L	96
16)	Chloroform	10.65	132	88745	20.34	ug/L	94
17)	1,2-Dichloroethane-d4	11.35	141	51101	18.95	ug/L	90
18)	1,2-Dichloroethane	11.43	142	51898	18.53	ug/L	98
19)	2-Butanone	11.35	141	31069	17.26	ug/L	88
20)	1,4-Dioxane	12.89	161	5645M	82.39	ug/L	
21)	Methyl t-Butyl Ether	12.43	155	63260	19.29	ug/L	92
22)	1,1,1-Trichloroethane	12.66	158	70480	21.06	ug/L	80
23)	Carbon Tetrachloride	13.05	163	66341	20.40	ug/L	95
24)	Vinyl Acetate	13.28	166	70978	36.11	ug/L	95
25)	Bromodichloromethane	13.74	172	85968	20.02	ug/L	89
26)	Cyclohexane	12.97	162	62999	17.67	ug/L	74
27)	*1,4-Difluorobenzene	18.99	240	303603	50.00	ug/L	67
28)	1,2-Dichloropropane	15.05	189	50744	18.23	ug/L	87
29)	cis-1,3-Dichloropropene	15.36	193	119281	31.56	ug/L	95
30)	Trichloroethene	15.90	200	51368	17.96	ug/L	88
31)	Dibromochloromethane	16.60	209	57171	19.49	ug/L	96
32)	1,1,2-Trichloroethane	16.75	211	49534	20.83	ug/L	98
33)	Benzene	16.37	206	120260	19.55	ug/L	91
34)	trans-1,3-Dichloropropene	16.68	210	24443	6.78	ug/L	98
35)	Ethylene Dibromide	17.53	221	76670	19.81	ug/L	91
36)	2-Chloroethylvinylether	17.76	224	28507	16.26	ug/L	95
37)	Bromoform	19.38	245	62331	23.72	ug/L	98
38)	*Chlorobenzene-d5	24.01	305	243771	50.00	ug/L	94
39)	2-Hexanone	21.31	270	56467	21.24	ug/L	80
40)	4-Methyl-2-Pentanone	19.77	250	68660	16.96	ug/L	88
41)	Tetrachloroethene	21.70	275	40123	18.64	ug/L	86
42)	1,1,2,2-Tetrachloroethane	21.77	276	109860	22.04	ug/L	95



	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.70	288	134983	20.12	ug/L	95
45)	Chlorobenzene	24.09	306	96864	18.48	ug/L	90
46)	Ethylbenzene	26.02	331	48132	18.47	ug/L	99
47)	Styrene	29.42	375	86636	19.01	ug/L	81
48)	m&p Xylenes	29.66	378	54418	35.14	ug/L	96
49)	O-Xylenes	30.51	389	101968	18.15	ug/L	93
50)	Bromofluorobenzene	28.26	360	105327	20.02	ug/L	97
51)	1,3-Dichlorobenzene	33.75	431	81461	16.20	ug/L	96
52)	1,2 & 1,4-Dichlorobenzenes	35.14	449	176842M	32.92	ug/L	94

\* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C0904::D4  
Name: HEATED HSL CAL CHK  
Misc: 20 UG/L

Quant Output File: ^C0904::D2

Id File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

Operator ID: MALDS  
Quant Time: 911015 13:21  
Injected at: 911015 12:33

## QUANT REPORT

Operator ID: MALUS  
 Output File: ^C0900::D2  
 Data File: >C0900::D4  
 Name: HEATED HSL CAL CHK  
 Misc: 50UG/L

Quant Rev: 6      Quant Time: 911015 12:17  
 Injected at: 911015 08:56  
 Dilution Factor: 1.00000

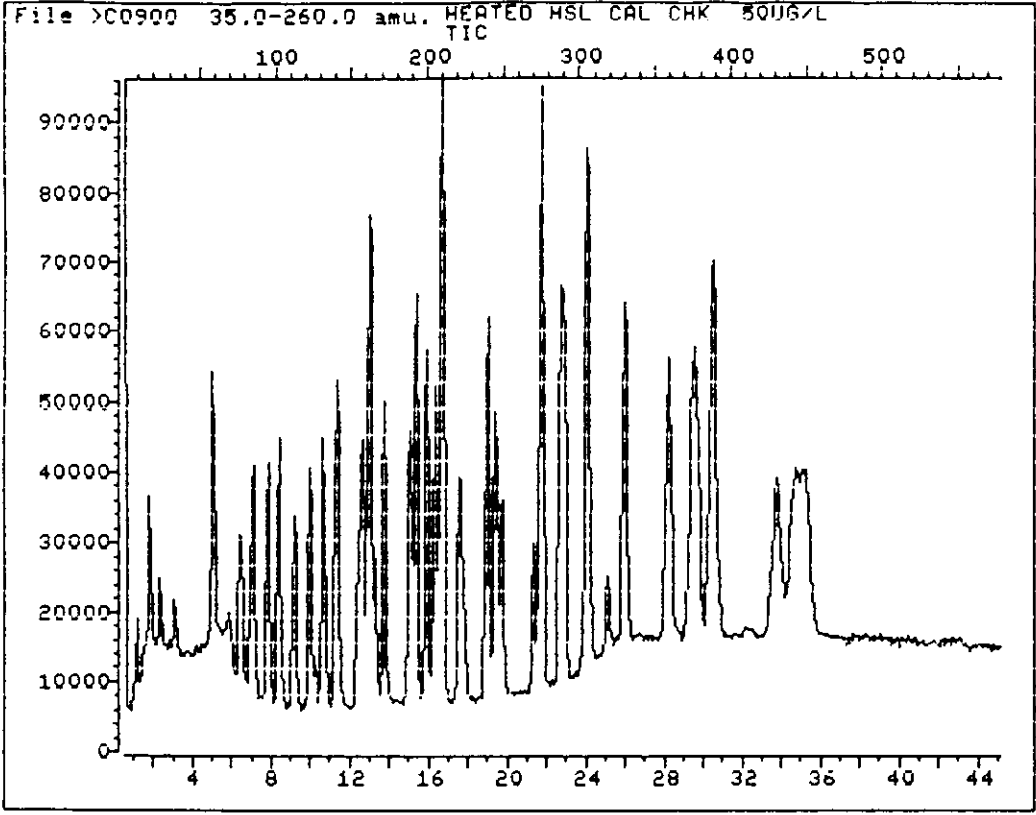
ID File: ID\_CCC::QT  
 Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.43	103	69243	50.00	ug/L	91
2)	Chloromethane	1.16	9	57780	47.46	ug/L	93
3)	Bromomethane	1.78	17	68451	46.18	ug/L	96
4)	Vinyl Chloride	2.32	24	62752	49.31	ug/L	99
5)	Chloroethane	3.09	34	48827	43.76	ug/L	95
6)	Methylene Chloride	5.03	59	152410M	56.04	ug/L	
7)	Acrolein	5.95	71	18741M	68.41	ug/L	85
8)	Acrylonitrile	6.49	78	31929	34.39	ug/L	97
9)	Acetone	5.88	70	43067	53.17	ug/L	93
10)	Carbon Disulfide	6.42	77	183486	42.64	ug/L	100
11)	Trichlorofluoromethane	7.11	86	212814	58.09	ug/L	94
12)	1,1-Dichloroethene	7.89	96	94989	51.80	ug/L	89
13)	1,1-Dichloroethane	9.20	113	172658	45.13	ug/L	94
14)	t-Butyl Alcohol	10.28	127	34323M	49.47	ug/L	
15)	Trans-1,2-Dichloroethene	9.97	123	99355	48.78	ug/L	93
16)	Chloroform	10.67	132	195311	47.12	ug/L	87
17)	1,2-Dichloroethane-d4	11.29	140	107765	42.06	ug/L	84
18)	1,2-Dichloroethane	11.44	142	112350	42.22	ug/L	97
19)	2-Butanone	11.36	141	71123	41.58	ug/L	85
20)	1,4-Dioxane	12.91	161	13660M	209.91	ug/L	
21)	Methyl t-Butyl Ether	12.44	155	125245	40.20	ug/L	93
22)	1,1,1-Trichloroethane	12.68	158	161636	50.84	ug/L	80
23)	Carbon Tetrachloride	13.06	163	154074	49.87	ug/L	98
24)	Vinyl Acetate	13.29	166	184401	98.72	ug/L	91
25)	Bromodichloromethane	13.76	172	193819	47.49	ug/L	89
26)	Cyclohexane	12.98	162	127691	37.69	ug/L	72
27)	*1,4-Difluorobenzene	19.01	240	283581	50.00	ug/L	68
28)	1,2-Dichloropropane	15.07	189	107429	41.31	ug/L	94
29)	cis-1,3-Dichloropropene	15.38	193	262990	74.49	ug/L	94
30)	Trichloroethene	15.92	200	114364	42.82	ug/L	89
31)	Dibromochloromethane	16.62	209	124768	45.54	ug/L	96
32)	1,1,2-Trichloroethane	16.69	210	98414	44.30	ug/L	96
33)	Benzene	16.31	205	266038	46.31	ug/L	89
34)	trans-1,3-Dichloropropene	16.69	210	52500	15.59	ug/L	96
35)	Ethylene Dibromide	17.54	221	168801	46.68	ug/L	95
36)	2-Chloroethylvinylether	17.78	224	51414M	31.40	ug/L	92
37)	Bromoform	19.40	245	136892	55.77	ug/L	95
38)	*Chlorobenzene-d5	23.96	304	211962	50.00	ug/L	93
39)	2-Hexanone	21.33	270	105820	45.77	ug/L	82
40)	4-Methyl-2-Pentanone	19.78	250	149527	42.48	ug/L	87
41)	Tetrachloroethene	21.72	275	82126	43.88	ug/L	91
42)	1,1,2,2-Tetrachloroethane	21.79	276	228360	52.68	ug/L	91

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.72	288	261424	44.82	ug/L	99
45)	Chlorobenzene	24.11	306	191215	41.95	ug/L	90
46)	Ethylbenzene	25.97	330	92867	40.98	ug/L	96
47)	Styrene	29.45	375	178478	45.03	ug/L	78
48)	m&p Xylenes	29.68	378	108289	80.42	ug/L	97
49)	O-Xylenes	30.53	389	203348	41.62	ug/L	89
50)	Bromofluorobenzene	28.21	359	190919	41.74	ug/L	94
51)	1,3-Dichlorobenzene	33.77	431	185403	42.40	ug/L	99
52)	1,2 & 1,4-Dichlorobenzenes	35.17	449	583492M	82.10	ug/L	95

\* Compound is ISTD

TOTAL ION CHROMATOGRAM



Data File: >C09U0::D4  
Name: HEATED HSL CAL CHK  
Misc: 50UG/L

Quant Output File: ^C09U0::D2

Id File: ID\_CCC::QT  
Title: HP UOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

Operator ID: MALUS  
Quant Time: 911015 12:17  
Injected at: 911015 08:56

QUANT REPORT

Operator ID: MALUS  
Output File: ^C0901::D2  
Data File: >C0901::D4  
Name: HEATED HSL CAL CHK  
Misc: 10UG/L

Quant Rev: 6      Quant Time: 911015 10:41  
                  Injected at: 911015 09:46  
Dilution Factor: 1.00000

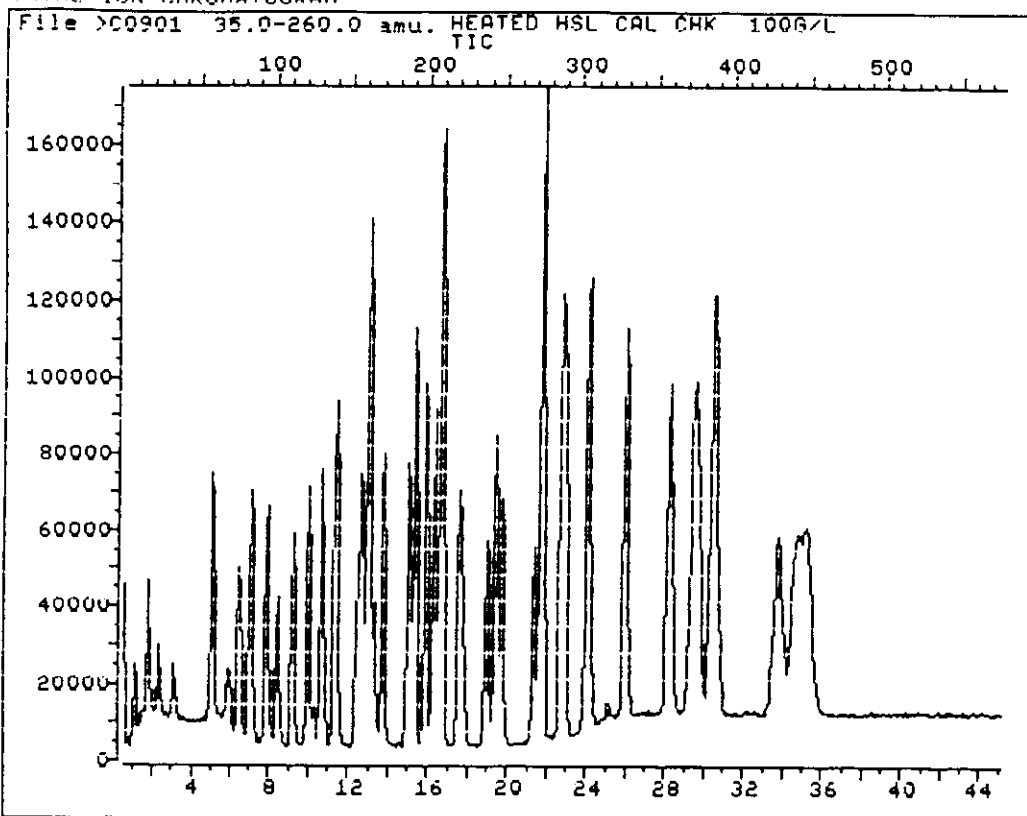
ID File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.45	103	67611	50.00	ug/L	90
2) Chloromethane	1.11	8	112916	94.99	ug/L	89
3) Bromomethane	1.81	17	122272	84.48	ug/L	95
4) Vinyl Chloride	2.35	24	115079	92.62	ug/L	96
5) Chloroethane	3.12	34	86883	79.74	ug/L	94
6) Methylene Chloride	5.05	59	243417M	105.51	ug/L	
7) Acrolein	5.98	71	34425	128.69	ug/L	58
8) Acrylonitrile	6.52	78	68335	75.39	ug/L	93
9) Acetone	5.90	70	72173	91.26	ug/L	95
10) Carbon Disulfide	6.44	77	363099	86.41	ug/L	100
11) Trichlorofluoromethane	7.06	85	414418	115.86	ug/L	91
12) 1,1-Dichloroethene	7.91	96	179741	100.38	ug/L	90
13) 1,1-Dichloroethane	9.23	113	335982	89.93	ug/L	90
14) t-Butyl Alcohol	10.31	127	69182M	102.11	ug/L	
15) Trans-1,2-Dichloroethene	10.00	123	182665	91.86	ug/L	93
16) Chloroform	10.69	132	370990	91.67	ug/L	87
17) 1,2-Dichloroethane-d4	11.31	140	202224	80.84	ug/L	84
18) 1,2-Dichloroethane	11.47	142	213074	82.00	ug/L	94
19) 2-Butanone	11.39	141	155134	92.87	ug/L	91
20) 1,4-Dioxane	12.93	161	19978M	314.41	ug/L	
21) Methyl t-Butyl Ether	12.47	155	234598	77.12	ug/L	91
22) 1,1,1-Trichloroethane	12.62	157	305125	98.29	ug/L	86
23) Carbon Tetrachloride	13.01	162	288069	95.49	ug/L	99
24) Vinyl Acetate	13.32	166	318282	174.51	ug/L	94
25) Bromodichloromethane	13.78	172	367728	92.28	ug/L	85
26) Cyclohexane	13.01	162	240849M	72.81	ug/L	
27) *1,4-Difluorobenzene	18.96	239	281087	50.00	ug/L	69
28) 1,2-Dichloropropane	15.02	188	199215	77.29	ug/L	93
29) cis-1,3-Dichloropropene	15.33	192	481343	137.56	ug/L	91
30) Trichloroethene	15.87	199	220656	83.34	ug/L	94
31) Dibromochloromethane	16.64	209	241838	89.04	ug/L	92
32) 1,1,2-Trichloroethane	16.72	210	187339	85.07	ug/L	99
33) Benzene	16.33	205	470499	82.63	ug/L	90
34) trans-1,3-Dichloropropene	16.72	210	103186	30.92	ug/L	95
35) Ethylene Dibromide	17.57	221	317999	88.72	ug/L	91
36) 2-Chloroethylvinylether	17.72	223	120961	74.53	ug/L	95
37) Bromoform	19.42	245	263343	108.23	ug/L	95
38) *Chlorobenzene-d5	23.98	304	218782	50.00	ug/L	92
39) 2-Hexanone	21.35	270	247510	103.72	ug/L	81
40) 4-Methyl-2-Pentanone	19.73	249	313240	86.22	ug/L	91
41) Tetrachloroethene	21.66	274	168992	87.48	ug/L	99
42) 1,1,2,2-Tetrachloroethane	21.82	276	416099	92.99	ug/L	92

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.74	288	523317	86.92	ug/L	97
45)	Chlorobenzene	24.13	306	400374	85.11	ug/L	93
46)	Ethylbenzene	25.99	330	186169	79.60	ug/L	97
47)	Styrene	29.39	374	372222	90.99	ug/L	77
48)	m&p Xylenes	29.70	378	216199	155.56	ug/L	96
49)	O-Xylenes	30.47	388	412934	81.88	ug/L	91
50)	Bromofluorobenzene	28.23	359	401309	84.99	ug/L	98
51)	1,3-Dichlorobenzene	33.80	431	359177	79.58	ug/L	97
52)	1,2 & 1,4-Dichlorobenzenes	35.19	449	728727M	151.14	ug/L	96

\* Compound is ISTD

## TOTAL ION CHROMATOGRAM



Data File: >C0901::D4  
Name: HEATED HSL CAL CHK  
Misc: 100G/L

Quant Output File: ^C0901::D2

Id File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

Operator ID: MALOS  
Quant Time: 911015 10:41  
Injected at: 911015 09:46



## QUANT REPORT

Operator ID: MALUS  
 Output File: ^C0902::D2  
 Data File: >C0902::D4  
 Name: HEATED HSL CAL CHK  
 Misc: 150UG/L

Quant Rev: 6      Quant Time: 911015 12:08  
 Injected at: 911015 10:37  
 Dilution Factor: 1.00000

ID File: ID\_CCC::QT

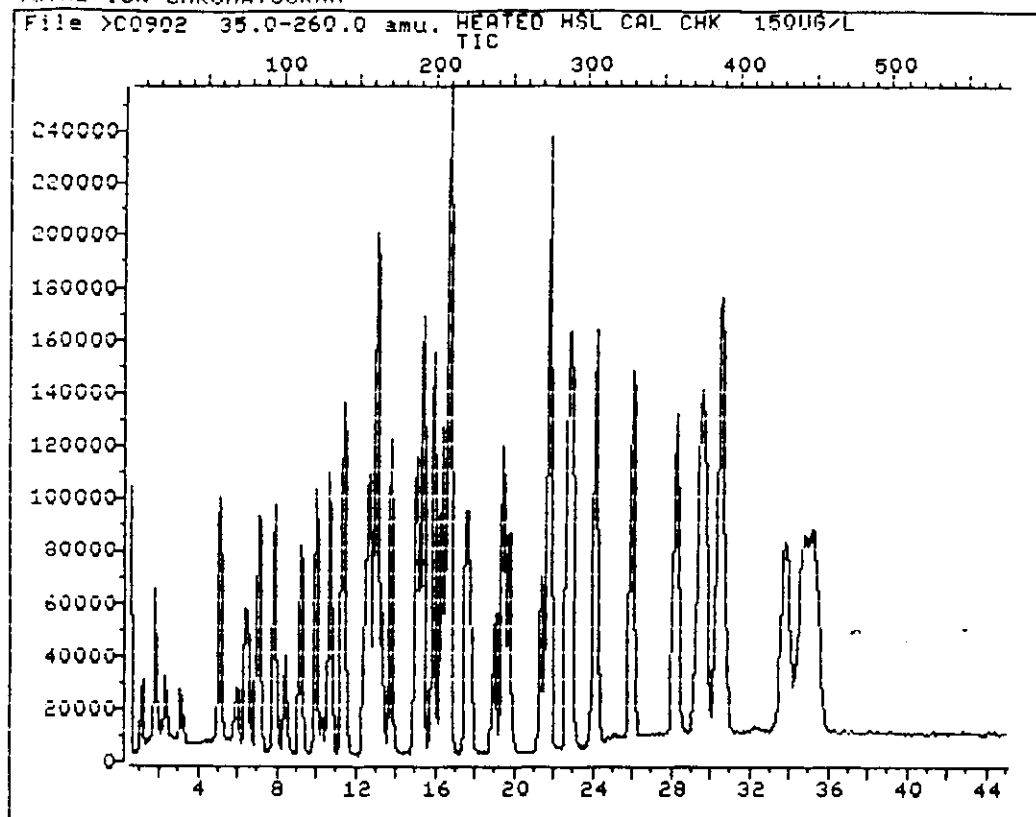
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.43	103	66639	50.00	ug/L	95
2)	Chloromethane	1.17	9	165301	141.08	ug/L	95
3)	Bromomethane	1.79	17	167374	117.32	ug/L	96
4)	Vinyl Chloride	2.33	24	136648	111.58	ug/L	94
5)	Chloroethane	3.10	34	118118	109.99	ug/L	99
6)	Methylene Chloride	5.11	60	333863	146.83	ug/L	70
7)	Acrolein	5.96	71	46484	176.30	ug/L	64
8)	Acrylonitrile	6.58	79	103495	115.84	ug/L	94
9)	Acetone	6.04	72	106478	136.60	ug/L	98
10)	Carbon Disulfide	6.42	77	531275	128.28	ug/L	100
11)	Trichlorofluoromethane	7.04	85	599651	170.09	ug/L	91
12)	1,1-Dichloroethene	7.89	96	270963	153.53	ug/L	87
13)	1,1-Dichloroethane	9.20	113	503742	136.80	ug/L	90
14)	t-Butyl Alcohol	10.36	128	84822	127.02	ug/L	67
15)	Trans-1,2-Dichloroethene	9.98	123	277864	141.77	ug/L	97
16)	Chloroform	10.67	132	562280	140.96	ug/L	85
17)	1,2-Dichloroethane-d4	11.29	140	306999	124.51	ug/L	79
18)	1,2-Dichloroethane	11.44	142	320239	125.04	ug/L	95
19)	2-Butanone	11.37	141	229438	139.36	ug/L	89
20)	1,4-Dioxane	12.91	161	26844M	428.63	ug/L	
21)	Methyl t-Butyl Ether	12.45	155	348977	116.39	ug/L	89
22)	1,1,1-Trichloroethane	12.68	158	456634	149.24	ug/L	88
23)	Carbon Tetrachloride	13.07	163	435054	146.31	ug/L	96
24)	Vinyl Acetate	13.30	166	464868	258.60	ug/L	93
25)	Bromodichloromethane	13.76	172	545902	139.00	ug/L	86
26)	Cyclohexane	12.99	162	363351	111.45	ug/L	74
27)	*1,4-Difluorobenzene	19.01	240	264116	50.00	ug/L	68
28)	1,2-Dichloropropane	15.07	189	304984	125.93	ug/L	92
29)	cis-1,3-Dichloropropene	15.38	193	739676	224.96	ug/L	92
30)	Trichloroethene	15.92	200	348213	139.97	ug/L	88
31)	Dibromochloromethane	16.62	209	367794	144.12	ug/L	86
32)	1,1,2-Trichloroethane	16.70	210	275813	133.29	ug/L	99
33)	Benzene	16.31	205	682223	127.51	ug/L	89
34)	trans-1,3-Dichloropropene	16.70	210	156767	49.99	ug/L	94
35)	Ethylene Dibromide	17.55	221	474458	140.88	ug/L	90
36)	2-Chloroethylvinylether	17.78	224	188060	123.32	ug/L	94
37)	Bromoform	19.40	245	387135	169.33	ug/L	91
38)	*Chlorobenzene-d5	23.96	304	195152	50.00	ug/L	95
39)	2-Hexanone	21.33	270	335790	157.75	ug/L	84
40)	4-Methyl-2-Pentanone	19.79	250	432720	133.53	ug/L	87
41)	Tetrachloroethene	21.72	275	237730	137.96	ug/L	94
42)	1,1,2,2-tetrachloroethane	21.80	276	577207	144.62	ug/L	92

	Compound	R. T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.72	288	726855	135.34	ug/L	96
45)	Chlorobenzene	24.11	306	566295	134.95	ug/L	90
46)	Ethylbenzene	25.97	330	268442	128.67	ug/L	97
47)	Styrene	29.45	375	552124	151.31	ug/L	80
48)	m&p Xylenes	29.68	378	321592	259.41	ug/L	96
49)	O-Xylenes	30.53	389	621283	138.10	ug/L	92
50)	Bromofluorobenzene	28.21	359	577361	137.08	ug/L	97
51)	1,3-Dichlorobenzene	33.77	431	562519	139.73	ug/L	95
52)	1,2 & 1,4-Dichlorobenzenes	35.16	449	1148493M	267.04	ug/L	96

\* Compound is ISTD

## TOTAL ION CHROMATOGRAM



Data File: >C0902::D4  
Name: HEATED HSL CAL CHK  
Misc: 150UG/L

Quant Output File: ^C0902::D2

Id File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

Operator ID: MALUS  
Quant Time: 911015 12:08  
Injected at: 911015 10:37

QUANT REPORT

Operator ID: MALUS  
Output File: ^C0903::D2  
Data File: >C0903::D4  
Name: HEATED HSL CAL CHK  
Misc: 200UG/L

Quant Rev: 6 Quant Time: 911015 13:08  
Injected at: 911015 11:35  
Dilution Factor: 1.00000

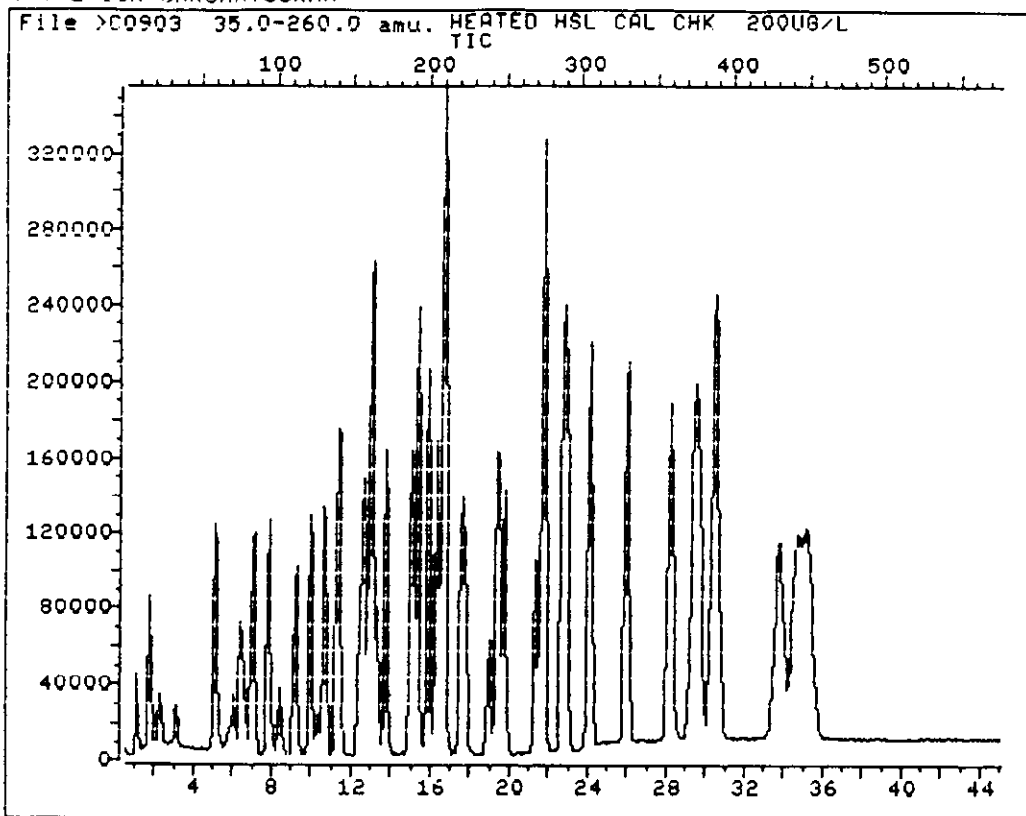
ID File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

	Compound	R.T.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.42	103	67034	50.00	ug/L	93
2)	Chloromethane	1.16	9	223901	189.97	ug/L	97
3)	Bromomethane	1.77	17	219899	153.24	ug/L	98
4)	Vinyl Chloride	2.32	24	149612	121.45	ug/L	96
5)	Chloroethane	3.17	35	138581	128.28	ug/L	98
6)	Methylene Chloride	5.10	60	452198M	197.70	ug/L	
7)	Acrolein	5.95	71	64698M	243.94	ug/L	
8)	Acrylonitrile	6.64	80	142921	159.03	ug/L	93
9)	Acetone	6.10	73	151499	193.21	ug/L	97
10)	Carbon Disulfide	6.41	77	713018	171.15	ug/L	100
11)	Trichlorofluoromethane	7.11	86	787208	221.97	ug/L	89
12)	1,1-Dichloroethene	7.88	96	358749	202.07	ug/L	84
13)	1,1-Dichloroethane	9.27	114	639486	172.64	ug/L	91
14)	t-Butyl Alcohol	10.35	128	123426M	183.74	ug/L	
15)	Trans-1,2-Dichloroethene	9.96	123	379975	192.72	ug/L	94
16)	Chloroform	10.66	132	727538	181.31	ug/L	85
17)	1,2-Dichloroethane-d4	11.35	141	408764	164.81	ug/L	82
18)	1,2-Dichloroethane	11.43	142	424279	164.69	ug/L	95
19)	2-Butanone	11.43	142	333893	201.61	ug/L	92
20)	1,4-Dioxane	12.97	162	38533M	611.65	ug/L	
21)	Methyl t-Butyl Ether	12.43	155	443845	147.16	ug/L	90
22)	1,1,1-Trichloroethane	12.67	158	608272	197.63	ug/L	88
23)	Carbon Tetrachloride	13.05	163	579772	193.84	ug/L	95
24)	Vinyl Acetate	13.36	167	708836	392.00	ug/L	97
25)	Bromodichloromethane	13.75	172	731040	185.04	ug/L	86
26)	Cyclohexane	12.97	162	479994M	146.36	ug/L	
27)	*1,4-Difluorobenzene	19.00	240	295349	50.00	ug/L	67
28)	1,2-Dichloropropane	15.06	189	410830	151.70	ug/L	94
29)	cis-1,3-Dichloropropene	15.37	193	981549	266.96	ug/L	91
30)	Trichloroethene	15.91	200	459043	165.01	ug/L	91
31)	Dibromochloromethane	16.61	209	512609	179.63	ug/L	85
32)	1,1,2-Trichloroethane	16.76	211	391851	169.35	ug/L	99
33)	Benzene	16.37	206	912673	152.55	ug/L	89
34)	trans-1,3-Dichloropropene	16.68	210	224538	64.03	ug/L	96
35)	Ethylene Dibromide	17.53	221	679771	180.50	ug/L	84
36)	2-Chloroethylvinylether	17.76	224	302671	177.48	ug/L	93
37)	Bromoform	19.39	245	552722	216.19	ug/L	94
38)	*Chlorobenzene-d5	24.02	305	214735	50.00	ug/L	94
39)	2-Hexanone	21.32	270	533682	227.85	ug/L	82
40)	4-Methyl-2-Pentanone	19.77	250	641913	180.01	ug/L	93
41)	Tetrachloroethene	21.70	275	352045	185.66	ug/L	99
42)	1,1,2,2-tetrachloroethane	21.78	276	863504	196.62	ug/L	89

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.71	288	1054812	178.50	ug/L	96
45)	Chlorobenzene	24.10	306	806949	174.76	ug/L	89
46)	Ethylbenzene	25.95	330	396422	172.69	ug/L	91
47)	Styrene	29.43	375	793188M	197.54	ug/L	
48)	m&p Xylenes	29.66	378	453656	332.57	ug/L	96
49)	O-Xylenes	30.51	389	879801	177.74	ug/L	94
50)	Bromofluorobenzene	28.27	360	856321	184.78	ug/L	96
51)	1,3-Dichlorobenzene	33.76	431	808556	182.53	ug/L	94
52)	1,2 & 1,4-Dichlorobenzenes	35.15	449	1678412M	354.66	ug/L	93

\* Compound is ISTD

## TOTAL ION CHROMATOGRAM



Data File: >C0903::D4  
Name: HEATED HSL CAL CHK  
Misc: 200UG/L

Quant Output File: ^C0903::D2

Id File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 910928 20:40

Operator ID: MALUS  
Quant Time: 911015 13:08  
Injected at: 911015 11:35

## QUANT REPORT

Operator ID: MALUS  
 Output File: >D1273::D2  
 Data File: >D1273::D4  
 Name: HEATED HSL LAL CHK  
 Misc: 50 US/L

Quant Rev: 6 Quant Time: 911104 22:08  
 Injected at: 911104 21:23  
 Dilution Factor: 1.00000

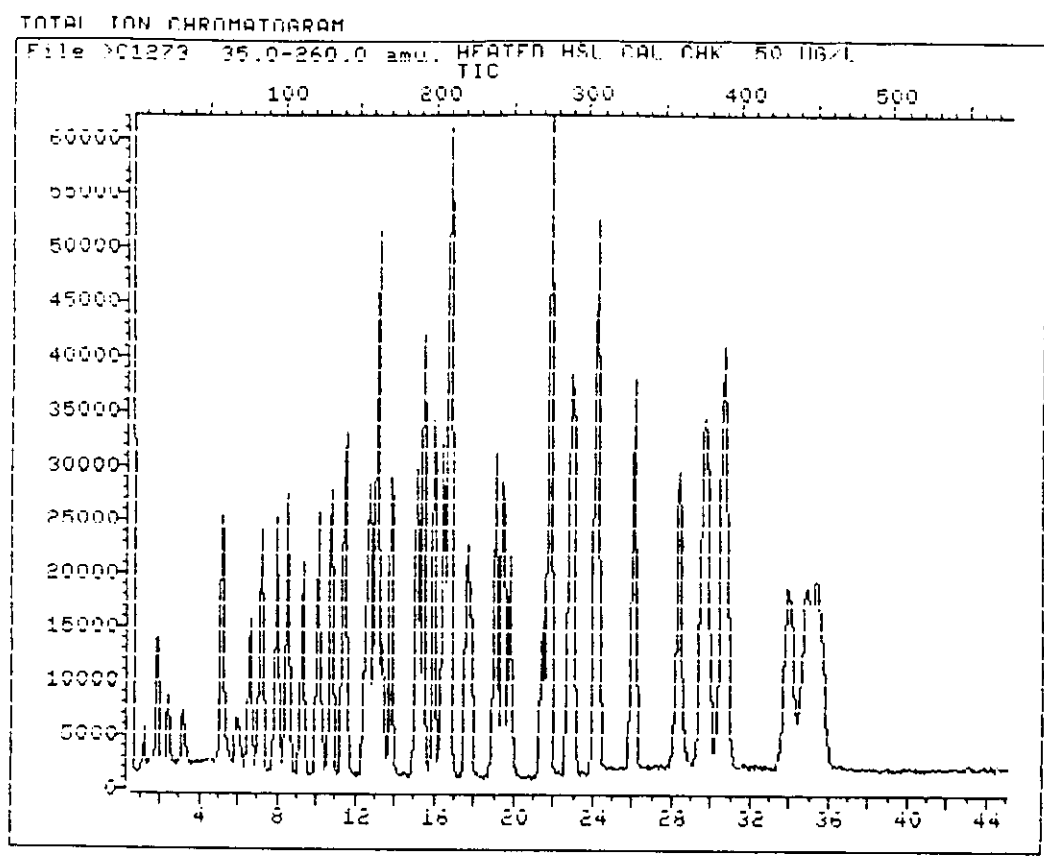
ID File: ID\_000::Q1  
 Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:35

Compound	R. T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.51	104	44014	50.00	ug/L	90
2) Chloromethane	1.17	9	18616M	25.10	ug/L	94
3) Bromomethane	1.87	18	46347	56.77	ug/L	96
4) Vinyl Chloride	2.41	25	33522	47.75	ug/L	97
5) Chloroethane	3.18	35	31123	55.42	ug/L	99
6) Methylene Chloride	5.11	60	79159	49.86	ug/L	74
7) Acrolein	6.04	72	9773M	44.81	ug/L	
8) Acrylonitrile	6.58	79	23331	52.85	ug/L	93
9) Acetone	5.88	70	23744	48.56	ug/L	97
10) Carbon Disulfide	6.58	79	101336	42.39	ug/L	100
11) Trichlorofluoromethane	7.12	86	142566	52.84	ug/L	99
12) 1,1-Dichloroethene	7.97	97	57372	47.10	ug/L	92
13) 1,1-Dichloroethane	9.28	114	115324	51.79	ug/L	92
14) t-Butyl Alcohol	10.20	126	20962	49.97	ug/L	69
15) trans-1,2-Dichloroethene	10.05	124	58388	46.64	ug/L	90
16) Chloroform	10.75	133	129114	51.89	ug/L	93
17) 1,2-Dichloroethane-d4	11.36	141	74447	53.77	ug/L	93
18) 1,2-Dichloroethane	11.44	142	84117	58.53	ug/L	96
19) 2-Butanone	11.36	141	51806	52.24	ug/L	88
20) 1,4-Dioxane	12.91	161	4976M	138.45	ug/L	
21) Methyl t-Butyl Ether	12.44	155	79063	49.27	ug/L	95
22) 1,1,1-Trichloroethane	12.68	158	101551	49.89	ug/L	79
23) Carbon Tetrachloride	13.06	163	100786	52.19	ug/L	94
24) Vinyl Acetate	13.37	167	108152	49.46	ug/L	98
25) Bromodichloromethane	13.76	172	125046	51.01	ug/L	87
26) Cyclohexane	13.06	163	82805	50.07	ug/L	79
27) *1,4-Difluorobenzene	19.01	240	158922	50.00	ug/L	68
28) 1,2-Dichloropropane	15.07	189	66308	55.37	ug/L	89
29) cis-1,3-Dichloropropene	15.38	193	157485	88.35	ug/L	96
30) Trichloroethene	15.92	200	73842	56.75	ug/L	95
31) Dibromochloromethane	16.61	209	81581	57.32	ug/L	98
32) 1,1,2-Trichloroethane	16.77	211	61256	54.50	ug/L	94
33) Benzene	16.38	206	155484	55.60	ug/L	91
34) trans-1,3-Dichloropropene	16.69	210	30917	19.50	ug/L	94
35) Ethylene Dibromide	17.62	222	100133	53.10	ug/L	99
36) 2-Chloroethylvinylether	17.77	224	42633	59.63	ug/L	93
37) Bromoform	19.39	245	91314	59.34	ug/L	97
38) *Chlorobenzene-d5	24.03	305	125812	50.00	ug/L	93
39) 2-Hexanone	21.40	271	80866	56.60	ug/L	86
40) 4-Methyl-2-Pentanone	19.78	250	111678	61.44	ug/L	85
41) tetrachloroethene	21.71	275	60166	59.75	ug/L	95

	Compound	R. T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.79	289	156254	49.42	ug/L	99
45)	Chlorobenzene	24.18	307	129527	54.48	ug/L	91
46)	Ethylbenzene	26.03	331	62292	54.35	ug/L	99
47)	Styrene	29.51	376	121819	54.42	ug/L	99
48)	m&p Xylenes	29.74	379	72679	109.39	ug/L	96
49)	O-Xylenes	30.59	390	143146	56.50	ug/L	90
50)	Bromofluorobenzene	28.35	361	113354	46.15	ug/L	94
51)	1,3-Dichlorobenzene	33.99	434	126076	56.51	ug/L	97
52)	1,2 & 1,4-Dichlorobenzenes	35.38	452	265523M	114.65	ug/L	98

\* Compound is ISID





Data File: >C1273::D4                      Quant Output File: >C1273::D2  
Name: HEATED HSL CAL CHK  
Misc: 50 UG/L

Id File: ID\_DCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:35

Operator ID: MALUS  
Quant Time: 911104 22:08  
Injected at: 911104 21:23

## QUANT REPORT

Operator ID: MALUS  
 Output File: <C1244::D4  
 Data File: >C1244::D2  
 Name: HEATED HSL CAL CHK  
 Misc: 50UG/L

Quant Rev: 6 Quant Time: 911101 11:41  
 Injected at: 911101 10:56  
 Dilution Factor: 1.00000

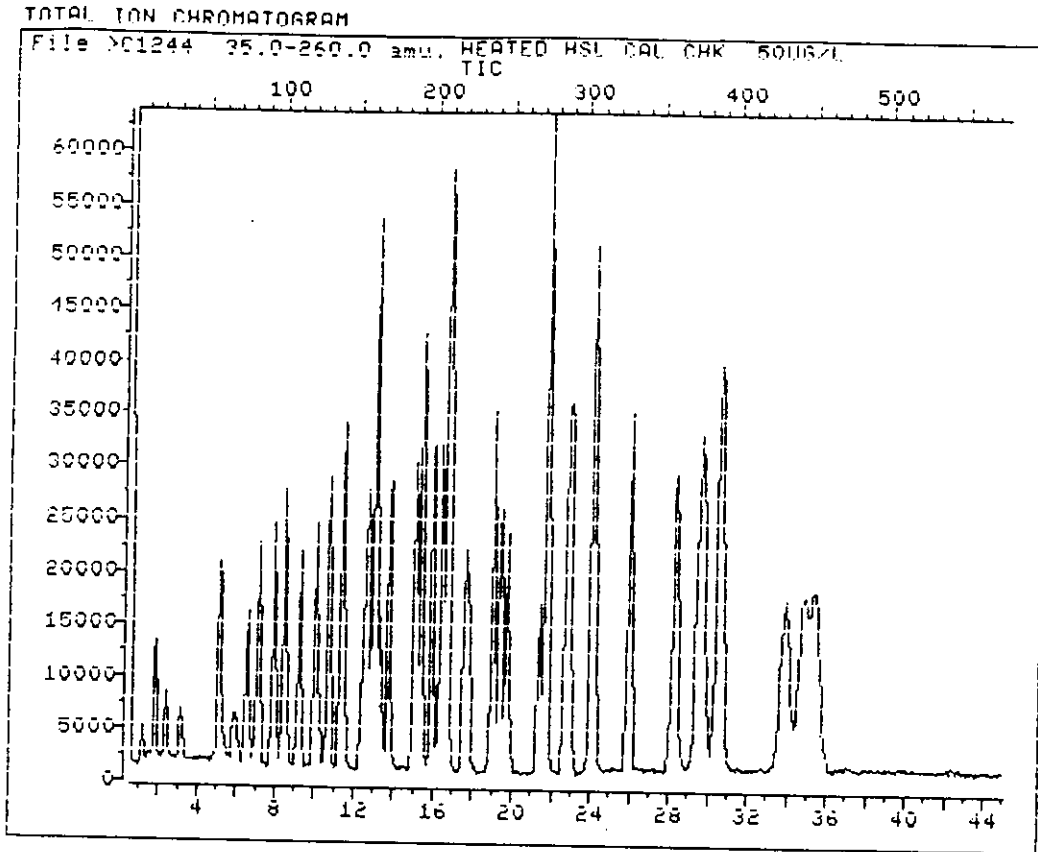
ID File: ID\_CCC::QT

Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:35

	Compound	R.I.	Scan#	Area	Conc	Units	q
1)	*Bromochloromethane	8.49	104	42570	50.00	ug/L	79
2)	Chloromethane	1.15	9	21477	29.93	ug/L	90
3)	Bromomethane	1.85	18	41641	52.73	ug/L	87
4)	Vinyl Chloride	2.39	25	36687	54.03	ug/L	98
5)	Chloroethane	3.16	35	29662	54.61	ug/L	97
6)	Methylene Chloride	5.09	60	64085	41.73	ug/L	80
7)	Acrolein	6.02	72	9708M	46.02	ug/L	
8)	Acrylonitrile	6.56	79	24576	57.56	ug/L	97
9)	Acetone	5.86	70	26257	55.52	ug/L	95
10)	Carbon Disulfide	6.56	79	101860	44.06	ug/L	100
11)	Trichlorofluoromethane	7.10	86	131745	50.49	ug/L	98
12)	1,1-Dichloroethene	7.95	97	54388	46.17	ug/L	93
13)	1,1-Dichloroethane	9.26	114	116831	54.24	ug/L	94
14)	t-Butyl Alcohol	10.26	127	19625	48.37	ug/L	88
15)	Trans-1,2-Dichloroethene	10.03	124	56649	46.79	ug/L	89
16)	Chloroform	10.73	133	129383	53.76	ug/L	93
17)	1,2-Dichloroethane-d4	11.34	141	66297	49.50	ug/L	92
18)	1,2-Dichloroethane	11.50	143	85448	61.48	ug/L	99
19)	2-Butanone	11.42	142	59651	62.19	ug/L	99
20)	1,4-Dioxane	12.89	161	6130M	176.34	ug/L	
21)	Methyl t-Butyl Ether	12.50	156	75321	48.53	ug/L	87
22)	1,1,1-Trichloroethane	12.66	158	94852	48.18	ug/L	77
23)	Carbon Tetrachloride	13.04	163	96760	51.80	ug/L	96
24)	Vinyl Acetate	13.35	167	122023	57.69	ug/L	96
25)	Bromodichloromethane	13.81	173	123407	52.05	ug/L	89
26)	Cyclohexane	13.04	163	89065	55.68	ug/L	87
27)	*1,4-Difluorobenzene	19.06	241	162210	50.00	ug/L	67
28)	1,2-Dichloropropane	15.05	189	67585	55.30	ug/L	93
29)	cis-1,3-Dichloropropene	15.36	193	163141	89.67	ug/L	92
30)	Trichloroethene	15.90	200	69816	52.57	ug/L	95
31)	Dibromochloromethane	16.67	210	77196	53.14	ug/L	97
32)	1,1,2-Trichloroethane	16.75	211	61136	53.30	ug/L	92
33)	Benzene	16.36	206	159448	55.86	ug/L	93
34)	trans-1,3-Dichloropropene	16.75	211	28869	17.84	ug/L	92
35)	Ethylene Dibromide	17.60	222	97088	50.44	ug/L	97
36)	2-Chloroethylvinylether	17.75	224	45484	62.33	ug/L	96
37)	Bromoform	19.45	246	81857	52.11	ug/L	95
38)	*Chlorobenzene-d5	24.08	306	123455	50.00	ug/L	93
39)	2-Hexanone	21.38	271	89531	63.86	ug/L	86
40)	4-Methyl-2-Pentanone	19.76	250	123850	69.44	ug/L	83
41)	Tetrachloroethene	21.69	275	55861	56.53	ug/L	95
42)	1,1,2,2-Tetrachloroethane	21.77	276	133620	57.58	ug/L	90

	Compound	R.T.	Scan#	Area	Conc	Units	q
44)	Toluene-d8	22.77	289	149191	48.08	ug/L	98
45)	Chlorobenzene	24.16	307	121778	52.28	ug/L	93
46)	Ethylbenzene	26.01	331	58825	52.31	ug/L	99
47)	Styrene	29.49	376	118085	53.76	ug/L	81
48)	m&p Xylenes	29.72	379	69141	106.05	ug/L	98
49)	O-Xylenes	30.57	390	136262	54.81	ug/L	91
50)	Bromofluorobenzene	28.33	361	117515	48.75	ug/L	96
51)	1,3-Dichlorobenzene	33.97	434	118022	53.91	ug/L	92
52)	1,2 & 1,4-Dichlorobenzenes	35.28	451	245655M	108.10	ug/L	94

\* Compound is ISFD



Data File: >C1244::D2  
Name: HEATED HSL CAL CHK  
Misc: 50UG/L

Quant Output File: ^C1244::D4

Id File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:35

Operator ID: MALDS  
Quant Time: 911101 11:41  
Injected at: 911101 10:56



NORTHEASTERN ANALYTICAL CORPORATION

Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

H. RAW QC DATA PACKAGE

1. Volatile Organics by GC/MS (Continued)

a. BFB Spectra and Mass Listing

GC/MS PERFORMANCE STANDARD

Bromofluorobenzene (BFB)

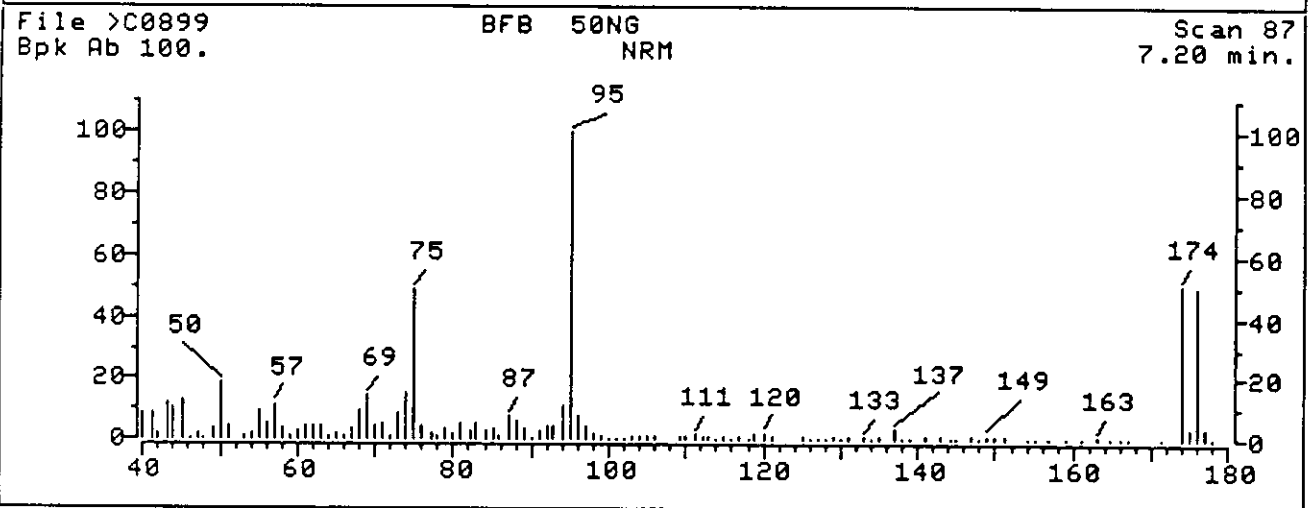
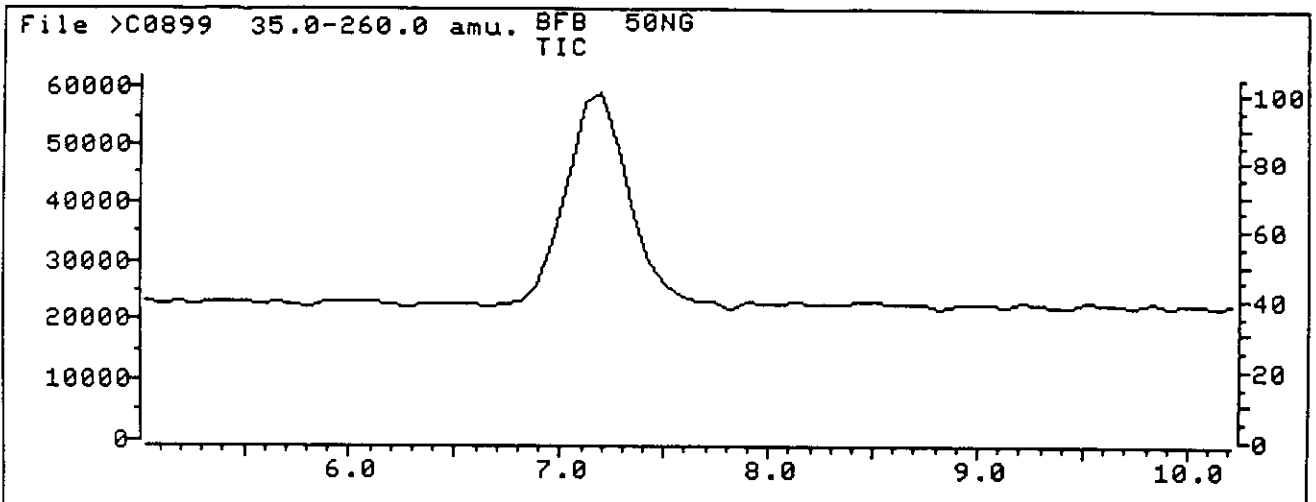
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	Appropriate Peak	Status
50	15-40% of mass 95	18.47	18.47	Ok
75	30-60% of mass 95	48.90	48.90	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.07	8.07	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	50.32	50.32	Ok
175	5-9% of mass 174	3.83	7.61	Ok
176	95-101% of mass 174	49.80	98.97	Ok
177	5-9% of mass 176	3.47	6.96	Ok

Injection Date: 10/15/91  
Injection Time: 07:59  
Data File: >C0899  
Scan: 87

>C0899            BFB 50NG  
87                NRM

File: >C0899    Scan #:            87    Retn. time:    7.20

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.10	.976	64.00	.732	90.00	.335	118.00	.447	154.10	.376
37.00	4.899	65.10	1.707	91.10	2.419	118.90	1.860	155.10	.366
38.10	4.431	66.00	.722	92.00	4.370	120.00	2.145	156.90	.396
39.10	3.527	67.10	3.374	92.90	4.726	121.00	1.098	159.10	.396
40.00	8.985	68.00	9.838	94.00	10.875	125.10	.803	161.10	.346
41.10	9.015	69.00	14.432	95.00	100.000	126.10	.325	163.00	.783
42.00	2.287	70.10	4.442	96.10	8.070	127.00	.518	164.80	.274
43.10	12.054	71.10	5.519	97.10	4.065	127.90	.498	165.90	.142
44.00	10.641	72.10	1.291	98.10	1.789	129.00	.833	166.90	.295
45.10	12.420	73.00	8.355	99.00	.976	129.90	.386	171.20	.244
46.10	.539	74.00	15.388	100.00	.437	131.00	.711	173.90	50.320
47.10	1.829	75.00	48.897	101.00	.620	133.10	.894	174.90	3.832
47.80	.478	76.00	4.553	101.90	.244	134.00	.305	175.90	49.802
49.00	3.720	77.10	1.840	103.00	.681	135.10	.671	176.90	3.466
50.00	18.467	77.80	.844	104.00	.742	137.00	3.273	177.90	.274
51.00	4.818	78.00	.864	105.10	1.311	138.00	.366	182.20	.152
53.10	.966	79.00	3.791	106.10	.783	139.00	.335	185.20	.386
54.00	1.565	80.00	1.474	109.10	1.291	140.90	1.270	191.10	.427
55.10	9.533	81.00	5.387	110.00	.894	143.00	1.006	199.10	.112
56.10	5.011	82.10	2.571	111.10	1.748	144.10	.152	207.10	.498
57.10	11.475	83.00	5.438	112.10	.650	145.00	.468	211.00	.132
58.10	3.222	84.00	2.866	113.00	.833	147.00	.874	215.10	.183
59.10	1.433	85.00	3.191	114.00	.213	148.00	.407	222.10	.112
60.00	2.429	85.90	1.199	115.00	.762	149.00	1.220	236.00	.163
61.00	4.492	87.00	7.531	116.00	.579	150.00	1.067	247.20	.193
62.00	4.269	88.00	6.068	117.00	.894	151.10	.925	255.10	.102
63.00	4.340	89.10	3.313						



## GC/MS PERFORMANCE STANDARD

## Bromofluorobenzene (BFB)

m/z	Ion Abundance Criteria	% Relative Abundance		Status
		Base Peak	Appropriate Peak	
50	15-40% of mass 95	22.84	22.84	Ok
75	30-60% of mass 95	55.08	55.08	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	7.38	7.38	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	56.62	56.62	Ok
175	5-9% of mass 174	4.87	8.61	Ok
176	95-101% of mass 174	55.64	98.28	Ok
177	5-9% of mass 176	3.13	5.63	Ok

Injection Date: 11/01/91

Injection Time: 08:10

Data File: &gt;C1241

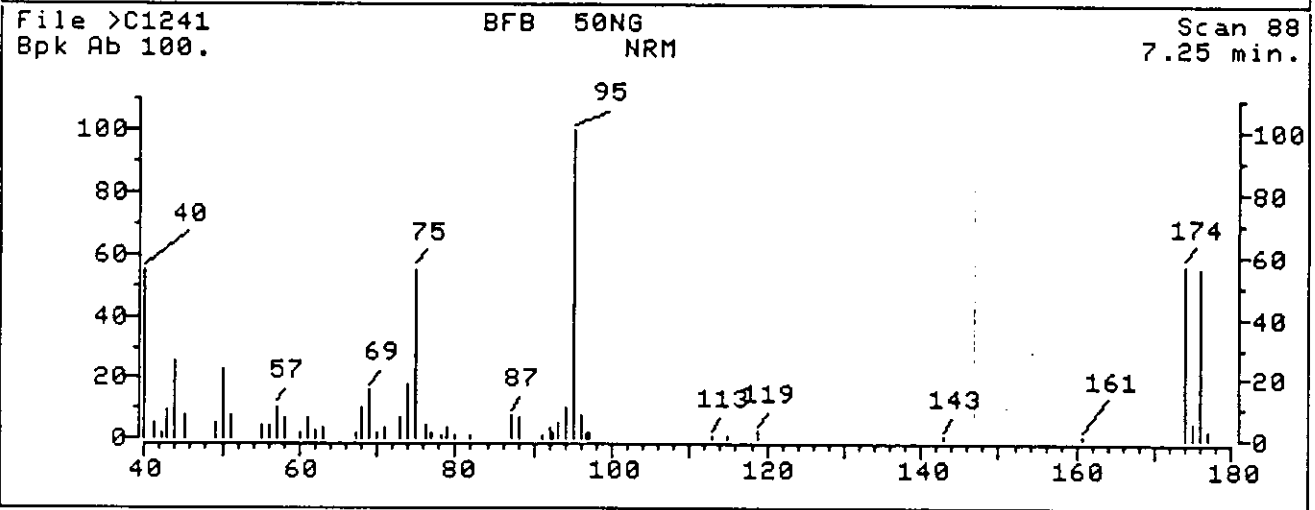
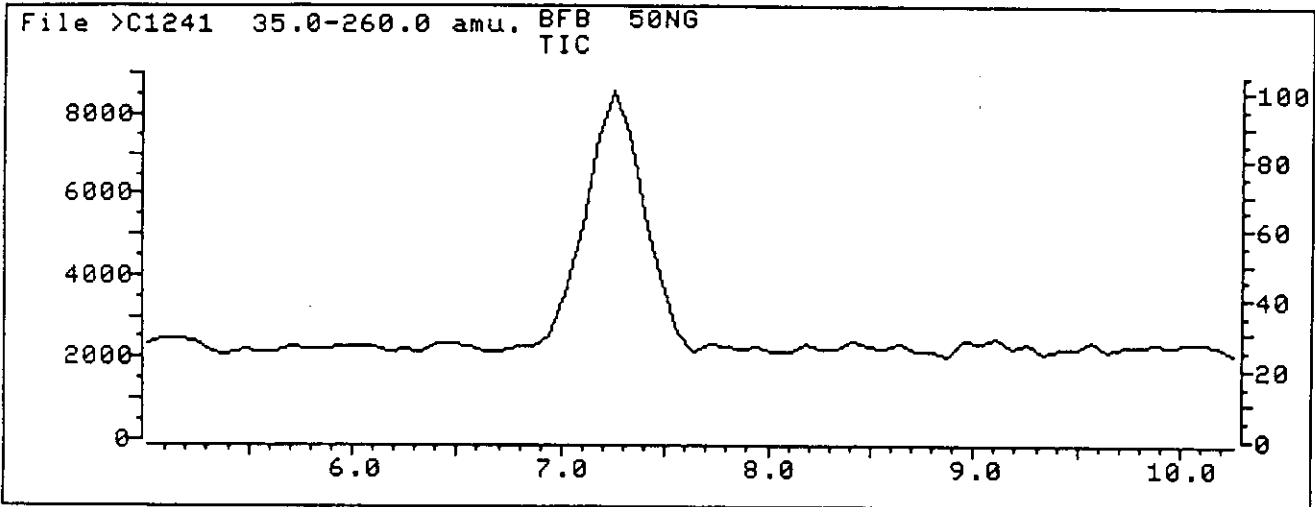
Scan: 88

>C1241            BFB   50NG  
88                NRM

File: &gt;C1241    Scan #:            88    Retn. time:    7.25

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
36.00	2.646	51.00	7.451	69.00	15.877	81.90	1.462	97.00	1.741
36.90	5.014	55.10	4.596	70.10	2.159	87.00	7.521	112.80	.905
38.90	3.969	56.10	4.039	70.90	3.830	88.00	7.173	115.00	.696
40.00	54.526	57.00	10.306	73.00	7.033	91.00	1.323	118.90	2.507
41.10	5.153	58.00	7.242	74.00	17.967	92.00	3.482	142.80	1.045
42.10	2.089	60.20	2.298	75.00	55.084	92.40	2.228	160.90	.836
43.00	9.401	61.00	6.825	76.10	4.805	93.10	4.875	174.00	56.616
44.00	25.627	62.10	3.134	76.90	2.019	94.00	10.097	174.80	4.875
45.10	7.521	62.90	3.482	78.30	.975	95.00	100.000	175.90	55.641
49.00	5.084	67.20	1.950	78.90	3.343	96.10	7.382	177.00	3.134
50.10	22.841	68.00	10.446	79.90	1.114	96.80	1.741		





GC/MS PERFORMANCE STANDARD  
Bromofluorobenzene (BFB)

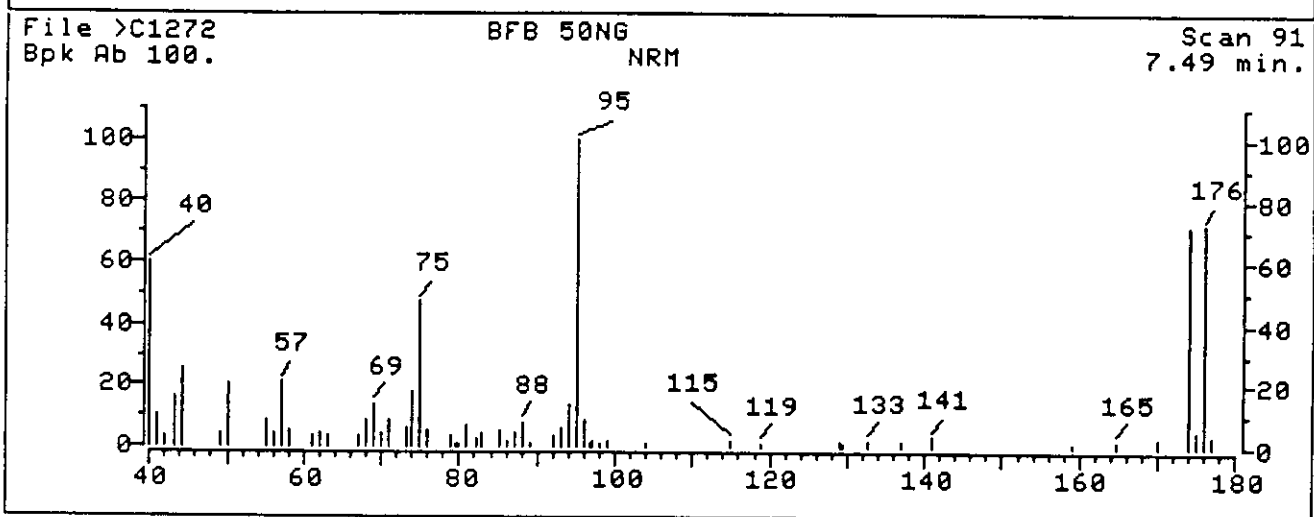
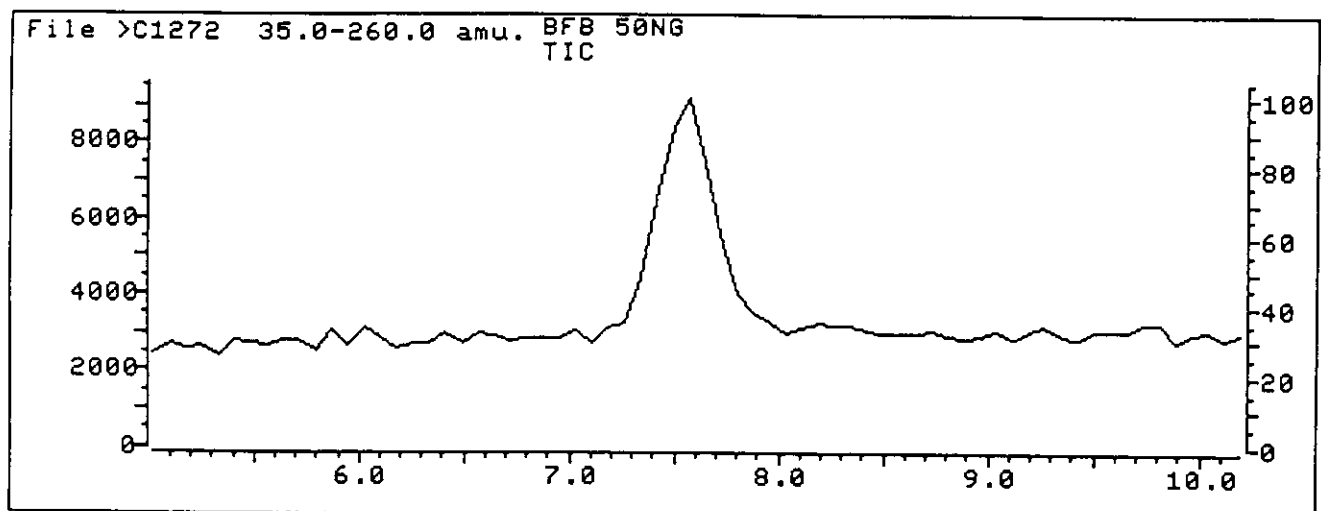
m/z	Ion Abundance Criteria	% Relative Abundance Base Peak	% Relative Abundance Appropriate Peak	Status
50	15-40% of mass 95	20.66	20.66	Ok
75	30-60% of mass 95	47.05	47.05	Ok
95	Base peak, 100% relative abundance	100.00	100.00	Ok
96	5-9% of mass 95	8.80	8.80	Ok
173	Less than 2% of mass 174	0.00	0.00	Ok
174	Greater than 50% of mass 95	71.67	71.67	Ok
175	5-9% of mass 174	5.33	7.43	Ok
176	95-101% of mass 174	72.07	100.56	Ok
177	5-9% of mass 176	3.95	5.49	Ok

Injection Date: 11/04/91  
Injection Time: 20:57  
Data File: >C1272  
Scan: 91

>C1272            BFB 50NG  
91                NRM

File: >C1272    Scan #:            91    Retn. time:    7.49

m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.	m/z	Int.
37.00	4.278	58.10	5.650	78.90	3.551	93.00	5.892	129.40	.888
38.10	6.215	61.00	3.471	79.50	1.291	94.00	13.721	132.80	2.260
38.80	3.390	62.00	4.600	80.00	1.453	95.00	100.000	137.00	1.937
40.00	59.726	62.90	3.228	80.90	7.264	96.00	8.797	141.00	3.390
41.00	10.331	67.10	3.874	82.10	2.341	96.80	1.453	159.20	1.130
42.00	3.551	68.10	8.959	82.80	4.036	97.10	2.260	164.80	2.018
43.10	16.546	69.10	14.044	85.10	5.004	98.00	1.049	170.00	2.663
44.10	25.182	70.10	4.681	86.10	1.856	99.10	1.695	173.90	71.671
49.10	4.197	71.10	8.636	87.00	4.681	104.00	1.049	175.00	5.327
50.00	20.662	73.10	6.053	88.00	7.990	114.80	2.098	175.90	72.074
55.10	8.878	74.00	18.241	89.10	1.049	118.90	1.130	176.90	3.955
56.10	4.762	75.00	47.054	92.00	3.551	129.00	2.018	206.90	2.179
57.00	21.065	76.00	5.165						



Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

H. RAW QC DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

b. Method Blank Chromatograms, Quantitation Reports  
and Mass Spectra

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:&gt;C1245

DATE RECEIVED:NA

DATE ANALYZED:911101

SAMPLE WT/VOL:5.0ML

LEVEL:LOW

CAS NO.		MDL	CONC. ug/L
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
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	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
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	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
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

## QUANT REPORT

Operator ID: MALUS  
 Output File: >D1245::D4  
 Data File: >D1245::D2  
 Name: METHOD BLANK  
 Misc: 5.0ML

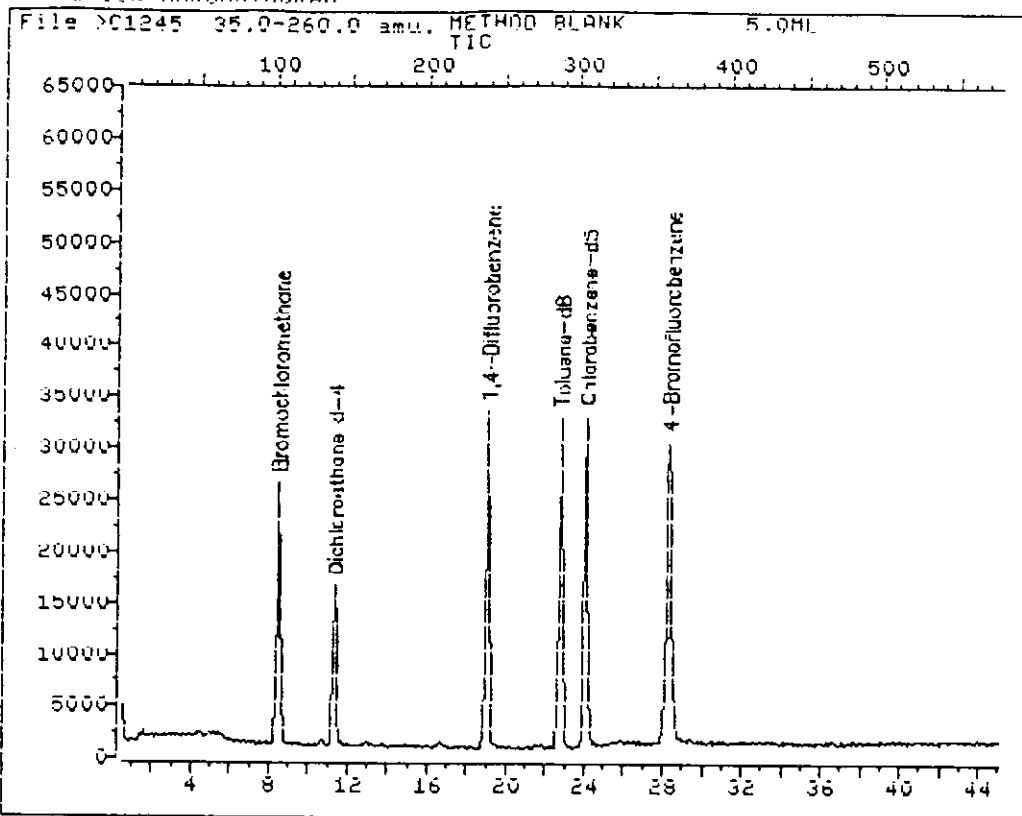
Quant Rev: 6      Quant Time: 911101 13:04  
 Injected at: 911101 12:00  
 Dilution Factor: 1.00000

ID File: ID\_000::QT  
 Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:35

Compound	R.T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.49	104	39547	50.00	ug/L	80
17) 1,2-Dichloroethane-d4	11.34	141	64229	51.63	ug/L	98
27) *1,4-Difluorobenzene	19.06	241	149408	50.00	ug/L	68
38) *Chlorobenzene-d5	24.08	306	116854	50.00	ug/L	97
44) Toluene-d8	22.77	289	151616	51.62	ug/L	98
50) Bromofluorobenzene	28.32	361	122091	53.51	ug/L	96

\* Compound is ISTD

## TOTAL ION CHROMATOGRAM



Data File: &gt;C1245::D2

Quant Output File: ^C1245::D4

Name: METHOD BLANK

Misc: 5.UML

Id File: ID\_CCC::QT

Title: HP VOA Standards for 5 Point Calibration Curve Rev. E

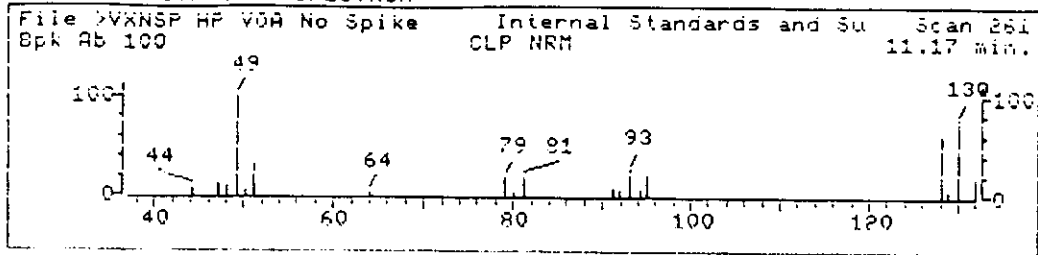
Last Calibration: 911015 13:35

Operator ID: MALUS

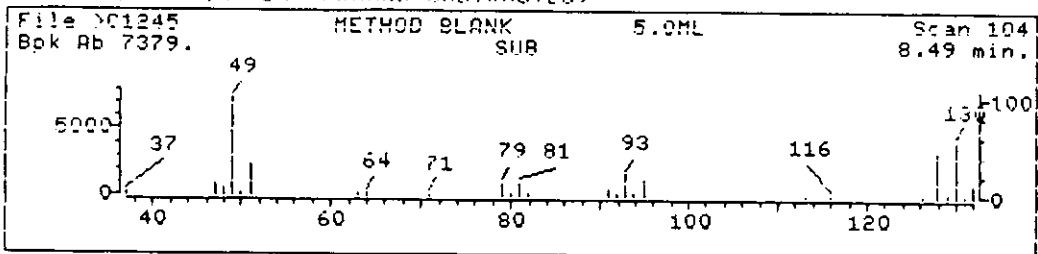
Quant Time: 911101 13:04

Injected at: 911101 12:00

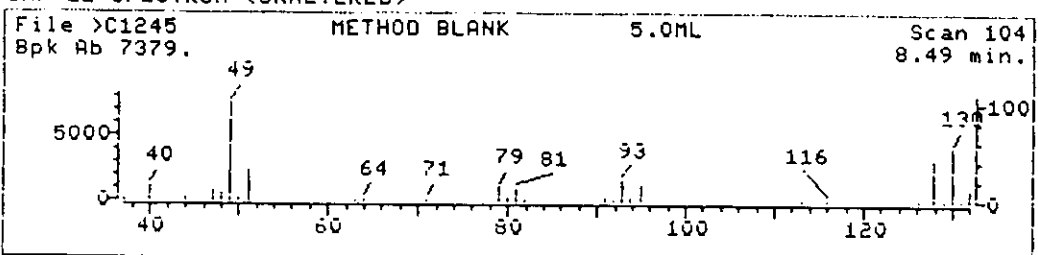
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1245::02

Quant Output File: ^C1245::04

Name: METHOD BLANK

Misc: 5.0ML

Quant Time: 911101 13:04

Quant ID File: ID\_CCC::QT

Injected at: 911101 12:00

Last Calibration: 911015 13:35

Compound No: 1 (ISTD)

Compound Name: Bromochloromethane

Scan Number: 104

Retention Time: 8.49 min.

Quant Ion: 128.0

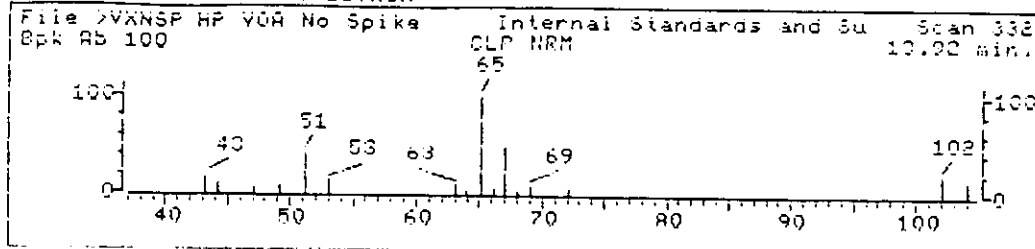
Area: 39547

Concentration: 50.00 ug/L

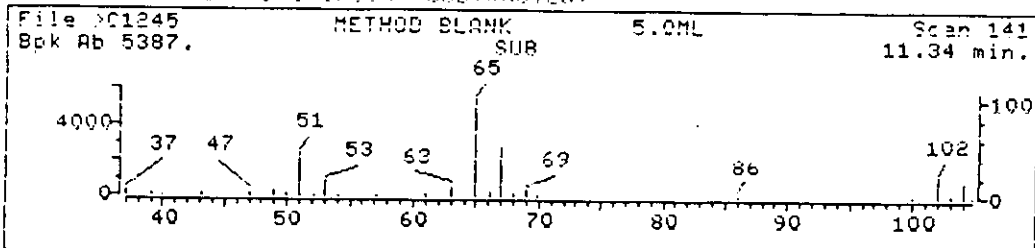
q-value: 80



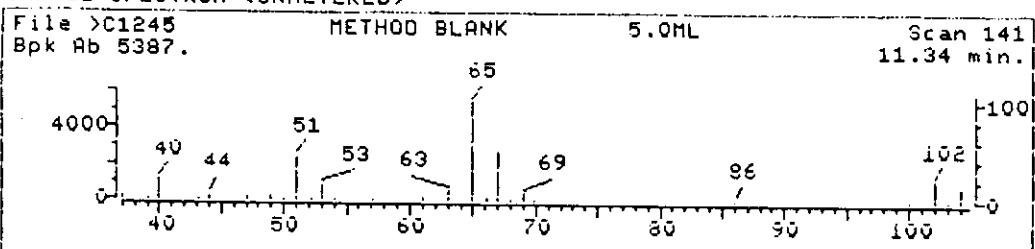
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



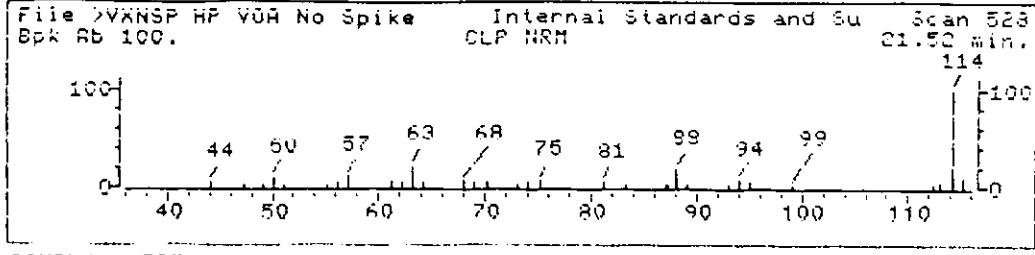
SAMPLE SPECTRUM (UNALTERED)



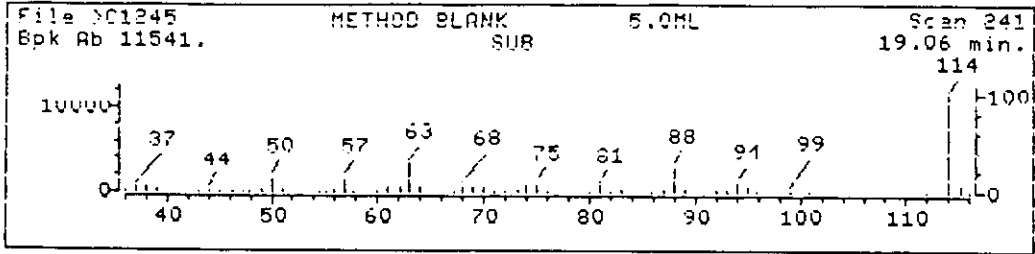
Data File: >C1245::D2                      Quant Output File: ^C1245::D4  
 Name: METHOD BLANK  
 Misc: 5.0ML  
 Quant Time: 911101 13:04                      Quant ID File: ID\_LCC::QT  
 Injected at: 911101 12:00                      Last Calibration: 911015 13:35

Compound No: 17  
 Compound Name: 1,2-Dichloroethane-d4  
 Scan Number: 141  
 Retention Time: 11.34 min.  
 Quant Ion: 65.0  
 Area: 64229  
 Concentration: 51.63 ug/L  
 q-value: 98

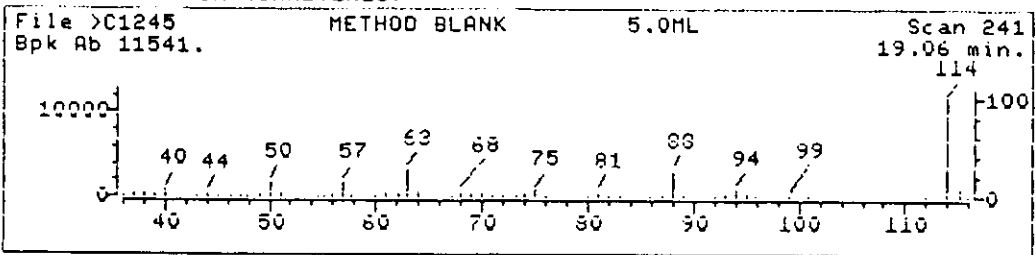
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



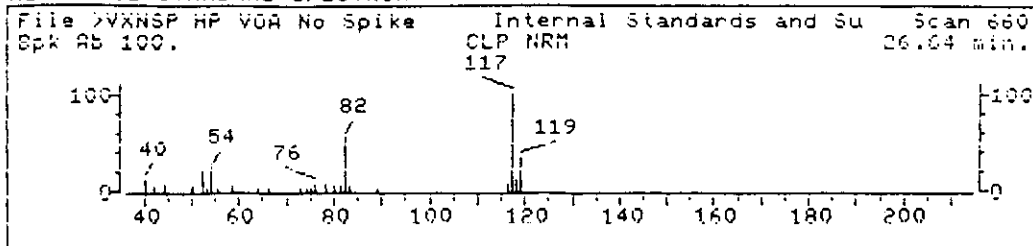
SAMPLE SPECTRUM (UNALTERED)



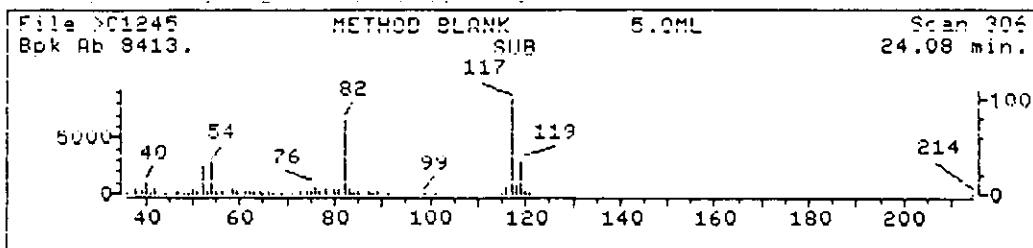
Data File: >C1245::D2 Quant Output File: ^C1245::D4  
 Name: METHOD BLANK  
 Misc: 5.0ML  
 Quant Time: 911101 13:04 Quant ID File: ID\_QCC::QT  
 Injected at: 911101 12:00 Last Calibration: 911015 13:35

Compound No: 27 (ISTD)  
 Compound Name: 1,4-Difluorobenzene  
 Scan Number: 241  
 Retention Time: 19.06 min.  
 Quant Ion: 114.0  
 Area: 149408  
 Concentration: 50.00 ug/L  
 q-value: 68

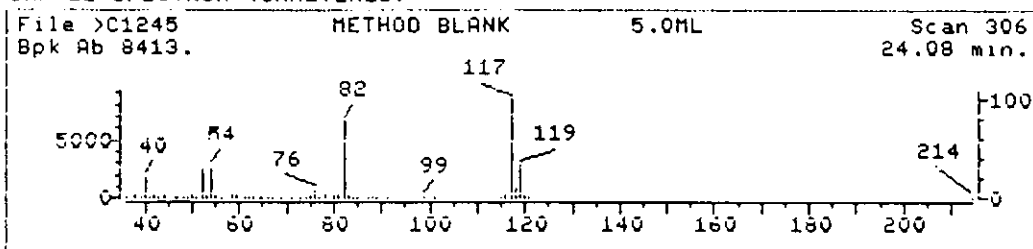
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)



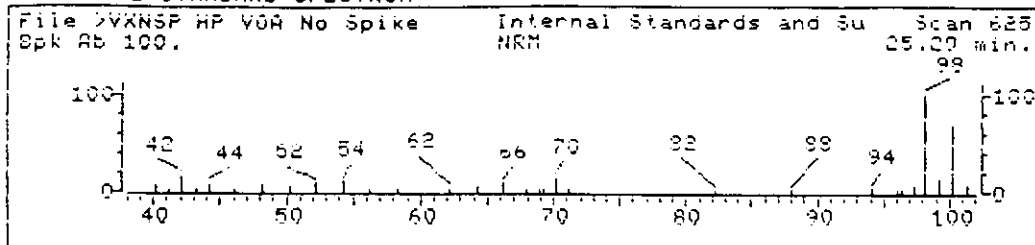
Data File: >C1245::D2  
Name: METHOD BLANK  
Misc: 5.0ML  
Quant Time: 911101 13:04  
Injected at: 911101 12:00

Quant Output File: ^C1245::D4

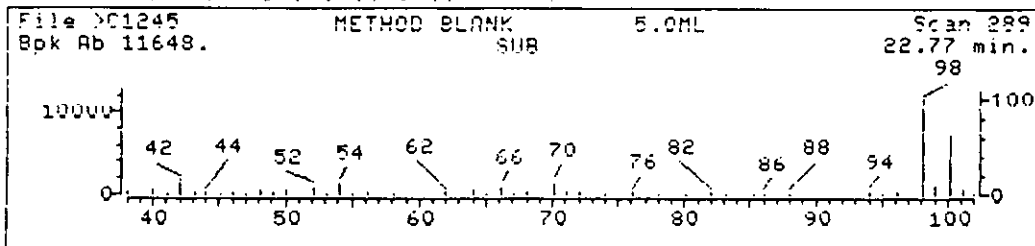
Quant ID File: ID\_000::QT  
Last Calibration: 911015 13:35

Compound No: 38 (ISTD)  
Compound Name: Chlorobenzene-d5  
Scan Number: 306  
Retention Time: 24.08 min.  
Quant Ion: 117.0  
Area: 116854  
Concentration: 50.00 ug/L  
q-value: 97

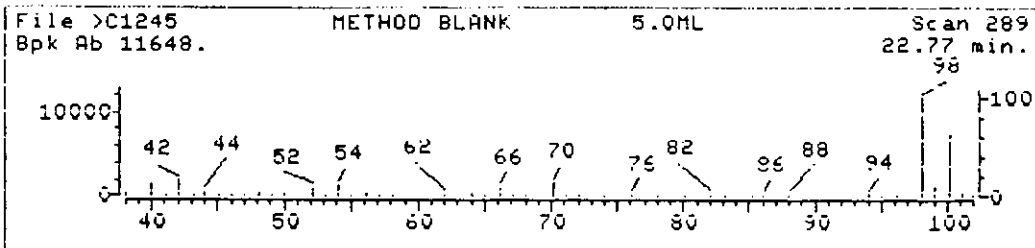
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)

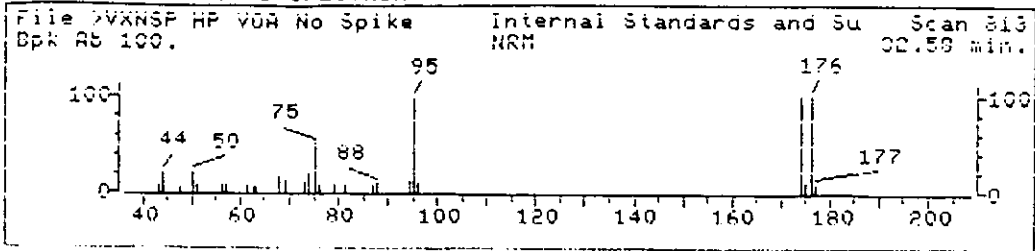


Data File: >C1245::D2  
Name: METHOD BLANK  
Misc: 5.0ML  
Quant Time: 911101 13:04  
Injected at: 911101 12:00

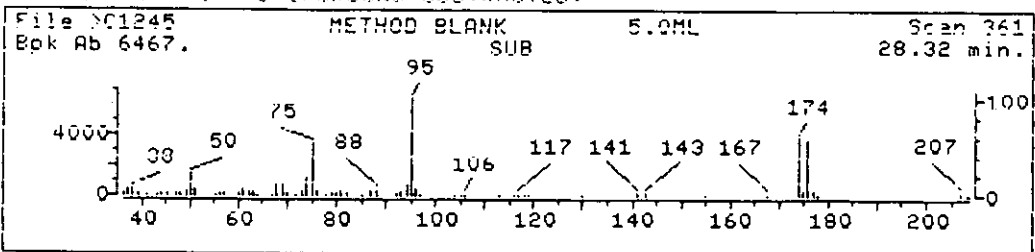
Quant Output File: ^C1245::D4  
Quant ID File: ID\_UCC::Q1  
Last Calibration: 911015 13:35

Compound No: 44  
Compound Name: Toluene-d8  
Scan Number: 289  
Retention Time: 22.77 min.  
Quant Ion: 98.0  
Area: 151616  
Concentration: 51.62 ug/L  
q-value: 98

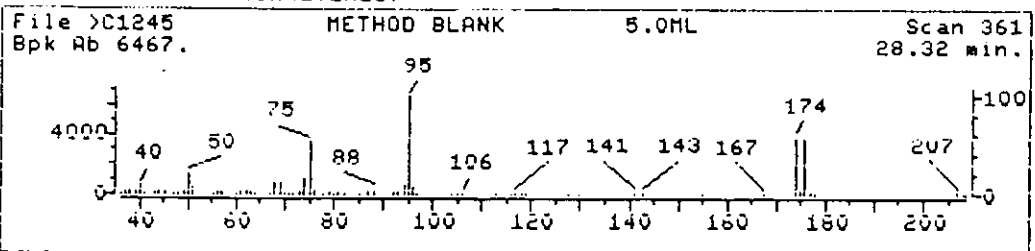
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1245::D2

Quant Output File: ^C1245::D4

Name: METHOD BLANK

Misc: 5.UML

Quant Time: 911101 13:04

Quant ID File: ID\_CCC::Q1

Injected at: 911101 12:00

Last Calibration: 911015 13:35

Compound No: 50

Compound Name: Bromofluorobenzene

Scan Number: 361

Retention Time: 28.32 min.

Quant Ion: 95.0

Area: 122091

Concentration: 53.51 ug/L

q-value: 96

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:>C1245

DATE RECEIVED:NA

DATE ANALYZED:911101

SAMPLE WT/VOL:5.0ML

LEVEL:LOW

COMPOUND

RET TIME(MIN)

CONC

---

NONE FOUND

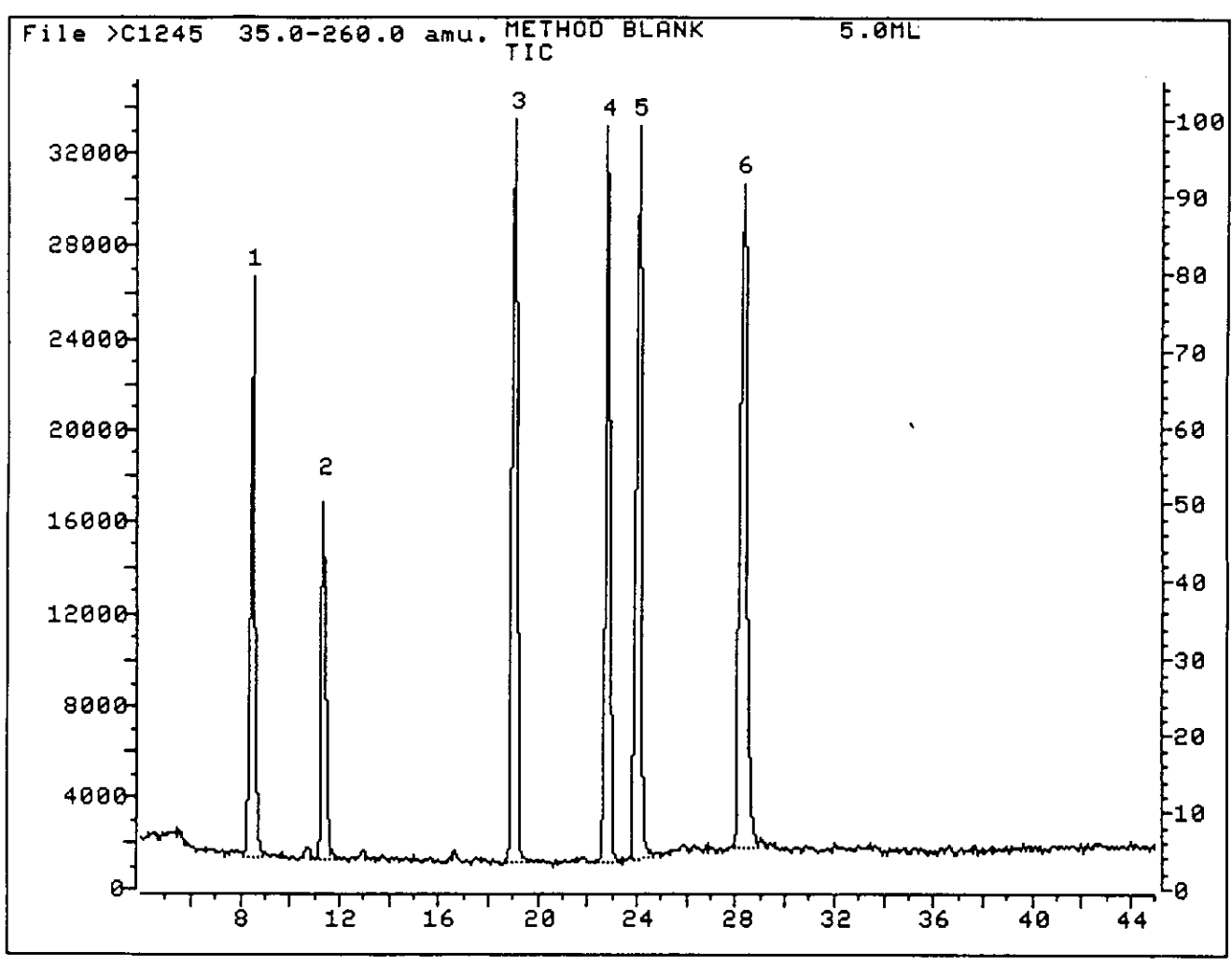
142

SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: METHOD BLANK                    5.0ML  
 SAMPLE DATA FILE: >C1245

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	8.49	104	313768	IS
2	11.34	141	185348	SS
3	19.06	241	409537	IS
4	22.77	289	436909	SS
5	24.08	306	427975	IS
6	28.32	361	558800	SS

IS = INTERNAL STANDARD  
 SS = SURROGATE  
 TC = TARGET COMPOUND  
 UK = UNKNOWN  
 <10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD





NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE ORGANIC ANALYSIS DATA SHEET

144

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:>C1274

DATE RECEIVED:NA

DATE ANALYZED:911104

SAMPLE WT/VOL:5ML

LEVEL:LOW

CAS NO.		MDL	CONC. ug/L
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
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	20	U
75-69-4	Trichlorofluoromethane	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-60-5	Trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	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
110-75-8	2-Chloroethylvinylether	10	U
75-25-2	Bromoform	5	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
1330-02-7	m&p Xylenes	10	U
110-75-8	O-Xylenes	5	U

U; Not Detected

QUANT REPORT

Operator ID: MALUS  
Output File: >D1274::02  
Data File: >D1274::04  
Name: METHOD BLANK  
Misc: 5ML

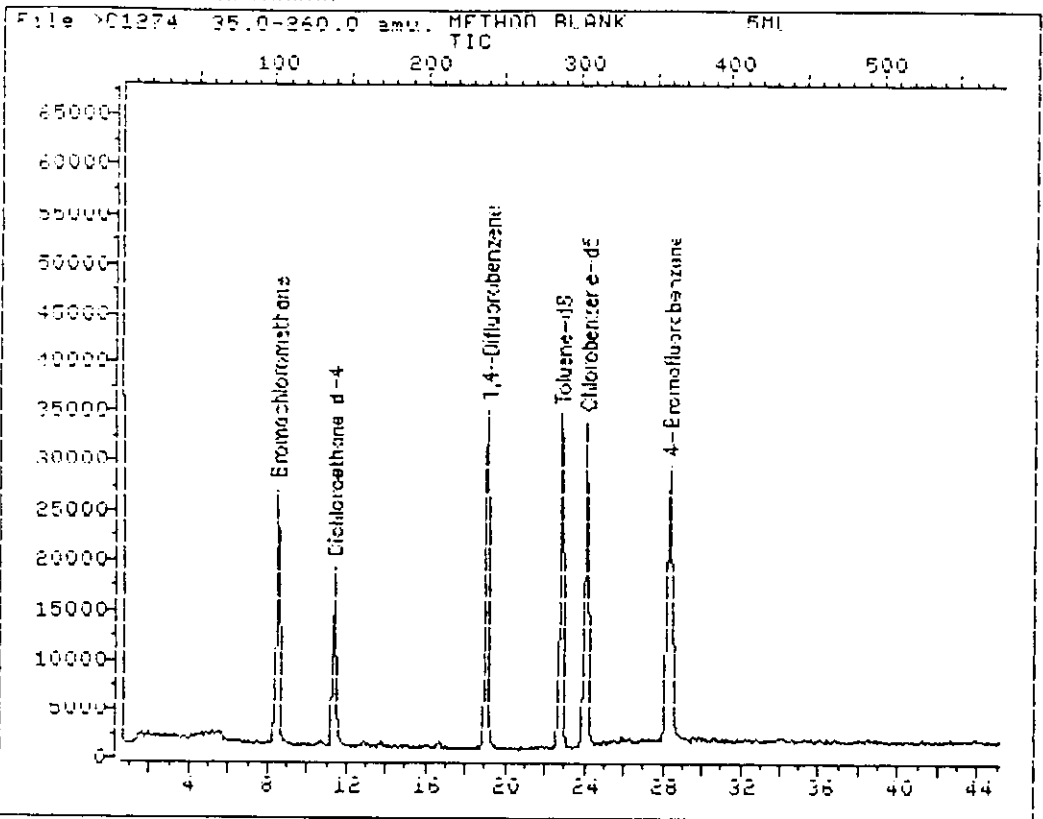
Quant Rev: 6      Quant Time: 911104 23:13  
                  Injected at: 911104 22:27  
Dilution Factor: 1.00000

ID File: ID\_LLL::Q1  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:35

Compound	R. T.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.49	104	43226	50.00	ug/L	89
17) 1,2-Dichloroethane-d4	11.34	141	76101	55.96	ug/L	92
27) *1,4-Difluorobenzene	19.06	241	161158	50.00	ug/L	69
38) *Chlorobenzene-d5	24.08	306	125489	50.00	ug/L	94
44) Toluene-d8	22.77	289	158923	50.39	ug/L	94
50) Bromofluorobenzene	28.32	361	113147	46.18	ug/L	95

\* Compound is ISID

TOTAL ION CHROMATOGRAM



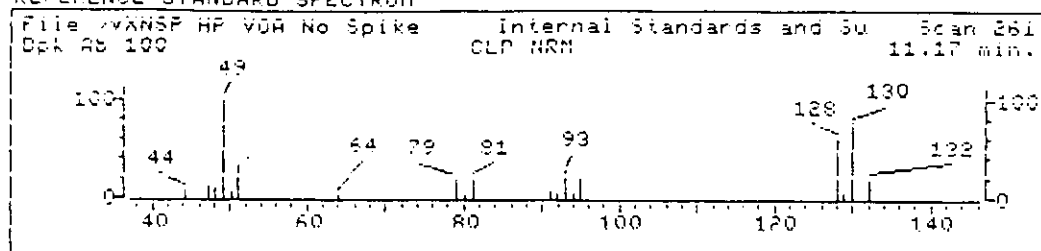
Data File: >C1274::D4  
Name: METHOD BLANK  
Misc: 5ML

Quant Output File: ^C1274::D2

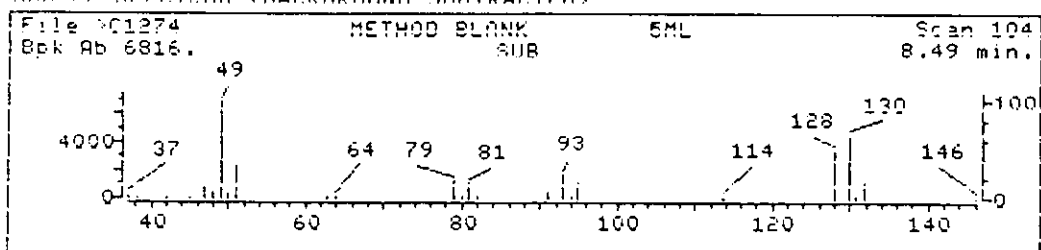
Id File: ID\_CCC::QT  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:35

Operator ID: MALUS  
Quant time: 911104 23:13  
Injected at: 911104 22:27

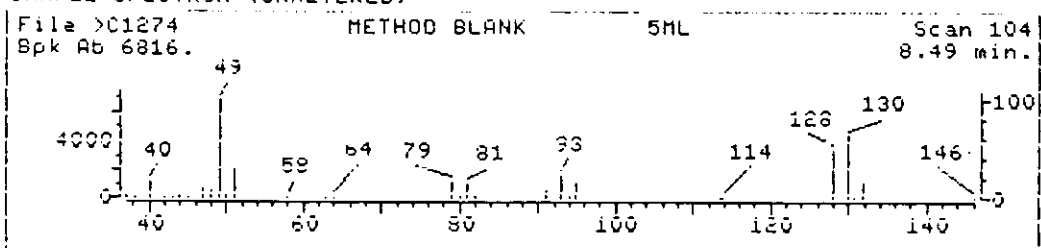
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)



Data File: &gt;C1274::D4

Quant Output File: &gt;C1274::D2

Name: METHOD BLANK

Misc: 5ML

Quant time: 911104 23:13

Quant ID File: ID\_CCL::Q1

Injected at: 911104 22:27

Last Calibration: 911015 13:35

Compound No: 1 (ISTD)

Compound Name: Bromochloromethane

Scan Number: 104

Retention Time: 8.49 min.

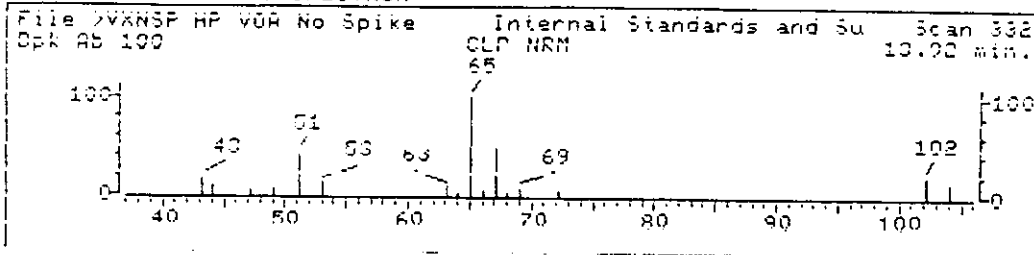
Quant Ion: 128.0

Area: 43226

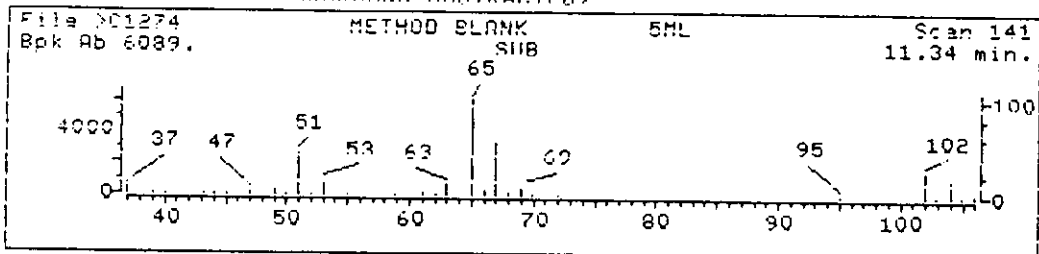
Concentration: 50.00 ug/L

q-value: 89

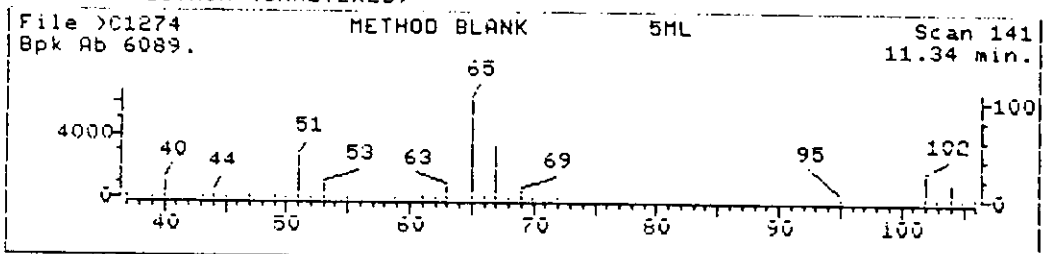
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1274::D4

Quant Output File: >C1274::D2

Name: METHOD BLANK

Misc: 5ML

Quant Time: 911104 23:13

Quant ID File: ID\_CCC::QT

Injected at: 911104 22:27

Last Calibration: 911015 13:35

Compound No: 17

Compound Name: 1,2-Dichloroethane-d4

Scan Number: 141

Retention Time: 11.34 min.

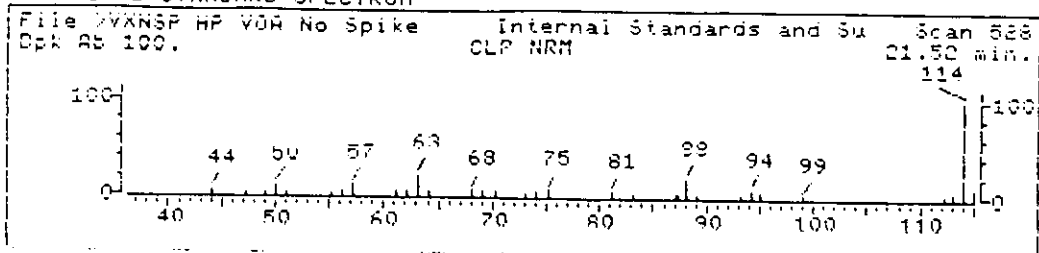
Quant Ion: 65.0

Area: 76101

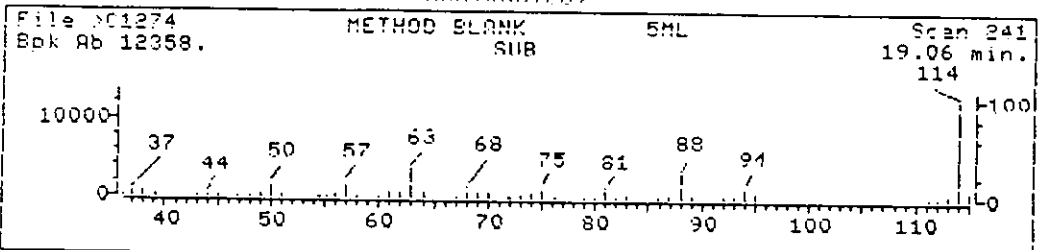
Concentration: 55.96 ug/L

q-value: 92

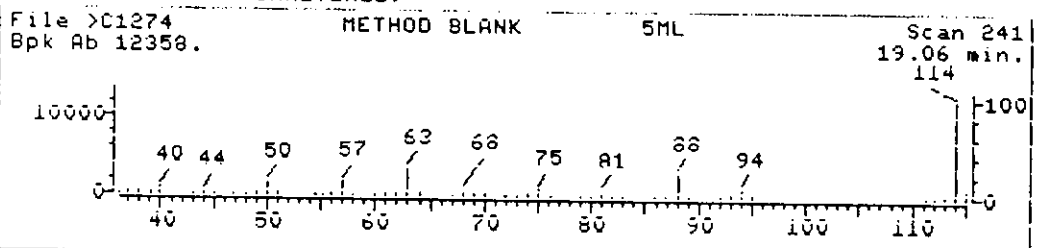
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



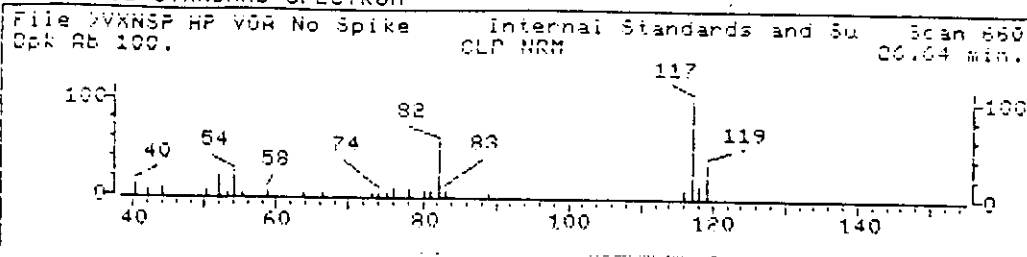
Data File: >C1274::D4  
 Name: METHOD BLANK  
 Misc: 5ML  
 Quant Time: 911104 23:13  
 Injected at: 911104 22:27

Quant Output File: ^C1274::D2

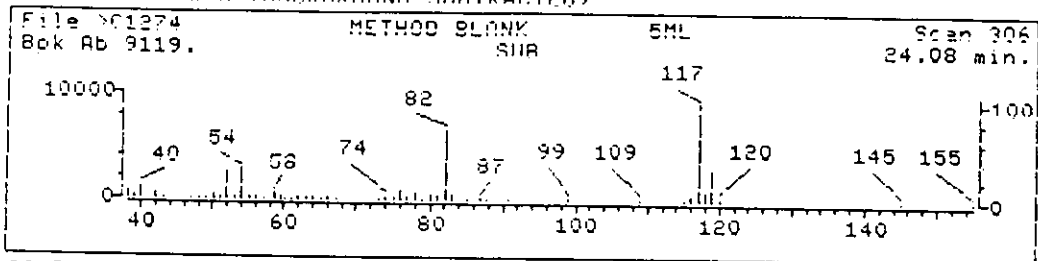
Quant ID File: ID\_C00::QT  
 Last Calibration: 911019 13:35

Compound No: 27 (ISTD)  
 Compound Name: 1,4-Difluorobenzene  
 Scan Number: 241  
 Retention Time: 19.06 min.  
 Quant Ion: 114.0  
 Area: 161158  
 Concentration: 50.00 ug/L  
 q-value: 69

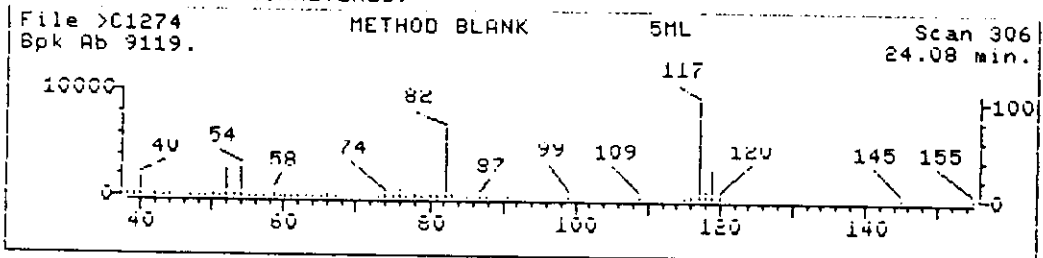
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)



Data File: &gt;C1274::D4

Quant Output File: ^C1274::D2

Name: METHOD BLANK

Misc: 5ML

Quant time: 911104 23:13

Quant ID File: ID\_C00::QT

Injected at: 911104 22:27

Last Calibration: 911015 13:35

Compound No: 38 (ISTD)

Compound Name: Chlorobenzene-d7

Scan Number: 306

Retention Time: 24.08 min.

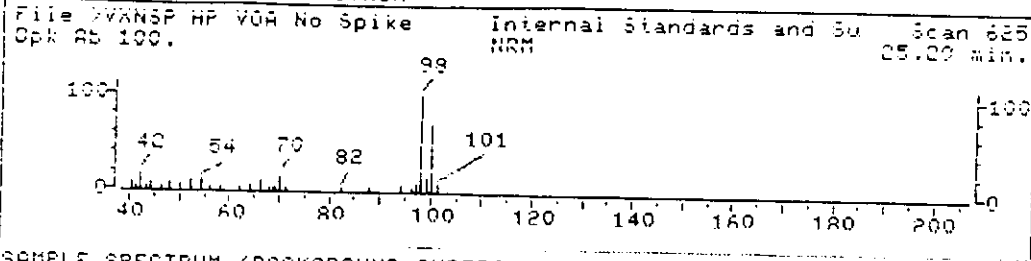
Quant Ion: 117.0

Area: 125489

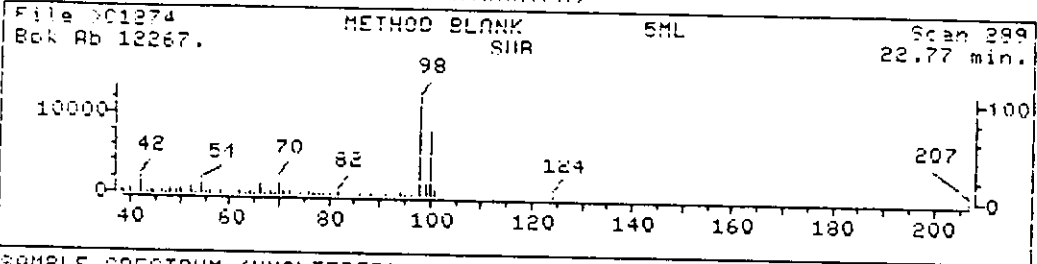
Concentration: 50.00 ug/L

q-value: 94

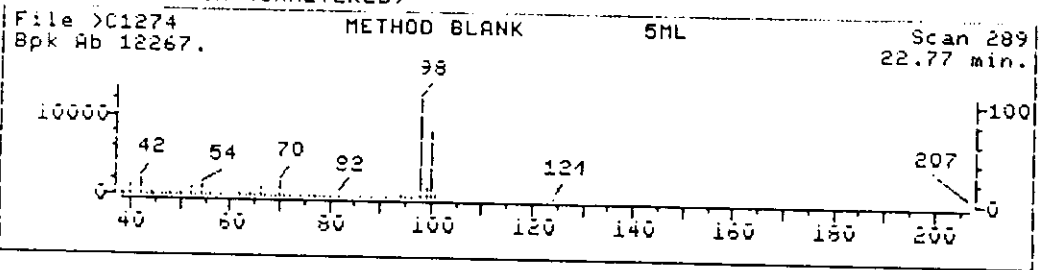
REFERENCE STANDARD SPECTRUM



SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



SAMPLE SPECTRUM (UNALTERED)



Data File: >C1274::D4  
 Name: METHOD BLANK  
 Misc: 5ML  
 Quant Time: 911104 23:13  
 Injected at: 911104 22:27

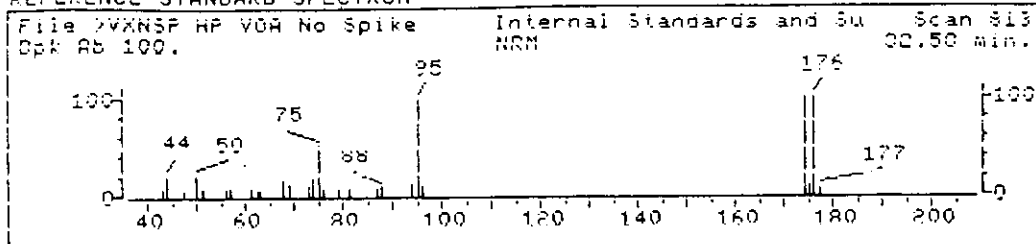
Quant Output File: >C1274::D2

Quant ID File: ID\_000::QT  
 Last Calibration: 911015 13:35

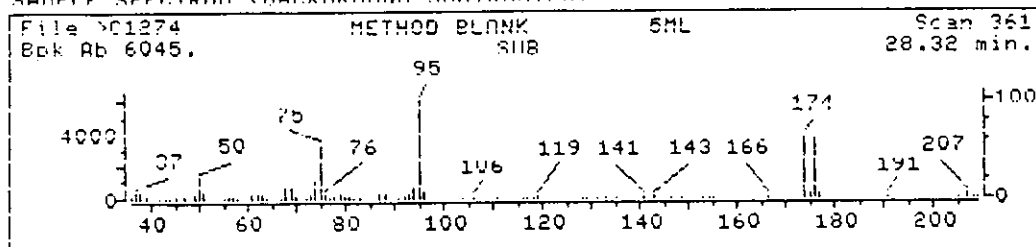
Compound No: 44  
 Compound Name: toluene-d8  
 Scan Number: 289  
 Retention Time: 22.77 min.  
 Quant Ion: 98.0  
 Area: 158923  
 Concentration: 50.39 ug/L  
 q-value: 94



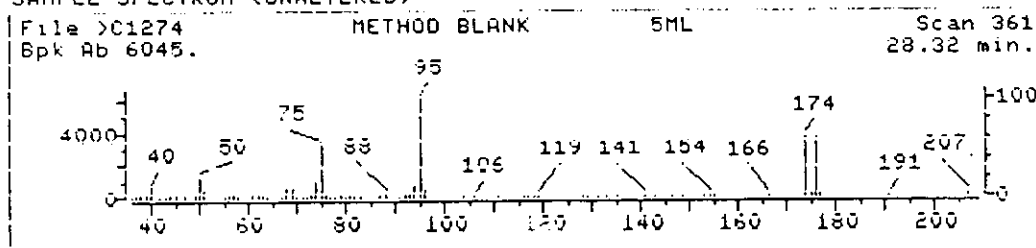
## REFERENCE STANDARD SPECTRUM



## SAMPLE SPECTRUM (BACKGROUND SUBTRACTED)



## SAMPLE SPECTRUM (UNALTERED)



Data File: &gt;C1274::D4

Quant Output File: &gt;C1274::D2

Name: METHOD BLANK

Misc: 5ML

Quant Time: 911104 23:13

Quant ID File: ID\_000::Q1

Injected at: 911104 22:27

Last Calibration: 911015 13:35

Compound No: 50

Compound Name: Bromofluorobenzene

Scan Number: 361

Retention Time: 28.32 min.

Quant Ion: 95.0

Area: 113147

Concentration: 46.18 ug/L

q-value: 95

NORTHEASTERN ANALYTICAL CORPORATION  
VOLATILE UNKNOWN IDENTIFICATION

LAB SAMPLE ID:METHOD BLANK

LAB FILE ID:&gt;C1274

DATE RECEIVED:NA

DATE ANALYZED:911104

SAMPLE WT/VOL:5ML

LEVEL:LOW

COMPOUND

RET TIME(MIN)

CONC

---

NONE FOUND

## SAMPLE INTEGRATION SUMMARY

SAMPLE NAME AND AMT: METHOD BLANK                    5ML  
SAMPLE DATA FILE: >C1274

PEAK NO.	RET. TIME	SCAN	AREA	IDENTIFICATION
1	8.49	104	333134	IS
2	11.34	141	219386	SS
3	19.06	241	419002	IS
4	22.77	289	447134	SS
5	24.08	306	443372	IS
6	28.32	361	542727	SS

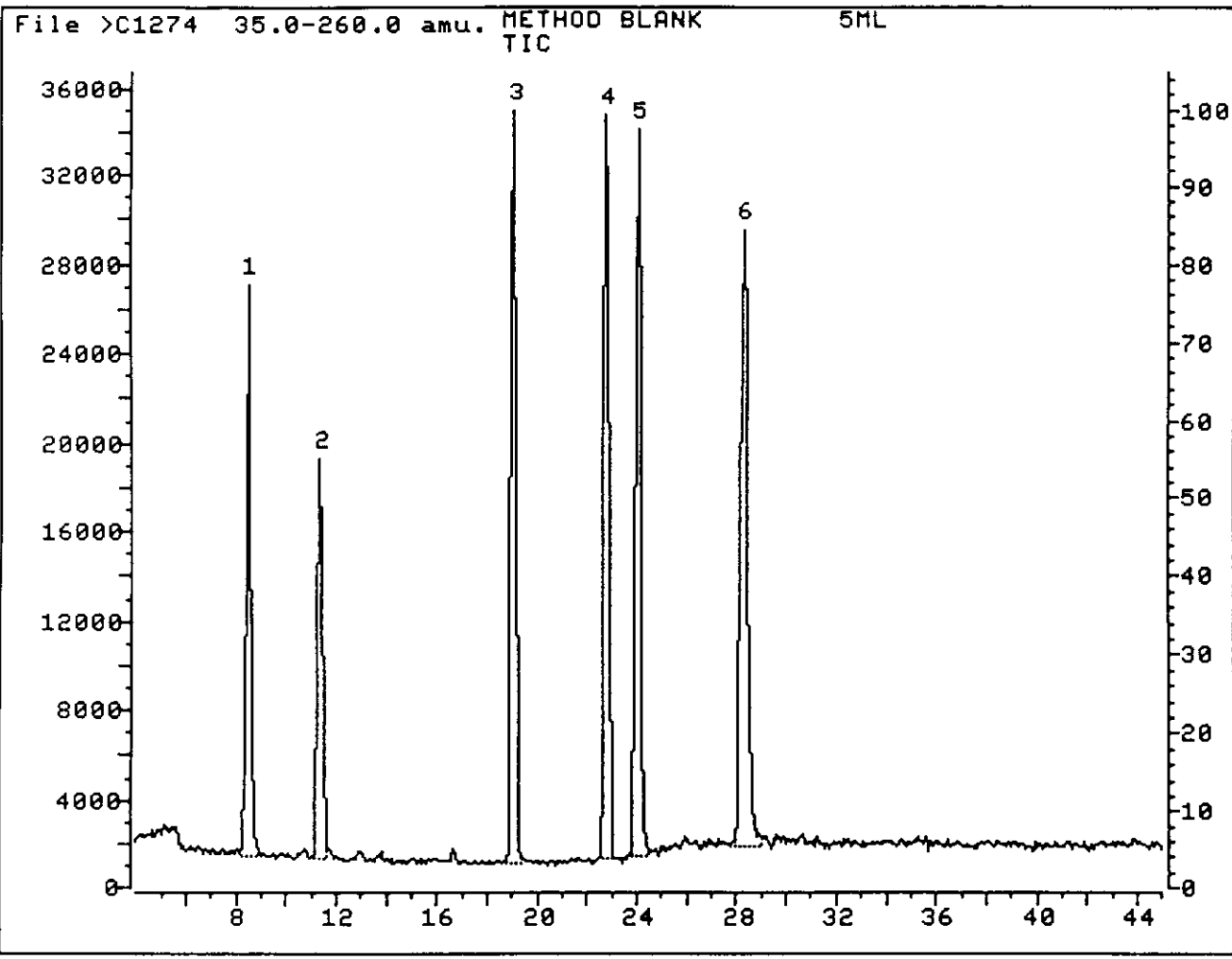
IS = INTERNAL STANDARD

SS = SURROGATE

TC = TARGET COMPOUND

UK = UNKNOWN

<10% = UNKNOWN LESS THEN 10% OF INTERNAL STANDARD





Roux Associates, Inc.  
Test Report No. NAC91L-3336  
Certification No. 03117  
November 22, 1991

H. RAW QC DATA PACKAGE (Continued)

1. Volatile Organics by GC/MS (Continued)

c. Matrix Spike/Matrix Spike Duplicate Chromatograms  
and Quantitation Reports

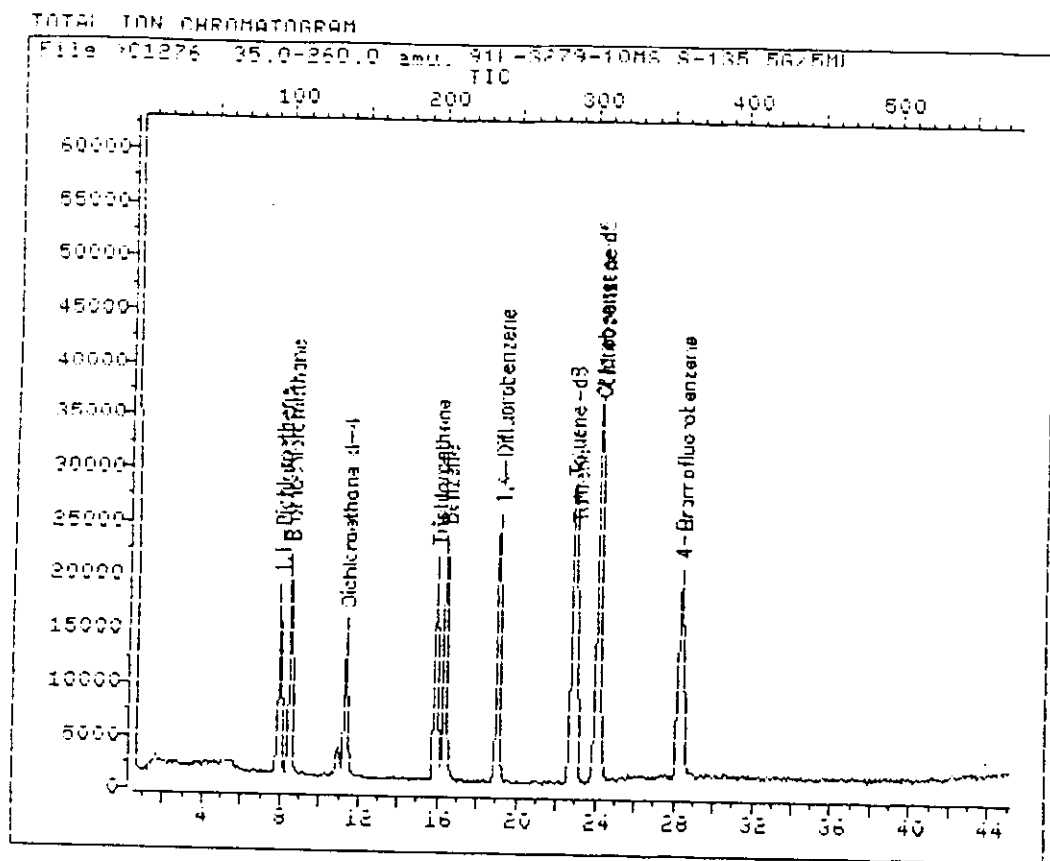
## QUANT REPORT

Operator ID: MALUS                      Quant Rev: 6      Quant time: 911105 01:04  
 Output File: 001276:002                      Injected at: 911105 00:18  
 Data File: 001276:004                      Dilution Factor: 1.00000  
 Name: 91L-5279-10M5 5-155  
 Misc: 5675ML

ID File: 105000:001  
 Title: HP QDA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:36

Compound	R. t.	Scan#	Area	Conc	Units	q
1) *Bromochloromethane	8.49	104	54554	50.00	UG/KG	85
12) 1,1-Dichloroethene	7.95	97	41858	44.03	UG/KG	94
17) 1,2-Dichloroethane-d4	11.34	141	63578	58.83	UG/KG	99
27) *1,4-Difluorobenzene	19.06	241	122380	50.00	UG/KG	67
30) Trichloroethene	15.90	200	47870	47.78	UG/KG	89
33) Benzene	16.36	206	120401	55.91	UG/KG	95
38) *Chlorobenzene-d5	24.08	306	89924	50.00	UG/KG	98
43) Toluene	23.00	292	64440	51.60	UG/KG	92
44) Toluene-d8	22.77	289	124905	55.27	UG/KG	99
45) Chlorobenzene	24.16	307	86521	50.87	UG/KG	95
50) Bromofluorobenzene	28.32	361	81752	46.56	UG/KG	92

\* Compound is ISID



Data File: 01276::04  
Name: 911-3279-10MS S-135  
Misc: 5675ML

Quant Output File: 01276::02

Id File: IDSC000::01  
Title: HP ODA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:36

Operator ID: MALUS  
Quant time: 911105 01:04  
Injected at: 911105 00:18

## QUANT REPORT

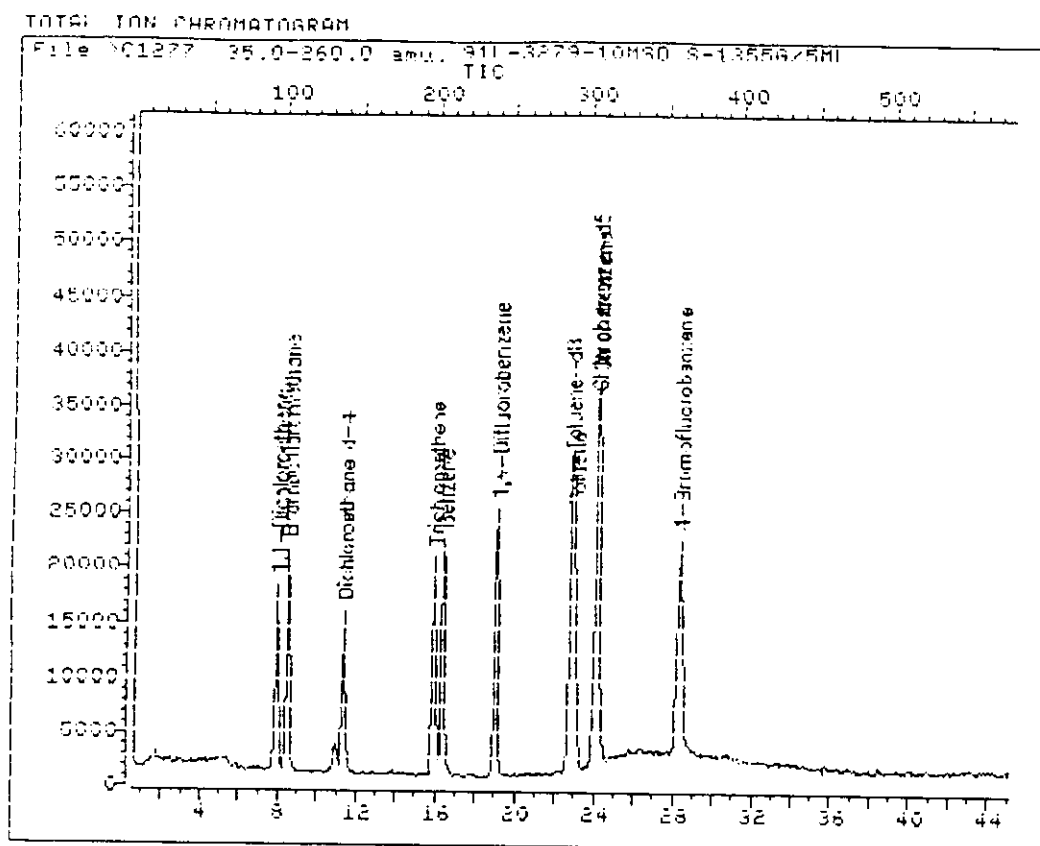
Operator ID: MALUS                      Quant Rev: 6            Quant Time: 911105 01:53  
 Output File: 911277::D2                      Injected at: 911105 01:07  
 Data File: 911277::D4                      Dilution Factor: 1.00000  
 Name: 91L-5279-10MSD 5-135  
 Misc: 56/5NL

ID File: 105000::01  
 Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
 Last Calibration: 911015 13:36

	Compound	R. I.	Scan#	Area	Conc	Units	q
10	*Bromochloromethane	8.49	104	33821	50.00	UG/KG	86
12	1,1-Dichloroethene	7.95	97	40218	42.97	UG/KG	96
17	1,2-Dichloroethane-d4	11.34	141	62249	58.50	UG/KG	97
27	*1,4-Difluorobenzene	19.06	241	118158	50.00	UG/KG	70
30	Trichloroethene	15.90	200	45047	46.57	UG/KG	92
33	Benzene	16.36	206	114503	55.07	UG/KG	93
38	*Chlorobenzene-d5	24.08	306	88272	50.00	UG/KG	99
43	Toluene	23.00	292	63743	52.00	UG/KG	96
44	Toluene-d8	22.77	289	127264	57.36	UG/KG	95
45	Chlorobenzene	24.16	307	84555	50.77	UG/KG	89
50	Bromofluorobenzene	28.33	361	81177	47.10	UG/KG	93

\* Compound is ISID





Data File: >C1277::D4  
Name: 911-3279-10MSD S-135  
Misc: 95/5ML

Quant Output File: >C1277::D2

Id File: IDSC00::Q1  
Title: HP VOA Standards for 5 Point Calibration Curve Rev. E  
Last Calibration: 911015 13:36

Operator ID: MALOS  
Quant Time: 911105 01:53  
Injected at: 911105 01:07